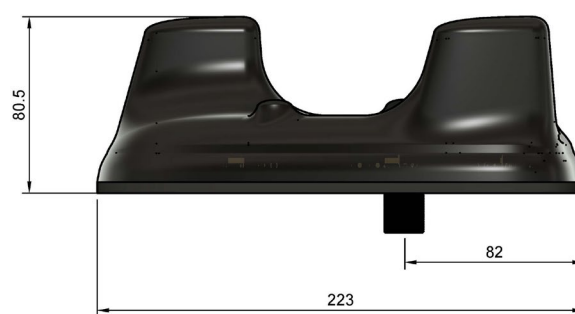




The 'Sandcastle' is a multifunction antenna designed to **future-proof** blue-light and amber-light vehicle fleets, delivering **up to 18 functions** within a single, panel-mounted unit. This variant incorporates **13 functions**.

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. 8000-211



Part No.	Cable Kit Options
SK0200710	Product Kit : Sandcastle 13 in 1 Antenna : Black : 4x4 LTE/Cellular 6x6 Wi-Fi 2x GPS 1xTetra; - c/w 5m Low Loss Coax Extension Cables - Terminated
SK0200713	Product Kit : Sandcastle 13 in 1 Antenna : Black : 4x4 LTE/Cellular 6x6 Wi-Fi 2x GPS 1xTetra; - c/w 2m Low Loss Coax Extension Cables - Terminated

Additional options available upon request.

Technical Specifications

Part No.	800-311		
Electrical Data			
Frequency Range (MHz)	380 – 430 MHz	700 – 6000 MHz	2.4 GHz & 5.8 GHz
Band	OPTIONAL TETRA WHIP	4x Wideband LTE 4x4 MiMo	4x 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 Data			
Frequency Range (MHz)	1562 – 1612 MHz		
VSWR	<2:1		
Gain	26dB		
Polarisation	Right Hand Circular		
Operating Voltage	3-5v DC (fed via coax, each port is DC isolated)		
Cable	4x 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. *Excluding optional whip.

Cable Diagram

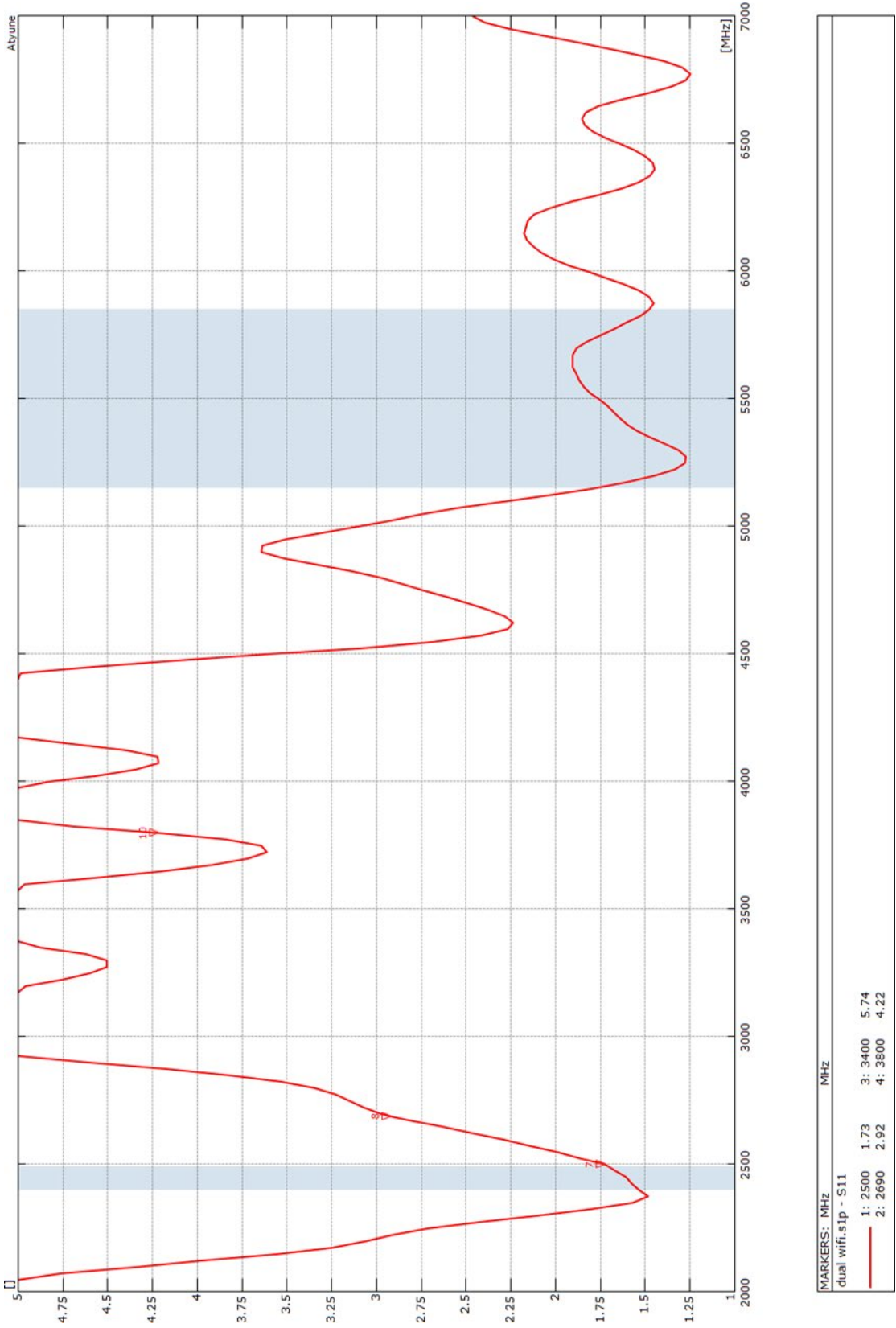


1H NMR spectrum of lte_mallard.s2p - S11. The x-axis is chemical shift in ppm (delta) from 6.00 to 0.00. The y-axis is intensity in arbitrary units (a.u.). The spectrum shows several peaks: a broad peak at ~5.8 ppm (labeled 1), a peak at ~4.8 ppm (labeled 2), a peak at ~3.8 ppm (labeled 3), a peak at ~3.2 ppm (labeled 4), a peak at ~2.8 ppm (labeled 5), a peak at ~2.2 ppm (labeled 6), a peak at ~1.8 ppm (labeled 7), and a peak at ~1.2 ppm (labeled 8). A table of markers is provided below the spectrum.

MARKERS: MHz	Hz	Hz	Hz
1: 698	3.87	5: 1710	1.36
2: 798	1.70	6: 2170	1.27
		7: 2500	1.22
		8: 2690	1.54

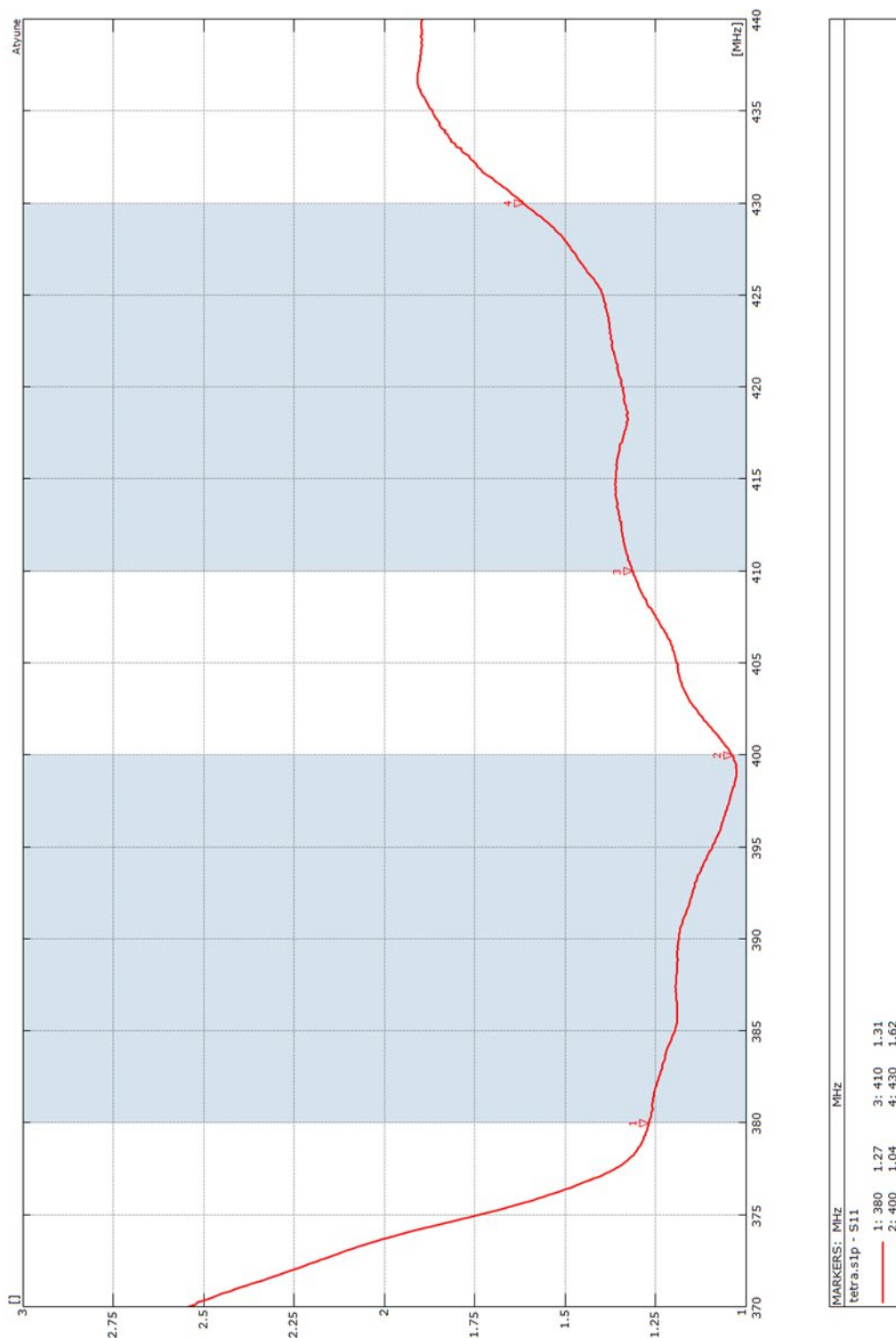
Subject to change without prior notice.

WiFi VSWR Plot



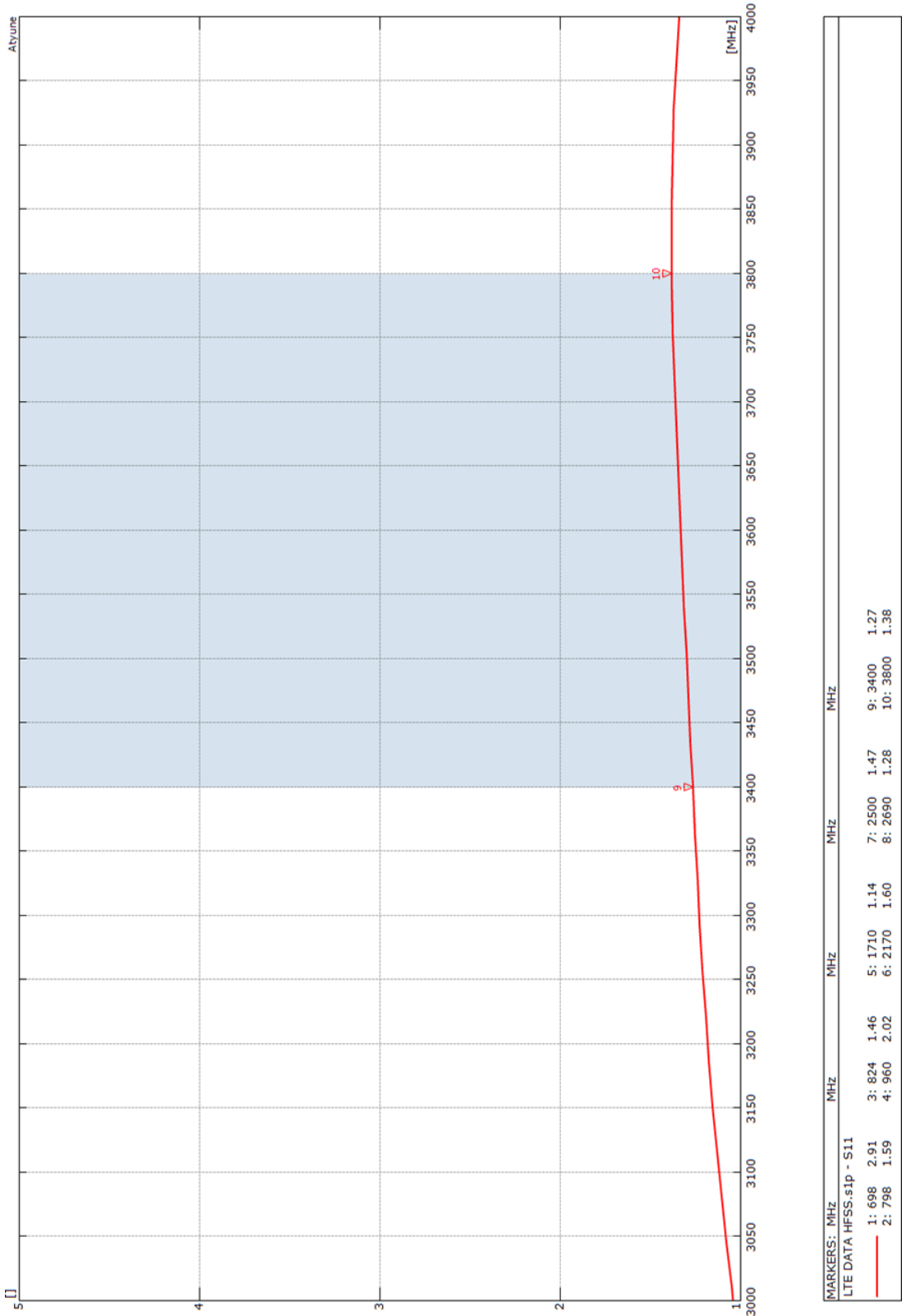
Subject to change without prior notice.

TETRA VSWR Plot



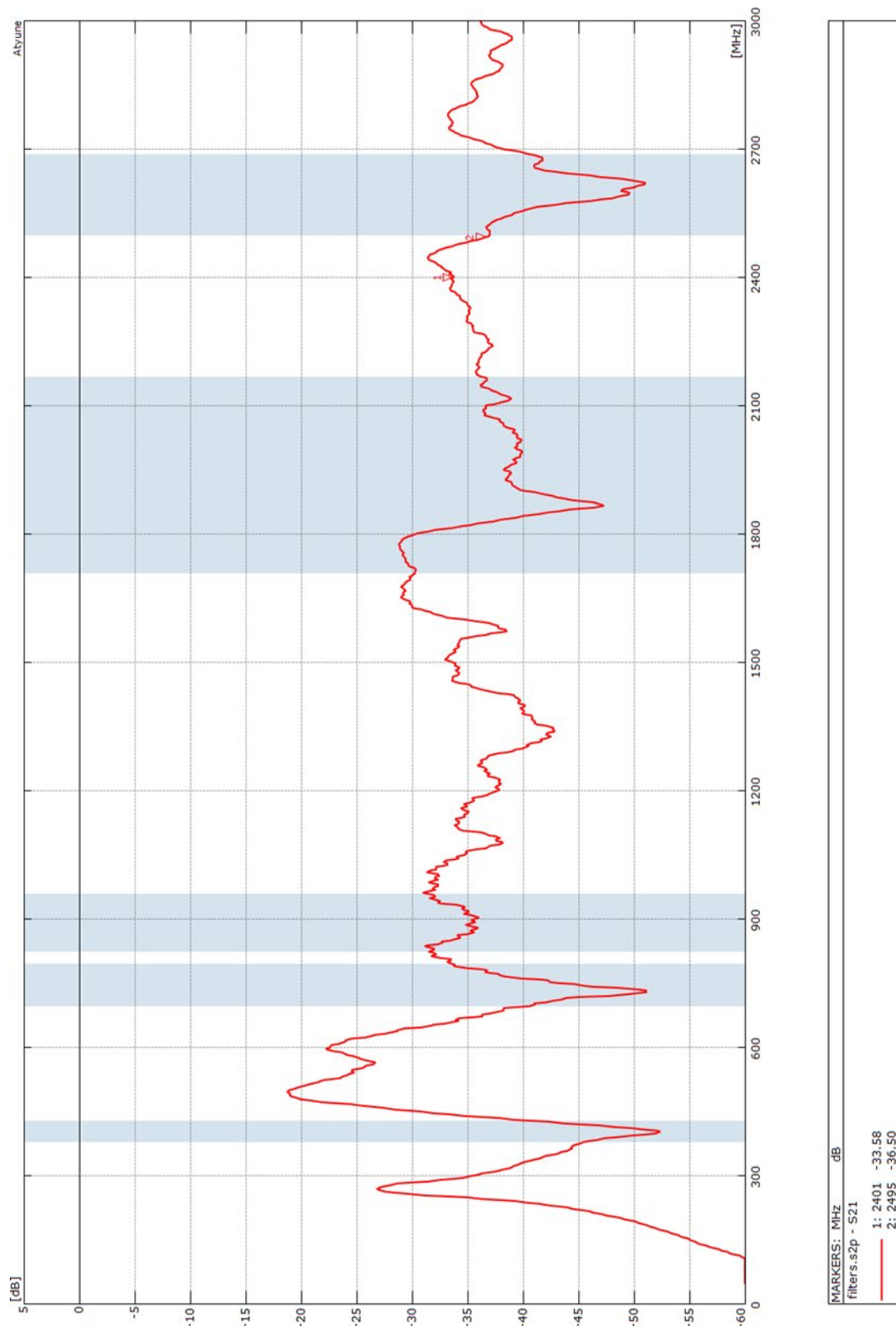
Subject to change without prior notice.

5G VSWR Plot



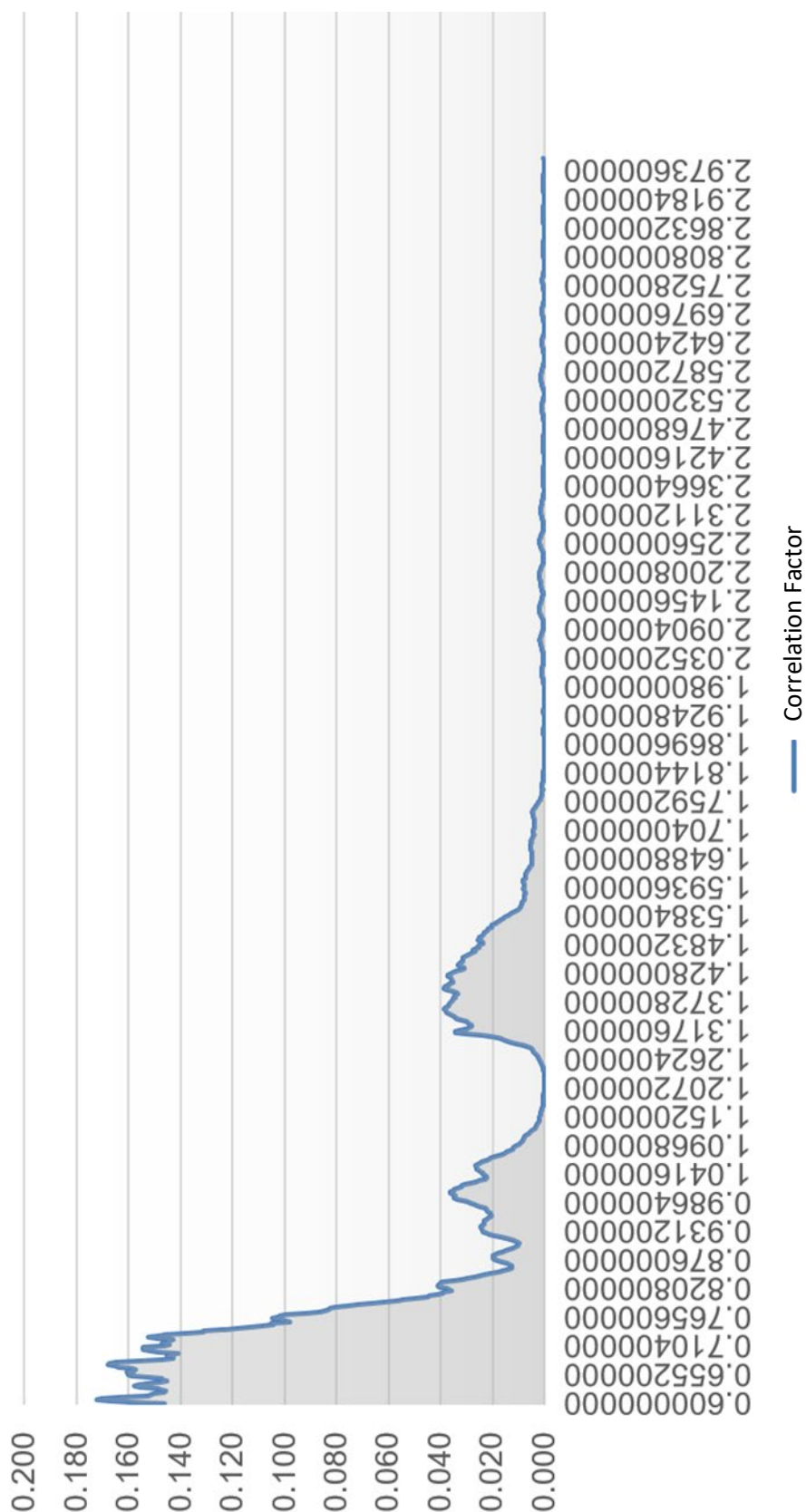
Subject to change without prior notice.

TETRA & LTE Isolation



Subject to change without prior notice.

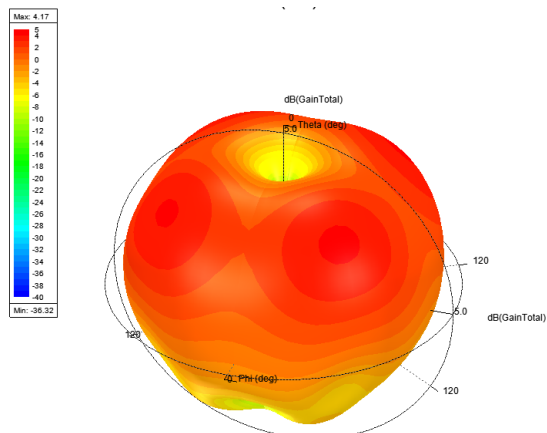
LTE Correlation Coefficient



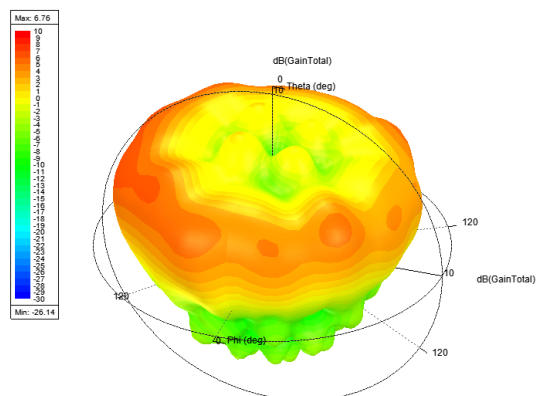
Subject to change without prior notice.

3D Radiation Pattern

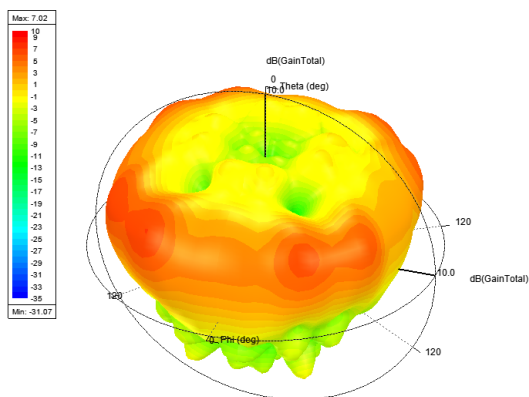
820MHz



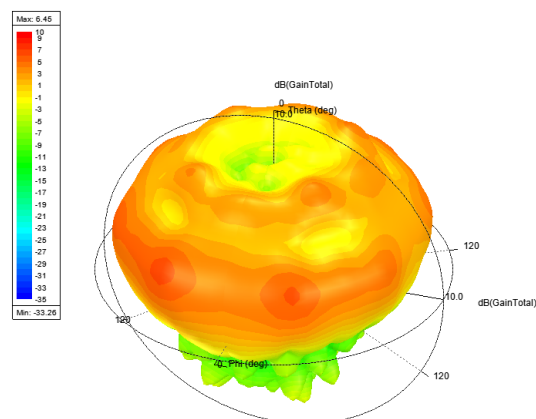
1820MHz



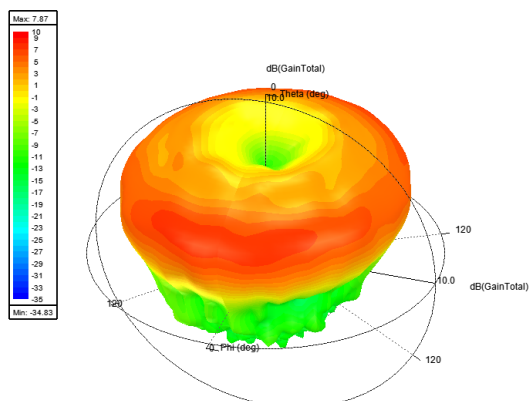
2140MHz



2600MHz



3600MHz



Subject to change without prior notice.

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