

Rate Contract
Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed By:
KAVINDRA SINGH BRIJWAL
Email id:
KSBRIJWAL-DGSND@NIC.IN

Rate Contract no. RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824
Dated 12-SEP-16

To,

ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE INDUSTRIAL
ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI

Sub: Rate Contract for supply of RF Signal Generators and Function Generators
Validity: From 12-SEP-16 To 22-JAN-17 .

Ref:(1) This Office Tender Enquiry No. RF SGFG/IT-4/RC-D2050000/0317/84
Opened on 22-MAR-16.
(2) Your Quotation No. 9324 And Dated
15-MAR-16.

Dear Sir,

You are hereby informed that your above referred tender read with subsequent letters mentioned above for the Stores specified in the Schedules annexed has been accepted. This rate contract will be governed by the terms and conditions brought in the Form no. DGS&D 1001 including DGS&D Arbitration Clause available from DGS&D sales counter on payment of Rs. 50/- The dispute cannot be referred by the contractor or entertained by facilitation Council or any other adjudicating forum. The Rate Contract and the schedules annexed here to shall be the sole repository of this Rate Contract/Transaction.

SCHEDULES ANNEXED

1. Schedule "A" Description of stores, prices, duties/taxes.
2. Schedule "B" special conditions of contract / Other information.
3. Schedule "C" Information to DDOs about parallel rate contracts.
4. Annexure - Technical Specification

Yours Faithfully,

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Assistant Director(S)/Section Officer/Dy. Director/Director/DDG(S)
For and on behalf of the purchaser named in the Form DGS&D 1001.

COPY TO:

- 1.The Chief Controller of Accounts,Department of commerce,New Delhi/
COA Mumbai/COA Kolkata,COA Chennai.
(Through authentication cell) This issues with the approval of competent authority.
- 2.Deputy Director General of Supplies & Disposals,Chennai -10 copies each
- 3.Deputy Director General of Supplies & Disposals,Kolkata -10 copies each
- 4.Deputy Director General of Supplies & Disposals,Mumbai -10 copies each
- 5.Deputy Director General (QA),Kolkata -10 copies each
- 6.Deputy Director General (QA),Chennai -10 copies each
- 7.Deputy Director General (QA),Mumbai -10 copies each
- 8.Deputy Director General (QA),DGS&D -10 copies each
- 9.Inspection Authority ADG(QA) DGS&D New Delhi - 110001.
- 10.Quality assurance Officer Director (QA) Delhi Directorate/ Mumbai,Chennai/Kolkata.
- 11.Concurrent Audit
- 12.MIS Cell
- 13.Ledger clerk
- 14.O.L.Section
- 15.All Direct Demanding Officers as per mailing list maintained by DGS&D.
- 16.Concerned CQA(for defence item only)-As per Clause 19 of RC
- 17.Concerned SQAQO(for defence item only)-As per Clause 20 of RC

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Assistant Director (S) / Section Officer / Deputy Director/Director/DDG(S)
FOR DIRECTOR GENERAL OF SUPPLIES & DISPOSALS

SCHEDULE - A

1. Rate Contract No.: - RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824
Dated 12-SEP-16 For the Supply of RF Signal Generators and Function Generators

2. Advance Rate Contract No.: - Nil
Dated

3.(a) Name and Full Address of the Firm :-

ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE
INDUSTRIAL ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI
DELHI - 110044
Tel. No. - 9899020202, 011-42535400
Fax - 011-42535433
Email - suvrat.verma@rohde-schwarz.com

(b) Name and Full Address of Manufacturer :-
Rohde & Schwarz GmbH and Co KG
Muehldorfstrasse 15 81671 Munchen Germany

(c) Brand: R&S

4. Validity of Rate Contract: 12-SEP-16 To 22-JAN-17

5. Description of Item, Specification, Unit, Rate

| Item Model No. | Store Description | Unit | Rate (in Rs) |
|----------------------------|---|---|---|
| | ED ED% CST/VAT CST/VAT% Service Tax | | |
| 1 | R&S/SMC100 RF Signal Generators A-Base Unit with SMC- B103 Freq Range 3 GHz | Frequency Range: 9 kHz to 3 GHz NOS. | 275625 Rs. TWO LAKHS SEVENTY- FIVE THOUSAN D SIX HUNDRED TWENTY- FIVE ONLY |
| N.A | | Excl. | 5 |
| Min.Order Qty(in unit):- 1 | | Lead Time(in days):- 21 | Rate of Supply(monthly):- 45 |

6-Terms of Delivery:

Free delivery at site (i.e. consignee place) including installation /

| | commissioning. | | | | | | | | | | | | | | | | | | |
|---|--|------------|----|------------|---------|---------|----|---------|---------|----|---------|---------|----|---------|----------|----|----------|----------|----|
| 7-Excise Duty: | ED NA at present and will not be charged even if it is applicable later on | | | | | | | | | | | | | | | | | | |
| 8-Sales Tax: | CST / VAT Extra @ 5%. | | | | | | | | | | | | | | | | | | |
| 9-Delivery Period: | Delivery Period for first 45 nos. 51 days and thereafter 45 nos. per month. | | | | | | | | | | | | | | | | | | |
| 10(a)-Annual Turnover: | - 0 - | | | | | | | | | | | | | | | | | | |
| (b)-Monetary Limit(In Rs.): | Without Any Limit | | | | | | | | | | | | | | | | | | |
| 11-Payment Terms: | 90% against provisional receipt of stores by consignee, after delivery of stores by Green Channel firms on self certification with OEM warranty/Guarantee certificate and balance 10% on acceptance of stores by consignee within 60 days of receipt of stores. | | | | | | | | | | | | | | | | | | |
| 12-Slab Discount Clause: | Applicable | | | | | | | | | | | | | | | | | | |
| (Click here to see the details) | <table border="0"> <thead> <tr> <th>Value From</th> <th>To</th> <th>% Discount</th> </tr> </thead> <tbody> <tr> <td>1000000</td> <td>2500000</td> <td>.1</td> </tr> <tr> <td>2500001</td> <td>5000000</td> <td>.2</td> </tr> <tr> <td>5000001</td> <td>7500000</td> <td>.3</td> </tr> <tr> <td>7500001</td> <td>10000000</td> <td>.4</td> </tr> <tr> <td>10000001</td> <td>12500000</td> <td>.5</td> </tr> </tbody> </table> | Value From | To | % Discount | 1000000 | 2500000 | .1 | 2500001 | 5000000 | .2 | 5000001 | 7500000 | .3 | 7500001 | 10000000 | .4 | 10000001 | 12500000 | .5 |
| Value From | To | % Discount | | | | | | | | | | | | | | | | | |
| 1000000 | 2500000 | .1 | | | | | | | | | | | | | | | | | |
| 2500001 | 5000000 | .2 | | | | | | | | | | | | | | | | | |
| 5000001 | 7500000 | .3 | | | | | | | | | | | | | | | | | |
| 7500001 | 10000000 | .4 | | | | | | | | | | | | | | | | | |
| 10000001 | 12500000 | .5 | | | | | | | | | | | | | | | | | |
| 13-Prices: | FIXED | | | | | | | | | | | | | | | | | | |
| 14-Quantity Offered: | As mentioned under item above. | | | | | | | | | | | | | | | | | | |
| 15-Minimum Quantity in Single Supply Order: | | | | | | | | | | | | | | | | | | | |
| 16-Minimum order Value in Single Supply Order: | 0 | | | | | | | | | | | | | | | | | | |
| 17-Status of the RC Holding Firm: | LSI | | | | | | | | | | | | | | | | | | |
| 18-Paying Authority: | PAO,User Deptt | | | | | | | | | | | | | | | | | | |

(a)The payment to the suppliers in all the adhoc Contract (A/Ts) and / or Supply Order placed against DGS&D Rate Contracts shall be made directly by indentors i.e. order placing authority through their concerned Pay & Accounts Offices only, instead of CCA(Supply) or its Regional Pay & Accounts Offices of Department of Commerce.

(b)The payment to the supplier shall be paid by the indentors as per prescribed forms of payments including timelines for payments within 60 days of due date which must be ensured by the indentors.Delays,if any, in this regard would render the indentors responsible and not the DGS&D in any manner whatsoever.

(c)Consequently,the requisite Departmental charges + prevailing Service Tax thereon shall be deposited by the respective Pay & Account offices (PAO) of the indentors directly to the Receipt Head Account of DGS&D as prescribed by CGA.

(d)Indentors shall be directly responsible for any non-

compliance/default for the afore-said provisions.

19-Inspection Authority:

Not applicable since the firm is holding Green channel status for subject stores

20-Quality Assurance Officer/Inspecting officer:

-do-

For stores procured against DGS&D Rate Contract the Inspection Officer would be:

- (i) User Departments/DDO/Consignee itself or any authority/agency appointed by them or
- (ii) Additional Director General (QA) in DGS&D (if desired by user Departments/DDO/Consignee).

21-Place where the Stores are to be Tendered for Inspection:

Not Applicable being Green Channel Firm

22-R/C is DDOs Operated:

Yes

With effect from First October two thousand eight (01-10-2008),all supply order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S&D web site (www.dgsnd.gov.in) (indentor's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the supply order and send an ink signed copy to the concerned paying authority specified in the rate contract through Registered / speed post immediately after on-line placement of Supply Order(s).

23-Packing & Specification :

see annexure

24. Operation of Rate Contract and Fee.

a) All the Government Indentors/ users including Central Government, Union Territories, State Governments, Autonomous Organisations, PSUs, Municipalities and Corporations are authorized to operate Rate Contract of DGS&D as Direct Demanding Officers (DDOs).

b) They will place online supply orders of DGS&D e-portal against DGS&D R/Cs for which user Login ID and Password shall be given to them. All supply orders against DGS&D Rate Contract shall be placed on-line only to treat such transactions under the preview of DGS&D Rate Contract. Consequently, provision of placement of Direct / Referral orders is deleted.

c) Furthermore, the payment has been decentralized and is to be made by User Department. The inspection of Stores by DGS&D has already been made optional and left to the Indentor to get the stores inspected by any competent agency, if it desires so.

d) Fee for Purchase Service:

The departmental charges for Purchase Service of DGS&D shall be Nil for online supply orders through DGS&D portal for all category of user departments i.e. Central or State Government Ministries/ Departments, PSUs,Autonomous Bodies, Corporations or Municipalities etc.

e) Fee for Inspection:

(i) Online supply orders through DGS&D portal by Central Government Ministries/ Departments:

Inspection activities have been decentralised. Indentors can select Inspection Agency of their choice, including third party or Quality Assurance Office of DGS&D, while placing the supply order against rate contracts. Inspection fee for

Inspection service through DGS&D, if opted by user department, shall be levied @ 1% of the value of the supply order in case of stores procured under DGS&D Rate Contract by Central Govt. Ministries/Departments.

(ii) Online supply orders through DGS&D portal by State Government Departments/Organizations, PSUs, Autonomous Bodies or Corporations: Inspection fee for Inspection service through DGS&D, if opted by user department, shall be levied @ 2% of the value of the supply order procured under DGS&D Rate Contract by State Govt. Departments/Organizations, PSUs, Autonomous Bodies or Corporations or Municipalities etc.

(iii) The expenses on TA/DA of the DGS&D officers and test charges for confirmatory tests shall be borne by DGS&D for (i) and (ii) above.

(iv) The requisite fee for inspection + prevailing Service Tax thereon shall be deposited by the respective Pay & Accounts Office (PAO) of the indenter directly to the Receipt Head Account of DGS&D as prescribed by CGA.

25.DGS&D reserves the right for pre-dispatch inspection at manufacturer"s premises or consignee end inspection after receipt of stores or at both places,at the option of indentors.

26.Jurisdiction/Arbitration Clause

a)Jurisdiction will be the place of issue of the rate contract.Sole Arbitrator will be appointed by DG(S&D).For details refer Clause-23 of DGS&D-1001.Further,where the Contract/Rate Contract is governed by DGS&D arbitration clause,the dispute cannot be referred by the supplier or entertained by Facilitation Council or any other Adjudicating Forum.

b)The arbitrator as appointed under provisions of para 18.1.1 of DGS&D Manual shall adjudicate only on the disputes arising out of interpretation of terms & conditions stipulated in Rate Contracts.For settlement of disputes relating to execution of supply orders placed by various Direct Demanding officers (DDOs)/Indentors against DGS&D Rate Contracts, each DDO/INDENTOR shall himself nominate an arbitrator at the time of placement of supply orders,as per guidelines/instructions for appointment of arbitrator in indenting organisation.

c)DGS&D or its regional offices shall not be made a party in any dispute relating to execution of Supply Order placed by DDO/Indenter against DGS&D Rate Contracts including the case filed in MSME Facilitation Councils.

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Asstt. Director (S) / Section Officer / Dy. Director

For and behalf of the purchaser named in the Form DGS&D 1001.

All the R/C particulars including prices in respect of individual R/Cs are available on DGS&D website which can be accessed by all.The DGS&D website is <http://dgsnd.gov.in>

SCHEDULE - B

Guaranty/Warranty Certificate : It is certified that the stores supplied are brand new,unused,non-refurbished and original and they full confirm to the technical specifications and description given in the subject Rate contract.It is further certified that the supplied stores are covered by the OEM Guaranty/Warranty as per the Subject Rate Contract.
TEST REPORTS FOR REGISTRATION AND ACCEPTANCE OF GOODS:

In case of products having satisfactory test reports from International Laboratory Accreditation Cooperation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs, it would be sufficient to consider the products of requisite quality for acceptance without insistence for any further testing pursuant to DGS&D Manual Correction Slip No. 38 dated 18-12-2012.

RC Specification:1. The model for item no.1 mentioned under Clause-5 of Scheulde-A may be read as under:-

Item No.1 Model No.SMC100A-Base Unit with SMC-B103 Freq Range 3 GHz

2. Foreign Manufacturer Works Details:

M/s Rohde and Schwarz GmbH and Co KG
Muehldorfstrasse 15 81671 Munchen Germany

3. Country of Origin: Germany

4. Insurance: As per DGS&D standard transit insurance clause, it will be responsibility of supplier for safe arrival of stores in full and good conditions at user's point and purchaser will not pay separately for transit insurance clause.

5. **GUARANTEE/WARRANTY CLAUSE :** The period of Guarantee / Warranty shall be 36 months from the date of receipts of stores by consignee and same shall be governed by the condition as contained in para 18 of Form DGS&D- 1001.

Once the user Department/Consignee states/writes that the goods supplied are defective/not functioning properly, it must be obligatory on the part of the supplier to immediatel,not later than 7 days,attend to it by way of rectification/rapair or repalcement of the goods,without any questioning or pretexts on any ground. There shall be no scope of questioning the user department/consignee or resorting to any kind of verification or joint inspection in this regards,pursuant to DGS&D Manual Correction Slip No.37 dated 18.12.2012.

3. Demonstration will be carried out free of cost.

4. No assistance for import of finished product or raw material will be provided.

TEST REPORTS FOR REGISTRATION AND ACCEPTANCE OF GOODS:

In case of products having satisfactory test reports from International Laboratory Accreditation Cooperation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs, it would be sufficient to consider the products of requisite quality for acceptance without insistence for any further testing pursuant to DGS&D Manual Correction Slip No. 38 dated 18-12-2012.

5. Octroi Duty and Local Taxes:-

Normally materials to be supplied to Govt. Department against Govt. contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. The local Town/Municipal Body regulations at times, however, provide for such exemption only on production of such exemption certificate from any authorized officer. Contractors should ensure that stores ordered against contracts placed by this office are exempted from levy of townduty/Octroi duty, Terminal tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the purchase officer or indentor concerned, to avoid payment of such local taxes or duties. Octroi, entry tax etc. on buyers account in absence of relevant exemption certificate.

6. Supply of Road Permits/ Way bill by the indentor/consignees:-

In all such cases where the requirement of Road Permit/Way Bills for entry of goods into a particular State is mandatory, the following provisions shall be strictly followed: -

(a) The supplier shall request the indentor/consignee for providing Road permit/ Way bill within 10 days of the receipt of the Supply order. The supplier shall furnish all the necessary information and documents in this regard to Indentor/consignee.

(b) On receipt of the above request from the supplier, the indentor/consignee concerned shall arrange to provide the Road permit/Way Bill in the prescribed form to the supplier within a maximum period of two weeks so that the same reaches the supplier before the dispatch of the stores. However, in cases where the Road permit/Way Bill is issued on proof of actual invoice of the material, the consignee shall arrange to provide the Road permit/Way Bill from appropriate authorities within a maximum period of 5 days from the receipt of invoice.

(c) The supplier shall not be held responsible for any delay in supply due to non- supply/delayed supply of Road permit/Way bill by the indentor/consignee.

(d) All cases of abnormal delay in providing requisite details/ documents by the supplier or issue of Road permit/Way bill by indentor/consignee, the same shall be reported to DGS&D.

7. Signing of Inspection Notes issued by QA Wing of DGS&D : Instructions to Indentors/Consignees. Advance Payment Copy of Inspection Note for claiming 90% / 80% payment (copy No.1): This is a provisional receipt. It only be tokens the receipt of stores by the consignee and is without prejudice to his rights of inspection and rejection under the general condition to contact. It is issued on said to contain basis the Contractor remaining responsible for proving the total quantities actually delivered.

Consignee mentioned in the Inspection Notes should sign (in INK) & put his official rubber stamp on the Advance Payment Copy of Inspection Notes IMMEDIATELY on the receipt of the material and handover the same to the company's authorized representative. Where this is not possible or inconvenient, it should be signed (in INK) by an official authorized by the consignee in that behalf. In such cases, the official signing the receipt certificate should indicate his designation and the official on whose behalf he is signing; and put his official rubber stamp. Balance payment & Accounts Copy of Inspection Note (Copy no 2& 5) for claiming 10% / 20% balance payment. Within 60 days from the date of material received, Consignee mentioned in the Inspection Notes should sign (in INK)& put his official rubber stamp on the Balance & Accounts office copy of Inspection Notes and should fill up the columns of

Receipt Voucher No. In cases where the supply is incomplete or defective or the supplier do not carry out commissioning/ demonstration of the stores within the period as per (i) above, the consignee shall report such cases immediately to the supplier and DGS&D. In cases where the consignees do not release copy 2 and 5 of I/Notes within the period as (i) above for the reasons which are considered not valid by the supplier, they may approach DGS&D with complete details for authorization of balance payment without copy 2 and 5 of I/Notes and the same shall be considered by DGS&D on merits of each case.

8. End User Certificate: Please note that End User Certificate is required for all products. Delivery shall be subject to approval of end user certificate by M/s. R&S

9. Discount against Custom Duty Exemption Certificate reduction Clause:-

- i) 10% against valid Custom Duty Exemption Certificate from education h Institutions as per Custom Notification 51/96.
- ii) 6% against valid CDE Certificate for Defence customer as per customs notification no.39/96 and for all eligible customers.
- iii) Discount against Custom Duty Exemption / Waiver Certificate:-

(a) Wherever, Indentor / Consignee shall provide Custom Duty Exemption / Waiver Certificate, the R/C holder shall submit the certified copies of Bill of Entries to the Indentor / Consignee at the time of delivery.

(b) The R/C holder shall also submit certified copies of relevant Notifications, as amended from time to time, and / or other supporting documents indicating the Assessable value of the item, if applicable, and the Rate of Custom Duty applicable on the Item, to the Indentor / consignee.

(c) Indentor / Consignee shall calculate the custom duty waiver / exemption amount keeping in view of the CIP value indicate in Bill of Entries / Assessable value of the item, as the case may be and Custom Duty Waiver / Exemption Certificate given by them.

(d) The amount of custom duty waiver / exemption amount, as calculated above, shall be endorsed in the consignee receipt certificate (CRC) for recovery from the RC holder. It shall be explicitly stipulated in the CRC that recovery is on account of Custom Duty Waiver / Exemption Certificate.

Note:- The applicable rate of Custom Duty for the items, as offered by R/c holder are indicated in the RC for Indentor / consignee guidance. However, it shall be the Indentor / Consignee's responsibility to ensure that custom duty waiver / exemption amount is properly calculated at the then prevailing rate of Custom Duty

10. Delivery Period for Custom Duty Exemption Orders:

Delivery shall be reckoned from the date of receipt of custom duty exemption certificate from Indentor.

11. The rate contract holders should assist the consignee(s) in the installation and operation of the machine, including

recommendations for accessories and voltage stabilizer.

All other terms and conditions shall be as per standard conditions contained in Form DGS&D-1001.

ANNEXURE

1. Type test reports shall be from a Central Govt. Lab / International Laboratory Accreditation Corporation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs as per DoC Correction Slip No. 38 dated 18.12.2012 of DGS&D

Manual to be read in conjunction with P&C Circular no.71 dated: 29/10/2014.

2. Type testing shall consists of verification of all the features & functional requirements including environmental tests.
2. The following environmental tests shall be conducted under conditions mentioned below :
 - (a) Dry Heat Test : At 45 deg. C for 16 hours as per IS:9000/Pt.3/sec.5/1977. (reaffirmed 2007)
 - (b) Cold Test : At 0 deg. C for 4 hours as per IS:9000/Pt.2/sec.4/1977. (reaffirmed 2007)
 - (c) Damp Heat Test: At 95% RH at 45 deg. C, two cycles of 24 hours each, separated by a gap of 4 hours as per IS:9000/Pt.5/sec.1/1991. (reaffirmed 2007).

All the functional parameters are to be verified before and after one hour recovery period of above environmental tests sequence. There shall be no deterioration in the functional parameters.

3. Tenderers shall supply operation and maintenance manuals with the equipment free of cost.
4. Tenderers shall provide training to the representatives of the user departments at consignee's end for operation of the equipment free of cost.
5. Tenderers shall also indicate the additional features of the items, if available in the machine, in their offer.
6. Supplier may supply accessories as deemed fit alongwith the equipment free of cost. List of accessories,if any, shall be indicated in the tender.
7. Supplier shall possess following acceptance tests facilities at the place of inspection :
 - (i) To verify all the functions & features .
 - (ii) High Voltage Test at twice the working AC/DC voltage + 1000 V
 - (iii) One out of Each instrument/ item/ model shall be tested for operating condition at the time of first inspection (first time offered during the R/C), in firm's lab or alternatively at any Central Govt. Lab or ILAC affiliated/recognized labs or NABL approved labs if facility for the same is not available with the firm.

RF Signal Generators

Specification :

A. RF Signal Generator 9 kHz to 3 GHz

1. General purpose, wide frequency range, AM, FM & Phase Modulation features:
 - (a) Frequency Range : 9 kHz to 3 GHz

- (b) Frequency Resolution : 0.1 Hz
- 2. Frequency Stability
 - (a) Ageing Rate for reference frequency : $<2 \times 10^{-6}$ /year
 - (b) Temperature stability for reference frequency : $<2 \times 10^{-6}$
- Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
- 3. Spectral Purity
 - (a) SSB Phase Noise at 1GHz, on 20KHz offset and 1Hz Bandwidth : < -95 dBc
 - (b) Harmonics at 3 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>10 KHz carrier offset) : < -50 dBc
- 4. Reverse Power Protection : 2 W
- 5. Output Level
 - (a) Range : -120 dBm to +13 dBm
 - (b) Resolution : 0.1 dB
 - (c) Total Accuracy (for levels >-120 dBm) at 25 DegC : $< \pm 1$ dB
 - (d) VSWR : <2 at all operating frequencies
- 6. Modulation shall be AM, FM & Phase Modulation
 - (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB), $f >100$ kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 100%
 - (iii) Resolution : 0.1%
 - (iv) AM Distortion at 1 kHz ($m < 80\%$), 0dBm : $<5\%$ of reading +0.2%.
 - (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz
 - (iv) Setting Error(at AF=1KHz & 50%max deviation) : $< 5\%$ of reading + 300 Hz.
 - (c) Phase Modulation : Internal, External
 - (i) Phase Deviation : 0 to 5 rad.(min.)
 - (ii) Resolution : 1%
 - (iii) Setting error(at AF =1KHz) : $<5\%$ of reading + 0.2 rad.
 - (d) Internal Modulation Generator(for AM/FM/PhaseM) : 20 Hz to 80 KHz with resolution of 0.1 Hz
- 7. Memory : 10 Storage settings
- 8. Digital Sweep : RF, LF in Continuous sweep, Single sweep and single step
- 9. Interface : USB
- 10. Operating Temperature Range : 5 to 40 degree C
- 11. Power Requirement : 230 V $\pm 10\%$ AC, 50 Hz $\pm 3\%$.

B. RF Signal Generator 10 MHz to 20 GHz

- 1. General purpose, wide frequency range, AM & FM features:
 - (a) Frequency Range : 10 MHz to 20 GHz
 - (b) Frequency Resolution : 0.1 Hz
- 2. Frequency Stability
 - (a) Ageing Rate for reference frequency : $<1 \times 10^{-6}$ /year
 - (b) Temperature stability for reference frequency : $<1 \times 10^{-6}$
- Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
- 3. Spectral Purity
 - (a) SSB Phase Noise at 10GHz, on 20KHz offset CW and 1Hz Bandwidth : <-100 dBc
 - (b) Harmonics at 20 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>50 KHz carrier offset) : < -55 dBc
- 4. Output Level
 - (a) Range : -105 dBm to + 5 dBm
 - (b) Resolution : 0.1 dB

- (c) Accuracy (for levels > -100dBm) at 25 Deg C : < +/-1 dB at 10 GHz, 0 dBm
 - (d) Frequency response at 0 dBm : < 1 dB
 - (e) VSWR : < 2 at all operating frequencies
5. Modulation shall be AM and FM.
- (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB), $f > 100\text{kHz}$: DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 90%
 - (iii) AM Distortion at 1 kHz ($m < 80\%$), 0 dBm : < 5% of reading + 0.2%
 - (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz
 - (iv) Setting Error : < 10%
 - (at AF=1KHz and 50%max deviation)
6. Memory : 10 Storage settings.
7. Digital Sweep
- (a) RF Digital Sweep : Automatic single manual
- or
- (i) Sweep range and width (lin) : externally triggered
 - (ii) Sweep Time : Freely selectable
 - (iii) Resolution : 30 ms to 1 s with resolution of 1 ms.
- (b) RF Analog Sweep
 - (i) Sweep range : Freely selectable
 - (ii) Sweep Time : 30 ms to 90 s .
8. Interface : IEEE 488/USB/LAN
9. Operating Temperature Range : 5 to 40 degree C
10. Power Requirement : 230 V +/-10% AC, 50 Hz +/-3%

C. RF Signal Generator 9 kHz to 2 GHz

1. General purpose, wide frequency range, AM, FM & Phase Modulation features:
- (a) Frequency Range : 9 kHz to 2 GHz
 - (b) Frequency Resolution : 0.1 Hz
2. Frequency Stability
- (a) Ageing Rate for reference frequency : < 1×10^{-6} /year
 - (b) Temperature stability for reference frequency : < 1×10^{-6}
- Note : For Parameters at 2(a)&(b) above OEM declaration shall also be acceptable.
3. Spectral Purity
- (a) SSB Phase Noise at 1 GHz, on 20KHz offset and 1Hz Bandwidth : < -115 dBc
 - (b) Harmonics at 2 GHz at levels 0 dBm : < -30 dBc
 - (c) Non Harmonics (>10 KHz carrier offset) : < -60 dBc
4. Reverse Power Protection : 50 W
5. Output Level
- (a) Range : -120 dBm to +13 dBm
 - (b) Resolution : 0.1 dB
 - (c) Total Accuracy (for levels > -120dBm) at 25 Deg C : < +/-0.8 dB
 - (d) VSWR : < 2 at all operating frequencies
6. Simultaneous Modulations shall be combination of AM, FM & Phase Modulation.
- (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB), $f > 100\text{kHz}$: DC/ 10 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 100%
 - (iii) Resolution : 0.1%
 - (iv) AM Distortion at 1 kHz ($m = 30\%$) : < 1.5%
 - (b) Frequency Modulation : Internal, external

- (i) Frequency Deviation : 0 Hz to 1 MHz at 2 GHz
- carrier
- (ii) Resolution : 1%, min. 10 Hz
- (iii) Modulation frequency range(-3dB) standard : DC/10 Hz to 20 KHz
- (iv) Setting Error : < 4% of reading +20 Hz
- (at AF=1KHz and 50% max deviation)
- (c) Phase Modulation : Internal, external
- (i) Phase Deviation : 0 rad to 10 rad (min) at 2 GHz Carrier
- (ii) Resolution : 1%
- (iii) Setting error(at AF=1KHz) : <4% of reading +0.02 rad.
- (d) Internal Modulation Generator
- (i) Frequency : 0.1 Hz to 1 MHz with resolution of 0.1 Hz

7. Memory : 100 Storage settings

8. Digital Sweep : RF, AF in

Automatic,Single

shot, manual, Logarithmic modes .

9. Interface : IEEE-488/USB/LAN and RS

232

10. Operating Temperature Range : 5 to 40 degree C

11. Power Requirement : 230 V +/-10% AC, 50 Hz

+/- 3%

D. RF Signal Generator 9 kHz to 6 GHz

1. General purpose, wide frequency range, AM, FM & Phase Modulation features:

(a) Frequency Range : 9 kHz to 6 GHz

(b) Frequency Resolution : 0.1 Hz

2. Frequency Stability

(a) Ageing Rate for reference frequency : <2 x 10⁻⁶ /year

(b) Temperature stability for reference frequency : <2 x 10⁻⁶

Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.

3. Spectral Purity

(a) SSB Phase Noise at 1GHz,on 20KHz offset and 1Hz Bandwidth : < -95 dBc

(b) Harmonics at 3 GHz at level 0 dBm : < -30 dBc

(c) Non Harmonics (>10 KHz carrier offset) : < -50 dBc

4. Reverse Power Protection : 2 W

5. Output Level

(a) Range : -120 dBm to +13 dBm

(b) Resolution : 0.1 dB

(c) Total Accuracy (for levels>-120 dBm)at 25 DegC : <+/- 1 dB

(d) VSWR : <2 at all operating frequencies

6. Modulation shall be AM, FM & Phase Modulation.

(a) Amplitude Modulation : Internal, external

(i) Modulation Frequency Range (3dB), f >100kHz : DC/ 20 Hz to 20 KHz

(ii) Modulation Depth : 0 to 100%

(iii) Resolution : 0.1%

(iv) AM Distortion at 1 kHz (m < 80%), 0dBm : <5% of reading +0.2%.

(b) Frequency Modulation : Internal, external

(i) Frequency Deviation : 20 to 100 kHz

(ii) Resolution : 1%, min. 1 Hz

(iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz

(iv) Setting Error(at AF=1KHz & 50%max deviation) : < 5% of reading + 300 Hz.

(c) Phase Modulation : Internal, External

(i) Phase Deviation : 0 to 5 rad.(min.)

(ii) Resolution : 1%

- (iii) Setting error(at AF =1KHz) : <5% of reading + 0.2 rad.
- (d) Internal Modulation Generator(for AM/FM/PhaseM): 20 Hz to 80 KHz with resolution of 0.1 Hz
- 7. Memory : 10 Storage settings
- 8. Digital Sweep : RF, LF in Continuous sweep,
- Single sweep and single step
- 9. Interface : USB
- 10. Operating Temperature Range : 5 to 40 degree C
- 11. Power Requirement : 230 V +/-10% AC, 50 Hz +/- 3%

- E. RF Signal Generator 10 MHz to 40 GHz
- 1. General purpose, wide frequency range, AM & FM features :
 - (a) Frequency Range : 10 MHz to 40 GHz
 - (b) Frequency Resolution : 0.1 Hz
- 2. Frequency Stability
 - (a) Ageing Rate for reference frequency : <1 x 10⁻⁶ /year
 - (b) Temperature stability for reference frequency : <1 x 10⁻⁶
- Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
- 3. Spectral Purity
 - (a) SSB Phase Noise at 10GHz, on 20KHz offset CW and 1Hz Bandwidth : <-100 dBc
 - (b) Harmonics at 20 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>50 KHz carrier offset) : < -55 dBc
- 4. Output Level
 - (a) Range : -105 dBm to + 5 dBm
 - (b) Resolution : 0.1 dB
 - (c) Accuracy (for levels>-100dBm) at 25 Deg C : < +/-1 dB at 10 GHz,0 dBm
 - (d) Frequency response at 0 dBm : < 1 dB
 - (e) VSWR : < 2 at all operating frequencies
- 5. Modulation shall be AM & FM
 - (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range(3dB), f >100kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 90%
 - (iii) AM Distortion at 1 kHz (m < 80%), 0 dBm : < 5% of reading + 0.2%
 - (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz
 - (iv) Setting Error (at AF=1KHz and 50%max deviation) : < 10%
- 6. Memory : 10 Storage settings.
- 7. Digital Sweep
 - (a) RF Digital Sweep : Automatic single manual or externally triggered
 - (i) Sweep range and width (lin) : Freely selectable
 - (ii) Sweep Time : 30 ms to 1 s with resolution of 1 ms.
 - (b) RF Analog Sweep
 - (i) Sweep range : Freely selectable
 - (ii) Sweep Time : 30 ms to 90 s .
- 8. Interface : IEEE 488/USB/LAN
- 9. Operating Temperature Range : 5 to 40 degree C
- 10. Power Requirement : 230 V +/-10% AC,50 Hz +/- 3%

F. RF Signal Generator 10 MHz to 20 GHz Without Analog sweep

1. General purpose, wide frequency range, AM & FM features :
 - (a) Frequency Range : 10 MHz to 20 GHz
 - (b) Frequency Resolution : 0.1 Hz
 2. Frequency Stability
 - (a) Ageing Rate for reference frequency : $<1 \times 10^{-6}$ /year
 - (b) Temperature stability for reference frequency : $<1 \times 10^{-6}$
- Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
3. Spectral Purity
 - (a) SSB Phase Noise at 10GHz,
on 20KHz offset CW and 1Hz Bandwidth : <-100 dBc
 - (b) Harmonics at 20 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>50 KHz carrier offset) : < -55 dBc
 4. Output Level
 - (a) Range : -105 dBm to $+ 5$ dBm
 - (b) Resolution : 0.1 dB
 - (c) Accuracy (for levels >-100 dBm) at 25 Deg C : $< +/-1$ dB at 10 GHz, 0 dBm
 - (d) Frequency response at 0 dBm : < 1 dB
 - (e) VSWR : < 2 at all operating frequencies
 5. Modulation shall be AM & FM.
 - (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range(3dB), $f >100$ kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 90%
 - (iii) AM Distortion at 1 kHz ($m < 80\%$), 0 dBm : $< 5\%$ of reading + 0.2%
 - (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1% , min. 1 Hz
 - (iii) Modulation frequency range (-3 dB) standard : DC/ 20 Hz to 80 KHz
 - (iv) Setting Error : $< 10\%$
(at AF= 1 KHz and 50% max deviation)
 6. Memory : 10 Storage settings.
 7. Digital Sweep
 - (a) RF Digital Sweep : Automatic single manual
or
externally triggered
 - (i) Sweep range and width (lin) : Freely selectable
 - (ii) Sweep Time : 30 ms to 1 s with resolution of 1 ms.
 8. Interface : IEEE 488/USB/LAN
 9. Operating Temperature Range : 5 to 40 degree C
 10. Power Requirement : 230 V $+/-10\%$ AC, 50 Hz $+/-3\%$

G. RF Signal Generator 10 MHz to 40 GHz Without Analog Sweep

1. General purpose, wide frequency range, AM & FM features :
 - (a) Frequency Range : 10 MHz to 40 GHz
 - (b) Frequency Resolution : 0.1 Hz
 2. Frequency Stability
 - (a) Ageing Rate for reference frequency : $<1 \times 10^{-6}$ /year
 - (b) Temperature stability for reference frequency : $<1 \times 10^{-6}$
- Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
3. Spectral Purity
 - (a) SSB Phase Noise at 10GHz,
on 20KHz offset CW and 1Hz Bandwidth : <-100 dBc
 - (b) Harmonics at 20 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>50 KHz carrier offset) : < -55 dBc
 4. Output Level

- (a) Range : -105 dBm to + 5 dBm
- (b) Resolution : 0.1 dB
- (c) Accuracy (for levels > -100dBm) at 25 Deg C : < +/- 1 dB at 10 GHz, 0 dBm
- (d) Frequency response at 0 dBm : < 1 dB
- (e) VSWR : < 2 at all operating frequencies

5. Modulation shall be AM & FM.

- (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB), f > 100kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 90%
 - (iii) AM Distortion at 1 kHz (m < 80%), 0 dBm : < 5% of reading + 0.2%
- (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz
 - (iv) Setting Error : < 10%
 - (at AF=1kHz and 50%max deviation)

6. Memory : 10 Storage settings.

7. Digital Sweep

- (a) RF Digital Sweep : Automatic single manual

or

- (i) Sweep range and width (lin) : externally triggered
: Freely selectable
- (ii) Sweep Time : 30 ms to 1 s with resolution of 1 ms.

8. Interface : IEEE 488/USB/LAN

9. Operating Temperature Range : 5 to 40 degree C

10. Power Requirement : 230 V +/-10% AC, 50 Hz +/-3%

H. RF Signal Generator 9 kHz to 1 GHz

1. General purpose, wide frequency range, AM, FM & Phase Modulation features:

- (a) Frequency Range : 9 kHz to 1 GHz
- (b) Frequency Resolution : 0.1 Hz

2. Frequency Stability

- (a) Ageing Rate for reference frequency : < 2 x 10⁻⁶ /year
- (b) Temperature stability for reference frequency : < 2 x 10⁻⁶

Note : For Parameters at 2(a)&(b) above OEM declaration shall also be acceptable.

3. Spectral Purity

- (a) SSB Phase Noise at 1GHz, on 20KHz offset and 1Hz Bandwidth : < -95 dBc
- (b) Harmonics at 3 GHz at level 0 dBm : < -30 dBc
- (c) Non Harmonics (>10 KHz carrier offset) : < -50 dBc

4. Reverse Power Protection : 2 W

5. Output Level

- (a) Range : -120 dBm to +13 dBm
- (b) Resolution : 0.1 dB
- (c) Total Accuracy (for levels > -120 dBm) at 25 DegC : < +/- 1 dB
- (d) VSWR : < 2 at all operating frequencies

6. Modulation shall be AM, FM o& Phase Modulation.

- (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB), f > 100kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 100%
 - (iii) Resolution : 0.1%
 - (iv) AM Distortion at 1 kHz (m < 80%), 0dBm : < 5% of reading + 0.2%.
- (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz

| | |
|---|---|
| (iv) Setting Error(at AF=1KHz & 50%max deviation | : < 5% of reading + 300 Hz. |
| (c) Phase Modulation | : Internal, External |
| (i) Phase Deviation | : 0 to 5 rad.(min.) |
| (ii) Resolution | : 1% |
| (iii) Setting error(at AF =1KHz) | : <5% of reading + 0.2 rad. |
| (d) Internal Modulation Generator(for AM/FM/PhaseM) | : 20 Hz to 80 KHz with resolution of 0.1 Hz |
| 7. Memory | : 10 Storage settings |
| 8. Digital Sweep sweep, | : RF, LF in Continuous |
| | Single sweep and single step |
| 9. Interface | : USB |
| 10. Operating Temperature Range | : 5 to 40 degree C |
| 11. Power Requirement | : 230 V +/-10% AC,50 Hz +/- 3%. |
| RF Vector Signal Generators | |

Specification :

A. RF Vector Signal Generator 9 kHz to 6 GHz

1. General purpose, wide frequency range, AM, FM, ASK, FSK, MSK, PSK, QPM, CUSTOM I/Q modulation features :
 - (a) Frequency Range : 9 kHz to 6 GHz
 - (b) Frequency Resolution : 0.1 Hz
2. Frequency Stability
 - (a) Ageing Rate for reference frequency : <2 x 10⁻⁶ /year
 - (b) Temperature stability for reference frequency : <2 x 10⁻⁶

Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
3. Spectral Purity
 - (a) SSB Phase Noise at 1GHz,on 20KHz offset and 1Hz Bandwidth : < -95 dBc
 - (b) Harmonics at 3 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>10 KHz carrier offset) : < -50 dBc
4. Reverse Power Protection : 2 W
5. Output Level
 - (a) Range : -110 dBm to +13 dBm
 - (b) Resolution : 0.1 dB
 - (c) Total Accuracy (for levels>-110 dBm)at 25 DegC : <+/- 1.6 dB
 - (d) VSWR : <2 at all operating frequencies
6. Modulation shall be AM, FM & Phase Modulation.
 - (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB),f >100kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 100%
 - (iii) Resolution : 0.1%
 - (iv) AM Distortion at 1 kHz (m < 80%), 0dBm : <5% of reading +0.2%.
 - (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz
 - (iv) Setting Error(at AF=1KHz & 50%max deviation : < 5% of reading + 300 Hz.
 - (c) Phase Modulation : Internal, External
 - (i) Phase Deviation : 0 to 5 rad.(min.)
 - (ii) Resolution : 1%
 - (iii) Setting error(at AF =1KHz) : <5% of reading + 0.2 rad.
 - (d) Internal Modulation Generator(for AM/FM/PhaseM) : 20 Hz to 80 KHz with resolution of 0.1 Hz
7. Memory : 10 Storage settings

- 8. Sweep : List, single sweep and
single step
- 9. Interface : USB
- 10. Vector modulation
 - (a) Internal base band generator : 120MHz
 - (b) Arbitrary waveform memory : 32 Msamples or better
 - (c) Modulation : BPSK, QPSK, 16QAM, 32QAM
 - (d) EVM : Less than 2%
- 11. Operating Temperature Range : 5 to 40 degree C
- 12. Power Requirement : 230 V +/-10% AC, 50 Hz +/-
3%.

B. A. RF Vector Signal Generator 9 kHz to 3 GHz

- 1. General purpose, wide frequency range, AM, FM, ASK, FSK, MSK, PSK, QPM, CUSTOM I/Q modulation features :
 - (a) Frequency Range : 9 kHz to 3 GHz
 - (b) Frequency Resolution : 0.1 Hz
- 2. Frequency Stability
 - (a) Ageing Rate for reference frequency : $< 2 \times 10^{-6}$ /year
 - (b) Temperature stability for reference frequency : $< 2 \times 10^{-6}$
- Note : For Parameters at 2(a)&(b)above OEM declaration shall also be acceptable.
- 3. Spectral Purity
 - (a) SSB Phase Noise at 1GHz, on 20KHz offset and 1Hz Bandwidth : < -95 dBc
 - (b) Harmonics at 3 GHz at level 0 dBm : < -30 dBc
 - (c) Non Harmonics (>10 KHz carrier offset) : < -50 dBc
- 4. Reverse Power Protection : 2 W
- 5. Output Level
 - (a) Range : -110 dBm to +13 dBm
 - (b) Resolution : 0.1 dB
 - (c) Total Accuracy (for levels >-110 dBm) at 25 DegC : $< +/- 1.6$ dB
 - (d) VSWR : < 2 at all operating frequencies
- 6. Modulation shall be AM, FM & Phase Modulation.
 - (a) Amplitude Modulation : Internal, external
 - (i) Modulation Frequency Range (3dB), $f > 100$ kHz : DC/ 20 Hz to 20 KHz
 - (ii) Modulation Depth : 0 to 100%
 - (iii) Resolution : 0.1%
 - (iv) AM Distortion at 1 kHz ($m < 80\%$), 0dBm : $< 5\%$ of reading + 0.2%.
 - (b) Frequency Modulation : Internal, external
 - (i) Frequency Deviation : 20 to 100 kHz
 - (ii) Resolution : 1%, min. 1 Hz
 - (iii) Modulation frequency range (-3dB) standard : DC/20 Hz to 80 KHz
 - (iv) Setting Error (at AF=1KHz & 50% max deviation) : $< 5\%$ of reading + 300 Hz.
 - (c) Phase Modulation : Internal, External
 - (i) Phase Deviation : 0 to 5 rad. (min.)
 - (ii) Resolution : 1%
 - (iii) Setting error (at AF =1KHz) : $< 5\%$ of reading + 0.2 rad.
 - (d) Internal Modulation Generator (for AM/FM/PhaseM) : 20 Hz to 80 KHz with resolution of 0.1 Hz
- 7. Memory : 10 Storage settings
- 8. Sweep : List, single sweep and
single step
- 9. Interface : USB
- 10. Vector modulation
 - (a) Internal base band generator : 120MHz
 - (b) Arbitrary waveform memory : 32 Msamples or better

- (c) Modulation : BPSK, QPSK, 16QAM, 32QAM
- (d) EVM : Less than 2%
- 11. Operating Temperature Range : 5 to 40 degree C
- 12. Power Requirement : 230 V +/-10% AC, 50 Hz +/- 3%.

LIST OF ALL AMENDMENTS

For RC No. RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824

| Sr No. | Amendment No. | Amendment Date | Effective From | Amendment In |
|---------------|---|-----------------------|-----------------------|---------------------------------|
| 1 | RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824/60608 | 27-OCT-16 | 20-OCT-16 | Amendment in Annexure & Clauses |
| 2 | RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824/60325 | 20-SEP-16 | 16-SEP-16 | Amendment in Rate |

Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed By:
KAVINDRA SINGH BRIJWAL
Email id:
KSBRIJWAL-DGSND@NIC.IN

Amendment No. RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824/60325

Dated: 20-SEP-16

Effective Date: 16-SEP-16

To
M/S ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE INDUSTRIAL ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI
DELHI-110044.

Sub : This office R/C No. RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824
Dated 12-SEP-16 for the Supply of RF Signal Generators and Function Generators.

Ref : Your Letter No. Nil Dated 16-SEP-16.

Dear Sir,

The following amendment to the schedule of the subject Rate Contract is hereby authorised :-

UNDER SCHEDULE-A

Item: RF Signal Generators

Item Description

Revised Rate

4 Frequency Range: 9 kHz to 6 GHz NOS.

Rs. 704910

Model: Final Price 740155.5

Rs. SEVEN LAKHS
FOUR THOUSAND
NINE HUNDRED
TEN ONLY

| Minimum OrderQty | Lead time(In days) | Rate of supply(per month) |
|------------------|--------------------|---------------------------|
| 1 | 21 | 45 |

Item: RF Signal Generators

Item Description

Revised Rate

6 Frequency Range: 10 MHz to 20 GHz without Analog Sweep NOS.

Rs. 878185.9

Model: Final Price 922095.2

Rs. EIGHT LAKHS
SEVENTY-EIGHT
THOUSAND ONE
HUNDRED

| Minimum OrderQty | Lead time(In days) | Rate of supply(per month) |
|------------------|--------------------|---------------------------|
| | | |

| | | |
|---|----|----|
| 1 | 21 | 45 |
|---|----|----|

EIGHTY-FIVE AND
PAISE NINETY
ONLY

Item: RF Signal Generators

Item Description

7 Frequency Range: 10 MHz to 40 GHz without Analog Sweep NOS.
Final Price 1569251.25

Model:

| Minimum OrderQty | Lead time(In days) | Rate of supply(per month) |
|------------------|--------------------|---------------------------|
| 1 | 21 | 45 |

Revised Rate

Rs. 1494525
 Rs. FOURTEEN
 LAKHS NINETY-
 FOUR THOUSAND
 FIVE HUNDRED
 TWENTY-FIVE
 ONLY

Item: RF Vector Signal Generators

Item Description

29 Frequency Range: 9 KHz to 6 GHz NOS.
Final Price 1428000

Model:

| Minimum OrderQty | Lead time(In days) | Rate of supply(per month) |
|------------------|--------------------|---------------------------|
| 1 | 21 | 45 |

Revised Rate

Rs. 1360000
 Rs. THIRTEEN
 LAKHS SIXTY
 THOUSAND ONLY

I. The model no. for above mentioned items are as under:-

- Item No.4
Model No.SMB100A-Base Unit with SMB-B106 Freq Range till 6 GHz.
- Item No.6
Model No.SMB100A-Base Unit with SMB-B120 -Freq Range till 20 GHz, SMB-B1- OCXO.
- Item No.7
Model No.SMB100A-Base Unit with SMB-B140 -Freq Range till 40 GHz, SMB-B1-OCXO.
- Item No.29
Model No.R&S SMBV100A Base Unit with SMBV-B106 Freq Range Till 6 GHz, SMBV-B10-120 MHz RF Bandwidth, SMBV-B92-Hard Disc.

II. The following revised slab discount will be applicable on all supplies due / made on or after 16.09.2016:-

| Slab | Value from | Value to | % Discount |
|------|------------|----------|------------|
| 1. | 1000000 | 2500000 | 0.10 |
| 2. | 7500001 | 10000000 | 4.50 |

III. The following amendment is hereby authorised against Clause-9 (ii) under Schedule-B:

FOR: Existing entries.
READ: Deleted

All other terms and conditions of the R/C Shall remain unaltered.
Please ack. receipt.

Yours faithfully,

(Section Officer/A.D./D.D./Director/DDG(S))
For & on behalf of Purchaser named in DGS&D-1001

With effect from First October Two thousand eight (01-10-2008), all Supply Order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S.&.D. web site (www.dgsnd.gov.in) (indentor's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the Supply order and send an ink signed copy to the concerned paying authority specified in the Rate Contract through Registered / Speed post immediately after on-line placement of Supply Order(s).

Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed By:
KAVINDRA SINGH BRIJWAL
Email id:
KSBRIJWAL-DGSND@NIC.IN

Amendment No. RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824/60608

Dated: 27-OCT-16

Effective Date: 20-OCT-16

To
M/S ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE INDUSTRIAL ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI
DELHI-110044.

Sub : This office R/C No. RF SGFG/IT-4/RC-D2050000/0317/84/OC017/1824
Dated 12-SEP-16 for the Supply of RF Signal Generators and Function Generators.

Ref : Your Letter No. Nil Dated 20-OCT-16.

Dear Sir,

The following amendment to the schedule of the subject Rate Contract is hereby authorised :-

UNDER SCHEDULE-A

The following revised value based slab discount will be applicable on all supplies due / made on or after 20.10.2016:-

| Sr.No. | Order Value | Discount % |
|--------|--------------------------|------------|
| i. | 10,00,000 to 25,00,000 | 0.50% |
| ii. | 25,00,001 to 50,00,000 | 0.75% |
| iii. | 50,00,001 to 75,00,000 | 1.00% |
| iv. | 75,00,001 to 1,00,00,000 | 4.50% |
| v. | 1,00,00,001 & above | 5.00% |

All other terms and conditions of the R/C Shall remain unaltered.
Please ack. receipt.

Yours faithfully,

(Section Officer/A.D./D.D./Director/DDG(S))
For & on behalf of Purchaser named in DGS&D-1001

With effect from First October Two thousand eight (01-10-2008), all Supply Order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S.&.D. web site (www.dgsnd.gov.in) (indentor's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the Supply order and send an ink signed copy to the concerned paying authority specified in the Rate Contract through Registered / Speed post immediately after on-line placement of Supply Order(s).