

TT&C Product Selection

TT&C Antenna System Selection and Options

The Orbital Systems, Ltd. TT&C antenna systems are fully integrated antenna and RF subsystems built onto a high performance antenna positioner. The antenna feed and reflector are highly optimized to work together with other integrated RF components such as HPAs, upconverters and downconverters.

Antenna System Selection

Begin using this guide by selecting your desired band/s of operation and G/T requirement to find the right size aperture. Then choose the HPA based on the EIRP possible from that size system.

Aperture Size:	Feed Selection:			
	S-Band Only FTSS-XX-CC-01	S-X Band FTSX-XD-RR-01	X-Band* FCX-D-C-01	S-Band Only FTSS-XX-CC-05
1.8m				
S-Band G/T		7.0 dB/K		9.1 dB/K
X-Band G/T		21.4 dB/K		
EIRP (50W HPA at P1dB)		39.0 dBw		38.8 dBw
2.4m				
S-Band G/T	12.0 dB/K	9.5 dB/K		
X-Band G/T		23.9 dB/K		
EIRP (50W HPA at P1dB)	42.1 dBw	41.5 dBw		
3.0m				
S-Band G/T	14.0 dB/K	11.5 dB/K		
X-Band G/T		26.0 dB/K		
EIRP (50W HPA at P1dB)	44.1 dBw	43.5 dBw		
3.7m				
S-Band G/T	15.6 dB/K	13.1 dB/K		
X-Band G/T		27.6 dB/K	28.1 dB/K	
EIRP (50W HPA at P1dB)	45.8 dBw	45.1 dBw		
5.0m				
S-Band G/T	18.2 dB/K	15.7 dB/K		
X-Band G/T		30.2 dB/K	30.9 dB/K	
EIRP (50W HPA at P1dB)	48.4 dBw	47.7 dBw		

- EIRP value shown in table is for 50W HPA option operating at P1dB point. Value is mid band. For 100W HPA option this number is increased by 4 dB.
- G/T is given for high elevation without radome. Value provided is mid band and typical.
- Radome performance degradation: G/T is reduced by 0.5 dB/K in S-Band and 1.3 dB/K in X-Band. EIRP is reduced by 0.3 dB.
- Radomes are optional for antenna positioners depending on climate and wind speeds.

TT&C System Options

- Select feed and aperture based on required bands of operation and necessary G/T using chart located above.
- Determine HPA option by taking 50W EIRP performance from prior chart selection and if more power is required, choose the 100W HPA option increasing EIRP by 4 dBw.
- Fill in options selections on page 2 beginning with your customer information. Provide this basic set of requirements to Orbital Systems Sales Department for a quotation.
- For detailed questions about options and general specifications, contact us using information located below.

*Available Q1 2017, Cassegrain Feed, Estimated



Applications

TT&C antennas and ground station front ends are used to transmit and receive satellite control signals and to collect satellite payload data.

For a quotation, please answer the following questions and return to sales@orbitalsystems.com:

Organization: _____

Contact name: _____

Title: _____

Address: _____

City: _____

Country: _____

Telephone: _____

Email: _____

Website: _____

Organization operating the antenna: _____

Antenna location city: _____

Antenna location country: _____

Select aperture size from previous page?

- 1.8m
 2.4m
 3.0m
 3.7m
 5.0m

Select HPA size from previous page?

- 50W HPA
 100W HPA - Increase EIRP by 4 dBw

Receive band/s required?

- S-Band
 X-Band
 S and X-Band
 Non-standard _____

Transmit band required?

- S-Band
 Non-standard _____

Receive polarity required?

- RHCP
 LHCP
 Selectable
 Simultaneous

Transmit polarity required?

- RHCP
 LHCP
 Selectable

Upconverter option required?

- 70 MHz IF
 None
 Non-standard _____

Downconverter option required?

- S-Band RX
 Tunable with 70 MHz IF output
 None
 X-Band RX
 Tunable with 720 MHz IF output
 Block converted centered on 1250 MHz
 Non-standard _____

Optional loopback test converter?

- S-Band to S-Band
 S-Band to X-Band
 None

Distance to indoor rack equipment from antenna system?

- Distance _____
 Standard
 RF fiber link (upgrade)
 Line amplifier (upgrade)

Optional radome required?

- 14' (1.8m to 2.4m)
 18' (3.0m to 3.7m)
 22' (5.0m)

Target installation date for antenna system? Orbital Systems typical time-frame from purchase to shipment is 4 months.

- Month _____
 Year _____