

Product Name	Type	Rev.	Hutec	IR
HPWD24-G38U	PCB+CABLE ASS'Y		SUPREMA Inc.	IR

APPROVAL SHEET

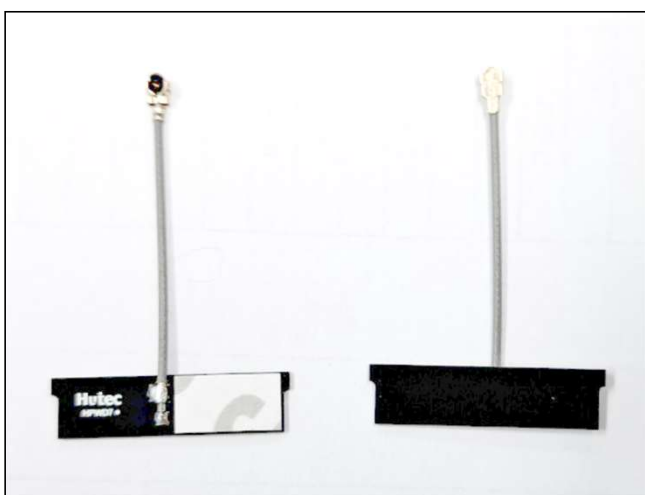
Customer Name : SUPREMA Inc.

Company Name : Hutec

Product Name : HPWD24-G38U

Description ITEM : HPW24A-G38U,1.13, Adhesive 0.1T

SUPREMA	구 분	작성자	검토자	합 의	승 인 자
	소속/성명				
	서 명				
HUTEC	구 분	작성자	검토자	합 의	승 인 자
	소속/성명	기구/유정석	회로/김석민	품질/권순흥	김영상 수석
	서 명	유정석	김석민	권순흥	

PRODUCT PHOTO	
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1. Revision History of Product Specification

1.1 History List of Approval Sheet

[illegible]

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2. RF Specification

2.1 Test Condition

2.1.1 Test Environment (Condition/Method)

① Voltage Standing Wave Ratio(VSWR)

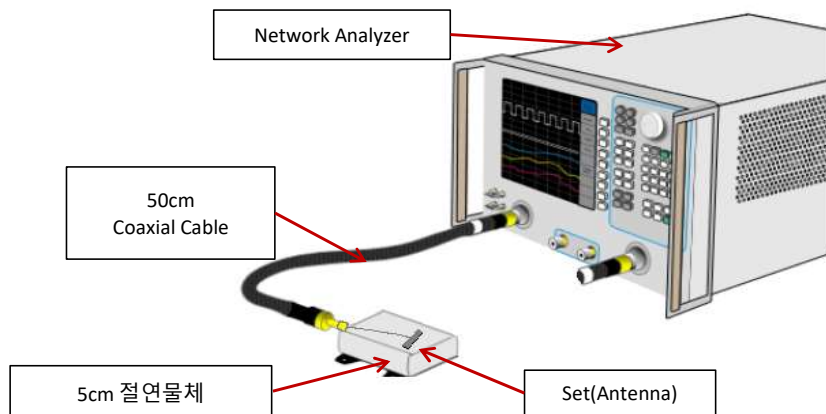
Step 1. Set the frequency range after connect 50cm cable to Network analyzer.

Step 2. Connect Calibration Kit to Network analyzer and calibrate.

Step 3. Fix the cable and keep separation distance over 30cm for reducing effect by Network analyzer.

Step 4. Fix insulator over 5cm on the bottom of measuring antenna.

Step 5. Measure VSWR with setting marker of desired frequency.

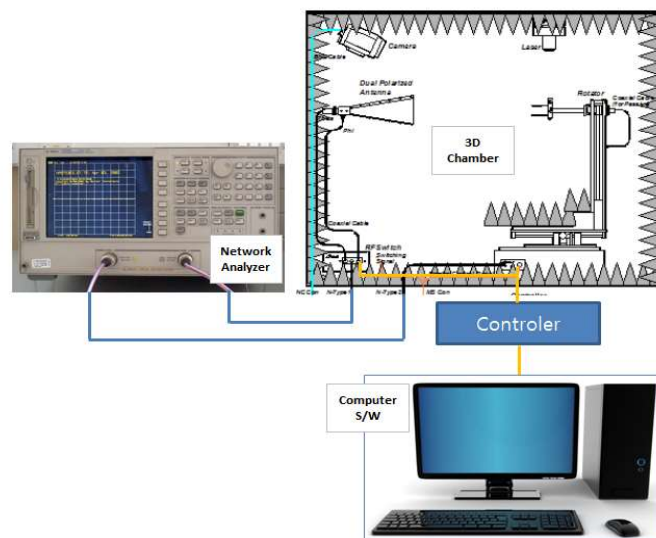


② Radiation Pattern & Gain

Step 1. Calibrate the Chamber system using Horn antenna, and set up the software to control the Chamber system at the same time.

Step 2. Keep the measuring antenna to holder.

Step 3. Measure Gain & efficiency.

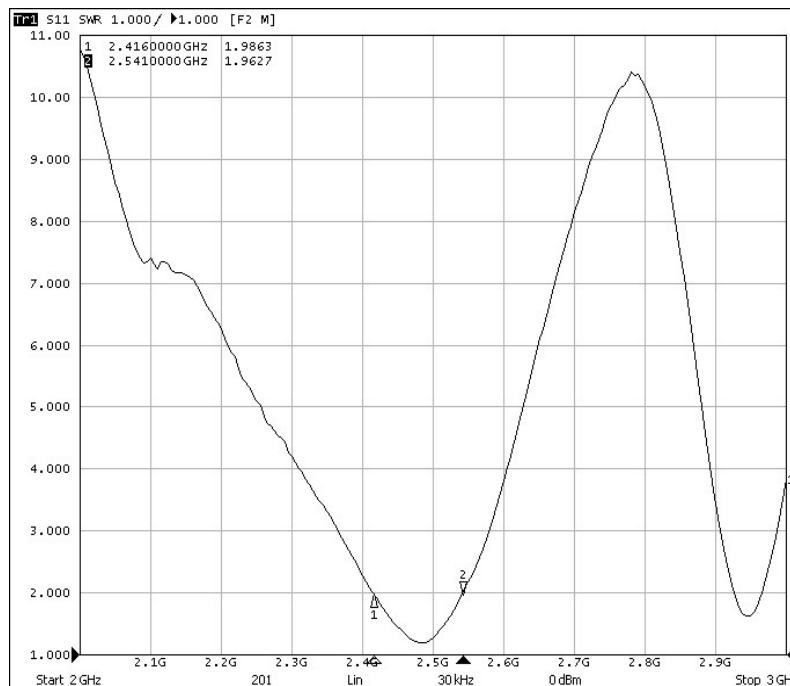


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2.2 Electrical Specification

Band	WIFI 2.4GHz
Frequency	2400MHz ~ 2500MHz
VSWR	≤ 3.0
Peak Gain	0.63 dBi
Directivity	Omni-directional
Polarization	Linear
Feed Impedance	50 Ohms
Power Handing	2Watt

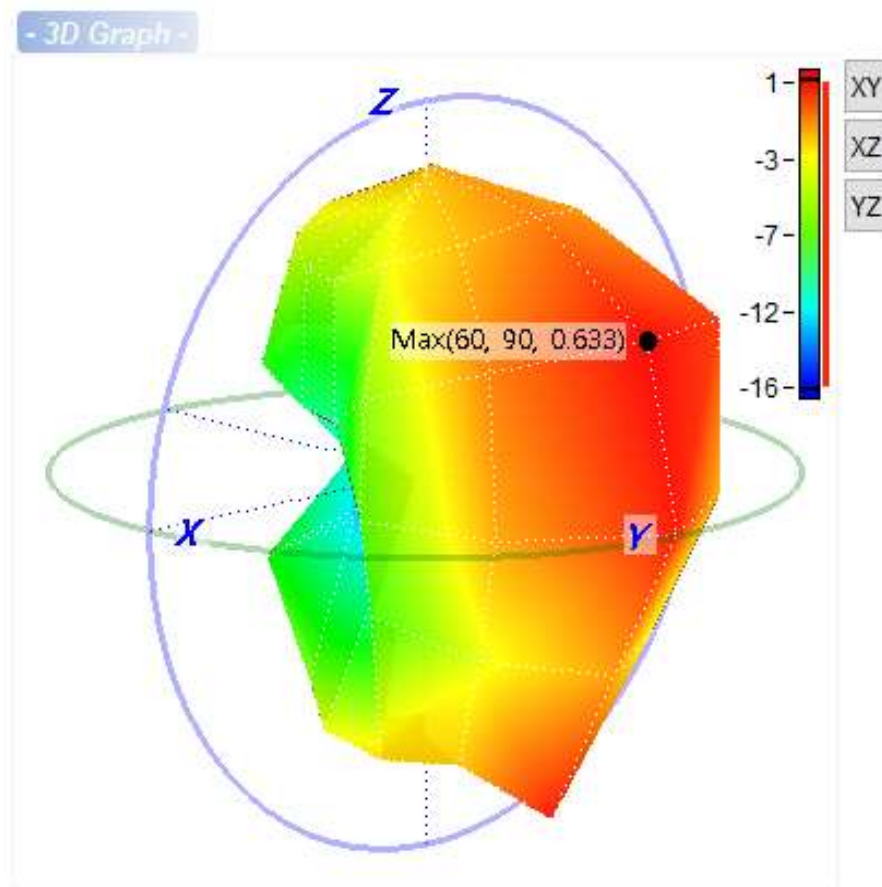
2.2.1 VSWR



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2.2.2 3D Gain & Radiation Pattern

Frequency	Peak Value		Minimum Value		Avg. Gain	Efficiency
[MHz]	Value[dBi]	Degree	Value[dBi]	Degree	[dBi]	[%]
2400	0.633	60 / 90	-15.549	90 / 300	-4.661	34.190
2430	-0.767	60 / 90	-17.433	90 / 330	-6.236	23.789
2460	-3.185	60 / 90	-18.883	90 / 0	-8.557	13.942
2480	-4.705	60 / 90	-21.872	90 / 180	-10.095	9.784



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3. Mechanical Specification

3.1 Material Certificate

Product Name		HPWD24-G38U		
Ant Type		PCB+CABLE ASS'Y		
No	Part Name	Raw Material (Plating Spec.)	Raw Material Company	Remark
1	PCB	KB-6160	KINGBOARD	
2	IR INK	H-8100 8BKH	SHENZHEN RONGDA PHOTOSENSITIVE SCIENCE	
3	CABLE	FEP, COPPER	JiangYin KaiBo	
4	MHF1	Brass ETC.	BGS	
5	ADHESIVE	3M 9888T	3M	

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3.2 PART LIST

3.2.1 Part List

PART LIST											SIGN	DRAWN	CHECK	APPROVE									
PRODUCT NAME		HPWD24-G38U																					
PRODUCT SPECIFICATION		PCB+CABLE ASS'Y									ESTABLISH . DATE		2021.10.12.										
CUSTOMER		SUPREMA Inc.									REVISION DATE		2021.10.12. V10										
NO	LEVEL									PART NO.	PART NAME	Material & Description	Q'TY	VENDOR	REMARK								
	1	2	3	4	5	6	7	8	9														
0	0									HPC-PCB0021N-IR	PCB	FR4 0.8t SS	1	LEO	BLACK								
1	0									HPC-CAB0035B-IR	RF CABLE ASS'Y	1.13/31.5	1	LEO	MHF1 RF CABLE								
2										HPC-ETC0016N-IR	DOUBLE ADHESIVE	0.1T	1		3M								
3																							
4																							
5																							
6															-								
7															-								
8															-								
9															-								
10															-								
11															-								
12															-								
13															-								
14															-								
15															-								
[REVISION HISTORY]																							
REV	DATE	DESCRIPTION									REMARKS	REV	DATE	DESCRIPTION									REMARKS
[REMARKS]																							

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3.2.2 Ass'y Drawing

