

Product: DISC81-14 GNSS / LTE

Product Order Code:
BM-02 RANGE

Low Profile Self Adhesive Mounted Antenna

GPS, 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	81mm x 16.3mm (H) (Including self adhesive pad)	
Weight	74g (Excluding cables and connectors)	
Construction Materials	PC/ABS UL94 V0 / UV Stable	
Mounting Arrangement	3M Adhesive Pad Mounting on any non metallic surface (glass, 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: UMTS: 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: UMTS: 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 700 + GSM 900: GSM 1800: UMTS: 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 x 2mm ABS / 1000mm LL100 Cable / SMA Male connector	

dBi: Referenced to an isotropic radiator

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Technical Data (Continued)

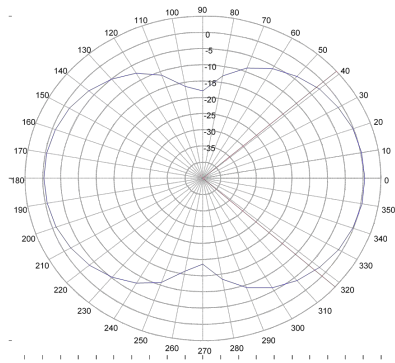
GPS / GALILEO / QZSS

Frequency Range	GPS, GALILEO, QZSS:	1575.42 MHz Centre Frequency (+/- 1.024MHz)
Impedance		50 Ohm
Polarisation		RHCP
Radiation Pattern		Hemispherical
Return loss (VSWR)		<1.3:1 (@ 1575.42MHz)
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
Cable Length		According to customer specification
Connector		According to customer specification
Test & Measurement Conditions		300mm x 300mm x 2mm ABS / 1000mm LL100 Cable / SMA Male connector

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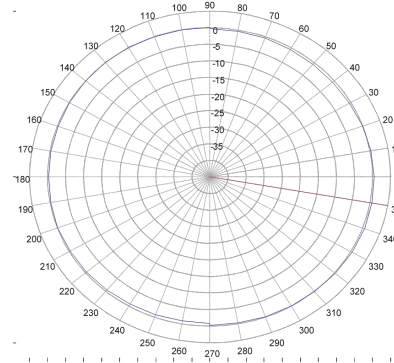
Radiating Patterns - LTE Frequencies

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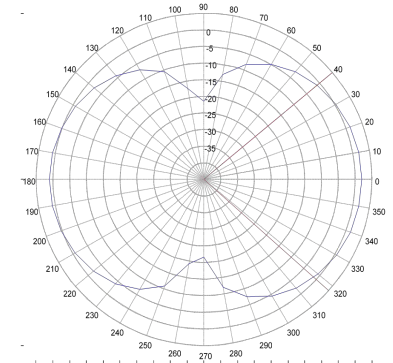
Name: Name
Date/Time = 28-Jun-20 11:28:58 AM
Plot Scale: 5 dB/Div
Beamwidth: 83.43 Degrees
Frequency: 700 MHz
MAX dB= 0.4713 @ 0 Deg
MIN dB= -18.62 @ 270 Deg
dB Min/Max Delta = 19.092 dB

700MHZ ELEVATION CUT - AZIMUTH ANGLE 0



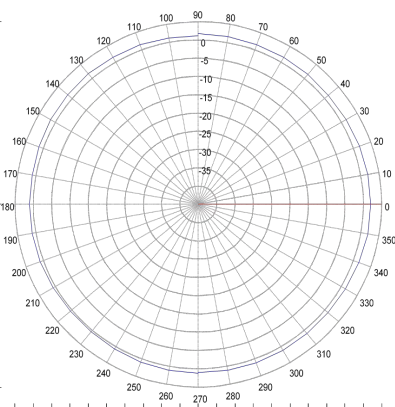
Name: Name
Date/Time = 28-Jun-20 12:21:08 PM
Plot Scale: 5 dB/Div
Beamwidth: 370 Degrees
Frequency: 700 MHz
MAX dB= 0.5885 @ -10 Deg
MIN dB= -0.857 @ -100 Deg
dB Min/Max Delta = 1.4461 dB

700MHZ AZIMUTH CUT - ELEVATION ANGLE 0



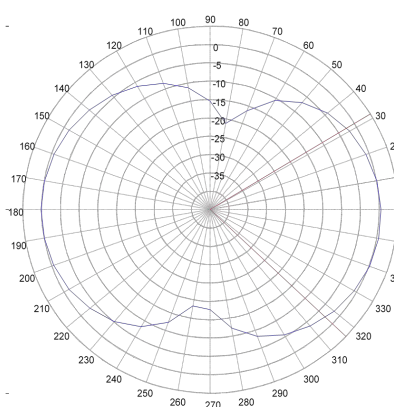
Name: Name
Date/Time = 28-Jun-20 11:33:36 AM
Plot Scale: 5 dB/Div
Beamwidth: 82.09 Degrees
Frequency: 850 MHz
MAX dB= 1.9532 @ 360 Deg
MIN dB= -21.64 @ 270 Deg
dB Min/Max Delta = 23.598 dB

850MHZ ELEVATION CUT - AZIMUTH ANGLE 0



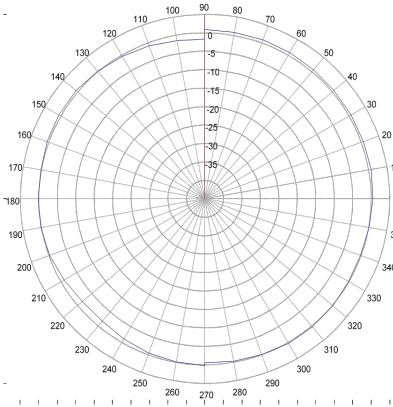
Name: Name
Date/Time = 28-Jun-20 12:22:19 PM
Plot Scale: 5 dB/Div
Beamwidth: 370 Degrees
Frequency: 850 MHz
MAX dB= 1.9561 @ -0 Deg
MIN dB= 0.5353 @ -130 Deg
dB Min/Max Delta = 1.4227 dB

850MHZ AZIMUTH CUT - ELEVATION ANGLE 0



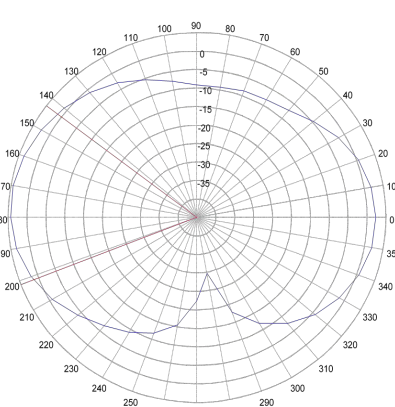
Name: Name
Date/Time = 28-Jun-20 11:34:09 AM
Plot Scale: 5 dB/Div
Beamwidth: 75.19 Degrees
Frequency: 960 MHz
MAX dB= 0.4633 @ 350 Deg
MIN dB= -21.17 @ 90 Deg
dB Min/Max Delta = 21.640 dB

960MHZ ELEVATION CUT - AZIMUTH ANGLE 0



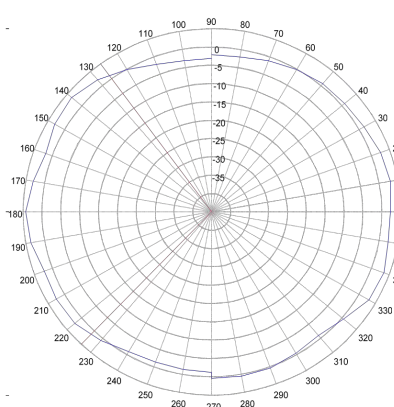
Name: Name
Date/Time = 28-Jun-20 12:22:53 PM
Plot Scale: 5 dB/Div
Beamwidth: 370 Degrees
Frequency: 960 MHz
MAX dB= 0.8848 @ 90 Deg
MIN dB= -1.747 @ -270 Deg
dB Min/Max Delta = 2.6327 dB

960MHZ AZIMUTH CUT - ELEVATION ANGLE 0



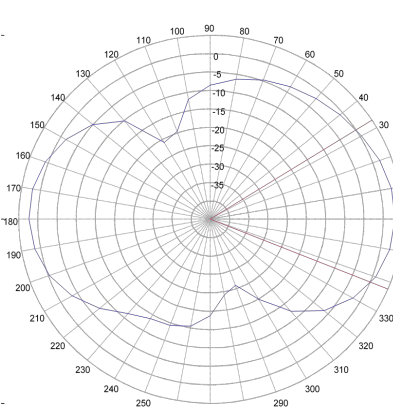
Name: Name
Date/Time = 28-Jun-20 11:35:29 AM
Plot Scale: 5 dB/Div
Beamwidth: 58.51 Degrees
Frequency: 1710 MHz
MAX dB= 4.3800 @ 170 Deg
MIN dB= -29.68 @ 280 Deg
dB Min/Max Delta = 34.069 dB

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

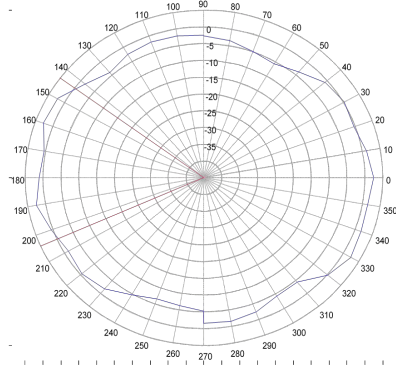
1900MHZ ELEVATION CUT - AZIMUTH ANGLE 0

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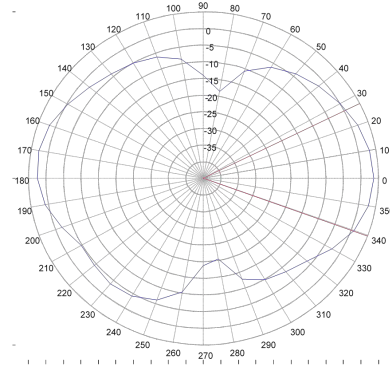
Radiating Patterns - LTE Frequencies



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

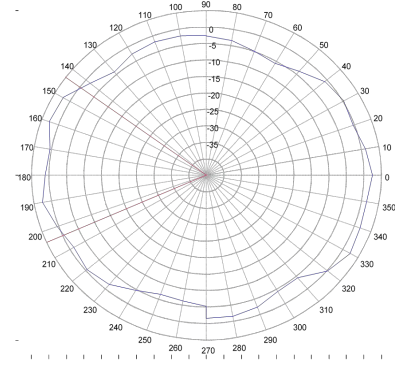
1900MHZ AZIMUTH CUT -ELEVATION ANGLE 0



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

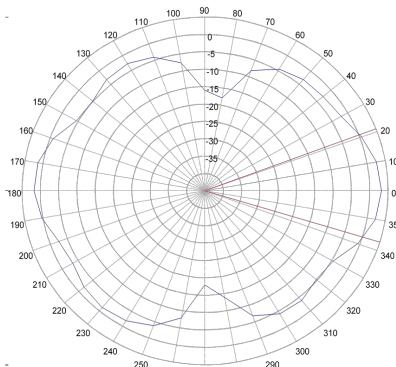
2100MHZ ELEVATION CUT- AZIMUTH ANGLE 0



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

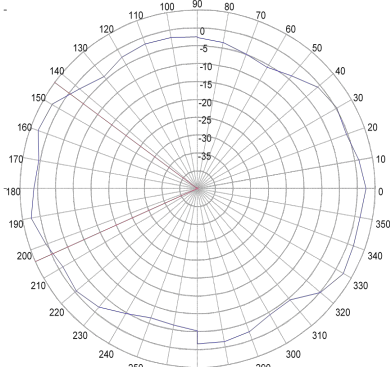
2100MHZ AZIMUTH CUT - ELEVATION ANGLE 0



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

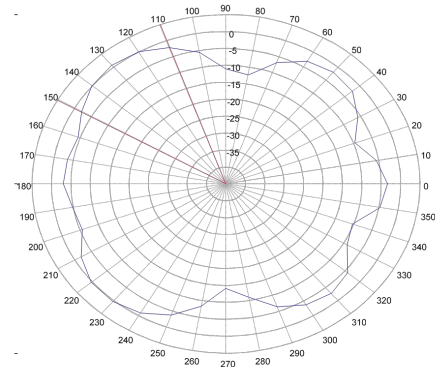
2300MHZ ELEVATION CUT - AZIMUTH ANGLE 0



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

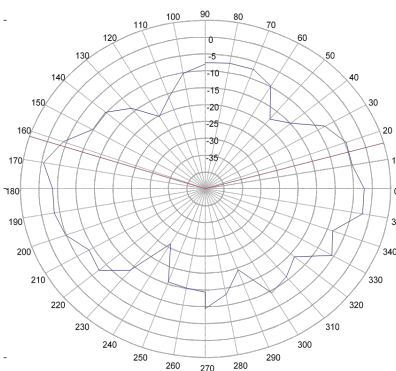
2300MHZ AZIMUTH CUT - ELEVATION ANGLE 0



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

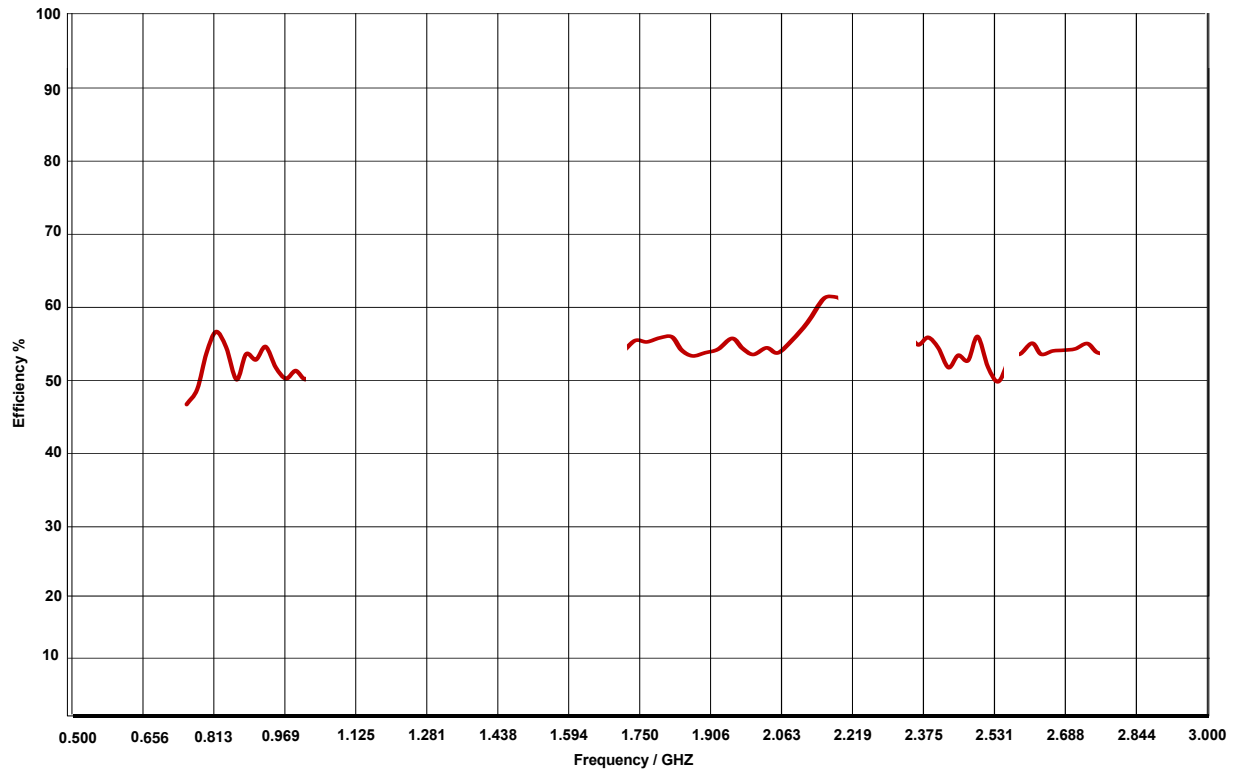
Frequency: 2600 MHz
MAX dB= 0.525 @ -190 Deg.
MIN dB= -26.09 @ -120 Deg.
dB Min/Max Delta = 25.572 dB

2600MHZ AZIMUTH CUT - ELEVATION ANGLE 0

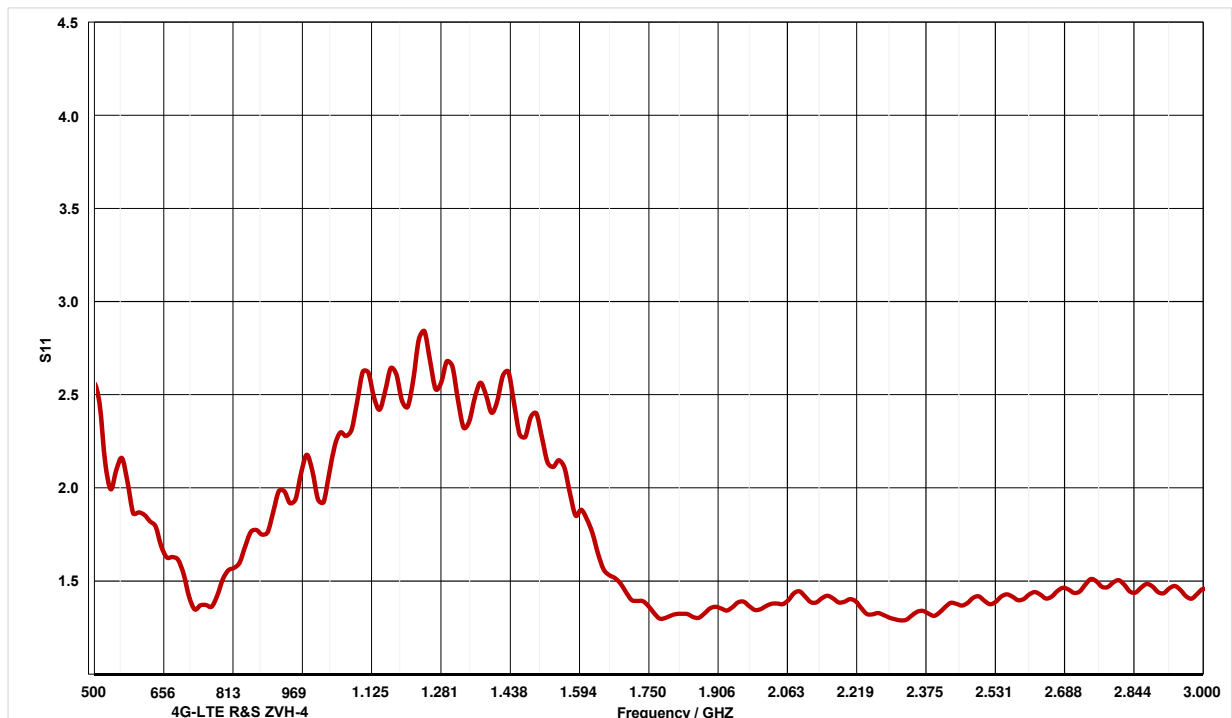
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Radiated Efficiency (LTE)



VSWR Data (LTE)



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CAD Data

