

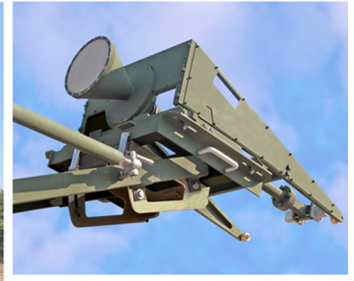
PRODUCT  
SPECIFICATIONS

Detail Photos

(on right top to bottom )

Modular, rapid removal feed  
components

Maximum stiffness high strength  
mount



## MilSatCom 2.4 Meter Rugged Quick Deploy Transportable

Designed to pack in modular transit cases, this antenna is easily transported via military and commercial aircraft.

The ASC Signal 2.4 M Rugged Quick Deploy (RQD) is a transportable, quad-band earth terminal sub-system capable of delivering quick reaction communications. The RQD addresses the most demanding military transportable and civil emergency applications. Each antenna is engineered to feature light weight, maximum stiffness and compact fold size components.

Designed to pack in modular transit cases, this antenna system is easily transported via military and commercial aircraft. The highly efficient electronics and feed systems provide excellent gain and side-lobe pattern performance at C, X, Ku and Ka-band frequencies. The various optional feeds are palletized for rapid easy removal and allow frequency changes within minutes.

The RQD is designed around a base configuration that can be easily modified per the customer's requirements.

This configuration includes a reflector constructed of light weight durable carbon fiber which mounts the high power amplifiers (HPA) on the feed boom. Options include a variety of transit case configurations, antenna controller variations and a reflector back structure mounted HPA. A low passive intermodulation X-band option is also available

- Light weight, aluminum and carbon fiber construction
- Maximum stiffness, high strength mount design
- Superior RF Performance
- Field replaceable components
- Aluminum, carbon fiber or rotomold cases
- Mounting of amplifier on feed boom

# SPECIFICATIONS

## MilSatCom 2.4 Meter Rugged Quick Deploy Transportable Antenna

### Electrical Performance

|  | C-band 2-Port Linear Pol Feed |                  | C-band 2-Port Circular Pol Feed |                  | X-band 2-Port Circular Pol Feed |                 | Ku-band 2-Port Linear Pol Feed |                   | Ku-band 4-Port Linear Pol Feed |                   | Ka-band 4-Port Circular Pol Feed |                  |
|--|-------------------------------|------------------|---------------------------------|------------------|---------------------------------|-----------------|--------------------------------|-------------------|--------------------------------|-------------------|----------------------------------|------------------|
|  | Receive                       | Transmit         | Receive                         | Transmit         | Receive                         | Transmit        | Receive                        | Transmit          | Receive                        | Transmit          | Receive                          | Transmit         |
| Frequency (GHz)                                    | 3.625-4.200                   | 5.850-6.425      | 3.625-4.200                     | 5.850-6.425      | 7.250-7.750                     | 7.900-8.400     | 10.950-12.750                  | 13.750-14.500     | 10.950-12.750                  | 13.750-14.500     | 17.700-22.000                    | 27.000-31.050    |
| Antenna Gain, dBi<br>(Reference Frequency, GHz)    | 38.50<br>(4.00)               | 42.10<br>(6.138) | 38.30<br>(4.00)                 | 42.00<br>(6.138) | 43.90<br>(7.50)                 | 43.90<br>(8.15) | 47.20<br>(10.95)               | 49.40<br>(14.125) | 47.60<br>(11.85)               | 49.20<br>(14.125) | 52.40<br>(20.70)                 | 55.30<br>(30.50) |
| Antenna Noise Temperature (at Reference Frequency) |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
| 5° Elevation                                       | 46 K                          |                  | 60 K                            |                  | 63 K                            |                 | 62 K                           |                   | 81 K                           |                   | 148 K                            |                  |
| 10° Elevation                                      | 38 K                          |                  | 52 K                            |                  | 49 K                            |                 | 46 K                           |                   | 66 K                           |                   | 112 K                            |                  |
| 20° Elevation                                      | 36 K                          |                  | 51 K                            |                  | 42 K                            |                 | 40 K                           |                   | 58 K                           |                   | 88 K                             |                  |
| 40° Elevation                                      | 38 K                          |                  | 53 K                            |                  | 41 K                            |                 | 40 K                           |                   | 56 K                           |                   | 74 K                             |                  |
| G/T (at Reference Frequency)                       |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
| 20° Elevation, 35 K LNA                            | 20.0 dB/K                     |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
| 10° Elevation, 35 K LNA                            |                               |                  | 18.9 dB/K                       |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
| 20° Elevation, 55 K LNA                            |                               |                  |                                 |                  | 24.0 dB/K                       |                 |                                |                   |                                |                   |                                  |                  |
| 10° Elevation, 70 K LNA                            |                               |                  |                                 |                  |                                 |                 | 26.6 dB/K                      |                   |                                |                   |                                  |                  |
| 20° Elevation, 70 K LNA                            |                               |                  |                                 |                  |                                 |                 |                                |                   | 26.6 dB/K                      |                   |                                  |                  |
| 20° Elevation, 120 K LNA                           |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   | 28.7 dB/K                        |                  |
| Cross Polarization                                 |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
| On-Axis  | 30.0 dB                       | 30.0 dB          | 20.7 dB                         | 27.3 dB          | 21.3 dB                         | 18.8 dB         | 35.0 dB                        | 35.0 dB           | 35.0 dB                        | 35.0 dB           | 24.8 dB                          | 24.8 dB          |
| Within 1 dB Beamwidth                              | 28.0 dB                       | 28.0 dB          | 21.3 dB                         | 21.2 dB          |                                 |                 | 30.0 dB                        | 30.0 dB           |                                |                   |                                  |                  |
| Axial Ratio  |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
|  |                               |                  | 1.20 dB                         | 0.75 dB          | 1.21 dB                         | 2.00 dB         |                                |                   |                                |                   | 1.00 dB                          | 1.00 dB          |
| VSWR Performance                                   |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
|  | 1.30:1                        | 1.30:1           | 1.30:1                          | 1.30:1           | 1.30:1                          | 1.30:1          | 1.35:1                         | 1.25:1            | 1.35:1                         | 1.35:1            | 1.30:1                           | 1.30:1           |
| Port-to-Port Isolation                             |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
| Rx/Tx (Rx Frequency)                               | 0 dB                          | -300 dB          | 0 dB                            | 50 dB            | 0 dB                            | -110 dB         | 0 dB                           | -30 dB            | 0 dB                           | -50 dB            | 0 dB                             | -50 dB           |
| Tx/Rx (Tx Frequency)                               | -85 dB                        | 0 dB             | -85 dB                          | -0 dB            | -110 dB                         | 0 dB            | -85 dB                         | 0 dB              | -85 dB                         | 0 dB              | -85 dB                           | 0 dB             |
| Waveguide Interface Flange                         |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
|  | CPR-229 G                     | CPR-137 G        | CPR-229G                        | CPR-137G         | WR-112                          | WR-112          | WR-75                          | WR-75             | WR-75                          | WR-75             | WR-42                            | WR-28            |
| Total Power Handling Capability                    |                               |                  |                                 |                  |                                 |                 |                                |                   |                                |                   |                                  |                  |
|  |                               | 2 kW             |                                 | 500 W            |                                 | 2 kW            |                                | 2 kW              |                                | 2 kW              |                                  | 1 kW             |

Note: Actual Ka transmit and receive bands determined by combiner.

### Mechanical Performance

|                                  |  |
|----------------------------------|--|
| Antenna Weight without Feed*     | 100 lb (Reflector)<br>630 lb (Pedestal and Tripod)                     |
| Weight of Palletized Feeds**     | 33 lb (C-band)<br>28 lb (X-band)<br>19 lb (Ku-band)<br>17 lb (Ka-band) |
| Amplifier Size*** Feed Boom      | 96 cm x 36 cm x 25 cm (Maximum)<br>(38 in x 14 in x 10 in)             |
| Integration Weight. On Feed Boom | 82 kg (180 lb) (Maximum)   |
| On Positioner                    | 136 kg (3080 lb)   |
| Feed Storage Cases               | 4 Cases  |
| Standard Finish                  | Green Paint  |

\* Does not include weight of controller, amplifier, or feed related components

\*\* Dependent on custom specified options.

\*\*\* Alternate sizes are available

### Environmental Performance

|                                       |              |   |
|---------------------------------------|--------------|---|
| Operational Winds                     | No Ballast   | 25 mph Gusting to 30 mph  |
|                                       | with Ballast | 45 mph Gusting to 60 mph  |
| Survival Winds                        |              | 90 mph (Stowed with Ballast)                                    |
| Pointing Loss at Operating Wind Speed |              | 2.0 dB Peak<br>(Ka-band Rx, No Controller Feedback Required)    |
| Rain                                  |              | Up to 4 in (102 mm) per hour                                    |
| Temperature                           | Operational  | -30°C to 52°C (-22°F to 125°F)                                  |
|                                       | Survival     | -40°C to 71°C (-40°F to 160°F)                                  |
| Solar Radiation                       |              | 360 BTU/h/ft <sup>2</sup>                                       |
| Ice                                   | Operational  | 13 mm (1/2 in)  |
|                                       | Survival     | 51 mm (2 in)  |
| Relative Humidity                     |              | 0% to 100%  |
| Sand                                  |              | Particles Driven by Wind up to 64 km/h<br>(40 mph)              |
| Shock and Vibration                   |              | As Encountered During Road, Rail or Air<br>Transport            |
| Salt                                  |              | As Encountered in a Moderately<br>Corrosive Coastal Environment |



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