



Pro Series – Low Profile

MIMO LTE, 3X MIMO Dual Band Wi-Fi and GPS External IP67
6 in 1 Antenna

Product Description

Parsec’s PTA-PRO6R-2XLTE-3XWIFI-GPS-XXX is a compact high performance six-in-one, MIMO LTE, 3X MIMO Wi-Fi and GPS based external waterproof M2M antenna. This rugged low-profile omni-directional antenna works on all the common worldwide LTE bands with high efficiency. The PTA-PRO6R-2XLTE-3XWIFI-GPS-XXX is optimized for wireless routers that require a low height to be visually unobtrusive for mobile 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 – 970 MHz**
1710 – 2700 MHz
3300 – 3800 MHz
- **Wi-Fi frequency range: 2.4 – 2.48 GHz**
4.9 – 5.9 GHz
- **2 Element LTE MIMO**
- **3 Element Wi-Fi MIMO**
- **Omni-directional**
- **No ground plane requirement**
- **RoHS Compliant**

Applications

- **External M2M, IoT Applications**
- **Remote video monitoring, Mobile broadband,**
- **First Responders / Fleet management**

Electrical Specifications

ID	Port	Parameters	Units	Typ.
Radiated Efficiency	1,2	698 – 960 MHz	%	65
	1,2	1710 – 2700 MHz		70
	1,2	3300 – 3800 MHz		70
	3	1575.42 MHz		80
	4,5,6	2400 – 2483.5 MHz		70
	4,5,6	4900 – 5900 MHz		70
Peak Gain	1,2	698 – 960 MHz	dBi	3.8
	1,2	1710 – 2700 MHz		6.2
	1,2	3300 – 3800 MHz		6.2
	3	1575.42 MHz		6.0
	4,5,6	2400 – 2483.5 MHz		3.9
	4,5,6	4900 – 5900 MHz		6.5
Return Loss (50 Ω)	1,2	698 – 960 MHz	dB	6
	1,2	1710 – 2700 MHz		10
	1,2	3300 – 3800 MHz		13
	3	1575.42 MHz		12
	4,5,6	2400 – 2483.5 MHz		14
	4,5,6	4900 – 5900 MHz		10
Isolation	1 to 2	698 – 960 MHz	dB	13
	1 to 2	1710 – 2700 MHz		21
	1 to 2	3300 – 3800 MHz		21
	4, 5, 6	2400 – 2483.5		13
	4, 5, 6	4900 - 5900		18
	Polarization	1,2,4,5,6		
3				RHCP
Max Input Power	1,2,4,5,6		Watts	5

These measurements are based on using 3ft cables

Electrical Specifications (continued)

GNSS Preamp Gain		dB	28
GNSS Preamp Voltage		V	2.2 to 5.0
RF Connectors	1,2,3 4,5,6		SMA(M) RP-SMA(F)
Cables	1,2,4,5,6 3		LMR200 RG174

Notes:

1. Electrical specifications based on antenna mounted on a 8 in x 10 in (20.3 cm x 25.4 cm) external ground plane
2. Isolation does not include cable loss.

Mechanical

Dimensions	8.6 inches length x 3.4 inch width x 1.3 inches high
Mounting Hole	Single 1 inch
RF Cable Length	Choice of 3, 6, 10, 15 foot 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 = Using 15ft cables

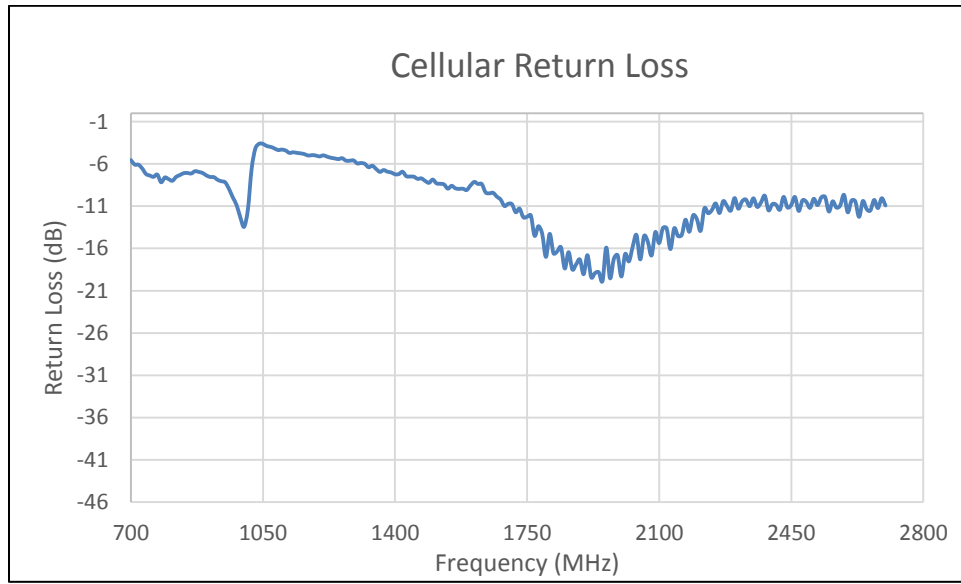


Figure 2. LTE 1 Return Loss

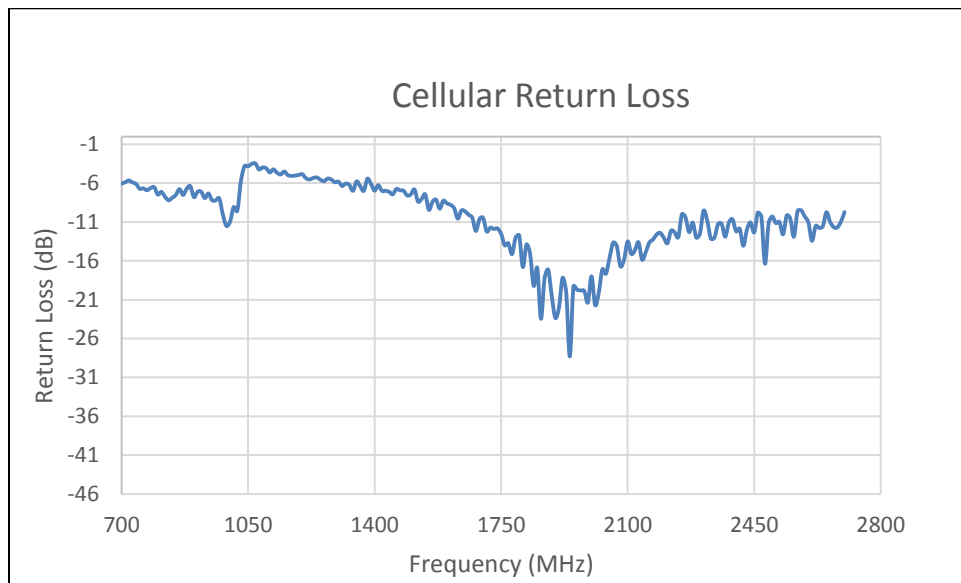


Figure 3. LTE 2 Return Loss

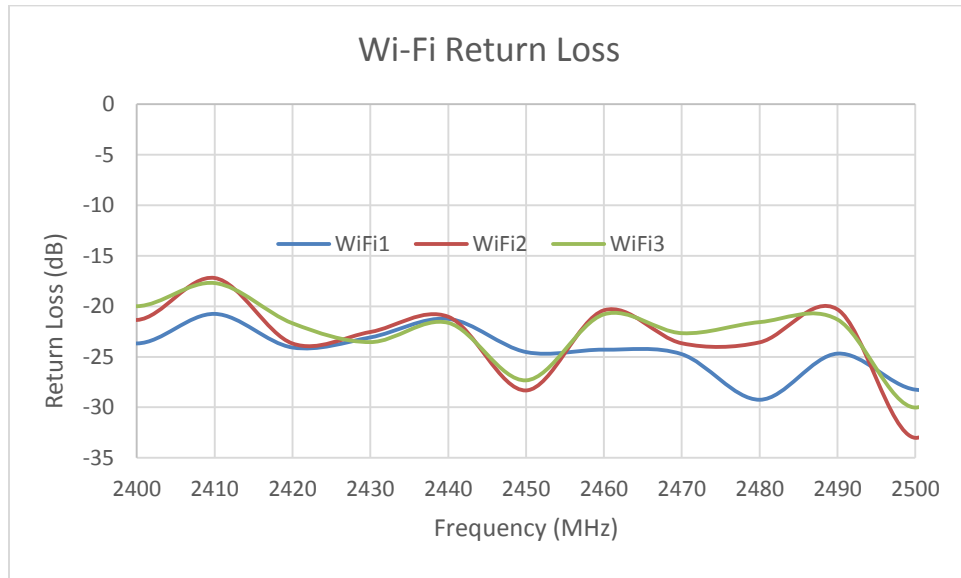


Figure 4. Wi-Fi Return Loss

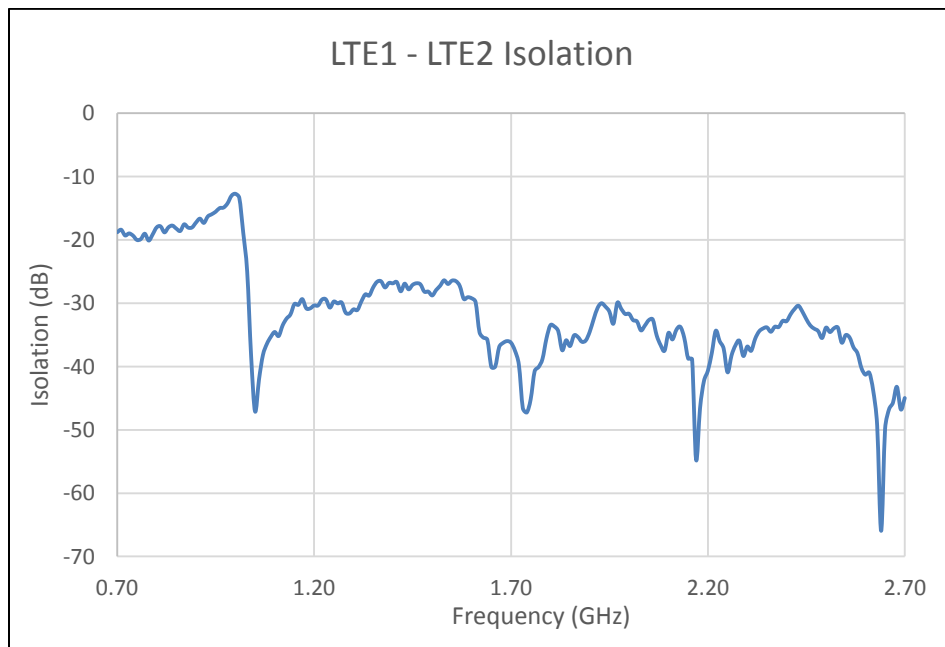


Figure 7. LTE1-LTE2 Isolation

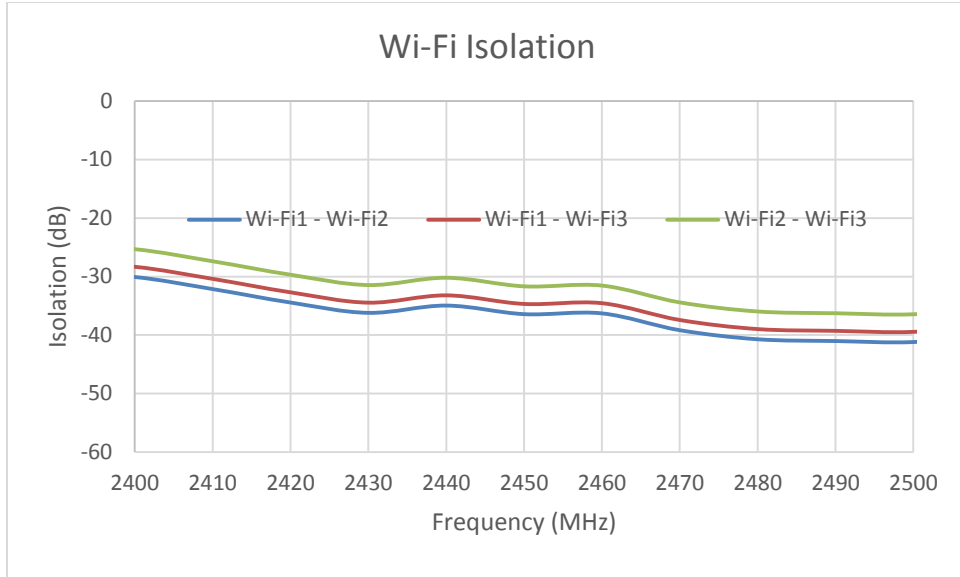


Figure 8. Wi-Fi Antenna Isolation

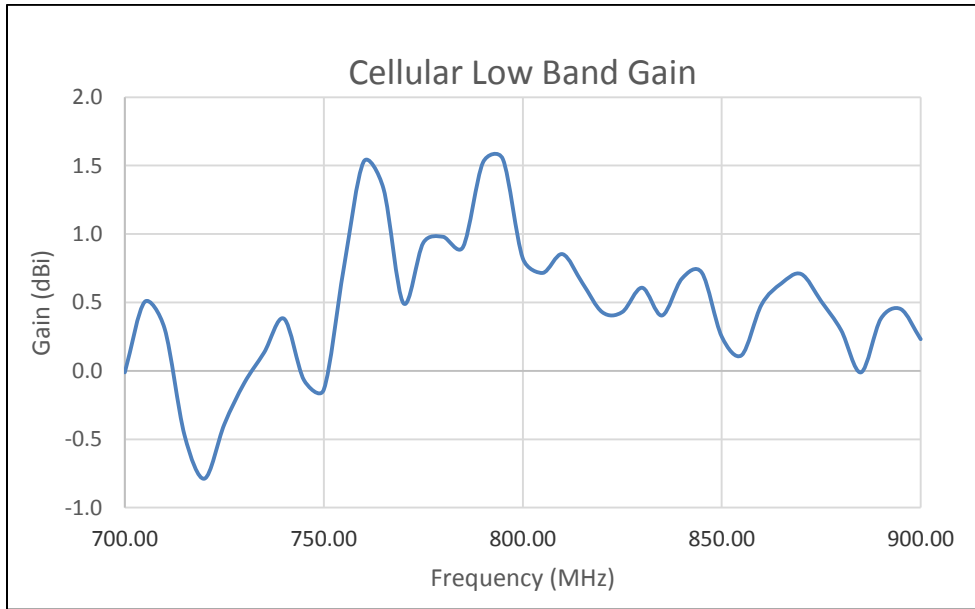


Figure 9. Cellular Low Band Gain

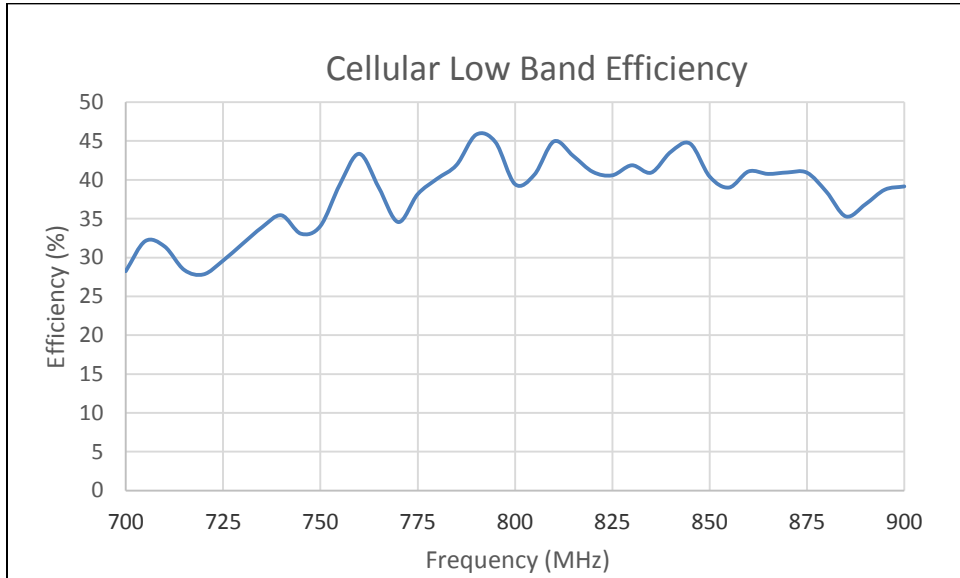


Figure 10. Cellular Low Band Efficiency

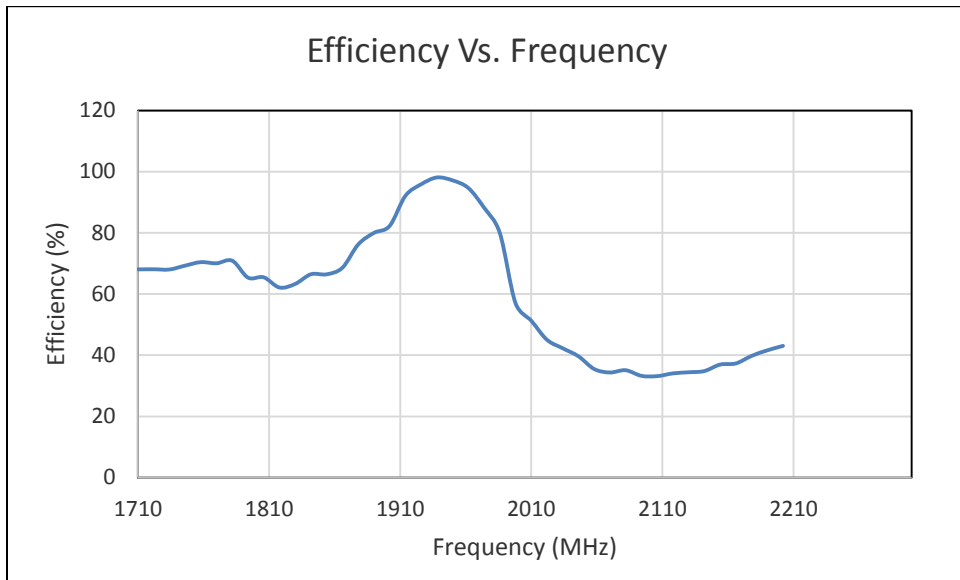


Figure 11. Cellular High Band Efficiency

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.

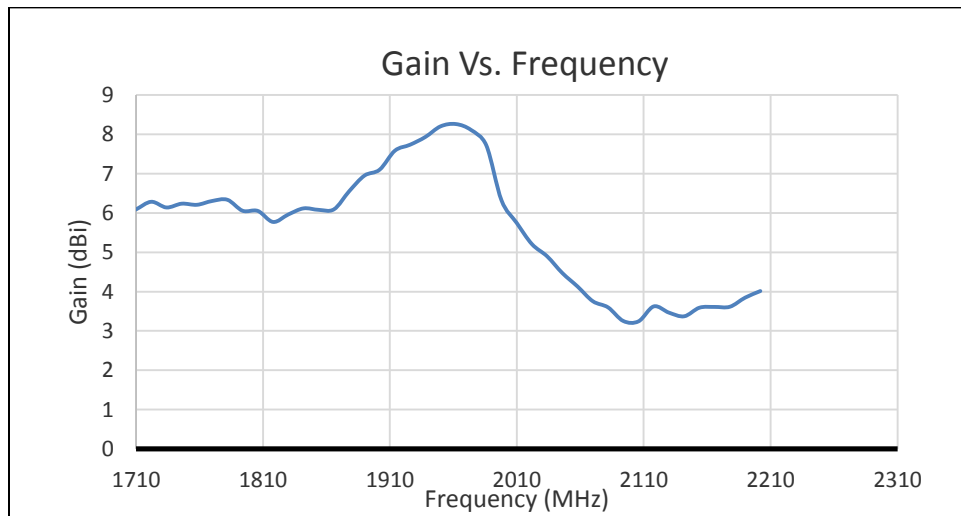


Figure 12. Cellular High Band Gain

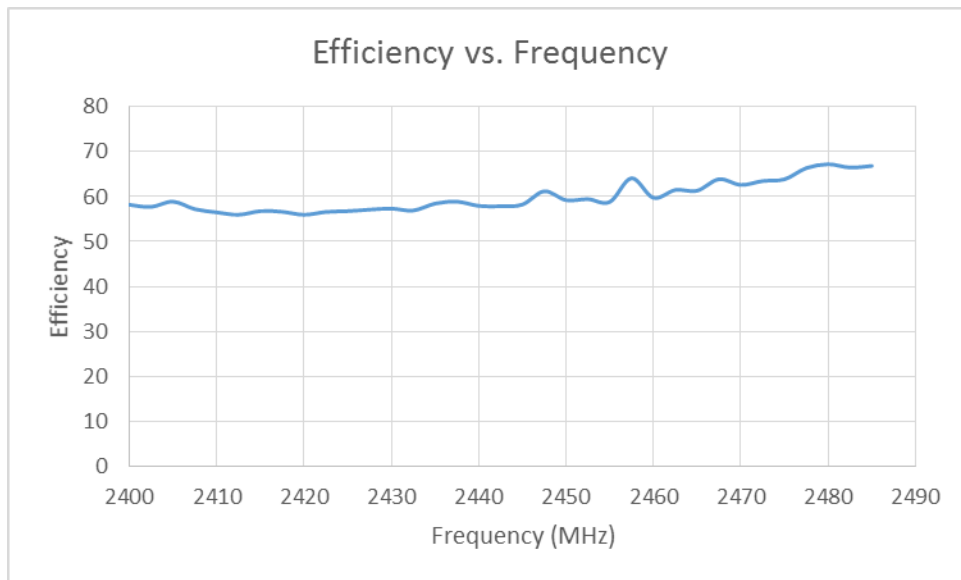


Figure 13. Wi-Fi Efficiency

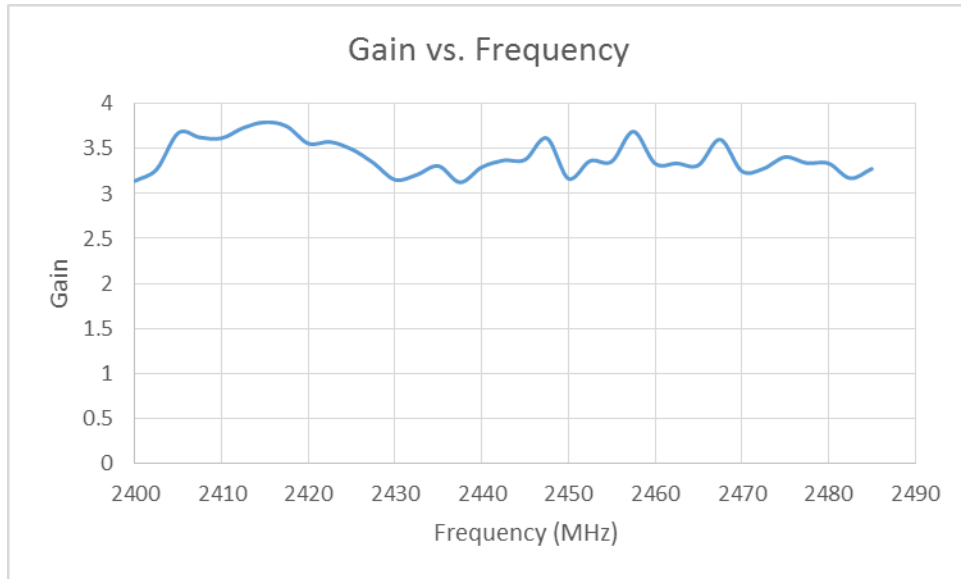


Figure 14. Wi-Fi Gain

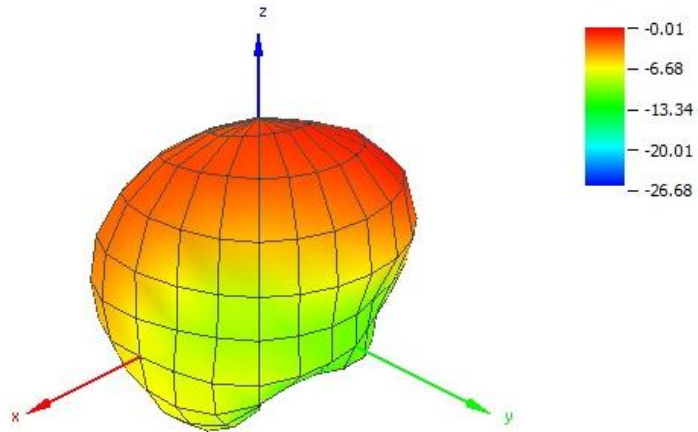


Figure. 15 Measured Total Radiation Pattern at 700MHz

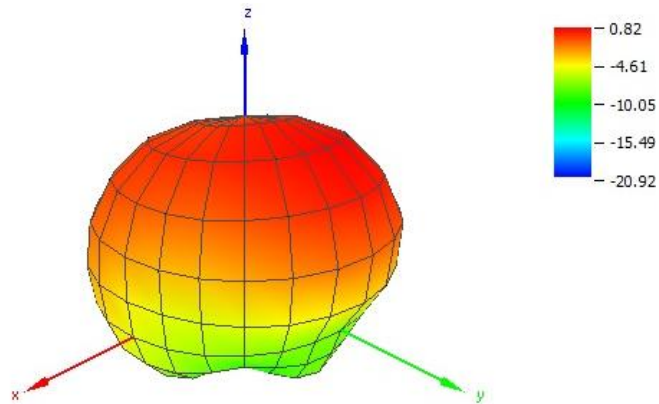


Figure. 16 Measured Total Radiation Pattern at 800MHz

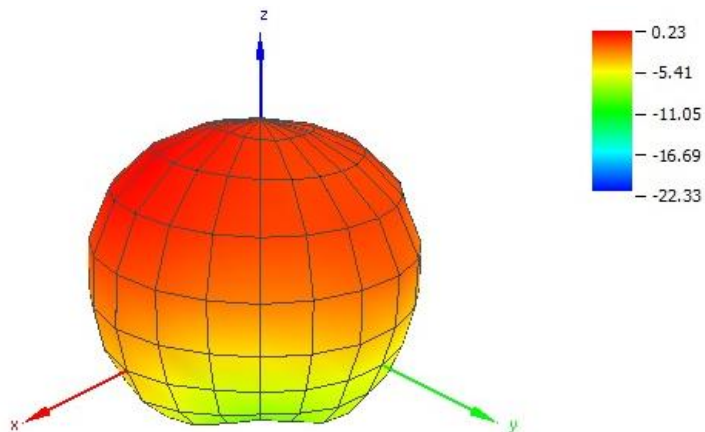


Figure. 17 Measured Total Radiation Pattern at 900MHz

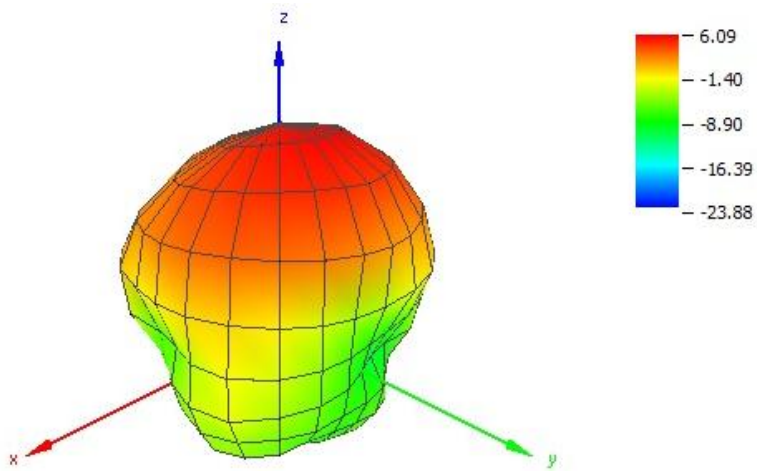


Figure. 18 Measured Total Radiation Pattern at 1710MHz

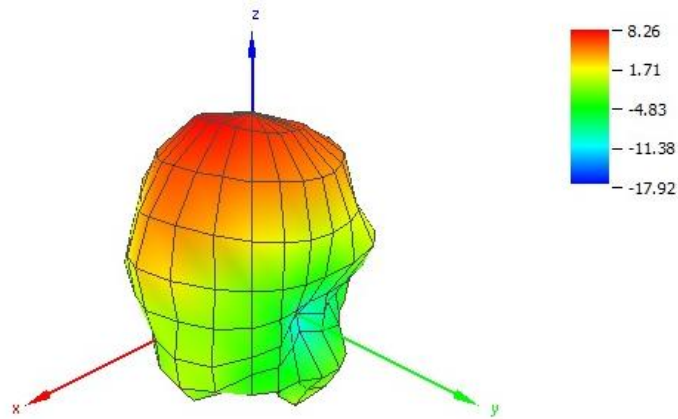


Figure. 19 Measured Total Radiation Pattern at 1962MHz

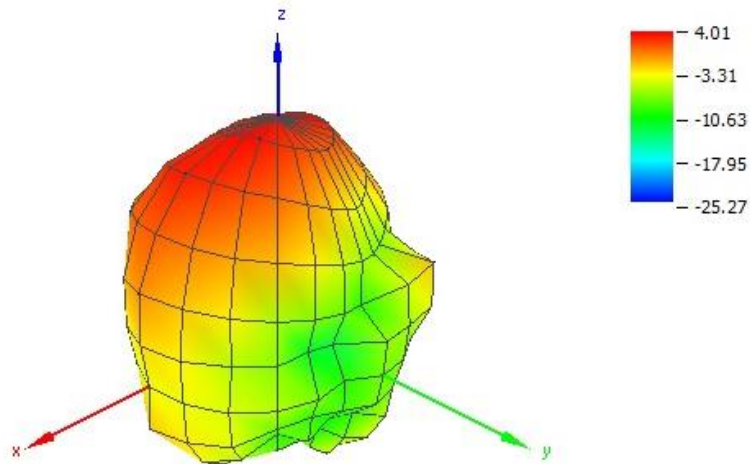


Figure. 20 Measured Total Radiation Pattern at 2200MHz

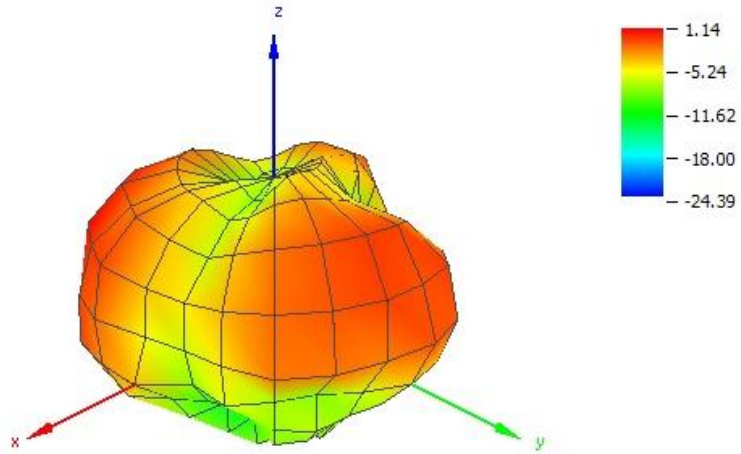


Figure. 21 Measured Total Radiation Pattern at 2400MHz

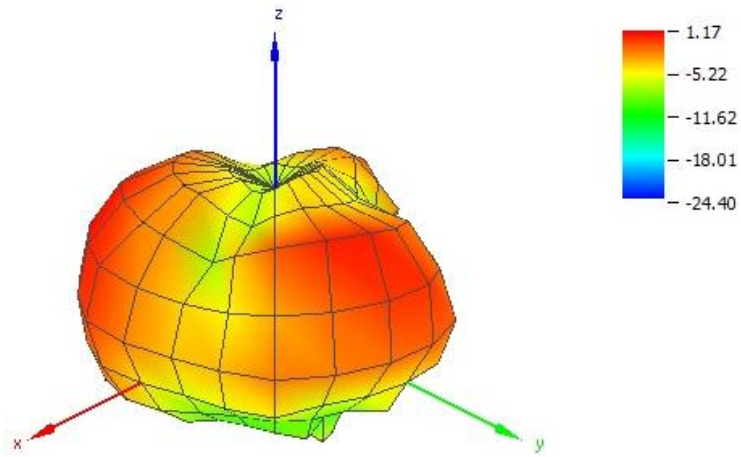


Figure. 22 Measured Total Radiation Pattern at 2450MHz

Contact Information

Email: Sales@parsec-t.com
Web: www.parsec-t.com
Phone: 972-804-4600
Mail: Parsec Technologies, Inc.
820 Jupiter Rd.
Plano, Texas 75074

Ordering Information

Part Number		
	PTA-PRO6R-2XLTE-3XWIFI-GPS-003	3 foot long cables
	PTA-PRO6R-2XLTE-3XWIFI-GPS-006	6 foot long cables
	PTA-PRO6R-2XLTE-3XWIFI-GPS-010	10 foot long cables
	PTA-PRO6R-2XLTE-3XWIFI-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.