# FCC RF TEST REPORT

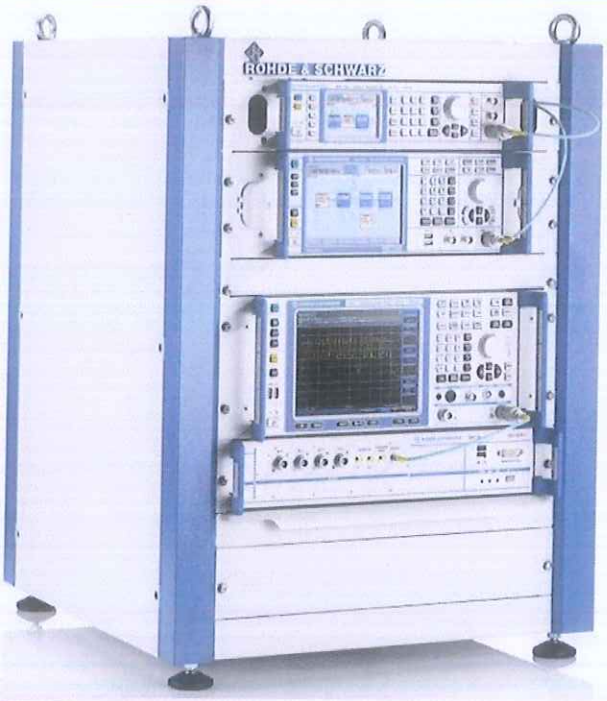
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

## C7 FDD-LTE Smartphone

ISSUED TO
TP-LINK Technologies Co., Ltd.

Building 24-1F/3F/4F/5F, 28-1F/2F/3F/4F Science and Technology Park, Shennan Road, Nanshan District, Shenzhen City, Guangdong Province, P.R. China




Prepared by: Hu Chao
Hu Chao
(Engineer)
Date Dec. 21, 2017

Approved by:
Liao Jianming
(Technical Director)
Date Dec. 21, 2017

| | |
|---|---|
| Report No.: | BL-SZ17A0392-604 |
| EUT Name: | C7 FDD-LTE Smartphone |
| Model Name: | TP910C |
| Brand Name: | neffos |
| Test Standard: | 47 CFR Part 15 Subpart E |
| FCC ID: | TE7C7V1 |
| Test conclusion: | Pass |
| Test Date: | Nov. 08, 2017 ~ Dec. 20, 2017 |
| Date of Issue: | Dec. 21, 2017 |



Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong, P. R. China 518055
TEL: +86-755-66850100, FAX: +86-755-61824271
Email: info@baluntek.com
www.baluntek.com

**Revision History**

| Version | Issue Date | Revisions Content |
|---|---|---|
| Rev. 01 | Dec. 11, 2017 | Initial Issue |
| Rev. 02 | Dec. 21, 2017 | Add duty cycle on page 29.update the “frequency stability”on page 53.delete the 26dB BW data on page 30 and part 1.add some description on page 27. |

# TABLE OF CONTENTS

1 ADMINISTRATIVE DATA (GENERAL INFORMATION) ..... 4
1.1 Identification of the Testing Laboratory ..... 4
1.2 Identification of the Responsible Testing Location ..... 4
1.3 Laboratory Condition ..... 4
1.4 Announce ..... 4
2 PRODUCT INFORMATION ..... 5
2.1 Applicant ..... 5
2.2 Manufacturer ..... 5
2.3 Factory ..... 5
2.4 General Description for Equipment under Test (EUT) ..... 5
2.5 Ancillary Equipment ..... 6
2.6 Technical Information ..... 6
2.7 Additional Instructions ..... 7
2.8 Channel List ..... 9
3 SUMMARY OF TEST RESULTS ..... 11
3.1 Test Standards ..... 11
3.2 Verdict ..... 11
4 GENERAL TEST CONFIGURATIONS ..... 12
4.1 Test Environments ..... 12
4.2 Test Equipment List ..... 12
4.3 Measurement Uncertainty ..... 13
4.4 Description of Test Setup ..... 14
5 TEST ITEMS ..... 17

5.1 RF Output Power ..... 17
5.2 Emission Bandwidth and 6 dB Bandwidth ..... 18
5.3 Power Spectral density (PSD) ..... 19
5.4 Conducted Emission ..... 20
5.5 Conducted Spurious Emission and Band Edge (Authorized-band) ..... 21
5.6 Radiated Spurious Emissions and Band Edge (Restricted-band) ..... 23
5.7 Frequency Stability ..... 29
ANNEX A TEST RESULT ..... 30
A.1 RF Output Power ..... 30
A.2 Emission Bandwidth & 99% Bandwidth ..... 31
A.3 6 dB Bandwidth ..... 32
A.4 Power Spectral Density ..... 33
A.5 Conducted Emissions ..... 34
A.6 Conducted Spurious Emission and Band Edge (Authorized-band) ..... 36
A.7 Radiated Spurious Emissions and Band Edge (Restricted-band) ..... 37
A.8 Frequency Stability ..... 54
ANNEX B TEST SETUP PHOTOS ..... 55
ANNEX C EUT EXTERNAL PHOTOS ..... 55
ANNEX D EUT INTERNAL PHOTOS ..... 55

# 1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

## 1.1 Identification of the Testing Laboratory

| | |
|---|---|
| Company Name | Shenzhen BALUN Technology Co., Ltd. |
| Address | Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Phone Number | +86 755 6685 0100 |

## 1.2 Identification of the Responsible Testing Location

| | |
|---|---|
| Test Location | Shenzhen BALUN Technology Co., Ltd. |
| Address | Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Accreditation Certificate | The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1.<br>The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.<br>The laboratory is a testing organization accredited by American Association for Laboratory Accreditation(A2LA) according to ISO/IEC 17025.The accreditation certificate is 4344.01.<br>The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791. |
| Description | All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055 |

## 1.3 Laboratory Condition

| | |
|---|---|
| Ambient Temperature | 20 to 25℃ |
| Ambient Relative Humidity | 45% - 55% |
| Ambient Pressure | 100 kPa - 102 kPa |

## 1.4 Announce

(1) The test report reference to the report template version v4.1.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.

(5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.

(6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

# 2 PRODUCT INFORMATION

## 2.1 Applicant

| | |
|---|---|
| Applicant | TP-LINK Technologies Co., Ltd. |
| Address | Building 24-1F/3F/4F/5F, 28-1F/2F/3F/4F Science and Technology Park, Shennan Road, Nanshan District, Shenzhen City, Guangdong Province, P.R. China |

## 2.2 Manufacturer

| | |
|---|---|
| Manufacturer | TP-LINK Technologies Co., Ltd. |
| Address | Building 24-1F/3F/4F/5F, 28-1F/2F/3F/4F Science and Technology Park, Shennan Road, Nanshan District, Shenzhen City, Guangdong Province, P.R. China |

## 2.3 Factory

| | |
|---|---|
| Factory | N/A |
| Address | N/A |

## 2.4 General Description for Equipment under Test (EUT)

| | |
|---|---|
| EUT Name | C7 FDD-LTE Smartphone |
| Model Name Under Test | TP910C |
| Series Model Name | TP910C, TP910CXYZZ |
| Description of Model name differentiation | X=2 or 4 (2 indicates Cloudy Grey, 4 indicates Sunrise Gold)<br>Y=4 , indicates the memory is 2G RAM + 16G Flash<br>ZZ indicates different national<br>All models are same with electrical parameters and internal circuit structure,but differ in color and shipping countries |
| Hardware Version | 1.0 |
| Software Version | TP910Rxxxx |
| Network and Wireless connectivity | 2G Network GSM/GPRS/EDGE 850/1900 MHz<br>3G Network WCDMA/HSDPA/HSUPA Band 2/4/5<br>4G Network FDD LTE Band 2/4/7<br>Bluetooth 4.0 (BR+EDR+ BLE)<br>WIFI 802.11a, 802.11b, 802.11g and 802.11n(HT20/40)<br>GPS, FM, GLONASS |

## 2.5 Ancillary Equipment

| | | |
|---|---|---|
| Ancillary Equipment 1 | Battery | |
| | Brand Name | neffos |
| | Model No. | NBL-35B3000 |
| | Serial No. | N/A |
| | Capacity | 3000 mAh |
| | Rated Voltage | 3.85 V |
| | Limit Charge Voltage | 4.40 V |
| Ancillary Equipment 2 | Adapter | |
| | Brand Name | neffos |
| | Model Name | A8-501000 |
| | Rated Input | 100-240 V~, 50/60 Hz, 0.2 A |
| | Rated Output | 5 V⎓ 1 A |
| Ancillary Equipment 3 | USB Cable | |
| | Length(Approx.) | 100 cm |

## 2.6 Technical Information

| | |
|---|---|
| Frequency Range | Band I: 5150 MHz to 5250 MHz,<br>Band IV: 5725 MHz to 5850 MHz |
| Product Type | ☐ Mobile<br>☒ Portable<br>☐ Fix Location |
| Modulation technology | OFDM |
| Modulation Type | 64QAM, 16QAM, BPSK, QPSK |
| Product Type | Indoor for IC standard<br>Mobile and portable for FCC standard |
| Transfer Rate (Mbps) (Single RF path) | 802.11a: 54/ 48/ 36 / 24 / 18/12 / 9/ 6 Mbps<br>802.11n: up to 150 Mbps |
| Channel Bandwidth | 802.11a: 20 MHz<br>802.11n: 20 MHz, 40 MHz |
| Maximum Output Power | Band I: 18.86 dBm<br>Band IV: 17.93 dBm |
| Antenna System (eg., MIMO, Smart Antenna) | N/A |
| Categorization as Correlated or Completely Uncorrelated | N/A |
| Antenna Type | PIFA Antenna |
| Antenna Gain | Band I: 5150 MHz to 5250 MHz: -4.3 dBi<br>Band IV: 5725 MHz to 5850 MHz: -4.6 dBi |
| About the Product | The equipment is C7 FDD-LTE Smartphone, intended for used with information technology equipment. |

## 2.7 Additional Instructions

| | |
|---|---|
| Mode | ☒ Special software is used.<br>The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually. |

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

EUT Software Settings:

| Test Software Version | *#*#3646633#*#* | | |
|---|---|---|---|
| Support Units (Software installation media) | Description | Manufacturer | Model |
| | Notebook | Lenovo | X220 |

| Band I (5150 - 5250 MHz ) Power level setup in software | | | |
|---|---|---|---|
| Mode | Channel | Frequency (MHz) | Soft Set |
| 11a | CH36 | 5180 | 15 |
| 11a | CH44 | 5220 | 15 |
| 11a | CH48 | 5240 | 15 |
| 11n (HT20) | CH36 | 5180 | 15 |
| 11n (HT20) | CH44 | 5220 | 15 |
| 11n (HT20) | CH48 | 5240 | 15 |
| 11n (HT40) | CH38 | 5190 | 14 |
| 11n (HT40) | CH46 | 5230 | 14 |

| Band IV (5725 - 5850 MHz) Power level setup in software | | | |
|---|---|---|---|
| Mode | Channel | Frequency (MHz) | Soft Set |
| 11a | CH149 | 5745 | 15 |
| 11a | CH157 | 5785 | 15 |
| 11a | CH165 | 5825 | 15 |
| 11n (HT20) | CH149 | 5745 | 15 |
| 11n (HT20) | CH157 | 5785 | 15 |
| 11n (HT20) | CH165 | 5825 | 15 |
| 11n (HT40) | CH151 | 5755 | 14 |
| 11n (HT40) | CH159 | 5795 | 14 |

Run Software

## 2.8 Channel List

| 20 MHz | | 40 MHz | |
|---|---|---|---|
| Channel Number | Frequency (MHz) | Channel Number | Frequency (MHz) |
| **36** | **5180** | **38** | **5190** |
| 40 | 5200 | **46** | **5230** |
| **44** | **5220** | **151** | **5755** |
| **48** | **5240** | **159** | **5795** |
| **149** | **5745** | | |
| 153 | 5765 | | |
| **157** | **5785** | | |
| 161 | 5805 | | |
| **165** | **5825** | | |

Note: Until further notice, devices subject to this section shall not be capable of transmitting in the band 5600-5650 MHz. This restriction is for the protection of weather radars operating in this band.

The Lowest frequency, the middle frequency and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11a/n(HT20)

| Band I (5150 - 5250 MHz) | | | Band IV (5725 - 5850 MHz) | | |
|---|---|---|---|---|---|
| Channel Number | Channel | Frequency (MHz) | Channel Number | Channel | Frequency (MHz) |
| 36 | Low | 5180 | 149 | Low | 5745 |
| 44 | Mid | 5220 | 157 | Mid | 5785 |
| 48 | High | 5240 | 165 | High | 5825 |

For 802.11n (HT40)

| Band I (5150 - 5250 MHz) | | | Band IV (5725 - 5850 MHz) | | |
|---|---|---|---|---|---|
| Channel Number | Channel | Frequency (MHz) | Channel Number | Channel | Frequency (MHz) |
| 38 | Low | 5190 | 151 | Low | 5755 |
| 46 | High | 5230 | 159 | High | 5795 |

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

| Test Items | Mode | Data Rate | Modulation Type | Band I | Band IV |
|---|---|---|---|---|---|
| | | | | Channel | Channel |
| RF Output Power | 11a | 6 | BPSK | 48/44/36 | 165/157/149 |
| | 11n(20 MHz) | 6.5 | | 48/44/36 | 165/157/149 |
| | 11n(40 MHz) | 13.5 | | 46/38 | 159/151 |
| Emission Bandwidth & 99% Occupied Bandwidth | 11a | 6 | BPSK | 48/44/36 | 165/157/149 |
| | 11n(20 MHz) | 6.5 | | 48/44/36 | 165/157/149 |
| | 11n(40 MHz) | 13.5 | | 46/38 | 159/151 |
| 6 dB bandwidth | 11a | 6 | BPSK | N/A | 165/157/149 |
| | 11n(20 MHz) | 6.5 | | N/A | 165/157/149 |
| | 11n(40 MHz) | 13.5 | | N/A | 159/151 |
| Power Spectral Density | 11a | 6 | BPSK | 48/44/36 | 165/157/149 |
| | 11n(20 MHz) | 6.5 | | 48/44/36 | 165/157/149 |
| | 11n(40 MHz) | 13.5 | | 46/38 | 159/151 |
| Conducted Spurious Emission and Band Edge (Authorized-band) | 11a | 6 | BPSK | 48/44/36 | 165/157/149 |
| | 11n(20 MHz) | 6.5 | | 48/44/36 | 165/157/149 |
| | 11n(40 MHz) | 13.5 | | 46/38 | 159/151 |
| Radiated Spurious Emissions | 11a | 6 | BPSK | 48/44/36 | 165/157/149 |
| | 11n(20 MHz) | 6.5 | | 48/44/36 | 165/157/149 |
| | 11n(40 MHz) | 13.5 | | 46/38 | 159/151 |
| Band Edge (Restricted-band) | 11a | 6 | BPSK | 48/36 | 165/149 |
| | 11n(20 MHz) | 6.5 | | 48/36 | 165/149 |
| | 11n(40 MHz) | 13.5 | | 46/38 | 159/151 |
| Frequency Stability | Unmodulated | N/A | N/A | N/A | N/A |

# 3 SUMMARY OF TEST RESULTS

## 3.1 Test Standards

| No. | Identity | Document Title |
|---|---|---|
| 1 | 47 CFR Part 15 Subpart E (10-1-16 Edition) | Unlicensed National Information Infrastructure Devices |
| 2 | KDB Publication 789033 D02v01r04 | Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E |
| 3 | ANSI C63.10-2013 | American National Standard for Testing Unlicensed Wireless Devices |

## 3.2 Verdict

| No. | Description | FCC Part No. | Test Result | Verdict |
|---|---|---|---|---|
| 1 | Antenna Requirement | 15.203 | -- | Pass[Note1] |
| 2 | RF Output Power | 15.407(a) | ANNEX A.1 | Pass |
| 3 | Emission Bandwidth & 99% Occupied Bandwidth | 15.407(a) | ANNEX A.2 | Pass |
| 4 | 6 dB bandwidth | 15.407(e) | ANNEX A.3 | Pass |
| 5 | Power Spectral Density | 15.407(a) | ANNEX A.4 | Pass |
| 6 | Conducted Emission | 15.207 | ANNEX A.5 | Pass |
| 7 | Conducted Spurious Emission and Band Edge (Authorized-band) | 15.407(b) 15.209 | ANNEX A.6 | Pass |
| 8 | Radiated Spurious Emissions and Band Edge (Restricted-band) | 15.407(b) | ANNEX A.7 | Pass |
| 9 | Frequency Stability | 15.407(g) | ANNEX A.8 | Pass |
| 10 | Receiver Spurious Emissions | -- | -- | N/A[Note2] |

Note 1: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note 2: Only radio communication receivers operating in stand-alone mode within the band 30-960 MHz, as well as scanner receivers, are subject to Industry Canada requirements, so this test is not applicable

# 4 GENERAL TEST CONFIGURATIONS

## 4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

| | | |
|---|---|---|
| Relative Humidity | 45% - 55% | |
| Atmospheric Pressure | 100 kPa - 102 kPa | |
| Temperature | NT (Normal Temperature) | +22℃ to +25℃ |
| | LT (Low Temperature) | 0℃ |
| | HT (High Temperature) | +40℃ |
| Working Voltage of the EUT | NV (Normal Voltage) | 3.85 V |
| | LV (Low Voltage) | 3.40 V |
| | HV (High Voltage) | 4.40 V |

## 4.2 Test Equipment List

| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| Spectrum Analyzer | ROHDE&SCHWARZ | FSV-30 | 103118 | 2017.06.22 | 2018.06.21 |
| Switch Unit with OSP-B157 | ROHDE&SCHWARZ | OSP120 | 101270 | 2017.06.22 | 2018.06.21 |
| EMI Receiver | KEYSIGHT | N9038A | MY53220118 | 2017.09.07 | 2018.09.06 |
| EMI Receiver | ROHDE&SCHWARZ | ESRP | 101036 | 2017.06.22 | 2018.06.21 |
| LISN | SCHWARZBECK | NSLK 8127 | 8127-687 | 2017.06.22 | 2018.06.21 |
| Bluetooth Tester | ROHDE&SCHWARZ | CBT | 101005 | 2017.06.22 | 2018.06.21 |
| Power Splitter | KMW | DCPD-LDC | 1305003215 | -- | -- |
| Power Sensor | ROHDE&SCHWARZ | NRP-Z21 | 103971 | 2017.06.22 | 2018.06.21 |
| Attenuator (20 dB) | KMW | ZA-S1-201 | 110617091 | -- | -- |
| Attenuator (6 dB) | KMW | ZA-S1-61 | 1305003189 | -- | -- |
| DC Power Supply | ROHDE&SCHWARZ | HMP2020 | 018141664 | 2017.06.22 | 2018.06.21 |
| Temperature Chamber | ANGELANTIONI SCIENCE | NTH64-40A | 1310 | 2017.06.22 | 2018.06.21 |
| Test Antenna-Loop(9 kHz-30 MHz) | SCHWARZBECK | FMZB 1519 | 1519-037 | 2017.06.22 | 2018.06.21 |
| Test Antenna-Bi-Log(30 MHz-3 GHz) | SCHWARZBECK | VULB 9163 | 9163-624 | 2017.06.22 | 2018.06.21 |
| Test Antenna-Horn(1-18 GHz) | SCHWARZBECK | BBHA 9120D | 9120D-1148 | 2017.06.22 | 2018.06.21 |
| Test Antenna-Horn(15-26.5 GHz) | SCHWARZBECK | BBHA 9170 | 9170-305 | 2017.06.22 | 2018.06.21 |
| Test Antenna-Horn (18-40 GHz) | A-INFO | LB-180400KF | J211060273 | N/A | 2018.01.06 |
| Anechoic Chamber | RAINFORD | 9m*6m*6m | N/A | 2017.02.24 | 2019.02.23 |
| Anechoic Chamber | EMC Electronic Co., Ltd | 20.10*11.60*7.35m | N/A | 2016.08.09 | 2018.08.08 |
| Shielded Enclosure | ChangNing | CN-130701 | 130703 | -- | -- |
| Signal Generator | ROHDE&SCHWARZ | SMB100A | 177746 | 2017.06.22 | 2018.06.21 |

| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| Power Amplifier | OPHIR RF | 5225F | 1037 | 2017.02.17 | 2018.02.16 |
| Power Amplifier | OPHIR RF | 5273F | 1016 | 2017.02.17 | 2018.02.16 |
| Directional Coupler | Werlantone | C5982-10 | 109275 | N/A | N/A |
| Directional Coupler | Werlantone | CHP-273E | S00801z-01 | N/A | N/A |
| Feld Strength Meter | Narda | EP601 | 511WX51129 | 2017.02.23 | 2018.02.22 |
| Mouth Simulator | B&K | 4227 | 2423931 | 2016.11.15 | 2018.11.13 |
| Sound Calibrator | B&K | 4231 | 2430337 | 2016.11.09 | 2018.11.07 |
| Sound Level Meter | B&K | NL-20 | 00844023 | 2016.11.11 | 2018.11.09 |
| Ear Simulator | B&K | 4185 | 2409449 | 2016.11.15 | 2018.11.13 |
| Ear Simulator | B&K | 4195 | 2418189 | 2016.11.15 | 2018.11.13 |
| Audio analyzer | B&K | UPL 16 | 100129 | 2016.11.08 | 2018.11.06 |

## 4.3 Measurement Uncertainty

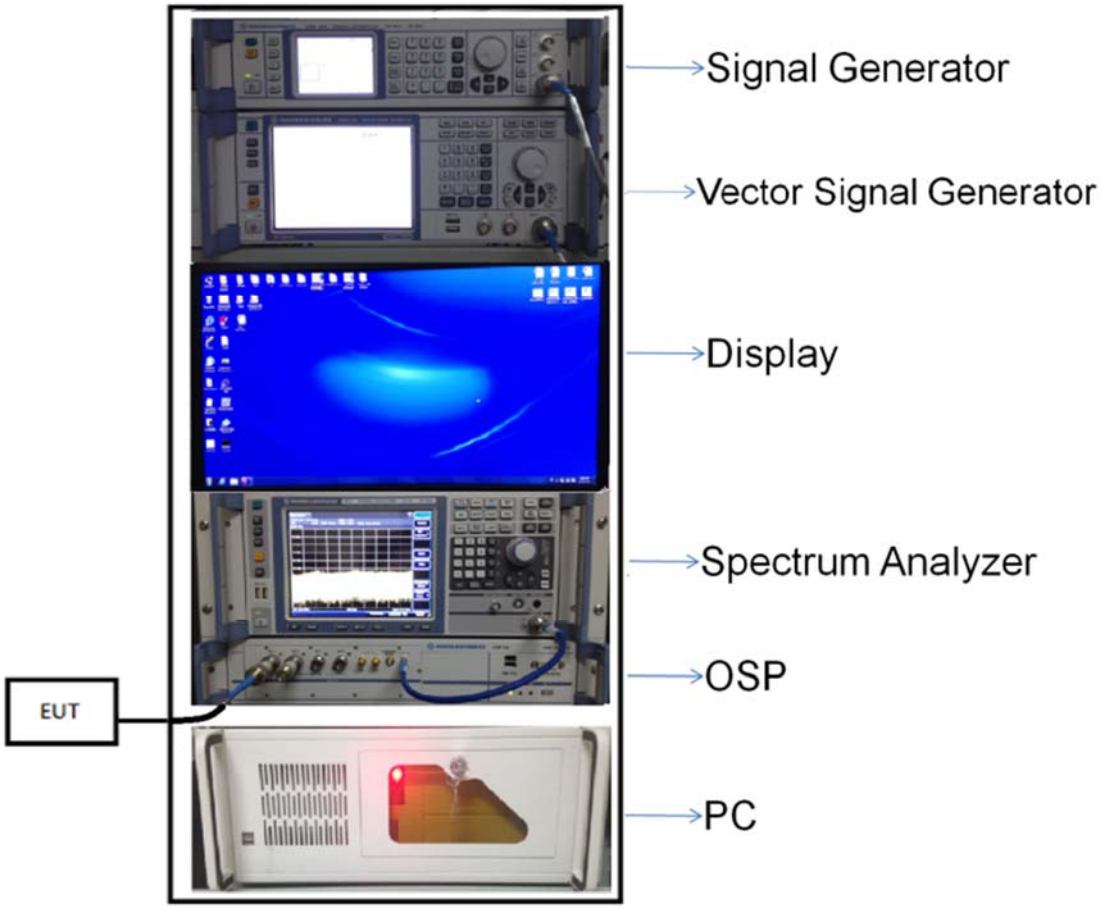
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| Measurement | Value |
|---|---|
| Occupied Channel Bandwidth | ±4% |
| RF output power, conducted | ±1.4 dB |
| Power Spectral Density, conducted | ±2.5 dB |
| Unwanted Emissions, conducted | ±2.8 dB |
| All emissions, radiated | ±5.4 dB |
| Temperature | ±1°C |
| Humidity | ±4% |

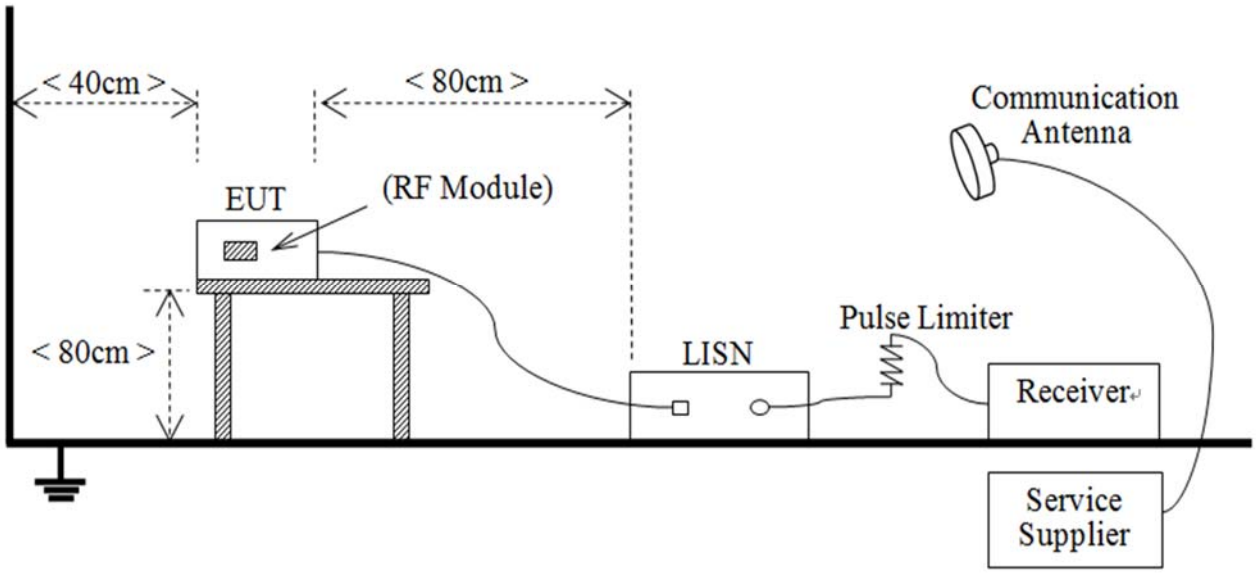
## 4.4 Description of Test Setup

### 4.4.1 For Antenna Port Test



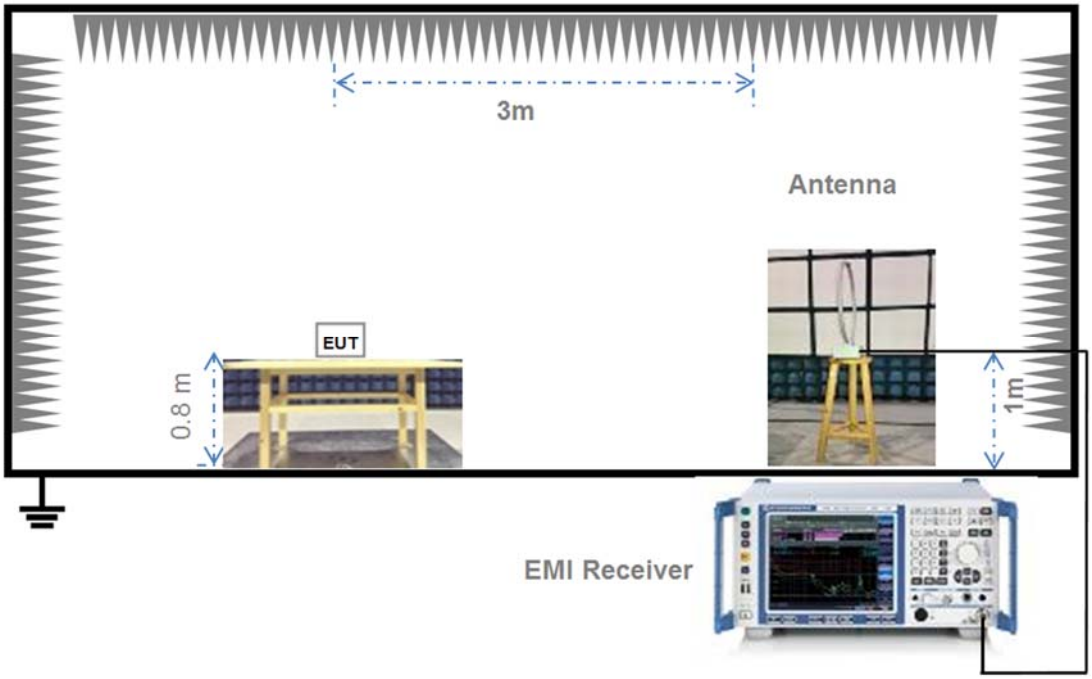

**(Diagram 1)**

### 4.4.2 For AC Power Supply Port Test



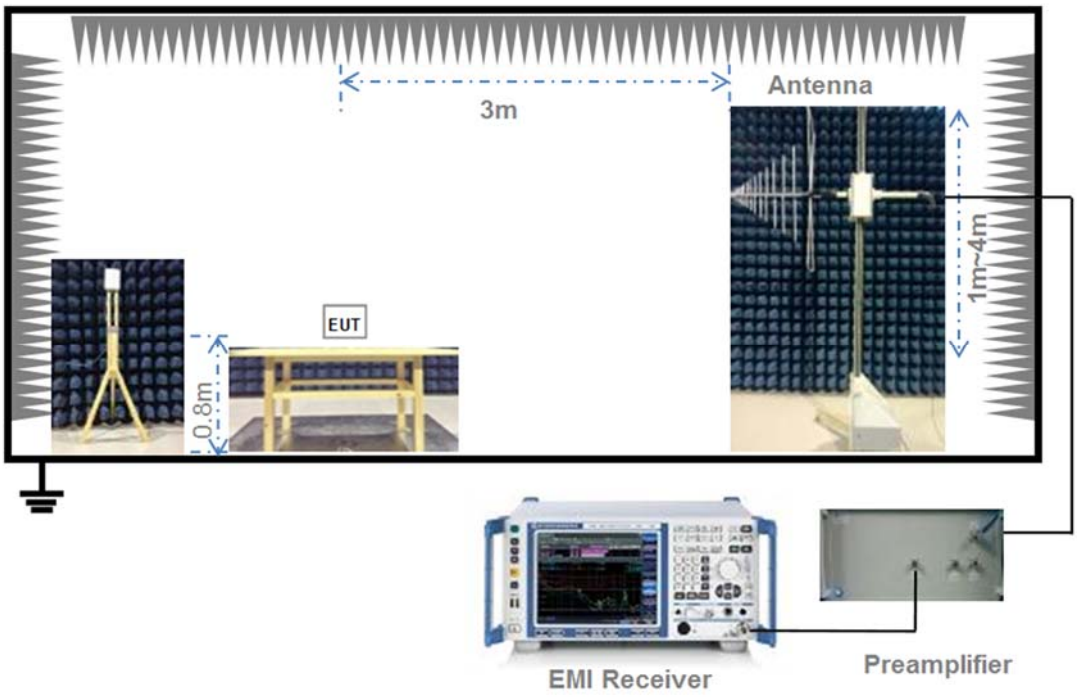

**(Diagram 2)**

### 4.4.3 For Radiated Test (Below 30 MHz)



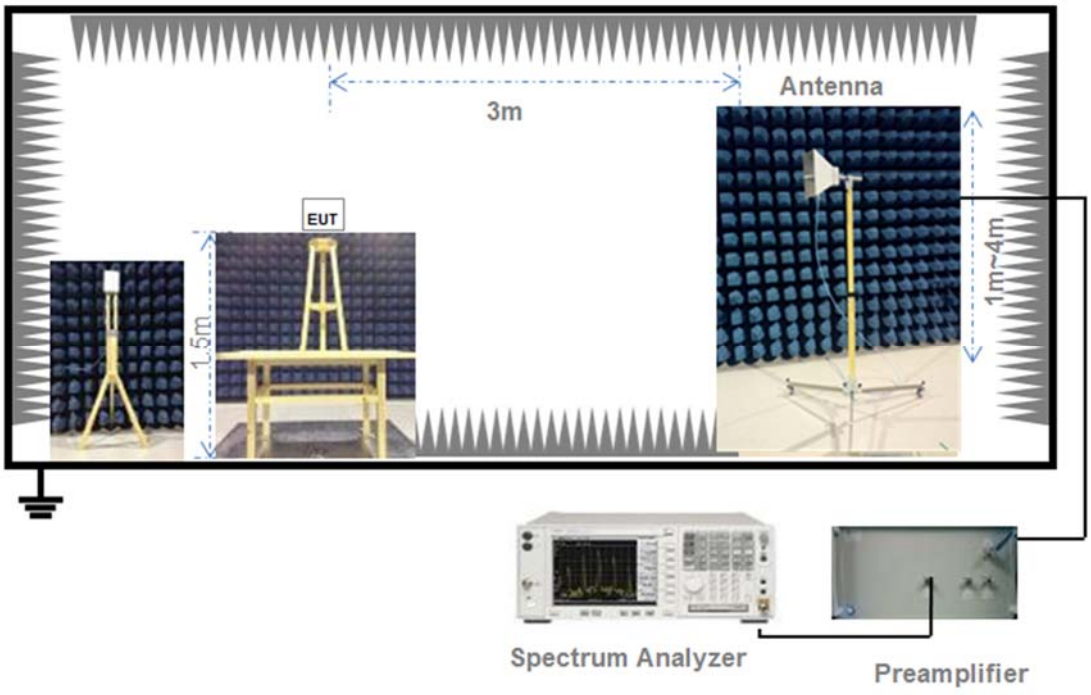

**(Diagram 3)**

### 4.4.4 For Radiated Test (30 MHz-1 GHz)



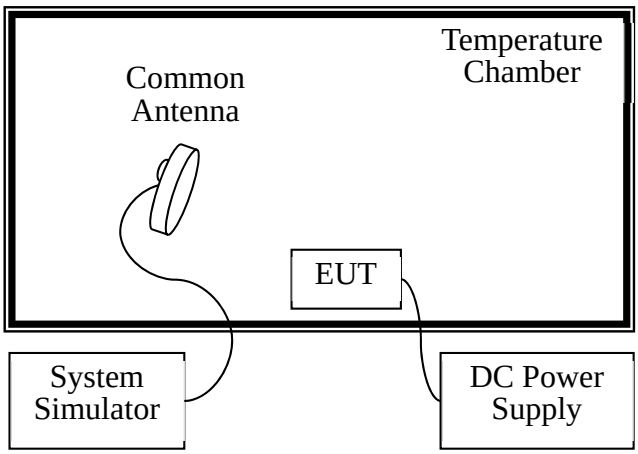

**(Diagram 4)**

### 4.4.5 For Radiated Test (Above 1 GHz)




**(Diagram 5)**

### 4.4.6 For Frequency Stability Test




**(Diagram 6)**

# 5 TEST ITEMS

## 5.1 RF Output Power

### 5.1.1 Test Limit

FCC §15.407(a)

The maximum conducted output power should not exceed:

| Frequency Band (MHz) | Limit |
|---|---|
| 5150-5250 | 250 mW |
| 5250-5350 | 250 mW or 11 dBm + 10log B, whichever is less. |
| 5470-5725 | 250 mW or 11 dBm + 10log B, whichever is less. |
| 5725-5850 | 1 W |
| Note: Where “B” is the 26 dB emissions bandwidth in MHz. | |

RSS-247, 6.2

The maximum conducted output power shall not exceed:

| Frequency Band (MHz) | Limit |
|---|---|
| 5150-5250 | N/A |
| 5250-5350 | 250 mW or 11 dBm + 10log B, whichever is less. |
| 5470-5725 | 250 mW or 11 dBm + 10log B, whichever is less. |
| 5725-5850 | 1 W |
| Note: Where “B” is the 99% emissions bandwidth in MHz. | |

The maximum e.i.r.p. shall not exceed:

| Frequency Band (MHz) | Limit |
|---|---|
| 5150-5250 | 200 mW or 10 dBm + 10log B, whichever is less. |
| 5250-5350 | 1W or 17 dBm + 10log B, whichever is less. |
| 5470-5725 | 1W or 17 dBm + 10log B, whichever is less. |
| 5725-5850 | N/A |
| Note: Where “B” is the 99% emissions bandwidth in MHz. | |

### 5.1.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

### 5.1.3 Test Procedure

The maximum peak conducted output power may be measured using a broadband Average RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the emission bandwidth and utilize a fast-responding diode detector.

The E.I.R.P 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.

### 5.1.4 Test Result

Please refer to ANNEX A.1.

## 5.2 Emission Bandwidth and 6 dB Bandwidth

### 5.2.1 Limit

FCC §15.407(a), RSS-247, 6.2

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

### 5.2.2 Test Setup

The test setup photo please refer to 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

### 5.2.3 Test Procedure

#### Emission bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.

2. Set VBW ≥ 3*RBW,

3. Detector = Peak.

4. Trace mode = Max hold.

5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

#### Occupied Bandwidth

1. Set Span = 1.5 times to 5.0 times the OBW

2. Set RBW = 1% to 5% of the OBW.

3. Set VBW ≥ 3*RBW, Detector = Peak.

4. Trace mode = Max hold.

5. Use the 99% power bandwidth function of the instrument.

#### 6 dB bandwidth

1. Set RBW = 100 kHz, VBW = 300 kHz.

2. Detector = Peak.Trace mode = Max hold.

3. Allow the trace to stabilize.

4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 5.2.4 Test Result

Please refer to ANNEX A.2 and ANNEX A.3.

## 5.3 Power Spectral density (PSD)

### 5.3.1 Limit

FCC §15.407(a)

The maximum power spectral density should not exceed:

| Frequency Band (MHz) | Limit |
|---|---|
| 5150-5250 | 11 dBm/MHz |
| 5250-5350 | 11 dBm/MHz |
| 5470-5725 | 11 dBm/MHz |
| 5725-5850 | 30 dBm/500kHz |

RSS-247, 6.2

The maximum power spectral density should not exceed:

| Frequency Band (MHz) | Limit |
|---|---|
| 5150-5250 | N/A |
| 5250-5350 | 11 dBm/MHz |
| 5470-5725 | 11 dBm/MHz |
| 5725-5850 | 30 dBm/500kHz |

The e.i.r.p. spectral density should not exceed:

| Frequency Band (MHz) | Limit |
|---|---|
| 5150-5250 | 10 dBm/MHz |
| 5250-5350 | N/A |
| 5470-5725 | N/A |
| 5725-5850 | N/A |

### 5.3.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

### 5.3.3 Test Procedure

Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.

1. Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS.
2. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak marker function to determine the maximum amplitude level.
4. 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.

### 5.3.4 Test Result

Please refer to ANNEX A.4.

## 5.4 Conducted Emission

### 5.4.1 Limit

FCC §15.207, RSS-GEN, 8.8

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

| Frequency range (MHz) | Conducted Limit (dBμV) | |
|---|---|---|
| | Quai-peak | Average |
| 0.15 - 0.50 | 66 to 56 | 56 to 46 |
| 0.50 - 5 | 56 | 46 |
| 0.50 - 30 | 60 | 50 |

### 5.4.2 Test Setup

The section 4.4.2 (Diagram 2) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

### 5.4.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

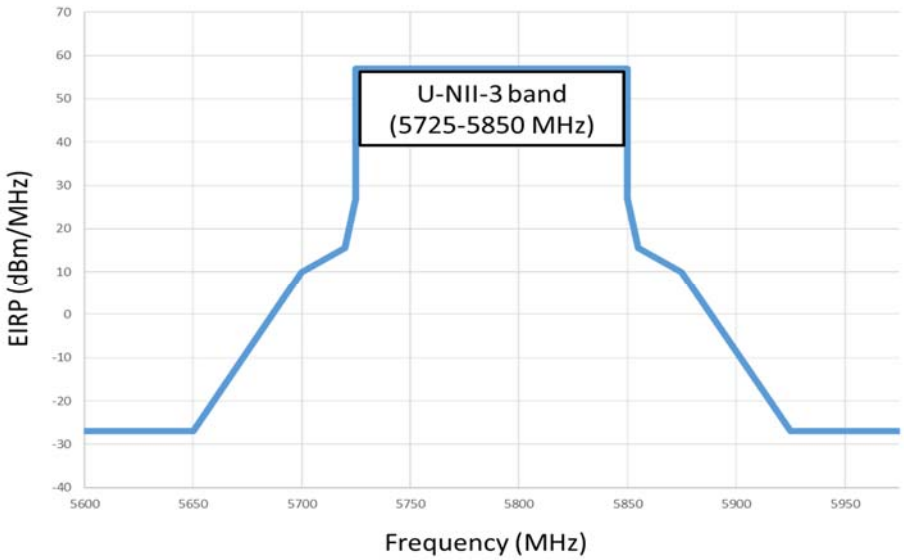
### 5.4.4 Test Result

Please refer to ANNEX A.5.

## 5.5 Conducted Spurious Emission and Band Edge (Authorized-band)

### 5.5.1 Limit

FCC §15.407(b)

| Un-restricted band emissions | |
|---|---|
| Frequency Band (MHz) | Limit |
| 5150 - 5250 | Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm |
| 5250 - 5350 | Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm |
| 5470 - 5725 | Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm |
| 5725 - 5850 | All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.   |

RSS-247, 6.2

| Un-restricted band emissions | |
|---|---|
| Frequency Band (MHz) | Limit |
| 5150 - 5250 | Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm, However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. |
| 5250 - 5350 | Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm. And any emissions within the band 5150-5250 MHz shall meet the power spectral density limits of 10 dBm/MHz, The device shall be labelled “for indoor use only.” |
| 5470 - 5725 | Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm |
| 5725 - 5850 | 5715 -5725 MHz: e.i.r.p. -17 dBm<br>5850 -5860 MHz: e.i.r.p. -17 dBm<br>Other un-restricted band: e.i.r.p .-27 dBm |

### 5.5.2 Test Setup

See section 4.4.2 (Diagram 2) for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.5.3 Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize

### 5.5.4 Test Result

Please refer to ANNEX A.6.

## 5.6 Radiated Spurious Emissions and Band Edge (Restricted-band)

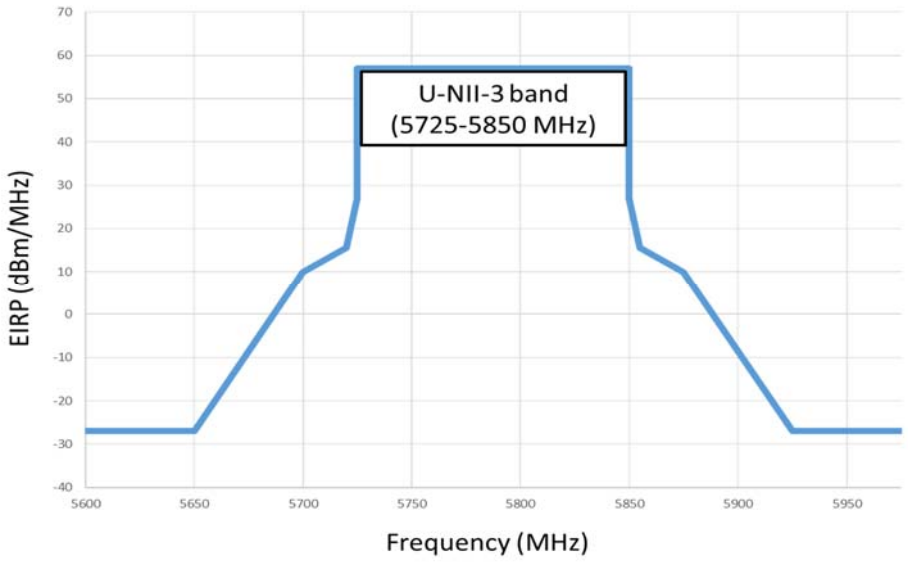
### 5.6.1 Limit

FCC §15.209 & 15.407(b), RSS-247, 6.2

| Frequency (MHz) | Field Strength (μV/m) | Measurement Distance (m) |
|---|---|---|
| 0.009 - 0.490 | 2400/F(kHz) | 300 |
| 0.490 - 1.705 | 24000/F(kHz) | 30 |
| 1.705 - 30.0 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

Note [1]: The Limit for radiated test was performed according to FCC Part 15C

Note [2]: The tighter limit applies at the band edge.

| Un-restricted band emissions | |
|---|---|
| Out Operating Band (MHz） | Limit |
| 5150 - 5250 | e.i.r.p. -27 dBm (68.2 dBuV/m@3m) |
| 5250 - 5350 | e.i.r.p. -27 dBm (68.2 dBuV/m@3m) |
| 5470 - 5725 | e.i.r.p. -27 dBm (68.2 dBuV/m@3m) |
| 5725 - 5850 | All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.   |

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength.

### 5.6.2 Test Setup

The section 4.4.3-4.4.5 (Diagram 3 - Diagram 5) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

### 5.6.3 Test Procedure

Since the emission limits are specified in terms of radiated field strength levels, measurements performed to demonstrate compliance have traditionally relied on a radiated test configuration. Radiated measurements remain the principal method for demonstrating compliance to the specified limits; however antenna-port conducted measurements are also now acceptable to demonstrate compliance (see below for details). When radiated measurements are utilized, test site requirements and procedures for maximizing and measuring radiated emissions that are described in ANSI C63.10 shall be followed.

Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

General Procedure for conducted measurements in restricted bands

a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).

d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).

e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

E = EIRP – 20log D + 104.8

where:

E = electric field strength in dBμV/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

f) Compare the resultant electric field strength level to the applicable limit.

g) Perform radiated spurious emission test.

Quasi-Peak measurement procedure

The specifications for measurements using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Frequency Interference (CISPR) of the International Electrotechnical Commission.

As an alternative to CISPR quasi-peak measurement, compliance can be demonstrated to the applicable emission limits using a peak detector.

Peak power measurement procedure

Peak emission levels are measured by setting the instrument as follows:

a) RBW = as specified in Table 1.

b) VBW ≥ 3 x RBW.

c) Detector = Peak.

d) Sweep time = auto.

e) Trace mode = max hold.

f) Allow sweeps to continue until the trace stabilizes. (Note that the required measurement time may be longer for low duty cycle applications).

Table 1—RBW as a function of frequency

| Frequency | RBW |
|---|---|
| 9-150 kHz | 200-300 Hz |
| 0.15-30 MHz | 9-10 kHz |
| 30-1000 MHz | 100-120 kHz |
| > 1000 MHz | 1 MHz |

If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

Trace averaging across on and off times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent), then the following procedure shall be used:

a) The EUT shall be configured to operate at the maximum achievable duty cycle.

b) Measure the duty cycle, x, of the transmitter output signal as described in section 6.0.

c) RBW = 1 MHz (unless otherwise specified).

d) VBW ≥ 3 x RBW.

e) Detector = RMS, if span/(# of points in sweep) ≤ (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.

f) Averaging type = power (i.e., RMS).

1) As an alternative, the detector and averaging type may be set for linear voltage averaging.

2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.

g) Sweep time = auto.

h) Perform a trace average of at least 100 traces.

i) A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:

1) If power averaging (RMS) mode was used in step f), then the applicable correction factor is 10 log(1/x), where x is the duty cycle.

2) If linear voltage averaging mode was used in step f), then the applicable correction factor is 20 log(1/x), where x is the duty cycle.

3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

NOTE: Reduction of the measured emission amplitude levels to account for operational duty factor is not permitted. Compliance is based on emission levels occurring during transmission - not on an average across on and off times of the transmitter.

Determining the applicable transmit antenna gain

A conducted power measurement will determine the maximum output power associated with a restricted band emission; however, in order to determine the associated EIRP level, the gain of the transmitting antenna (in dBi) must be added to the measured output power (in dBm).

Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.

See KDB 662911 for guidance on calculating the additional array gain term when determining the effective antenna gain for a EUT with multiple outputs occupying the same or overlapping frequency ranges in the same band.

Radiated spurious emission test

An additional consideration when performing conducted measurements of restricted band emissions is that unwanted emissions radiating from the EUT cabinet, control circuits, power leads, or intermediate circuit elements will likely go undetected in a conducted measurement configuration. To address this concern, a radiated test shall be performed to ensure that emissions emanating from the EUT cabinet (rather than the antenna port) also comply with the applicable limits.

For these cabinet radiated spurious emission measurements the EUT transmit antenna may be replaced with a termination matching the nominal impedance of the antenna. Procedures for performing radiated measurements are specified in ANSI C63.10. All detected emissions shall comply with the applicable limits.

The measurement frequency range is from 30 MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Above 1GHz section 15.407(b)(1) to (b)(3) specify the unwanted emission limit for the U-NII-1 and U-NII-2 bands,as specified emission out side of the restricted bands and subject to a peak emission limit of -27dBm/MHz,as for restricted bands complies with both the average and peak limits of section 15.209 is not required to satisfy the -27dBm/MHz peak emission limit.above 1GHz,compliance with the emission limits in &15.209 shall be demonstrated based on the average value of the measured emission.the provisions in &15.35 apply to these measurements.unless otherwise specified e.g. see &15.250,&15.252,&15.253,&15.255,&15.256 and &15.509 through &15.519 of this part,the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak

Trace = max hold

### 5.6.4 Test Result

Please refer to ANNEX A.7 and Please refer to ANNEX A.9

## 5.7 Frequency Stability

### 5.7.1 Limit

FCC §15.407(g)

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

### 5.7.2 Test Setup

The section 4.4.6 (Diagram 6) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

### 5.7.3 Test Procedure

The EUT is installed in an environment test chamber with external power source.
Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
A sufficient stabilization period at each temperatures is used prior to each frequency measurement.
When temperature is stabled, measure the frequency stability.
The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage.
Change setting of chamber and external power source to complete all conditions.

### 5.7.4 Test Result

Please refer to ANNEX A.8.

# ANNEX A TEST RESULT

## A.1 RF Output Power

Note [1]: For FCC standard, if transmitting antennas of directional gain greater than 6 dBi are used, all band maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Data

| Duty Cycle | | | | |
|---|---|---|---|---|
| | | ON | ON+OFF time | duty cycle |
| Band1 | 11a | 1.38 | 1.44 | 0.95 |
| | 11n20 | 1.28 | 1.35 | 0.95 |
| | 11n40 | 0.65 | 0.68 | 0.95 |
| Band4 | 11a | 1.37 | 1.43 | 0.96 |
| | 11n20 | 1.28 | 1.34 | 0.96 |
| | 11n40 | 0.63 | 0.68 | 0.92 |

Conducted Power

| Band I (5150 - 5250 MHz ) | | | | | | |
|---|---|---|---|---|---|---|
| Mode | Channel | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (mW) | FCC Limit (mW) | Verdict |
| 11a | CH36 | 5180 | 14.52 | 28.31 | 1000.00 | Pass |
| 11a | CH44 | 5220 | 14.80 | 30.20 | 1000.00 | Pass |
| 11a | CH48 | 5240 | 14.71 | 29.58 | 1000.00 | Pass |
| 11n (HT20) | CH36 | 5180 | 14.25 | 26.61 | 1000.00 | Pass |
| 11n (HT20) | CH44 | 5220 | 14.87 | 30.69 | 1000.00 | Pass |
| 11n (HT20) | CH48 | 5240 | 14.68 | 29.38 | 1000.00 | Pass |
| 11n (HT40) | CH38 | 5190 | 13.36 | 21.68 | 1000.00 | Pass |
| 11n (HT40) | CH46 | 5230 | 14.15 | 26.00 | 1000.00 | Pass |

| Band IV (5725 - 5850 MHz ) | | | | | | |
|---|---|---|---|---|---|---|
| Mode | Channel | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (mW) | FCC Limit (mW) | Verdict |
| 11a | CH149 | 5745 | 13.95 | 24.83 | 1000.00 | Pass |
| 11a | CH157 | 5785 | 14.27 | 26.73 | 1000.00 | Pass |
| 11a | CH165 | 5825 | 14.35 | 27.23 | 1000.00 | Pass |
| 11n (HT20) | CH149 | 5745 | 13.93 | 24.72 | 1000.00 | Pass |
| 11n (HT20) | CH157 | 5785 | 14.23 | 26.49 | 1000.00 | Pass |
| 11n (HT20) | CH165 | 5825 | 14.37 | 27.35 | 1000.00 | Pass |
| 11n (HT40) | CH151 | 5755 | 13.23 | 21.04 | 1000.00 | Pass |
| 11n (HT40) | CH159 | 5795 | 13.67 | 23.28 | 1000.00 | Pass |

## A.2 Emission Bandwidth & 99% Bandwidth

Note: Test plots please refer to the document “Annex No.: BL-SZ17A0392-604 Data Part 1.pdf”.

Test Data

| Band I (5150 - 5250 MHz ) | | | | |
|---|---|---|---|---|
| Mode | Channel | Frequency(MHz) | 26 dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
| 11a | CH36 | 5180 | 19.56 | 17.25 |
| 11a | CH44 | 5220 | 19.36 | 16.79 |
| 11a | CH48 | 5240 | 19.40 | 16.79 |
| 11n (HT20) | CH36 | 5180 | 20.16 | 17.77 |
| 11n (HT20) | CH44 | 5220 | 19.76 | 18.06 |
| 11n (HT20) | CH48 | 5240 | 19.76 | 17.89 |
| 11n (HT40) | CH38 | 5190 | 40.10 | 36.50 |
| 11n (HT40) | CH46 | 5230 | 40.10 | 36.10 |

| Band IV (5725 - 5850 MHz ) | | | |
|---|---|---|---|
| Mode | Channel | Frequency(MHz) | 99% Bandwidth (MHz) |
| 11a | CH149 | 5745 | 16.61 |
| 11a | CH157 | 5785 | 16.73 |
| 11a | CH165 | 5825 | 17.02 |
| 11n (HT20) | CH149 | 5745 | 18.06 |
| 11n (HT20) | CH157 | 5785 | 18.00 |
| 11n (HT20) | CH165 | 5825 | 18.06 |
| 11n (HT40) | CH151 | 5755 | 36.10 |
| 11n (HT40) | CH159 | 5795 | 36.20 |

## A.3 6 dB Bandwidth

Note: Test plots please refer to the document “Annex No.: BL-SZ17A0392-604 Data Part 2.pdf”.

Test Data

| Band IV (5725 - 5850 MHz ) | | | | | |
|---|---|---|---|---|---|
| Mode | Channel | Frequency(MHz) | 6 dB Bandwidth(MHz) | Limit (kHz) | Verdict |
| 11a | CH149 | 5745 | 16.47 | 0.5 | Pass |
| 11a | CH157 | 5785 | 16.47 | 0.5 | Pass |
| 11a | CH165 | 5825 | 16.47 | 0.5 | Pass |
| 11n (HT20) | CH149 | 5745 | 17.67 | 0.5 | Pass |
| 11n (HT20) | CH157 | 5785 | 17.67 | 0.5 | Pass |
| 11n (HT20) | CH165 | 5825 | 17.72 | 0.5 | Pass |
| 11n (HT40) | CH151 | 5755 | 29.52 | 0.5 | Pass |
| 11n (HT40) | CH159 | 5795 | 36.42 | 0.5 | Pass |

## A.4 Power Spectral Density

Note: Test plots please refer to the document “Annex No.: BL-SZ17A0392-604 Data Part 3.pdf”.

Test Data

Note [1]: The RBW used in Band IV is 1 MHz, and the PSD factor is: 10*log (500 kHz/RBW) =-3 dBm.

| Band I (5150 - 5250 MHz) | | | | | |
|---|---|---|---|---|---|
| Mode | Channel | Frequency(MHz) | PSD (dBm/MHz) | FCC Limit(dBm/MHz) | Verdict |
| 11a | CH36 | 5180 | 2.24 | 17 | Pass |
| 11a | CH44 | 5220 | 3.28 | 17 | Pass |
| 11a | CH48 | 5240 | 2.57 | 17 | Pass |
| 11n (HT20) | CH36 | 5180 | 2.16 | 17 | Pass |
| 11n (HT20) | CH44 | 5220 | 2.64 | 17 | Pass |
| 11n (HT20) | CH48 | 5240 | 2.68 | 17 | Pass |
| 11n (HT40) | CH38 | 5190 | -0.76 | 17 | Pass |
| 11n (HT40) | CH46 | 5230 | -0.86 | 17 | Pass |

| Band IV (5725 - 5850 MHz) | | | | | |
|---|---|---|---|---|---|
| Mode | Channel | Frequency(MHz) | PSD (dBm/500kHz) | FCC Limit(dBm/500 kHz) | Verdict |
| 11a | CH149 | 5745 | -4.29 | 30 | Pass |
| 11a | CH157 | 5785 | -5.41 | 30 | Pass |
| 11a | CH165 | 5825 | -4.98 | 30 | Pass |
| 11n (HT20) | CH149 | 5745 | -4.37 | 30 | Pass |
| 11n (HT20) | CH157 | 5785 | -5.48 | 30 | Pass |
| 11n (HT20) | CH165 | 5825 | -5.11 | 30 | Pass |
| 11n (HT40) | CH151 | 5755 | -15.74 | 30 | Pass |
| 11n (HT40) | CH159 | 5795 | -15.77 | 30 | Pass |

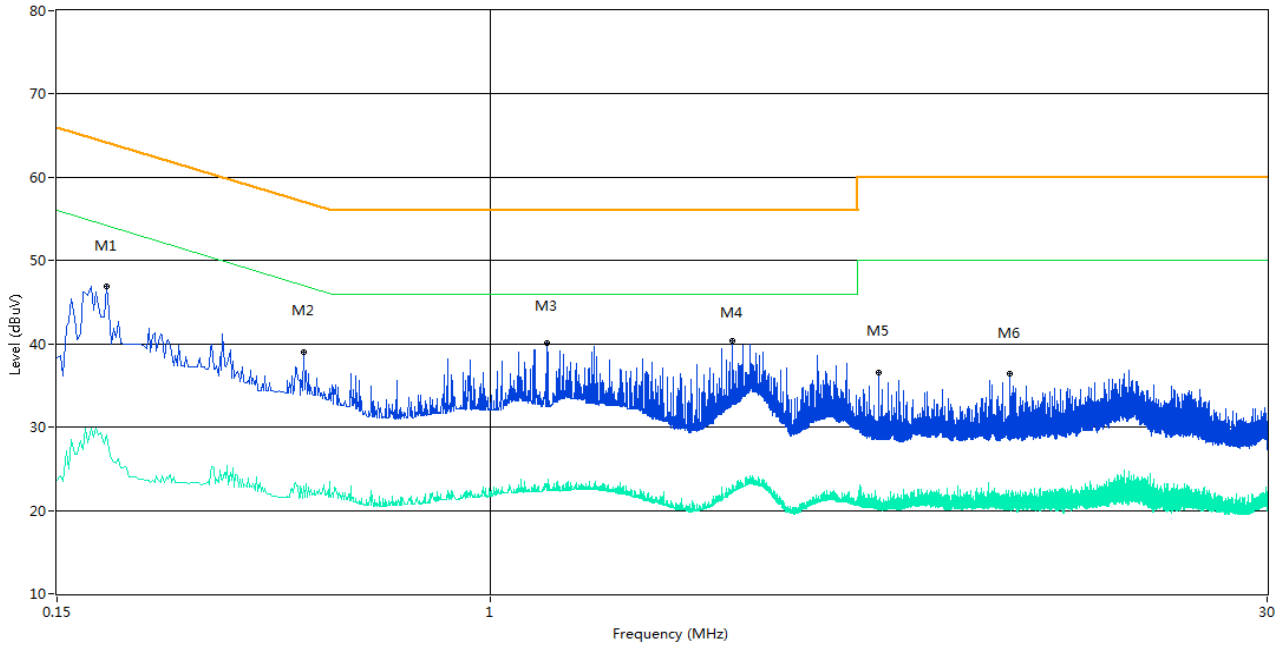
## A.5 Conducted Emissions

Note [1]: The EUT is working in the Normal link mode.

Note [2]: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

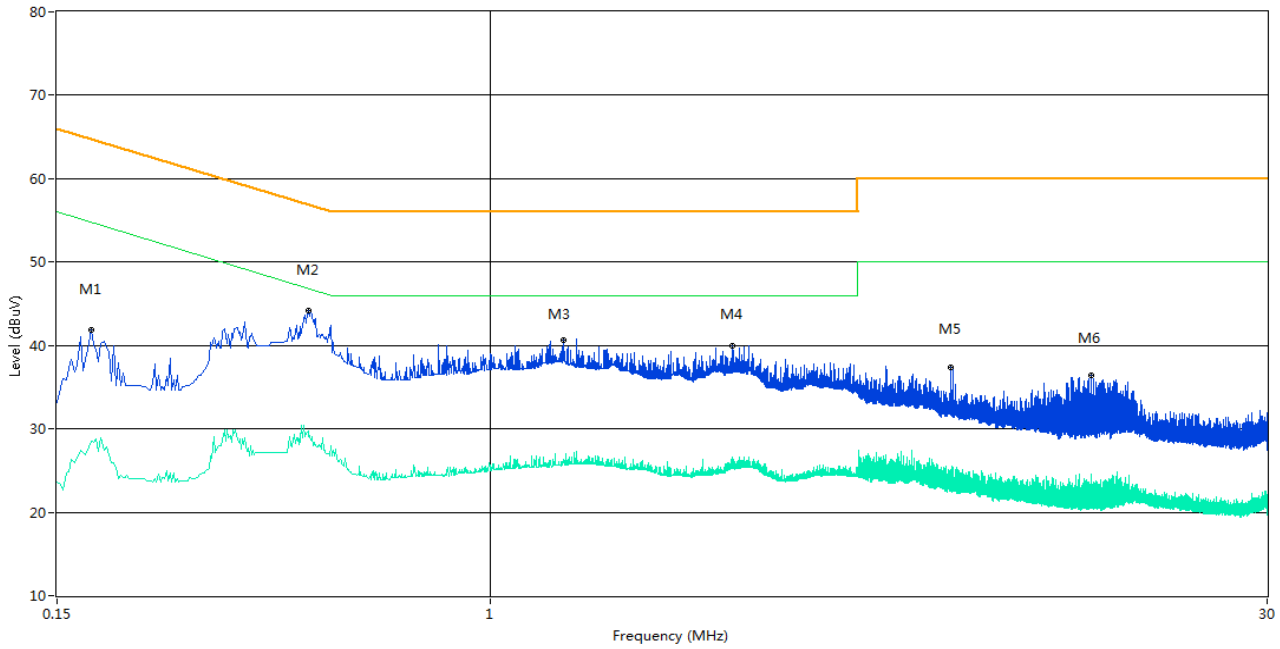
Test Data and Plots

PHASE L




| No. | Frequency (MHz) | Results (dBuV) | Factor (dB) | Limit (dBuV) | Margin (dB) | Detector | Line | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.186 | 46.9 | 10.04 | 64.2 | 17.30 | Peak | L Line | Pass |
| 1** | 0.186 | 29.1 | 10.04 | 54.2 | 25.10 | AV | L Line | Pass |
| 2 | 0.442 | 39.0 | 10.04 | 57.0 | 18.00 | Peak | L Line | Pass |
| 2** | 0.442 | 22.9 | 10.04 | 47.0 | 24.10 | AV | L Line | Pass |
| 3 | 1.280 | 40.1 | 10.07 | 56.0 | 15.90 | Peak | L Line | Pass |
| 3** | 1.280 | 22.7 | 10.07 | 46.0 | 23.30 | AV | L Line | Pass |
| 4 | 2.884 | 40.3 | 10.11 | 56.0 | 15.70 | Peak | L Line | Pass |
| 4** | 2.884 | 22.3 | 10.11 | 46.0 | 23.70 | AV | L Line | Pass |
| 5 | 5.486 | 36.6 | 10.19 | 60.0 | 23.40 | Peak | L Line | Pass |
| 5** | 5.486 | 21.3 | 10.19 | 50.0 | 28.70 | AV | L Line | Pass |
| 6 | 9.712 | 36.5 | 10.30 | 60.0 | 23.50 | Peak | L Line | Pass |
| 6** | 9.712 | 21.6 | 10.30 | 50.0 | 28.40 | AV | L Line | Pass |

## PHASE N




| No. | Frequency (MHz) | Results (dBuV) | Factor (dB) | Limit (dBuV) | Margin (dB) | Detector | Line | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | 41.8 | 10.04 | 64.8 | 23.00 | Peak | N Line | Pass |
| 1** | 0.174 | 28.5 | 10.04 | 54.8 | 26.30 | AV | N Line | Pass |
| 2 | 0.450 | 44.2 | 10.04 | 56.9 | 12.70 | Peak | N Line | Pass |
| 2** | 0.450 | 29.7 | 10.04 | 46.9 | 17.20 | AV | N Line | Pass |
| 3 | 1.380 | 40.7 | 10.07 | 56.0 | 15.30 | Peak | N Line | Pass |
| 3** | 1.380 | 26.4 | 10.07 | 46.0 | 19.60 | AV | N Line | Pass |
| 4 | 2.892 | 39.9 | 10.11 | 56.0 | 16.10 | Peak | N Line | Pass |
| 4** | 2.892 | 26.7 | 10.11 | 46.0 | 19.30 | AV | N Line | Pass |
| 5 | 7.514 | 37.4 | 10.24 | 60.0 | 22.60 | Peak | N Line | Pass |
| 5** | 7.514 | 22.9 | 10.24 | 50.0 | 27.10 | AV | N Line | Pass |
| 6 | 13.864 | 36.5 | 10.42 | 60.0 | 23.50 | Peak | N Line | Pass |
| 6** | 13.864 | 22.6 | 10.42 | 50.0 | 27.40 | AV | N Line | Pass |

## A.6 Conducted Spurious Emission and Band Edge (Authorized-band)

Note [1]: Test plots please refer to the document “Annex No.: BL-SZ17A0392-604 Data Part 4.pdf”.

| Test Band | Mode | Channel | Verdict |
|---|---|---|---|
| Band I | 802.11a | Low | Pass |
| | | Middle | Pass |
| | | High | Pass |
| | 802.11n(HT20) | Low | Pass |
| | | Middle | Pass |
| | | High | Pass |
| | 802.11n(HT40) | Low | Pass |
| | | High | Pass |
| Band IV | 802.11a | Low | Pass |
| | | Middle | Pass |
| | | High | Pass |
| | 802.11n(HT20) | Low | Pass |
| | | Middle | Pass |
| | | High | Pass |
| | 802.11n(HT40) | Low | Pass |
| | | High | Pass |

## A.7 Radiated Spurious Emissions and Band Edge (Restricted-band)

Test Data

Cabinet Radiated spurious emission test

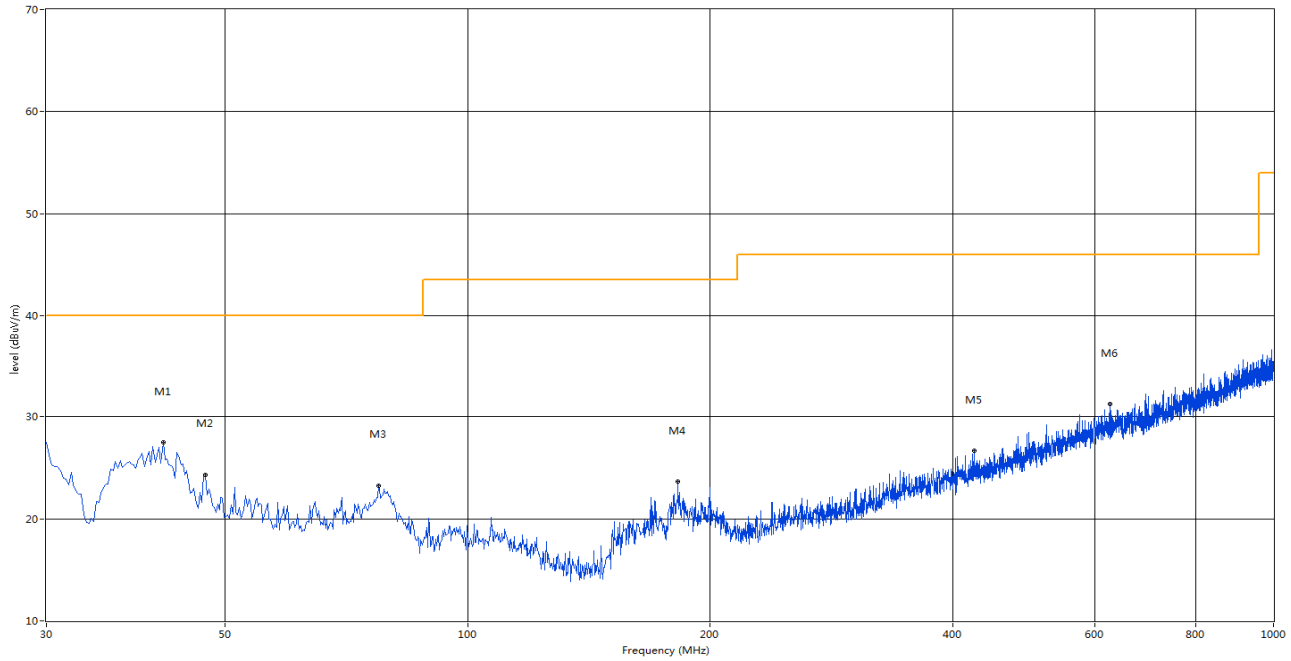
Note [1]: The symbol of "--" in the table which means not application.

Note [2]: For the test data above 1 GHz，According the ANSI C63.4, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note [3]: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

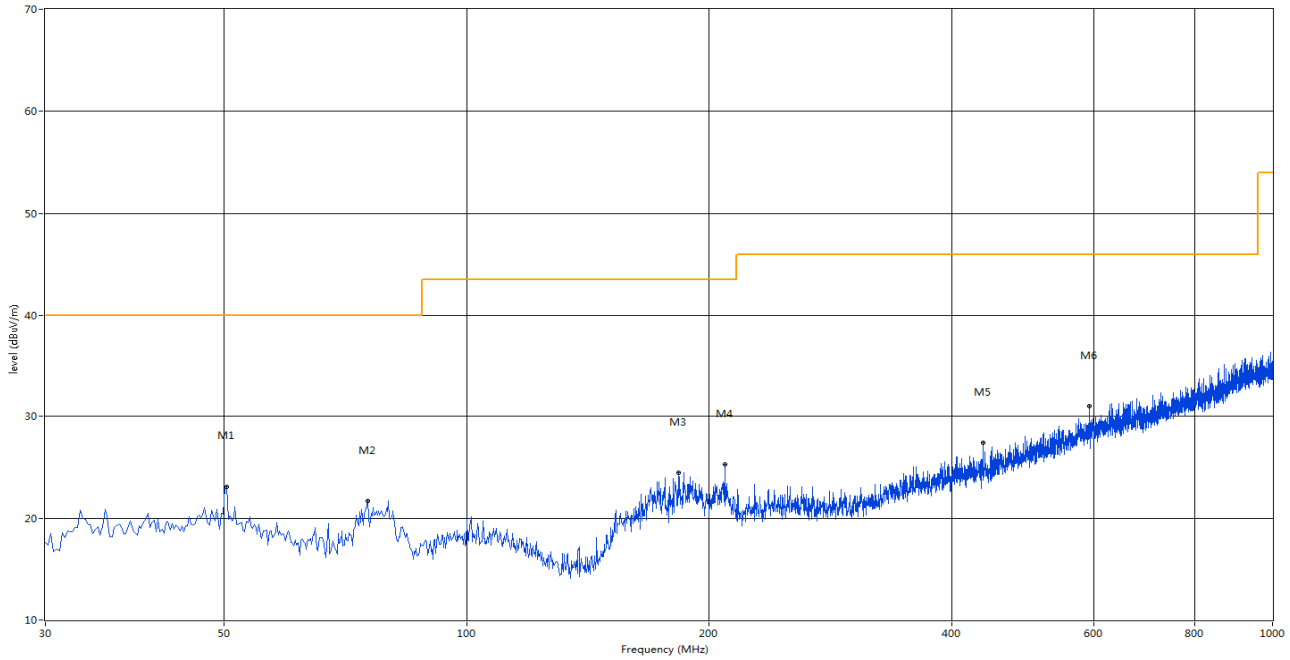
Note [4]: The EUT is working in the Normal link mode below 1 GHz.

30 MHz to 1 GHz, ANT V




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 41.883 | 27.51 | 15.71 | 40.0 | 12.49 | Peak | 0.30 | 100 | Vertical | Pass |
| 2 | 47.218 | 24.32 | 16.46 | 40.0 | 15.68 | Peak | 359.20 | 100 | Vertical | Pass |
| 3 | 77.530 | 23.25 | 10.56 | 40.0 | 16.75 | Peak | 7.20 | 100 | Vertical | Pass |
| 4 | 182.290 | 23.62 | 13.37 | 43.5 | 19.88 | Peak | 220.80 | 100 | Vertical | Pass |
| 5 | 425.275 | 26.66 | 20.79 | 46.0 | 19.34 | Peak | 280.50 | 100 | Vertical | Pass |
| 6 | 626.065 | 31.28 | 24.97 | 46.0 | 14.72 | Peak | 18.70 | 100 | Vertical | Pass |

## 30 MHz to 1 GHz, ANT H




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 50.370 | 23.11 | 16.38 | 40.0 | 16.89 | Peak | 293.10 | 100 | Horizontal | Pass |
| 2 | 75.348 | 21.66 | 10.89 | 40.0 | 18.34 | Peak | 254.20 | 100 | Horizontal | Pass |
| 3 | 183.260 | 24.43 | 13.54 | 43.5 | 19.07 | Peak | 101.30 | 100 | Horizontal | Pass |
| 4 | 208.965 | 25.28 | 15.25 | 43.5 | 18.22 | Peak | 147.30 | 100 | Horizontal | Pass |
| 5 | 436.915 | 27.40 | 20.89 | 46.0 | 18.60 | Peak | 5.20 | 100 | Horizontal | Pass |
| 6 | 592.600 | 30.99 | 24.43 | 46.0 | 15.01 | Peak | 117.50 | 100 | Horizontal | Pass |

Note [1]: The device was evaluated/tested in XYZ orientation for radiated spurious emissions. And only the worst orientation of EUT was reported, which is the horizontal orientation.

1 GHz to 40 GHz, ANT V Band I 11a Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1936.000 | 47.37 | -0.50 | 68.2 | 20.83 | Peak | 338.90 | 150 | Vertical | Pass |
| 2 | 2739.500 | 51.82 | 5.07 | 68.2 | 16.38 | Peak | 139.30 | 150 | Vertical | Pass |
| 3 | 5184.000 | 91.54 | 10.99 | 74.0 | -17.54 | Peak | 12.80 | 150 | Vertical | N/A |
| 4 | 6756.000 | 48.90 | 12.11 | 68.2 | 19.30 | Peak | 22.60 | 150 | Vertical | Pass |
| 5 | 10357.750 | 52.48 | 16.01 | 68.2 | 15.72 | Peak | 212.60 | 150 | Vertical | Pass |
| 6 | 16900.000 | 60.36 | 25.83 | 68.2 | 7.84 | Peak | 193.20 | 150 | Vertical | Pass |

1 GHz to 40 GHz, ANT H Band I 11a Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1473.500 | 46.12 | -2.97 | 68.2 | 22.08 | Peak | 52.80 | 150 | Horizontal | Pass |
| 2 | 2809.500 | 52.01 | 4.95 | 68.2 | 16.19 | Peak | 216.70 | 150 | Horizontal | Pass |
| 3 | 5183.000 | 99.19 | 11.01 | 74.0 | -25.19 | Peak | 238.80 | 150 | Horizontal | N/A |
| 4 | 8287.000 | 51.30 | 14.40 | 68.2 | 16.90 | Peak | 293.10 | 150 | Horizontal | Pass |
| 5 | 10357.750 | 51.23 | 16.01 | 68.2 | 16.97 | Peak | 199.30 | 150 | Horizontal | Pass |
| 6 | 16897.250 | 60.25 | 25.83 | 68.2 | 7.95 | Peak | 36.00 | 150 | Horizontal | Pass |

1 GHz to 40 GHz, ANT V Band I 11a Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1343.000 | 46.44 | -2.99 | 68.2 | 21.76 | Peak | 351.20 | 150 | Vertical | Pass |
| 2 | 2241.000 | 50.00 | 1.88 | 68.2 | 18.20 | Peak | 200.70 | 150 | Vertical | Pass |
| 3 | 5221.000 | 91.72 | 10.83 | 74.0 | -17.72 | Peak | 355.00 | 150 | Vertical | N/A |
| 4 | 6726.000 | 49.51 | 11.84 | 68.2 | 18.69 | Peak | 312.40 | 150 | Vertical | Pass |
| 5 | 10432.000 | 53.40 | 16.49 | 68.2 | 14.80 | Peak | 133.50 | 150 | Vertical | Pass |
| 6 | 14540.500 | 54.64 | 22.72 | 68.2 | 13.56 | Peak | 148.20 | 150 | Vertical | Pass |

1 GHz to 40 GHz, ANT H Band I 11a Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1938.000 | 47.49 | -0.45 | 68.2 | 20.71 | Peak | 304.90 | 150 | Horizontal | Pass |
| 2 | 3624.000 | 45.08 | 7.51 | 68.2 | 23.12 | Peak | 145.70 | 150 | Horizontal | Pass |
| 3 | 5217.000 | 100.66 | 10.84 | 74.0 | -26.66 | Peak | 245.80 | 150 | Horizontal | N/A |
| 4 | 8353.000 | 49.80 | 13.66 | 68.2 | 18.40 | Peak | 243.10 | 150 | Horizontal | Pass |
| 5 | 10440.250 | 49.99 | 16.54 | 68.2 | 18.21 | Peak | 171.90 | 150 | Horizontal | Pass |
| 6 | 14515.750 | 54.47 | 22.16 | 68.2 | 13.73 | Peak | 167.00 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band I 11a High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1963.000 | 47.51 | -0.47 | 68.2 | 20.69 | Peak | 5.40 | 150 | Vertical | Pass |
| 2 | 3768.000 | 45.79 | 8.14 | 68.2 | 22.41 | Peak | 115.10 | 150 | Vertical | Pass |
| 3 | 5242.000 | 91.90 | 11.08 | 74.0 | -17.90 | Peak | 0.40 | 150 | Vertical | N/A |
| 4 | 6191.000 | 49.37 | 11.49 | 68.2 | 18.83 | Peak | 105.30 | 150 | Vertical | Pass |
| 5 | 10476.000 | 52.74 | 16.76 | 68.2 | 15.46 | Peak | 117.40 | 150 | Vertical | Pass |
| 6 | 16297.750 | 58.37 | 22.93 | 68.2 | 9.83 | Peak | 63.00 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band I 11a High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1329.500 | 46.78 | -3.26 | 68.2 | 21.42 | Peak | 357.70 | 150 | Horizontal | Pass |
| 2 | 3751.000 | 44.84 | 8.39 | 68.2 | 23.36 | Peak | 14.20 | 150 | Horizontal | Pass |
| 3 | 5243.000 | 99.62 | 11.08 | 74.0 | -25.62 | Peak | 241.00 | 150 | Horizontal | N/A |
| 4 | 8383.250 | 49.96 | 14.16 | 68.2 | 18.24 | Peak | 253.10 | 150 | Horizontal | Pass |
| 5 | 10478.750 | 52.09 | 16.74 | 68.2 | 16.11 | Peak | 184.60 | 150 | Horizontal | Pass |
| 6 | 15582.750 | 56.45 | 22.79 | 68.2 | 11.75 | Peak | 12.30 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band I 11n20 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1368.000 | 45.70 | -2.76 | 68.2 | 22.50 | Peak | 353.60 | 150 | Vertical | Pass |
| 2 | 4237.000 | 45.71 | 8.89 | 68.2 | 22.49 | Peak | 7.50 | 150 | Vertical | Pass |
| 3 | 5181.000 | 92.25 | 11.02 | 74.0 | -18.25 | Peak | 358.50 | 150 | Vertical | N/A |
| 4 | 6589.000 | 50.39 | 12.02 | 68.2 | 17.81 | Peak | 127.50 | 150 | Vertical | Pass |
| 5 | 10355.000 | 53.92 | 15.99 | 68.2 | 14.28 | Peak | 131.40 | 150 | Vertical | Pass |
| 6 | 15552.500 | 56.39 | 22.11 | 68.2 | 11.81 | Peak | 193.60 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band I 11n20 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1672.000 | 46.42 | -2.14 | 68.2 | 21.78 | Peak | 113.40 | 150 | Horizontal | Pass |
| 2 | 3570.000 | 45.04 | 6.75 | 68.2 | 23.16 | Peak | 298.40 | 150 | Horizontal | Pass |
| 3 | 5182.000 | 99.32 | 11.01 | 74.0 | -25.32 | Peak | 243.70 | 150 | Horizontal | N/A |
| 4 | 8287.000 | 50.87 | 14.40 | 68.2 | 17.33 | Peak | 238.50 | 150 | Horizontal | Pass |
| 5 | 10366.000 | 51.33 | 16.06 | 68.2 | 16.87 | Peak | 172.60 | 150 | Horizontal | Pass |
| 6 | 12293.750 | 52.47 | 18.76 | 68.2 | 15.73 | Peak | 341.60 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band I 11n20 Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1479.000 | 46.14 | -2.88 | 68.2 | 22.06 | Peak | 326.20 | 150 | Vertical | Pass |
| 2 | 3866.000 | 45.14 | 7.97 | 68.2 | 23.06 | Peak | 243.50 | 150 | Vertical | Pass |
| 3 | 5219.000 | 91.56 | 10.83 | 74.0 | -17.56 | Peak | 355.40 | 150 | Vertical | N/A |
| 4 | 6049.000 | 49.12 | 11.64 | 68.2 | 19.08 | Peak | 195.80 | 150 | Vertical | Pass |
| 5 | 10440.250 | 52.24 | 16.54 | 68.2 | 15.96 | Peak | 130.60 | 150 | Vertical | Pass |
| 6 | 14205.000 | 54.38 | 21.26 | 68.2 | 13.82 | Peak | 126.00 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band I 11n20 Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1270.000 | 46.89 | -3.50 | 68.2 | 21.31 | Peak | 171.30 | 150 | Horizontal | Pass |
| 2 | 4267.000 | 45.66 | 9.08 | 68.2 | 22.54 | Peak | 129.30 | 150 | Horizontal | Pass |
| 3 | 5218.000 | 99.16 | 10.84 | 74.0 | -25.16 | Peak | 242.50 | 150 | Horizontal | N/A |
| 4 | 6760.000 | 49.44 | 12.18 | 68.2 | 18.76 | Peak | 1.90 | 150 | Horizontal | Pass |
| 5 | 8353.000 | 50.08 | 13.66 | 68.2 | 18.12 | Peak | 270.00 | 150 | Horizontal | Pass |
| 6 | 14155.500 | 54.65 | 21.71 | 68.2 | 13.55 | Peak | 13.60 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band I 11n20 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1435.500 | 45.91 | -3.14 | 68.2 | 22.29 | Peak | 352.20 | 150 | Vertical | Pass |
| 2 | 3508.000 | 44.34 | 6.55 | 68.2 | 23.86 | Peak | 301.90 | 150 | Vertical | Pass |
| 3 | 5239.000 | 91.34 | 11.03 | 74.0 | -17.34 | Peak | 357.20 | 150 | Vertical | N/A |
| 4 | 6593.000 | 49.23 | 11.99 | 68.2 | 18.97 | Peak | 317.00 | 150 | Vertical | Pass |
| 5 | 10481.500 | 54.04 | 16.72 | 68.2 | 14.16 | Peak | 135.30 | 150 | Vertical | Pass |
| 6 | 12313.000 | 52.08 | 18.51 | 68.2 | 16.12 | Peak | 360.00 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band I 11n20 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1531.500 | 46.62 | -2.91 | 68.2 | 21.58 | Peak | 279.10 | 150 | Horizontal | Pass |
| 2 | 3961.000 | 45.02 | 8.32 | 68.2 | 23.18 | Peak | 75.30 | 150 | Horizontal | Pass |
| 3 | 5239.000 | 100.64 | 11.03 | 74.0 | -26.64 | Peak | 242.60 | 150 | Horizontal | N/A |
| 4 | 8383.250 | 50.82 | 14.16 | 68.2 | 17.38 | Peak | 243.30 | 150 | Horizontal | Pass |
| 5 | 10484.250 | 50.84 | 16.70 | 68.2 | 17.36 | Peak | 187.50 | 150 | Horizontal | Pass |
| 6 | 15618.500 | 56.44 | 22.74 | 68.2 | 11.76 | Peak | 45.20 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band I 11n40 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1558.000 | 46.17 | -2.99 | 68.2 | 22.03 | Peak | 2.70 | 150 | Vertical | Pass |
| 2 | 3751.000 | 44.77 | 8.39 | 68.2 | 23.43 | Peak | 294.90 | 150 | Vertical | Pass |
| 3 | 5186.000 | 89.72 | 10.98 | 74.0 | -15.72 | Peak | 0.30 | 150 | Vertical | N/A |
| 4 | 8834.250 | 47.94 | 15.69 | 68.2 | 20.26 | Peak | 130.30 | 150 | Vertical | Pass |
| 5 | 12029.750 | 51.56 | 18.57 | 68.2 | 16.64 | Peak | 27.20 | 150 | Vertical | Pass |
| 6 | 16440.750 | 58.86 | 23.84 | 68.2 | 9.34 | Peak | 317.30 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band I 11n40 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1452.500 | 45.77 | -2.95 | 68.2 | 22.43 | Peak | 89.40 | 150 | Horizontal | Pass |
| 2 | 3986.000 | 44.86 | 8.52 | 68.2 | 23.34 | Peak | 82.90 | 150 | Horizontal | Pass |
| 3 | 5195.000 | 97.80 | 10.93 | 74.0 | -23.80 | Peak | 237.90 | 150 | Horizontal | N/A |
| 4 | 8303.500 | 51.41 | 14.66 | 68.2 | 16.79 | Peak | 252.80 | 150 | Horizontal | Pass |
| 5 | 10379.750 | 49.90 | 16.15 | 68.2 | 18.30 | Peak | 175.10 | 150 | Horizontal | Pass |
| 6 | 14205.000 | 54.56 | 21.26 | 68.2 | 13.64 | Peak | 161.40 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band I 11n40 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1713.000 | 46.07 | -2.19 | 68.2 | 22.13 | Peak | 176.80 | 150 | Vertical | Pass |
| 2 | 4094.000 | 44.81 | 8.41 | 68.2 | 23.39 | Peak | 42.80 | 150 | Vertical | Pass |
| 3 | 5232.000 | 88.57 | 10.95 | 74.0 | -14.57 | Peak | 342.20 | 150 | Vertical | N/A |
| 4 | 6761.000 | 49.54 | 12.17 | 68.2 | 18.66 | Peak | 67.60 | 150 | Vertical | Pass |
| 5 | 10467.750 | 50.49 | 16.72 | 68.2 | 17.71 | Peak | 141.50 | 150 | Vertical | Pass |
| 6 | 14174.750 | 54.27 | 21.53 | 68.2 | 13.93 | Peak | 241.80 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band I 11n40 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2474.000 | 58.86 | 1.37 | 68.2 | 9.34 | Peak | 50.10 | 150 | Horizontal | Pass |
| 2 | 4161.000 | 45.28 | 8.55 | 68.2 | 22.92 | Peak | 80.70 | 150 | Horizontal | Pass |
| 3 | 5223.000 | 97.31 | 10.86 | 74.0 | -23.31 | Peak | 239.40 | 150 | Horizontal | N/A |
| 4 | 8369.500 | 50.99 | 13.93 | 68.2 | 17.21 | Peak | 240.20 | 150 | Horizontal | Pass |
| 5 | 10313.750 | 49.61 | 15.73 | 68.2 | 18.59 | Peak | 342.30 | 150 | Horizontal | Pass |
| 6 | 15615.750 | 56.31 | 22.78 | 68.2 | 11.89 | Peak | 113.10 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11a Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1400.500 | 45.85 | -2.91 | 68.2 | 22.35 | Peak | 154.10 | 150 | Vertical | Pass |
| 2 | 4014.000 | 45.42 | 8.75 | 68.2 | 22.78 | Peak | 57.90 | 150 | Vertical | Pass |
| 3 | 5747.000 | 86.28 | 11.63 | 122.2 | 35.92 | Peak | 38.00 | 150 | Vertical | N/A |
| 4 | 6464.000 | 49.51 | 11.76 | 68.2 | 18.69 | Peak | 195.00 | 150 | Vertical | Pass |
| 5 | 9546.500 | 48.22 | 14.84 | 68.2 | 19.98 | Peak | 78.40 | 150 | Vertical | Pass |
| 6 | 12533.000 | 51.46 | 19.09 | 68.2 | 16.74 | Peak | 360.60 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11a Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1304.000 | 46.72 | -3.02 | 68.2 | 21.48 | Peak | 91.30 | 150 | Horizontal | Pass |
| 2 | 3597.000 | 44.48 | 7.20 | 68.2 | 23.72 | Peak | 263.00 | 150 | Horizontal | Pass |
| 3 | 5743.000 | 96.57 | 11.58 | 122.2 | 25.63 | Peak | 231.70 | 150 | Horizontal | N/A |
| 4 | 9365.000 | 49.20 | 17.10 | 68.2 | 19.00 | Peak | 114.10 | 150 | Horizontal | Pass |
| 5 | 12533.000 | 51.19 | 19.09 | 68.2 | 17.01 | Peak | 3.40 | 150 | Horizontal | Pass |
| 6 | 15569.000 | 56.80 | 22.48 | 68.2 | 11.40 | Peak | 278.00 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11a Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1747.000 | 46.32 | -1.73 | 68.2 | 21.88 | Peak | 148.00 | 150 | Vertical | Pass |
| 2 | 4260.000 | 45.49 | 9.03 | 68.2 | 22.71 | Peak | 359.10 | 150 | Vertical | Pass |
| 3 | 5786.000 | 87.62 | 11.51 | 122.2 | 34.58 | Peak | 115.10 | 150 | Vertical | N/A |
| 4 | 8611.500 | 47.27 | 15.15 | 68.2 | 20.93 | Peak | 42.30 | 150 | Vertical | Pass |
| 5 | 11908.750 | 50.84 | 18.04 | 68.2 | 17.36 | Peak | 313.40 | 150 | Vertical | Pass |
| 6 | 14587.250 | 54.64 | 21.86 | 68.2 | 13.56 | Peak | 185.70 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11a Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1663.500 | 45.90 | -2.33 | 68.2 | 22.30 | Peak | 23.00 | 150 | Horizontal | Pass |
| 2 | 3745.000 | 45.12 | 8.36 | 68.2 | 23.08 | Peak | 141.90 | 150 | Horizontal | Pass |
| 3 | 5786.000 | 95.98 | 11.51 | 122.2 | 26.22 | Peak | 242.20 | 150 | Horizontal | N/A |
| 4 | 8567.500 | 47.80 | 15.23 | 68.2 | 20.40 | Peak | 359.70 | 150 | Horizontal | Pass |
| 5 | 10850.000 | 49.42 | 17.45 | 68.2 | 18.78 | Peak | 34.80 | 150 | Horizontal | Pass |
| 6 | 14504.750 | 54.72 | 21.91 | 68.2 | 13.48 | Peak | 172.30 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11a High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1516.500 | 45.90 | -3.14 | 68.2 | 22.30 | Peak | 3.40 | 150 | Vertical | Pass |
| 2 | 3684.000 | 45.56 | 7.59 | 68.2 | 22.64 | Peak | 296.70 | 150 | Vertical | Pass |
| 3 | 5827.000 | 87.98 | 11.36 | 122.2 | 34.22 | Peak | 341.00 | 150 | Vertical | N/A |
| 4 | 8848.000 | 47.80 | 15.73 | 68.2 | 20.40 | Peak | 24.90 | 150 | Vertical | Pass |
| 5 | 11853.750 | 50.39 | 18.33 | 68.2 | 17.81 | Peak | 90.60 | 150 | Vertical | Pass |
| 6 | 14532.250 | 54.74 | 22.54 | 68.2 | 13.46 | Peak | 184.10 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11a High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2106.000 | 48.05 | 0.45 | 68.2 | 20.15 | Peak | 8.40 | 150 | Horizontal | Pass |
| 2 | 4744.000 | 47.13 | 10.51 | 68.2 | 21.07 | Peak | 355.30 | 150 | Horizontal | Pass |
| 3 | 5822.000 | 95.74 | 11.34 | 122.2 | 26.46 | Peak | 234.30 | 150 | Horizontal | N/A |
| 4 | 8383.250 | 46.66 | 14.16 | 68.2 | 21.54 | Peak | 247.70 | 150 | Horizontal | Pass |
| 5 | 12214.000 | 50.96 | 18.28 | 68.2 | 17.24 | Peak | 57.40 | 150 | Horizontal | Pass |
| 6 | 15992.500 | 57.68 | 23.05 | 68.2 | 10.52 | Peak | 327.50 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11n20 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2104.000 | 49.42 | 0.30 | 68.2 | 18.78 | Peak | 222.10 | 150 | Vertical | Pass |
| 2 | 4501.000 | 46.37 | 9.26 | 68.2 | 21.83 | Peak | 271.70 | 150 | Vertical | Pass |
| 3 | 5743.000 | 86.31 | 11.58 | 122.2 | 35.89 | Peak | 122.60 | 150 | Vertical | N/A |
| 4 | 7649.000 | 46.59 | 14.08 | 68.2 | 21.61 | Peak | 98.00 | 150 | Vertical | Pass |
| 5 | 11488.000 | 50.42 | 17.98 | 68.2 | 17.78 | Peak | 242.60 | 150 | Vertical | Pass |
| 6 | 15291.250 | 55.81 | 21.57 | 68.2 | 12.39 | Peak | 31.30 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11n20 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1672.500 | 46.61 | -2.14 | 68.2 | 21.59 | Peak | 292.70 | 150 | Horizontal | Pass |
| 2 | 4742.000 | 47.06 | 10.53 | 68.2 | 21.14 | Peak | 33.50 | 150 | Horizontal | Pass |
| 3 | 5743.000 | 95.87 | 11.58 | 122.2 | 26.33 | Peak | 244.20 | 150 | Horizontal | N/A |
| 4 | 8177.000 | 46.43 | 14.25 | 68.2 | 21.77 | Peak | 0.30 | 150 | Horizontal | Pass |
| 5 | 11856.500 | 50.90 | 18.32 | 68.2 | 17.30 | Peak | 303.30 | 150 | Horizontal | Pass |
| 6 | 15623.999 | 56.73 | 22.66 | 68.2 | 11.47 | Peak | 88.80 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11n20 Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1897.500 | 47.29 | -1.30 | 68.2 | 20.91 | Peak | 204.50 | 150 | Vertical | Pass |
| 2 | 3558.000 | 44.49 | 6.68 | 68.2 | 23.71 | Peak | 59.20 | 150 | Vertical | Pass |
| 3 | 5782.000 | 86.82 | 11.61 | 122.2 | 35.38 | Peak | 121.00 | 150 | Vertical | N/A |
| 4 | 7673.750 | 46.96 | 13.50 | 68.2 | 21.24 | Peak | 297.30 | 150 | Vertical | Pass |
| 5 | 12483.500 | 51.60 | 18.43 | 68.2 | 16.60 | Peak | 360.20 | 150 | Vertical | Pass |
| 6 | 16009.000 | 57.25 | 23.12 | 68.2 | 10.95 | Peak | 335.70 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11n20 Middle channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2042.500 | 48.75 | 0.27 | 68.2 | 19.45 | Peak | 177.30 | 150 | Horizontal | Pass |
| 2 | 4167.000 | 46.05 | 8.53 | 68.2 | 22.15 | Peak | 331.40 | 150 | Horizontal | Pass |
| 3 | 5778.000 | 94.69 | 11.66 | 122.2 | 27.51 | Peak | 223.60 | 150 | Horizontal | N/A |
| 4 | 9378.750 | 47.79 | 17.51 | 68.2 | 20.41 | Peak | 16.10 | 150 | Horizontal | Pass |
| 5 | 13039.000 | 51.69 | 19.70 | 68.2 | 16.51 | Peak | 108.80 | 150 | Horizontal | Pass |
| 6 | 15274.750 | 56.14 | 21.59 | 68.2 | 12.06 | Peak | 16.10 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11n20 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2420.000 | 55.07 | 1.25 | 68.2 | 13.13 | Peak | 338.00 | 150 | Vertical | Pass |
| 2 | 4100.000 | 45.16 | 8.28 | 68.2 | 23.04 | Peak | 252.90 | 150 | Vertical | Pass |
| 3 | 5826.000 | 88.49 | 11.38 | 122.2 | 33.71 | Peak | 325.90 | 150 | Vertical | N/A |
| 4 | 8386.000 | 47.22 | 14.14 | 68.2 | 20.98 | Peak | 251.30 | 150 | Vertical | Pass |
| 5 | 11067.250 | 50.16 | 16.90 | 68.2 | 18.04 | Peak | 0.50 | 150 | Vertical | Pass |
| 6 | 16223.500 | 57.77 | 22.23 | 68.2 | 10.43 | Peak | 210.90 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11n20 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1362.500 | 46.01 | -2.81 | 68.2 | 22.19 | Peak | 116.40 | 150 | Horizontal | Pass |
| 2 | 4034.000 | 45.13 | 8.76 | 68.2 | 23.07 | Peak | 270.00 | 150 | Horizontal | Pass |
| 3 | 5827.000 | 96.01 | 11.36 | 122.2 | 26.19 | Peak | 225.90 | 150 | Horizontal | N/A |
| 4 | 6472.000 | 49.01 | 11.83 | 68.2 | 19.19 | Peak | 8.00 | 150 | Horizontal | Pass |
| 5 | 9945.250 | 49.56 | 17.20 | 68.2 | 18.64 | Peak | 287.70 | 150 | Horizontal | Pass |
| 6 | 15214.250 | 56.16 | 21.35 | 68.2 | 12.04 | Peak | 24.70 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11n40 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1673.000 | 45.51 | -2.13 | 68.2 | 22.69 | Peak | 89.60 | 150 | Vertical | Pass |
| 2 | 3724.000 | 45.36 | 8.15 | 68.2 | 22.84 | Peak | 150.00 | 150 | Vertical | Pass |
| 3 | 5756.000 | 84.63 | 11.74 | 122.2 | 37.57 | Peak | 120.00 | 150 | Vertical | N/A |
| 4 | 9029.500 | 47.57 | 15.30 | 68.2 | 20.63 | Peak | 351.90 | 150 | Vertical | Pass |
| 5 | 11892.250 | 50.97 | 18.13 | 68.2 | 17.23 | Peak | 165.50 | 150 | Vertical | Pass |
| 6 | 14551.500 | 55.04 | 22.72 | 68.2 | 13.16 | Peak | 79.20 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11n40 Low channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1319.000 | 46.02 | -3.38 | 68.2 | 22.18 | Peak | 332.30 | 150 | Horizontal | Pass |
| 2 | 4734.000 | 47.35 | 10.51 | 68.2 | 20.85 | Peak | 120.50 | 150 | Horizontal | Pass |
| 3 | 5751.000 | 93.75 | 11.69 | 122.2 | 28.45 | Peak | 229.20 | 150 | Horizontal | N/A |
| 4 | 8559.250 | 48.62 | 15.18 | 68.2 | 19.58 | Peak | 358.40 | 150 | Horizontal | Pass |
| 5 | 11864.750 | 50.89 | 18.27 | 68.2 | 17.31 | Peak | 359.90 | 150 | Horizontal | Pass |
| 6 | 15965.000 | 58.05 | 22.94 | 68.2 | 10.15 | Peak | 151.60 | 150 | Horizontal | Pass |

## 1 GHz to 40 GHz, ANT V Band IV 11n40 High channel

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2258.000 | 50.24 | 1.75 | 68.2 | 17.96 | Peak | 25.90 | 150 | Vertical | Pass |
| 2 | 4244.000 | 45.39 | 8.92 | 68.2 | 22.81 | Peak | 37.30 | 150 | Vertical | Pass |
| 3 | 5788.000 | 84.25 | 11.48 | 122.2 | 37.95 | Peak | 117.00 | 150 | Vertical | N/A |
| 4 | 7871.750 | 47.60 | 14.10 | 68.2 | 20.60 | Peak | 47.50 | 150 | Vertical | Pass |
| 5 | 10852.750 | 49.84 | 17.45 | 68.2 | 18.36 | Peak | 152.10 | 150 | Vertical | Pass |
| 6 | 15261.000 | 56.56 | 21.54 | 68.2 | 11.64 | Peak | 62.50 | 150 | Vertical | Pass |

## 1 GHz to 40 GHz, ANT H Band IV 11n40 High channel

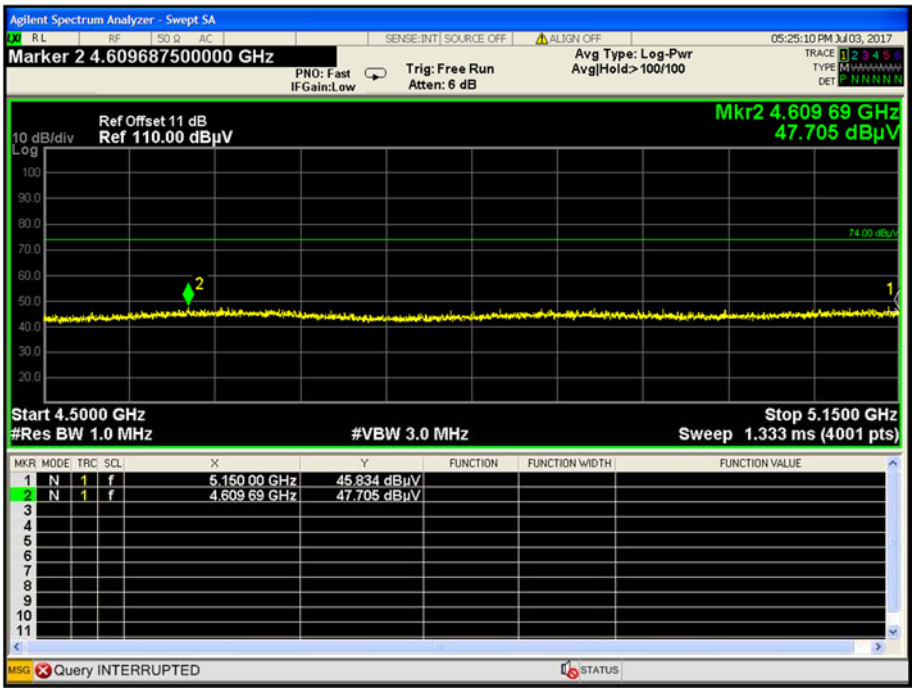
| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2265.000 | 50.70 | 2.24 | 68.2 | 17.50 | Peak | 212.50 | 150 | Horizontal | Pass |
| 2 | 4233.000 | 45.52 | 8.88 | 68.2 | 22.68 | Peak | 222.10 | 150 | Horizontal | Pass |
| 3 | 5791.000 | 93.13 | 11.42 | 122.2 | 29.07 | Peak | 231.50 | 150 | Horizontal | N/A |
| 4 | 7541.750 | 47.28 | 12.88 | 68.2 | 20.92 | Peak | 71.10 | 150 | Horizontal | Pass |
| 5 | 10003.000 | 49.52 | 17.15 | 68.2 | 18.68 | Peak | 359.60 | 150 | Horizontal | Pass |
| 6 | 15948.500 | 57.54 | 22.87 | 68.2 | 10.66 | Peak | 0.00 | 150 | Horizontal | Pass |

A.7.2 Band Edge (Restricted-band)

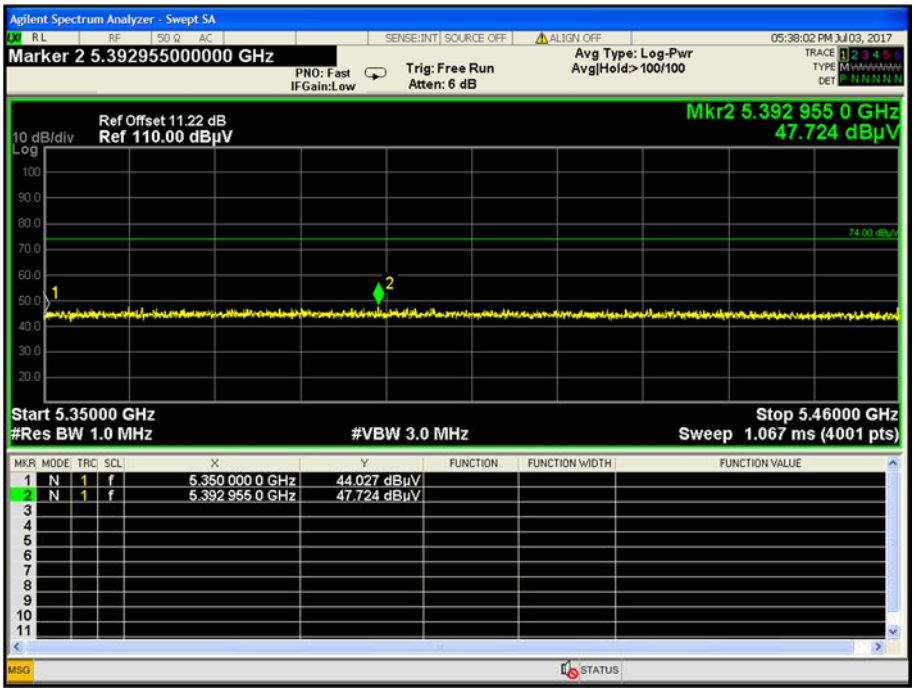
| Test Band | Mode | Channel | Verdict |
|---|---|---|---|
| Band I | 802.11a | Low | Pass |
| | | High | Pass |
| | 802.11n(HT20) | Low | Pass |
| | | High | Pass |
| | 802.11n(HT40) | Low | Pass |
| | | High | Pass |
| Band IV | 802.11a | Low | Pass |
| | | High | Pass |
| | 802.11n(HT20) | Low | Pass |
| | | High | Pass |
| | 802.11n(HT40) | Low | Pass |
| | | High | Pass |

Test Plots

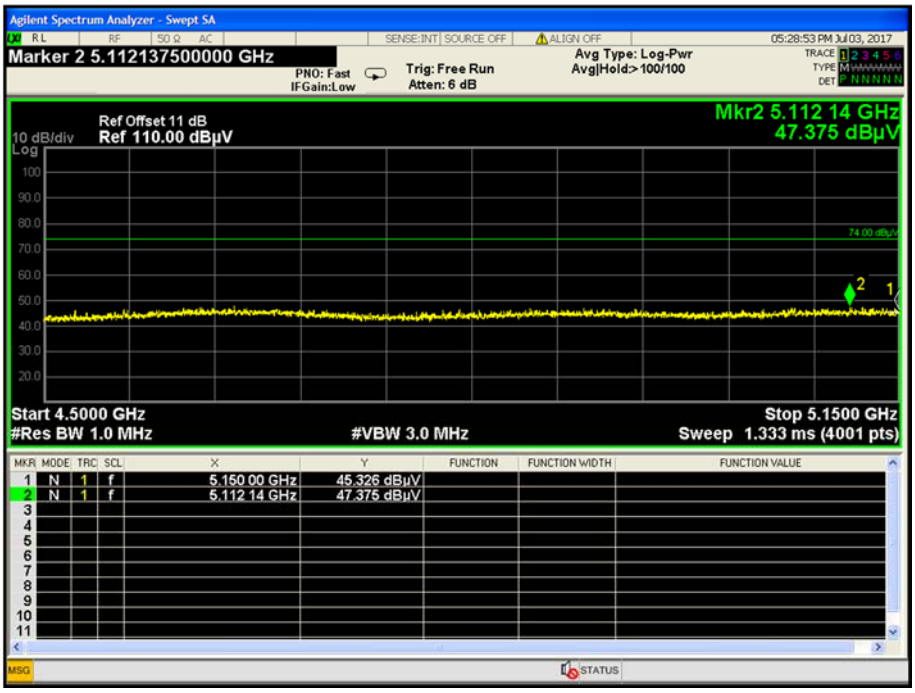
Band I 11a CH36



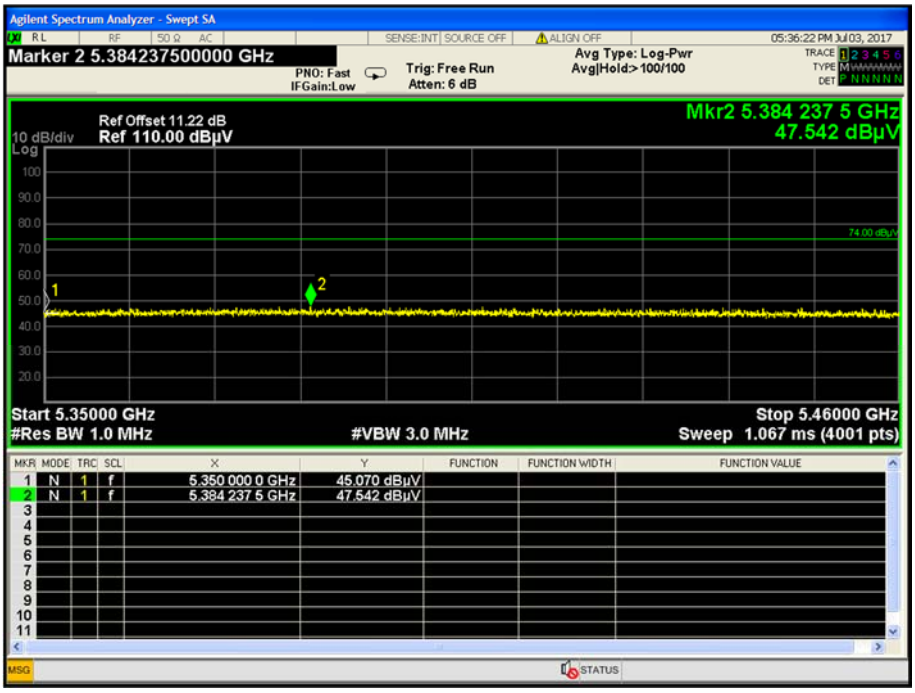
## Band I 11a CH48



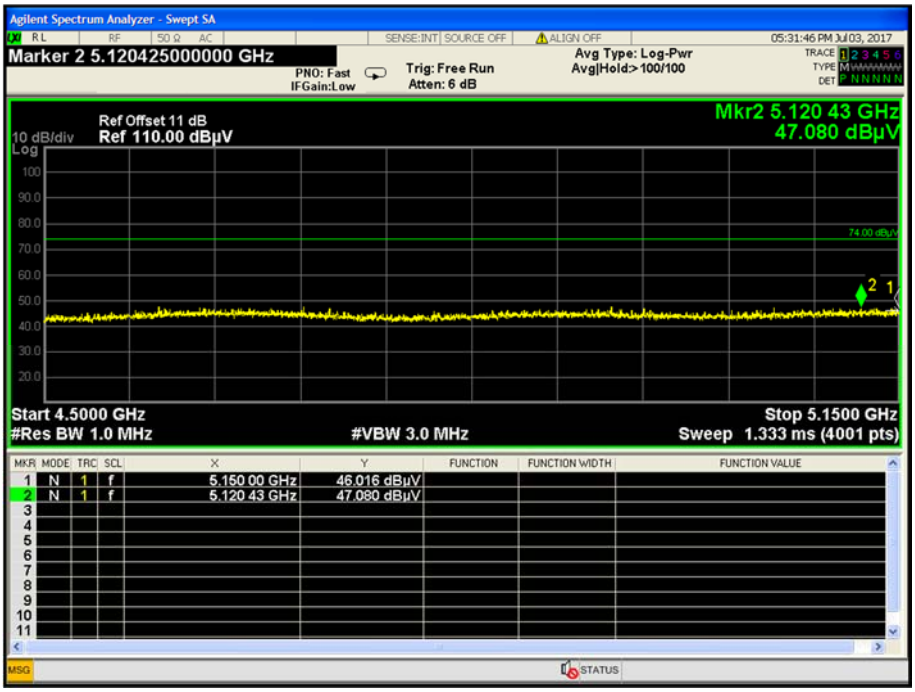

## Band I 11n(HT20) CH36



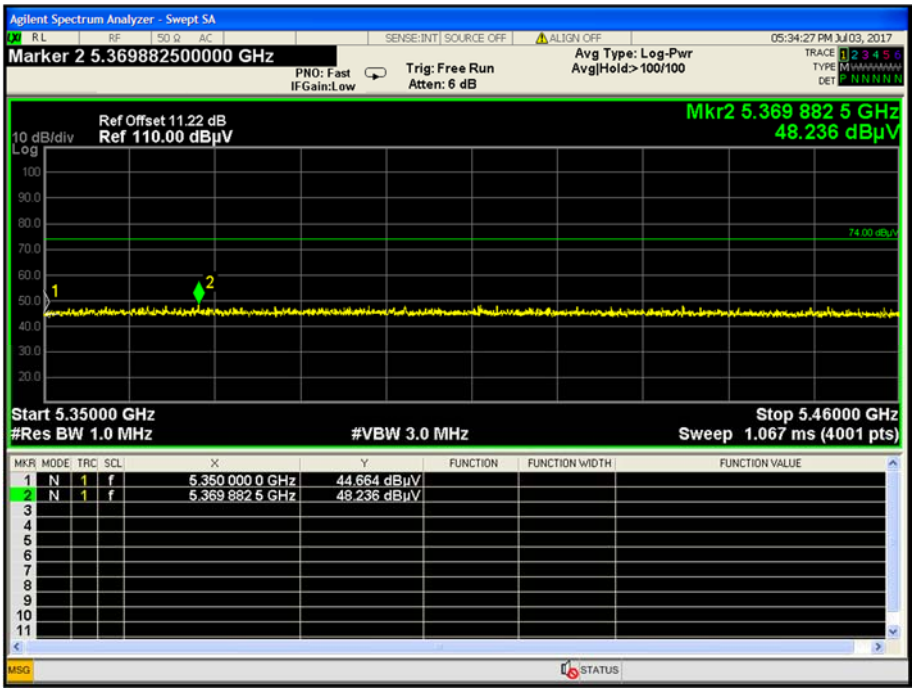
## Band I 11n(HT20) CH48



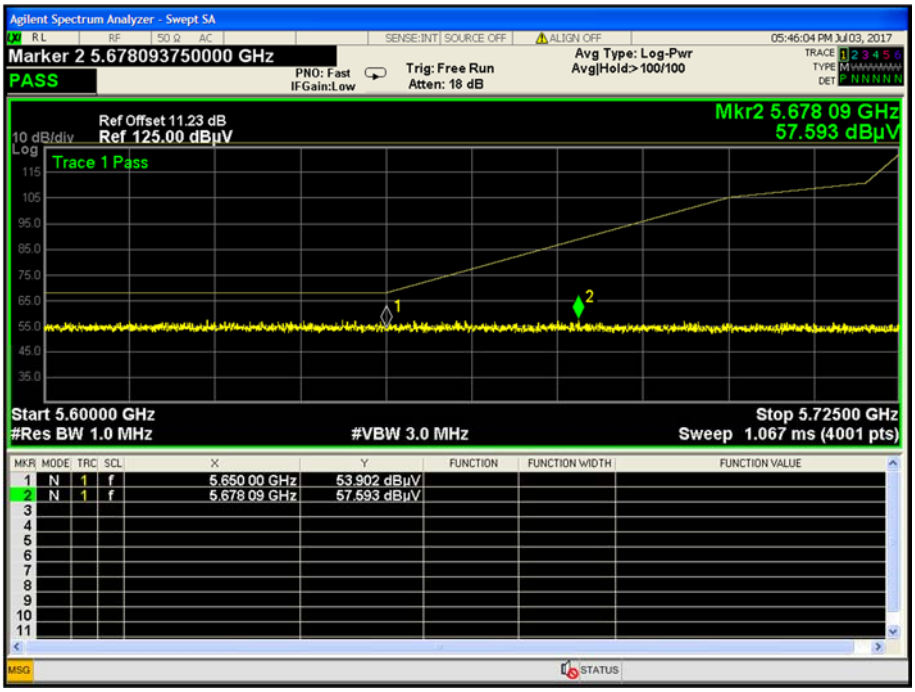

## Band I 11n(HT40) CH38



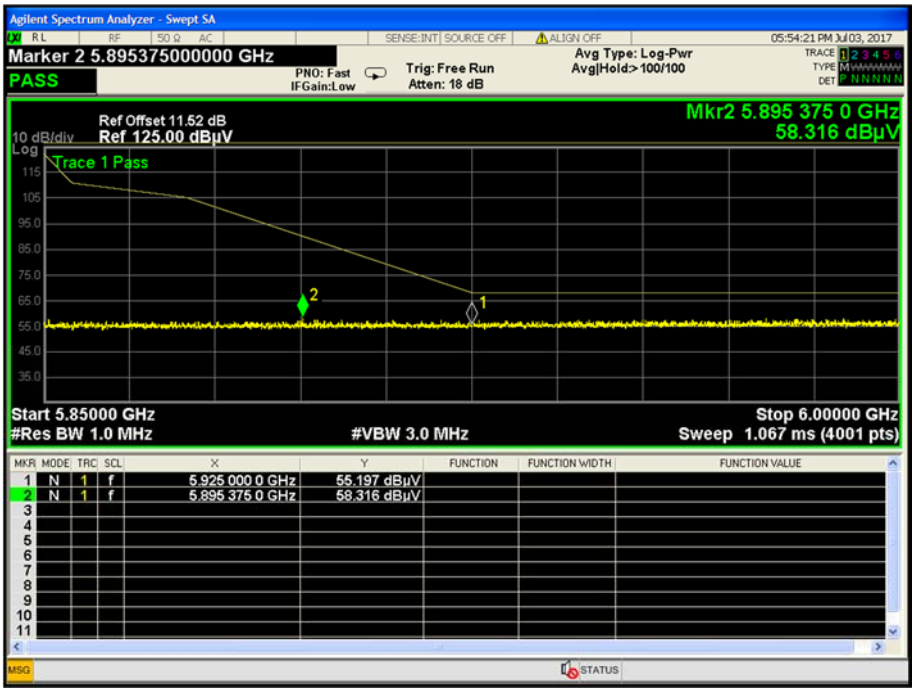
## Band I 11n(HT40) CH46



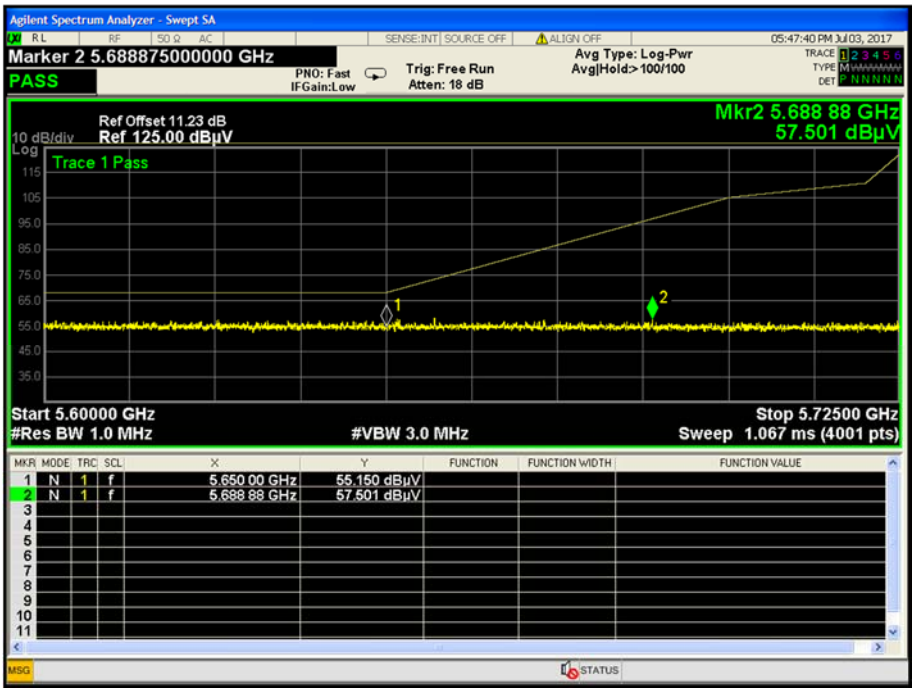

## Band IV 11a CH149



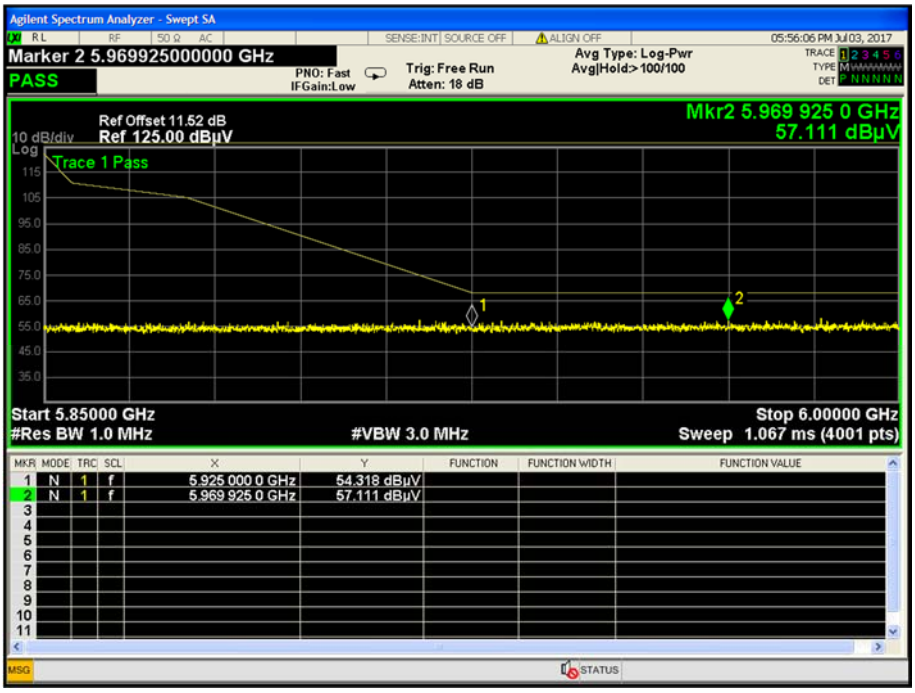
## Band IV 11a CH165



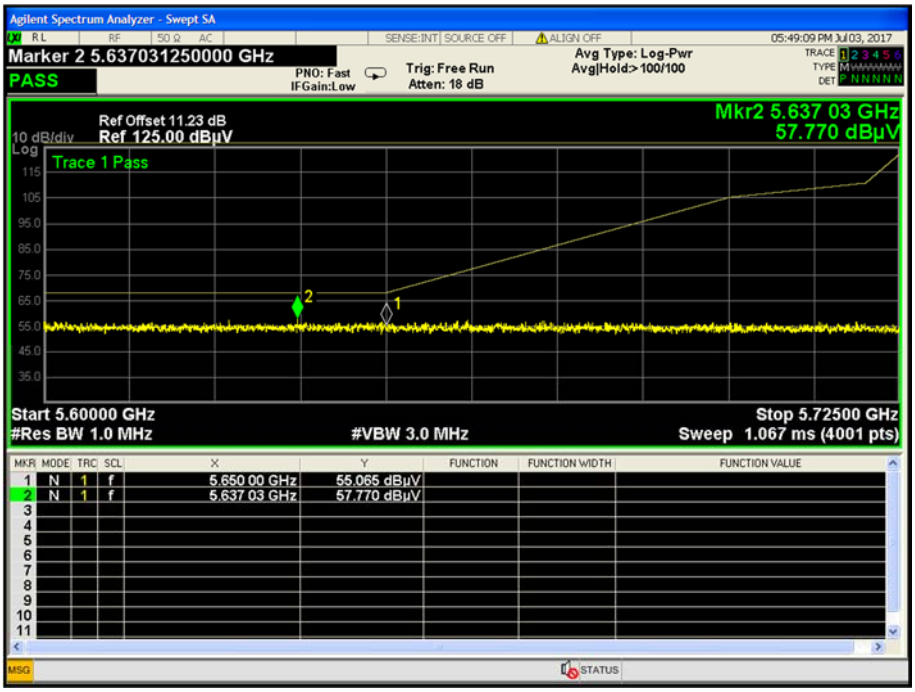

## Band IV 11n(HT20) CH149



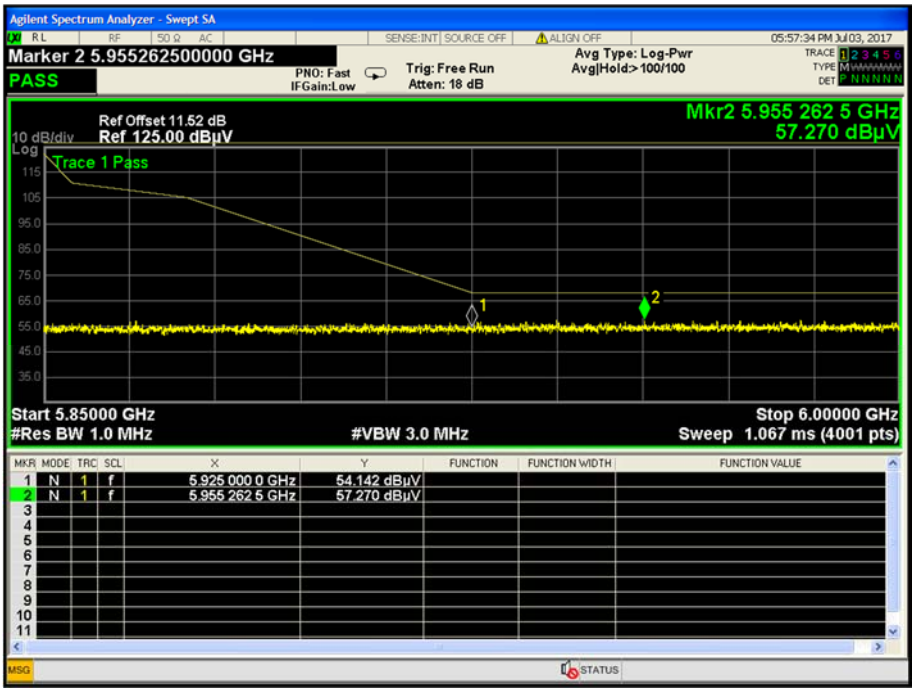
## Band IV 11n(HT20) CH165




## Band IV 11n(HT40) CH151



## Band IV 11n(HT40) CH159



# A.8 Frequency Stability

Measurement Data (the worst channel)

Voltage vs. Frequency Stability (5180 MHz)

| Test Conditions | | Test Frequency (MHz) | 0 Minute | | 2 Minute | | 5 Minute | | 10Minute | |
|---|---|---|---|---|---|---|---|---|---|---|
| TEMP. (°C) | Voltage (VDC) | | Measurement Frequency (MHz) | Max. Deviation (ppm) | Measurement Frequency (MHz) | Max. Deviation (ppm) | Measurement Frequency (MHz) | Max. Deviation (ppm) | Measurement Frequency (MHz) | Max. Deviation (ppm) |
| 22 | 3.40 | 5180 | 5180.017944 | 3.46 | 5180.042153 | 8.14 | 5180.03185 | 6.15 | 5180.05783 | 11.16 |
| | 3.85 | 5180 | 5180.07989 | 15.42 | 5180.048717 | 9.40 | 5180.087152 | 16.82 | 5180.085521 | 16.51 |
| | 4.40 | 5180 | 5180.006079 | 1.17 | 5180.033885 | 6.54 | 5180.05496 | 10.61 | 5180.063015 | 12.17 |

Temperature vs. Frequency Stability (5180 MHz)

| Test Conditions | | Test Frequency (MHz) | 0 Minute | | 2 Minute | | 5 Minute | | 10Minute | |
|---|---|---|---|---|---|---|---|---|---|---|
| Voltage (VDC) | TEMP. (°C) | | Measurement Frequency (MHz) | Max. Deviation (ppm) | Measurement Frequency (MHz) | Max. Deviation (ppm) | Measurement Frequency (MHz) | Max. Deviation (ppm) | Measurement Frequency (MHz) | Max. Deviation (ppm) |
| 3.85 | 0 | 5180 | 5180.06273 | 12.11 | 5180.055372 | 10.69 | 5180.003251 | 0.63 | 5180.091504 | 17.66 |
| | 10 | 5180 | 5180.009112 | 1.76 | 5180.072244 | 13.95 | 5180.04094 | 7.90 | 5180.049857 | 9.62 |
| | 20 | 5180 | 5180.047505 | 9.17 | 5180.035089 | 6.77 | 5180.037994 | 7.33 | 5180.086755 | 16.75 |
| | 30 | 5180 | 5180.046739 | 9.02 | 5180.055776 | 10.77 | 5180.034132 | 6.59 | 5180.035036 | 6.76 |
| | 40 | 5180 | 5180.099396 | 19.19 | 5180.040223 | 7.77 | 5180.072612 | 14.02 | 5180.034538 | 6.67 |

# ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ17A0392-AR.PDF”.

# ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL- SZ17A0392-AW.PDF”.

# ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL- SZ17A0392-AI.PDF”.

--END OF REPORT--