

# FCC Test Report

Product Name	VUZE-XR Camera
Model No	HETVZ-XR
FCC ID.	2AKDRHETVZ-XR

Applicant	Humaneyes Technologies Ltd.
Address	Communication Center, Neve Ilan D.N. Harey Jerusalem , 9085000

Date of Receipt	Aug. 22, 2018
Issue Date	Oct. 02, 2018
Report No.	1880290R-RFUSP01V00-A
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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# Test Report

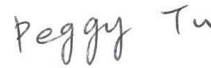
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Product Name	VUZE-XR Camera
Applicant	Humaneyes Technologies Ltd.
Address	Communication Center, Neve Ilan D.N. Harey Jerusalem , 9085000
Manufacturer	Humaneyes Technologies Ltd.
Model No.	HETVZ-XR
FCC ID.	2AKDRHETVZ-XR
EUT Rated Voltage	Battery DC 3.7V
EUT Test Voltage	AC 120V / 60Hz(adaptor) DC 3.7V
Trade Name	VUZE
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2017 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 DTS Meas Guidance v05
Test Result	Complied

Documented By :



( Adm. Assistant / Peggy Tu )

Tested By :



( Assistant Engineer / Trista Huang )

Approved By :



( Director / Vincent Lin )

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	VUZE-XR Camera
Trade Name	VUZE
Model No.	HETVZ-XR
FCC ID.	2AKDRHETVZ-XR
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW
Number of Channels	802.11b/g/n-20MHz: 11
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 72.2Mbps
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
USB Cable	Shielded, 0.8m
Power Adapter	MFR: VUZE, M/N: KSA29B0500200D5 Input: AC 100-240V~50/60Hz, 0.5A Output: 5V---2.0A

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LYNwave	N/A	PIFA	1.30dBi for 2.4 GHz

Note:

- The antenna of EUT conforms to FCC 15.203.

## 802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

## Note:

1. The EUT is a VUZE-XR Camera with a built-in WLAN and Bluetooth transceiver, this report for WLAN 2.4G.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps 、 802.11g is 6Mbps and 802.11n(20M-BW) is 7.2Mbps)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
	Mode 4: Charge mode

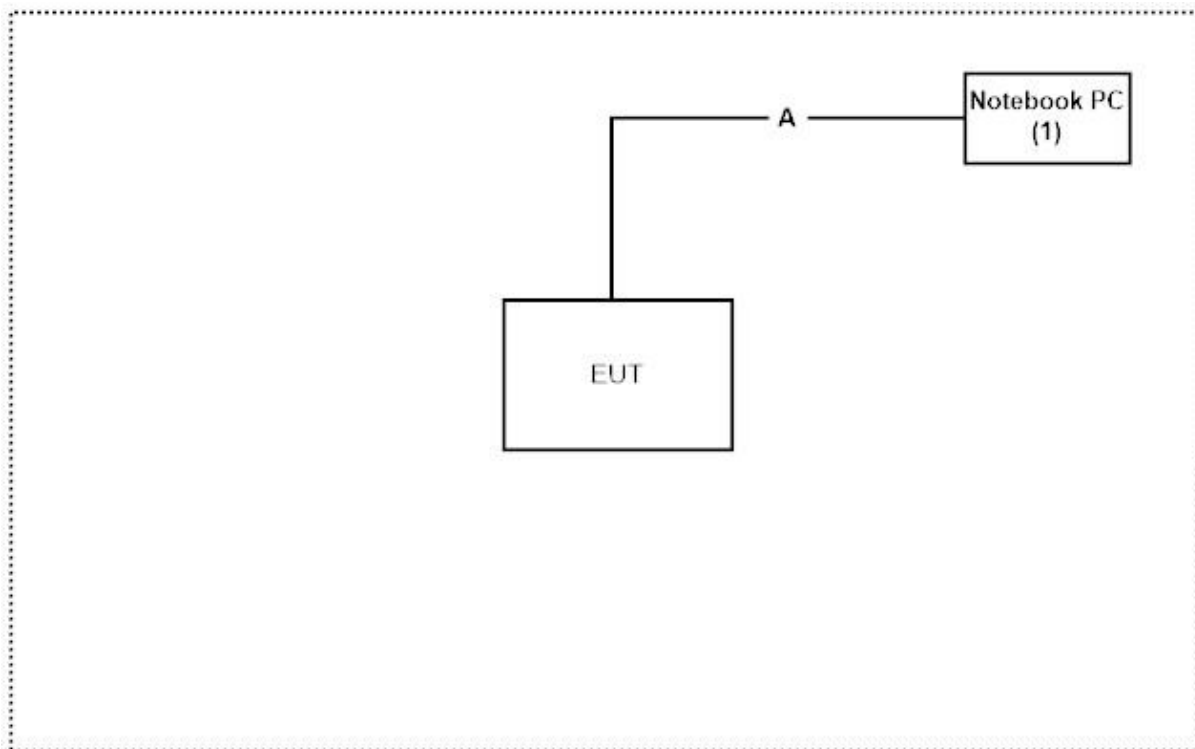
## 1.2. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Latitude E5440	B6TYTZ1	Non-Shielded, 0.8m

	Signal Cable Type	Signal cable Description
A	USB Cable	Shielded, 0.8m

## 1.3. Configuration of Tested System



## 1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software "Tera Term v4.99" on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press "OK" to start the continuous Transmit.
5. Verify that the EUT works properly.

## 1.5. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:

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FCC Accreditation Number: TW3023



## 1.6. List of Test Equipment

### For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2018/02/12	2019/02/11
X	Spectrum Analyzer	Agilent	N9010A	MY48030495	2017/10/13	2018/10/12
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2018/08/01	2019/07/31
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2018/07/25	2019/07/24
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2018/07/25	2019/07/24
X	EMI Test Receiver	R&S	ESCS 30	100369	2017/11/07	2018/11/06
X	LISN	R&S	ESH3-Z5	836679/017	2018/02/09	2019/02/08
X	LISN	R&S	ENV216	100097	2018/02/09	2019/02/08
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2018/06/21	2019/06/20

### For Radiated measurements /Site3/CB8

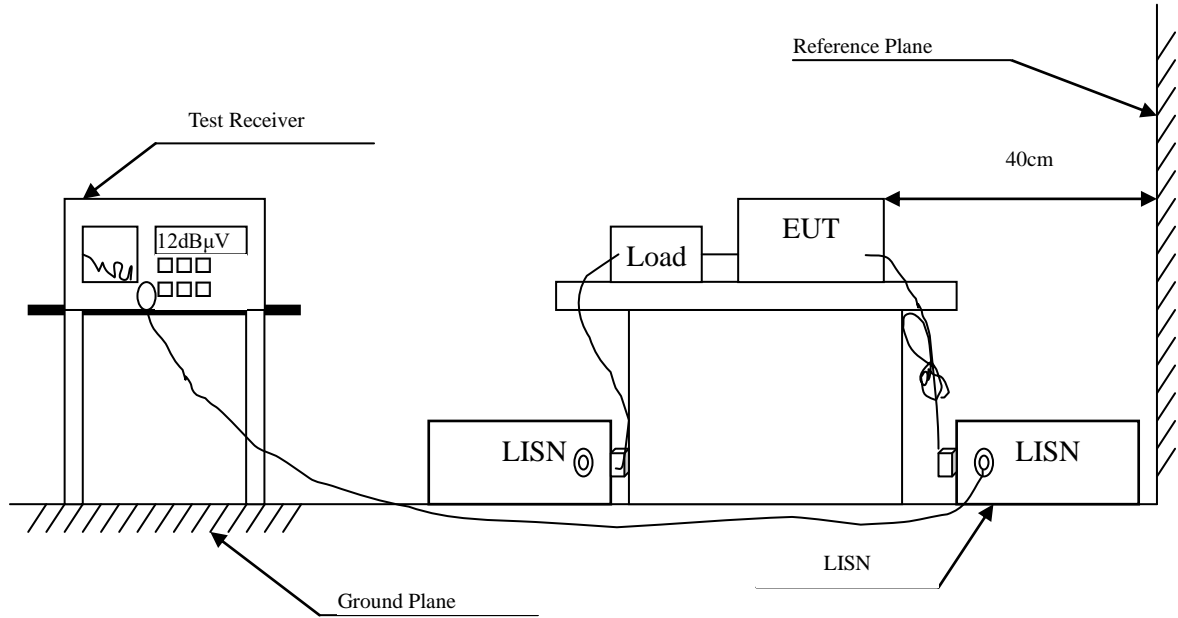
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2018/03/12	2019/03/11
	Loop Antenna	Teseq	HLA6121	37133	2017/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2018/06/24	2019/06/23
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2018/06/14	2019/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330 010	2018/06/14	2019/06/13
X	Horn Antenna	ETS-Lindgren	3117	00135205	2018/05/03	2019/05/02
X	Horn Antenna	SCHWARZBECK	9120D	576	2017/11/30	2018/11/29
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2018/04/10	2019/04/09
	Horn Antenna	Com-Power	AH-840	101043	2018/01/09	2019/01/08
	Amplifier + Cable	EMCI	EMC184045SE	980370	2018/03/21	2019/03/20
X	Filter	MICRO-TRONICS	BRM50702	G270	2018/08/06	2019/08/05
	Filter	MICRO-TRONICS	BRM50716	G196	2018/08/06	2019/08/05

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version :QuieTek EMI 2.0 V2.1.113.

## 2. Conducted Emission

### 2.1. Test Setup



## 2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dB $\mu$ V) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

## 2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 2.4. Uncertainty

$\pm 2.26$  dB

## 2.5. Test Result of Conducted Emission

Product : VUZE-XR Camera  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Date : 2018/09/04  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V	Margin dB	Limit dB $\mu$ V
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.166	9.744	38.080	47.824	-17.719	65.543
0.201	9.738	32.160	41.898	-22.645	64.543
0.404	9.746	25.440	35.186	-23.557	58.743
0.517	9.751	33.060	42.811	-13.189	56.000
3.806	9.886	19.520	29.406	-26.594	56.000
9.045	10.044	17.700	27.744	-32.256	60.000
<b>Average</b>					
0.166	9.744	23.840	33.584	-21.959	55.543
0.201	9.738	21.550	31.288	-23.255	54.543
0.404	9.746	16.380	26.126	-22.617	48.743
0.517	9.751	24.150	33.901	-12.099	46.000
3.806	9.886	8.630	18.516	-27.484	46.000
9.045	10.044	12.240	22.284	-27.716	50.000

### Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : VUZE-XR Camera  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Date : 2018/09/04  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V	Margin dB	Limit dB $\mu$ V
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.154	9.738	37.980	47.718	-18.168	65.886
0.177	9.737	34.300	44.037	-21.192	65.229
0.197	9.738	31.640	41.378	-23.279	64.657
0.416	9.737	21.060	30.797	-27.603	58.400
0.505	9.740	30.320	40.060	-15.940	56.000
3.619	9.872	24.540	34.412	-21.588	56.000
<b>Average</b>					
0.154	9.738	14.170	23.908	-31.978	55.886
0.177	9.737	17.050	26.787	-28.442	55.229
0.197	9.738	21.030	30.768	-23.889	54.657
0.416	9.737	13.370	23.107	-25.293	48.400
0.505	9.740	26.210	35.950	-10.050	46.000
3.619	9.872	11.780	21.652	-24.348	46.000

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : VUZE-XR Camera  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Date : 2018/09/04  
 Test Mode : Mode 4: Charge mode

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V	Margin dB	Limit dB $\mu$ V
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.166	9.744	26.100	35.844	-29.699	65.543
0.185	9.738	25.040	34.778	-30.222	65.000
0.228	9.739	21.040	30.779	-32.992	63.771
0.439	9.748	22.060	31.808	-25.935	57.743
0.521	9.751	29.980	39.731	-16.269	56.000
0.865	9.775	19.060	28.835	-27.165	56.000
<b>Average</b>					
0.166	9.744	16.640	26.384	-29.159	55.543
0.185	9.738	14.120	23.858	-31.142	55.000
0.228	9.739	13.310	23.049	-30.722	53.771
0.439	9.748	16.390	26.138	-21.605	47.743
0.521	9.751	25.650	35.401	-10.599	46.000
0.865	9.775	15.010	24.785	-21.215	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : VUZE-XR Camera  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Date : 2018/09/04  
 Test Mode : Mode 4: Charge mode

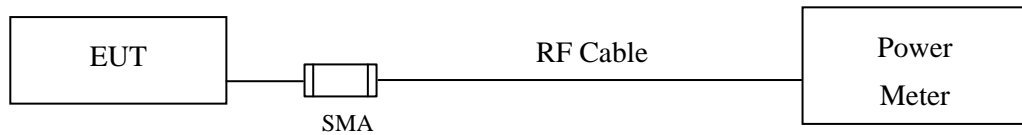
Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V	Margin dB	Limit dB $\mu$ V
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.177	9.737	22.600	32.337	-32.892	65.229
0.193	9.738	23.040	32.778	-31.993	64.771
0.252	9.740	18.960	28.700	-34.386	63.086
0.283	9.740	18.500	28.240	-33.960	62.200
0.517	9.741	20.900	30.641	-25.359	56.000
0.861	9.765	15.520	25.285	-30.715	56.000
<b>Average</b>					
0.177	9.737	11.260	20.997	-34.232	55.229
0.193	9.738	13.310	23.048	-31.723	54.771
0.252	9.740	4.440	14.180	-38.906	53.086
0.283	9.740	13.780	23.520	-28.680	52.200
0.517	9.741	15.110	24.851	-21.149	46.000
0.861	9.765	9.480	19.245	-26.755	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### 3. Peak Power Output

#### 3.1. Test Setup



#### 3.2. Limits

The maximum peak power shall be less 1 Watt.

#### 3.3. Test Procedure

Tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.

#### 3.4. Uncertainty

$\pm 1.19$  dB



### 3.5. Test Result of Peak Power Output

Product : VUZE-XR Camera  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/17  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	10.43	--	--	--	13.91	<30dBm	Pass
06	2437	10.27	10.25	10.22	10.18	13.46	<30dBm	Pass
11	2462	10.31	--	--	--	13.76	<30dBm	Pass

Note: Peak Power Output Value = Reading value on power meter + cable loss

Product : VUZE-XR Camera  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/17  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	10.99	--	--	--	--	--	--	--	22.18	<30dBm	Pass
06	2437	11.19	11.18	11.15	11.11	11.09	11.05	11.02	11.01	22.15	<30dBm	Pass
11	2462	11.2	--	--	--	--	--	--	--	21.98	<30dBm	Pass

Note: Peak Power Output Value = Reading value on power meter + cable loss

Product : VUZE-XR Camera  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/17  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

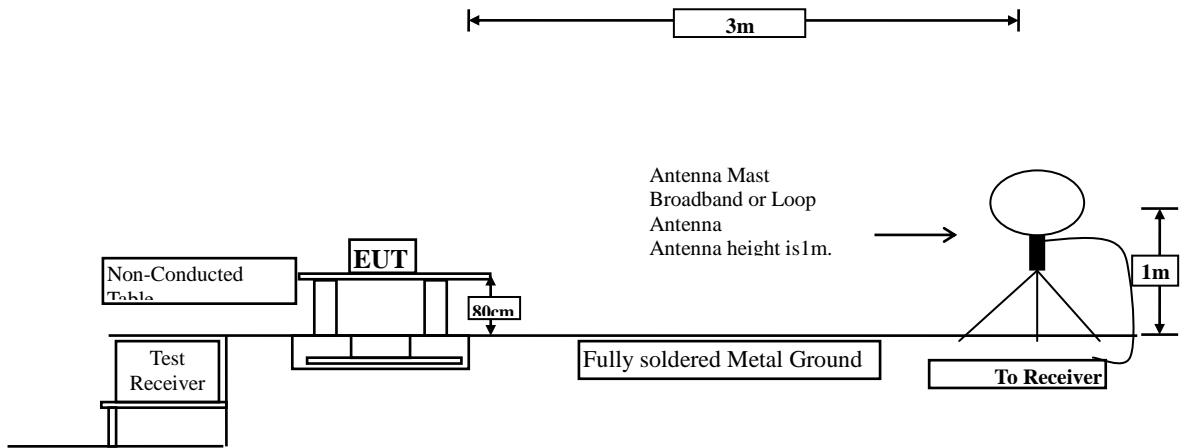
Channel No	Frequency (MHz)	Average Power								Peak Power	Required Limit	Result
		For different Data Rate (Mbps)										
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2		
Measurement Level (dBm)												
01	2412	11.15	--	--	--	--	--	--	--	22.05	<30dBm	Pass
06	2437	10.73	10.71	10.66	10.65	10.63	10.61	10.6	10.58	21.7	<30dBm	Pass
11	2462	10.79	--	--	--	--	--	--	--	21.63	<30dBm	Pass

Note: Peak Power Output Value = Reading value on power meter + cable loss

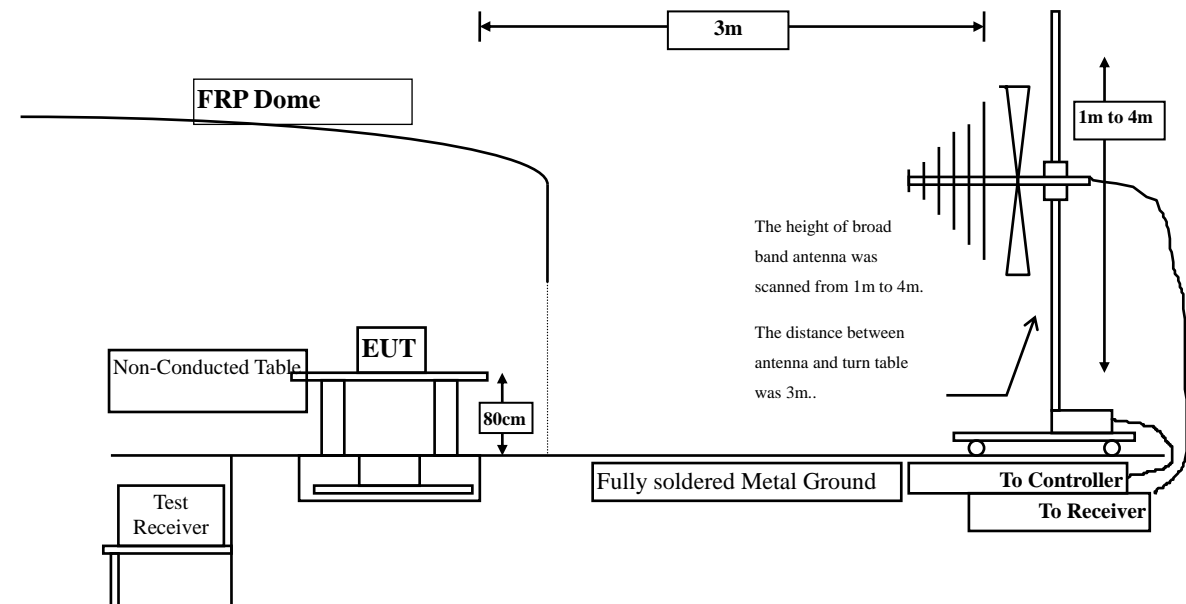
#### 4. Radiated Emission

##### 4.1. Test Setup

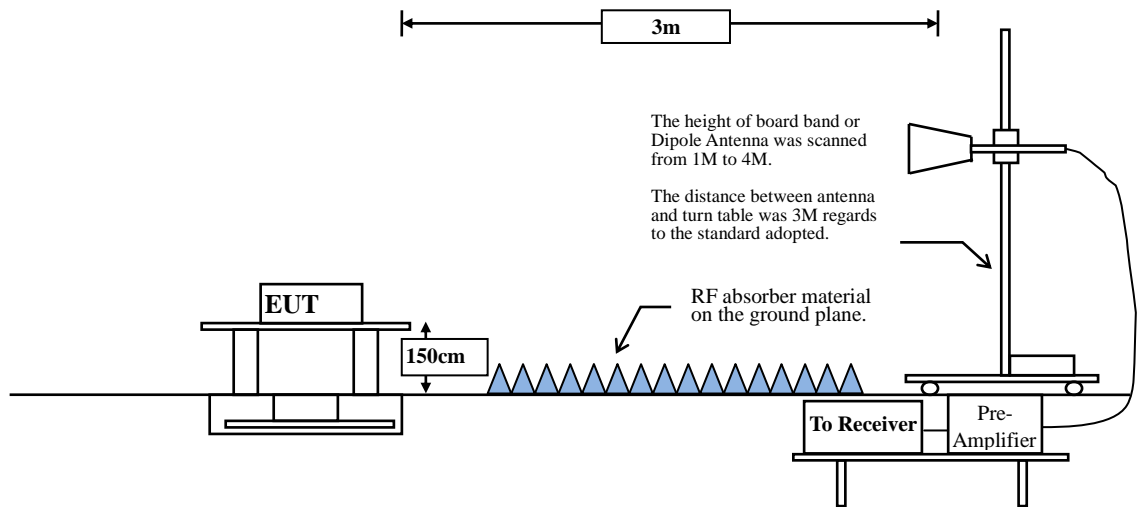
###### Radiated Emission Under 30MHz



###### Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
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

Remarks: E field strength (dBμV/m) = 20 log E field strength (uV/m)

### 4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

### RBW and VBW Parameter setting:

According to KDB 558074 section 12.2.4. Peak power measurement procedure

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$ .

**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

According to KDB 558074 section 12.2.5. Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle  $\geq 98\%$

$VBW \geq 1/T$ , when duty cycle  $< 98\%$

( T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	98.67	8.6087	116	300
802.11g	91.39	1.3841	723	750
802.11n20	91.34	1.3145	761	1k

Note: Duty Cycle Refer to Section 9

## 4.4. Uncertainty

$\pm 4.08$  dB above 1GHz

$\pm 4.22$  dB below 1GHz

#### 4.5. Test Result of Radiated Emission

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	2.428	41.150	43.579	-30.421	74.000
7236.000	9.177	40.460	49.637	-24.363	74.000
9648.000	10.019	42.940	52.960	-21.040	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	2.836	44.780	47.617	-26.383	74.000
7236.000	9.676	43.710	53.386	-20.614	74.000
9648.000	10.556	41.660	52.217	-21.783	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	2.076	44.200	46.277	-27.723	74.000
7311.000	9.512	43.020	52.532	-21.468	74.000
9748.000	9.630	41.620	51.250	-22.750	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	2.532	44.530	47.062	-26.938	74.000
7311.000	10.089	43.490	53.579	-20.421	74.000
9748.000	10.266	41.870	52.137	-21.863	74.000
<b>Average Detector:</b>					
--					

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	2.191	44.820	47.011	-26.989	74.000
7386.000	10.373	41.870	52.244	-21.756	74.000
9848.000	10.801	42.604	53.404	-20.596	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	2.805	44.100	46.905	-27.095	74.000
7386.000	11.180	41.920	53.100	-20.900	74.000
9848.000	10.801	42.970	53.771	-20.229	74.000
<b>Average Detector:</b>					
--					

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	2.428	44.020	46.449	-27.551	74.000
7236.000	9.177	43.300	52.477	-21.523	74.000
9648.000	10.019	42.030	52.050	-21.950	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	2.836	44.640	47.477	-26.523	74.000
7236.000	9.676	43.150	52.826	-21.174	74.000
9648.000	10.556	41.620	52.177	-21.823	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	2.076	44.990	47.067	-26.933	74.000
7311.000	9.512	43.420	52.932	-21.068	74.000
9748.000	9.630	40.820	50.450	-23.550	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	2.532	43.670	46.202	-27.798	74.000
7311.000	10.089	43.020	53.109	-20.891	74.000
9748.000	10.266	41.670	51.937	-22.063	74.000

**Average Detector:**

--

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	2.191	43.880	46.071	-27.929	74.000
7386.000	10.373	42.010	52.384	-21.616	74.000
9848.000	9.964	42.840	52.804	-21.196	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	2.805	43.510	46.315	-27.685	74.000
7386.000	11.180	41.520	52.700	-21.300	74.000
9848.000	10.801	43.050	53.851	-20.149	74.000

**Average Detector:**

--

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	2.428	44.240	46.669	-27.331	74.000
7236.000	9.177	43.300	52.477	-21.523	74.000
9648.000	10.019	41.420	51.440	-22.560	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	2.836	43.790	46.627	-27.373	74.000
7236.000	9.676	43.110	52.786	-21.214	74.000
9648.000	10.556	41.420	51.977	-22.023	74.000
<b>Average Detector:</b>					
--					

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	2.076	44.370	46.447	-27.553	74.000
7311.000	9.512	43.140	52.652	-21.348	74.000
9748.000	9.630	41.150	50.780	-23.220	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	2.532	43.220	45.752	-28.248	74.000
7311.000	10.089	43.030	53.119	-20.881	74.000
9748.000	10.266	41.310	51.577	-22.423	74.000
<b>Average Detector:</b>					
--					

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/03  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	2.191	43.620	45.811	-28.189	74.000
7386.000	10.373	41.500	51.874	-22.126	74.000
9848.000	9.964	42.630	52.594	-21.406	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	2.805	43.520	46.325	-27.675	74.000
7386.000	11.180	41.190	52.370	-21.630	74.000
9848.000	10.801	42.560	53.361	-20.639	74.000
<b>Average Detector:</b>					
--					

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product : VUZE-XR Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/04  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
107.319	-7.605	37.317	29.713	-13.787	43.500
419.406	-0.249	36.918	36.669	-9.331	46.000
491.101	1.527	31.145	32.672	-13.328	46.000
713.217	3.793	27.448	31.242	-14.758	46.000
791.942	6.389	29.197	35.586	-10.414	46.000
842.551	6.215	26.114	32.330	-13.670	46.000
<b>Vertical</b>					
59.522	-11.334	42.846	31.513	-8.487	40.000
105.913	-4.505	34.617	30.112	-13.388	43.500
381.449	0.721	26.135	26.857	-19.143	46.000
516.406	0.272	26.275	26.548	-19.452	46.000
614.812	1.709	25.882	27.591	-18.409	46.000
791.942	2.684	28.439	31.123	-14.877	46.000

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/04  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
107.319	-7.605	35.223	27.619	-15.881	43.500
419.406	-0.249	35.797	35.548	-10.452	46.000
491.101	1.527	32.829	34.356	-11.644	46.000
713.217	3.793	26.471	30.265	-15.735	46.000
791.942	6.389	28.734	35.123	-10.877	46.000
843.957	6.353	26.108	32.461	-13.539	46.000
<b>Vertical</b>					
59.522	-11.334	43.090	31.757	-8.243	40.000
107.319	-4.107	34.216	30.109	-13.391	43.500
380.043	0.952	25.712	26.664	-19.336	46.000
540.304	2.156	24.485	26.641	-19.359	46.000
614.812	1.709	25.196	26.905	-19.095	46.000
791.942	2.684	28.946	31.630	-14.370	46.000

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/04  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
105.913	-7.662	33.206	25.544	-17.956	43.500
419.406	-0.249	36.140	35.891	-10.109	46.000
491.101	1.527	31.364	32.891	-13.109	46.000
713.217	3.793	27.508	31.302	-14.698	46.000
791.942	6.389	29.120	35.509	-10.491	46.000
842.551	6.215	27.470	33.686	-12.314	46.000
<b>Vertical</b>					
59.522	-11.334	42.078	30.745	-9.255	40.000
107.319	-4.107	32.021	27.914	-15.586	43.500
381.449	0.721	27.022	27.744	-18.256	46.000
540.304	2.156	24.588	26.744	-19.256	46.000
614.812	1.709	25.781	27.490	-18.510	46.000
791.942	2.684	28.456	31.140	-14.860	46.000

## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Date : 2018/09/04  
 Test Mode : Mode 4: Charge mode

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
299.913	-4.722	29.052	24.330	-21.670	46.000
419.406	-0.249	36.481	36.232	-9.768	46.000
467.203	3.297	27.358	30.655	-15.345	46.000
614.812	3.005	24.731	27.736	-18.264	46.000
713.217	3.793	26.823	30.617	-15.383	46.000
791.942	6.389	30.026	36.415	-9.585	46.000
<b>Vertical</b>					
59.522	-11.334	42.950	31.617	-8.383	40.000
381.449	0.721	26.893	27.615	-18.385	46.000
540.304	2.156	25.284	27.440	-18.560	46.000
614.812	1.709	24.189	25.898	-20.102	46.000
791.942	2.684	28.467	31.151	-14.849	46.000
900.188	1.948	24.752	26.700	-19.300	46.000

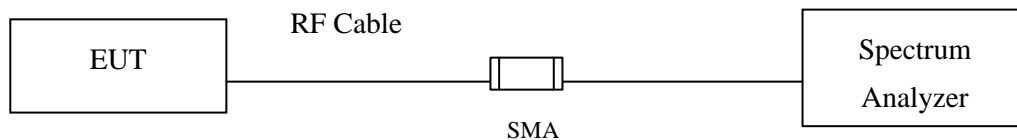
## Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

## 5. RF antenna conducted test

### 5.1. Test Setup

#### RF antenna Conducted Measurement:



### 5.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### 5.3. Test Procedure

The EUT was tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

### 5.4. Uncertainty

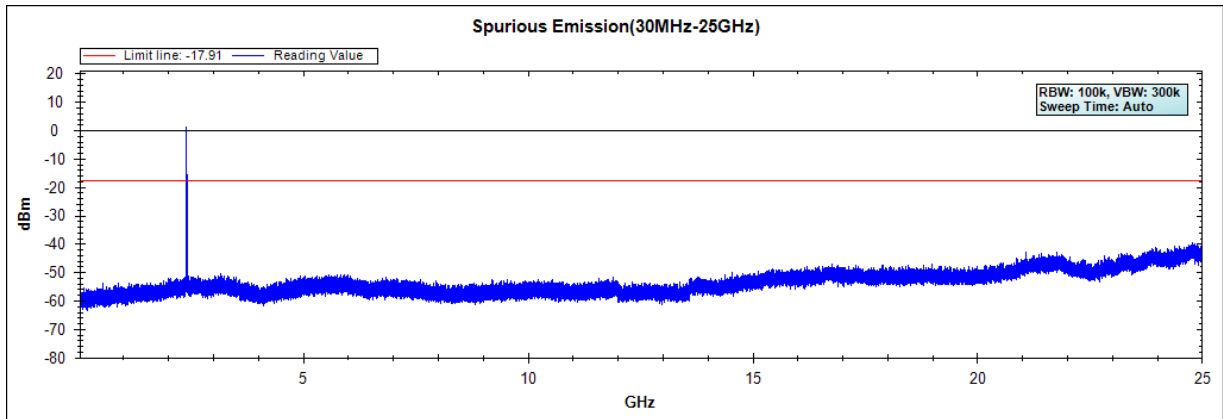
The measurement uncertainty

Conducted is defined as  $\pm 1.20\text{dB}$

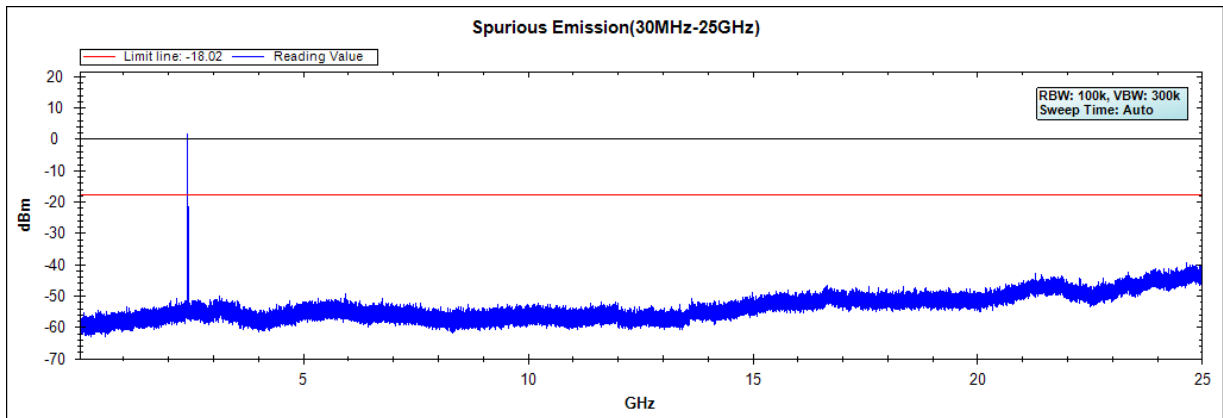
**5.5. Test Result of RF antenna conducted test**

Product : VUZE-XR Camera  
 Test Item : RF antenna conducted test  
 Test Site : No.3 OATS  
 Test Date : 2018/09/14  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

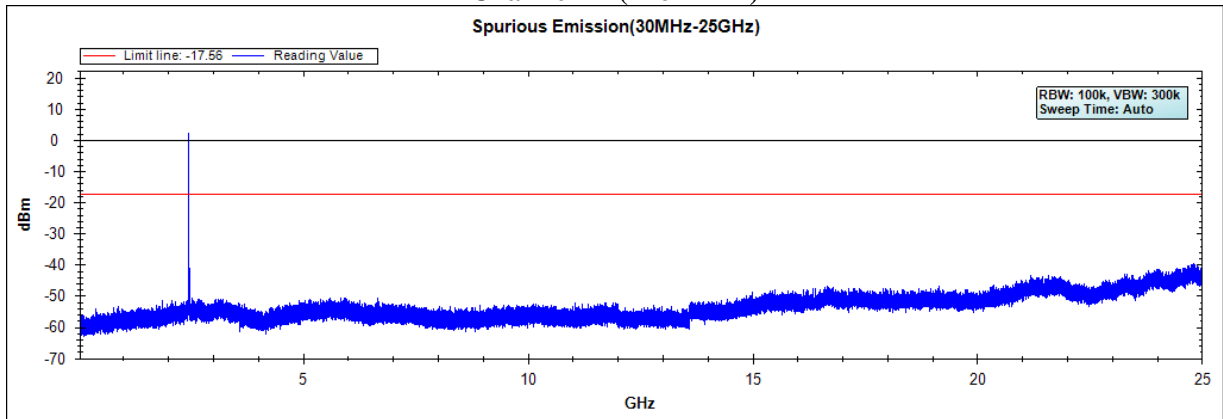
**Channel 01 (2412MHz)**



**Channel 06 (2437MHz)**



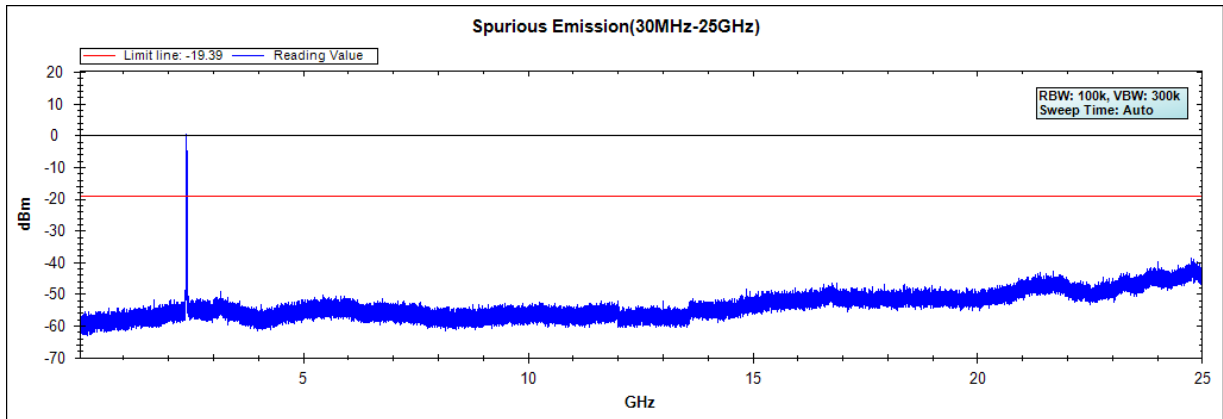
**Channel 11 (2462MHz)**



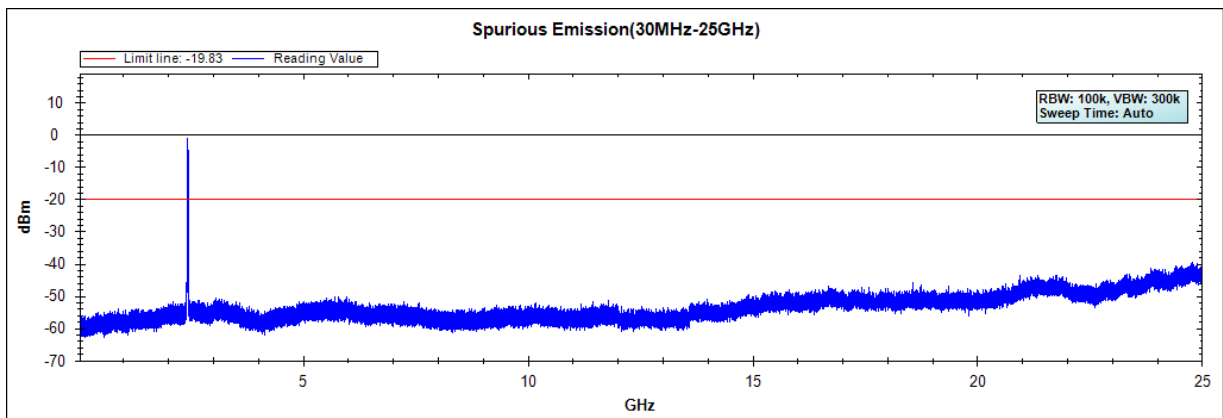
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : VUZE-XR Camera  
 Test Item : RF Antenna Conducted Spurious  
 Test Site : No.3 OATS  
 Test Date : 2018/09/14  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

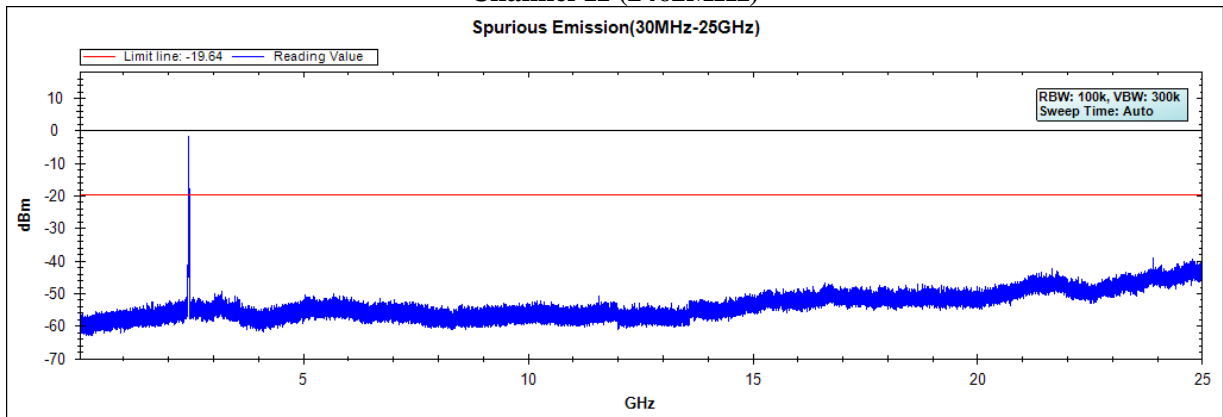
**Channel 01 (2412MHz)**



**Channel 06 (2437MHz)**



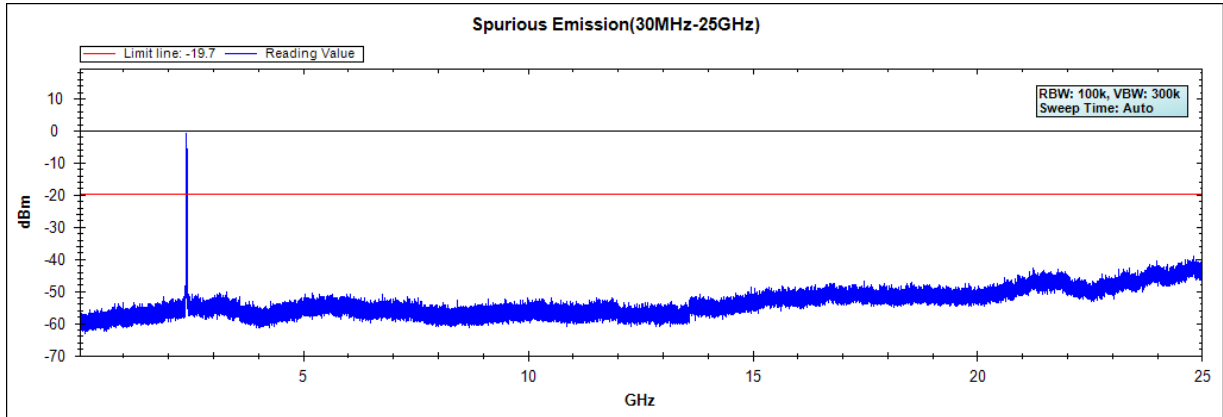
**Channel 11 (2462MHz)**



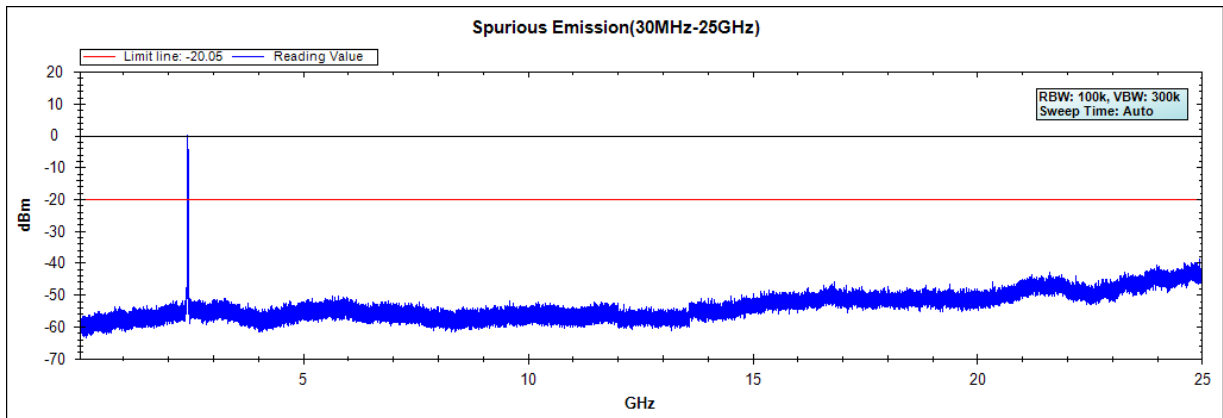
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : VUZE-XR Camera  
Test Item : RF Antenna Conducted Spurious  
Test Site : No.3 OATS  
Test Date : 2018/09/14  
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

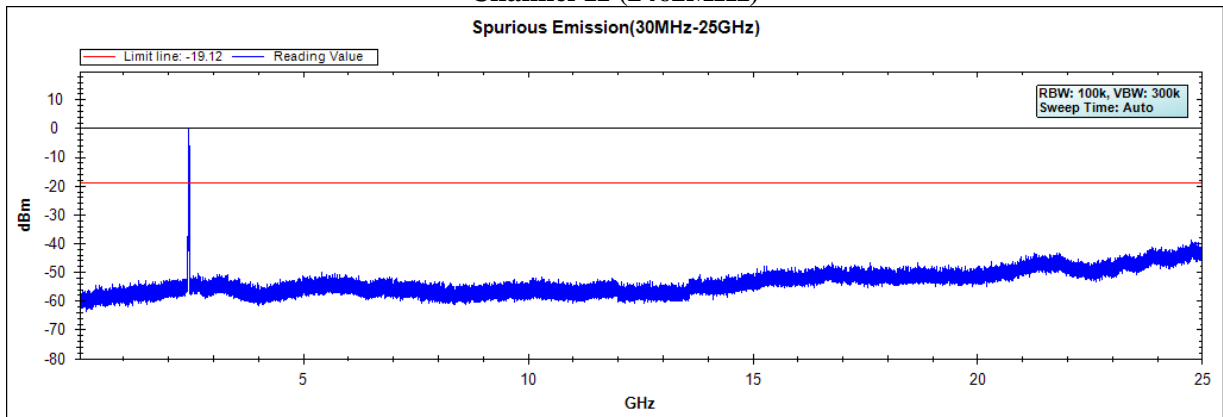
**Channel 01 (2412MHz)**



**Channel 06 (2437MHz)**



**Channel 11 (2462MHz)**



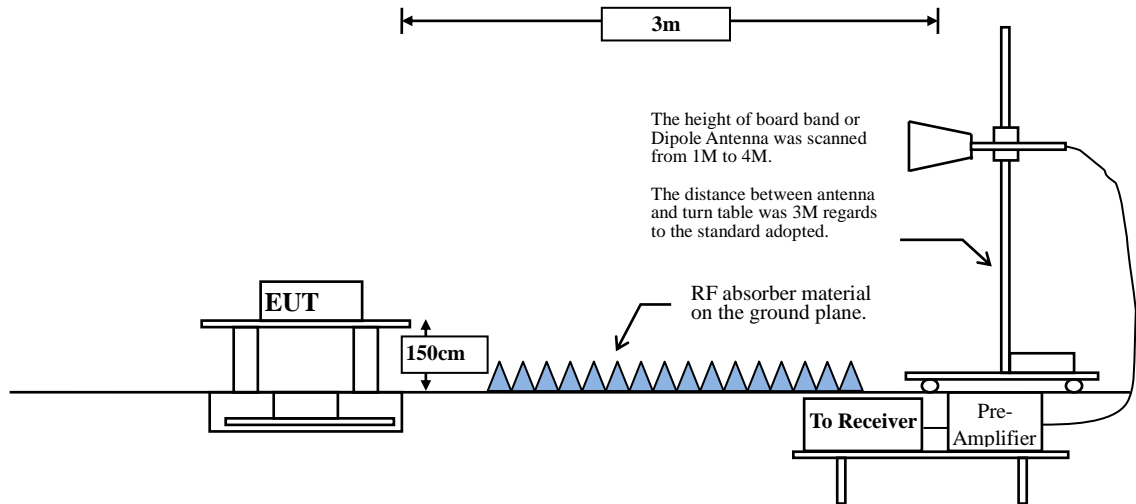
Note: The above test pattern is synthesized by multiple of the frequency range.



## 6. Band Edge

### 6.1. Test Setup

#### RF Radiated Measurement:



### 6.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

### 6.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

### RBW and VBW Parameter setting:

According to KDB 558074 section 12.2.4. Peak power measurement procedure

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$ .

**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

According to KDB 558074 section 12.2.5. Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle  $\geq 98\%$

$VBW \geq 1/T$ , when duty cycle  $< 98\%$

( T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	98.67	8.6087	116	300
802.11g	91.39	1.3841	723	750
802.11n20	91.34	1.3145	761	1k

Note: Duty Cycle Refer to Section 9

## 6.4. Uncertainty

$\pm 4.08$  dB above 1GHz

$\pm 4.22$  dB below 1GHz

### 6.5. Test Result of Band Edge

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

#### RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2376.522	-2.747	49.794	47.047	74.00	54.00	Pass
01 (Peak)	2390.000	-2.687	49.518	46.831	74.00	54.00	Pass
01 (Peak)	2400.000	-2.660	59.176	56.516	--	--	--
01 (Peak)	2413.188	-2.643	102.285	99.642	--	--	--
01 (Average)	2375.652	-2.750	37.017	34.267	74.00	54.00	Pass
01 (Average)	2390.000	-2.687	37.153	34.466	74.00	54.00	Pass
01 (Average)	2400.000	-2.660	51.933	49.273	--	--	--
01 (Average)	2412.754	-2.642	97.997	95.354	--	--	--

Figure Channel 01: Horizontal (Peak)

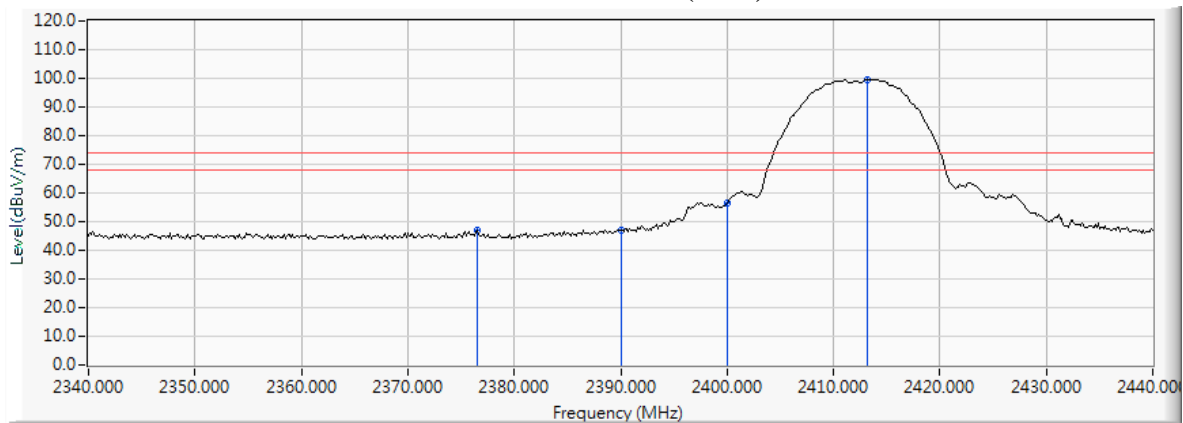
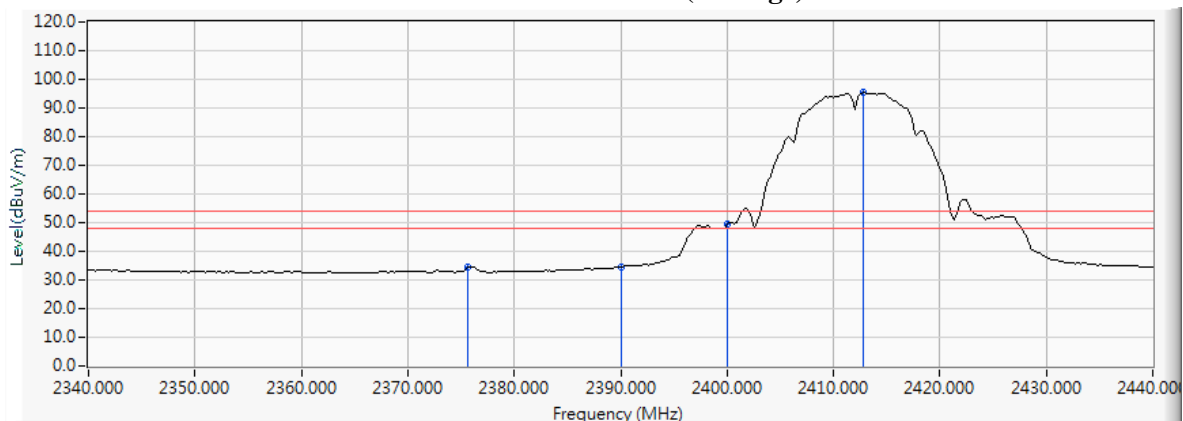


Figure Channel 01: Horizontal (Average)



Note:

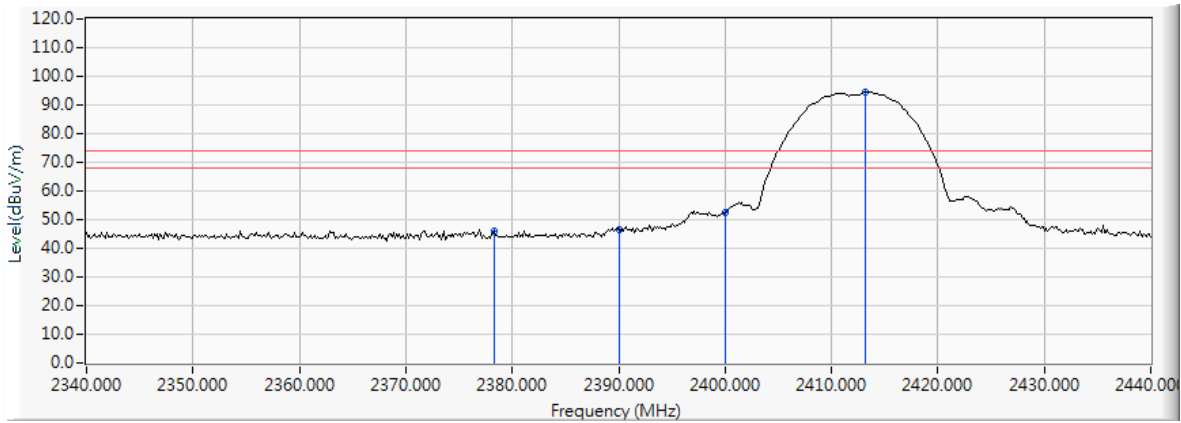
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

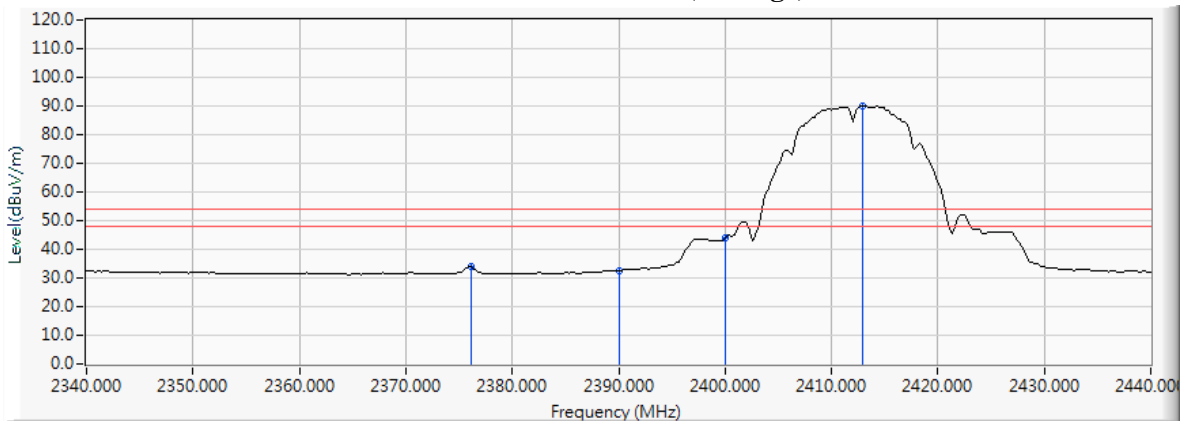
**RF Radiated Measurement (VERTICAL):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2378.261	-4.120	49.887	45.767	74.00	54.00	Pass
01 (Peak)	2390.000	-4.159	50.718	46.559	74.00	54.00	Pass
01 (Peak)	2400.000	-4.171	56.605	52.434	--	--	--
01 (Peak)	2413.188	-4.164	98.600	94.437	--	--	--
01 (Average)	2376.087	-4.112	38.070	33.958	74.00	54.00	Pass
01 (Average)	2390.000	-4.159	36.858	32.699	74.00	54.00	Pass
01 (Average)	2400.000	-4.171	48.393	44.222	--	--	--
01 (Average)	2412.899	-4.163	94.205	90.041	--	--	--

**Figure Channel 01: VERTICAL (Peak)**



**Figure Channel 01: VERTICAL (Average)**



**Note:**

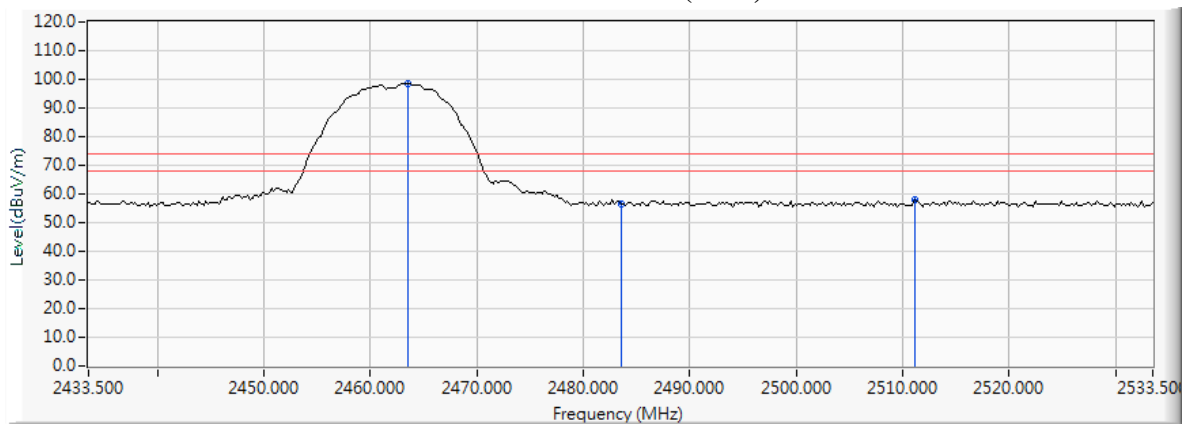
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

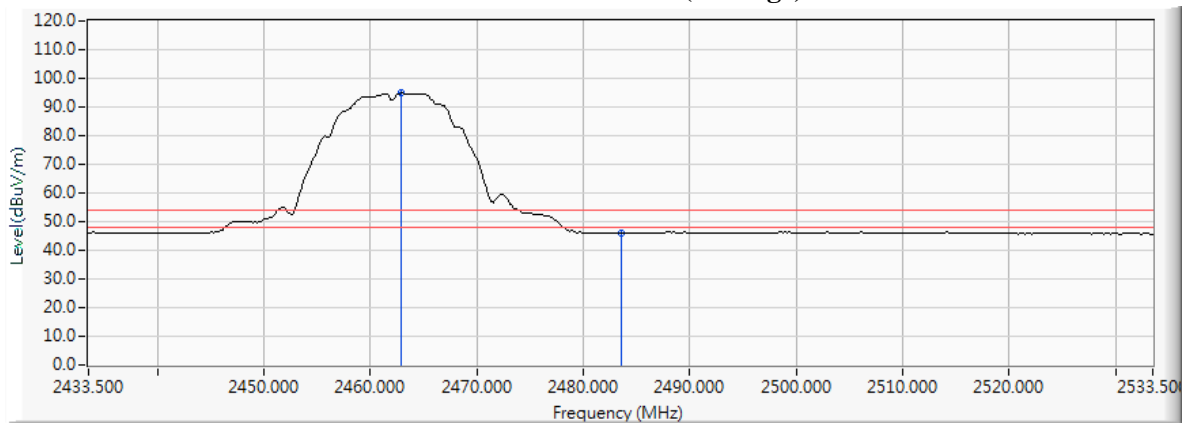
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2463.500	-2.621	101.137	98.516	--	--	--
11 (Peak)	2483.500	-2.601	58.882	56.280	74.00	54.00	Pass
11 (Peak)	2511.100	-2.668	60.700	58.031	74.00	54.00	Pass
11 (Average)	2462.900	-2.622	97.473	94.851	--	--	--
11 (Average)	2483.500	-2.601	48.704	46.102	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Figure Channel 11: Horizontal (Average)**



Note:

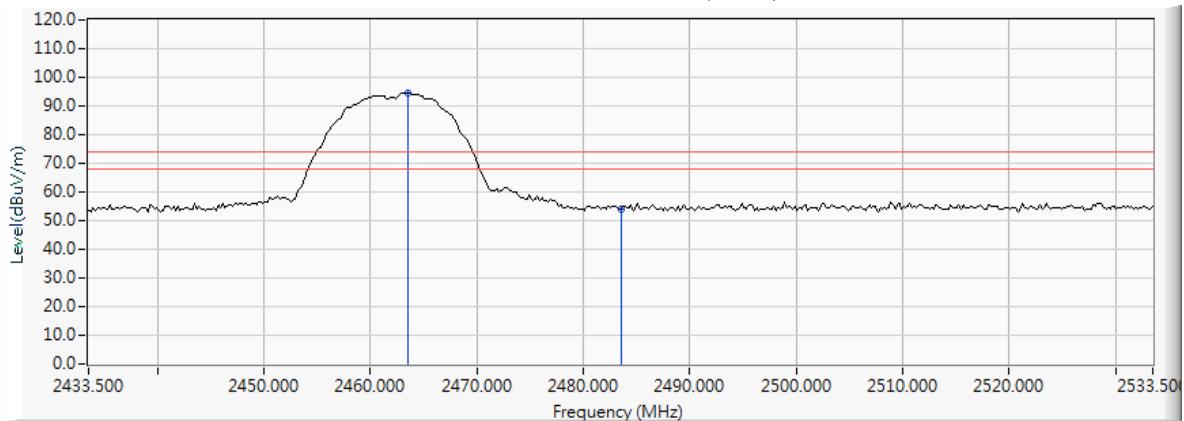
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

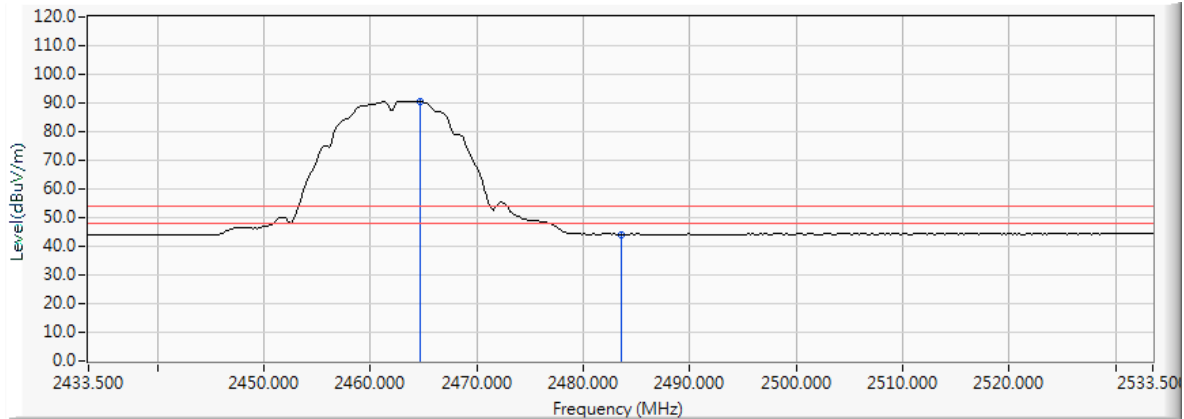
**RF Radiated Measurement (VERTICAL):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2463.500	-4.030	98.432	94.402	--	--	--
11 (Peak)	2483.500	-3.966	58.178	54.211	74.00	54.00	Pass
11 (Average)	2464.700	-4.026	94.644	90.618	--	--	--
11 (Average)	2483.500	-3.966	48.030	44.063	74.00	54.00	Pass

**Figure Channel 11: VERTICAL (Peak)**



**Figure Channel 11: VERTICAL (Average)**



Note:

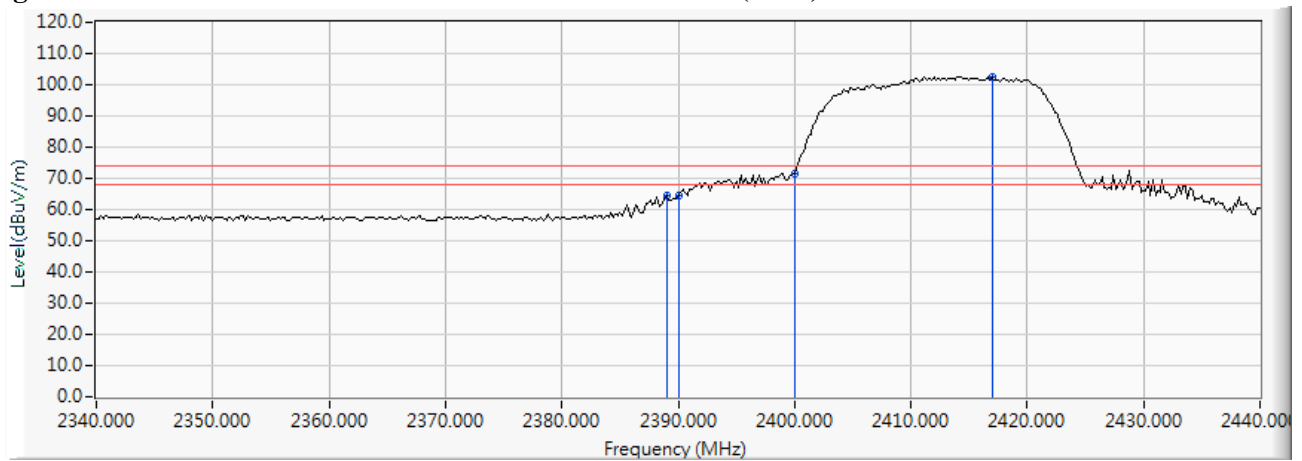
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

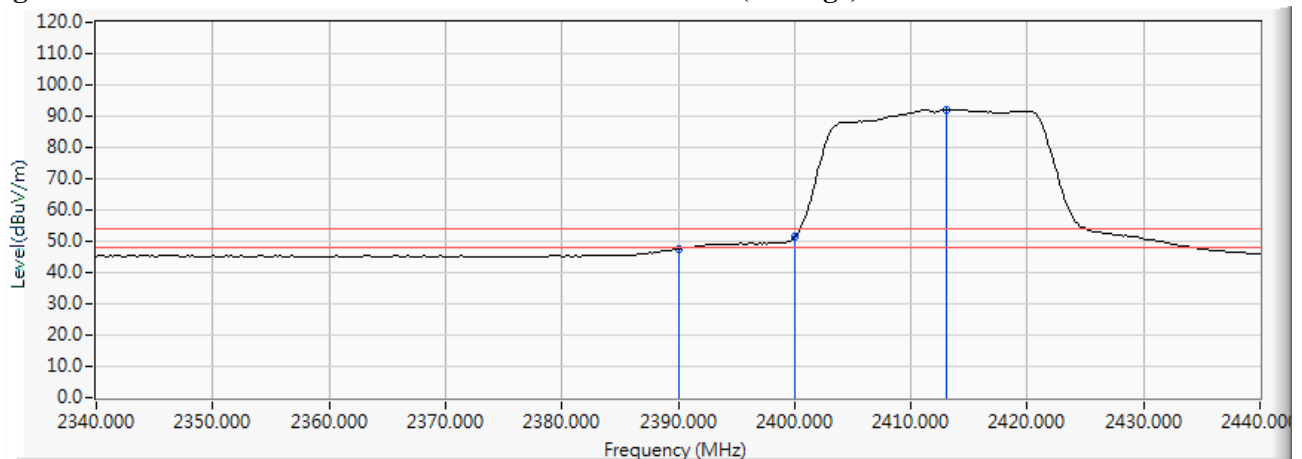
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2389.000	-2.692	67.064	64.373	74.00	54.00	Pass
01 (Peak)	2390.000	-2.687	67.063	64.376	74.00	54.00	Pass
01 (Peak)	2400.000	-2.660	74.119	71.459	--	--	--
01 (Peak)	2417.000	-2.642	105.130	102.488	--	--	--
01 (Average)	2390.000	-2.687	50.208	47.521	74.00	54.00	Pass
01 (Average)	2400.000	-2.660	54.002	51.342	--	--	--
01 (Average)	2413.000	-2.642	94.883	92.240	--	--	--

**Figure Channel 01: Horizontal (Peak)**



**Figure Channel 01: Horizontal (Average)**



**Note:**

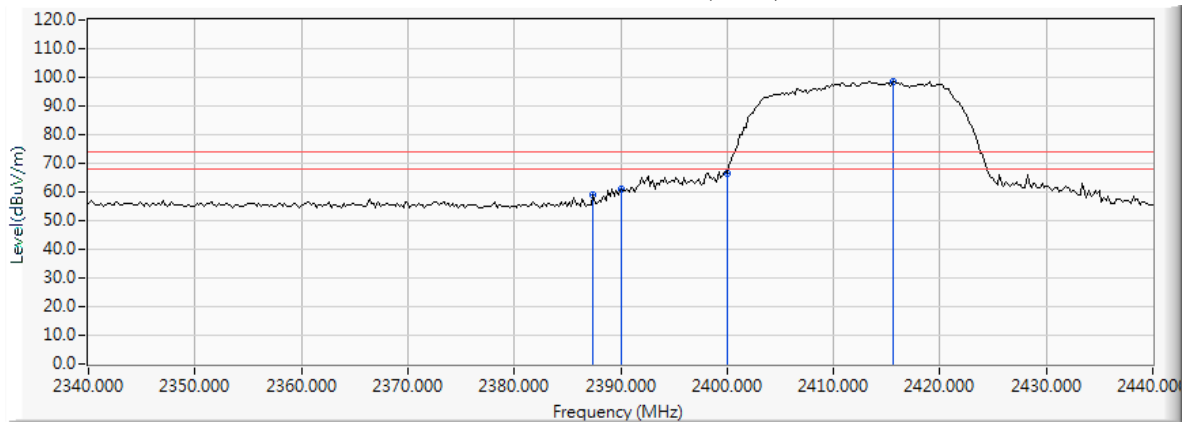
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

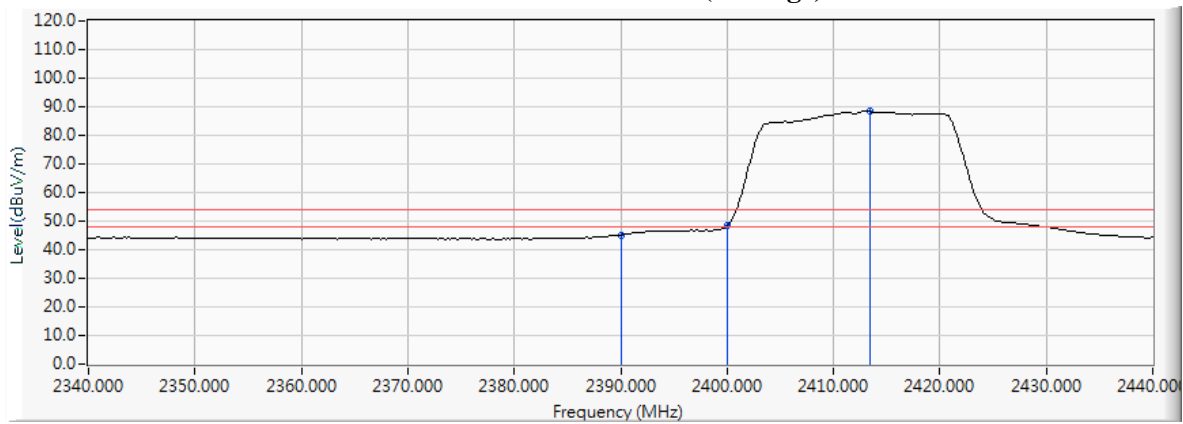
**RF Radiated Measurement (VERTICAL):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2387.400	-4.149	63.380	59.230	74.00	54.00	Pass
01 (Peak)	2390.000	-4.159	65.031	60.872	74.00	54.00	Pass
01 (Peak)	2400.000	-4.171	70.638	66.467	--	--	--
01 (Peak)	2415.600	-4.158	102.463	98.305	--	--	--
01 (Average)	2390.000	-4.159	49.290	45.131	74.00	54.00	Pass
01 (Average)	2400.000	-4.171	52.833	48.662	--	--	--
01 (Average)	2413.400	-4.163	92.688	88.525	--	--	--

**Figure Channel 01: VERTICAL (Peak)**



**Figure Channel 01: VERTICAL (Average)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

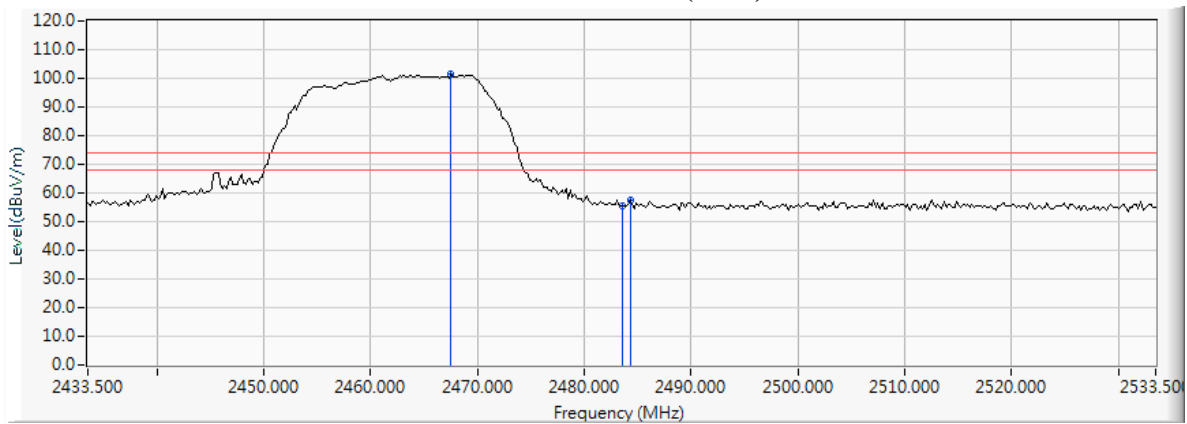


Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

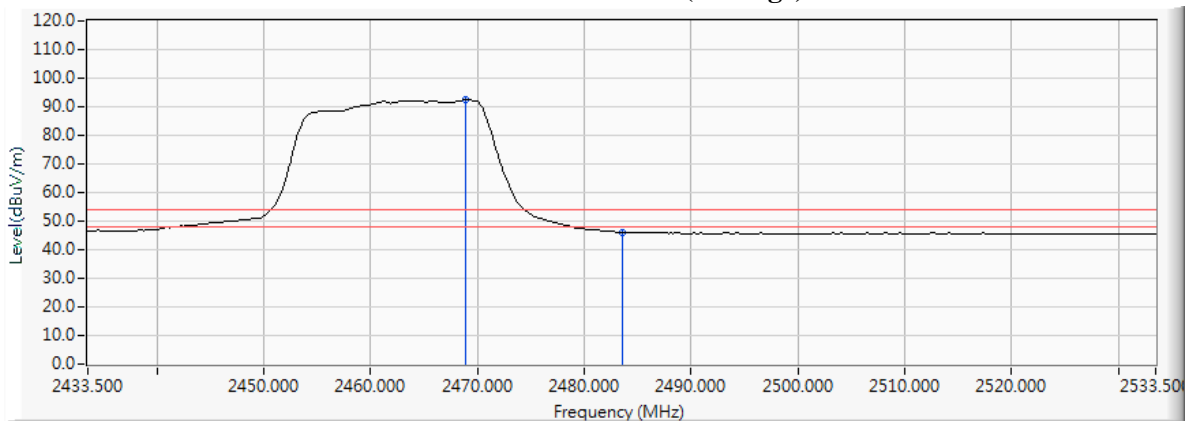
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2467.500	-2.618	104.094	101.477	--	--	--
11 (Peak)	2483.500	-2.601	58.178	55.576	74.00	54.00	Pass
11 (Peak)	2484.300	-2.602	60.307	57.706	74.00	54.00	Pass
11 (Average)	2468.900	-2.616	95.018	92.402	--	--	--
11 (Average)	2483.500	-2.601	48.676	46.074	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Figure Channel 11: Horizontal (Average)**



**Note:**

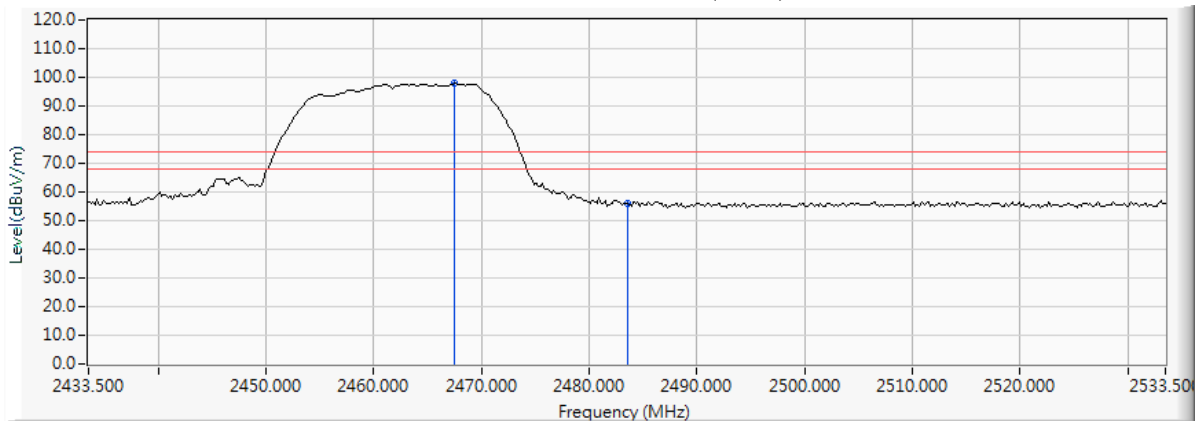
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

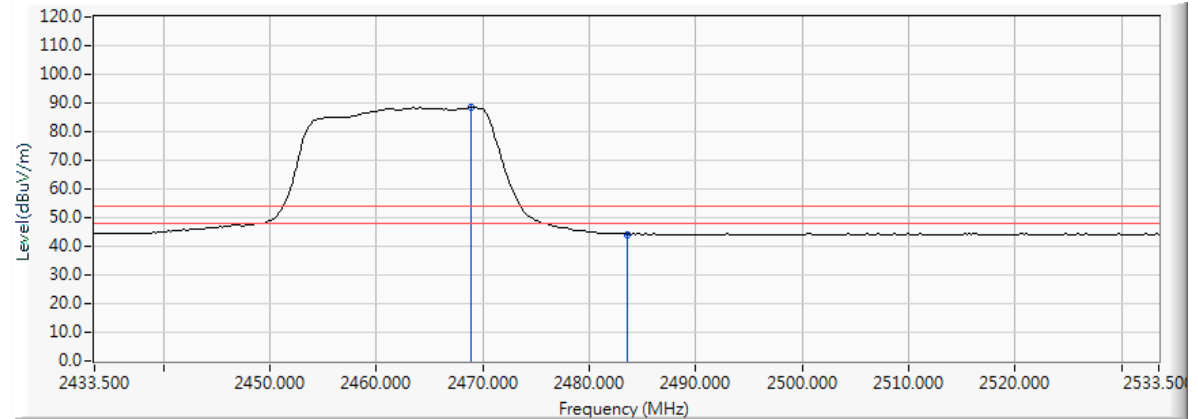
**RF Radiated Measurement (VERTICAL):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2467.500	-4.018	101.804	97.787	--	--	--
11 (Peak)	2483.500	-3.966	59.950	55.983	74.00	54.00	Pass
11 (Average)	2468.900	-4.013	92.437	88.424	--	--	--
11 (Average)	2483.500	-3.966	48.213	44.246	74.00	54.00	Pass

**Figure Channel 11: VERTICAL (Peak)**



**Figure Channel 11: VERTICAL (Average)**



Note:

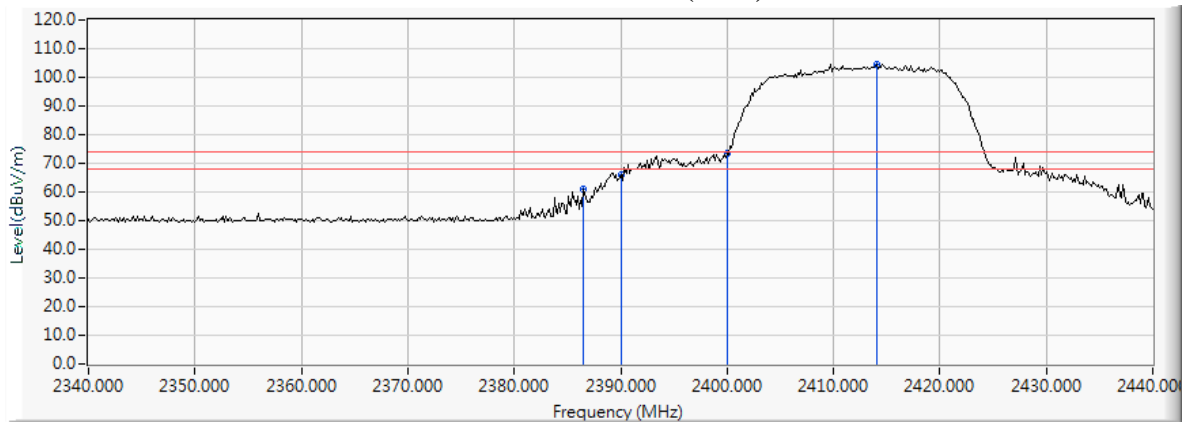
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

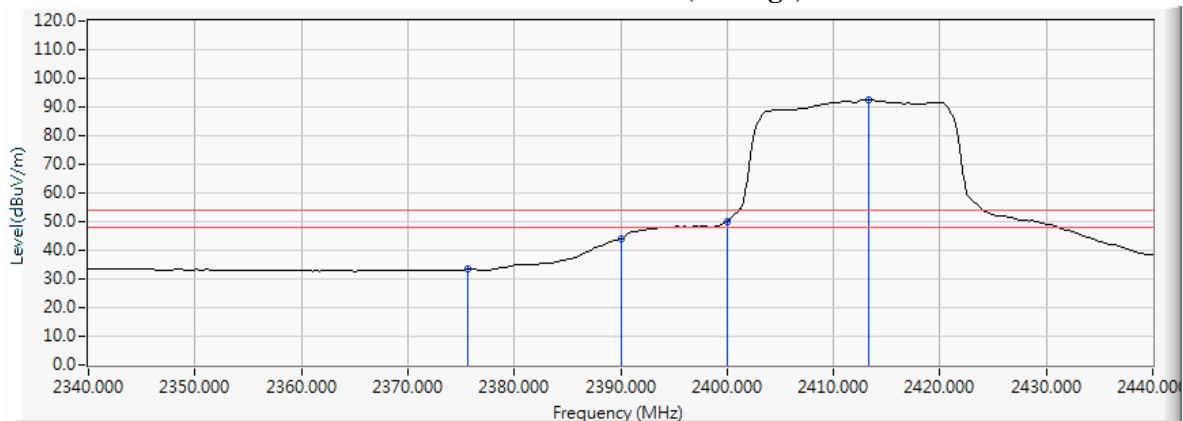
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2386.522	-2.703	63.794	61.092	74.00	54.00	Pass
01 (Peak)	2390.000	-2.687	68.884	66.197	74.00	54.00	Pass
01 (Peak)	2400.000	-2.660	76.251	73.591	--	--	--
01 (Peak)	2414.058	-2.643	107.004	104.361	--	--	--
01 (Average)	2375.652	-2.750	36.198	33.448	74.00	54.00	Pass
01 (Average)	2390.000	-2.687	46.637	43.950	74.00	54.00	Pass
01 (Average)	2400.000	-2.660	52.858	50.198	--	--	--
01 (Average)	2413.333	-2.643	95.260	92.617	--	--	--

**Figure Channel 01: Horizontal (Peak)**



**Figure Channel 01: Horizontal (Average)**



**Note:**

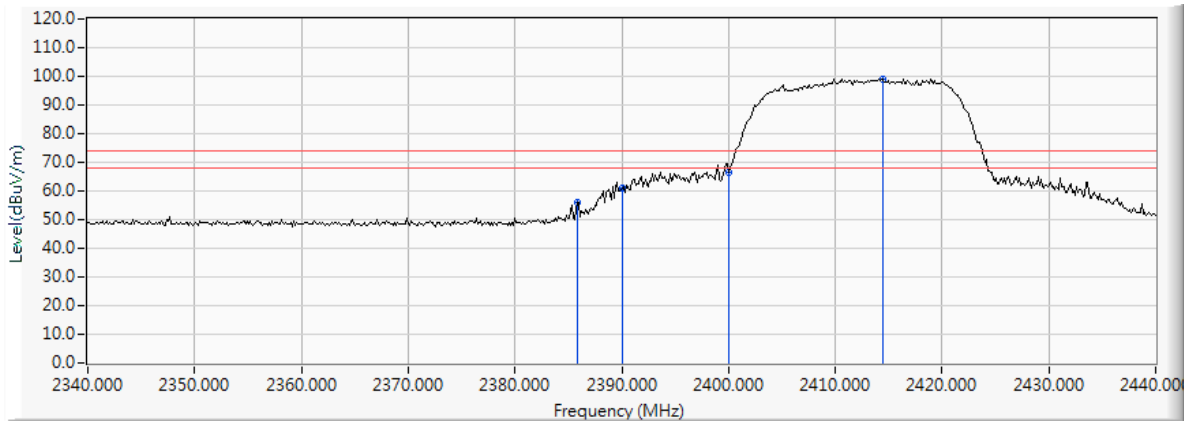
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

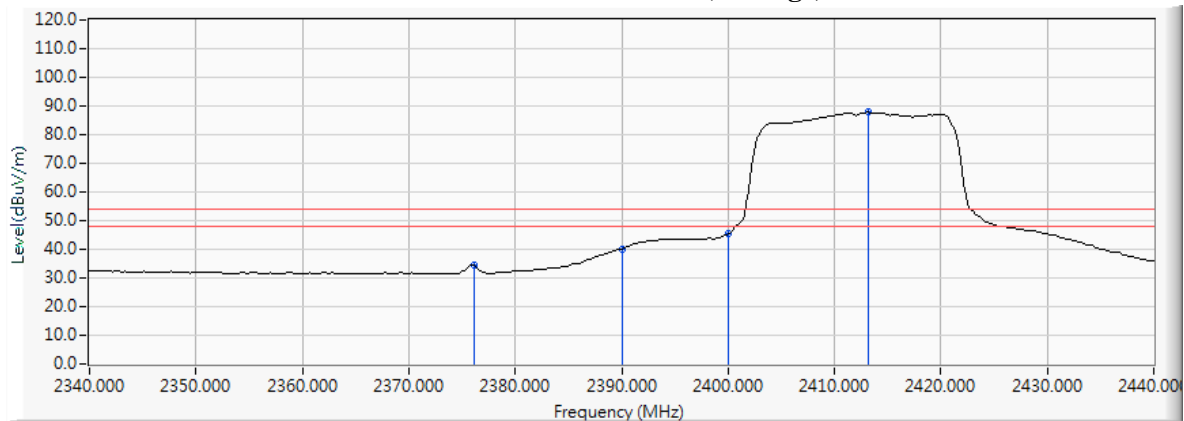
**RF Radiated Measurement (VERTICAL):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2385.797	-4.145	60.179	56.034	74.00	54.00	Pass
01 (Peak)	2390.000	-4.159	65.206	61.047	74.00	54.00	Pass
01 (Peak)	2400.000	-4.171	70.608	66.437	--	--	--
01 (Peak)	2414.493	-4.159	103.141	98.981	--	--	--
01 (Average)	2376.087	-4.112	38.534	34.422	74.00	54.00	Pass
01 (Average)	2390.000	-4.159	44.300	40.141	74.00	54.00	Pass
01 (Average)	2400.000	-4.171	49.544	45.373	--	--	--
01 (Average)	2413.188	-4.164	91.976	87.813	--	--	--

**Figure Channel 01: VERTICAL (Peak)**



**Figure Channel 01: VERTICAL (Average)**



**Note:**

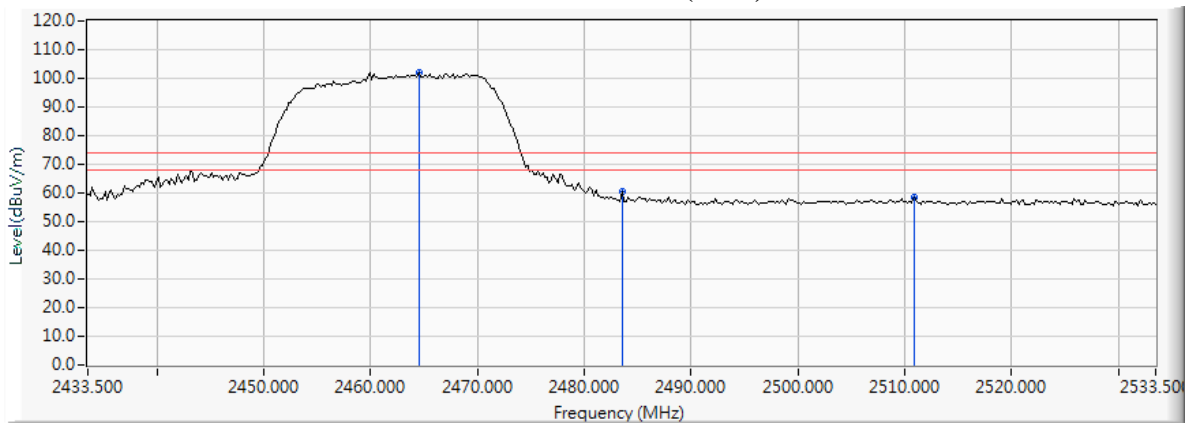
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

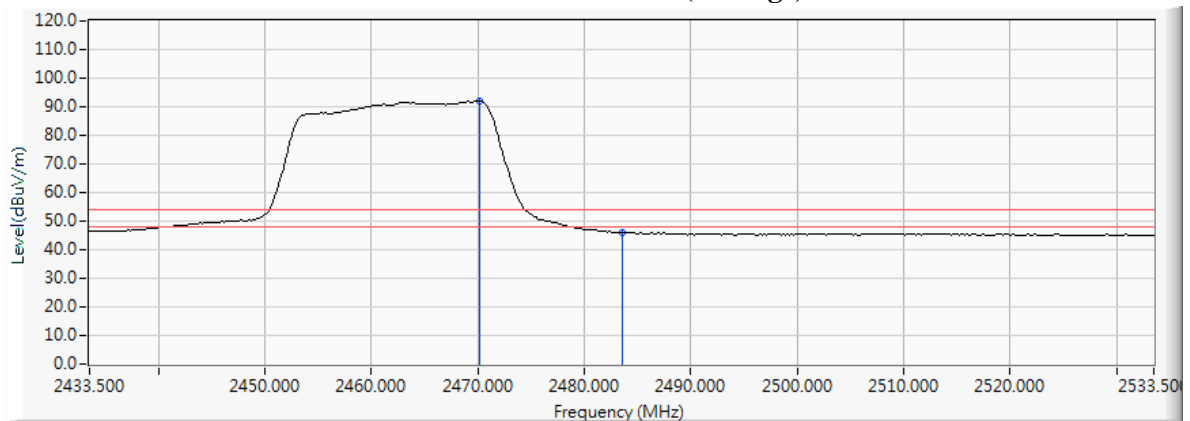
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2464.500	-2.620	104.447	101.827	--	--	--
11 (Peak)	2483.500	-2.601	63.033	60.431	74.00	54.00	Pass
11 (Peak)	2510.900	-2.668	60.968	58.300	74.00	54.00	Pass
11 (Average)	2470.100	-2.615	94.526	91.911	--	--	--
11 (Average)	2483.500	-2.601	48.635	46.033	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Figure Channel 11: Horizontal (Average)**



**Note:**

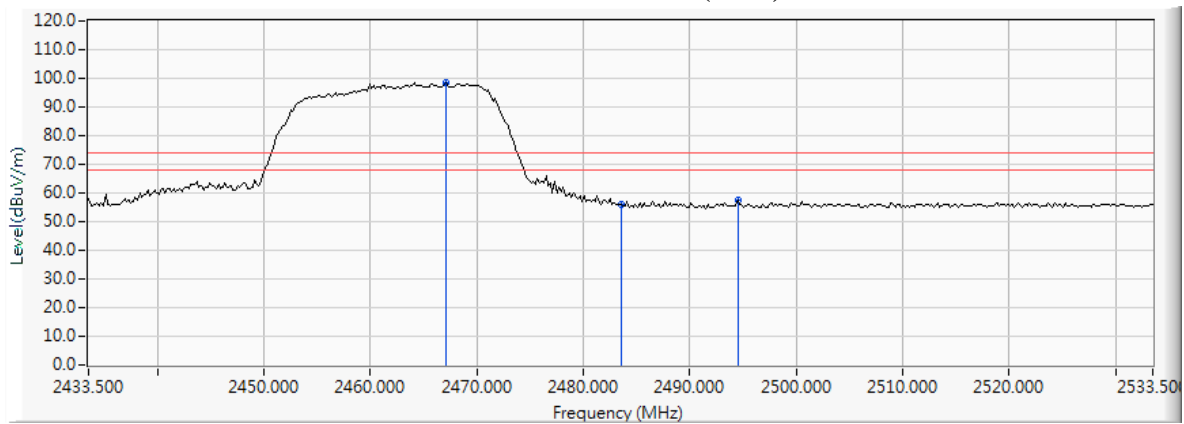
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Date : 2018/08/16  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

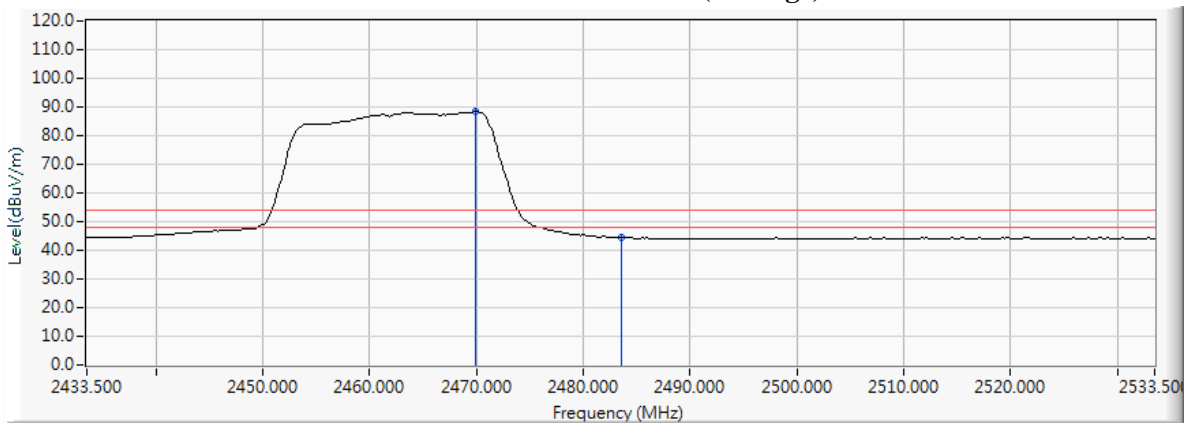
**RF Radiated Measurement (VERTICAL):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2467.100	-4.019	102.559	98.540	--	--	--
11 (Peak)	2483.500	-3.966	59.883	55.916	74.00	54.00	Pass
11 (Peak)	2494.500	-3.932	61.406	57.474	74.00	54.00	Pass
11 (Average)	2469.900	-4.010	92.395	88.385	--	--	--
11 (Average)	2483.500	-3.966	48.347	44.380	74.00	54.00	Pass

**Figure Channel 11: VERTICAL (Peak)**



**Figure Channel 11: VERTICAL (Average)**

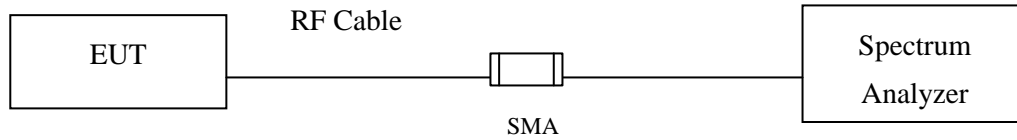


**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

## 7. 6dB Bandwidth

### 7.1. Test Setup



### 7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

### 7.3. Test Procedure

The EUT was setup according to ANSI C63.4: 2014; tested according to DTS test procedure of Jan KDB558074 for compliance to FCC 47CFR 15.247 requirements.

### 7.4. Uncertainty

$\pm 283\text{Hz}$

### 7.5. Test Result of 6dB Bandwidth

Product : VUZE-XR Camera  
 Test Item : 6dB Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	8700	>500	Pass
06	2437	8700	>500	Pass
11	2462	8700	>500	Pass

Figure Channel 01:

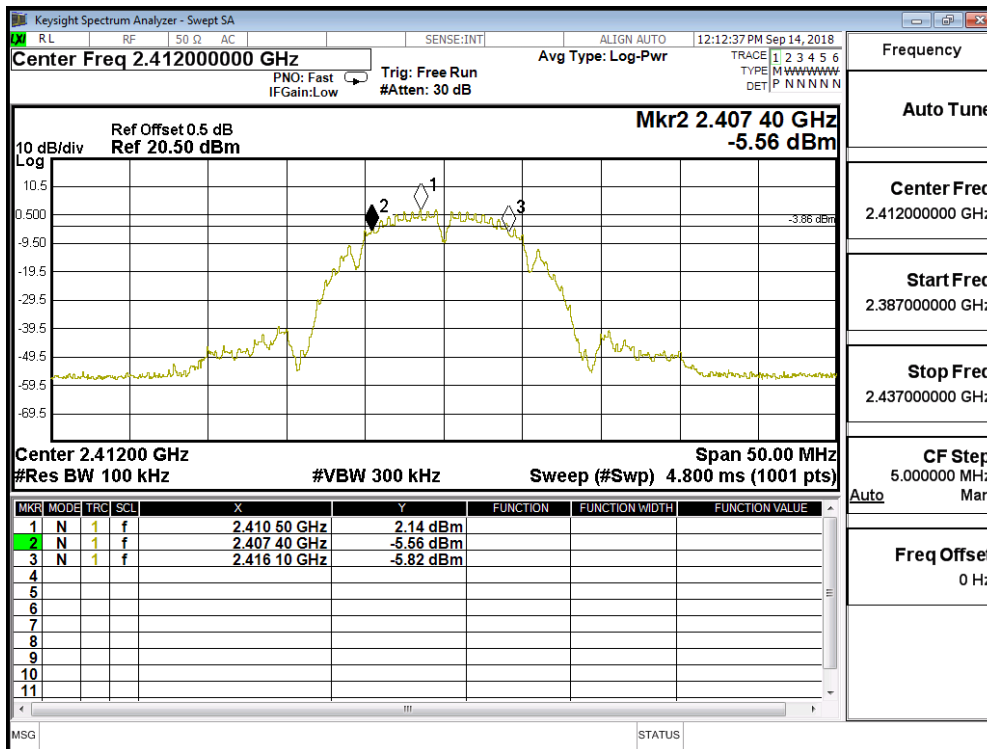




Figure Channel 06:

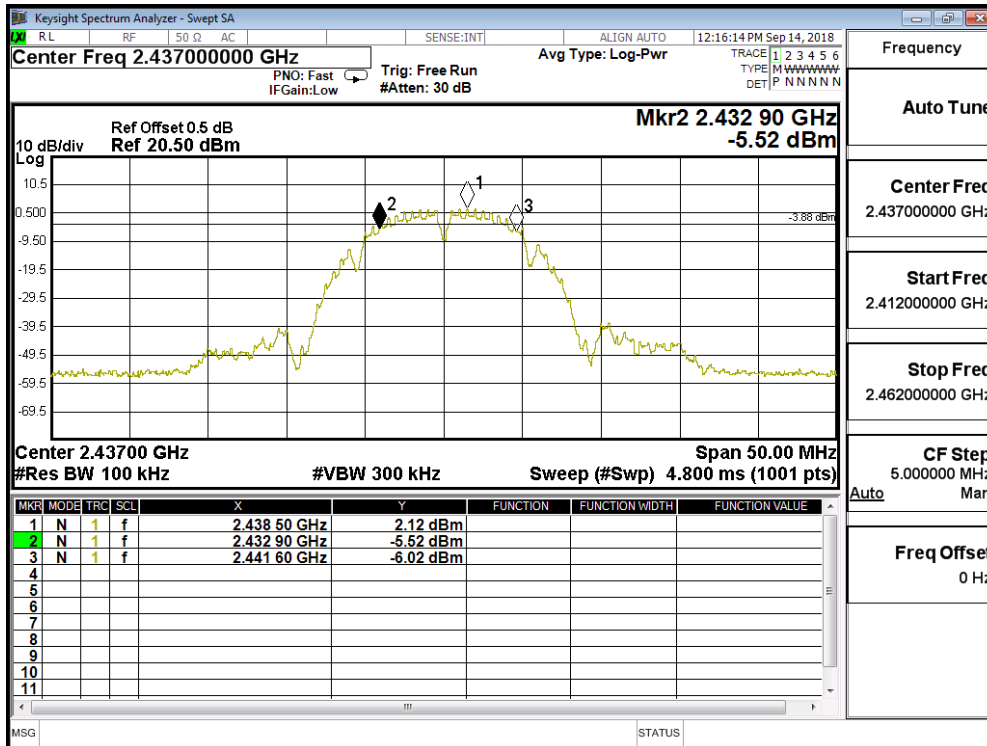
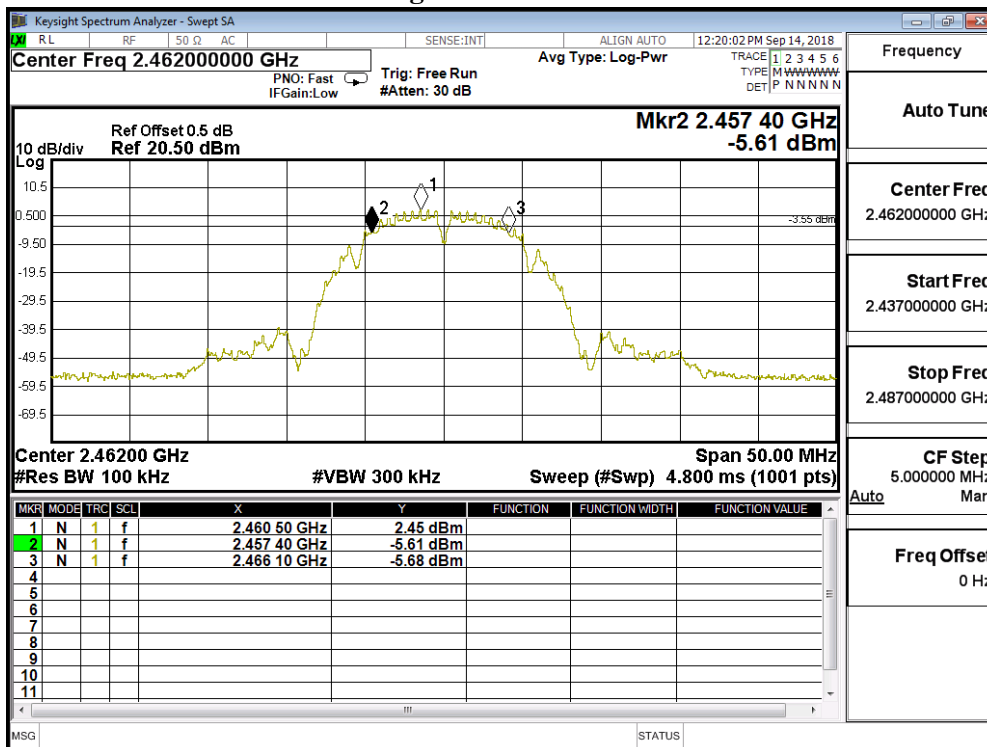


Figure Channel 11:



Product : VUZE-XR Camera  
 Test Item : 6dB Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16150	>500	Pass
06	2437	16100	>500	Pass
11	2462	15800	>500	Pass

Figure Channel 01:

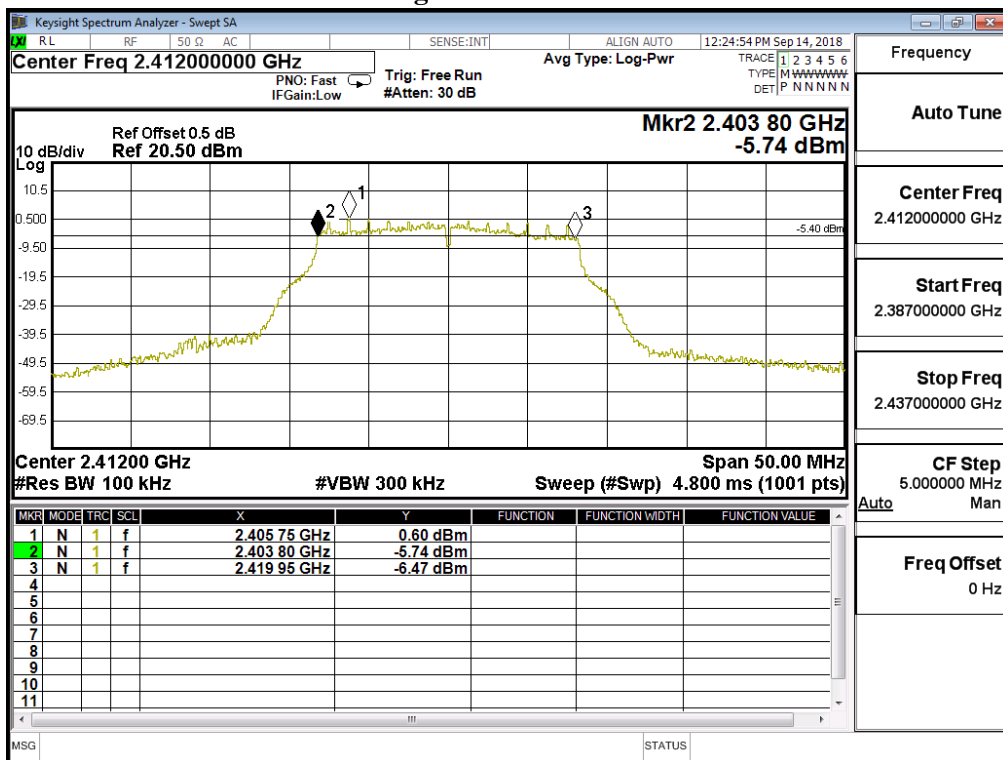


Figure Channel 06:

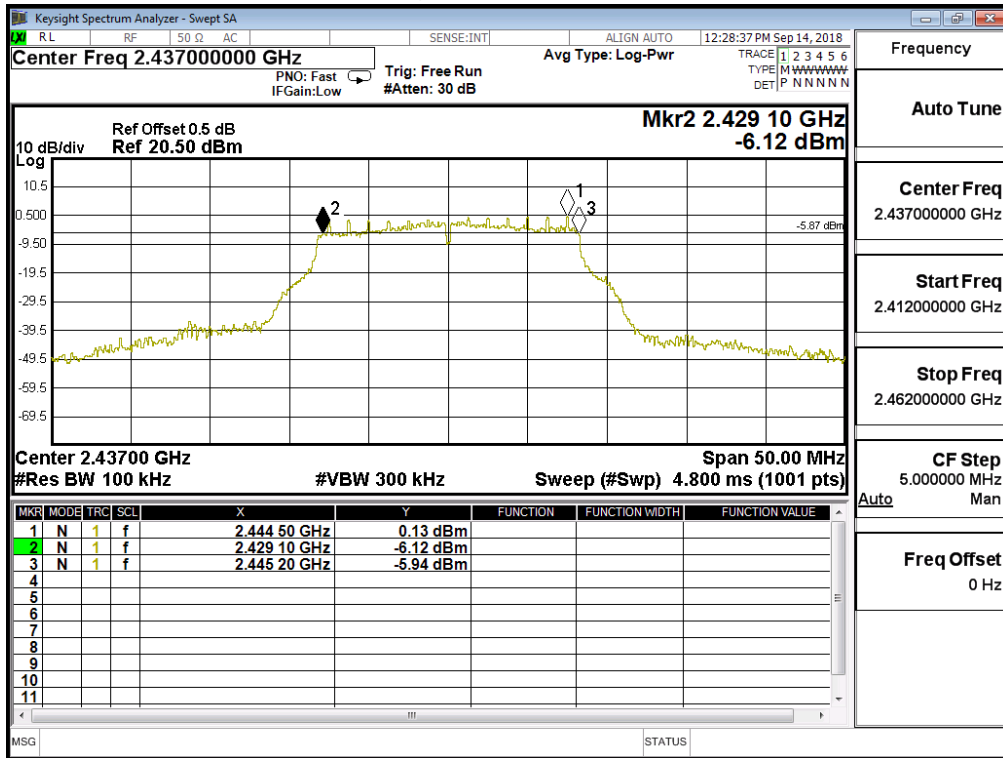
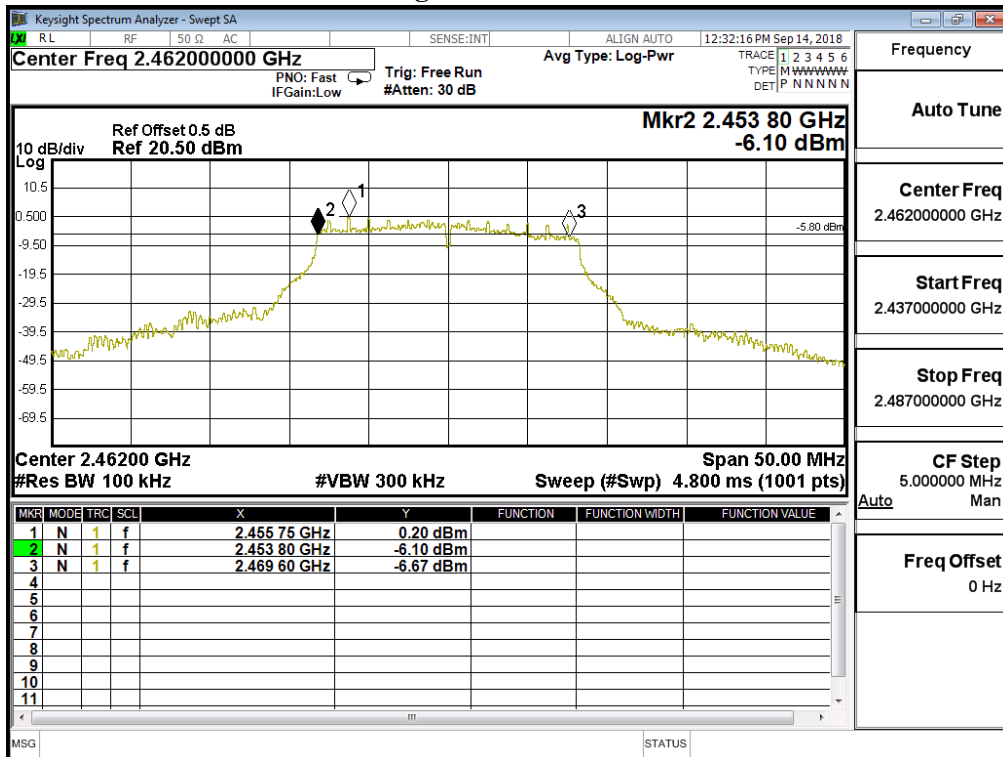


Figure Channel 11:



Product : VUZE-XR Camera  
 Test Item : 6dB Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16400	>500	Pass
06	2437	16450	>500	Pass
11	2462	16500	>500	Pass

Figure Channel 01:

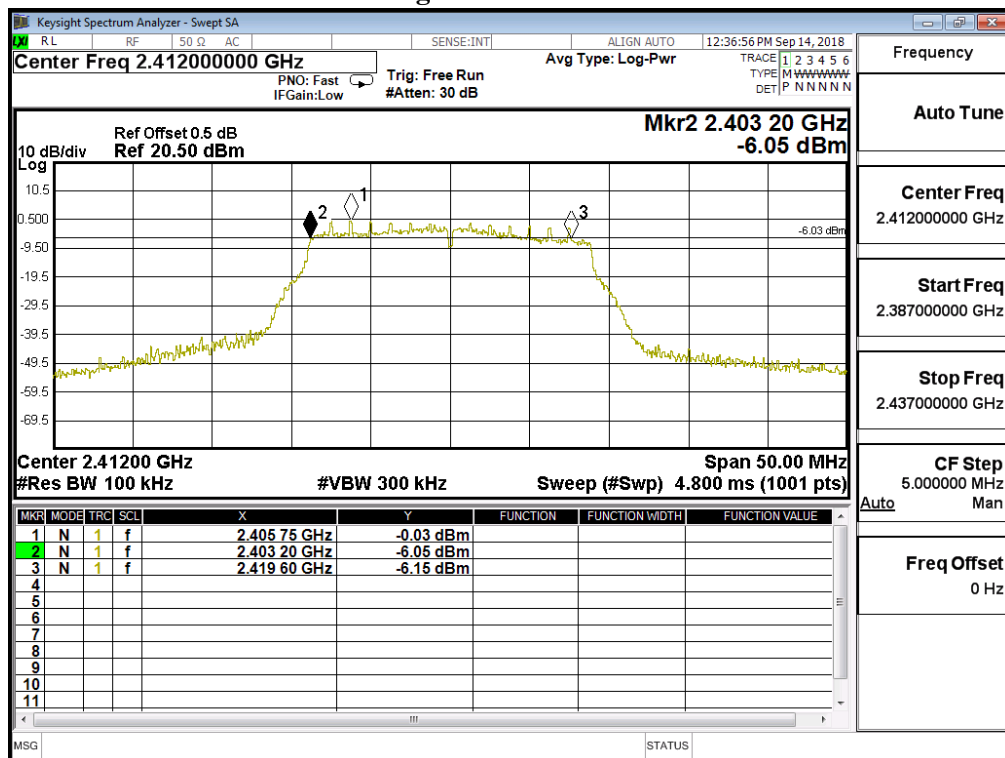


Figure Channel 06:

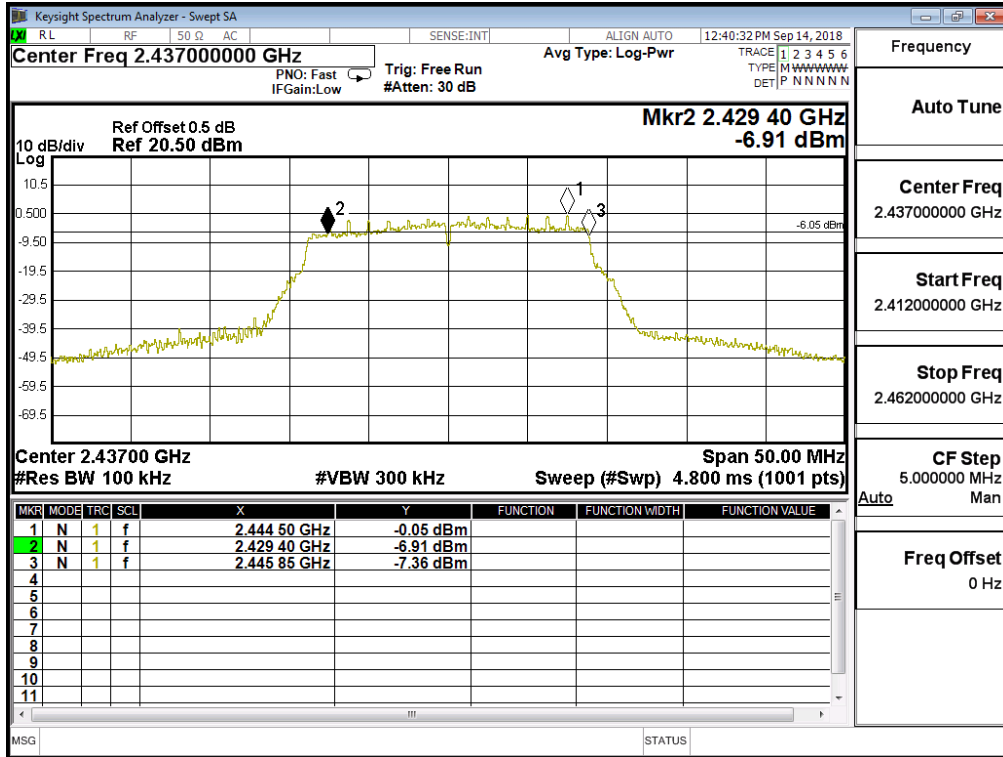
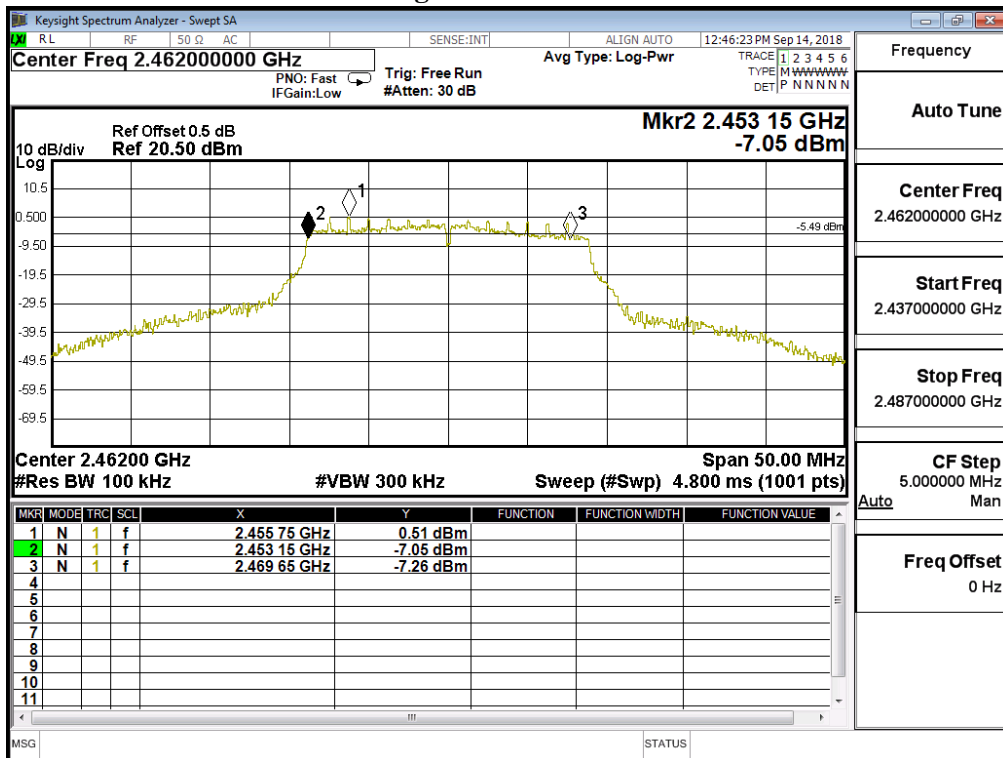
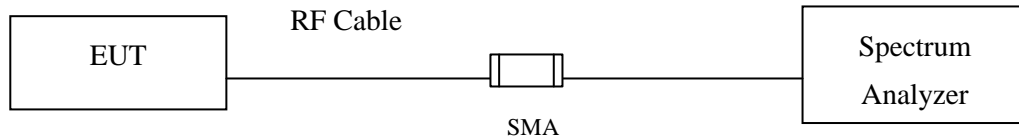


Figure Channel 11:



## 8. Power Density

### 8.1. Test Setup



### 8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

### 8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

### 8.4. Uncertainty

$\pm 1.20$  dB

### 8.5. Test Result of Power Density

Product : VUZE-XR Camera  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	2.090	≤ 8dBm	Pass
06	2437	1.980	≤ 8dBm	Pass
11	2462	2.440	≤ 8dBm	Pass

Figure Channel 01:

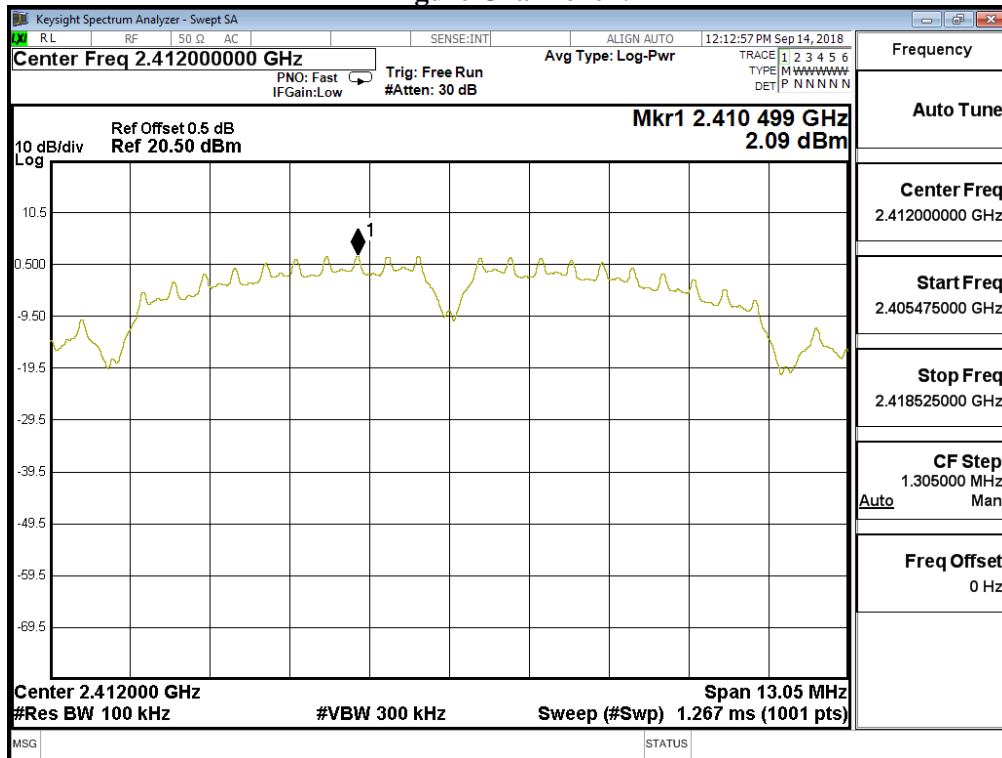


Figure Channel 06:

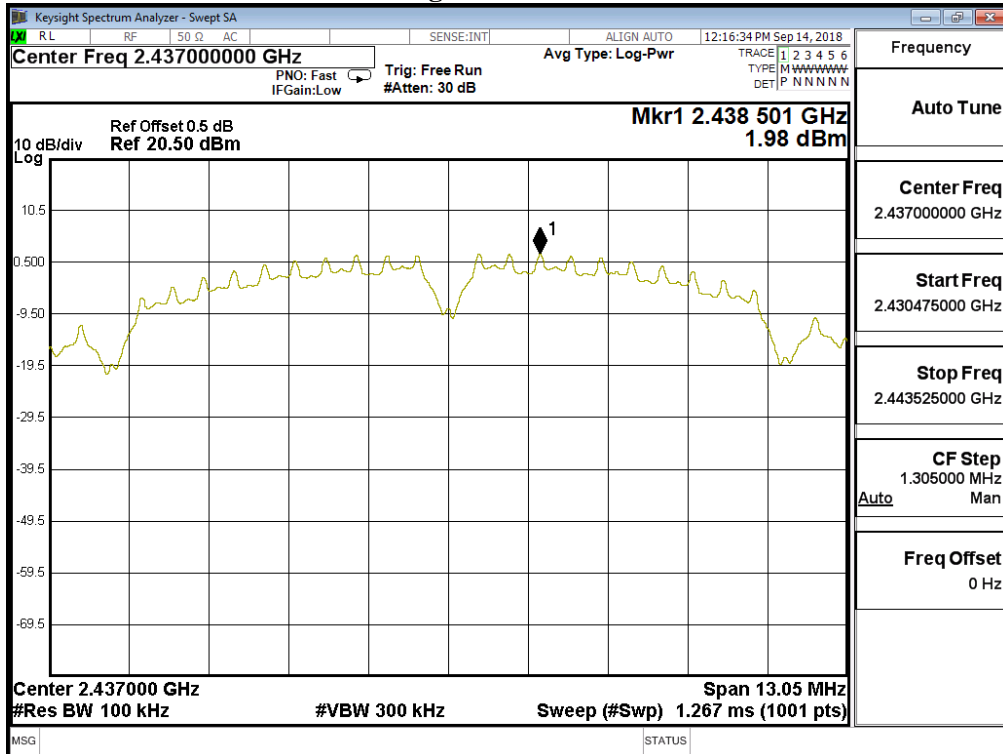
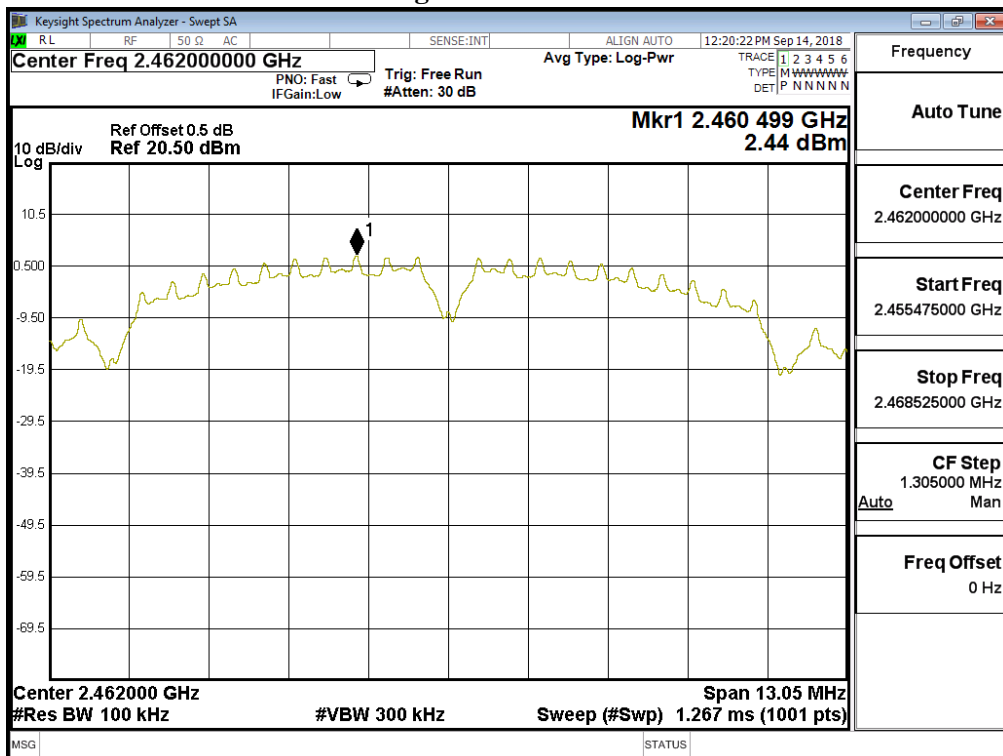


Figure Channel 11:





Product : VUZE-XR Camera  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	0.610	≤ 8dBm	Pass
06	2437	0.170	≤ 8dBm	Pass
11	2462	0.360	≤ 8dBm	Pass

Figure Channel 01:

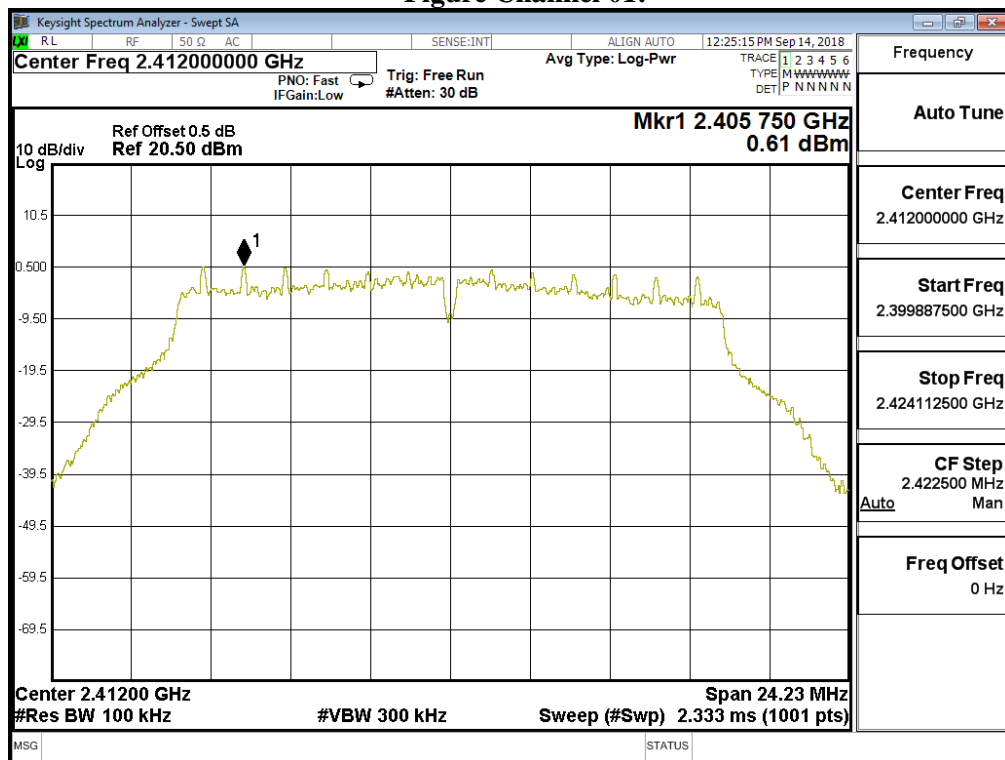


Figure Channel 06:

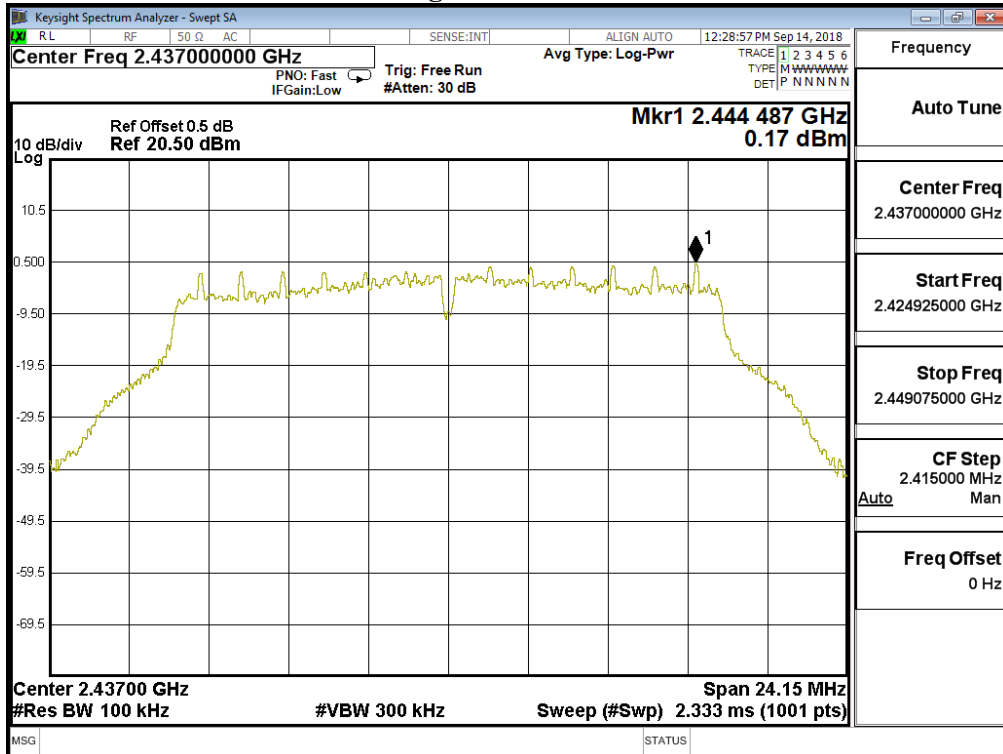
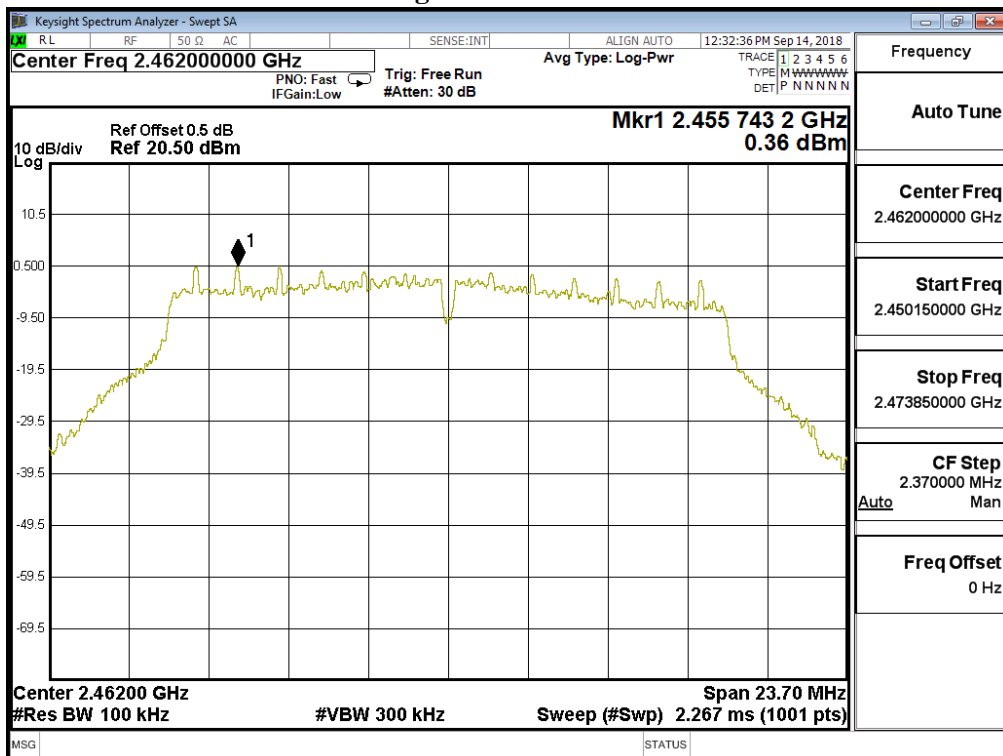


Figure Channel 11:



Product : VUZE-XR Camera  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	0.300	≤ 8dBm	Pass
06	2437	-0.050	≤ 8dBm	Pass
11	2462	0.880	≤ 8dBm	Pass

Figure Channel 01:

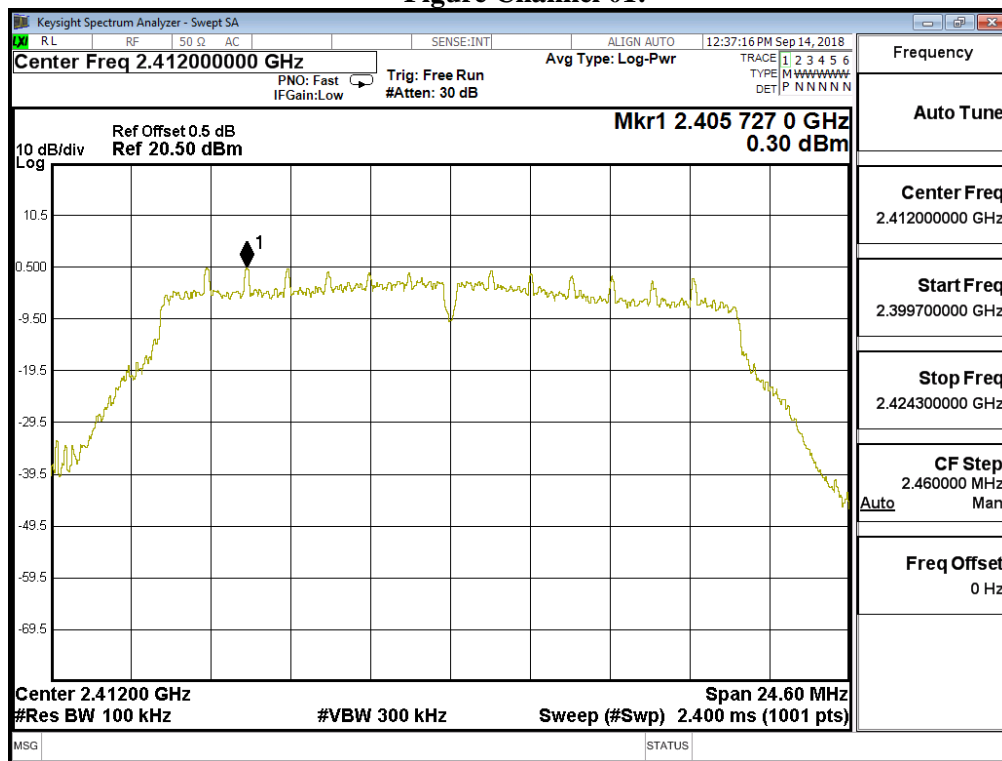


Figure Channel 06:

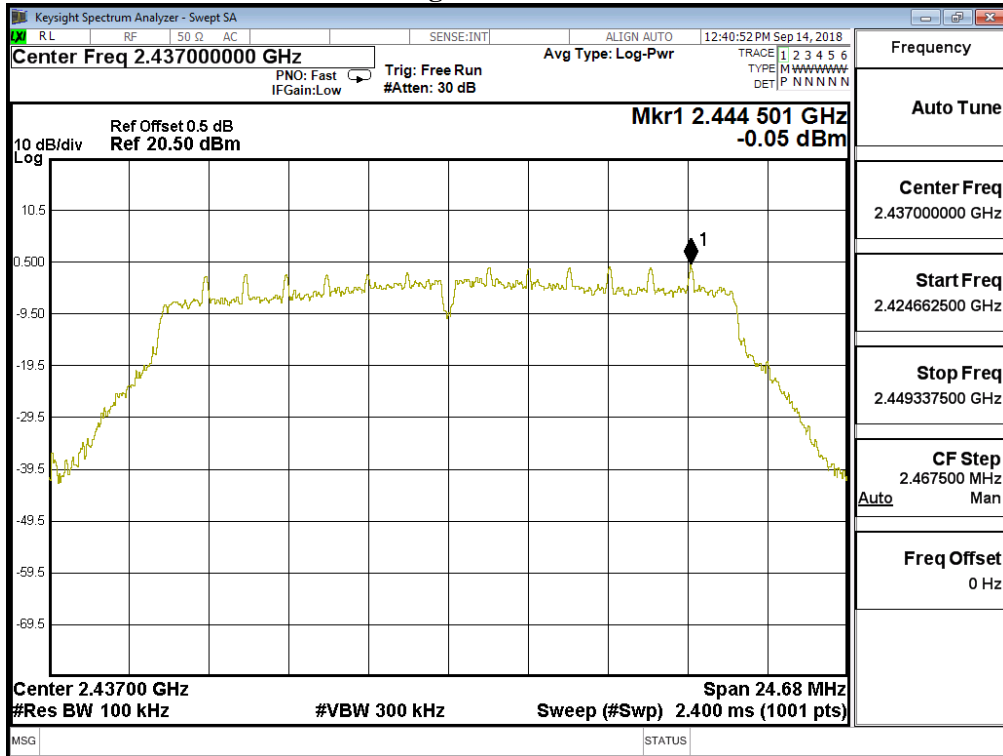
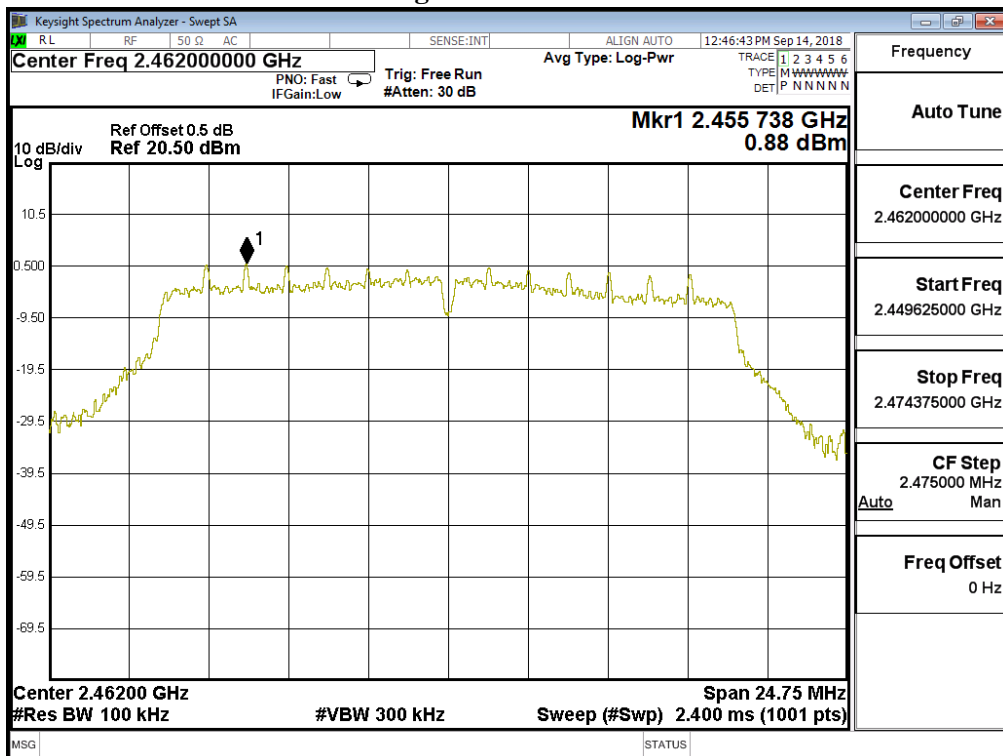
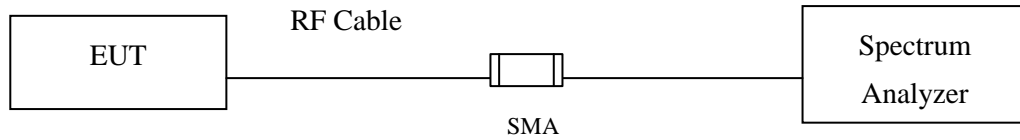


Figure Channel 11:



## 9. Duty Cycle

### 9.1. Test Setup



### 9.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

### 9.3. Uncertainty

$\pm 2.31\text{msec}$

### 9.4. Test Result of Duty Cycle

Product : VUZE-XR Camera  
 Test Item : Duty Cycle  
 Test Mode : Transmit

Duty Cycle Formula:

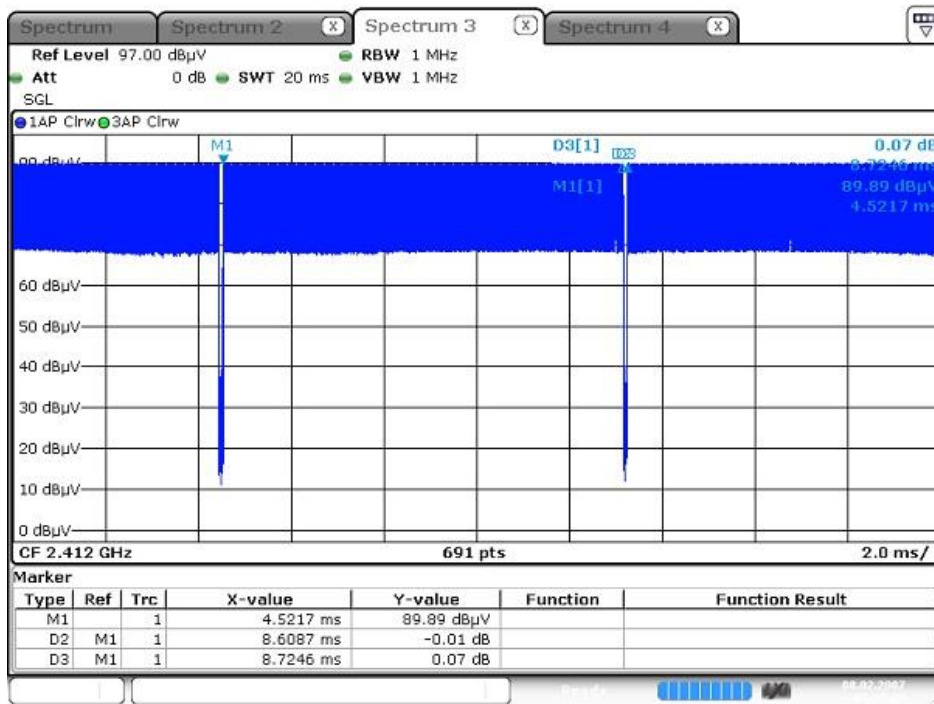
$$\text{Duty Cycle} = \text{Ton} / (\text{Ton} + \text{Toff})$$

$$\text{Duty Factor} = 10 \text{ Log} (1/\text{Duty Cycle})$$

Results:

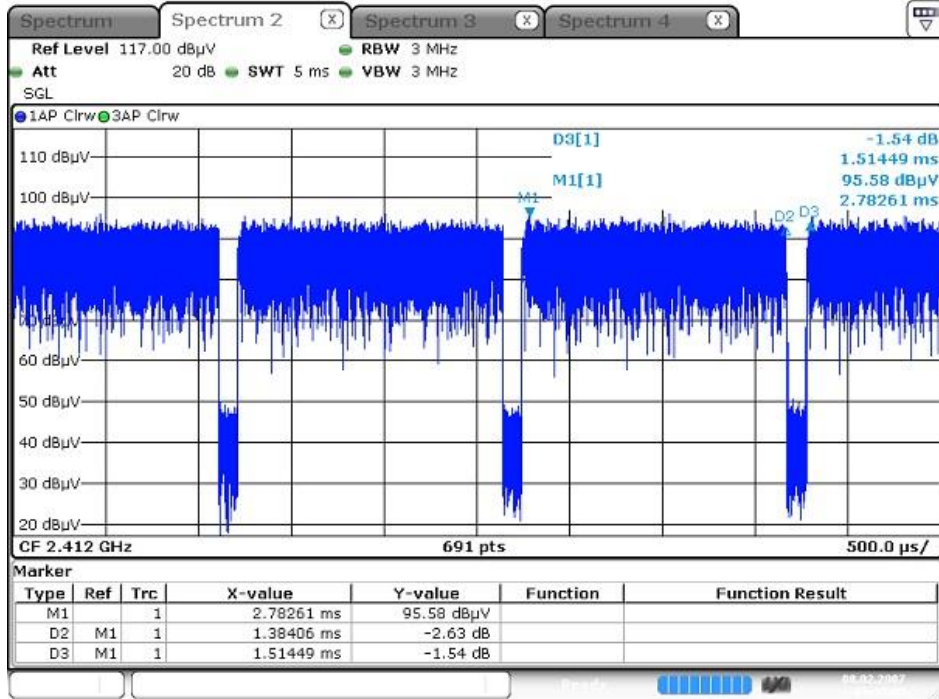
2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	8.6087	8.7246	98.67	0.06
802.11g	1.3841	1.5145	91.39	0.39
802.11n20	1.3145	1.4391	91.34	0.39

#### 802.11b



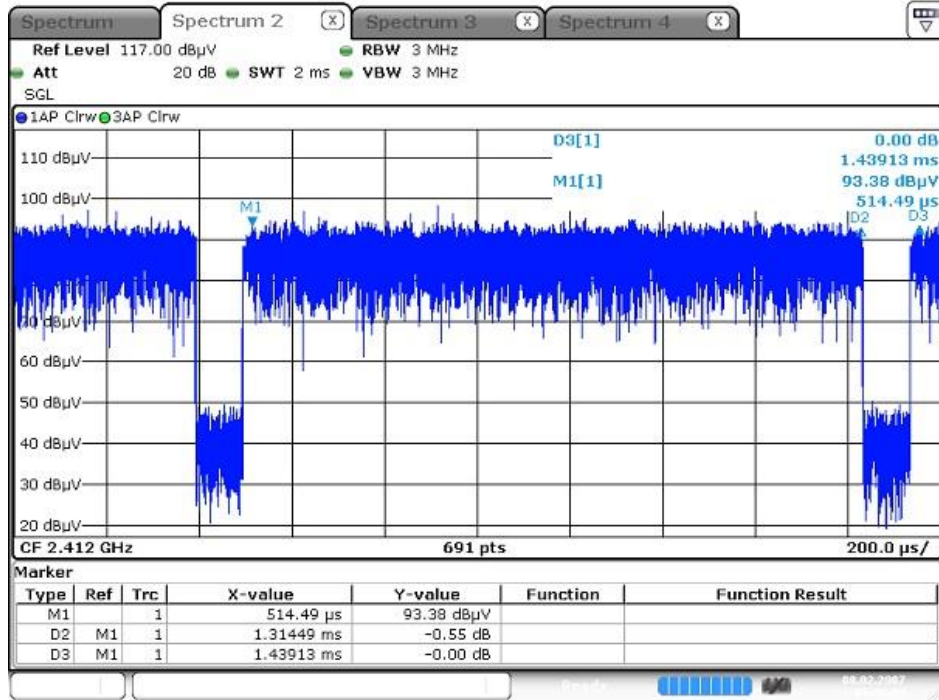
Date: 8.FEB.2007 09:25:12

802.11g



Date: 8.FEB.2007 03:45:06

802.11n20



Date: 8.FEB.2007 03:46:08

## **10. EMI Reduction Method During Compliance Testing**

No modification was made during testing.



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## Attachment 1: EUT Test Photographs

## Attachment 2: EUT Detailed Photographs