

FCC Test Report

**Test report
On Behalf of
Huzhou Shi Dingchen Trading Co., Ltd.**

**For
MIRROR DASH CAM**

**Model No.: G840S, M10, M20, M40, M40 Lite, M60, M60 Pro,
G930, M80, M80 Pro, M90, M90 Pro, M100, M200**

FCC ID: 2A6WF-G840S

Prepared For:

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Date of Test: Jun. 03, 2025 ~ Jun. 11, 2025

Date of Report: Jun. 11, 2025

Report Number: HK2506062994-2E

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** Modified History **

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Jun. 10, 2025	Jason Zhou

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1. Test Result Summary

1.1. Test Procedures and Results

Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	N/A
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(e)	PASS
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a)	N/A
Power Spectral Density	§15.407(a)	PASS
Band Edge	§15.407(b)/15.209/15.205	PASS
Radiated Emission	§15.407(b)/15.209/15.205	PASS
Frequency Stability	§15.407(g)	PASS

Note:



1. **PASS:** Test item meets the requirement.
2. **Fail:** Test item does not meet the requirement.
3. **N/A:** Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

1.2. Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.

Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization:

A2LA Accreditation Code is 4781.01.

FCC Designation Number is CN1229.

Canada IC CAB identifier is CN0045.

CNAS Registration Number is L9589.



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1.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	±0.37dB
2	RF Power, Conducted	±3.35dB
3	Spurious Emissions, Conducted	±2.20dB
4	All Emissions, Radiated(<1G)	±3.90dB
5	All Emissions, Radiated(>1G)	±4.28dB
6	Temperature	±0.1°C
7	Humidity	±1.0%



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2. EUT Description

2.1. General Description of EUT

Equipment:	MIRROR DASH CAM
Model Name:	G840S
Series Model:	M10, M20, M40, M40 Lite, M60, M60 Pro, G930, M80, M80 Pro, M90, M90 Pro, M100, M200
Model Difference:	All model's the function, software and electric circuit are the same, only with appearance and product model named different. Test sample model: G840S.
Trade Mark:	N/A
FCC ID:	2A6WF-G840S
Operation Frequency:	IEEE 802.11a/n (HT20)5.745GHz-5.825GHz IEEE 802.11n (HT40)5.755GHz-5.795GHz
Modulation Technology:	IEEE 802.11a/n
Modulation Type:	64QAM, 16QAM, QPSK, BPSK for OFDM
Antenna Type:	FPC Antenna
Antenna Gain:	4.81dBi
Power Source:	DC5V From Car Charger
Power Supply:	DC5V From Car Charger
Hardware Version:	V2.0
Software Version:	V01

Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
 2. Antenna gain Refer to the antenna specifications.
 3. The cable loss data is obtained from the supplier.
 4. The test results in the report only apply to the tested sample.

Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Antenna gain Refer to the antenna specifications.
3. The cable loss data is obtained from the supplier.
4. The test results in the report only apply to the tested sample.



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2.2. Operation Frequency Each of Channel

802.11a/802.11n(HT20)		802.11n(HT40)	
Channel	Frequency	Channel	Frequency
149	5745	151	5755
153	5765	159	5795
157	5785		
161	5805		
165	5825		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

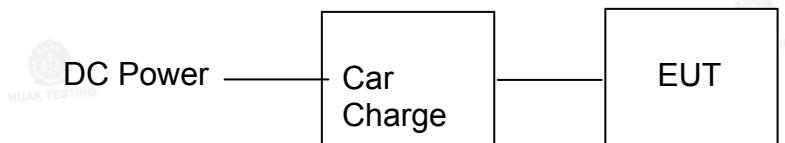
2.3. Operation of EUT during Testing

Band IV (5725 - 5850 MHz)		
For 802.11a/n (HT20)		
Channel Number	Channel	Frequency (MHz)
149	Low	5745
157	Mid	5785
165	High	5825

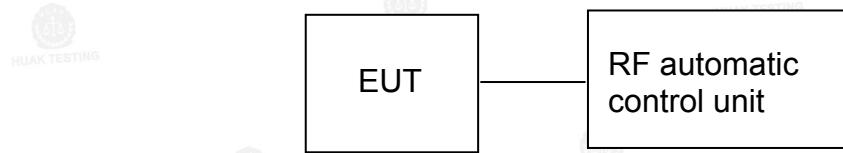
For 802.11n (HT40)		
Channel Number	Channel	Frequency (MHz)
151	Low	5755
159	High	5795

2.4. Description of Test Setup

Operation of EUT during radiation testing:



Operation of EUT during RF Conducted testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.



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2.5. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Remark
1	MIRROR DASH CAM	N/A	G840S	N/A	EUT
2	AC/DC ADAPTER	N/A	N/A	INPUT: DC12V-24C USBOUTPUT: DC5V 2A LINEOUTPUT: DC5V 2A	Accessory

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 6db Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments



3. General Information

3.1. Test Environment and Mode

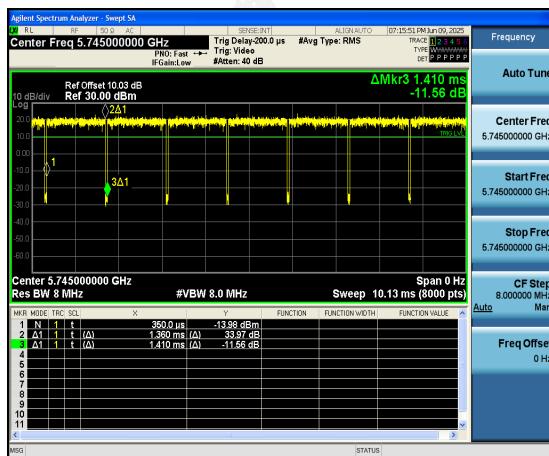
Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11a	6 Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0
Final Test Mode:	
Operation mode:	Keep the EUT in continuous transmitting with modulation
Mode Test Duty Cycle:	
Mode	Duty Cycle
802.11a	0.96
802.11n(HT20)	0.96
802.11n(HT40)	0.93
Test plots as follows:	

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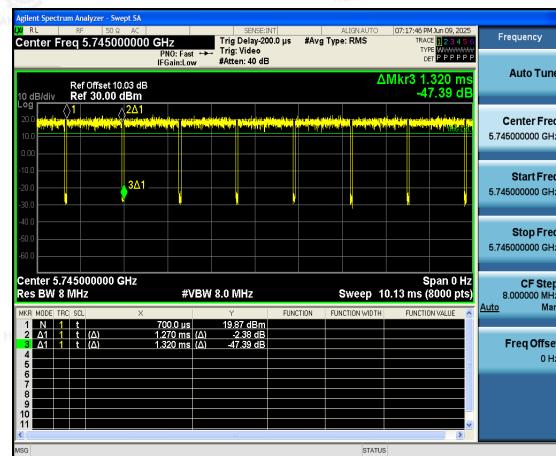


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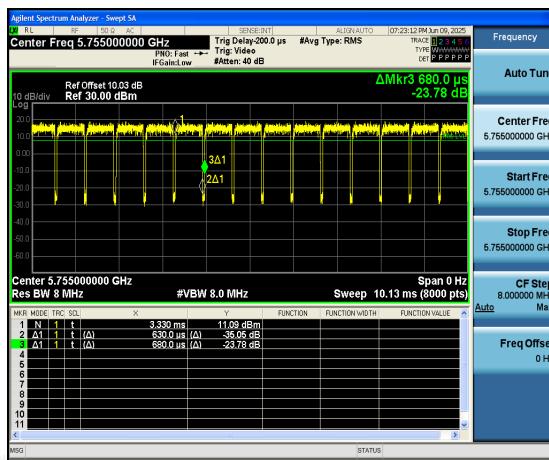
802.11a



802.11n(HT20)



802.11n(HT40)



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Test Instruments

Conducted Emission Shielding Room Test Site (843)					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	R&S	ESR	HKE-005	Feb. 19, 2025	Feb. 18, 2026
LISN	R&S	ENV216	HKE-002	Feb. 19, 2025	Feb. 18, 2026
LISN	R&S	ENV216	HKE-059	Feb. 19, 2025	Feb. 18, 2026
Coax cable (9KHz-30MHz)	Times	381806-002	N/A	Feb. 19, 2025	Feb. 18, 2026
EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	N/A	N/A
10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 19, 2025	Feb. 18, 2026

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

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Test Data

Not applicable

Note: Since EUT is only for on-car use, so this test item not applicable.

4.2. Maximum Conducted Output Power

Test Specification

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Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Power meter	Agilent	E4419B	HKE-085	Feb. 19, 2025	Feb. 18, 2026
Power Sensor	Agilent	E9300A	HKE-086	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



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Test Data

Configuration Band IV (5725 - 5850 MHz)

Mode	Test channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
802.11a	CH149	5.91	30	PASS
802.11a	CH157	5.20	30	PASS
802.11a	CH165	5.77	30	PASS
802.11n(HT20)	CH149	5.28	30	PASS
802.11n(HT20)	CH157	4.94	30	PASS
802.11n(HT20)	CH165	4.85	30	PASS
802.11n(HT40)	CH151	5.84	30	PASS
802.11n(HT40)	CH159	5.22	30	PASS

Note: 1.The test results including the cable lose.

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4.3. 6dB Emission Bandwidth

Test Specification

Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

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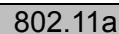
Test Data

Band IV (5725 - 5850 MHz)					
Mode	Test Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
802.11a	CH149	5745	15.080	0.5	PASS
802.11a	CH157	5785	15.120	0.5	PASS
802.11a	CH165	5825	15.080	0.5	PASS
802.11n(HT20)	CH149	5745	14.960	0.5	PASS
802.11n(HT20)	CH157	5785	15.080	0.5	PASS
802.11n(HT20)	CH165	5825	12.960	0.5	PASS
802.11n(HT40)	CH151	5755	32.560	0.5	PASS
802.11n(HT40)	CH159	5795	32.560	0.5	PASS

Test plots as follows:



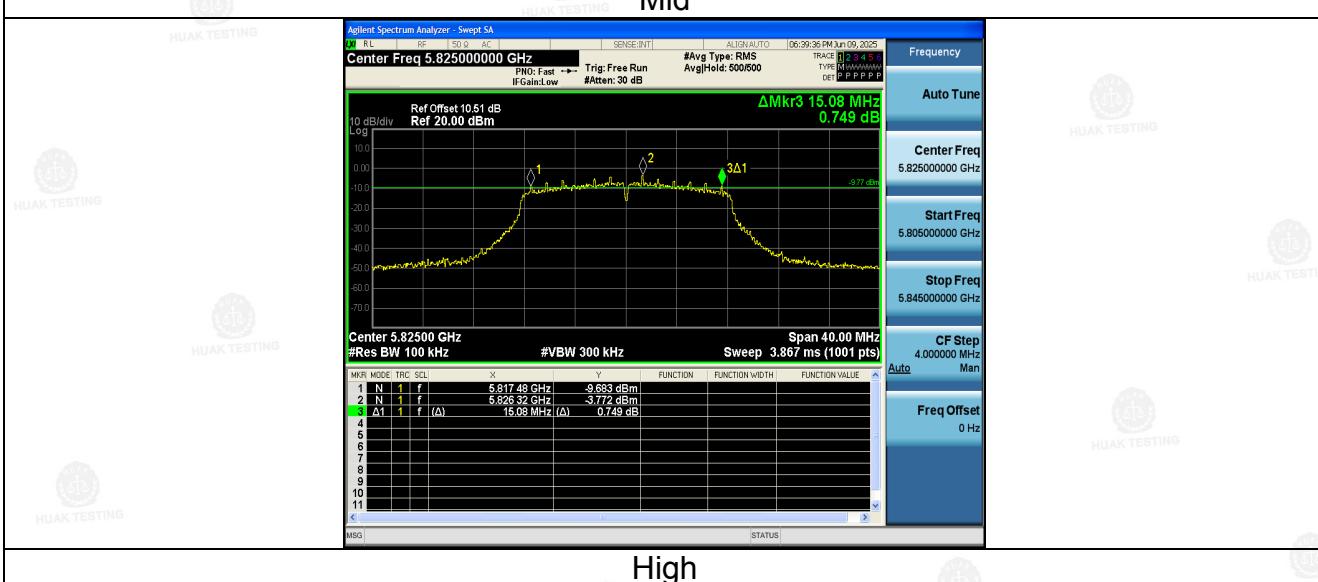
Band IV (5725 – 5850 MHz)



Low



Mid



High

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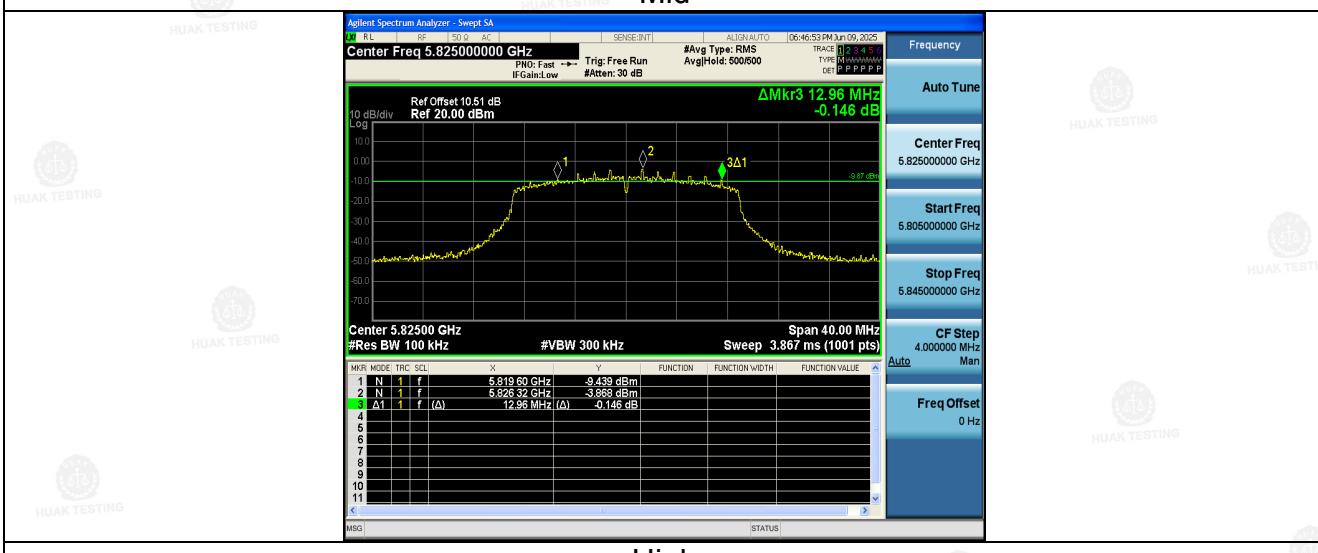
802.11n(HT20)



LOW



Mid



High

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4.4. 26db Bandwidth and 99% Occupied Bandwidth

Test Specification

Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

Test Result

N/A

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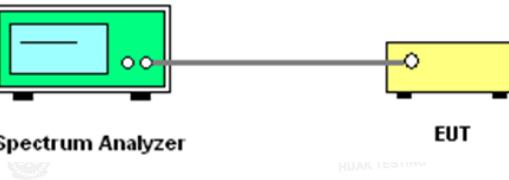
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4.5. Power Spectral Density

Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	$\leq 30.00 \text{dBm}/500\text{KHz}$ for Band IV 5725MHz-5850MHz
Test Setup:	 <p>Spectrum Analyzer</p> <p>EUT</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 2. Set RBW = 510 kHz/1 MHz, VBW $\geq 3 \times \text{RBW}$, Sweep time = Auto, Detector = RMS. 3. Allow the sweeps to continue until the trace stabilizes. 4. Use the peak marker function to determine the maximum amplitude level. 5. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.
Test Result:	PASS

Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

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Test Data

Configuration Band IV (5725 - 5850 MHz)						
Mode	Test Channel	Level [dBm/510kHz]	10log(500/510)	Power Spectral Density	Limit (dBm/500kHz)	Result
802.11a	CH149	-0.39	-0.086	-0.476	30	PASS
802.11a	CH157	-0.83	-0.086	-0.916	30	PASS
802.11a	CH165	0.05	-0.086	-0.036	30	PASS
802.11n(HT20)	CH149	-0.99	-0.086	-1.076	30	PASS
802.11n(HT20)	CH157	-1.11	-0.086	-1.196	30	PASS
802.11n(HT20)	CH165	-1.40	-0.086	-1.486	30	PASS
802.11n(HT40)	CH151	-2.79	-0.086	-2.876	30	PASS
802.11n(HT40)	CH159	-3.48	-0.086	-3.566	30	PASS

Note: Power Spectral Density= Level [dBm/510kHz]+(10log(Limit RBW/Test RBW))

Test plots as follows:



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Band IV (5725-5850 MHz)

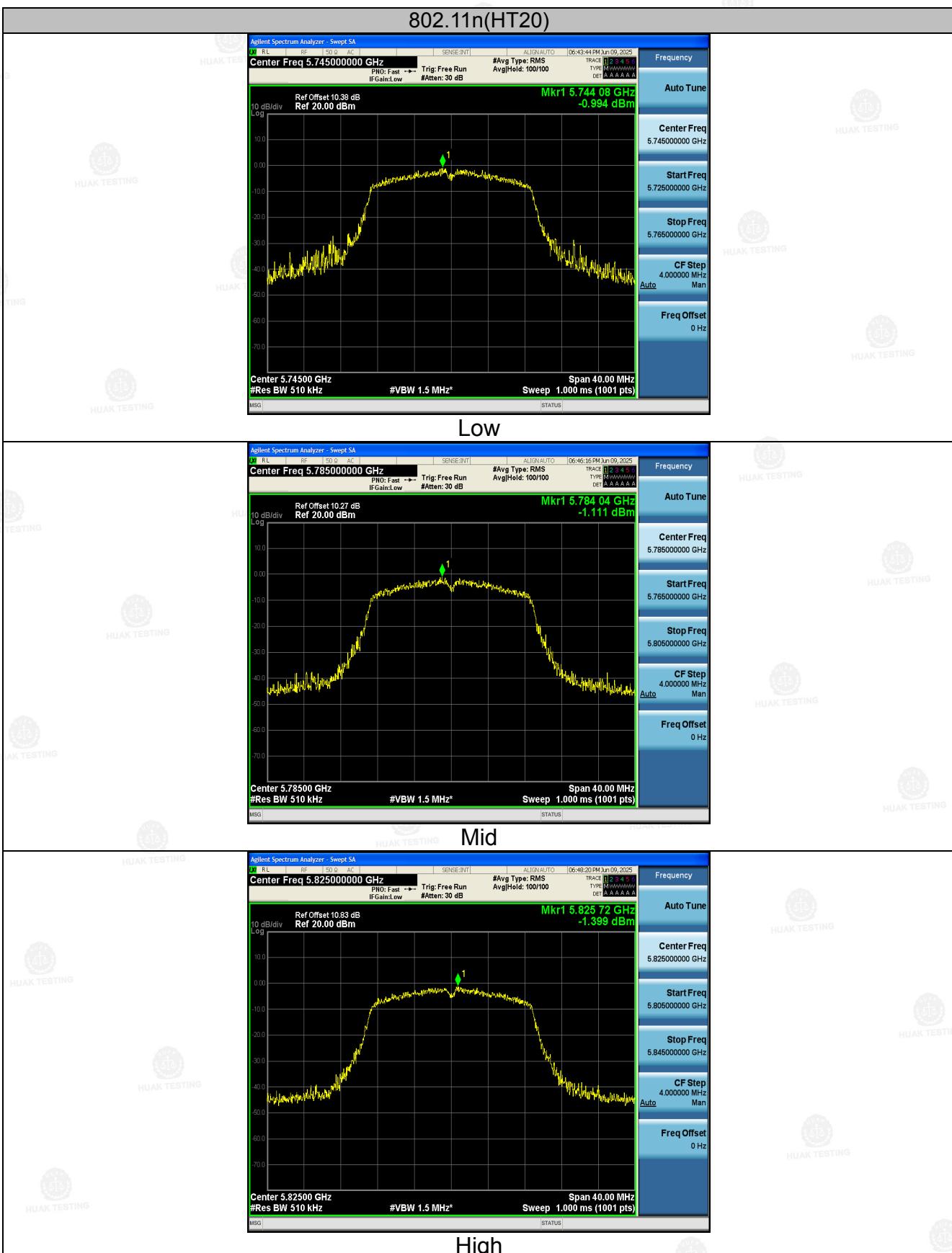
802.11a



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