

ANTENNA TEST REPORT

Applicant	Faurecia Clarion Electronics (Xiamen) Co., Ltd.
Address	5F, No. 40, Guanri Road, Software Park Stage II, Xiamen
Supplier	Molex Interconnect (Shanghai) Co., Ltd.
Address	889 Yinglun Road, Waigaoqiao Free Trade Zone, Pudong, Shanghai
Product	FPC antenna
Product No.	1461530150
Model	23M MMC
Peak Gain	WiFi Antenna: 4.1dBi/5GHz
	BT Antenna: 2.7dBi/2.4GHz
Date of test	2022/07/11

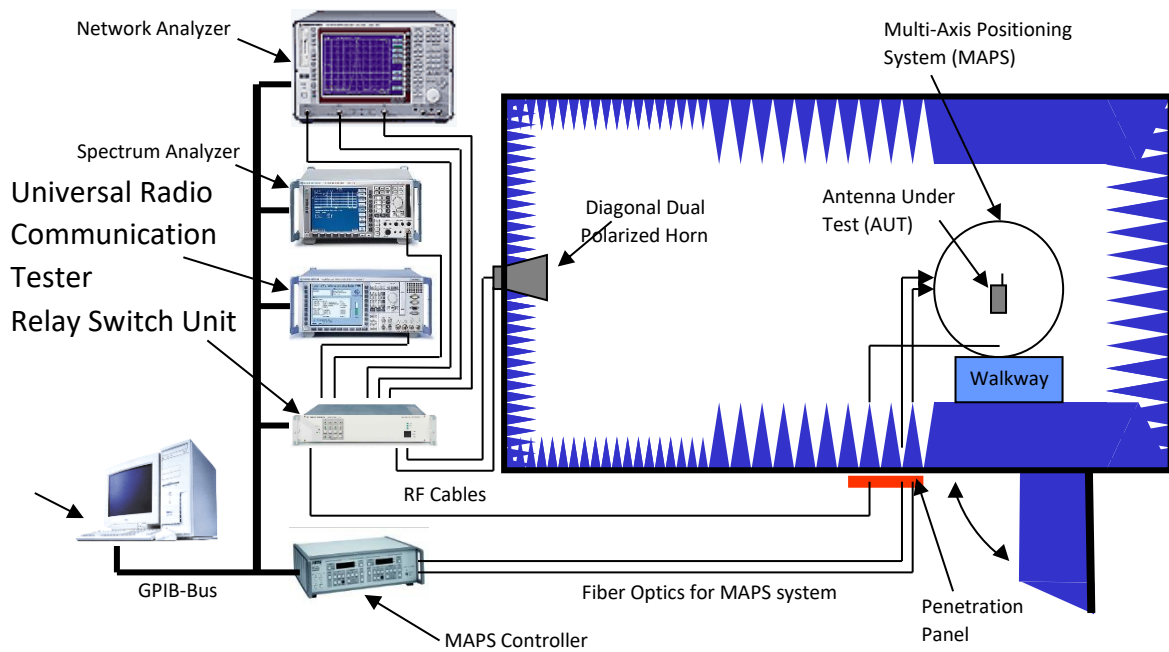
Approval	Written	Reviewed	Approved
	Liu Hai	Andy Zhang	Chris Zhang
Date	2022/07/11	2022/07/11	2022/07/11

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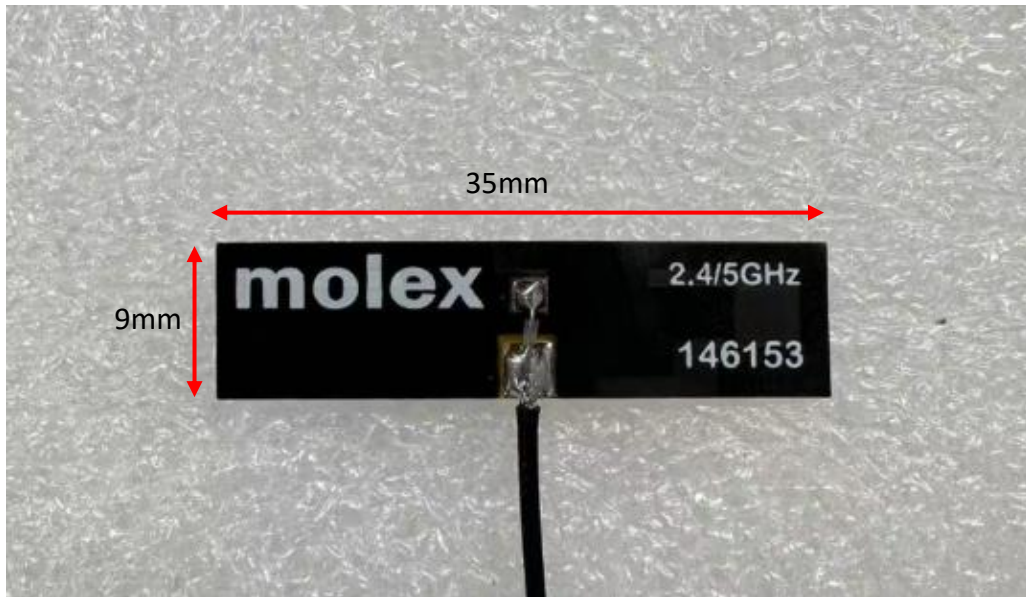
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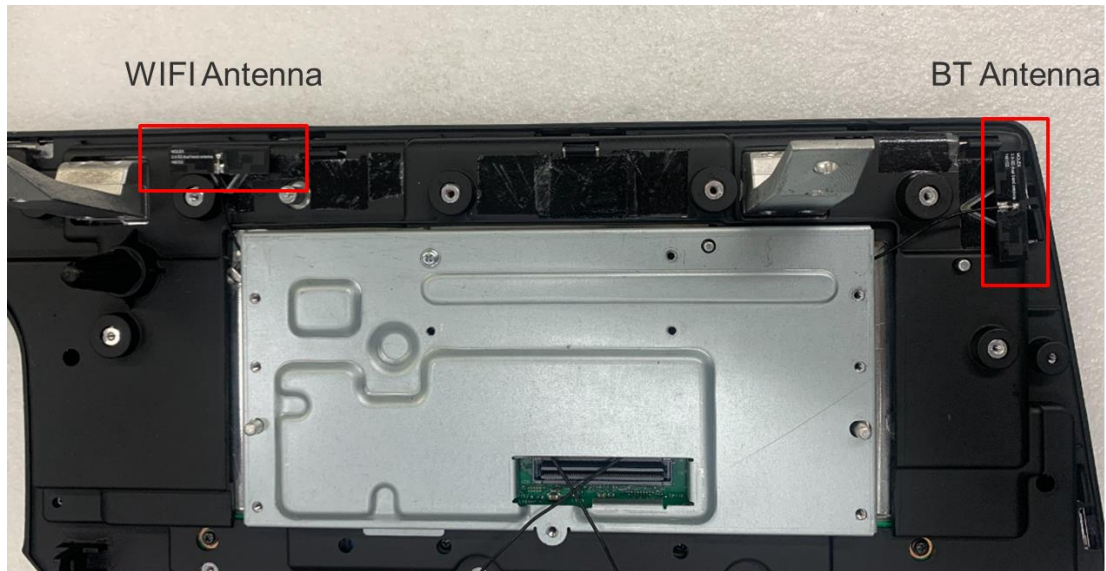
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1. MEASUREMENTS SETUP



2. SIZE OF THE ANTENNA





3. TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Signal Generator	Agilent	E5071C	MY46101560	2024/1/30
Spectrum Analyzer	ROHDE&SCHWARZ	FSP	100878	2023/4/7
Broad-Band Horn Antenna	ETS-LINDGREN	Model 3102	SN00066947	2023/8/25
Broad-Band Horn Antenna	ETS-LINDGREN	Model 3164-03	SN00064049	2023/8/25
Turn Table	ETS-LINDGREN	Model 2090	SN00105913	N/A
Controller	ROHDE&SCHWARZ	TS-RSP	100331	N/A
Test Software	ETS-LINDGREN	EMQUEST	EMQ-100	N/A

4. TEST RESULTS

4.1 WIFI antenna VSWR

Frequency (MHz)	5150	5850
VSWR	1.6	1.4

4.2 BT antenna VSWR

Frequency (MHz)	2402	2480
VSWR	2.5	2.6

4.3 WIFI Antenna Efficiency

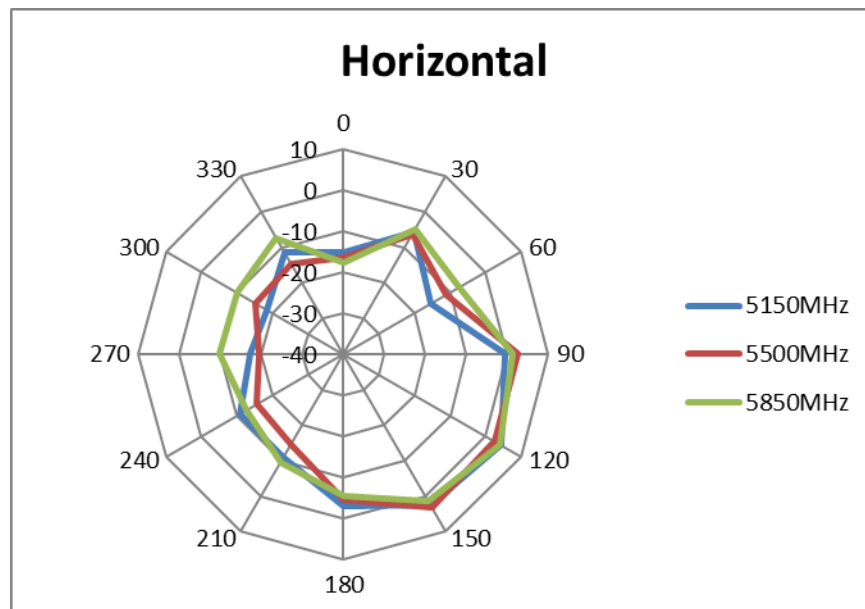
Frequency Band	5150MHz-5850MHz
WIFI efficiency (dB)	-1.7

4.4 BT Antenna Efficiency

Frequency Band	2402MHz-2480MHz
BT efficiency (dB)	-2.2

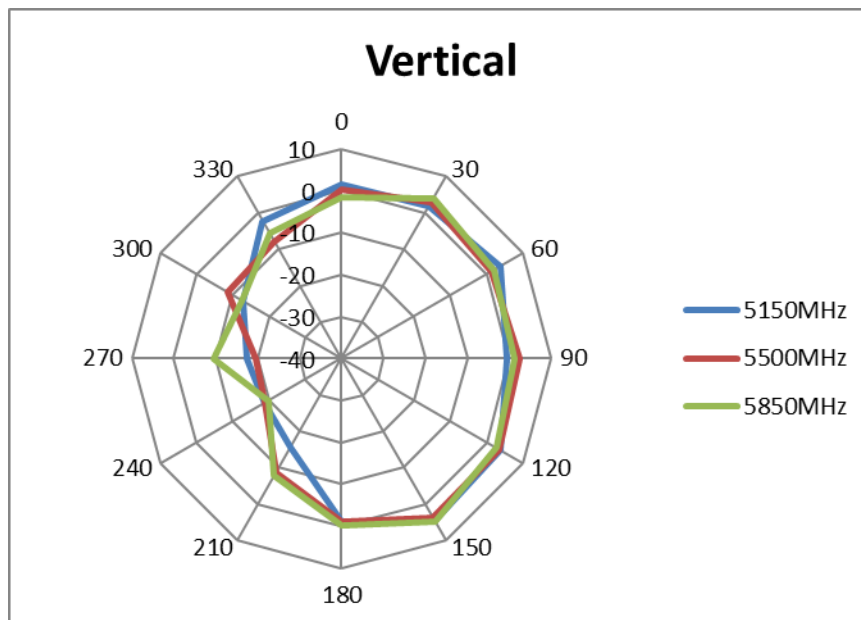
4.5 WIFI Antenna 2D at 5GHz band (Horizontal)

Frequency (MHz)	Horizontal	Max.	Min.	Avg. Gain (dBi)
WIFI 5150	Degree	120°	300°	-8.4
	Gain (dBi)	4.0	-18.5	
WIFI 5500	Degree	150°	270°	-9.1
	Gain (dBi)	3.3	-19.4	
WIFI 5850	Degree	120°	0°	-6.5
	Gain (dBi)	4.0	-17.6	



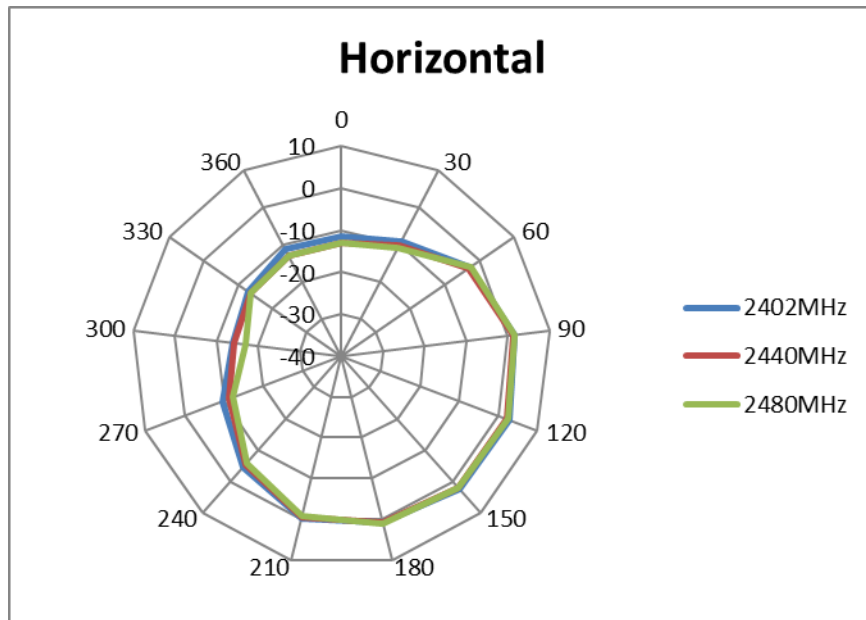
4.6 WIFI Antenna 2D at 5GHz band (Vertical)

Frequency (MHz)	Vertical	Max.	Min.	Avg. Gain (dBi)
WIFI 5150	Degree	150°	240°	-4.4
	Gain (dBi)	4.1	-18.8	
WIFI 5500	Degree	150°	270°	-4.2
	Gain (dBi)	3.7	-19.4	
WIFI 5850	Degree	150°	240°	-3.6
	Gain (dBi)	4.0	-19.9	



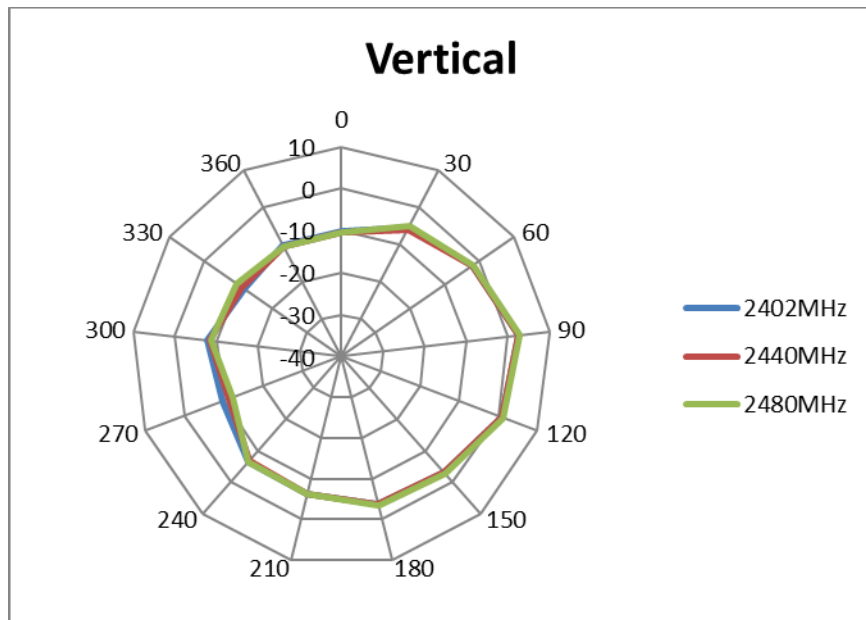
4.7 BT Antenna 2D at 2.4GHz band (Horizontal)

Frequency (MHz)	Horizontal	Max.	Min.	Avg. Gain (dBi)
BT 2402	Degree	90°	330°	-4.8
	Gain (dBi)	2.7	-11.7	
BT 2440	Degree	90°	270°	-5.1
	Gain (dBi)	2.1	-11.9	
BT 2480	Degree	90°	270°	-5.8
	Gain (dBi)	2.4	-12.3	



4.8 BT Antenna 2D at 2.4GHz band (Vertical)

Frequency (MHz)	Vertical	Max.	Min.	Avg. Gain (dBi)
BT 2402	Degree	120°	300°	-4.8
	Gain (dBi)	2.6	-13.9	
BT 2440	Degree	120°	300°	-5.5
	Gain (dBi)	2.4	-14.3	
BT 2480	Degree	120°	300°	-5.8
	Gain (dBi)	2.7	-17.1	



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

