

- Provides 8 antenna Ports in a slim-line form factor
- Optimized Azimuth patterns for Min Inter-Sector Interference
- Industry leading Minimal Wind-Load design

- Simultaneous 700MHz Band 14 (FirstNet) and Band 29
- 700, 850, PCS, AWS & WCS bands in one antenna
- AISG & 3GPP compliant internal remote electrical tilt (RET)

The Quintel MultiServ™ Multiband 8 Port Antenna with patented QTilt™ technology uniquely delivers four independent services in a single slim-line antenna. This enables existing antenna network sites to be upgraded constraint free to add new services such as LTE for 700, 850, PCS, AWS and WCS bands with the replacement of one antenna. The QS6658-7 also provides 4x 1695-2400MHz ports as two side-by-side (CLA-2X) arrays, each array having independent tilt to support independent service, or for connection to 2T4R/4T4R service.

Electrical Characteristics	2x Ports 1&2	2x Ports 3&4	2x Ports 5&6 2x Ports 7&8			
Operating Frequency (MHz)	<b>698-728</b>	<b>758-894</b>	<b>1695-2400</b>			
	698-728	758-798    824-894	1695-1780	1850-1990	2110-2180	2300-2400
Azimuth beamwidth <sup>1</sup>	73°	67°    65°	69°	70°	61°	58°
Elevation beamwidth <sup>1</sup>	13°	12°    11°	6.3°	5.9°	5.3°	4.8°
Gain <sup>1</sup> (dBi)	12.4	13.5    13.5	17.1	16.9	17.8	18.1
Polarization	±45°	±45°	±45° ±45°			
Electrical down-tilt range	2°-10°	2°-10°	2°-10° 2°-10°			
Upper SLL (20° > mainbeam) <sup>1</sup>	-16dB	-16dB    -16dB	-16dB	-16dB	-17dB	-17dB
Front to Back Ratio(180°±10°) <sup>1</sup>	≥28dB	>28dB    ≥30dB	≥30dB	≥30dB	≥30dB	≥30dB
Port to Port isolation <sup>1</sup>	≥30dB	>28dB    ≥28dB	≥30dB	≥30dB	≥30dB	≥30dB
Return loss (VSWR)	14dB(1.5)	14dB(1.5)    14dB(1.5)	14dB(1.5)	14dB(1.5)	14dB(1.5)	14dB(1.5)
Squint <sup>1</sup>	<±3°	<±3°    <±2°	<±3°	<±3°	<±3°	<±3°
Tracking <sup>1</sup>	<±3dB	<±2.5dB    <±2.5dB	<±3dB	<±3dB	<±3dB	<±3dB
X Polar Discrimination (at 0°)	>20dB	>17dB    >20dB	>19dB	>18dB	>16dB	>17dB
Power handling (per port)	500 watts	500 watts	250 watts			
PIM (3 <sup>rd</sup> Order) (2x43dBm)		>153dBc	>153dBc			
Crossband PIM <sup>2</sup>		>159dBc				



<sup>1</sup> Typical Performance across frequency and Downtilt.

<sup>2</sup> Crossband PIM between Band 14 and Band 29

**Designed for FirstNet™**



Mechanical Characteristics	
Dimensions	L 72"(1828mm) x W 12"(304mm) x D 9.6"(245mm)
Weight (excl mounting brackets)	78.0lbs (35.3kg)
No. of Connectors	8x 7/16 DIN Female Long Neck
Max Wind Speed	150mph (67m/s)
Effective Projected Area <sup>3</sup>	Front: 2.6ft <sup>2</sup> (0.24m <sup>2</sup> ) Side: 5.0ft <sup>2</sup> (0.46m <sup>2</sup> )
Wind Load <sup>3</sup> @160km/h (45m/s)	Front: 285N (64.0 lbs), Side: 536N (120.4 lbs)
Operating Temperature	-40°C to +65°C

<sup>3</sup> Effective Projected Area and Wind Load derived from windtunnel measurements. Effective Projected Area assumed C<sub>d</sub>=1

Fully Integrated RET Characteristics	
AISG Standards	V1.1, V 2.0 and 3GPP
Factory Default	AISG 2.0
Surge immunity	IEC 61000-4-5:2005 4KV(AISG PIN)
Device Type	SRET Type 1
AISG Data rate	9.6 kbps
No of connectors	1in, 1out
Connector type	IEC 60130-9 (Ed 3.0)
MTBF	36,000 Operational moves



## RET Configuration

The Quintel MultiServ™ Multiband 8 Port Antenna have the following Array, RF Port and AISG I/O Configurations.

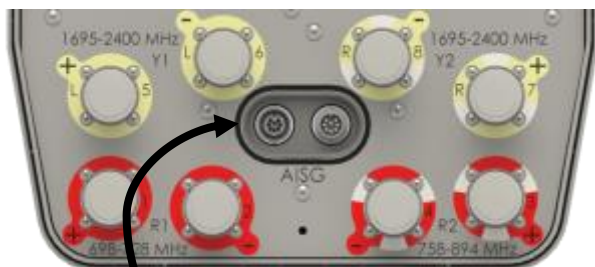
The 8-Port array topology consists of 3 radiating arrays:

R1 – 698-728MHz  
R2 – 758-894MHz  
Y1 – 1695-2400MHz  
Y2 – 1695-2400MHz



RF Connector Port Configuration

	Ports	Freq (MHz)
R1	1-2	698-728
R2	3-4	758-894
Y1	5-6	1695-2400
Y2	7-8	1695-2400



AISG I/O Configuration

RET Device	Band	RF Ports
1	698-728	1-2
2	758-894	3-4
3	1695-2400	5-6
4	1695-2400	7-8

## Multiband Optimization

The Quintel MultiServ™ Multiband 8 Port Antennas are an ideal solution for independently optimizing multiple services when rapidly introducing new technologies. Technology agnostic, each pair of ports provides flexibility for existing and future technologies such as UMTS/HSPA, LTE and advanced 2T4R and 4T4R MIMO implementations at high-bands.

The tilt of each service is controlled independently via internal RET actuators compliant to AISG1.1, AISG2.0 and 3GPP protocols. The antenna provides a total of 4 independent tilts:

- 1x(698-728MHz)
- 1x(758-894MHz)
- 1x Left & Right Array (1695-2400MHz)
- 1x Left & Right Array (1695-2400MHz)

## About Quintel

Quintel is a leading innovator in the design, development, and delivery of network-efficient antenna solutions for wireless operators worldwide. The company's products enable global wireless operators to independently deploy and optimize multiple air interfaces or services on a single standard antenna platform. Quintel is the only antenna maker whose products can increase a wireless network's capacity and provide additional services, without increasing the number or size of antennas. Quintel is headquartered in Rochester, New York with additional offices throughout North America and Europe. More information about Quintel is available at [www.quintelsolutions.com](http://www.quintelsolutions.com).

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