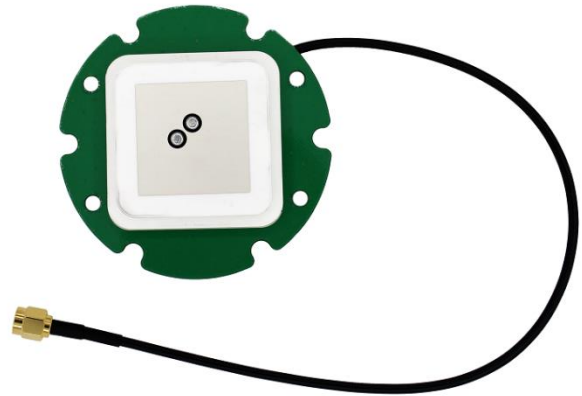


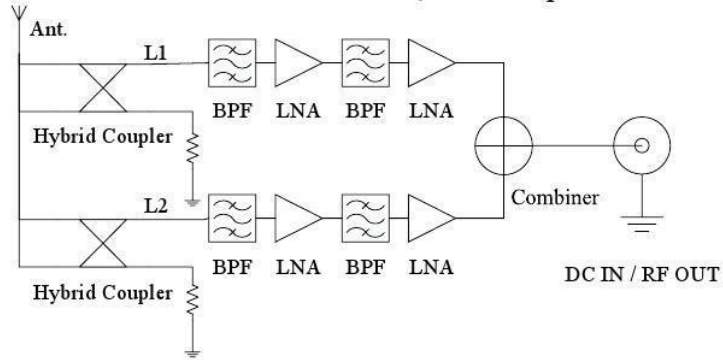
simpleANT2B-OEM

*Multi-band, high precision GNSS antenna
in only 78 grams*



1.0 SYSTEM:

This antenna system consists of two functional blocks, the LNA portion and the patch antenna.



2.0 GENERAL

2.1 ENVIRONMENTAL CONDITIONS

2.1.1	Operation Temperature	- 40°C to + 85°C
2.1.2	Storage Temperature	- 40°C to + 90°C
2.1.3	Relative Humidity	40% to 95%

2.2 ELECTRICAL SPECIFICATIONS

2.2.1	Operation Voltage	Min: 2.5 V	Typ.: 3.0 V	Max: 5.5V
2.2.2	Current Consumption@ 3.0V	Typ: 20mA	Max: 40mA	

2.3 CABLE & CONNECTOR

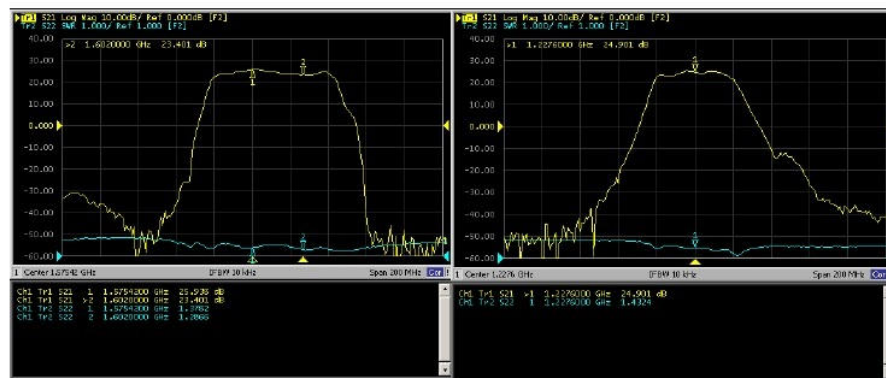
2.3.1	RF Cable	RG174 , $\phi 2.7 \pm 0.2\text{mm}$, Color: Black , 80 Braid L =246mm $\pm 15\text{mm}$
2.3.2	RF Connector	SMA180°(M)

3.0 ANTENNA

3.1	Frequency Range	L1: 1575.42 ± 1.023 MHz, 1602.6 ± 8 MHz L2: 1227.6 ± 10 MHz
3.2	Gain	1575.42MHz: +0 dBi Typ. 1602.6MHz: +3 dBi Typ. 1227.6MHz: +1.5 dBi Typ.
3.3	Polarization	RHCP
3.4	Axial Ratio	4.0dB Max.

4.0 LNA

4.1	Frequency Range	L1: 1575.42 ± 1.023 MHz, 1602 ± 8 MHz L2: 1227.6 ± 10 MHz
4.2	Gain	1575.42MHz : 25±3 dB Typ. (+ 25 °C± 5°C) 1602MHz : 23±3 dB Typ. (+ 25 °C± 5°C) 1227.6MHz : 25±3 dB Typ. (+ 25 °C± 5°C)
4.3	Noise Figure	1575.42MHz: 1.8 dB Typ. (+ 25 °C± 5°C) 1602MHz: 2.3 dB Typ. (+ 25 °C± 5°C) 1227.6MHz: 2.6 dB Typ. (+ 25 °C± 5°C)
4.4	Output Impedance	50Ω
4.5	Output VSWR	2.0 Max



LNA Gain @3.0V

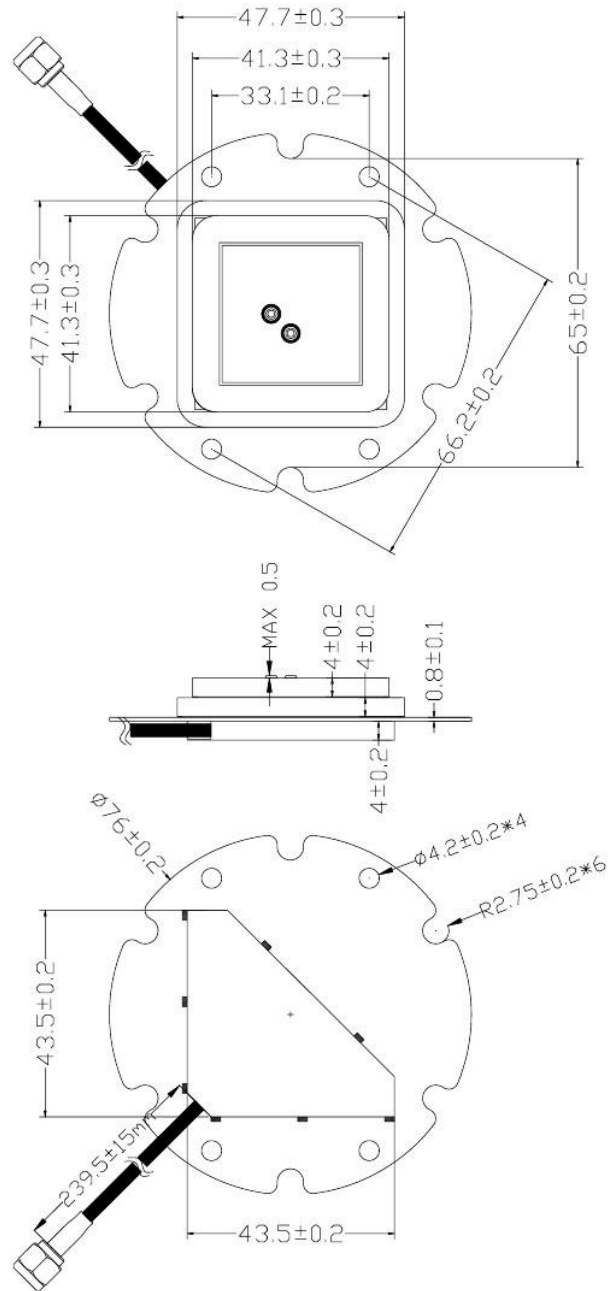


LNA Noise Figure @3.0V

5.0 TOTAL SPECIFICATIONS (Through Antenna, LNA, Cable and Connector)

5.1	Frequency Range	L1: 1575.42 ± 1.023 MHz, 1602 ± 8 MHz L2: 1227.6 ± 10 MHz
5.2	Gain@3V	At 90° L1 1575.42 ± 1.023 MHz : 25 ± 5dBi At 90° L1 1602 ± 8 MHz : 26 ± 5dBi At 90° L2 1227.6 ± 10 MHz : 26.5 ± 5dBi
5.3	Output Impedance	50Ω

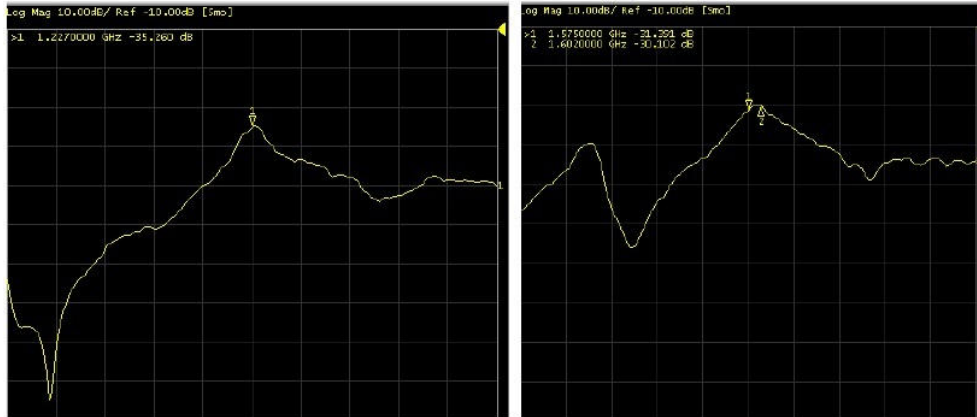
6.0 OUTLINE



Unit: mm

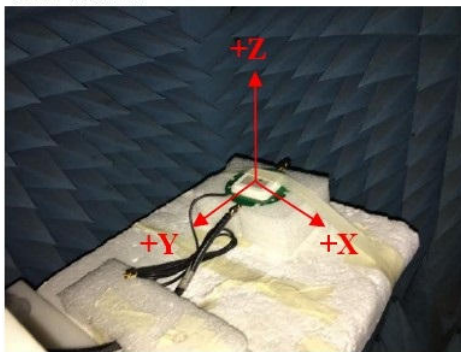
7.0 Radiation patterns

Patch Antenna on CH-L1+L2 PCB +Hybrid Coupler S21 Log Mag Data:

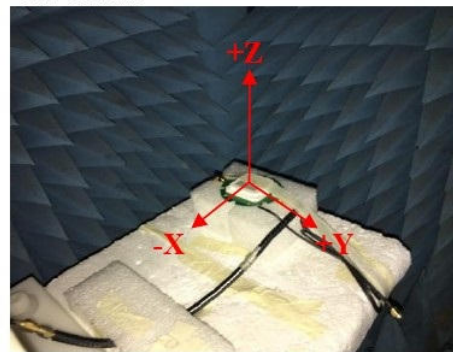


Frequency (MHz)	Log Mag Data (dB)
1227	-35.26
1575.42	-31.39
1602.6	-30.10

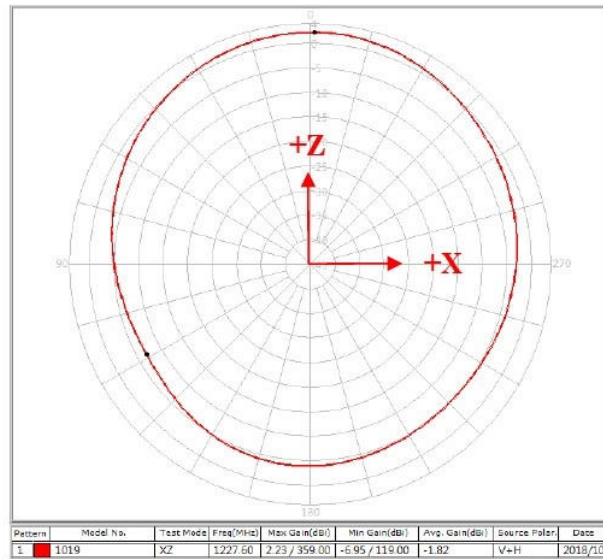
XZ-Plane



YZ-Plane

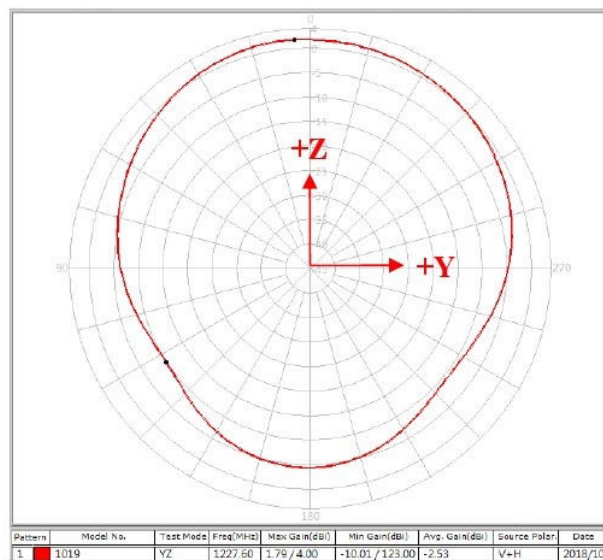


XZ-Plane 1227MHz



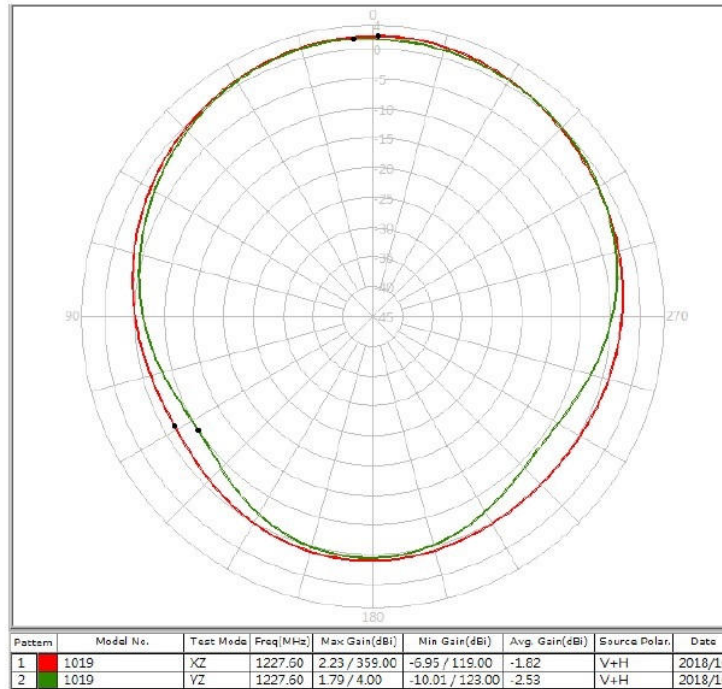
Peak Gain : 2.33 dBi
At Zenith Gain : 2.16 dBi

YZ-Plane 1227MHz



Peak Gain : 1.79 dBi
At Zenith Gain : 1.75 dBi

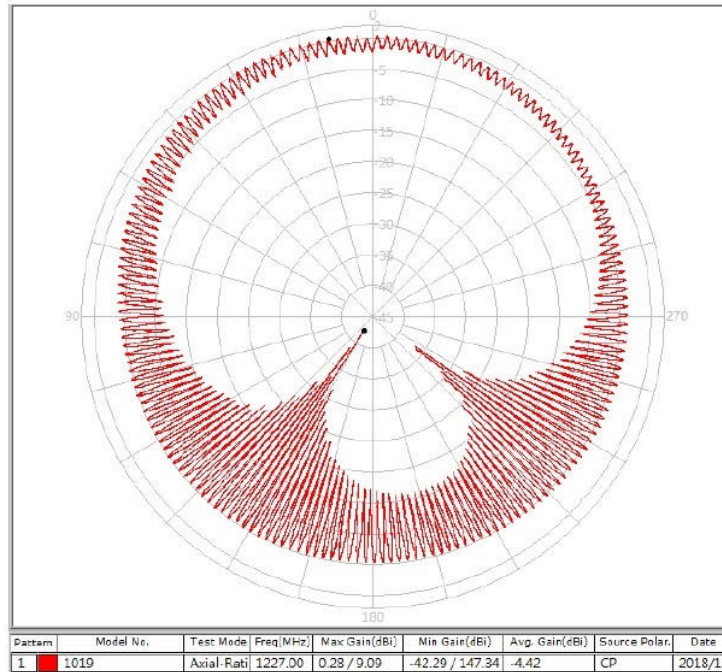
Gain Pattern Value : (1227MHz)



Angle	XZ-Plane	YZ-Plane
90°	-5.09	-6.41
75°	-3.50	-4.52
60°	-1.92	-2.72
45°	-0.45	-0.92
30°	0.82	0.63
15°	1.75	1.57
0°	2.16	1.75
345°	1.90	1.34
330°	0.95	0.77
315°	-0.27	-0.04
300°	-1.32	-1.16
285°	-2.17	-2.67
270°	-3.05	-4.69

(Unit : dBi)

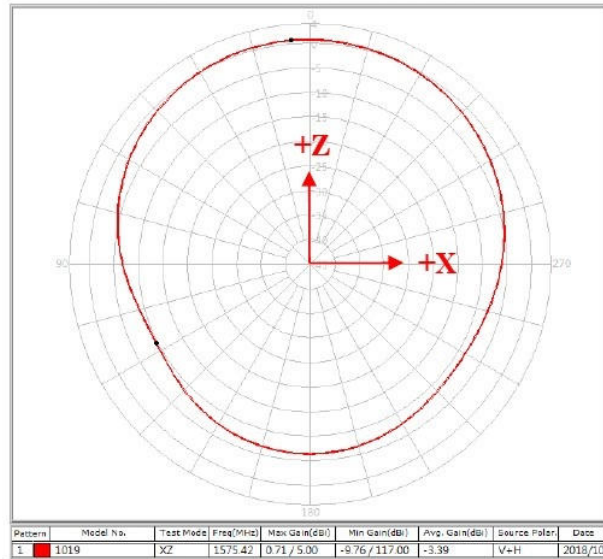
Axial Ratio Pattern (Spin Dipole Method) : (1227MHz)



Angle	Axial Ratio
90°	6.97
75°	6.01
60°	4.57
45°	3.92
30°	3.49
15°	2.44
0°	1.40
345°	1.66
330°	1.78
315°	1.42
300°	1.92
285°	3.42
270°	6.05

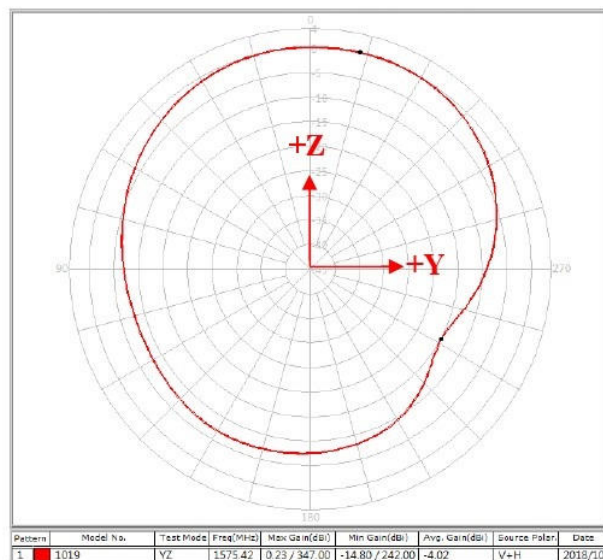
(At 1227 MHz)

XZ-Plane 1575.42MHz



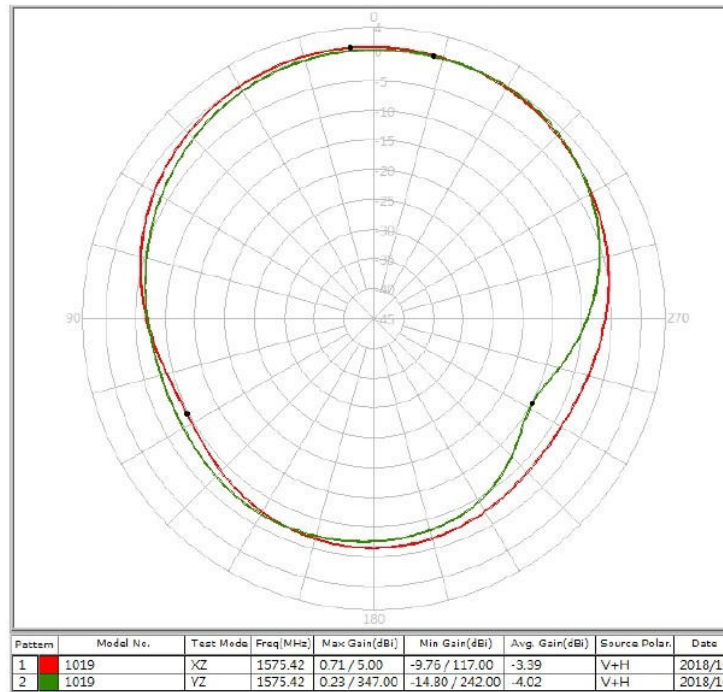
Peak Gain : 0.71 dBi
At Zenith Gain : 0.70 dBi

YZ-Plane 1575.42MHz



Peak Gain : 0.23 dBi
At Zenith Gain : 0.19 dBi

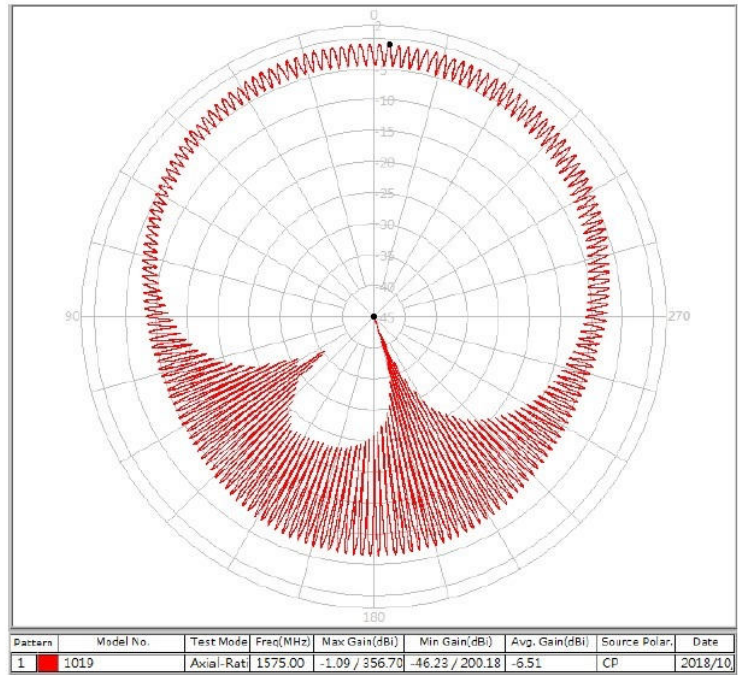
Gain Pattern Value : (1575.42MHz)



Angle	XZ-Plane	YZ-Plane
90°	-6.79	-7.00
75°	-4.45	-5.50
60°	-2.45	-3.81
45°	-0.95	-2.19
30°	0.06	-0.88
15°	0.60	-0.10
0°	0.70	0.19
345°	0.33	0.21
330°	-0.32	-0.07
315°	-1.37	-1.06
300°	-2.73	-2.99
285°	-4.33	-5.72
270°	-6.07	-9.06

(Unit : dBi)

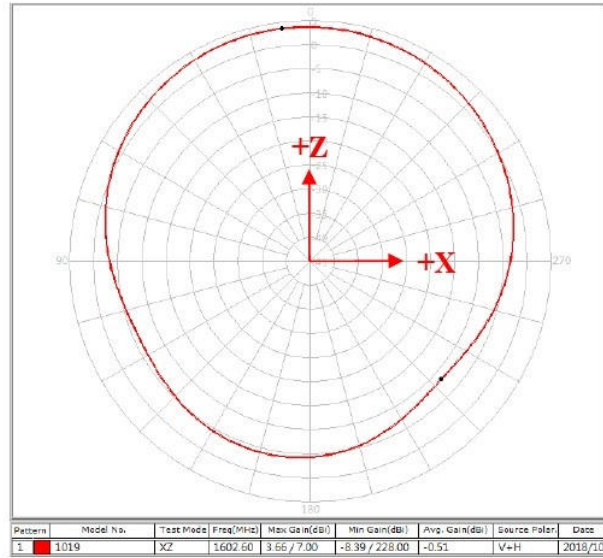
Axial Ratio Pattern (Spin Dipole Method) : (1575.42MHz)



Angle	Axial Ratio
90°	3.88
75°	1.94
60°	1.87
45°	2.43
30°	2.60
15°	3.04
0°	2.62
345°	3.19
330°	3.31
315°	3.52
300°	3.30
285°	3.32
270°	3.09

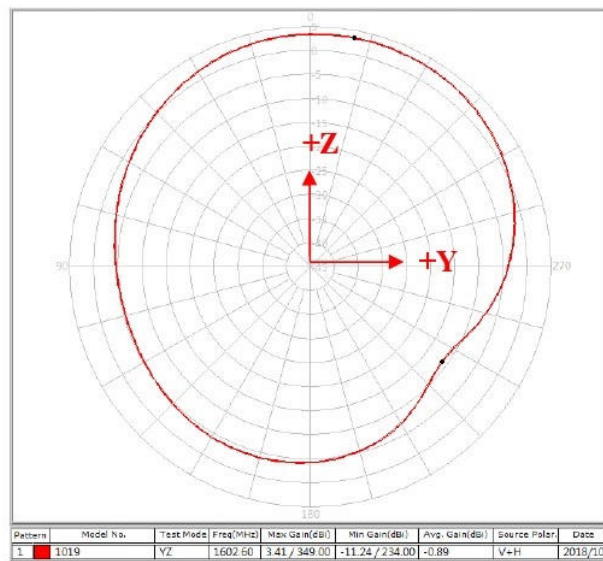
(At 1575.42MHz)

XZ-Plane 1602.6MHz



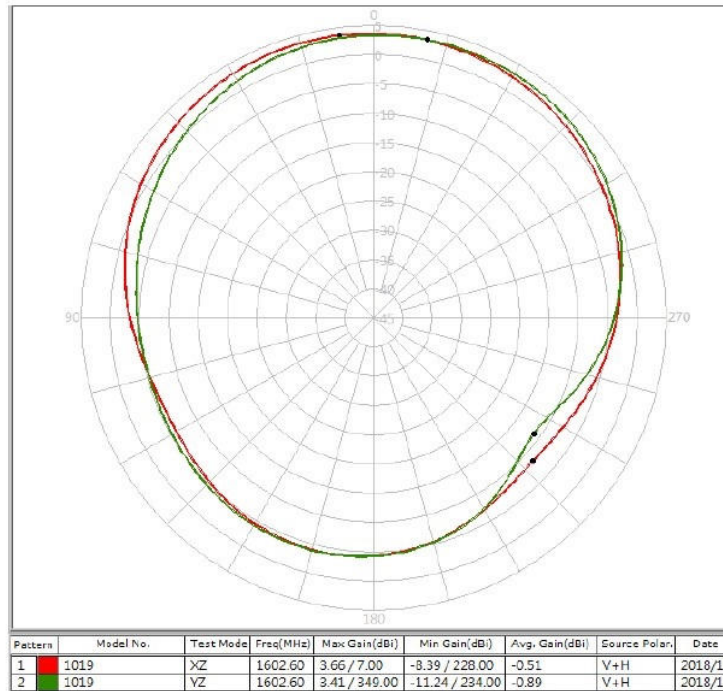
Peak Gain : 3.66 dBi
At Zenith Gain : 3.61 dBi

YZ-Plane 1602.6MHz



Peak Gain : 3.41 dBi
At Zenith Gain : 3.34 dBi

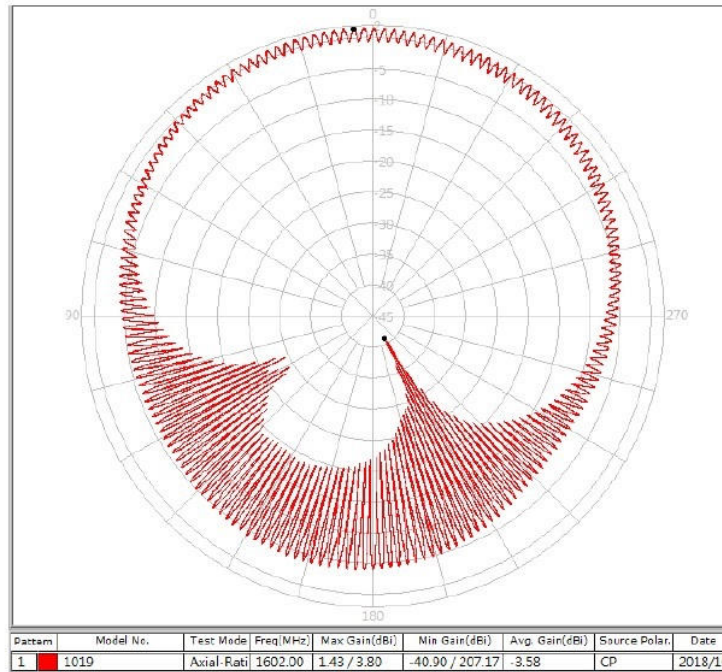
Gain Pattern Value : (1602.6MHz)



Angle	XZ-Plane	YZ-Plane
90°	-3.30	-4.65
75°	-1.02	-3.29
60°	0.86	-1.59
45°	2.26	0.17
30°	3.18	1.74
15°	3.61	2.84
0°	3.61	3.34
345°	3.22	3.39
330°	2.51	3.16
315°	1.44	2.43
300°	0.06	1.00
285°	-1.54	-1.12
270°	-3.42	-3.83

(Unit : dBi)

Axial Ratio Pattern (Spin Dipole Method) : (1602.6MHz)



Angle	Axial Ratio
90°	5.01
75°	2.51
60°	1.34
45°	1.10
30°	1.54
15°	1.84
0°	1.82
345°	1.76
330°	2.05
315°	1.89
300°	1.98
285°	1.57
270°	1.84

(At 1602.6 MHz)

8.0 Package

Plastic Package(100*230mm) + 15mm +/- 5 mm



100 Units / Carton

