

2、 The Equipment of Active Test

Satimo 3D Chamber 6×4×4(m)

Agilent 8960 E5515c

Network analyzer-R&S ZVL



Figure 2

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3 test

3.1 The Test of standing Wave (VSWR)

3.1.1 The Test of standing Wave (VSWR): In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

Actual measurement (with diagram)

3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

3.2.1 Test site:

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB..

3.2.2 Test instrument:

Rs ZVL Network Analyzer, Agilent8960 E5515C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

3.2.3 test data : In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA Active Test:

BAND	CH	TRP (dBm)	TIS (dBm)
BT	0	9.45	-93
	39	9.61	-93
	78	9.27	-93

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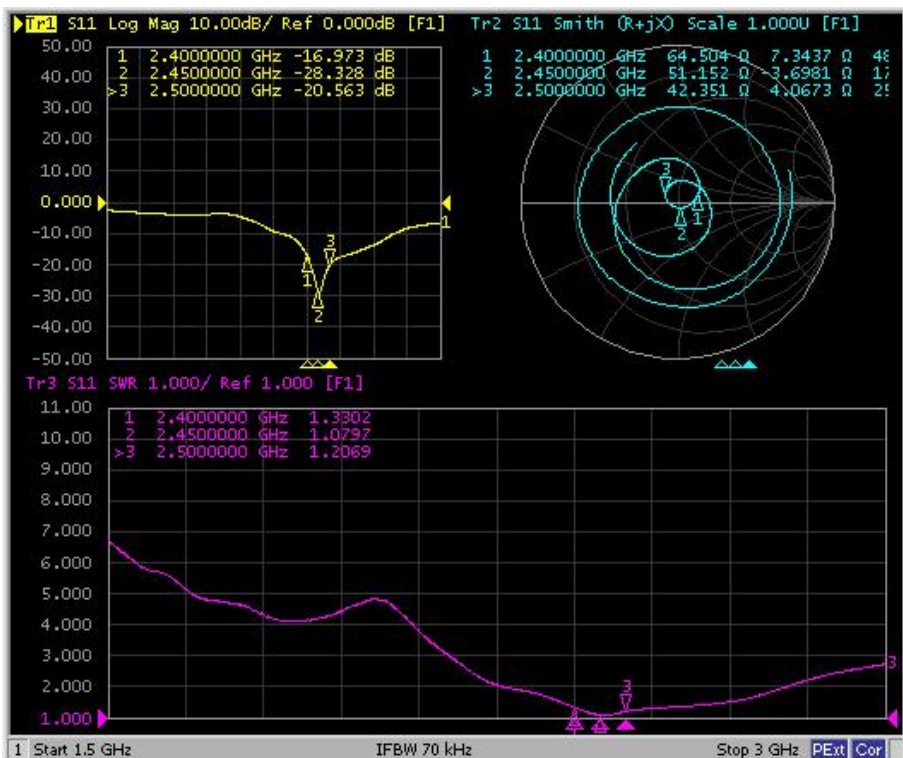
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OTA Passive Efficiency&Gain Test:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	54.21	-2.66	1.57
2410	54.62	-2.63	1.89
2420	54.93	-2.60	1.76
2430	55.44	-2.56	1.95
2440	55.68	-2.54	2.09
2450	56.19	-2.50	2.13
2460	55.26	-2.58	1.89
2470	54.77	-2.61	1.92
2480	54.63	-2.63	1.95
2490	54.01	-2.68	1.81
2500	53.24	-2.74	1.69

4、 Attachment chart

4.1 VSWR parameter diagram



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5、BT antenna active parameters -2402-TRP

Azimuths	2.402 GHz -150 Total	2.402 GHz -120 Total	2.402 GHz -90 Total	2.402 GHz -60 Total	2.402 GHz -30 Total	2.402 GHz 0 Total	2.402 GHz 30 Total	2.402 GHz 60 Total	2.402 GHz 90 Total	2.402 GHz 120 Total	2.402 GHz 150 Total
0	4.59	2.29	0.78	-5.86	2.16	-1.57	6.9	7.02	6.57	-0.8	7.65
30	8.95	-3.25	3.3	0.86	0.96	-1.44	-0.09	5.77	7.27	5.34	3.53
60	12.05	8.98	5.72	4.24	3.67	-1.53	-1.46	4.21	4.67	2.43	5.54
90	13.14	11.71	10.07	10.14	6.25	0.08	-0.98	5.28	6.33	2.64	3.24
120	13.09	10.5	11.64	10.87	6.96	-1.03	-2.03	3.77	4.19	3.67	4.44
150	11.82	9.15	10.32	10.69	7.66	-1.1	1.6	-0.68	-2.75	-0.6	2.59
180	7.65	-0.8	6.57	7.02	6.9	-1.57	2.16	-5.86	0.78	2.29	4.59
210	3.53	5.34	7.27	5.77	-0.09	-1.44	0.96	0.86	3.3	-3.25	8.95
240	5.54	2.43	4.67	4.21	-1.46	-1.53	3.67	4.24	5.72	8.98	12.05
270	3.24	2.64	6.33	5.28	-0.98	0.08	6.25	10.14	10.07	11.71	13.14
300	4.44	3.67	4.19	3.77	-2.03	-1.03	6.96	10.87	11.64	10.5	13.09
330	2.59	-0.6	-2.75	-0.68	1.6	-1.1	7.66	10.69	10.32	9.15	11.82

5.1、BT antenna active parameters -2402-TIS

Azimuths	2.402 GHz -150 Total	2.402 GHz -120 Total	2.402 GHz -90 Total	2.402 GHz -60 Total	2.402 GHz -30 Total	2.402 GHz 0 Total	2.402 GHz 30 Total	2.402 GHz 60 Total	2.402 GHz 90 Total	2.402 GHz 120 Total	2.402 GHz 150 Total
0	-90.6	-88.3	-86.79	-80.15	-88.17	-84.44	-92.92	-93.03	-92.58	-85.21	-93.66
30	-94.96	-82.76	-89.31	-86.87	-86.97	-84.58	-85.93	-91.78	-93.28	-91.35	-89.55
60	-98.06	-94.99	-91.73	-90.25	-89.69	-84.49	-84.56	-90.22	-90.68	-88.44	-91.55
90	-99.15	-97.72	-96.08	-96.15	-92.27	-86.09	-85.03	-91.29	-92.35	-88.65	-89.26
120	-99.1	-96.51	-97.65	-96.88	-92.98	-84.98	-83.98	-89.79	-90.2	-89.68	-90.45
150	-97.83	-95.16	-96.33	-96.7	-93.67	-84.91	-87.61	-85.33	-83.26	-85.41	-88.61
180	-93.66	-85.21	-92.58	-93.03	-92.92	-84.44	-88.17	-80.15	-86.79	-88.3	-90.6
210	-89.55	-91.35	-93.28	-91.78	-85.93	-84.58	-86.97	-86.87	-89.31	-82.76	-94.96
240	-91.55	-88.44	-90.68	-90.22	-84.56	-84.49	-89.69	-90.25	-91.73	-94.99	-98.06
270	-89.26	-88.65	-92.35	-91.29	-85.03	-86.09	-92.27	-96.15	-96.08	-97.72	-99.15
300	-90.45	-89.68	-90.2	-89.79	-83.98	-84.98	-92.98	-96.88	-97.65	-96.51	-99.1
330	-88.61	-85.41	-83.26	-85.33	-87.61	-84.91	-93.67	-96.7	-96.33	-95.16	-97.83

5.2、BT antenna active parameters -2441-TRP

Azimuths	2.441 GHz -150 Total	2.441 GHz -120 Total	2.441 GHz -90 Total	2.441 GHz -60 Total	2.441 GHz -30 Total	2.441 GHz 0 Total	2.441 GHz 30 Total	2.441 GHz 60 Total	2.441 GHz 90 Total	2.441 GHz 120 Total	2.441 GHz 150 Total
0	3.72	1.6	0.75	-3.48	1.26	-0.32	7.07	7.54	7.39	-2.58	7.28
30	9.32	-2.24	2.54	1.98	0.23	-0.64	2.27	6	7.46	5.85	4.27
60	11.77	8.35	5.95	4.73	2.92	-3	-1.46	3.49	4.73	2.3	6.11
90	12.86	11.8	10.11	9.82	5.2	0.74	-4.38	4.87	6.55	2.53	2.96
120	13.41	10.64	11.96	11.65	7.1	-1.03	-2.08	4.62	4.32	3.7	4.1
150	11.59	9.44	10.67	10.8	8.57	-0.52	1.64	-0.84	-1.35	0.07	2.64
180	7.28	-2.58	7.39	7.54	7.07	-0.32	1.26	-3.48	0.75	1.6	3.72
210	4.27	5.85	7.46	6	2.27	-0.64	0.23	1.98	2.54	-2.24	9.32
240	6.11	2.3	4.73	3.49	-1.46	-3	2.92	4.73	5.95	8.35	11.77
270	2.96	2.53	6.55	4.87	-4.38	0.74	5.2	9.82	10.11	11.8	12.86
300	4.1	3.7	4.32	4.62	-2.08	-1.03	7.1	11.65	11.96	10.64	13.41
330	2.64	0.07	-1.35	-0.84	1.64	-0.52	8.57	10.8	10.67	9.44	11.59

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5.3、 BT antenna active parameters -2441-TIS

Azimuths	2.441 GHz -150 Total	2.441 GHz -120 Total	2.441 GHz -90 Total	2.441 GHz -60 Total	2.441 GHz -30 Total	2.441 GHz 0 Total	2.441 GHz 30 Total	2.441 GHz 60 Total	2.441 GHz 90 Total	2.441 GHz 120 Total	2.441 GHz 150 Total
0	-89.96	-87.83	-86.98	-82.75	-87.49	-85.91	-93.3	-93.78	-93.63	-83.65	-93.51
30	-95.56	-83.99	-88.77	-88.21	-86.46	-85.59	-88.51	-92.23	-93.7	-92.09	-90.51
60	-98.01	-94.58	-92.19	-90.97	-89.15	-83.24	-84.78	-89.72	-90.97	-88.54	-92.34
90	-99.1	-98.04	-96.34	-96.06	-91.43	-86.98	-81.86	-91.11	-92.78	-88.77	-89.2
120	-99.65	-96.87	-98.2	-97.88	-93.34	-85.21	-84.15	-90.85	-90.56	-89.93	-90.34
150	-97.82	-95.68	-96.91	-97.03	-94.8	-85.71	-87.88	-85.39	-84.88	-86.31	-88.87
180	-93.51	-83.65	-93.63	-93.78	-93.3	-85.91	-87.49	-82.75	-86.98	-87.83	-89.96
210	-90.51	-92.09	-93.7	-92.23	-88.51	-85.59	-86.46	-88.21	-88.77	-83.99	-95.56
240	-92.34	-88.54	-90.97	-89.72	-84.78	-83.24	-89.15	-90.97	-92.19	-94.58	-98.01
270	-89.2	-88.77	-92.78	-91.11	-81.86	-86.98	-91.43	-96.06	-96.34	-98.04	-99.1
300	-90.34	-89.93	-90.56	-90.85	-84.15	-85.21	-93.34	-97.88	-98.2	-96.87	-99.65
330	-88.87	-86.31	-84.88	-85.39	-87.88	-85.71	-94.8	-97.03	-96.91	-95.68	-97.82

5.4、 BT antenna active parameters-2480-TRP

Azimuths	2.48 GHz -150 Total	2.48 GHz -120 Total	2.48 GHz -90 Total	2.48 GHz -60 Total	2.48 GHz -30 Total	2.48 GHz 0 Total	2.48 GHz 30 Total	2.48 GHz 60 Total	2.48 GHz 90 Total	2.48 GHz 120 Total	2.48 GHz 150 Total
0	3.35	1.06	1.13	-3.32	1.76	-0.53	5.73	7.27	7.38	-4.13	7.56
30	9.19	-1.98	1.81	3.09	0.84	-0.02	2.75	5.48	7.52	6.82	5.24
60	10.98	7.33	6.06	4.33	1.22	-0.85	-2.42	2.48	4.63	2.11	6.41
90	12.98	11.75	9.87	9.77	2.93	-0.02	-8	4.39	6.59	3.09	2.23
120	13.41	10.5	11.98	11.25	6.96	-1.36	-3.57	3.66	4.87	4.41	4.37
150	12.19	8.55	10.49	11.01	7.87	-0.59	1.81	-1.47	-1.51	-0.33	2.5
180	7.56	-4.13	7.38	7.27	5.73	-0.53	1.76	-3.32	1.13	1.06	3.35
210	5.24	6.82	7.52	5.48	2.75	-0.02	0.84	3.09	1.81	-1.98	9.19
240	6.41	2.11	4.63	2.48	-2.42	-0.85	1.22	4.33	6.06	7.33	10.98
270	2.23	3.09	6.59	4.39	-8	-0.02	2.93	9.77	9.87	11.75	12.98
300	4.37	4.41	4.87	3.66	-3.57	-1.36	6.96	11.25	11.98	10.5	13.41
330	2.5	-0.33	-1.51	-1.47	1.81	-0.59	7.87	11.01	10.49	8.55	12.19

5.5、 BT antenna active parameters -2480-TIS

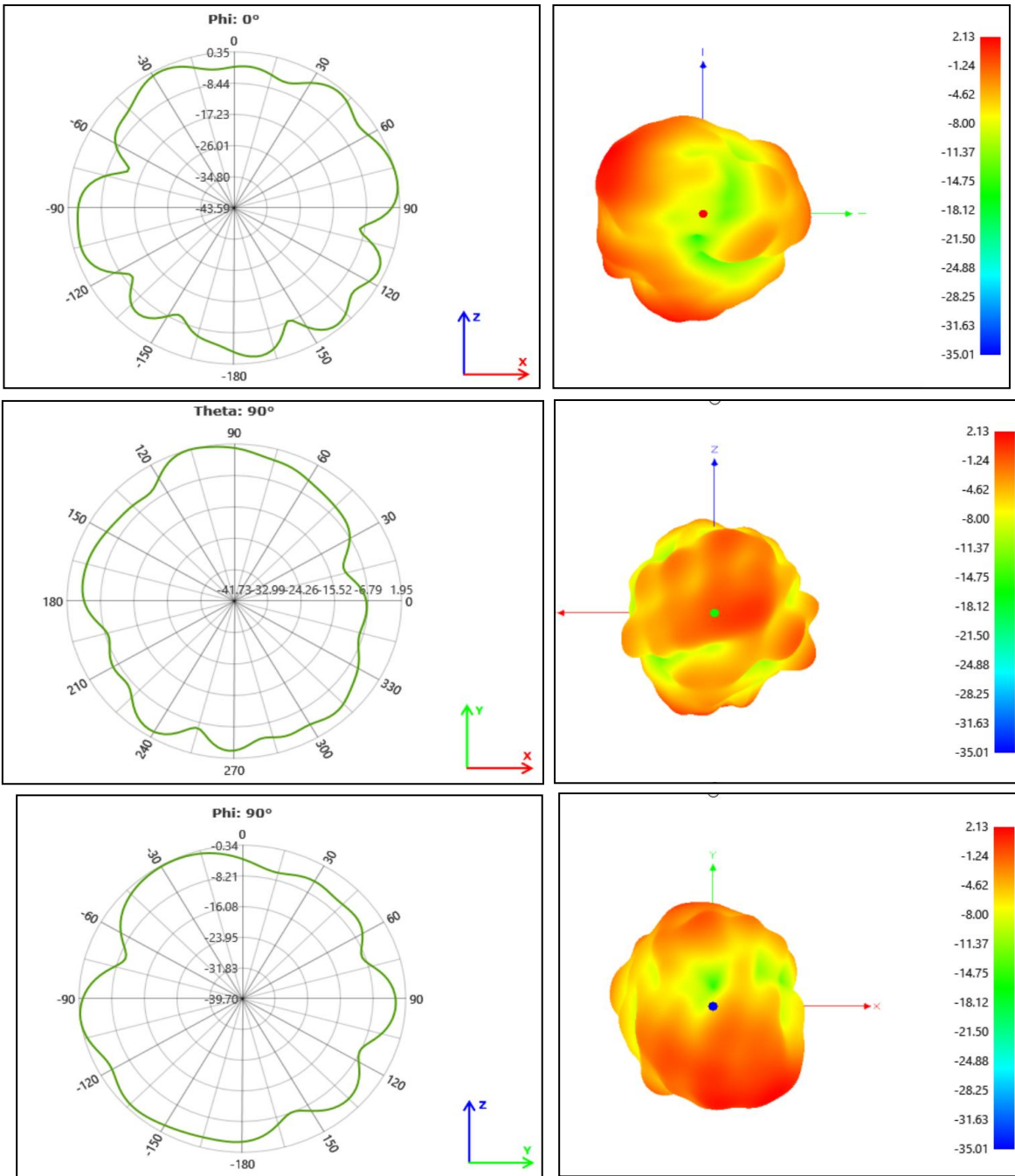
Azimuths	2.48 GHz -150 Total	2.48 GHz -120 Total	2.48 GHz -90 Total	2.48 GHz -60 Total	2.48 GHz -30 Total	2.48 GHz 0 Total	2.48 GHz 30 Total	2.48 GHz 60 Total	2.48 GHz 90 Total	2.48 GHz 120 Total	2.48 GHz 150 Total
0	-89.67	-87.39	-87.45	-83	-88.08	-85.8	-92.05	-93.59	-93.71	-82.19	-93.88
30	-95.51	-84.35	-88.13	-89.41	-87.17	-86.31	-89.07	-91.81	-93.84	-93.14	-91.57
60	-97.31	-93.65	-92.38	-90.65	-87.54	-85.48	-83.91	-88.8	-90.95	-88.44	-92.73
90	-99.3	-98.07	-96.2	-96.09	-89.26	-86.3	-78.33	-90.72	-92.91	-89.41	-88.56
120	-99.74	-96.83	-98.3	-97.58	-93.29	-84.96	-82.75	-89.98	-91.19	-90.74	-90.7
150	-98.51	-94.88	-96.81	-97.34	-94.19	-85.74	-88.13	-84.85	-84.81	-85.99	-88.82
180	-93.88	-82.19	-93.71	-93.59	-92.05	-85.8	-88.08	-83	-87.45	-87.39	-89.67
210	-91.57	-93.14	-93.84	-91.81	-89.07	-86.31	-87.17	-89.41	-88.13	-84.35	-95.51
240	-92.73	-88.44	-90.95	-88.8	-83.91	-85.48	-87.54	-90.65	-92.38	-93.65	-97.31
270	-88.56	-89.41	-92.91	-90.72	-78.33	-86.3	-89.26	-96.09	-96.2	-98.07	-99.3
300	-90.7	-90.74	-91.19	-89.98	-82.75	-84.96	-93.29	-97.58	-98.3	-96.83	-99.74
330	-88.82	-85.99	-84.81	-84.85	-88.13	-85.74	-94.19	-97.34	-96.81	-94.88	-98.51

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6、Antenna passive field pattern diagram---2450MHz

unit: dBi

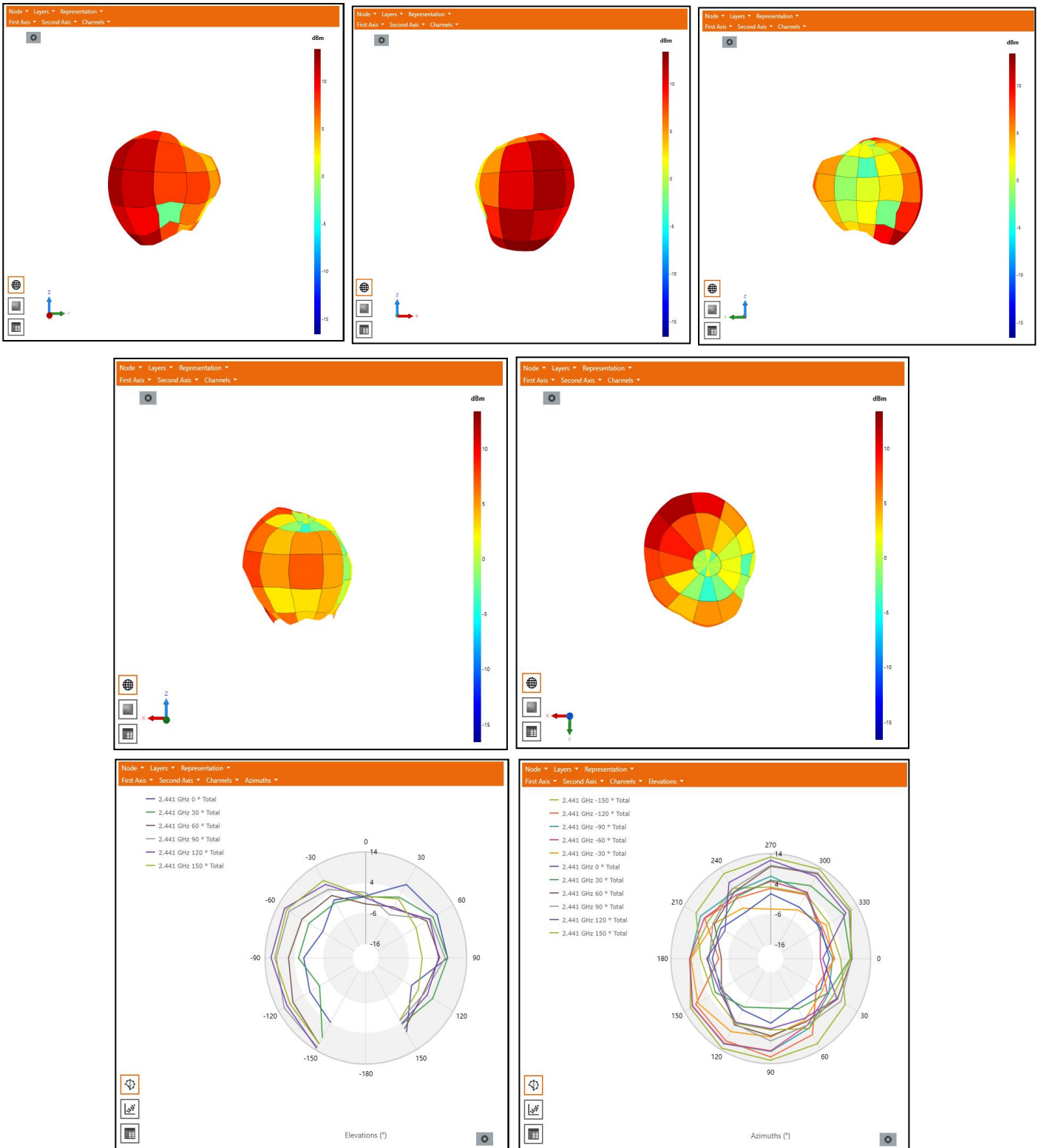


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7、OTA 3D field diagram: TRP

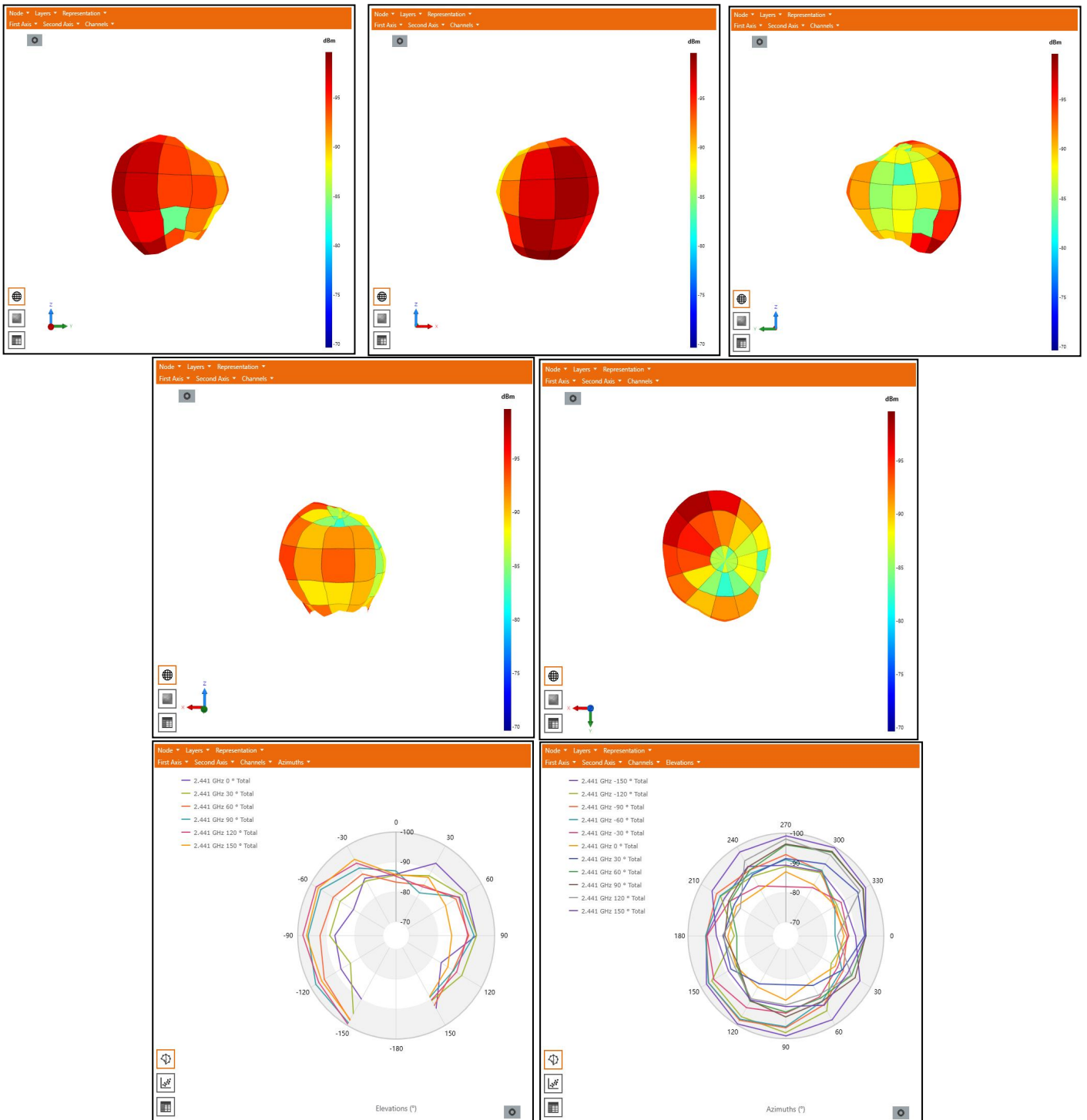


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OTA 3D field diagram: TIS



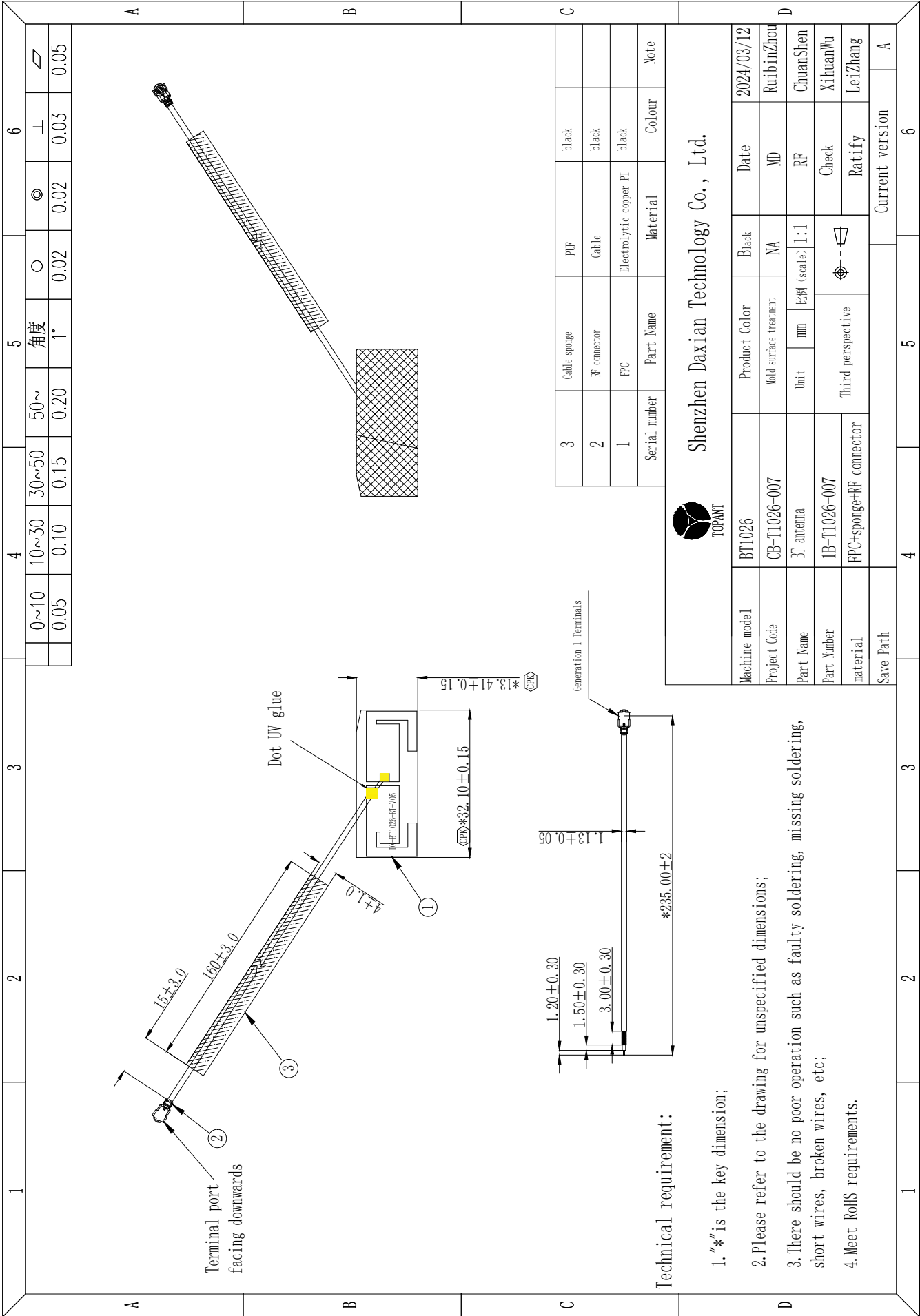
8、 conclusion:

This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

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1 2 3 4 5 6

0~10	10~30	30~50	50~	角度	⊙	⊥	∠
0.05	0.10	0.15	0.20	1°	0.02	0.03	0.05

Terminal port facing downwards

15±0.30

160±3.0

4±1.0

13.41±0.15

32.10±0.15

1.13±0.05

1.20±0.30

1.50±0.30

3.00±0.30

*235.00±2

Generation 1 Terminals

Dot UV glue

BT1026

CB-T1026-007

BT antenna

IB-T1026-007

FPC+sponge+RF connector

Save Path

Machine model

Project Code

Part Name

Part Number

material

Save Path

Product Color

Mold surface treatment

unit

比例 (scale)

Third perspective

Check

Ratify

Current version

A

Shenzhen Daxian Technology Co., Ltd.

TOPANT

2024/03/12

RuibinZhou

ChuanShen

XihuanWu

LeiZhang

Material

Colour

Note

3 Cable sponge PUF black

2 RF connector Cable black

1 FPC Electrolytic copper PI black

Serial number Part Name Material Colour Note

Technical requirement:

1. "*" is the key dimension;

2. Please refer to the drawing for unspecified dimensions;

3. There should be no poor operation such as faulty soldering, missing soldering, short wires, broken wires, etc.;

4. Meet RoHS requirements.