Government of India
Bhabha Atomic Research Centre
Advanced Technology Systems Section

Ref: ATSS/E&IG/2017/217 Date: 27/12/2017

Sub: Fabrication and Supply of Coaxial Cables with BNC & SHV Connectors of different lengths as per Annexure - 1

Dear Sir/Madam,

Quotations are invited for the "Fabrication and Supply of Coaxial Cables with BNC & SHV connectors of different lengths as per Annexure - 1"

1. Bidder shall quote for fabrication and supply of parts along with material.
2. Taxes and Excise Duties shall be quoted separately. Form AF / H whichever is applicable shall be provided, if required.
3. The quotation must reach by Speed Post to The Head, Advanced Technology Systems Section by 10th Jan, 2018 and must be sent in a sealed envelope super scribed with the reference number & the due date given above.

The address on the envelop should read: Head, ATSS, E&I Group,
RCnD Bldg., North Site
BARC, Trombay,
Mumbai - 400 085.
(Attn: Mr. S.G. Chavan, Ph.: 022 25596962/05)

4. The testing shall be witnessed by our engineer. The tested components shall not be dispatched prior to approval by our engineer at bidder's premises. Necessary inspection facilities shall be provided to our engineer during fabrication at bidder's premises.
5. The bidder shall deliver the finished components after approval by our engineer within 3 months from the date of firm work order issued to the bidder. The finished components shall be delivered by the bidder at ATSS, E&I Group BARC, Trombay, Mumbai - 400 085.
6. Head, ATSS, E&I Group reserves the rights to accept / reject any or all quotations without assigning any reason.
7. Delivery charges if any must be clearly mentioned in the offer. Quotation must also indicate the validity of offer. Quotation must also indicate the GST no and PAN no of the party.
8. Drawings / Sketches must be returned along with the offer.
9. The quotation has to be signed by authorized person with company seal.
10. Payment will be made by cheque only after satisfactory completion of work on production of bill, delivery challan and advance stamped receipt. It may be noted that IT @ 2% and surcharge on tax at 15% shall be deducted from your bills.
11. Part supply is not acceptable.
12. Job should be guaranteed against material and manufacturing defects for 1year from the date of supply.

(S.G. Chavan)
SA/D, ATSS, E&IG

(R. K. Sadhu)
Head, ATSS, E&I Group

Annexure – 1

Fabrication and Supply of Coaxial Cables with BNC & SHV Connectors of different lengths as per Annexure - 1

1. RG-196 cable (15 meter) with both sides BNC male connector – 5 Nos. (with white Teflon cable)

2. RG-196 cable (3 meter) with both sides BNC male connector – 15 Nos.

3. RG-196 cable (0.3 meter) with both sides BNC male connector – 15 Nos.

4. RG-196 cable – 100 meters

5. BNC Connectors set – 30 Nos.

6. 5kV Co-axial cable RG- 59/U (1meter) with both side SHV connectors – 6 Nos.

Specifications of Parts to be used:

1. Specification of RG 196 Cable

Cable Type RG 196 A/U Co-Axial Cable

General Description:

S.P.C.C.S. Conductor, P.T.F.E. Dielectric, SPCW Screen, PTFE Sheath, Relevant Standards in accordance with MIL-C-17/71 and MIL-C-17/169-00001

Component	Material Breakdown	Diameter (nom) mm
Conductor	07/0.004" (07/0.102mm) S.P.C.C.S.	0.31
Dielectric	EXTRUDED P.T.F.E. (Natural)	0.84
Screen	0.004" (0.102mm) S.P.C.W. BRAID (95% Coverage)	1.30
Jacket	TAPED PTFE OF 0.30mm NOMINAL R/T (White)	1.90

Cable Characteristics:

Continuous Working Voltage: 750V RMS

Maximum Temperature Rating: -55°C to +250°C

Conductor Resistance: 802 Ohms/Km Maximum @ 20°C

Final Cable Diameter: 1.83mm Minimum, 2.03mm

Maximum Capacitance: 105 pF/mtr

Maximum Impedance: 50 ± 2 Ohms

Attenuation:

1.08 dB/mtr Maximum @ 400MHz

0.46 dB/mtr Nominal @ 100 MHz

0.62 dB/mtr Nominal @ 200 MHz

0.92 dB/mtr Nominal @ 400 MHz

1.51dB/mtr Nominal @ 1000MHz

2. Specification of BNC Connector for RG196

Description:

BNC Straight Crimp Plug to Fit Cable Types RG178

Fixing Method: Crimp

Body: Brass, Nickel Plated

Coupling: Nut Brass, Nickel Plated

Dielectric: PTFE

Ferrule: Brass, Nickel Plated

Insulator: PTFE Pin Brass, Gold Plated

Tube: Brass, Nickel Plated

Cable Retention: Equal to breaking strain of cable

Dielectric Withstanding: 1500 Volts RMS Maximum

Durability: 500 mating cycles

Impedance: 50 ohms Max.

Frequency: DC - 3 GHz

Temperature Range: -65 to +165 degrees C

Working Voltage: 500 Volts RMS Maximum

3. Specification of Co-Axial Cable RG-59U:

Description:

20 AWG solid .032" bare copper conductor, gas-injected foam HDPE insulation, Duofoil + tinned copper braid shield (95% coverage), PVC jacket.

Physical Characteristics:

Conductor: -
Coax AWG: 20
Conductor Material: BC – Bare Copper
Diameter: 0.032 inch

Insulation: -
Insulation Material: Gas-injected FHDPE - Foam High Density Polyethylene
Insulation Material Diameter: 0.145 inch

Outer Jacket: -
Outer Jacket Material: PVC - Polyvinyl Chloride
Outer Shield: -

Layer 1:
Trade Type: Duofoil
Type: Tape
Material: Aluminum Foil-Polyester Tape-Aluminum Foil
Coverage: 100%

Layer 2:
Type: Braid
Material: TC - Tinned Copper 95
Coverage: 95%

Overall Cabling: -
Overall Nominal Diameter: 0.233 inch

Mechanical Characteristics:
Operating Temperature Range: -30°C to +75°C
UL Temperature Rating: 75°C
Bulk Cable Weight: 31 lbs/1000 ft.
Max. Recommended Pulling Tension: 47 lbs.
Min. Bend Radius (Install)/Minor Axis: 2.500 in.

Electrical Characteristics:

Characteristic Impedance: 75 Ohm
Inductance: 0.107 µH/ft
Capacitance Conductor to Shield: 16.3pF/ft
Velocity of Propagation: 83%
Nominal Delay: 1.22ns/ft
Nom. Conductor DC Resistance: 10.0 Ohm/1000 ft
Nominal Outer Shield DC Resistance: 3.8 Ohm/1000 ft
Nom. Attenuation: 2.3 @100MHz
Max. Operating Voltage**:** 300 V RMS

4. <u>Specification of SHV Connector for RG 59/U:</u>

Impedance: 75 Ohms

Frequency: DC – 1GHz

Central Conductor: Brass, Au Plated

Body: Brass, Ni Plated

Insulation: PTFE

Termination: Crimp / Solder

Suitable for Cable diameter: <6.0 mm

(S.G. Chavan)
SA/D, ATSS, E&IG