

# TEST REPORT

Report No.: SHE21040013-02IE

Date: 2021-06-07

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**Applicant** : Leica Geosystems AG  
**Address of Applicant** : Heinrich-Wild-Strasse, CH-9435 Heerbrugg

**Product Name** : Rugged Windows Field Controller  
**Model No.** : CS30 LTE LRBT  
**Sample No.** : E21040013-01 #05  
E21040013-01 #01  
**FCC ID** : RFD-CS30LRBT  
**ISED Number** : 3177A-CS30LRBT

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

**Date of Receipt** : 2021-04-25  
**Date of Test** : 2021-04-25 ~ 2021-06-07  
**Date of Issue** : 2021-06-07

**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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## 1 General Information

### 1.1 Testing Laboratory

<b>Company Name</b>	ICAS Testing Technology Service (Shanghai) Co., Ltd.
<b>Address</b>	No.1298 Pingan Rd, Minhang District, Shanghai, China
<b>Telephone</b>	0086 21-51682999
<b>Fax</b>	0086 21-54711112
<b>Homepage</b>	www.icasiso.com

### 1.2 Details of Application

<b>Applicant Company Name</b>	Leica Geosystems AG
<b>Address</b>	Heinrich-Wild-Strasse, CH-9435 Heerbrugg
<b>Contact Person</b>	Patrick Rayero
<b>Telephone</b>	+4171 727 4664
<b>Email</b>	patrick.rayero@leica-geosystems.com
<b>Manufacturer Company Name</b>	Leica Geosystems AG
<b>Address</b>	Heinrich-Wild-Strasse, CH-9435 Heerbrugg
<b>Factory Company Name</b>	Shenzhen UniStrong Science & Technology Co.,Ltd.
<b>Address</b>	B,4-4Factory, Zhengcheng Road, Fuyong Baoan District, Shenzhen, China

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## 1.3 Details of EUT

Product Name	Rugged Windows Field Controller
Brand Name	Leica
Test Model No.	CS30 LTE LRBT
FCC ID	RFD-CS30LRBT
ISED Number	3177A-CS30LRBT
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 Gain	4.95dBi
Extreme Temperature Range	-20°C ~ +60°C
Test Voltage	DC 11.1V
Extreme Voltage	Low Voltage: DC 8.25V High Voltage: DC 12.6V
Product Type	Mobile and portable for FCC standard Indoor for IC standard
Hardware version	PCB V0.4
Software version	R.ED.00.02.03
RF power setting in TEST SW	DRTU

## 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
RSS-Gen (Issue 5, March 2019)	General Requirements for Compliance of Radio Apparatus
RSS-247 (Issue 2, February 2017)	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) 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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## 1.5 Test Summary

Test Item	FCC Rules	ISED RULES	Result
Antenna Requirement	FCC Part 15.407(a), 15.203	RSS-247, 6.2	PASS
Peak Output Power and E.I.R.P	FCC Part 15.407(a)	RSS-247, 6.2	PASS
26dB Bandwidth and 99% Bandwidth	FCC Part 15.407(a)	RSS-247 6.2	PASS
6dB Bandwidth	FCC Part 15.407(e)	RSS-247 6.2	PASS
Power Spectral Density	FCC Part 15.407(a)	RSS-247 6.2	PASS
Undesirable Emission	FCC Part 15.407(b), 15.209	RSS-247 6.2	PASS
Spurious Emission	FCC Part 15.407(b)	RSS-247 6.2	PASS
Band Edge (Restricted-band band-edge)	FCC Part 15.407(b)	RSS-247 6.2	PASS
Frequency Stability	FCC Part 15.407(g)	--	PASS
Conducted Emission on AC Mains	FCC Part 15.207	RSS-Gen 8.8	PASS

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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. Date	Cal. Due Date
Spectrum Analyzer	Keysight	N9020B	MY59260184	2020-08-19	2021-08-18
Spectrum Analyzer	Rohde & Schwarz	FSV40N	101450	2020-06-09	2021-06-08
EMI Test Receiver	Rohde & Schwarz	ESPI3	100173	2020-06-09	2021-06-08
EMI Test Receiver	Rohde & Schwarz	ESR 7	101911	2020-06-09	2021-06-08
V-network	SCHWARZBECK	NSLK 8127	8127-902	2020-07-29	2021-07-28
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	100687	2020-08-19	2021-08-18
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2020-06-09	2021-06-08
Horn Antenna-18G	SCHWARZBECK	BBHA9120D	9120D-1775	2020-07-29	2021-07-28
Loop Antenna	SCHWARZBECK	FMZB 1513	N/A	2020-11-23	2021-11-22
Horn Antenna-40G	YINGLIAN	LB-180400-KF	N/A	2020-07-27	2021-07-26
Temperature Chamber	SHKTEST	SHK-B101	20190819001	2019-12-23	2021-12-22
EMC chamber 9*6*6 (L*W*H)	CHANGNING	966	N/A	2020-06-09	2023-06-08
Shielded Enclosure 8*5*4 (L*W*H)	CHANGNING	854	N/A	2020-06-09	2021-06-08
Test Software	BL	BL410_E	N/A	N/A	N/A
Test Software	BL	BL410_R	N/A	N/A	N/A

### 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
Conducted Emission on AC Mains	9KHz-30MHz	± 1.96 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
802.11a	54Mbps
802.11n(HT20), 802.11ac(VHT20)	MCS6
802.11n(HT40), 802.11ac(VHT40)	MCS5
802.11ac(VHT80)	MCS3

The basic operation modes are:

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

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## 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	N/A	DRTU



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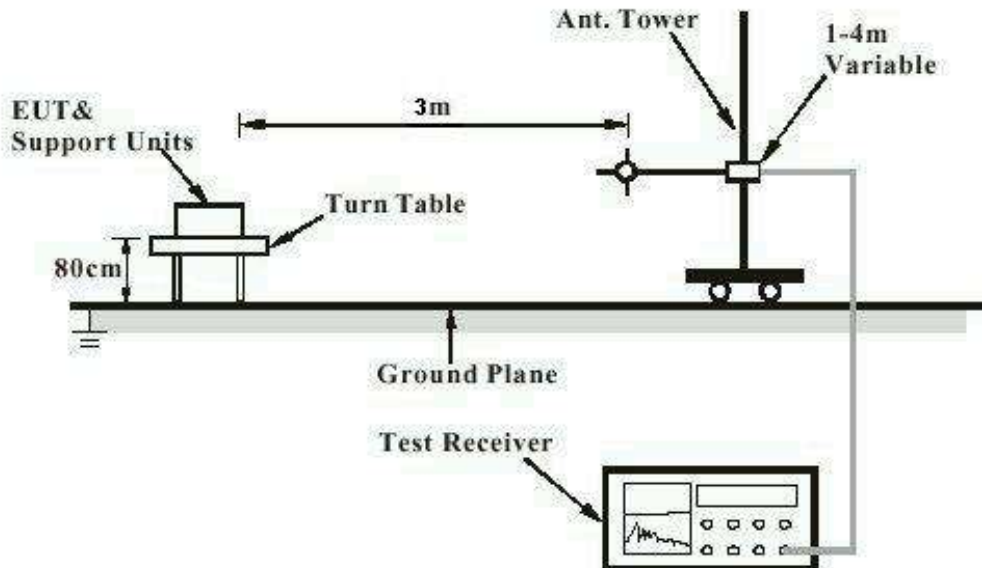
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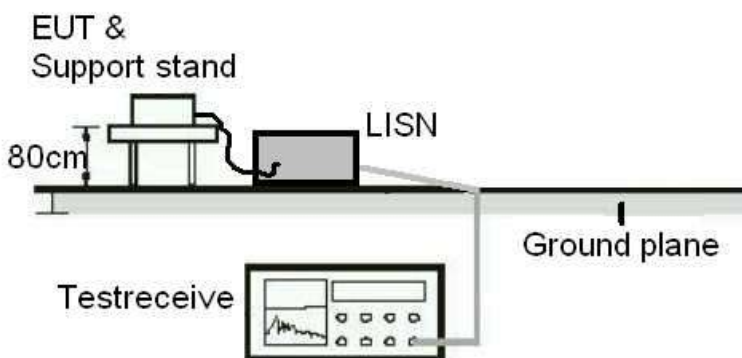
## 3.4 Test Setup Diagram

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



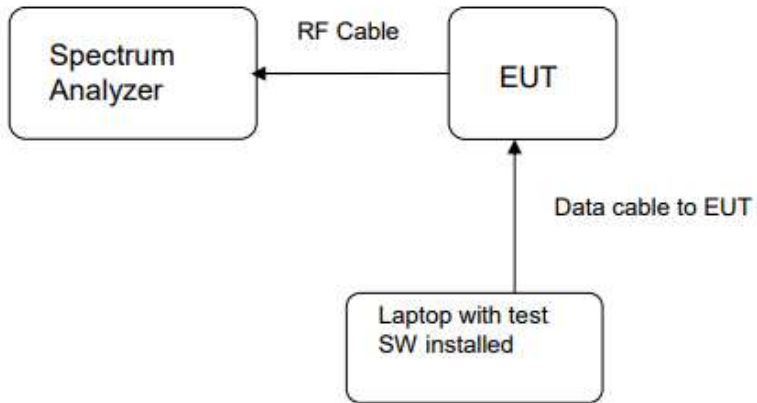
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## Diagram of Measurement Equipment Configuration for Transmitter Measurement



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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 6dBi

According to the manufacturer declaration, the EUT has an antenna with a directional gain of 4.95dBi. 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)
		(dBm)	(mW)	
802.11a	5180	11.64	14.59	250
	5220	12.44	17.54	
	5240	12.24	16.75	
802.11n(HT20)	5180	12.01	15.89	
	5220	12.05	16.03	
	5240	12.47	17.66	
802.11ac(VHT20)	5180	11.81	15.17	
	5220	12.01	15.89	
	5240	11.26	13.37	
802.11n(HT40)	5190	9.36	8.63	
	5230	9.92	9.82	
802.11ac(VHT40)	5190	8.79	7.57	
	5230	8.43	6.97	
802.11ac(VHT80)	5210	7.77	5.98	

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	Measured Peak Output Power		FCC/IC Limit (W)
		(dBm)	(mW)	
802.11a	5745	11.60	14.45	1
	5785	11.05	12.74	
	5825	10.40	10.96	
802.11n(HT20)	5745	11.06	12.76	
	5785	11.24	13.30	
	5825	9.81	9.57	
802.11ac(VHT20)	5745	11.81	15.17	
	5785	11.27	13.40	
	5825	10.67	11.67	
802.11n(HT40)	5755	9.93	9.84	
	5795	9.17	8.26	
802.11ac(VHT40)	5755	10.94	12.42	
	5795	10.01	10.02	
802.11ac(VHT80)	5775	9.74	9.42	

**Table 2: E.I.R.P**

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	E.I.R.P		IC Limit (mW)
		(dBm)	(mW)	
802.11a	5180	16.55	45.19	200 mW or 10 dBm + 10log B, which is less
	5220	16.00	39.81	
	5240	15.35	34.28	
802.11n(HT20)	5180	16.01	39.90	
	5220	16.19	41.59	
	5240	14.76	29.92	
802.11ac(VHT20)	5180	16.76	47.42	
	5220	16.22	41.88	
	5240	15.62	36.48	
802.11n(HT40)	5190	14.88	30.76	
	5230	14.12	25.82	
802.11ac(VHT40)	5190	15.89	38.82	
	5230	14.96	31.33	
802.11ac(VHT80)	5210	14.69	29.44	

Note: 5G antenna peak gain is 4.95dBi

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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 "SHE21040013-02IE DATA WIFI5G EXHIBIT A".

**Table 3: 26dB Bandwidth and 99% Bandwidth**

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5180	20.267	16.507
	5220	20.748	16.451
	5240	21.199	16.396
802.11n(HT20)	5180	21.700	17.647
	5220	21.216	17.632
	5240	20.964	17.678
802.11ac(VHT20)	5180	20.781	17.634
	5220	21.458	17.593
	5240	21.113	17.676
802.11n(HT40)	5190	39.749	35.992
	5230	40.391	36.037
802.11ac(VHT40)	5190	39.820	36.068
	5230	40.109	36.068
802.11ac(VHT80)	5210	80.129	75.301

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Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5745	20.092	16.419
	5785	19.218	16.425
	5825	19.880	16.408
802.11n(HT20)	5745	20.687	17.620
	5785	20.513	17.625
	5825	20.770	17.594
802.11ac(VHT20)	5745	20.427	17.689
	5785	21.548	17.627
	5825	20.672	17.633
802.11n(HT40)	5755	40.424	36.093
	5795	40.263	36.042
802.11ac(VHT40)	5755	43.304	36.056
	5795	41.050	36.085
802.11ac(VHT80)	5775	80.011	75.245

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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 4: 6dB Bandwidth

Band IV (5725 – 5850 MHz)

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a	5745	15.79	≥0.5
	5785	16.32	
	5825	16.04	
802.11n(HT20)	5745	15.41	
	5785	15.91	
	5825	15.76	
802.11ac(VHT20)	5745	15.86	
	5785	15.43	
	5825	15.10	
802.11n(HT40)	5755	33.97	
	5795	35.09	
802.11ac(VHT40)	5755	33.92	
	5795	32.70	
802.11ac(VHT80)	5775	75.26	



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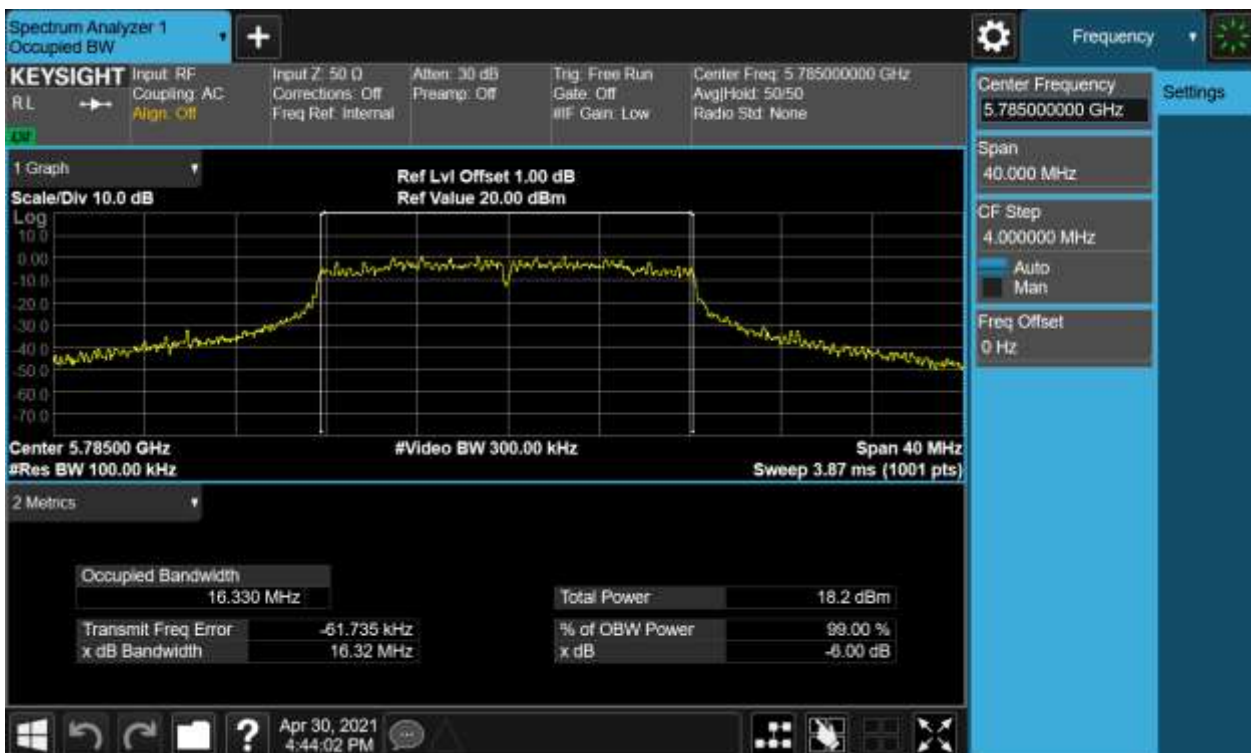
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Figure 1: 6dB Bandwidth, 802.11a, 5745MHz



Figure 2: 6dB Bandwidth, 802.11a, 5785MHz



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Figure 3: 6dB Bandwidth, 802.11a, 5825MHz



Figure 4: 6dB Bandwidth, 802.11n(HT20), 5745MHz



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Figure 5: 6dB Bandwidth, 802.11n(HT20), 5785MHz

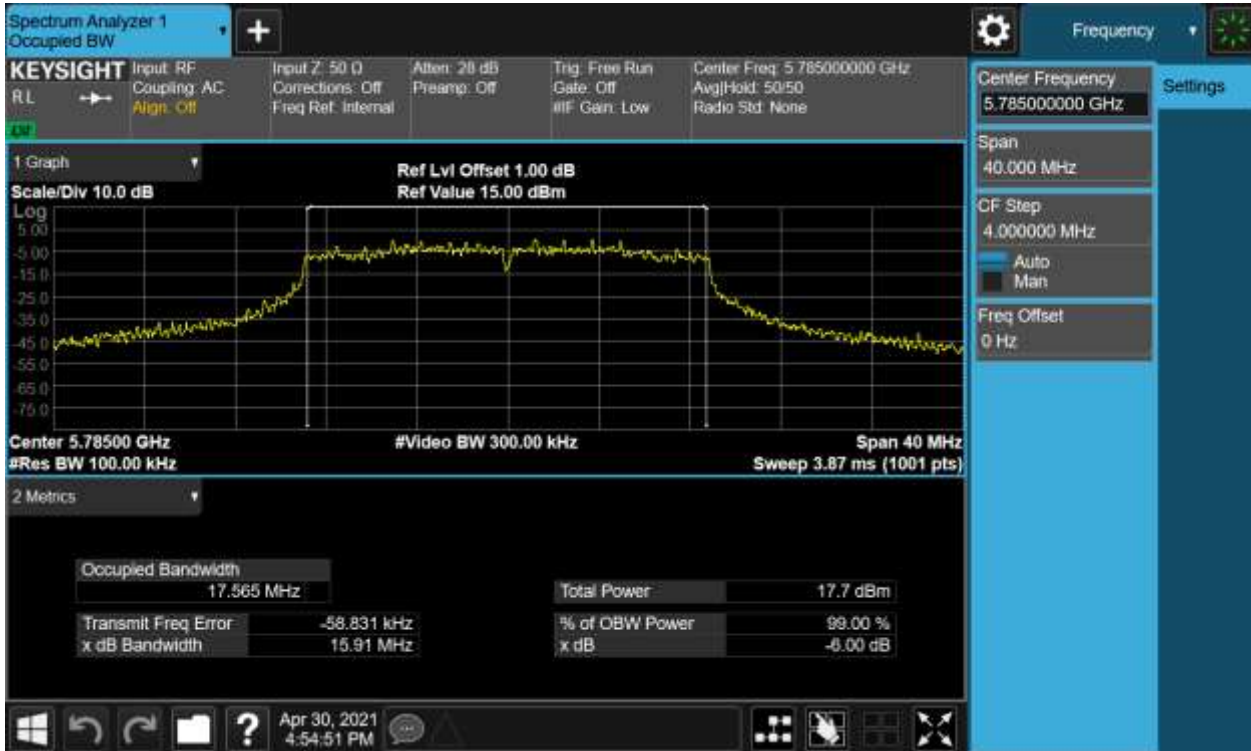


Figure 6: 6dB Bandwidth, 802.11n(HT20), 5825MHz



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Figure 7: 6dB Bandwidth, 802.11ac(VHT20), 5745MHz



Figure 8: 6dB Bandwidth, 802.11ac(VHT20), 5785MHz





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Figure 9: 6dB Bandwidth, 802.11ac(VHT20), 5825MHz

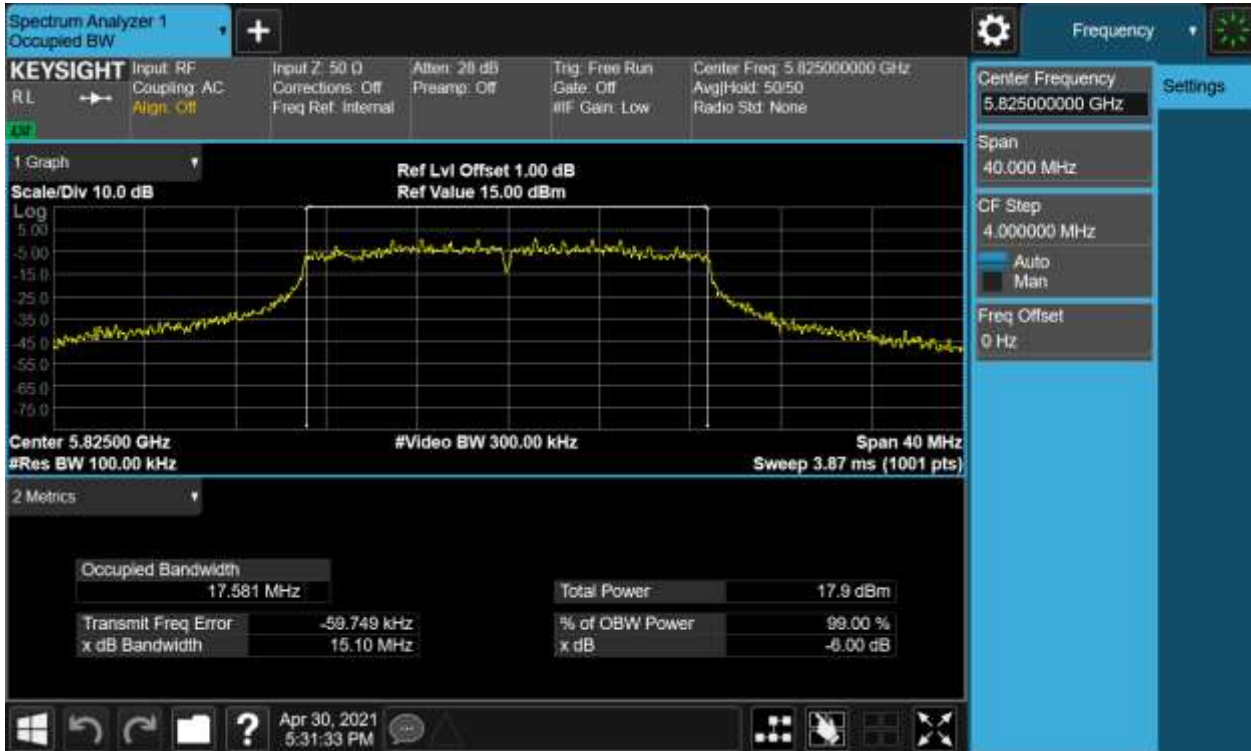
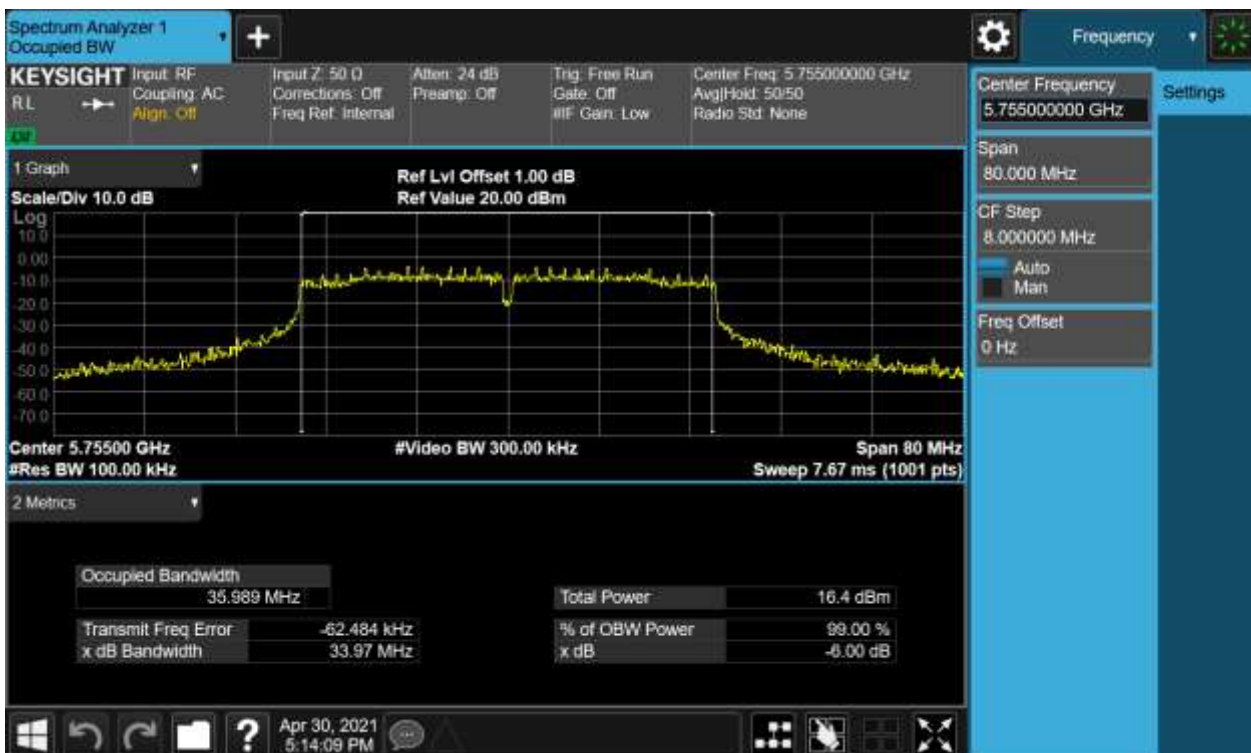


Figure 10: 6dB Bandwidth, 802.11n(HT40), 5755MHz



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Figure 11: 6dB Bandwidth, 802.11n(HT40), 5795MHz

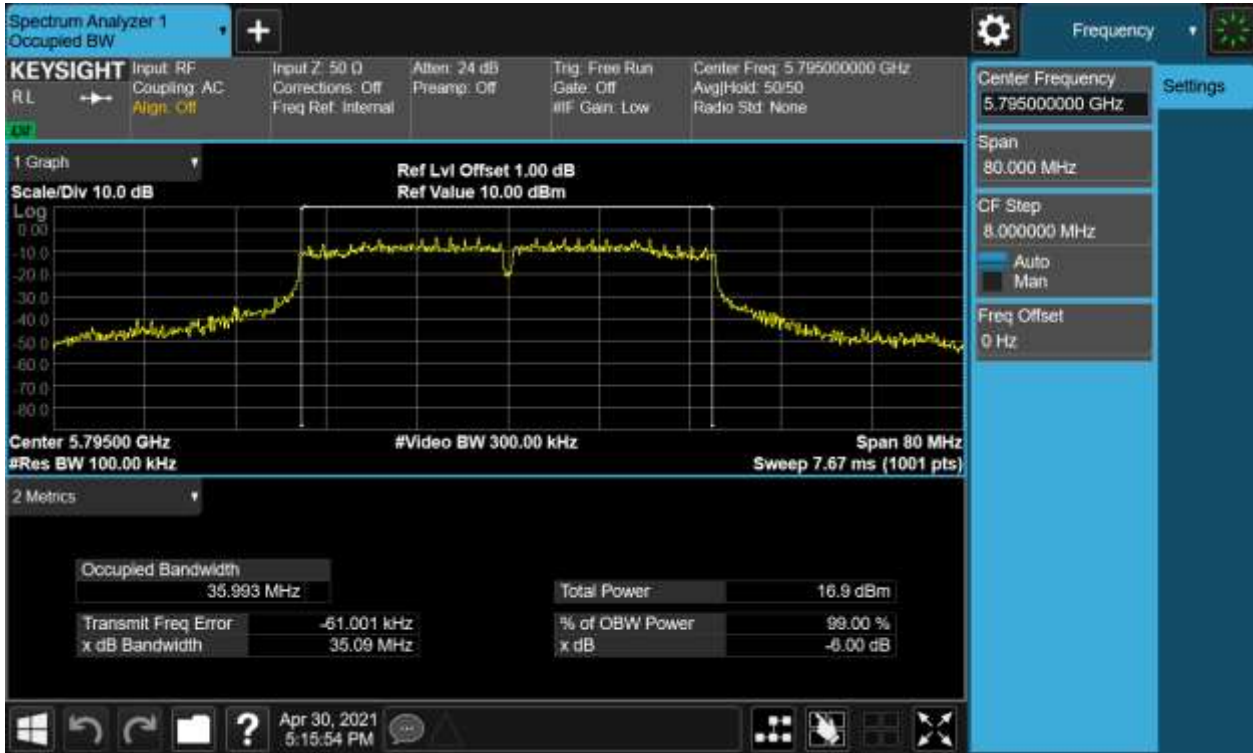


Figure 12: 6dB Bandwidth, 802.11ac(VHT40), 5755MHz



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Figure 13: 6dB Bandwidth, 802.11ac(VHT40), 5795MHz

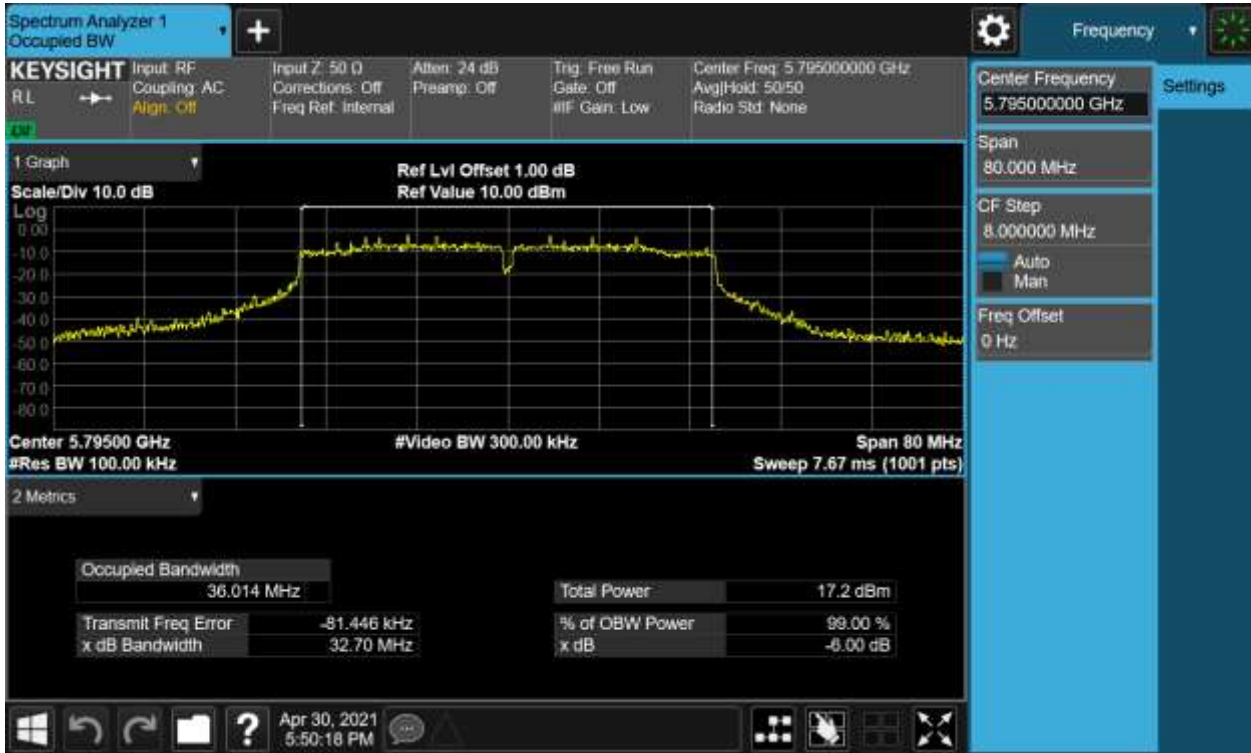
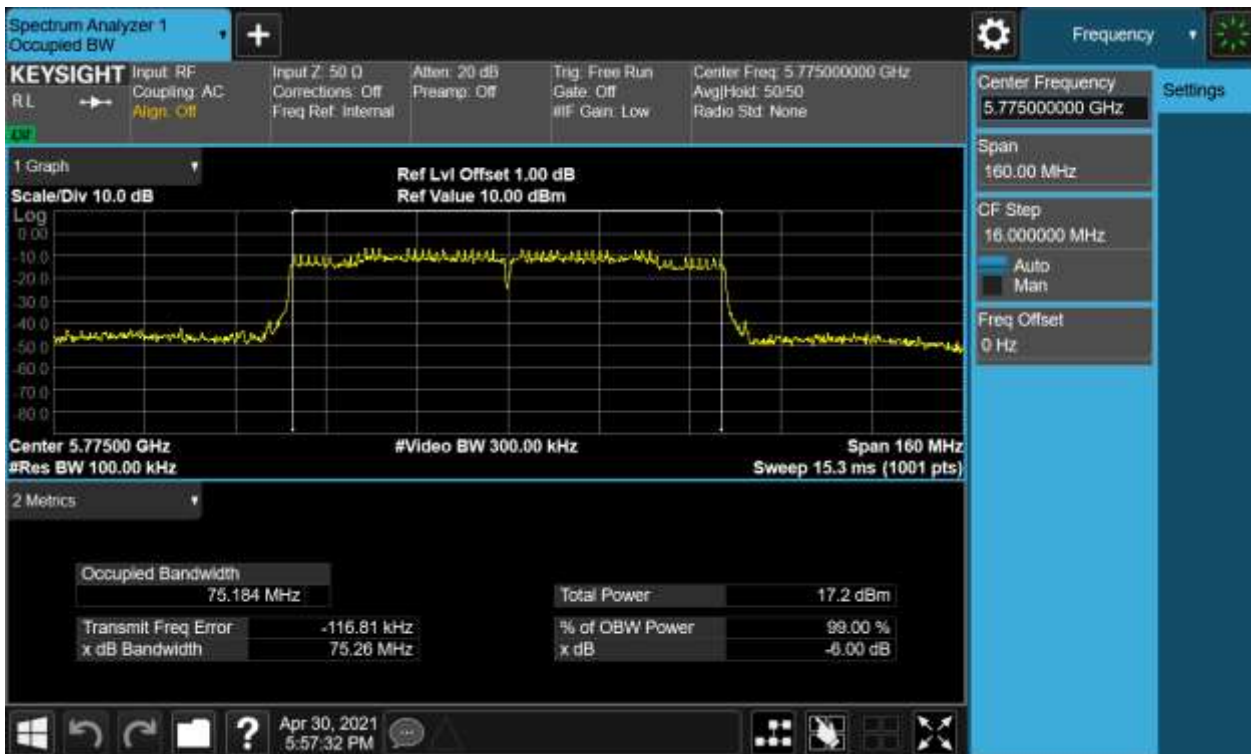


Figure 14: 6dB Bandwidth, 802.11ac(VHT80), 5775MHz



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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 "SHE21040013-02IE DATA WIFI5G PSD EXHIBIT A".

**Table 5: Power Spectral Density**

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	PSD (dBm/MHz)	FCC Limit (dBm/MHz)
802.11a	5180	3.07	11
	5220	3.52	
	5240	3.36	
802.11n(HT20)	5180	3.30	
	5220	2.36	
	5240	2.51	
802.11ac(VHT20)	5180	2.36	
	5220	3.50	
	5240	2.58	
802.11n(HT40)	5190	3.68	
	5230	3.58	
802.11ac(VHT40)	5190	3.77	
	5230	3.73	
802.11ac(VHT80)	5210	-1.18	



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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	6.46	30
	5785	5.73	
	5825	5.60	
802.11n(HT20)	5745	4.87	
	5785	5.30	
	5825	4.80	
802.11ac(VHT20)	5745	6.22	
	5785	6.22	
	5825	5.40	
802.11n(HT40)	5755	0.31	
	5795	0.28	
802.11ac(VHT40)	5755	0.28	
	5795	1.63	
802.11ac(VHT80)	5775	-1.41	

Band I (5150 – 5250 MHz)

Test Mode	Test Channel (MHz)	EIRP PSD (dBm/MHz)	IC Limit (dBm/MHz)
802.11a	5180	8.02	10
	5220	8.47	
	5240	8.31	
802.11n(HT20)	5180	8.25	
	5220	7.31	
	5240	7.46	
802.11ac(VHT20)	5180	7.31	
	5220	8.45	
	5240	7.53	
802.11n(HT40)	5190	8.63	
	5230	8.53	
802.11ac(VHT40)	5190	8.72	
	5230	8.68	
802.11ac(VHT80)	5210	3.77	

Note: 5G antenna peak gain is 4.95dBi

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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 "SHE21040013-02IE DATA WLAN 5GHz-TX CSE EXHIBIT A".*

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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:

*Test plots please refer to the annex document "SHE21040013-02IE DATA WIFI5GHz-TX EXHIBIT A"*

1. 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.
2. The spurious above 18GHz is noise only and 20dB below the limit. The value has no need to be reported.
3. The EUT is working in the Normal link mode below 1 GHz.
4. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

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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%

Notes:

*Test plots please refer to the annex document "SHE21040013-02IE DATA WIFI5GHz-TX EXHIBIT A"*

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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%

**Table 6: 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	3.7V	5179.94949	-9.751	±20
	3.8V	5179.94929	-9.790	
	4.35V	5179.94935	-9.778	

Temperature vs. Frequency Stability (5180MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
3.8V	-30	--	--	±20
	-20	5179.94936	-9.776	
	-10	5179.94946	-9.757	
	0	5179.94962	-9.726	
	10	5179.94927	-9.793	
	20	5179.94938	-9.772	
	30	5179.94953	-9.743	
	40	5179.94958	-9.734	
55	5179.94974	-9.703		

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)			
25	3.7V	5744.94509	-9.558	±20
	3.8V	5744.94529	-9.523	
	4.35V	5744.94516	-9.546	

Temperature vs. Frequency Stability (5745MHz)

Test Conditions		Frequency (MHz)	Max. Deviation (ppm)	Limit (ppm)
Voltage (V)	Temp (°C)			
3.8V	-30	--	--	±20
	-20	5744.94528	-9.525	
	-10	5744.94532	-9.518	
	0	5744.94512	-9.553	
	10	5744.94524	-9.532	
	20	5744.94536	-9.511	
	30	5744.94542	-9.500	
	40	5744.94553	-9.481	
	55	5744.94568	-9.455	

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  
Operation Mode : Normal Link  
Earthing : Not Connected  
Ambient temperature : 23°C  
Relative humidity : 52%

For details refer to following test plot.

# TEST REPORT

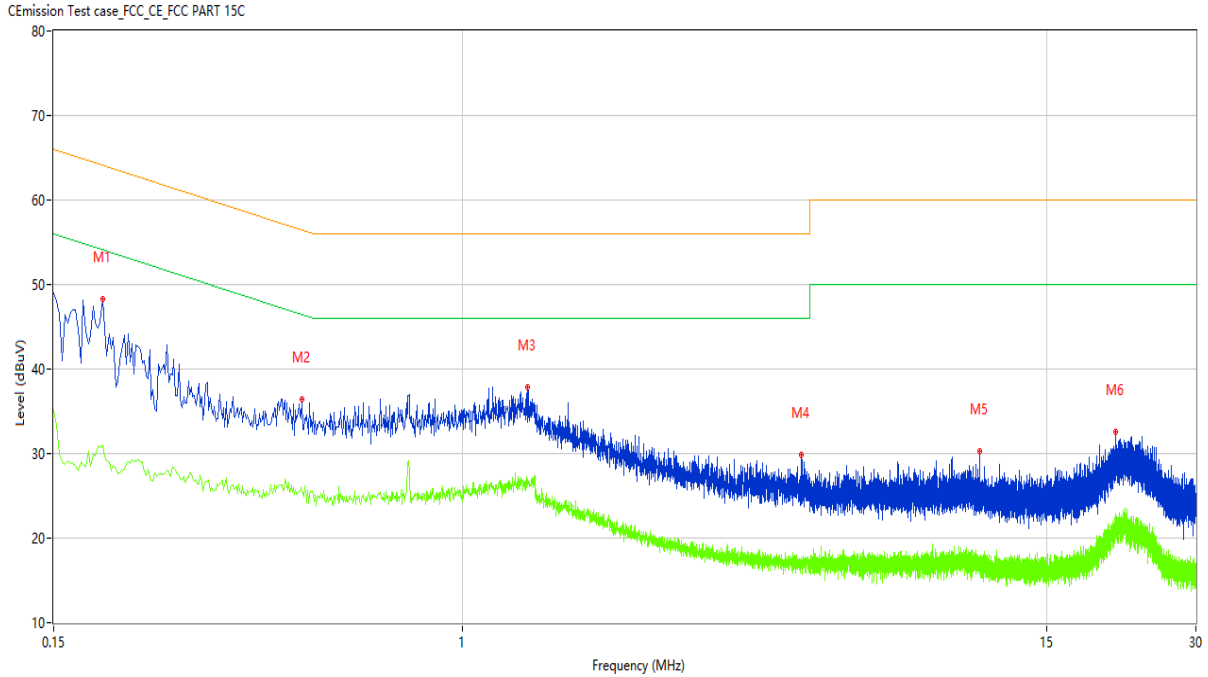
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Note: The all configurations were tested respectively, but only the worst configuration shown here.

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	0.188	48.60	9.65	64.12	-15.52	Peak	L	Pass
1*	0.188	41.49	9.65	64.12	-22.63	QP	L	Pass
1**	0.188	31.05	9.65	54.12	-23.07	AV	L	Pass
2	0.474	33.63	9.75	56.44	-22.81	Peak	L	Pass
2*	0.474	24.26	9.75	56.44	-32.18	QP	L	Pass
2**	0.474	25.53	9.75	46.44	-20.91	AV	L	Pass
3	1.350	28.86	9.67	56.00	-27.14	Peak	L	Pass
3*	1.350	21.13	9.67	56.00	-34.87	QP	L	Pass
3**	1.350	27.06	9.67	46.00	-18.94	AV	L	Pass
4	4.802	20.93	9.70	56.00	-35.07	Peak	L	Pass
4*	4.802	13.81	9.70	56.00	-42.19	QP	L	Pass
4**	4.802	16.99	9.70	46.00	-29.01	AV	L	Pass
5	11.018	22.53	9.65	60.00	-37.47	Peak	L	Pass
5*	11.018	15.44	9.65	60.00	-44.56	QP	L	Pass
5**	11.018	17.66	9.65	50.00	-32.34	AV	L	Pass
6	20.720	29.57	9.44	60.00	-30.43	Peak	L	Pass
6*	20.720	24.71	9.44	60.00	-35.29	QP	L	Pass
6**	20.720	21.93	9.44	50.00	-28.07	AV	L	Pass



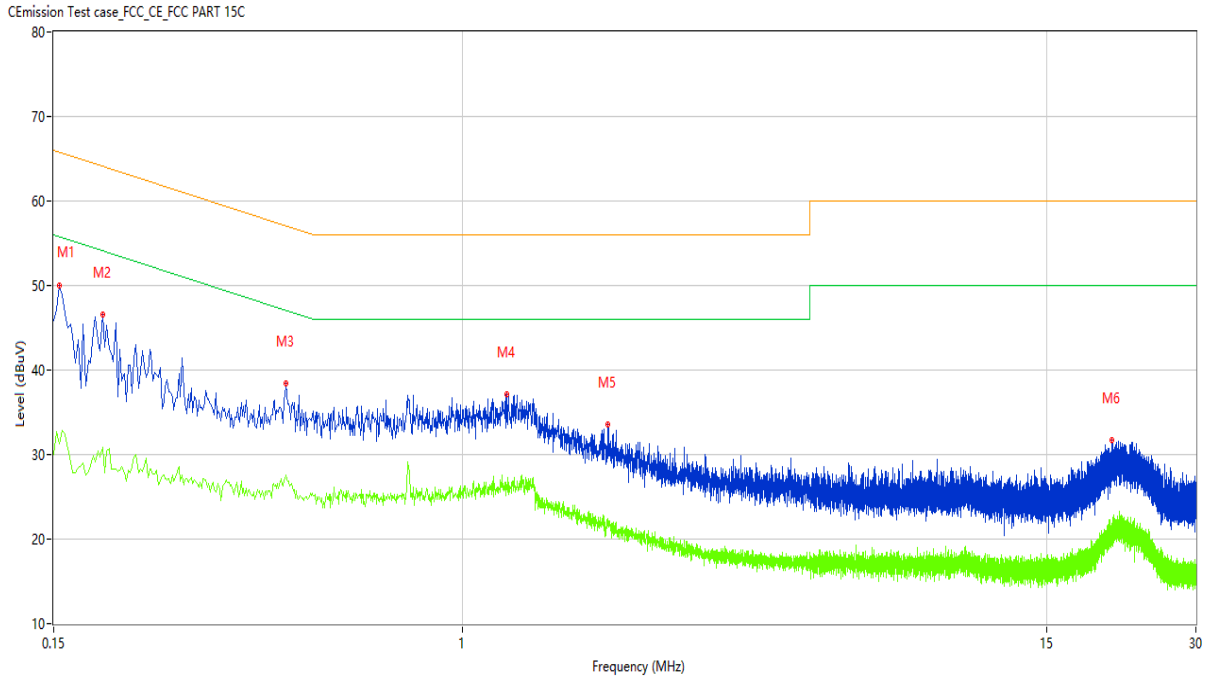
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Figure 72: Conducted Emission on AC Mains, N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	52.56	9.67	66.00	-13.44	Peak	N	Pass
1*	0.150	45.48	9.67	66.00	-20.52	QP	N	Pass
1**	0.150	29.94	9.67	56.00	-26.06	AV	N	Pass
2	0.188	47.80	9.65	64.12	-16.32	Peak	N	Pass
2*	0.188	40.40	9.65	64.12	-23.72	QP	N	Pass
2**	0.188	30.83	9.65	54.12	-23.29	AV	N	Pass
3	0.440	35.82	9.74	57.06	-21.24	Peak	N	Pass
3*	0.440	29.69	9.74	57.06	-27.37	QP	N	Pass
3**	0.440	27.61	9.74	47.06	-19.45	AV	N	Pass
4	1.226	30.31	9.66	56.00	-25.69	Peak	N	Pass
4*	1.226	22.43	9.66	56.00	-33.57	QP	N	Pass
4**	1.226	26.18	9.66	46.00	-19.82	AV	N	Pass
5	1.962	26.37	9.68	56.00	-29.63	Peak	N	Pass
5*	1.962	17.78	9.68	56.00	-38.22	QP	N	Pass
5**	1.962	21.87	9.68	46.00	-24.13	AV	N	Pass
6	20.318	29.79	9.43	60.00	-30.21	Peak	N	Pass
6*	20.318	24.49	9.43	60.00	-35.51	QP	N	Pass
6**	20.318	20.75	9.43	50.00	-29.25	AV	N	Pass

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## 5 Appendixes

### 5.1 Photographs of the Sample



Front of the sample



Rear of the sample

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## 5.2 Set-up for Conducted Emissions



## 5.3 Set-up for Conducted RF test at Antenna Port



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## 5.4 Set-up for Spurious Emissions below 1GHz



## 5.5 Set-up for Spurious Emissions above 1GHz



\*\*\*End of the report\*\*\*