

ANT Gain

RAK7437

Shenzhen RAKwireless Technology Co., Ltd.
Room 506, Building B, New Compark, Pingshan First
Road, Taoyuan Street, Nanshan District, Shenzhen,
Guangdong, P.R. China

➤ LoRa ANT (Dipole Antenna (M/N: RAKARJ16) with 2.3dBi)

Features

- Frequency Range: 902~928 MHz
- Max Gain: 2.3 dBi
- VSWR: ≤ 1.5
- High efficiency
- Vertically polarized



Figure 1: RAKARJ16 Antenna Overview

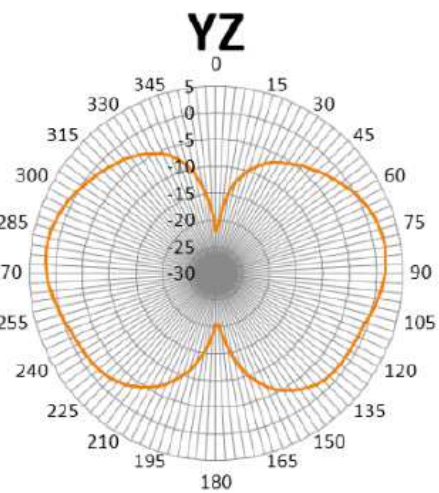
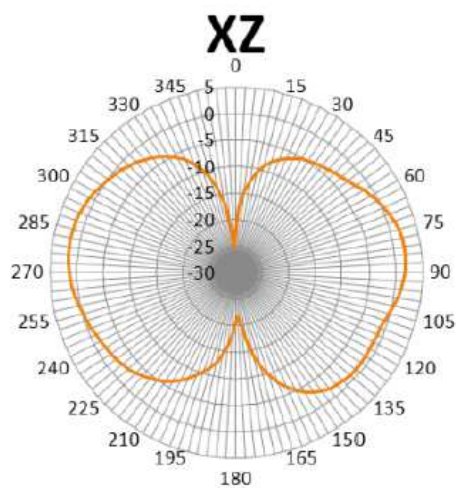
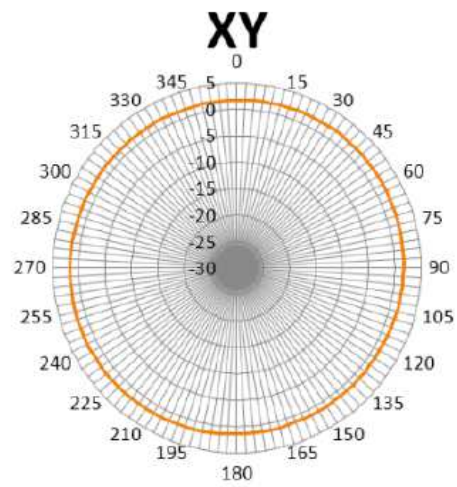
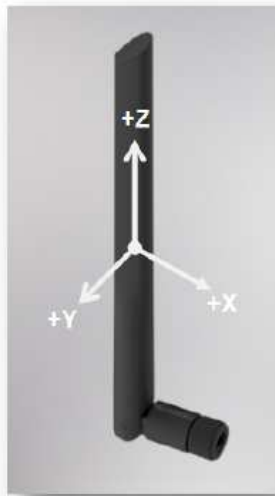
Specifications

Model	RAKARJ16
Frequency Range	902 MHz~928 MHz
Peak Gain	2.3 dBi
VSWR	≤ 1.5
Efficiency	>80%
Feed Impedance	50 Ω
Polarization	Vertical

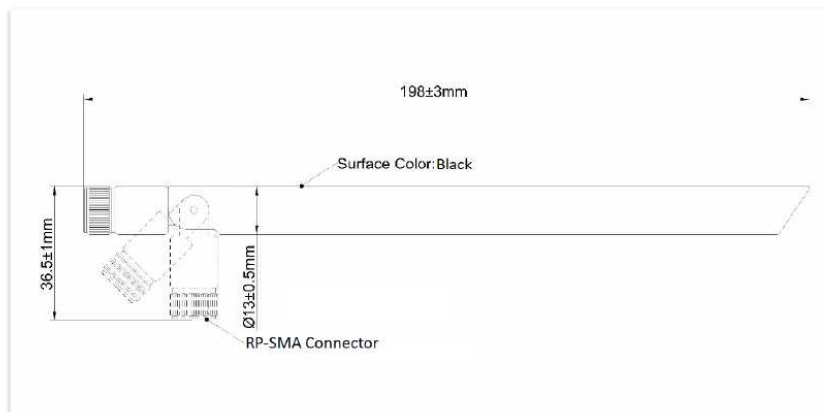
Peak Gain & Efficiency

Frequency (MHz)	Gain (dBi)	Efficiency (%)
902	2.3	82.6
904	2.2	82.3
906	2.2	82.7
908	2.3	84.0
910	2.3	85.0
912	2.3	85.7
914	2.3	86.0
916	2.2	86.1
918	2.2	85.9
920	2.2	86.0
922	2.2	86.4
924	1.9	85.9
926	1.9	85.1
928	2.1	85.5
Average	-	84.9

Radiation Patterns



Mechanical Characteristics



- **2.4GHz Wi-Fi ANT (Dipole Antenna with 1.5dBi) & WCDMA/LTE ANT (Dipole Antenna with 824MHz: 1.58dBi, 960MHz: 2.65dBi, 1200MHz: -0.75dBi, 1575MHz: 1.87dBi, 1710MHz: 1.25dBi, 2690MHz: 0.99dBi)**



1. Electrical Specifications

Standards	5G/4G/3G/2G
Frequency range (MHz)	600~6000MHz
Peak Gain (dBi)	-2.0~5.5dBi
Average Gain (dB)	-6.0~-0.7dB
VSWR	< 3.5
Return Loss	< -5.0
Efficiency (%)	25~85%
Polarization mode	Linear
Radiation pattern	Omni-Directional
Output impedance (Ω)	50
Max. Input Power(W)	25

2. Mechanical and Environmental Specification

Mounting Type	Connector Mount
Connector Type	SMA (M)
Antenna size(mm)	152.4 x 21.79 x 14.49
Material	ABS
Operating Temperature (°C)	- 40 °C ~ + 85 °C
Storage Temperature(°C)	- 40 °C ~ + 85 °C

3. Antenna parameters

FRE (MHz)	600	824	960	1200	1575	1710	2690	3300	5000	5925
VSWR	2.9	2.4	2.6	1.5	1.2	1.5	2.2	1.4	1.4	2.7
Return Loss	-6.8	-7.4	-6.8	-13.2	-19.2	-13.6	-8.3	-15.1	-15.3	-6.4
Eff (%)	49.9	42.8	62.9	36.2	75.4	67.8	50.8	47.6	52.6	44.4
PEAK Gain (dBi)	0.63	1.58	2.65	-0.75	1.87	1.25	0.99	1.44	1.88	3.02

400.00MHz - 2000.00MHz Gain

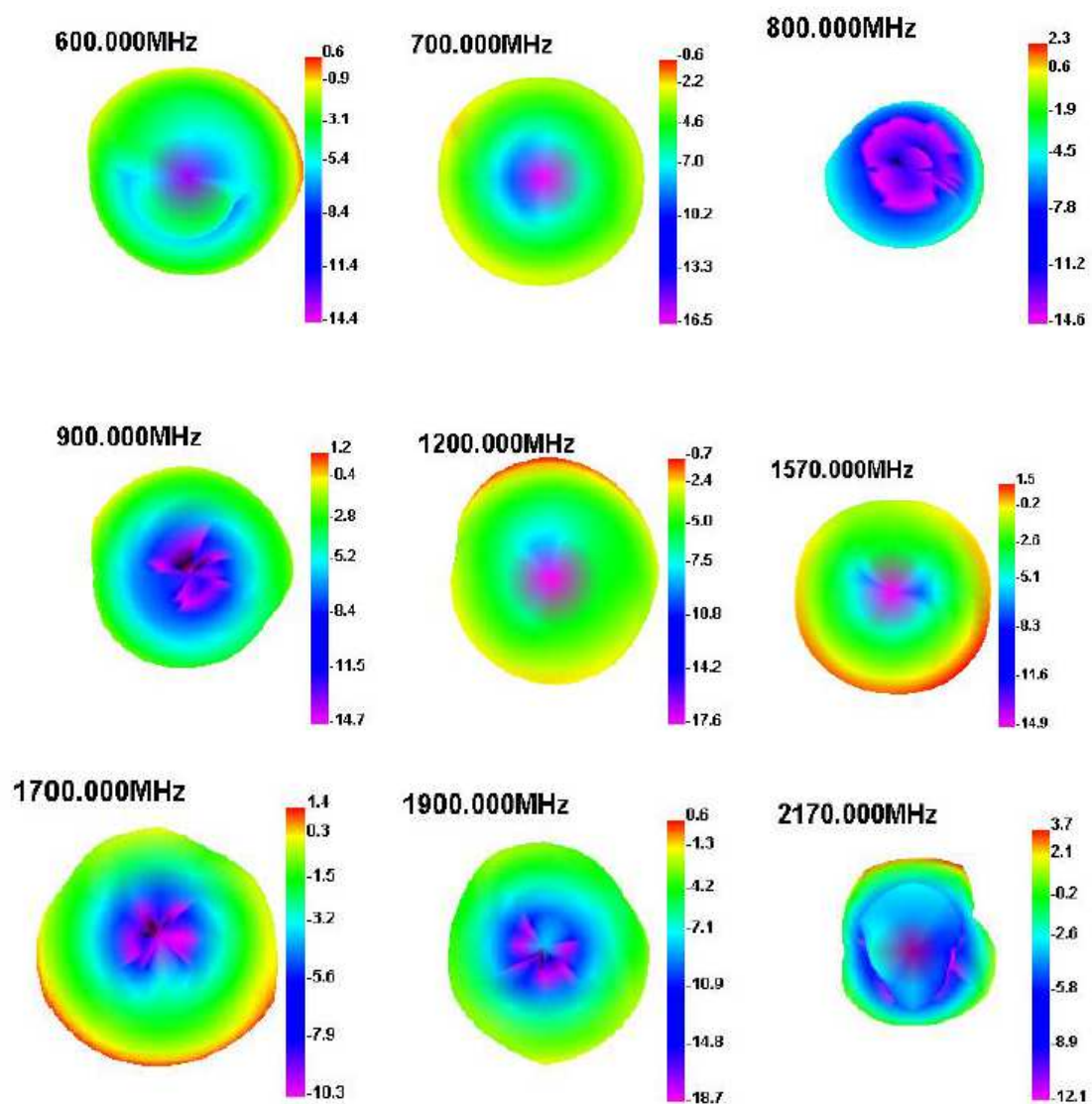


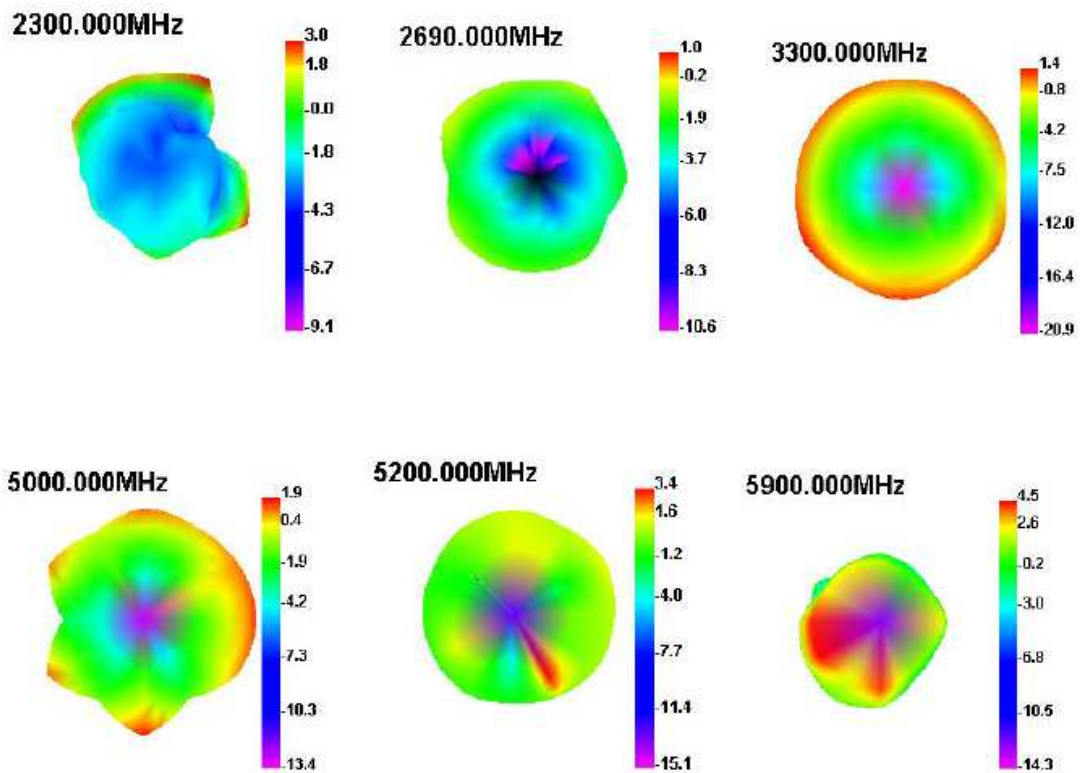
2010.00MHz - 4000.00MHz Gain



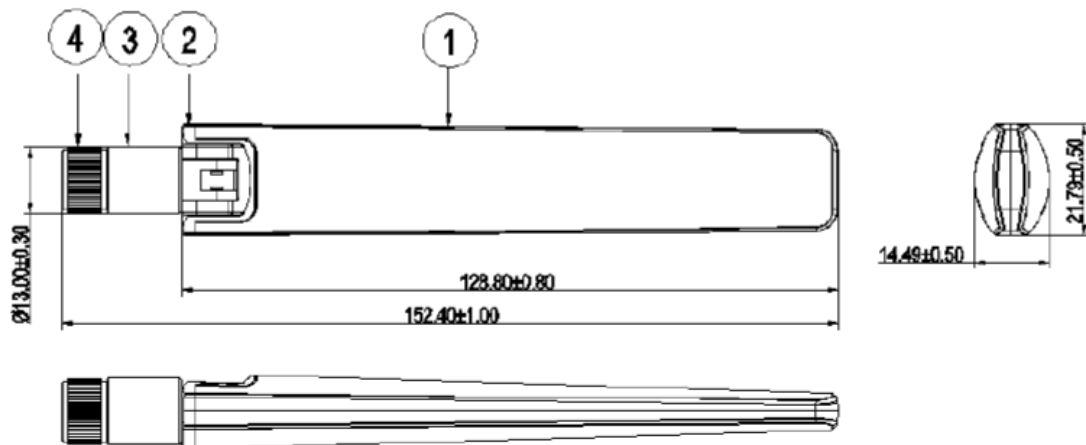


Directional pattern





4. Antenna Drawings



4	SMA	SMA-J	black	1
3	Lower Firmware	ABS	black	1
2	Upper firmware	ABS	black	1
1	noumenon	ABS	black	1
Series	Component name	Specification	Color	Quantity