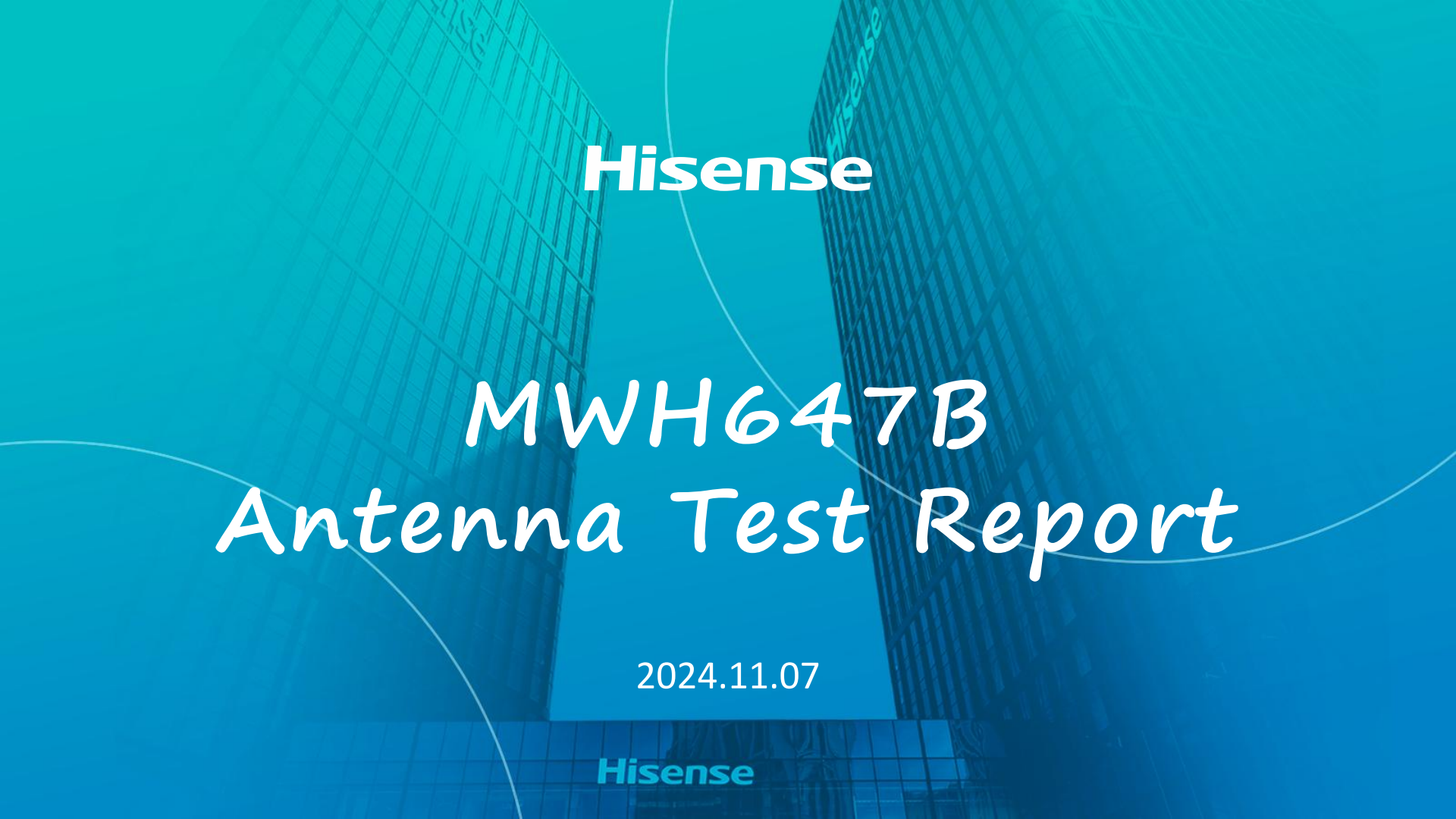




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MWH647B
Antenna Test Report

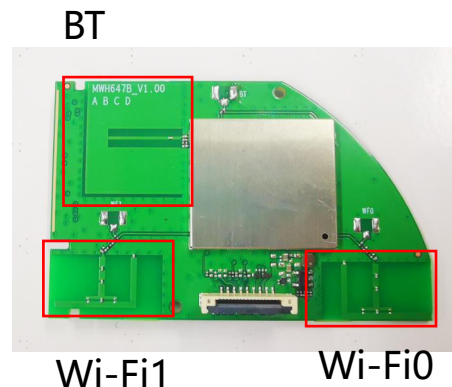
2024.11.07

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Wi-Fi0	
Antenna Type	Inverted F Antenna
Input impedance	50Ω
Frequency Band	2.4~2.5GHz/5.15~5.85GHz
Return Loss	2.4GHz~2.5GHz: S11≤-11dB 5.15GHz~5.85GHz: S11≤-8dB.
Peak Gain	4.03dBi@2.4~2.5GHz , 4.40dBi@5.15~5.85GHz
Efficiency	2.4~2.5GHz≥60%(Avg) , 5.15~5.85GHz≥50%(Avg)

Wi-Fi1	
Antenna Type	Inverted F Antenna
Input impedance	50Ω
Frequency Band	2.4~2.5GHz/5.15~5.85GHz
Return Loss	2.4GHz~2.5GHz: S11≤-11dB 5.15GHz~5.85GHz: S11≤-8dB.
Peak Gain	3.03dBi@2.4~2.5GHz , 3.53dBi@5.15~5.85GHz
Efficiency	2.4~2.5GHz≥65%(Avg) , 5.15~5.85GHz≥45%(Avg)

BT	
Antenna Type	Loop Antenna
Input impedance	50Ω
Frequency Band	2.4~2.5GHz
Return Loss	2.4GHz~2.5GHz: S11≤-4dB
Peak Gain	-6.13dBi@2.4~2.5GHz
Efficiency	2.4~2.5GHz≥7%(Avg)



Wi-Fi0	CH	Gain/dBi	Efficiency/%
2.4G	L	4.03	61
	M	3.98	61
	H	3.83	60
5G	L	2.41	43
	M	3.77	55
	H	4.4	61

Wi-Fi1	CH	Gain/dBi	Efficiency/%
2.4G	L	3.03	69
	M	2.91	66
	H	2.67	62
5G	L	0.64	32
	M	2.02	46
	H	3.53	66

BT	CH	Gain/dBi	Efficiency/%
2.4G	L	-11.49	5
	M	-7.95	6
	H	-6.13	9

ANT Directivity Pattern

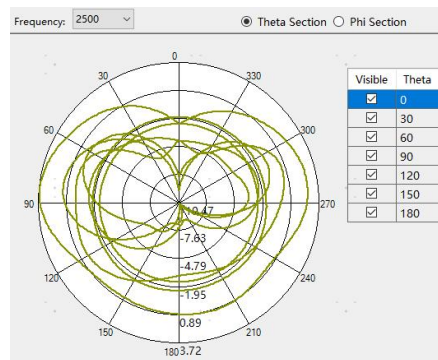
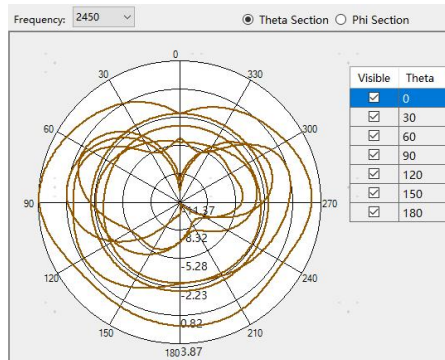
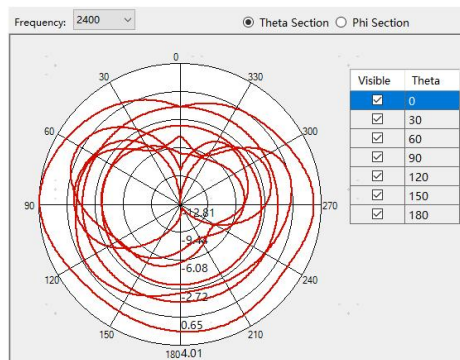
Hisense

Wi-Fi0 2.4G: L Band

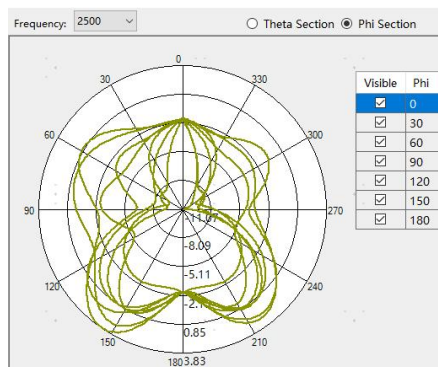
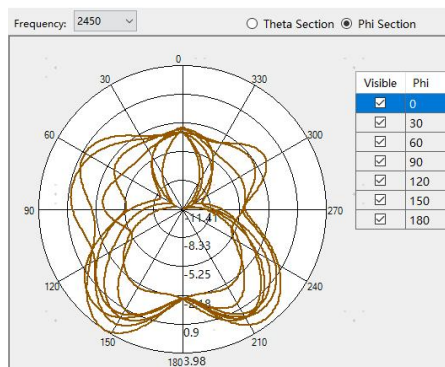
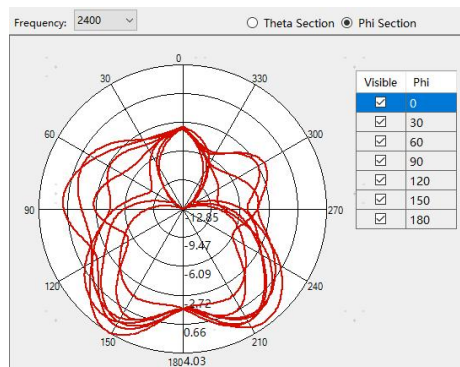
M Band

H Band

Theta
Section



Phi
Section



ANT Directivity Pattern

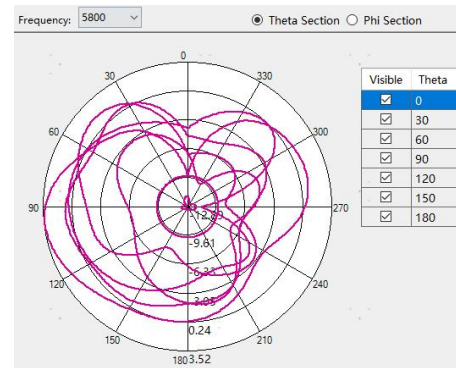
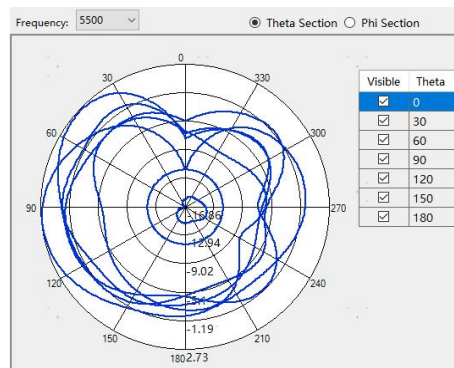
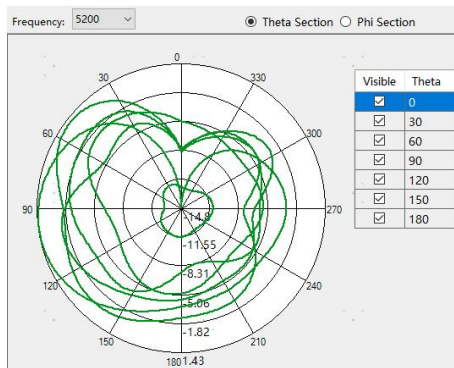
Hisense

Wi-Fi0 5G: L Band

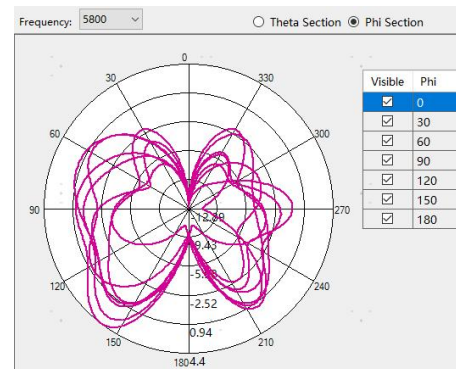
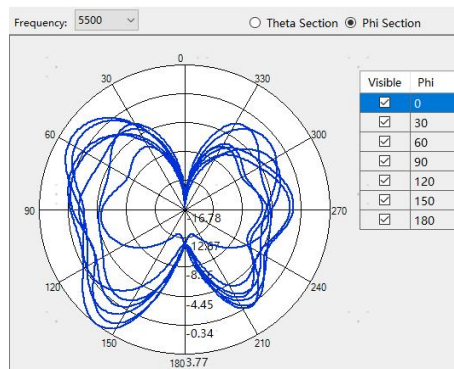
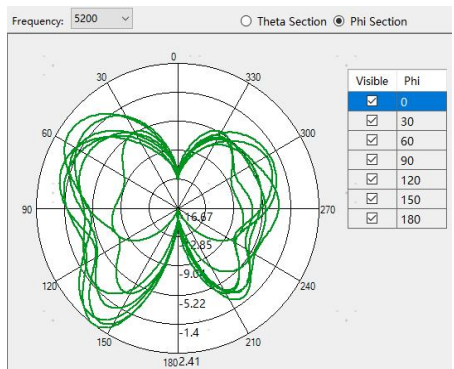
M Band

H Band

Theta
Section



Phi
Section



ANT Directivity Pattern

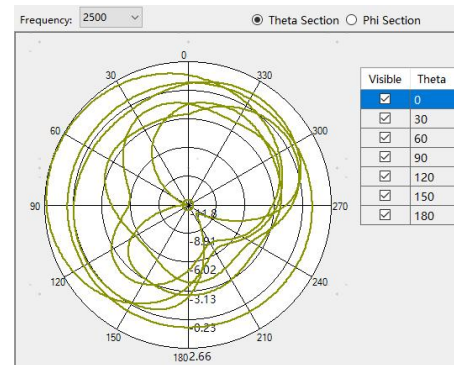
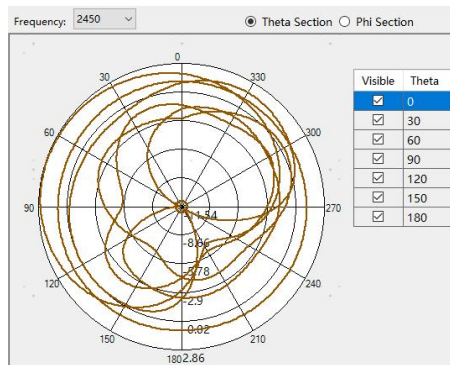
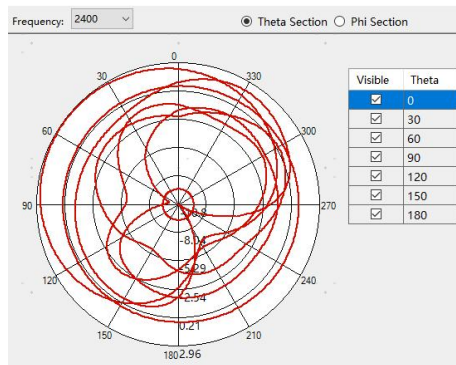
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Wi-Fi1 2.4G: L Band

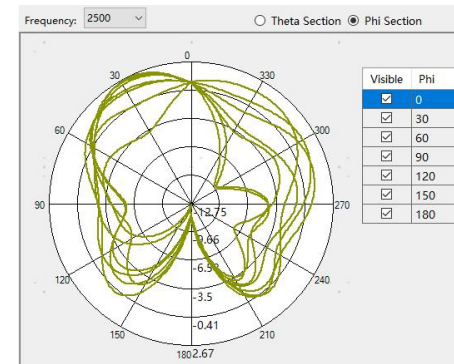
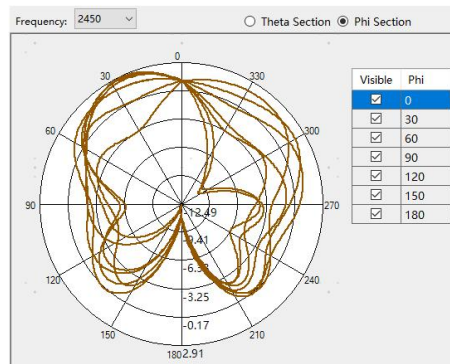
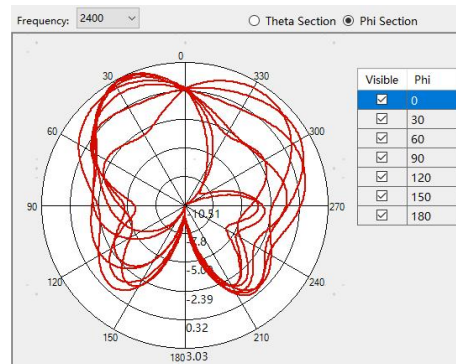
M Band

H Band

Theta
Section



Phi
Section



ANT Directivity Pattern

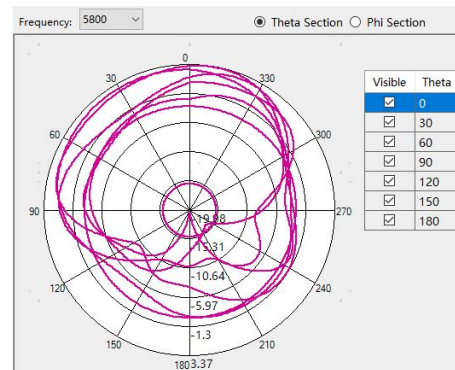
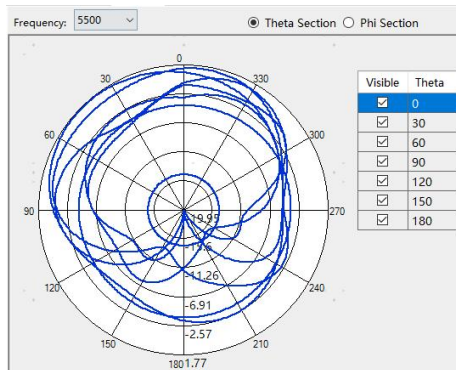
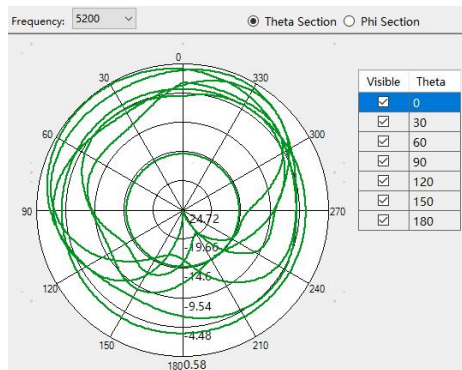
Hisense

Wi-Fi1 5G: L Band

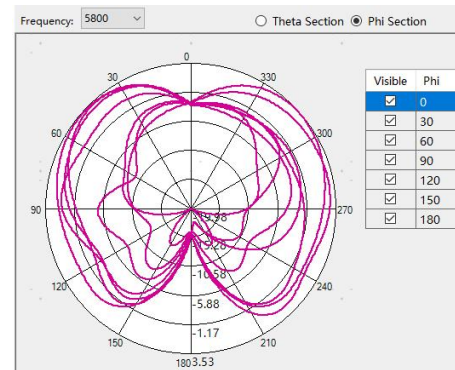
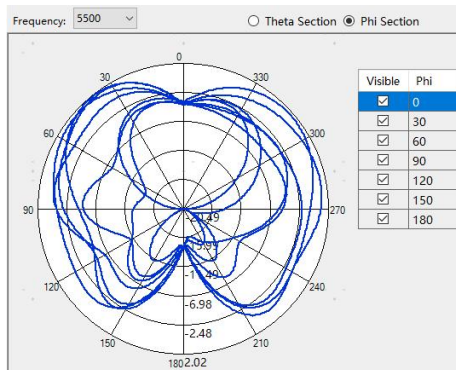
M Band

H Band

Theta
Section



Phi
Section



ANT Directivity Pattern

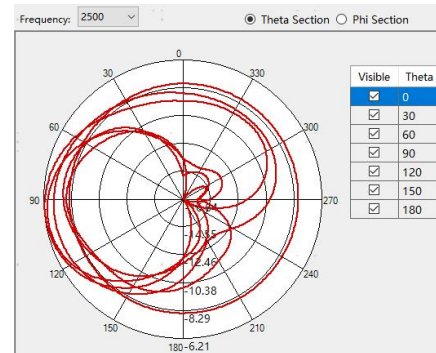
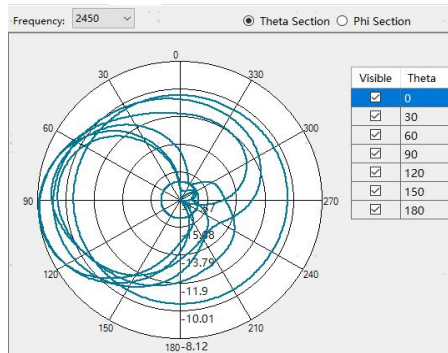
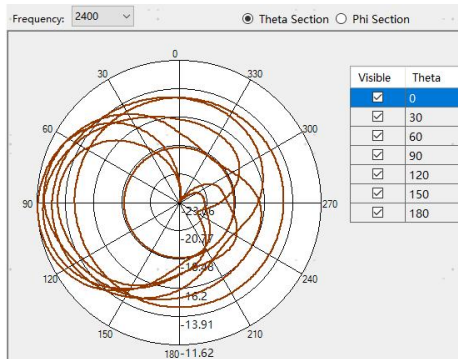
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BT 2.4G: L Band

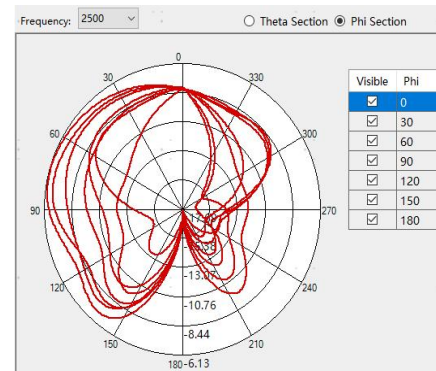
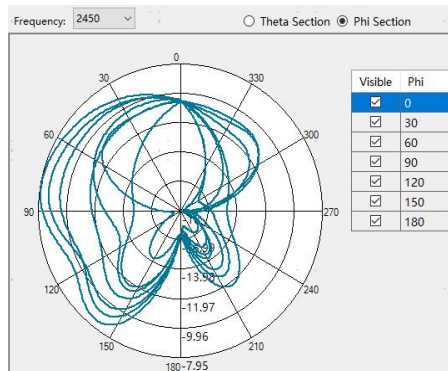
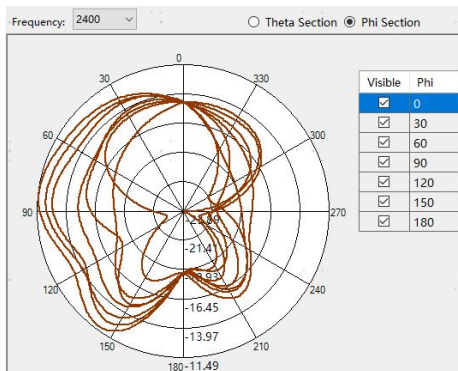
M Band

H Band

Theta
Section



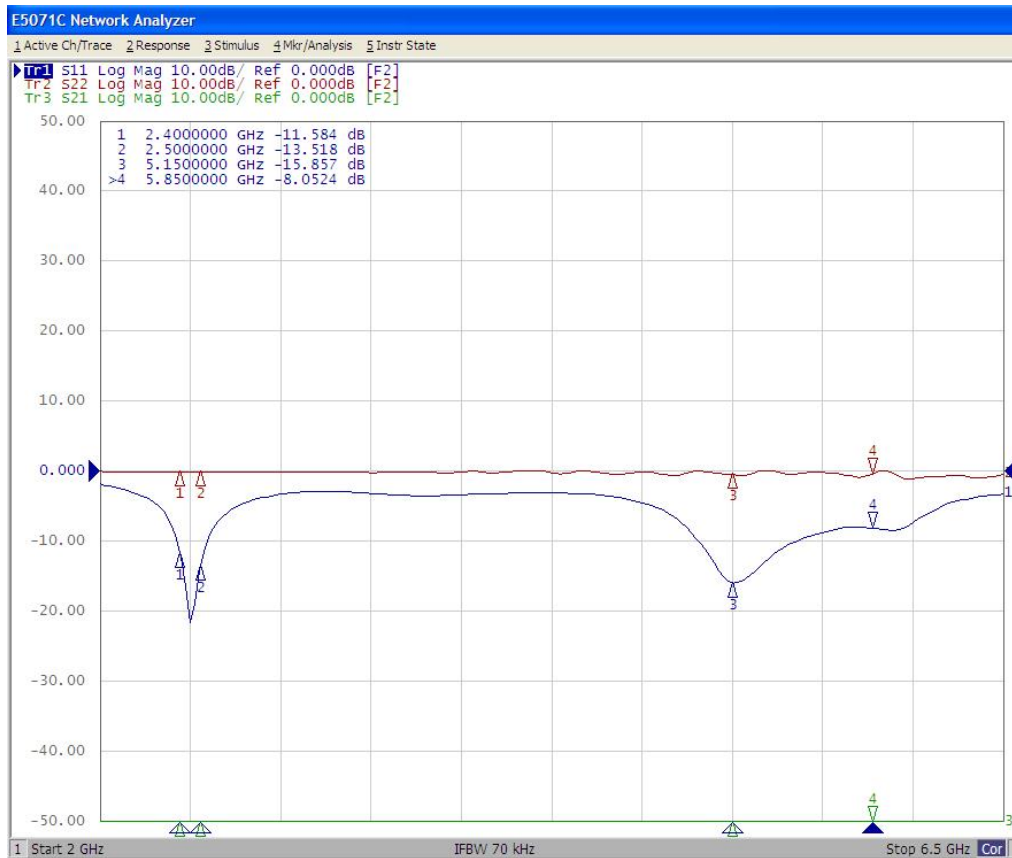
Phi
Section



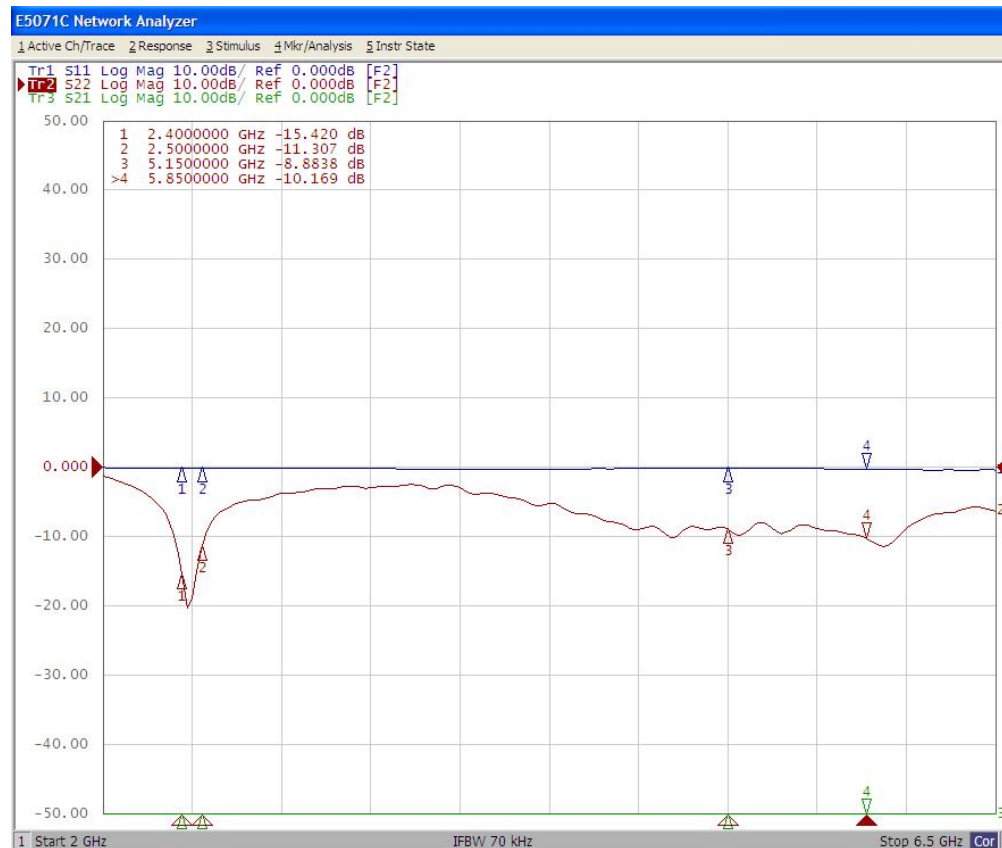
Wi-Fi0 Antenna

2.4-2.5GHz: $S_{11} < -11\text{dB}$

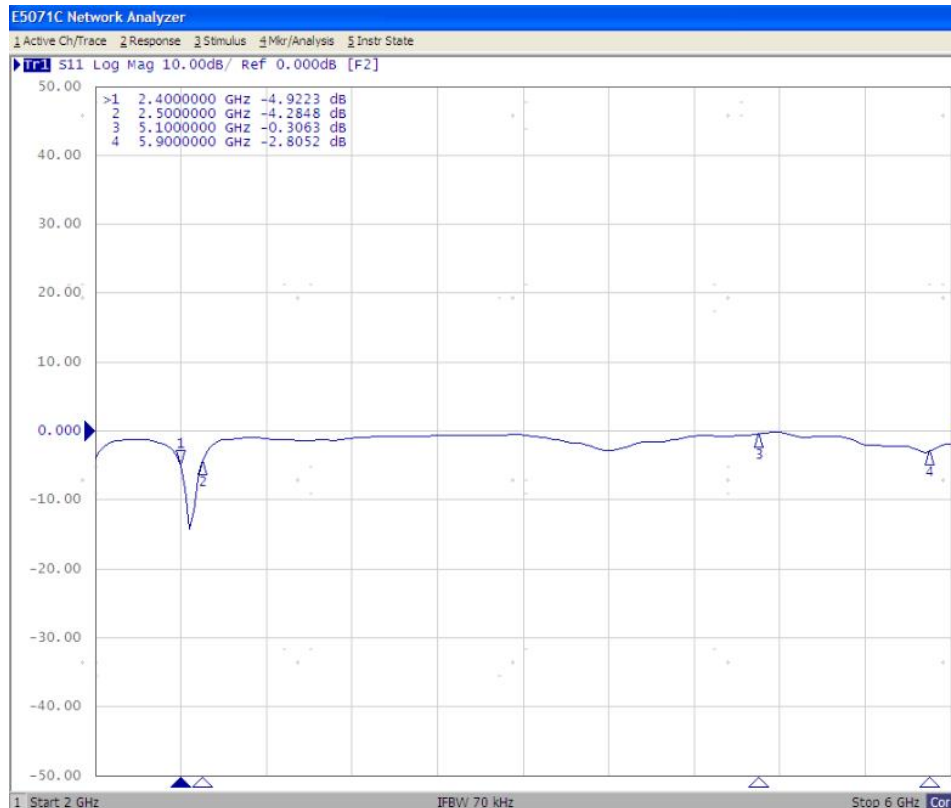
5.15-5.85GHz: $S_{11} < -8\text{dB}$



Wi-Fi1 Antenna
2.4-2.5GHz: S11 < -11dB
5.15-5.85GHz: S11 < -8dB



BT Antenna
2.4-2.5GHz: $S_{11} < -4\text{dB}$



Isolation between
Wi-Fi0 and Wi-Fi1

2.4-2.5G:

Low band: -22dB

Middle band: -25dB

High band: -26dB

5.15-5.85G:

Low band: -47dB

Middle band: -40dB

High band: -37dB



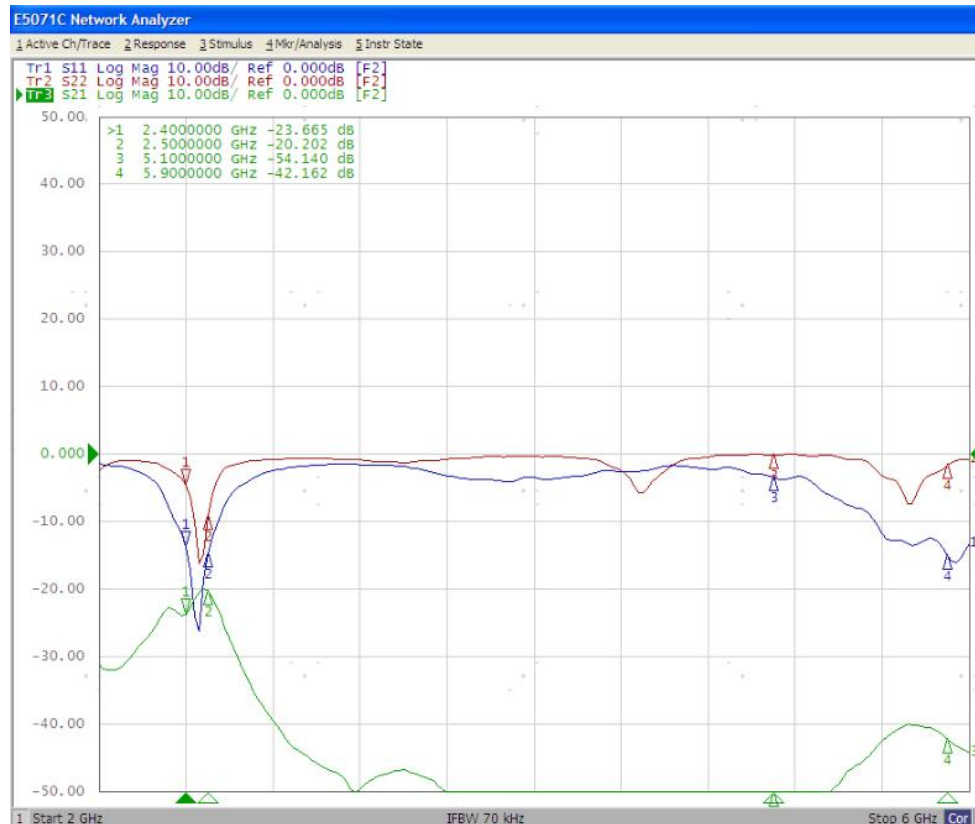
Isolation between
Wi-Fi0 and BT

2.4-2.5G:

Low band: -23dB

Middle band:-21dB

High band:-20dB



Isolation between
Wi-Fi1 and BT

2.4-2.5G:

Low band: -24dB

Middle band:-23dB

High band:-22dB



- **Manufacturer:** Qingdao Intelligent & Precise Electronics Co., Ltd.
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Qingdao Economic and Technological Development Zone,
Shandong Province,
CHINA
- **Contact:** Jin-hui Zhai
- **Email:** zhaijinhui@hisense.com

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谢 谢