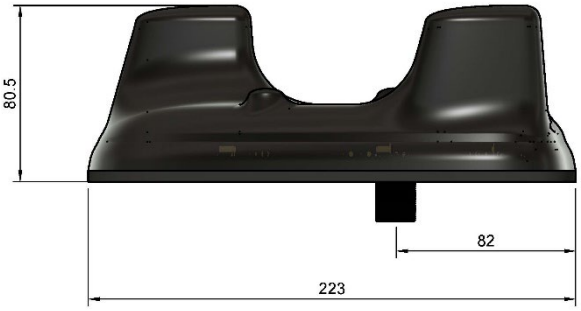
8000-318 Sandcastle 11-in-1 ARP Approved Antenna

SureAntennas

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 **ARP Approved** variant incorporates **11 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. 8000-218

Part No.	Cable Kit Options
SK0233070	Sandcastle Black ARP Antenna 11 in 1 incl 7m Ultra Low Loss Coax Cables
SK0233050	Sandcastle Black ARP Antenna 11 in 1 incl 5m Ultra Low Loss Coax Cables
SK0233040	Sandcastle Black ARP Antenna 11 in 1 incl 4m Ultra Low Loss Coax Cables
SK0233030	Sandcastle Black ARP Antenna 11 in 1 incl 3m Ultra Low Loss Coax Cables
SK0233020	Sandcastle Black ARP Antenna 11 in 1 incl 2m Ultra Low Loss Coax Cables

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Technical Specifications

Part No	8000-318		
Electrical Data	**TETRA**	**LTE**	**Wi-Fi**
Frequency Range (MHz)	380 - 430 MHz	698 - 6000 MHz	2.4 GHz & 5.8GHz
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	2x RG316 Terminated to SMA (m)		
Mechanical Data			
Dimensions (mm)	H76xW197xL227 *		
Operating Temp (°C)	-40 / +80°C (-40° / 176°F)		
Material	ABS		
Colour	Black or White		
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 without prior notice. *Excluding whip

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Band	Antenna Port Isolation (dB)												
	TETRA	LTE B71	LTE	LTE B20		LTE	LTE B3	LTE B7	LTE B78	LTE B46	WiFi	WiFi	GPS
Frequency Range (MHz)	380-430	617-698	698-960	791-821 D	832-862 U	1710-2170	1710-1880	2500-2690	3300-3800	5150-5925	2400-2500	5150-5850	1561-1602
LTE 1 – TETRA	-23.74	-33.68	-38.09	-30.42	-27.81	-36.57	-32.90	-42.78	-56.35	-62.76	-	-	-
LTE 1 – LTE 2	-	-18.15	-22.25	-16.75	-28.46	-27.15	-27.50	-37.47			-	-	-
LTE 1 – WiFi 1	-	-64.26	-62.79	-56.30	-52.26	-34.02	-36.21	-25.98	-52.36	-46.75	-24.74	-46.86	-
LTE 1 – WiFi 2	-	-52.49	-50.72	-44.44	-46.21	-36.59	-40.40	-29.23	-66.46	-40.87	-25.57	-40.91	-
LTE 1 – WiFi 3	-	-66.83	-63.36	-53.20	-70.55	-45.20	-44.85	-43.56	-59.65	-47.78	-36.27	-47.77	-
LTE 1 – WiFi 4	-	-55.44	-55.49	-58.25	-48.14	-30.10	-34.76	-22.35	-41.74	-29.25	-18.31	-29.26	-
LTE 1 – DIV 1	-	-24.73	-44.64	-21.58	-25.31	-27.15	-27.50	-37.06	-	-	-	-	-
LTE 1 – DIV 2	-	-24.53	-42.35	-22.10	-25.47	-27.15	-27.50	-36.39	-	-	-	-	-
LTE 1 – GPS	-	-60.59	-51.67	-53.96	-53.96	-45.33	-46.30	-60.38	-61.60	-72.73	-	-	-64.04
LTE 2 – TETRA	-23.15	-34.37	-36.86	-35.41	-32.95	-37.09	-37.52	-31.89	-53.70	-60.39	-	-	-
LTE 2 – WiFi 1	-	-61.58	-61.90	-67.04	-65.63	-42.34	-41.16	-38.08	-61.16	-44.05	-37.08	-44.10	-
LTE 2– WiFi 2	-	-47.67	-48.24	-37.31	-36.77	-28.00	-32.10	-23.40	-48.11	-26.33	-18.49	-26.29	-
LTE 2 – WiFi 3	-	-58.60	-63.36	-53.20	-70.55	-45.20	-44.85	-43.56	-59.65	-47.78	-36.27	-47.77	-
LTE 2 – WiFi 4	-	-64.35	-65.36	-57.71	-50.43	-33.69	-36.56	-33.08	-59.71	-40.16	-28.38	-40.05	-
LTE 2 – DIV 1	-	-23.92	-20.41	-21.26	-25.81	-26.78	-24.84	-36.76	-	-	-	-	-
LTE 2 – DIV 2	-	-25.01	-20.55	-21.65	-25.02	-26.93	-25.43	-36.19	-	-	-	-	-
LTE 2 – GPS	-	-58.81	-48.64	-46.42	-46.42	-47.26	-49.18	-55.82	-64.91	-64.91	-	-	-59.88
DIV 1 – TETRA	-29.46	-42.09	-41.59	-30.61	-30.34	-41.37	-30.76	-42.04	-62.36	-74.54	-	-	-
DIV 1 – WiFi 1	-	-50.24	-51.72	-49.80	-48.37	-33.29	-35.64	-27.80	-47.48	-38.03	-24.24	-37.92	-
DIV 1– WiFi 2	-	-53.70	-60.33	-50.99	-50.15	-48.57	-56.90	-39.61	-58.40	-49.10	-36.97	-49.01	-
DIV 1 – WiFi 3	-	-50.82	-51.54	-47.18	-47.68	-33.33	-35.63	-29.93	-53.53	-40.31	-27.23	-40.26	-
DIV 1 – WiFi 4	-	-63.18	-71.90	-62.00	-63.71	-50.42	-49.78	-37.11	-53.91	-48.74	-37.91	-48.67	-

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Antenna Port Isolation (dB)													
Band	TETRA	LTE B71	LTE	LTE B20		LTE	LTE B3	LTE B7	LTE B78	LTE B46	WiFi		GPS
Frequency Range (MHz)	380-430	617-698	698-960	791-821 D	832-862 U	1710-2170	1710-1880	2500-2690	3300-3800	5150-5925	2400-2500	5150-5850	1561-1602
DIV 1– DIV 2	-	-9.95	-18.10	-17.63	-27.33	-25.22	-24.09	-33.46	-	-	-	-	-
DIV 1– GPS	-	-48.15	-49.05	-48.17	-48.17	-52.03	-50.17	-66.58	-61.60	-72.73	-	-	-70.29
DIV 2 – TETRA	-30.00	-42.76	-40.95	-31.99	-33.89	-41.94	-32.28	-47.08	-61.68	-74.04	-	-	-
DIV 2 – WiFi 1	-	-49.88	-51.79	-49.99	-48.57	-33.68	-36.14	-27.89	-46.71	-40.68	-24.20	-40.53	-
DIV 2– WiFi 2	-	-53.53	-62.25	-52.49	-50.67	-48.56	-56.42	-39.81	-56.90	-46.01	-39.36	-45.76	-
DIV 2 – WiFi 3	-	-48.94	-51.44	-47.39	-47.62	-33.57	-35.73	-30.03	-52.56	-34.93	-26.56	-34.80	-
DIV 2 – WiFi 4	-	-61.74	-70.28	-62.34	-64.44	-49.90	-49.59	-38.02	-53.45	-46.13	-40.20	-46.04	-
DIV 2– GPS	-	-43.61	-51.54	-55.90	-55.90	-52.69	-50.68	-64.95	-64.02	-72.28	-	-	-75.73
WiFi 1 – TETRA	- 114.02	-	-	-	-	-	-	-	-	-	-82.19	-88.57	-
WiFi 1 – WiFi 2	-	-	-	-	-	-	-	-	-	-	-29.52	-54.76	-
WiFi 1 – WiFi 3	-	-	-	-	-	-	-	-	-	-	-26.74	-59.24	-
WiFi 1 – WiFi 4	-	-	-	-	-	-	-	-	-	-	-24.27	-53.06	-
WiFi 1 – GPS	-	-	-	-	-	-	-	-	-	-	-	-	-
WiFi 2 – TETRA	- 114.02	-	-	-	-	-	-	-	-	-	-75.61	-82.69	-
WiFi 2 – WiFi 3	-	-	-	-	-	-	-	-	-	-	-28.15	-61.75	-
WiFi 2– WiFi 4	-	-	-	-	-	-	-	-	-	-	-29.52	-54.76	-
WiFi 2 – GPS	-	-	-	-	-	-	-	-	-	-	-	-	-
WiFi 3 – TETRA	- 114.02	-	-	-	-	-	-	-	-	-	-80.90	-93.45	-
WiFi 3– WiFi 4	-	-	-	-	-	-	-	-	-	-	-34.02	-55.28	-
WiFi 3 – GPS	-	-	-	-	-	-	-	-	-	-	-	-	-
WiFi 4 – TETRA	- 114.02	-	-	-	-	-	-	-	-	-	-85.41	-88.31	-
WiFi 4 – GPS	-	-	-	-	-	-	-	-	-	-	-	-	-

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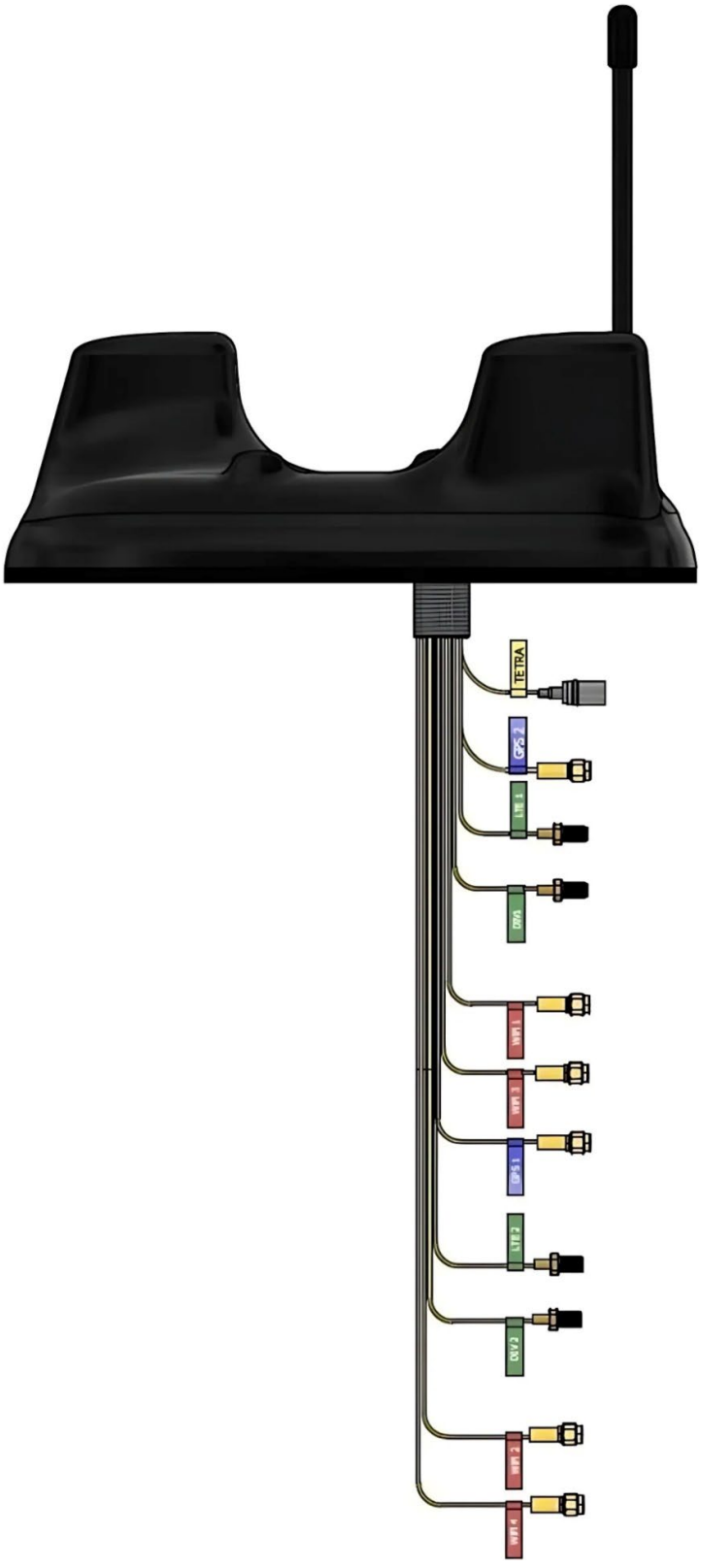
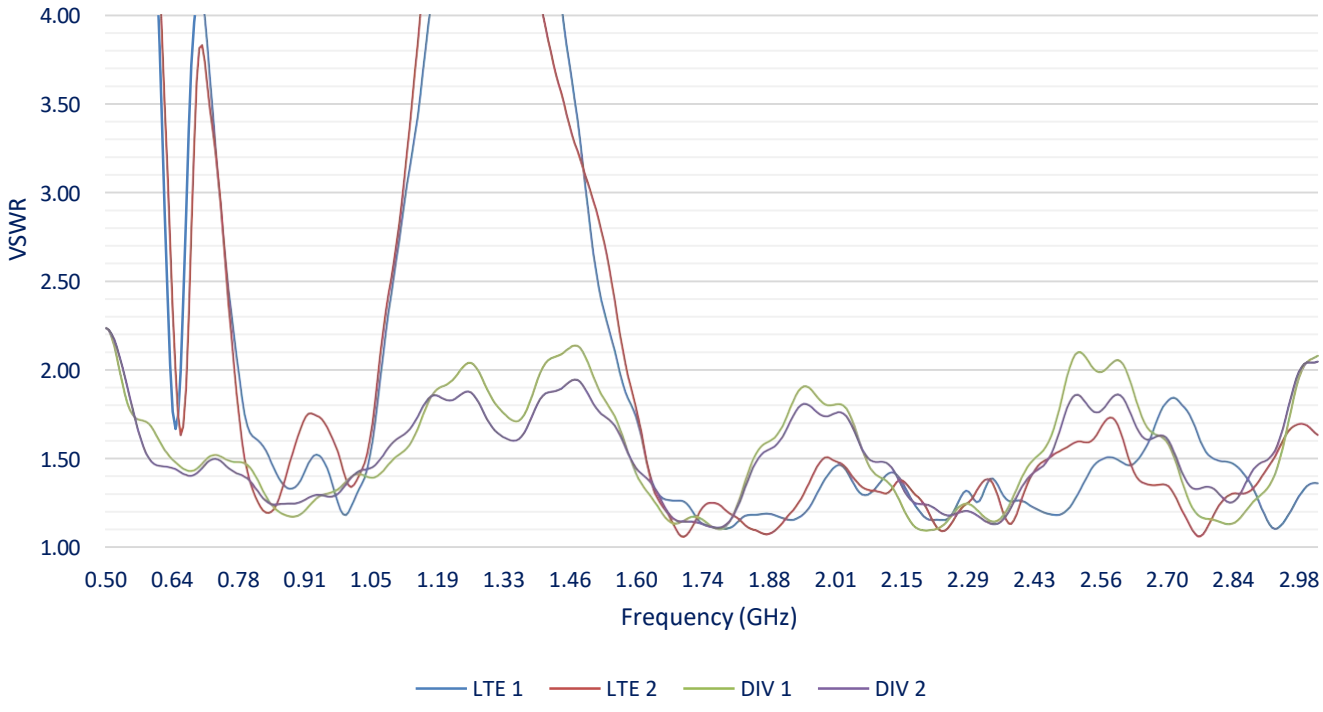
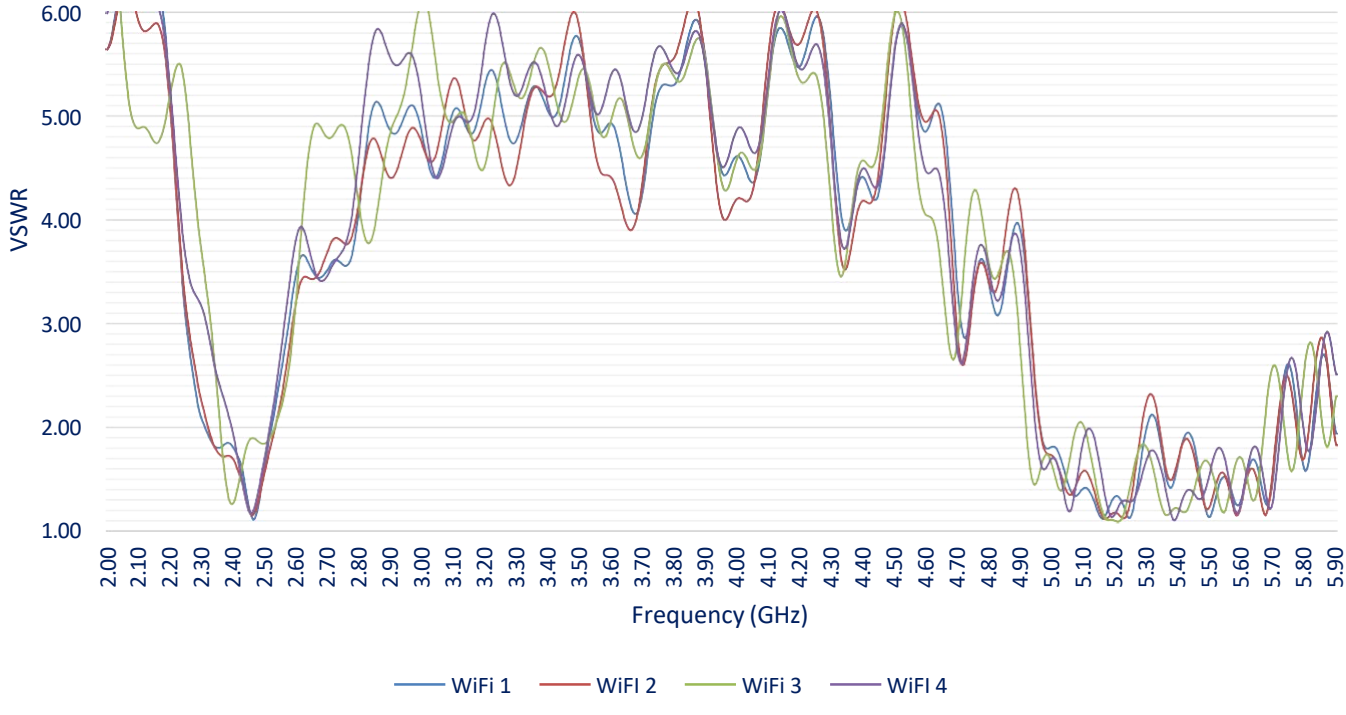
Diagram



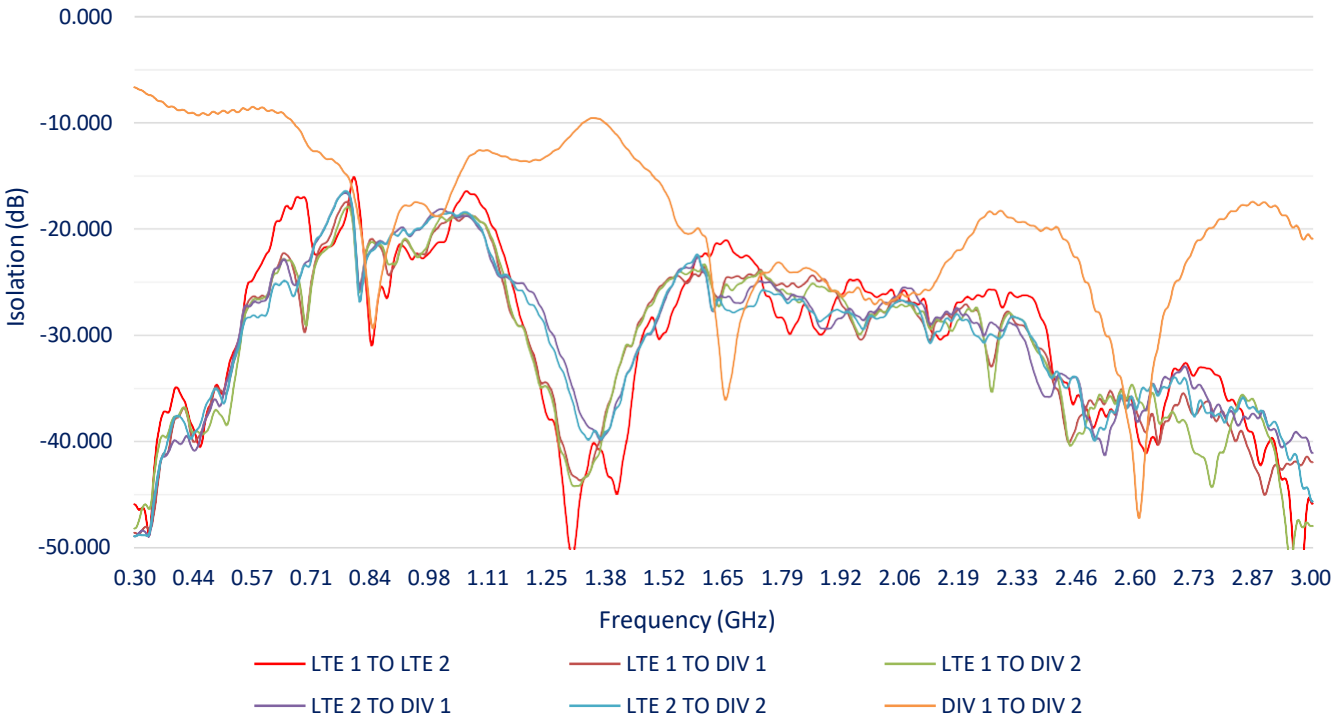
LTE VSWR



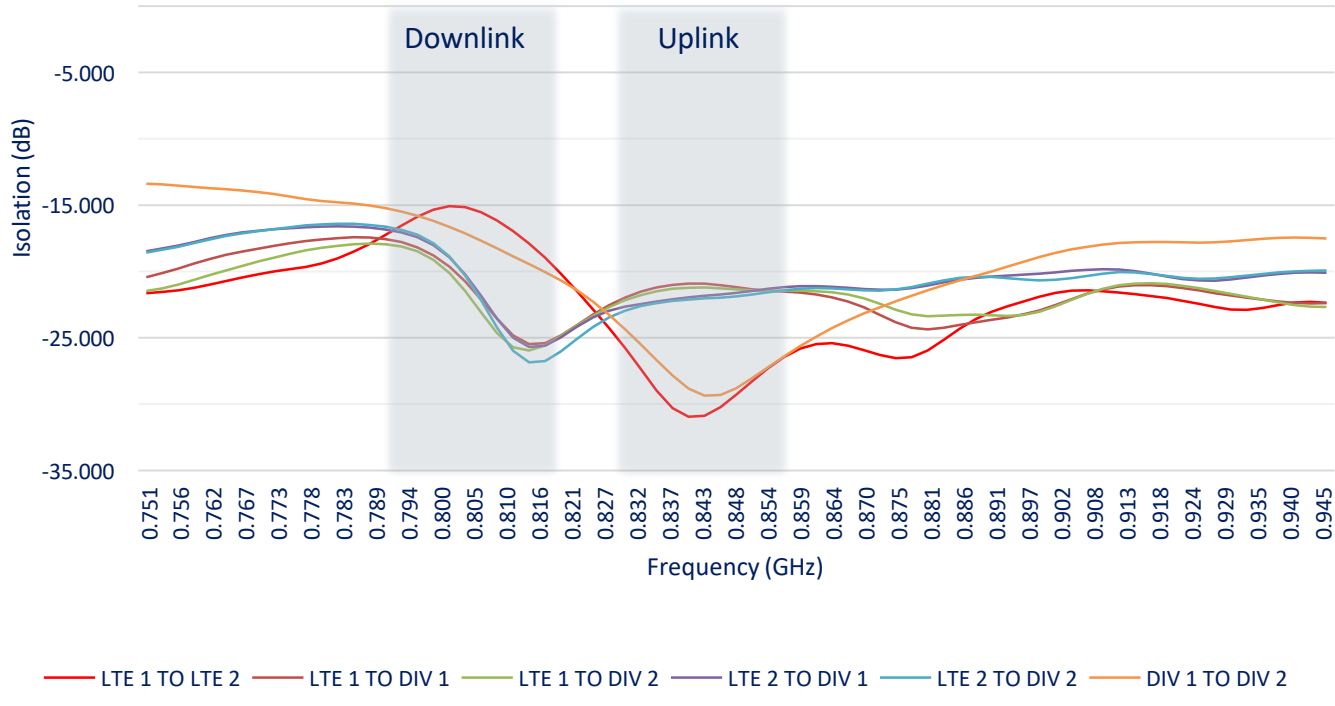
Wi-Fi VSWR



LTE Port Isolation



LTE Band B20 Port Isolation



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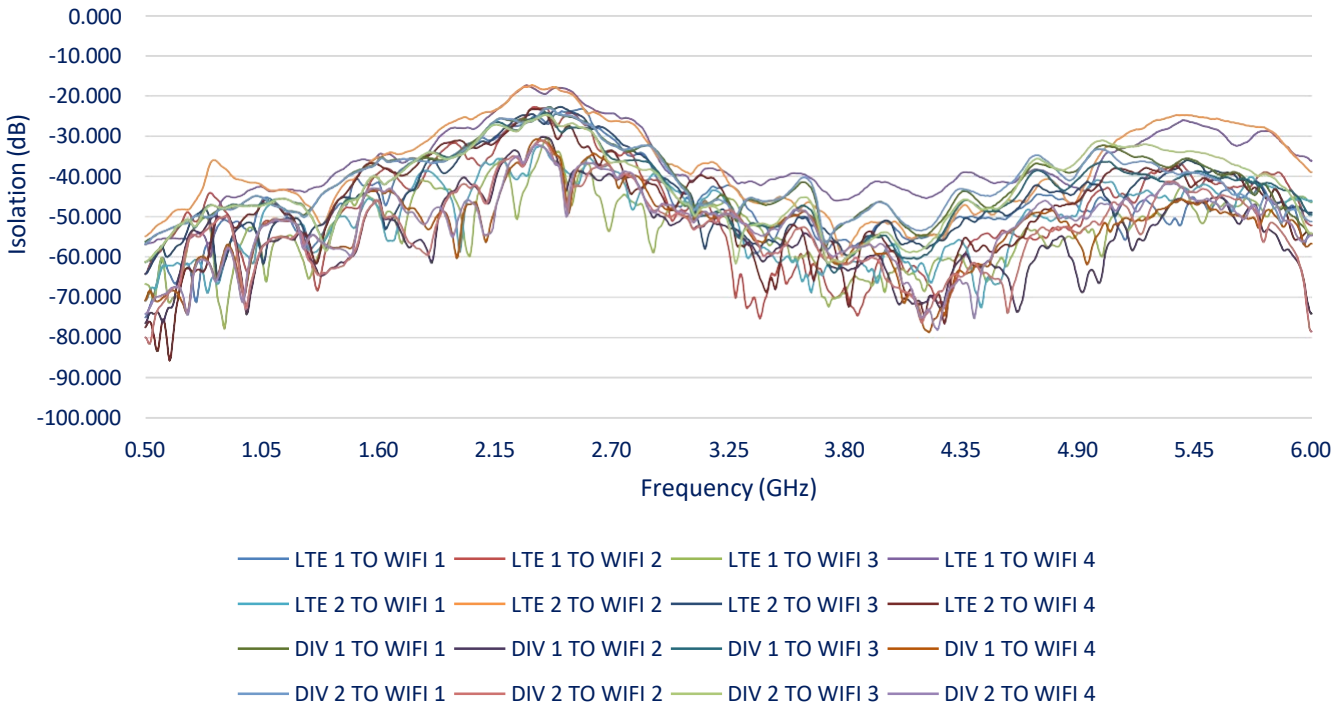
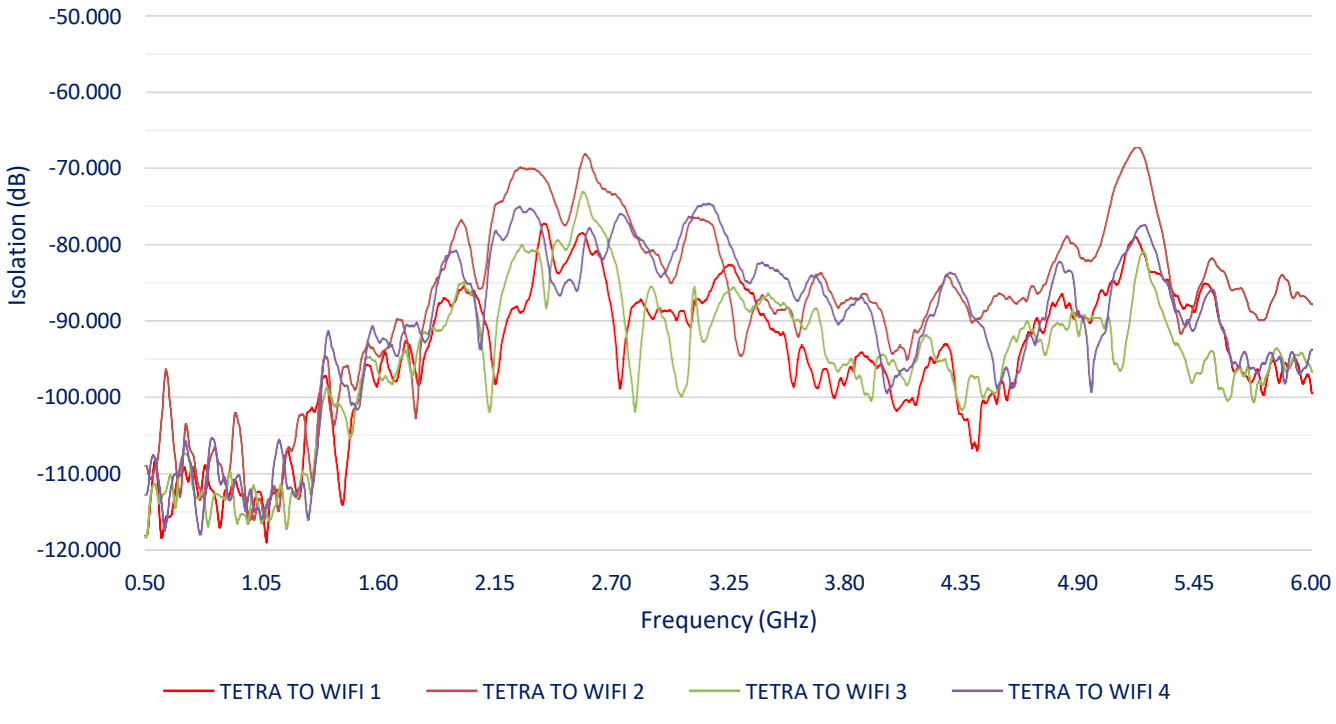
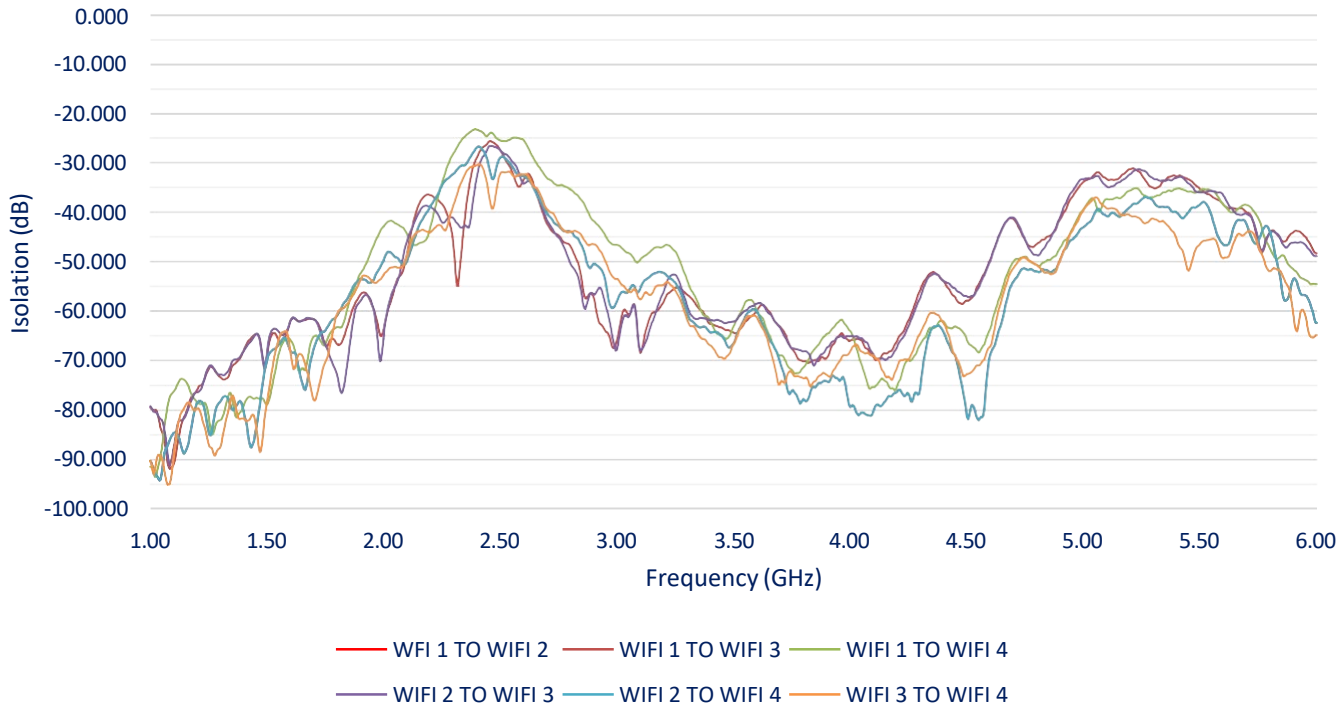
LTE to Wi-Fi Isolation



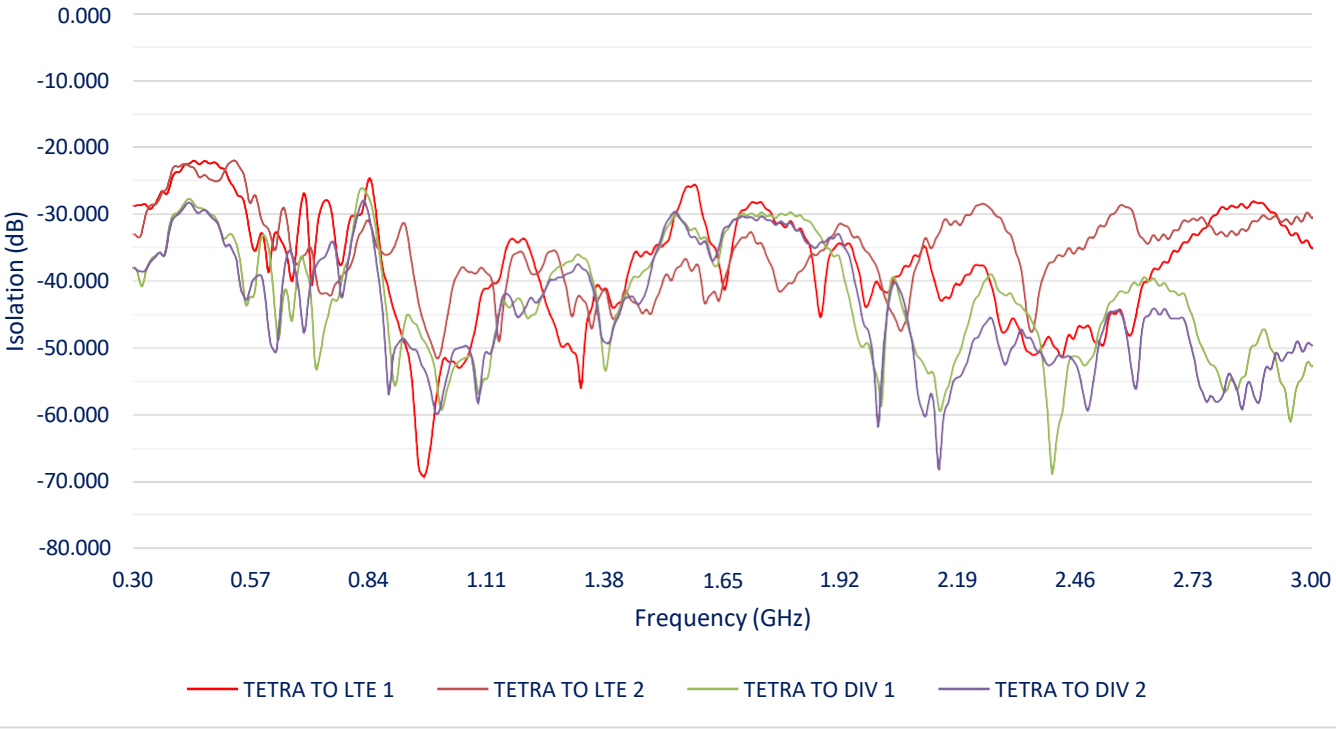
Wi-Fi Ports to Airwave Port

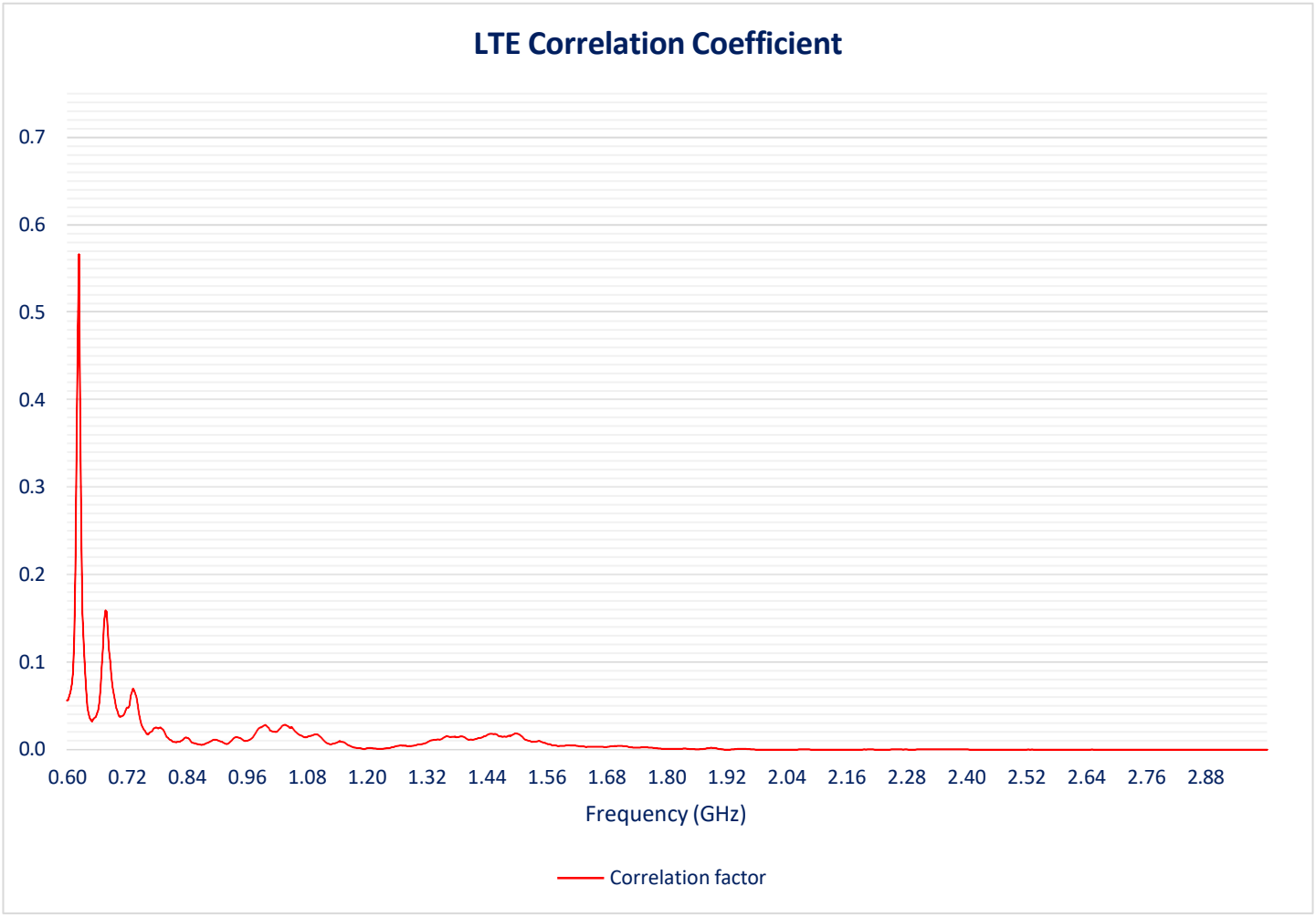


Wi-Fi Port to Wi-Fi Port Isolation



Airwave to LTE Port Isolation





All graphs subject to change without prior notice.

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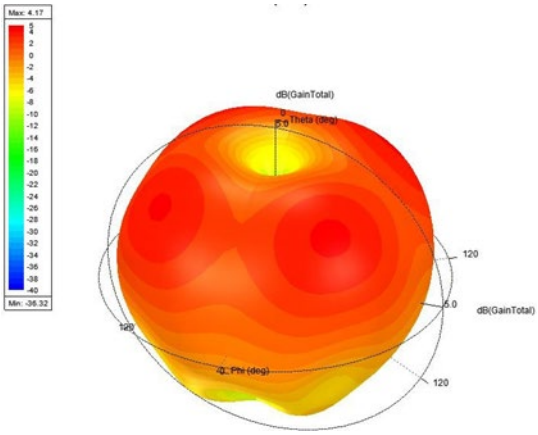
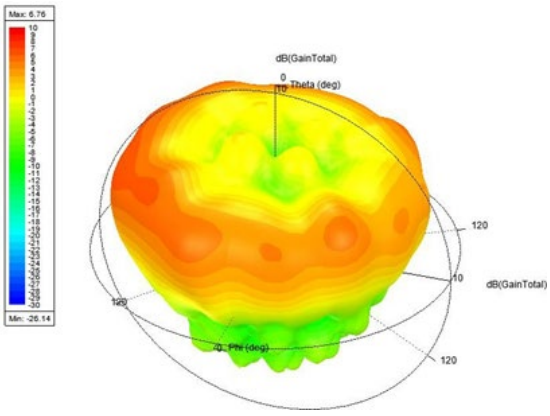
3D Radiation Pattern

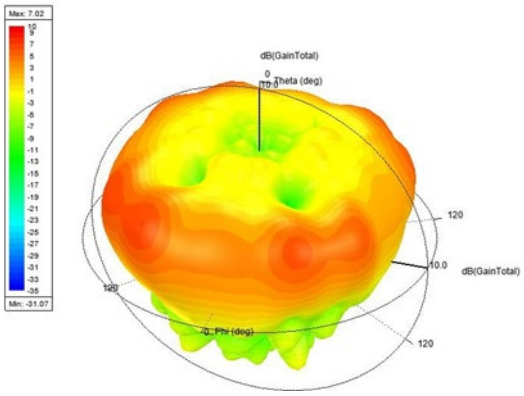
820MHz



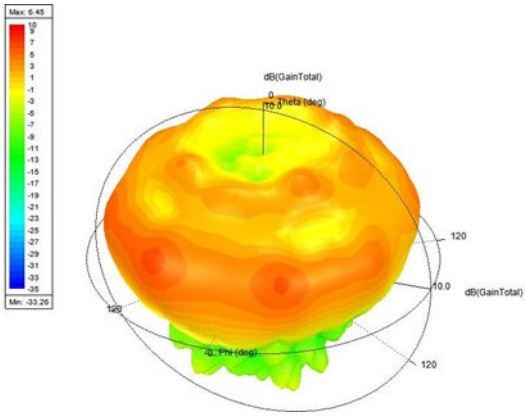
1820MHz



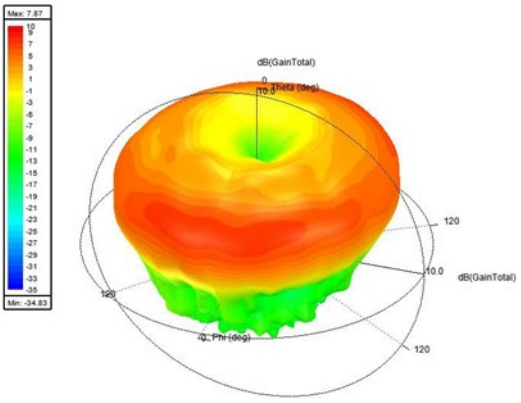
2140MHz



2600MHz



3600MHz



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