STICO ANTENNA SOLUTIONS

Multi-Band 8:1 MIMO Vehicle Antenna

Single-Hole Mounting & NMO Compatibility

- Multi-band roof-mount antenna for rail, transit, public safety, and mobile communications
- 8:1 MIMO design supporting 220 MHz, 900 MHz, 4x LTE/5G, Wi-Fi, and GPS/GNSS
- Single-hole feed-through mount with QMA-female connectors and LMR-100 cabling
- SAE J1455, AREMA, and MIL-STD-810 tested; U.S.-made with five-year warranty

MIMO-02-P9CGW Applications

Freight / Passenger Rail

Transit / Bus

Public Safety

Electrical Specification

Additional Antenna Port	Frequency Range (MHz)	217-222	895-937	Notes	
	VSWR (max)[1,2]	<2.0:1			
	Peak Gain (dBi)[3]	2.0 ± 1.0	3.0 ± 1.0	Max within Operating Band	
	Polarization	Linear Vertical			
	Power Handling (W)	50.0			
	Impedance (Ω)	50			

LTE/5G Cellular (4X)	Frequency Range (MHz)	689-960	1710-3700				
	VSWR (max)[1,2]	< 2.0:1	<2.0:1				
	Peak Gain (dBi)[3]	4.0 ± 1.0	4.0 ± 1.0				Max within Operating Band
	Polarization	Linear Vertical					
	Power Handling (W)	10.0					
	Impedance (Ω)	50					
Isolation		LTE/5G Cellular		UHF 900	VHF 220	Wi-Fi	
	LTE/5G Cellular Antenna Port-to-Port (dB)[1,2]	689-960	1710-3700	895-937	217-222	2400-2500	
		< -15	< -20	-10	< -20	< -20	Operating Band Average

Wi-Fi Antenna Port	Frequency Range (MHz)	2400-2500			
	VSWR (max)[1,2]	<2.0: 1			
	Peak Gain (dbi)[3]	3.0 ± 1.0	3.0 ± 1.0		Max within Operating Band
	Polarization	Linear Vertical			
	Power Handling (W)	1.0			
	Impedance (Ω)	50			

GPS Antenna Port	Frequency Range (MHz)[4]	L1 1561-1602	L2 1215-1237	L5 1164- 1189		GPS/ Galileo/ GLONASS/ Beidou
	VSWR (max)[4,5]	< 2.0 : 1				
	Peak Antenna Gain (dBic)[4,5]	3.5	2.5	1.0		3.0 ~ 5.0V Supply Voltage
	LNA Gain (dB)[4,5]	40 ± 2.0				
	Polarization	RHCP				

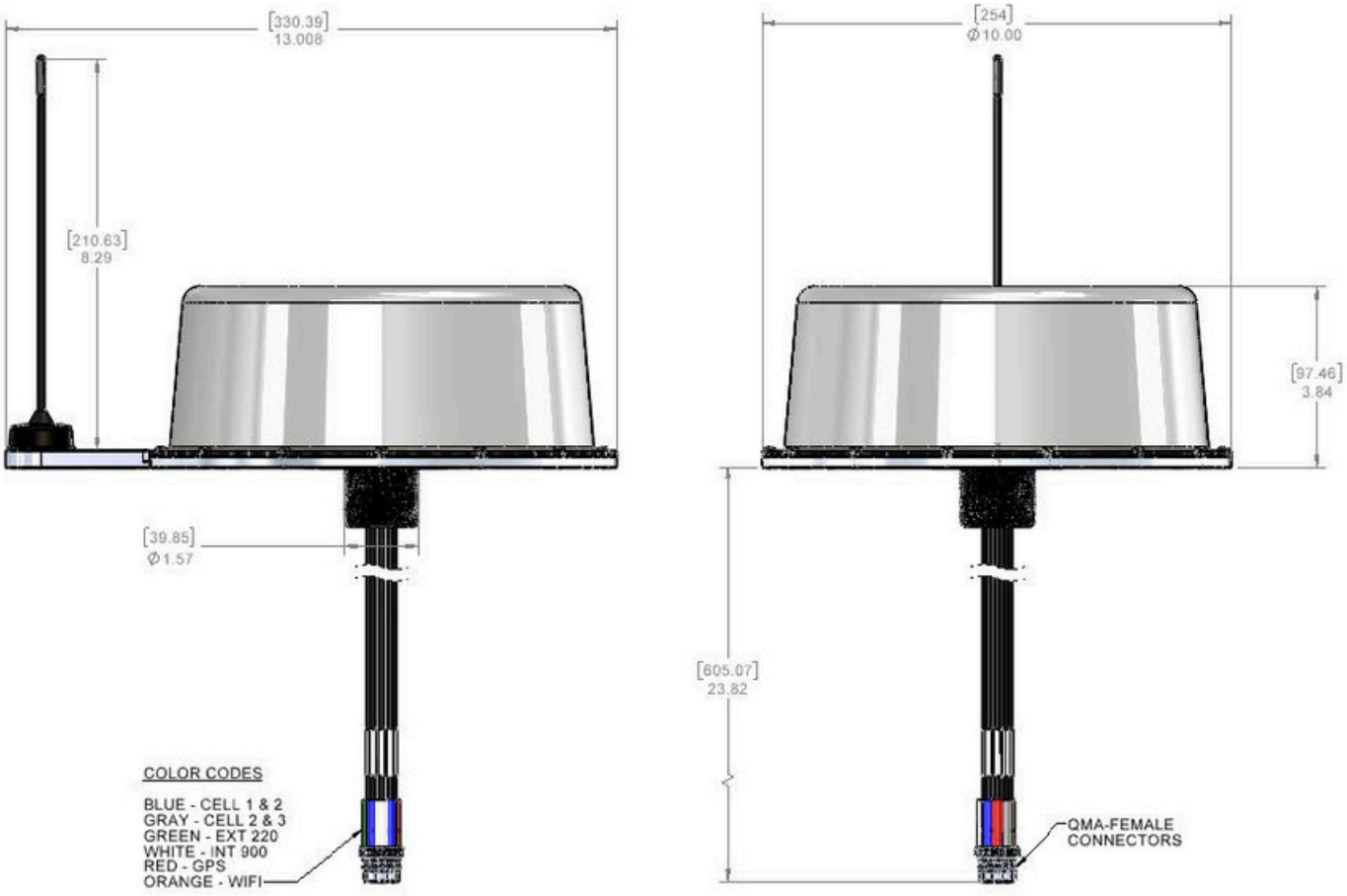
	RF Connectors	QMA-Female	
	RF Cabling	Times Microwave LMR100 (8 @ 2FT)	

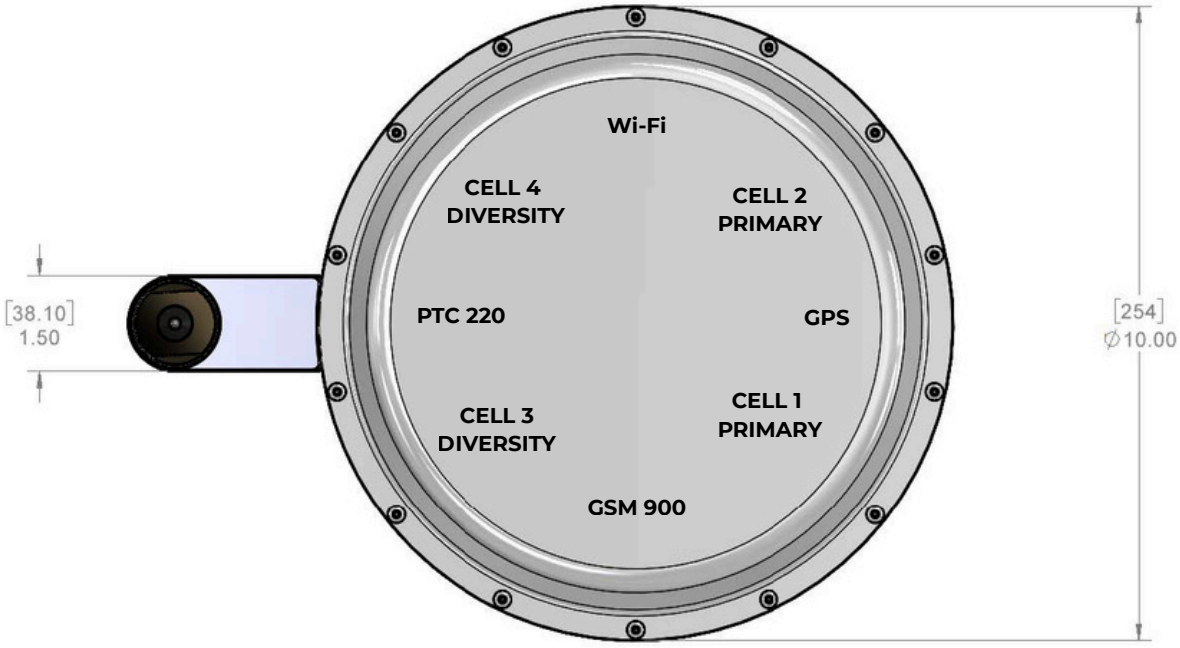
Mechanical Specifications

Mounting Type	Feed Through Roof Mount	1-1/2” OD ½” Max Roof Thickness
Radome Material	Makrolon® Polycarbonate UV Stable	White
Base Material	6061 T6 Aluminum	Chromate Conversion Coating
Dimensions	Diameter (in): 10.0” Height (in): 3.85” External Extension (in): 3” x 1.5”	
Operating Temperature Range	-40°F to +167°F (Operating) -67°F to +185°F (Storage) SAE J1455, 3/2017	Pass
Thermal Shock	SAE J1455, 3/2017	Pass
Humidity	MIL-STD-810F	Pass
Vibration	SAE J1455, 3/2017 (Radom) AREMA, Part 11.5.1, 2008 (Sine)	Pass
Mechanical Shock	AREMA, Part 11.5.1, 2008	Pass
Salt Fog	SAE J1455, 3/2017 AREMA, Part 11.5.1, 2008	Pass
Water Ingress/ Pressure Wash	SAEJ 1455, 3/2017	Pass
Dust/Sand/Gravel	SAEJ 1455, 3/2017 AREMA, Part 11.5.1, 2008	Pass

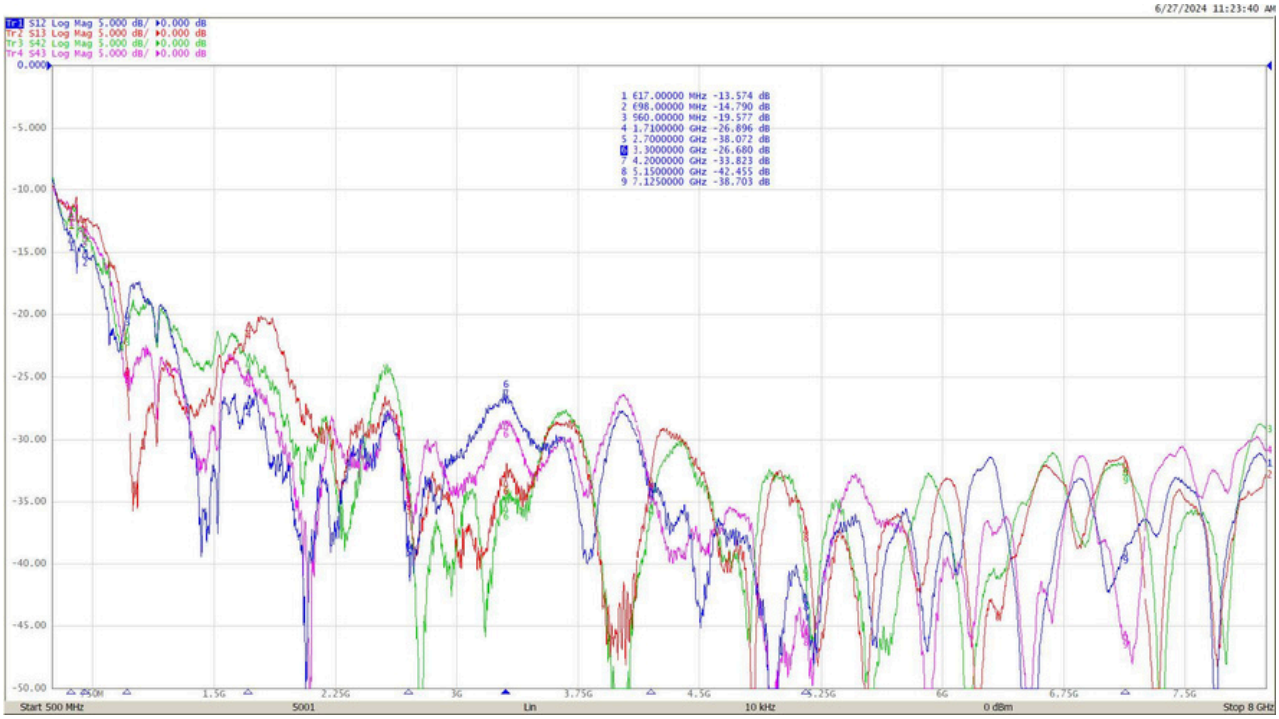
[1] Measured on a 3ft diameter ground plane.
[2] Measurements include 2-ft LMR-100, unless otherwise noted.
[3] Results obtained from Simulation data.
[4] As specified by GPS module manufacturer.
[5] Does not include cable loss.

Mechanical Drawings

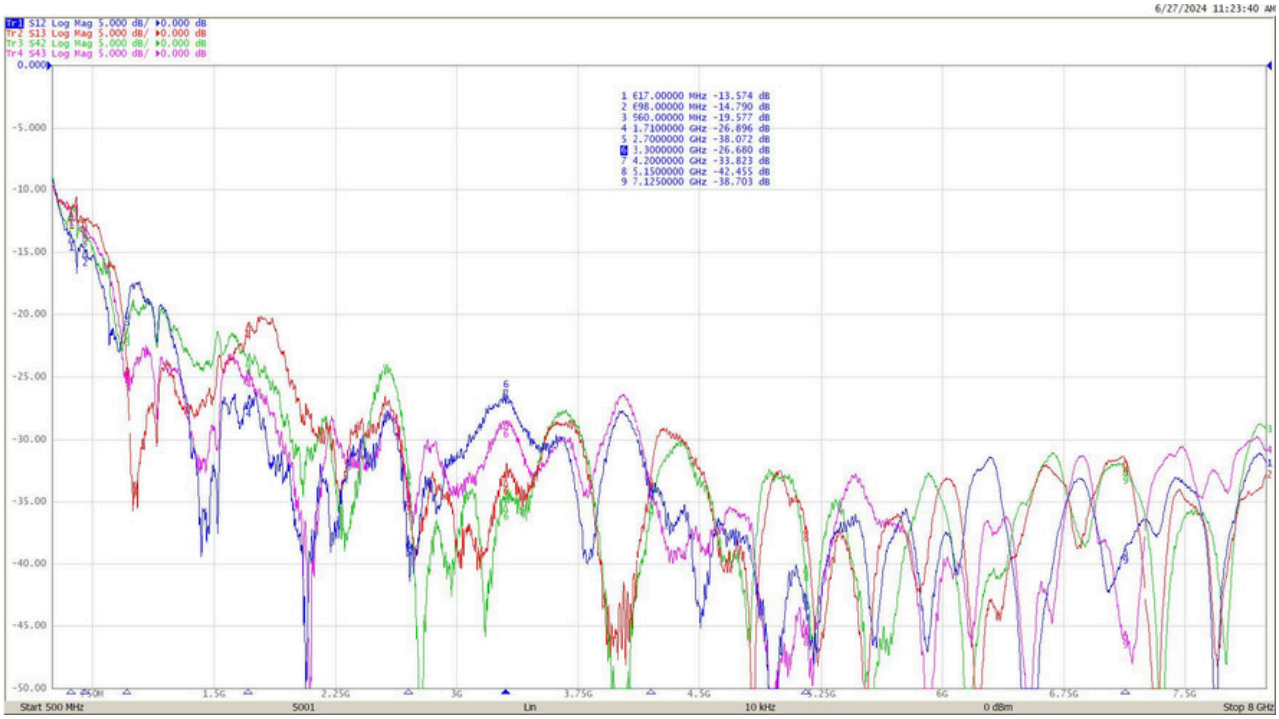




Electrical Performance



Measured Return Loss Performance of 5G/LTE Cell Elements



Measured Insertion Loss Performance of 5G/LTE Cell Elements