

Antenna Specification

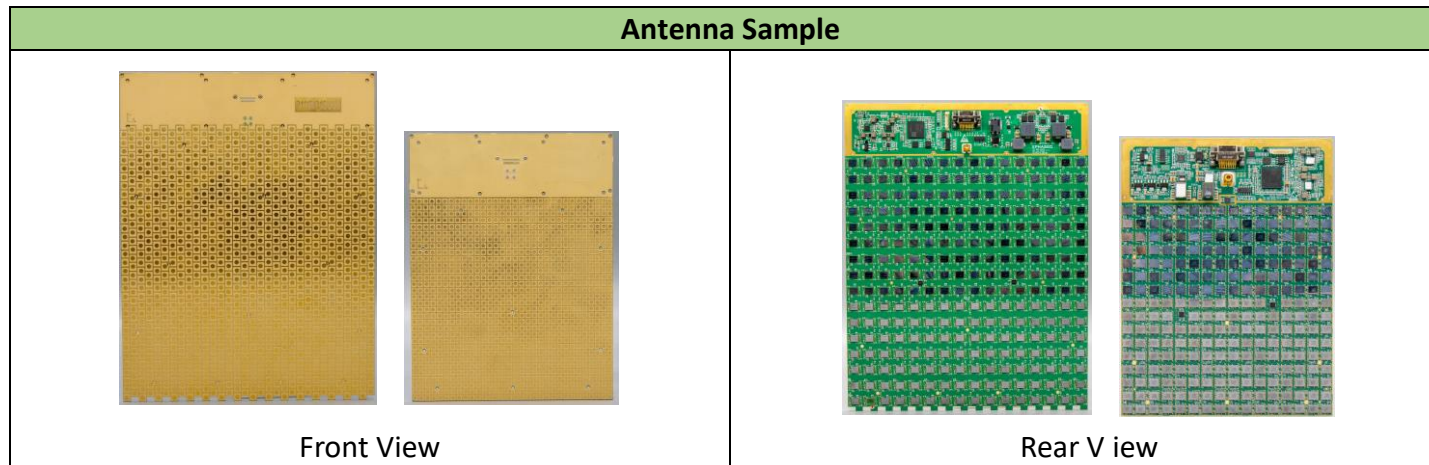
Hybrid Electronic Steering Terminal

Model No.: HSA-MAC, HT-ESA ,ESA-MAC, HSA-PAC, HSA-FAC,ESA-IOT-Ka

Satellite

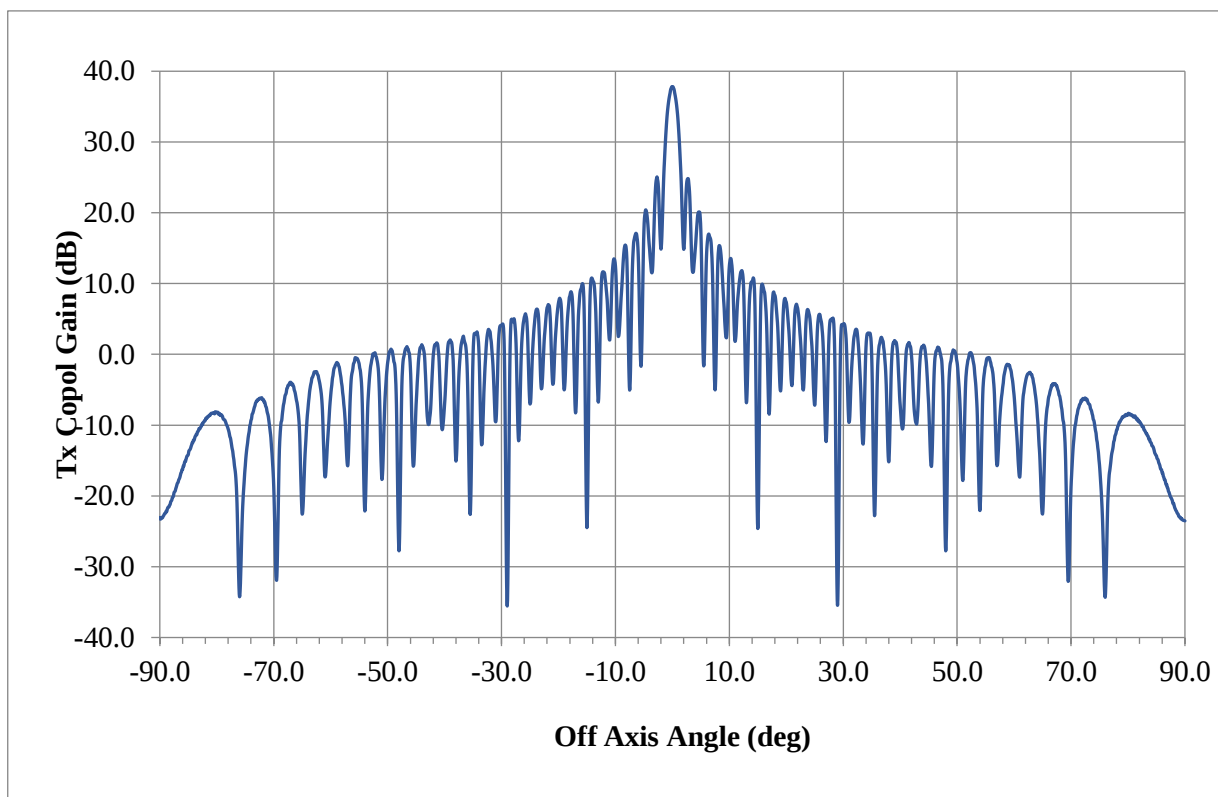
1. Antenna Design Parameters

Item		Parameter
Antenna Type		phased-array antenna
Equivalent to parabolic antenna size		0.40m
Antenna Efficiency		65%
Frequency Range	Tx	29.25~30.0GHz
	Rx	19.70~20.2GHZ
Polarization		LHCP/RHCP Switchable
Receiving Gain		38.0dBi(in range of ± 5 degree) 17.0dBi(out range of ± 5 degree)
Transmitting Gain		37.7dBi(in range of ± 15 degree) 10.0dBi(out range of ± 15 degree)
G/T		11.4dB/K
First Sidelobe		≤ 13 dB
Cross Polarization Isolation		> 30 dB
Tx/Rx Polarization Isolation		> 85 dB
VSWR		$< 1.2:1$
Interface type		SMA



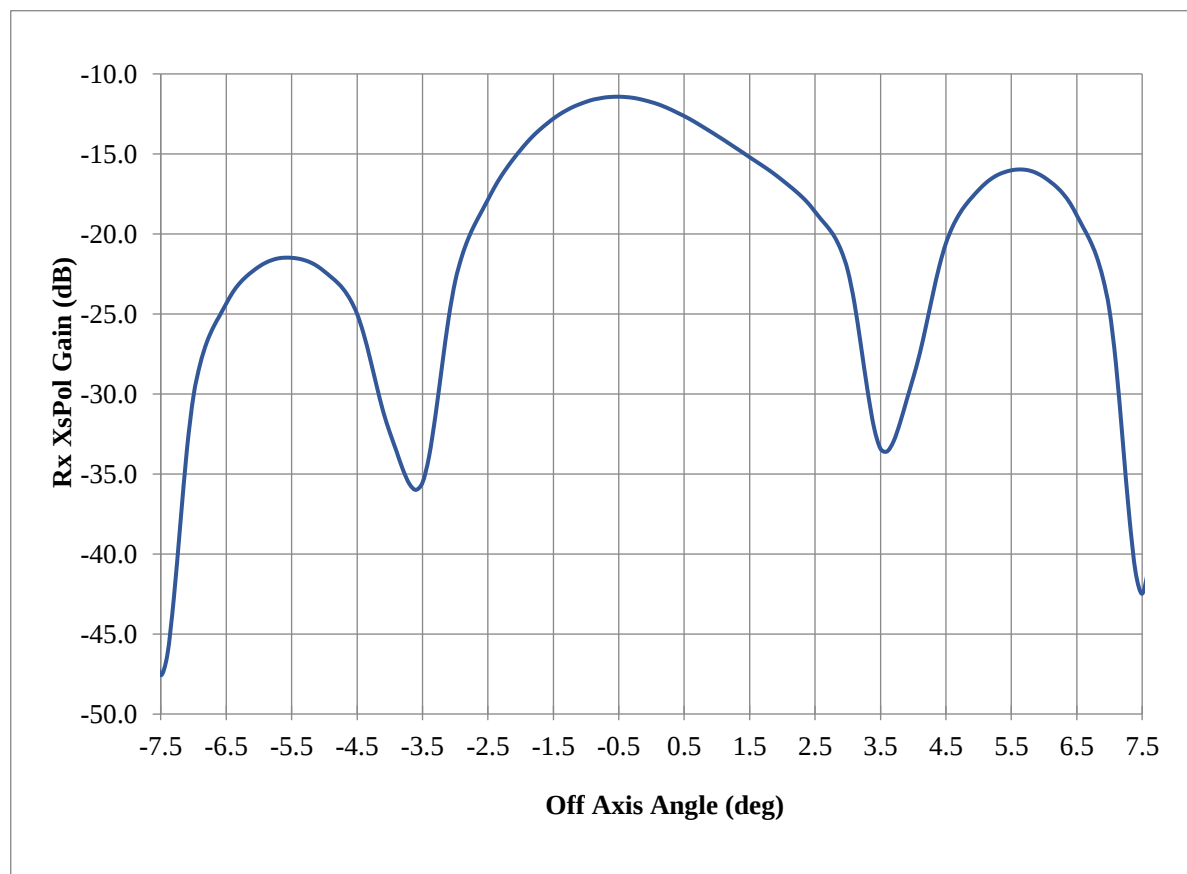
According to the antenna plots provided by the manufacturer, the satellite antenna complies with the requirement of §25.209(a)(2),(5).

2. Radiation Pattern - Linear - Frequency : 30GHz – TX – Co_Polariztion– Horizontal



Frequency (GHz)	Gain (dBi)	HPBW 3dB
30	37.7	3

3. Radiation Pattern - Linear - Frequency : 30GHz – TX – cross-polarized –HV -7.5 to 7.5



2.4G Wi-Fi

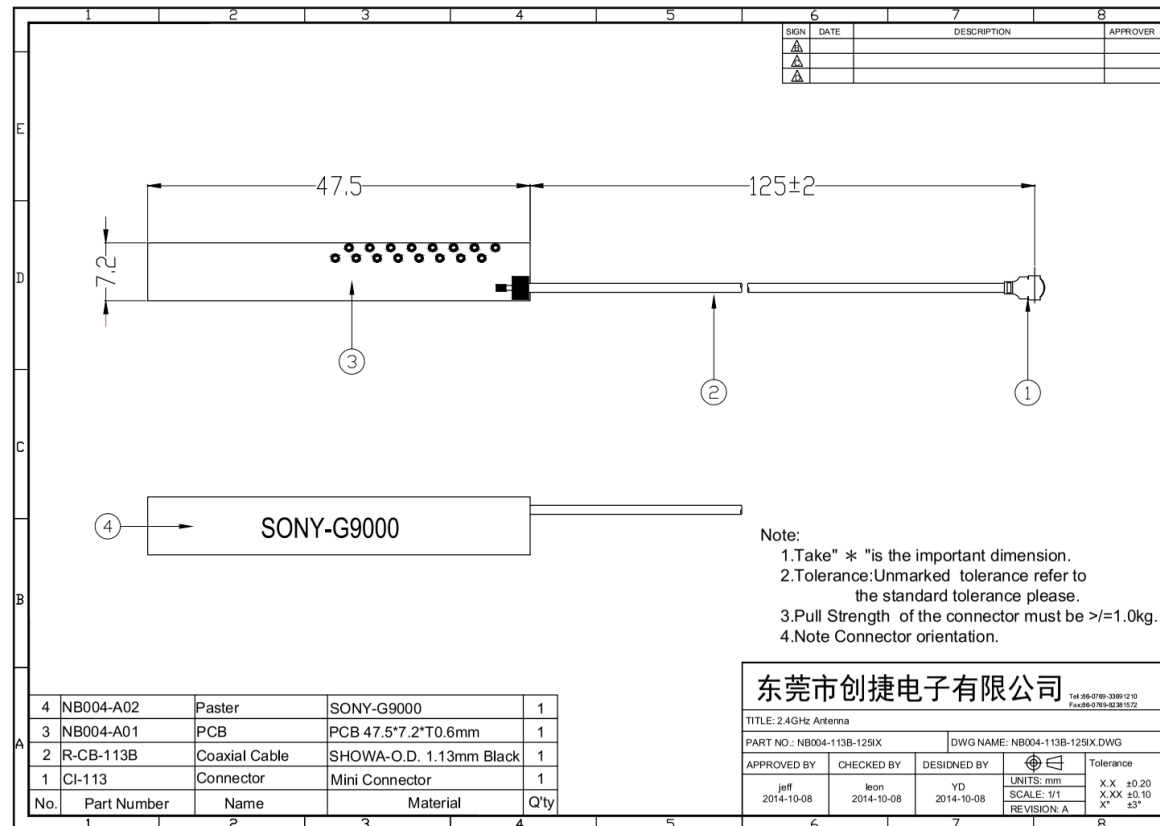
Antenna Design Parameters

Item	Parameter
Antenna Type	PCB antenna
Polarization	Linear, Vertical
Frequency Range	802.11b/g/n-HT20: 2412 - 2462MHZ 802.11n-HT40: 2422 ~ 2452MHZ
Antenna Gain	4.0dBi
VSWR	1.92 : 1 Max
Nominal Impedance	50Ω
Antenna Dimension	47.5*7.2mm
Lightning Protection	Direct Ground
Operating Temperature	-25°C ~ +55°C (Standard) -40 °C ~ +70 °C (Customizable)
Reposition Temperature	-40 °C to +85 °C

尺寸和厂家信息 Size and manufacturer information

东莞市创捷电子科技有限公司

Dongguan Chuangjie Electronic Technology Co., Ltd



电性测试报告

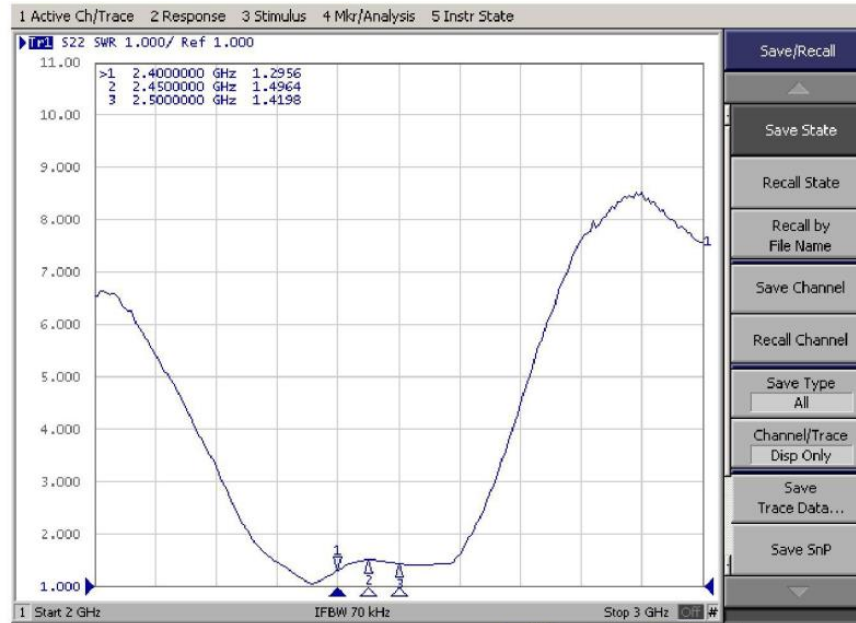
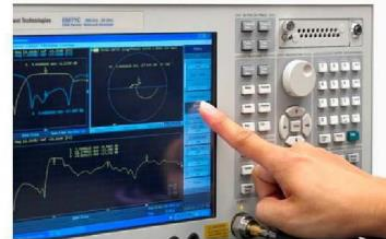
Test Reports

Electrical Properties	
Frequency	2.4GHz
Impedance	50 Ohm Nominal
V.S.W.R	1.92 : 1 Max
Return Loss	-10 dB Max
Radiation	Omni-directional
Gain (Peak)	4dBi
Cable Loss	3.2 dB / m Max @ 2450 MHz
Polarization	Linear, Vertical
Admitted Power	1 W
Connector	ipex
Physical Properties	
Antenna Material	PCB
Cable Type	O.D. 1.13mm // 125 mm

S 参数测试

S Parameter Test

Agilent E5071C



增益测试

Gain Test

*Antenna
Radiation
Pattern
VS
Gain*

