MRT Technology(Suzhou) Co., Ltd
Phone: +86-512-66308358
Fax: +86-512-66308368
Web: www.mrt-cert.com

Report No.: 1608RSU00401
Report Version: V01
Issue Date: 10-23-2016

MEASUREMENT REPORT
FCC PART 15.247 / RSS-247

FCC ID:	DD4ULXD6X52
IC:	616A-ULXD6X52
APPLICANT:	Shure Incorporated
Application Type:	Certification
Product:	Wireless Boundary Transmitter
Model No.:	ULXD6/C X52, ULXD6/O X52
Brand Name:	SHURE
FCC Classification:	Digital Transmission System (DTS)
FCC Rule Part(s):	Part 15.247
IC Rule(s):	RSS-247 Issue 1, RSS-GEN Issue 4
Test Procedure(s):	ANSI C63.10-2013, KDB 558074 D01v03r05
Test Date:	August 06 ~ 26, 2016

Reviewed By Manager : Robin Wu
(Robin Wu)

Approved By CEO : Marlin Chen
(Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01v03r05. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date	Note
1608RSU00401	Rev. 01	Initial report	10-23-2016	Valid

CONTENTS

Description Page

§2.1033 General Information

Applicant:	Shure Incorporated
Applicant Address:	5800 West Touhy Avenue, Niles, IL60714-4608, USA
Manufacturer:	Shure Incorporated
Manufacturer Address:	5800 West Touhy Avenue, Niles, IL60714-4608, USA
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
FCC Registration No.:	809388
IC Registration No.:	11384A
FCC Rule Part(s):	Part 15.247
IC Rule:	RSS-247 Issue 1, RSS-GEN Issue 4
FCC ID:	DD4ULXD6X52
IC:	616A-ULXD6X52
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Digital Transmission System (DTS)

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- **MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.**
- **MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.**
- **MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.**

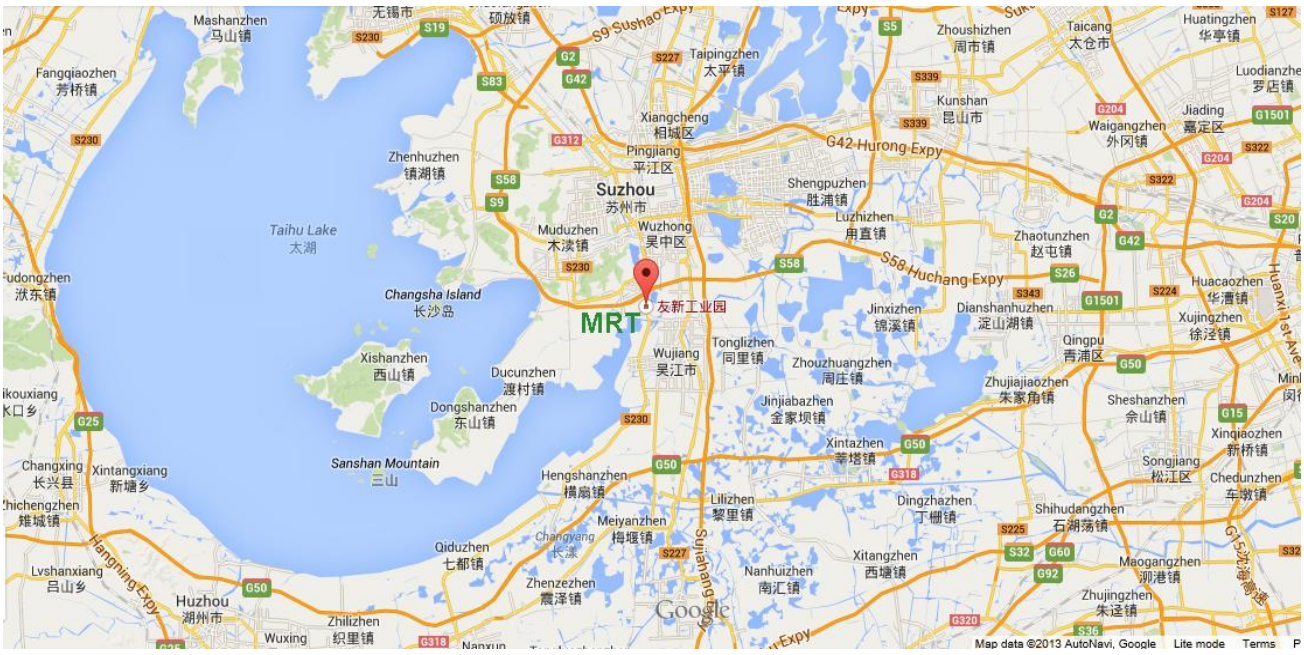
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Wireless Boundary Transmitter
Model No.	ULXD6/C X52, ULXD6/O X52
Frequency Range	X52 Band: 902 ~ 928 MHz
Working Mode	Normal Mode and HD Mode
Power Levels	0.25mW & 10mW & 20mW
Antenna Type	PIFA
Antenna Gain	Max 0.97dBi
Components	
Rechargeable Li-ion Battery	Model: SB900A OUTPUT: 3.7Vdc, 1320mAh,4.88Wh

Note 1: The EUT has two working modes (Normal Mode & HD Mode) and two modes can be switched from the digital wireless receiver.

Note 2: Normal mode has three power levels (0.25mW & 10mW & 20mW). Power levels are switchable among these power levels. HD mode means high density mode and it only has 0.25mW power level.

Note 3: The EUT is capable of operating with AA alkaline batteries or with the Shure SB900A rechargeable battery pack.

Note 4: The difference between ULXD6/C and ULXD6/O is that the EUT has different built-in MIC.

2.2. Product Specification Subjective to this Report

Working Mode	Normal Mode
Frequency Range	902 ~ 928 MHz
Power Level	0.25mW & 10mW & 20mW
Maximum Peak Output Power	17.37dBm
Type of Modulation	8PSK
Channel Spacing	25kHz
Date Rate	468.75kbps

Note: For other features of this EUT, test report will be issued separately.

2.3. Operation Frequency and Channel List

X52 band

Channel	Frequency
LOW	902.4 MHz
…	…
MID	915.0 MHz
…	…
HIG	927.6 MHz

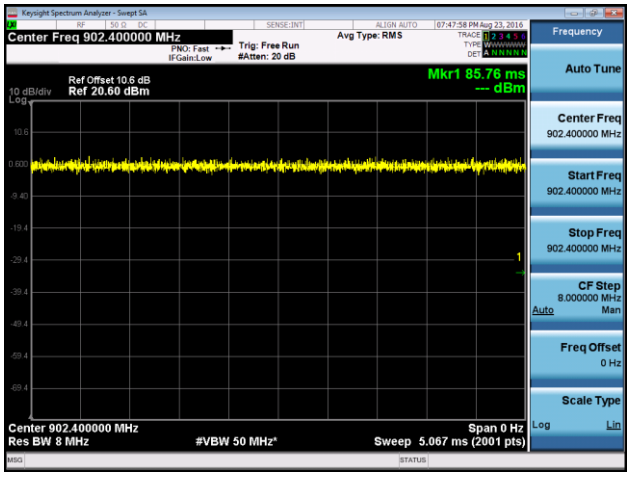
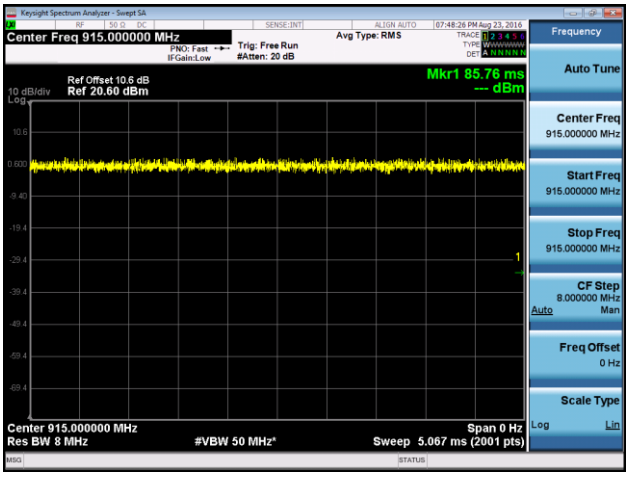
2.4. Device Capabilities

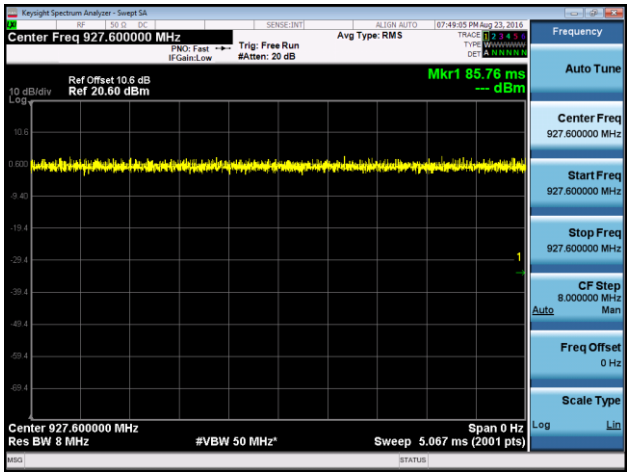
This device contains the following capabilities:

902 ~ 928 MHz (DTS), 902 ~ 928 MHz (DXX)

Note: The maximum achievable duty cycle was determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
902.4MHz	100%
915.0MHz	100%
927.6MHz	100%

902.4MHz - Duty Cycle	915.0MHz - Duty Cycle
	

927.6MHz - Duty Cycle	
	

2.5. Test Software

The test utility software used during testing was “ttermpro.exe”.

2.6. Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
Adapter	Supply by MRT	CYSK05-050100

2.7. Test Configuration

The **Wireless Boundary Transmitter** was tested per the guidance of KDB 558074 D01v03r05. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.8. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 558074 D01v03r05 were used in the measurement of the **Wireless Boundary Transmitter**.

Deviation from measurement procedure…….....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

Line conducted emissions test results are shown in Section 7.8.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.
For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-25GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.
Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antenna of the **Wireless Boundary Transmitter** is **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The **Wireless Boundary Transmitter FCC ID: DD4ULXD6X52** unit complies with the requirement of §15.203.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions - SR2

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	101209	1 year	2016/11/03
Two-Line V-Network	R&S	ENV216	101683	1 year	2016/11/03
Two-Line V-Network	R&S	ENV216	101684	1 year	2016/11/03
Temperature/Humidity Meter	Yuhuaze	N/A	N/A	1 year	2016/12/20
Shielding Anechoic Chamber	MIX-BEP	Chamber-SR2	N/A	1 year	2017/05/10

Radiated Emission - AC1

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Agilent	N9038A	MY51210182	1 year	2017/08/03
EMI Test Receiver	R&S	ESR7	101209	1 year	2016/11/03
Preamplifier	Agilent	83017A	MY52090106	1 year	2017/03/28
Loop Antenna	Schwarzbeck	FMZB1519	1519-041	1 year	2016/12/14
TRILOG Antenna	Schwarzbeck	VULB9162	9162-047	1 year	2016/11/07
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1167	1 year	2016/11/07
Broadband Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170549	1 year	2017/01/04
Digital Thermometer & Hygrometer	Yuhuaze	HTC-2	N/A	1 year	2016/12/20
Anechoic Chamber	TDK	Chamber-AC1	N/A	1 year	2017/05/10

Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY52090106	1 year	2017/05/08
USB Wideband Power Sensor	Boonton	55006	8911	1 year	2017/05/08
Temperature/Humidity Meter	Yuhuaze	HTC-2	N/A	1 year	2016/12/20

Software	Version	Function
e3	V8.3.5	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test 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.

AC Conducted Emission Measurement - SR2
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: 3.46dB
Radiated Emission Measurement - AC1
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: 4.18dB 1GHz ~ 25GHz: 4.76dB
Spurious Emissions, Conducted - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.78dB
Output Power - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.13dB
Power Spectrum Density - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.15dB
Occupied Bandwidth - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%

7. TEST RESULT

7.1. Summary

Company Name: **Shure Incorporated**

FCC ID: **DD4ULXD6X52**

IC: **616A-ULXD6X52**

Data Rate(s) Tested: **468.75kbps**

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(2)	RSS-247 [5.2]	6dB Bandwidth	≥ 500kHz	Conducted	Pass	Section 7.2
15.247(b)(3)	RSS-247 [5.4(4)]	Output Power	≤ 1Watt & EIRP ≤ 4Watt		Pass	Section 7.3
15.247(e)	RSS-247 [5.2]	Power Spectral Density	≤ 8dBm / 3kHz Band		Pass	Section 7.4
15.247(d)	RSS-247 [5.5]	Band Edge / Out-of-Band Emissions	≥ 20dBc(Peak)		Pass	Section 7.5
15.205 15.209	RSS-247 [5.5]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 7.6&7.7
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.8

Notes:

1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.
2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
4) For the test items “6dB Bandwidth & Band Edge / Out-of-Band Emissions & Radiated Spurious Emission & Radiated Band-edge”, we only evaluated the low/high power level mode.

7.2. 6dB Bandwidth Measurement

7.2.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

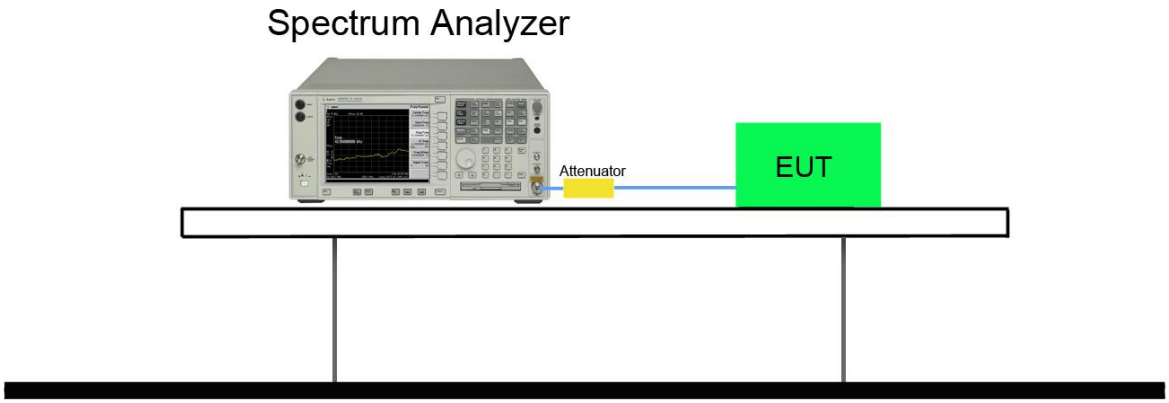
7.2.2. Test Procedure used

KDB 558074 D01v03r05 – Section 8.2 Option 2

7.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace was allowed to stabilize

7.2.4. Test Setup



7.2.5. Test Result

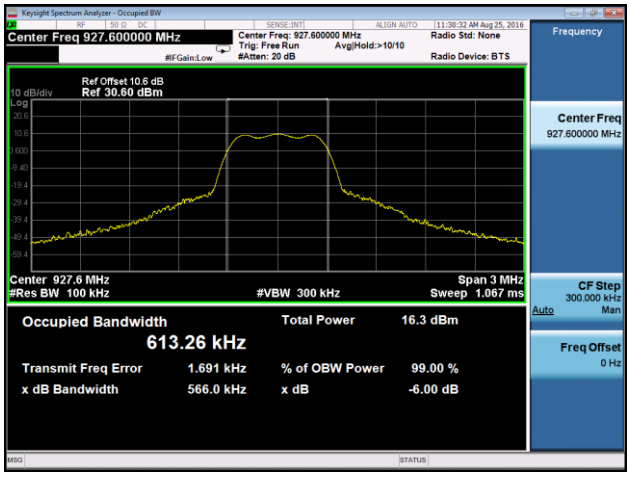
Power Level (mW)	Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)	Result	99% Bandwidth (kHz)
0.25	902.4	554.6	≥ 500	Pass	610.90
	915.0	554.8	≥ 500	Pass	611.05
	927.6	555.6	≥ 500	Pass	611.19
20	902.4	568.3	≥ 500	Pass	614.66
	915.0	568.6	≥ 500	Pass	613.57
	927.6	566.0	≥ 500	Pass	613.26

X52 Band 0.25mW - 6dB Bandwidth

902.4 MHz

915.0 MHz

927.6 MHz

X52 Band 20mW - 6dB Bandwidth	
902.4 MHz	**915.0 MHz**
	
927.6 MHz	
	

7.3. Output Power Measurement

7.3.1. Test Limit

The maximum output power shall be less 1 Watt (30dBm).

7.3.2. Test Procedure Used

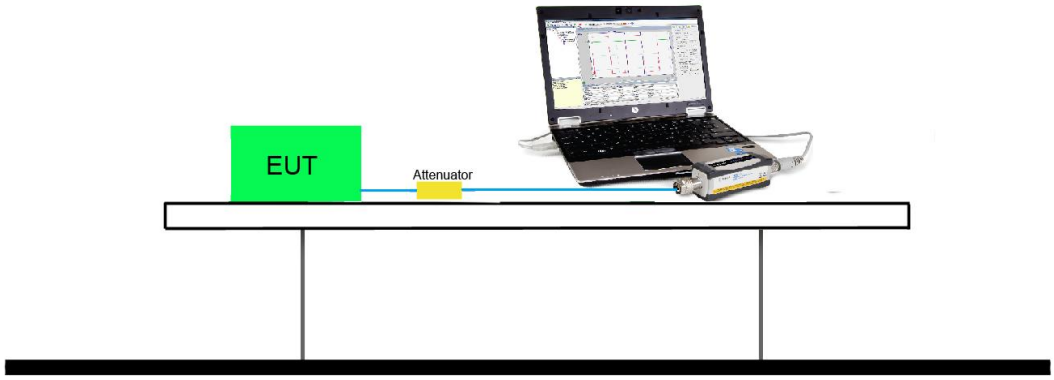
KDB 558074 D01v03r05 - Section 9.1.2 PKPM1 Peak Power Method (for signals with BW ≤ 50MHz)

7.3.3. Test Setting

Method PKPM1 (Peak Power Measurement of Signals with DTS BW ≤ 50MHz)

Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

7.3.4. Test Setup



7.3.5. Test Result of Peak Output Power

Power Level (mW)	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)	E.I.R.P (dBm)	E.I.R.P Limit (dBm)	Result
0.25	902.4	-0.46	≤ 30	0.51	≤ 36	Pass
0.25	915.0	-0.34	≤ 30	0.63	≤ 36	Pass
0.25	927.6	-0.04	≤ 30	0.93	≤ 36	Pass
10	902.4	14.45	≤ 30	15.42	≤ 36	Pass
10	915.0	14.55	≤ 30	15.52	≤ 36	Pass
10	927.6	14.39	≤ 30	15.36	≤ 36	Pass
20	902.4	17.37	≤ 30	18.34	≤ 36	Pass
20	915.0	17.34	≤ 30	18.31	≤ 36	Pass
20	927.6	17.33	≤ 30	18.30	≤ 36	Pass

Note: E.I.R.P (dBm) = Peak Output Power (dBm) + Antenna Gain (dBi).

7.3.6. Test Result of Average Output Power (Reporting Only)

Power Level (mW)	Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	E.I.R.P (dBm)	E.I.R.P Limit (dBm)	Result
0.25	902.4	-5.30	≤ 30	-4.33	≤ 36	Pass
0.25	915.0	-5.04	≤ 30	-4.07	≤ 36	Pass
0.25	927.6	-4.92	≤ 30	-3.95	≤ 36	Pass
10	902.4	10.31	≤ 30	11.28	≤ 36	Pass
10	915.0	10.42	≤ 30	11.39	≤ 36	Pass
10	927.6	10.31	≤ 30	11.28	≤ 36	Pass
20	902.4	13.35	≤ 30	14.32	≤ 36	Pass
20	915.0	13.25	≤ 30	14.22	≤ 36	Pass
20	927.6	13.28	≤ 30	14.25	≤ 36	Pass

Note: E.I.R.P (dBm) = Average Output Power (dBm) + Antenna Gain (dBi).

7.4. Power Spectral Density Measurement

7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

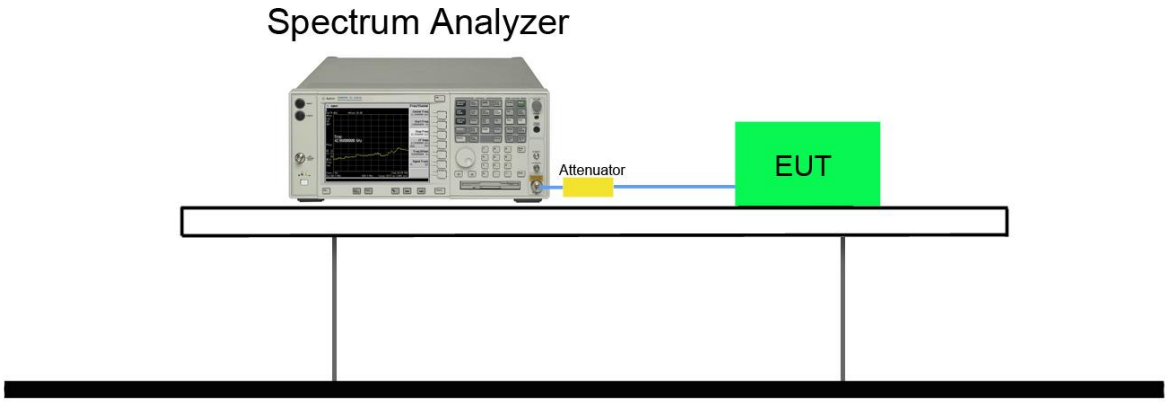
7.4.2. Test Procedure Used

KDB 558074 D01v03r05 - Section 10.2 Method PKPSD

7.4.3. Test Setting

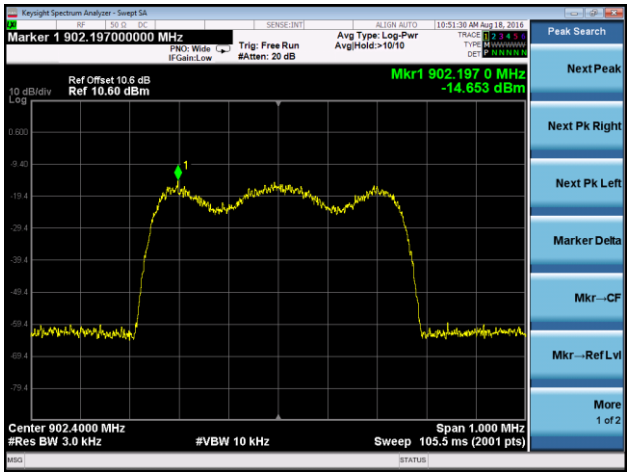
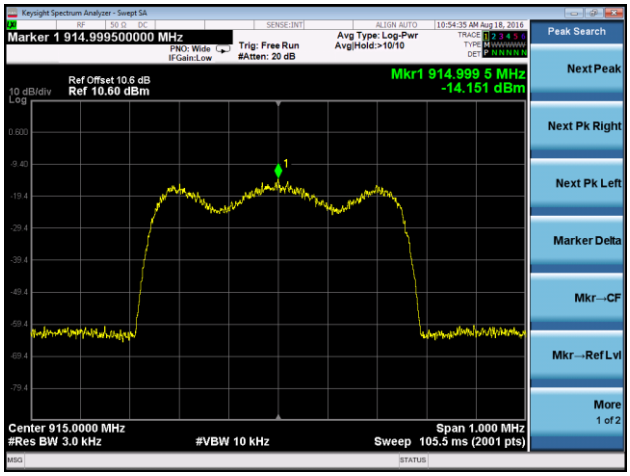
1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the DTS channel bandwidth
3. RBW = 3kHz
4. VBW = 10kHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

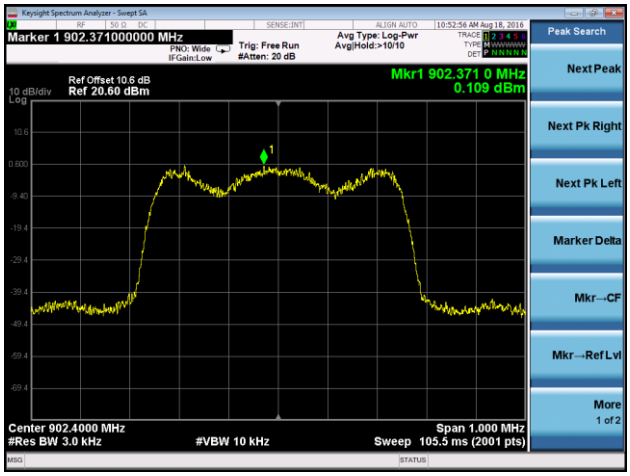
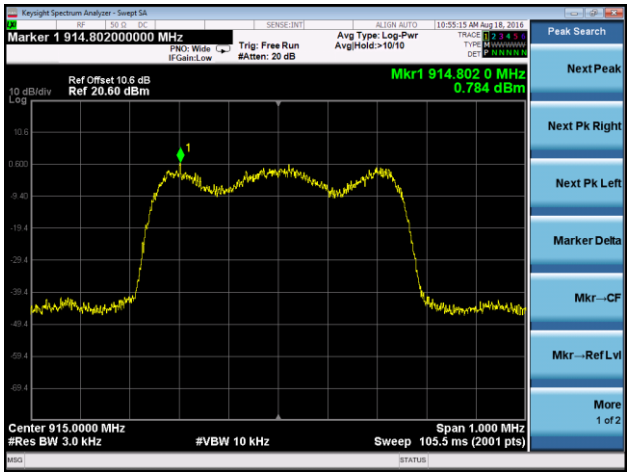
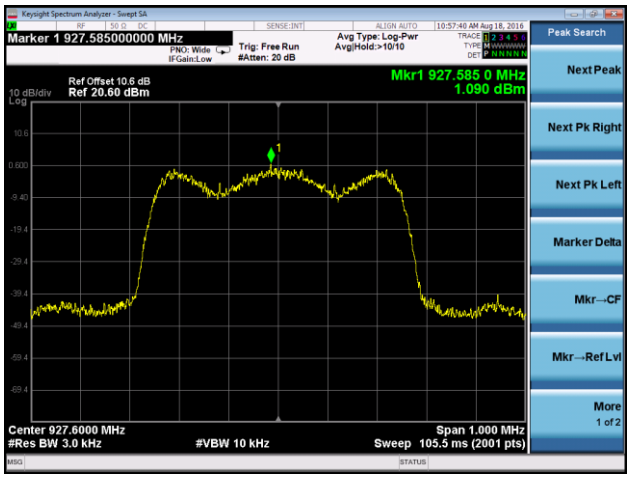
7.4.4. Test Setup

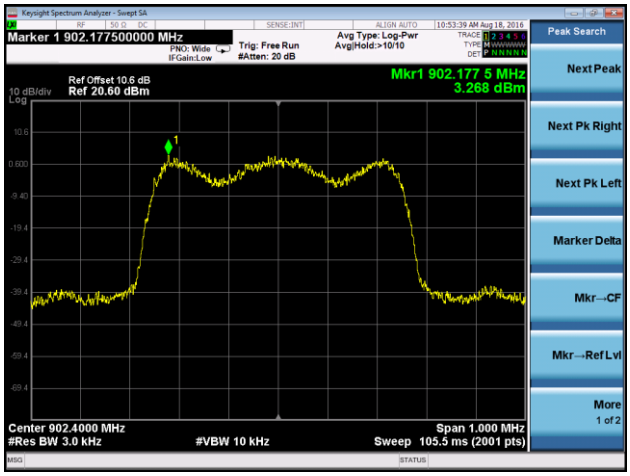
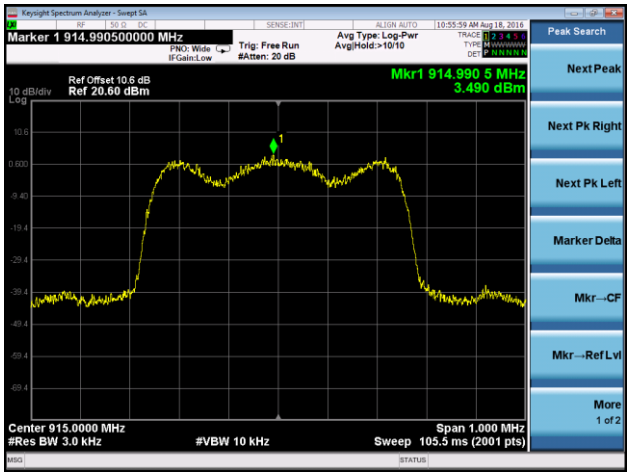


7.4.5. Test Result

Power Level (mW)	Frequency (MHz)	PSD Level (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
0.25	902.4	-14.65	≤ 8.0	Pass
0.25	915.0	-14.15	≤ 8.0	Pass
0.25	927.6	-15.10	≤ 8.0	Pass
10	902.4	0.11	≤ 8.0	Pass
10	915.0	0.78	≤ 8.0	Pass
10	927.6	1.09	≤ 8.0	Pass
20	902.4	3.27	≤ 8.0	Pass
20	915.0	3.49	≤ 8.0	Pass
20	927.6	4.03	≤ 8.0	Pass

X52 Band 0.25mW - Peak PSD	
902.4 MHz	**915.0 MHz**
	
927.6 MHz	
	

X52 Band 10mW - Peak PSD	
902.4 MHz	**915.0 MHz**
	
927.6 MHz	
	

X52 Band 20mW - Peak PSD	
902.4 MHz	**915.0 MHz**
	
927.6 MHz	
	

7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

KDB 558074 D01v03r05 - Section 11.2 & Section 11.3

7.5.3. Test Settitng

1. Reference level measurement

(a) Set instrument center frequency to DTS channel center frequency

(b) Set the span to ≥ 1.5 times the DTS bandwidth

(c) Set the RBW = 100 kHz

(d) Set the VBW ≥ 3 x RBW

(e) Detector = peak

(f) Sweep time = auto couple

(g) Trace mode = max hold

(h) Allow trace to fully stabilize

2. Emission level measurement

(a) Set the center frequency and span to encompass frequency range to be measured

(b) RBW = 100kHz

(c) VBW = 300kHz

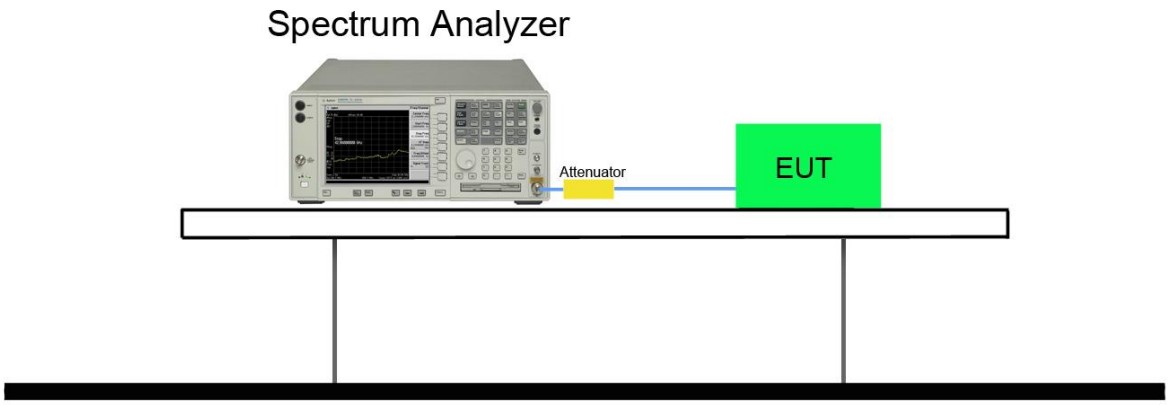
(d) Detector = Peak

(e) Trace mode = max hold

(f) Sweep time = auto couple

(g) The trace was allowed to stabilize

7.5.4. Test Setup



7.5.5. Test Result

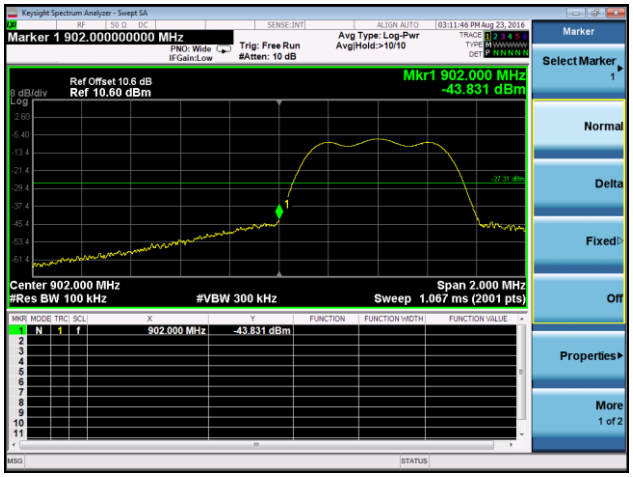
Power Level (mW)	Frequency (MHz)	Limit	Result
0.25	902.4	20dBc	Pass
0.25	915.0	20dBc	Pass
0.25	927.6	20dBc	Pass
20	902.4	20dBc	Pass
20	915.0	20dBc	Pass
20	927.6	20dBc	Pass

X52 Band 0.25mW - Out-of-Band Emissions

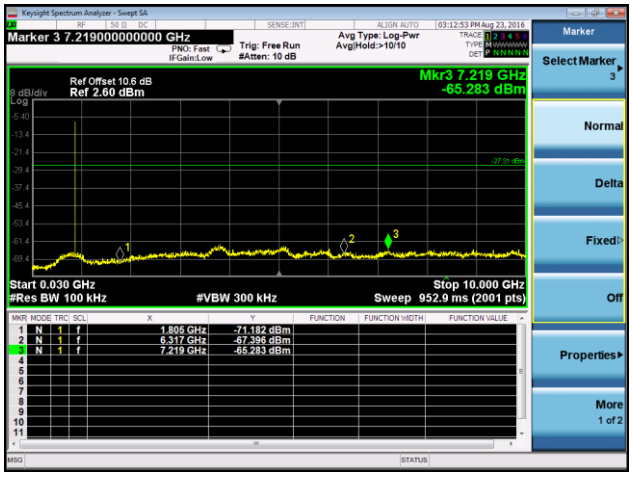
902.4 MHz

100kHz PSD Reference Level

Low Band Edge



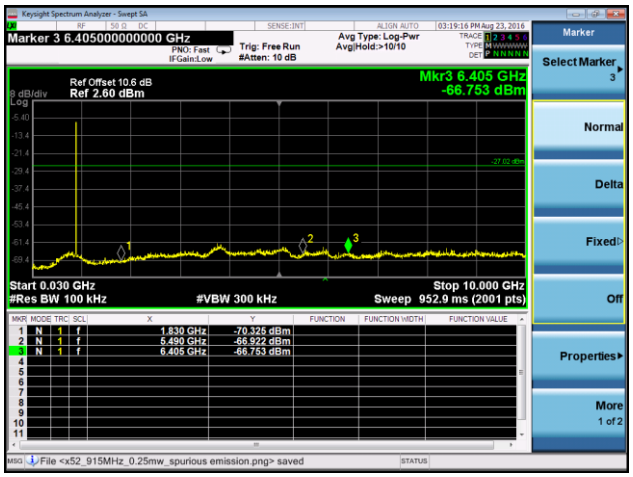
Spurious Emission

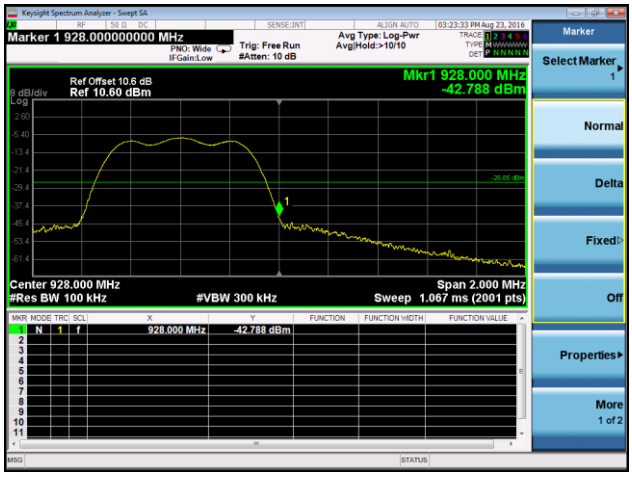


915.0 MHz

100kHz PSD Reference Level

Spurious Emission



<table>
<tr><th colspan="2">927.6 MHz</th></tr>
<tr><th>100kHz PSD Reference Level</th><th>High Band Edge</th></tr>
<tr><td> 
</td><td> 
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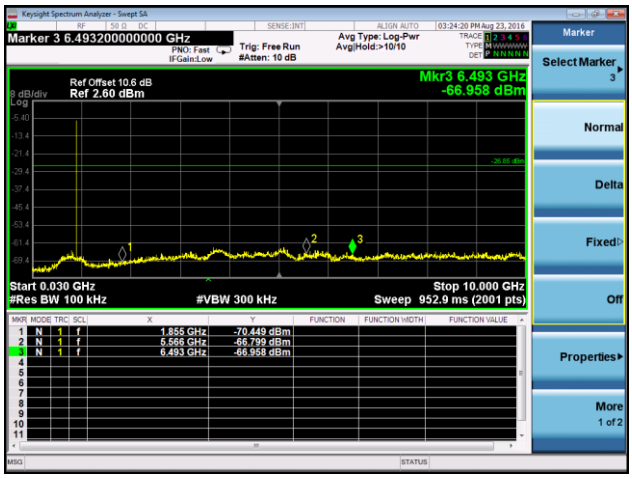
<tr><th>Spurious Emission</th><th></th></tr>
<tr><td> 
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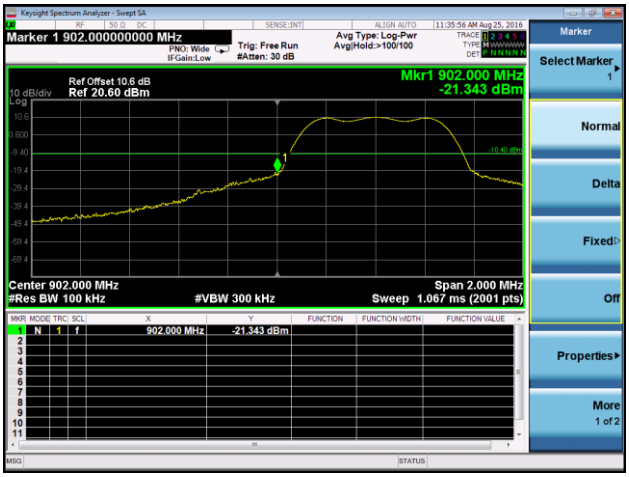
X52 Band 20mW - Out-of-Band Emissions

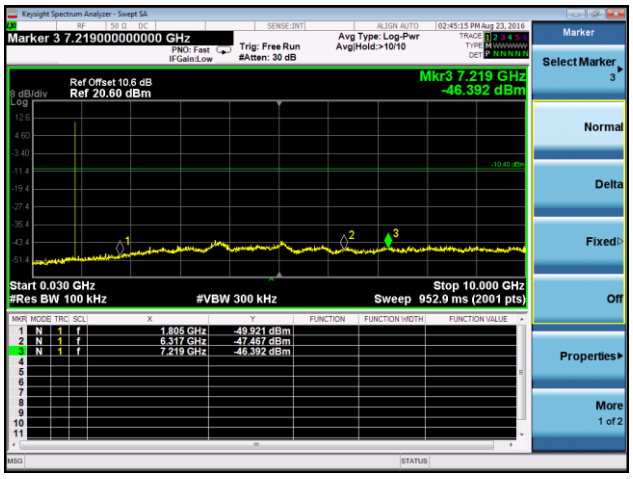
902.4 MHz

100kHz PSD Reference Level

Low Band Edge



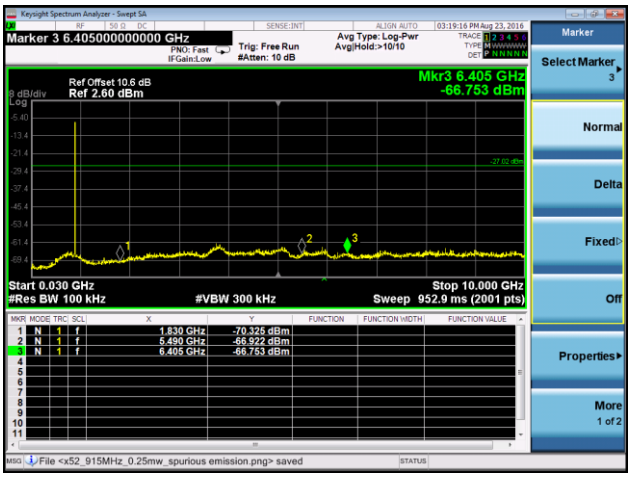
Spurious Emission

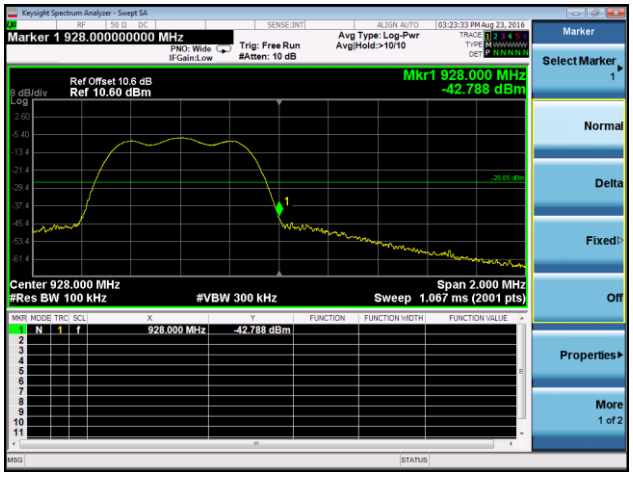
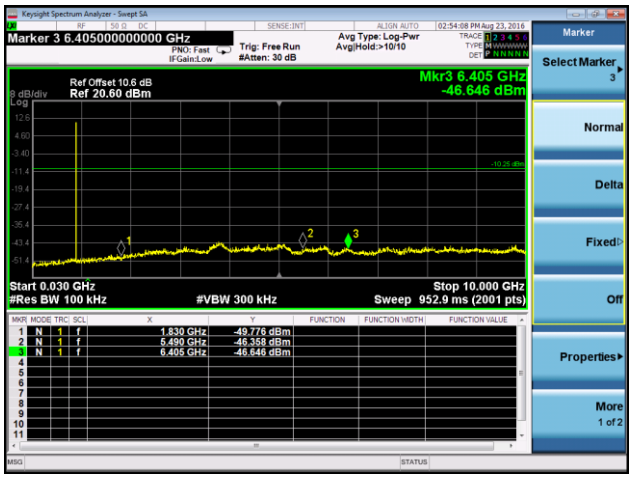


915.0 MHz

100kHz PSD Reference Level

Spurious Emission



927.6 MHz	
100kHz PSD Reference Level	**High Band Edge**
	
Spurious Emission	
	

7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.6.2. Test Procedure Used

KDB 558074 D01v03r05 – Section 12.2.3 (quasi-peak measurements)

KDB 558074 D01v03r05 – Section 12.2.4 (peak power measurements)

KDB 558074 D01v03r05 – Section 12.2.5 (average power measurements)

7.6.3. Test Setting

Peak Field Strength Measurements per Section 12.2.4 of KDB 558074 D01v03r05

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple

6. Trace mode = max hold
7. Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

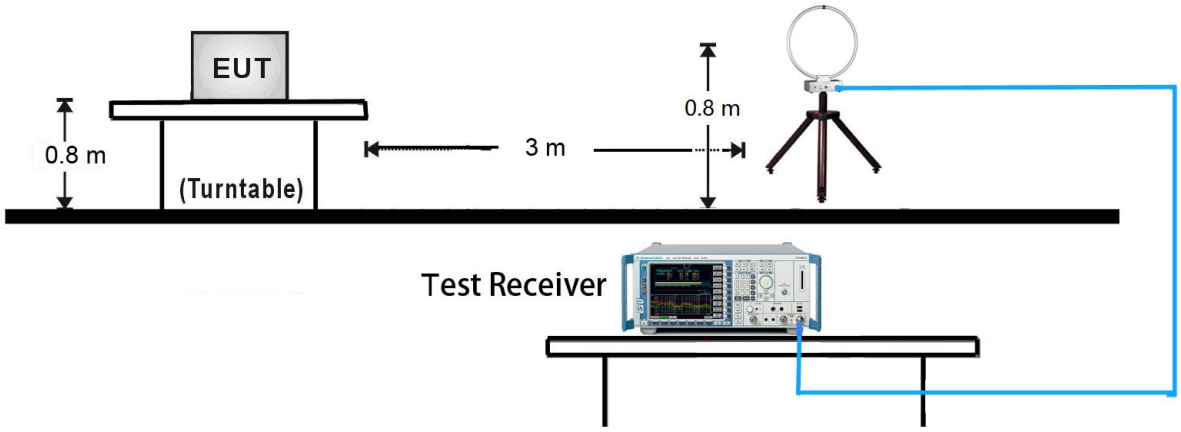
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements per Section 12.2.5.3 of KDB 558074 D01v03r05

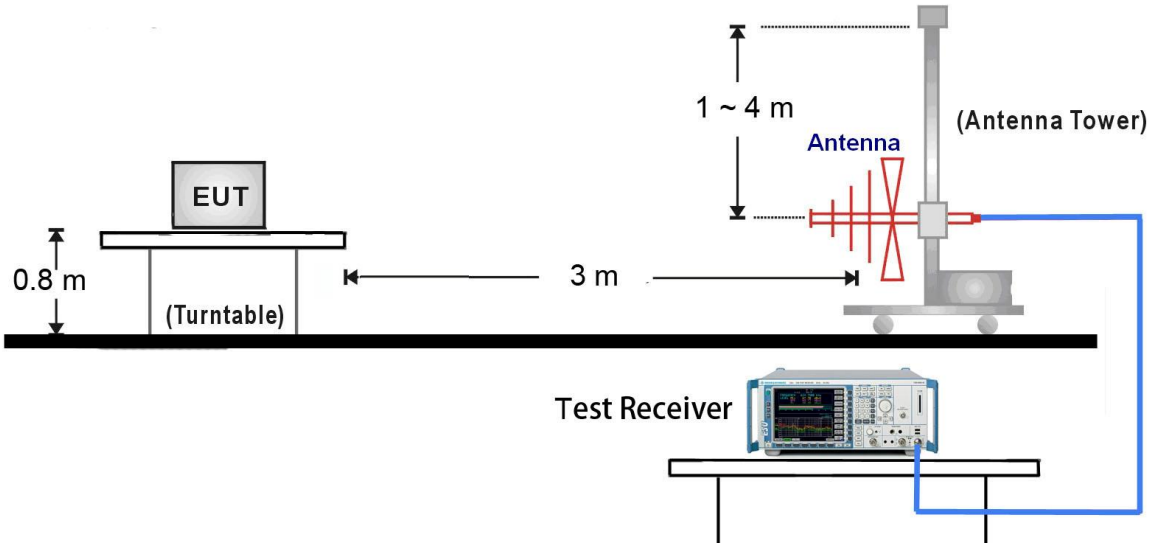
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW ≥ 1/T
4. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

7.6.4. Test Setup

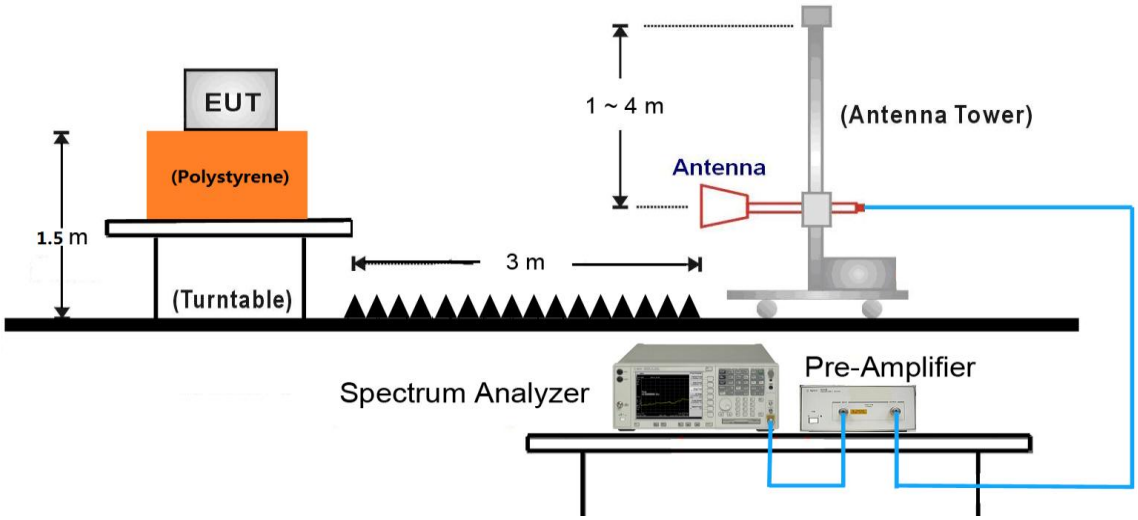
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~ 10GHz Test Setup:



7.6.5. Test Result

Test Mode:	X52 Band - 0.25mW	Test Site:	AC1
Frequency:	902.4MHz	Test Engineer:	Lewis Huang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-10GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	1804.8	39.5	-6.9	32.6	74.0	-41.4	Peak	Horizontal
	2707.2	38.1	-2.7	35.4	74.0	-38.6	Peak	Horizontal
	3609.6	36.1	-0.7	35.4	74.0	-38.6	Peak	Horizontal
*	6316.8	34.0	5.0	39.0	74.0	-35.0	Peak	Horizontal
*	1804.8	39.1	-6.9	32.2	74.0	-41.8	Peak	Vertical
	2707.2	37.2	-2.7	34.5	74.0	-39.5	Peak	Vertical
	3609.6	35.7	-0.7	35.0	74.0	-39.0	Peak	Vertical
*	6316.8	34.3	5.0	39.3	74.0	-34.7	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (90.6dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Mode:	X52 Band - 0.25mW	Test Site:	AC1
Frequency:	915.0MHz	Test Engineer:	Lewis Huang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-10GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	1830.0	38.2	-6.8	31.4	74.0	-42.6	Peak	Horizontal
	2745.0	36.4	-2.5	33.9	74.0	-40.1	Peak	Horizontal
	3660.0	36.6	-0.6	36.0	74.0	-38.0	Peak	Horizontal
*	6405.0	34.1	5.5	39.6	74.0	-34.4	Peak	Horizontal
*	1830.0	37.7	-6.8	30.9	74.0	-43.1	Peak	Vertical
	2745.0	37.9	-2.5	35.4	74.0	-38.6	Peak	Vertical
	3660.0	35.0	-0.6	34.4	74.0	-39.6	Peak	Vertical
*	6405.0	34.2	5.5	39.7	74.0	-34.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (90.7dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Mode:	X52 Band - 0.25mW	Test Site:	AC1
Frequency:	927.6MHz	Test Engineer:	Lewis Huang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-10GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBµV)	Factor (dB)	Measure Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
*	1855.2	39.0	-6.6	32.4	74.0	-41.6	Peak	Horizontal
	2782.8	37.6	-2.4	35.2	74.0	-38.8	Peak	Horizontal
	3710.4	34.8	-0.5	34.3	74.0	-39.7	Peak	Horizontal
*	6493.2	34.0	5.9	39.9	74.0	-34.1	Peak	Horizontal
*	1855.2	38.5	-6.6	31.9	74.0	-42.1	Peak	Vertical
	2782.8	36.7	-2.4	34.3	74.0	-39.7	Peak	Vertical
	3710.4	35.8	-0.5	35.3	74.0	-38.7	Peak	Vertical
*	6493.2	33.5	5.9	39.4	74.0	-34.6	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (90.6dBµV/m) or 15.209 which is higher.

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Mode:	X52 Band - 20mW	Test Site:	AC1
Frequency:	902.4MHz	Test Engineer:	Lewis Huang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	1804.8	40.3	-6.9	33.4	86.3	-52.9	Peak	Horizontal
	2707.2	37.8	-2.7	35.1	74.0	-38.9	Peak	Horizontal
	3609.6	35.4	-0.7	34.7	74.0	-39.3	Peak	Horizontal
*	6316.8	34.5	5.0	39.5	86.3	-46.8	Peak	Horizontal
*	1804.8	41.7	-6.9	34.8	86.3	-51.5	Peak	Vertical
	2707.2	37.9	-2.7	35.2	74.0	-38.8	Peak	Vertical
	3609.6	35.5	-0.7	34.8	74.0	-39.2	Peak	Vertical
*	6316.8	34.3	5.0	39.3	86.3	-47.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (106.9dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Mode:	X52 Band - 20mW	Test Site:	AC1
Frequency:	915.0MHz	Test Engineer:	Lewis Huang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	1830.0	40.2	-6.8	33.4	86.3	-52.9	Peak	Horizontal
	2745.0	38.5	-2.5	36.0	74.0	-38.0	Peak	Horizontal
	3660.0	36.0	-0.6	35.4	74.0	-38.6	Peak	Horizontal
*	6405.0	34.4	5.5	39.9	86.3	-46.4	Peak	Horizontal
*	1830.0	39.4	-6.8	32.6	86.3	-53.7	Peak	Vertical
	2745.0	38.1	-2.5	35.6	74.0	-38.4	Peak	Vertical
	3660.0	36.4	-0.6	35.8	74.0	-38.2	Peak	Vertical
*	6405.0	34.0	5.5	39.5	86.3	-46.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (106.5dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Mode:	X52 Band - 20mW	Test Site:	AC1
Frequency:	927.6MHz	Test Engineer:	Lewis Huang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	1855.2	38.5	-6.6	31.9	86.4	-54.5	Peak	Horizontal
	2782.8	37.4	-2.4	35.0	74.0	-39.0	Peak	Horizontal
	3710.4	35.6	-0.5	35.1	74.0	-38.9	Peak	Horizontal
*	6493.2	33.6	5.9	39.5	86.4	-46.9	Peak	Horizontal
*	1855.2	39.3	-6.6	32.7	86.4	-53.7	Peak	Vertical
	2782.8	37.3	-2.4	34.9	74.0	-39.1	Peak	Vertical
	3710.4	35.5	-0.5	35.0	74.0	-39.0	Peak	Vertical
*	6493.2	33.7	5.9	39.6	86.4	-46.8	Peak	Vertical

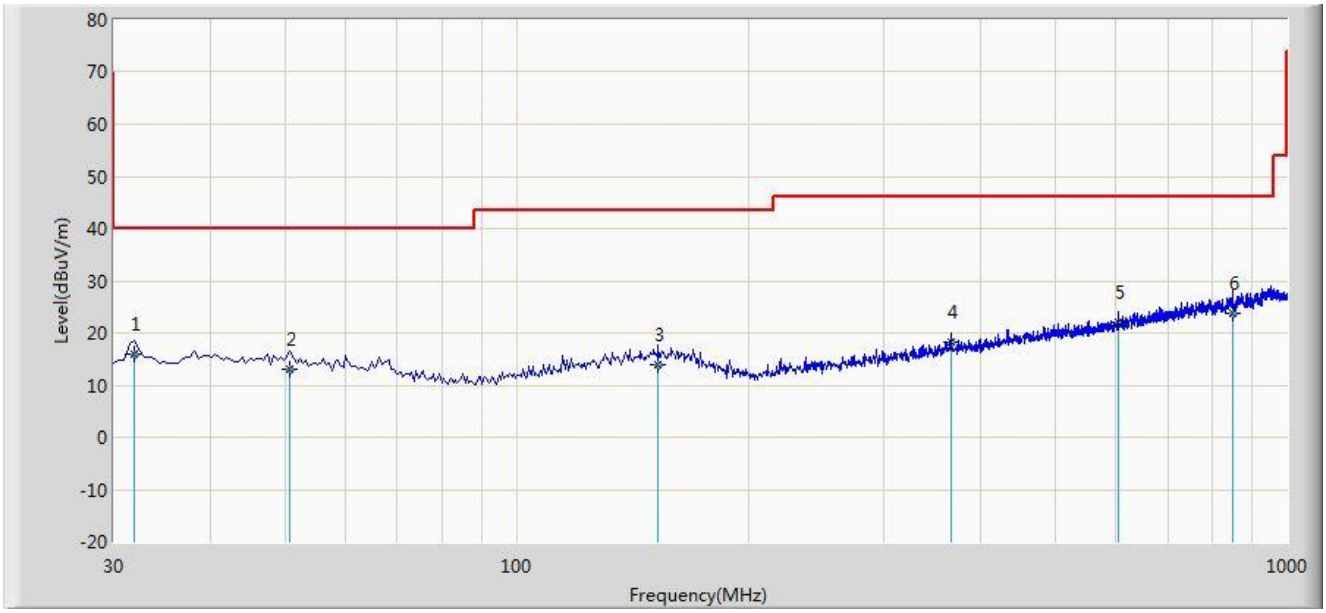
Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.4dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The worst case of Radiated Emission below 1GHz:

Site: AC1	Time: 2016/08/22 - 21:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: Wireless Boundary Transmitter	Power: By Battery
Worse Case Mode: Transmit by X52 Band 20mW at Channel 927.6MHz	

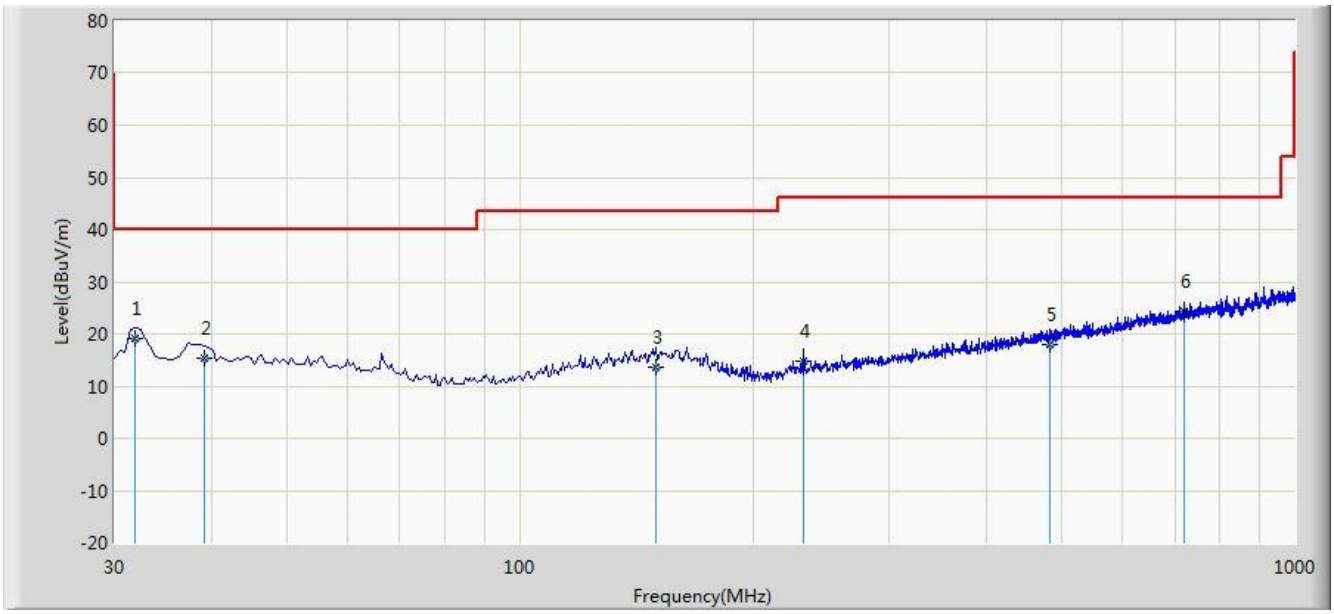


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			31.940	15.850	2.160	-24.150	40.000	13.690	QP
2			50.855	12.968	-1.020	-27.032	40.000	13.987	QP
3			152.705	14.047	-1.140	-29.453	43.500	15.188	QP
4			366.105	18.210	2.410	-27.790	46.000	15.800	QP
5			603.755	21.980	1.410	-24.020	46.000	20.570	QP
6		*	850.135	23.910	0.250	-22.090	46.000	23.660	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/08/22 - 21:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: Wireless Boundary Transmitter	Power: By Battery
Worse Case Mode: Transmit by X52 Band 20mW at Channel 927.6MHz	

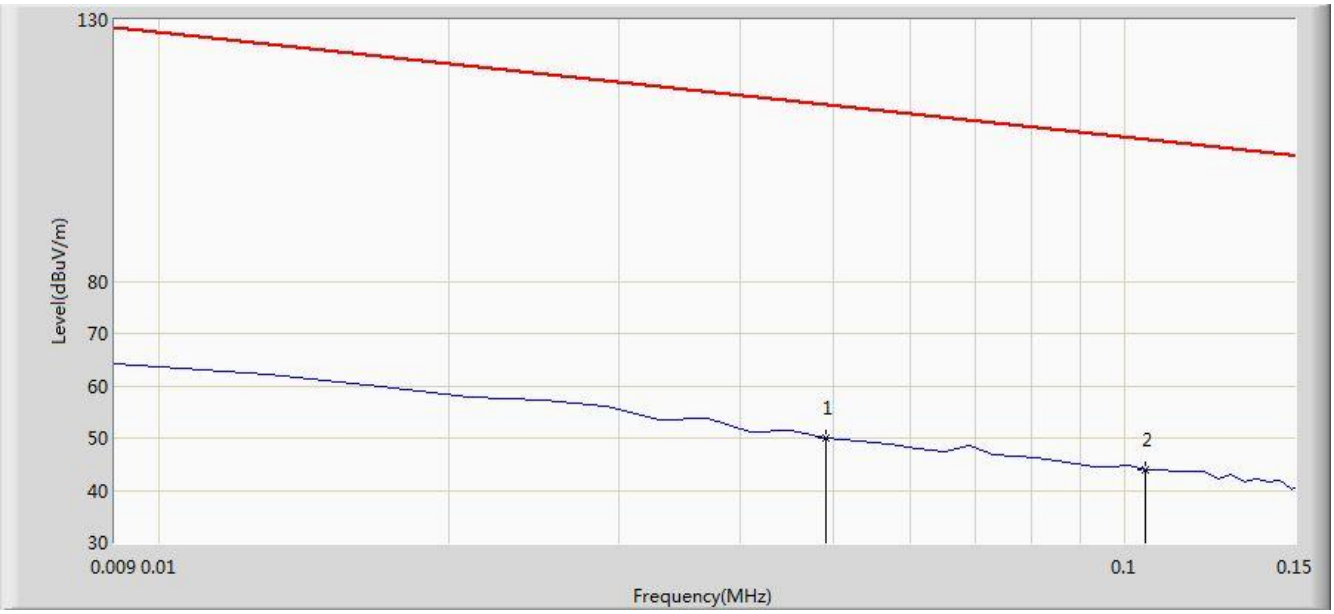


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	31.940	19.070	5.380	-20.930	40.000	13.690	QP
2			39.215	15.499	1.060	-24.501	40.000	14.440	QP
3			149.795	13.626	-1.510	-29.874	43.500	15.136	QP
4			232.730	14.721	2.150	-31.279	46.000	12.571	QP
5			482.505	17.875	-0.350	-28.125	46.000	18.225	QP
6			718.700	24.429	2.150	-21.571	46.000	22.279	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/08/23 - 22:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng
Probe: FMZB1519_0.009-30MHz	Polarity: Face on
EUT: Wireless Boundary Transmitter	Power: By Battery
Note: There is the ambient noise within frequency range 9kHz~30MHz.	

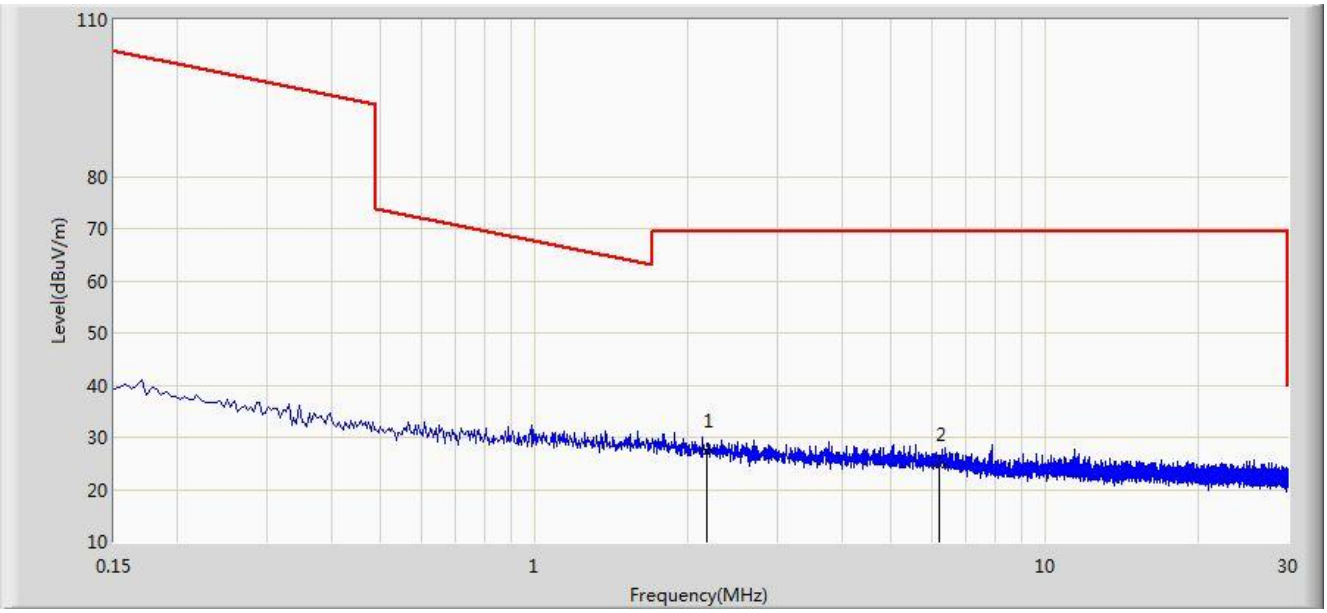


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			0.049	50.112	29.552	-63.688	113.800	20.560	AV
2		*	0.105	44.043	23.845	-63.137	107.180	20.198	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/08/23 - 22:20
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng
Probe: FMZB1519_0.009-30MHz	Polarity: Face on
EUT: Wireless Boundary Transmitter	Power: By Battery
Note: There is the ambient noise within frequency range 9kHz~30MHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2.175	27.371	6.960	-42.129	69.500	20.412	QP
2			6.216	24.786	4.701	-44.714	69.500	20.085	QP

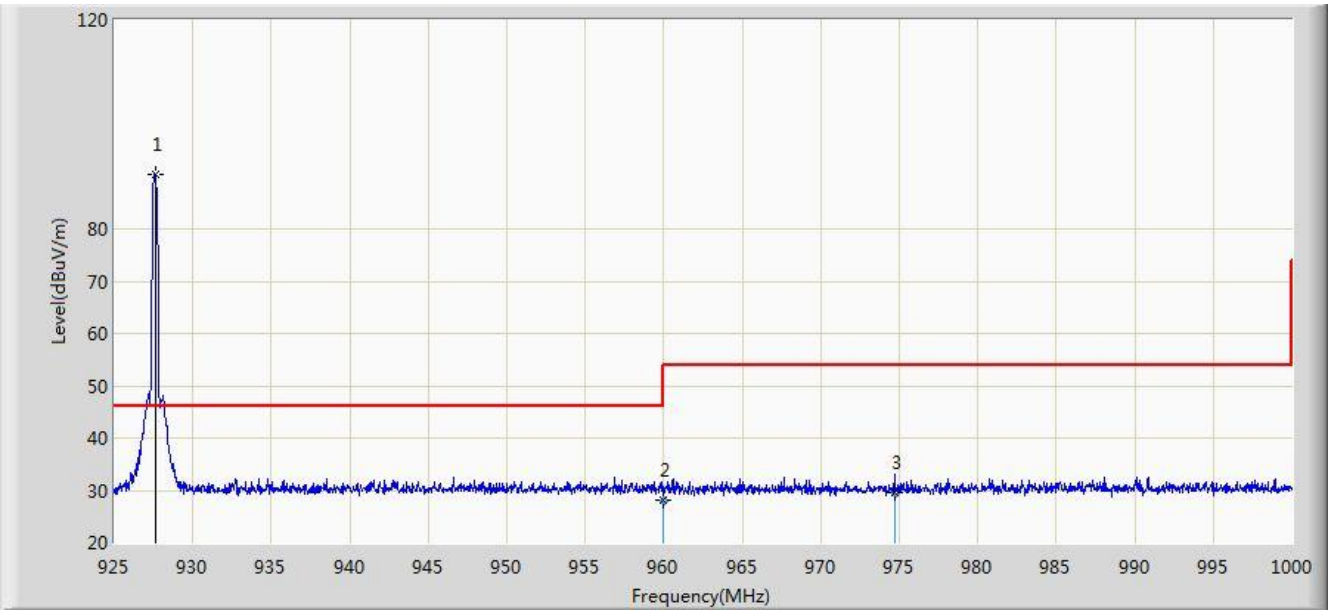
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

7.7. Radiated Restricted Band Edge Measurement

7.7.1. Test Result

Site: AC1	Time: 2016/08/25 - 18:46
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: Wireless Boundary Transmitter	Power: By Battery
Test Mode: Transmit by X52 Band at Channel 927.6MHz (Power Level: 0.25mW)	

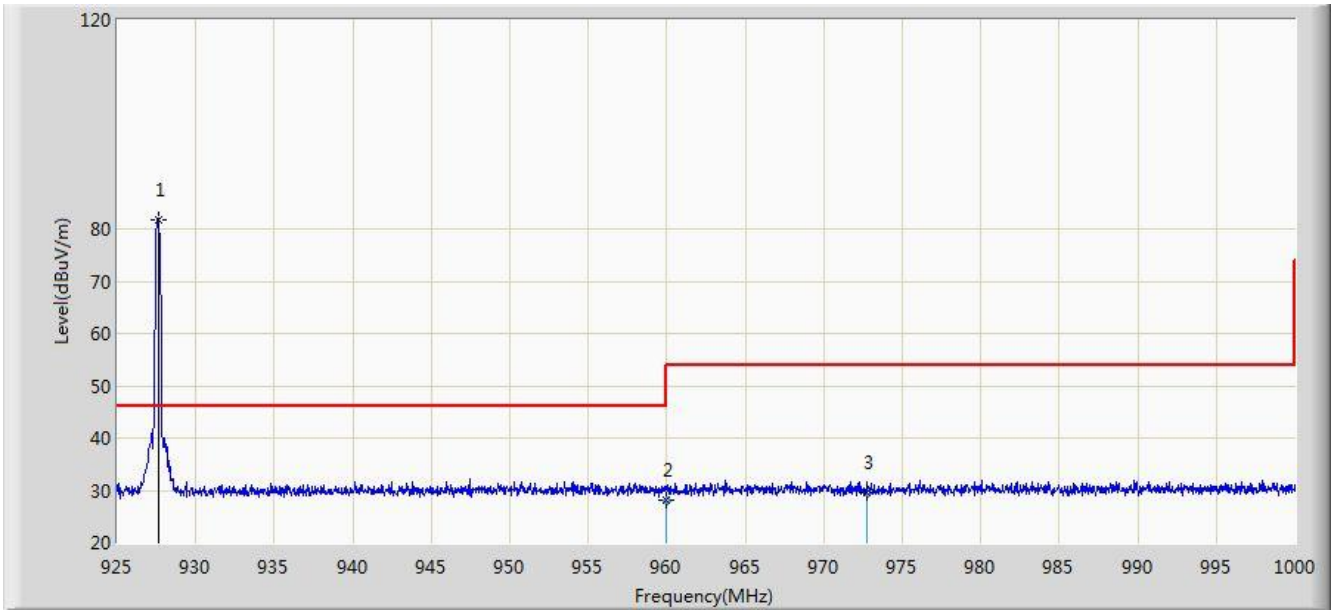


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	927.625	90.565	65.831	N/A	N/A	24.734	PK
2			960.000	28.206	3.260	-17.794	46.000	24.946	QP
3			974.687	29.607	4.590	-24.393	54.000	25.016	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/08/25 - 18:50
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: Wireless Boundary Transmitter	Power: By Battery
Test Mode: Transmit by X52 Band at Channel 927.6MHz (Power Level: 0.25mW)	

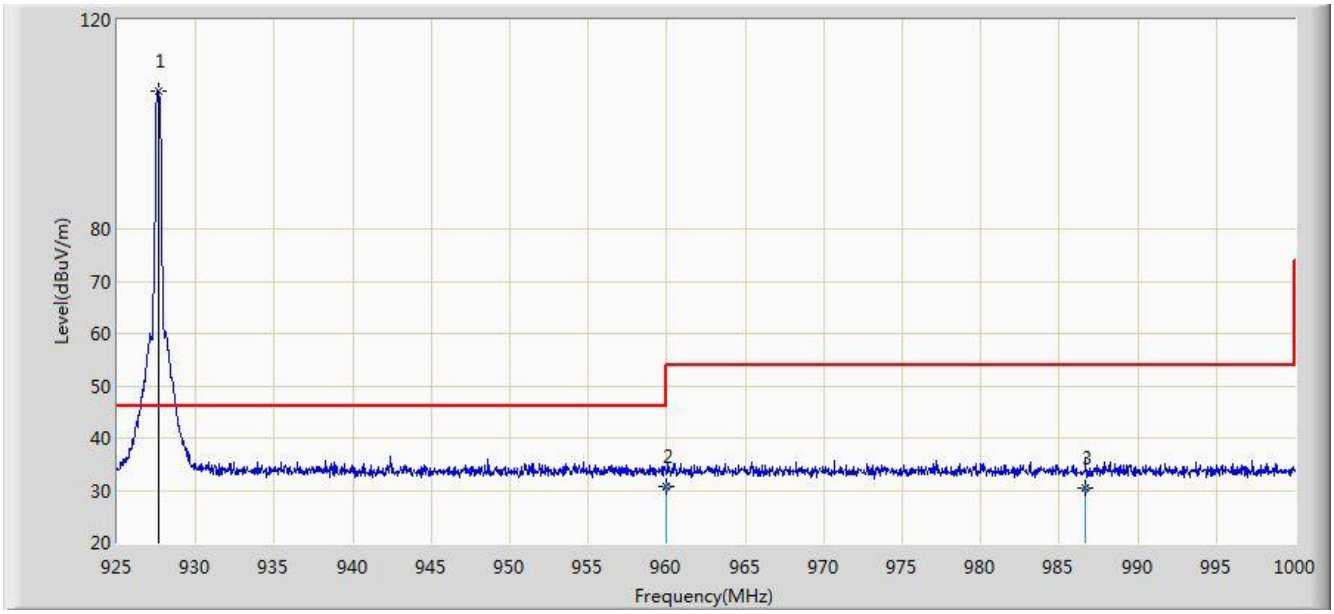


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	927.625	81.859	57.125	N/A	N/A	24.734	PK
2			960.000	28.156	3.210	-17.844	46.000	24.946	QP
3			972.737	29.549	4.528	-24.451	54.000	25.021	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/08/18 - 01:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: Wireless Boundary Transmitter	Power: By Battery
Test Mode: Transmit by X52 Band at Channel 927.6MHz (Power Level: 20mW)	

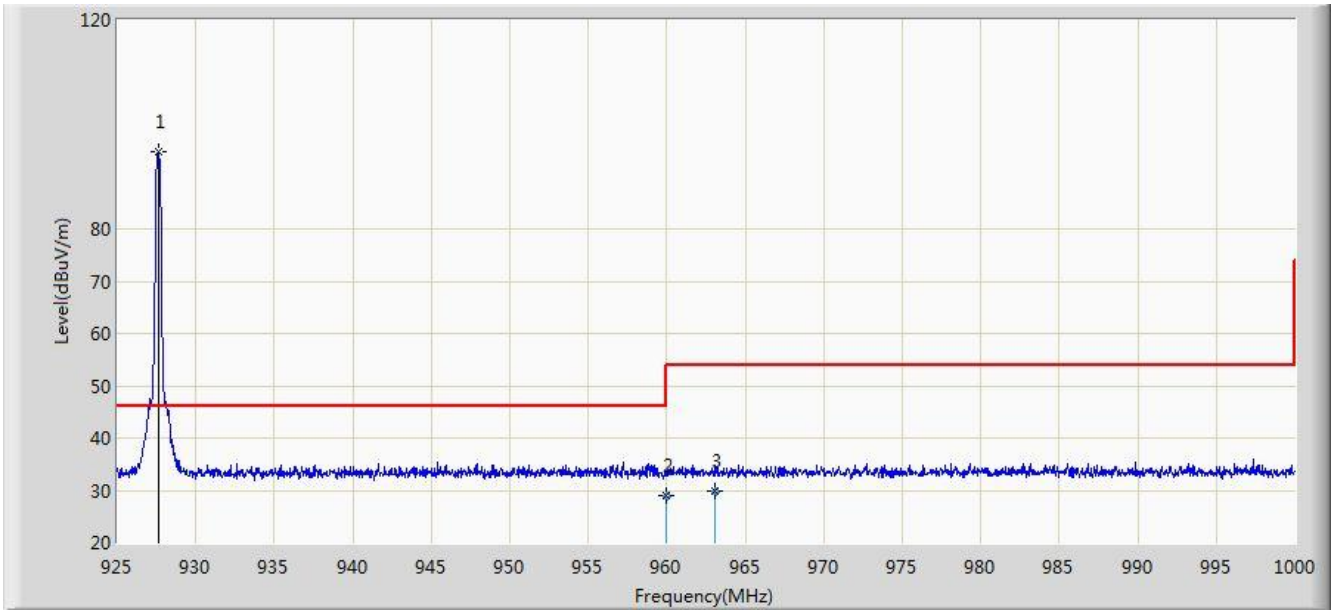


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	927.625	106.401	81.667	N/A	N/A	24.734	PK
2			960.000	30.626	5.680	-15.374	46.000	24.946	QP
3			986.650	30.544	5.480	-23.456	54.000	25.063	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2016/08/18 - 01:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Lewis Huang
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: Wireless Boundary Transmitter	Power: By Battery
Test Mode: Transmit by X52 Band at Channel 927.6MHz (Power Level: 20mW)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	927.625	94.721	69.987	N/A	N/A	24.734	PK
2			960.000	28.966	4.020	-17.034	46.000	24.946	QP
3			963.025	29.712	4.740	-24.288	54.000	24.972	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

7.8. AC Conducted Emissions Measurement

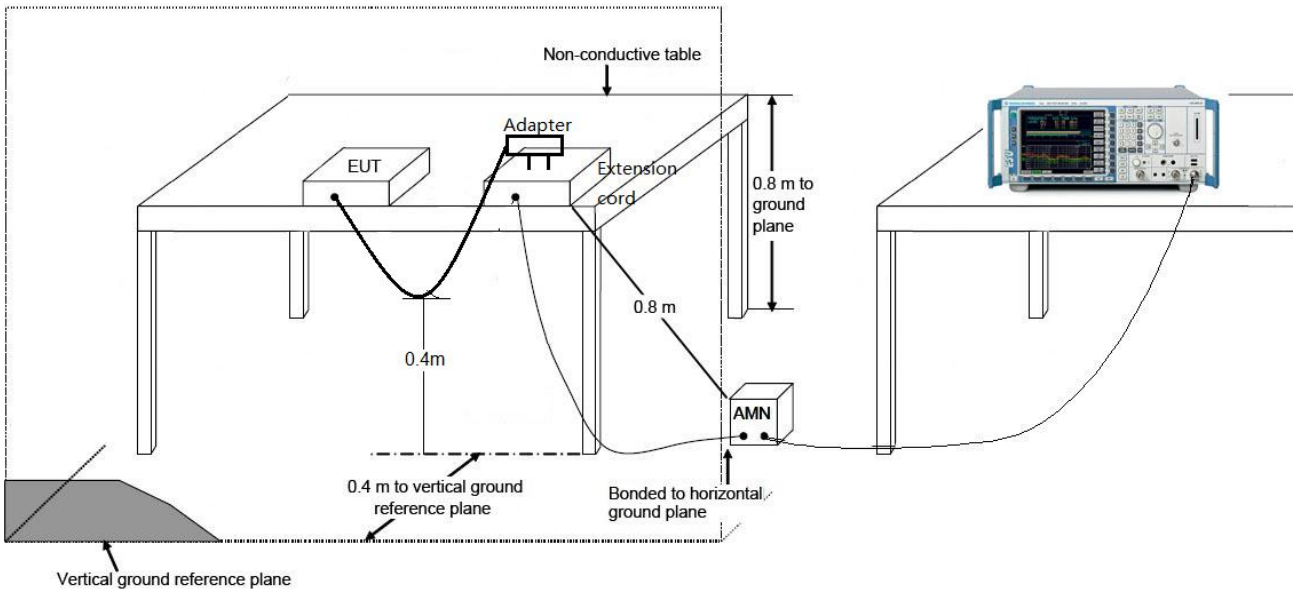
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

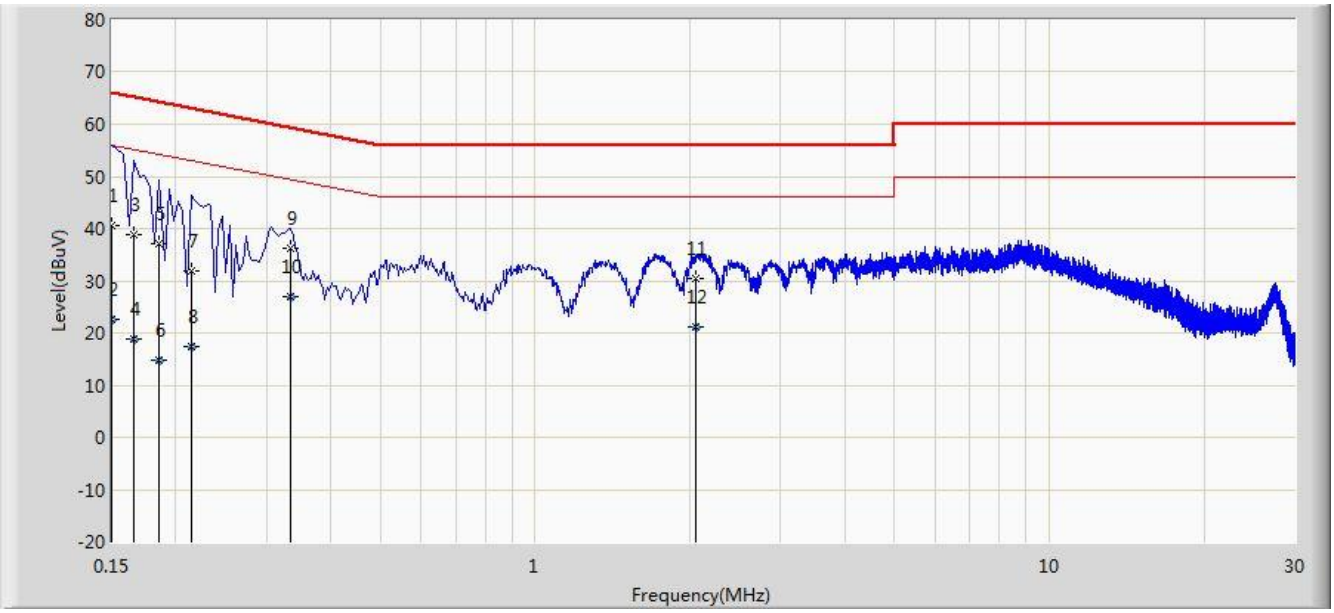
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15.0MHz to 0.5.0MHz.

7.8.2. Test Setup



7.8.3. Test Result

Site: SR2	Time: 2016/08/22 - 23:44
Limit: FCC_Part15.207_CE_AC Power_Class B	Engineer: Lewis Huang
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Wireless Boundary Transmitter	Power: AC 120V/60Hz
Worse Case Mode: Transmit by X52 Band at Channel 927.6MHz (Power Level: 20mW)	

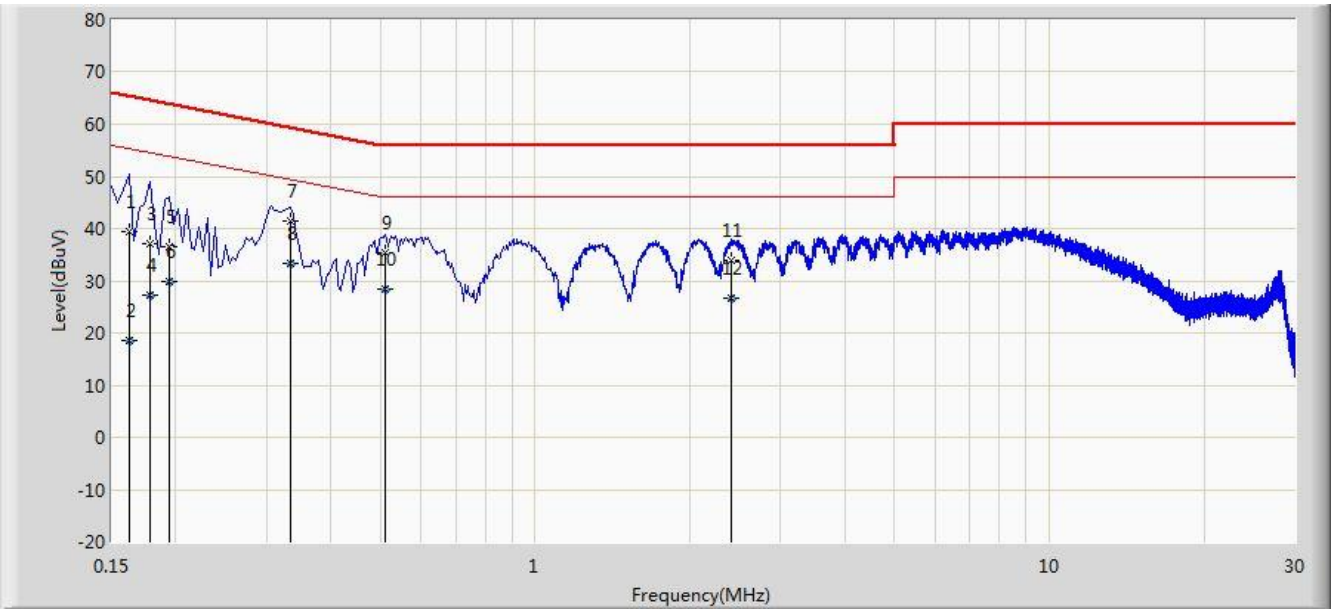


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	40.562	29.394	-25.438	66.000	11.168	QP
2			0.150	22.500	11.332	-33.500	56.000	11.168	AV
3			0.166	38.927	28.840	-26.231	65.158	10.087	QP
4			0.166	18.888	8.800	-36.271	55.158	10.087	AV
5			0.186	37.081	27.042	-27.132	64.213	10.039	QP
6			0.186	14.665	4.626	-39.549	54.213	10.039	AV
7			0.214	31.970	22.013	-31.079	63.049	9.957	QP
8			0.214	17.345	7.388	-35.704	53.049	9.957	AV
9			0.334	36.374	26.343	-22.977	59.351	10.031	QP
10		*	0.334	26.871	16.840	-22.480	49.351	10.031	AV
11			2.054	30.490	20.621	-25.510	56.000	9.869	QP
12			2.054	21.168	11.299	-24.832	46.000	9.869	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Site: SR2	Time: 2016/08/22 - 23:54
Limit: FCC_Part15.207_CE_AC Power_Class B	Engineer: Lewis Huang
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Wireless Boundary Transmitter	Power: AC 120V/60Hz
Worse Case Mode: Transmit by X52 Band at Channel 927.6MHz (Power Level: 20mW)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.162	39.564	29.486	-25.797	65.361	10.078	QP
2			0.162	18.466	8.388	-36.895	55.361	10.078	AV
3			0.178	37.156	27.107	-27.422	64.578	10.049	QP
4			0.178	27.273	17.223	-27.306	54.578	10.049	AV
5			0.194	36.407	26.386	-27.457	63.864	10.021	QP
6			0.194	29.925	19.904	-23.939	53.864	10.021	AV
7			0.334	41.343	31.280	-18.009	59.351	10.063	QP
8		*	0.334	33.387	23.324	-15.964	49.351	10.063	AV
9			0.510	35.373	25.197	-20.627	56.000	10.176	QP
10			0.510	28.364	18.187	-17.636	46.000	10.176	AV
11			2.402	34.008	24.144	-21.992	56.000	9.864	QP
12			2.402	26.604	16.739	-19.396	46.000	9.864	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **Wireless Boundary Transmitter**

FCC ID: DD4ULXD6X52 is in compliance with Part 15C of the FCC Rules.

The End