

**PROFORMA - B**

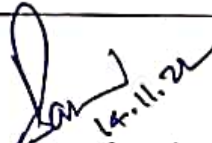
**INFORMATION REQUIRED FOR MOUNTING ANTENNA BY PRIVATE FM BROADCASTERS / MOBILE OPERATORS / ON AIR / DD TOWER AND OTHER ASSOCIATED WORKS**

SN	Description	Details of proposed antenna (New / Replacement)
1	Type of service proposed through antenna (FM Broadcasting / Mobile Network / Others)	VHF - Disaster Communication (Wireless)
2	Category of Mobile Service 94G / GSM / CDMA / Other	NA
3	Category of Operating / Range of Frequency	136 MHz - 174 MHz
4	RF Power	20 to 40 Watt. Maximum
5	Details of Antenna to be mounted on the Tower to be provided	
(i)	Antenna type (side mounted dipole / Panel type /dish type)	Collinear Antenna
(ii)	No. of bays / panel / dishes proposed	NA
(iii)	Photograph of antenna and mounting accessories (enclosed OEM literature)	Enclosed (Annexure -II)
(iv)	Antenna make and Model	Diamond Fibre Glass model F22 light weight (6.7 dB)
(v)	Antenna power handling capacity	200 watt (Maximum)
(vi)	Antenna gain	6.7 dB
(vii)	Polarization	Single - Vertical Polarization (360)
(viii)	Length, Width and depth of the antenna	Copper Wire inside fibre pipe (3.2 Mts length & 5 MM Thick)
6	Height of the proposed antenna to be hoisted	
(i)	Lower end (in mtrs.)	Minimum 120 Mts on the Tower (Or) as permitted
(ii)	Upper end (in mtrs.)	+ 3.2 Mts on the above
7	Dead weight of the antenna and mounting accessories in kg separately (enclosed OEM literature) in support	a) Antenna weight 1.3 kg b) Cable 0.2 Kg / metre
8	Wind load of antenna (in Kgs) on wind speed of 200 km / hour (enclosed OEM literature)	40 Mts / second
9	Detailed mechanical drawing for mounting arrangements / interface unit of the antenna on the tower (please enclose diagram)	Enclosed (Annexure - I)
10	RT cable details	
(i)	Size and type of cable	1/2 inch RF cable (Annexure - IV)
(ii)	Weight of RF cable in kg per meter	0.2 Kg / metre
(iii)	Power handling capacity (in KW)	3 KW

Not applicable

	(iv)	Total dead weight of <u>RF cable</u> to be hoisted on tower including clamps etc.	24 Kg Cable + 5 Kgs Clamps (0.2 Kg x 120 Mts Length)
	(v)	Wind load of RF cable (in kg per mtr at wind speed of 200 km/hour)	Velocity: 0.88
11	Duplexers / combiners details, if any		
	(i)	Make and model	CSG 2150 NX VHF
	(ii)	Size (L x B x H) (in mm), weight (kg)	210 x 150 x 32 mm, Weight 0.9 Kg
	(iii)	Power handling capacity in KW	50 watt
	(iv)	Location proposed combiners in block diagram of combiners chain	Enclosed (Annexure - III)
12	(i)	Open space required for installation of BDS / DG / Earthing, etc.	Not required
	(ii)	Required covered space if available for installation of Transmitter / combiners etc.,	Small Table
13	Whether Porta cabin is proposed; DG /separate PS connection		NA
14	Power supply arrangement proposed DG/spate PS connection		12 Volt 100 AH Battery with SMPS 15 Amps floating charger unit (Axiom BM 101B)
<b>Note:</b> In case any particular item is not ordered, then details may be provided as per its specification			

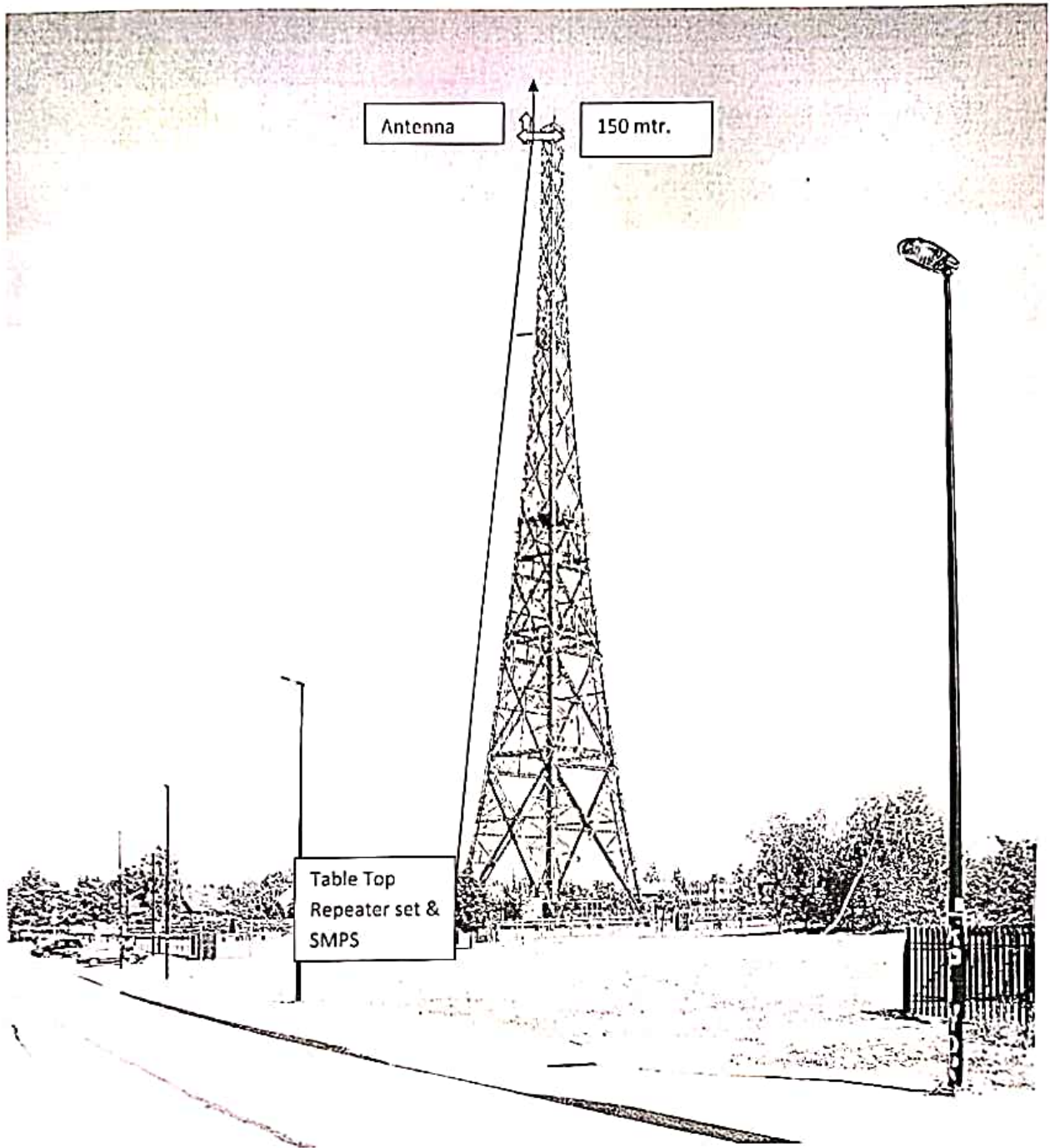
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Place: Puducherry

  
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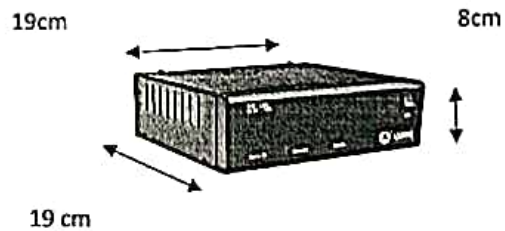
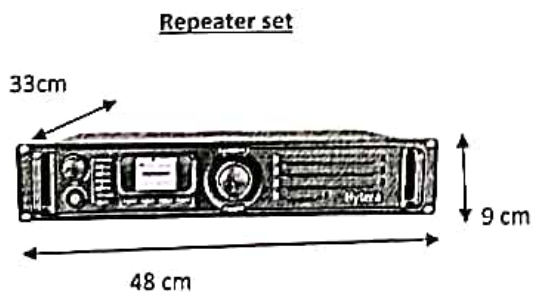
(Signature of Authorised Signatory)

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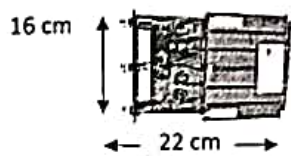
Annexure-I



Axlom SMPS Power supply cum charger



Duplexer - CSG 2150 XN



F22 Diamond fiber glass antenna

Height 3.2 meter



## Annexure -II



A Division of RF Parts Company

# F22A Mono band Base Station Antenna

### Special Features:

- Fiberglass radomes
- Overlapping outer shells for added strength
- Strong waterproof joint couplings
- Stainless steel hardware
- Wide band performance
- Factory adjusted, no tuning required
- Highest gain
- High wind rating
- DC grounded

### Specifications:

Bands:	2m
Gain dB:	6.7
Max Power Rating:	200
Wind Rating:	112
Height:	10.5'
Connector:	UHIF
Element Phasing:	2-7/8λ

**Radiation  
Pattern**

**Parts List**

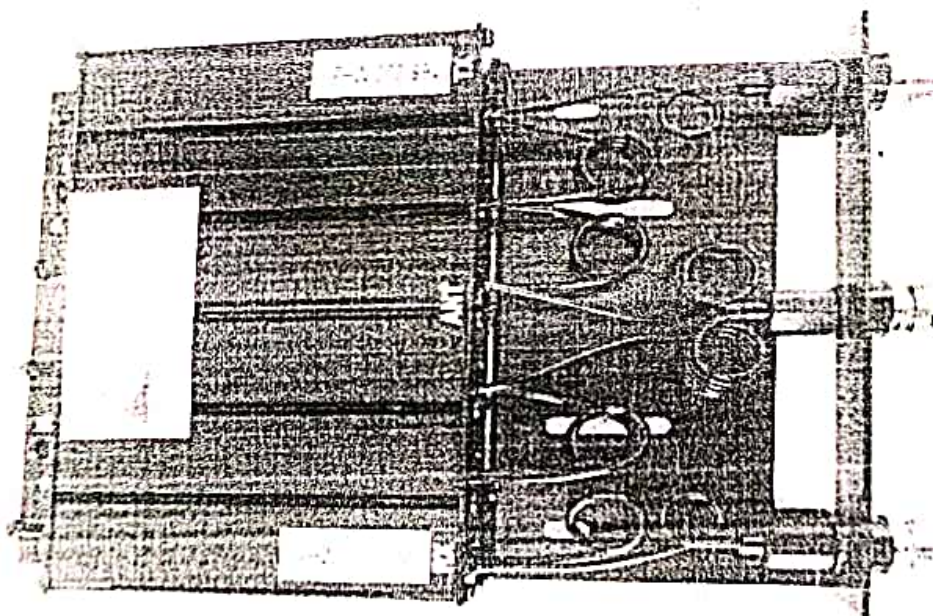
**Assembly  
Instructions**

**Order Online  
From Online Dealers**

Diamond® Antennas are sold through authorized dealers.  
Contact one of your local Diamond® Antenna Dealers for current price &  
availability.

**Band Reject Notch Type Mobile Duplexer  
50 Watt Continuous VHF Band  
CSG 2150 NX**

PARAMETERS	SPECIFICATIONS
Frequency Range	136 ~ 174 MHz
Frequency Separation	4.0 MHz
Insertion Loss	$\leq 1.2$ dB
Isolation	$\geq 75$ dB
Return Loss	$\geq 18$ dB
Connectors	N-Female
Power Rating	50 Watt
Dimensions Approx.(H x W x D)	32 x 155 x 198 mm
Weight (Approx.)	1.0 kg



**WE ALSO UNDERTAKE DESIGNS PER YOUR REQUIREMENT**

# Annexure- IV

## 1/2" Feeder Cable

### Description

1/2" Feeder Cable is a type of RF coaxial cable which is used in many applications where it is necessary to transfer radio frequency energy from one point to another such as In-building distribution system and various wireless

communication system. It incorporates high foaming

polyethylene insulation technology to minimize signal loss and have excellent electric features such as low damping and reflection coefficient.

This cable carries current in both the inner and the outer conductors. These current are equal and opposite and as a result all the fields are confined within the cable and it neither radiates nor picks up signals. This means that the cable operates by propagating an electromagnetic wave inside the cable. As there are no fields outside the coax cable it is not affected by nearby objects. Accordingly it is ideal for applications where the RF cable has to be routed through or around buildings or close to many other objects.



### Specification

#### Specifications - Construction

<b>Inner Conductor</b>	Copper-clad aluminum wire	Φ 4.8 mm
<b>Dielectric</b>	Cellular polyethylene	Φ 12.1 mm
<b>Outer Conductor</b>	Corrugated copper tube	Φ 13.9 mm
<b>Jacketing</b>	Black, halogen-free fire-retardant thermoplastic / Black, halogen-free polyethylene (optional)	Φ 16.0 mm
<b>Marking</b>	Trademark, cable type, manufacture week, year, batch number and meter mark	--

#### Specifications - Electrical Characteristics at +20°C

<b>Characteristic Impedance</b>	50 ± 1 Ω
<b>Return Loss</b>	24 dB for 100 m cable with connectors
<b>Attenuation</b>	See table below
<b>Velocity Factor</b>	0.88
<b>Capacitance</b>	76 pF/m
<b>Maximum Frequency</b>	9800 MHz
<b>Max Power Rating</b>	See table below
<b>Peak RF Voltage Rating</b>	1.80 kV
<b>Peak Power Rating</b>	31.8 kW
<b>DC Resistance</b>	Inner conductor: 1.44 Ω/km, Outer conductor: 2.24

Ω/km

Frequency (MHz)	Attenuation (dB/100m)	Power Rating (kW)	Frequency (MHz)	Attenuation (dB/100m)	Power Rating (kW)
10	0.665	12	900	6.85	1.2
30	1.16	6.9	950	7.06	1.1
50	1.51	5.3	960	7.10	1.1
88	2.01	4.0	1000	7.26	1.1
100	2.15	3.7	1200	8.02	0.98
108	2.24	3.6	1400	8.74	0.90
174	2.86	2.8	1600	9.41	0.83
200	3.08	2.6	1800	10.0	0.78
300	3.81	2.1	1900	10.4	0.76
400	4.43	1.8	2000	10.7	0.74
450	4.72	1.7	2200	11.3	0.70
500	4.99	1.6	2400	11.8	0.66
512	5.06	1.6	2600	12.4	0.63
600	5.50	1.4	2800	12.9	0.61
700	5.98	1.3	3000	13.4	0.58
800	6.43	1.2	3400	14.4	0.54
850	6.64	1.2	6000	20.2	0.39
890	6.81	1.2	8800	25.5	0.31

**Specifications - Mechanical Characteristics**

<b>Weight</b>	0.23 kg/m
<b>Maximum Pulling Force</b>	2550 N
<b>Minimum Bending Radius</b>	Single Bending: 70mm, Repeated Bending: 120 mm
<b>Operating Temperature Range</b>	-55 ~ +80 °C
<b>Crush Resistance</b>	2.0 kg/mm
<b>Bending Moment</b>	3.8 Nm
<b>Recommended Clamp Distance</b>	1.0 m