

8000-312 Sandcastle Multifunction 15-in-1 Antenna

5 YEARS WARRANTY



The 'Sandcastle' is a multifunction antenna designed to **future-proof** blue-light and amber-light vehicle fleets, delivering **up to 18 functions** within a single, panel-mounted unit. This variant features **15 functions** which are **4x LTE, 6x GPS, 4x Wi-Fi, 1x TETRA**.

Equipped with six ultra-wideband cellular elements covering **700 MHz to 6 GHz**, the Sandcastle ensures reliable performance today while supporting future requirements for years to come. With a **minimum 4 dBi gain** across the band, it offers exceptional efficiency for all public safety applications.

This antenna is **ESN-ready** and fully compatible with **current Airwave systems**, making it ideal for agencies transitioning between networks. If the whip option is not required, the 'Sandcastle' can be installed as a **ground-plane-independent antenna**, simplifying installation.

Featuring integrated **GPS, MiMo dual-band Wi-Fi**, and an **optional TETRA whip**, the Sandcastle eliminates the need for multiple holes in the roof, requiring only a **single 19 mm mounting hole**. Additional variants are available, including low-loss coaxial cable fitting kits. **For more details, please contact us.**

Also Available in White: Part No. 8000-212



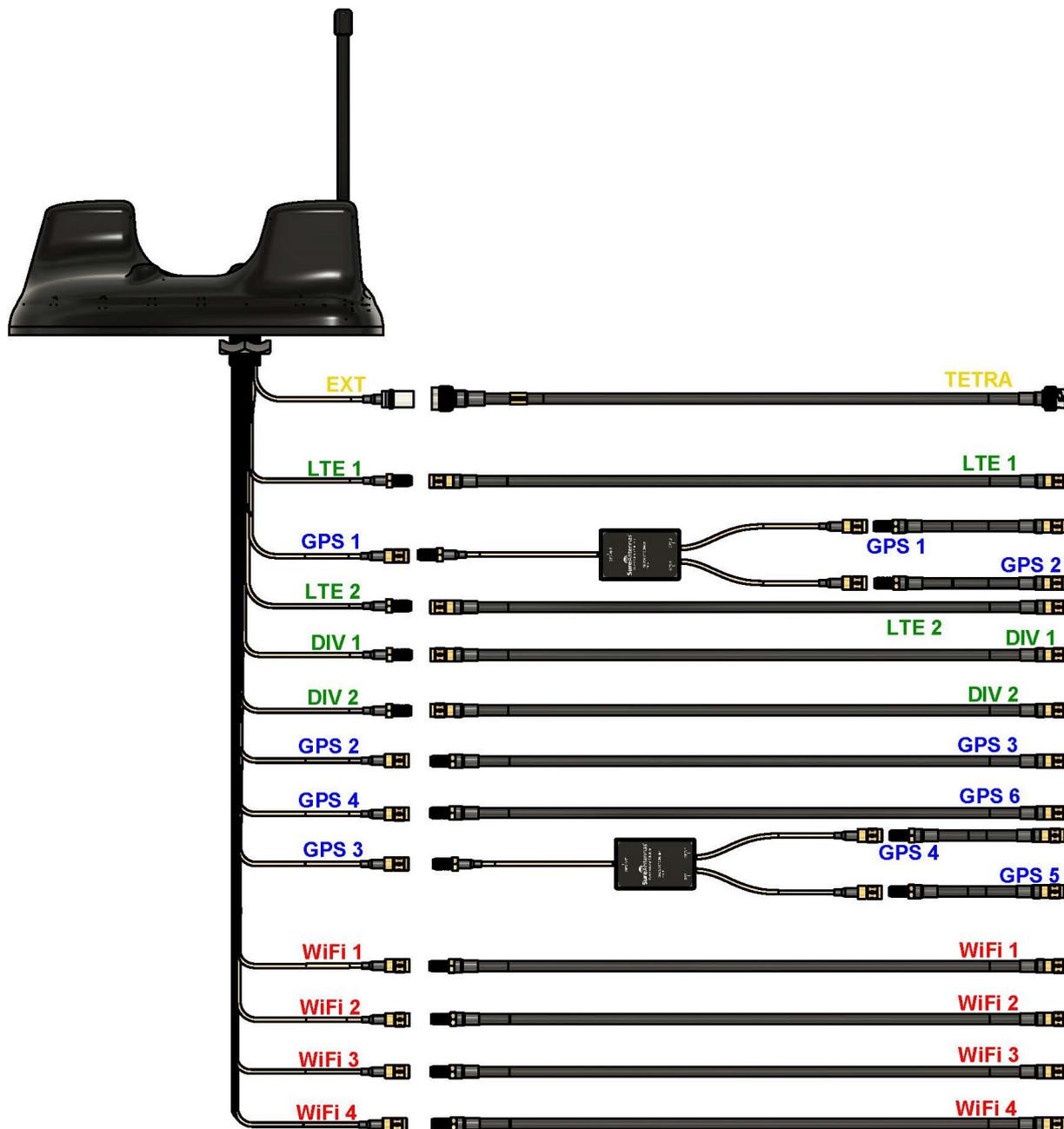
Part No.	Cable Kit Options
SK010038	Product Kit : Generic Sandcastle Cable Kit 5m : Terminated Additional options available upon request.

Technical Specifications

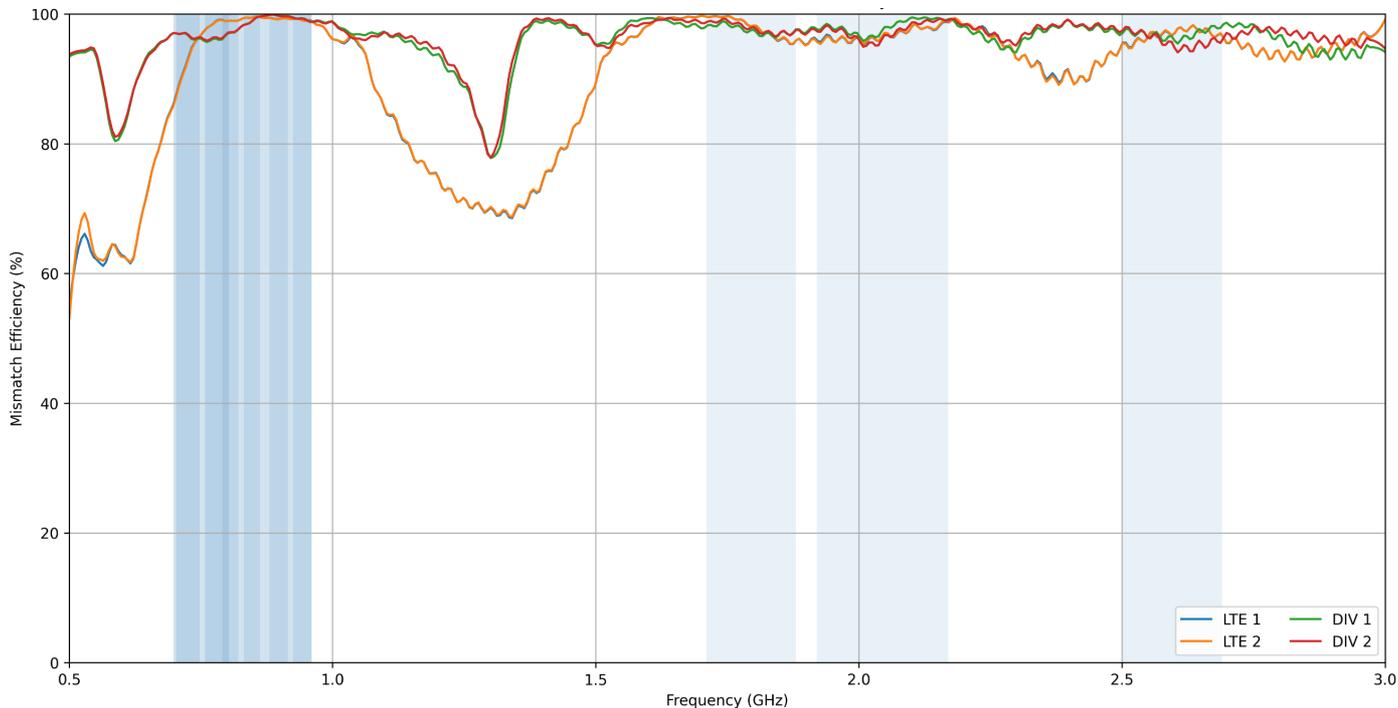
Part No.	8000-312		
Electrical Data	TETRA	LTE	Wi-Fi
Frequency Range (MHz)	380 - 430 MHz	698-6000 MHz	2.4 GHz & 5.8GHz
Band	TETRA	Wideband LTE 4x4 MiMo	Dual Band Wi-Fi 4x4 MiMo
VSWR	<2.1:1 TYPICALLY 1.5:1	<2.1:1 TYPICALLY 1.5:1	<2.1:1 TYPICALLY 1.5:1
Gain	5dBi	Minimum 4dBi*	Minimum 4dBi
Isolation	-	<-25dB	<-25dB
Polarisation	Vertical	Vertical	Vertical
Pattern	Omni-directional	Omni-directional	Omni-directional
Impedance	50Ω	50Ω	50Ω
Max Power Input (W)	25W	10W	10W
GPS/GLONASS			
Frequency Range (MHz)	1562-1612		
VSWR	<2:1		
Gain	26dB		
Polarisation	Right Hand Circular		
Operating Voltage	3-5v DC (fed via coax, each port is DC isolated)		
Cable	2x RG316 Terminated to SMA (m)		
Mechanical Data			
Dimensions (mm)	H76 x W197 x L227 **		
Operating Temp (°C)	-40 / +80°C (-40° / 176°F)		
Material	ABS		
Colour	Black		
Weight (g)	600		
Cable Data			
Cable Type	RG316	RG316	RG316
length (mm)	300	300	300
Diameter	2.8	2.8	2.8
Termination	TNC (f)	SMA (f)	SMA (m) Reverse Polarity
Mounting Data			
Mounting Type	Panel mount with adhesive pad		
Mounting Hole (mm)	19mm		

Subject to change. *Ground plane dependent **Excluding optional whip.

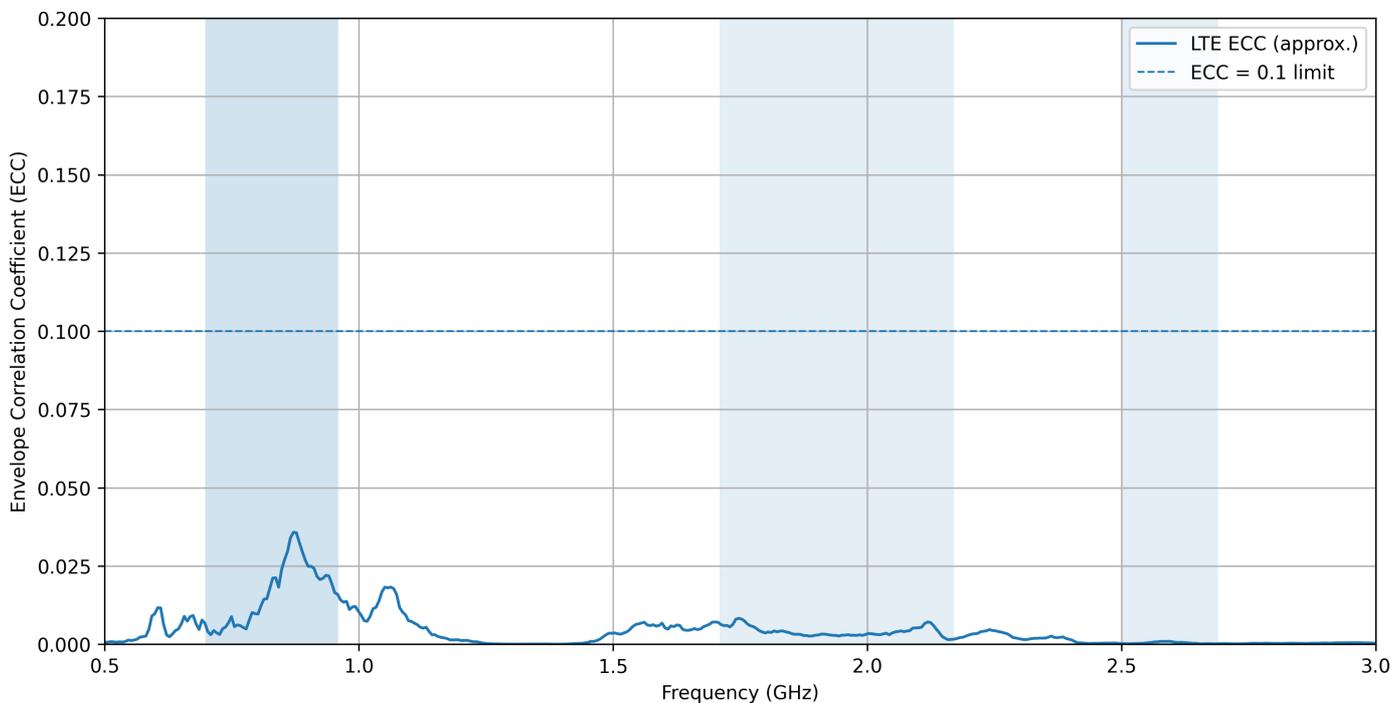
Cable Diagram



LTE / DIV Ports – Mismatch Efficiency

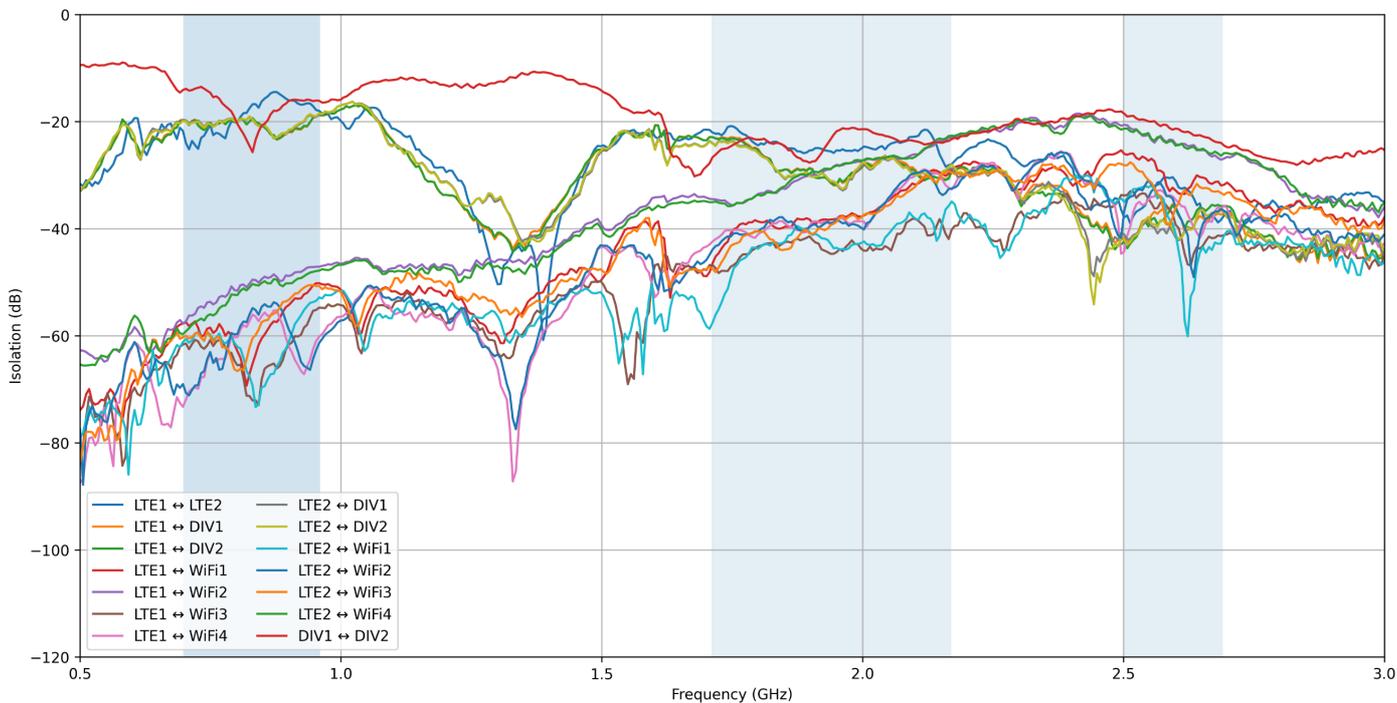


LTE ECC (Cut at 3 GHz)

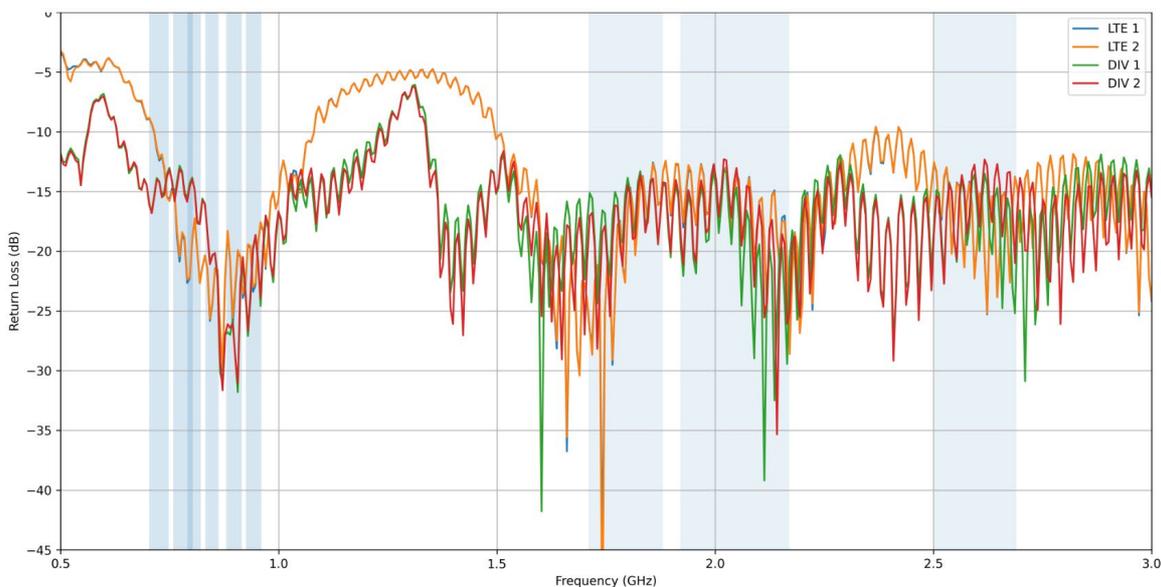


Subject to change without prior notice.

LTE Port Isolation (Cut at 3 GHz)

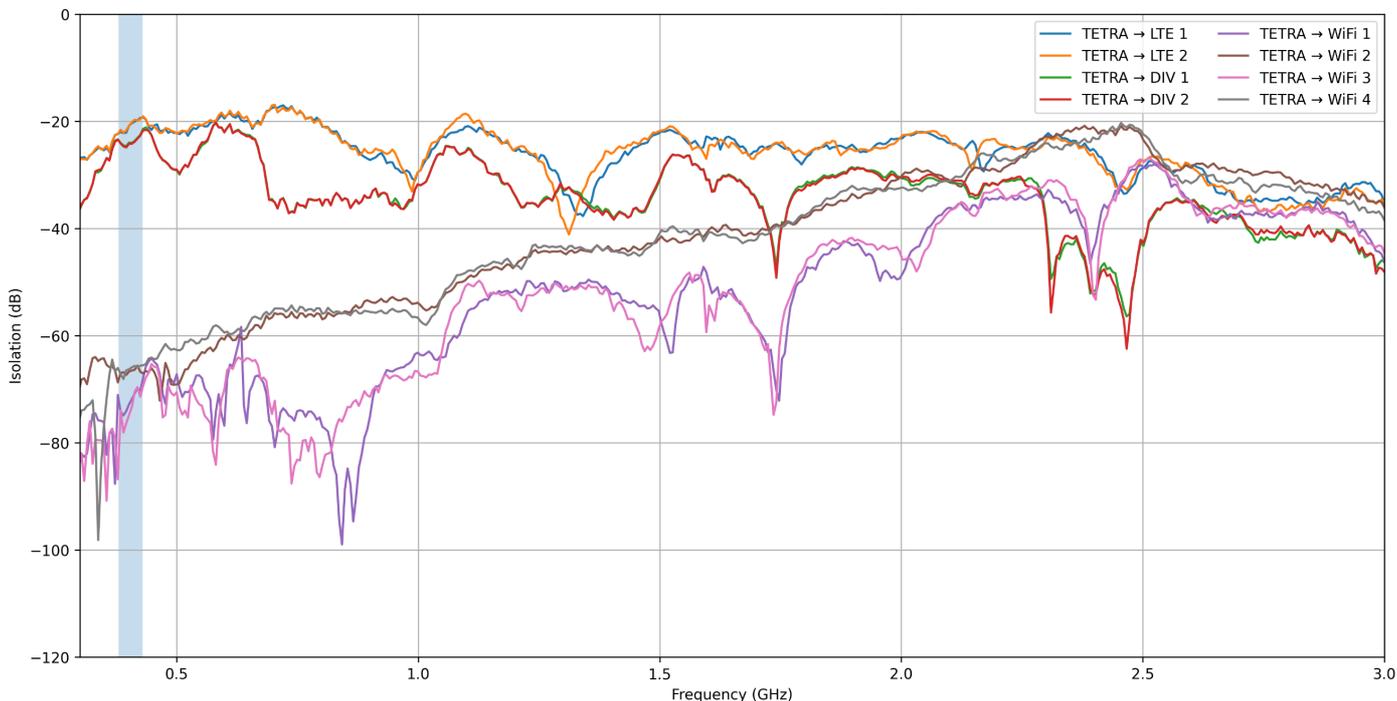


LTE Return Loss

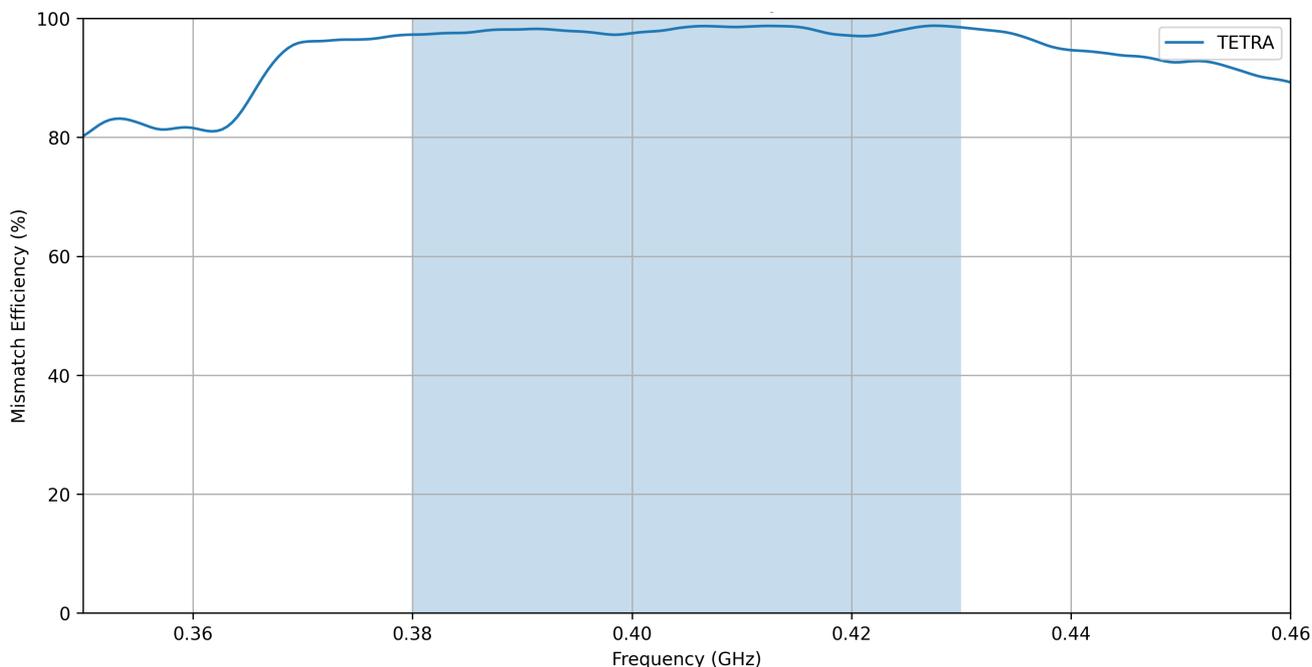


Subject to change without prior notice.

TETRA Port Isolation to All Other Parts (S21)

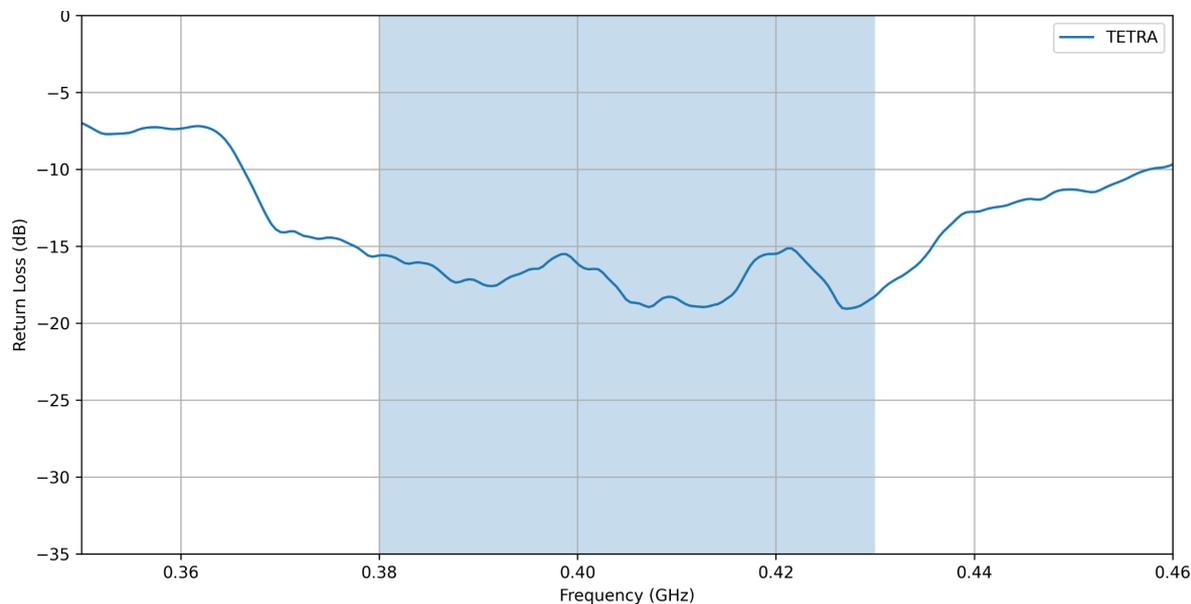


TETRA Port -Mismatch Efficiency (380-430 MHz)

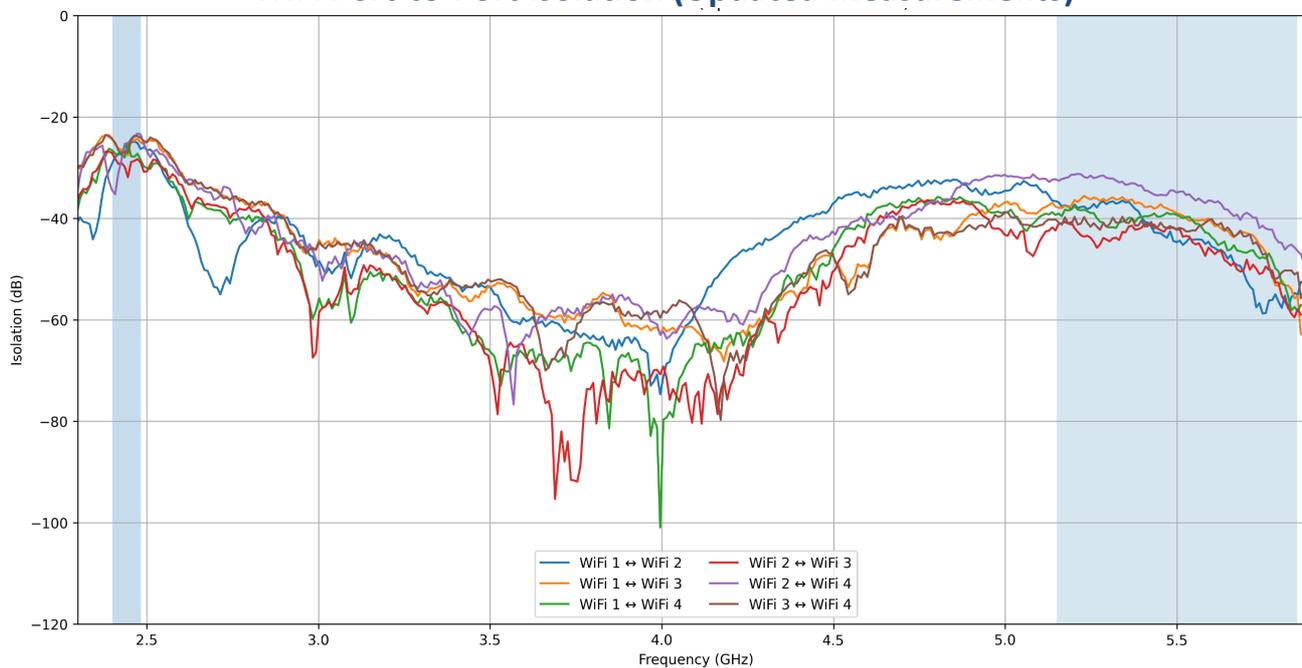


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TETRA Antenna – Return Loss (380-430 MHz)

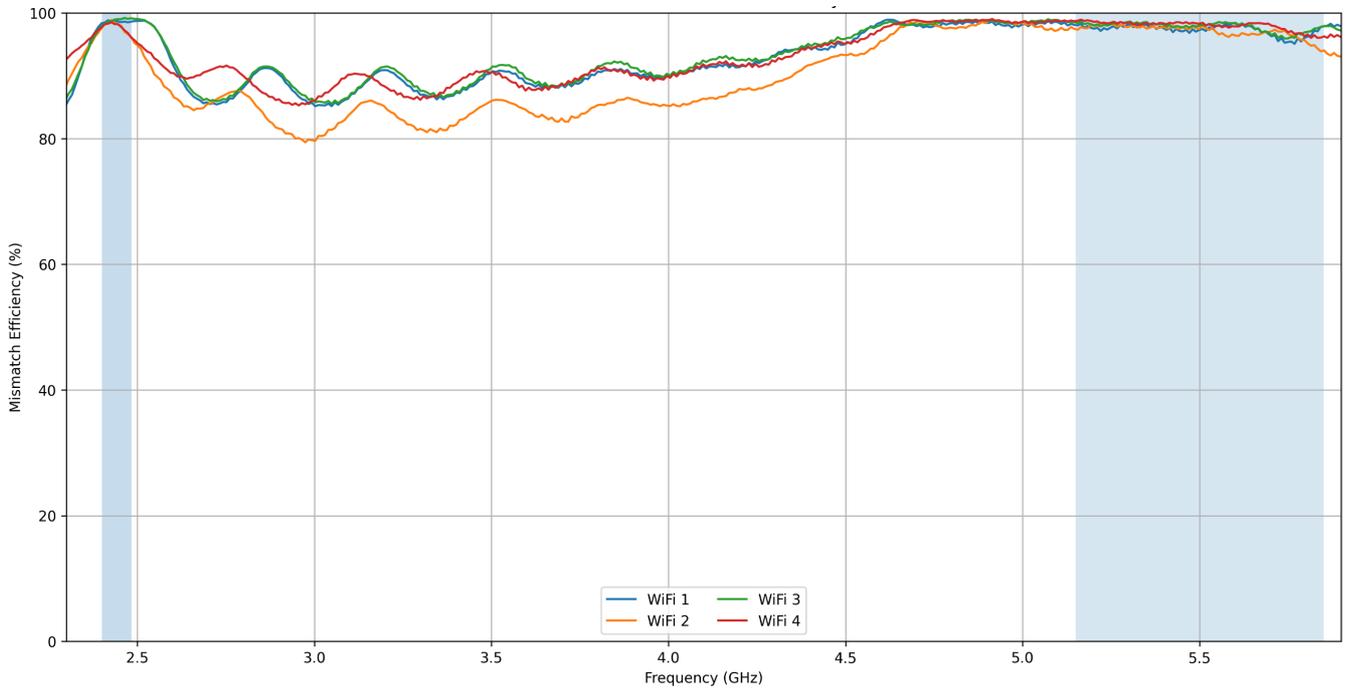


WiFi Port-to-Port Isolation (Updated Measurements)

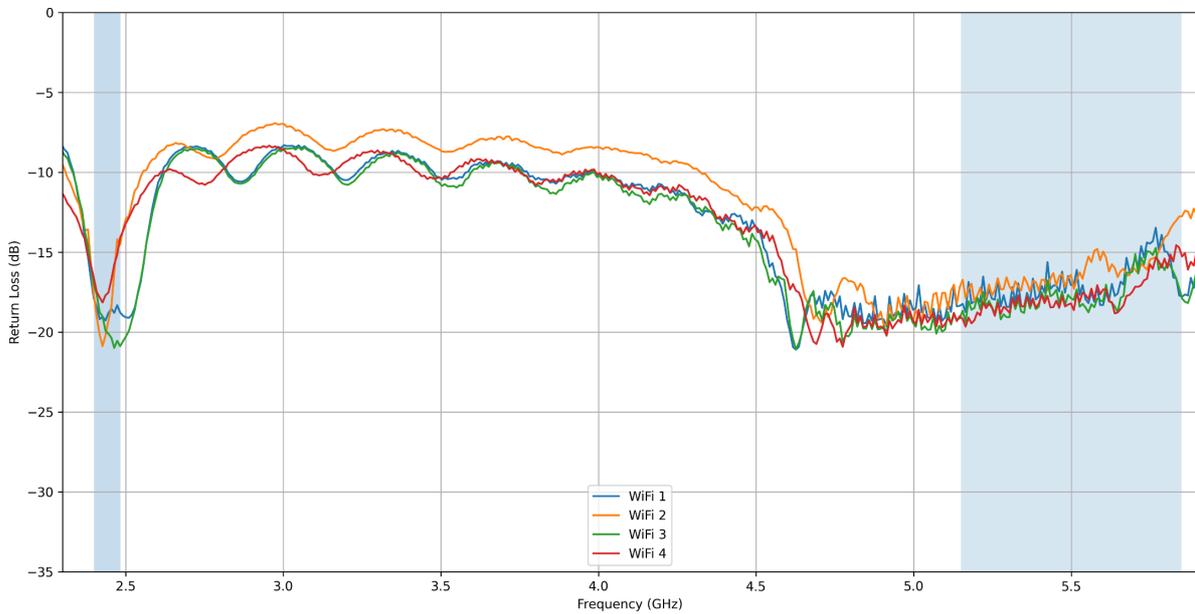


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WiFi Ports -Mismatch Efficiency



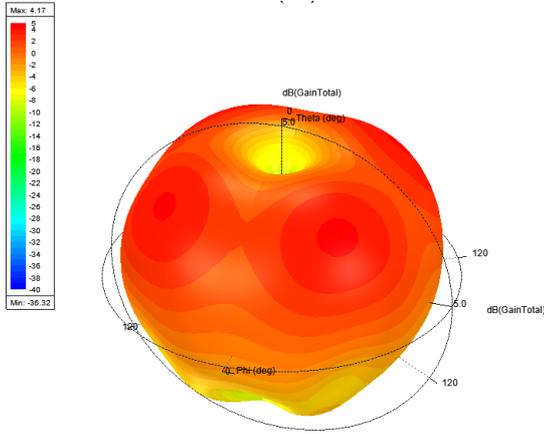
WiFi Antenna – Dual-Band Return Loss



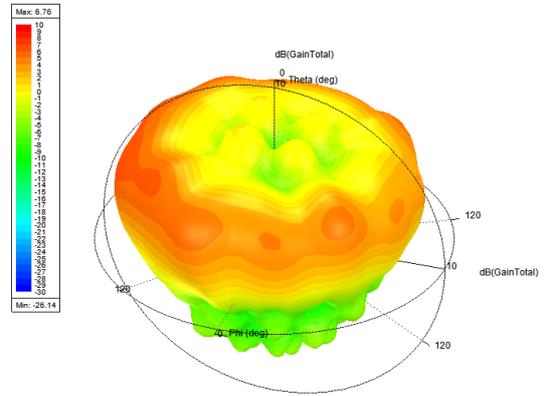
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3D Radiation Pattern

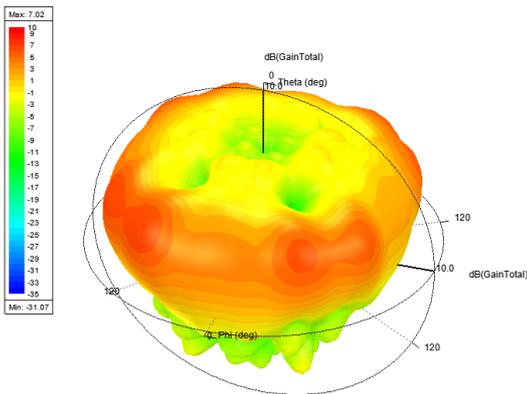
820MHz



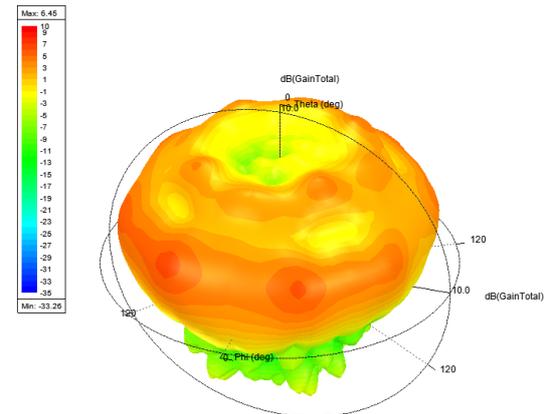
1820MHz



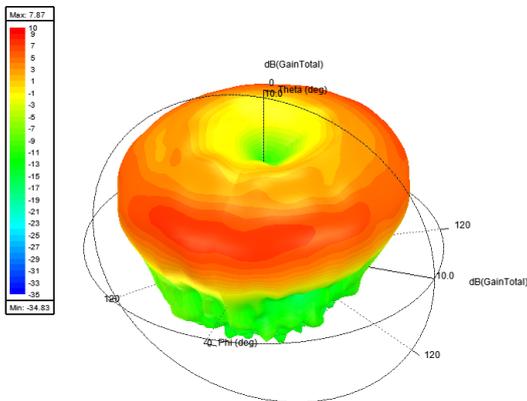
2140MHz



2600MHz



3600MHz



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