



# Ningbo Shenghong Communications Equipment Co., Ltd.

## Product Specification

**Product Name:** 2.4GHz Antenna K11    **Specification:** SHZD2400-2U-K11

**Company Code:** SHSC3.945.04040    **Customer Code:**    **Compile:** Li jun

**Reviewed:** Tonghe

**Approved:** Panqingsong

**File number:**

**Customer:**

**Customer affirm:**

**date:** 2023.02.20



## 2. 4GHz Antenna K11

### I . Product Name:

### II . Specification:

### III. Technical Parameter:

#### 1. Electrical Characteristics

<b>Frequency range:</b>	2400-2483MHz
<b>Polarization:</b>	<b>Vertical</b>
<b>Max Gain:</b>	2.2dBi
<b>Max VSWR:</b>	≤3.8
<b>Impedance:</b>	50 Ω
<b>3dB beam width:</b>	H:360° E:/
<b>Max.Power:</b>	10W
<b>Lighting protection:</b>	DC Ground

(Determined by the sample)

#### 2. Mechanical Characteristics

<b>Input:</b>	U.FL (male)
<b>Cable type:</b>	1.13 or other
<b>Cable length:</b>	195mm
<b>Cable Impedance:</b>	50Ω
<b>Connector pull-out:</b>	2N





Antenna weight: about 5g  
Radiation material: copper  
Colour: White (appoint color)  
(Determined by the sample)

### 3. Working Environment:

Temperature: -30°C ~+75°C

Corrosive gas environment: no acidity and no alkalescence in air all around  
(contenting other request environment)

### IV. Max exterior Dimensions:

L x  $\Phi$ : about 195mm $\times$  $\Phi$ 2.9mm (Determined by the sample)

### V. Materiel Introduction:

1. General Situation: This product is Designed according to the particular criterion, This antenna was used to The Wireless public. This antenna's performance is excellent, figuration is handsome, dependability is well.

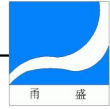
2. Package & Stock age: This product should be packed in plastic box, and then put into hard carton; each box with a conformity certificate, which is included product P/N, date, checking stamp, company stamp; each box is sticked with product P/N, package quantity. The stockage condition is: -10°C~+40°C; the compared humidity is 80%; being stored in the room without acidity, alkalescency and causticity in air.

3. Exchange Relationship: U.FL-K

4. technics & use: immediately screw on.

JUNPER INTERCONNECTION CO., LTD,  
TECHNOLOGY CENTRE

2022. 12. 01



### 外形图

07070576(C)SHS

Technical requirements:

- 1.Antenna color: white.
- 2.Frequency requirements: 2400-2483MHz
- 3.VSWR: ≤3.8.

3	SHSC6.645.8224	UFL Cable assembly	1	φ1.13,white skin
1	SHSC7.391104009	Heat shrinkab tube	1	White
number	Name	number	Remarks	

Ningbo Shenghong Communication Equipment

Assembly drawing

SHZD2400-2U-K11

2.4GHz Antenna K11

Figure like Mark Version V1

Design	Lijun	Quality			
Standard					
Check					
Assembly		Approval			

Papes:	S	A	Weight	-1	SHSC3.945.04040
Attachments			Proportion		

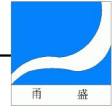


## The Testing

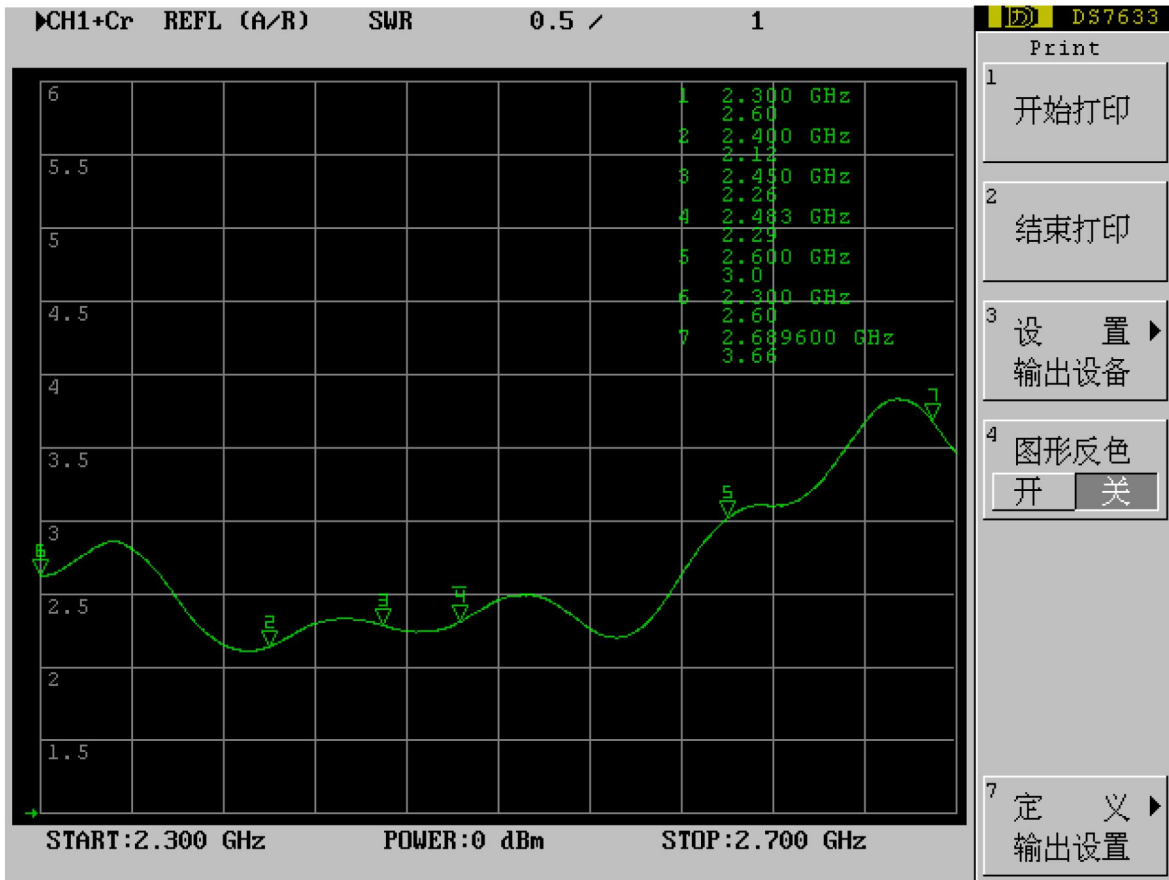
### Appendix 1

#### The Date

Number	Item type		Requirement	Result
1	Frequency		2400-2483MHz	OK
2	Band Width		83MHz	OK
3	Polarization		Vertical	OK
4	Max Gain		2.2dBi	OK
5	Max VSWR		<3.8	2.53
6	Beam width	H	360°	360°
		E	/	/
8	Input		UFL-K	OK



## Appendix 2—VSWR

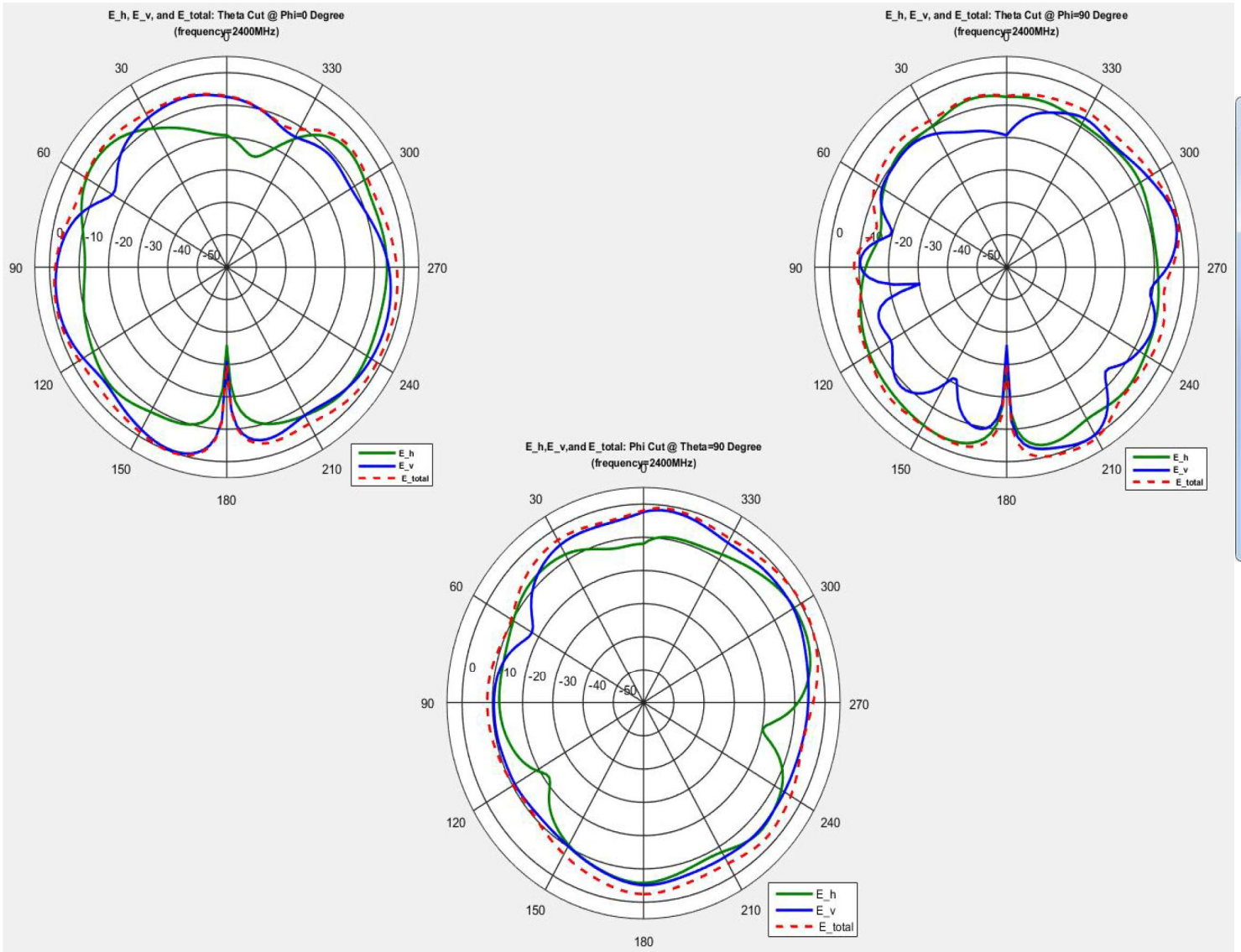




2.4GHz antenna K11 测试数据(SHZD2400-2U-K11 , 长195cm)

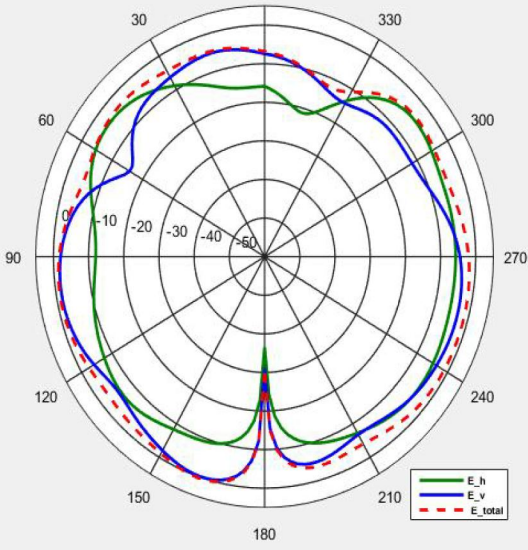
Frequency (MHz)	2400	2412	2437	2447	2462	2483
Directivity(dB)	5.8125	5.5863	5.3926	5.3917	5.2936	5.4056
Gain(dB)	2.0258	2.1896	1.9105	2.0268	2.0128	2.2123
Efficiency(dB)	-3.4108	-3.1922	-3.3012	-3.4013	-3.0938	-2.8988
Efficiency(%)	49.6685	50.978	50.2639	49.9218	51.961	52.8652
BW@Phi=0	40.9163	38.313	91.2966	87.7535	84.1497	41.9901
BW@phi=90	30.6546	30.071	29.633	29.5011	30.3416	29.5976
BW@theta=90	51.4605	50.9507	48.5624	47.9251	50.3584	85.689
Roundness@Theta=30	10.4569	11.0814	11.9047	10.8544	8.8121	7.6726
Roundness@Theta=60	7.8943	8.3979	12.1558	13.76	11.9072	13.2063
Roundness@Theta=90	11.1839	11.6223	12.313	12.4054	11.6365	11.5702
Peak Gain@Phi(deg)	46	46	46	46	46	46
Peak Gain@Theta(deg)	-138	-138	-138	-138	-136	-136
Null@Phi(deg)	158	158	158	158	158	158
Null@Theta(deg)	-180	-180	-180	-180	-180	-180
upper spherical efficiency(dB)	-7.9586	-7.5646	-7.4142	-7.51	-7.3554	-7.205
upper spherical efficiency(%)	16.0007	17.5203	18.1374	17.7419	18.3849	19.0329
lower spherical efficiency(dB)	-5.2771	-5.163	-5.3571	-5.505	-5.1462	-5.041
lower spherical efficiency(%)	29.6678	30.4577	29.1265	28.1517	30.5761	31.3255
Efficiency LHCP(dB)	-5.5811	-5.3619	-5.4457	-5.6487	-5.4414	-5.2766
Efficiency LHCP(%)	27.6622	29.0941	28.5385	27.2351	28.5669	29.6717
Efficiency RHCP(dB)	-7.4457	-7.2391	-7.2757	-7.2912	-6.905	-6.8431
Efficiency RHCP(%)	18.0063	18.8839	18.7254	18.6584	20.3941	20.6867
Gain LHCP(dB)	1.4932	1.5134	1.1077	0.8543	1.3555	1.8665
Gain RHCP(dB)	0.7059	0.7246	0.6151	0.6201	1.1648	1.2967
AR	3.0972	3.6988	3.108	2.5461	2.0642	1.9689
AR dB	9.8193	11.3612	9.8497	8.1175	6.2952	5.8846
功率占比 (%)	19.1936	19.8724	20.8928	20.9068	18.9774	18.4875

## 2.4GHz antenna K11 测试数据 (SHZD2400-2U-K11 , 长195cm)

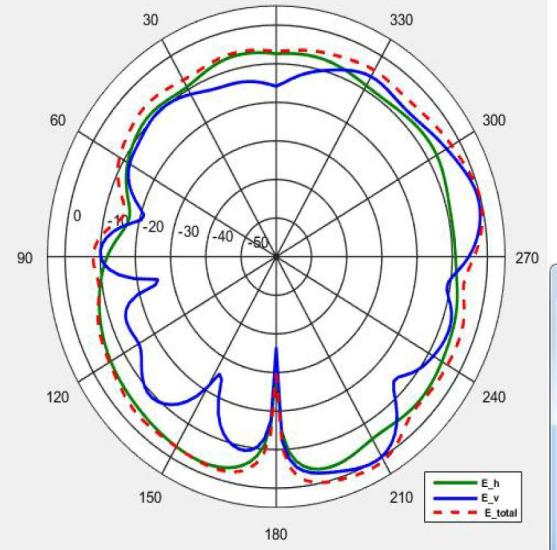




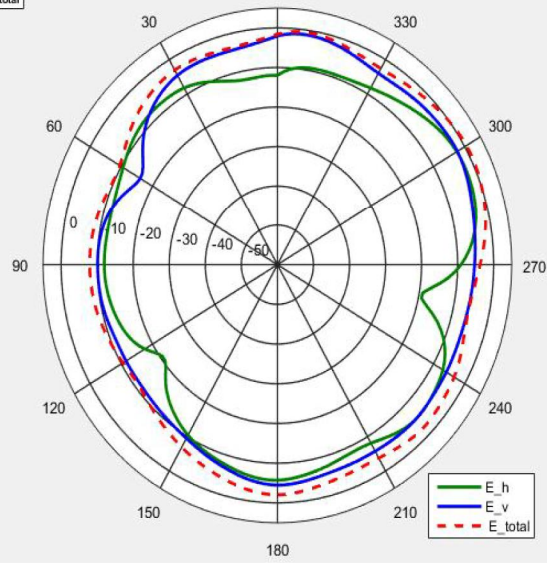
E\_h, E\_v, and E\_total: Theta Cut @ Phi=0 Degree  
(frequency=2412MHz)



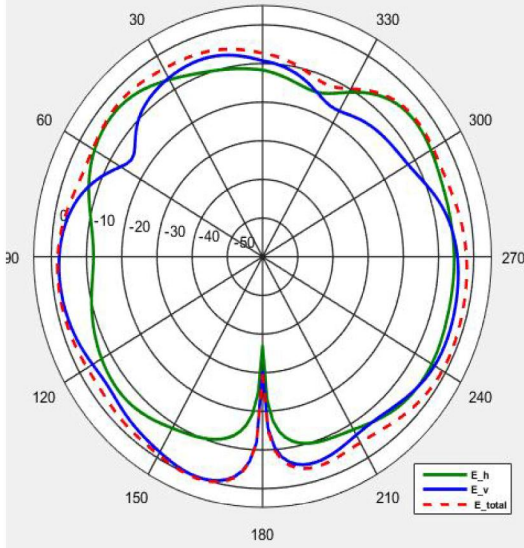
E\_h, E\_v, and E\_total: Theta Cut @ Phi=90 Degree  
(frequency=2412MHz)



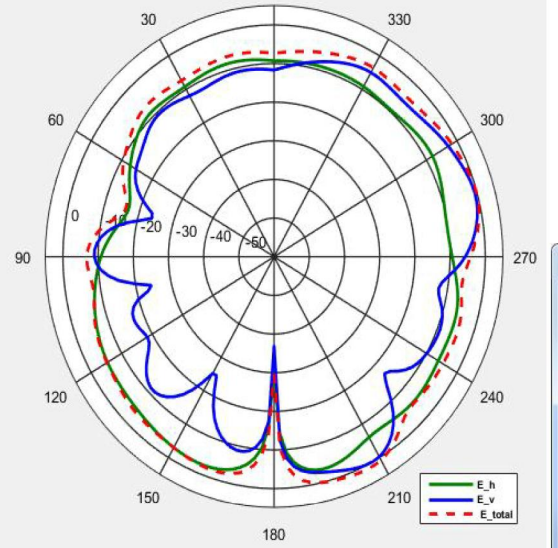
E\_h, E\_v, and E\_total: Phi Cut @ Theta=90 Degree  
(frequency=2412MHz)



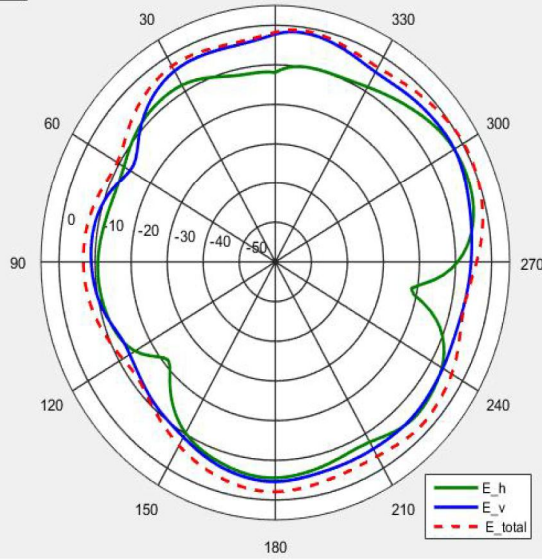
E<sub>h</sub>, E<sub>v</sub>, and E<sub>total</sub>: Theta Cut @ Phi=0 Degree  
(frequency:2437MHz)



E<sub>h</sub>, E<sub>v</sub>, and E<sub>total</sub>: Theta Cut @ Phi=90 Degree  
(frequency:2437MHz)

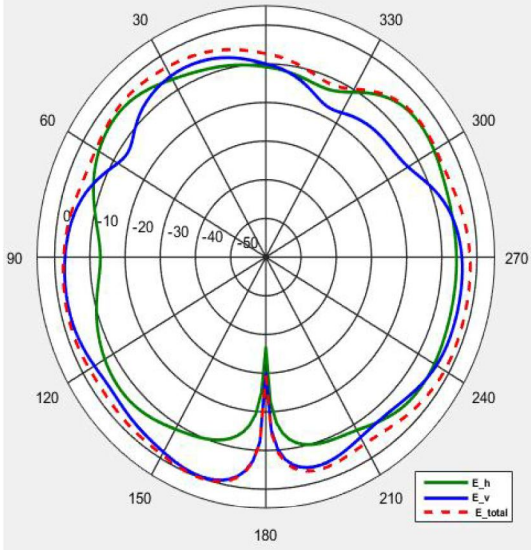


E<sub>h</sub>, E<sub>v</sub>, and E<sub>total</sub>: Phi Cut @ Theta=90 Degree  
(frequency:2437MHz)

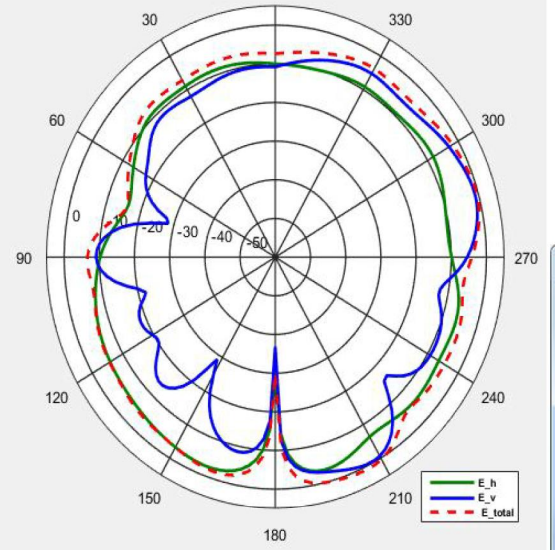


Frequency=

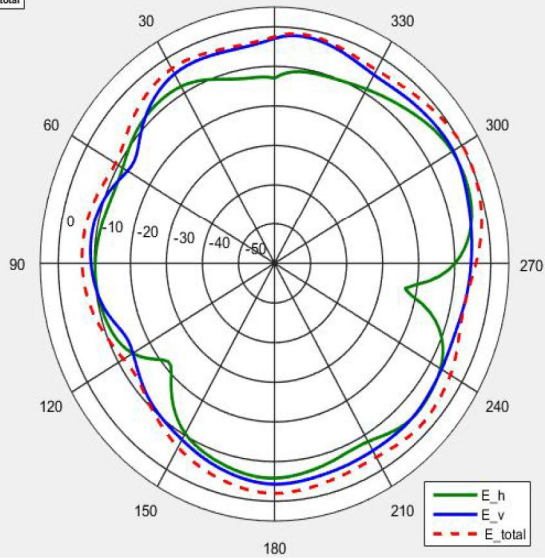
E\_h, E\_v, and E\_total: Theta Cut @ Phi=0 Degree  
(frequency=2447MHz)



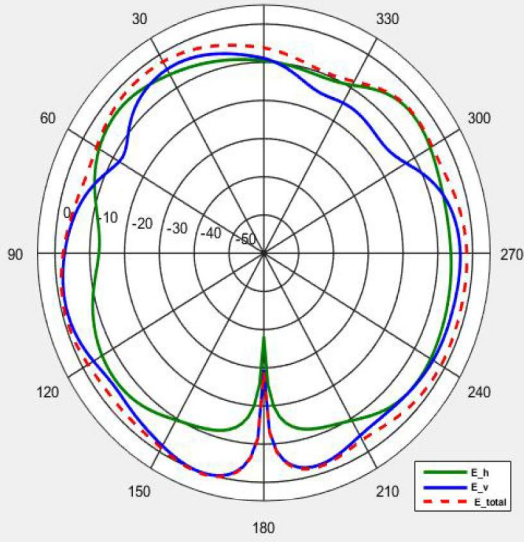
E\_h, E\_v, and E\_total: Theta Cut @ Phi=90 Degree  
(frequency=2447MHz)



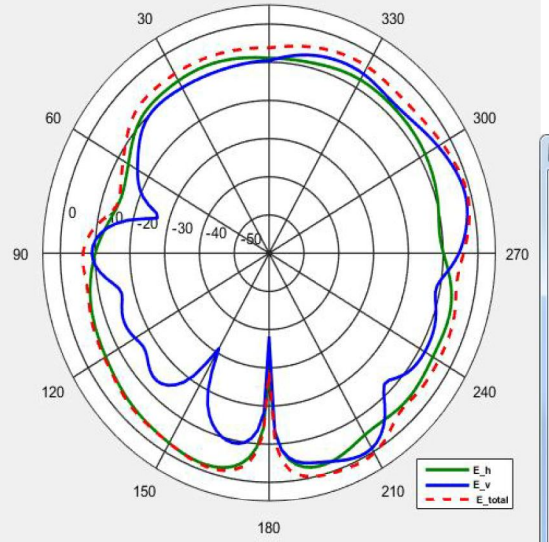
E\_h, E\_v, and E\_total: Phi Cut @ Theta=90 Degree  
(frequency=2447MHz)



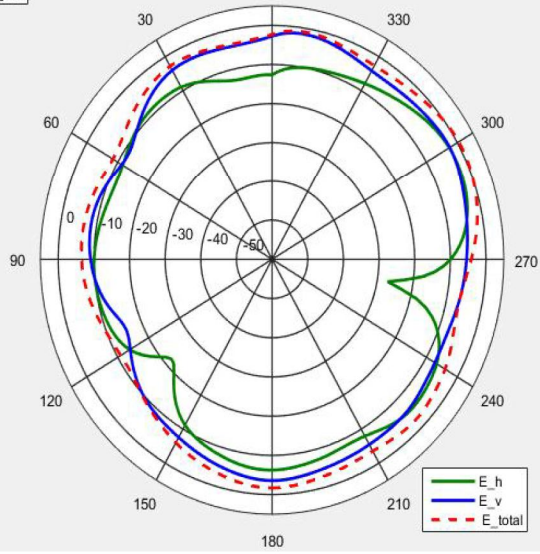
E\_h, E\_v, and E\_total: Theta Cut @ Phi=0 Degree  
(frequency=2462MHz)



E\_h, E\_v, and E\_total: Theta Cut @ Phi=90 Degree  
(frequency=2462MHz)



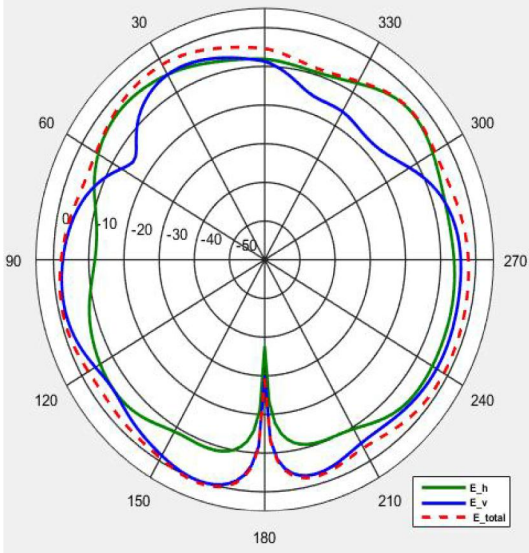
E\_h, E\_v, and E\_total: Phi Cut @ Theta=90 Degree  
(frequency=2462MHz)



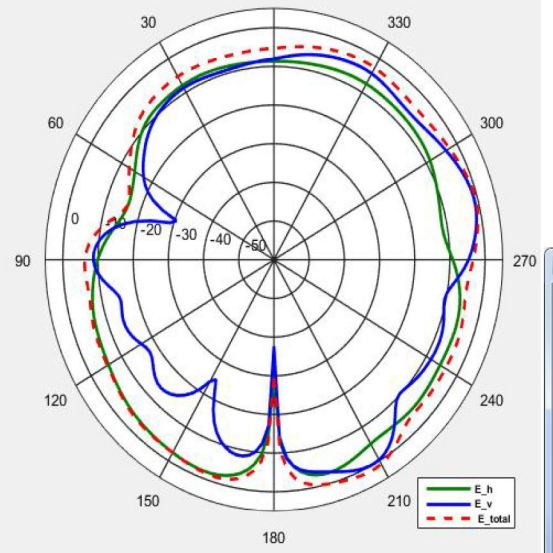
Frequency=2



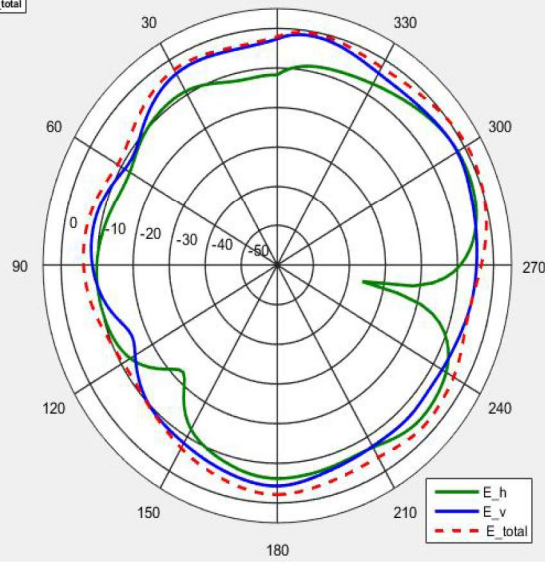
E\_h, E\_v, and E\_total: Theta Cut @ Phi=0 Degree  
(frequency=2483MHz)



E\_h, E\_v, and E\_total: Theta Cut @ Phi=90 Degree  
(frequency=2483MHz)



E\_h, E\_v, and E\_total: Phi Cut @ Theta=90 Degree  
(frequency=2483MHz)



Frequency=