PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA)

CONTRACT AWARD PROFORMA – I

To Be Filled and Uploaded on PPRA Website in Respect of All Public Contracts of Works, Services & Goods Worth Fifty Million Rupees or More

- NAME OF THE ORGANIZATION/DEPTT: **FREQUENCY ALLOCATION BOARD (FAB HQs), ISLAMABAD**
- FEDERAL / PROVINCIAL G0VT: (**Federal)**
- TITLE OF CONTRACT: **Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building**
- Tender Number: **PID(I) No. 8941/25**
- BRIEF DESCRIPTION OF CONTRACT: **The contract has been awarded for procurement of spectrum monitoring systems in 2 x lots, i.e. 3 x Digital RF Receivers (Analyzers) in lot 1 and 4 x RF Sensor Systems in lot 2, to enhance spectrum monitoring and interference detection capabilities of FAB. The successful bidder i.e., M/s Rohde & Schwarz (R&S) will supply the equipment and provide training, one year warranty, and after sales support of both hardware and software for a period of ten years.**
- Tender Value: **PKR 260 Million only**
- ENGINEER'S ESTIMATE (for civil Works only): **Nil**
- ESTIMATED COMPLETION PERIOD: **180 Days**
- WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN? (Yes / No): **Yes**
- ADVERTISEMENT:
  - i. PPRA Website (**Yes/**No): **PPRA Ref. No. (TSE): TS0000005886E**
  - **ii.** News Papers (**Yes** /No): **The Express Tribune, (English), Nawai Waqt (urdu) Dated: 8th May 2026**
- TENDER OPENED ON (DATE & TIME): **25th May 2026 at 1130 hrs**
- NATURE OF PURCHASE (Local / International): **Local**

- EXTENSION IN DUE DATE (If any) (Yes / No): **No**
- NUMBER OF TENDER DOCUMENTS SOLD (Attach list of Buyers): **Tender was uploaded on EPADS and no physical copies were sold**
- WHETHER QUALIFICATION CRITERIA WAS INCLUDED IN BIDDING/ TENDER DOCUMENTS (Yes / No) (If yes enclose a copy): **Yes (Annex – A)**
- WHETHER BID EVALUATION CRITERIA WAS INCLUDED IN BIDDING/TENDER DOCUMENTS (Yes / No) (If yes enclose a copy): **Yes (Annex – B)**
- WHICH METHOD OF PROCUREMENT WAS USED: - (Tick one)
  i. SINGLE STAGE - ONE ENVELOPE PROCEDURE
  ii. SINGLE STAGE - TWO ENVELOPE PROCEDURE. ✓
  iii. TWO STAGE BIDDING PROCEDURE.
  iv. TWO STAGE - TWO ENVELOPE BIDDING PROCEDURE.
- WHO IS THE APPROVING AUTHORITY: **Executive Director FAB**
- WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED (FOR USING A METHOD OTHER THAN OPEN COMPETITIVE BIDDING): **Not applicable**
- NUMBER OF BIDS RECEIVED: **2 (per lot)**
- WHETHER THE SUCCESSFUL BIDDER WAS LOWEST BIDDER (Yes / No): **Yes**
- WHETHER INTEGRITY PACT WAS SIGNED (Yes /No): **Yes**

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA)

CONTRACT AWARD PROFORMA – II

To Be Filled and Uploaded on PPRA Website in Respect of All Public Contracts of Works, Services & Goods Worth Fifty Million Rupees or More

- NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS: **2**
  i. M/s Rohde & Schwarz (Pvt.) Ltd.
  ii. M/s National Radio and Telecommunication Corporation (NRTC)
- NAME AND ADDRESS OF THE SUCCESSFUL BIDDER:

  M/s Rohde & Schwarz (Pvt.) Ltd.

  Address: 21 West, 4th floor, Sardar Plaza, Fazal ul Haq Road, Blue Area, Islamabad, Pakistan
- RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT (i.e. 1st, 2nd, 3rd EVALUATED BID):

  1st: M/s Rohde & Schwarz (Pvt.) Ltd.
- NEED ANALYSIS (Why the procurement was necessary?): **The procurement was necessary to strengthen FAB's capacity for effective spectrum monitoring and to support its mandate of ensuring efficient and interference-free utilization of the radio frequency spectrum. The enhanced capabilities will facilitate effective monitoring of mobile networks, identification of interference, and efficient spectrum management, particularly in view of the ongoing deployment and expansion of 5G networks.**
- IN CASE EXTENSION WAS MADE IN RESPONSE TIME, WHAT WERE THE REASONS (Briefly describe): **No extension has been granted**
- WHETHER NAMES OF THE BIDDERS AND THEIR PRICES WERE READ OUT AT THE TIME OF OPENING OF BIDS: **Yes, Name of the bidder and quoted price were read aloud as per PPRA guidelines**
- DATE OF CONTRACT SIGNING: **21th August 2026 (Annex – C)**

  CONTRACT AWARD PRICE: **Rs. 196,308,167/-**

- WHETHER COPY OF EVALUATION REPORT GIVEN TO ALL BIDDERS: **Yes (Annex – D)**
- ANY COMPLAINTS RECEIVED (If yes result thereof): **No**
- ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE/DOCUMENTS: **No**
- DEVIATION FROM QUALIFICATION CRITERIA: **No**
- SPECIAL CONDITIONS, IF Any: **Nil**

Annex – A

QUALIFICATION CRITERIA

INSTRUCTIONS TO BIDDERS (ITB)

2. ELIGIBLE BIDDERS

2.1. All suppliers / authorized dealers / distributers / manufacturers having legal presence in Pakistan and registered with Federal Board of Revenue (FBR) for income tax and sales tax purposes are invited to submit their electronic bid / proposal.

2.2. Bidders must ensure that they have submitted all mandatory documents indicated in **Section-3 (Evaluation of the Proposal)** of the Bidding Document. Failure to submit any mandatory document will result in non-responsive and lead to disqualification.

2.3. This Invitation to Bid is open to prospective bidders from all countries except India and Israel.

2.4. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Pakistan.

3. SOURCE OF FUNDS

3.1. The procuring agency is a self-funded organization and shall make payment from its own resources.

4. ELIGIBLE GOODS, EQUIPMENT AND SERVICES

4.1. All goods, equipment and related services to be supplied under the Contract shall have their origin in eligible source countries defined by Government of Pakistan for procurement, and all expenditures made under the Contract shall be limited to such goods and services.

4.2. For purposes of this clause, “origin” means the place where the goods are manufactured or produced, or the place from which the related services are supplied to major parts of the world. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

4.3. The origin of goods, equipment and services can be distinct from the nationality of the Bidder

Annex – B

BID EVALUATION

CRITERIA

EVALUATION OF THE PROPOSAL

1. EVALUATION PROCEDURE

1.1. The technical proposal of the participating bidders shall undergo evaluation to determine compliance with mandatory requirements listed below as per procedure in Para 1.8: -

S#	Mandatory Requirements	Compliant/ Non-Compliant
(1)	Letter of Intent duly completed and signed by the Bidder or an authorized representative as per **Annex-A**. Authority letter in favor of the signatory shall also be attached.	Mandatory
(2)	Firm/Company Profile (history, address/contacts and services) and copy of NTN Certificate.	Mandatory
(3)	Undertaking certificate on an official letter head of the firm/company that bid security is enclosed with Financial Proposal.	Mandatory
(4)	The firm/company must have 5 years' experience from the date of registration/incorporation (Attach Form-C issued by Registrar of Firms in case of firm or SECP Incorporation Certificate in case of company).	Mandatory
(5)	Documentary Proof that the firm is on Active Tax Payer list of FBR Pakistan.	Mandatory
(6)	Undertaking on stamp paper of Rs. 100/- that firm/company is not black listed by any Govt/Semi Govt/Autonomous body as per **Annex-B**.	Mandatory
(7)	Authorized Dealer/Distributor/ Manufacturer Firm's certificate from the manufacturer.	Mandatory
(8)	Bidders are required to provide a copy of duly executed Joint Venture or Consortium Agreement, in case of a Joint Venture or Consortium, which shall clearly bind all parties to the Joint Venture or Consortium Agreement jointly and severally liable to the procuring agency for the fulfillment of the Contract, and shall also designate one party to act as a leader of joint venture or consortium (if applicable).	Mandatory
(9)	Submission of complete sets of Audited Reports for the last two years, statement of financial position (balance sheet), statement of comprehensive income (profit and loss), cash flow statement and statement of owner's equity. The account should be for the Bidder and not the parent or group company.	Mandatory
(10)	Details of Local Partner/Authorized Dealer/Supplier as per **Annex-C**.	Mandatory
(11)	The bidder must have local service and repair center either maintained by bidder itself or managed through any third-party agreement, with qualified experienced staff. The bidder shall provide a letter of the principal OEM verifying the capability of such facility to carry out	Mandatory

	necessary repair & maintenance procedures of technical equipment proposed by the bidder.	
(12)	Details and documentary proof of provision of similar systems (worth PKR 25 million or more per lot) as per **Annex-D**.	Mandatory
(13)	**Lot (i) Digital RF Receivers (Analyzers)** Para wise compliance table of technical parameters / specifications mentioned at: **(a) Sr. Nos. (1) to (3) of Table under Part (A) – Mandatory Requirements of Lot (i) under Para 2.1.1 of SECTION-3**; and **(b) Para 2.1 (Mandatory Requirements) of SECTION-4 (Part-B).** *Attach documentary proof (Technical data sheets and brochures).*	Mandatory
(14)	**Lot (ii) RF Sensors System** Para wise compliance table of technical parameters / specifications mentioned at: **(a) Sr. Nos. (38) to (39) of Table under Part (A) – Mandatory Requirements of Lot (ii) under Para 2.1.1 of SECTION-3**; and **(b) Para 4.1 (Mandatory Requirements) of SECTION-4 (Part-B).** *Attach documentary proof (Technical data sheets and brochures)*	Mandatory

1.2. Non-compliance with any of the mandatory requirements and parameters listed in the table under Clause 1.1 above shall render the bidder technically disqualified / non-responsive.

1.3. Bids shall be evaluated as a whole, inclusive of all terms and conditions of the Bidding Document.

1.4. It shall be examined whether bids comply with the conditions of the Bidding Document. Bidders shall not make any material deviation from the terms and conditions of the Bidding Document.

1.5. Any minor informality, non-conformity or irregularity in the documents that does not constitute a material deviation may be waived by the procuring agency.

1.6. Technical proposals of all bidders shall be examined in detail to determine whether the proposed spectrum monitoring systems comply with the technical specifications and requirements as per the procedure defined in Para 1.8 below.

1.7. Bidders are required to clearly describe and demonstrate how each technical specification is met by the proposed system. In this regard, each bidder shall submit a para-wise compliance table against the technical specifications. The compliance table shall contain two columns namely: **Compliant** and **Non-Compliant**. All compliant entries shall be supported by remarks clearly highlighting the page number(s) where requisite documentary evidence / proof is provided in the bid. All non-compliant entries shall likewise be supported by suitable remarks. Any ambiguous or blank entry shall be treated as non-compliant.

1.8. Following opening of technical bids, the Technical Evaluation Committee shall carry out technical evaluation of participating bidders in the following two stages:-

Stage 1 (Preliminary Evaluation of Mandatory Requirements): The TEC shall carry out a compliance check and preliminary evaluation of technical bids against the mandatory requirements listed in the table under Clause 1.1 above, on the basis of documentary evidence submitted by bidders as part of their technical bids. Any bidder failing to comply with any mandatory requirement shall be declared technically disqualified / non-responsive in accordance with Clause 1.2 above and shall not be called for Stage 2 (Field Demonstration / Test and Trials) or allowed to participate in the bidding process any further, provided that such declaration shall be formally announced in the Technical Evaluation Report once published in accordance with Rule 35(1) of the PPRA Rules, 2004.

Stage 2 (Field Demonstration / Test & Trials): Subject to passing / qualifying Stage 1, all qualified bidders shall be required to arrange a field demonstration / test and trials of the proposed spectrum monitoring system at the procuring agency's premises within six (6) days of the date of intimation by the procuring agency, at no cost to the procuring agency and at no obligation on its part. The purpose of Stage 2 is to physically verify and assess the claims made by bidders in the documentary evidence, technical datasheets and brochures submitted as part of their technical bids. Bidders shall ensure the availability of the proposed monitoring system (having full capabilities, features and the proposed or latest version of operating software) for detailed technical evaluation and marking as per the criteria listed in Para 2.1.1 and Section 4 (Part B) and the guidelines provided in Annexures J and K.

1.8.1. Equipment or software of an older version shall not be accepted for testing. Failure to provide the latest and up-to-date equipment or software shall render the bidder technically disqualified / non-responsive. Equipment shall remain available at the procuring agency's premises for test and trial purposes for a period of seven (7) days from the date of receipt, extendable to thirteen (13) days at the discretion of the procuring agency.

1.8.2. Bidders qualified for Stage 2 shall also ensure the availability of a dedicated technical expert for the entire duration of the test and trials. Failure to do so shall render the bidder technically disqualified / non-responsive.

2. TECHNICAL EVALUATION CRITERIA

2.1. Bid evaluation shall be conducted lot wise (separately) and marking shall be made against each lot separately. Bidder shall ensure that each lot must be separately priced accompanied by separate financial bids.

2.1.1. Technical Evaluation Criteria in accordance with Para 1.8 of Section 3, Section 4 (Part B) and guidelines given at Annexures J and K.

Technical Evaluation Criteria of <u>Lot (i) Digital RF Receivers (Analyzers)</u>

S#	Domain	Description	Criteria	Maximum Marks	Remarks
Part A) Mandatory requirements of Lot (i): - Non-Compliance to any mandatory parameter, the bidder will be technically disqualified.					
(1)	**Type of Equipment**	Compact size with backpack or suitcase bag housing for operations	Compliant/ Non-Compliant	**Mandatory**	**To be checked / verified through test & trial.**
		Portable/transportable and easy to carry for drive test and walk-test monitoring	Compliant/ Non-Compliant		
		Built-in GPS, storage and remote connectivity features	Compliant/ Non-Compliant		
(2)	**Technology support**	The equipment shall have support for 5G NR (FDD/TDD), GSM, UMTS, HSDPA, HSUPA, HSPA+, LTE, LTE-Advance (FDD & TDD),NB-IoT/Cat NB1 (i.e. 2nd , 3rd, 4th, 5th Generation wireless technologies)	Compliant/ Non-Compliant	**Mandatory**	
(3)	**Decoding capability of Digital RF Receiver (Analyzer)**	Decoding and Displaying of System Information (SI), System Information Block (SIB), Master Information Block (MIB) and other Layer-3 messages of all mentioned cellular technologies during drive tests in real time **without using SIM card**	Compliant/ Non-Compliant	**Mandatory**	
(4)	**Field Test and Trials/ Practical Demonstration of Proposed Monitoring Equipment**	Field demonstration / test and trial of the proposed monitoring equipment as per Clause 1.8 of Section 3, Section 4 (Part B) and guidelines given at Annex-J.	Compliant/ Non-Compliant	**Mandatory**	**To be checked / verified through test & trial.**
<u>Part B) Digital RF Receiver (Analyzer) Capabilities</u>					
(5)	**Equipment weight**	Compact Size including backpack or suitcase bag housing for operation	If ≤ 10kg = 1 Mark If > 10kg = 0.5 Mark	**1**	**To be checked / verified**

S#	Domain	Description	Criteria	Maximum Marks	Remarks
(6)	**Frequency range**	**Support for RF Spectrum Scan for all cellular technologies (5G,4G,3G,2G)** in following spectrum bands: - • Frequency range (350 MHz – 8 GHz) • Frequency range (24 GHz – 40 GHz or above)	**Support for following frequency bands will be awarded marks as under:** • **Frequency range (350 MHz – 6 GHz) = 1.5 Marks** • **Frequency range (6 GHz – 8GHz) = 1 Mark** • **Frequency range (24 GHz – 40 GHz or above) =1 Mark**	**3.5**	**through test & trial.**
(7)	**Measurement Capabilities**	Auto-detection and monitoring of multiple cellular technologies (all released versions) simultaneously (5G, 4G, 3G, 2G)	Monitor 4 x technologies (5G,4G,3G,2G) = 8 Marks (2 Marks for each technology) ***Marks will be awarded as per relevant validation steps procedure mentioned in Annex-J**	**8**	
(8)		Coverage measurement of the cellular technologies (Log file recording and plotting on maps)	Yes = 2 Marks No = 0 Mark	**2**	
(9)		All Protocol Testing of 3GPP Standards (e.g. Rx Level, C/I,RSCP, Ec/No, RSRP, RSRQ, SS-RSRP, SS-RSRQ, SINR, RSSI, CIR etc.)	Yes = 2 Marks No = 0 Mark	**2**	
(10)		Measurement and analysis of beamforming in 5G technology	Yes = 2 Marks No = 0 Mark	**2**	
(11)		Capable to measure and detect synchronization problem in TDD bands of 5G and LTE technologies	1 mark for each technology	**2**	
(12)		5G and LTE TDD Radio Frame Structure Level scanning information	1 Mark each for following levels information: a) Frame b) Sub Frame c) Slot d) Symbol	**4**	
(13)	**Collection of Real Time Correlatable Data through Simultaneous Operation of RF Receiver**	The provided solution should be capable to simultaneously collect real time data from the devices i.e., Digital RF receiver (analyzer) and multiple smart test phones operational in parallel during the drive/walk test	Yes = 3 Marks No= 0 Mark	**3**	

S#	Domain	Description	Criteria	Maximum Marks	Remarks
	and Smart Test Phones				
(14)	**System Support**	Flexibility and support to add more test phones	Yes = 2 Marks No= 0 Mark	**2**	
(15)		Capable to perform Quality of Service (QoS) measurements of cellular services in indoor/walk test and outdoor/drive test.	Yes = 2 Marks No= 0 Mark	**2**	
(16)	**Batteries**	System battery backup time per pack	Battery backup time ≥ 3 Hr = 2 Marks Battery backup time < 3 Hr = 1 Mark	**2**	**Battery backup time will be evaluated through simultaneous operation of the main unit and all connected test handsets.**
		Spare Battery Pack	Spare Battery backup time ≥ 3 Hr = 2 Marks Spare Battery backup time < 3 Hr = 1 Marks No Spare Battery = 0 Mark	**2**	
(Part C) Test (QoS) Mobile Phones Capabilities					
(17)	**Type**	Smart test phone based on android operating system 15 or better	Yes = 2 Mark No = 0 Mark	**2**	**To be checked / verified through test & trial.**
(18)	**Operating Mode**	It shall possess the capability to conduct Voice, SMS, Video, and Data testing in both standalone mode and software-controlled mode	Testing possible in standalone mode = 1 Mark Testing possible in software-controlled mode= 1 Mark	**2**	
(19)	**Voice (2G/3G/VoLTE/ VoNR) Testing**	Capable to perform Voice (2G/3G/VoLTE/VoNR) testing	If Voice (2G/3G/VoLTE/ VoNR) testing possible = 0.25 Mark each If device support voice KPI parameters as defined in Para: 2.3.4, SECTION-4 (Part-B) of bidding document = 1 Mark	**2**	

S#	Domain	Description	Criteria	Maximum Marks	Remarks
(20)	**Video Testing**	Capable to perform Video Testing	If video testing possible = 1 Mark If device support video KPI parameters as defined in Para: 2.3.4, SECTION-4 (Part-B) of bidding document = 1 Mark	**2**	
(21)	**Data Testing**	Capable to perform data testing	If data testing possible = 1 Mark If device support data KPI parameters as defined in Para: 2.3.4, SECTION-4 (Part-B) of bidding document = 1 Mark	**2**	
(22)	**Locking /Unlocking Feature**	Test phones shall be capable to lock/unlock any of following desired parameters for QoS test: - • Specific technology (2G,3G,4G,5G) • Cell ID/PCI/NCI/PSC/BCCH • Channel Number (ARFCN,UARFCN,E-UTRA, EARFCN, NR-ARFCN)	Technology lock/unlock feature = 0.5 Mark Cell ID lock/unlock = 0.5 Mark Channel Number Lock/unlock = 0.5 Mark	**1.5**	
(23)	**Carrier Aggregation**	Support for carrier aggregation (Intra-band & Inter-band) testing	Intra-band, contiguous= 0.5 Mark Intra-band, non-contiguous= 0.5 Mark Inter-band= 0.5 Mark	**1.5**	
(24)	**OTT Applications Testing**	Facebook, WhatsApp, Instagram, YouTube	**0.25 marks for each of the 4 x applications**	**1**	
(Part D) Control Software					
(25)	**Third Party Device Support**	Software shall have support for multiple devices of different vendors (i.e., smartphones, modems, router, CPE etc)	Yes= 2 Mark No = 0 Mark	**2**	Provide Documentary evidence
(26)	**Measurement Options**	Interference identification in cellular networks	1 mark for each	**3**	**To be checked / verified through test & trial.**
		Support for New and evolving application tests i.e., TWAMP Protocol in 5G networks. Interactivity test measuring key parameters such as round-trip latency, packet delay variation, packet error rate and proofing bit rate in one single test with millisecond accuracy			

S#	Domain	Description	Criteria	Maximum Marks	Remarks
		Capability and flexibility to lock/unlock any desired technologies on test phones			
(27)	**GUI Interface**	User friendly GUI interface	1.5 Mark each	**4.5**	
		Data visualization in table, graph, bar chart, line chart, pie chart etc			
		Option to create custom workspaces			
(28)	**Display options**	Software shall be capable to display, record, pause and replay the measurements	0.5 mark each **(Total = 4 marks)**	**4**	
		Indicate the faults in the run time using audio/visual display			
		Displaying alarm and notifications failure events like call drop, blocked call etc			
		Displaying the progress of testing in the run time			
		Displaying and ranking (Top N) of all detected channels along with identifier code (MCC/MNC), signal strength, signal quality, frequency, channel number and channel quality **in real time**			
		Display option for RF spectrum power and waterfall **in parallel windows**			
		Display different parameter in grid and map and the legends should be configurable.			
		Display the status of the connected/disconnected devices.			
		Decoding and Display all following active cells layer 3 messages for cellular technologies in real time: **a) System Information (SI)** **b) System Information Block (SIB)** **c) Master Information Block (MIB)**	**1 mark each (Total = 3 marks)**	**3**	
(29)	**Advanced 5G NR measurements (Standalone and Non-Standalone Configuration**	Feature for Identification of Network Slicing and reduced capability analysis during scanning/decoding of 5G technology	**Yes = 1 mark No = 0 mark**	**1**	**To be checked / verified through test & trial.**

S#	Domain	Description	Criteria	Maximum Marks	Remarks
	s) including Reduced Capability Analysis (RED CAP)				
(30)	**Time Domain Measurements and Analysis in 5G and 4G TDD Technologies**	Time-gate feature for identification of interference in 5G and 4G TDD technologies	Feature Available in Real Time Scanning of Data = 5 Mark Feature Available in Post Processing of Data = 3 Mark	**5**	
(31)	**GIS/GEO Mapping/Route Navigation**	**Recording and displaying measurement drive test results on digital Google / Openstreet Maps**	**Yes = 2 Mark** **No = 0 Mark**	**2**	
(32)	**Import and export data**	Data import options in CSV, KML/KMZ, Google maps, indoor floor maps of building etc. Any parameter can be exported in csv, tab, txt, KMZ/KML	**Import of data = 1 Mark** **Export of data = 1 Mark**	**2**	**Drive test Data Import/Export to be practically shown during field test & trials as per Annex J**
(Part E) Bidder Technical Experience (to be checked from documentary evidence)					
(33)	**Bidder / OEM Experience**	Bidder / OEM must provide details and documentary proofs of provision of similar spectrum monitoring systems (worth PKR 25 million or more) to (industry, regulators, vendors, CMOs, R&D organization etc) as per Annexure-D. (Attach documentary evidence)	One (01) mark for each client, up to a maximum of 5 marks	**05**	
(34)	**Financial Capacity**	Bidder must demonstrate that they have the financial capacity to provide the required services by providing information to prove financial viability. (Attach audited financial statements of last two years)	Increase in Annual Sale 0 % = 0 Mark < 20 % = 0.5 Mark ≥ 20 % = 1 Mark Increase in Fixed Assets 0 % = 0 Mark < 10 % = 0.5 Mark ≥ 10 % = 1 Mark Decrease in Current Liabilities 0 % = 0 Mark < 20 % = 0.5 Mark ≥ 20 % = 1 Mark	**04**	**Provide Documentary evidence**

S#	Domain	Description	Criteria	Maximum Marks	Remarks
			Decrease in Operating Expenses 0 % = 0 Mark < 10 % = 0.25 Mark ≥ 10 % = 0.5 Mark		
			Increase in Investment 0 % = 0 Mark < 10 % = 0.25 Mark ≥ 10 % = 0.5 Mark		
(35)	**Experience of providing after sale support to client**	Local repair facility (as per requirement mentioned in Para: 1.1 (11) of Section-3) in Pakistan for customers/clients and experience of providing after sale support for installing, troubleshooting, repair and maintenance to clients. (Attach documentary evidence)	One (1) mark for each client up to a maximum of 5 marks	**05**	
(36)	**Bidder / OEM Training Experience**	Experience of providing basic operation and maintenance level trainings on monitoring systems by the bidder / OEM (Attach documentary evidence of previous trainings)	One (1) mark for each training up to a maximum of 5 marks	**05**	
(Part F) Availability of Proposed System					
(37)	**Availability & Physical Inspection of Proposed Monitoring Equipment**	Availability of proposed monitoring equipment (having full capabilities / features and proposed/ latest version of operating software **and firmware)** along with all accessories before test & trial within the prescribed timeline. Same will be inspected and graded as under: - (a) Main unit (b) Minimum 2 x Smart Test phones (c) Laptop with Control software (latest version) (d) Complete Antenna System (e) Batteries and Complete Back Pack System	1 mark each	**5**	
Total Marks				**100**	
Minimum Qualifying Marks				**85**	

Technical Evaluation Criteria of Lot (ii) RF Sensors System

S#	Domain	Description	Criteria	Maximum Marks	Remarks
Part A) Mandatory Requirements of Lot (ii):- Non-Compliant to any mandatory parameter, the bidder will be technically disqualified.					
(38)	**Type of Equipment**	Compact size	Compliant/ Non-Compliant	**Mandatory**	**To be checked / verified through test & trial.**
		Portable and easy to carry	Compliant/ Non-Compliant		
		Built-in GPS, internal storage	Compliant/ Non-Compliant		
		Data transmission capability through wired LAN interfaces	Compliant/ Non-Compliant		
		Frequency Range: Less or equal to 9 kHz and greater or equal to 8 GHz	Compliant/ Non-Compliant		
(39)	**Interference analysis in TDD/ FDD frequency bands of 5G/4G**	Power vs time display	Compliant/ Non-Compliant	**Mandatory**	
		Power vs frequency display	Compliant/ Non-Compliant		
		Persistence Spectrum Display	Compliant/ Non-Compliant		
		Zero span mode	Compliant/ Non-Compliant		
		Signal detection of 5G networks from 700 MHz to 8 GHz	Compliant/ Non-Compliant		
		Time-gate feature for identification of interference in 5G and 4G TDD technologies in real time and homing of interferer	Compliant/ Non-Compliant		
(40)	**Field Test and Trials/ Practical Demonstration of Proposed Monitoring Equipment**	Field demonstration / test and trials of the proposed monitoring equipment as per Clause 1.8 of Section 3, Section 4 (Part B) and guidelines given at Annex-K.	Compliant/ Non-Compliant	**Mandatory**	**To be checked / verified through test & trial.**
Part B) RF Sensors System Capabilities (to be checked through test & trials)					
(41)	**Type of Equipment**	Lightweight handheld ruggedized and weather proof compact size monitoring sensor	If ≤ 08kg = 1 Mark If > 08kg = 0.5 Mark	**1**	
(42)	**Frequency range**	Signal detection shall be evaluated from 9 kHz to 8 GHz. Detection from 9 kHz–20 MHz shall be performed using an omnidirectional (rod) antenna, while from 20 MHz–8 GHz, detection (via offered omni/directional antenna) and homing/direction finding (via directional antenna) shall be assessed, including interference	i. 300KHz – 30 MHz AM broadcast and any other service in this range= 1 Mark ii. 30 MHz – 400 MHz a. FM/AM BC, b. VHF/UHF Comm with bearing = 1	**7**	Sample Test performa is attached at Annex -K

S#	Domain	Description	Criteria	Maximum Marks	Remarks
		hunting in cellular networks. Failure in any test within a specified range shall result in zero marks for that range.	mark each, total 2 marks iii. 700 MHz- 6 GHz Cellular services 2G, 3G, 4G, including interference Hunting= 1 mark each tech. Total 3 Marks iv. 2.4 GHz- 8GHz Detection and homing of Point to Point Links = 1 Marks		
(43)	**Field Strength Measurement**	Field strength measurement in dBµV/m, dBµV, dBm	1 Mark Each	**3**	**For complete range of frequencies**
(44)	**Occupied Bandwidth**	β% method and x-dB method	1 Mark Each	**2**	
(45)	**Demodulation**	USB, LSB, AM, FM, PM, CW, Pulse, I/Q	0.5 Mark for each	**4**	
(46)	**Level Detectors**	Average, RMS, Positive Peak, Negative Peak	1 Mark each	**4**	
(47)	**Attenuation**	User selectable from 0-30 dB or above (manual and automatic)	If ≥ 30 dB = 3 Marks if < 30 dB =1 Mark	**3**	
(48)	**Monitoring Antenna**	Supporting Omni and Directional antennas to cover 20 MHz to 8 GHz or above frequency range	1.5 marks for each type (Omni and Directional Antennas)	**3**	
(49)	**Batteries**	Minimum 4 hour battery backup per pack	If ≥ 4 hrs = 4 Mark If < 4 hrs = 2 Mark	**4**	Battery backup shall be evaluated by operating the system under real task conditions from full charge until complete discharge during test and trial.
		Spare Battery Pack	Yes = 2 Mark No = 0 Mark	**2**	
(50)	**Self Test**	Built-in self-test option for troubleshooting and maintenance	Yes = 2 Marks No = 0 Mark	**2**	

S#	Domain	Description	Criteria	Maximum Marks	Remarks
(51)	**Spectrum Analysis Display**	Frequency Spectrum, Waterfall, Persistence, Maxhold, Minhold, Average, Clear/Write, Squelch	0.5 Mark for each	**4**	
(52)	**Scan Modes**	User selectable Panorama Scan, Frequency Scan and Memory Scan	1 Mark each	**3**	
(53)	**GIS and digital maps**	The software shall have GIS support for displaying monitoring results through google or open street maps. Bearings shall be automatically transferred and displayed on the GIS interface without manual intervention. The system shall support triangulation and logging/playback with bearing visualization. Manual or user-triggered bearing capture shall not be considered compliant. .	Yes= 2 Marks No= 0	**2**	
(54)	**Report Generation**	Report shall be in the form of screenshots image (JPEG/PNG), graph, spectrum trace, maps, audio recording, bar chart, table, CSV, excel, word/pdf.	0.5 marks for each visual effect	**5**	
Part C) Parameters (to be checked from documentary evidence)					
(55)	**Real Time Bandwidth**	≥ 40 MHz	If > 40 MHz = 6 Marks If 40 MHz = 3 Marks If < 40 MHz = 0 Mark	**6**	**The bidder shall provide documentary evidence from the OEM, such as a brochure or an official certificate**
(56)	**Receiver Scan Rate**	≥ 40 GHz/s	If ≥ 40 GHz/s = 4 Marks If < 40 GHz/s = 2 Mark	**4**	
(57)	**Tuning Resolution:**	≤ 10 Hz	If ≤ 10 Hz = 2 Marks If >10 Hz = 1 Mark	**2**	
(58)	**Second Order Intercept (IP2)**	9 kHz – 30 MHz ≥ +50 dBm 30 MHz – 8 GHz ≥ +40 dBm	9 kHz – 30 MHz ≥ +50 dBm = 1 Mark 9 kHz – 30 MHz < +50 dBm = 0.5 Mark 30 MHz – 8 GHz ≥ +40 dBm = 1 Mark 30 MHz – 8 GHz < +40 dBm = 0.5 Mark	**2**	
(59)	**Third Order Intercept (IP3)**	9 kHz – 30 MHz ≥ +10 dBm 30 MHz – 8 GHz ≥ +5 dBm	9 kHz – 30 MHz ≥ +10 dBm = 1 Mark 9 kHz – 30 MHz < +10 dBm = 0.5 Mark 30 MHz – 8 GHz ≥ +5 dBm = 1 Mark 30 MHz – 8 GHz < +5 dBm = 0.5 Mark	**2**	
(60)	**Overall Noise Figure**	≤ 15 dB for complete range of frequencies	If ≤ 15 dB = 2 Mark If > 15 dB = 1 Mark	**2**	
(61)	**LO-Phase Noise**	≤ -**100** dBc/Hz, at 10 KHz offset and RBW 1KHz for complete range of frequencies	If ≤-**100** dBc/Hz = 2 Mark If >-**100** dBc/Hz = 1 Mark	**2**	
(62)	**DANL**	-**160 dBm** (1Hz) or better for complete range of frequencies	If ≤ -**160** dBm = 2 Marks If > -**160** dBm = 1 Mark	**2**	
(63)	**Monitoring Antenna**	VSWR ≤ 2.5	If ≤ 2.5 = 2 Marks If > 2.5 = 1 Mark	**2**	
(Part D) Bidder Technical Experience (to be checked from documentary evidence)					

S#	Domain	Description	Criteria	Maximum Marks	Remarks
(64)	**Bidder / OEM Experience**	Bidder / OEM must provide details and documentary proofs of provision of similar spectrum monitoring systems (worth PKR 25 million or more) to (industry, regulators, vendors, CMOs, R&D organization etc) as per Annexure-D. *(Attach documentary evidence)*	One (01) mark for each client, up to a maximum of 5 marks	**05**	**Provide Documentary evidence**
(65)	**Financial Capacity**	Bidder must demonstrate that they have the financial capacity to provide the required services by providing information to prove financial viability. *(Attach audited financial statements of last two years)*	Increase in Annual Sale 0 % = 0 Mark < 20 % = 0.5 Mark ≥ 20 % = 1 Mark	**04**	
			Increase in Fixed Assets 0 % = 0 Mark < 10 % = 0.5 Mark ≥ 10 % = 1 Mark		
			Decrease in Current Liabilities 0 % = 0 Mark < 20 % = 0.5 Mark ≥ 20 % = 1 Mark		
			Decrease in Operating Expenses 0 % = 0 Mark < 10 % = 0.25 Mark ≥ 10 % = 0.5 Mark		
			Increase in Investment 0 % = 0 Mark < 10 % = 0.25 Mark ≥ 10 % = 0.5 Mark		
(66)	**Experience of providing after sale support to client**	Local repair facility (as per requirement mentioned in Para: 1.1 (11) of Section-3) in Pakistan for customers/clients and experience of providing after sale support for installing, troubleshooting, repair and maintenance to clients. *(Attach documentary evidence)*	(One (1) mark for each client up to a maximum of 4 marks)	**04**	
(67)	**Bidder / OEM Training Experience**	Experience of providing basic operation and maintenance level training on monitoring systems by the bidder / OEM *(Attach documentary evidence of previous trainings)*	(One (1) mark for each training up to a maximum of 4 marks)	**04**	
Part E) Availability of Proposed System					

S#	Domain	Description	Criteria	Maximum Marks	Remarks
(68)	**Availability & Physical Inspection of Proposed Monitoring Equipment**	Availability of proposed monitoring equipment (having full capabilities / features and proposed version of operating software) along with all accessories before test & trial within the prescribed timeline. Same will be inspected and graded as under: - (a) Main Unit (b) Battery Pack (c) Omni-directional antenna system (d) Directional antenna System (e) Carrying case for safe transportation	2 marks each	**10**	
Total Marks				**100**	
Minimum Qualifying Marks				**85**	

2.2. Financial Bid of the bidder scoring 85 and above in Technical Evaluation shall be opened and bids of non-qualified bidders shall be returned un-opened.

3. FINANCIAL EVALUATION

3.1. After the technical evaluation is completed, the procuring agency shall notify those bidders whose proposals did not meet the minimum qualifying marks (85) or were considered nonresponsive to the bidding document, indicating that their Financial Bids shall be returned unopened. The procuring agency shall simultaneously notify the bidders securing minimum qualifying marks during the Technical Evaluation, indicating the date and time set for opening the Financial Bids.

3.2. **Bidders must submit separate financial bids against each lot and financial evaluation of each lot will be conducted separately.**

3.3. The bidder shall indicate on the appropriate Price Schedule / Bill of Quantities (BOQ) total bid price of each lot i.e., lot (i & ii) it proposes to supply, especially the unit price of test mobile phone of lot – i as per format attached at **Annex-E**.

3.4. The Financial Bids shall be opened publicly in the presence of the Bidder's representatives who choose to attend.

3.5. The name of the bidder, the technical evaluation scores, the bid security and bid prices shall be read aloud and recorded when the Financial Bids are opened. The procuring agency shall prepare minutes of the public opening.

3.6. The relevant committee shall determine whether the Financial Bids are complete, correct and without any computational errors. Arithmetical errors shall be rectified on the following basis: -

3.6.1. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between subtotals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected.

3.6.2. If there is a discrepancy between words and figures, the price in words shall prevail. If the Bidder does not accept the correction of errors, its bid shall be rejected.

3.6.3. The comparison shall be, on the lot-wise total offered price in Price Schedule/BoQ as per attached format at **Annex-E** for delivery at final destination to the procuring agency and inclusive of all foreign and local taxes, duties, freight and Insurances including but not limited to delivery, installation, testing and training.

3.7. Formula for financial scoring is that the lowest bidder gets 35 points and the other bidders score 35 x the ratio of the lowest bid divided by the quoted price.

3.7.1. **Example:**

Value quoted by the lowest bidder = A

Value quoted by the second lowest bidder = B

Value quoted by the third lowest bidder = C

Financial scoring of lowest bidder will be = 35

Financial scoring of second lowest bidder will be = (A/B) x (35)

Financial scoring of third lowest bidder will be = (A/C) x (35)

4. FINAL EVALUATION

4.1. **Technical proposal weightage is 65% and Financial proposal weightage is 35%.**

4.2. Technical scoring out of 100 =A

Carried forward and prorated technical scoring = A x 0.65

4.3. Points obtained in the detailed technical evaluation will be carried forward for further final evaluation. Lot-wise contract will be awarded to the most advantageous bidder with maximum accumulative points (Technical score + Financial score).

4.4. The bidder with the most advantageous bid, if not in conflict with any other law, rules, regulations or policy of the Federal Government, shall be awarded the procurement contract.

Annex – C

CONTRACT AGREEMENT

E-STAMP
(Islamabad Capital Territory)

ICT-A5A278BDDB6CB929

PSID-1012300032634515945

Rs 100/-

One Hundred Rupees Only

Purpose	: AGREEMENT OR MEMORANDUM OF AN AGREEMENT - 5(ccc)
Applicant	: Muhammad Shakeel [34101-7533385-9]
Representative From	: ROHDE & SCHWARZ PAKISTAN (PRIVATE) LIMITED
Address	: 21-W, 4th floor sardar Plaza blue area
Issue Date	: 19-Aug-2026, 12:48:34 PM
Delisted On/Validity	: 3-Sep-2026
Paid Through Challan	: 20267077345E74F2
Reason	: Stamp Paper for FAB Contract NFMMS-I/2026

نوٹ: یہ ٹرانزیکشن تاریخ اجرا سے پندرہ دنوں تک کے لیے قابلِ استعمال ہے۔ ای اسٹامپ کی تصدیق بذریعہ ویب سائٹ، کیو آر کوڈ سے کی جا سکتی ہے۔

Please Write Below This Line

CONTRACT

FOR

SUPPLY AND COMMISSIONING OF SPECTRUM MONITORING SYSTEM FOR ESTABLISHMENT OF ISLAMABAD MONITORING STATION HOUSING FAB HQS BUILDING (NFMMS-1/2026)

BETWEEN

FREQUENCY ALLOCATION BOARD

AND

M/S ROHDE & SCHWARZ PAKISTAN (PVT.) LTD.

MADE AS OF

DATE: 21st Aug **2026**

AT
ISLAMABAD

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

ATTESTED
TARIQ IQBAL MAHER
Advocate High Court
Notary Public
ISLAMABAD

20 AUG 2026

SUPPLY AND COMMISSIONING OF SPECTRUM MONITORING SYSTEM FOR ESTABLISHMENT OF ISLAMABAD MONITORING STATION HOUSING FAB HQS BUILDING (NFMMS-1/2026)

This Contract for SUPPLY AND COMMISSIONING OF SPECTRUM MONITORING SYSTEM FOR ESTABLISHMENT OF ISLAMABAD MONITORING STATION HOUSING FAB HQS BUILDING (NFMMS-1/2026) (hereinafter referred to as the "**Contract**") is made at Islamabad on (*day*) of 21 August 2026:

By and Between

FREQUENCY ALLOCATION BOARD, a public sector organization established under Section 42 of the Pakistan Telecommunication (Re-organization) Act 1996 having its Headquarters at Plot No. 112, Sector H-10/4, Islamabad (hereinafter referred to as "**FAB**"), through Chairman FAB Project Committee, as the party of the first part;

and

M/s ROHDE & SCHWARZ PAKISTAN (PVT.) LTD., a company incorporated under the laws of Pakistan having its office at (21 West, 4th Floor, Sardar Plaza, Fazal ul Haq Road, Blue Area), Islamabad (hereinafter referred to as the "**Contractor**"), through its authorized representative, as the party of the Other Part.

(The Party of the First Part and the Party of the Other Part shall hereinafter be collectively referred to as '**Parties**' and individually as '**Party**' as the context of this Contract requires).

RECITALS

WHEREAS:

A. The FAB desires to purchase spectrum monitoring system ***(Digital RF Receivers (Analyzers) – LOT I) and (RF Sensors System – LOT-II)*** for its monitoring station at ISLAMABAD MONITORING STATION HOUSING FAB HQS BUILDING requiring the Contractor to provide supply, installation, testing, warranty of the spectrum monitoring systems as per the terms and conditions of this Contract and documents/annexures attached hereto.

B. The Contractor having represented to FAB that it has the required professional skills, personnel and resources, has agreed to provide the required spectrum monitoring system ***(Digital RF Receivers (Analyzers) – LOT I) and (RF Sensors System – LOT-II)*** and ancillary services to FAB in accordance with best industry standards to the satisfaction of FAB on the terms and conditions outlined in this Contract.

NOW, THEREFORE, in view of the foregoing premises and in consideration of the mutual benefits to be derived and the representations and warranties, covenants and agreements contained herein, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, and intending to be legally bound, the Parties hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract. However, the General Conditions and Special/Technical Conditions of the contract shall take precedence over remaining documents/annexures attached hereto in case of any conflict.

   (a) The Special & Technical Conditions of Contract;
   (b) The General Conditions of Contract;

(c) The Tender Document;
(d) Technical Proposal;
(e) Financial Proposal; and
(f) The following Annexures:
Annexure A – Bill of Quantity (Lot-I & Lot-II)
Annexure B – Form of Performance Bank Guarantee
Annexure C – Form of Advance Bank Guarantee
Annexure D – Warranty Statement
Annexure E – Certificate of Store Inspection
Annexure F – SAT Acceptance Certificate
Annexure G – Certificate of Training Performance
Annexure H – Integrity Pact
Annexure I – System Description Compliance table
Annexure J – Delivery & Payment Schedule
Annexure K – FAT Acceptance Certificate

2. The mutual rights and obligations of FAB and the Contractor shall be as set forth in the Contract, in particular:

(a) The Contractor shall provide the required spectrum monitoring system *RF Sensors/Monitoring Units (Having Built-in Receiver along with GPS, internal storage and data transmission capability) for Islamabad City* ***(Digital RF Receivers (Analyzers) – LOT I) and (RF Sensors System – LOT-II)*** and ancillary services to FAB in accordance with the provisions of the Contract; and

(b) The FAB shall make payments to the Contractor in accordance with payment terms described under this Contract.

IN WITNESSES WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of FAB
Mr. Brig Agha Abid (Director General FAB, Islamabad)

For and on behalf of Contractor
Mr. Haris Ali, Managing Director
R&S, Islamabad

In the presence of Witnesses:

Mr. Zia Ali, Director (F&A),
FAB HQs Islamabad
CNIC: 38403-2103576-5

Mr. Salman Afzal (Head of Finance)
R&S, Islamabad
CNIC: 37405-3180761-3

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

GENERAL PARTICULARS

1.1	Name of PURCHASER	:	Frequency Allocation Board Headquarters, Plot No. 112, Sector H-10/4, Islamabad, Pakistan.
1.2	CONTRACTOR's Name & Address	:	M/s Rohde & Schwarz Pakistan Pvt. Ltd 21 West, 4th Floor, Sardar Plaza, Fazal ul Haq Road, Blue Area, Islamabad, Pakistan
1.3	Principal/Manufacturer	:	Mainly ROHDE & SCHWARZ GmbH & Co. KG; Muehldorfstrasse 15, D-81671 Muenchen, Germany
1.4	Country of Origin of Store	:	Mainly: Germany, Switzerland, Singapore and Malaysia
1.5	Time Schedule	:	Time for completion of project is as per Annex-J
1.6	Freight & Insurance Charges	:	Included in Bid Price
1.7	Total Contract Value with GST	:	**PKR 196,308,167** **(LOT 1: PKR 127,615,116)** **(LOT 2: PKR 68,693,051)**
1.8	Value of Advance Payment (10%) against BG	:	**LOT 1: PKR 12,761,511** **LOT 2: PKR 6,869,305**
1.9	Performance Bank Guarantee (**10%** of net contract value)	:	**LOT 1: PKR 12,761,511** **LOT 2: PKR 6,869,305**
1.10	Date of Delivery	:	As per Annex-J
1.11	Warranty Period	:	12 months from SAT acceptance.
1.12	Partial Payment /Partial Shipment	:	Allowed to the extent of lot wise payment / shipment
1.13	Terms of Delivery	:	DDP Islamabad Pakistan
1.14	Terms of Payment	:	As per Annex-J

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD. R/S

PART – A

GENERAL CONDITIONS OF CONTRACT

1. Definitions 1.1 In this Contract, the following terms shall be interpreted as indicated:

(a) "**The Contract**" means the agreement entered into between the Procuring Agency and the Contractor, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

(b) "**The Goods**" means all of the spectrum monitoring system, equipment and/or other materials, which the Contractor is required to supply to the Procuring Agency under the Contract.

(c) "**The Services**" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, customization, provision of technical assistance, training, and other such obligations of the Contractor covered under the Contract.

(d) "**GCC**" means the General Conditions of Contract contained in this section.

(e) "**SCC**" means the Special Conditions of Contract.

(f) "**The Procuring Agency**" means the organization purchasing the Goods, as **named in SCC.**

(g) "**The Procuring Agency's country**" is the country **named in SCC.**

(h) "**The Contractor**" means the individual or firm supplying the Goods and Services under this Contract, as **named in SCC**.

(i) "**The Project Site**" where applicable, means the place or places **named in SCC.**

(j) "**Day**" means calendar day.

2.	**Applications**	2.1	These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.
3.	**Country of Origin**	3.1	All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules of the Government of Pakistan, as further elaborated in the SCC.
		3.2	For purposes of this Clause, "origin" means the place where the Goods were developed / produced, or from which the Services are supplied. Goods are developed / produced when, through manufacturing, processing, or substantial and major assembly /integration of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components
		3.3	The origin of Goods and Services is distinct from the nationality of the Contractor.
4	**Standards**	4.1	The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.
5	**Use of Contract Documents and Information; Inspection and Audit by the Bank**	5.1	The Contractor shall not, without the Procuring Agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Agency in connection therewith, to any person other than a person employed by the Contractor in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.
		5.2	The Contractor shall not, without the Procuring Agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.

5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring Agency and shall be returned (all copies) to the Procuring Agency on completion of the Contractor's performance under the Contract if so, required by the Procuring Agency.

5.4 The Contractor shall permit the Procuring Agency to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Bank, if so required by the Government.

6 Patent Rights

6.1 The Contractor shall indemnify the Procuring Agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring Agency's country.

7 Performance guarantee

7.1 On the date of signing of contract, Contractor shall furnish to the Procuring Agency the performance guarantee in the price **specified in SCC.**

7.2 The proceeds of the performance guarantee shall be payable to the Procuring Agency as compensation for any loss resulting from the Contractor's failure to complete its obligations under the Contract.

7.3 The performance guarantee shall be denominated in Pakistani Rupees and shall be in one of the following forms:

(a) a bank guarantee or an irrevocable letter of credit issued by a reputable AAA rated scheduled Bank located in Pakistan, in the form provided in the bidding documents or another form acceptable to the Procuring Agency; or

(b) a cashier's or certified check.

7.4 The performance guarantee will be discharged by the Procuring Agency and returned to the Contractor not later than sixty (60) days following the date of completion of the Contractor's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC.**

8. Inspections & Tests

8.1 Inspection and Acceptance Test of each equipment shall be performed by the procuring agency to inspect or test the goods according to pre-agreed criteria. The acceptance shall be conducted at two levels: at the **factory** (**"Factory Acceptance Test"**) before shipment of the Goods/equipment and **at site** (**"Site Acceptance Test"**) after successful the delivery of Goods/equipment in Pakistan at the procuring agency's premises. The purpose of the tests shall be to establish and verify that whether the Goods/equipment conforms to the specifications as laid down in the bid document.

8.2 **Factory Acceptance Test (FAT)** A Team of three personnel per lot from the procuring agency will visit OEM's premises in country of origin of the equipment for lot-wise pre-shipment inspection / FAT for a period of five working days or more as may be necessary to inspect the equipment. The tests shall be performed in accordance with ATP documents submitted by the Supplier. The cost of airfare and boarding / lodging shall be borne by the Supplier.

8.3 **Site Acceptance Tests (SAT)** shall be performed by the Supplier along with the representatives of procuring agency after delivery of the Goods/equipment. The tests shall be performed in accordance with ATP documents submitted by the Supplier against each essential requirement, indoor and outdoor in Islamabad and surroundings. The Supplier shall provide all necessary equipment and other items of any nature required to carry out the Acceptance Tests. After the successful completion of the acceptance tests, the procuring agency representatives shall issue an acceptance test certificate.

8.4 After the replacement or correction of any faulty/defective equipment or any part thereof, acceptance test procedure shall be repeated as per **GCC 8.3**

8.5 The Procuring Agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring Agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring Agency or its representative prior to the Goods' shipment from the country of origin.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD. R S

		8.6	Nothing in GCC Clause 8 shall in any way release the Contractor from any warranty or other obligations under this Contract.
9.	**Packing**	9.1	Should be good enough to avoid any loss or damage to the Goods.
10.	**Delivery and Documents**	10.1	Delivery of the Goods and the details of shipping and/or other documents to be furnished by the Contractor in accordance with the terms specified in SCC.
11.	**Insurance**	11.1	All insurances up to testing and acceptance of the delivered goods at the procuring agency's premises shall be the responsibility of the Contractor.
12.	**Transportation**	12.1	The Contractor is required under the Contract to transport the Goods to the Procuring Agency's destinations wherever the installations are required, including insurance and storage, as shall be specified in the Contract, shall be arranged by Contractor, and related costs shall be included in the Contract Price. All foreign and local transportation costs (if any) shall be included in the Contract Price.
13.	**Incidental Services**	13.1	Not applicable
14.	**Software Patches**	14.1	**As specified in SCC,** the Contractor is required to provide / install patches pertaining to software tools developed from time to time by the Contractor, to cater for any bug or add some feature / improvement to the software tools.
15.	**Warranty**	15.1	The Contractor warrants that the Goods supplied under the Contract are new, unused, of the most recent or current versions, and that they incorporate all recent improvements in design and operation available on the date of signing of the Contract. The Contractor further warrants that all Goods supplied under this Contract shall have no defect in materials, or workmanship. The Contractor will be responsible

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD. R/S

for the remedy of any kind of malfunctioning in hardware or software, during the entire period of warranty free of cost.

15.2 This warranty shall remain valid for twelve (12) months from the date of commissioning of equipment / issuance of Acceptance Certificate from the Procuring Agency.

15.3 The Procuring Agency shall promptly notify the Contractor in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the Contractor shall, within 45 working days, repair or replace the defective Goods or parts thereof, without costs to the Procuring Agency.

15.5 If the Contractor, having been notified, fails to remedy the defect(s) within 45 working days, the Procuring Agency may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Procuring Agency may have against the Contractor under the Contract.

16. Payment

16.1 The method and conditions of payment to be made to the Contractor under this Contract shall be **specified in SCC.**

16.2 The Contractor's request(s) for payment shall be made to the Procuring Agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfilment of other obligations stipulated in the Contract.

16.3 Payments shall be made promptly by the Procuring Agency, but in no case later than sixty (60) days after submission of an invoice or claim by the Contractor.

16.4 The currency in which payment is made to the Contractor under this Contract shall be **in Pakistan Rupees only.**

17. Prices

17.1 Prices charged by the Contractor for Goods delivered and Services performed under the Contract shall not

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

vary from the prices quoted by the Contractor in its bid.

18. Change Orders

18.1 The Procuring Agency may at any time, by a written order given to the Contractor, make changes within the general scope of the Contract in any one or more of the following:

(a) designs, or specifications, where Goods to be furnished under the Contract are to be specifically developed for the Procuring Agency;

(b) the method of shipment or packing;

(c) the place of delivery; and/or

(d) the Services to be provided by the Contractor.

18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Contractor's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of the Contractor's receipt of the Procuring Agency's change order.

19. Assignment

19.1 The Contractor shall not assign / sub contract, in whole or in part, its obligations to perform under this Contract.

20. Delays in the Contractor's Performance

20.1 Delivery of the Goods and performance of Services shall be made by the Contractor in accordance with the time schedule prescribed by the Procuring Agency as specified in SCC.

20.2 If at any time during performance of the Contract, the Contractor should encounter conditions impeding timely delivery of the Goods and performance of Services, the Contractor shall promptly notify the Procuring Agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Contractor's notice, the Procuring Agency shall evaluate the situation and

may at its discretion extend the Contractor's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.

20.3 Except as provided under GCC Clause 23, a delay by the Contractor in the performance of its delivery obligations shall render the Contractor liable to the imposition of liquidated damages pursuant to GCC Clause 21, unless an
extension of time is agreed upon pursuant to GCC Clause 20.2 without the application of liquidated damages.

21. Liquidated Damages

21.1 Subject to GCC Clause 23, if the Contractor fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC. Once the maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to GCC Clause 22.

22. Termination for Default

22.1 The Procuring Agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Contractor, may terminate this Contract in whole or in part:

(a) If the Contractor fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring Agency pursuant to GCC Clause 20 and after the maximum cap of liquidated damages has been reached; or

(b) If the Contractor fails to perform any other obligation(s) under the Contract.

(c) If the Contractor, in the judgment of the Procuring Agency, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause: "corrupt and fraudulent practices" in respect of the procurement process, shall

be either one or any combination of the practices including, -

(i) "coercive practices" which means any impairing or harming or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;

(ii) "collusive practices" which means any arrangement between two or more parties to the procurement process designed to stifle open competition for any wrongful gain, and to establish prices at artificial, non-competitive levels;

(iii) "corrupt practices" which means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;

(iv) "fraudulent practices" which means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation; and

(v) "obstructive practices" which means harming or threatening to harm, directly or indirectly, persons to influence their participation in a procurement process, or affect the execution of a contract;

22.2 In the event the Procuring Agency terminates the Contract in whole or in part, pursuant to GCC Clause 22.1, the Procuring Agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Contractor shall be liable to the Procuring Agency for any excess costs for such similar Goods or Services. However, the Contractor shall continue performance of the Contract to the extent not terminated.

23. Force Majeure

23.1 Notwithstanding the provisions of GCC Clauses 20, 21, and 22, the Contractor shall not be liable for forfeiture of its performance guarantee, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

23.2 For purposes of this clause, " For the purposes of this clause, "Force Majeure" means war or hostility, acts of public enemy, civic commotion, sabotage, Act of state or direction from Statutory Authority, pandemic, epidemic, quarantine restriction, strikes and lockouts, fire, floods, natural calamities or any Act of God or any such event which is beyond the reasonable control of parties and makes their obligatory performance impossible or so impractical under the circumstance or any other material event that could reasonably be considered to be a force majeure event by reason that it is beyond the control of the party affected but does not include financial hardship, inability to pay or fluctuation in exchange rates.

23.3 If a Force Majeure situation arises, the Contractor shall promptly notify the Procuring Agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring Agency in writing, the Contractor shall continue to perform its obligations under the Contract as far as is reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. The timeline for completion of the project shall be extended in case of Force Majeure.

24. Termination for Insolvency

24.1 The Procuring Agency may at any time terminate the Contract by giving written notice to the Contractor if the Contractor becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Contractor, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Procuring Agency.

25. Termination for Convenience

25.1 The Procuring Agency, by written notice sent to the Contractor, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring Agency's convenience, the extent to which performance of the Contractor under the Contract is terminated, and the date upon which such termination becomes effective.

25.2 The Goods those are complete and ready for shipment within seven (07) days after the Contractor's receipt of notice of termination shall be accepted by the Procuring Agency at the Contract terms and prices.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

For the remaining Goods, the Procuring Agency may elect:

(a) to have any portion completed and

delivered at the Contract terms and prices; and/or

(b) to cancel the remainder and pay to the Contractor an agreed price for partially completed Goods and Services and for materials and parts previously procured by the Contractor.

26. Settlement of Disputes

26.1 If any dispute or difference of any kind whatsoever shall arise between the Procuring Agency and the Contractor in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation within ten (10) days. Accordingly, if the parties have failed to resolve their dispute or difference by such mutual consultation, then the matter / dispute shall be referred to the GRC for resolution within ten (10) days. In case, the parties are not satisfied with the decision of the GRC, the case will finally be referred to Executive Director FAB who shall finally decide the matter within ten (10) days.

26.2 If the parties are not satisfied with the decision of the Executive Director FAB, then either the Procuring Agency or the Contractor may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

26.2.1 Any dispute that has not been resolved by applying the mutual consultation or that is not pending before the Executive Director FAB may become the subject of arbitration or litigation by either party under the applicable laws of the Islamic Republic of Pakistan. The location of arbitration shall be in Islamabad. The courts of competent jurisdiction in Islamabad shall have the exclusive authority to try and adjudicate upon the matters or disputes arising out of or in connection with this Contract. The Parties shall be responsible for their dispute resolution costs unless the competent forum decides otherwise.

26.2.2 Arbitration proceedings shall be conducted as specified in the SCC.

26.3 Notwithstanding any reference to arbitration herein,

(a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

(b) the Procuring Agency shall pay the Contractor any monies due to the Contractor not effected under arbitration.

27. Governing Language

27.1 The Contract, including all the correspondence and other documents pertaining to the Contract shall be written in English language.

28. Applicable Law

28.1 The Contract shall be interpreted in accordance with the laws of Pakistan.

29. Notices

29.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or through fax or by email and confirmed in writing to the other party's address **specified in SCC.**

29.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

30. Taxes and Duties

30.1 Contractor shall be entirely responsible for all taxes, duties, license fees, and other such levies imposed inside and outside the Procuring Agency's country.

31. Secrecy

31.1 The Contractor shall undertake that any information about the sales /purchase of the software tools under this contract shall not be communicated to any person other than the Contractor, his representatives and developer of the software tools, or to any press or agency not authorized by the Procuring Agency to receive it. Any breach of this undertaking shall be punished under *the Law of Pakistan.*

32. After Sales Support

32.1 The Contractor shall on fit-form-function basis provide follow on maintenance, spare support and

support of any major/ minor modification or upgradation of hardware or software for a period of 10 years following the completion of warranty period, upon mutually agreed terms. If mutually agreed, the Parties will have the right to enter into an After Sales Support agreement.

33. Training including Provision of Manuals

33.1 Operation and Maintenance level training for a maximum of 25 personnel per lot (including hands-on/field demonstrations) for each equipment shall be organized by the Contractor at FAB HQs. The Contractor shall also furnish detailed operations and maintenance manual for each appropriate unit / module of the supplied goods.

33.2 Relevant syllabus for the above-mentioned training shall be provided by the Contractor thirty days before the commencement of the trainings

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

PART – B

SPECIAL CONDITIONS OF CONTRACT (SCC)

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

1. Definitions (GCC Clause 1)

GCC 1.1 (b) – means all of the spectrum monitoring system, equipment and/or other materials, which the Contractor is required to supply to the Procuring Agency under the Contract which shall be delivered in two (2) lots:

LOT 1: Digital RF Receivers (Analyzers) with antennas and accessories.

LOT 2: RF Sensors System with antennas and accessories.

GCC 1.1 (f) — The Procuring Agency is: Frequency Allocation Board (FAB)

GCC 1.1 (g) — The Procuring Agency's country is: Islamic Republic of Pakistan

GCC 1.1 (h) — The Contractor is: M/s Rohde & Schwarz Pakistan (Pvt.) Ltd.

GCC 1.1 (i) — The Project Site is: FAB Headquarters, Plot no. 112, Khayaban-e Jouhar, Sector H-10/4, Islamabad.

2. Country of Origin (GCC Clause 3)

Mainly from Germany, Switzerland, Singapore and Malaysia

3. Use of Contract Documents and Information; Inspection and Audit by the Bank (GCC 5)

GCC 5.1 - The Contractor shall not, without the Procuring Agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Agency in connection therewith, to any person other than a person employed by the Contractor in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance. For the avoidance of any doubt, the Contractor is permitted to share the contract documents and information within its Group companies on a need-to-know basis.

GCC 5.3 - Any documents shared by the Procuring Agency shall remain the property of the Procuring Agency.

GCC 5.4 – The Contractor shall furnish to the Procuring Agency reasonable documents relating to the performance of the Contract upon request and within a

reasonable time frame for the purposes of inspection by the government / Procuring Agency for compliance to the terms of the Contract by the Contractor.

4. Performance Guarantee (GCC Clause 7)

GCC 7.1—The price of performance guarantees, shall be:

- ten percent (10 %) of the price of LOT 1.
- ten percent (10 %) of the price of LOT 2.

GCC 7.4 - The performance guarantees for LOT 1 and LOT 2 will be discharged by the Procuring Agency and returned to the Contractor not later than sixty (60) days following the date of completion of the Contractor's performance obligations under the Contract, including any warranty obligations, respectively for LOT 1 and LOT 2.

5. Inspections and Tests (GCC Clause 8)

GCC 8.1 - Inspection and Acceptance Test of each equipment shall be performed by the procuring agency to inspect or test the goods according to pre agreed criteria. The acceptance shall be conducted at two levels: at the factory ("Factory Acceptance Test") before shipment of the Goods/equipment and at site ("Site Acceptance Test") after successful the delivery of Goods/equipment in Pakistan at the procuring agency's premises. The purpose of the tests shall be to establish and verify that whether the Goods/equipment conforms to the specifications as laid down in the bid document. The Factory Acceptance Test for LOT 1 shall be conducted in Switzerland, and the Factory Acceptance Test for LOT 2 shall be conducted in Germany. Whereas the Site Acceptance Test shall be conducted at the Procuring Agency's Headquarters.

GCC 8.2— **Factory Acceptance Tests** will be performed by the Contractor in the presence of Procuring Agency for LOT 1 and LOT 2 separately, according to the Acceptance Testing Plan submitted by the Contractor, against each essential requirement, indoor and outdoor (if required) at the Contractor's factories. The Acceptance Testing Plan shall be developed and submitted by the Contractor to the Procuring Agency at least forty (40) days prior to the conduct of the Factory Acceptance Test and shall be finalized by mutual agreement at least twenty (20) days prior to the conduct of FAT. The Contractor shall provide

necessary equipment and other items of any nature required to carry out the Factory Acceptance Tests. At the conclusion of the acceptance tests, the Procuring Agency representatives will issue an acceptance tests report, with remarks if applicable. In case of minor observations, the Procuring Agency will sign the acceptance certificate and the remarks will be verified during SAT, however in case of major observations, the Contractor shall rectify such observations within three (3) weeks from the delivery of the report. The Contractor shall provide to the Procuring Agency a report, video or other documentation as deemed suitable by the Contractor to confirm the rectification has been made to the satisfaction of the Procuring Agency. For the avoidance of any doubt, the Contractor shall not be required to reperform the full Factory Acceptance Test. The Procuring Agency shall issue a Factory Acceptance Certificate no later than 07 days of successful completion of FAT subject to rectification of any major observations. Costs for the FAT shall be borne by the Contractor for a maximum of three (3) personnel from the Procuring Agency for a maximum period of five (5) days respectively for LOT 1 and LOT 2.

GCC 8.3- **Site Acceptance Test (SAT)** The Procuring Agency shall appoint an Inspecting Committee to inspect and test the Goods to be delivered by the Contractor under the Contract. The SAT shall be conducted separately for LOT 1 and LOT 2. The tests shall be performed in accordance with mutually consented ATP documents submitted by the Supplier against each essential requirement, indoor and outdoor in Islamabad and surroundings before the Goods are finally accepted. The Inspecting Committee shall have the authority to reject any supplies, which are found to be malfunctioning or otherwise not in conformity with the requirements of this Contract. The Contractor shall be responsible to rectify such non-conformity. The SAT Acceptance Certificate shall be issued within seven (7) days of the Procuring Agency's confirmation that the SAT has been successfully completed in accordance with the Contractual requirements and that all observations, if any, have been satisfactorily addressed. Both parties ensure that SAT will be completed within 3 weeks from the date of delivery.

6. Packing (GCC Clause 9)

Not applicable: no additional requirements.

7. Delivery and Documents (GCC Clause 10)

For Goods supplied from abroad:

The Contractor shall keep the Procuring Agency informed regarding all details and dates related to shipment arrival in Pakistan and delivery dates, ensuring that these matches with the delivery timelines as set forth in Annex-J.

The Goods must be delivered at the premises of Frequency Allocation Board, Islamabad.

Documents: The following documents must be delivered at the premises of Frequency Allocation Board Headquarters, Plot No. 112 Sector H-10/4 Islamabad.

a) Copies of the Contractor's invoice showing Goods description, quantity, unit price, and total amount.

b) Receipt issued by the Procuring Agency, certifying that the Goods have been received at the delivery point as specified above.

c) Factory Acceptance certificate and the Contractor's factory inspection report.

d) Certificate of origin.

Issuance of Certificate of Stores Inspection: Upon delivery of the Goods at the Procuring Agency's premises, the Procuring Agency shall issue the Certificate of Stores Inspection (Annex-E) within seven (7) days, provided that the Goods are free from deficiencies and no remarks are raised by the Procuring Agency. Where any deficiencies are identified or remarks are raised, the Certificate shall be issued within seven (7) days after all such deficiencies have been rectified and all remarks have been cleared to the satisfaction of the Procuring Agency.

8. Insurance (GCC Clause 11)

GCC 11.1— The Contractor shall be responsible for adequate insurance of Goods up to the successful delivery of Goods at procuring agency's premises as pr DDP Incoterms.

9. Transportation (GCC 12)

The Contractor is required under the Contract to transport the Goods to the Procuring Agency's destination as mentioned in Article 7 hereinabove on DDP Incoterms 2020 basis. All foreign and local transportation costs (if any) together with all costs and charges associated with the delivery shall be included in Contract Price.

10. Software Patches (GCC Clause 14)

GCC 14.1— The Contractor is required to provide / install patches and updates pertaining to Rohde & Schwarz software solutions, to cater for any bug to the software tools for the entire duration of the warranty free of cost.

Upon completion of the warranty period, the Contractor shall offer support and maintenance services of Rohde and & Schwarz manufactured software products with any related software update for 10 years after the signing of this contract, which can be procured additionally by the Procurement Agency.

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

FREQUENCY ALLOCATION BOARD FAB HQ

11. Warranty (GCC Clause 15)

GCC15.2—The warranty period shall be 12 months from date of issuance of SAT Acceptance Certificate for the respective LOTS.

GCC 15.4 & 15.5 —The period for correction of defects in the warranty period is forty-five (45) working days from the date of receipt of equipment / parts (excluding transportation and clearance).

12. Payment (GCC Clause 16)

GCC 16.1—The method and conditions of payment to be made to the Contractor under this Contract shall be as follows:

Payment for LOT 1 and LOT 2 shall be paid separately in accordance with the following:

LOT 1 Payment Terms:

a) **Advance Payment:** Ten (10) percent of the LOT 1 Price shall be paid upon submission of an Advance Bank Guarantee for the equivalent amount, at the time of contract award.

b) **Factory Acceptance Test (FAT):** Twenty (20) percent of the LOT 1 Price shall be paid upon successful completion of the Factory Acceptance Test (FAT) of LOT 1, issuance of FAT Acceptance Certificate (Annex-K) for LOT 1 in accordance with timeframe specified in SCC Clause 5, along with submission of commercial invoice.

c) **Payment on Delivery:** Fifty (50) percent of the Contract Price shall be paid upon successful delivery of LOT 1 at the procuring agency's premises, issuance of Certificate of Stores Inspection (Annex-E) for LOT 1 in accordance with timeframe specified in SCC Clause 7, and submission of a commercial invoice. This payment will also trigger the release of the Advance Bank Guarantee for LOT 1.

d) **Site Acceptance Test (SAT) / Local Training:** Twenty (20) percent of the LOT 1 Price shall be paid upon successful completion of the Site Acceptance Test (SAT) of LOT 1, issuance of SAT Acceptance Certificate (Annex-F) for LOT 1 in accordance with timeframe specified in SCC Clause 5, local training, and submission of a commercial invoice.

e) **Completion of Warranty Period:** Upon successful completion of the warranty period, the Performance Guarantee for LOT 1 shall be released.

LOT 2 Payment Terms:

a) **Advance Payment:** Ten (10) percent of the LOT 2 Price shall be paid upon submission of an Advance Bank Guarantee for the equivalent amount, at the time of contract award.

b) **Factory Acceptance Test (FAT):** Twenty (20) percent of the LOT 2 Price shall be paid upon successful completion of the Factory Acceptance Test (FAT) of LOT 2, issuance of FAT Acceptance Certificate (Annex-K) for LOT 2 in accordance with timeframe specified in SCC Clause 5, along with submission of commercial invoice.

c) **Payment on Delivery:** Fifty (50) percent of the Contract Price shall be paid upon successful delivery of LOT 2 at the procuring agency's premises, issuance of Certificate of Stores Inspection (Annex-E) for LOT 2 in accordance with timeframe specified in SCC Clause 7, and submission of a commercial invoice. This payment will also trigger the release of the Advance Bank Guarantee for LOT 2.

d) **Site Acceptance Test (SAT) / Local Training:** Twenty (20) percent of the LOT 2 Price shall be paid upon successful completion of the Site Acceptance Test (SAT) of LOT 2, issuance of SAT Acceptance Certificate (Annex-F) for LOT 2 in accordance with timeframe specified in SCC Clause 5, local training, and submission of a commercial invoice.

e) **Completion of Warranty Period:** Upon successful completion of the warranty period, the Performance Guarantee for LOT 2 shall be released.

All Payments shall be made in Pakistani Rupees after deduction of all applicable taxes as per tax law.

13. Change Orders (GCC Clause 18)

GCC 18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Contractor's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended and mutually agreed upon between the Parties.

14. Delays in the Contractor's Performance (GCC Clause 20)

GCC 20.1 – The time for the completion of the facilities including delivery of Goods, training and performance of services under the contract shall be 06 (Six) months from the date of signing the contract.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

15. Liquidated Damages (GCC Clause 21)

GCC 21.1—In the event of delays attributable to the Contractor, the applicable rate shall be 0.5% (half percent) per week for respective LOT value.

Maximum deduction: Ten percent (10 %) of the respective LOT value.

16. Termination for Default (GCC Clause 22)

GCC22.2 Blank

17. Force Majeure (GCC Clause 23)

GCC 23.2 - For purposes of this clause, " For the purposes of this clause, "Force Majeure" means war or hostility, acts of public enemy, civic commotion, sabotage, Act of state or direction from Statutory Authority, delay of an export license (if any), pandemic, epidemic, quarantine restriction, strikes and lockouts, fire, floods, natural calamities or any Act of God or any such event which is beyond the reasonable control of parties and makes their obligatory performance impossible or so impractical under the circumstance or any other material event that could reasonably be considered to be a force majeure event by reason that it is beyond the control of the party affected but does not include financial hardship, inability to pay or fluctuation in exchange rates.

18. Termination for Convenience (GCC Clause 25)

GCC 25.2 - The Goods that are complete and ready for shipment within the 30 days notice shall be accepted by the Procuring Agency at the Contract terms and prices. For the remaining goods, the Procuring Agency may elect:

a) to have any portion completed and delivered at the Contract terms and prices; and/or

(b) to cancel the remainder and pay to the Contractor an mutually agreed price for partially completed Goods and Services and for materials and parts previously procured by the Contractor.

19. Settlement of Disputes (GCC Clause 26)

GCC 26.1 & 26.2 - If any dispute or difference of any kind whatsoever shall arise between the Procuring Agency and the Bidder / Contractor in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation within ten (10) days. Accordingly, if the parties have failed to resolve their dispute or difference by such mutual consultation, then the matter / dispute shall be referred to the GRC for resolution within ten (10) days. In case, the parties are not satisfied with the decision of the GRC, the case will finally be referred to Executive Director FAB who shall finally decide the matter within ten (10) days. If the parties are not satisfied with the decision of the Executive Director FAB then All disputes shall become the subject

of arbitration or court proceedings commenced by either Party under applicable laws of Pakistan. The venue for the Arbitration under this clause shall be Islamabad, Pakistan.

The courts of competent jurisdiction in Islamabad shall have the authority to try and adjudicate upon the matters or disputes arising out of or in connection with this Contract. Disputes shall be resolved in English language by the Pakistan Arbitration Act of 1940 and rules and regulations made thereunder. Venue of Arbitration shall be Islamabad, Pakistan.

The Parties will cover their own expenses in case of arbitration, unless the competent forum decides otherwise.

20. Applicable Law (GCC Clause 28)

GCC 28.1—The Contract shall be interpreted in accordance with the laws of the Islamic Republic of Pakistan.

21. Notices (GCC Clause 29)

GCC 29.1—Procuring Agency address for notice purposes:

Project Officer (NFMMS)

FAB Headquarters, Plot No. 112, Sector H-10/4 Islamabad

Postal Code 44000, Islamabad, Pakistan

Telephone: +92-51-9257892 Fax: +92-51-9257595

Email: projectnfmms@fab.gov.pk

Contractor's address for notice purposes:

Haris Ali

21-W, Sardar Plaza, Fazal e Haq Road Blue Area

Islamabad, Pakistan

Email: haris.ali@rohde-schwarz.com

22. Limitation of Liability

The Contractor's total aggregated liability under this contract in tort, or otherwise (inclusive of material defects, indemnities, delays etc.) shall be limited to 100% of the contract value. The Contractor shall not be liable for indirect/ consequential damages, for loss of profit, loss of production, replacement purchase etc.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

SECTION - I

Annex: A

SCHEDULE TO TENDER

BILL OF QUANTITY - Digital RF Receivers (Analyzers) (LOT-I)

Serial	Type	Material #	Description	Qty
Digital RF Receivers (Analyzers) - I				
1	TS-NAVGPS	3707.8319.02	GPS Navigation system USB mouse	1
2	ROMES4	4900.5941K02	Drive Test Basis Software	1
3	ROMES4	4900.5558.02	Drive Test Basis Software (SL)	1
4	ROMES4T30D	4900.5606.02	ROMES4 Driver: TSMx44/53DC (SL)	1
5	ROMES4T1S	4900.6590.02	ROMES4 Driver: TSMS/A8 (SL)	1
6	ROMES4QP	4900.5587.02	ROMES4QP QualiPoc single phone support (SL)	2
7	ROMES4IND	4900.5741.02	ROMES4 Option: Indoor (SL)	1
8	ROMES4UPC	4900.6077.02	ROMES4 Maintenance Service (SL)	1
9	TSPC-LOCK2	3643.8550.02	TSPC-LOCK2 WIBU Dongle	1
10	TS-USBCAB	3666.5211.02	Datacable USB Type-C	2
11	TSMS53DC	4902.0001.02	TSMS53DC Downconverter 17-53 GHz	1
12	TSMS-LMAGM	4902.6900.03	Low profile magnetic mount for OMN8/OMN18, with Mag Plate	1
13	TSMS-OMN8	4902.6700.02	TSMS-OMN8 Superwideband Omni Antenna 380MHz -8.5 GHz	1
14	TSMS8	4901.7002.02	TSMS8: Ultrabroadband compact Network Scanner 8.5 GHz	1
15	TSMS8-K21	4901.9770.02	TSMS8 Scanner Option: WCDMA (SL)	1
16	TSMS8-K22	4901.9786.02	TSMS8 Scanner Option: CDMA2000 (SL)	1
17	TSMS8-K23	4901.9528.02	TSMS8 Scanner Option: GSM (SL)	1
18	TSMS8-K24	4901.9792.02	TSMS8 Scanner Option: EVDO (SL)	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Serial	Type	Material #	Description	Qty
19	TSMS8-K26	4901.9805.02	TSMS8 Scanner Option: TETRA (SL)	1
20	TSMS8-K27	4901.9511.02	TSMS8 Scanner Option: RF-Power Scan (SL)	1
21	TSMS8-K29	4901.9505.02	TSMS8 Scanner Option: LTE (SL)	1
22	TSMS8-K34	4901.9605.02	TSMS8 Scanner Option: NB-IOT (SL)	1
23	TSMS8-K35	4901.9628.02	TSMS8 Scanner Option: LTE-M (SL)	1
24	TSMS8-K40	4901.9557.02	TSMS8 Scanner Option: Automatic Channel Detection (SL)	1
25	TSMS8-K50	4901.9486.02	TSMS8 Scanner Option: 5GNR (SL)	1
26	TSMS8-K51	4901.9492.02	TSMS8 Scanner Option: 5GNR Add-on (SL)	1
27	TSMS8-K52	4901.9640.02	TSMS8 Scanner Option: REDCAP (SL)	1
28	SMSG-TDBCF	1901.1170.02	Samsung combined Token (DB & CF)	2
29	QP-QA-5G	1900.3027.07	QualiPoc QA SW package for 5G	2
30	DATA-BUNDL	1900.6010.24	Data test bundle consisting of iPerf3, TraceRoute	2
31	S-INTACT	1900.3262.05	QualiPoc option for interactivity test (Latency, Jitter)	2
32	T-DATMSG	1900.3233.02	SMS send and RCS send	2
33	DATA-SOCM	1900.6010.03	DATA - Social Media Test (Facebook)	2
34	DATA-WHAIM	1900.6010.12	Data option for WhatsApp Instant Messaging	2
35	DATA-WHAVO	1900.6010.11	App service test option for WhatsApp voice calls	2
36	DATA-INSTA	1900.6010.14	Data option for Instagram App service test	2
37	DATA-TWITT	1900.6010.17	QualiPoc TWITTER app service test	2
38	S-VSJ3431S	1900.5942.02	Video MOS J.343.1 Szenario für YouTube: Android Smartphones	2
39	FA-FLASFEE	1900.6049.07	Firmware Android Flashing fee per devices	2
40	FR4-CORE	1900.6403.10	Freerider 4 Core	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Serial	Type	Material #	Description	Qty
41	FR4-BP	1900.6403.20	Freerider 4 backpack for FR4-CORE with level 1 & 2	1
42	NCM4	1900.6161.10	NCM4 (NCM 4th generation) incl. Windows 10	1
43	FR4-MK-N3	1900.6403.38	Freerider 4 -Mounting kit for NCM3/NCM4	1
44	FR3-BA89WH	1900.5794.02	Freerider III Battery 89 Wh	8
45	FR4-MK-UE	1900.6403.14	Mounting KIT for additional UE in FR4 core	2
46	FR4-MK-HUB	1900.6403.18	UPC4 - USB hub for use in Freerider 4	1
47	FR3-VPS	1900.5794.08	Freerider III Vehicle Power Supply 120W	1
48	FR3-OMBC	1900.5794.09	Freerider III Office multi-bay charger for 4 batteries	1
49	FR4-MK-S8	1901.1411.02	Freerider 4 - Mounting kit for TSMS8 scanner	1
50	FR4-SC-2FD	1900.6403.24	Freerider 4 - Synchronization cable for 2 TSME6 scanners	1
51	FR4-5G-A3	1900.6403.42	MNT Freerider 4 antenna for 5G mmW (17-70 GHz)	1
52	ROMES4REP	4900.5764.03	ROMES4 Software Replay Version (UN)	1
53	SERV-ADVAN	1900.1601.04	Service & Maintenance Level Advanced	12
54	SA-HWOPT	1900.6290.66	SmartAnalytics Scene Optimiser Hardware laptop	1
55	SERV-ADVAN	1900.1601.04	Service & Maintenance Level Advanced	12
56	SA-NBIOTSC	1900.6478.16	NBIoT license for Scanner	1
57		3724.5989.00	SFP+ to RJ45 TRANSCEIVER	1
58	TSMS-LMAGM	4902.6900.02	Low profile magnetic mount for OMN70 antenna	1
59			USB3.0/USB-C to Ethernet adapter	1
60			Handsets S26 Ultra 12/512	2
61			Laptop (Legion 5 Pro)	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Serial	Type	Material #	Description	Qty
62			Hard casing for Backpack (Freerider 4) for Transportation	1

Serial	Type	Material #	Description	Qty
Digital RF Receivers (Analyzers) - II				
1	TS-NAVGPS	3707.8319.02	GPS Navigation system USB mouse	1
2	ROMES4	4900.5941K02	Drive Test Basis Software	1
3	ROMES4	4900.5558.02	Drive Test Basis Software (SL)	1
4	ROMES4T30D	4900.5606.02	ROMES4 Driver: TSMx44/53DC (SL)	1
5	ROMES4T1S	4900.6590.02	ROMES4 Driver: TSMS/A8 (SL)	1
6	ROMES4QP	4900.5587.02	ROMES4QP QualiPoc single phone support (SL)	2
7	ROMES4IND	4900.5741.02	ROMES4 Option: Indoor (SL)	1
8	ROMES4UPC	4900.6077.02	ROMES4 Maintenance Service (SL)	1
9	TSPC-LOCK2	3643.8550.02	TSPC-LOCK2 WIBU Dongle	1
10	TS-USBCAB	3666.5211.02	Datacable USB Type-C	2
11	TSMS53DC	4902.0001.02	TSMS53DC Downconverter 17-53 GHz	1
12	TSMS-LMAGM	4902.6900.03	Low profile magnetic mount for OMN8/OMN18, with Mag Plate	1
13	TSMS-OMN8	4902.6700.02	TSMS-OMN8 Superwideband Omni Antenna 380MHz -8.5 GHz	1
14	TSMS8	4901.7002.02	TSMS8: Ultrabroadband compact Network Scanner 8.5 GHz	1
15	TSMS8-K21	4901.9770.02	TSMS8 Scanner Option: WCDMA (SL)	1
16	TSMS8-K22	4901.9786.02	TSMS8 Scanner Option: CDMA2000 (SL)	1
17	TSMS8-K23	4901.9528.02	TSMS8 Scanner Option: GSM (SL)	1
18	TSMS8-K24	4901.9792.02	TSMS8 Scanner Option: EVDO (SL)	1
19	TSMS8-K26	4901.9805.02	TSMS8 Scanner Option: TETRA (SL)	1
20	TSMS8-K27	4901.9511.02	TSMS8 Scanner Option: RF-Power Scan (SL)	1
21	TSMS8-K29	4901.9505.02	TSMS8 Scanner Option: LTE (SL)	1
22	TSMS8-K34	4901.9605.02	TSMS8 Scanner Option: NB-IOT (SL)	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Serial	Type	Material #	Description	Qty
23	TSMS8-K35	4901.9628.02	TSMS8 Scanner Option: LTE-M (SL)	1
24	TSMS8-K40	4901.9557.02	TSMS8 Scanner Option: Automatic Channel Detection (SL)	1
25	TSMS8-K50	4901.9486.02	TSMS8 Scanner Option: 5GNR (SL)	1
26	TSMS8-K51	4901.9492.02	TSMS8 Scanner Option: 5GNR Add-on (SL)	1
27	TSMS8-K52	4901.9640.02	TSMS8 Scanner Option: REDCAP (SL)	1
28	SMSG-TDBCF	1901.1170.02	Samsung combined Token (DB & CF)	2
29	QP-QA-5G	1900.3027.07	QualiPoc QA SW package for 5G	2
30	DATA-BUNDL	1900.6010.24	Data test bundle consisting of iPerf3, TraceRoute	2
31	S-INTACT	1900.3262.05	QualiPoc option for interactivity test (Latency, Jitter)	2
32	T-DATMSG	1900.3233.02	SMS send and RCS send	2
33	DATA-SOCM	1900.6010.03	DATA - Social Media Test (Facebook)	2
34	DATA-WHAIM	1900.6010.12	Data option for WhatsApp Instant Messaging	2
35	DATA-WHAVO	1900.6010.11	App service test option for WhatsApp voice calls	2
36	DATA-INSTA	1900.6010.14	Data option for Instagram App service test	2
37	DATA-TWITT	1900.6010.17	QualiPoc TWITTER app service test	2
38	S-VSJ3431S	1900.5942.02	Video MOS J.343.1 Szenario für YouTube: Android Smartphones	2
39	FA-FLASFEE	1900.6049.07	Firmware Android Flashing fee per devices	2
40	FR4-CORE	1900.6403.10	Freerider 4 Core	1
41	FR4-BP	1900.6403.20	Freerider 4 backpack for FR4-CORE with level 1 & 2	1
42	NCM4	1900.6161.10	NCM4 (NCM 4th generation) incl. Windows 10	1
43	FR4-MK-N3	1900.6403.38	Freerider 4 -Mounting kit for NCM3/NCM4	1
44	FR3-BA89WH	1900.5794.02	Freerider III Battery 89 Wh	8

Serial	Type	Material #	Description	Qty
45	FR4-MK-UE	1900.6403.14	Mounting KIT for additional UE in FR4 core	2
46	FR4-MK-HUB	1900.6403.18	UPC4 - USB hub for use in Freerider 4	1
47	FR3-VPS	1900.5794.08	Freerider III Vehicle Power Supply 120W	1
48	FR3-OMBC	1900.5794.09	Freerider III Office multi-bay charger for 4 batteries	1
49	FR4-MK-S8	1901.1411.02	Freerider 4 - Mounting kit for TSMS8 scanner	1
50	FR4-SC-2FD	1900.6403.24	Freerider 4 - Synchronization cable for 2 TSME6 scanners	1
51	FR4-5G-A3	1900.6403.42	MNT Freerider 4 antenna for 5G mmW (17-70 GHz)	1
52	ROMES4REP	4900.5764.03	ROMES4 Software Replay Version (UN)	1
53	SERV-ADVAN	1900.1601.04	Service & Maintenance Level Advanced	12
54	SA-HWOPT	1900.6290.66	SmartAnalytics Scene Optimiser Hardware laptop	1
55	SERV-ADVAN	1900.1601.04	Service & Maintenance Level Advanced	12
56	SA-NBIOTSC	1900.6478.16	NBIoT license for Scanner	1
57		3724.5989.00	SFP+ to RJ45 TRANSCEIVER	1
58	TSMS-LMAGM	4902.6900.02	Low profile magnetic mount for OMN70 antenna	1
59			USB3.0/USB-C to Ethernet adapter	1
60			Handsets S26 Ultra 12/512	2
61			Laptop (Legion 5 Pro)	1
62			Hard casing for Backpack (Freerider 4) for Transportation	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Serial	Type	Material #	Description	Qty
Digital RF Receivers (Analyzers) – III				
1	TS-NAVGPS	3707.8319.02	GPS Navigation system USB mouse	1
2	ROMES4	4900.5941K02	Drive Test Basis Software	1
3	ROMES4	4900.5558.02	Drive Test Basis Software (SL)	1
4	ROMES4T30D	4900.5606.02	ROMES4 Driver: TSMx44/53DC (SL)	1
5	ROMES4T1S	4900.6590.02	ROMES4 Driver: TSMS/A8 (SL)	1
6	ROMES4QP	4900.5587.02	ROMES4QP QualiPoc single phone support (SL)	2
7	ROMES4IND	4900.5741.02	ROMES4 Option: Indoor (SL)	1
8	ROMES4UPC	4900.6077.02	ROMES4 Maintenance Service (SL)	1
9	TSPC-LOCK2	3643.8550.02	TSPC-LOCK2 WIBU Dongle	1
10	TS-USBCAB	3666.5211.02	Datacable USB Type-C	2
11	TSMS53DC	4902.0001.02	TSMS53DC Downconverter 17-53 GHz	1
12	TSMS-LMAGM	4902.6900.03	Low profile magnetic mount for OMN8/OMN18, with Mag Plate	1
13	TSMS-OMN8	4902.6700.02	TSMS-OMN8 Superwideband Omni Antenna 380MHz -8.5 GHz	1
14	TSMS8	4901.7002.02	TSMS8: Ultrabroadband compact Network Scanner 8.5 GHz	1
15	TSMS8-K21	4901.9770.02	TSMS8 Scanner Option: WCDMA (SL)	1
16	TSMS8-K22	4901.9786.02	TSMS8 Scanner Option: CDMA2000 (SL)	1
17	TSMS8-K23	4901.9528.02	TSMS8 Scanner Option: GSM (SL)	1
18	TSMS8-K24	4901.9792.02	TSMS8 Scanner Option: EVDO (SL)	1
19	TSMS8-K26	4901.9805.02	TSMS8 Scanner Option: TETRA (SL)	1
20	TSMS8-K27	4901.9511.02	TSMS8 Scanner Option: RF-Power Scan (SL)	1
21	TSMS8-K29	4901.9505.02	TSMS8 Scanner Option: LTE (SL)	1
22	TSMS8-K34	4901.9605.02	TSMS8 Scanner Option: NB-IOT (SL)	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD

Serial	Type	Material #	Description	Qty
23	TSMS8-K35	4901.9628.02	TSMS8 Scanner Option: LTE-M (SL)	1
24	TSMS8-K40	4901.9557.02	TSMS8 Scanner Option: Automatic Channel Detection (SL)	1
25	TSMS8-K50	4901.9486.02	TSMS8 Scanner Option: 5GNR (SL)	1
26	TSMS8-K51	4901.9492.02	TSMS8 Scanner Option: 5GNR Add-on (SL)	1
27	TSMS8-K52	4901.9640.02	TSMS8 Scanner Option: REDCAP (SL)	1
28	SMSG-TDBCF	1901.1170.02	Samsung combined Token (DB & CF)	2
29	QP-QA-5G	1900.3027.07	QualiPoc QA SW package for 5G	2
30	DATA-BUNDL	1900.6010.24	Data test bundle consisting of iPerf3, TraceRoute	2
31	S-INTACT	1900.3262.05	QualiPoc option for interactivity test (Latency, Jitter)	2
32	T-DATMSG	1900.3233.02	SMS send and RCS send	2
33	DATA-SOCM	1900.6010.03	DATA - Social Media Test (Facebook)	2
34	DATA-WHAIM	1900.6010.12	Data option for WhatsApp Instant Messaging	2
35	DATA-WHAVO	1900.6010.11	App service test option for WhatsApp voice calls	2
36	DATA-INSTA	1900.6010.14	Data option for Instagram App service test	2
37	DATA-TWITT	1900.6010.17	QualiPoc TWITTER app service test	2
38	S-VSJ3431S	1900.5942.02	Video MOS J.343.1 Szenario für YouTube: Android Smartphones	2
39	FA-FLASFEE	1900.6049.07	Firmware Android Flashing fee per devices	2
40	FR4-CORE	1900.6403.10	Freerider 4 Core	1
41	FR4-BP	1900.6403.20	Freerider 4 backpack for FR4-CORE with level 1 & 2	1
42	NCM4	1900.6161.10	NCM4 (NCM 4th generation) incl. Windows 10	1
43	FR4-MK-N3	1900.6403.38	Freerider 4 -Mounting kit for NCM3/NCM4	1
44	FR3-BA89WH	1900.5794.02	Freerider III Battery 89 Wh	8

Serial	Type	Material #	Description	Qty
45	FR4-MK-UE	1900.6403.14	Mounting KIT for additional UE in FR4 core	2
46	FR4-MK-HUB	1900.6403.18	UPC4 - USB hub for use in Freerider 4	1
47	FR3-VPS	1900.5794.08	Freerider III Vehicle Power Supply 120W	1
48	FR3-OMBC	1900.5794.09	Freerider III Office multi-bay charger for 4 batteries	1
49	FR4-MK-S8	1901.1411.02	Freerider 4 - Mounting kit for TSMS8 scanner	1
50	FR4-SC-2FD	1900.6403.24	Freerider 4 - Synchronization cable for 2 TSME6 scanners	1
51	FR4-5G-A3	1900.6403.42	MNT Freerider 4 antenna for 5G mmW (17-70 GHz)	1
52	ROMES4REP	4900.5764.03	ROMES4 Software Replay Version (UN)	1
53	SERV-ADVAN	1900.1601.04	Service & Maintenance Level Advanced	12
54	SA-HWOPT	1900.6290.66	SmartAnalytics Scene Optimiser Hardware laptop	1
55	SERV-ADVAN	1900.1601.04	Service & Maintenance Level Advanced	12
56	SA-NBIOTSC	1900.6478.16	NBIoT license for Scanner	1
57		3724.5989.00	SFP+ to RJ45 TRANSCEIVER	1
58	TSMS-LMAGM	4902.6900.02	Low profile magnetic mount for OMN70 antenna	1
59			USB3.0/USB-C to Ethernet adapter	1
60			Handsets S26 Ultra 12/512	2
61			Laptop (Legion 5 Pro)	1
62			Hard casing for Backpack (Freerider 4) for Transportation	1

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD

Android SW interface Integration

Serial	Type	Material #	Description	Qty
1	FA-ASIIF	1900.6049.10	Firmware Android- Android SW interface Integration fee	1

The item above is covering Firmware/Android SW Interface Integration for all six (6) handsets supplied across Digital RF Receivers (Analyzers) – I, Digital RF Receivers (Analyzers) – II, Digital RF Receivers (Analyzers) - III combined. It is therefore not repeated as a line item within any individual table above.

BILL OF QUANTITY - PORTABLE MONITORING RECEIVER (LOT-II)

Serial	Type No	Material No	Item Description	Qty
1	PR200	4500.5002.02	Portable Monitoring Receiver 8 kHz to 8 GHz	4
2	CS-PS	4500.7070.02	Panorama Scan (SL)	4
3	CS-FS	4500.7211.02	Field strength Measurement (SL)	4
4	CS-PC	4500.7040.02	Polychrome Spectrum (SL)	4
5	CS-ZS	4500.7111.02	Time Domain Measurement (SL)	4
6	CS-MAP	4500.7140.02	Mapping (SL)	4
7	CS-TSA	4500.7170.02	Time Stamp Accuracy (SL)	4
8	CS-IR	4500.7240.02	Trace recording and replay of spectral (SL)	4
9	CS-IQ	4500.7270.02	IQ Snapshot Recording and Replay (SL)	4
10	CS-SPM	4500.7311.02	Spectral Measurement for analysis (SL)	4
11	CS-DCV	4500.7011.02	Documentation of calibration values	4
12	HA-Z306	1321.1334.02	Lithium-ion battery pack 6.9Ah (OEM acc. RRC 2040-2)	4
13	PR100SC	4071.9258.02	Suitcase kit consisting of hard case and accessories	4
14	HA-Z220	1309.6175.00	Soft carrying bag	4
15	CS-ZNAV	4500.7440.00	Active GNSS Antenna (acc.)	4
16	HA-Z302	1321.1340.02	Car adapter (acc.)	4
17	HA-Z403	1321.1486.02	Battery charger for lithium-ion battery pack 6.9Ah (Zub.)	4
18	HE400	4104.6000.02	Handheld directional antenna - antenna handle	4
19	HE400-K	4104.7770.03	Cable set for HE400 and PR200	4
20	HE400VHF	4104.8202.02	VHF Antenna Module for HE400xx	4
21	HE400UWB	4104.6900.02	UWB antenna module for HE400xx	4
22	HE400LP	4104.8402.02	Log. -Periodic antenna module for HE400xx	4
23	HE400Z1	4104.9009.02	Transport bag for HE400 - config. 1	4
24		3745.5159.02	COJOT_WB225M	4
25	GK3013	6123.3005.05	RF cable N-N;5m length	4
26			Laptop Dell Latitude 7440	4

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

PRICE SCHEDULE

LOT-I Pricing

Serial	Description	Qty.	Total Price Incl. of all Taxes
1.00	Digital RF Receivers (Analyzers) R&S TSMS8, TSMS53DC with antennas and accessories	3.00	**PKR 70,701,771**
2.00	Digital RF Receivers (Analyzers) Software ROMES including software license	3.00	**PKR 15,898,079**
3.00	Backpack FreeRider4 with antennas and accessories	3.00	**PKR 8,206,302**
4.00	Postprocessing Tool Smart Analytics	3.00	**PKR 10,388,304**
5.00	Mobile Handsets with Qualipoc Software for QOS testing	6.00	**PKR 22,420,660**
6.00	Operational & Maintenance in-Class Training on each equipment at FAB HQ premises for the total (25) number of participants	Job	**FOC**
	GRAND TOTAL	**PKR**	**127,615,116**

Grand Total in Words:

One Hundred and twenty-seven million, six hundred and fifteen thousand, one hundred and sixteen Pak Rupees Only

LOT-II Pricing

Serial	Description	Qty.	Total Price Incl. of all Taxes
1	Handheld Monitoring Receiver with Antennas and accessories	4	**PKR 68,693,051**
2	Operational & Maintenance in-Class Training on each equipment at FAB HQ premises for the total (25) number of participants	Job	**FOC**
	GRAND TOTAL		**PKR 68,693,051**

Grand Total in Words:
Sixty-eight million, six hundred ninety-three thousand, fifty-one rupees

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD

ANNEX - B

FORM OF PERFORMANCE GUARANTEE

Performance Guarantee for Advance Obligations

Date: ----------

_____ [*On a legal document/stamp paper*]

Beneficiary: Frequency Allocation Board (FAB), Headquarters Plot No. 112, H-10/4, Islamabad, Pakistan.

Date: _____

We, [*name of Bank*] are providing Performance Guarantee for_____ (hereinafter called "the Supplier") have entered into CONTRACT No. [*Reference number of the CONTRACT*] dated [*insert date*] with Frequency Allocation Board (FAB) (hereinafter called the "procuring agency"), for the provision of **Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building** (hereinafter called "the CONTRACT").

Furthermore, we understand that, according to the conditions of the CONTRACT, a Performance Guarantee in the sum of PKR _____/ [PAK RUPEE _____] is to be made against the advance obligations of the Supplier.

We [*name of Bank*] hereby irrevocably, unconditionally guarantee without recourse to the procuring agency, and undertake to pay to the procuring agency any sum or sums not exceeding in total an amount of PKR _____/ PAK RUPEE _____only) (the amount equal to 10% of the total CONTRACT Price) upon receipt by us of procuring agency's first demand in writing accompanied by a written statement stating that "the Supplier" is in breach of their obligations under the CONTRACT.

_____

[*signature(s)]*

Endorsed and guaranteed by Commercial Bank in Pakistan

[*Bank Stamp & Signature(s)]*

The expiry date of this guarantee will be twelve months from the start date of the CONTRACT.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

ANNEX - C

FORM OF ADVANCE BANK GUARANTEE

Advance Bank Guarantee for Advance Obligations

Date: ----------

_____ [*On a legal document/stamp paper*]

Beneficiary: Frequency Allocation Board (FAB), Headquarters Plot No. 112, H-10/4, Islamabad, Pakistan.

Date: _____

We, [*name of Bank*] are providing Advance Bank Guarantee for_____ (hereinafter called "the Supplier") have entered into CONTRACT No. [*Reference number of the CONTRACT*] dated [*insert date*] with Frequency Allocation Board (FAB) (hereinafter called the "procuring agency"), for the provision of **Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building** (hereinafter called "the CONTRACT").

Furthermore, we understand that, according to the conditions of the CONTRACT, an Advance Bank Guarantee in the sum of PKR _____/ [PAK RUPEE _____] (the amount equal to 10% of the total CONTRACT Price) is to be made against the advance obligations of the Supplier.

We [*name of Bank*] hereby irrevocably, unconditionally and continuingly guarantee without recourse to the procuring agency, and undertake to pay to the procuring agency any sum or sums not exceeding in total an amount of PKR _____/ PAK RUPEE _____only) upon receipt by us of procuring agency's first demand in writing accompanied by a written statement stating that "the Supplier" is in breach of their obligations under the CONTRACT.

_____

[*signature(s)]*

Endorsed and guaranteed by Commercial Bank in Pakistan

[*Bank Stamp & Signature(s)]*

The expiry date of this guarantee will be twelve months from the start date of the CONTRACT.

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Annex: D

WARRANTY STATEMENT

GUARANTEE FORM
PRINCIPAL'S MANUFACTURER'S
STANDARD WARRANTY/SUPPLIER'S LETTER OF GUARANTEE

Principal's/Manufacturer's/SUPPLIER's Name: **M/S ROHDE & SCHWARZ PAKISTAN (PVT.) LTD**

Contract No. _____ Dated _____

1. We hereby guarantee that the article supplied under the terms of this contract are supplied new in accordance with the technical specifications and in accordance with the terms of the contract and the material(s) are in accordance with the contract complete and of good workmanship throughout, and that we will replace/repair free of cost every article or part thereof during the warranty period which are found defective or not within the limits and tolerance of bid specification requirements..

2. The warranty shall remain valid for **twelve (12) months** with effect from issuance of SAT Acceptance Certificate of the respective LOT by Purchaser after successful functional check of STORES at Islamabad .

Signature _____

Name:

Designation:

For and on behalf of:

Dated _____

ROHDE & SCHWARZ PAKISTAN (PVT) LTD

FREQUENCY ALLOCATION BOARD FAB HQ

Annex: E

CERTIFICATE
OF
STORES INSPECTION

for

Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building

We, the undersigned hereby confirm that the STORES as per attached list have been inspected and found to be according to the specifications of the contract.

.....

Contractor representative

.....

Procurement Entity representative

Place _____, Date __.__.__

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Annex: F

SAT ACCEPTANCE CERTIFICATE

for

Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building

We, the undersigned hereby confirm that the SAT was successfully completed in accordance with mutually agreed test procedures and to the satisfaction of the purchaser.

.....

SUPPLIER representative

.....

PURCHASER representative

Place _____, Date __.__.__

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Annex: G

CERTIFICATE
OF
TRAINING PERFORMANCE

for

Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building

We, the undersigned hereby confirm that the TRAINING was performed in accordance with mutually agreed syllabus and to the satisfaction of the Purchaser.

.....

SUPPLIER representative

.....

PURCHASER representative

Place _____, Date __.__.__

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

ANNEX - H

INTEGRITY PACT

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS. 10 MILLION OR MORE

Contract Number: FAB/NFMMS/1/2026
Dated: 21/Aug/26
Contract Value: Rs: 196,308,167/-
Contract Title: Supply and comissioning of Spectrum monitoring System for establishment of Islamabad monitoring station housing FAB HQ's building (NFMMS-1/2026)

M/s ROHDE & SCHWARZ . hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing **M/s** ROHDE & SCHWARZ . represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

M/s ROHDE & SCHWARZ . Certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

M/s ROHDE & SCHWARZ . accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, **M/s** ROHDE & SCHWARZ . agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by **M/s** ROHDE & SCHWARZ . as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

(procuring agency)

M/s RS [Supplier]

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Annex: I

SYSTEM DESCRIPTION COMPLIANCE TABLE

SUPPLY AND COMMISSIONING OF SPECTRUM MONITORING SYSTEM FOR ESTABLISHMENT OF ISLAMABAD MONITORING STATION HOUSING FAB HQS BUILDING

Digital RF Receivers (Analyzers) – LOT I & RF Sensors System – LOT-II

BETWEEN

FREQUENCY ALLOCATION BOARD

AND

M/S Rohde & Schwarz Pakistan (PVT). LTD.

Introduction

Rohde & Schwarz is pleased to offer its state of art handheld monitoring receiver to Frequency Allocation Board. Rohde & Schwarz has applied its extensive working knowledge and long-lasting joint partnership with the FAB, its operation and environment to provide the equipment that will satisfy the operational needs of FAB in response to tender for the "*Supply and commissioning of spectrum monitoring system for establishment of Islamabad monitoring station housing fab HQs building*"

This document contains an overview of the various equipment offered to FAB under tender no. NFMMS-1/2026. The document also includes different features, product highlights and specifications of the respective equipment

The main equipment offered to FAB are:

1- R&S TSMS8 Superwideband Mobile Network Scanner (LOT-I)

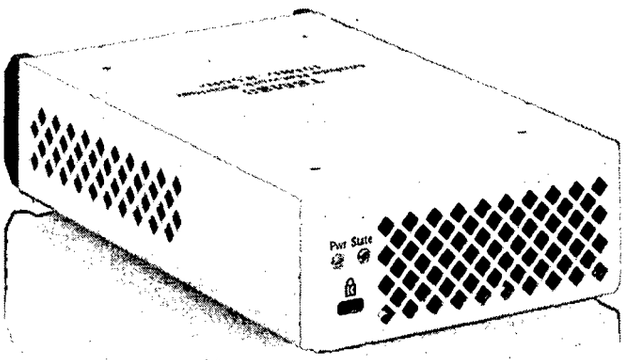
2- R&S PR200 Portable Monitoring Receiver (LOT-II)

Table of Contents

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

R&S®TSMS8 SUPERWIDEBAND MOBILE NETWORK SCANNER



At glance

The R&S®TSMS8 is the next generation of ultracompact, superwideband RF scanning receivers for the wide frequency range from 10 MHz to 8.5 GHz. The innovative design and compact form factor mean the receiver is very flexible and can be easily upgraded for 6G technology. The ultracompact design and ultra-wide receiver bandwidth of up to 400 MHz, along with support for all major technologies, mean the R&S®TSMS8 can perform simultaneous measurements at unmatched speeds for efficient mobile network testing and network analysis

Key FEATURES

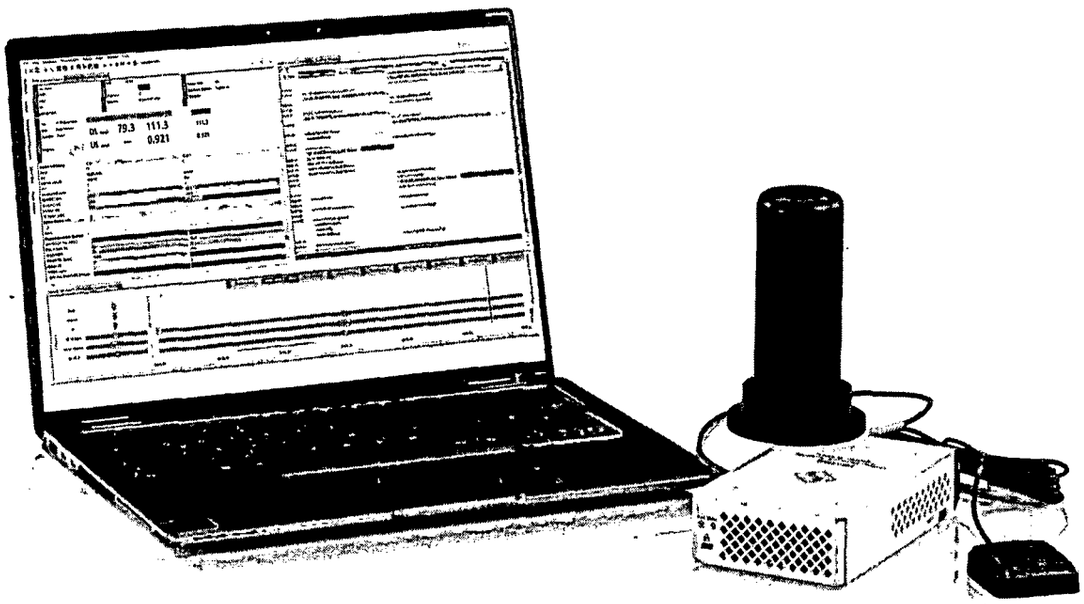
- ▶ Frequency range from 10 MHz to 8.5 GHz
- ▶ Superwideband frontend with up to 400 MHz
- ▶ Unmatched scanning speed
- ▶ Modular upgradability and FR2 mm Wave support (up to 53 GHz)
- ▶ Parallel support for all cellular technologies
- ▶ Compact and lightweight with customized mechanical cascading concept
- ▶ Future proof platform, ready for 6G

FUTURE-PROOF PLATFORM

Simultaneous measurements up to 8.5 GHz with no limits

Fast signal processing and a superwideband receiver frontend are at the heart of the R&S®TSMS8, which supports an extensive frequency range from 10 MHz to 8.5 GHz. The R&S®TSMS8-KOR overrange scanner option enables measurements up to 10 GHz. All supported technologies can be measurec in parallel with the same scanner, where the advanced integrated scheduler makes sure available processing resources are used in the best possible sequence. The R&S®TSMS8 provides in-depth RF and network insight with SIB/layer 3 (SIB/L3) decoding. Users can determine the network configuration in detail and easily detect network misconfigurations. The solution supports broadcast information decoding (MIB, SIB) for all major 3GPP technologies. The scarcity of current frequency resources makes balancing coverage

and 6G capacity challenging, so higher potential frequency bands are being examined. The ITU is responsible for global frequency allocation and has set up a study group for the 6G range from 7.125 GHz to 8.5 GHz for the future ITU World Radiocommunication Conference (WRC). The R&S®TSMS8 is a future-proof product that can support future frequency bands up to 8.5 GHz. When combined with an existing downconverter, the setup can be used for FR1 and FR2 measurements up to 53 GHz



Advanced measurements in all major technologies

All supported technologies can be automatically detected or manually configured. The supported technologies include 5G NR (including RedCap and FrMCS), NB-IoT (including NB-NTN GEO), LTE (including LTE-NTN), LTE-M, WCDMA (incl. HSPA/+), C-V2X, TETRA, P25, GSM and CDMA2000/1xEV-DO. The R&S®TSMS8 scanner can perform essential 5G NR SSB measurements crucial for verifying 5G NR coverage and beamforming. Users can measure 5G NR synchronization signal blocks on both FR1 and FR2 spectra. 5G NR in TDD mode has made network synchronization in the time domain even more important. The R&S®TSMS8 measures the time of arrival offset between PPS pulses (or the internal receiver clock) and the received 5G NR and LTE synchronization signal blocks (SSB) to determine network synchronization quality. The absolute time of arrival for 5G NR SSB can also be measured (mandatory for measuring time alignment errors for specific sites). The R&S®TSMS8 can also measure uplink and downlink spectra with a time gate. The time gate can be automatically configured if the uplink/downlink configuration is available in 5G NR broadcasting messages. Users can also manually configure uplink and downlink slots of interest for the real-time spectra of configured time gates and provide a panoramic view across the entire spectrum or focus on interference to quickly locate its sources.

R&S®TSMS8 MOBILE NETWORK TESTING USE CASE

Engineering

New technology propagation models are often tuned with scanner data in the engineering phase. Any technology or feature that affects the RF interface can be tested and validated in early lab or field trials with the scanner. Examples include new network components such as MIMO antennas and 5G beamforming, coverage of new spectra including new bands, new network synchronization capabilities, TDD UL/DL configuration, layer 3 (L3) broadcast messages as well as new air interfaces such as NB-IoT, LTE-M.

Interference hunting

Modular The scanner collects spectrum data for analysis in the office with a postprocessing solution to identify interference spots. Interference hunting is needed to locate interferers and switch them off

Verification and acceptance

When installing and maintaining base stations, users need a quick overview of site configurations to verify proper installation. Scanners need to check the deployed technologies, bands, channels, physical cell identities (PCI), beam and L3 information, network synchronization verification (TDD pattern), EMF measurements and spectrum occupancy verification

Optimization and troubleshooting

Increased network loads or environmental changes mean the RF environment is also constantly changing. Scanners help detect network degradations from interference, spectrum usage violations, TDD synchronization problems, country border regulation violations etc.

Network audit and benchmarking

The scanner provides valuable measurements to verify coverage requirements in audits. Benchmarking focuses on comparing multiple networks and scanners to provide vital insights for technology rollouts and usage, network density or estimating BTS positions.

Quality monitoring

Interference that might threaten network performance and operators must be constantly monitored. An autonomous scanner monitors the spectrum over longer periods of time to identify the correct day and time when an interferer is active and helps shut it down

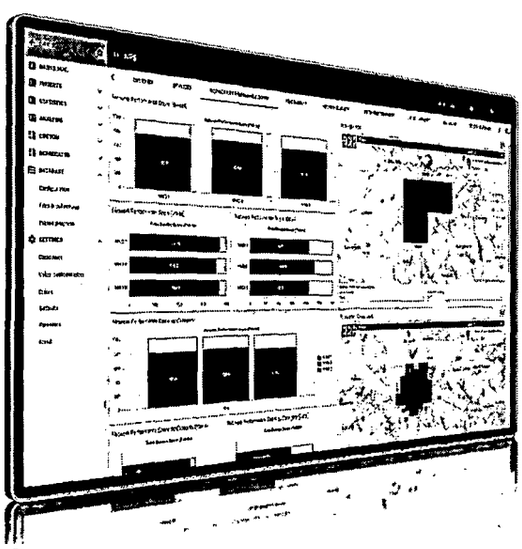
Antennas

Rohde Schwarz offers a range of wideband omnidirectional antennas for various applications and frequency ranges. The new R&S®TSMS-OMN8 antenna is ideal for the R&S®TSMS8 in the FR1 frequency range from 350 MHz to 8.5 GHz. The antenna can be mounted on a low-profile R&S®TSMS-LMAGM antenna mount, available in two versions – with a magnetic plate for drive testing and without for stationary measurements.

The antenna can also be easily carried in a bag or backpack for walk testing campaigns and cellular network analysis (CNA). Testing in the FR2 frequency range (currently 17 GHz to 53 GHz) requires detecting and measuring signals with high path loss.

Our high-performance component portfolio for mmWave frequency range measurements (from 17 GHz) includes the R&S®TSMS53DC downconverter and the R&S®TSMS-OMN70 omnidirectional mmWave antenna. The magnetic mount (R&S®TSMS-LMAGM) for the R&S®TSMS-OMN70 can be used to attach the antenna to a vehicle roof. The R&S®FR4 5G A3 antenna holder attaches the R&S®TSMS OMN70 antenna to our R&S®FR4 Freerider 4 backpack System.

SmartAnalytics



Delivering excellent quality of experience to end users is a primary objective for mobile network operators to retain subscribers, attract new customers and competitively position themselves.

With network complexity increasing and the emergence of new cellular use cases with more demanding subscribers and machine QoEs enabled by the rollout of technologies such as IoT and 5G, it becomes even more crucial to understand the current network situation and pinpoint areas for development that will efficiently deliver the required performance.

For accurate network engineering, benchmarking, monitoring and optimization, it is necessary to process a large quantity of complex data and produce clear and easy-to-understand intelligence on a network to make better decisions. Correct decisions can only be made based on reliable and accurate data that is processed quickly and appropriately.

At a Glance

► A new generation of intelligent analytics software that provides QoE use-case-driven insights, offers intuitive web-based views and facilitates benchmarking, optimization, monitoring and network engineering

► Stores, processes and analyzes mobile network data acquired in the RAN to deliver deep insights into end-user QoE and network performance

► Highlights network performance issues and analyzes their probable causes, which are quickly identified from a macro level down to individual cell sites and sessions

► Flexible on-premises, private or public cloud deployment options, including optional convenient subscription packages

► Can be installed on a laptop for portable data measurements in the field

Key Use Cases

ACTIONABLE BENCHMARKING, OPTIMIZATION AND MONITORING INTELLIGENCE FROM DRIVE TEST DATA

SmartAnalytics is a flexible tool that encompasses different mobile network testing use cases such as engineering, optimization, monitoring and benchmarking across all technologies, including 5G NR, using the same user interface and platform. It eliminates the need for separate test platforms, removes compatibility issues and provides a seamless interface across each stage of the network testing lifecycle.

Network performance score (NPS)

The network performance score integrates all relevant RAN factors that influence the end-user QoE to provide a unified metric that quantifies the network in a single number. It uses objective methodology to deliver a network-wide, vendor-independent assessment that enables comparison with other networks in the same market and globally. SmartAnalytics calculates the NPS for the overall network and can drill it down by use case, services, technology and other variables.

As a reference benchmarking metric, it allows precise improvement targets to be set based on a holistic view of the network and across competitors. It is a framework for prioritizing QoE based investments by specific performance areas.

Benchmarking, insights into competition

SmartAnalytics provides a quantitative evaluation of the network QoE and a comparison with competitor networks. What is the best network in this area, in this service? Where do I not have coverage? Why are my competitors better in this specific service?

Its powerful architecture enables users to easily browse huge benchmarking data files in real time. It is also possible to easily adapt the interface to compare different networks and generate data insights on the fly

R&S® PR200 Portable Monitoring Receiver

At a glance

The R&S®PR200 portable monitoring receiver is engineered to effectively support your spectrum monitoring,

interference hunting and site testing tasks. It reliably detects, analyzes and locates signals from 8 kHz to

8 GHz. Optimized for field operations, it provides a perfect balance between RF performance and operability,

and offers a wide range of measurement functions also suitable for complex signals such as 5G signal

Key facts

- Detect, analyze and locate RF signals from 8 kHz to 8 GHz; extendable up to 20 GHz with the R&S®HE400DC handheld directional antenna
- Extensive preselection filtering and automatic overload protection
- High-speed panorama scanning with up to 56 GHz/s over the entire frequency range
- Simultaneous measurements in the frequency and time domain with time-gated spectrum calculation
- Accurate AoA based direction finding from 20 MHz to 6 GHz with compact Rohde & Schwarz DF antennas
- Optimized for demanding field operation with minimal size, weight and power consumption
- Innovative application-based user interface for convenient, simple and intuitive operation

Typical Applications

Spectrum monitoring in the field

Spectrum monitoring helps detect and locate unknown interference signals, verify compliance with licenses, regulations and communications standards and facilitates network management.

The R&S®PR200 is designed to perform these tasks during mobile operation in both indoor and outdoor environments. The wideband operation with gapless 40 MHz real-time processing, various

spectrum scan modes and powerful measurement toolset including polychrome spectrum, time domain analysis, direction finding and ITU-compliant measurements enable efficient and convenient spectrum monitoring sessions in the field.

Interference Hunting

With the rapid increase in wireless transmission devices in urban areas, a growing number of unwanted interference signals can disrupt communications link quality.

Mitigating these interferers is crucial to proper spectrum use. The R&S®PR200 is ideal for quickly detecting, analyzing and locating interferers in indoor and outdoor operations. Thanks to its real-time operation, polychrome spectrum and time domain analysis with time-gated spectrum function, even hard-to-detect interference can be spotted reliably. Once found, interferers can be located with manual homing and direction finding.

R&S® HE400 Handheld Directional Antenna

At a glance

The R&S®HE400 antenna family in combination with an analyzer or receiver reliably detects and locates transmitters and interference sources from 8 kHz to 20 GHz. The R&S®HE400 handheld directional antenna family is used together with an analyzer or receiver to detect and locate transmitters and interference sources. Bearings are found by manually pointing the antenna in the direction where the signal is strongest.

It consists of four antenna handles, seven different antenna modules and accessories (cables, transport cases, transport bags, tripod, adapter, rain covers, etc.) that can be individually chosen for a specific application. Other antenna modules can be added at a later stage. The antenna family is optimized for use with the R&S®PR200 portable monitoring receiver, the R&S®PR100 portable receiver, the R&S®MNT100 RF interference locator and portable spectrum analyzers.

Key facts

- Modular product design to select the best antenna handle and antenna module for the customer application
- Compact with very wide frequency range from 8 kHz to 20 GHz to address a large range of applications and a multitude of customer applications
- Suitable for 5G New Radio FR1 frequency range
- Wideband antenna modules and optimized narrowband solutions available
- Distinct directional radiation pattern for precise location of interference sources
- Fast and convenient exchange of antenna modules
- Turn able antenna modules for reception of vertically or horizontally polarized signals

- Automatic detection of plugged-in module and polarization alignment (with R&S®HE400, R&S®HE400MW, R&S®HE400DC)
- Support of various Rohde & Schwarz receivers and analyzers
- Support of third-party receivers (with R&S®HE400BC)
- Trigger function for external triggering of the receiver or the analyzer (with R&S®HE400, R&S®HE400MW, R&S®HE400DC)
- Integrated electronic compass delivers exact azimuth and elevation angle (with R&S®HE400, R&S®HE400MW, R&S®HE400DC)
- Built-in sensitive GNSS-capable receiver for precise location by triangulation and use of geolocation data for further processing (with R&S®HE400, R&S®HE400MW, R&S®HE400DC)
- Switchable built-in low-noise amplifier (LNA) for optimum sensitivity in active mode and wide dynamic range in passive mode (with R&S®HE400, R&S®HE400MW and R&S®HE400DC)
- Power for antenna supplied by connected receiver or spectrum analyzer; no battery needed
- Unique and sophisticated bearing detection mode for highly accurate bearing results allows fast localization of signal sources (with R&S®HE400CEL, R&S®HE400SCB)
- Low antenna weight and attachable arm rest ensure fatigue-free operation
- R&S®HE400Z8 adapter to connect external antennas to the R&S®HE400DC antenna handle

Applications

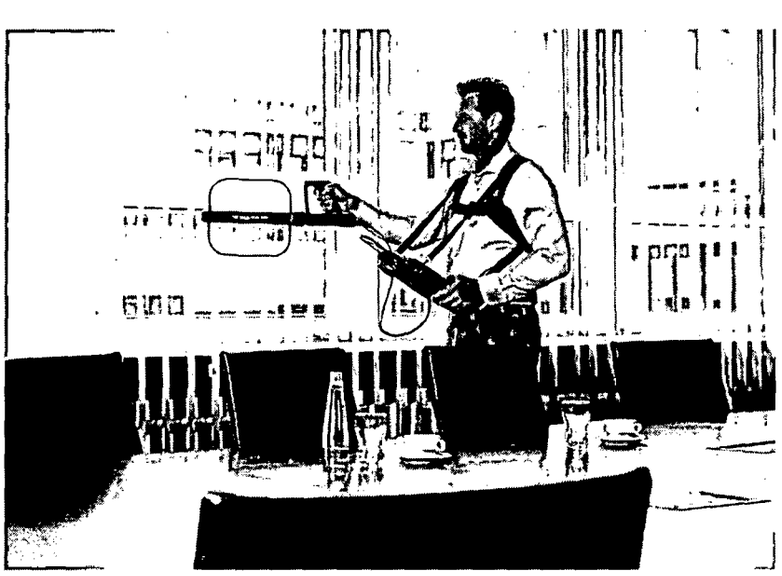
General interference hunting

Rohde & Schwarz handheld antennas have directional radiation patterns, allowing users to detect and locate a potential interference source based on triangulation of multiple bearings. In highly reflective environments, i.e. indoors, the last few meters to the target are often found more easily by gradually approaching the transmitter (homing mode).

Spectrum monitoring and spectrum surveillance

The radio frequency spectrum is a limited natural resource, and it is important that it be used in the most effective and efficient way. Smart planning of frequency usage and well-designed frequency allocation schemes are crucial. Spectrum monitoring can effectively help enforce compliance with international radio traffic regulations.

Rohde & Schwarz handheld antennas in combination with a receiver or an analyzer allow users to monitor and analyze relevant signal parameters such as the frequency, spectrum occupancy, signal level and signal bandwidth.



DELIVERY & PAYMENT SCHEDULE

LOT 1 Payment Terms:

Sr. No.	Milestone	Payment Trigger	Payment Due
(1)	Advance Payment	After submission of Performance Bank Guarantee for LOT 1, Advance Bank Guarantee for LOT 1 and Signing of Contract	*10 %*
(2)	Factory Acceptance Test (FAT)	Upon successful completion of Factory Acceptance Test for LOT 1, issuance of FAT Acceptance Certificate (Annex-K) for LOT 1 in accordance with timeframe specified in SCC Clause 5, and submission of commercial invoice.	*20 %*
(3)	Delivery of Goods/ Equipment	Upon successful delivery of LOT 1 at procuring agency's premises, issuance of Certificate of Stores Inspection (Annex-E) for LOT 1 in accordance with timeframe specified in SCC Clause 7, and submission of commercial invoice.	*50 % Payment* & *Release of Advance Bank Guarantee for LOT 1*
(4)	Site Acceptance Test (SAT)/Local Training	Upon successful completion of Site Acceptance Test (SAT) for LOT 1, issuance of SAT Acceptance Certificate (Annex-F) for LOT 1 in accordance with timeframe specified in SCC Clause 5, Local Training and submission of commercial invoice	*20 %*
(5)	Completion of Warranty Period	After completion of warranty period for LOT 1.	*Release of Performance Guarantee for LOT 1*

LOT 2 Payment Terms:

Sr. No.	Milestone	Payment Trigger	Payment Due
(6)	Advance Payment	After submission of Performance Bank Guarantee for LOT 2, Advance Bank Guarantee for LOT 2 and Signing of Contract	*10 %*

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

(7)	Factory Acceptance Test (FAT)	Upon successful completion of Factory Acceptance Test for LOT 2, issuance of FAT Acceptance Certificate (Annex-K) for LOT 2 in accordance with timeframe specified in SCC Clause 5, and submission of commercial invoice.	*20 %*
(8)	Delivery of Goods/ Equipment	Upon successful delivery of LOT 2 at procuring agency's premises, issuance of Certificate of Stores Inspection (Annex-E) for LOT 2 in accordance with timeframe specified in SCC Clause 7, and submission of commercial invoice.	*50 % Payment & Release of Advance Bank Guarantee for LOT 2*
(9)	Site Acceptance Test (SAT)/Local Training	Upon successful completion of Site Acceptance Test (SAT) for LOT 2, issuance of SAT Acceptance Certificate (Annex-F) for LOT 2 in accordance with timeframe specified in SCC Clause 5, Local Training and submission of commercial invoice	*20 %*
(10)	Completion of Warranty Period	After completion of warranty period for LOT 2.	*Release of Performance Guarantee for LOT 2*

Preliminary Delivery Plan

Task Name	Duration	Start	Finish
NFMMS Project 2026	**129 days**	**Tue 8/18/26**	**Fri 2/12/27**
Contract Signature	1 day	Tue 8/18/26	Tue 8/18/26
Provision of Performance Guarantee equivalent to ten (10%) per cent of the total Contract value to Purchaser	3 days	Mon 8/24/26	Wed 8/26/26
Provision of Advance Bank Guarantee equivalent to the ten (10%) of the total Contract Value to Purchaser	3 days	Mon 8/24/26	Wed 8/26/26
Advance Payment of 10% contract value to Supplier	3 days	Mon 8/24/26	Wed 8/26/26
Visa Application	30 days	Thu 8/27/26	Wed 10/7/26
Submission of ATP (four (4) weeks prior to the conduct of the Acceptance Tests)	5 days	Tue 10/13/26	Mon 10/19/26
FAT LOT1 & 2	14 days	Fri 11/27/26	Wed 12/16/26
Payment of 20% contract value to Supplier Upon successful completion of FAT and submission of commercial invoice	1 day	Tue 12/22/26	Tue 12/22/26
Shipment of Equipment (Duration) and Custom Clearance	14 days	Wed 12/23/26	Mon 1/11/27
Delivery of Equipment / Joint Inspection /Joint Store Inspection certificate	3 days	Tue 1/12/27	Thu 1/14/27
Payment of 50% upon successful delivery at FAB's/purchaser's premises and submission of commercial invoice	2 days	Fri 1/15/27	Mon 1/18/27
Release of Advance BG (10%) to Supplier	1 day	Tue 1/19/27	Tue 1/19/27
Local Training in Islamabad	10 days	Mon 1/18/27	Fri 1/29/27
Commisioning and Set to Work (SAT)	3 days	Mon 2/1/27	Wed 2/3/27
Issuance of commissioning certificate	2 days	Thu 2/4/27	Fri 2/5/27
Payment of 20% upon successful completion of Site Acceptance Test (SAT)/Local Training and submission of commercial	5 days	Mon 2/8/27	Fri 2/12/27

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD.

Annex: K

FAT ACCEPTANCE CERTIFICATE

We, the undersigned hereby confirm that all the tests have been conducted in accordance with mutually agreed Acceptance Testing Plan and to the satisfaction of the Procuring Agency.

Customer Frequency Allocation Board Pakistan

Customer PO Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building

R&S PO _____

Place _____

For and Behalf of Rohde & Schwarz

Name _____

Signature _____

Date _____

For and Behalf of Customer

Name _____

Signature _____

Date _____

FREQUENCY ALLOCATION BOARD FAB HQ

ROHDE & SCHWARZ PAKISTAN (PVT) LTD. R&S

Annex – D

EVALUATION REPORT

FINAL EVALUATION REPORT

(As Per Rule 35 of PP Rules, 2004)

1. Name of Procuring Agency:	Frequency Allocation Board (FAB)
2. Method of Procurement:	Single-Stage Two Envelop Under rule 36(b) of PPRA Rules 2004
3. Title of Procurement:	Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building
4. Lot No:	1
5. Tender Inquiry No.:	PID(I) No. 8941/25
6. PPRA Ref. No. (TSE):	TS0000005886E
7. Date & Time of Bid Closing:	1100 hrs on 25-05-2026
8. Date & Time of Bid Opening (Technical):	1130 hrs on 25-05-2026
9. Date & Time of Bid Opening (Financial):	1130 hrs on 30-06-2026
10. No of Bids Received:	2
11. No. of Responsive Bidders:	2
12. Criteria for Bid Evaluation:	The evaluation comprises: 65% Technical Evaluation and 35% Financial Evaluation (Minimum marks for technical qualification = 85/100)

13. Details of Bid(s) Evaluation:

Name of Bidder	Scores			Evaluated Cost (PKR)	Regulation/ Rule/ SBD*/ Policy/ Basis for Rejection/ Acceptance as per Rule 35 of PP Rules, 2004.
	Technical = obtained Score x 65%	Financial = obtained Score (Out of 35)	Total Score (Out of 100)		
M/s Rohde & Schwarz	97.25*65% = 63.21	35	98.21	127,615,116/-	Most Advantageous Bidder
M/s National Radio Telecommunication Corporation	93.25*65% = 60.61	29.13	89.74	153,323,056/-	-

Most Advantageous Bidder: M/s Rohde & Schwarz

Signature: _____

Official Stamp: _____

Director General
Brig Agha Abid Raza
Frequency Allocation Board
Islamabad

**Standard Bidding Documents (SBD).*

FINAL EVALUATION REPORT

(As Per Rule 35 of PP Rules, 2004)

1. Name of Procuring Agency:	Frequency Allocation Board (FAB)
2. Method of Procurement:	Single-Stage Two Envelop Under rule 36(b) of PPRA Rules 2004
3. Title of Procurement:	Supply and Commissioning of Spectrum Monitoring System for Establishment of Islamabad Monitoring Station Housing FAB HQs Building
4. Lot No:	2
5. Tender Inquiry No.:	PID(I) No. 8941/25
6. PPRA Ref. No. (TSE):	TS0000005886E
7. Date & Time of Bid Closing:	1100 Hrs on 25-05-2026
8. Date & Time of Bid Opening (Technical):	1130 Hrs on 25-05-2026
9. Date & Time of Bid Opening (Financial):	1130 hrs on 30-06-2026
10. No of Bids Received:	2
11. No of Responsive Bidders:	1
12. Criteria for Bid Evaluation:	The evaluation comprises: 65% Technical Evaluation and 35% Financial Evaluation (Minimum marks for technical qualification = 85/100)

13. Details of Bid(s) Evaluation:

Name of Bidder	Scores			Evaluated Cost (PKR)	Regulation/ Rule/ SBD*/ Policy/ Basis for Rejection/ Acceptance as per Rule 35 of PP Rules, 2004.
	Technical = obtained Score x 65%	Financial = obtained Score (Out of 35)	Total Score (Out of 100)		
M/s Rohde & Schwarz	91.25*65% = 59.31	35	94.31	68,693,051/-	Most Advantageous Bidder
M/s National Radio Telecommunication Corporation	-	-	-	-	Technically Non-Responsive / Disqualified

Most Advantageous Bidder: M/s Rohde & Schwarz

Signature: _____

Director General
Brig Agha Abid Raza
Frequency Allocation Board
Islamabad

Official Stamp: _____

*Standard Bidding Documents (SBD).

BENEFICIAL OWNERSHIP PROFORMA

Annexure: I

Declaration of Ultimate Beneficial Owners Information for Public Procurement Contractors.

1. **Name:**
   Dr. Christina Rohde

2. **Father's Name:**
   Prof. Dr. Dr. Ulrich Rohde

3. **Passport No.**
   A81765289

4. **Nationality**
   United States of America

5. **Residential address**
   Mühldorfstraße 15, 81671 Munich, Germany

6. **Email address**
   None

7. **Date on which shareholding, control or interest acquired in the business**
   28.06.2000

8. **In case of indirect shareholding, control or interest being exercised through intermediary companies, entries or other legal persons legal arrangements in the chain of ownership or control, following additional particulars to be provided:**
   Please note, all relevant information relating to this point are declared in the organizational chart of Rohde & Schwarz Pakistan (Pvt.) Limited as attached as Appendix-1.

1	2	3	4	5	6	7	8	9	10
Name	Legal form (company/Limited Liability Partnership/ Association of Persons/ Single Member Company/partnership Firm/Trust/Any other individual, body corporate (to be specified)	Date of incorporation / registration	Name of registration authority	Business Address	Country	Email address	Percentage of shareholding, control or interest of BO in the legal person or legal arrangement	Percentage of shareholding, control or interest of legal person or legal arrangement in the company	Identify of natural person who ultimately owns or controls the legal person or arrangement

9. Information about the Board of Directors (details shall be provided regarding number of shares in the capital of the company as set opposite respective names).

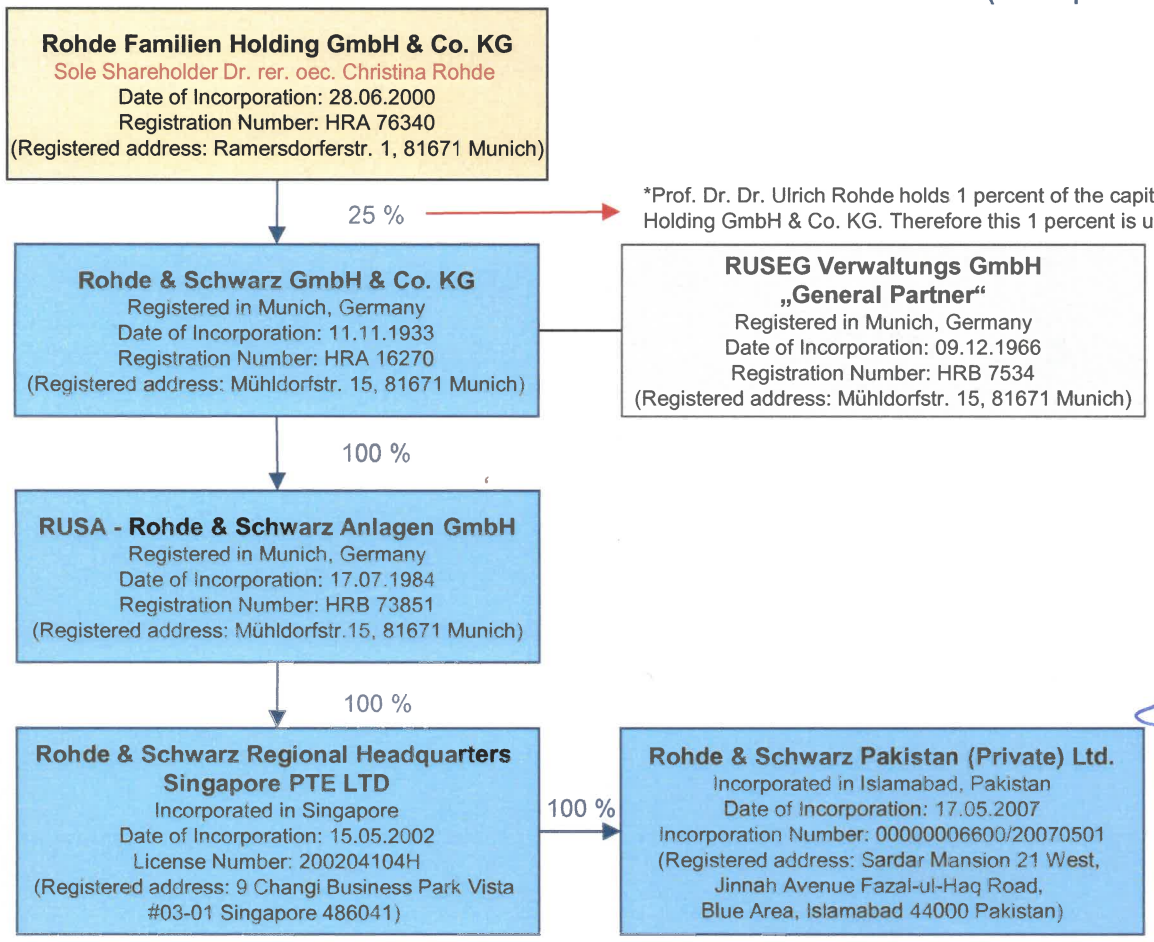
1	2	3	4	5	6	7	8
Name and surname (in Block Letters)	CNIC No. (in case of foreigner, Passport No)	Father's/Husband's Name in full	Current Nationality	Any other Nationality (ies)	Occupation	Residential address in full or the registered/ principle office address for a subscribers other than natural person	Number of shares taken by cash subscriber (in figures and words)
DIRK DORRSCHUCK	CFGHMZX78		Germany		EMPLOYEE	Hornstraße 3, D-80797 Munich Germany	1(One) (nominee shareholder)
JENS PATRICK POETSCHKE	CH1HLTKWK		Germany		EMPLOYEE	RAUCHSTR 12, Munich, Germany	1(One) (nominee shareholder)
WOLFGANG MARCHL	CF3NZGXCT		Germany		EMPLOYEE	Strinröschen str. 16, 85591, Vaterstetten, Germany	None
			Total numbers of shares taken (in figures and words)				**2 (two)**

Salman Afzal (Head of Finance & Company Secretary)
Rohde & Schwarz Pakistan (Pvt.) Limited
21-August-2026

Appendix-1

STRUCTURE OF OWNERSHIP

Rohde & Schwarz Pakistan (Private) Limited
(Incorporated in Islamabad, Pakistan)



We declare that all the entities / companies at each layer in the chart have not issued any bearer shares and are not capable of issuing bearer shares in the future.

We confirm this as a true and accurate ownership structure chart for Rohde & Schwarz Pakistan (Private) Limited.

Rohde & Schwarz GmbH & Co. KG

ppa. Mario Paoli
Executive Vice President
Corporate Finance, Controlling and Marketing

ppa. Patrick Pötschke
Vice President
Finance and Accounting

Date: May 12th, 2025