

**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:  
Shashi Kiran Sud  
Email Id:  
sksud@dgsnd.com.in

Rate Contract no. RF SGFG/IT-4/RC-D2050000/1211/84/F0371/1442  
Dated 30-DEC-10

To,

SYNERGY MEASUREMENT TECHNOLOGIES PVT. LTD.  
Plot No. 100/2, Road No.1, S.P. Colony, Tirmulgherry, Secunderabad- 500  
015

Tele No.04044444040  
E-mail: sales@synergytech.in  
Secunderabad

Sub: Rate Contract for supply of RF Signal Generators and Function Generators  
Validity: From 01-JAN-11 To 31-DEC-11 .

Ref:(1) This Office Tender Enquiry No. RF SGFG/IT-4/RC-D2050000/1211/84  
Opened on 05-OCT-10.  
(2) Your Quotation No. And Dated

Dear Sir,

You are hereby informed that your above refered 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 available from dgs&d sales counter on payment of Rs. 50/- .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,


(  )

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

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



## SCHEDULE - A

1. Rate Contract No.: - RF SGFG/IT-4/RC-D2050000/1211/84/F0371/1442  
Dated 30-DEC-10 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 :-

SYNERGY MEASUREMENT TECHNOLOGIES PVT.  
LTD.  
Plot No. 100/2, Road No.1, S.P. Colony, Tirmulgherry,  
Secunderabad- 500 015

Tele No. 04044444040  
E-mail: sales@synergytech.in  
Secunderabad  
ANDHRA PRADESH - 500015  
Tel. No. - 04044444040/50/35, 09830067183  
Fax - 040 27794388/040-27950190  
Email - debashis@synergytech.in

(b) Name and Full Address of Manufacturer :-  
As per Schedule B

(c) Brand: Agilent

4. Validity of Rate Contract: 01-JAN-11 To 31-DEC-11

5. Description of Item, Specification, Unit, Rate

Item No.	Model No.	Store Description	Description	Unit	Rate (in Rs.)
1	Agilent N9310A	RF Signal Generators	Description: 9 kHz to 3 GHz	NOS.	414728 Rs. FOUR LAKHS FOURTEEN THOUSAN D SEVEN HUNDRED TWENTY- EIGHT ONLY
2	Agilent E8257D with option 520, 007, 1E1,	RF Signal Generators	Description: 10 MHz to 20 GHz	NOS.	2487922 Rs. TWENTY- FOUR LAKHS

UNT,UNW

EIGHTY-  
SEVEN  
THOUSAN  
D NINE  
HUNDRED  
TWENTY-  
TWO ONLY

4	Agilent 33220A	Programmable Function Generators	Description: 20 MHz single channel	NOS.	92504 Rs. NINETY- TWO THOUSAN D FIVE HUNDRED FOUR ONLY
5	Agilent 33522A with option 400	Programmable Function Generators	Description: 20 MHz two channel	NOS.	132862 Rs. ONE LAKHS THIRTY- TWO THOUSAN D EIGHT HUNDRED SIXTY- TWO ONLY

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6-Terms of Delivery:	Free delivery at consignee's premises including installation / commissioning.
7-Excise Duty:	Not Applicable
8-Sales Tax:	CST/VAT Extra @4%
9-Delivery Period:	i) FOR CUSTOM DUTY PAID ORDERS: 120 days from the date of receipt of confirmed order, receipt of Road Permit, End User Certificate & Octroi Exemption Certificate wherever applicable.  ii) FOR CUSTOM DUTY EXEMPTION ORDERS: 10 - 12 Weeks from the date of receipt of valid custom duty exemption certificate.
10(a)-Annual Turnover:	Without Limit
(b)-Monetary Limit:	Without Any Limit
11-Payment Terms:	As per Schedule B
12-Slab Discount Clause:	NIL
13-Prices:	FIXED
14-Quantity Offered:	Without Limit
15-Minimum Quantity in Single Supply Order:	Without Limit
16-Minimum order Value in Single Supply Order:	Without Limit
17-Status of the RC Holding Firm:	LSI

- 18-Paying Authority: The Deputy Controller of Accounts, Deptt. of Supply  
Shastri Bhawan, 26, Haddows Road  
Chennai - 600006
- 19-Inspection Authority: For Civil  
ADG(QA),Jeevan Tara Building,Parliament Street  
New Delhi
- 20-Quality Assurance Officer: For Civil  
Office of the Director of Quality Assurance,  
Kendriya Sadan,Sultan Bazar,  
Hyderabad  
ANDHRA PRADESH -500195
- 21-Place where the Stores are to be Tendered  
for Inspection: 25/C, Nicholson Road, Tarbund, Secunderabad 500009 AP
- 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](http://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



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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

RC Specification:Special Conditions of Contract:

1a. Name & address of manufacturers:

i.M/s. Agilent Technologies (Chengdu) Co., Ltd. 79 Baicao Road, Qianfeng park, Chengdu Hi-Tech industrial Development Zone (West), Chengdu 611731, China

ii. Agilent Technologies Microwave Products (M) Sdn Bhd Bayan Lepas Free Industrial Zone, Bayan Lepas 11900, Penang, Malaysia

1b. Country of Origin : Malaysia / China

1c . 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.

2. WARRANTY: 3 Year on major item and 1 year for Optional Accessories and Probes

3. Payment terms :

98% payment would be payable against proof of inspection and provisional consignee receipt certificate issued by consignee for having received the stores on said to contain basis. The balance 2% after successful demonstration and acceptance of stores by consignee in good condition and on submission of Bank Guarantee for balance 2% value of order valid till 2 months beyond the warranty period of 1 year indemnifying the purchaser against all losses incurred by the purchase during the guarantee/warranty.

4. Demonstration will be carried out free of cost.

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

6. `NIL' against Octroi Exemption Certificate to be provided by the indenter along with order otherwise extra, if applicable.

7. 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 town duty/Octroi duty, Terminal tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the purchase officer or indenter concerned, to avoid payment of such local taxes or duties. Octroi, entry tax etc. on buyers account in absence of relevant exemption certificate.

8. Supply of Road Permits/ Way bill by the indenter/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 indenter/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 Indenter/consignee.

(b) On receipt of the above request from the supplier, the indenter/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.

9. Signing of Inspection Notes issued by QA Wing of DGS&D : Instructions to Indentors/Consignees.

Advance Payment Copy of Inspection Note for claiming 98% 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 2% balance payment.

Within 90 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.

10. CDE Discount Clause: We shall offer the following discount on all items of the RC against valid Custom duty exemption certificates.

a) 17% for Defence customers (where present rate custom duty is nil as per custom notification 39/96) against valid CDE certificate.

b) 10% for other customers like Education ( where present rate of custom duty is 9.3% as per custom notification 51/96) against valid CDE Certificate

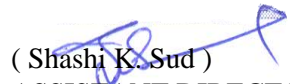
Schedule -D

Special Instructions to R/C holders:

Rate contract holders are advised that before entertaining the supply order, they should ensure the availability of following certificates from DDO's.

- That they are Central Government Department drawing funds from consolidated fund of India.
- The expenditure involved for the purchase has received the sanction of the competent financial authority.
- The funds are available under the proper head in the sanctioned budget allotment for the year.
- They have been fully authorized by the department to sign the supply order and incur the liability in respect of stores being ordered.





( Shashi K. Sud )

ASSISTANT DIRECTOR (S)

For and on behalf of the purchasers named in the schedule/Form DGS&D-1001



## SCHEDULE - C

### List of Parallel Rate Contract For RF Signal Generators and Function Generators

Sr.No.	NAME & FULL ADDRESS OF FIRM	R/C NO & DATE
1	<p>AGMATEL INDIA PVT. LTD. E-366, 2nd Floor, Nirman Vihar, Vikas Marg, Delhi 110092 Mr. A.K.Aggarwal- 9810054742, E- mail:aka@agmatel.com Mr.Vijay Malhotra- 9810054741 Tele No. 011-22462256, 43064306 Fax: 011-22019833</p> <p>DELHI                      110092</p>	<p>RF SGFG/IT-4/RC- D2050000/1211/84/F0466/1441 30-DEC-10</p>
2	<p>SYNERGY MEASUREMENT TECHNOLOGIES PVT. LTD. Plot No. 100/2, Road No.1, S.P. Colony, Tirmulgherry, Secunderabad- 500 015</p> <p>Tele No.04044444040 E-mail: sales@synergytech.in Secunderabad ANDHRA PRADESH 500015</p>	<p>RF SGFG/IT-4/RC- D2050000/1211/84/F0371/1442 30-DEC-10</p>
3	<p>MEERA AGENCIES PVT. LTD. Plot No. 526, Udyog Vihar, Phase-V, Gurgaon- 122016</p> <p>Mr. P.N. Kaushik : Mob: 09811309591 PH. 0124-4226990 Fax: 0124-4226991 E-mail: madel@meeraagencies.com/pnkaushik@meeraagenci es.com</p> <p>HARYANA</p>	<p>RF SGFG/IT-4/RC- D2050000/1211/84/F0561/1443 30-DEC-10</p>

**NOTE:**

(1) Before placing supply order, DDOs are advised to check with DGS&D or on the website whether any further RCs have been awarded or amendments to Rate Contract have been issued.

(2) All the R/C particulars including prices in respect of individual R/C's are available on DGS&D website, which can be accessed by all. The access code of DGS&D website is <http://dgsnd.gov.in>.



## ANNEXURE

General Technical requirement For TE :-

1: Type test reports consisting of functional tests and environmental tests for each item shall be from any government laboratory in India. The environmental tests are as follows:

Environmental Tests:-

These will be performed at the following conditions:-

- a) Dry Heat Test : 45 degC at 16 hours as per IS:9000/Pt.3/sec.5/1977.(reaffirmed in 2004)
- b) Cold Test : 0 degC for 4 hours as per IS:9000/Pt.2/sec.4/1977.(reaffirmed in 2004)
- c) Damp Heat Test: 95% RH at 45 degC, two cycles of 24 hours each separated by a gap of 4 hours as per IS:9000/Pt.5/sec.1/1991.(reaffirmed in 2004).

All functional checks are to be carried out before and after one hour recovery period of above environmental tests sequence . There shall be no deterioration in the functional parameters such as its stated accuracy, deviation, error and resolution. Deviation if any should be within required limit.

OEM Type Test reports with environmental testing to an equivalent International Standard shall also be acceptable in this case.

### RF Signal Generators

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A. R.F Signal Generator 9 kHz to 3 GHz

1. General purpose, wide frequency range, AM, FM or Phase M and Pulse 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 x 10<sup>-6</sup> /year
- b) Temperature stability for reference frequency :<2 x 10<sup>-6</sup>

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 Deg C : <+/- 1 dB
- d) VSWR :<1.5 at 1 GHz and <2 at other frequencies.

6. Modulation shall be AM, FM or Phase Modulation, and Pulse 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 and 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) Pulse Modulation with built in Pulse Generator
  - (i) Rise/Fall Time : <3 micro sec
- (e) 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 45 degree C
- 11. Power Requirement : 230 V +/-10% AC,50 Hz +/- 3%.

B. R.F Signal Generator 10 MHz to 20 GHz

- 1. General purpose, wide frequency range, AM, FM and Pulse modulation 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 x 10<sup>-6</sup> /year
  - (b) Temperature stability for reference frequency: <1 x 10<sup>-6</sup>
- 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
- 5. Modulation shall be AM, FM and Pulse Modulation
  - (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%
  - (c) Pulse Modulation
    - (i) Rise/Fall Time : < 20 nano sec
    - (ii)On/off Ratio : >80 dB
    - (iii) Pulse Width : 100 ns min

- (iv) Input Level : TTL
- 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
- 9. Operating Temperature Range : 5 to 45 degree C
- 10. Power Requirement : 230 V +/-10% AC, 50 Hz +/- 3%

C. R.F Signal Generator 9 kHz to 2 GHz

1. General purpose, wide frequency range, AM, FM or Phase Modulation and Pulse 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 :  $<1 \times 10^{-6}$  /year
  - (b) Temperature stability for reference frequency :  $<1 \times 10^{-6}$

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  $>-120$  dBm) at 25 Deg C :  $< +/-0.8$  dB
- (d) VSWR :  $<1.5$  at 1 GHz and  $<2.0$  at other frequencies

6. Simultaneous Modulations shall be combination of AM, FM or Phase Modulation and Pulse Modulation.

- (a) Amplitude Modulation : Internal, external
  - (i) Modulation Frequency Range (3dB),  $f > 100$  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 (at AF=1KHz and 50% max deviation) :  $< 4\%$  of reading +20 Hz
- (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) Pulse Modulation
- (i) Operating Mode : Internal, External
- (ii) Pulse repetiting frequency : 0 Hz to 2.5 MHz
- (iii) On/off ratio : >80 dB
- (e) 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 and RS 232
- 10. Operating Temperature Range : 5 to 45 degree C
- 11. Power Requirement : 230 V +/-10% AC, 50 Hz +/- 3%

#### Programmable Function Generators

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##### Specification :-

##### (1) Programmable Function Generator 20 MHz single channel

- 1. Frequency Bandwidth (Sine Wave): 10 mHz to 20 MHz
- 2. No. of Channels : One
- 3. Standard Waveforms : sine, square, pulse, ramp, noise, sin(x)/x, exponential rise/fall, gaussian, dc
- 4. Arbitrary Waveform Generator
  - (a) Band Width : 1mHz 6 MHz
  - (b) Sample Rate : 50 MS/s
  - (c) Record Length : 64K
  - (d) Waveform Memory : 4 Waveforms
- 5. Vertical Resolution : 12 Bit or better
- 6. Amplitude Range : 10mV to 10Vpp
- 7. Modulation : AM, FM, PM, FSK, Burst, PWM
- 8. Interface : USB, GPIB and LAN
- 9. Display : Monochrome
- 10. Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 degree C
- 11. Power Requirement : 230 V +/- 10% AC, 50 Hz +/- 3%

##### (2) Programmable Function Generator 20 MHz Two channel

- 1. Frequency Bandwidth (Sine Wave): 10 mHz to 20 MHz
- 2. No. of Channel : Two
- 3. Standard Waveforms : Sine, square, pulse, ramp, noise, sin(x)/x, exponential rise/fall, Gaussian, DC
- 4. Arbitrary Waveform Generator
  - (a) Band Width : 1 mHz to 6 Mhz
  - (b) Sample Rate : 50MS/s
  - (C) Sample Rate : 64K
  - (d) Waveform Memory : 4 Waveforms
- 5. Vertical Resolution : 12 Bit or better
- 6. Amplitude Range : 10mV to 10Vpp
- 7. Modulation : AM, FM, PM, FSK, Burst, PWM
- 8. Interface : USB, GPIB & LAN
- 9. Display : Colour
- 10. Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 degree C
- 11. Power Requirement : 230 V +/- 10% AC, 50 Hz +/- 3%

##### (3) Programmable Function Generator 80 MHz One channel

- 1. Frequency Bandwidth (Sine Wave): 10 mHz to 80 MHz
- 2. No. of Channel : One

- 3. Standard Waveforms : Sine, square, pulse,ramp, noise, sin(x)/x, exponential rise/fall,Gaussian, DC
- 4. Arbitrary Waveform Generator
  - (a) Bandwidth : 1 MHz to 25 MHz
  - (b) Sample Rate : 200 MS or 1GS/s
  - (c) Record Length : 128K /16K
  - (d) Waveform Memory : 4 Waveforms
- 5. Vertical Resolution : 12 Bit or better
- 6. Amplitude Range : 20 mV to 10 Vpp
- 7. Modulation : AM, FM, PM, FSK, Burst,Sweep
- 8. Interface : USB,GPIB and LAN
- 9. Display : Colour
- 10. Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 degree C
- 11. Power Requirement : 230 V +/- 10% AC,50 Hz +/- 3%

(4) Programmable Function Generator 80 MHz Two channel

- 1. Frequency Bandwidth (Sine Wave): 10 MHz to 80 MHz
- 2. No. of Channel : Two
- 3. Standard Waveforms : Sine, square, pulse,ramp, noise, sin(x)/x, exponential rise/fall,Gaussian, DC
- 4. Arbitrary Waveform Generator
  - (a) Bandwidth : 1 MHz to 25 MHz
  - (b) Sample Rate : 200 MS or 1GS/s
  - (c) Record Length : 128K /16K
  - (d) Waveform Memory : 4 Waveforms
- 5. Vertical Resolution : 12 Bit or better
- 6. Amplitude Range : 20mV to 10Vpp
- 7. Modulation : AM, FM, PM, FSK, Burst,Sweep
- 8. Interface : USB, GPIB and LAN
- 9. Display : Colour
- 10. Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 deg C
- 11. Power Requirement : 230 V +/- 10% AC,50 Hz +/- 3%

(5) Programmable Function Generator 200 MHz One channel

- 1. Frequency Bandwidth (Sine Wave) : 10mHz to 200 MHz
- 2. No. of Channel : One
- 3. Standard Waveforms : Sine, square, pulse,ramp, noise, sin(x)/x, exponential rise/fall,Gaussian, DC
- 4. Arbitrary Waveform Generator
  - (a) Bandwidth : 1 MHz to 100 MHz
  - (b) Sample Rate : 50 MS or 2GS/s
  - (c) Record Length : 128K /16K
  - (d) Waveform Memory : 4 Waveforms
- 5. Vertical Resolution : 12 Bit or better
- 6. Amplitude Range : 50mV to 5Vpp
- 7. Modulation : AM, FM, PM, FSK, Burst,Sweep
- 8. Interface : USB, GPIB and LAN
- 9. Display : Colour
- 10. Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 degree C
- 11. Power Requirement : 230 V +/- 10% AC,50 Hz +/- 3%

(6) Programmable Function Generator 200 MHz Two channel

- 1. Frequency Bandwidth (Sine Wave) : 10mHz to 200 MHz
- 2. No. of Channel : Two
- 3. Standard Waveforms : Sine, square, pulse,ramp, noise, sin(x)/x, exponential rise/fall,Gaussian, DC
- 4. Arbitrary Waveform Generator
  - (a) Bandwidth : 1 MHz to 100 MHz

- (b) Sample Rate : 250 MS or 2GS/s
- (c) Record Length : 128K /16K
- (d) Waveform Memory : 4 Waveforms
- 5. Vertical Resolution : 12 Bit or better
- 6. Amplitude Range : 50mV to 5Vpp
- 7. Modulation : AM, FM, PM, FSK, Burst, Sweep
- 8. Interface : USB ,GPIB & LAN
- 9. Display : Colour
- 10. Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 degree C
- 11. Power Requirement : 230 V +/- 10% AC,50 Hz +/- 3%

(7) Programmable Function Generator 10 MHz single channel

- 1. Frequency Bandwidth (Sine Wave): 10 mHz to 10 MHz
- 2. No. of Channels : One
- 3. Standard Waveforms : Sine, square, pulse,ramp, noise, sin(x)/x, exponential rise/fall,Gaussian, DC
- 4. Arbitrary Waveform Generator
  - (a) Band : 1mHz 5 MHz
  - (b) Sample Rate : 250 MS/s
  - (c) Record Length : 64K
  - (d) Waveform Memory : 4 Waveforms
  - 5. Vertical Resolution : 12 Bit or better
  - 6. Amplitude Range : 20mV to 20Vpp
  - 7. Modulation : AM, FM, PM, FSK, Burst,PWM
  - 8. Interface : USB,GPIB and LAN
  - 9. Display : Monochrome
  - 10.Operating Temperature Range : 5 to 45 degree C and 80% RH at 45 degree C
  - 11.Power Requirement : 230 V +/- 10% AC, 50 Hz +/- 3%



**LIST OF ALL AMENDMENTS**

**For RC No. RF SGFG/IT-4/RC-D2050000/1211/84/F0371/1442**

*NOTE: No Amendments issued till date 30-DEC-10*

