3TN00068ABAA（5dBi External Dual Band Antenna） SPECIFICATION

Version, status	1.0
Date	30-01-2024
Creator/Owner	Zhou Xia/Mo Jingyan/Li Yantao
Reviewer	Yin Xiaolin/Xia Qing
Approver	Sun Ronghai

Contents

1 General

The product PTXX will have two dual band antennas.All are 2.4G/5G antennas.The working frequency of 2.4G is 2400MHz-2500MHz,the working frequency of 5G is 5150MHz-5850MHz. All the two antennas will be arranged external.Vertical and horizontal polarization or some other polarization will not be restricted. For 2.4G/5G antnna, they will receive the signal from the free space and transmit them to the diplexer,at the same time,they receive the signal from the diplexer and transmit them to free space. The stucture is strengthened for drop test without package.

2 Explanation of part number

Nokia EMA number：	3TN00068ABAA
Cable length	black 74, white 204mm
PRODUCT TYPE：	2.4/5.8GHz
REVISION:	V1.0
DATE:	2024-01-30

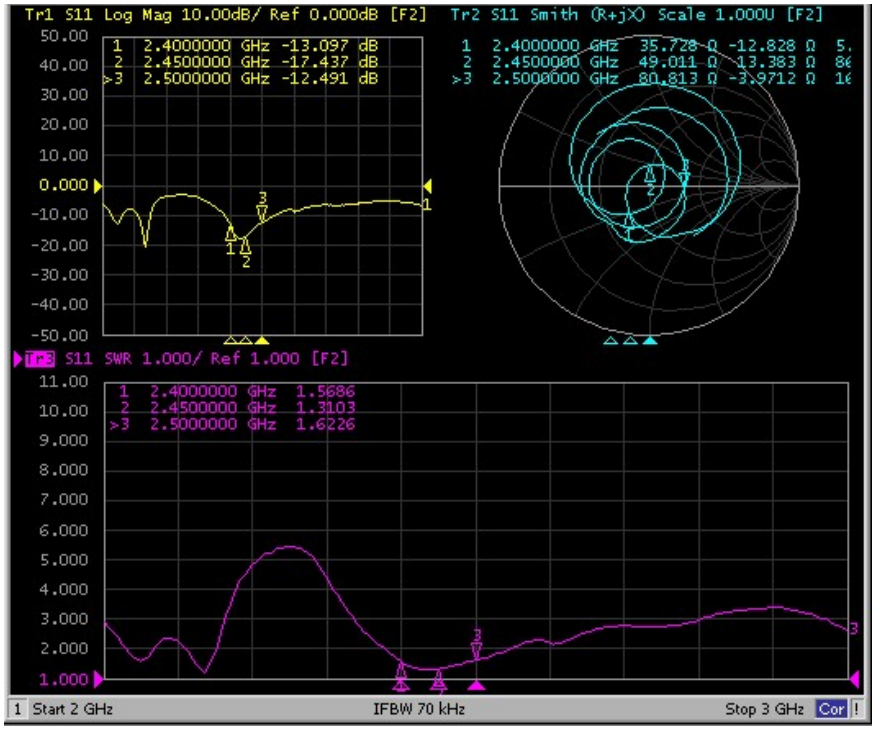
3 Electrical performance specification

Items	Specification
Frequency Range	2.4-2.5GHz 5.15-5.85 GHz
Feed Impedance	50 Ω
Gain	5±0.5 dBi@2.4-2.5GHz 5±0.5 dBi@5.15-5.85 GHz
VSWR	≤2.0
Admitted Power	10W
Polarization	Linear, Vertical
Connector Type	IPEX/Cable
Antenna Base	FR4
Operating Temp	-20℃~+65℃
Operating Relative Humidity	5％RH～95％RH
Storage Temp	-30℃~+75℃
Storage Relative Humidity	5％RH～95％RH

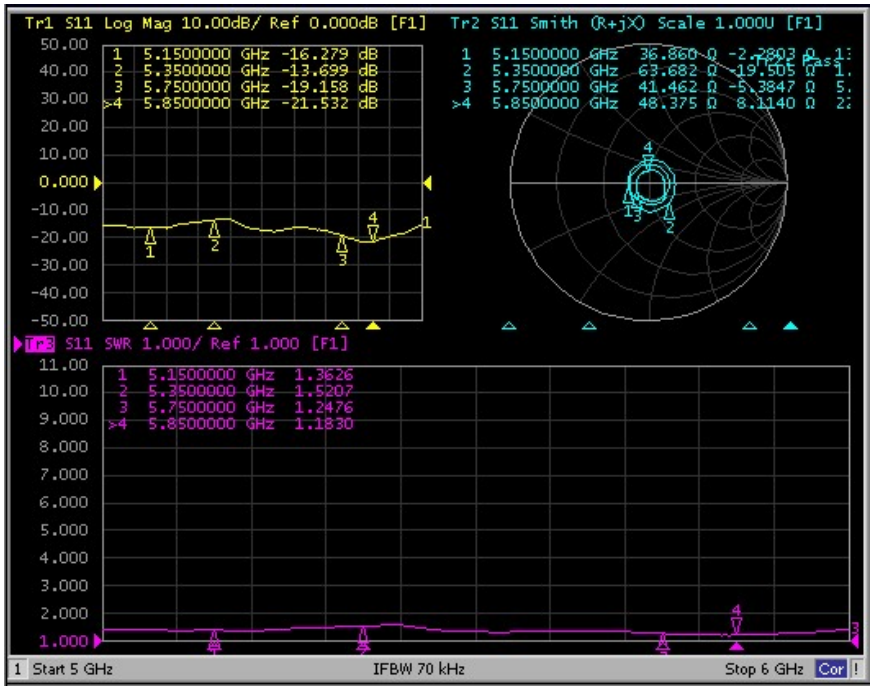
4 Product Characteristics

4.1 Return Loss

2.4-2.5GHz

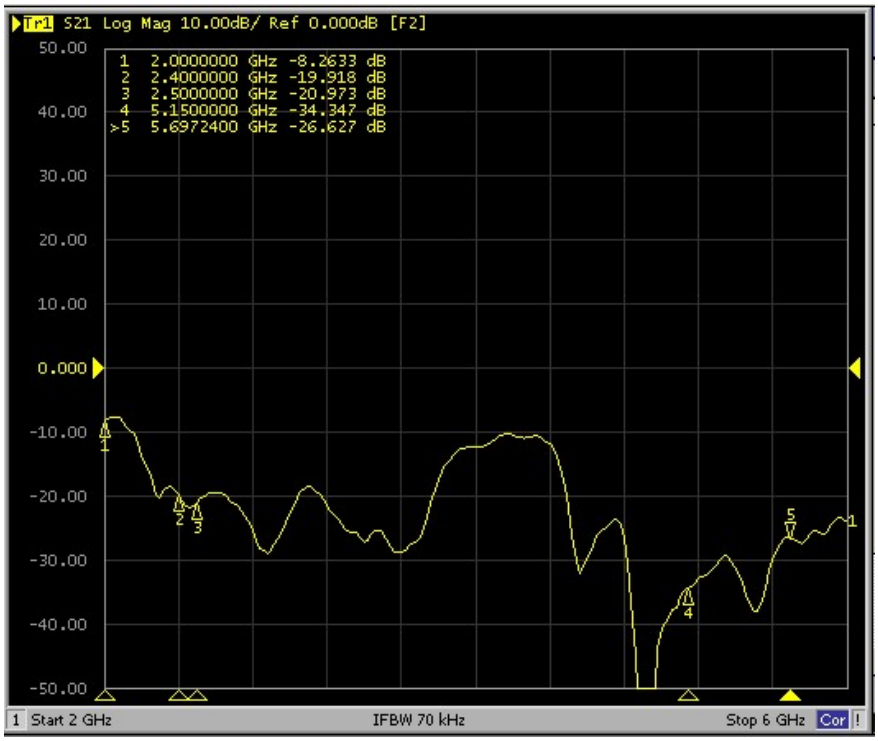


5.15-5.85GHz



4.2 Isolation

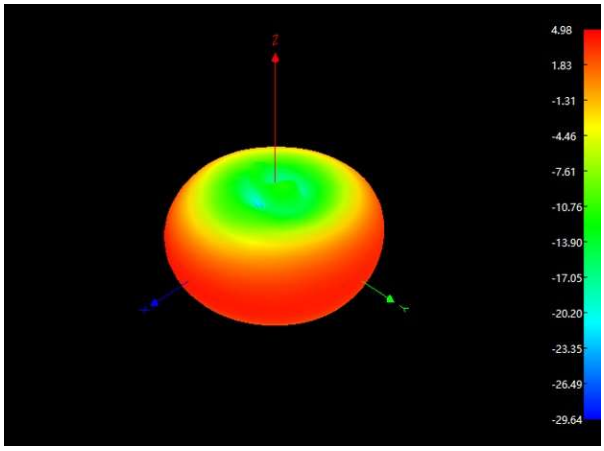
2.4-2.5GHz&5.15-5.85GHz



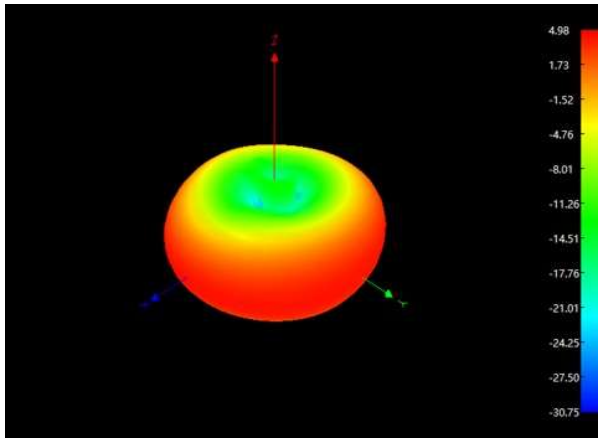
4.3 3D&2D Radiation Pattern

Frequency	Gain/dBi	Effectiveness/%
low(2.4GHz)	4.98	76.74
In(2.45GHz)	4.98	71.94
High(2.5GHz)	4.72	77.62

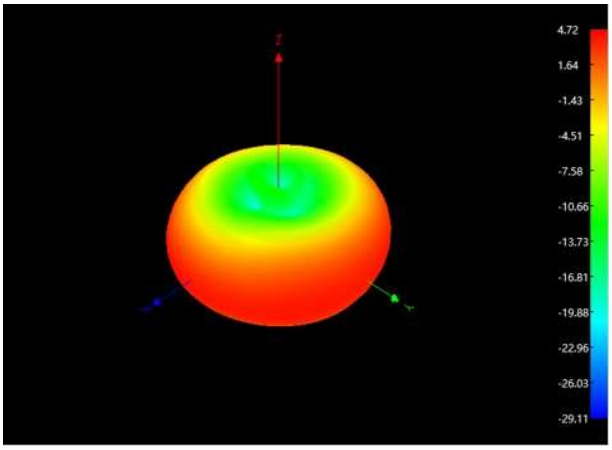
Frequency	Gain/dBi	Effectiveness/%
5.15 GHz	5.15	78.22
5.35 GHz	5.49	80.35
5.55 GHz	5.01	74.50
5.75 GHz	5.31	76.16
5.85 GHz	5.35	80.11



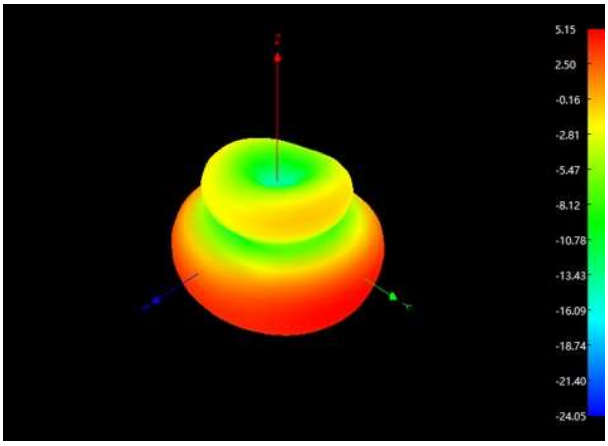
2.4GHz 3D Pattern and max Gain



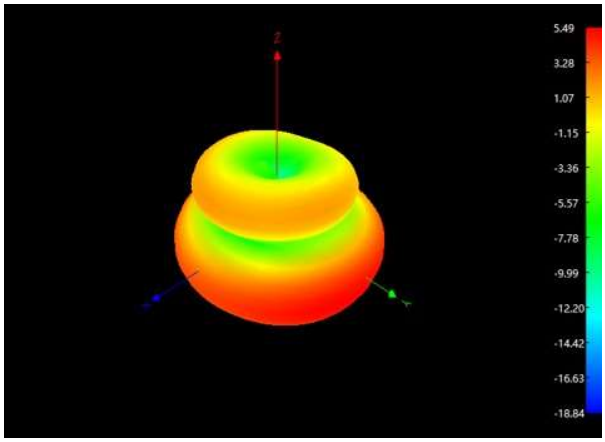
2.45GHz 3D Pattern and max Gain



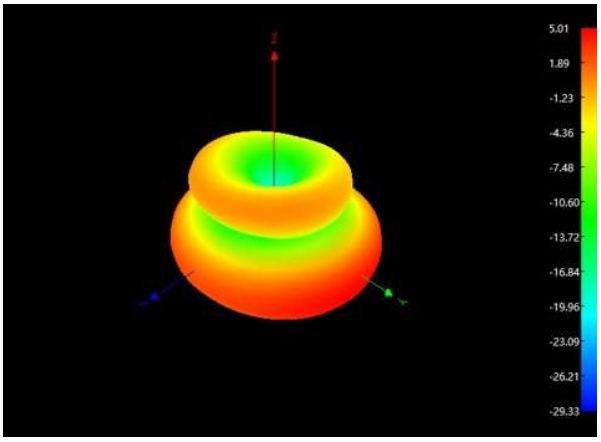
2.5GHz 3D Pattern and max Gain



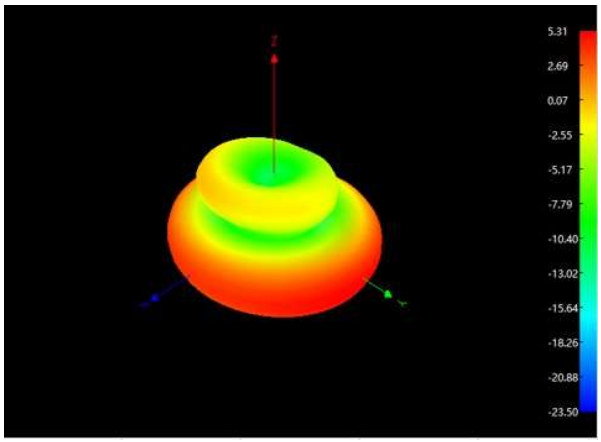
5.15GHz 3D Pattern and max Gain



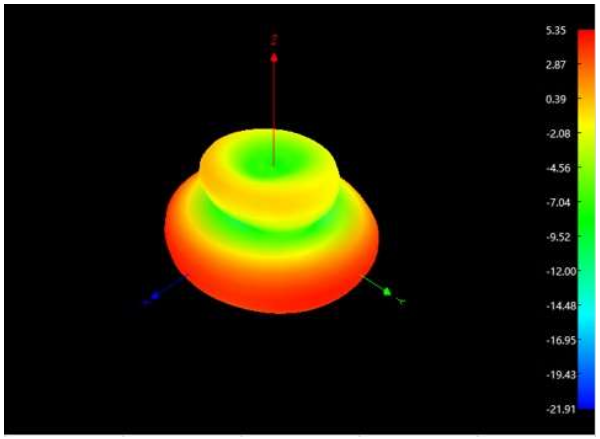
5.35GHz 3D Pattern and max Gain



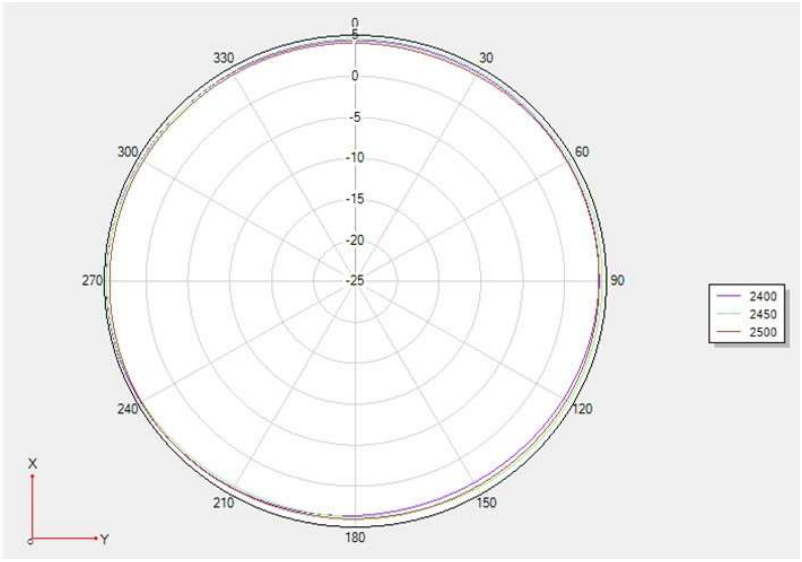
5.55GHz 3D Pattern and max Gain



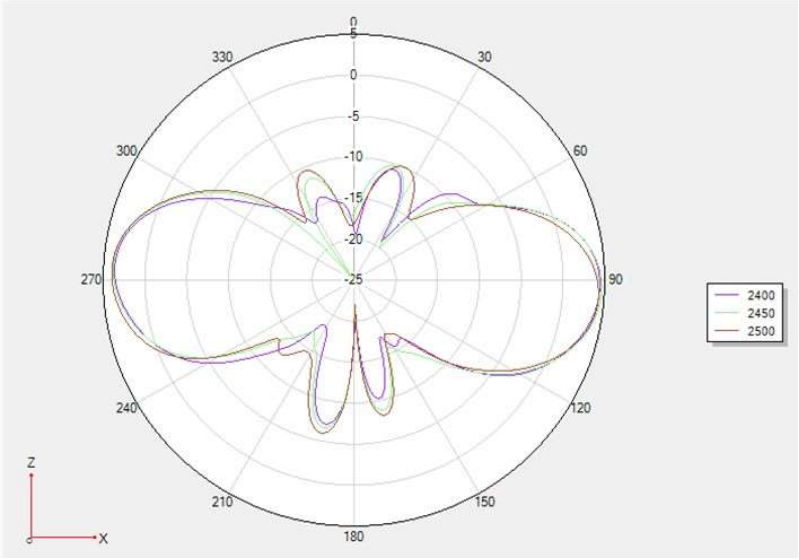
5.75GHz 3D Pattern and max Gain



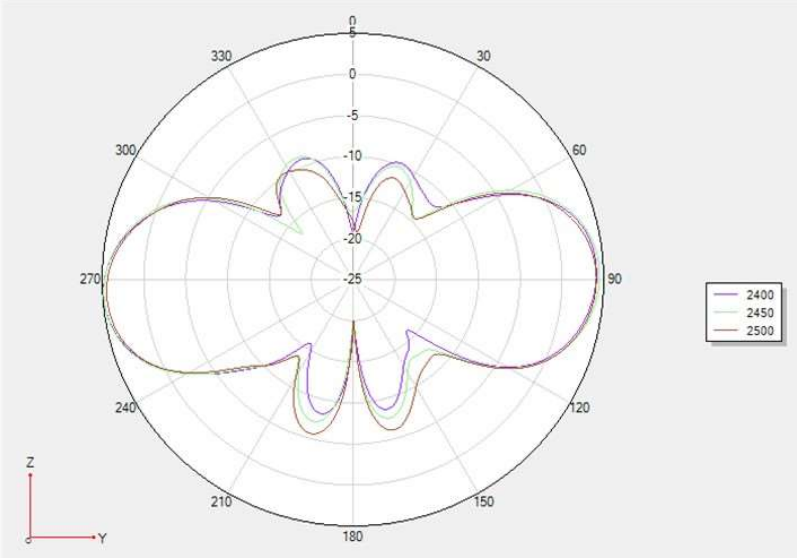
5.85GHz 3D Pattern and max Gain



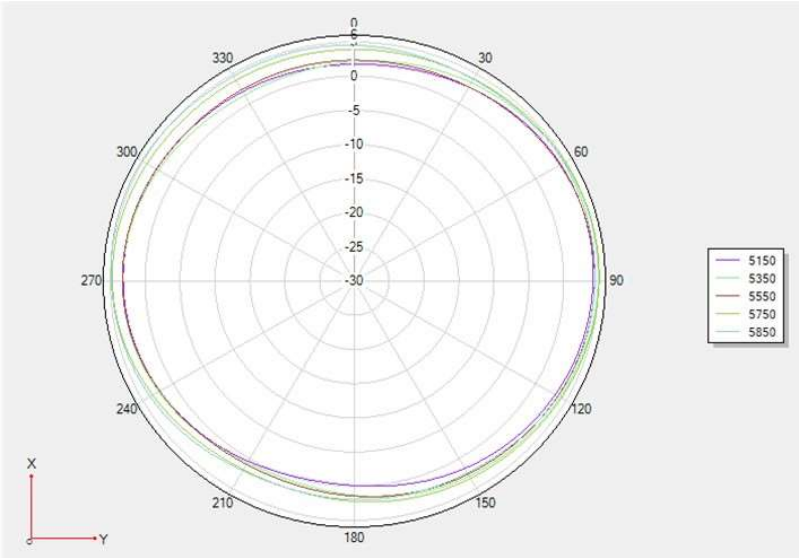
2400MHz\2450MHz\2500MHz XOY(H Face) Gain Icon



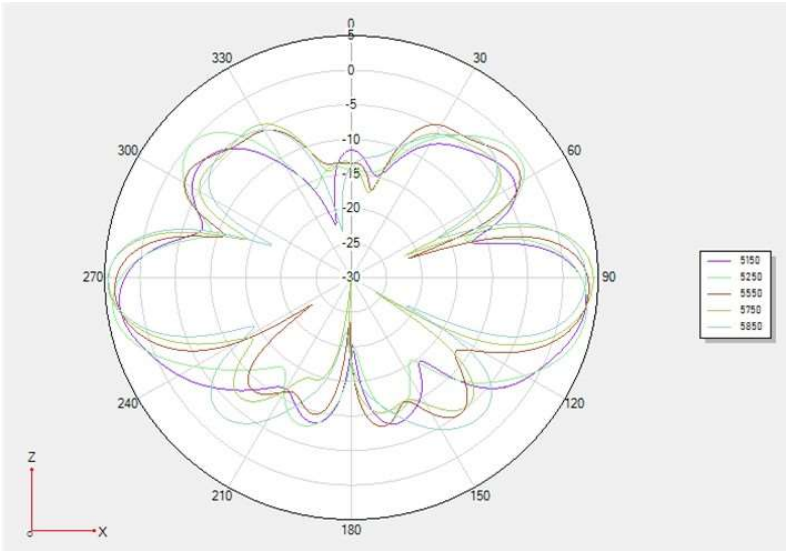
2400MHz\2450MHz\2500MHz XOZ(E1Face) Gain Icon



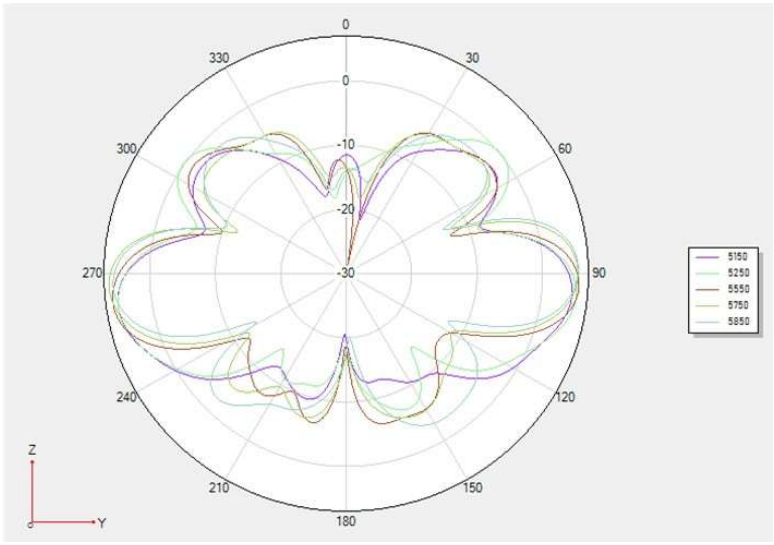
2400MHz\2450MHz\2500MHz XOZ(E2Face) Gain Icon



5150MHz~5850MHz XOY(H Face) Gain Icon



5150MHz~5850MHz XOZ(E1 Face) Gain Icon



5150MHz~5850MHz YOZ(E2 Face) Gain Icon

XOY(H Face)Gain

Frequency / MHz	MaxGain(dBi)	MinGain(dBi)	AverageGain(dB)	Pattern Ripple
2400	4.81	3.34	4.17	1.47
2450	4.78	3.75	4.37	1.03
2500	4.56	3.91	4.25	0.65
5150	4.02	0.23	2.35	3.79
5350	4.59	0.76	2.82	3.83
5550	4.42	0.99	3.34	3.43
5750	5.09	1.77	3.56	3.32
5850	5.33	1.81	3.77	3.52

4.4 Reliability

Reliability item	result	notes
endurance test	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Rotary force test	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
The antenna lateral compression test	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Product free drop test	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Antenna tensile test	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Antenna mounting force	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Abnormal antenna sound test	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Low temperature storage	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
High temperature storage	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3
Temperature cycling	pass	Please check 3HH-16349-2003-DFZZA_External Antenna Reliability Test Specification_V3

5 Product Drawing