Product: BODY REM GNSS / LTE

Product Order Code:
BM-02 RANGE

Low Profile Body Mounted Antenna

GNSS, LTE-4G, CELLULAR (2G, 3G)

- Low profile robust combination antenna
- RoHS 2011/65/EU & RoHS3 (2015/863/EU compliant)
- Request samples for test & evaluation via enquiry@bloomice.com

Technical Data

Dimensions		79mm x 74mm x 15.3mm (H) (Including self adhesive pad)
Weight		74g (Excluding cables and connectors)
Construction Materials Maximum Torque Setting (Nm)		PC/ABS / UL94 V0 / UV Stable 4.8Nm
Mounting Arrangement		M12 Stainless Steel Split Nut combined with 3M Adhesive Pad Mounting on any surface (glass, metal, plastic etc.)
Temperature Range		-40 to +85 Degree C
Protection Class		IP67 (IEC 60529)
Cellular LTE / 2G / 3G		
Frequency Range	LTE 700 + GSM 900 GSM 1800 MTS WLAN + LTE (High)	698 - 960 MHz 1710 - 1880 MHz 1920 - 2170 MHz 2300 - 2700 MHz
Impedance		50 Ohm
Polarisation		Linear
Peak Gain	LTE 700 & GSM 900 GSM 1800 MTS WLAN + LTE (high)	@ 790-960 MHz 3.8dBi @ 1710-1880 MHz 0dBi @ 1920-2170 MHz -0.6dBi @ 2300-2700 MHz -1.7dBi
Radiation Pattern		Omni-Directional (individual patterns detailed below)
Max Power @ 30 Celsius	LTE 800 & GSM 900 GSM 1800 MTS WLAN + LTE (high)	25 Watts @ 790-960 MHz 25 Watts @ 1710-1880 MHz 25 Watts @ 1920-2170 MHz 25 Watts @ 2300-2700 MHz
Return loss (VSWR)		<2.5 1 (All Bands)
Radiator Type		Dipole
Cable types Available		LL100 50 Ohm Low Loss / RG174 / RG316
Cable Length		According to customer specification
Connector		According to customer specification
Test & Measurement Conditions		300mm x 300mm Ground Plane / 1000mm LL100 Cable

dBi Referenced to an isotropic radiator

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Technical Data (Continued)

GNSS (GPS / GALILEO / QZSS & GLONASS)		
Frequency Range	GPS, GALILEO, QZSS GLONASS	1575.42 MHz Centre Frequency (+/- 1.024MHz) 1602 MHz Centre Frequency (+/-4MHz)
Impedance		50 Ohm
Polarisation		RHCP
Radiation Pattern		Hemispherical
Return loss (VSWR)		<1.3 1 (@ 1575.42MHz & 1602MHz)
Gain		28dB @ 3v / 30dB @ 5v
Operational Voltage		2.7v to 5.5v
Current Consumption		11mA to 18mA (Typical)
Power Consumption		40mW (Typical)
SAW Filter		Pre-filter
Noise Figure		1.5dB (Typical)
Cable types Available		LL100 50 Ohm Low Loss / RG174 / RG316
Cable Length		According to customer specification
Connector		According to customer specification
Test & Measurement Conditions		300mm x 300mm Ground Plane / 1000mm LL100 Cable

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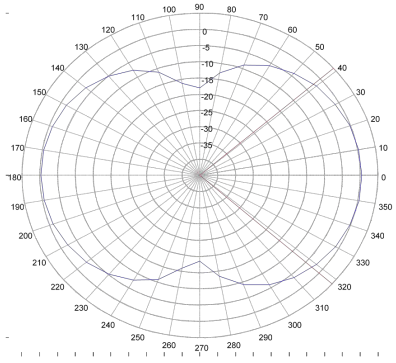
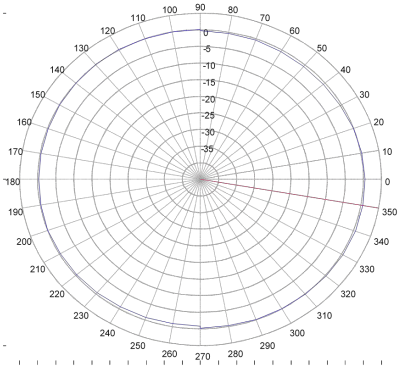
Radiating Patterns - LTE Frequencies



Name: Name
Date/Time = 28-Jun-20 11:28:58 AM
Plot Scale: 5 dB/Div
Beamwidth: 83.43 Degrees

Frequency: 700 MHz
MAX dB= 0.4713 @ 0 Deg.
MIN dB= -18.62 @ 270 Deg.
dB Min/Max Delta = 19.092 dB

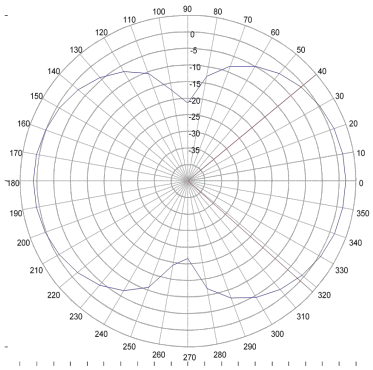
700MHZ ELEVATION CUT - AZIMUTH ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:21:08 PM
Plot Scale: 5 dB/Div
Beamwidth: 370 Degrees

Frequency: 700 MHz
MAX dB= 0.5885 @ -10 Deg.
MIN dB= -0.857 @ -100 Deg.
dB Min/Max Delta = 1.4461 dB

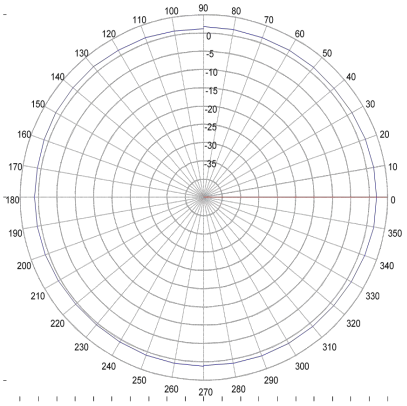
700MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:33:36 AM
Plot Scale: 5 dB/Div
Beamwidth: 82.09 Degrees

Frequency: 850 MHz
MAX dB= 1.9632 @ 360 Deg.
MIN dB= -21.64 @ 270 Deg.
dB Min/Max Delta = 23.606 dB

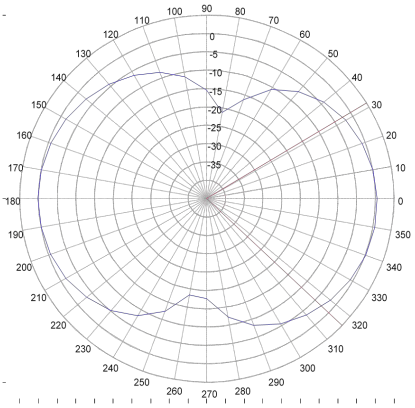
850MHZ ELEVATION CUT - AZIMUTH ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:22:19 PM
Plot Scale: 5 dB/Div
Beamwidth: 370 Degrees

Frequency: 850 MHz
MAX dB= 1.9581 @ -0 Deg.
MIN dB= 0.5353 @ -130 Deg.
dB Min/Max Delta = 1.4227 dB

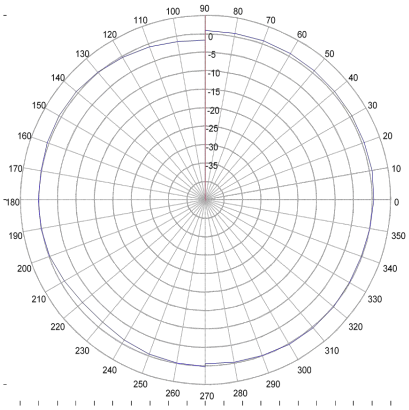
850MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:34:09 AM
Plot Scale: 5 dB/Div
Beamwidth: 75.19 Degrees

Frequency: 960 MHz
MAX dB= 0.4633 @ 350 Deg.
MIN dB= -21.17 @ 80 Deg.
dB Min/Max Delta = 21.640 dB

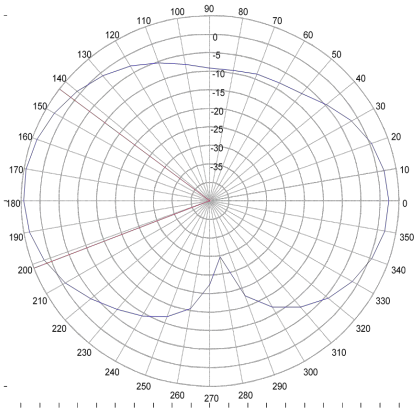
960MHZ ELEVATION CUT - AZIMUTH ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:22:53 PM
Plot Scale: 5 dB/Div
Beamwidth: 370 Degrees

Frequency: 960 MHz
MAX dB= 0.8848 @ 90 Deg.
MIN dB= -1.747 @ -270 Deg.
dB Min/Max Delta = 2.6327 dB

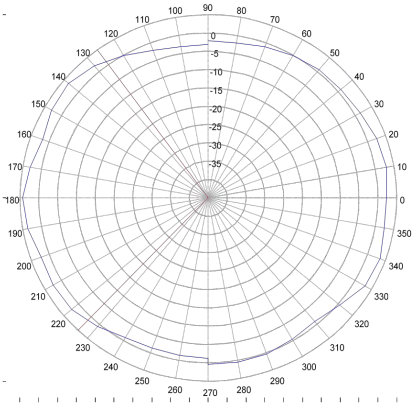
960MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:35:29 AM
Plot Scale: 5 dB/Div
Beamwidth: 58.51 Degrees

Frequency: 1710 MHz
MAX dB= 4.3800 @ 170 Deg.
MIN dB= -29.68 @ 280 Deg.
dB Min/Max Delta = 34.069 dB

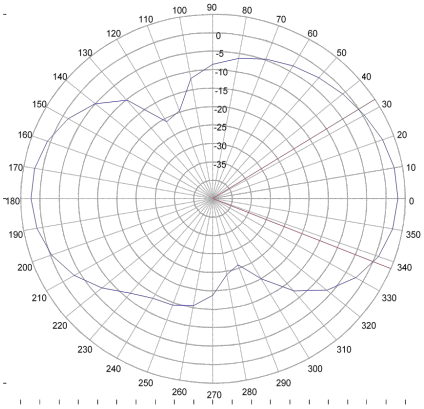
1710MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:24:18 PM
Plot Scale: 5 dB/Div
Beamwidth: 100.2 Degrees

Frequency: 1700 MHz
MAX dB= 4.2840 @ -180 Deg.
MIN dB= -3.193 @ -270 Deg.
dB Min/Max Delta = 7.4773 dB

1700MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:36:41 AM
Plot Scale: 5 dB/Div
Beamwidth: 54.87 Degrees

Frequency: 1900 MHz
MAX dB= 3.0700 @ 0 Deg.
MIN dB= -26.00 @ 290 Deg.
dB Min/Max Delta = 29.077 dB

1900MHZ ELEVATION CUT - AZIMUTH ANGLE 0

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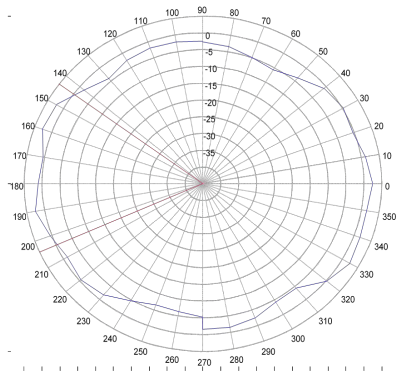
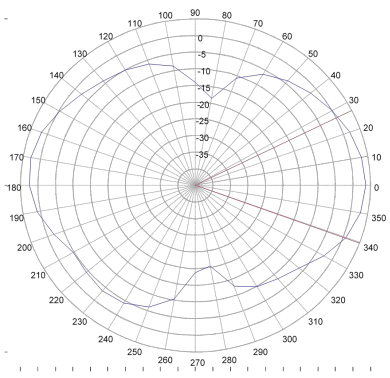
Radiating Patterns - LTE Frequencies



Name: Name
Date/Time = 28-Jun-20 12:25:27 PM
Plot Scale: 5 dB/Div
Beamwidth: 60.50 Degrees

Frequency: 1900 MHz
MAX dB= 2.7357 @ -200 Deg.
MIN dB= -6.654 @ -110 Deg.
dB Min/Max Delta = 9.3907 dB

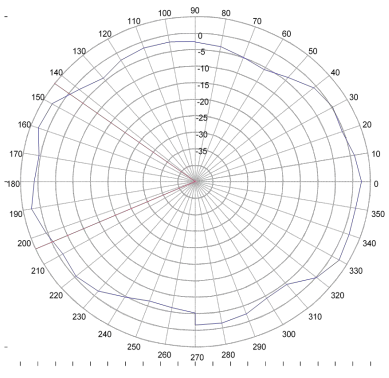
1900MHZ AZIMUTH CUT -ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:38:18 AM
Plot Scale: 5 dB/Div
Beamwidth: 47.06 Degrees

Frequency: 2100 MHz
MAX dB= 3.6115 @ 0 Deg.
MIN dB= -20.38 @ 280 Deg.
dB Min/Max Delta = 23.996 dB

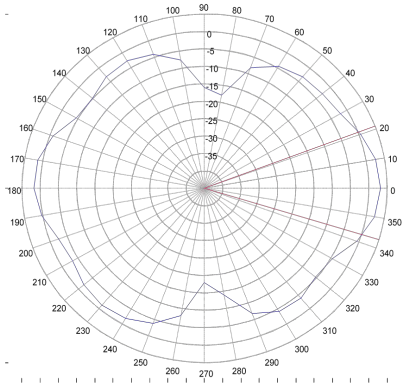
2100MHZ ELEVATION CUT- AZIMUTH ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:26:41 PM
Plot Scale: 5 dB/Div
Beamwidth: 60.50 Degrees

Frequency: 2100 MHz
MAX dB= 2.7357 @ -200 Deg.
MIN dB= -6.654 @ -110 Deg.
dB Min/Max Delta = 9.3907 dB

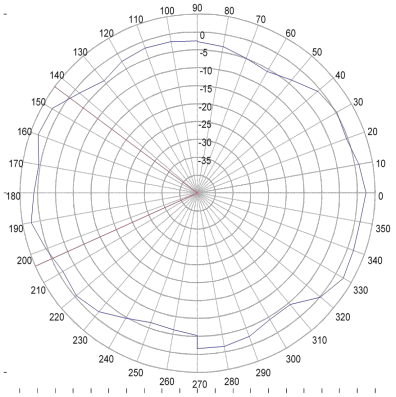
2100MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:39:45 AM
Plot Scale: 5 dB/Div
Beamwidth: 37.89 Degrees

Frequency: 2300 MHz
MAX dB= 3.2133 @ 0 Deg.
MIN dB= -18.06 @ 270 Deg.
dB Min/Max Delta = 21.278 dB

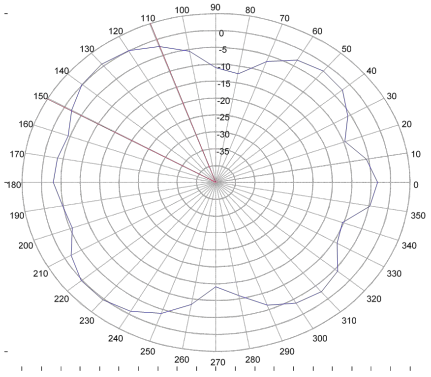
2300MHZ ELEVATION CUT - AZIMUTH ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:33:28 PM
Plot Scale: 5 dB/Div
Beamwidth: 61.92 Degrees

Frequency: 2300 MHz
MAX dB= 2.7167 @ -170 Deg.
MIN dB= -7.259 @ 60 Deg.
dB Min/Max Delta = 9.9762 dB

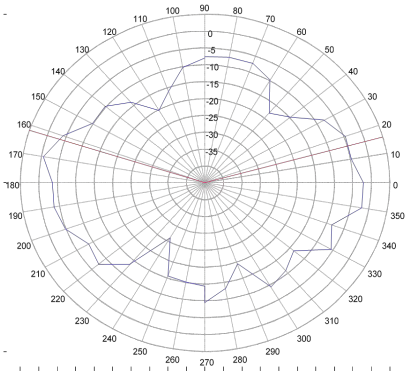
2300MHZ AZIMUTH CUT - ELEVATION ANGLE 0



Name: Name
Date/Time = 28-Jun-20 11:40:39 AM
Plot Scale: 5 dB/Div
Beamwidth: 40.71 Degrees

Frequency: 2600 MHz
MAX dB= 0.7866 @ 130 Deg.
MIN dB= -14.03 @ 270 Deg.
dB Min/Max Delta = 14.826 dB

2600MHZ ELEVATION CUT - AZIMUTH ANGLE 0



Name: Name
Date/Time = 28-Jun-20 12:34:45 PM
Plot Scale: 5 dB/Div
Beamwidth: 8.132 Degrees

Frequency: 2600 MHz
MAX dB= -0.525 @ -190 Deg.
MIN dB= -26.09 @ -120 Deg.
dB Min/Max Delta = 25.572 dB

2600MHZ AZIMUTH CUT - ELEVATION ANGLE 0

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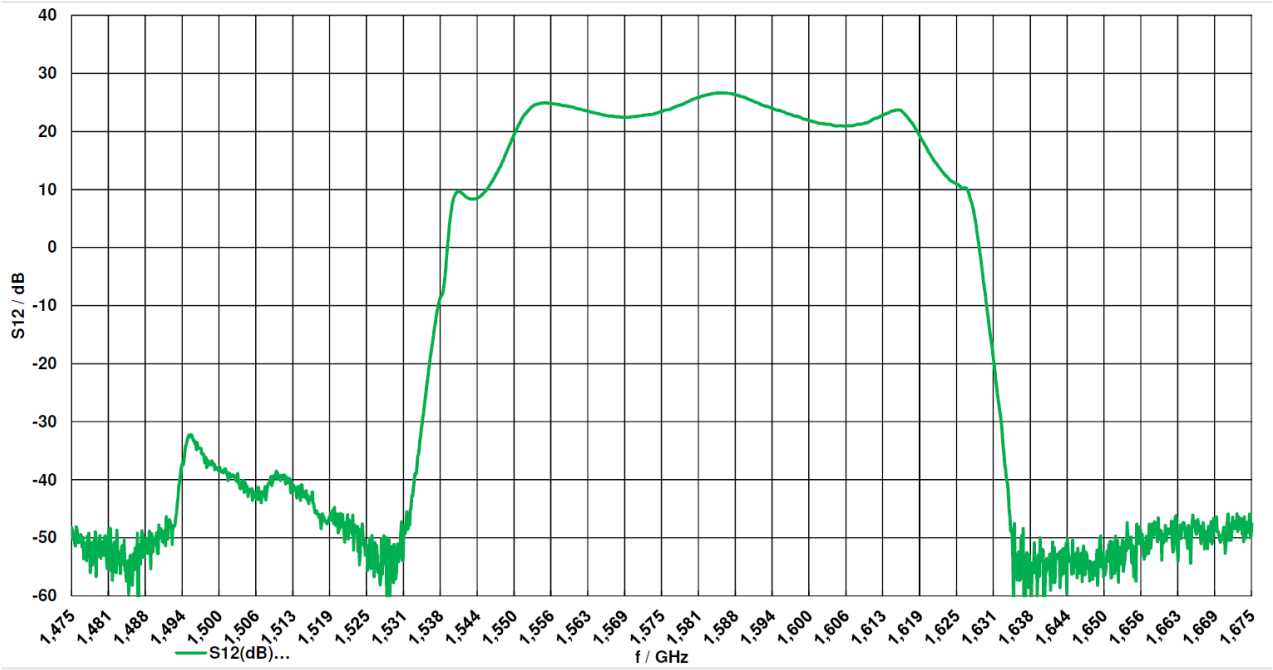
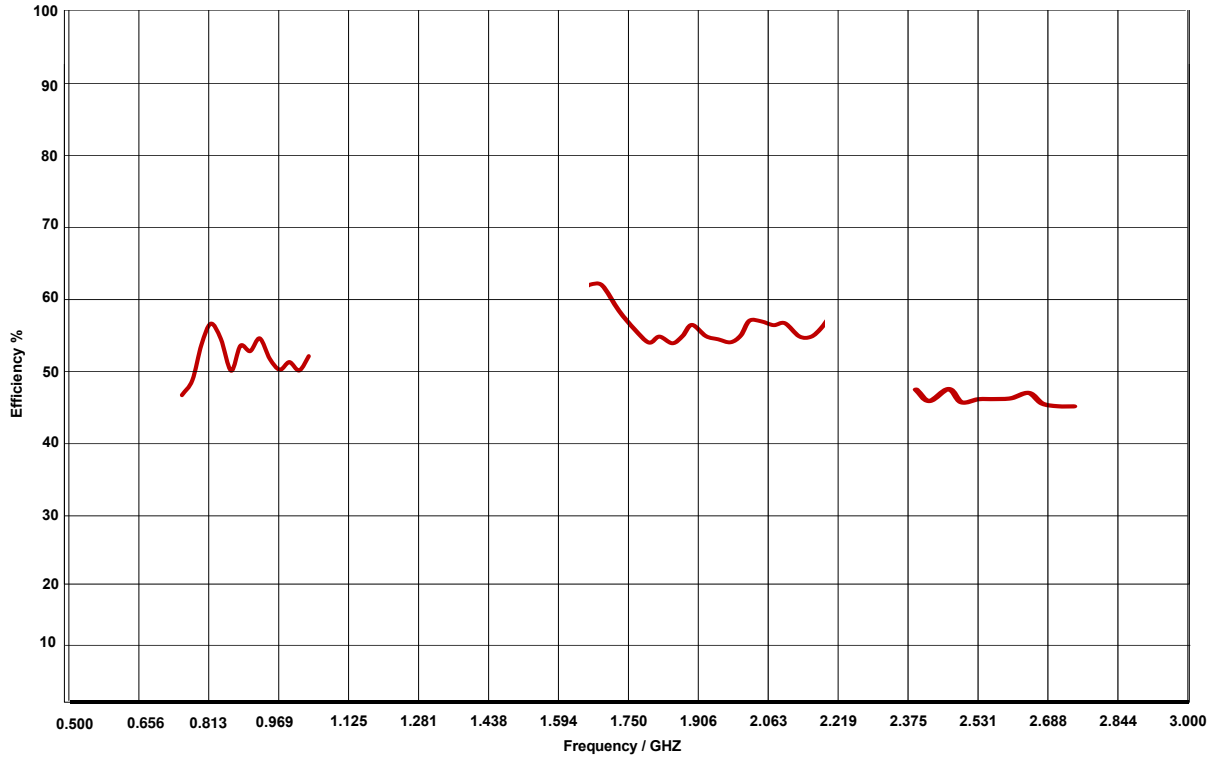
Typical GNSS LNA Gain



Radiated Efficiency (LTE)



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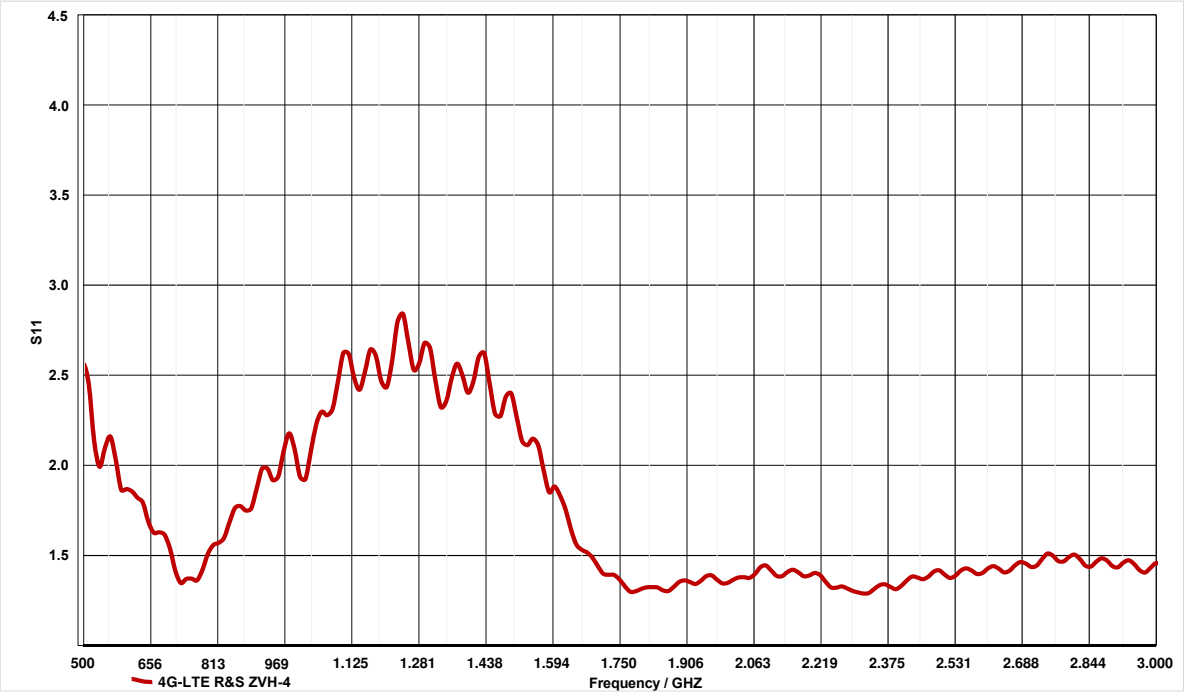
Typical VSWR Data



CAD Data