



Amphenol

Datesheet

Brasstickan

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Project: Brasstickan	Author: Jian. Zhang	File Name: EXJ173-12-000-R
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1 Antenna description

Dipole Antenna

Working band WIFI 2400~2500 5150~5850MHZ, FPC+ Cable+ carrier

1.1 Part number

EXJ173-12-000-R

1.1.1 Antenna pictures



Dipole Antenna

2 Electrical Performance

2.1 Measurement Set-up

2.1.1 S₁₁ and return loss

VSWR measurements (S_{11}) were performed using an Agilent ENA series Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

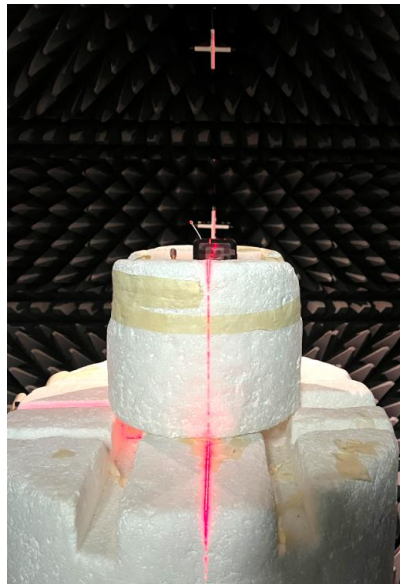
2.1.2 Efficiency, Gain and TRP/TIS

The efficiency/gain of the antenna was measured in the SAA GTS2800 chamber in Shanghai, China. The chamber capable of doing tests from 600MHz to 8.5GHz.

Coaxial chokes on the feed cable were used to mitigate surface currents during passive tests.

The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a CMU 200 to establish the connection with the mobile device and read the power

2.1.3 Test photo



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2.1.4 Matching Circuit Description

N/A

2.2 Reference measurement data

2.2.1 Gain/Efficiency

Freq(MHz)	Efficiency (%)	Avg Gain(dB)	Peak Gain
2400	45.7	-3.4	1.6
2450	55.0	-2.6	1.4
2500	40.7	-3.9	-1.0
Average	47.1	-3.3	0.7
5150	32.4	-4.9	2.1
5250	41.7	-3.8	2.1
5350	43.7	-3.6	1.9
5450	43.7	-3.6	2.1
5550	40.7	-3.9	2.1
5650	40.7	-3.9	1.9
5750	36.3	-4.4	1.9
5850	35.5	-4.5	1.5
Average	39.3	-4.1	1.9

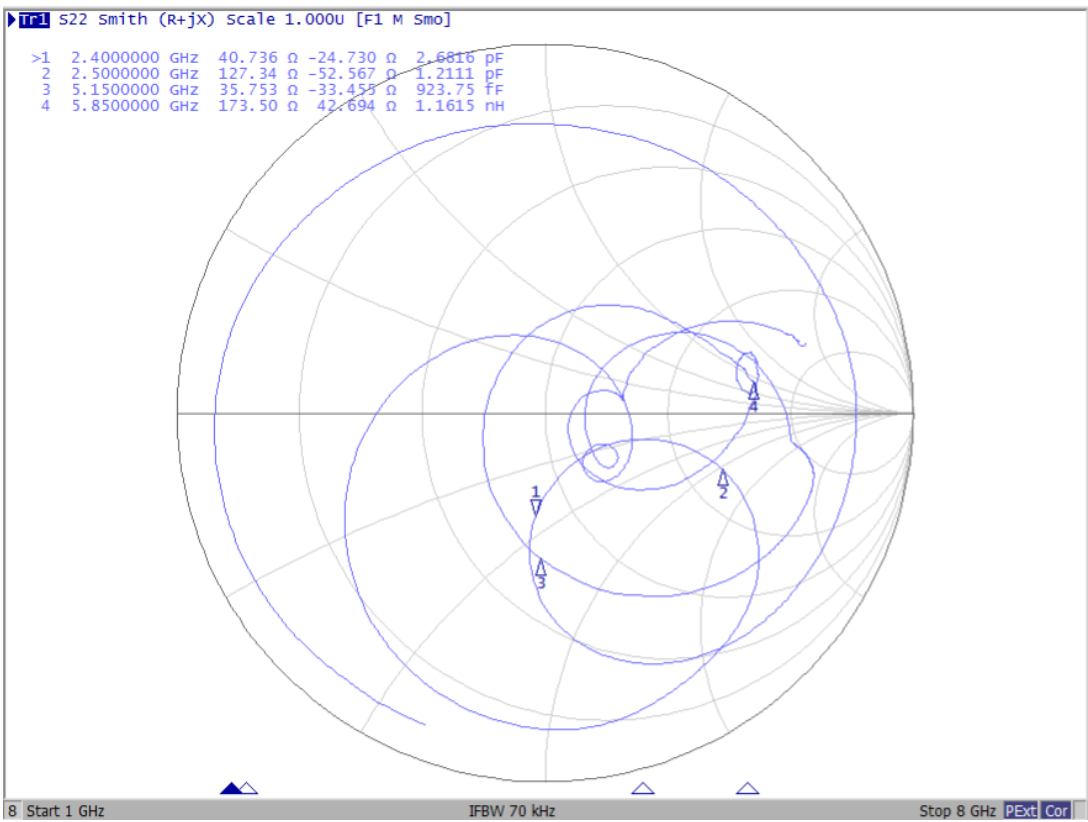
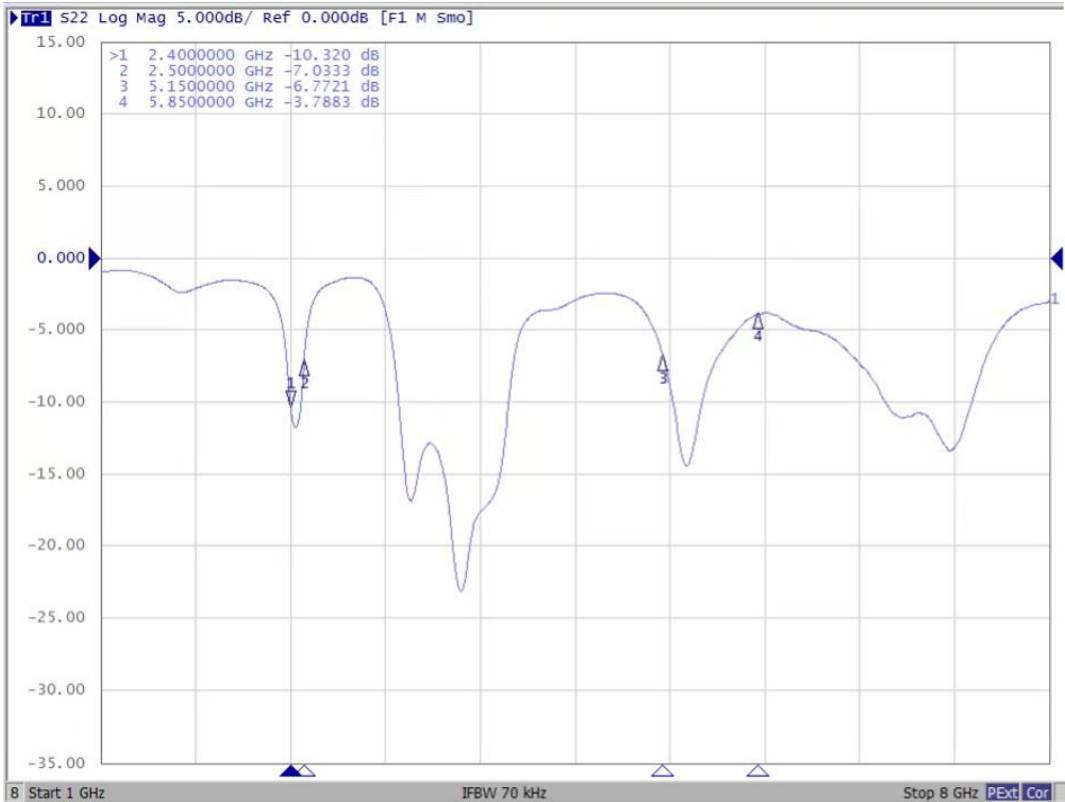
2.2.2 TRP

11b 11M				
CH	CH1	CH6	CH11	
Frequency (MHz)	2412	2437	2462	
TRP	14.5	14.5	14.3	
11a 6M				
CH	CH36	CH48	CH149	CH165
Frequency (MHz)	5180	5240	5745	5805
TRP	12.0	11.5	11.3	11.6

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3 Plots

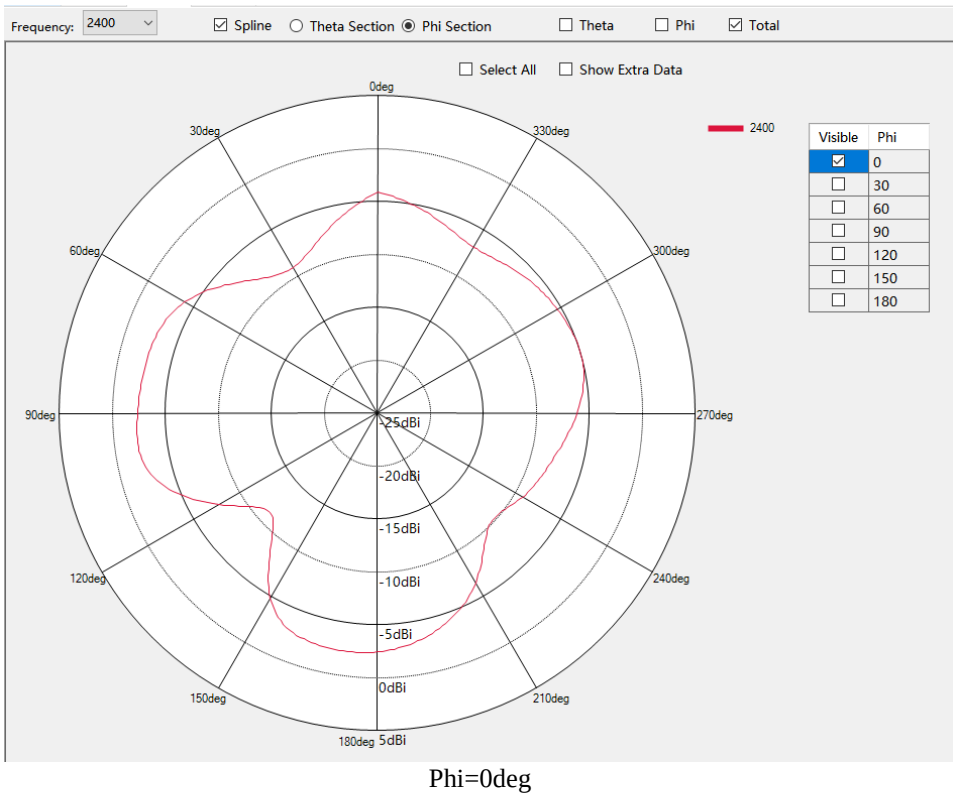
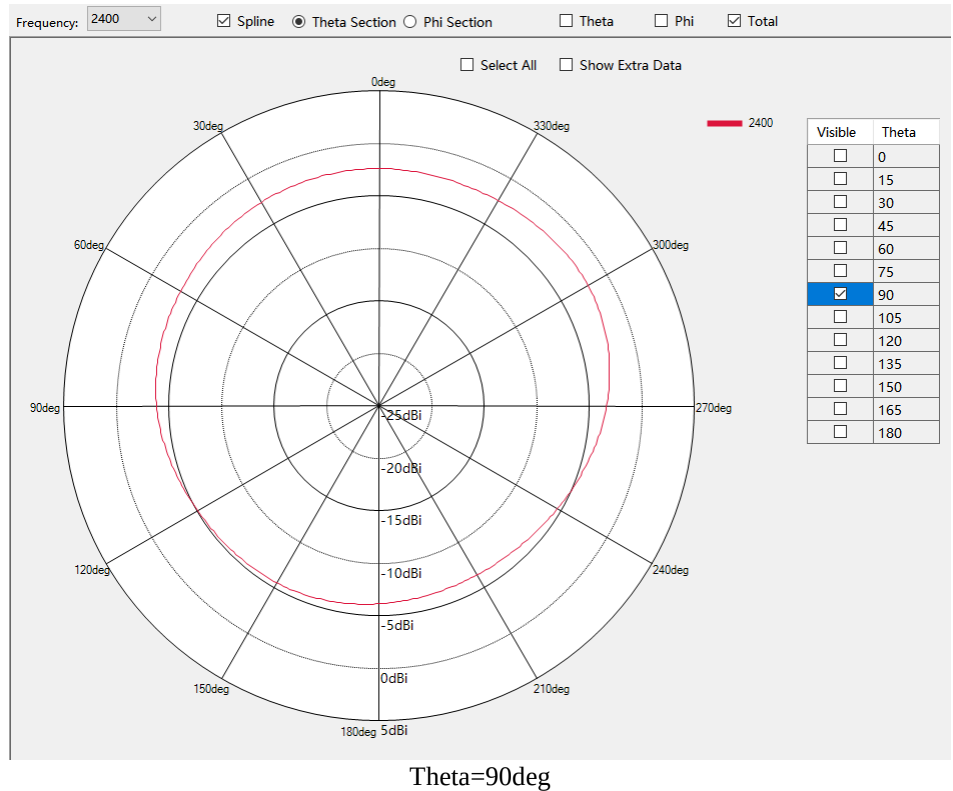
3.1 Return loss and Smith Chart



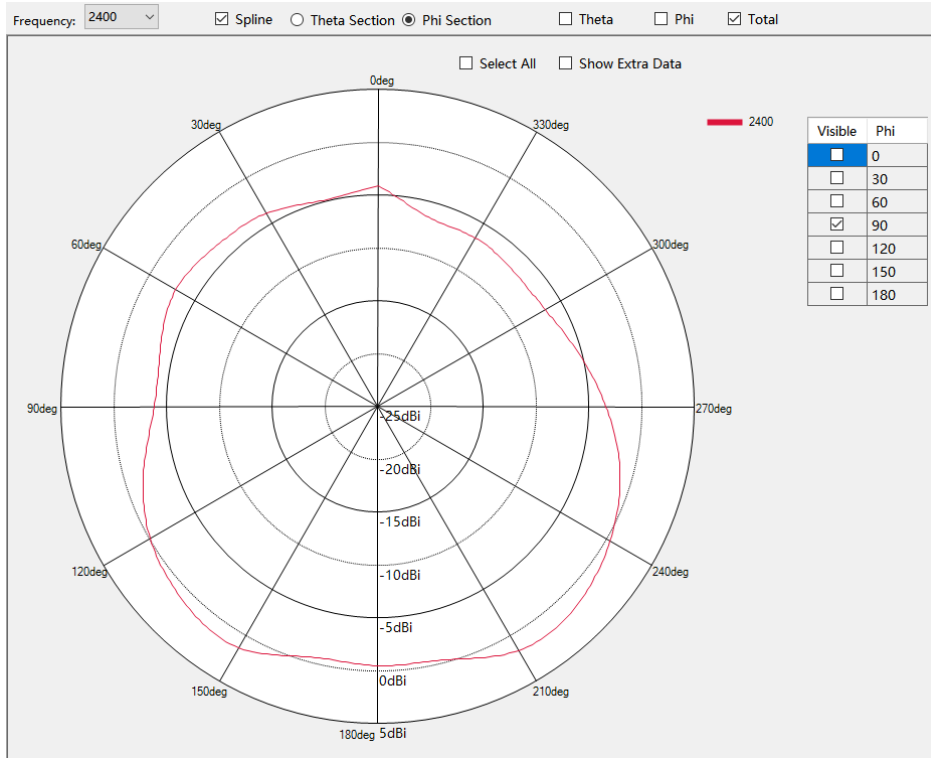
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3.2 ANTENNA RADIATION PERFORMANCE

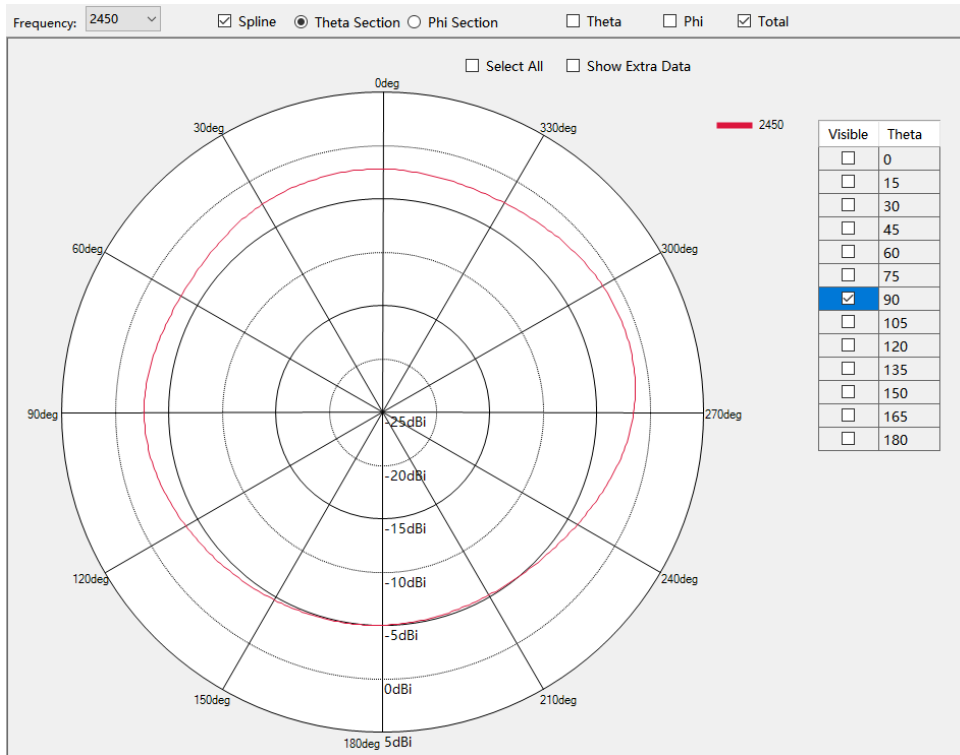
2400MHz



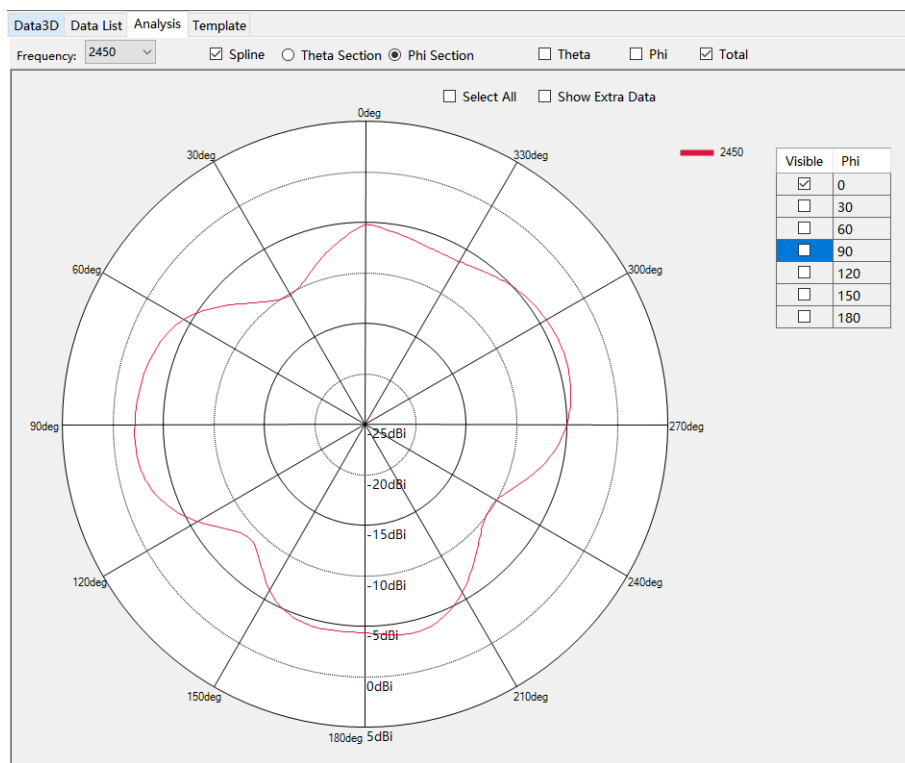
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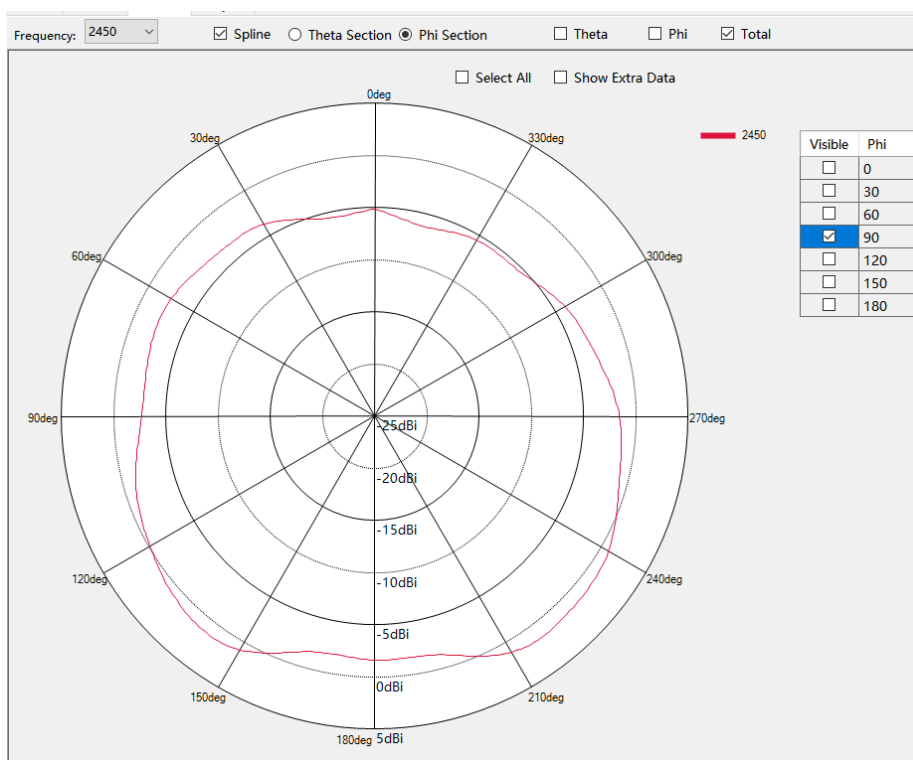
2450MHz



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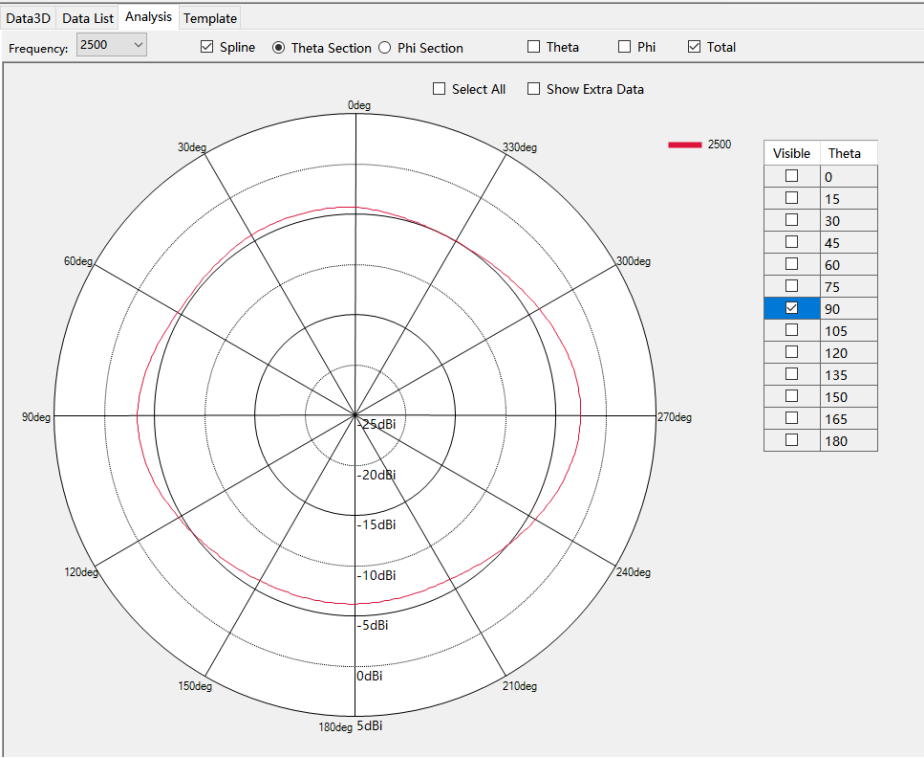
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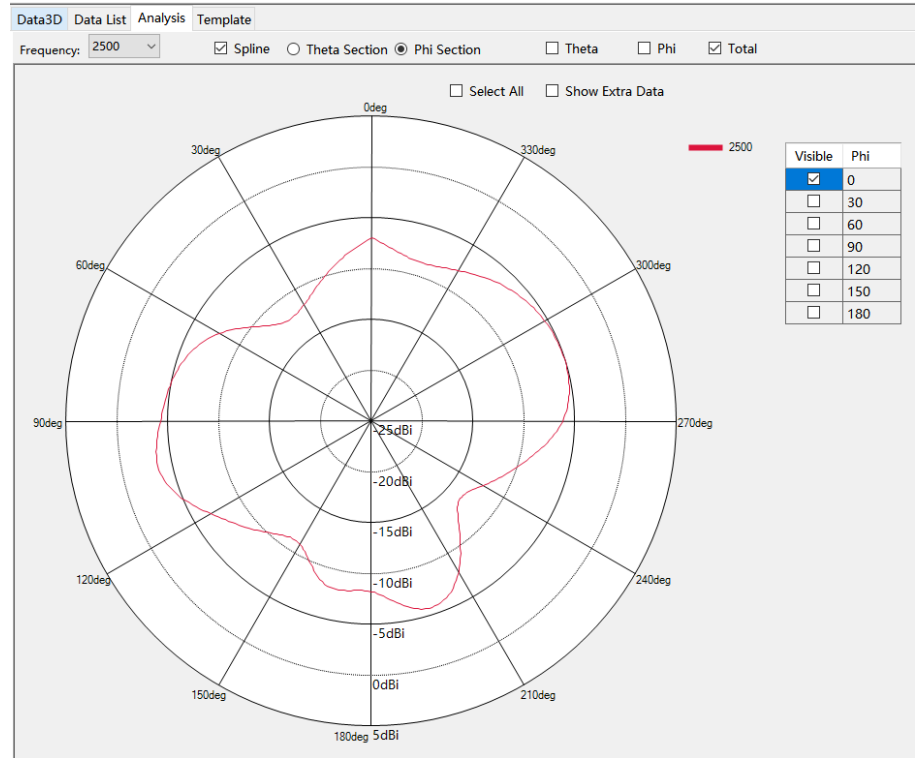
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2500MHz

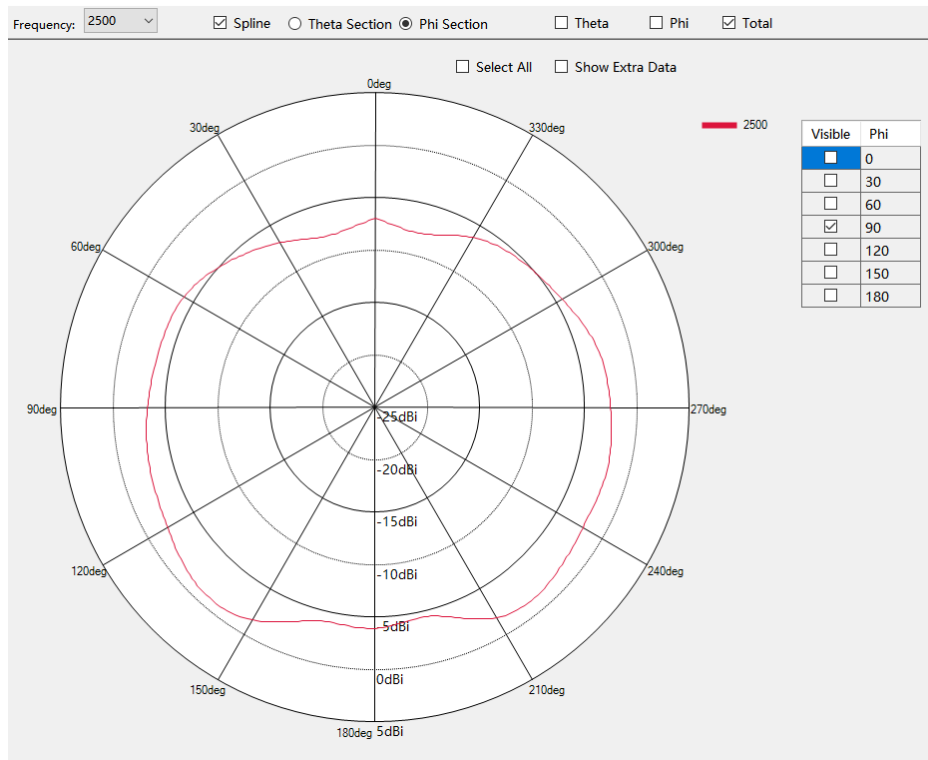


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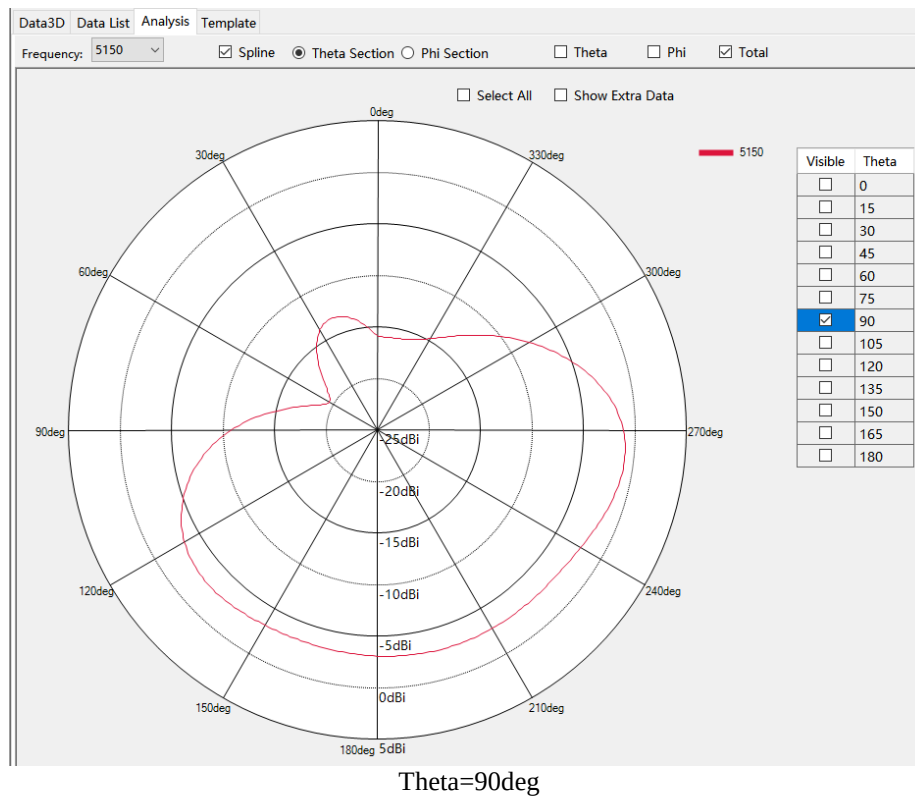


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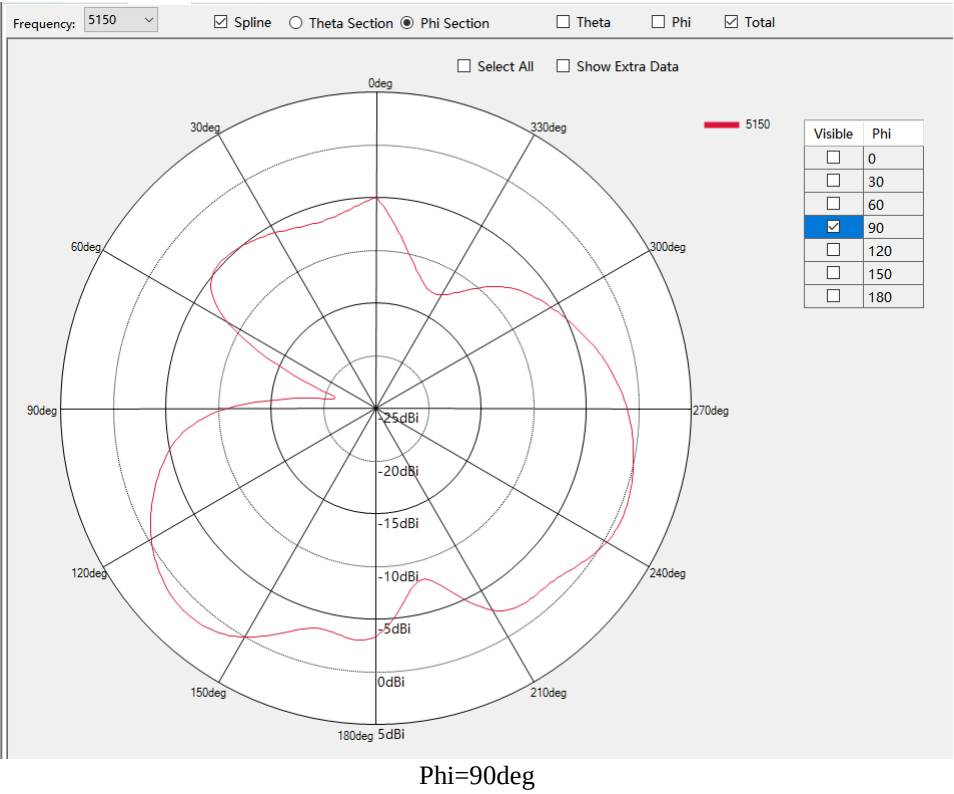
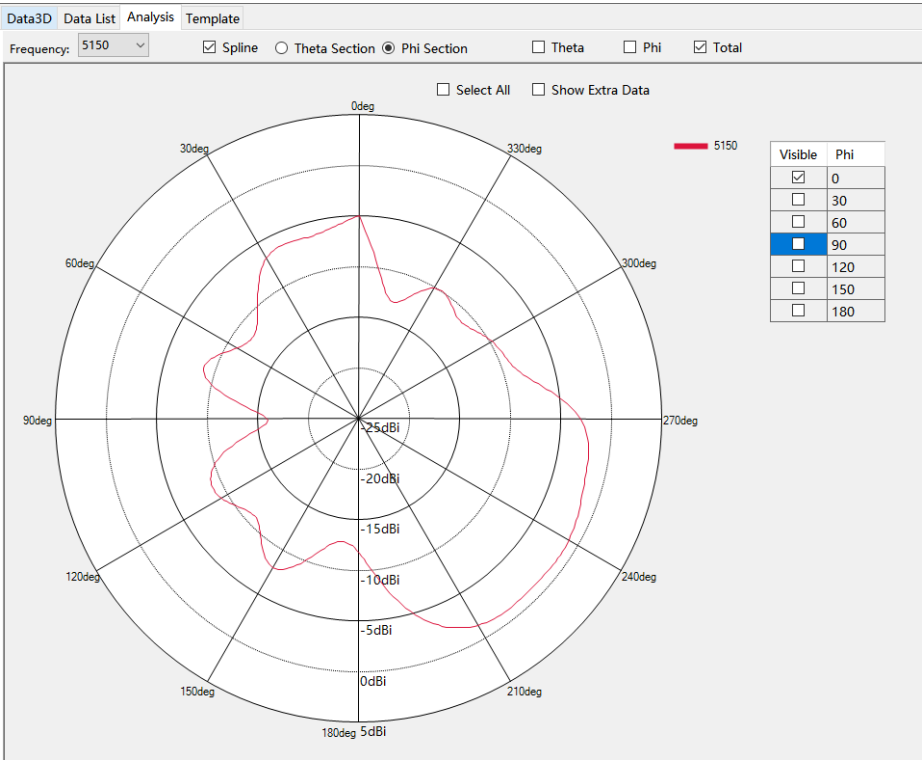
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5150MHz

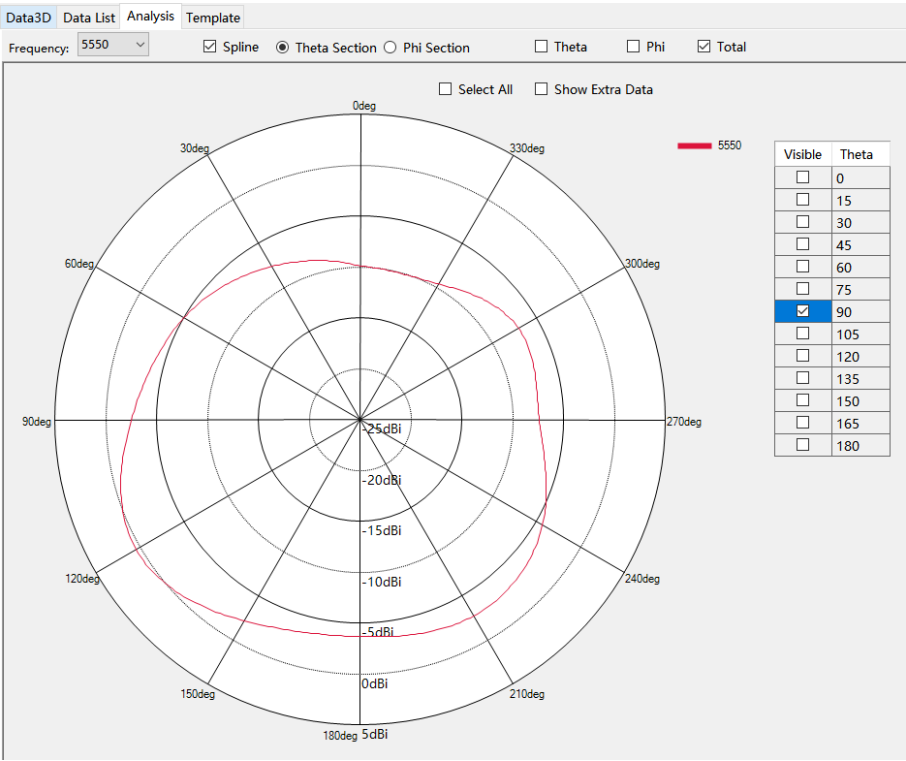


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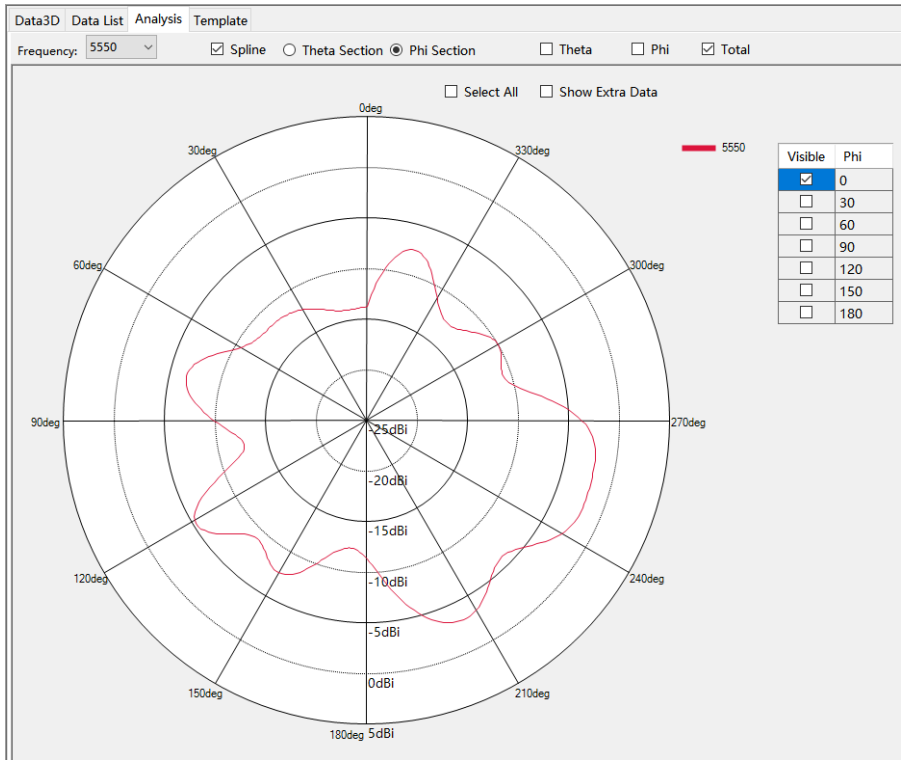


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5550MHz

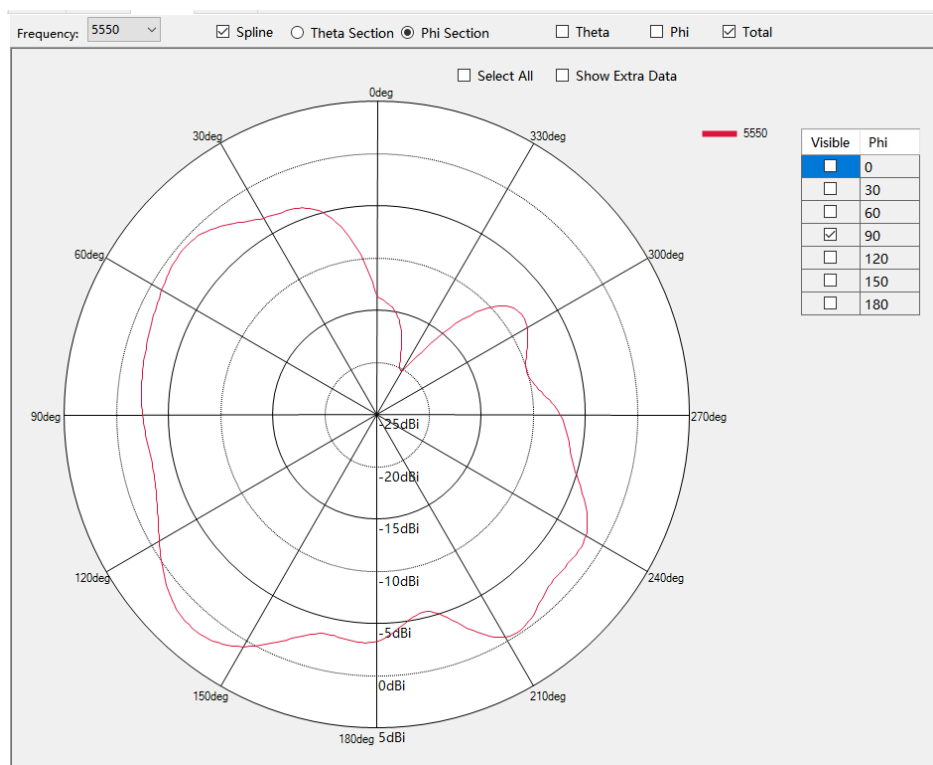


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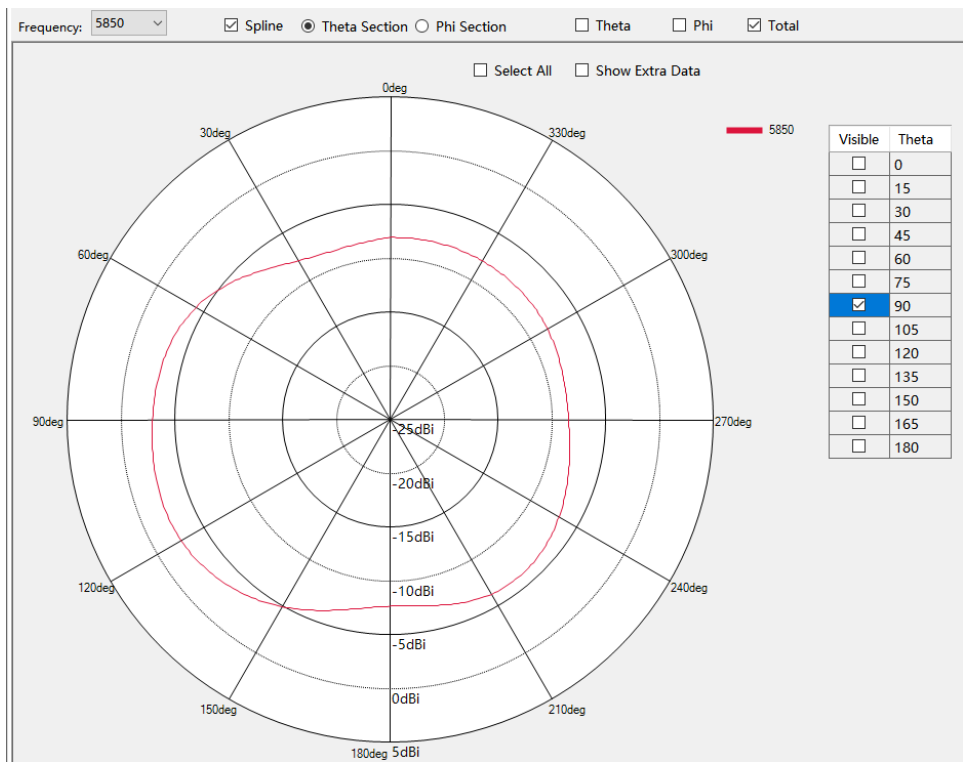
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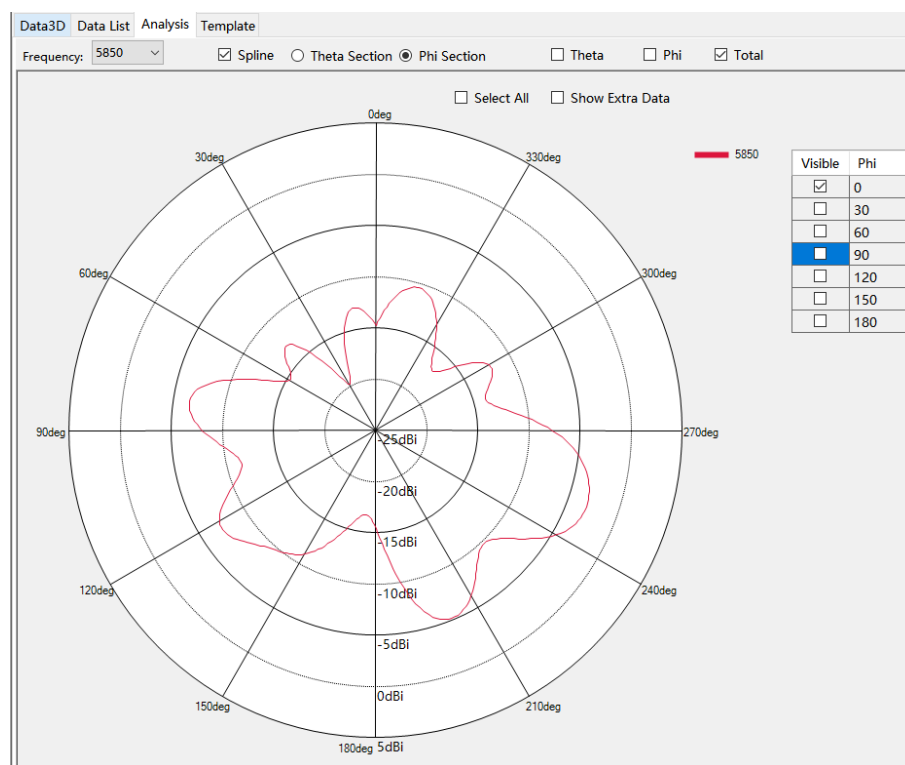
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5850MHz

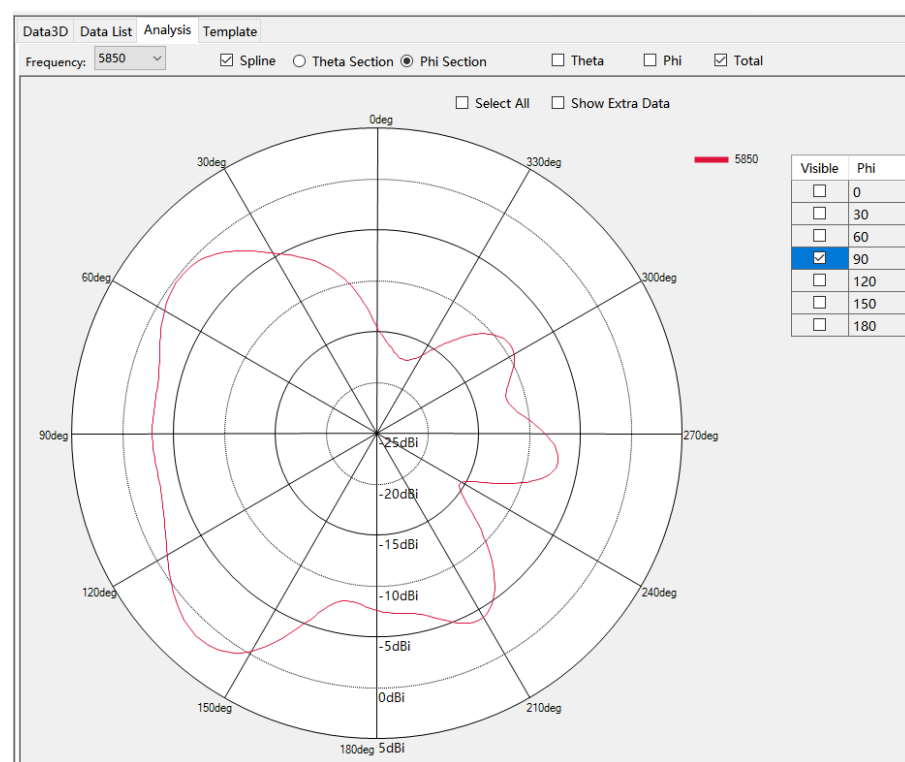


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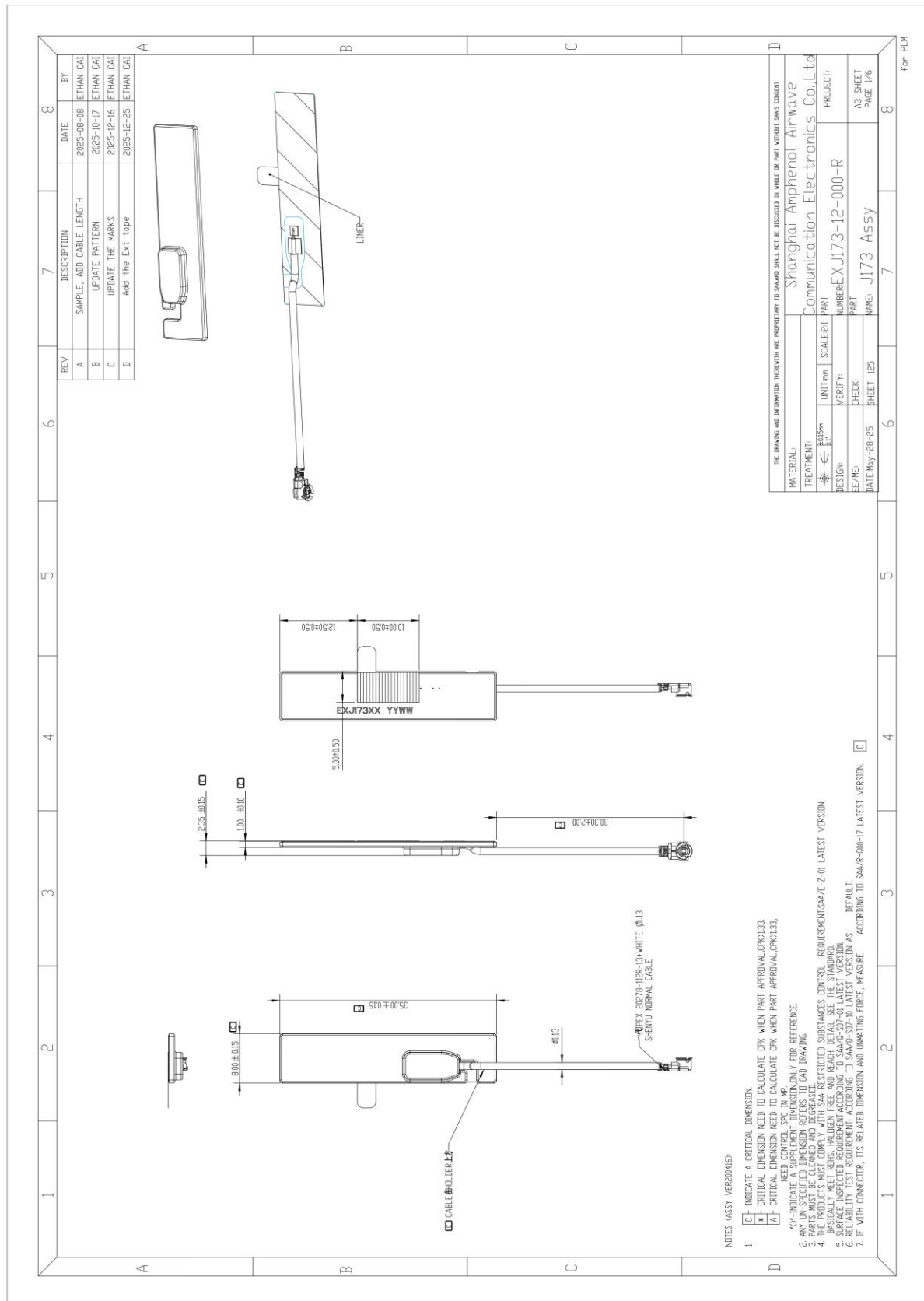
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Phi=90deg

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4.1 Drawings



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