



Percsson Communication Equipment Co., Ltd

Antenna Test Report

For

ESP-32

Customer	Espressif Systems (Shanghai) Co., Ltd	Project	ESP-32
Band	2.4G	Color	black
PRS PN		Version	V1.0
Issued by	Jason	Checked by	Mem
Confirmed by	Zhang	Date	2018.06.27
Adress	Suite 204,Block 2,690 Bibo Road, Zhang Jiang Hi-Tech Park,Shanghai, China	Antenna type	PCB Antenna

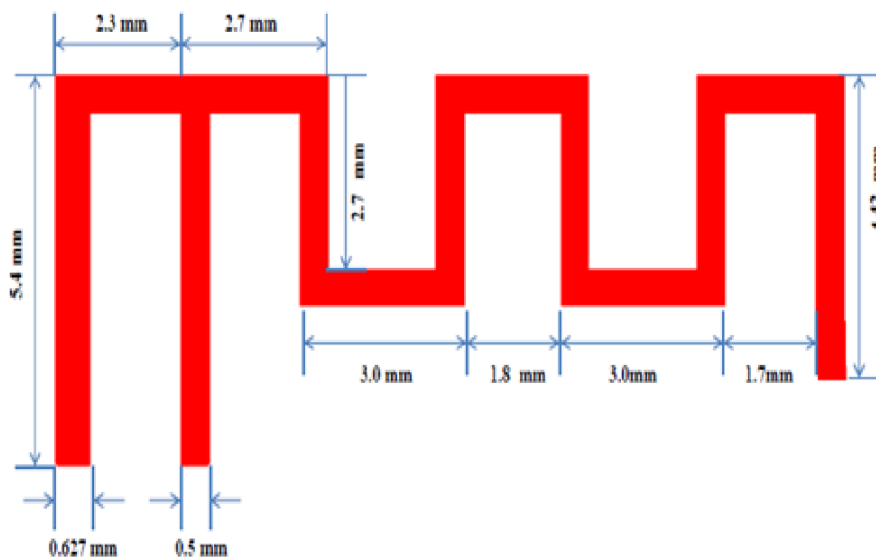
一. TEST INSTRUMENTATION

CHAMBER	SATIMO Chamber
Wireless Networking Test Set	Agilent 8960 5515C
NETWORK ANALYZER	Agilent 8753D
TEMPERATURE	20±2℃
HUMIDITY	50±20%rh

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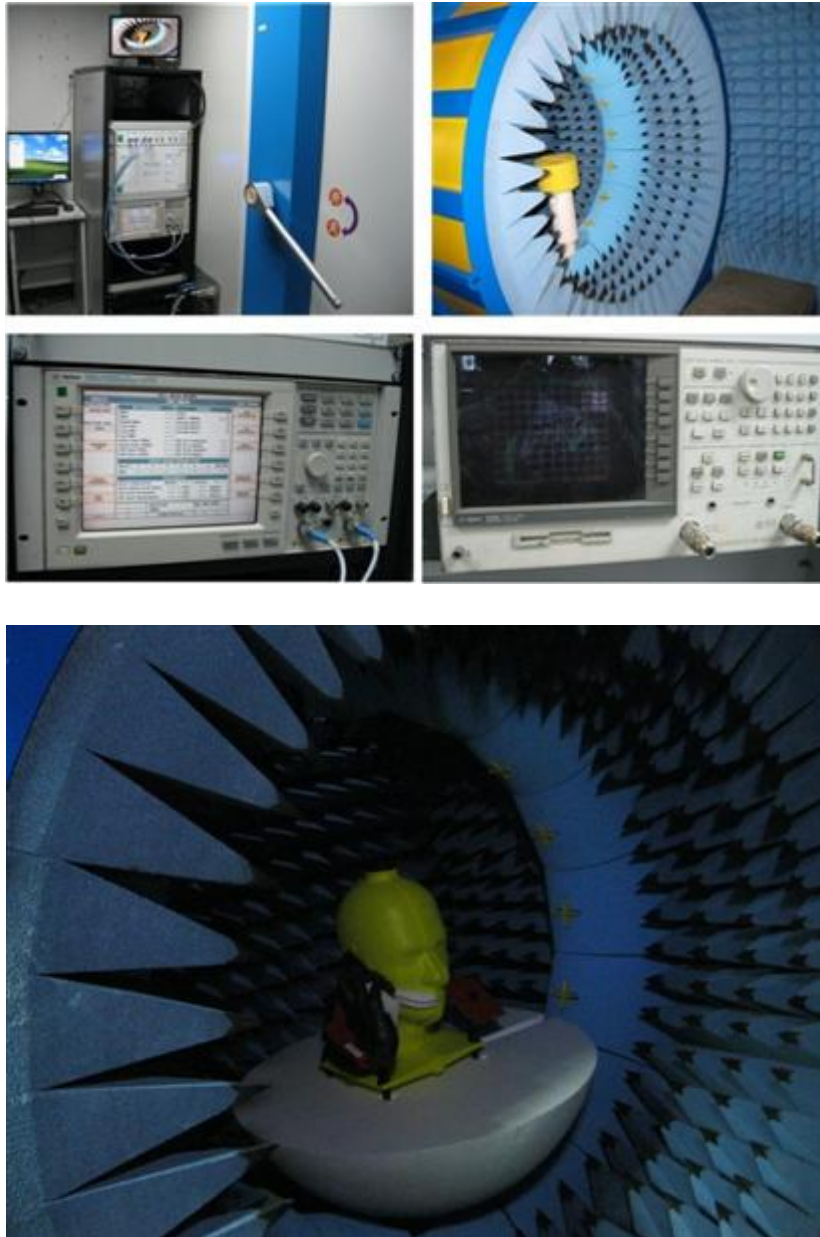
ESP-32 WiFi Module



Antenna Dimension for ESP-32



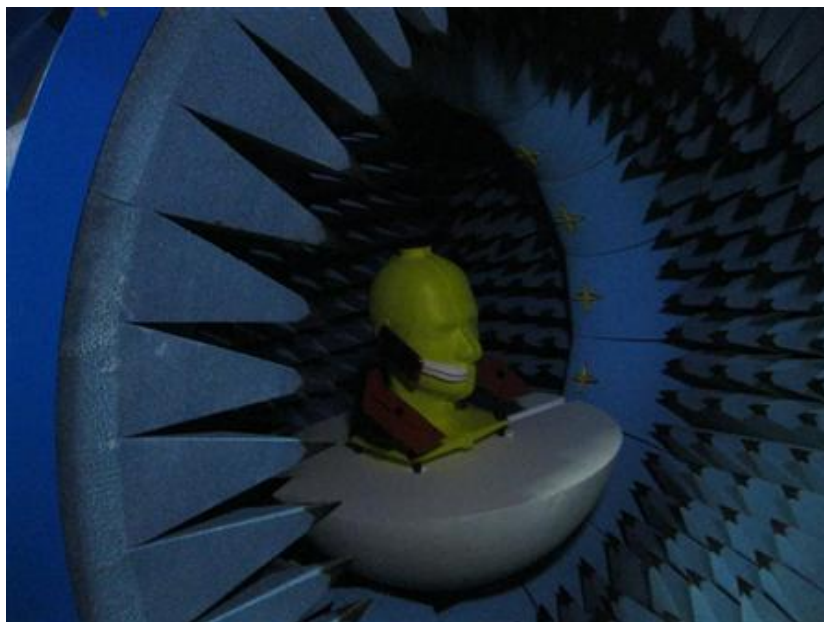
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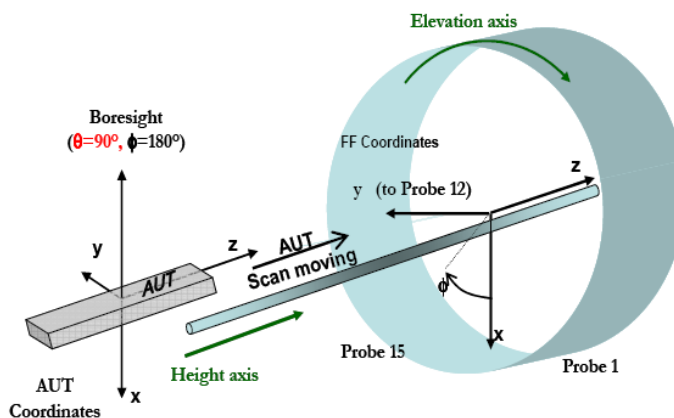
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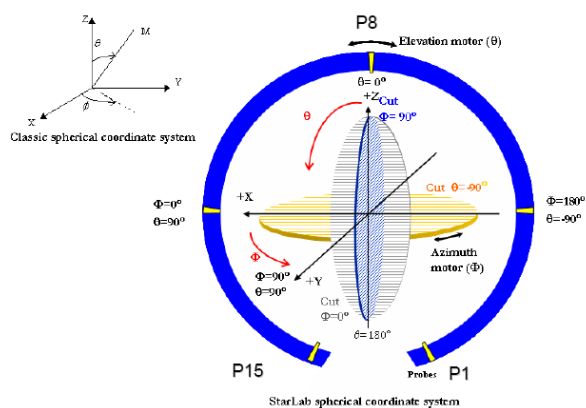
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Coordinate system – Cylindrical geometry



Coordinate system – Spherical geometry



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二. Definitions

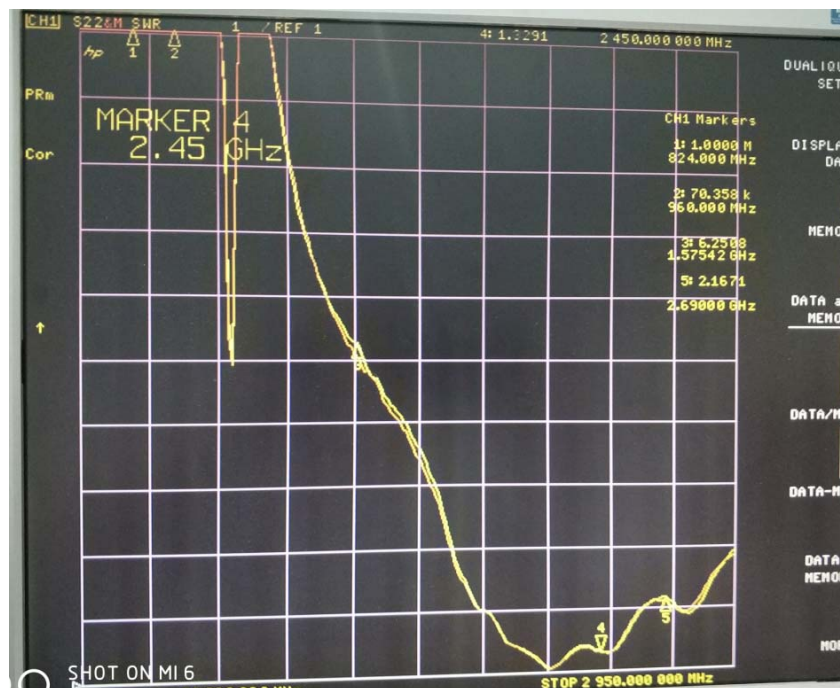
VSWR: Voltage Standing Wave Rate

TRP: total radiated power

TIS: total isotropic sensitivity

	WIFI
VSWR	1.1

Main antenna VSWR:



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Main antenna passive efficiency testing

WIFI/BT:

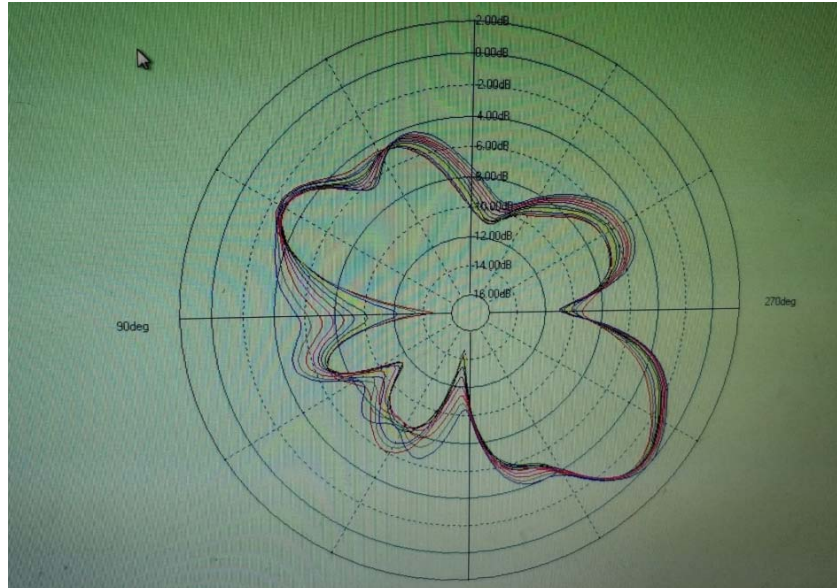
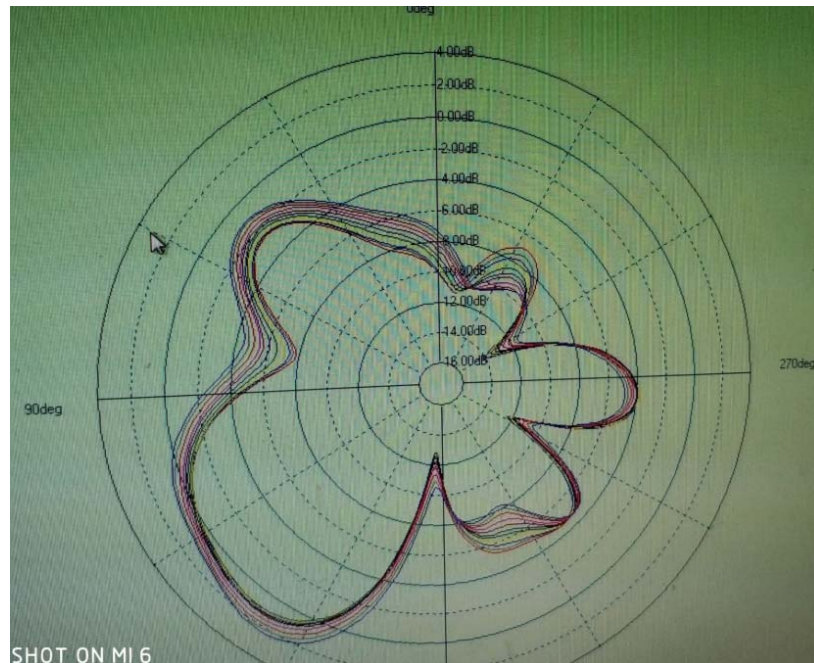
Freq (MHz)	Effi (%)	Gain (dBi)
2400	30.91	-1.2
2410	30.74	-1.21
2420	31.4	-1.18
2430	32.06	-1.18
2440	32.66	-1.24
2450	33.14	-1.37
2460	33.31	-1.48
2470	33.49	-1.49
2480	33.81	-1.08
2490	33.79	-0.79
2500	33.38	-0.96

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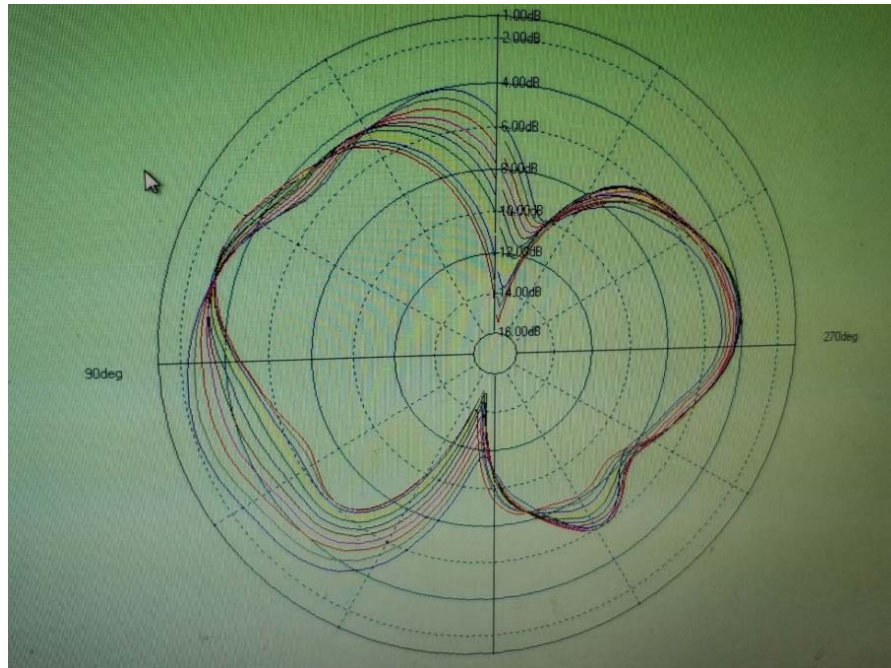
Passive radiation pattern:



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