



Dongguan Songhui Co.,LTD

Focus on antenna solutions
, design, and production

customer: BeiKe

project: C3 AIR

date: 2026.04.08 radio

frequency: LUO YI

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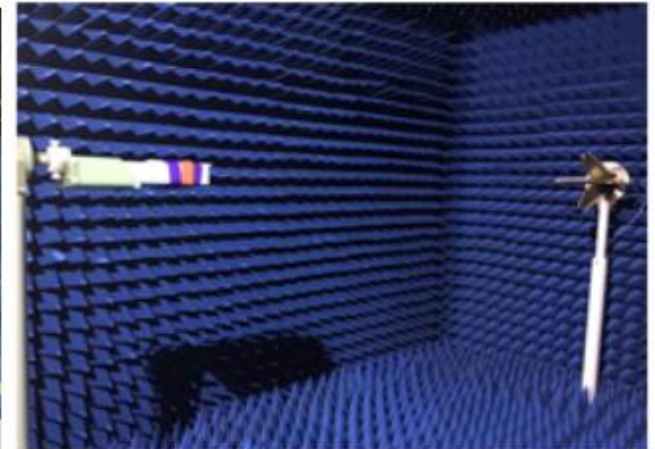
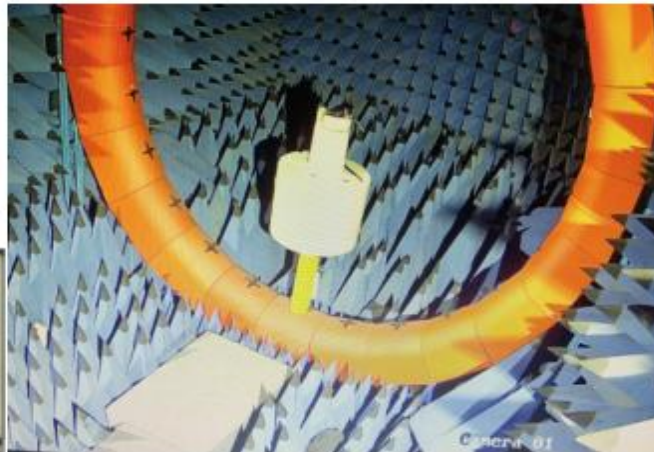
Fax: 0769-82226175

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Test Environment

	Test Items	Test Items
1. (S-parameter)	1. (Return Loss) 2. (VSWR)	Vector Network Analyz: Agilent E5071B ×2 HP 8753D PROTEK A338
2. (Active)	1. (TRP) 2. (TIS) 3. Frequency Error 4. Screen ON / Screen OFF	1. Anechoic Chamber: Guangping, 7×4×3 m (Single Probe 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Comprehensive Tester: Agilent 8960 ×2 CMW500 ×3/CMU200
3. (Passive)	1. (Gain) 2. (Efficiency)	1. Anechoic Chamber: 7×4×3 m (24-Probe 3D System) Chamber ETS 5x3x3 m (3D) Chamber 2. Vector Network Analyzer: Agilent E5071B



Description of Previous Debugging Records

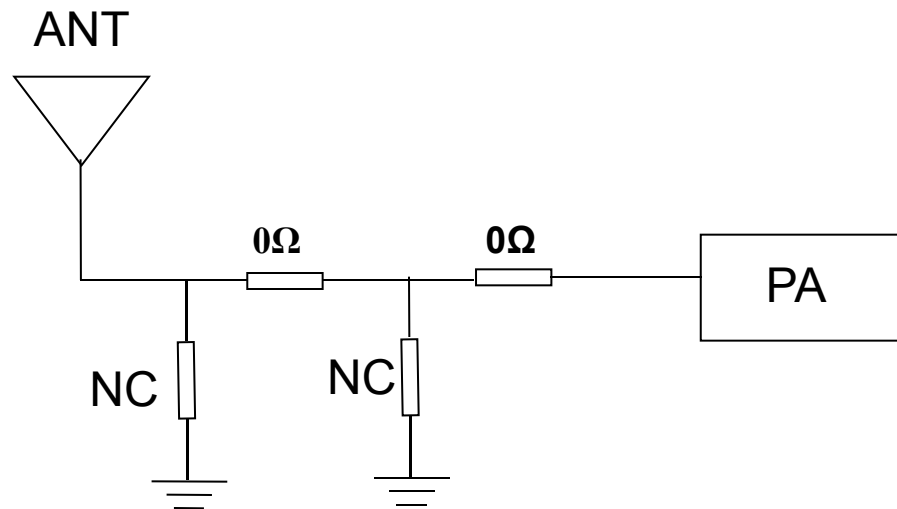
Date	Version	Model	Debugging Record Description
2024.09.25	A		FPC Samples & Tuning Prototypes



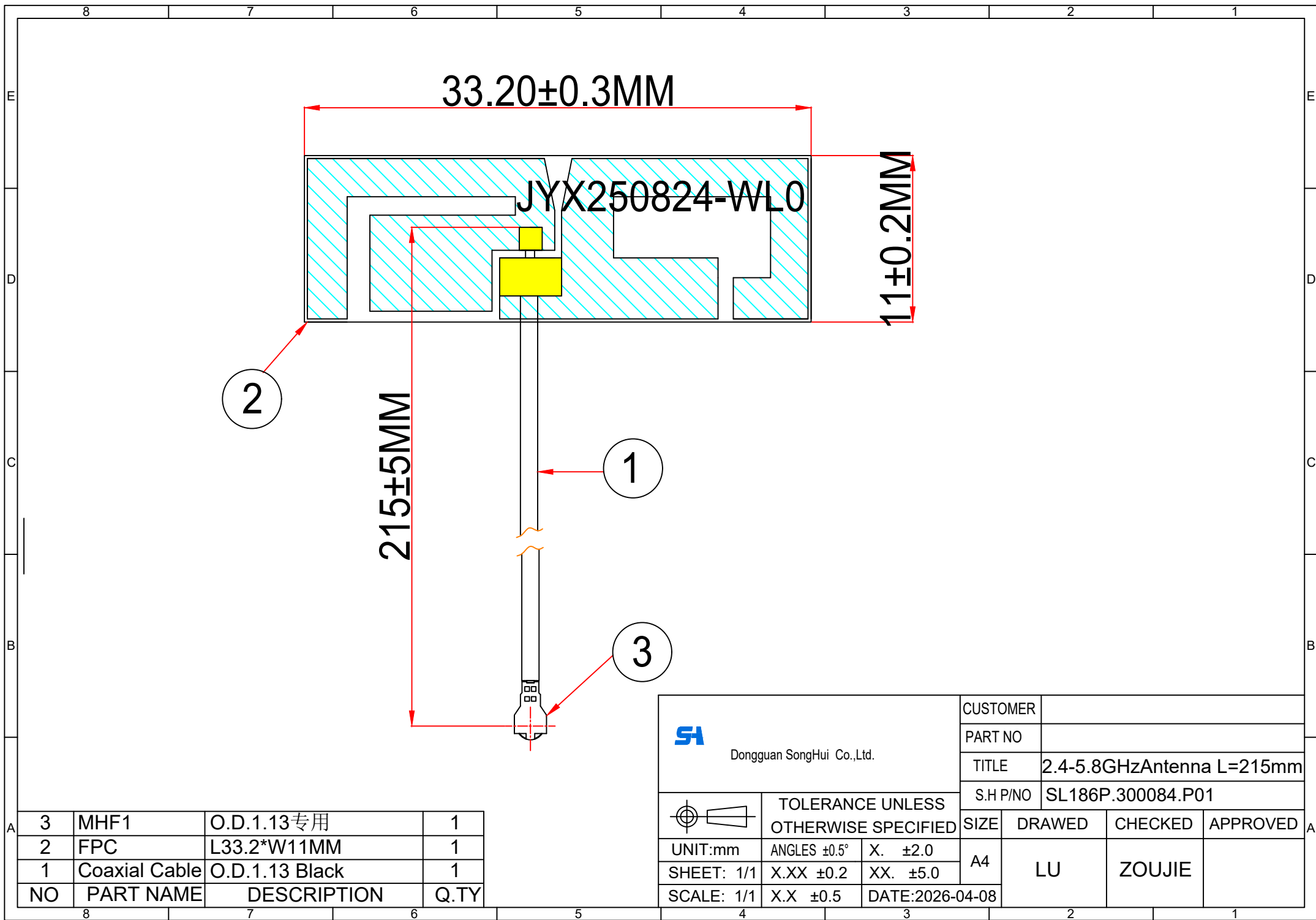
Complete Machine Debugging Instructions

Model Number	Projector						
Model	Motherboard						
Antenna Overview	Main Antenna	Frequency Band		Antenna Status	Antenna Type	Design Area	Matching Adjustment
		2G	N/A	N/A	N/A	N/A	N/A
		3G	N/A				
		4G	N/A				
	Other Antennas	WIFI/BT	2. 4/5G	FPC Sample	PIFA	Shell Parts	None
		GPS	N/A				
		分集	N/A	N/A	N/A	N/A	N/A
Prototype Status	Tuning Prototype			Environment Treatment	无None		

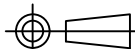
Matching Circuit - Antenna

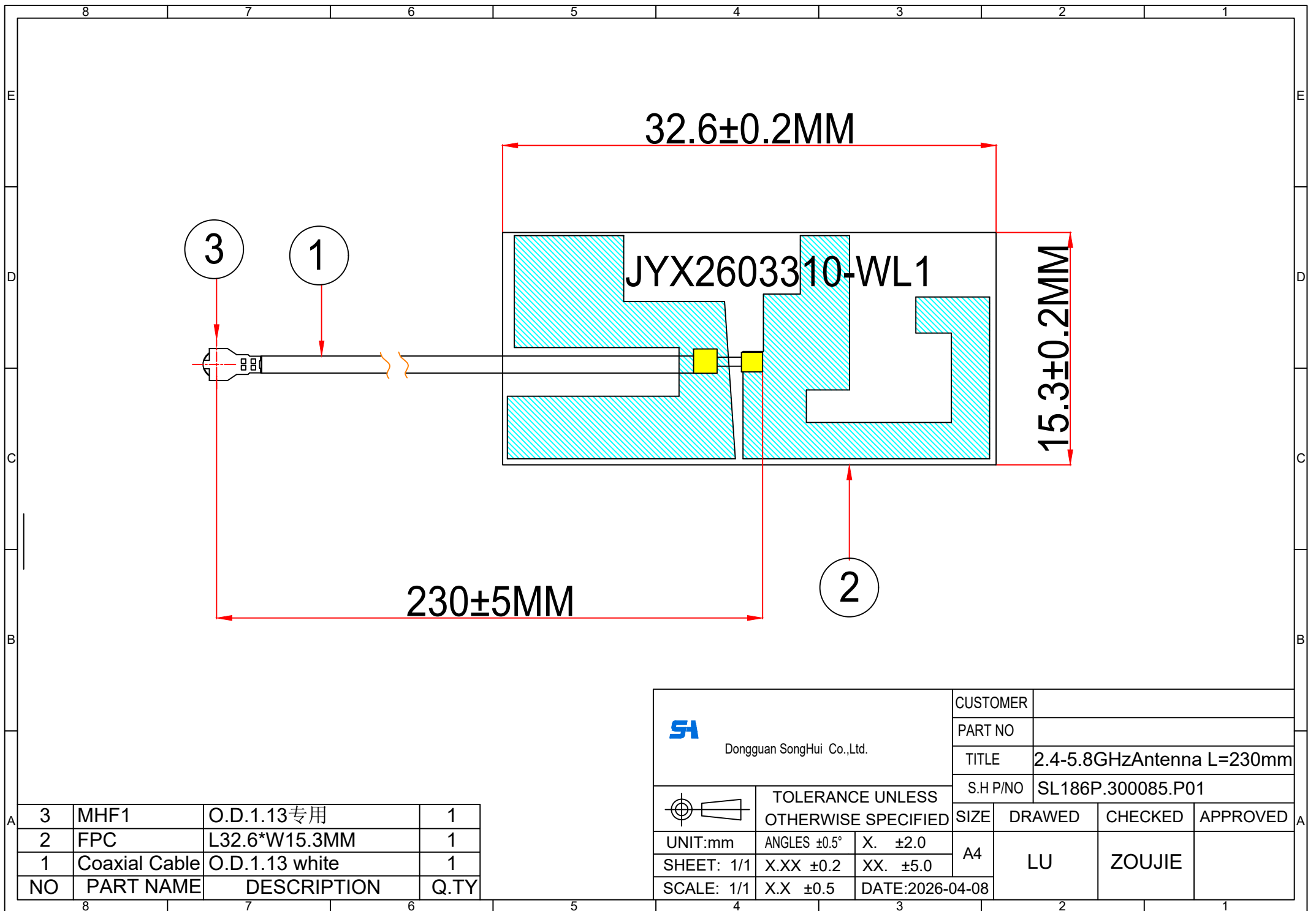


No changes to antenna matching circuit

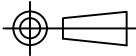


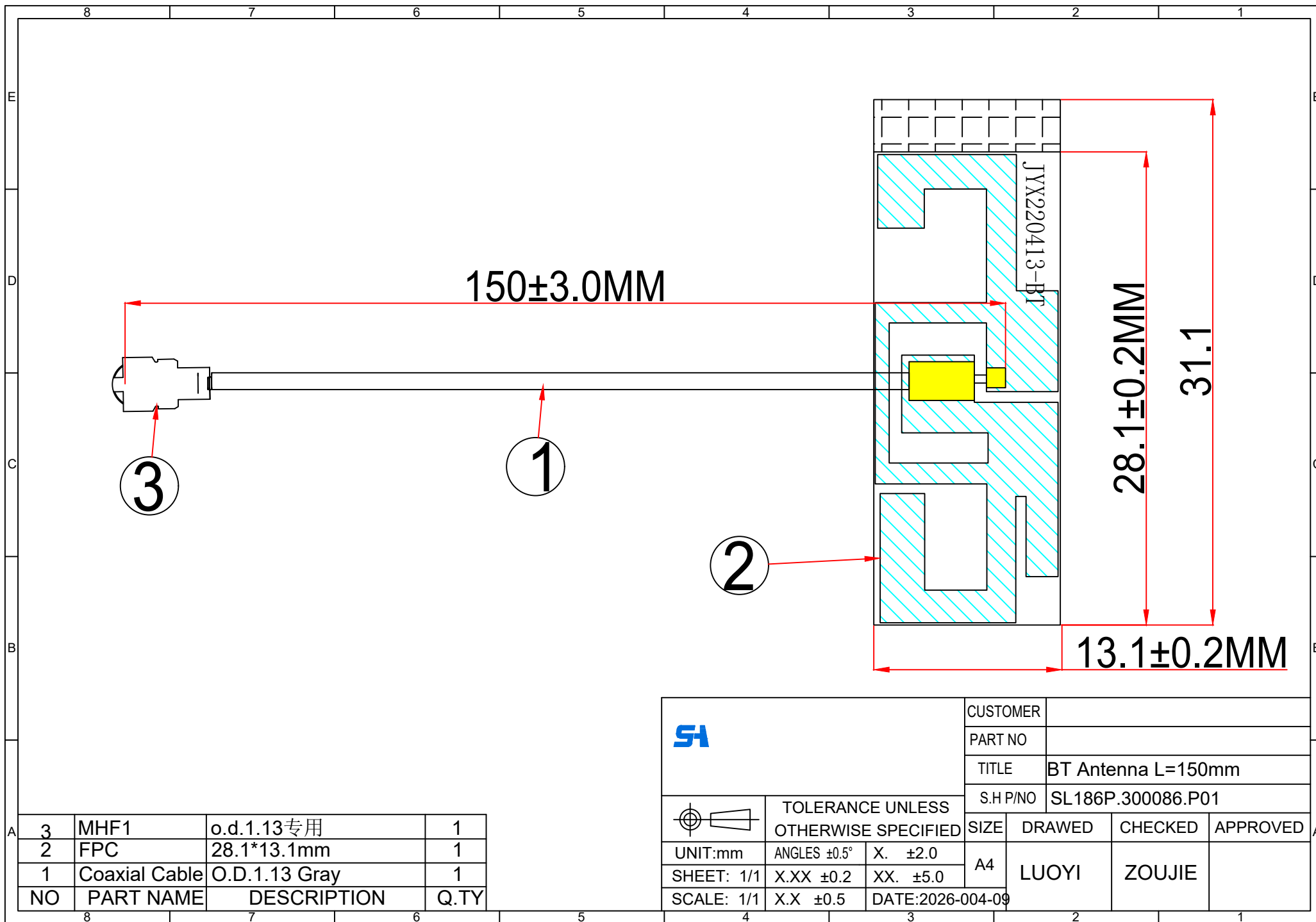
3	MHF1	O.D.1.13专用	1
2	FPC	L33.2*W11MM	1
1	Coaxial Cable	O.D.1.13 Black	1
NO	PART NAME	DESCRIPTION	Q.TY

 Dongguan SongHui Co.,Ltd.	CUSTOMER			
	PART NO			
	TITLE		2.4-5.8GHzAntenna L=215mm	
	S.H P/NO		SL186P.300084.P01	
	UNIT:mm	ANGLES ±0.5°	X. ±2.0	A4
	SHEET: 1/1	X.XX ±0.2	XX. ±5.0	
	SCALE: 1/1	X.X ±0.5	DATE:2026-04-08	
SIZE		DRAWN	CHECKED	APPROVED
		LU	ZOUJIE	



3	MHF1	O.D.1.13专用	1
2	FPC	L32.6*W15.3MM	1
1	Coaxial Cable	O.D.1.13 white	1
NO	PART NAME	DESCRIPTION	Q.TY

 Dongguan SongHui Co.,Ltd.			CUSTOMER				
			PART NO				
			TITLE		2.4-5.8GHzAntenna L=230mm		
			S.H P/NO		SL186P.300085.P01		
	TOLERANCE UNLESS OTHERWISE SPECIFIED		SIZE	DRAWED	CHECKED	APPROVED	
UNIT:mm	ANGLES ±0.5°	X. ±2.0	A4	LU	ZOUJIE		
SHEET: 1/1	X.XX ±0.2	XX. ±5.0					
SCALE: 1/1	X.X ±0.5	DATE:2026-04-08					



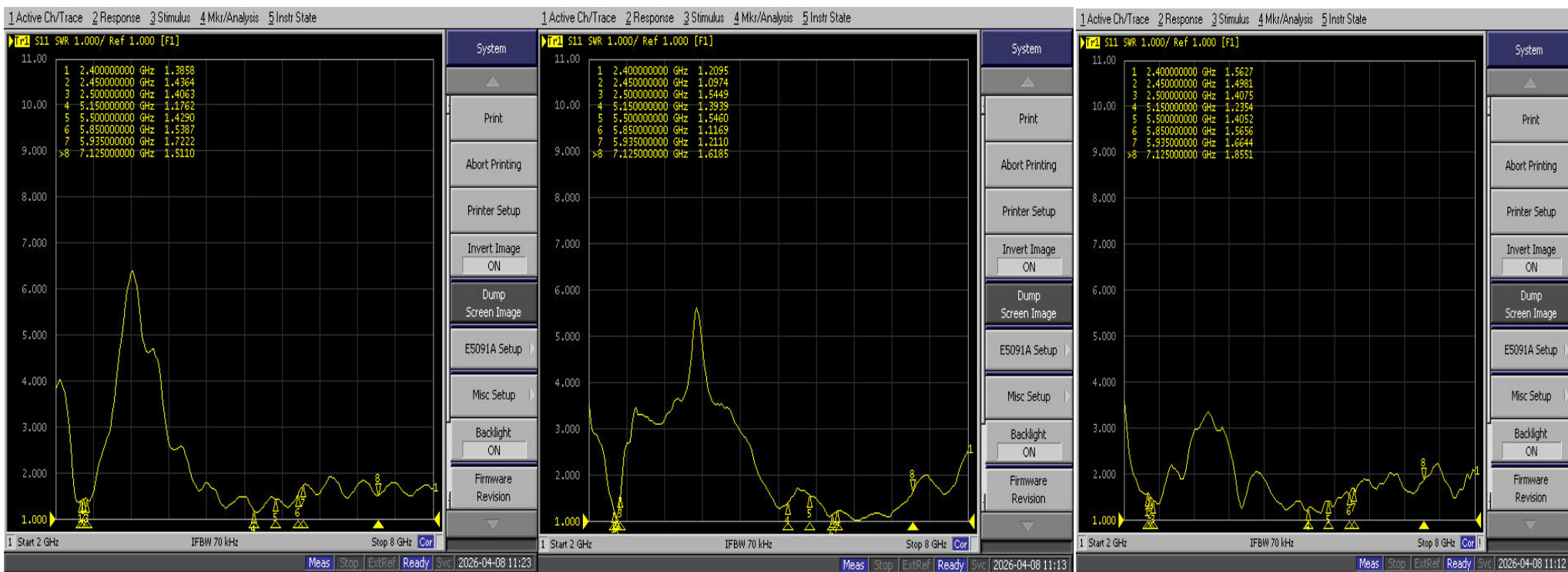
Passive-SWR-2#

2#

WiFi0

WiFi 1

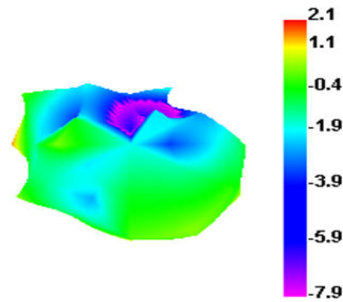
BT



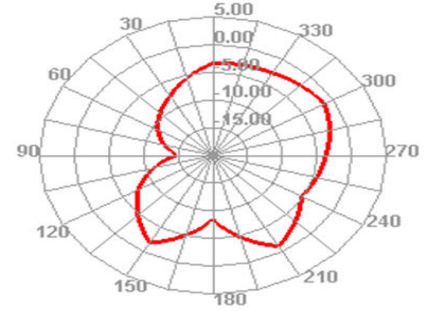
Passive--Efficiency/Gain-WIFI 1

Freq (MHz)	Effi (%)	Gain (dBi)
2400	53.64	2.05
2410	55.17	2.1
2420	52.11	2.12
2430	50.31	2.18
2440	50.69	1.9
2450	52.25	2.36
2460	61.41	2.54
2470	64.79	3.13
2480	65.26	3.36
2490	64.99	3.26
2500	67.32	3.33
5100	65.08	3.68
5120	66.19	3.41
5140	59.47	2.56
5160	63.31	2.59
5180	57.03	2.28
5200	57.35	2.52
5220	52.57	2.32
5240	57.2	2.61
5260	53.66	1.96
5280	54.49	2.32
5300	57.07	2.66
5320	52.45	2.1
5340	49.83	1.78
5360	50.05	1.67
5380	55.51	2.15
5400	61.68	2.76
5420	59.26	2.59
5440	58.69	2.67
5460	56.82	2.84
5480	54.23	2.8
5500	60.45	3.19
5520	53.05	2.66
5540	48.22	2.07
5560	48.79	2.61
5580	44.65	2.6
5600	56.56	3.84
5620	57.96	2.54
5640	52.05	2.91
5660	45.18	3.08
5680	47.52	3
5700	61.06	4.07
5720	55.1	3.02
5740	61.02	3.15
5760	60.14	3.23
5780	61.37	3.14
5800	54	2.57
5820	61.42	3.42
5840	58.86	3.71
5860	56.76	3.73
5880	50.73	3.15
5900	53.18	3.35

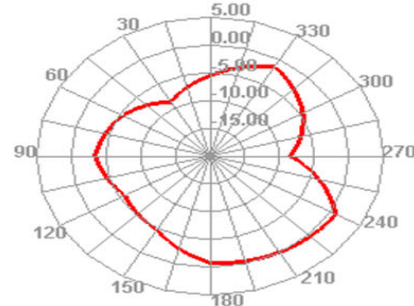
2400.000MHz



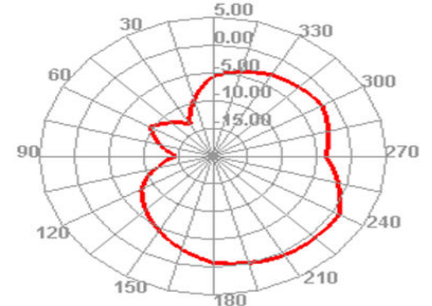
2400.000MHz H



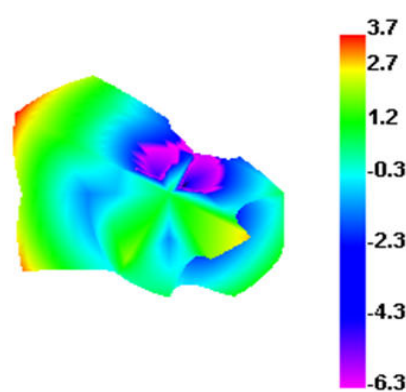
2400.000MHz E1



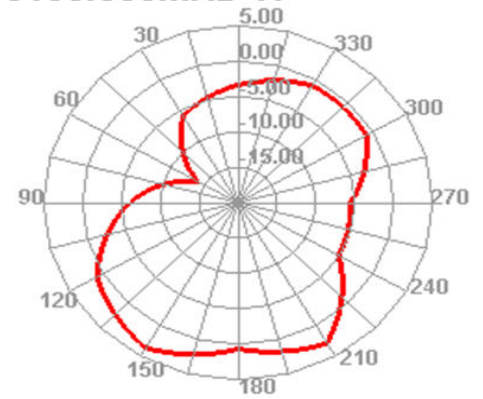
2400.000MHz E2



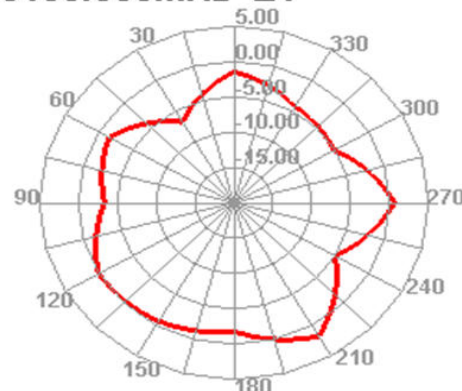
5100.000MHz



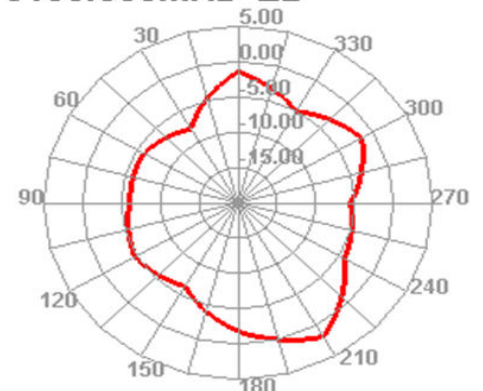
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5100.000MHz E1



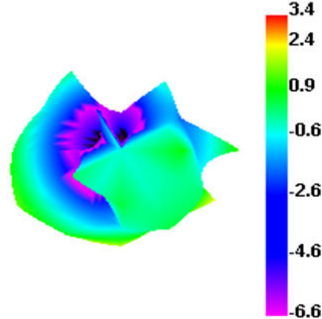
5100.000MHz E2



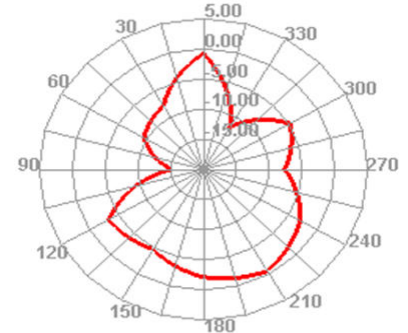
Passive--Efficiency/Gain-WIFI 0

Freq (MHz)	Effi (%)	Gain (dBi)
2400	52.45	3.45
2410	53.64	3.47
2420	55.78	3.48
2430	59.79	3.57
2440	59.41	3.28
2450	61.7	3.11
2460	56.31	3.29
2470	60.02	3.45
2480	59.06	3.25
2490	59.35	3.12
2500	53.75	2.67
5100	56.32	3.81
5120	58.37	4.19
5140	53.88	4.08
5160	55.02	4.55
5180	48.49	4.15
5200	49.48	4.07
5220	54.46	3.49
5240	50.54	3.85
5260	47.05	3.35
5280	49.45	3.27
5300	52.02	3.2
5320	48.06	2.32
5340	45.24	1.97
5360	44.77	2.03
5380	49.25	2.29
5400	55.38	2.79
5420	54.85	2.44
5440	54.12	2.67
5460	53.34	2.61
5480	53.05	2.52
5500	58.04	3.07
5520	51.44	2.61
5540	47.15	2.58
5560	46.8	3.07
5580	53.4	2.96
5600	53.34	3.93
5620	45.45	2.06
5640	50.06	2.5
5660	51.1	2.23
5680	52.62	2.45
5700	53.12	3.14
5720	48.65	2.34
5740	54.8	2.28
5760	55.04	2.22
5780	57.14	2.46
5800	49.99	1.98
5820	55.72	2.37
5840	51.18	2.19
5860	49.07	2.52
5880	54.78	2.72

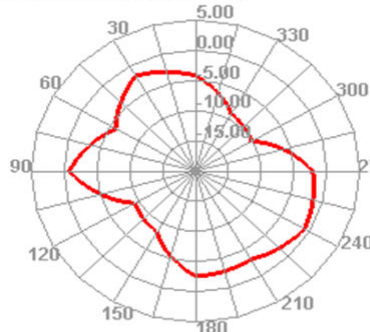
2400.000MHz



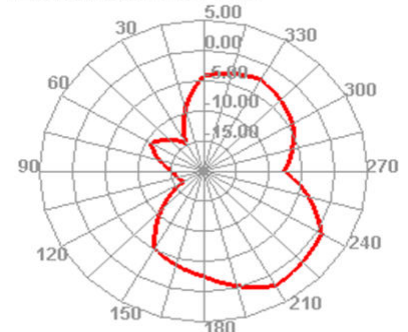
2400.000MHz H



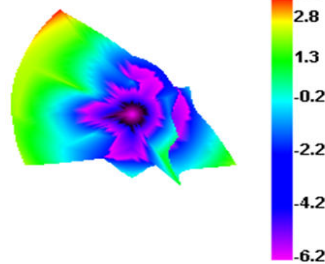
2400.000MHz E1



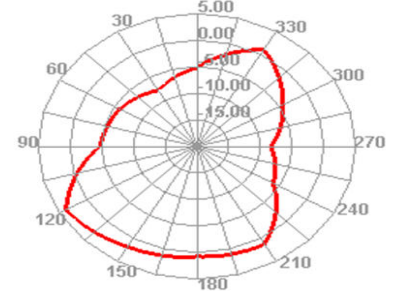
2400.000MHz E2



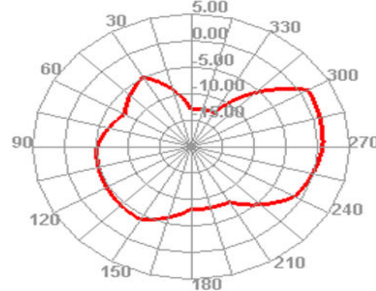
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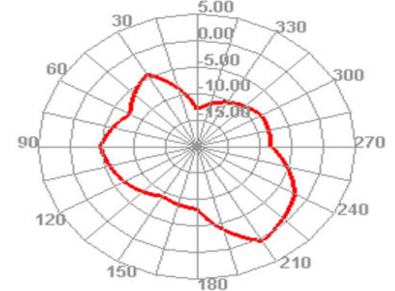
5100.000MHz H



5100.000MHz E1



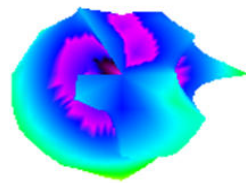
5100.000MHz E2



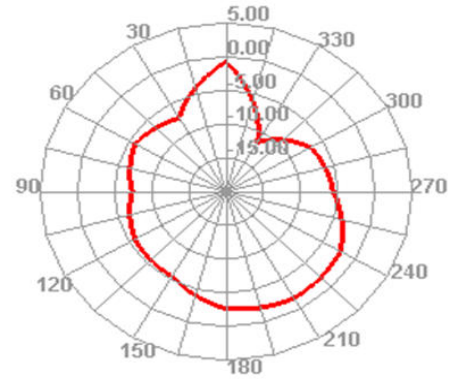
Passive--Efficiency/Gain-BT

2400.000MHz

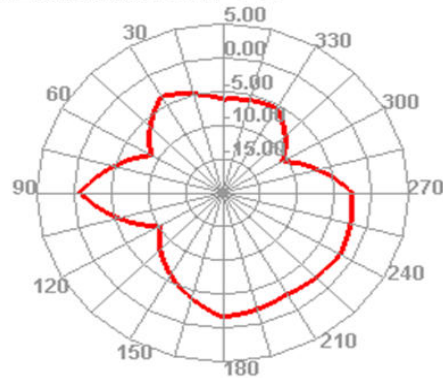
Freq (MHz)	Effi (%)	Effi (dBi)
2400	47.39	3.67
2410	48.35	3.69
2420	49.97	3.77
2430	48.77	3.91
2440	49.16	3.74
2450	50.83	3.64
2460	54.33	3.7
2470	57.07	3.69
2480	55.43	3.35
2490	55.58	3.1
2500	50.25	2.52



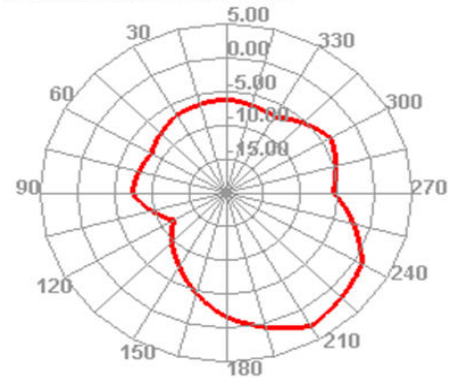
2400.000MHz H



2400.000MHz E1



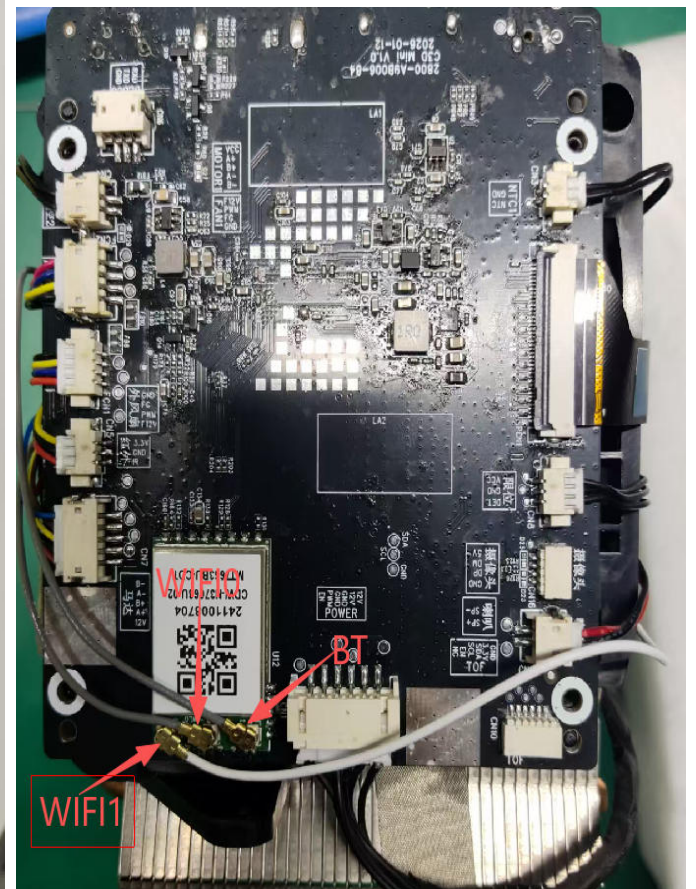
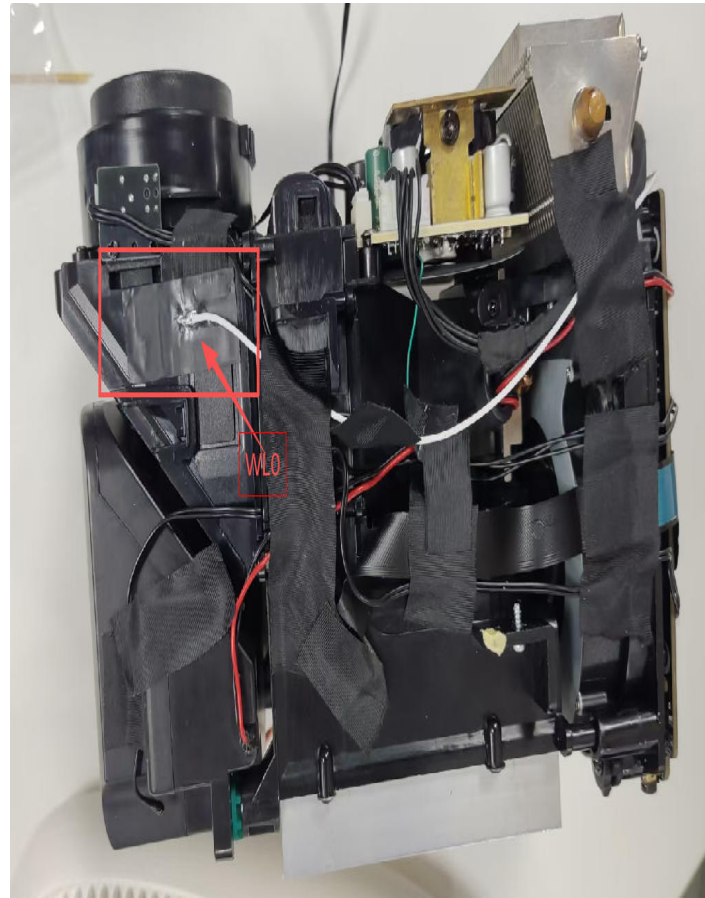
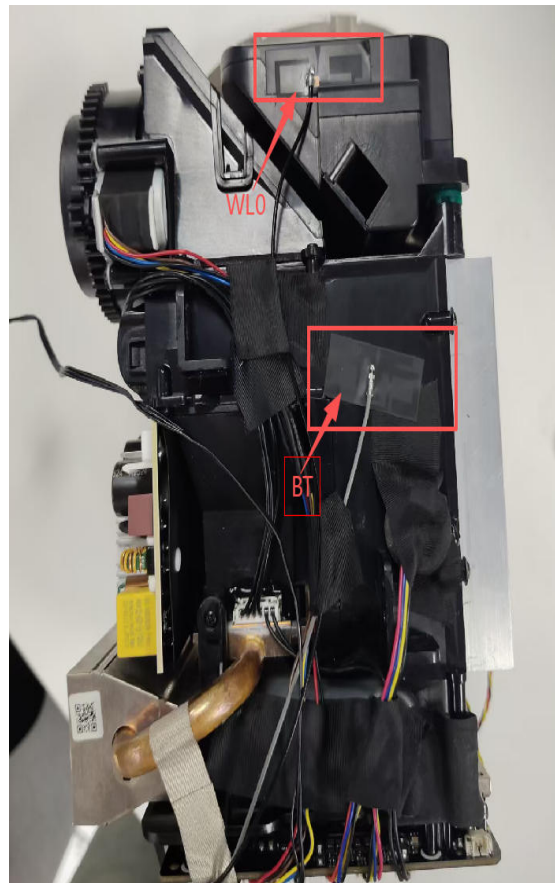
2400.000MHz E2



Active-TRP/TIS

Bandwidth (Hz)	Test Item	Mode	Data Rate (bps)	Channel	Frequency (Hz)	Test Value (dB)		Test Item
20	TRP	B	11	1	2412	18.07		C3Air
				6	2437	17.57		
				11	2462	17.38		
		G	54	1	2412	16.23		
				6	2437	15.7		
				11	2462	15.63		
		N	MCS7	1	2412	14.93		
				6	2437	14.37		
				11	2462	14.87		
		A	54	36	5180	13.28		
				149	5745	14.91		
				165	5825	14.57		
	TIS	B	11	1	2412	-85		
				6	2437	-85		
				11	2462	-85		
		G	54	1	2412	-74		
				6	2437	-74		
				11	2462	-74		
		N	MCS7	1	2412	-70		
				6	2437	-70		
				11	2462	-70		
		A	54	1	2412	-72		
				6	2437	-72		
				11	2462	-72		

Antenna Position



Instructions

1. All test data are obtained solely from the prototype supplied by the customer and shall not represent the final mass production performance of customer's products.
2. Customers are requested to carefully review the descriptions regarding matching circuit modification and environmental treatment stated in this report.
3. Prior to mass production, customers shall provide trial-run prototypes to our factory for secondary verification. Any material replacement, software upgrade or environmental adjustment shall be notified to us in advance.
4. If the customer requires third-party retesting or plans to send prototypes to their own test lab, all samples must pass verification at our facility beforehand to avoid performance discrepancies between mass produced units and tuned prototypes.
5. Our company does not recognize test data measured on non-tuned prototypes or data obtained from other anechoic chambers for formal judgment such data may only be used for reference, excluding certification anechoic chambers. In case of data deviation, all root cause analysis shall be based on the tuned prototypes from our lab.