

Product Number:

Specification For Approval

Date: 2020 /04/ 01

File No.: 200401001

Version: 1.0

Customer:

Customer P/N: /

INVAX P/N: AntennaL109

Description : Antenna

Cortec Checked By:	R@ D Dept 20200401 Jack
Customer Approved By:	

Cortec Technology Inc.

Dongguan ZhiFeng Communication Technology Co., Ltd.
Shenzhen Zhi Feng Electronic Technology Co., Ltd.

手机: 18665349896

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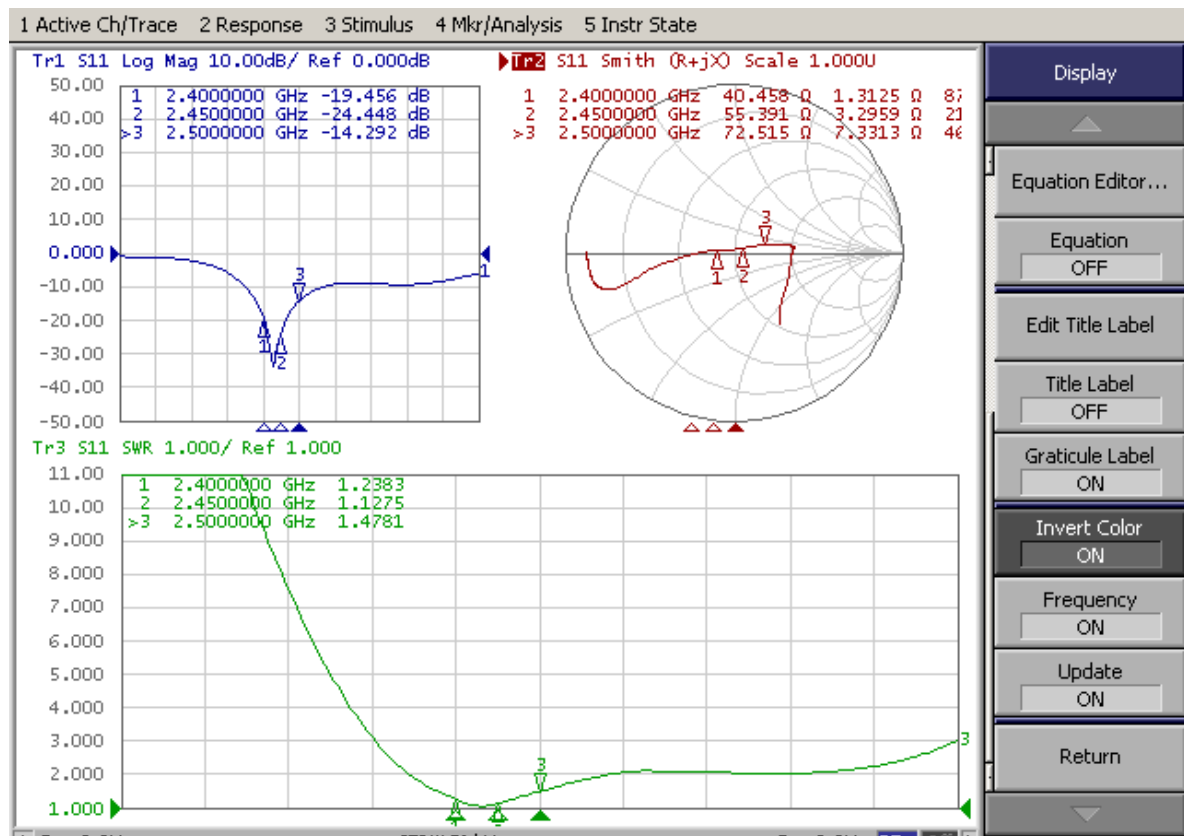
1. Reliability Testing

Test Item	Procedure	Requirement
1. Visual inspection and Dimension Check	Applicable methods using x5 magnification	follow specification
2. Rapid Changing of Temperature	-40°C (30minutes) to 90°C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. Freq. Tol.: < ±5%
3. Damp Heat	24 hours at 60°C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. Freq. Tol. : < ±5%
4. Endurance	24 hours at 90°C	After 2 hours recovery: 1. no visible damage 2. Freq Tol.: < ±5%

2.Specification

A. Electrical Characteristics	
S.W.R.	2400-5850 MHz: ≤ 1.5
Antenna Gain	$3 \pm 0.5\text{dBi}$
Impedance	50 Ohm
B. Material	
Material of Radiator	Cu (Plated)
Connector Type	SMA
C. Environmental	
Operation Temperature	- 30 °C ~ + 85 °C
Storage Temperature	- 30 °C ~ + 85 °C

3. S Parameter Test data



4. Antenna Radiation Pattern

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

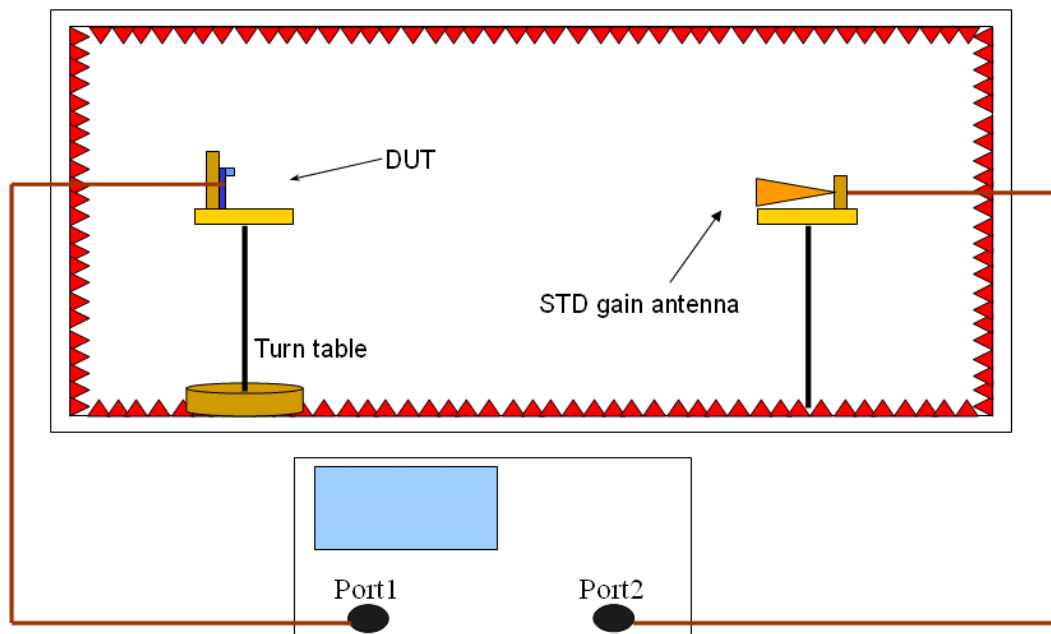
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

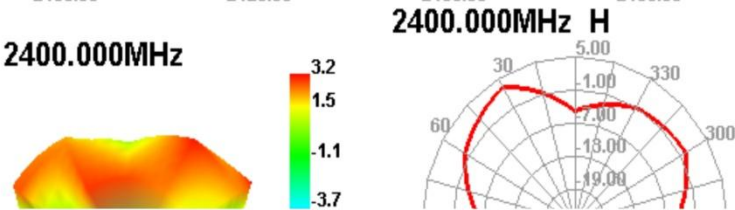
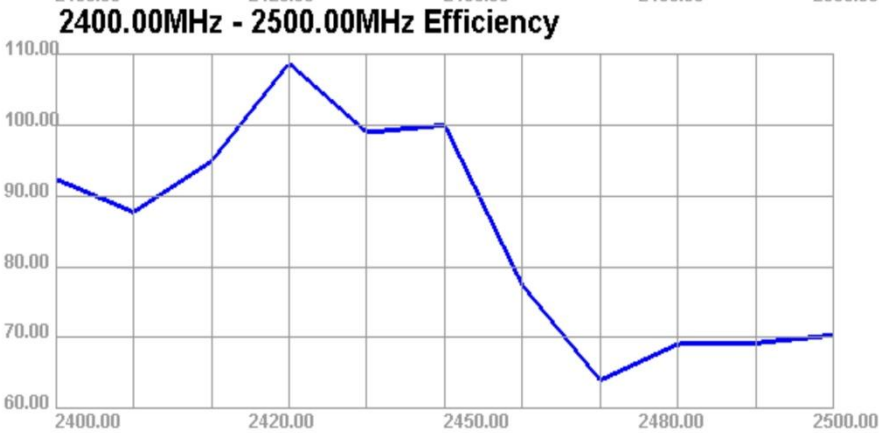
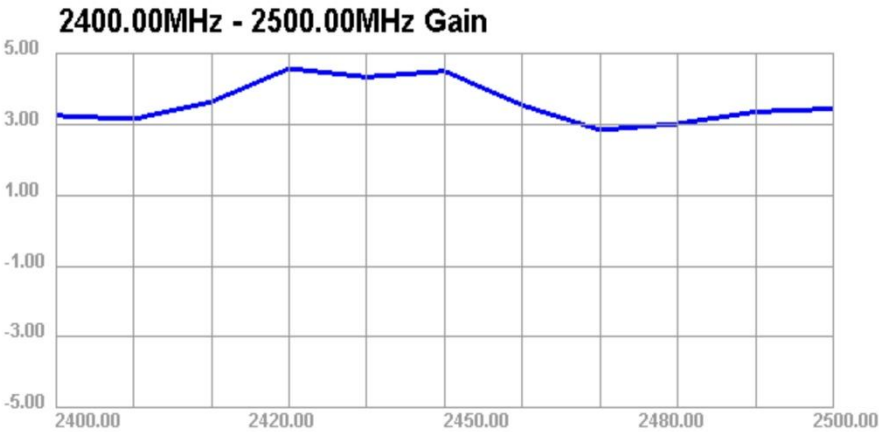
Received Antenna: 0.6 ~ 6.0 GHz for Gain Calibration

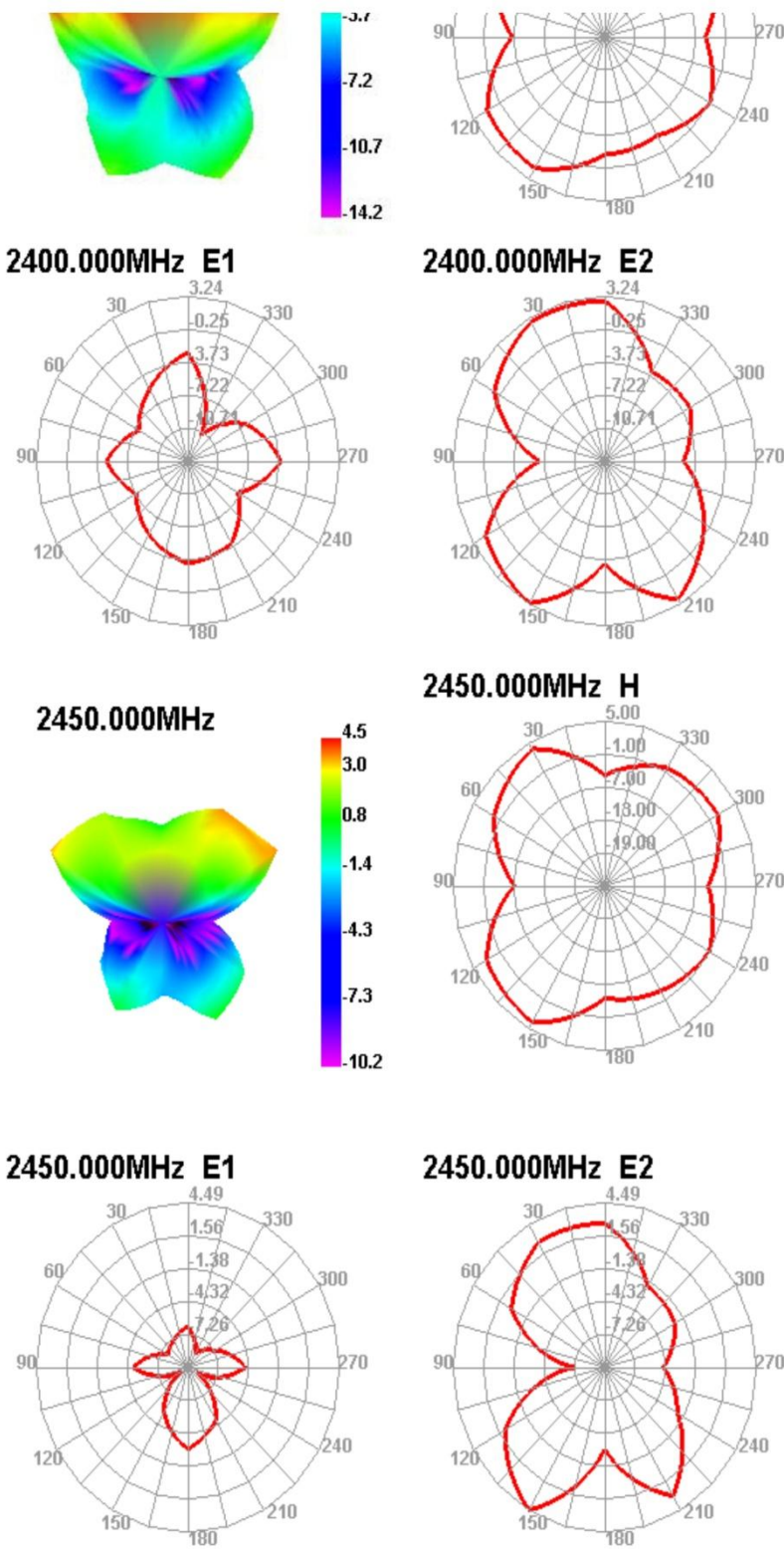
Double Ridged Horn Antenna

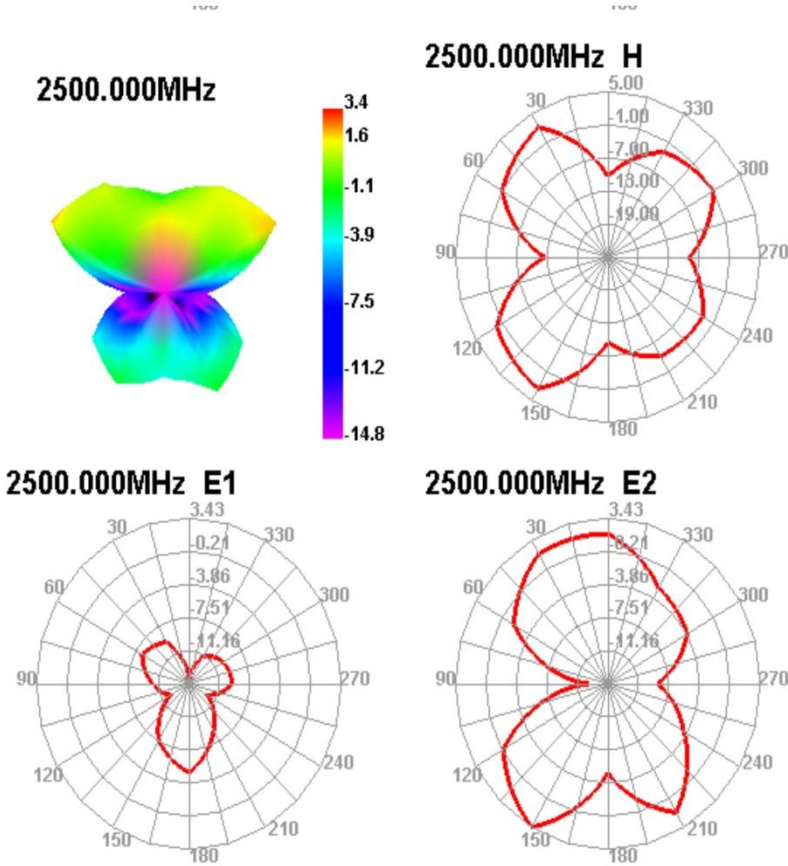


Product Number:

Passive Test For WIFI1								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)
2400	92.37	-0.34	3.24	1.09	43.69	48.683	3.24	-14.19
2410	87.71	-0.57	3.14	0.99	41.592	46.123	3.14	-14.42
2420	94.86	-0.23	3.63	1.48	45.175	49.682	3.63	-12.72
2430	98.98	0.36	4.57	2.42	51.878	56.8	4.57	-11.45
2440	98.93	-0.05	4.33	2.18	47.504	51.426	4.33	-10.85
2450	99.97	0	4.49	2.34	48.101	51.873	4.49	-10.19
2460	77.4	-1.11	3.53	1.38	37.145	40.255	3.53	-11.75
2470	64.01	-1.94	2.84	0.69	30.451	33.56	2.84	-13.21
2480	69.1	-1.61	3.01	0.86	32.7	36.403	3.01	-13.14
2490	69.26	-1.6	3.35	1.2	32.517	36.744	3.35	-13.78
2500	70.37	-1.53	3.43	1.28	32.84	37.531	3.43	-14.81

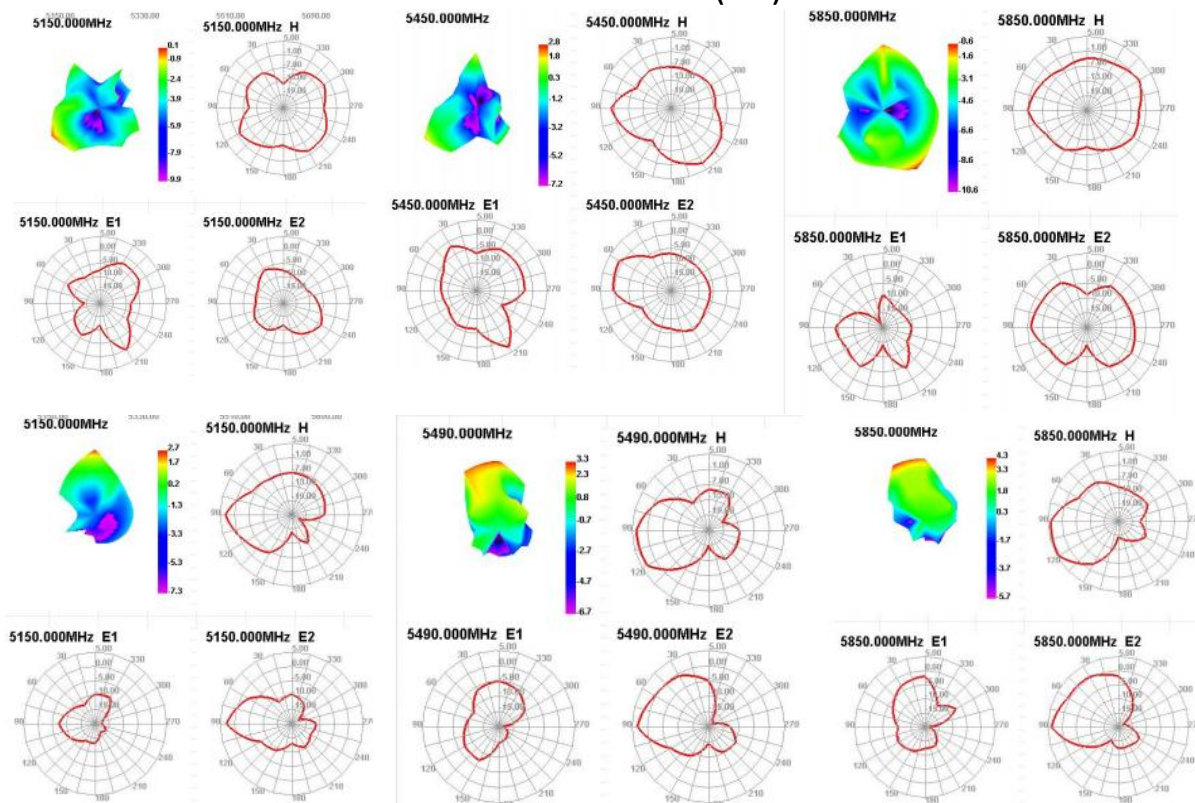






Passive Test For WIFI5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	29.76	-5.26	0.15	-2	14.82	14.943	0.15	-15.41	5.41	0	49.82	49.4
5170	33.71	-4.72	0.63	-1.52	17.034	16.68	0.63	-15.68	5.35	0	50.13	49.77
5190	32.27	-4.91	0.54	-1.61	16.574	15.697	0.54	-17.29	5.45	0	50.42	49.95
5210	35.89	-4.45	1.09	-1.06	18.299	17.596	1.09	-15.62	5.54	0	50.88	50.49
5230	31.34	-5.04	0.68	-1.47	15.791	15.549	0.68	-13.14	5.71	0	50.42	50.08
5250	33.27	-4.78	0.59	-1.56	16.882	16.384	0.59	-13.16	5.37	0	51.02	50.72
5270	31.81	-4.97	-0.21	-2.36	16.334	15.476	-0.21	-13.11	4.77	0	50.85	50.6
5290	31.09	-5.07	-0.57	-2.72	15.933	15.153	-0.57	-12.58	4.5	0	51.34	51.12
5310	26.02	-5.85	-0.49	-2.64	13.433	12.589	-0.49	-14.66	5.36	0	50.44	50.36
5330	26.88	-5.71	-0.2	-2.35	14.341	12.541	-0.2	-13.6	5.51	30	51.08	51.01
5350	28.3	-5.48	-0.62	-2.77	15.136	13.159	-0.62	-12.25	4.86	30	51.02	51.01
5370	30.21	-5.2	-0.03	-2.18	15.804	14.402	-0.03	-12.93	5.17	0	50.91	50.95
5390	28.05	-5.52	-0.68	-2.83	14.264	13.789	-0.68	-13.56	4.84	0	50.46	50.43
5410	37.12	-4.3	1.05	-1.1	18.414	18.706	1.05	-13.08	5.35	0	51.18	51.09
5430	35.49	-4.5	1.47	-0.68	17.277	18.21	1.47	-14.83	5.97	0	50.69	50.7
5450	42.96	-3.67	2.83	0.68	20.567	22.392	2.83	-13.13	6.5	0	50.71	50.85
5470	41.96	-3.77	3.1	0.95	19.63	22.328	3.1	-13.99	6.87	0	50.93	50.83
5490	43.03	-3.66	3.61	1.46	19.516	23.515	3.61	-15.09	7.27	0	50.92	50.79
5510	44.33	-3.53	4.01	1.86	19.496	24.834	4.01	-14.05	7.54	0	51.18	51.16
5530	43.98	-3.57	4.06	1.91	18.938	25.04	4.06	-13.75	7.63	0	51.44	51.3
5550	45.41	-3.43	4.34	2.19	19.325	26.084	4.34	-17.35	7.77	0	51.89	51.76
5570	36.3	-4.4	3.27	1.12	15.422	20.88	3.27	-20.9	7.67	0	51.42	51.33
5590	38.17	-4.18	3.49	1.34	16.211	21.956	3.49	-17.41	7.68	0	51.71	51.76
5610	29.73	-5.27	2.2	0.05	12.72	17.011	2.2	-18.58	7.47	0	51.17	51.22
5630	35.14	-4.54	2.66	0.51	15.002	20.142	2.66	-15.62	7.2	0	51.78	51.77
5650	23.51	-6.29	0.44	-1.71	10.064	13.447	0.44	-17.87	6.73	0	51.47	51.55
5670	30.51	-5.16	1.08	-1.07	13.153	17.355	1.08	-16.42	6.24	0	52.12	52.28
5690	23.27	-6.33	-0.88	-3.03	10.061	13.208	-0.88	-18.16	5.45	0	52.12	52.25
5710	27.97	-5.53	-0.42	-2.57	12.098	15.871	-0.42	-18.78	5.12	0	51.95	52.05
5730	25.06	-6.01	-1	-3.15	10.727	14.328	-1	-21.81	5.01	0	51.59	51.69
5750	24.46	-6.11	-0.82	-2.97	10.724	13.738	-0.82	-19.94	5.3	0	51.12	51.15
5770	25.42	-5.95	0	-2.15	11.343	14.077	0	-19.31	5.95	60	51.02	51.06
5790	25.06	-6.01	0.47	-1.68	11.288	13.773	0.47	-19.85	6.48	60	51.08	51.16
5810	26.35	-5.79	-0.11	-2.26	11.703	14.648	-0.11	-20.39	5.68	60	51.36	51.43
5830	26.22	-5.81	-0.83	-2.98	11.441	14.784	-0.83	-22.57	4.99	60	51.65	51.66
5850	28.21	-5.5	-0.6	-2.75	12.173	16.032	-0.6	-19.82	4.89	60	51.88	52.05

Radiation Pattern(5G)



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5. Anical DrawingSee attached files

1	2	3	4	5	6	7	8																																				
RoHS Compatible					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">SIGN</th> <th style="width: 10%;">DATE</th> <th style="width: 50%;">DESCRIPTION</th> <th style="width: 30%;">APPROVER</th> </tr> <tr> <td style="text-align: center;">△</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">△</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">△</td> <td></td> <td></td> <td></td> </tr> </table>			SIGN	DATE	DESCRIPTION	APPROVER	△				△				△																							
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Technical drawing of a 2400MHz antenna. The drawing includes front, side, and isometric views. Key dimensions and callouts are: 1. Total length: 109.0±1.0; 2. SMA connector; 3. Positioning pin; 4. Connecting tube; 5. Connecting head. Angles of 90.0° and 135.0° are indicated for the connector assembly. A diameter of φ10.0 is shown at the base of the tube.																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 20%;">Part Number</th> <th style="width: 20%;">Description</th> <th style="width: 10%;">Material</th> <th style="width: 10%;">Finish</th> <th style="width: 10%;">Q'ty</th> </tr> <tr> <td>5</td> <td>SMA002-CZ8MR178-01</td> <td>SMA公頭母針</td> <td>CU</td> <td>BLK</td> <td>1</td> </tr> <tr> <td>4</td> <td>WCY-ZZ15355SL-01</td> <td>定位柱</td> <td>ABS</td> <td>BLK</td> <td>2</td> </tr> <tr> <td>3</td> <td>SCY-LT94287L-01</td> <td>連接筒</td> <td>ABS</td> <td>BLK</td> <td>1</td> </tr> <tr> <td>2</td> <td>SCY-LH9425L-01</td> <td>連接頭</td> <td>ABS</td> <td>BLK</td> <td>1</td> </tr> <tr> <td>1</td> <td>SCY-BT9467L-01</td> <td>本體</td> <td>ABS</td> <td>BLK</td> <td>1</td> </tr> </table>					NO.	Part Number	Description	Material	Finish	Q'ty	5	SMA002-CZ8MR178-01	SMA公頭母針	CU	BLK	1	4	WCY-ZZ15355SL-01	定位柱	ABS	BLK	2	3	SCY-LT94287L-01	連接筒	ABS	BLK	1	2	SCY-LH9425L-01	連接頭	ABS	BLK	1	1	SCY-BT9467L-01	本體	ABS	BLK	1	Noted : 1.Unmarked tolerance refer to the standard tolerance please. 2.Take*dimension is the important dimension .		
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