



Pro Series

Double MIMO LTE and GPS External IP67 Antenna

Product Description

Parsec’s PTA-PRO5C-4X-LTE-GPS-XXX is a compact five-in-one double MIMO LTE and GNSS external waterproof M2M antenna. The PTA-PRO5C-4X-LTE-GPS-XXX supports the operation of two separate LTE modems with one antenna. This rugged low-profile omni-directional antenna works on all the common worldwide LTE bands with high efficiency. The PTA-PRO5C-4X-LTE-GPS-XXX is optimized for low height to be visually unobtrusive in a wide variety of outdoor M2M applications. The antenna requires a single 1 inch mounting hole.

Detailed product information and options are available under NDA. Patent pending.

Features

- LTE frequency range: 698 – 960 MHz
1710 – 2700 MHz
3300 – 3800 MHz
- Double LTE MIMO
- Omni-directional
- High Performance
- No ground plane requirement
- RoHS Compliant

Applications

- Transportation / Fleet
- FirstNet / Critical Responders
- Remote video monitoring, Mobile broadband

Electrical Specifications

ID	Port	Parameters	Units	Typ.
Radiated Efficiency	1,2,3,4	698 – 960 MHz	%	50
	1,2,3,4	1710 – 2700 MHz		95
	1,2,3,4	3300 – 3800 MHz		70
	5	1575.42MHz		80
Peak Gain	1,2,3,4	698 – 960 MHz	dBi	2.4
	1,2,3,4	1710 – 2700 MHz		5.5
	1,2,3,4	3300 – 3800 MHz		5.3
	5	1575.42MHz		6.0
Return Loss (50 Ω)	1,2	698 – 960 MHz	dB	10
	1,2	1710 – 2700 MHz		10
	1,2	3300 – 3800 MHz		11
	5	1575.42MHz		12
Isolation	1 to 2, 3 to 4	698 – 960 MHz	dB	18
	1 to 2, 3 to 4	1710 – 2700 MHz		25
	1 to 2, 3 to 4	3300 – 3800 MHz		14
	1 to 3, 2 to 4	698 960 MHz		9
	1 to 3, 2 to 4	1710 – 2700 MHz		14
	1 to 3, 2 to 4	3300 – 3800 MHz		20
Polarization	1,2,3,4			Linear
	5			RHCP
Max Input Power	1,2,3,4		Watts	5
GNSS Preamp Gain	5		dB	28
GNSS Preamp Voltage	5		V	2.2 to 5.0

Electrical Specifications (continued)

RF Connectors	1,2,3,4,5	SMA(M)
Cables	1,2,3,4 5	LMR200 RG174

Notes:

1. Electrical specifications based on antenna without an external ground plane
2. Isolation does not include cable loss.

Mechanical

Dimensions	6 inches diameter x 2 inches high
Mounting Hole	Single 1 inch mounting hole
RF Cable Length	Choice of 3', 6', 10' and 15' cable

Environmental

Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Rating	IP67 waterproof

**Figure 1. Product Picture**

Typical Performance

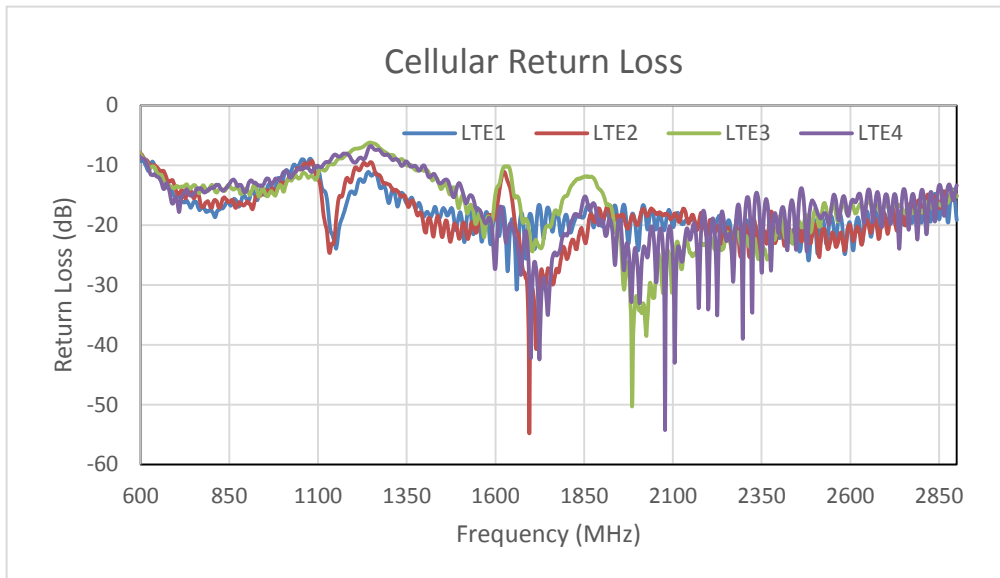


Figure 2. LTE Antenna 1 Return Loss

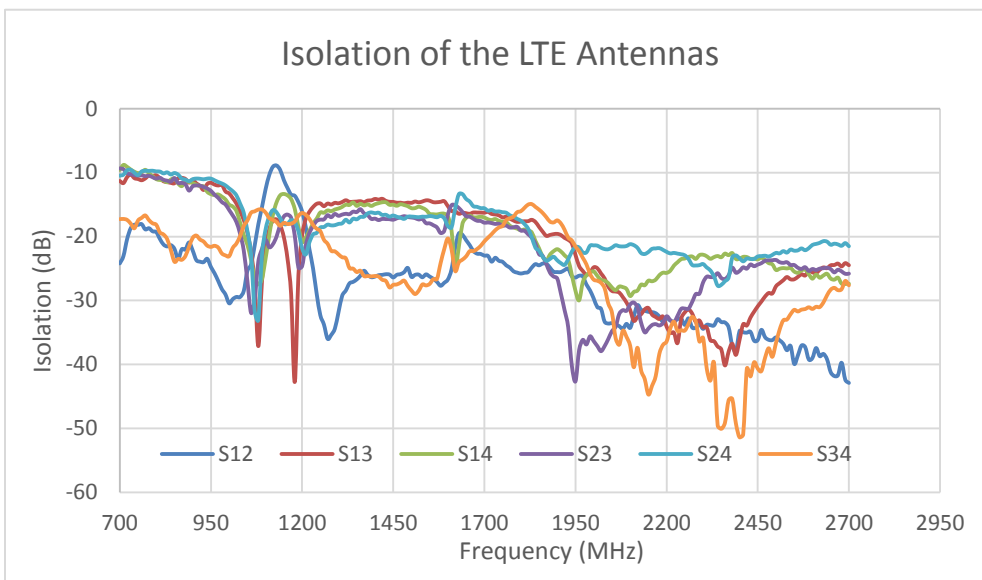


Figure 3. Antenna Isolation

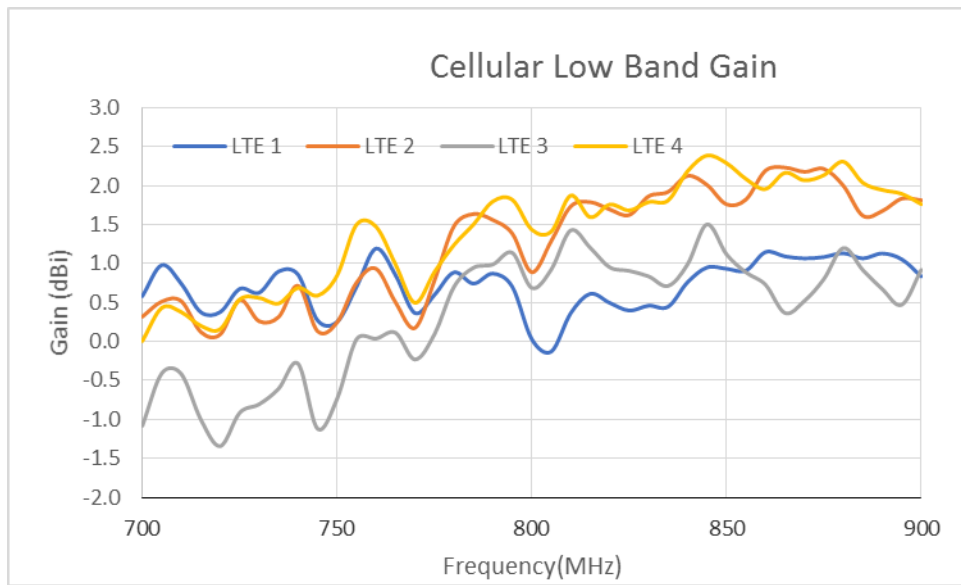


Figure 4. LTE Low Band Gain

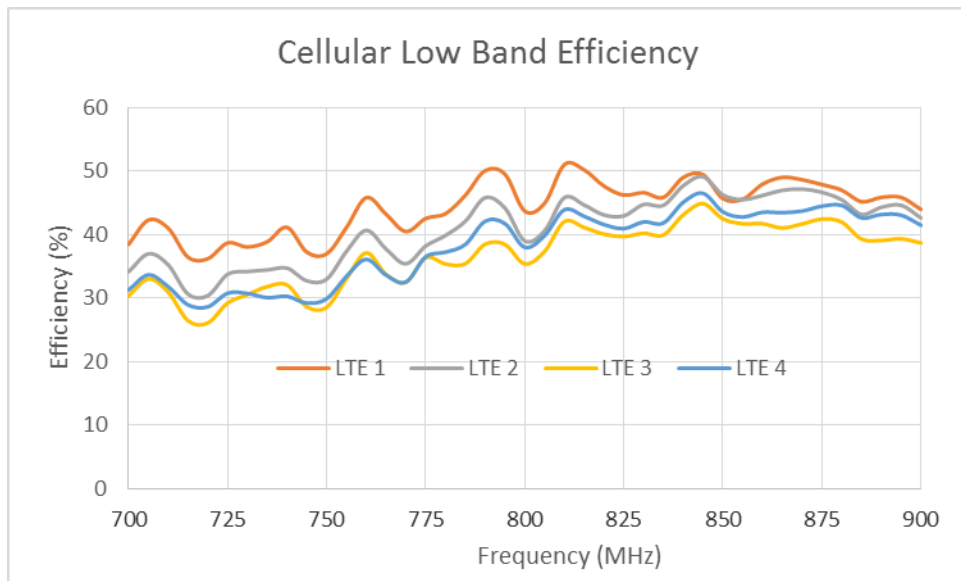


Figure 5. LTE Low Band Efficiency

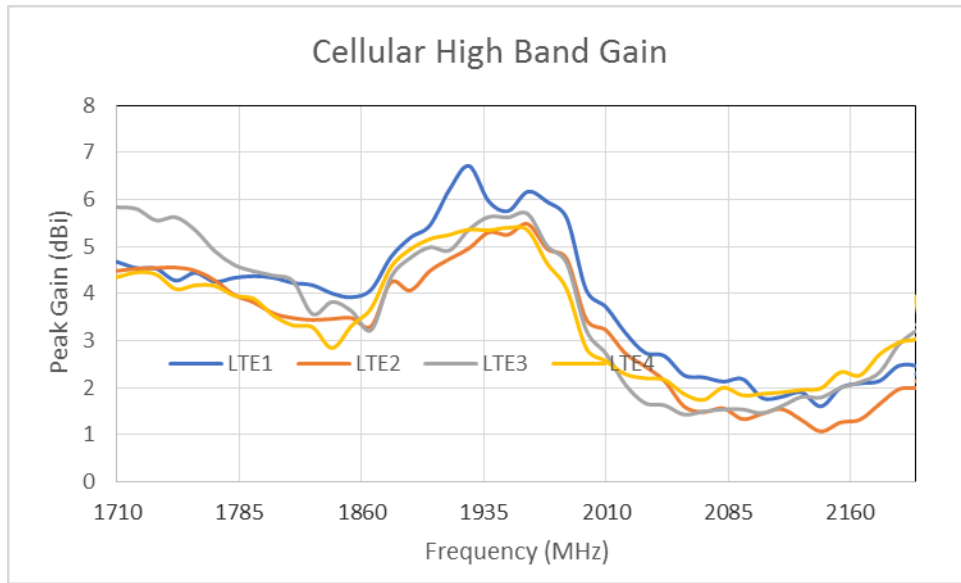


Figure 6. LTE High Band Gain

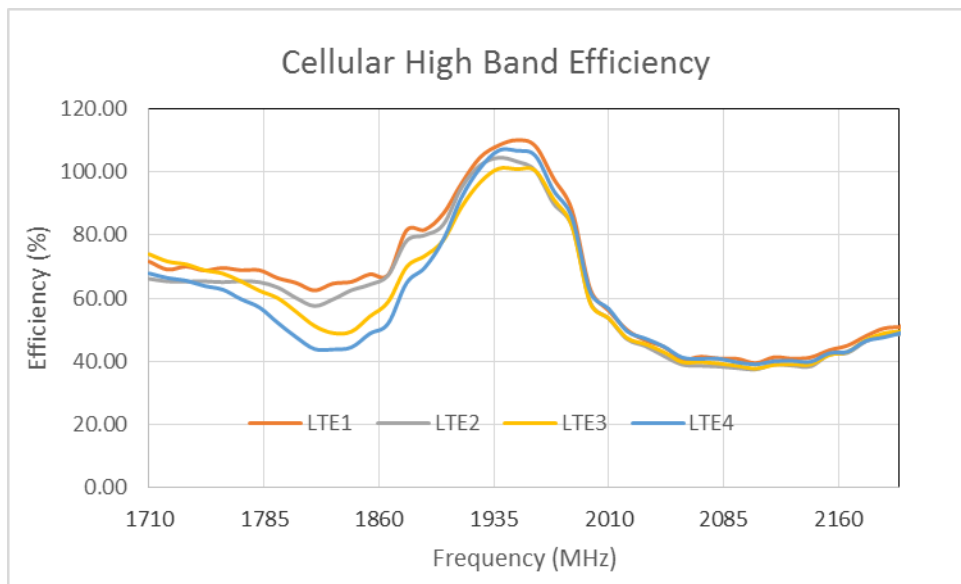


Figure 7. LTE High Band Efficiency

Note: The efficiencies are higher than 100% because of the size constraints in the chamber but the same test setup was used for all the antennas. The chamber does near field calculations but as the antennas rotate in the chamber, the distance to the horn antenna changes.

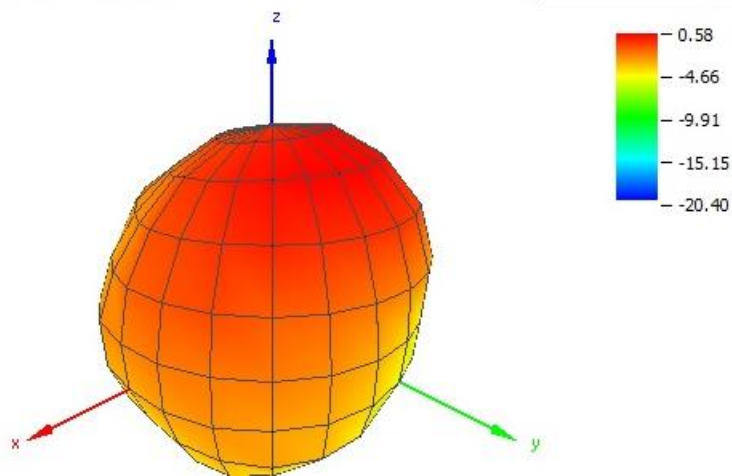


Fig. 8 Measured Total Radiation Pattern at 700MHz

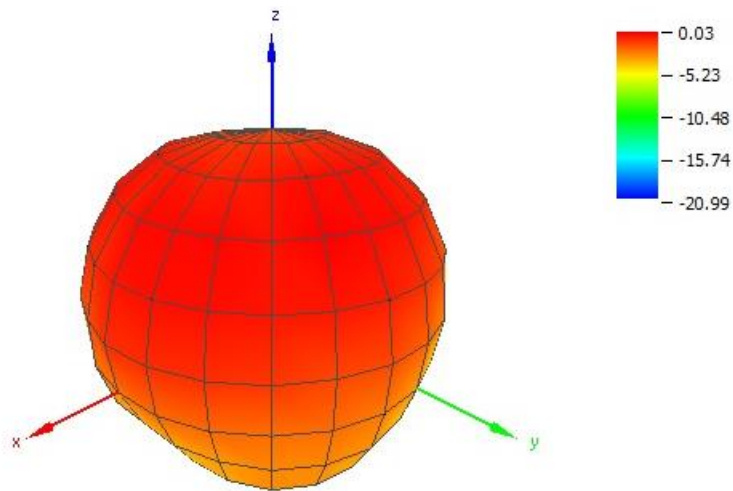


Fig. 9 Measured Total Radiation Pattern at 800MHz

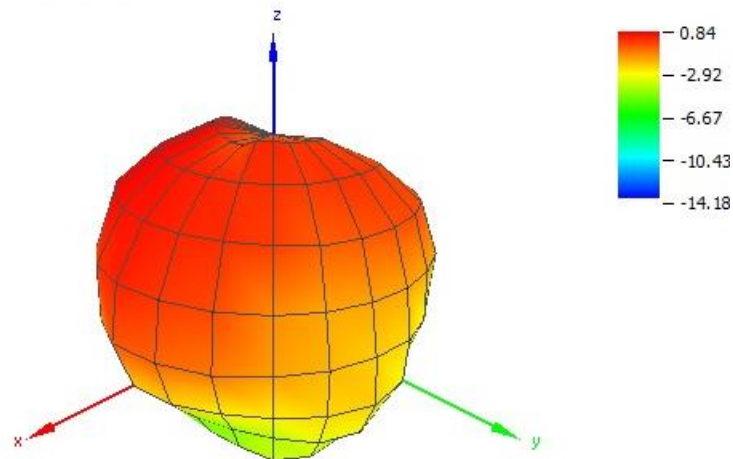


Fig. 10 Measured Total Radiation Pattern at 900MHz

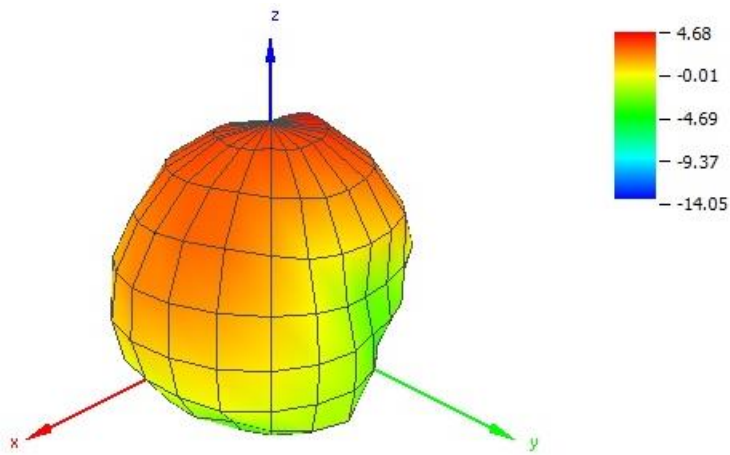


Fig. 11 Measured Total Radiation Pattern at 1710MHz

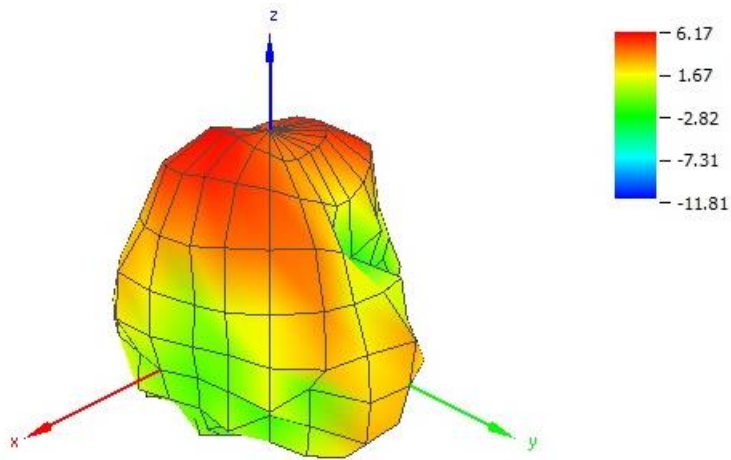


Fig. 12 Measured Total Radiation Pattern at 1962MHz

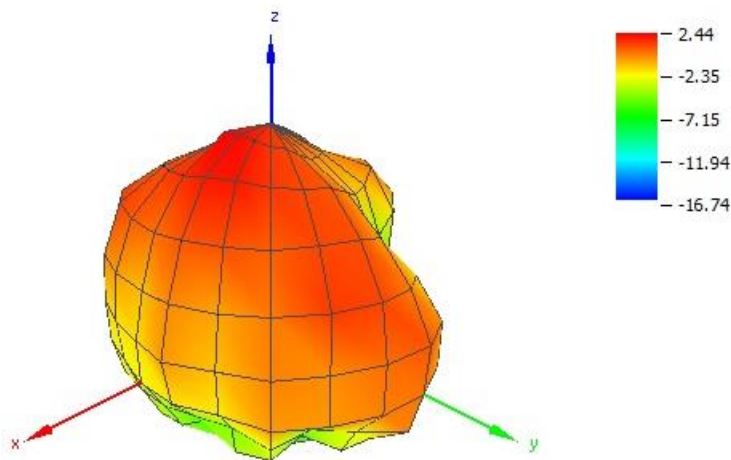


Fig. 13 Measured Total Radiation Pattern at 2200MHz

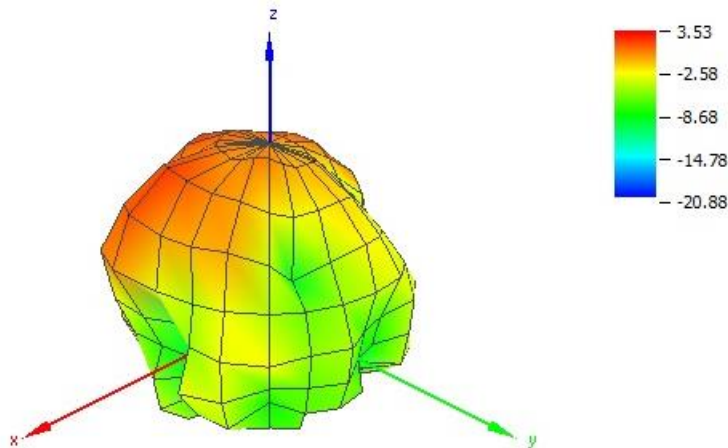


Fig. 14 Measured Total Radiation Pattern at 2700MHz

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Ordering Information

Part Number	PTA-PRO5C-4X-LTE-GPS-003	3 foot long cables
	PTA-PRO5C-4X-LTE-GPS-006	6 foot long cables
	PTA-PRO5C-4X-LTE-GPS-010	10 foot long cables
	PTA-PRO5C-4X-LTE-GPS-015	15 foot long cables

Add -B for Black Radome, -W for White Radome

Custom cable lengths available

Packing for Shipment Protective box, qty. 1 per box.