



東莞市亨松電子科技有限公司

Dongguan Hengxin Electronic Technology Co., Ltd.

承認書

客 戶:

品 名:

433Mhz Antenna

料 號:

HX-B823

客戶料號:

送樣日期:

2025.04.08

客戶確認			供應廠商	
工程部	品保部	採購部	核准	送樣人
			趙 2025.04.08 守 剛	龚银明

地址：東莞市沙田鎮楊公洲楊和路75號

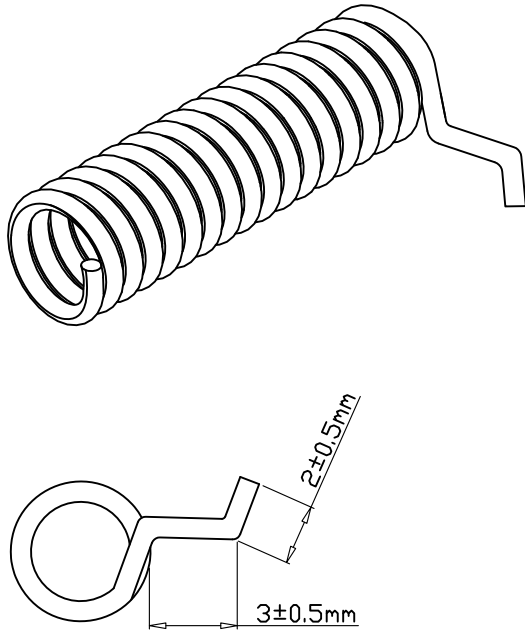
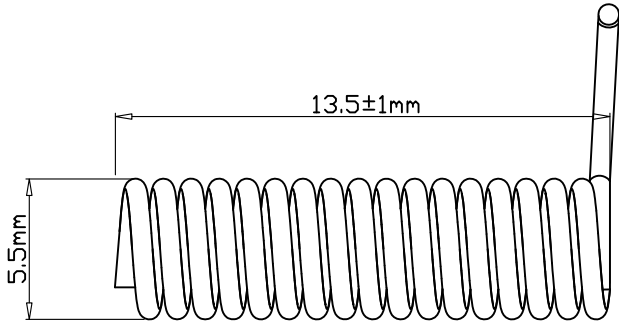
Address: No. 75 Yanghe Road, Yanggongzhou, Shatian Town, Dongguan, China

TEL : 0769-81663533 FAX: 0769-89361945

E-mail:nogps@nogps.com

Http://www.nogps.com

序号	日期	原因	确认人
B			
C			
D			



We statement that All measurements were performed radiated and therefore additional antenna gain documentation is not required.

弹簧技术要求

公差: 0.5-1mm

弹簧材料	碳钢	线径	0.6mm
旋转方向	/	旋转有效圈数	17.25T
出脚方式	单边	孔距	/
弹簧上部尺寸			
弹簧下部尺寸			
弹簧高度			

东莞市亨松电子科技有限公司

PART NAME: 433MHZ弹簧天线			
PART NO.: HX-B823			DATE: 2025-04-08
APPROVED BY	CHECKED BY	DESIGNED BY	
	赵守刚	卓靖婷	Tolerance
			X.X ±0.50
			UNITS: mm
			SCALE: 1/1
			REVISION:A
			X.X±0.15
			X° ±3°

Index:

- 1. Reliability Testing
- 2. Specification
- 3. S Parameter Test Data
- 4. Antenna Radiation Pattern

=====

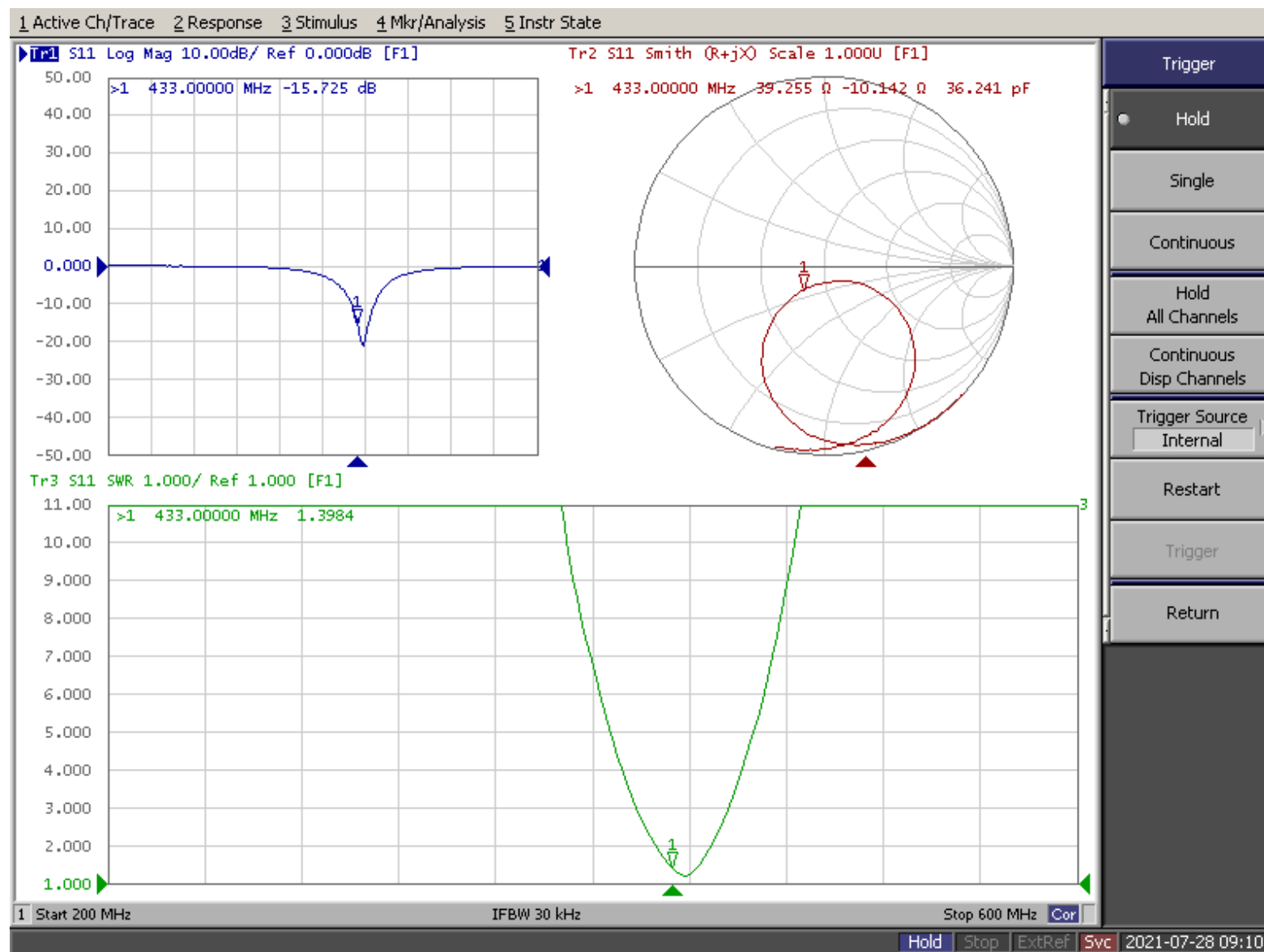
1. Reliability Testing

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 80°C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5%
3. Damp Heat	24 hours at 60°C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5%
4. Endurance	24 hours at 80°C	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5%
5. Connector Pull Strength Test	>= 1.0 Kg	Hold 2~3S: 1. no visible damage 2. bandwidth tolerance < ±5%

2. Specification

A. Electrical Characteristics	
S.W.R.(Tested in PC)	≤ 2.0 @ 433Hz
Typical Antenna Gain	
Impedance	50 Ohm
B. Material	
Material of Radiator	CU
Connector Type	N/A
C. Environmental	
Operation Temperature	- 30 °C ~ + 85 °C
Storage Temperature	- 30 °C ~ + 85 °C

3. S.W.R. Testing Result



4. Antenna Radiation Pattern

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

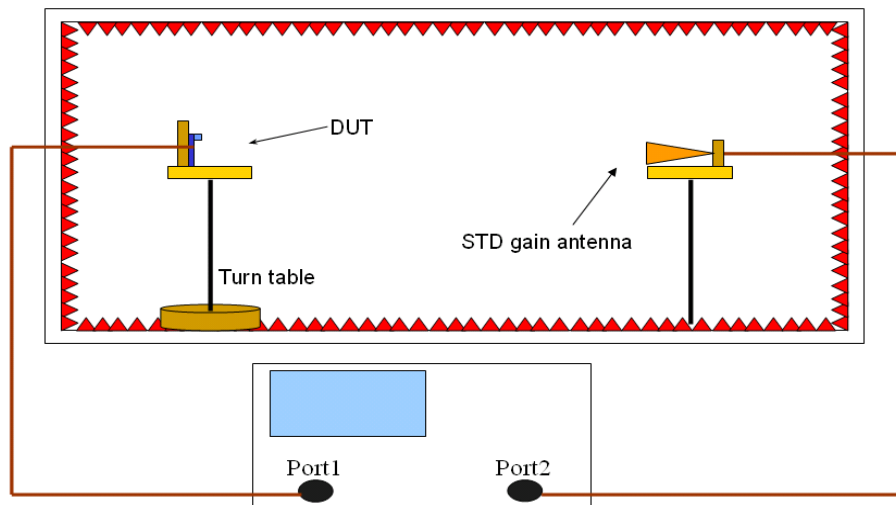
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

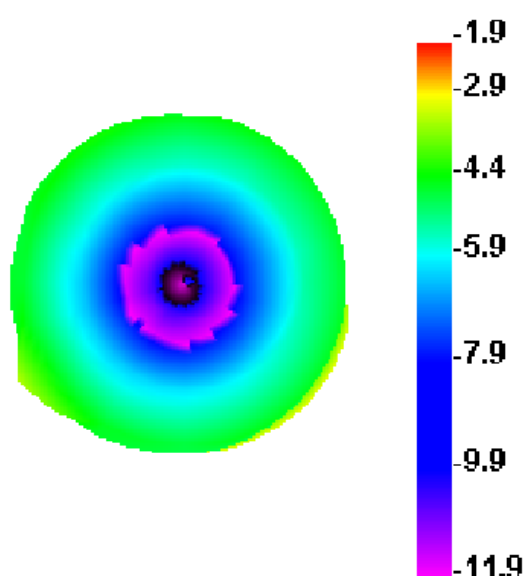
Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna

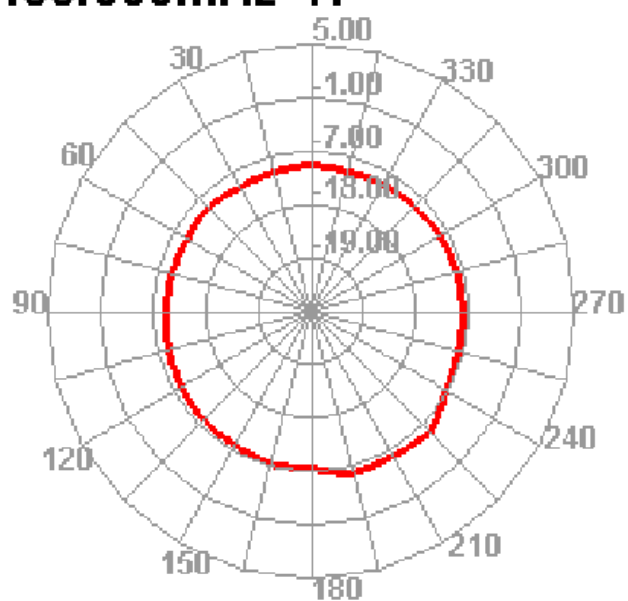


Passive Test For 433												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
400	14.9	-8.27	-5.74	-7.89	5.768	9.13	-5.74	-11.9	2.53	75	36.42	36.02
401	15.68	-8.05	-5.51	-7.66	6.01	9.671	-5.51	-11.53	2.53	75	36.37	35.99
402	16.11	-7.93	-5.35	-7.5	5.948	10.165	-5.35	-11.79	2.58	60	36.32	35.96
403	16.21	-7.9	-5.34	-7.49	5.825	10.381	-5.34	-12.63	2.57	75	36.28	35.94
404	16.15	-7.92	-5.45	-7.6	5.815	10.333	-5.45	-13.47	2.47	75	36.23	35.91
405	16.15	-7.92	-5.51	-7.66	5.866	10.289	-5.51	-14.19	2.41	120	36.18	35.88
406	16.02	-7.95	-5.53	-7.68	5.826	10.193	-5.53	-15.01	2.42	120	36.05	35.8
407	15.91	-7.98	-5.51	-7.66	5.802	10.109	-5.51	-15.6	2.48	120	35.93	35.73
408	15.75	-8.03	-5.52	-7.67	5.803	9.948	-5.52	-15.97	2.51	120	35.8	35.65
409	15.56	-8.08	-5.58	-7.73	5.818	9.739	-5.58	-16.15	2.5	120	35.68	35.58
410	15.36	-8.14	-5.66	-7.81	5.835	9.525	-5.66	-16.19	2.48	120	35.55	35.5
411	15.58	-8.07	-5.6	-7.75	6.011	9.566	-5.6	-16.04	2.48	120	35.56	35.44
412	15.76	-8.02	-5.51	-7.66	6.15	9.612	-5.51	-15.78	2.51	120	35.58	35.38
413	15.85	-8	-5.44	-7.59	6.215	9.637	-5.44	-15.41	2.56	75	35.59	35.32
414	15.77	-8.02	-5.39	-7.54	6.144	9.625	-5.39	-15.03	2.63	75	35.61	35.26
415	15.4	-8.12	-5.38	-7.53	5.856	9.545	-5.38	-14.67	2.74	60	35.62	35.2
416	15.49	-8.1	-5.17	-7.32	5.588	9.898	-5.17	-14.38	2.93	60	35.91	35.18
417	15.32	-8.15	-5	-7.15	5.116	10.202	-5	-14.5	3.15	45	36.2	35.15
418	15.6	-8.07	-4.75	-6.9	5.051	10.544	-4.75	-13.83	3.32	45	36.48	35.13
419	17.1	-7.67	-4.4	-6.55	5.969	11.131	-4.4	-12.18	3.27	45	36.77	35.1
420	19.99	-6.99	-3.98	-6.13	7.789	12.197	-3.98	-10.44	3.01	45	37.06	35.08
421	21.3	-6.72	-3.83	-5.98	8.84	12.465	-3.83	-9.42	2.89	60	36.68	34.96
422	22.62	-6.46	-3.53	-5.68	9.461	13.155	-3.53	-9.24	2.92	60	36.3	34.84
423	23.47	-6.29	-3.22	-5.37	9.494	13.981	-3.22	-9.31	3.07	60	35.92	34.73
424	23.63	-6.27	-3.04	-5.19	9.169	14.461	-3.04	-9.92	3.22	60	35.54	34.61
425	23.15	-6.36	-3.06	-5.21	8.812	14.333	-3.06	-10.69	3.29	60	35.16	34.49
426	23.56	-6.28	-2.98	-5.13	9.019	14.537	-2.98	-11.35	3.3	60	35.05	34.47
427	23.98	-6.2	-2.91	-5.06	9.296	14.682	-2.91	-11.89	3.29	60	34.94	34.45
428	24.59	-6.09	-2.77	-4.92	9.617	14.973	-2.77	-12.3	3.32	60	34.82	34.44
429	25.37	-5.96	-2.61	-4.76	9.986	15.386	-2.61	-12.59	3.34	60	34.71	34.42
430	26.24	-5.81	-2.45	-4.6	10.413	15.828	-2.45	-12.72	3.36	60	34.6	34.4
431	27.51	-5.61	-2.26	-4.41	11.052	16.456	-2.26	-12.71	3.35	60	34.55	34.4
432	28.86	-5.4	-2.07	-4.22	11.764	17.097	-2.07	-12.53	3.32	60	34.5	34.4
433	30.33	-5.18	-1.89	-4.04	12.55	17.776	-1.89	-12.18	3.29	60	34.45	34.4
434	31.91	-4.96	-1.7	-3.85	13.404	18.506	-1.7	-11.75	3.26	60	34.4	34.4
435	33.63	-4.73	-1.51	-3.66	14.33	19.302	-1.51	-11.18	3.22	60	34.35	34.4
436	35.63	-4.48	-1.3	-3.45	15.4	20.234	-1.3	-10.55	3.18	60	34.34	34.37
437	37.8	-4.22	-1.09	-3.24	16.531	21.272	-1.09	-9.92	3.14	60	34.32	34.34
438	40.12	-3.97	-0.86	-3.01	17.682	22.435	-0.86	-9.31	3.1	60	34.3	34.31
439	42.51	-3.72	-0.64	-2.79	18.787	23.721	-0.64	-8.81	3.08	60	34.28	34.28
440	44.82	-3.49	-0.41	-2.56	19.742	25.08	-0.41	-8.47	3.08	60	34.26	34.25
441	47.93	-3.19	-0.1	-2.25	20.958	26.969	-0.1	-8.29	3.09	60	34.35	34.27
442	50.66	-2.95	0.16	-1.99	21.961	28.697	0.16	-8.33	3.11	60	34.45	34.29
443	52.88	-2.77	0.35	-1.8	22.818	30.066	0.35	-8.54	3.12	60	34.54	34.31
444	54.65	-2.62	0.48	-1.67	23.639	31.007	0.48	-8.83	3.1	60	34.63	34.33
445	56.08	-2.51	0.56	-1.59	24.493	31.588	0.56	-9.17	3.07	60	34.72	34.35
446	55.99	-2.52	0.51	-1.64	24.785	31.2	0.51	-9.54	3.03	60	34.7	34.31
447	55.84	-2.53	0.45	-1.7	25.119	30.723	0.45	-9.83	2.98	60	34.68	34.26
448	55.69	-2.54	0.4	-1.75	25.471	30.214	0.4	-10.02	2.95	60	34.66	34.21
449	55.47	-2.56	0.35	-1.8	25.805	29.667	0.35	-10.11	2.9	60	34.64	34.16
450	55.15	-2.58	0.27	-1.88	26.086	29.062	0.27	-10.09	2.85	60	34.62	34.11

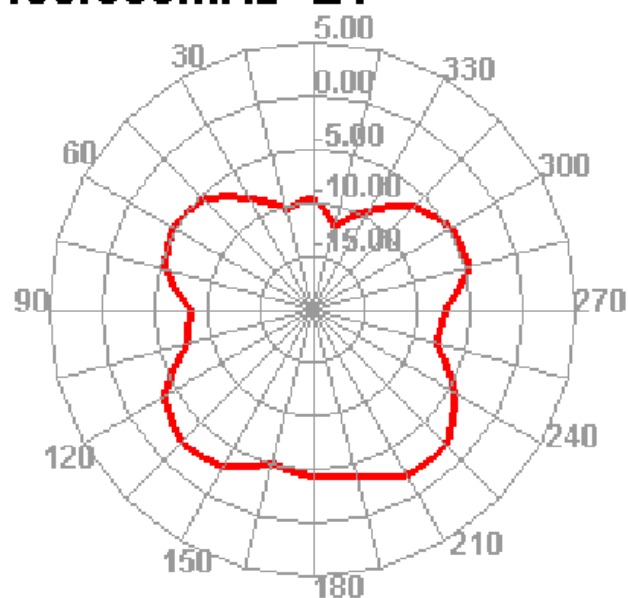
433.000MHz



433.000MHz H



433.000MHz E1



433.000MHz E2

