

SM714(GNS3-EAMT1)

Rugged Transit Antenna, 4 in 1, 5G/WiFi/Tri-band GNSS

- Wideband cell ports covering all major 5G bands from 617 to 5925 MHz
- Built-in tri-band GNSS module for speedy and precision positioning
- 2.6 inches height low profile and one 3/4" hole mount for easy installation
- Rugged build for reliability in harsh environment

Sinclair SM714 is a rugged high-performance 4 in 1 transit antenna. The cellular ports cover all major 5G/LTE bands spanning between 617 to 5925 MHz. Underneath the radome, there is also a high-precision tri-band GNSS antenna that utilizes a high-performance LNA and supports all global navigation satellite systems, including GPS, Galileo, GLONASS, and Beidou. The GNSS module comes with superior out-of-band rejection thanks to the optimized filtering design. All elements are enclosed in a rugged UV-resistant radome and is IP67 rated for durability and long life. The ultralow profile design guarantees minimum potential downtime from damages and its compact size allows it to blend easily with any environment and is ideal for vehicle rooftop mounting. It can be conveniently mounted on a vehicle rooftop by drilling only one hole.



Please see the chart below for a quick summary of port configurations.

Port	Connector	Pigtail length (nominal)
Cell 1	SMA-M	3m/9.8'
Cell 2	SMA-M	3m/9.8'
WiFi	SMA-M	1m/3.3'
GNSS	BNC-M	3m/9.8'

Note:

When mounted on a metal plate, such as a locomotive rooftop, no ground plate is required. Otherwise, a grounding plane no less than 24 inches in diameter is recommended for optimal performance.

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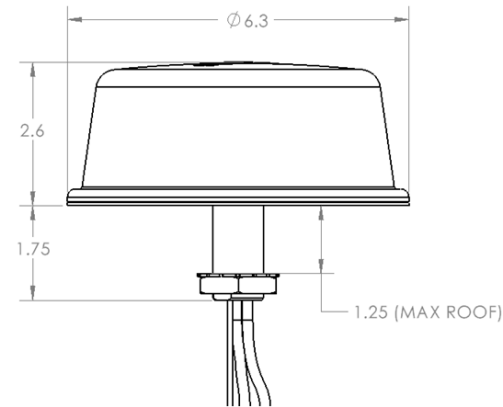
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Product Specification Sheet		SM714(GNS3-EAMT1)	Issue: 0	Dated: 05-21-24

Electrical Specifications

Frequency, port 1 & 2 (Cellular)	MHz	617-5925	*1								
VSWR, port 1 & 2 (Cellular)		2:1	*2								
Frequency, port 3 (WiFi)	MHz	2400-2500, 4900-5925									
VSWR, port 3 (WiFi)		2:1	*3								
Gain (Typ), port 1 & 2 (LTE)	dBd (dBi)	1.9 to 3.9 (4 to 6)	*4								
Gain (Typ), port 3 (WiFi)	dBd (dBi)	2.9 to 3.9 (5 to 6)	*5								
Polarization		vertical	*6								
Impedance	Ω	50									
Pattern		Omni-directional									
Average Input Power (max)	W	Cell ports: 50W; WiFi port: 10									
Number of ports		4									
Isolation port to port		See chart below									
GNSS Frequency	MHz	1164-1286, 1525-1615									
GNSS Polarization		RHCP									
GNSS Output Impedance	Ω	50									
GNSS VSWR(max)		2:1									
GNSS Passive Antenna Gain		>=4 dBi @Fc									
GNSS Gain - LNA	dB	38	*7								
GNSS Axial Ratio @ Zenith	dB	<=3.0									
GNSS Supply Voltage Range	VDC	3 to 16									
GNSS Current Consumption	mA	<=45									
GNSS Noise Figure		<=2 dB @77°F/25°C	*8								
GNSS Out of Band Rejection 1		<table border="1"> <thead> <tr> <th>L5/E5/L2/G2/B2</th> <th>L1/E1/B1/G1</th> </tr> </thead> <tbody> <tr> <td>> 55 dB @ f < 1050 MHz</td> <td>> 40 dB @ f < 1450 MHz</td> </tr> <tr> <td>> 30 dB @ f < 1125 MHz</td> <td>> 40 dB @ f > 1690 MHz</td> </tr> <tr> <td>> 45 dB @ f > 1350 MHz</td> <td>> 45 dB @ f > 1730 MHz</td> </tr> </tbody> </table>	L5/E5/L2/G2/B2	L1/E1/B1/G1	> 55 dB @ f < 1050 MHz	> 40 dB @ f < 1450 MHz	> 30 dB @ f < 1125 MHz	> 40 dB @ f > 1690 MHz	> 45 dB @ f > 1350 MHz	> 45 dB @ f > 1730 MHz	
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Notes

- *1 : 617-960/1710-2700/3400-4200/4400-5000/5150-5925 MHz
- *2 : Typ. <2:1 @ 698-5925 MHz; <3:1 @617-698MHz; measured with 3-meter pigtail.
- *3 : Max, measured with 1-meter pigtail.
- *4 : On a 24x24 inch metal ground.
- *5 : On a 24x24 inch metal ground.
- *6 : Cellular and WiFi ports.
- *7 : ±3dB
- *8 : Typ, with pre-filter
- *9 : Flammability: EN 60332-1-2, UL 1581 § 1100, EN 50305, 9.1.2.
- *10: Flammability: EN 60332-1-2, UL 1581 § 1100, EN 50305, 9.1.2.
- *11: Flammability: EN 60332-1-2, UL 1581 § 1100, EN 50305, 9.1.2.
- *12: After installation following the installation manual.



Mechanical Specifications

Width	in (mm)	6.3 (160)	
Depth	in (mm)	6.3 (160)	
Height	in (mm)	2.6 (66)	
Cable - Cell port		EF142, LSZH, fire retardant	*9
Cable - WIFI port		EF142, LSZH, fire retardant	*10
Cable - GNS port		EF316, LSZH, fire retardant	*11
Radome material		UV stabilized ASA, UL94 HB	
Base plate material		aluminum	
Weight	lbs (kg)	2 (0.91)	
Estimated Shipping Weight	lbs (kg)	3 (1.36)	
Shipping dimensions	in (mm)	10x10x10 (254x254x254)	
Radome Colour		White	
Ingress protection		IP67	*12

Environmental Specifications

Temperature range	°F (°C)	-40 to +140 (-40 to +60)
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	Frequency (MHz)	Isolation (typ)
Cell ↔ Cell	617-960	10 dB
	1695-5925	25 dB
Cell ↔ WiFi	617-960	25 dB
	1695-5925	20 dB

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