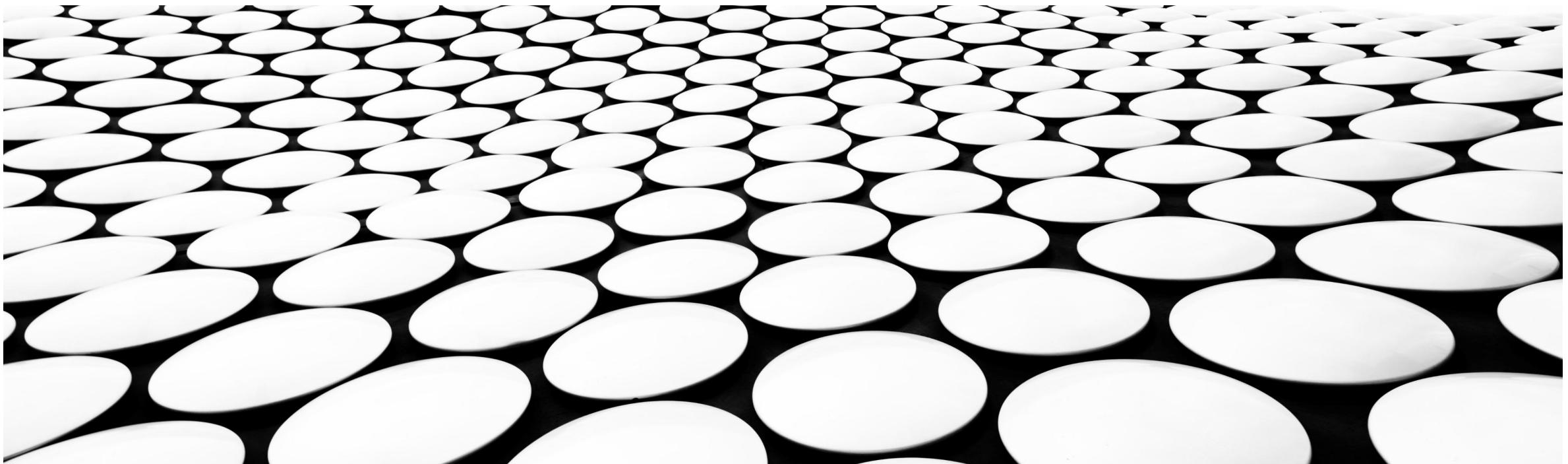

PCB ANTENNA REPORT FOR BLE VOICE REMOTE CONTROL UNIT

JIANGSU HUITONG GROUP



YKF478-B451 PCB ANTENNA REPORT

Suitable for YKF478-B4xx series

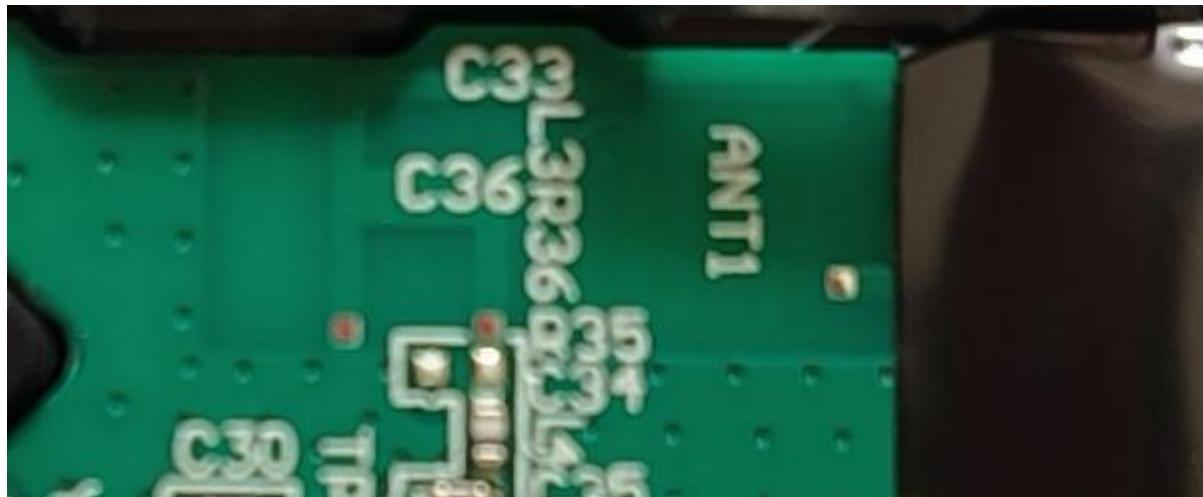
Test_item		Pattern Type	Spec	2402MHz	2440MHz	2480MHz	
Tx power	Tx power (dBm) Aveage	PRBS9	-20 dBm ≤ PAVG	6.85	7.03	7.07	
	Peak			7.23	7.42	7.47	
	TX output Spectrum-ACP		fTX±2 MHz<-20d	-46.76	-47.1	-47.11	
			fTX±(3+N) MHz<	-47.23	-47.37	-47.18	
	Carrier frequency offset and drift	10101010	<150khz	33.49	34.01	34.55	
				34.21	34.48	35.29	
			fTX-150kHz≤fn≤	33.76	34.38	34.79	
				34.21	34.83	35.29	
			f0-fn ≤50kHz	-0.96	-0.91	-0.87	
				-1.92	1.43	-1.62	
			<23kHz	-0.71	-0.52	-0.45	
				-1.69	-1.37	-1.63	
			f1-f0 ≤20kHz	-0.06	0.05	0.02	
				-1.22	-1.7	1.21	
Modulation Characteristics	△f2 99.9%	10101010	>185khz	212	212.9	213.2	
	△f2_avg (KHz)			223.01	222.73	224.77	
	△f2_min (KHz)		99.9% △ f2max o	217.47	216.41	218.52	
	△f2_max (KHz)			229.24	229.53	231.36	
	△f1_avg (KHz)	11110000		248.43	247.75	247.16	
	△f1_min (KHz)		225kHz≤△ f1avg	242.78	243.48	240.37	
	△f1_max (KHz)			253.97	252.1	253.87	
	△f2_avg/△f1_avg		≥0.8	0.9	0.9	0.91	

Antenna Shape and description

Antenna Ground and Power Source

The antenna consists of a 2.4GHz Meander line PCB antenna

Antenna gain: 0dBi

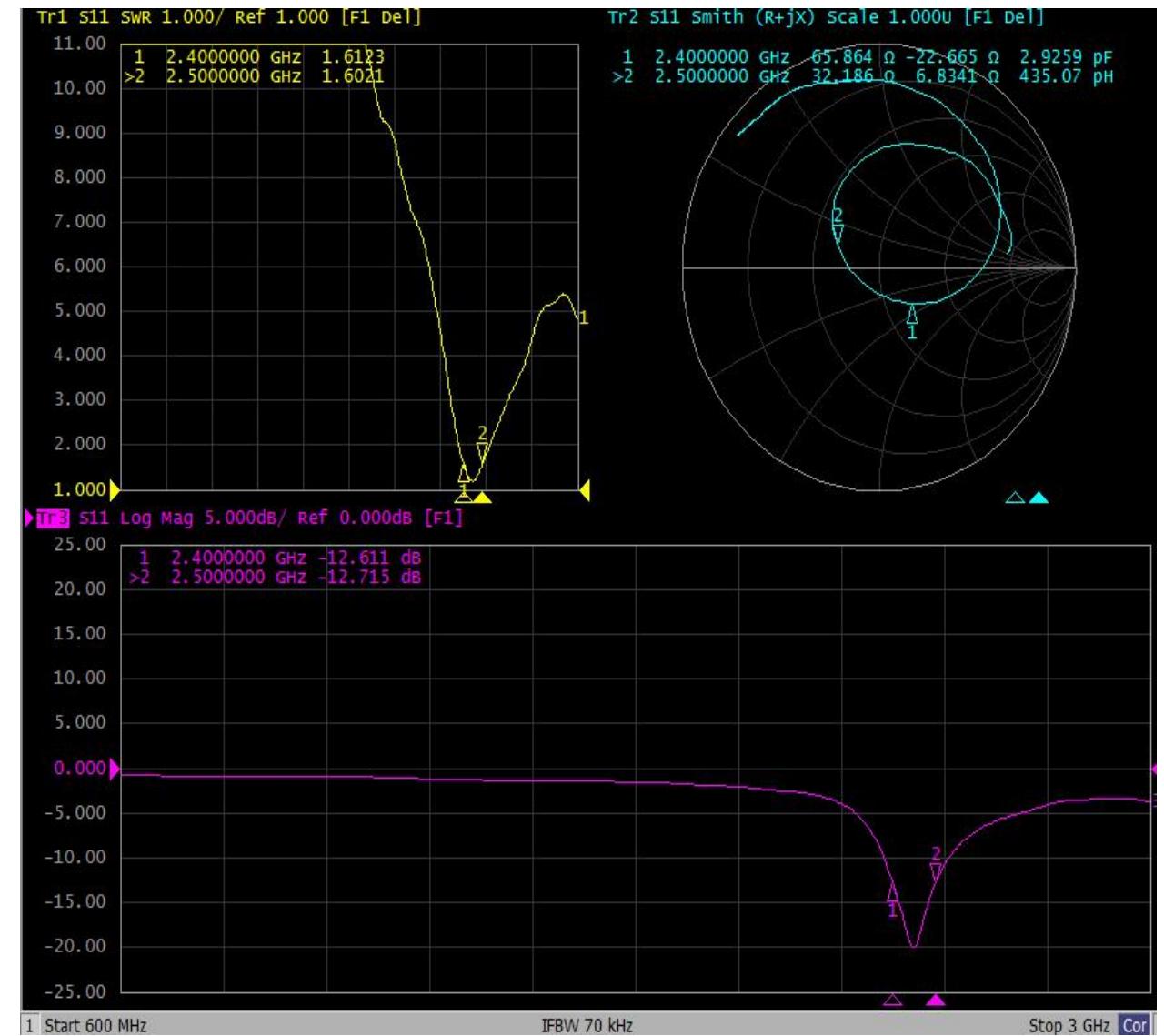


Antenna part number : PCB antenna of **GWA7.820.1029-6 V0.1**

Antenna manufacturer : Jiangsu Huitong Group co.,ltd

No.24,Block 2,Taohuawu New District Zhenjiang Jiangsu P.R.C

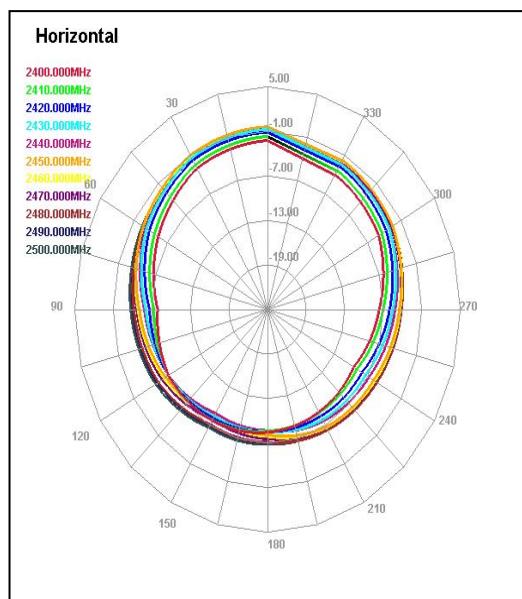
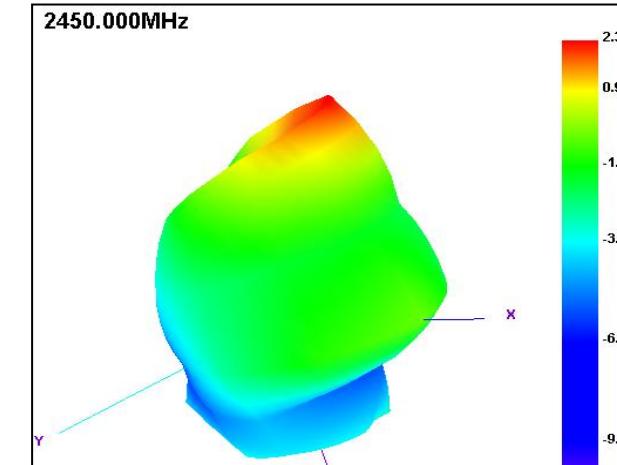
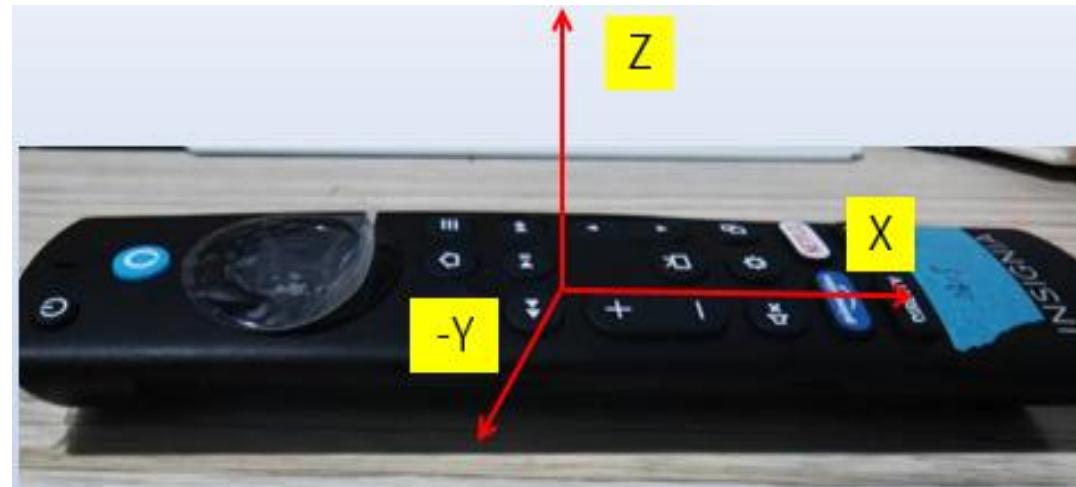
S11 parameters and antenna passive efficiency in



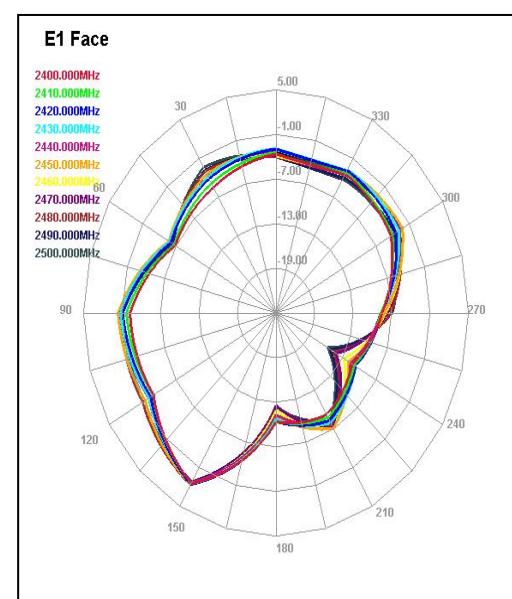
Passive efficiency and gain of antenna optimization

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	47. 11	-3. 26	2. 27
2410	50. 29	-2. 98	2. 56
2420	52. 47	-2. 8	2. 78
2430	52. 83	-2. 77	2. 79
2440	54. 06	-2. 67	2. 85
2450	50. 64	-2. 95	2. 45
2460	50. 56	-2. 96	2. 31
2470	51. 27	-2. 9	2. 19
2480	52. 32	-2. 81	2. 25
2490	53. 84	-2. 68	2. 37
2500	51. 4	-2. 89	2. 08

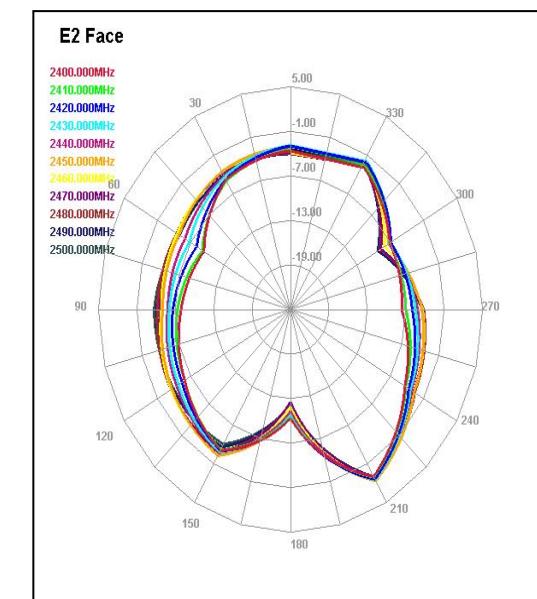
Radiation Patterns



XY Plane



XZ Plane



YZ Plane

2025-1-15