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Report No.: 1609RSU01706
Report Version: V01
Issue Date: 10-31-2016

MEASUREMENT REPORT
FCC PART 74 / RSS-210

FCC ID:	DD4ULXD6H50
IC:	616A-ULXD6H50
APPLICANT:	Shure Incorporated
Product:	Wireless Boundary Transmitter
Model No.:	ULXD6/C H50, ULXD6/O H50
Brand Name:	SHURE
FCC Classification:	Licensed Non-Broadcast Station Transmitter (TNB)
FCC Rule Part(s):	Part 2, Part 74.861
IC Rule Part(s):	RSS-210 Issue 9, RSS-GEN Issue 4
Test Procedure(s):	ANSI C63.4-2014, ANSI/TIA-603-D 2010, KDB 971168 D01v02r02
Test Date:	September 22 ~ October 30, 2016

Reviewed By : Robin Wu
(Robin Wu)

Approved By : Marlin Chen
(Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
1609RSU01706	Rev. 01	Initial report	10-31-2016	Valid

CONTENTS

Description Page

§2.1033 General Information

Applicant:	Shure Incorporated
Applicant Address:	5800 West Touhy Avenue, Niles, IL, USA
Manufacturer:	Shure Incorporated
Manufacturer Address:	5800 West Touhy Avenue, Niles, IL, USA
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
MRT FCC Registration No.:	809388
MRT IC Registration No.:	11384A
FCC Rule Part(s):	Part 74.861
IC Rule Part(s):	RSS-210 Issue 9, RSS-GEN Issue 4
Model No.:	ULXD6/C H50, ULXD6/O H50
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering

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.**

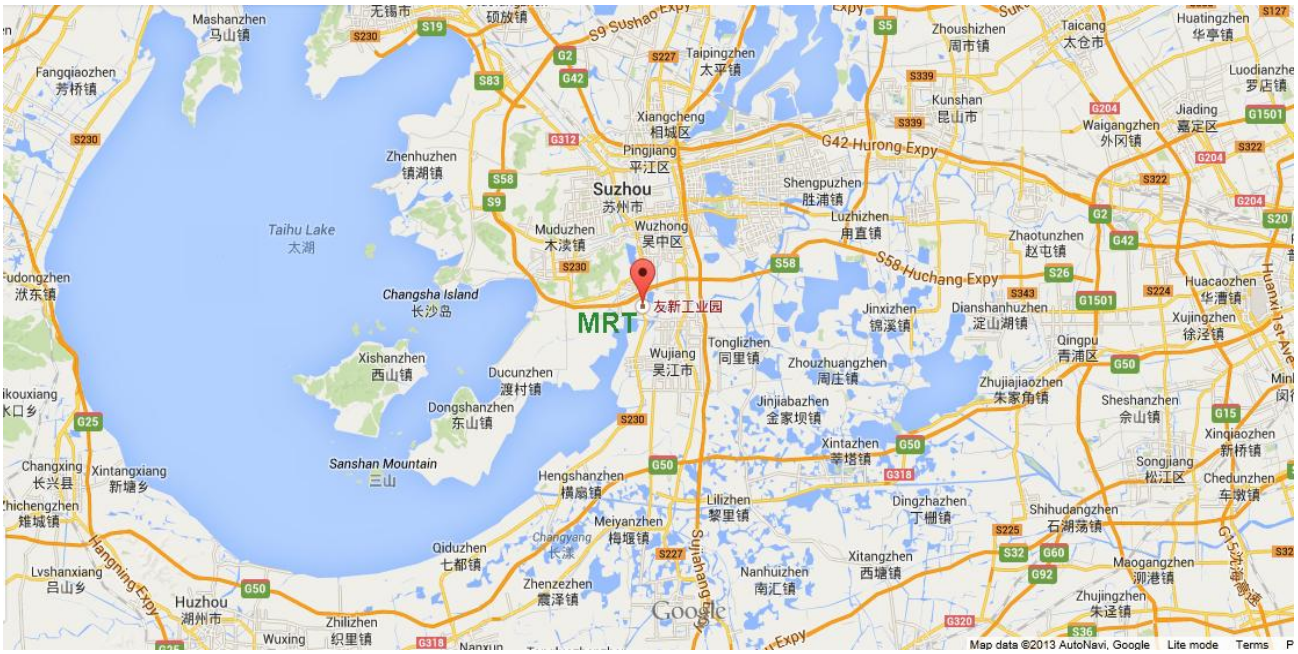
1. INTRODUCTION

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, 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 H50, ULXD6/O H50 (Note 1)
Frequency Range	534 ~ 598MHz
Conducted Power Levels	1mW & 10mW & 20mW (Note 2)
Type of Modulation	8PSK
Channel Spacing	25kHz
Antenna Type	PIFA
Antenna Gain	-6.6dBi
Components (Note 3)	
Rechargeable Li-ion Battery	Model: SB900A OUTPUT: 3.7Vdc, 1320mAh,4.88Wh

Note 1: The difference between ULXD6/C and ULXD6/O is that the EUT has different built-in MIC.

Note 2: The EUT has three power levels (1mW & 10mW & 20mW). Power levels are switchable among these power levels.

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

2.2. Operation Frequency / Channel List

H50 band

Channel	Frequency
LOW	534.000 MHz
…	…
MID	566.000 MHz
…	…
HIG	598.000 MHz

2.3. Test Mode

Test Mode	Mode 1: Transmit

2.4. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

3. TEST EQUIPMENT CALIBRATION DATE

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
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
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
DC Power Supply	APECC	DPS-336030D	00002016	N/A	N/A
Audio Analyzer	Agilent	U8903B	MY55280009	1 year	2017/08/18
Modulation Analyzer	HP	8901A	1205A01034	1 year	2017/05/19
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

4. 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.

Radiated Emission Measurement - AC1
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: 4.18dB 1GHz ~ 25GHz: 4.76dB
Output Power - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.13dB
Occupied Bandwidth - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%

5. TEST RESULT

5.1. Summary

Company Name: **Shure Incorporated**

FCC Classification: **Licensed Non-Broadcast Station Transmitter (TNB)**

Tested Channel: **H50 Band (534.000MHz, 566.000MHz, 598.000MHz)**

FCC Part Section(s)	IC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
74.861(e)(1)(ii)	RSS-210 [G.3.1]	RF Output Power	≤ 250mW Conducted, ≤ 250mW EIRP	Conducted	Pass	Section 5.2
74.861(e)(4)	RSS-210 [G.3.3]	Frequency Stability	≤ +/- 50Hz		Pass	Section 5.3
74.861(e)(5), (6)	RSS-210 [G.3.2], [G.3.4]	Occupied Bandwidth	Operating Bandwidth ≤ 200kHz The mean power of emissions shall be attenuated below the mean output power of the transmitter as below: (50% ~ 100%)*OBW ≥ 25dB (100% ~ 250%)*OBW ≥ 35dB More than 250%*OBW ≥ 43 + 10*log(P)dB ETSI EN 300 422 Clause 8.3.2.2		Pass	Section 5.4
74.861(e)(3)	RSS-210 [G.3.5]	Frequency Deviation	≤ +/- 75kHz		N/A	Section 5.5
74.861(e)(6)	RSS-210 [G.3.4]	Radiated Spurious Emission	More than 250%*OBW ≥ 43 + 10*log(P)dB ETSI EN 300 422 Clause 8.4.3	Radiated	Pass	Section 5.6

Notes:

1) All modes of operation and data rates were investigated. 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 RF Output Power, we evaluated three power settings (1mW/10mW/20mW). For the other test items, we tested the lowest power setting 1mW and the maximum power setting 20mW.

5.2. RF Output Power

5.2.1. Test Limit

For FCC

The conducted power may not exceed 250mW in 470 ~ 608 and 614 ~ 698 MHz band.

For IC

The transmit E.I.R.P may not exceed 250mW in 470 ~ 608 and 614 ~ 698 MHz band.

5.2.2. Test Procedure Used

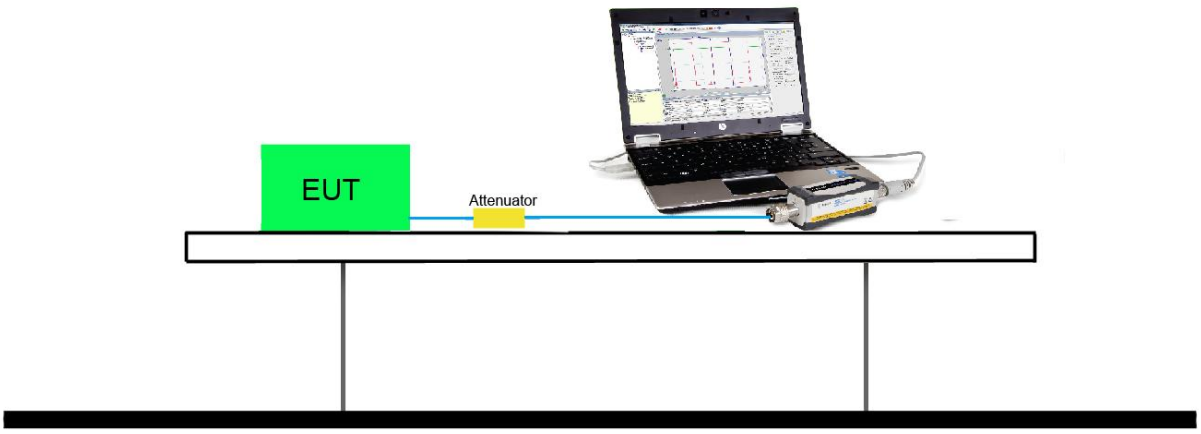
KDB 971168 D01v02r02 - Section 5.2.3

5.2.3. Test Setting

Average power measurement with average power meter

If the EUT can be configured to transmit continuously and at all times the EUT is transmitting at is maximum output power level, then a conventional wide-band RF power meter can be used.

5.2.4. Test Setup



5.2.5. Test Result

For Power Level - 1.0mW

Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	E.I.R.P (dBm)	Limit (dBm)	Result
534.000	0.05	≤ 24.0	-6.55	≤ 24.0	Pass
566.000	-0.05	≤ 24.0	-6.65	≤ 24.0	Pass
598.000	-0.10	≤ 24.0	-6.70	≤ 24.0	Pass

For Power Level - 10.0mW

Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	E.I.R.P (dBm)	Limit (dBm)	Result
534.000	9.95	≤ 24.0	3.35	≤ 24.0	Pass
566.000	9.80	≤ 24.0	3.20	≤ 24.0	Pass
598.000	9.76	≤ 24.0	3.16	≤ 24.0	Pass

For Power Level - 20.0mW

Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	E.I.R.P (dBm)	Limit (dBm)	Result
534.000	12.79	≤ 24.0	6.19	≤ 24.0	Pass
566.000	12.86	≤ 24.0	6.26	≤ 24.0	Pass
598.000	12.79	≤ 24.0	6.19	≤ 24.0	Pass

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

5.3. Frequency Stability

5.3.1. Test Limit

The frequency tolerance of the transmitter shall be 0.005 percent.

5.3.2. Test Procedure Used

KDB 971168 D01v02r02 - Section 9

5.3.3. Test Setting

The EUT was connected to a frequency counter or spectrum analyzer through the antenna output of each transmitter. The EUT was then placed in a temperature chamber.

a) The nominal frequency of the transmitter was measured and recorded.

b) The temperature chamber was then set to -30ºC.

c) Once the temperature had reached -30ºC the EUT was allowed to soak for 30 minutes.

d) After soaking at -30ºC for thirty minutes the EUT was turned on and the transmit frequency was measured and recorded.

e) Steps (b) through (d) were repeated for each temperature in 10ºC steps from -20ºC to +50ºC.

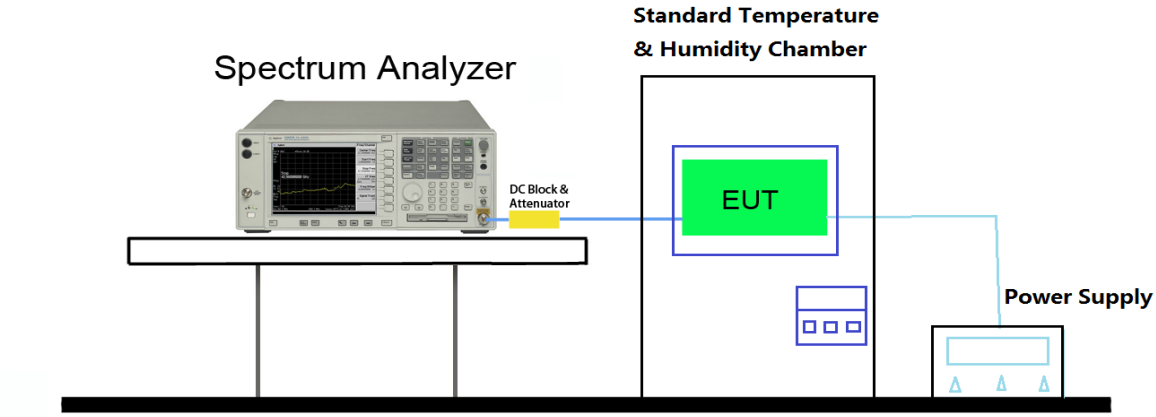
f) The EUT was then removed from the temperature chamber and allowed to adjust to nominal room temperature (22ºC).

g) The input voltage was checked and adjusted to the nominal level. The frequency was measured and recorded.

h) The input voltage was then varied to 85% of its nominal level. The frequency was measured and recorded.

i) The input voltage was then varied to 115% of its nominal level. The frequency was measured and recorded.

5.3.4. Test Setup



5.3.5. Test Result

Voltage (%)	Power (V_{DC})	Temp (°C)	Nominal Frequency (MHz)	Measured Frequency (MHz)	Deviation (%)	Limit (%)	Result
100%	3.7	-30	534.000	534.000014	0.000003	0.005	Pass
			566.000	566.000042	0.000007	0.005	Pass
			598.000	598.000108	0.000018	0.005	Pass
		-20	534.000	534.000283	0.000053	0.005	Pass
			566.000	566.000279	0.000049	0.005	Pass
			598.000	598.000164	0.000027	0.005	Pass
		-10	534.000	533.999758	-0.000045	0.005	Pass
			566.000	566.000521	0.000092	0.005	Pass
			598.000	598.000630	0.000105	0.005	Pass
		0	534.000	534.000252	0.000047	0.005	Pass
			566.000	565.999673	-0.000058	0.005	Pass
			598.000	597.999735	-0.000044	0.005	Pass
		+10	534.000	534.000683	0.000128	0.005	Pass
			566.000	566.000095	0.000017	0.005	Pass
			598.000	598.000483	0.000081	0.005	Pass
		+20 (Ref)	534.000	534.000203	0.000038	0.005	Pass
			566.000	566.000203	0.000036	0.005	Pass
			598.000	598.000297	0.000050	0.005	Pass
		+30	534.000	534.000134	0.000025	0.005	Pass
			566.000	566.000357	0.000063	0.005	Pass
			598.000	598.000531	0.000089	0.005	Pass
		+40	534.000	534.000134	0.000025	0.005	Pass
			566.000	566.000174	0.000031	0.005	Pass
			598.000	598.000295	0.000049	0.005	Pass
		+50	534.000	534.000185	0.000035	0.005	Pass
			566.000	566.000063	0.000011	0.005	Pass
			598.000	598.000572	0.000096	0.005	Pass
115%	3.45	+20	534.000	534.000462	0.000087	0.005	Pass
			566.000	566.000524	0.000093	0.005	Pass
			598.000	598.000418	0.000070	0.005	Pass
85%	3.145	+20	534.000	534.000631	0.000118	0.005	Pass
			566.000	566.000242	0.000043	0.005	Pass
			598.000	598.000664	0.000111	0.005	Pass

5.4. Occupied Bandwidth and Emission Mask

5.4.1. Test Limit

For FCC:

The operating bandwidth shall not exceed 200 kHz.

The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(i) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;

(ii) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;

(iii) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least 43+10log10 (mean output power in watts) dB.

For IC:

The occupied bandwidth for low-power radio apparatus shall not exceed the authorized bandwidth 200 kHz.

The transmitter output spectrum shall be within the mask defined in EN 300 422 Clause 8.3.2.2.

5.4.2. Test Procedure Used

KDB 971168 D01v02r02 - Section 4

5.4.3. Test Setting

Occupied Bandwidth

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

e) Set the detection mode to peak, and the trace mode to max hold.

f) Use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the

measured bandwidth.

Emission Mask

a) The EUT was connected to a spectrum analyzer. The un-modulated carrier signal level was measured and recorded.

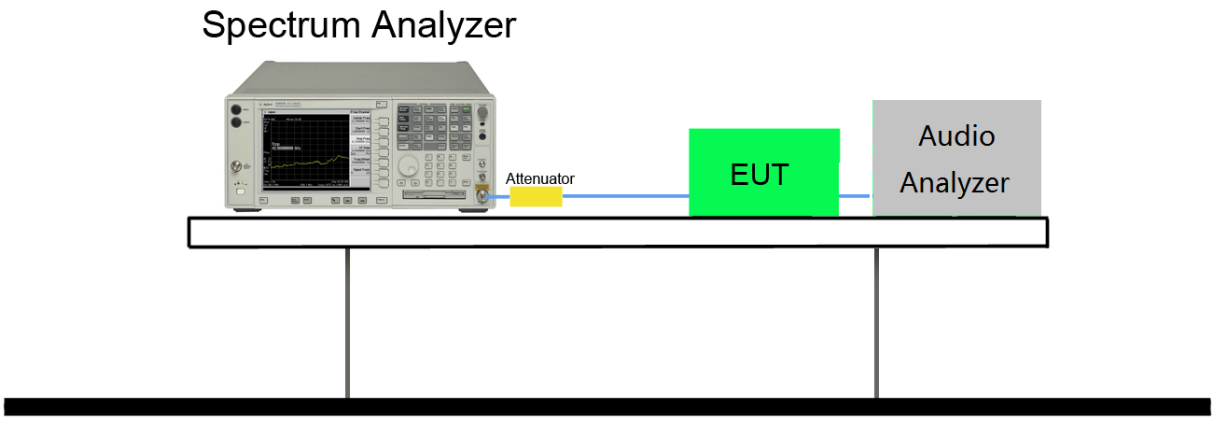
b) The EUT was modulated with typical digital modulation.

c) The spectrum analyzer center frequency was set to the EUT operating frequency; span was set to 2 MHz; resolution bandwidth was set to 1 MHz; video bandwidth set to 3 MHz; sweep time set to 3 s; after clear/write, max-hold was set; Marker 1 was set to Peak, then Marker 1 was set to reference value.

d) The peak output power was recorded and used to set the reference level on the spectrum analyzer.

e) The spectrum analyzer span was then set to 1.5 MHz; resolution bandwidth set to 2 kHz, video bandwidth set to 5 kHz, sweep time to Auto; trace set to Max Hold.

5.4.4. Test Setup

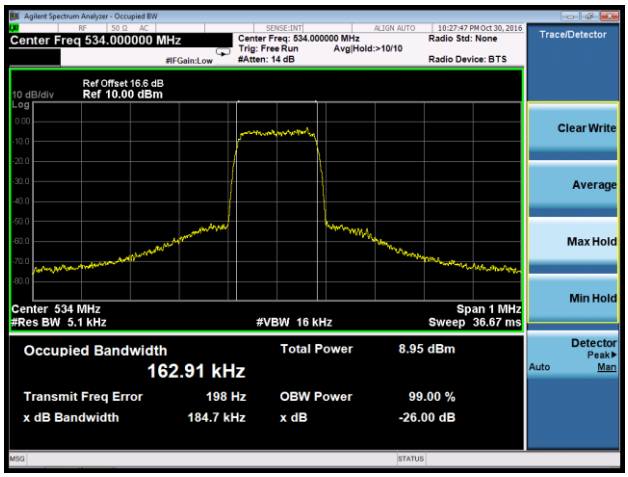


5.4.5. Test Result

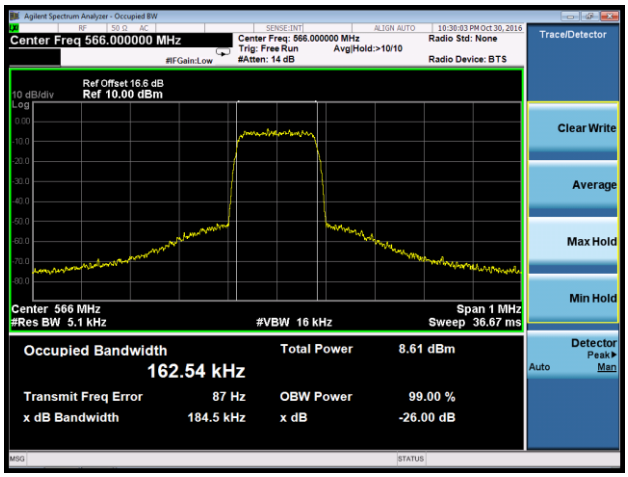
Power Level (mW)	Frequency (MHz)	99% Occupied Bandwidth (kHz)	Result	FCC Emission Mask	IC Necessary Bandwidth
1	534.000	162.91	Pass	Pass	Pass
	566.000	162.54	Pass	Pass	Pass
	598.000	163.99	Pass	Pass	Pass
20	534.000	165.31	Pass	Pass	Pass
	566.000	163.19	Pass	Pass	Pass
	598.000	163.63	Pass	Pass	Pass

H50 Band 1mW - 99% Occupied Bandwidth

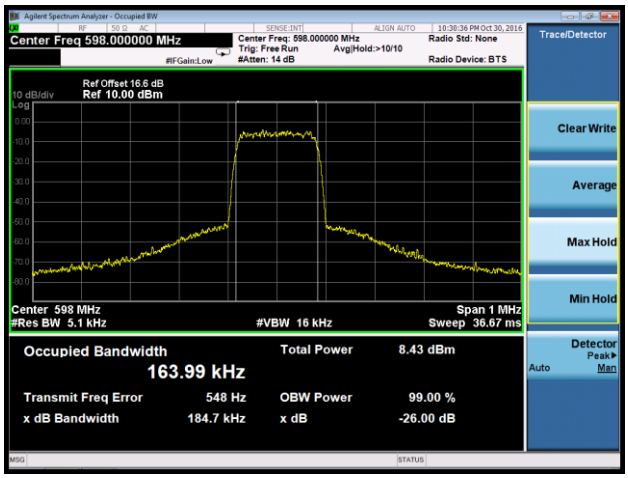
Channel 534.000MHz

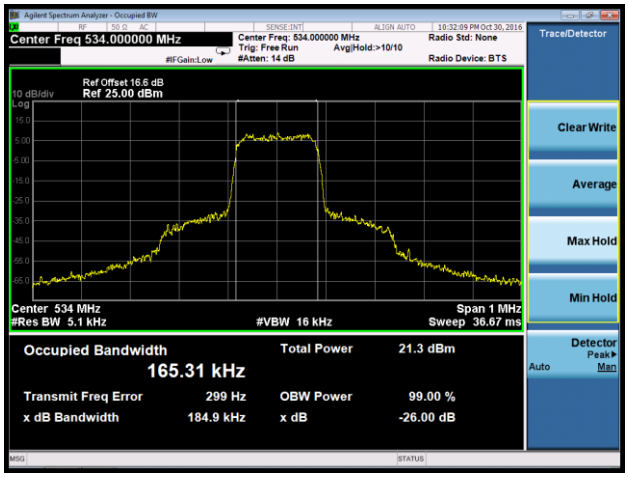
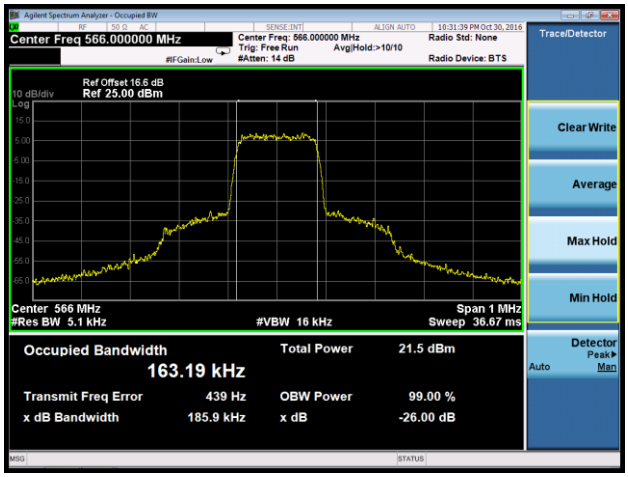
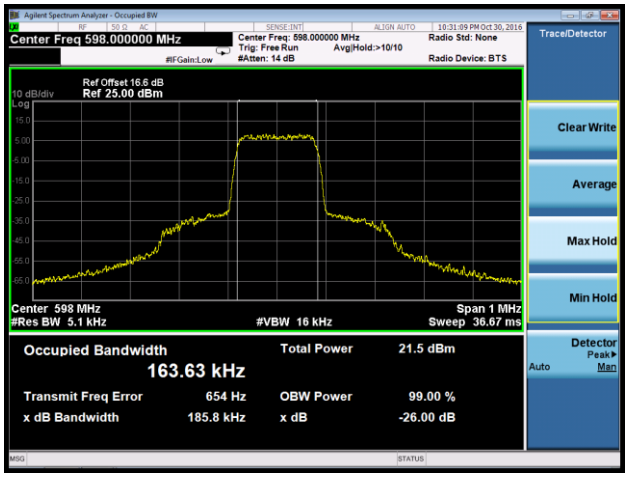


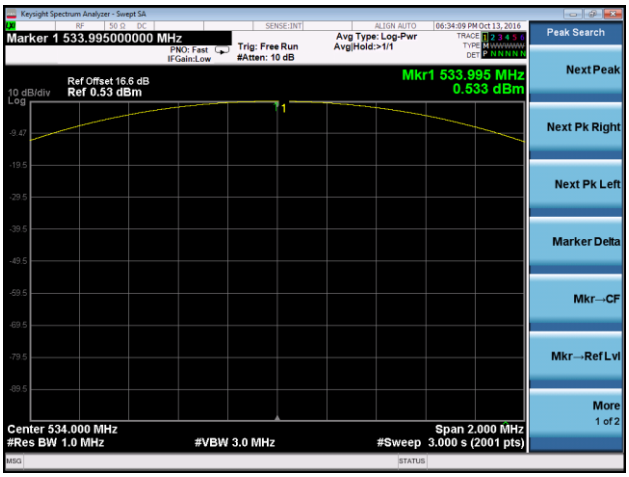
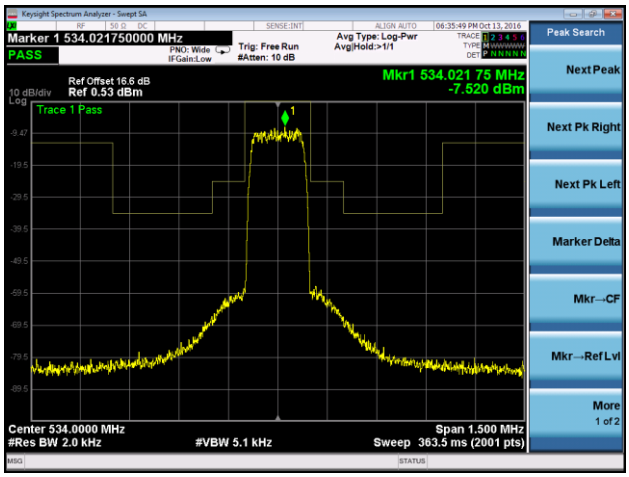
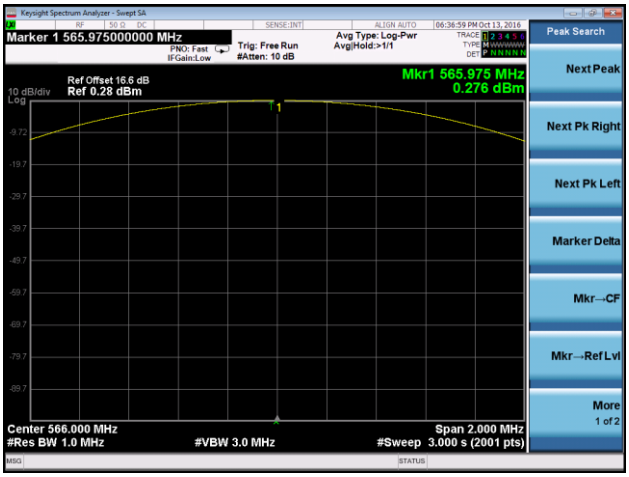
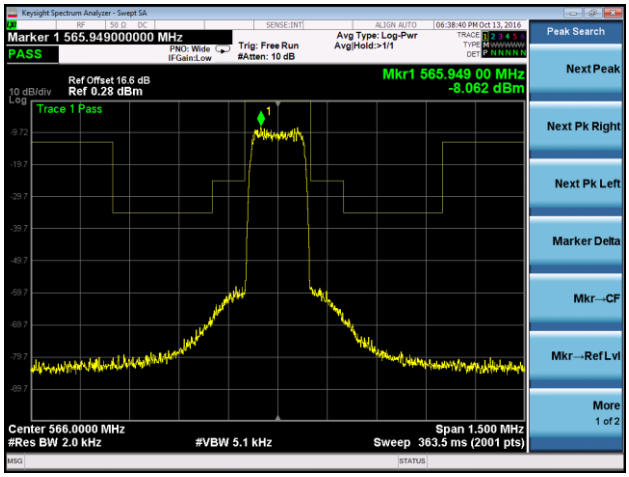
Channel 566.000 MHz

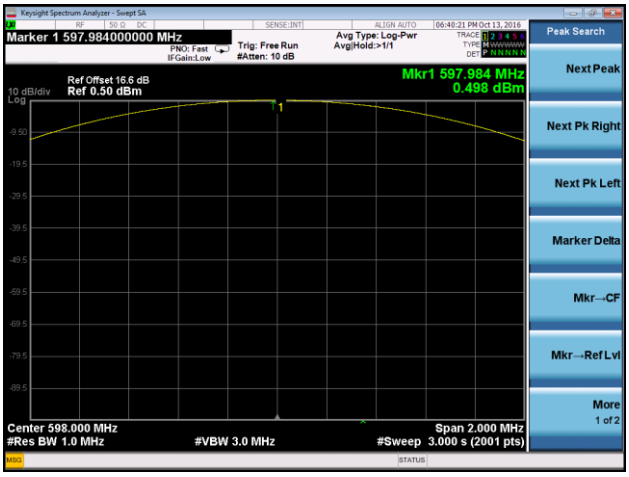
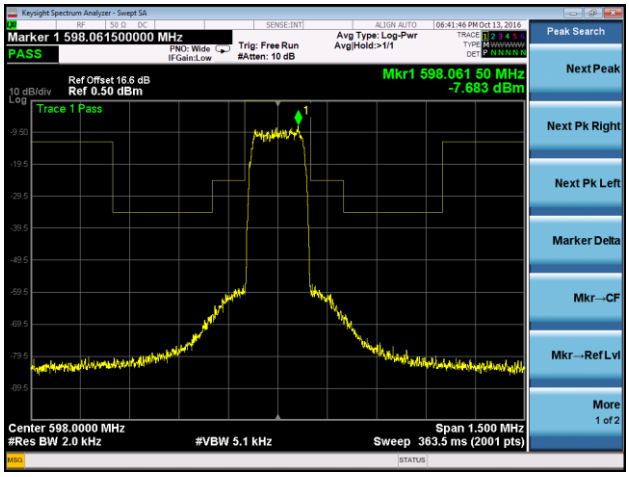


Channel 598.000 MHz



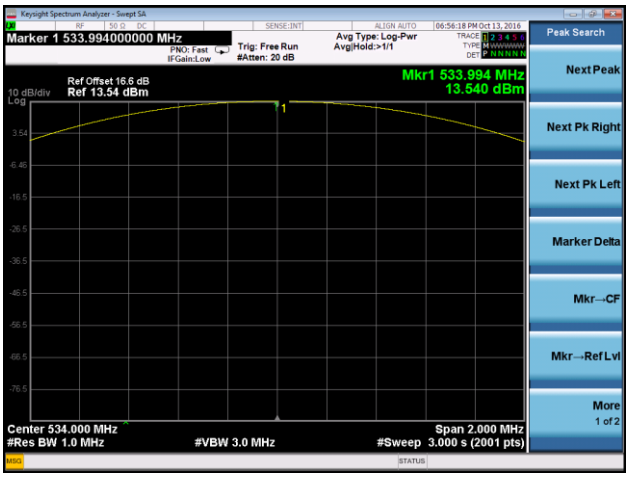
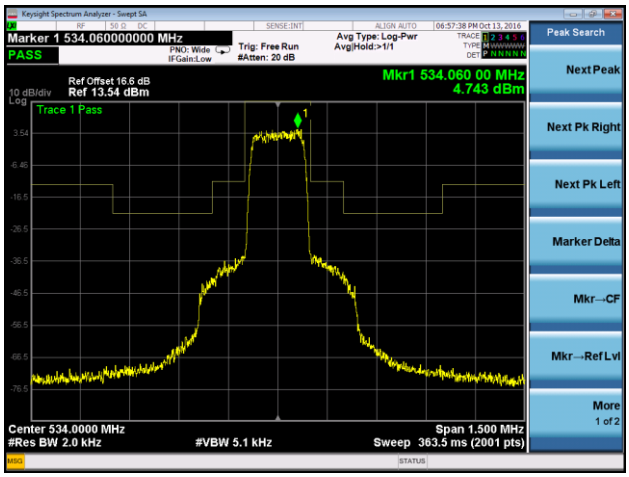
H50 Band 20mW - 99% Occupied Bandwidth	
Channel 534.000MHz	**Channel 566.000 MHz**
	
Channel 598.000 MHz	
	

H50 Band 1mW - Emission Mask	
Channel 534.000MHz	
Reference Level	**Occupied Bandwidth**
	
Channel 566.000 MHz	
Reference Level	**Occupied Bandwidth**
	

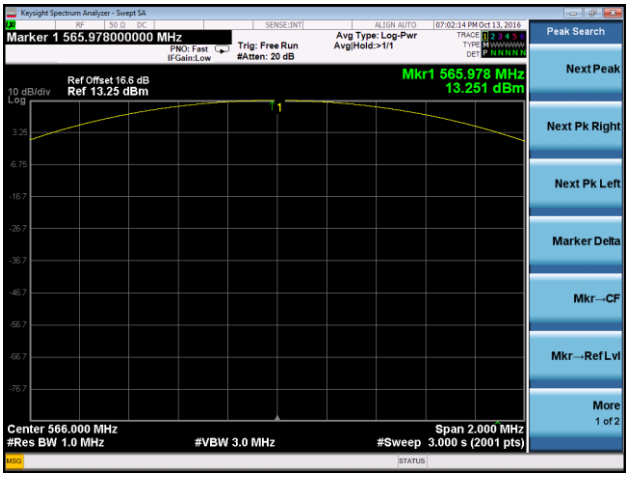
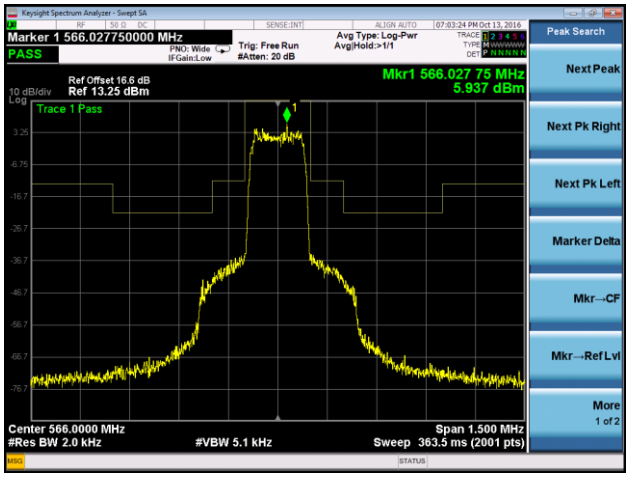
H50 Band 1mW - Emission Mask	
Channel 598.000 MHz	
Reference Level	Occupied Bandwidth
	

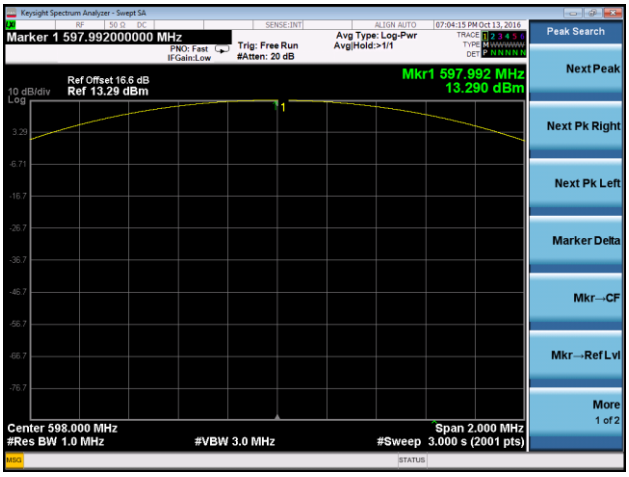
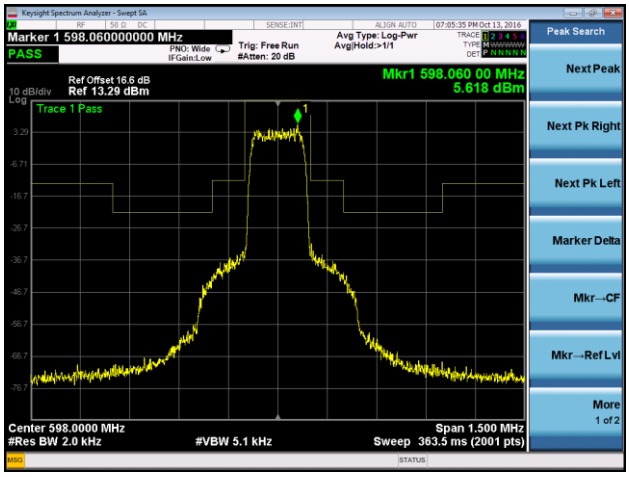
H50 Band 20mW - Emission Mask

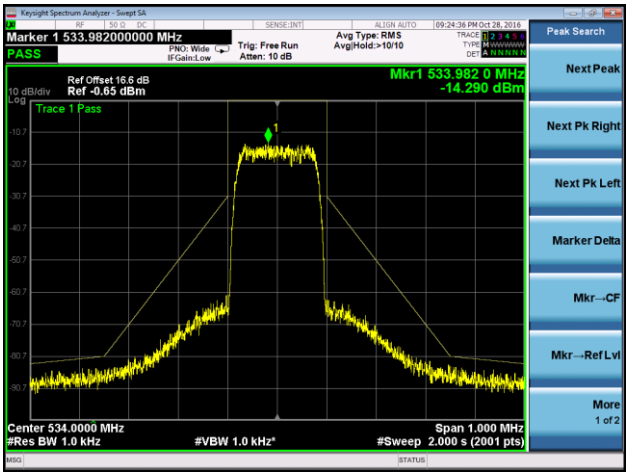
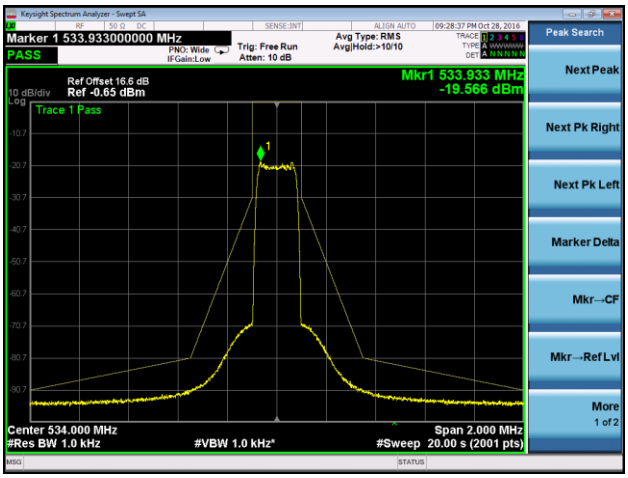
Channel 534.000MHz

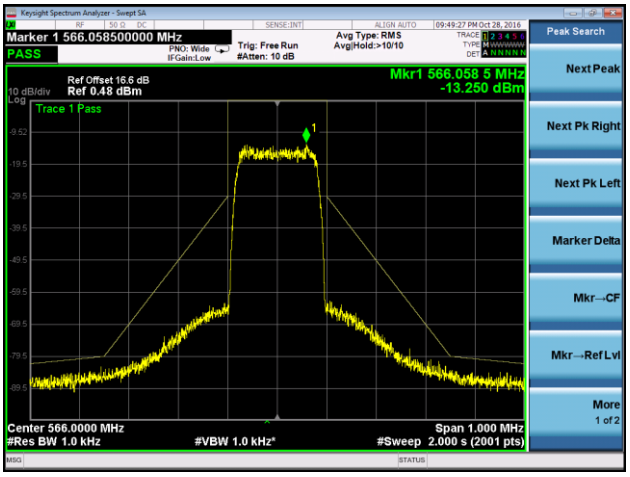
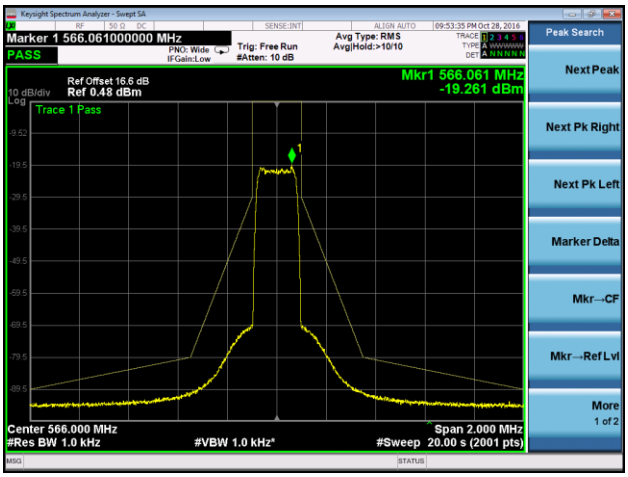
Reference Level	Occupied Bandwidth
	

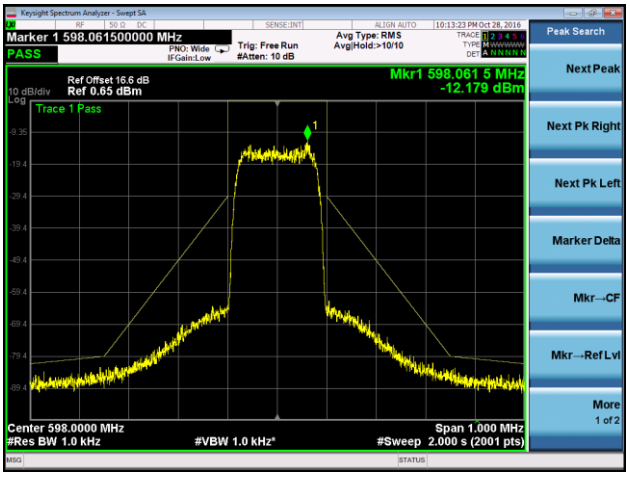
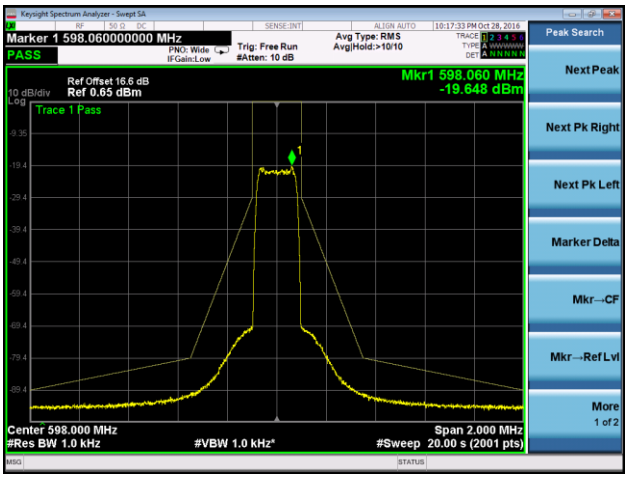
Channel 566.000 MHz

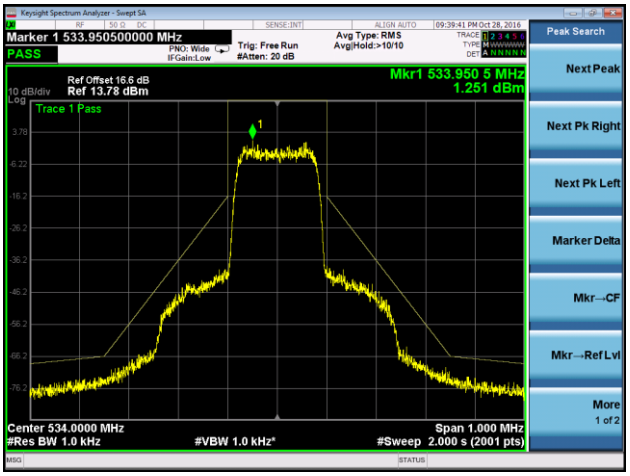
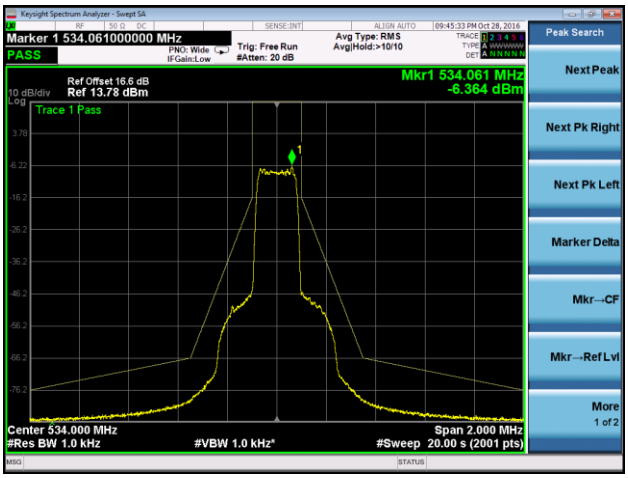
Reference Level	Occupied Bandwidth
	

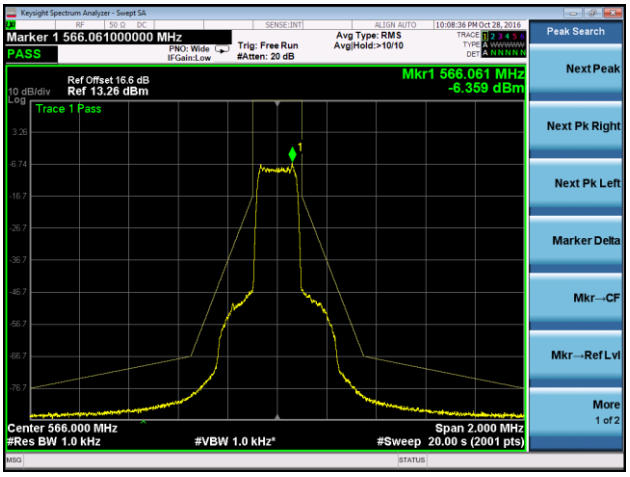
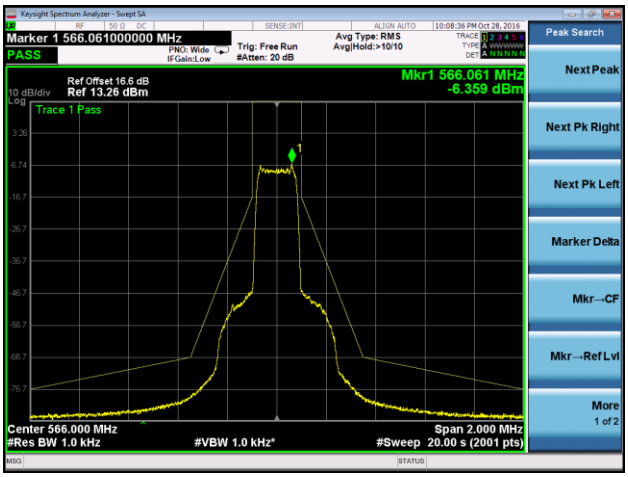
H50 Band 20mW - Emission Mask	
Channel 598.000 MHz	
Reference Level	Occupied Bandwidth
	

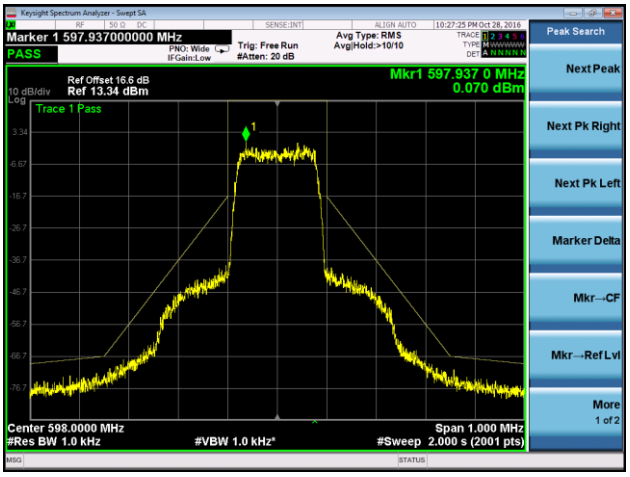
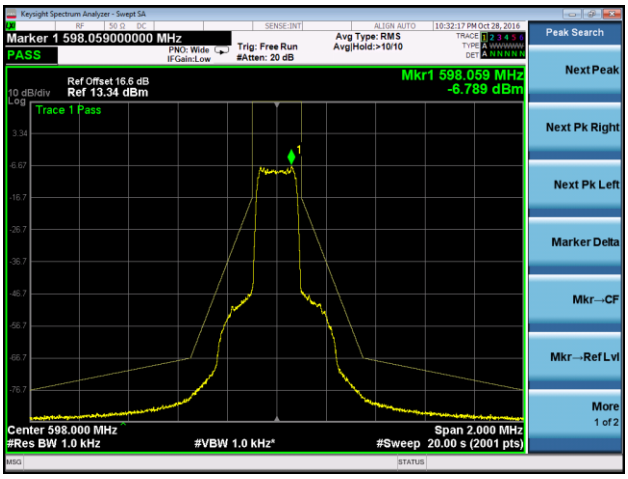
H50 Band 1mW - Necessary Bandwidth	
Step 1 - 534.000MHz	**Step 2 - 534.000MHz**
	
Step 3 - 534.000MHz	
	

H50 Band 1mW - Necessary Bandwidth	
Step 1 - 566.000MHz	**Step 2 - 566.000MHz**
	
Step 3 - 566.000MHz	
	

H50 Band 1mW - Necessary Bandwidth	
Step 1 - 598.000MHz	**Step 2 - 598.000MHz**
	
Step 3 - 598.000MHz	
	

H50 Band 20mW - Necessary Bandwidth	
Step 1 - 534.000MHz	**Step 2 - 534.000MHz**
	
Step 3 - 534.000MHz	
	

H50 Band 20mW - Necessary Bandwidth	
Step 1 - 566.000MHz	**Step 2 - 566.000MHz**
	
Step 3 - 566.000MHz	
	

H50 Band 20mW - Necessary Bandwidth	
Step 1 - 598.000MHz	**Step 2 - 598.000MHz**
	
Step 3 - 598.000MHz	
	

5.5. Frequency Deviation

5.5.1. Test Limit

For FCC

Any form of modulation may be used. A maximum deviation of ±75 kHz is permitted when frequency modulation is employed.

For IC

Amplitude Modulation

Equipment employing amplitude modulation (AM) shall have a modulation index that does not exceed 100%.

Frequency Modulation

Equipment employing frequency measurement (FM) modulation shall have a frequency deviation that does not exceed ±75 kHz.

5.5.2. Test Procedure Used

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5.5.3. Test Setting

Make the antenna port connect to a modulation analyzer. An audio signal generator was connected to the audio input port of the EUT.

a) The EUT was modulated with a 1000 Hz modulating signal at 60% of the EUT's rated frequency deviation.

b) With input level held constant the audio signal generator was varied from 20 Hz to 20 kHz.

c) The positive and negative peak deviations were recorded and plotted.

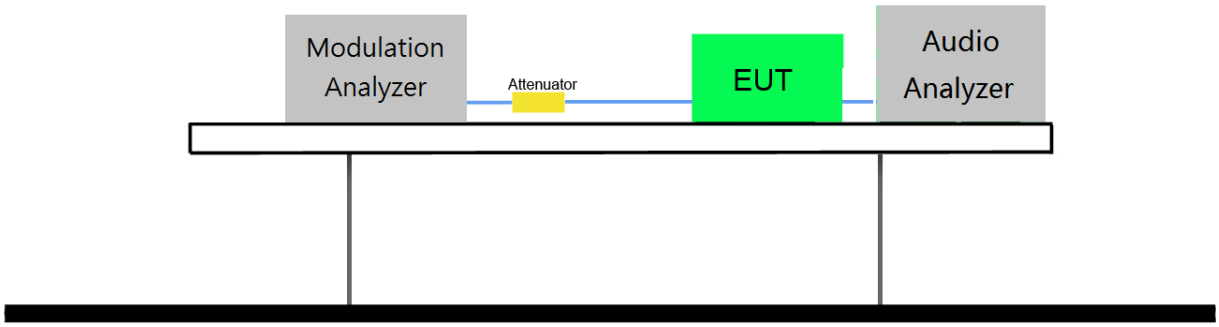
The output of the antenna port of the EUT was connected to a modulation analyzer. An audio signal generator was connected to the audio input port of the EUT.

a) The modulation response was measured separately for each of five frequencies (100Hz, 500Hz, 2500Hz, 10000Hz and 15000Hz).

b) The input voltage of the audio signal generator was varied and frequency deviation was observed on the modulation analyzer.

c) The frequency deviations were recorded and plotted.

5.5.4. Test Setup



5.5.5. Test Result

This test item is not applicable due to the EUT adopt digital modulation.

5.6. Radiated Spurious Emission

5.6.1. Test Limit

For FCC:

The mean power of emissions shall be attenuated below the mean output power of the transmitter. On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least $43+10\log_{10}$ (mean output power in watts) dB.

For IC:

The transmitter unwanted emissions shall meet the requirements in sections 8.4 of ETSI EN 300 422-1 v1.4.2 (2011-08).

5.6.2. Test Procedure Used

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5.6.3. Test Setting

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurement 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. A 80cm high PVC support structure is placed on top of the turntable. The equipment under test was transmitting while connected to its integral antenna and is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized.

Per the guidance of ANSI/TIA-603-B-2002, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to

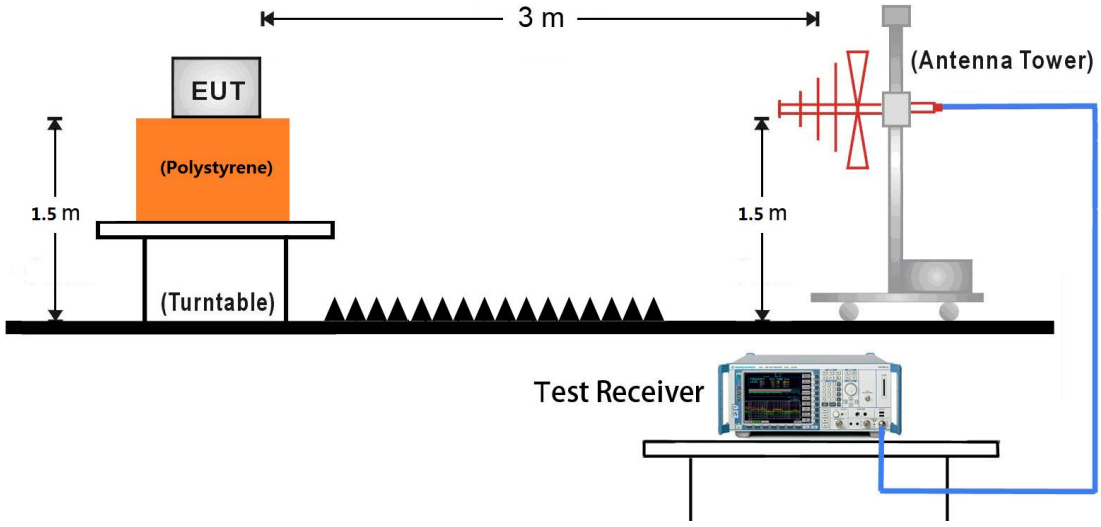
obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

Pd [dBm] = Pg [dBm] – cable loss [dB] + antenna gain [dBd/dBi]

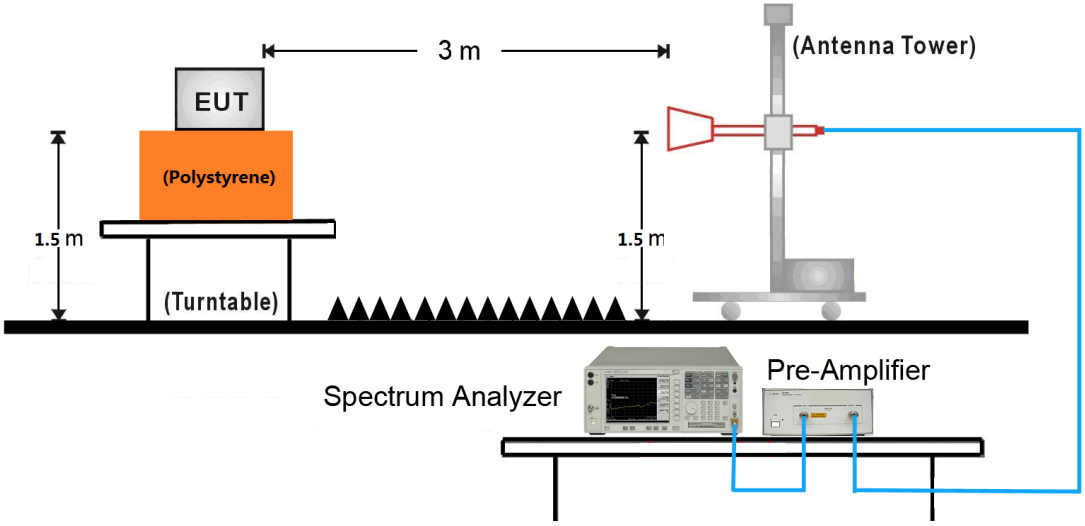
Where, Pd is the dipole equivalent power, Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg [dBm] – cable loss [dB].

5.6.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.6.5. Test Result

For Power Level – 1mW

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	ERP (dBm)	FCC Limit (dBm)	IC Limit (dBm)	Result
Channel 534.000 MHz								
392.8	V	-72.8	0.3	1.2	-71.9	-13.0	-36.0	Pass
860.8	V	-64.4	0.5	0.9	-64.0	-13.0	-54.0	Pass
261.8	H	-75.4	0.2	1.5	-74.1	-13.0	-36.0	Pass
743.4	H	-65.0	0.4	0.8	-64.6	-13.0	-54.0	Pass
1068.0	V	-88.4	0.5	24.3	-64.6	-13.0	-30.0	Pass
1602.0	V	-87.3	0.7	26.6	-61.4	-13.0	-30.0	Pass
1068.0	H	-87.2	0.5	24.3	-63.4	-13.0	-30.0	Pass
1602.0	H	-87.3	0.7	26.6	-61.4	-13.0	-30.0	Pass
Channel 566.000 MHz								
296.8	V	-75.3	0.3	1.5	-74.1	-13.0	-36.0	Pass
846.7	V	-63.1	0.5	0.9	-62.7	-13.0	-54.0	Pass
262.8	H	-74.1	0.2	1.4	-72.9	-13.0	-36.0	Pass
775.0	H	-65.3	0.4	1.0	-64.7	-13.0	-54.0	Pass
1132.0	V	-87.6	0.5	24.5	-63.6	-13.0	-30.0	Pass
1698.0	V	-87.1	0.7	25.0	-62.8	-13.0	-30.0	Pass
1132.0	H	-87.0	0.5	24.5	-63.0	-13.0	-30.0	Pass
1698.0	H	-86.1	0.7	25.0	-61.8	-13.0	-30.0	Pass
Channel 598.000 MHz								
460.2	V	-71.0	0.3	0.8	-70.5	-13.0	-36.0	Pass
906.4	V	-62.7	0.5	0.9	-62.3	-13.0	-36.0	Pass
262.8	H	-74.6	0.2	1.5	-73.3	-13.0	-36.0	Pass
780.3	H	-65.5	0.4	1.0	-64.9	-13.0	-54.0	Pass
1196.0	V	-84.7	0.6	25.0	-60.3	-13.0	-30.0	Pass
1794.0	V	-86.4	0.7	25.2	-61.9	-13.0	-30.0	Pass
1196.0	H	-85.6	0.6	25.0	-61.2	-13.0	-30.0	Pass
1794.0	H	-86.6	0.7	25.2	-62.1	-13.0	-30.0	Pass

Note: ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBi).

For Power Level – 20mW

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	ERP (dBm)	FCC Limit (dBm)	IC Limit (dBm)	Result
Channel 534.000 MHz								
438.9	V	-70.9	0.3	0.6	-70.6	-13.0	-36.0	Pass
874.4	V	-64.0	0.5	0.9	-63.6	-13.0	-36.0	Pass
261.8	H	-74.2	0.2	1.5	-72.9	-13.0	-36.0	Pass
735.7	H	-65.3	0.4	0.9	-64.8	-13.0	-54.0	Pass
1068.0	V	-88.5	0.5	24.3	-64.7	-13.0	-30.0	Pass
1602.0	V	-87.3	0.7	26.6	-61.4	-13.0	-30.0	Pass
1068.0	H	-88.2	0.5	24.3	-64.4	-13.0	-30.0	Pass
1602.0	H	-87.1	0.7	26.6	-61.2	-13.0	-30.0	Pass
Channel 566.000 MHz								
314.7	V	-74.3	0.3	0.6	-74.0	-13.0	-36.0	Pass
847.7	V	-64.2	0.5	0.9	-63.8	-13.0	-54.0	Pass
263.3	H	-74.8	0.2	1.4	-73.6	-13.0	-36.0	Pass
872.4	H	-63.8	0.5	0.9	-63.4	-13.0	-36.0	Pass
1132.0	V	-86.4	0.5	24.5	-62.4	-13.0	-30.0	Pass
1698.0	V	-86.0	0.7	25.0	-61.7	-13.0	-30.0	Pass
1132.0	H	-86.3	0.5	24.5	-62.3	-13.0	-30.0	Pass
1698.0	H	-87.0	0.7	25.0	-62.7	-13.0	-30.0	Pass
Channel 598.000 MHz								
322.0	V	-73.9	0.3	0.5	-73.7	-13.0	-36.0	Pass
841.9	V	-63.2	0.5	0.9	-62.8	-13.0	-54.0	Pass
259.4	H	-74.9	0.2	1.8	-73.3	-13.0	-36.0	Pass
851.6	H	-63.7	0.5	0.9	-63.3	-13.0	-54.0	Pass
1196.0	V	-85.5	0.6	25.0	-61.1	-13.0	-30.0	Pass
1794.0	V	-86.4	0.7	25.2	-61.9	-13.0	-30.0	Pass
1196.0	H	-85.3	0.6	25.0	-60.9	-13.0	-30.0	Pass
1794.0	H	-86.5	0.7	25.2	-62.0	-13.0	-30.0	Pass

Note: ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBi).

6. CONCLUSION

The data collected relate only the item(s) tested and show that the **Wireless Boundary Transmitter** is in compliance with Part 74 of the FCC Rules and RSS-210 Rules.

The End