

# APPROVAL SPECIFICATION

Product Name	INTENNA
Model Name	SM-A546U_WiFi
Part No Frequency Band	WIFI(2.4GHz, 5GHz)
Production company	KESPION



# KESPION

**KESPION Co., Ltd.**

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## Table of Contents

Page

<b>1. Manufacturer</b>	<b>3</b>
<b>2. Model Name</b>	<b>3</b>
<b>3. Antenna Type</b>	<b>3</b>
<b>4. Electrical Performance Data</b>	<b>3</b>
<b>5. Test Equipment</b>	<b>6</b>

## 1. Manufacturer

- KESPION Co., Ltd.

## 2. Model Name

- Basic Model: SM-A546U\_SUB

## 3. Antenna Type

- WiFi: PIFA (Planar Inverted F Antenna)

## 4. Electric Performance Data

### 4.1 Antenna Gain

#### - SUB2\_WiFi2 2.4Ghz

Freq.[MHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
2400	33.69	-4.73	-2.51
2425	33.28	-4.78	-2.47
2450	31.89	-4.96	-2.89
2485	32.49	-4.88	-2.78
2500	30.47	-5.16	-3.05

#### -SUB3\_WIFI1 5Ghz

Freq.[MHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
5150	26.51	-5.6	-3.08
5325	20.39	-6.91	-3.55
5500	20.57	-6.87	-4.09
5725	18.1	-7.42	-4.73
5850	23.79	-6.24	-3.78

#### - SUB5\_WiFi1 2.4Ghz + BT

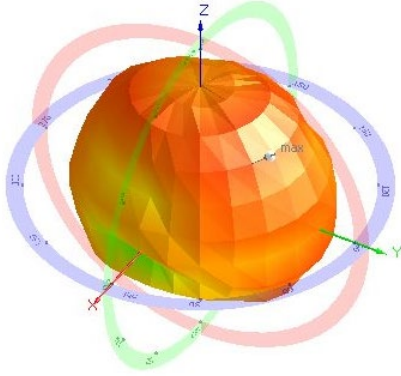
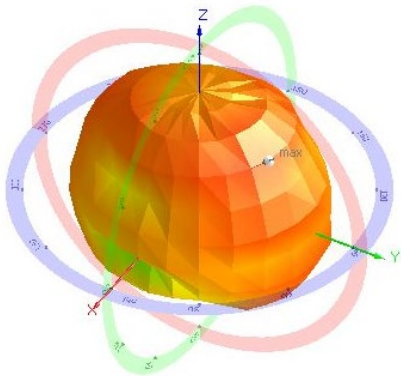
Freq.[MHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
2400	36.63	-4.36	-2.53
2425	36.83	-4.34	-2.19
2450	37.09	-4.31	-1.95
2485	40.67	-3.91	-1.93
2500	41.88	-3.78	-1.47

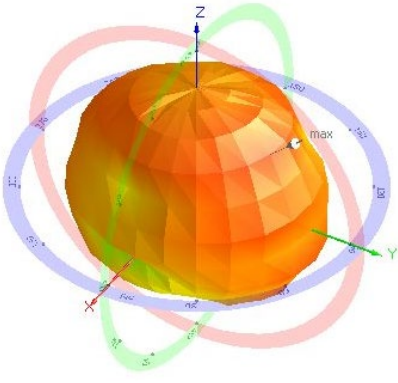
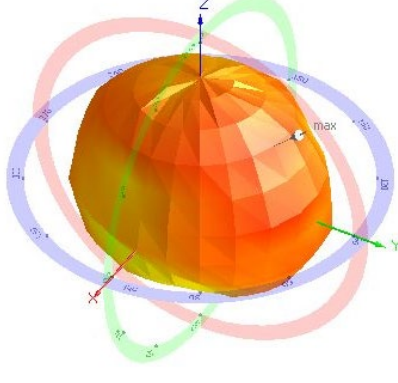
### -SUB9\_WIFI2 5Ghz

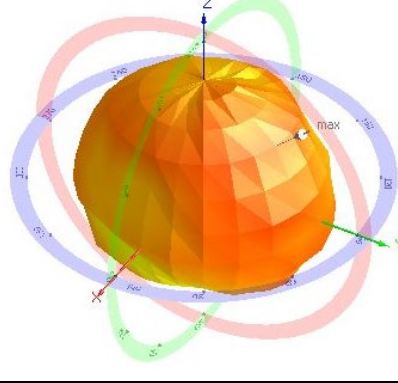
Freq.[MHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
5150	11.53	-9.38	-6.68
5325	12.31	-9.1	-6.84
5500	11.99	-9.21	-6.74
5725	12.33	-9.09	-6.51
5850	14.9	-8.27	-5.37

## 4.2 Radiation Pattern

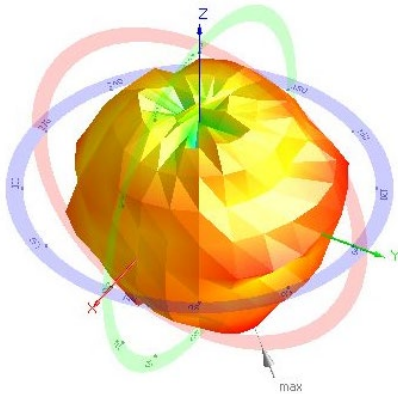
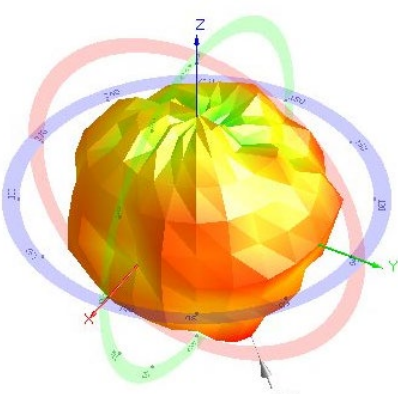
### -SUB2\_WIFI2 2Ghz

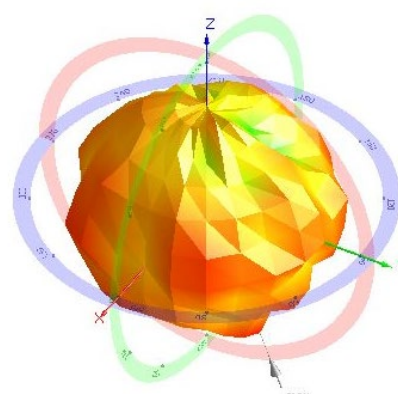
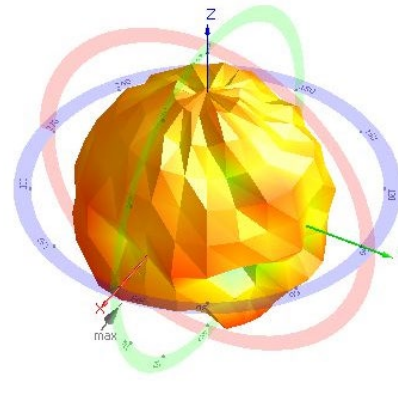
주파수 대역 (Frequency Band)	WIFI 2Ghz	
	2400 MHz	2425 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-4.73	-4.78
Peak Gain [dBi]	-2.51	-2.47

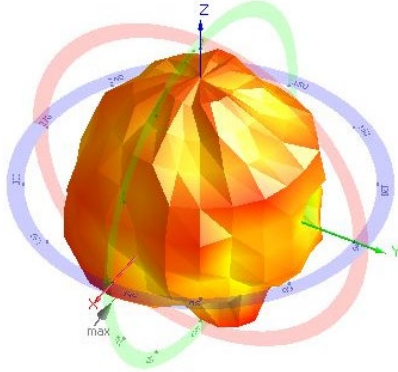
주파수 대역 (Frequency Band)	WIFI	
	2450 MHz	2485 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-4.96	-4.88
Peak Gain [dBi]	-2.89	-2.78

주파수 대역 (Frequency Band)	WIFI	
	2500 MHz	
3D Radiation Pattern		
Avg Gain [dBi]	-5.16	
Peak Gain [dBi]	-3.05	

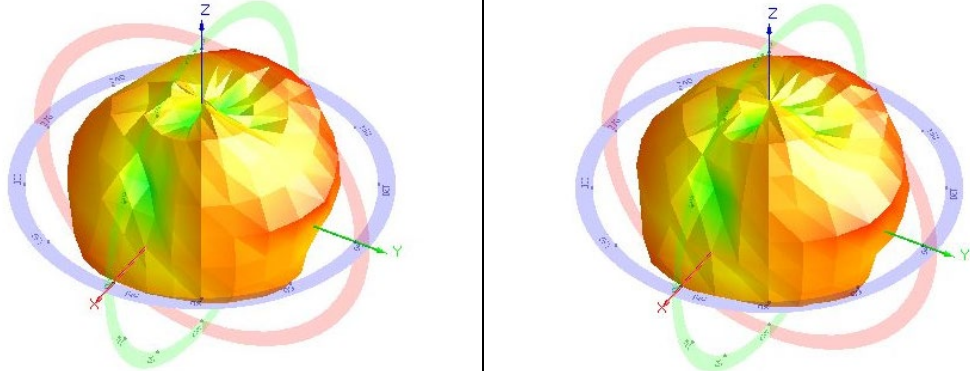
**-SUB3\_WIFI1 5Ghz**

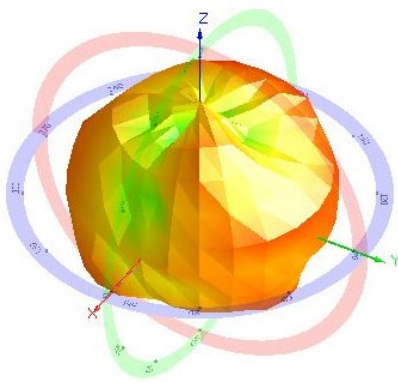
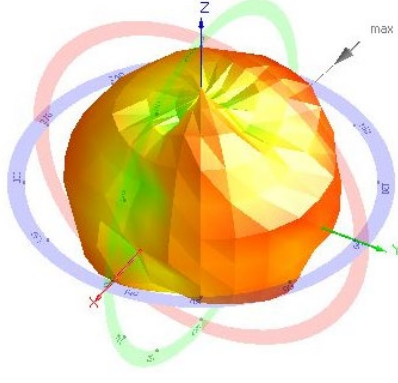
주파수 대역 (Frequency Band)	WIFI	
	5150 MHz	5325 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-5.6	-6.91
Peak Gain [dBi]	-3.08	-3.55

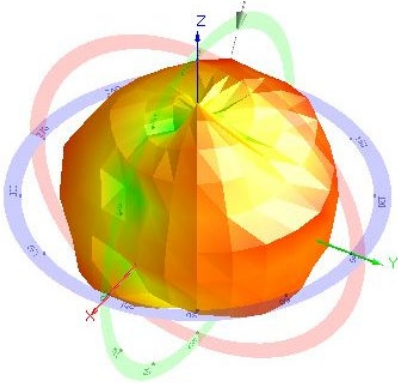
주파수 대역 (Frequency Band)	WIFI	
	5500 MHz	5725 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-6.87	-7.42
Peak Gain [dBi]	-4.09	-4.73

주파수 대역 (Frequency Band)	WIFI	
	5850 MHz	
3D Radiation Pattern		
Avg Gain [dBi]	-6.24	
Peak Gain [dBi]	-3.78	

**-SU5\_WIFI1 2Ghz + BT**

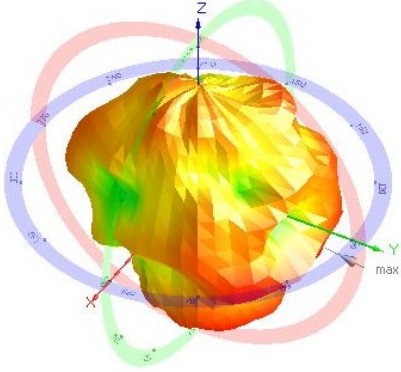
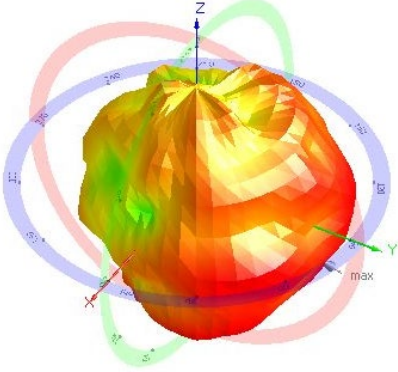
주파수 대역 (Frequency Band)	WIFI + BT	
	2400 MHz	2425 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-4.36	-4.34
Peak Gain [dBi]	-2.53	-2.19

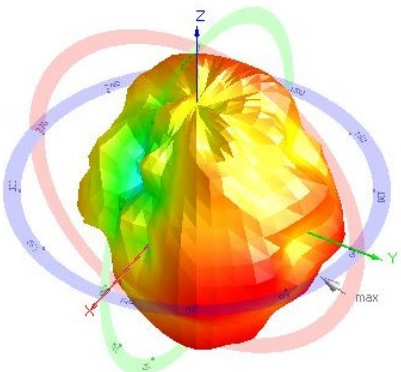
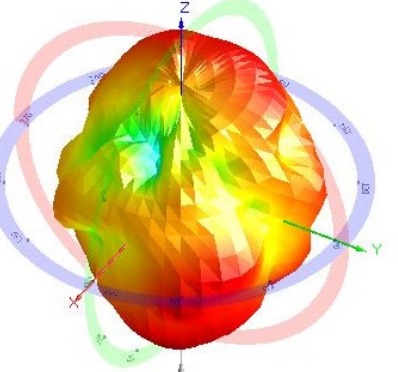
주파수 대역 (Frequency Band)	WIFI + BT	
	2450 MHz	2485 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-4.31	-3.91
Peak Gain [dBi]	-1.95	-1.93

주파수 대역 (Frequency Band)	WIFI + BT	
	2500 MHz	
3D Radiation Pattern		
Avg Gain [dBi]	-3.78	
Peak Gain [dBi]	-1.47	



**-SU9\_WIFI2 5Ghz**

주파수 대역 (Frequency Band)	WIFI	
	5150 MHz	5325 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-9.38	-9.1
Peak Gain [dBi]	-6.68	-6.84

주파수 대역 (Frequency Band)	WIFI	
	5500 MHz	5725 MHz
3D Radiation Pattern		
Avg Gain [dBi]	-9.21	-9.09
Peak Gain [dBi]	-6.74	-6.51

주파수 대역 (Frequency Band)	WIFI	
	5,850 MHz	
3D Radiation Pattern		
Avg Gain [dBi]	-8.27	
Peak Gain [dBi]	-5.37	

## 5. Test Equipment

### 5.1 MTG Chamber and Network analyzer



Description	Manufacturer	Model	S/N	Cal Due
Network Analyzer	Agilent Technologies	E5071C	MY46105084	2022.02.16 ~2023.02.15

### 5.2 Radiation Pattern Test

Please refer to appendix file.  
(Photo is STC).