

# HHTTV-65A-R3



10-Port Antenna, 4x 1695–2200 (HB1), 4x 2490–2690 (HB2) and 2x 1695–2690 (HB3) MHz, 65° horizontal beamwidth, 3x Internal RET

- Provides a future-ready antenna solution with flexibility to reassign antenna, for example GSM 1800 service to 2.6GHz LTE at a later date
- One RET for H-bands, one RET for T-bands, one RET for V-band
- Excellent for 4x MIMO applications and maximizing capacity
- Employs state-of-the-art ultra wideband technology providing excellent RF performance in all bands

This product will be discontinued on: March 30, 2024

## General Specifications

Antenna Type	Sector
Band	Single band
Color	Light Gray (RAL 7035)
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage
Radome Material	Fiberglass, UV resistant
Radiator Material	Low loss circuit board
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	10
RF Connector Quantity, total	10

## Remote Electrical Tilt (RET) Information

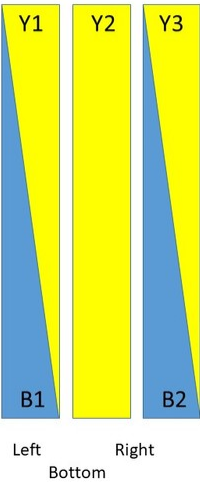
RET Interface	8-pin DIN Female   8-pin DIN Male
RET Interface, quantity	1 female   1 male
Internal RET	High band (3)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	10 W
Protocol	3GPP/AISG 2.0 (Single RET)

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## Dimensions

Width	504 mm   19.843 in
Depth	118 mm   4.646 in
Length	1322 mm   52.047 in
Net Weight, without mounting kit	21 kg   46.297 lb

## Array Layout



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
B1	1695-2200	1-2	1	CPxxxxxxxxxxxxxx1
B2	1695-2200	9-10		
Y2	1695-2690	5-6	2	CPxxxxxxxxxxxxxx2
Y1	2490-2690	3-4	3	CPxxxxxxxxxxxxxx3
Y3	2490-2690	7-8		

(Sizes of colored boxes are not true depictions of array sizes)

## Port Configuration

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## Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2180 MHz   1695 – 2690 MHz   2490 – 2690 MHz
Polarization	±45°
Total Input Power, maximum	500 W @ 50 °C

## Electrical Specifications

	HB1	HB1	HB2	HB3	HB3	HB3
Frequency Band, MHz	1695–1880	1920–2200	2490–2690	1695–1920	1920–2180	2490–2690
Gain, dBi	16.7	17.2	17.2	17.2	17.7	17.5
Beamwidth, Horizontal, degrees	63	63	58	62	65	60
Beamwidth, Vertical, degrees	7.5	6.6	5.5	7.4	6.5	5.3
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	19	20	21	17	17	19
Front-to-Back Ratio at 180°, dB	30	30	33	33	32	33
Isolation, Cross Polarization, dB	28	28	28	28	28	28
Isolation, Inter-band, dB	28	28	28	28	28	28

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<b>VSWR   Return loss, dB</b>	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-150	-150	-150	-150	-150	-150
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	250	300	300	250

## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>1695–1880</b>	<b>1920–2200</b>	<b>2490–2690</b>	<b>1695–1920</b>	<b>1920–2180</b>	<b>2490–2690</b>
<b>Gain by all Beam Tilts, average, dBi</b>	16.3	16.9	16.8	16.8	17.4	17.2
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.6	±0.5	±0.6	±0.6	±0.4	±0.5
<b>Gain by Beam Tilt, average, dBi</b>	2°   16.1 7°   16.4 12°   16.3	2°   16.6 7°   17.1 12°   16.8	2°   16.4 7°   17.1 12°   16.5	2°   16.7 7°   16.9 12°   16.8	2°   17.1 7°   17.6 12°   17.2	2°   16.8 7°   17.4 12°   17.0
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±3.7	±2.6	±3.7	±2.6	±2.1	±4.0
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.5	±0.5	±0.3	±0.5	±0.5	±0.2
<b>USLS, beampeak to 20° above beampeak, dB</b>	14	15	17	17	16	12
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	24	25	24	29	29	26
<b>CPR at Boresight, dB</b>	22	21	19	21	22	19
<b>CPR at Sector, dB</b>	15	10	7	13	10	8

## Mechanical Specifications

<b>Mechanical Tilt Range</b>	0°–19°
<b>Wind Loading @ Velocity, frontal</b>	855.0 N @ 150 km/h (192.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	141.0 N @ 150 km/h (31.7 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	872.0 N @ 150 km/h (196.0 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 mph)

## Packaging and Weights

<b>Width, packed</b>	613 mm   24.134 in
<b>Depth, packed</b>	226 mm   8.898 in
<b>Length, packed</b>	1450 mm   57.087 in
<b>Weight, gross</b>	29.4 kg   64.816 lb

## Regulatory Compliance/Certifications

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**Agency**

ISO 9001:2015



**Classification**

Designed, manufactured and/or distributed under this quality management system

**Included Products**

- BSAMNT-3 – Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

**\* Footnotes**

**Performance Note**

Severe environmental conditions may degrade optimum performance