
Antenna Certification Information

1. Manufacturer and Address

JOYFORCE PRECISION MANUFACTURING CO. LTD

No. 37, Xiangjiang Road, Weifang City, Anqiu City, Shandong, P. R.
China

2. Antenna Model and Type

Model: Left-316000307952 Right-316000307951

Types: IFA

3. Test instrument software versions

Agilent E5071C ENA Series Network Analyzer 11.31

4. Antenna test laboratory, test instruments and calibration dates

AMS8923 、 2023/4/18

5. Peak gain and 2D radiation pattern

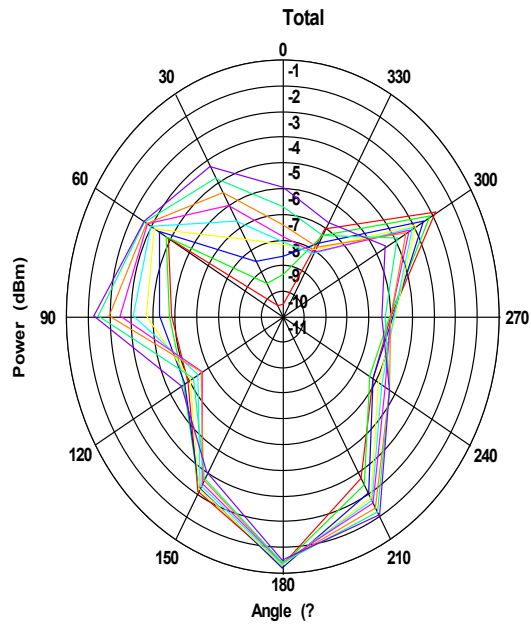
Peak Gain(dBi)	ANT-L	ANT-R
2.4G/BT	1.9	2.2
5G	3.9	3.3

Left antenna

2.4G

XOY:

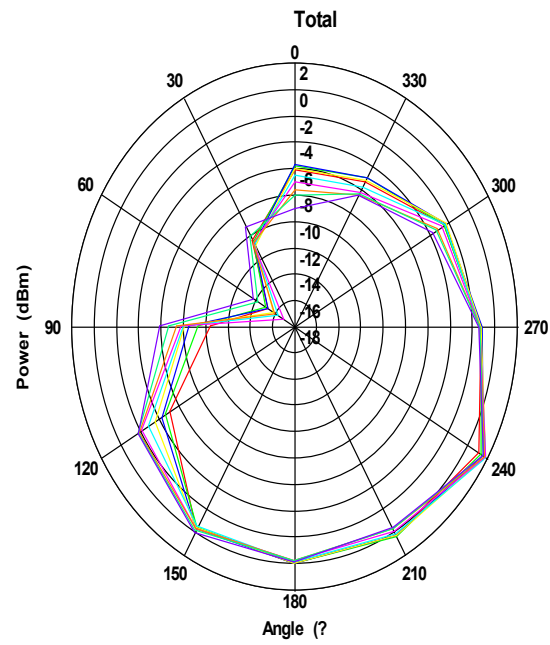
Max: -1
Min: -11
Scale: 1/div



2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz

XOZ:

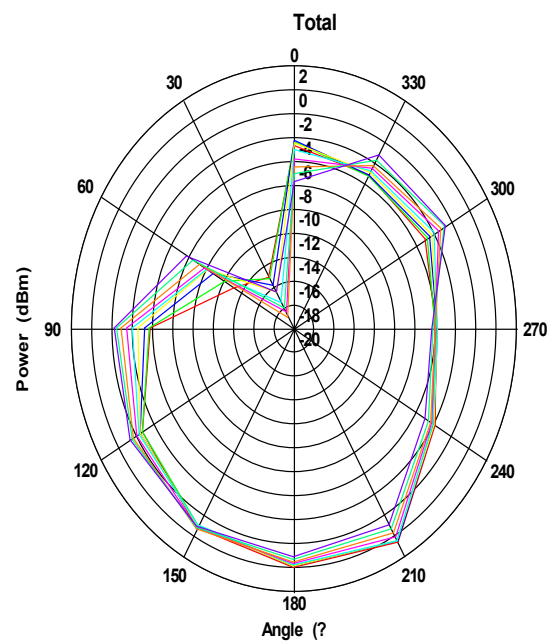
Max: 2
Min: -18
Scale: 2/div



2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz

YOZ:

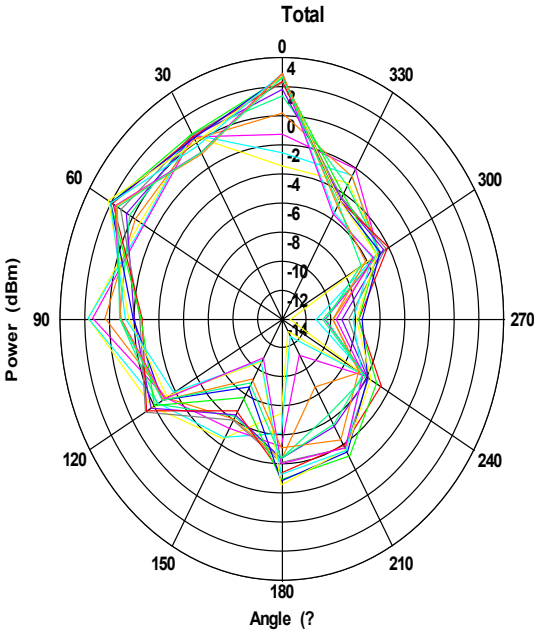
Max: 2
Min: -20
Scale: 2/div



2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz

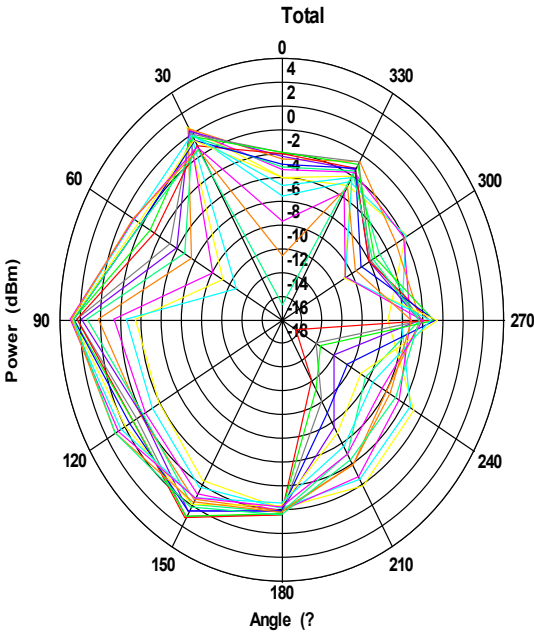
XOY:

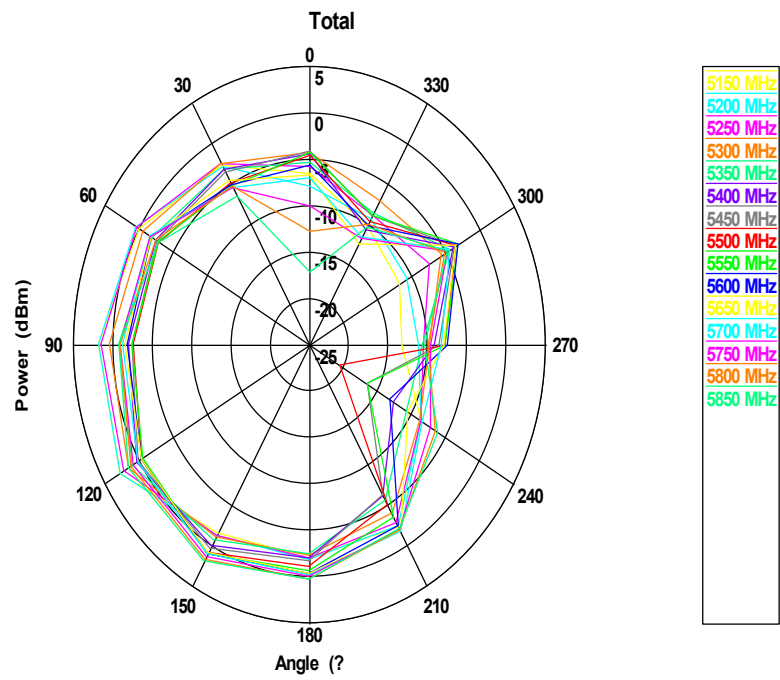
Max: 4
Min: -14
Scale: 2/div



XOZ:

Max: 4
Min: -18
Scale: 2/div

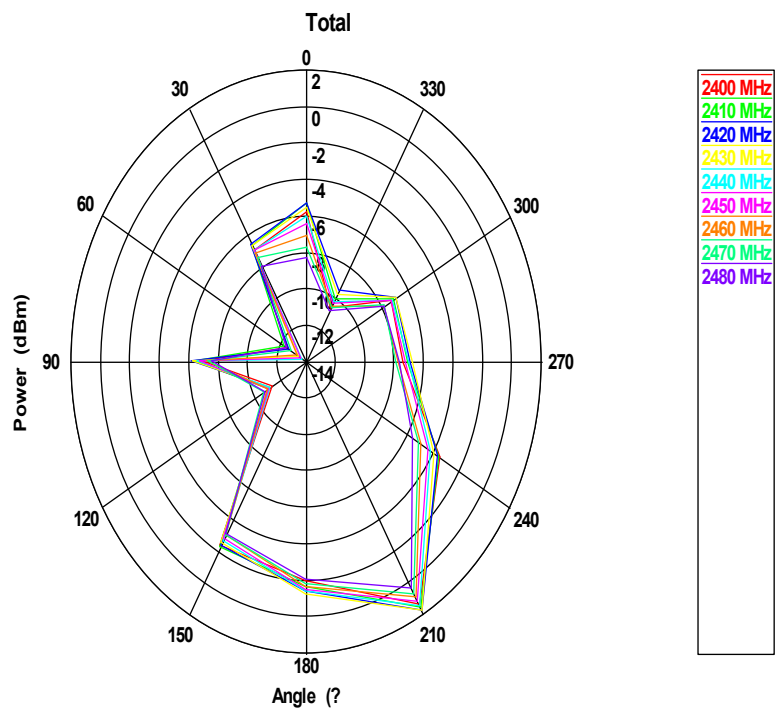




YOZ:

Right antenna

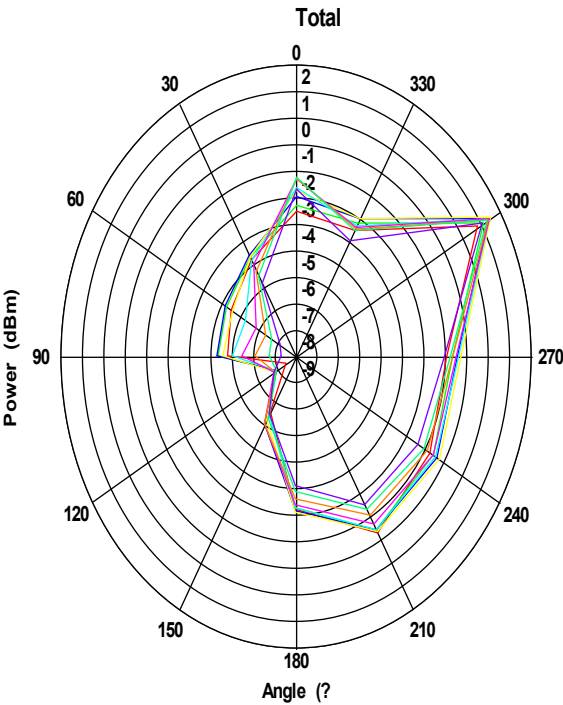
2.4G



XOY:

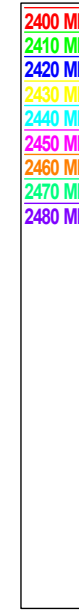
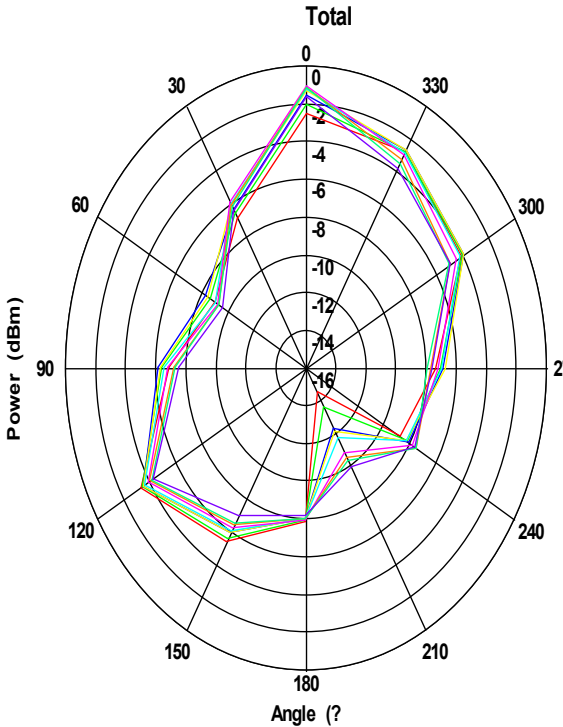
XOZ:

Max: 2
Min: -9
Scale: 1/div



YOZ:

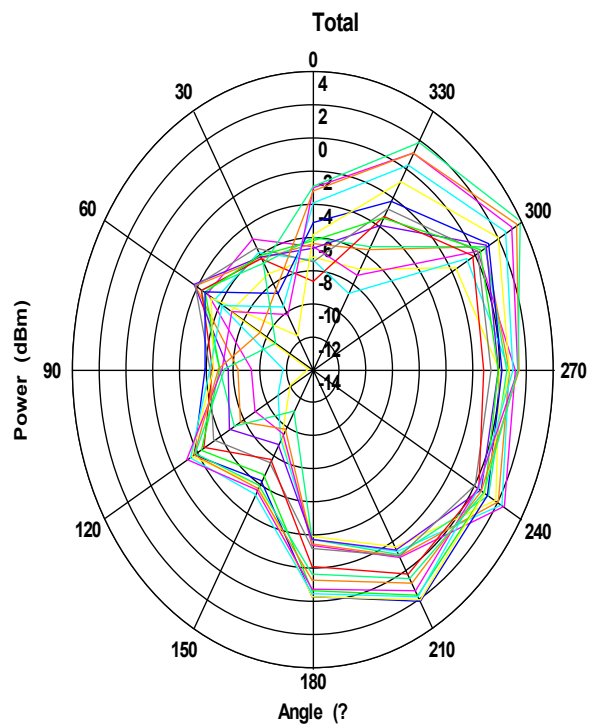
Max: 0
Min: -16
Scale: 2/div



5G

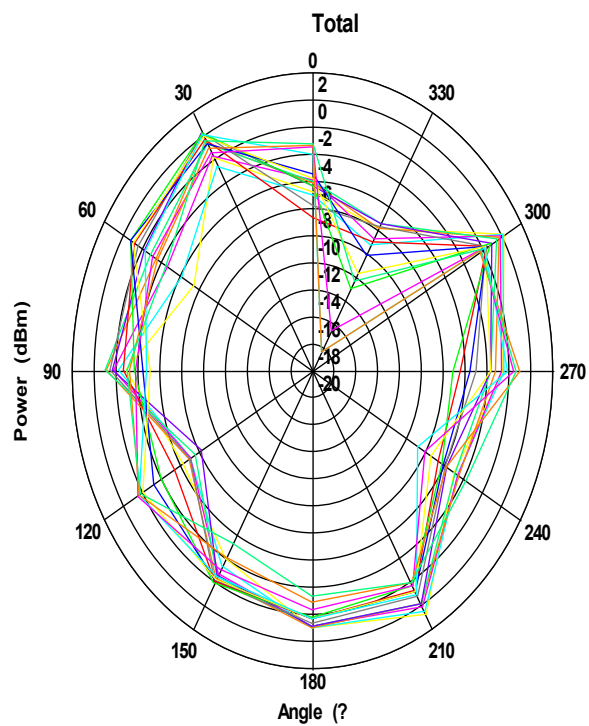
XOY:

Max: 4
Min: -14
Scale: 2/div

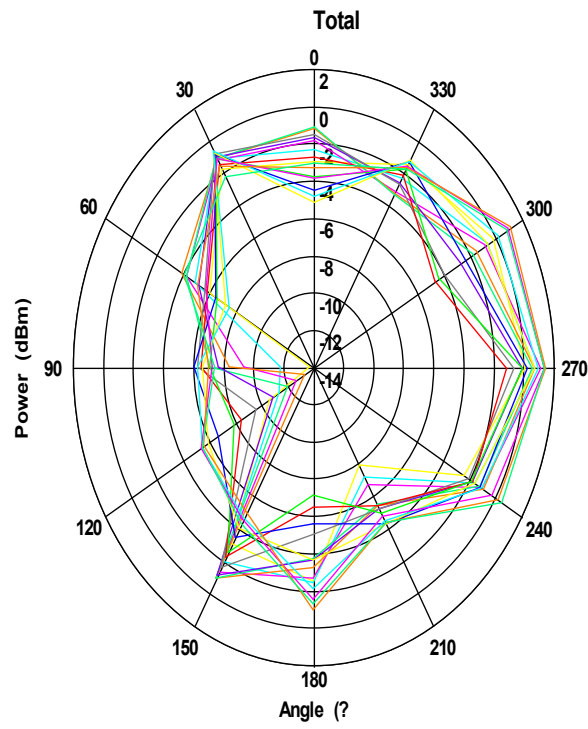


XOZ:

Max: 2
Min: -20
Scale: 2/div



YOZ:
 Max: 2
 Min: -14
 Scale: 2/div



5150 MHz
5200 MHz
5250 MHz
5300 MHz
5350 MHz
5400 MHz
5450 MHz
5500 MHz
5550 MHz
5600 MHz
5650 MHz
5700 MHz
5750 MHz
5800 MHz
5850 MHz

6. Peak Gain values for supported bands

Peak Gain(dBi)	ANT-L	ANT-R
2.4G/BT	1.9	2.2
5G	3.9	3.3

Xing lin

24G Radar Antenna Certification Information

1. Manufacturer

Socionext Inc.

2. Antenna Type

Types: patch antenna

3. Test instrument software versions

Agilent E5071C ENA Series Network Analyzer 11.31

4. Antenna test laboratory, test instruments and calibration dates

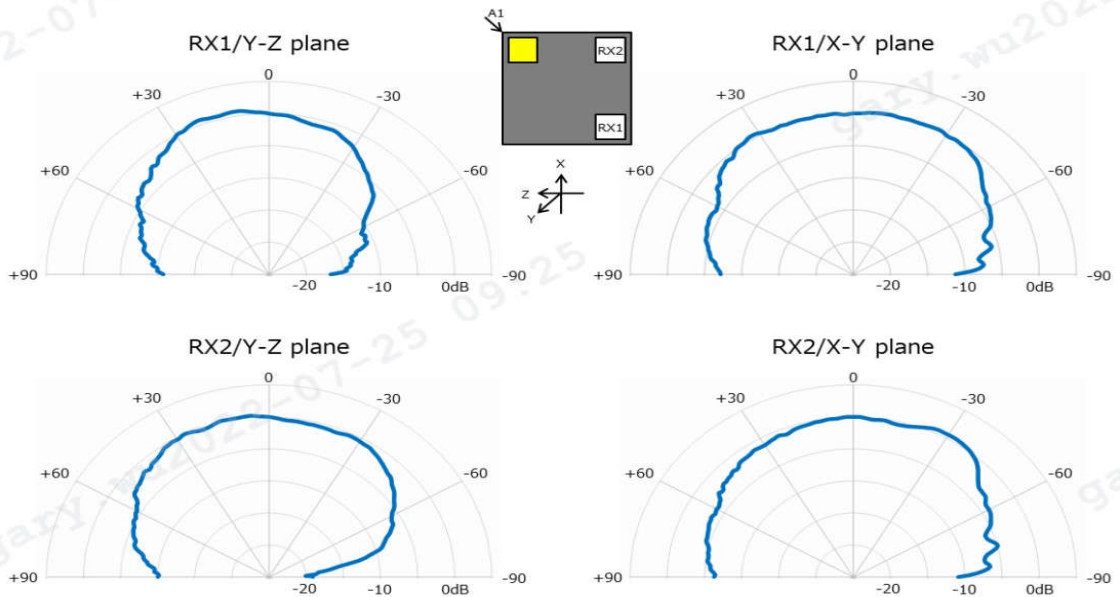
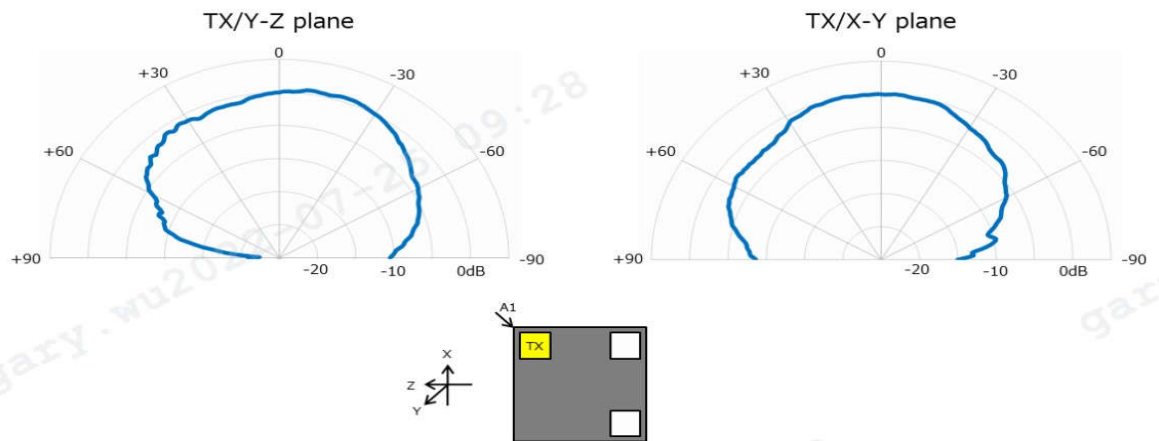
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5. Peak gain and pattern

24.06~24.24 GHz : 2.0dBi

Parameter		Symbol	Conditions	Limits			Unit
				Min	Typ	Max	
E1	RX antenna Gain	Grxa	f _{RF} =24.15GHz		2		dBi
E2	TX antenna Gain	Gtxa	f _{RF} =24.15GHz		2		dBi

Antenna pattern (Reference)



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