

Antenna Measurement Report for X-C13SG

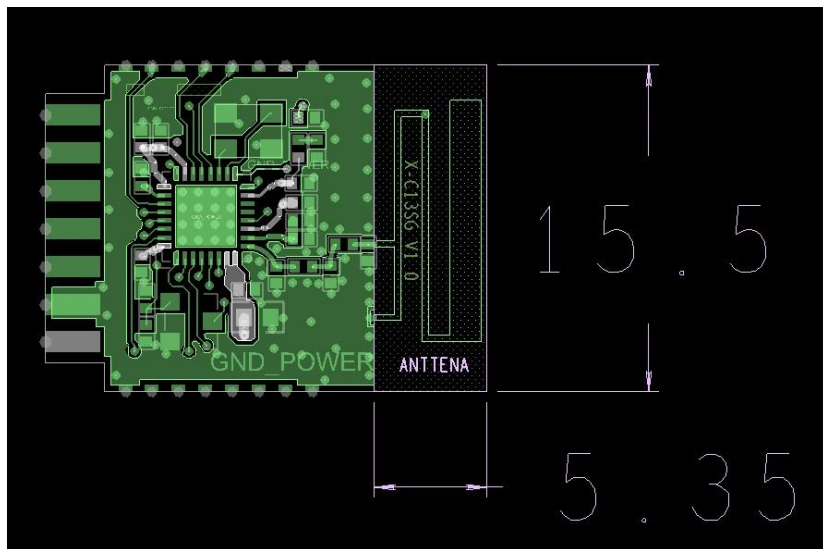
20210804

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Antenna Introduction

Part Number	XM100
Frequency	2.4GHz~2.5GHz
Dimensions	15.5*5.35 (mm)
Manufacturer	Xinmiao



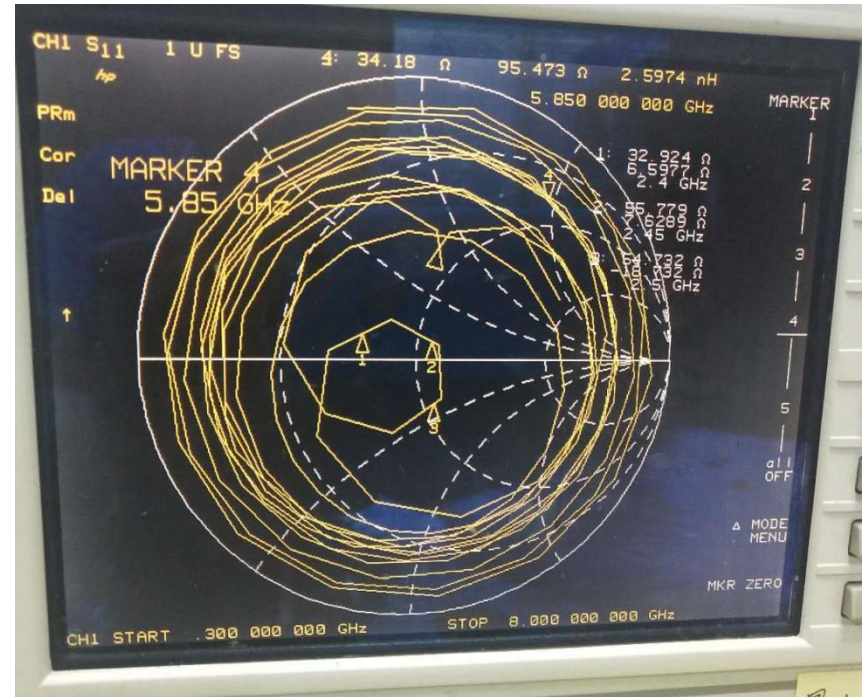
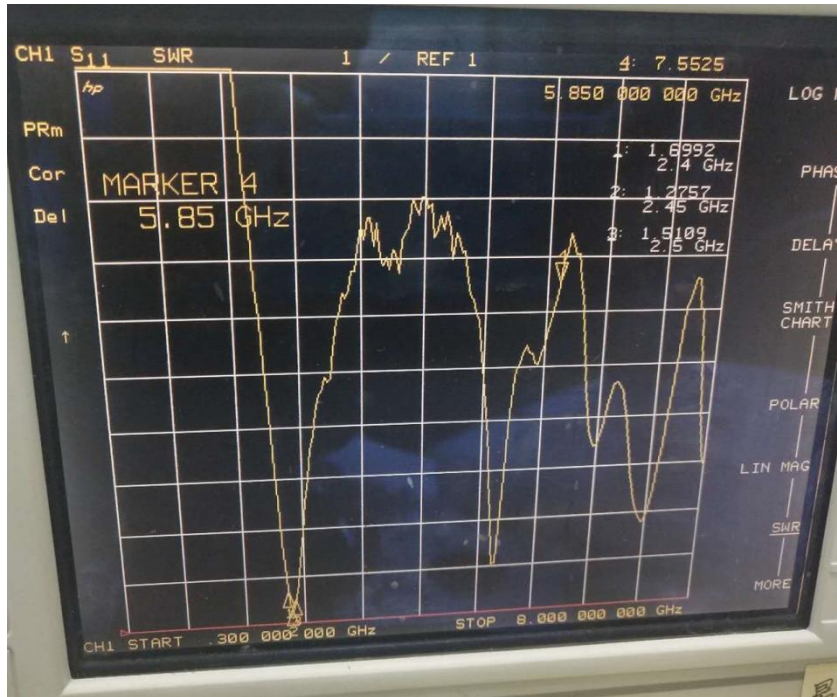
Specification

Rough description	2.4~2.5GHz 2.5dBi antenna	Dimensions	L13.4*W5.8*T0.9mm
Impedance	50Ω	Test environment	None
Application	WiFi	Freq. Range	2.4~2.5GHz
Gain	Peak gain 2.4dBi	VSWR	1.92: 1
Radiation		Polarization	linear
HPBW / H	None	HPBW / E	None
Efficiency	50±10%	Downtilt	None
Connector type	None	Cable type	None
Isolation	None	Special request	None

Test equipment

Test Item	VSWR (Voltage Standing Wave Ratio)
Test environment and equipment	VNA 

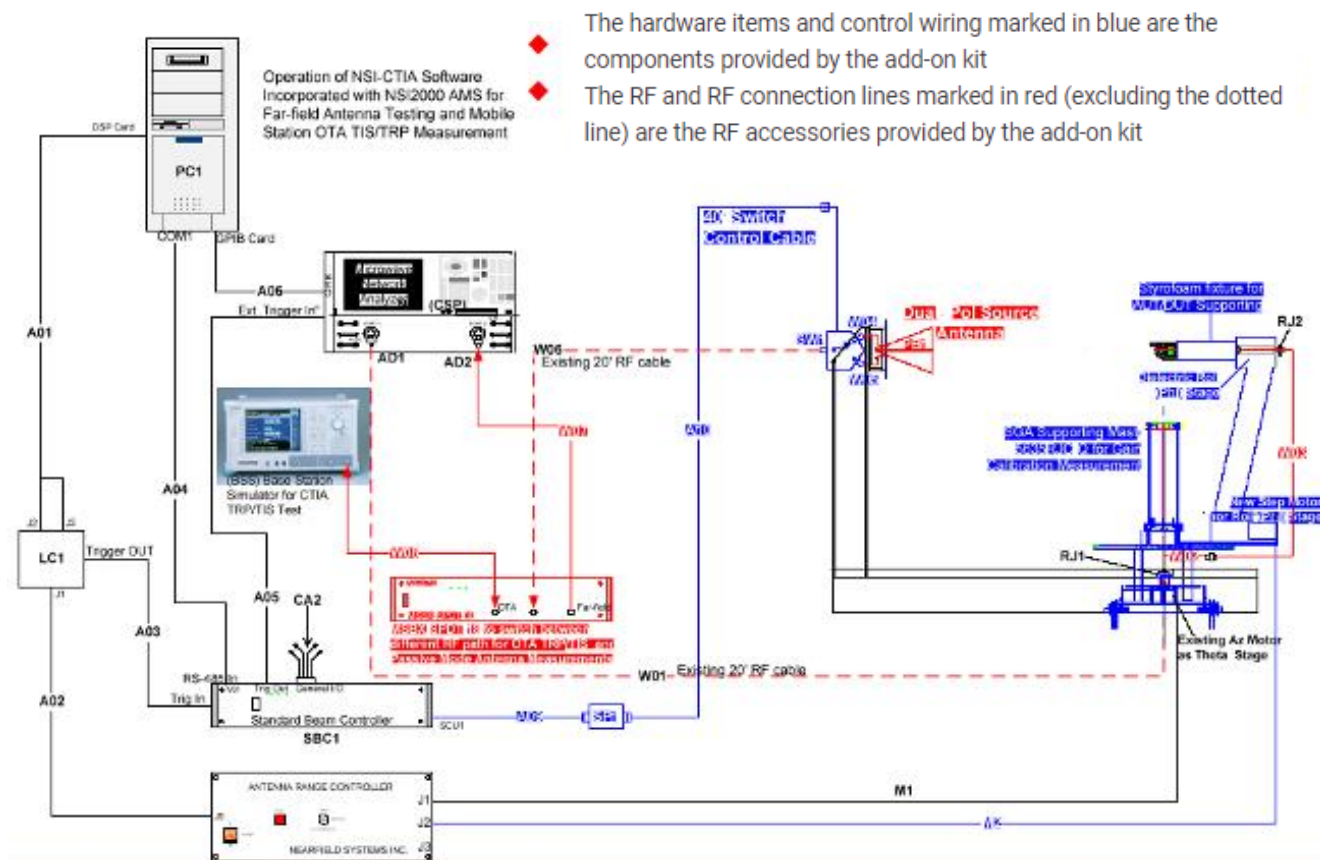
S-parameter test results
Radiation test results



Test Item	Device Under Test	Standard	Frequency Range (GHz)		
			2.4	2.45	2.5
VSWR	WiFi	≥ 1.92	1.69	1.27	1.51

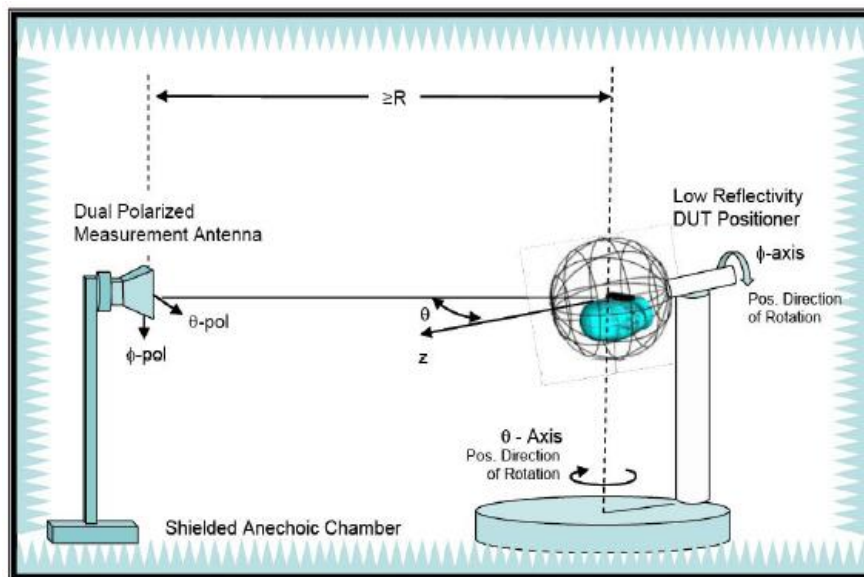
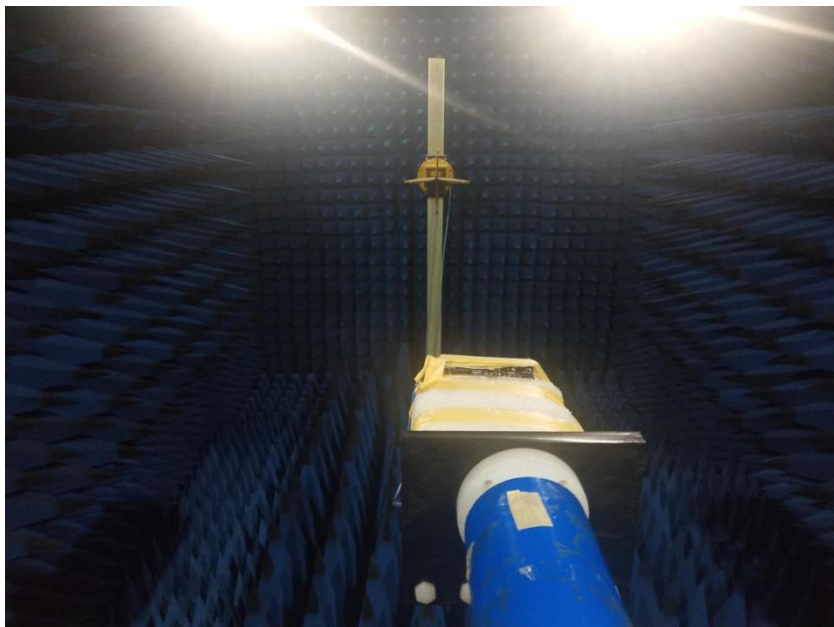
Gain & Patterns test results

testing environment



Gain & Patterns test results

Measurement setting

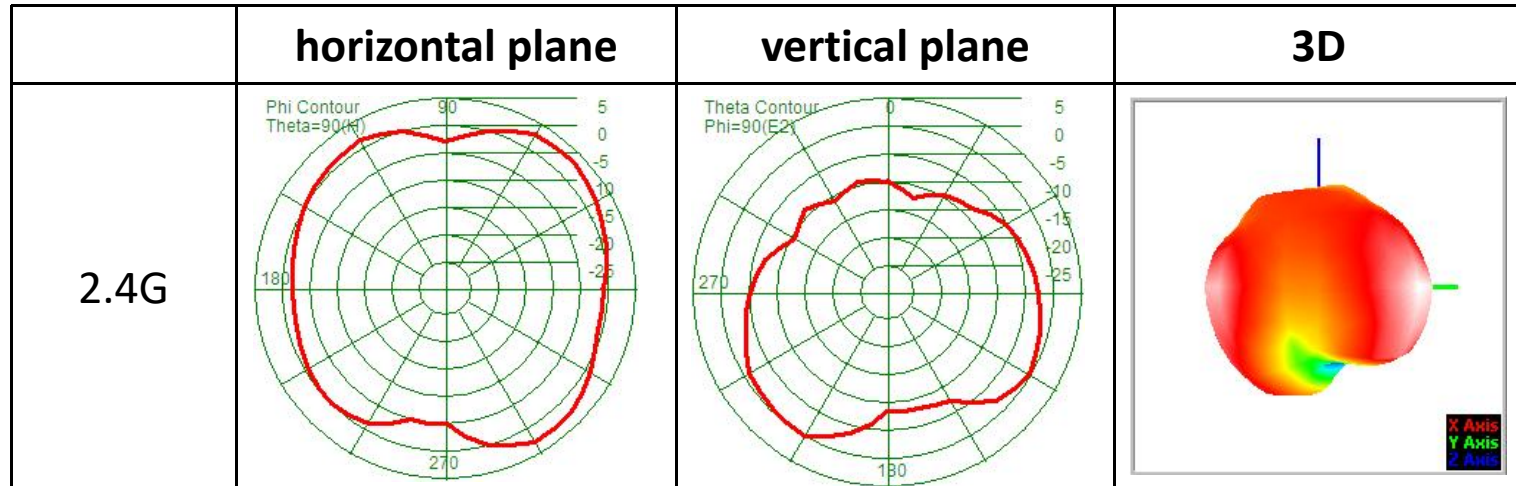


antenna gain Efficiency

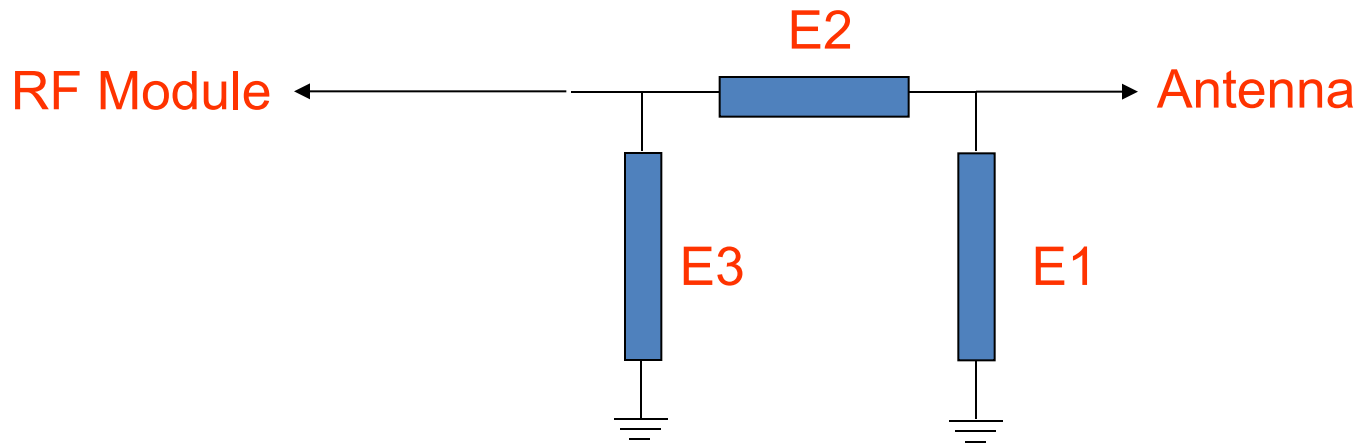
Test Point ID	Freq. (MHz)	Gain (dBi)	Efficiency (%)
<u>1</u>	2400.0	2.33	53.1%
<u>2</u>	2410.0	2.40	55.5%
<u>3</u>	2420.0	2.21	58.9%
<u>4</u>	2430.0	2.13	58.8%
<u>5</u>	2440.0	2.00	61.0%
<u>6</u>	2450.0	-5.04	60.4%
<u>7</u>	2460.0	-5.12	61.7%
<u>8</u>	2470.0	-4.35	59.2%
<u>9</u>	2480.0	-9.75	59.9%
<u>10</u>	2490.0	0.11	54.8%
<u>11</u>	2500.0	-13.84	55.7%

Gain & Patterns test results

3D patterns



Antenna Matching



Element	Value
E1(0402)	0.5PF
E2(0402)	22PF
E3(0402)	NC