Hisense

MWH647B
Antenna Test Report

2024.11.07

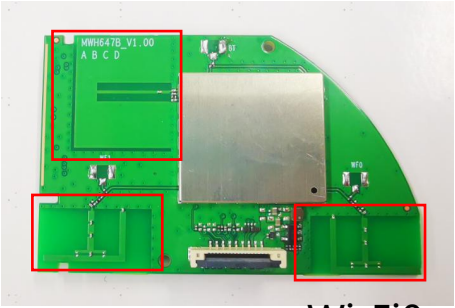
ANT Property

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)

BT



Wi-Fi1 Wi-Fi0

ANT Efficiency

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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

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

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

ANT Directivity Pattern

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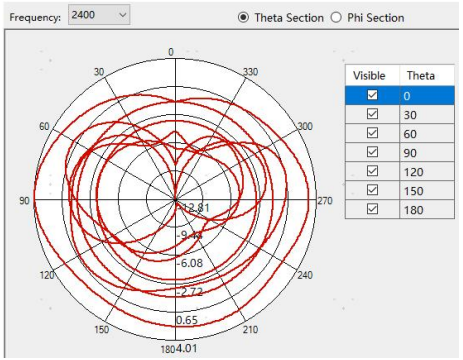
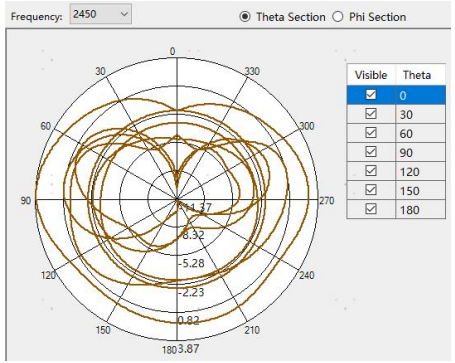
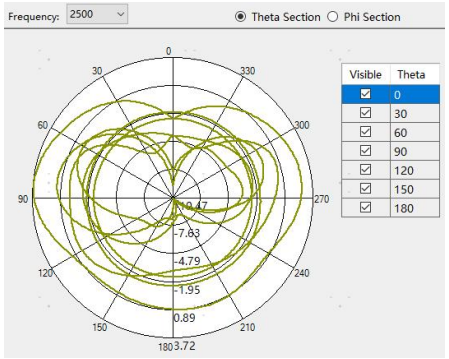
Wi-Fi0 2.4G: L Band M Band H Band

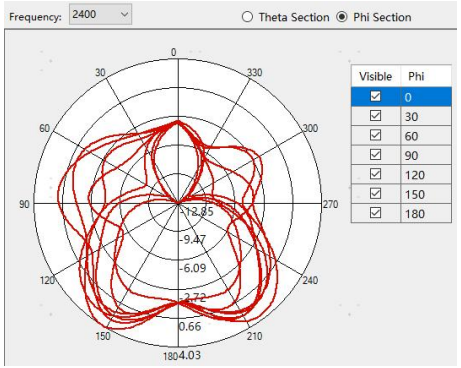
Theta Section

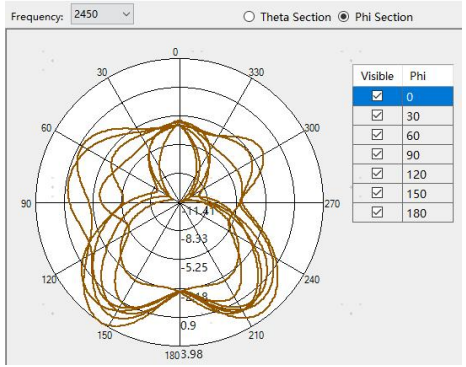


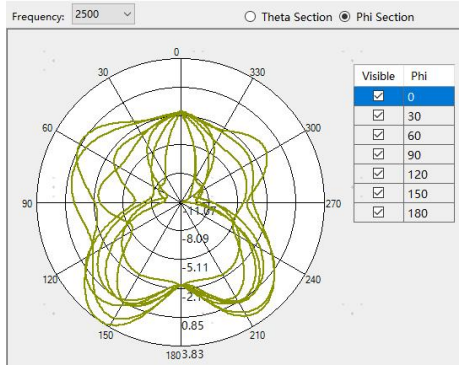




Phi Section







ANT Directivity Pattern

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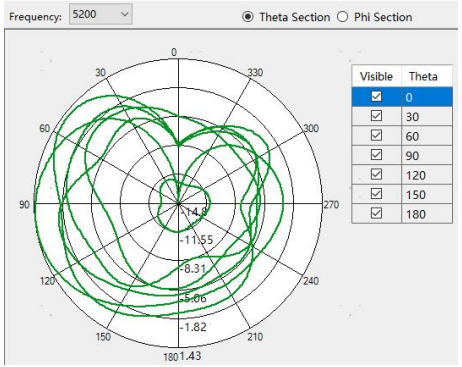
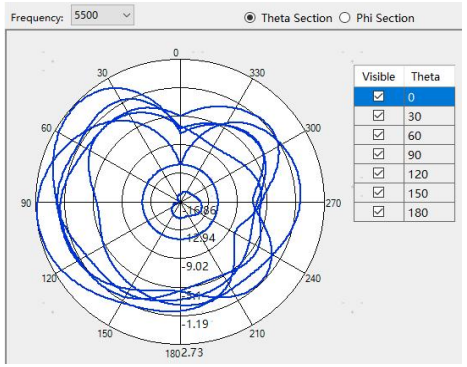
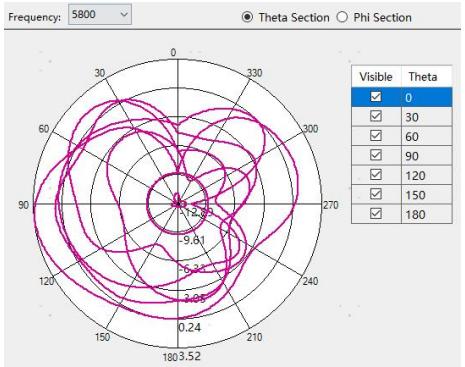
Wi-Fi0 5G: L Band M Band H Band

Theta Section







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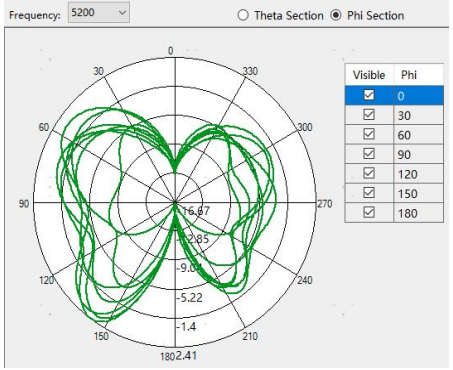

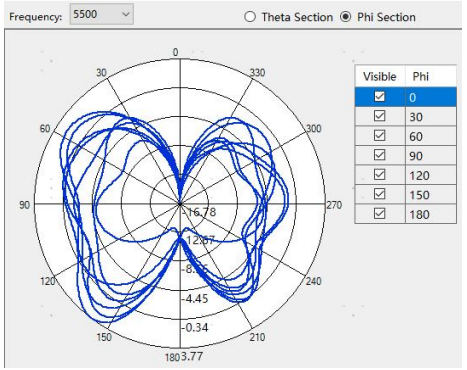

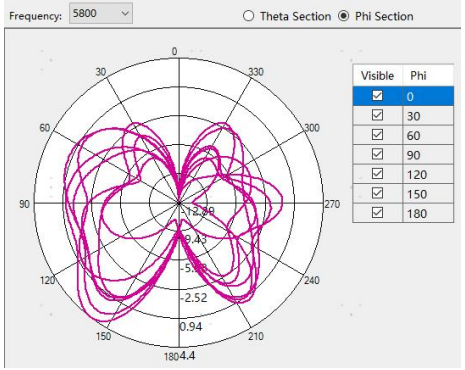

ANT Directivity Pattern

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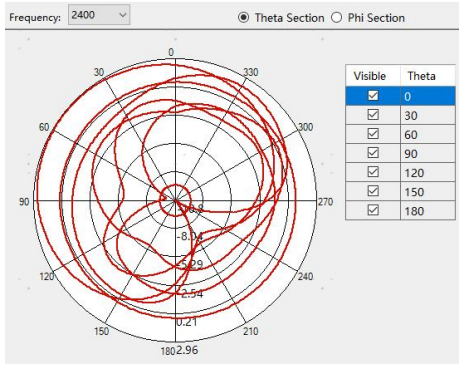
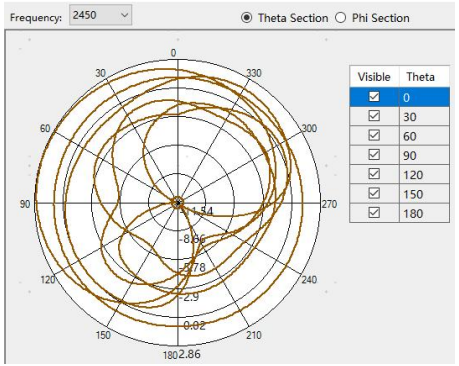
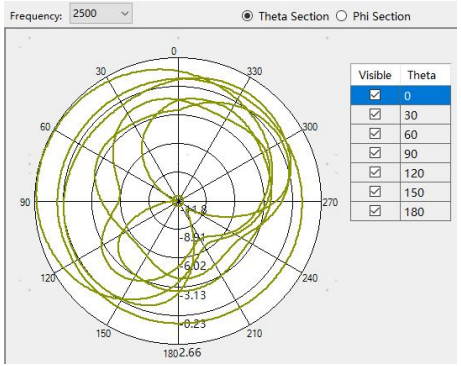
Wi-Fi1 2.4G: L Band M Band H Band

Theta Section







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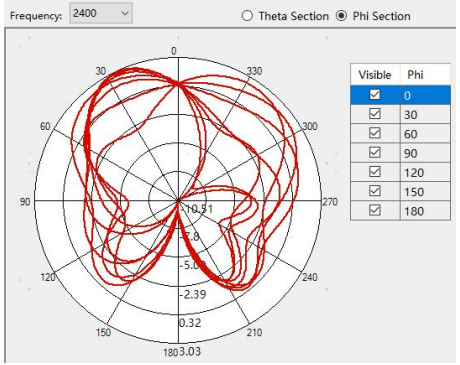

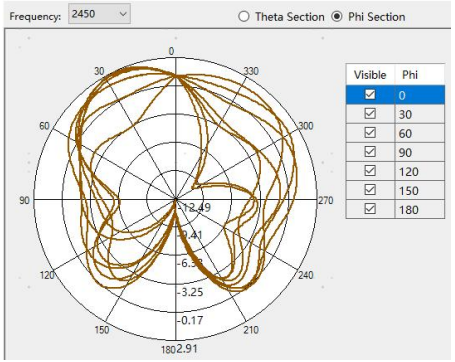

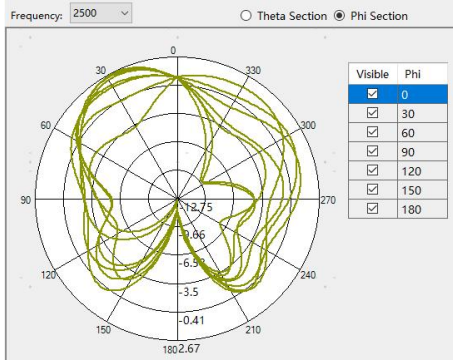

ANT Directivity Pattern

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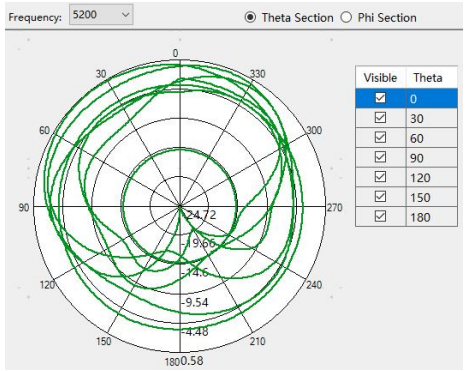
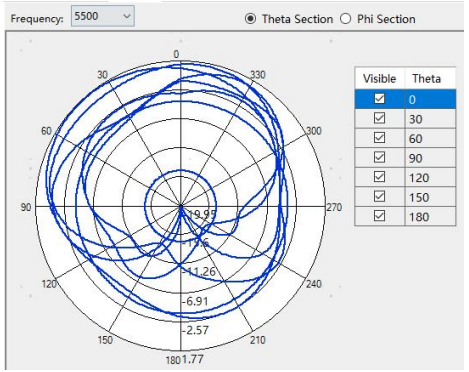
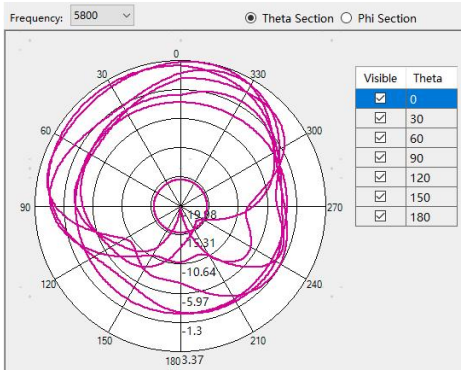
Wi-Fi1 5G: L Band M Band H Band

Theta Section







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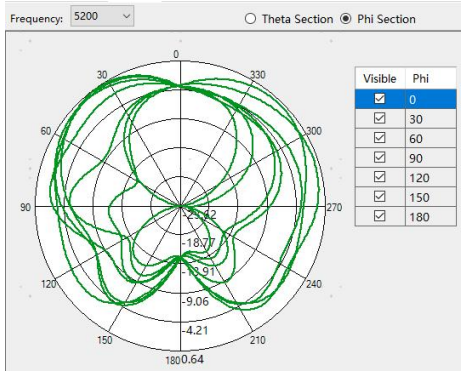
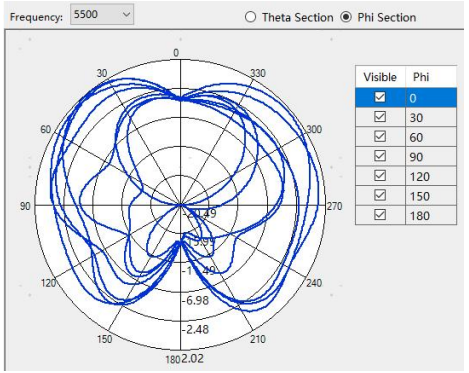
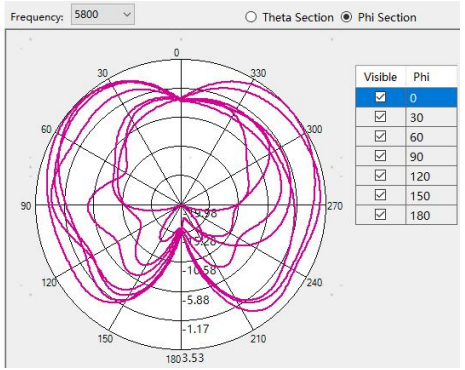


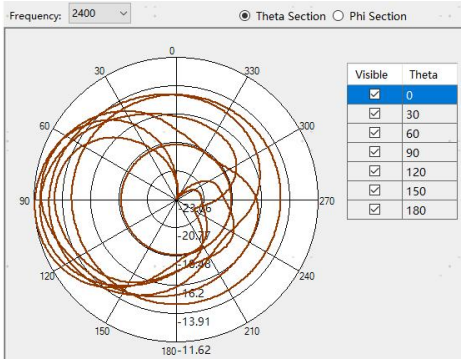


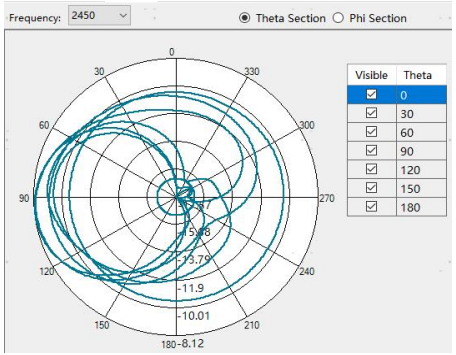


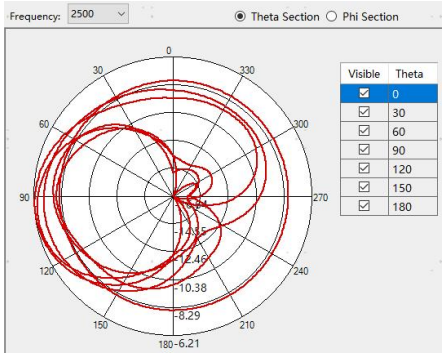
ANT Directivity Pattern

BT 2.4G: L Band M Band H Band

Theta Section







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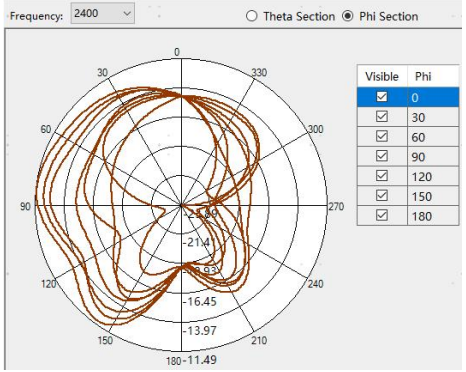
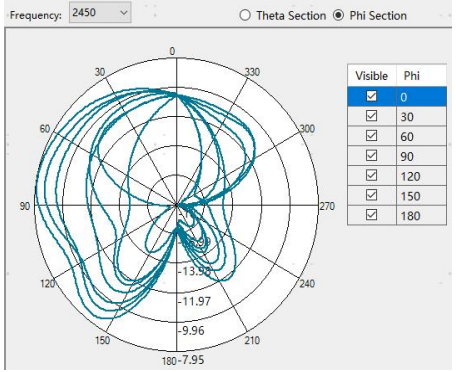
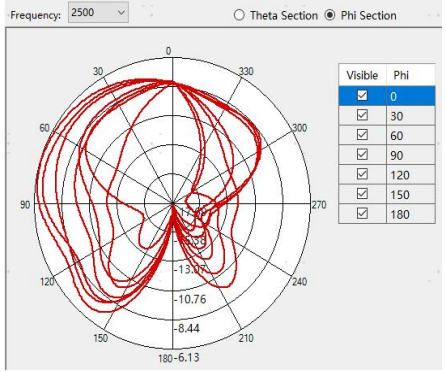
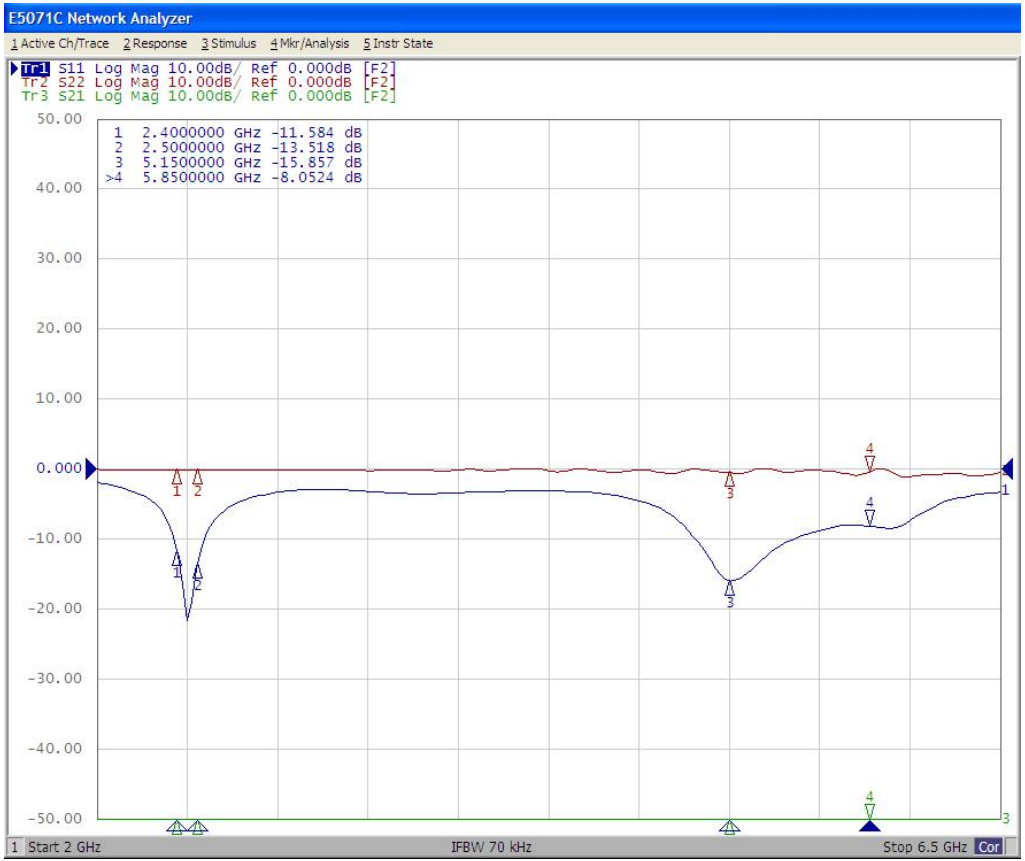






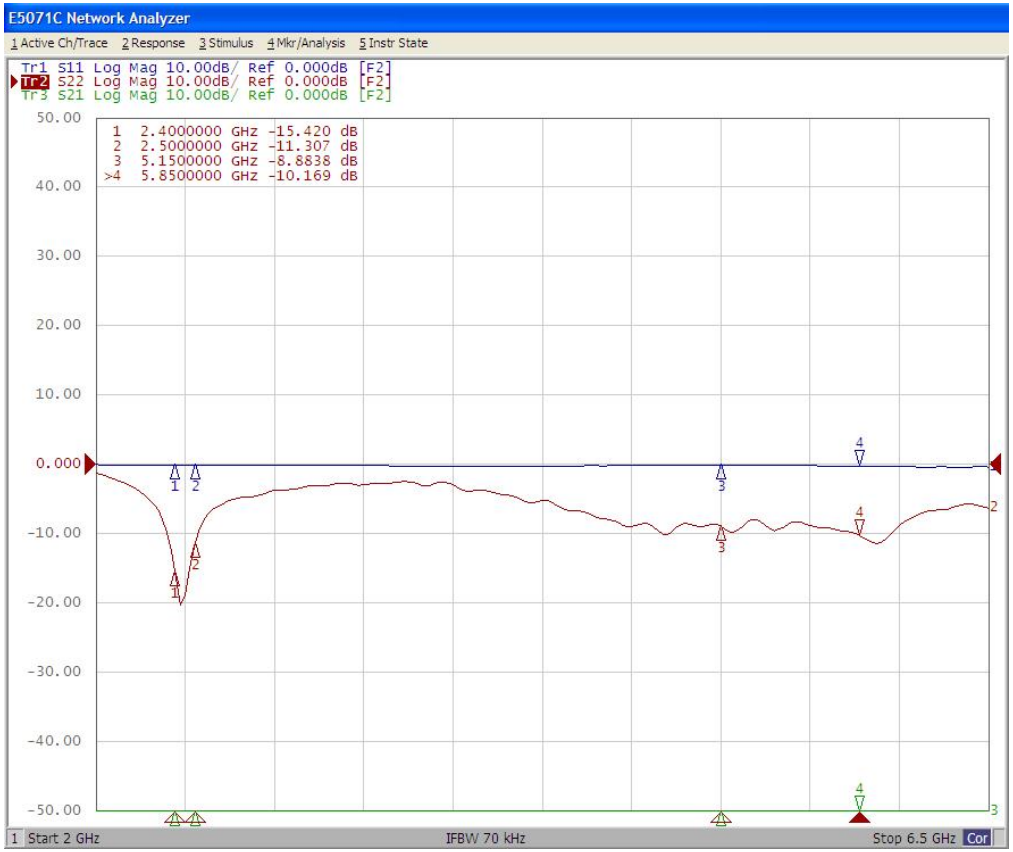
ANT Return Loss

Wi-Fi0 Antenna
2.4-2.5GHz: S11< -11dB
5.15-5.85GHz: S11 < -8dB



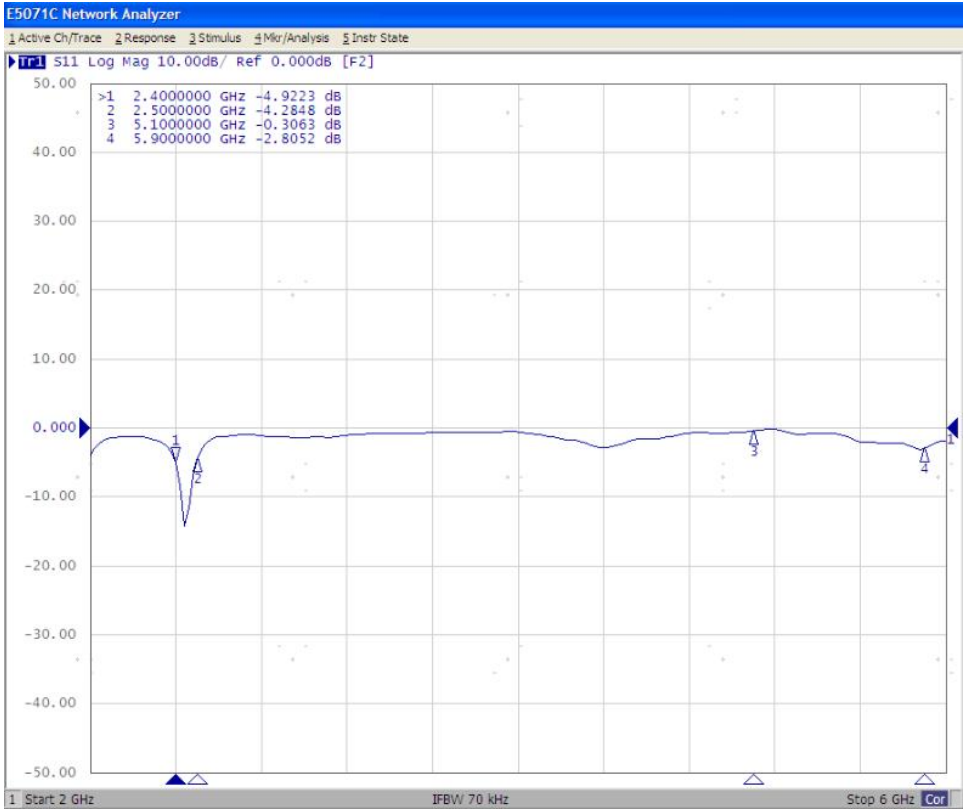
ANT Return Loss

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



ANT Return Loss

BT Antenna
2.4-2.5GHz: S11< -4dB



ANT Isolation

Isolation between
Wi-Fi0 and Wi-Fi1

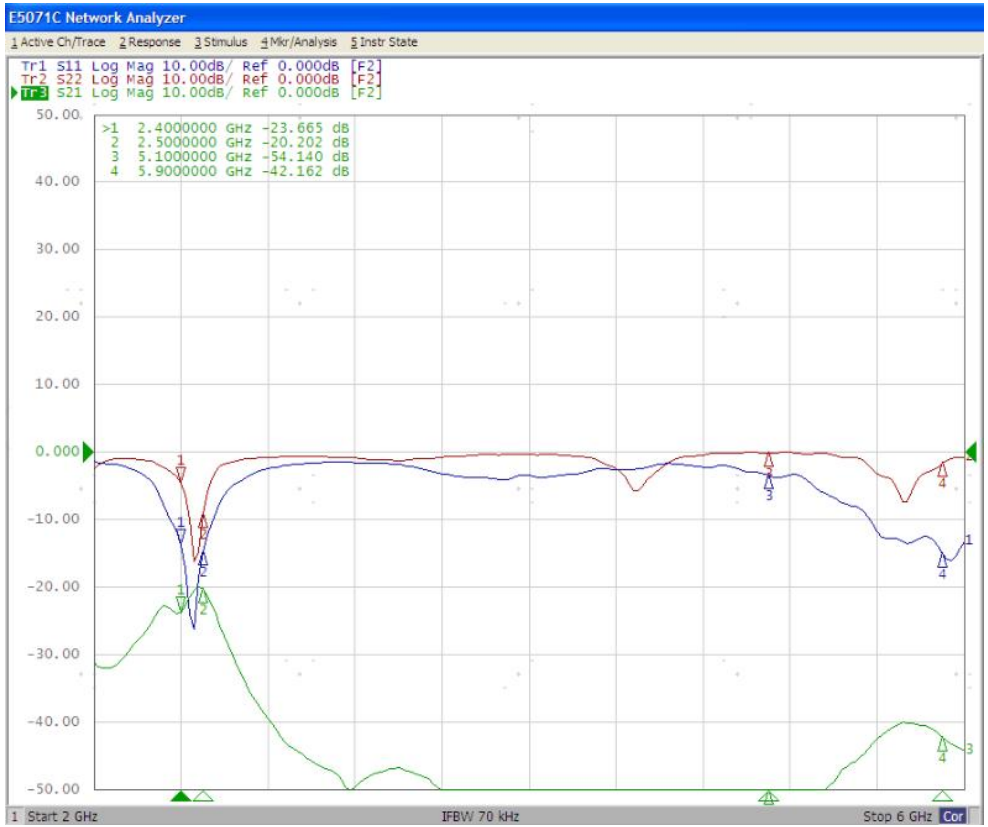
2.4-2.5G:
Low band: -22dB
Middle band:-25dB
High band:-26dB

5.15-5.85G:
Low band:-47dB
Middle band:-40dB
High band:-37dB

ANT Isolation

Isolation between
Wi-Fi0 and BT

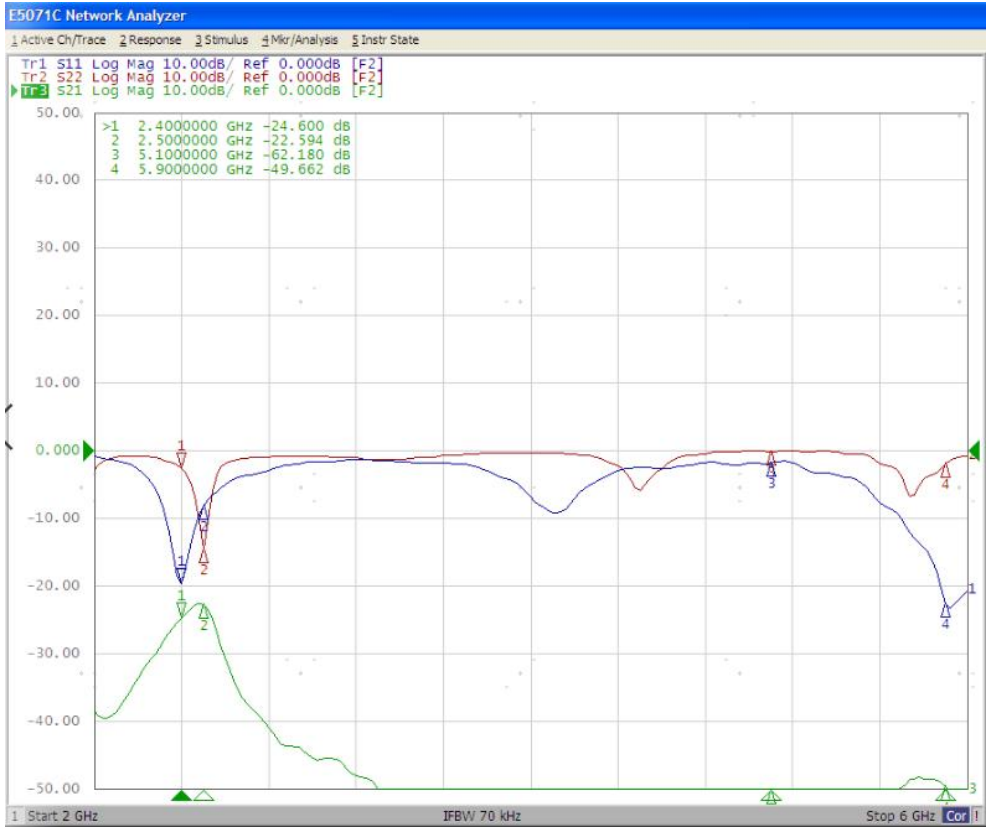
2.4-2.5G:
Low band: -23dB
Middle band:-21dB
High band:-20dB



ANT Isolation

Isolation between
Wi-Fi1 and BT

2.4-2.5G:
Low band: -24dB
Middle band:-23dB
High band:-22dB



ANT Manufacturer

Hisense

- **Manufacturer**: Qingdao Intelligent & Precise Electronics Co., Ltd.

- **Address**: Building 1, No. 218 Qianwangang Road,
  Qingdao Economic and Technological Development Zone,
  Shandong Province,
  CHINA

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- **Email:** zhaijinhui@hisense.com

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