

GNSS Full Frequency Survey Antenna

Product introduction

PM357 is an high precision measuring antenna which can support full bands for GPS, BDS , GLONASS and Galileo.It can be widely used in surveying and mapping, marine surveying, geological monitoring, bridge deformation monitoring, automated harbor, reference station of UAV and unmanned vehicle.

Key Features

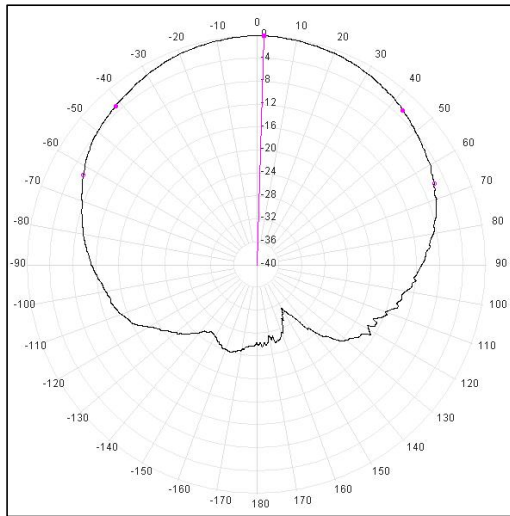
- 1、 Small Size, light weight, compact structure;
- 2、 Supports 4G, Wi-Fi, Bluetooth;
- 3、 Strong anti-interference ability to endure the harsh operating environments;
- 4、 Powerful system compatibility, easy for machine integration;
- 5、 Stable phase center guarantees the accuracy of positioning within millimeter level.

Technical parameters

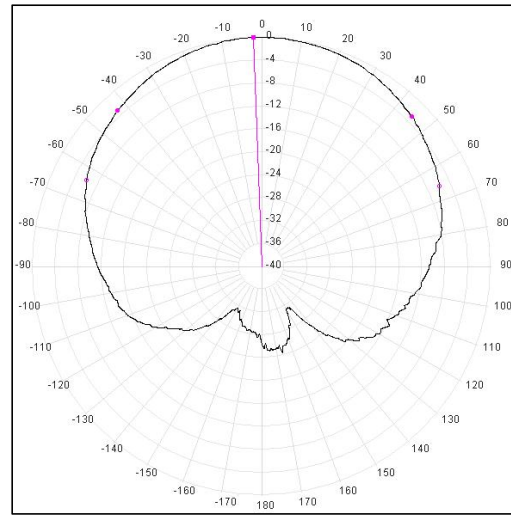
Passive antenna characteristics		Low Noise Amplifier Characteristics		Structural and environmental adaptability	
Frequency Range	BDS B1/B2/B3 GPS L1/L2/L5/L-Band GLONASS L1/L2/L3 GALILEO E1/E5a/E5b/E6 4G (824MHz~960MHz, 1710MHz~2690MHz) BT (2412MHz~2482MHz) WiFi (5.15GHz~5.85GHz)	LNA Gain	L2: 35 ± 2 dB L1: 35 ± 2 dB	Dimensions	$\Phi 131.9 \times 19.3$ mm
Antenna Impedance	50 Ω	Noise figure	≤ 2.0 dB	Weight	≤ 150 g
Polarization	RHCP	VSWR	≤ 2.0	Connector	GNSS: MCX-C-JW1.5 4G: IPEX-1 BT: IPEX-1
Antenna axis ratio	GNSS ≤ 3 dB	Passband ripple	± 2 dB	Mounting	4pcs screws
Horizontal coverage	0° ~360°	Operating voltage	DC3.3~12V	Operating TEMP	-40℃ ~+85℃
VSWR	GNSS ≤ 1.5 2.412GHz~2.482GHz ≤ 2.5 5.2GHz~5.85GHz ≤ 4	Operating current	≤ 50 mA	Storage TEMP	-55℃ ~+85℃
Maximum gain	GNSS ≥ 5.5 dBi 4G ≥ 1 dBi BT ≥ 1 dBi			Storage humidity	95%noncondensing
Phase center error	± 2 mm				

GNSS Pattern &Gain

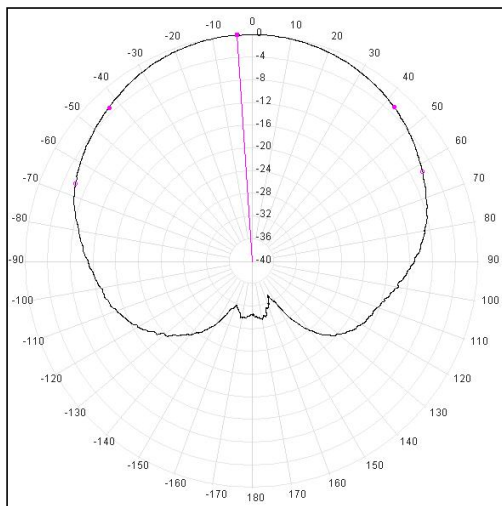
Frequency Range	Antenna gain (dBi)	Antenna axis ratio (dB)	FBR (dB)
1175. MHz	4.01	0.96	24.12
1205. MHz	5.47	0.75	24.47
1225. MHz	5.72	1.18	27.24
1268. MHz	4.13	1.08	28.34
1560. MHz	4.74	0.45	27.59
1575. MHz	5.21	0.63	25.52
1590. MHz	5.65	0.53	26.23
1610. MHz	5.49	0.72	25.33



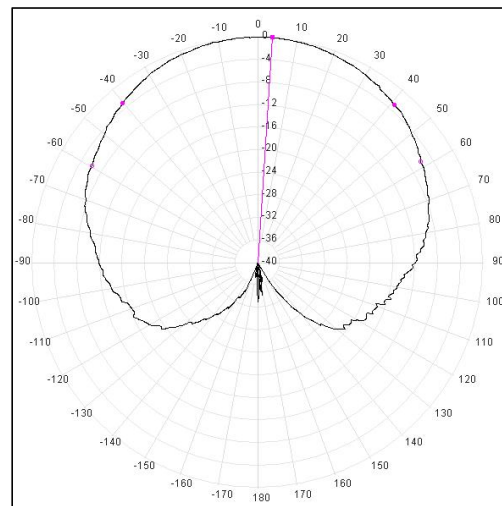
(Freq=1176MHz)



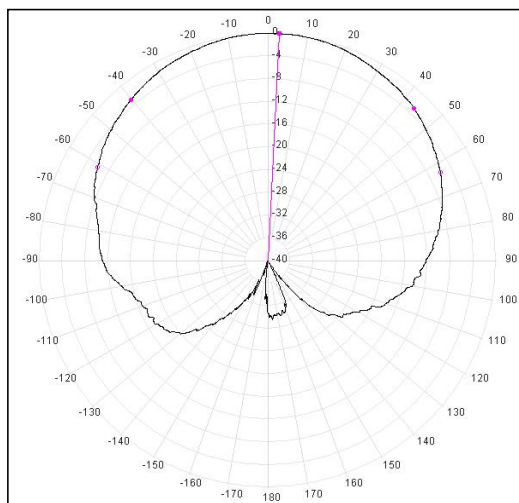
(Freq=1205MHz)



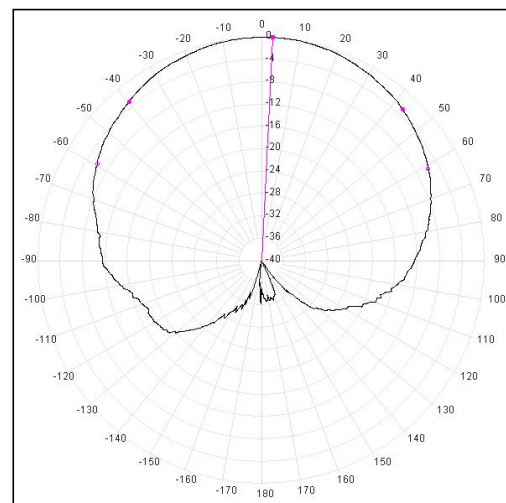
(Freq=1227MHz)



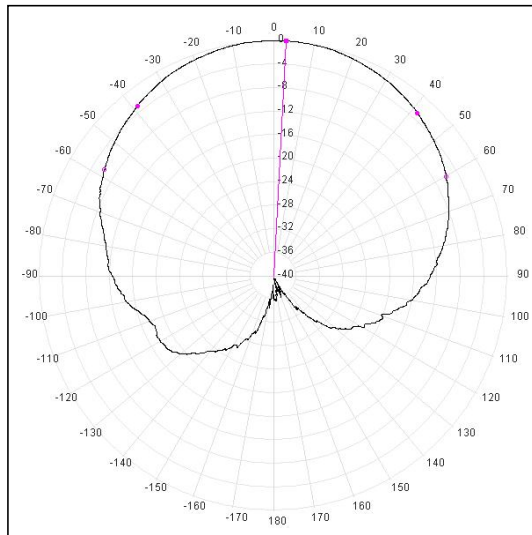
(Freq=1268MHz)



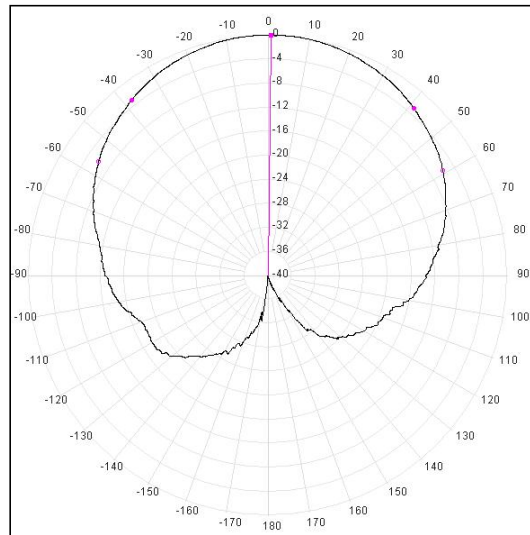
(Freq=1560MHz)



(Freq=1575MHz)

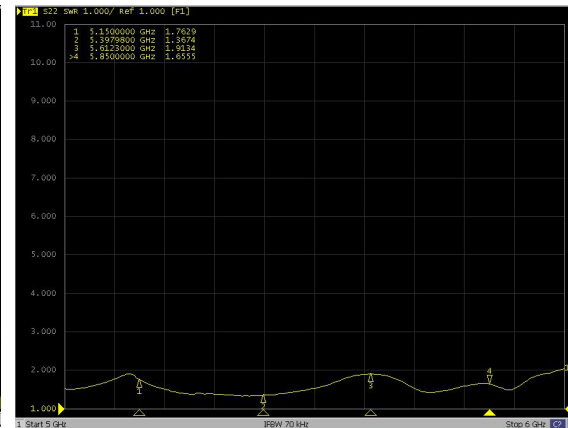
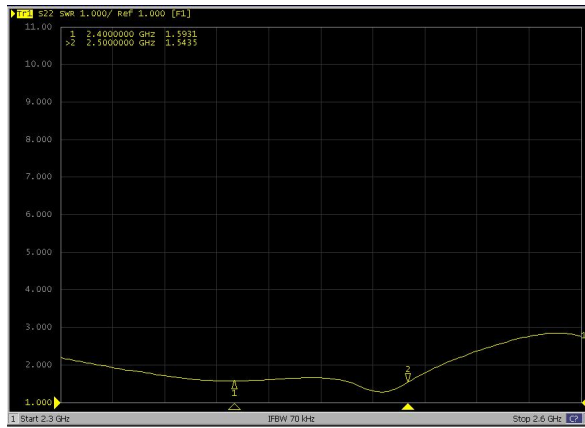


(Freq=1590MHz)



(Freq=1610MHz)

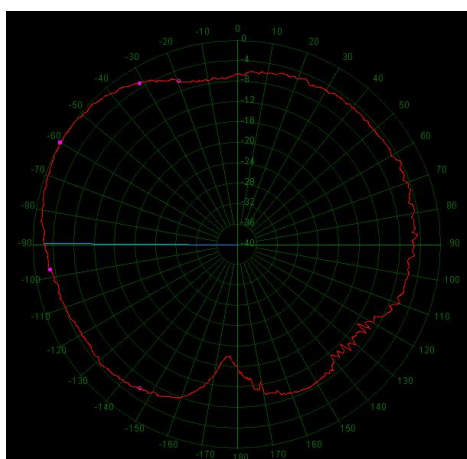
BT/WIFI---VSWR



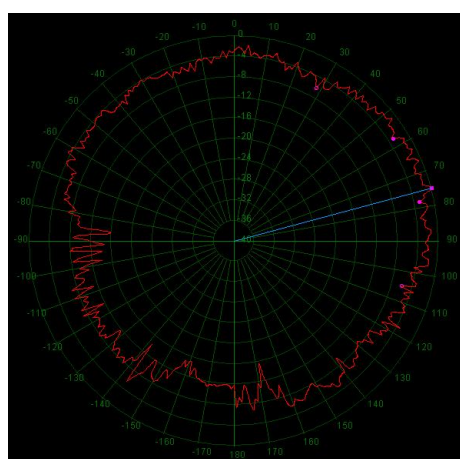
BT/WIFI---gain & Efficiency (%)

Frequency Range (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Maximum gain (dBi)	1.29	1.42	1.30	1.36	1.56	1.55	1.52	1.54	0.98	0.93	0.87
Efficiency (%)	49.2	42.5	43.7	43.9	45.5	46.4	46.1	45.8	46.2	45.9	43.1

Frequency Range (MHz)	5200	5220	5240	5700	5720	5740	5760	5780	5800	5820	5850
Maximum gain (dBi)	1.29	1.02	1.10	1.06	1.03	1.37	0.82	0.65	0.48	0.53	0.47
Efficiency (%)	50.2	52.5	50.7	45.1	45.7	45.1	46.3	45.4	47.2	47.9	46.1

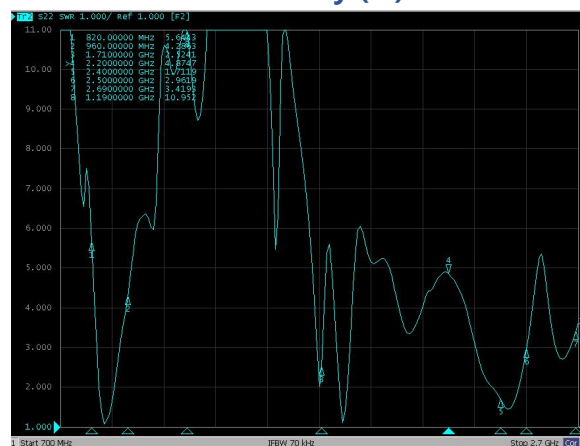


2460MHZ

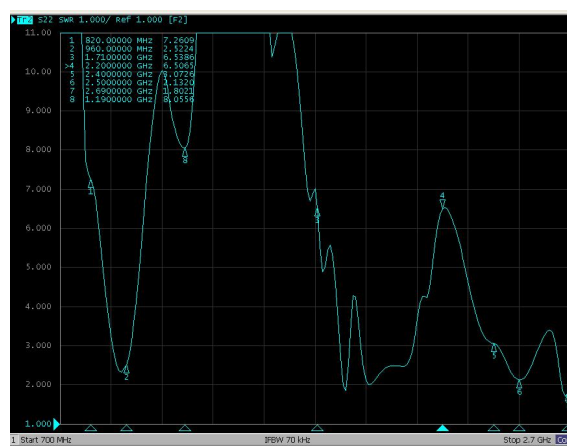


5250 MHZ

4G---VSWR & Efficiency (%)



4G main-antenna VSWR



4G sub-antenna VSWR

4G main-antenna

Frequency Range (MHz)	820	830	840	850	860	870	880	890	900	910	920	930	940	950	960
Maximum gain (dBi)	0.9	0.6	0.5	0.7	0.4	0.8	0.7	0.6	0.8	0.6	0.5	0.4	0.9	0.8	0.8
Efficiency (%)	32.1	34.5	35.9	40.2	49.5	49.0	50.2	48.5	47.2	46.2	40.0	39.8	33.5	33.8	34.6

Frequency Range(MHz)	1700	1725	1750	1775	1800	1850	1875	1900	1925	1950	1975	2000	2100	2125
Maximum gain (dBi)	0.7	0.8	1.1	1.3	0.9	1.3	1.1	0.9	1.5	0.8	0.6	0.5	0.7	0.6
Efficiency (%)	32.7	38.6	40.3	38	41.2	44.4	34.5	38.6	35.9	41.8	39.8	33.5	35.2	34.8
Frequency Range(MHz)	2150	2175	2300	2350	2400	2500	2525	2550	2575	2600	2625	2650	2675	2700
Maximum gain (dBi)	0.5	0.8	1.4	1.2	1.1	1.2	1.6	1.5	1.4	1.5	1.4	0.8	0.9	1.2
Efficiency (%)	32.5	30.5	42.3	44.0	34.5	34.7	38	34.6	34.7	31.8	34.6	29.8	27.5	25.6

4G sub-antenna

Frequency Range (MHz)	820	830	840	850	860	870	880	890	900	910	920	930	940	950	960
Maximum gain (dBi)	1.1	0.9	0.7	0.5	0.6	0.8	0.8	0.9	0.5	0.6	0.8	0.7	0.8	0.6	0.7
Efficiency (%)	32.3	33.8	33.2	38.9	45.1	46.5	48.2	45.8	46.4	40.2	39.3	35.2	32.3	30.5	27.4

Frequency Range(MHz)	1700	1725	1750	1775	1800	1850	1875	1900	1925	1950	1975	2000	2100	2125
Maximum gain (dBi)	0.6	0.7	0.8	1.0	1.0	1.1	1.3	0.9	0.7	0.9	0.9	0.8	0.5	0.6
Efficiency (%)	26.9	33.8	47.2	43.4	41.4	35.4	32.8	36.7	36.6	31.7	31.9	37.7	30.5	30.6
Frequency Range(MHz)	2150	2175	2300	2350	2400	2500	2525	2550	2575	2600	2625	2650	2675	2700
Maximum gain (dBi)	0.3	0.5	0.8	0.9	1.1	1.2	1.3	1.0	1.0	1.4	1.3	1.2	0.8	0.9
Efficiency (%)	30.4	30.8	38.6	34.4	43.4	38.9	37.8	35.5	33.6	37.5	37.5	36.9	32.5	33.6

Structural characteristics (dimensional tolerances ± 0.3 mm not noted)

