

TEST REPORT

Report No.: SHE20070010-02DE

Date: 2020-08-17

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Applicant : Shenzhen UniStrong Science & Technology Co.,Ltd.
Address of Applicant : B,4-4Factory, Zhengcheng Road, Fuyong Baoan District, Shenzhen, China

Product Name : Rugged windows Tablet
Model No. : UT55
Sample No. : E20070010-01#02
E20070010-01#05
FCC ID : 2AOPD-UT55

Standards : FCC CFR47 Part 15, Subpart E
RSS-Gen (Issue 5, March 2019)
RSS-247 (Issue 2, February 2017)

Date of Receipt : 2020-07-20
Date of Test : 2020-07-20 ~ 2020-08-13
Date of Issue : 2020-08-17

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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Revision Record			
Version	Date	Revisions	Revised By
1.0	2020-1-19	Original	--

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1 General Information

1.1 Testing Laboratory

Company Name	ICAS Testing Technology Services (Shanghai) Co., Ltd.
Address	155 Pingbei Rd, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Details of Application

Company Name	Shenzhen UniStrong Science & Technology Co.,Ltd.
Address	B,4-4Factory, Zhengcheng Road, Fuyong Baoan District, Shenzhen, China
Contact Person	Lili Zheng
Telephone	+86-21-54467182
Email	ll.zheng@unistrong.com

1.3 Details of EUT

Product Name	Rugged windows Tablet
Brand Name	Unistrong
Model No.	UT55
FCC ID	2AOPD-UT55
Mode of Operation	WLAN 802.11a/n(HT20/40)/ac(HT20/40/80)
Frequency Range	Band I: 5150 MHz ~ 5250 MHz Band IV: 5725 MHz ~ 5850 MHz
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Channel Bandwidth	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz, 80MHz
Antenna Type	internal antenna
Antenna Gain1	2.19 dBi
Antenna Gain2	1.60 dBi
Extreme Temperature Range	-10℃~ +55℃
Test Voltage	AC 100~240V
Extreme Voltage	Low Voltage: DC 6.0V High Voltage: DC 8.7V
Product Type	Mobile and protable for FCC standard Indoor for IC standard

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1.4 Test Methodology

47 CFR Part 15, Subpart C (10-1-16 Edition)	Miscellaneous Wireless Communications Services
KDB Publication 789033 D02 v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
KDB Publication 662911 D01 v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
RSS-Gen (Issue 5, March 2019)	General Requirements for Compliance of Radio Apparatus
RSS-247 (Issue 2, February 2017)	Digital Transmission Systems (DTSSs), Frequency Hopping Systems (FHSSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Note(s):

All test items were verified and recorded according to the standards and without any addition/deviation/exclusion during the test.

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2 Test Condition

2.1 Environmental conditions

Temperature (°C)	18-25
Humidity (%RH)	40-65
Barometric Pressure (mbar)	960-1060

2.2 Equipment List

Name of Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Spectrum Analyzer	Keysight	N9020B	MY59260184	2020-07-28
Spectrum Analyzer	Rohde & Schwarz	FSV40N	101450	2020-06-24
EMI Test Receiver	Rohde & Schwarz	ESPI3	100173	2021-06-19
EMI Test Receiver	Rohde & Schwarz	ESR 7	101911	2021-06-19
V-network	SCHWARZBECK	NSLK 8127	8127-902	2021-02-20
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	100687	2020-08-22
DC Power Supply	ACPOWER	ADC-0800025-15	D215010003	2021-03-15
Temperature Chamber	SHKTEST	SHK-B101	20190819001	2021-03-15
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2021-06-06
Horn Antenna-18G	SCHWARZBECK	BBHA9120D	9120D-1775	2021-06-06
Loop Antenna	SCHWARZBECK	FMZB 1513	N/A	2021-03-19
Horn Antenna-18~40G	YINGLIAN	LB-180400-KF	N/A	2021-07-26
EMC chamber 9*6*6 (L*W*H)	CHANGNING	966	N/A	2023-06-26
Shielded Enclosure 8*5*4 (L*W*H)	CHANGNING	854	N/A	2020-08-28
Test Software	BL	BL410_E	N/A	N/A
Test Software	BL	BL410_R	N/A	N/A
Amplifier and Filter group	BL	BL410_E	N/A	2020-11-01
Amplifier and Filter group and Power meter	BL	BL410_R	N/A	2020-11-01

2.3 Measurement Uncertainty

Parameter	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1GHz	± 1.5 dB
	> 1GHz	± 1.5 dB
Radiated Emission	30 MHz – 1 GHz	± 3 dB
	> 1GHz	± 3 dB

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3 Test Set-up and Operation Modes

3.1 Details of Test Mode

Using test software was control EUT work in continuous transmitter and receiver mode. Select test channel as below:

For 802.11a/n(HT20), 802.11ac(VHT20)

Band I (5150 – 5250 MHz)		Band IV (5725 – 5850 MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel(CH36)	5180MHz	The lowest channel(CH149)	5745MHz
The middle channel(CH44)	5220MHz	The middle channel(CH157)	5785MHz
The highest channel(CH48)	5240MHz	The highest channel(CH165)	5825MHz

For 802.11n(HT40), 802.11ac(VHT40)

Band I (5150 – 5250 MHz)		Band IV (5725 – 5850 MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel(CH38)	5190MHz	The lowest channel(CH151)	5755MHz
The highest channel(CH46)	5230MHz	The highest channel(CH159)	5795MHz

For 802.11ac(VHT80)

Band I (5150 – 5250 MHz)		Band IV (5725 – 5850 MHz)	
Channel	Frequency	Channel	Frequency
The lowest channel(CH42)	5210MHz	The lowest channel(CH155)	5775MHz

Through Pre-scan under all rate at lowest channel, the data rate as below table described is the worst case, so we choose these data rate for test.

Type	Data rate (For Chain 1)	Data rate (For Chain 2)
802.11a	24Mbps	54Mbps
802.11n(HT20), 802.11ac(VHT20)	MCS3	MCS7
802.11n(HT40), 802.11ac(VHT40)	MCS3	MCS7
802.11ac(VHT80)	MCS0	MCS0

Type	Data rate (For MIMO)
802.11a	54Mbps
802.11n(HT20), 802.11ac(VHT20)	MCS3
802.11n(HT40), 802.11ac(VHT40)	MCS3
802.11ac(VHT80)	MCS0

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The basic operation modes are:

- A. On
 - 1. WLAN mode
 - a. Transmitting
 - b. Receiving
- B. Standby
- C. Off

3.2 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Serial No.
Laptop	Lenovo	TP00083A	N/A

3.3 Support Software

Description	Manufacturer	Software Name
Software	Intel	DRTU

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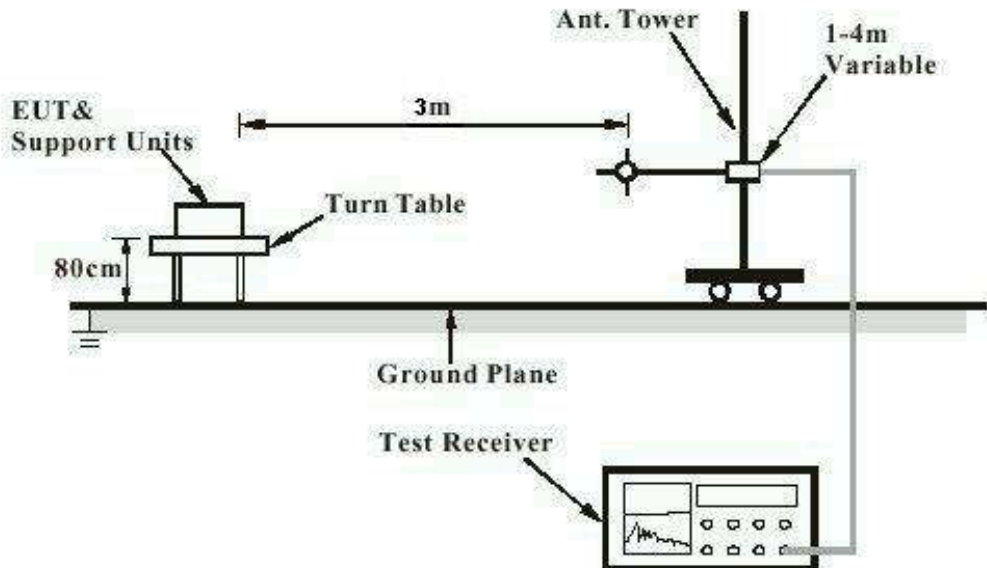
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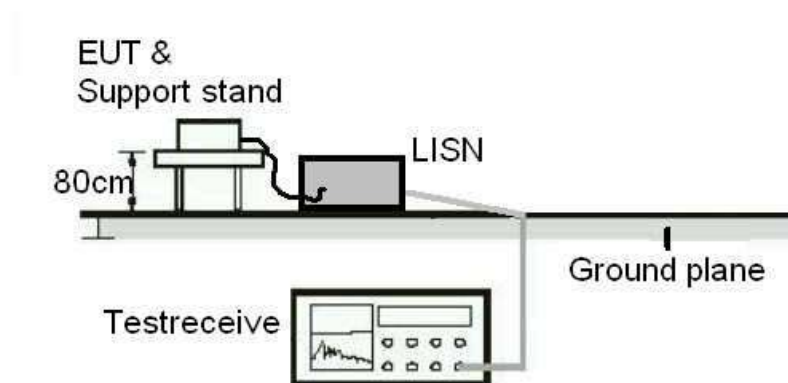
3.4 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Equipment Configuration for Conduction Measurement



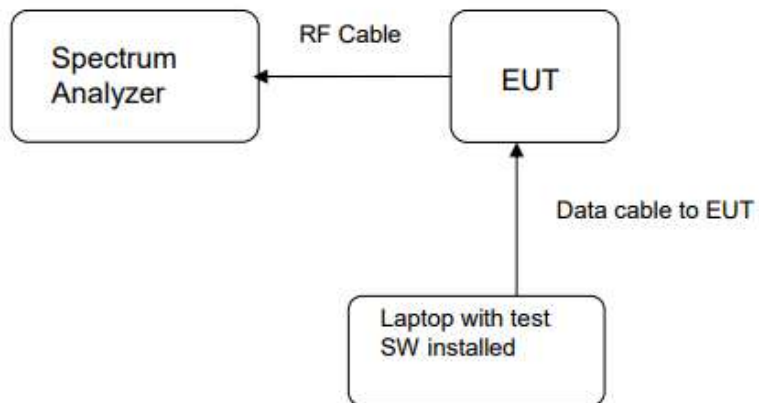
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Diagram of Measurement Equipment Configuration for Transmitter Measurement



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4 Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

RESULT:

PASS

Test standard : FCC Part 15.407(a), 15.203
RSS-247 6.2

Requirement : The use of approved antennas only with directional
gains that do not exceed 6 dBi

According to the manufacturer declaration, the EUT has two antennas with a max gain of 2.19 dBi for 5G band. The antenna is an internal antenna with no possibility of replacement with a non-approved antenna by the end-user.

Therefore, the EUT is considered to comply with this provision.

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4.1.2 Peak Output Power and E.I.R.P

RESULT:

PASS

Test standard : FCC Part 15.407(a)
RSS-247 6.2

Requirement : ANSI C63.10-2013, KDB 789033

Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High

Operation Mode : A.1.a

Ambient temperature : 23°C

Relative humidity : 52%

Table 1: Peak Output Power

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power				FCC Limit (mW)
		Chain 1		Chain 2		
		(dBm)	(mW)	(dBm)	(mW)	
802.11a	5180	13.32	21.48	14.35	27.23	250
	5220	12.86	19.32	14.06	25.47	
	5240	13.62	23.01	14.21	26.36	
802.11n(HT20)	5180	13.31	21.43	14.37	27.35	
	5220	13.04	20.14	14.13	25.88	
	5240	13.35	21.63	14.31	26.98	
802.11ac(VHT20)	5180	13.13	20.56	14.33	27.10	
	5220	12.90	19.50	14.04	25.35	
	5240	13.12	20.51	14.20	26.30	
802.11n(HT40)	5190	12.99	19.91	14.01	25.18	
	5230	12.77	18.92	13.84	24.21	
802.11ac(VHT40)	5190	12.84	19.23	14.01	25.18	
	5230	12.43	17.50	13.66	23.23	
802.11ac(VHT80)	5210	12.59	18.16	13.62	23.01	

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Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power				FCC Limit (mW)
		MIMO Chain 1		MIMO Chain 2		
		(dBm)	(mW)	(dBm)	(mW)	
802.11a	5180	13.42	21.98	14.42	27.67	250
	5220	12.96	19.77	14.24	26.55	
	5240	13.72	23.55	14.29	26.85	
802.11n(HT20)	5180	13.51	22.44	14.43	27.73	
	5220	13.24	21.09	14.24	26.55	
	5240	13.45	22.13	14.35	27.23	
802.11ac(VHT20)	5180	13.23	21.04	14.39	27.48	
	5220	12.99	19.91	14.14	25.94	
	5240	13.18	20.80	14.28	26.79	
802.11n(HT40)	5190	13.05	20.18	14.21	26.36	
	5230	12.91	19.54	13.98	25.00	
802.11ac(VHT40)	5190	12.96	19.77	14.11	25.76	
	5230	12.63	18.32	13.86	24.32	
802.11ac(VHT80)	5210	12.62	18.28	13.72	23.55	

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power		FCC Limit (mW)
		MIMO		
		(dBm)	(mW)	
802.11a	5180	16.96	49.65	250
	5220	16.66	46.32	
	5240	17.02	50.4	
802.11n(HT20)	5180	17.00	50.17	
	5220	16.78	47.64	
	5240	16.93	49.36	
802.11ac(VHT20)	5180	16.86	48.52	
	5220	16.61	45.85	
	5240	16.78	47.59	
802.11n(HT40)	5190	16.68	46.54	
	5230	16.49	44.54	
802.11ac(VHT40)	5190	16.58	45.53	
	5230	16.30	42.64	
802.11ac(VHT80)	5210	16.21	41.83	

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power				FCC Limit (W)
		Chain 1		Chain 2		
		(dBm)	(mW)	(dBm)	(mW)	
802.11a	5745	14.64	29.11	15.47	35.24	1
	5785	14.57	28.64	15.31	33.96	
	5825	14.74	29.79	15.28	33.73	
802.11n(HT20)	5745	14.72	29.65	15.49	35.40	
	5785	14.49	28.12	15.26	33.57	
	5825	14.73	29.72	15.28	33.73	
802.11ac(VHT20)	5745	14.73	29.72	15.41	34.75	
	5785	14.54	28.44	15.24	33.42	
	5825	14.70	29.51	15.08	32.21	
802.11n(HT40)	5755	14.50	28.18	15.03	31.84	
	5795	14.51	28.25	15.03	31.84	
802.11ac(VHT40)	5755	14.59	28.77	15.00	31.62	
	5795	14.37	27.35	14.87	30.69	
802.11ac(VHT80)	5775	14.12	25.82	14.63	29.04	

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power				FCC Limit (W)
		MIMO Chain 1		MIMO Chain 2		
		(dBm)	(mW)	(dBm)	(mW)	
802.11a	5745	14.67	29.31	15.54	35.81	1
	5785	14.61	28.91	15.42	34.83	
	5825	14.79	30.13	15.34	34.20	
802.11n(HT20)	5745	14.78	30.06	15.54	35.81	
	5785	14.53	28.38	15.36	34.36	
	5825	14.78	30.06	15.42	34.83	
802.11ac(VHT20)	5745	14.77	29.99	15.54	35.81	
	5785	14.59	28.77	15.34	34.20	
	5825	14.75	29.85	15.25	33.50	
802.11n(HT40)	5755	14.56	28.58	15.17	32.89	
	5795	14.54	28.44	15.21	33.19	
802.11ac(VHT40)	5755	14.63	29.04	15.09	32.28	
	5795	14.45	27.86	14.89	30.83	
802.11ac(VHT80)	5775	14.21	26.36	14.68	29.38	

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power		FCC Limit (W)
		MIMO		
		(dBm)	(mW)	
802.11a	5745	18.14	65.12	1
	5785	18.04	63.74	
	5825	18.08	64.33	
802.11n(HT20)	5745	18.19	65.87	
	5785	17.98	62.74	
	5825	18.12	64.89	
802.11ac(VHT20)	5745	18.18	65.80	
	5785	17.99	62.97	
	5825	18.02	63.35	
802.11n(HT40)	5755	17.89	61.47	
	5795	17.90	61.63	
802.11ac(VHT40)	5755	17.88	61.32	
	5795	17.69	58.69	
802.11ac(VHT80)	5775	17.46	55.74	

E.I.R.P (note : test by conducted method)

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power				IC Limit (mW)
		Chain 1		Chain 2		
		(dBm)	(mW)	(dBm)	(mW)	
802.11a	5180	15.51	35.56	15.95	39.36	200 mW or 10 dBm + 10log B, which is less
	5220	15.05	31.99	15.66	36.81	
	5240	15.81	38.11	15.81	38.11	
802.11n(HT20)	5180	15.50	35.48	15.97	39.54	
	5220	15.23	33.34	15.73	37.41	
	5240	15.54	35.81	15.91	38.99	
802.11ac(VHT20)	5180	15.32	34.04	15.93	39.17	
	5220	15.09	32.28	15.64	36.64	
	5240	15.31	33.96	15.8	38.02	
802.11n(HT40)	5190	15.18	32.96	15.61	36.39	
	5230	14.96	31.33	15.44	34.99	
802.11ac(VHT40)	5190	15.03	31.84	15.61	36.39	
	5230	14.62	28.97	15.26	33.57	
802.11ac(VHT80)	5210	14.78	30.06	15.22	33.27	

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Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power				IC Limit (mW)
		MIMO Chain 1		MIMO Chain 2		
		(dBm)	(mW)	(dBm)	(mW)	
802.11a	5180	15.61	36.39	16.02	39.99	200 mW or 10 dBm + 10log B, which is less
	5220	15.15	32.73	15.84	38.37	
	5240	15.91	38.99	15.89	38.82	
802.11n(HT20)	5180	15.70	37.15	16.03	40.09	
	5220	15.43	34.91	15.84	38.37	
	5240	15.64	36.64	15.95	39.36	
802.11ac(VHT20)	5180	15.42	34.83	15.99	39.72	
	5220	15.18	32.96	15.74	37.50	
	5240	15.37	34.43	15.88	38.73	
802.11n(HT40)	5190	15.24	33.42	15.81	38.11	
	5230	15.10	32.36	15.58	36.14	
802.11ac(VHT40)	5190	15.15	32.73	15.71	37.24	
	5230	14.82	30.34	15.46	35.16	
802.11ac(VHT80)	5210	14.81	30.27	15.32	34.04	

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power		IC Limit (mW)
		MIMO		
		(dBm)	(mW)	
802.11a	5180	22.16	135.52	200 mW or 10 dBm + 10log B, which is less
	5220	21.86	127.35	
	5240	22.22	136.14	
802.11n(HT20)	5180	22.2	136.77	
	5220	21.98	130.02	
	5240	22.13	134.59	
802.11ac(VHT20)	5180	22.06	133.05	
	5220	21.81	125.60	
	5240	21.98	130.32	
802.11n(HT40)	5190	21.88	127.64	
	5230	21.69	121.90	
802.11ac(VHT40)	5190	21.78	124.74	
	5230	21.5	117.22	
802.11ac(VHT80)	5210	21.41	114.55	

Note:

5G MIMO gain is $2.19\text{dBi} + 10\log(2) = 5.2\text{dBi}$ (2.19dBi is MAX gain of 5G)

5G WIFI 1 antenna gain is 2.19dBi. 5G WIFI 2 antenna gain is 1.60dBi

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4.1.3 26dB Bandwidth and 99% Bandwidth

RESULT:

PASS

Test standard : FCC Part 15.407(a)
RSS-247 6.2
Requirement : ANSI C63.10-2013, KDB 789033
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23°C
Relative humidity : 52%

Notes

Test plots please refer to the annex document "WIFI5G-TX EXHIBIT A of SHE20070010-02DE Chain 1".

Test plots please refer to the annex document "WIFI5G-TX EXHIBIT A of SHE20070010-02DE Chain 2".

Test plots please refer to the annex document "WIFI5G-TX EXHIBIT A of SHE20070010-02DE MIMO".

Table 2: Chain 1 26dB Bandwidth and 99% Bandwidth

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Refer to Plot ^{Notes}
802.11a	5180	21.69	17.059	1.1
	5220	21.99	17.058	2.1
	5240	21.46	17.025	3.1
802.11n(HT20)	5180	23.00	18.180	4.1
	5220	22.15	18.205	5.1
	5240	22.85	18.188	6.1
802.11ac(VHT20)	5180	22.12	18.245	7.1
	5220	22.21	18.205	8.1
	5240	22.61	18.187	9.1
802.11n(HT40)	5190	42.00	36.487	10.1
	5230	42.38	36.482	11.1
802.11ac(VHT40)	5190	40.67	36.376	12.1
	5230	40.98	36.363	13.1
802.11ac(VHT80)	5210	83.90	75.148	14.1

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Refer to Plot ^{Notes}
802.11a	5745	21.80	17.046	15.1
	5785	21.31	17.089	16.1
	5825	21.31	17.067	17.1
802.11n(HT20)	5745	22.67	18.194	18.1
	5785	22.77	18.222	19.1
	5825	22.42	18.206	20.1
802.11ac(VHT20)	5745	22.13	18.203	21.1
	5785	21.94	18.175	22.1
	5825	21.73	18.232	23.1
802.11n(HT40)	5755	42.22	36.413	24.1
	5795	42.87	36.473	25.1
802.11ac(VHT40)	5755	40.72	36.404	26.1
	5795	40.97	36.384	27.1
802.11ac(VHT80)	5775	83.65	75.023	28.1

Table 3: Chain 2 26dB Bandwidth and 99% Bandwidth

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Refer to Plot ^{Notes}
802.11a	5180	21.43	17.022	1.1
	5220	21.22	16.995	2.1
	5240	21.25	16.995	3.1
802.11n(HT20)	5180	22.09	18.177	4.1
	5220	22.22	18.129	5.1
	5240	22.10	18.173	6.1
802.11ac(VHT20)	5180	22.32	18.163	7.1
	5220	22.31	18.140	8.1
	5240	22.70	18.185	9.1
802.11n(HT40)	5190	44.19	36.512	10.1
	5230	42.93	36.523	11.1
802.11ac(VHT40)	5190	41.14	36.435	12.1
	5230	40.82	36.401	13.1
802.11ac(VHT80)	5210	82.28	75.089	14.1

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Refer to Plot ^{Notes}
802.11a	5745	21.20	16.996	15.1
	5785	20.83	17.036	16.1
	5825	21.36	16.984	17.1
802.11n(HT20)	5745	22.02	18.162	18.1
	5785	22.01	18.179	19.1
	5825	22.11	18.183	20.1
802.11ac(VHT20)	5745	22.02	18.131	21.1
	5785	22.50	18.174	22.1
	5825	22.77	18.210	23.1
802.11n(HT40)	5755	41.55	36.424	24.1
	5795	42.05	36.444	25.1
802.11ac(VHT40)	5755	41.06	36.338	26.1
	5795	41.22	36.415	27.1
802.11ac(VHT80)	5775	84.60	75.112	28.1

Table 4:MIMO 26dB Bandwidth and 99% Bandwidth

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Refer to Plot ^{Notes}
802.11a	5180	20.87	17.013	1.1
	5220	20.90	16.923	2.1
	5240	21.12	16.935	3.1
802.11n(HT20)	5180	22.30	18.088	4.1
	5220	21.88	18.109	5.1
	5240	21.86	18.106	6.1
802.11ac(VHT20)	5180	24.46	18.217	7.1
	5220	23.91	18.224	8.1
	5240	22.56	18.239	9.1
802.11n(HT40)	5190	42.23	36.390	10.1
	5230	42.51	36.315	11.1
802.11ac(VHT40)	5190	44.51	36.423	12.1
	5230	42.73	36.447	13.1
802.11ac(VHT80)	5210	81.80	75.121	14.1

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Refer to Plot ^{Notes}
802.11a	5745	21.08	16.865	15.1
	5785	20.96	16.890	16.1
	5825	21.09	16.989	17.1
802.11n(HT20)	5745	22.38	18.139	18.1
	5785	22.57	18.104	19.1
	5825	22.18	18.062	20.1
802.11ac(VHT20)	5745	22.53	18.157	21.1
	5785	22.10	18.108	22.1
	5825	22.07	18.078	23.1
802.11n(HT40)	5755	42.43	36.366	24.1
	5795	41.80	36.394	25.1
802.11ac(VHT40)	5755	42.13	36.432	26.1
	5795	41.64	36.429	27.1
802.11ac(VHT80)	5775	81.59	75.156	28.1

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4.1.4 6dB Bandwidth

RESULT:

PASS

Test standard : FCC Part 15.407(e)
RSS-247 6.2
Requirement : ANSI C63.10-2013, KDB 789033
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23°C
Relative humidity : 52%

Table 5: Chain 1 6dB Bandwidth

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a	5745	16.52	0.5
	5785	16.57	
	5825	16.57	
802.11n(HT20)	5745	17.77	
	5785	17.72	
	5825	17.72	
802.11ac(VHT20)	5745	17.72	
	5785	17.82	
	5825	17.82	
802.11n(HT40)	5755	36.37	
	5795	36.57	
802.11ac(VHT40)	5755	36.52	
	5795	36.42	
802.11ac(VHT80)	5775	75.17	

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Table 6: Chain 2 6dB Bandwidth

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a	5745	16.52	0.5
	5785	16.52	
	5825	16.47	
802.11n(HT20)	5745	17.77	
	5785	17.82	
	5825	17.62	
802.11ac(VHT20)	5745	17.62	
	5785	17.87	
	5825	17.87	
802.11n(HT40)	5755	36.47	
	5795	36.57	
802.11ac(VHT40)	5755	36.47	
	5795	36.47	
802.11ac(VHT80)	5775	73.92	

Table 7: MIMO 6dB Bandwidth

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a	5745	16.52	0.5
	5785	16.42	
	5825	16.52	
802.11n(HT20)	5745	17.72	
	5785	17.02	
	5825	17.62	
802.11ac(VHT20)	5745	17.37	
	5785	16.92	
	5825	17.67	
802.11n(HT40)	5755	36.07	
	5795	36.37	
802.11ac(VHT40)	5755	35.42	
	5795	36.37	
802.11ac(VHT80)	5775	75.12	

Chain 1 6dB Bandwidth, 802.11a, 5745MHz

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Chain 2 6dB Bandwidth, 802.11a, 5745MHz



MIMO 6dB Bandwidth, 802.11a, 5745MHz

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Chain 1 6dB Bandwidth, 802.11a, 5785MHz



Chain 2 6dB Bandwidth, 802.11a, 5785MHz

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MIMO 6dB Bandwidth, 802.11a, 5785MHz



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Chain 1 6dB Bandwidth, 802.11a, 5825MHz



Chain 2 6dB Bandwidth, 802.11a, 5825MHz



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MIMO 6dB Bandwidth, 802.11a, 5825MHz



Chain 1 6dB Bandwidth, 802.11n(HT20), 5745MHz



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Chain 2 6dB Bandwidth, 802.11n(HT20), 5745MHz



MIMO 6dB Bandwidth, 802.11n(HT20), 5745MHz



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Chain 1 6dB Bandwidth, 802.11n(HT20), 5785MHz



Chain 2 6dB Bandwidth, 802.11n(HT20), 5785MHz



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MIMO 6dB Bandwidth, 802.11n(HT20), 5785MHz



Chain 1 6dB Bandwidth, 802.11n(HT20), 5825MHz



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Chain 2 6dB Bandwidth, 802.11n(HT20), 5825MHz



MIMO 6dB Bandwidth, 802.11n(HT20), 5825MHz



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Chain 1 6dB Bandwidth, 802.11ac(VHT20), 5745MHz



Chain 2 6dB Bandwidth, 802.11ac(VHT20), 5745MHz



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MIMO 6dB Bandwidth, 802.11ac(VHT20), 5745MHz



Chain 1 6dB Bandwidth, 802.11ac(VHT20), 5785MHz



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Chain 2 6dB Bandwidth, 802.11ac(VHT20), 5785MHz



MIMO 6dB Bandwidth, 802.11ac(VHT20), 5785MHz



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Chain 1 6dB Bandwidth, 802.11ac(VHT20), 5825MHz



Chain 2 6dB Bandwidth, 802.11ac(VHT20), 5825MHz



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MIMO 6dB Bandwidth, 802.11ac(VHT20), 5825MHz



Chain 1 6dB Bandwidth, 802.11n(HT40), 5755MHz



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Chain 2 6dB Bandwidth, 802.11n(HT40), 5755MHz



MIMO 6dB Bandwidth, 802.11n(HT40), 5755MHz



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Chain 1 6dB Bandwidth, 802.11n(HT40), 5795MHz



Chain 2 6dB Bandwidth, 802.11n(HT40), 5795MHz



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MIMO 6dB Bandwidth, 802.11n(HT40), 5795MHz



Chain 1 6dB Bandwidth, 802.11ac(VHT40), 5755MHz



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Chain 2 6dB Bandwidth, 802.11ac(VHT40), 5755MHz



MIMO 6dB Bandwidth, 802.11ac(VHT40), 5755MHz



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Chain 1 6dB Bandwidth, 802.11ac(VHT40), 5795MHz



Chain 2 6dB Bandwidth, 802.11ac(VHT40), 5795MHz



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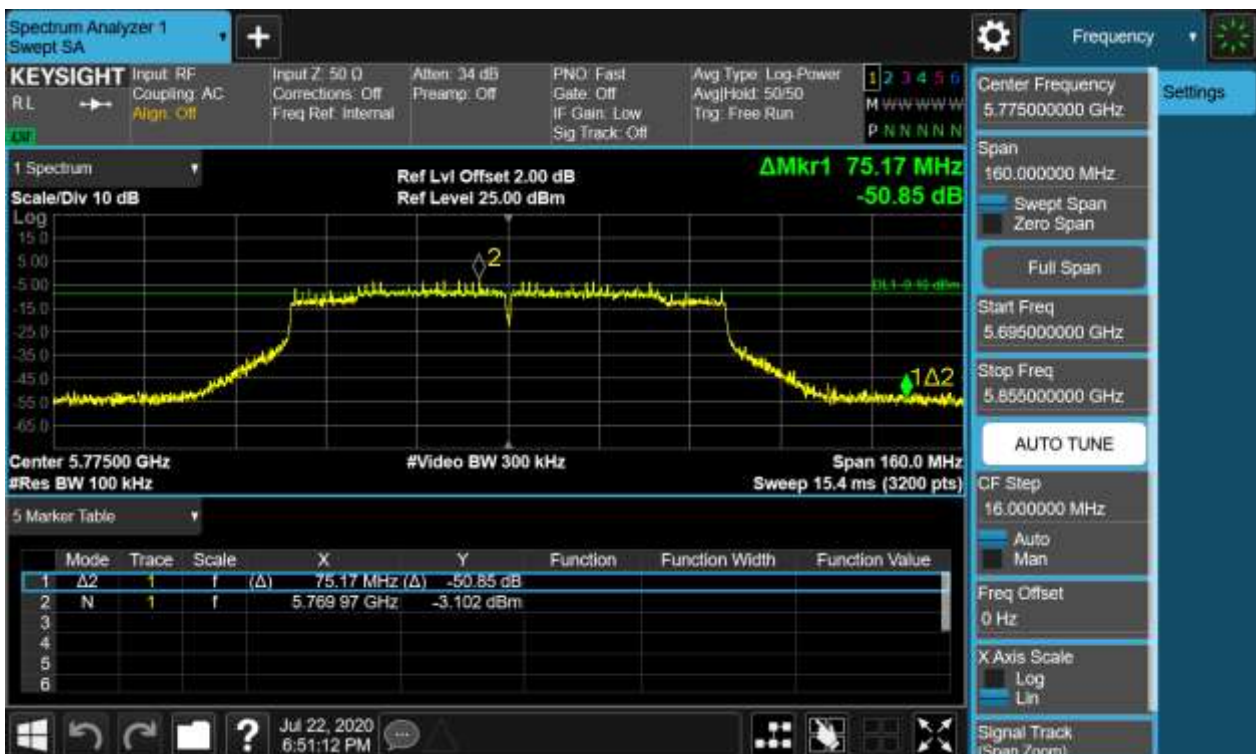
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MIMO 6dB Bandwidth, 802.11ac(VHT40), 5795MHz



Chain 1 6dB Bandwidth, 802.11ac(VHT80), 5775MHz



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Chain 2 6dB Bandwidth, 802.11ac(VHT80), 5775MHz



MIMO 6dB Bandwidth, 802.11ac(VHT80), 5775MHz



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4.1.5 Power Spectral Density

RESULT:

PASS

Test standard : FCC Part 15.407(a)
RSS-247 6.2
Requirement : ANSI C63.10-2013, KDB 789033
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23°C
Relative humidity : 52%

Notes

Test plots please refer to the annex document "WIFI5G PSD EXHIBIT A of SHE20070010-02DE Chain 1".

Test plots please refer to the annex document "WIFI5G PSD EXHIBIT A of SHE20070010-02DE Chain 2".

Test plots please refer to the annex document "WIFI5G PSD EXHIBIT A of SHE20070010-02DE MIMO Chain1".

Test plots please refer to the annex document "WIFI5G PSD EXHIBIT A of SHE20070010-02DE MIMO Chain2".

Table 8: Chain 1 Power Spectral Density

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)
802.11a	5180	1.48	11
	5220	1.28	
	5240	1.46	
802.11n(HT20)	5180	0.30	
	5220	0.43	
	5240	1.13	
802.11ac(VHT20)	5180	1.39	
	5220	1.04	
	5240	1.34	
802.11n(HT40)	5190	-0.59	
	5230	-1.66	
802.11ac(VHT40)	5190	-0.52	
	5230	-1.35	
802.11ac(VHT80)*	5210	-3.45	

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Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	IC Limit (dBm/MHz)
802.11a	5180	3.67	10
	5220	3.47	
	5240	3.65	
802.11n(HT20)	5180	2.49	
	5220	2.62	
	5240	3.32	
802.11ac(VHT20)	5180	3.58	
	5220	3.23	
	5240	3.53	
802.11n(HT40)	5190	1.6	
	5230	0.53	
802.11ac(VHT40)	5190	1.67	
	5230	0.84	
802.11ac(VHT80)*	5210	-1.26	

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/500KHz)	FCC/IC Limit (dBm/500KHz)
802.11a	5745	2.38	30
	5785	2.40	
	5825	1.94	
802.11n(HT20)	5745	1.97	
	5785	2.48	
	5825	1.74	
802.11ac(VHT20)	5745	2.16	
	5785	2.25	
	5825	1.68	
802.11n(HT40)	5755	-0.24	
	5795	-0.30	
802.11ac(VHT40)	5755	-0.41	
	5795	-0.25	
802.11ac(VHT80)	5775	-2.62	

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Table 9: Chain 2 Power Spectral Density

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)
802.11a	5180	1.34	11
	5220	1.41	
	5240	1.35	
802.11n(HT20)	5180	1.38	
	5220	1.35	
	5240	1.37	
802.11ac(VHT20)	5180	1.15	
	5220	1.04	
	5240	1.21	
802.11n(HT40)	5190	-0.42	
	5230	-1.03	
802.11ac(VHT40)	5190	-1.17	
	5230	-1.47	
802.11ac(VHT80)	5210	-3.40	

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	IC Limit (dBm/MHz)
802.11a	5180	2.94	10
	5220	3.01	
	5240	2.95	
802.11n(HT20)	5180	2.98	
	5220	2.95	
	5240	2.97	
802.11ac(VHT20)	5180	2.75	
	5220	2.64	
	5240	2.81	
802.11n(HT40)	5190	1.18	
	5230	0.57	
802.11ac(VHT40)	5190	0.43	
	5230	0.13	
802.11ac(VHT80)	5210	-1.80	

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/500KHz)	FCC/IC Limit (dBm/500KHz)
802.11a	5745	1.54	30
	5785	1.90	
	5825	0.43	
802.11n(HT20)	5745	1.77	
	5785	1.74	
	5825	1.71	
802.11ac(VHT20)	5745	2.14	
	5785	1.99	
	5825	1.24	
802.11n(HT40)	5755	-0.91	
	5795	-0.80	
802.11ac(VHT40)	5755	-0.79	
	5795	-0.37	
802.11ac(VHT80)	5775	-2.93	

Table 10:MIMO Chain 1 Power Spectral Density

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)
802.11a	5180	1.47	11
	5220	0.99	
	5240	1.34	
802.11n(HT20)	5180	1.20	
	5220	0.43	
	5240	1.15	
802.11ac(VHT20)	5180	0.94	
	5220	0.62	
	5240	1.17	
802.11n(HT40)	5190	-1.35	
	5230	-1.47	
802.11ac(VHT40)	5190	-1.50	
	5230	-1.74	
802.11ac(VHT80)	5210	-4.35	

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Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	IC Limit (dBm/MHz)
802.11a	5180	3.66	10
	5220	3.18	
	5240	3.53	
802.11n(HT20)	5180	3.39	
	5220	2.62	
	5240	3.34	
802.11ac(VHT20)	5180	3.13	
	5220	2.81	
	5240	3.36	
802.11n(HT40)	5190	0.84	
	5230	0.72	
802.11ac(VHT40)	5190	0.69	
	5230	0.45	
802.11ac(VHT80)	5210	-2.16	

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/500KHz)	FCC/IC Limit (dBm/500KHz)
802.11a	5745	0.54	30
	5785	1.98	
	5825	-0.70	
802.11n(HT20)	5745	2.23	
	5785	1.26	
	5825	1.85	
802.11ac(VHT20)	5745	1.66	
	5785	2.03	
	5825	1.71	
802.11n(HT40)	5755	-1.21	
	5795	-1.18	
802.11ac(VHT40)	5755	-0.82	
	5795	-1.13	
802.11ac(VHT80)	5775	-3.42	

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Table 11: MIMO Chain 2 Power Spectral Density

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)
802.11a	5180	1.40	11
	5220	1.18	
	5240	1.71	
802.11n(HT20)	5180	1.63	
	5220	1.69	
	5240	2.00	
802.11ac(VHT20)	5180	1.57	
	5220	1.37	
	5240	2.28	
802.11n(HT40)	5190	-0.03	
	5230	-0.82	
802.11ac(VHT40)	5190	-0.11	
	5230	-0.42	
802.11ac(VHT80)	5210	-0.51	

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	IC Limit (dBm/MHz)
802.11a	5180	3.00	10
	5220	2.78	
	5240	3.31	
802.11n(HT20)	5180	3.23	
	5220	3.29	
	5240	3.60	
802.11ac(VHT20)	5180	3.17	
	5220	2.97	
	5240	3.88	
802.11n(HT40)	5190	1.57	
	5230	0.78	
802.11ac(VHT40)	5190	1.49	
	5230	1.18	
802.11ac(VHT80)	5210	1.09	

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/500KHz)	FCC/IC Limit (dBm/500KHz)
802.11a	5745	1.55	30
	5785	1.61	
	5825	2.20	
802.11n(HT20)	5745	1.71	
	5785	1.18	
	5825	1.78	
802.11ac(VHT20)	5745	1.37	
	5785	1.13	
	5825	1.58	
802.11n(HT40)	5755	-0.97	
	5795	-1.42	
802.11ac(VHT40)	5755	-0.99	
	5795	-1.57	
802.11ac(VHT80)	5775	-3.53	

Table 12: MIMO Power Spectral Density

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)
802.11a	5180	4.44	11
	5220	4.10	
	5240	4.53	
802.11n(HT20)	5180	4.44	
	5220	4.12	
	5240	4.59	
802.11ac(VHT20)	5180	4.28	
	5220	4.01	
	5240	4.77	
802.11n(HT40)	5190	2.36	
	5230	1.88	
802.11ac(VHT40)	5190	2.25	
	5230	1.99	
802.11ac(VHT80)	5210	1.00	

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Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	IC Limit (dBm/MHz)
802.11a	5180	9.64	10
	5220	9.3	
	5240	9.73	
802.11n(HT20)	5180	9.64	
	5220	9.32	
	5240	9.79	
802.11ac(VHT20)	5180	9.48	
	5220	9.21	
	5240	9.97	
802.11n(HT40)	5190	7.56	
	5230	7.08	
802.11ac(VHT40)	5190	7.45	
	5230	7.19	
802.11ac(VHT80)	5210	6.2	

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	FCC PSD (dBm/MHz)	IC PSD (dBm/500KHz)	FCC/IC Limit (dBm/500kHz)
802.11a	5745	4.08	9.28	30
	5785	4.81	10.01	
	5825	4.00	9.2	
802.11n(HT20)	5745	4.98	10.18	
	5785	4.23	9.43	
	5825	4.83	10.03	
802.11ac(VHT20)	5745	4.53	9.73	
	5785	4.62	9.82	
	5825	4.65	9.85	
802.11n(HT40)	5755	1.93	7.13	
	5795	1.70	6.9	
802.11ac(VHT40)	5755	2.12	7.32	
	5795	1.67	6.87	
802.11ac(VHT80)	5775	-0.51	4.69	

MIMO PSD= Chain1+Chain2 (mw)

5G MIMO gain is 2.19dBi + 10log(2) =5.2dBi (2.19dBi is MAX gain of 5G)

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4.1.6 Undesirable Emission

RESULT:

PASS

Test standard : FCC Part 15.407(b), 15.209
RSS-247 6.2
Requirement : ANSI C63.10-2013, KDB 789033
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23°C
Relative humidity : 52%

Notes

Test plots please refer to the annex document "WIFI5G-TX CSE EXHIBIT A of SHE20070010-02DE Chain 1".

Test plots please refer to the annex document "WIFI5G-TX CSE EXHIBIT A of SHE20070010-02DE Chain 2".

Test plots please refer to the annex document "WIFI5G-TX CSE EXHIBIT A of SHE20070010-02DE MIMO".

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4.1.7 Spurious Emission

RESULT:

PASS

Test standard	: FCC Part 15.407(b) RSS-247 6.2
Requirement	: ANSI C63.10-2013
Kind of test site	: 3m Semi-Anechoic Chamber

Test setup

Test Channel	: Low/Middle/High
Operation Mode	: A
Ambient temperature	: 23°C
Relative humidity	: 52%

Notes:

1. Test plots please refer to the annex document
"WIFI5GB1B4-TX EXHIBIT A of SHE20070010-02DE FCC mimo".
2. For 9 kHz ~ 30 MHz, the amplitude of spurious emissions that are attenuated by more than 20dB below the permissible. The value has no need to be reported.
3. The spurious above 18GHz is noise only and 20dB below the limit. The value has no need to be reported.
4. The EUT is working in the Normal link mode below 1 GHz.

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4.1.8 Band Edge (Restricted-band band-edge)

RESULT:

PASS

Test standard	: FCC Part 15.407(b) RSS-247 6.2
Requirement	: ANSI C63.10-2013, KDB 789033
Kind of test site	: 3m Semi-Anechoic Chamber

Test setup

Test Channel	: Low/Middle/High
Operation Mode	: A.1
Ambient temperature	: 23°C
Relative humidity	: 52%

For details refer to following test plot.

Notes:

1. Test plots please refer to the annex document

“WIFI5GB1B4-TX EXHIBIT A of SHE20070010-02DE FCC mimo”.

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4.1.9 Frequency Stability

RESULT: PASS

Test standard : FCC Part 15.407(g)
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1
Ambient temperature : 23°C
Relative humidity : 52%

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Table 11: Chain 1 Frequency Stability

Band I (5150 – 5250 MHz):

Voltage vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
23	6.0 V	5179.999	1.93	± 20
	7.6 V	5180.021	4.05	
	8.7 V	5180.032	6.18	

Temperature vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
7.6 V	-30	--	--	± 20
	-20	--	--	
	-10	5179.968	6.18	
	0	5179.972	5.41	
	10	5179.974	5.02	
	20	5180.029	5.60	
	30	5180.035	6.76	
	40	5180.026	5.02	
	50	5179.962	7.34	

Note:

The all configurations were tested respectively, but only the worst channel shown here.

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Band IV (5725 – 5850 MHz):

Voltage vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
23	6.0 V	5744.957	7.48	± 20
	7.6 V	5745.026	4.53	
	8.7 V	5744.978	3.83	

Temperature vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
7.6V	-30	--	--	± 20
	-20	--	--	
	-10	5744.968	5.57	
	0	5744.975	4.35	
	10	5744.978	3.83	
	20	5745.292	5.08	
	30	5744.793	3.60	
	40	5745.223	3.88	
	50	5745.198	3.45	

Note:

The all configurations were tested respectively, but only the worst channel shown here.

Table 12: Chain 2 Frequency Stability

Band I (5150 – 5250 MHz):

Voltage vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
23	6.0 V	5179.979	4.05	± 20
	7.6 V	5180.003	5.79	
	8.7 V	5179.982	3.47	

Temperature vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
7.6 V	-30	--	--	± 20
	-20	--	--	
	-10	5179.968	6.18	

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	0	5179.972	5.41	
	10	5179.965	6.76	
	20	5180.011	2.12	
	30	5179.975	4.83	
	40	5179.971	5.60	
	50	5179.969	5.98	

Note:

The all configurations were tested respectively, but only the worst channel shown here.

Band IV (5725 – 5850 MHz):

Voltage vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Temp (°C)	Voltage (V)			
20	10.8 V	5744.883	2.04	± 20
	12.0 V	5745.002	3.48	
	13.2 V	5744.954	1.66	

Temperature vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
12.0 V	-30	--	--	± 20
	-20	--	--	
	-10	5744.966	5.92	
	0	5744.971	5.05	
	10	5744.806	3.38	
	20	5745.003	5.22	
	30	5744.965	6.09	
	40	5744.969	5.40	
	50	5744.968	5.57	

Note:

The all configurations were tested respectively, but only the worst channel shown here.

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4.2 Mains Emissions

4.2.1 Conducted Emission on AC Mains

RESULT:

PASS

Test standard	: FCC Part 15.207 RSS-Gen 8.8
Requirement	: ANSI C63.10-2013
Kind of test site	: Shielded room

Test setup

Input Voltage	: AC 120V, 60Hz; AC 240V, 50Hz
Operation Mode	: Normal Link
Earthing	: Not Connected
Ambient temperature	: 23°C
Relative humidity	: 52%

For details refer to following test plot.

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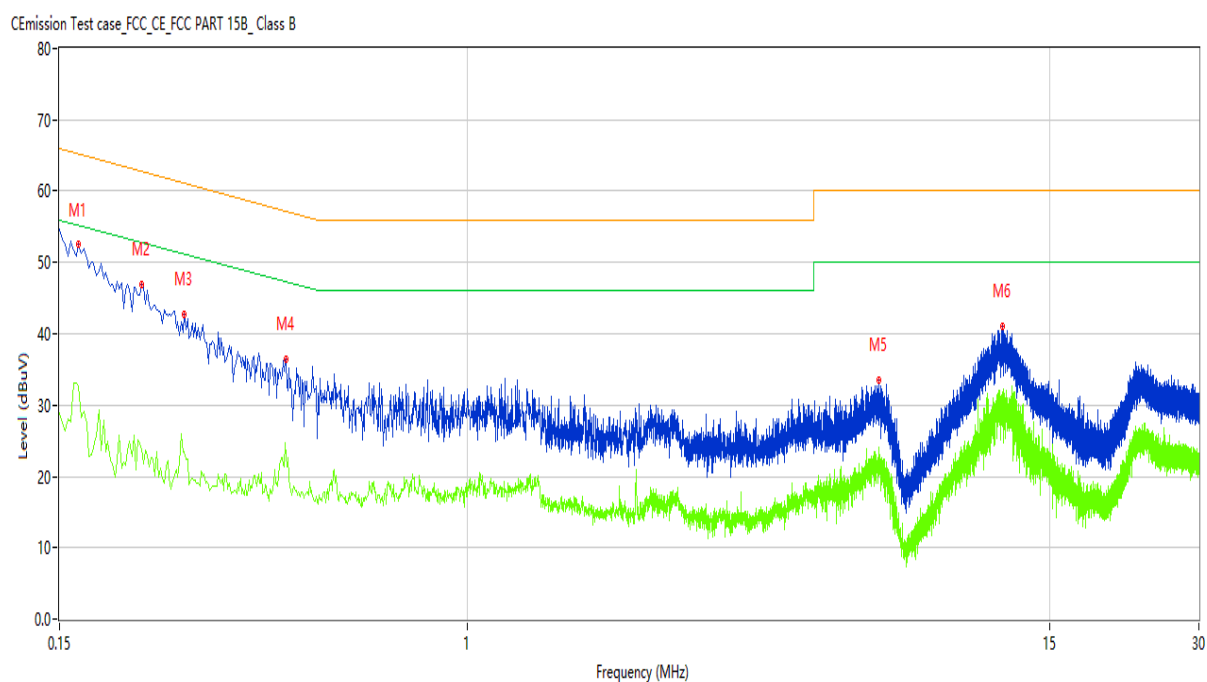
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Note:

The all configurations were tested respectively, but only the worst configuration shown here.

Figure 1: Conducted Emission on AC Mains, L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.164	54.50	10.15	65.26	-10.76	Peak	L	Pass
1*	0.164	46.77	10.15	65.26	-18.49	QP	L	Pass
1**	0.164	32.68	10.15	55.26	-22.58	AV	L	Pass
2	0.220	48.07	10.14	62.82	-14.75	Peak	L	Pass
2*	0.220	39.25	10.14	62.82	-23.57	QP	L	Pass
2**	0.220	23.82	10.14	52.82	-29.00	AV	L	Pass
3	0.268	44.38	10.14	61.18	-16.80	Peak	L	Pass
3*	0.268	35.99	10.14	61.18	-25.19	QP	L	Pass
3**	0.268	23.44	10.14	51.18	-27.74	AV	L	Pass
4	0.430	37.84	10.15	57.25	-19.41	Peak	L	Pass
4*	0.430	29.37	10.15	57.25	-27.88	QP	L	Pass
4**	0.430	22.95	10.15	47.25	-24.30	AV	L	Pass
5	6.766	34.59	10.30	60.00	-25.41	Peak	L	Pass
5*	6.766	27.32	10.30	60.00	-32.68	QP	L	Pass
5**	6.766	22.11	10.30	50.00	-27.89	AV	L	Pass
6	12.054	41.17	10.46	60.00	-18.83	Peak	L	Pass
6*	12.054	35.69	10.46	60.00	-24.31	QP	L	Pass
6**	12.054	30.88	10.46	50.00	-19.12	AV	L	Pass

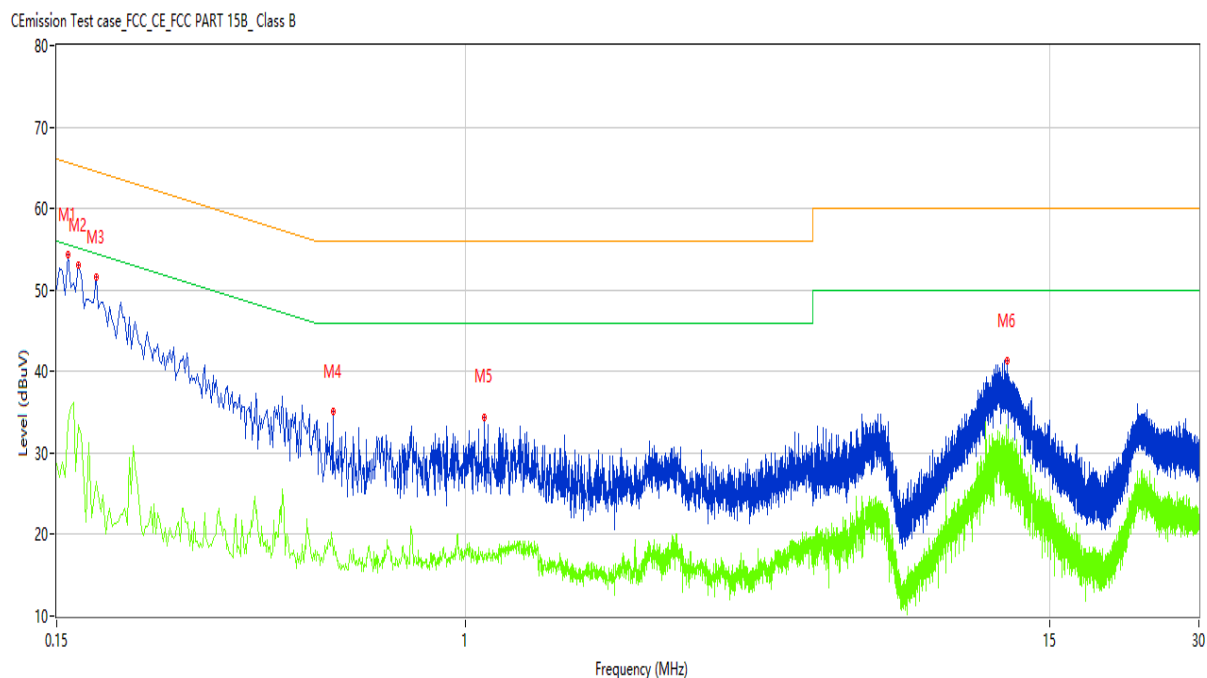
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Figure 2: Conducted Emission on AC Mains, N Phase



No.	Frequency (MHz)	Results (dBUV)	Factor (dB)	Limit (dBUV)	Over Limit (dB)	Detector	Line	Verdict
1	0.158	55.77	10.15	65.57	-9.80	Peak	N	Pass
1*	0.158	48.54	10.15	65.57	-17.03	QP	N	Pass
1**	0.158	33.79	10.15	55.57	-21.78	AV	N	Pass
2	0.166	54.53	10.15	65.16	-10.63	Peak	N	Pass
2*	0.166	46.65	10.15	65.16	-18.51	QP	N	Pass
2**	0.166	33.37	10.15	55.16	-21.79	AV	N	Pass
3	0.180	52.73	10.15	64.49	-11.76	Peak	N	Pass
3*	0.180	44.18	10.15	64.49	-20.31	QP	N	Pass
3**	0.180	26.57	10.15	54.49	-27.92	AV	N	Pass
4	0.540	36.18	10.15	56.00	-19.82	Peak	N	Pass
4*	0.540	25.23	10.15	56.00	-30.77	QP	N	Pass
4**	0.540	18.02	10.15	46.00	-27.98	AV	N	Pass
5	1.092	33.78	10.16	56.00	-22.22	Peak	N	Pass
5*	1.092	23.61	10.16	56.00	-32.39	QP	N	Pass
5**	1.092	17.51	10.16	46.00	-28.49	AV	N	Pass
6	12.344	40.52	10.46	60.00	-19.48	Peak	N	Pass
6*	12.344	35.31	10.46	60.00	-24.69	QP	N	Pass
6**	12.344	31.61	10.46	50.00	-18.39	AV	N	Pass

End of the report