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
Issued Date	Oct. 02, 2018
Report No.	1880290R-RFUSP70V01
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issued Date: Oct. 02, 2018
Report No.: 1880290R-RFUSP70V01

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 E: 2017 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v02
Test Result	Complied

Documented By : Peggy Tu

(Adm. Assistant / Peggy Tu)

Tested By :

(Assistant Engineer / Trista Huang)

Approved By :

(Director / Vincent Lin)

TABLE OF CONTENTS

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	802.11a/n-20MHz: 5180-5240MHz, 5745-5825MHz 802.11n-40MHz: 5190-5230, 5755-5795MHz 802.11ac-80MHz: 5210, 5775MHz
Number of Channels	802.11a/n-20MHz: 9; 802.11n-40MHz: 4; 802.11ac-80MHz: 2
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 150Mbps 802.11ac-80MHz: up to 433.3MHz
Channel Control	Auto
Type of Modulation	802.11a/n:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna type	PIFA Antenna
Antenna Gain	Refer to the table “Antenna List”
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	2.20dBi For 5.15~5.25GHz 2.30dBi For 5.725~5.825GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz

802.11ac-80MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 42:	5210 MHz	Channel 155:	5775 MHz				

Note:

1. This device is a VUZE-XR Camera with a built-in WLAN and Bluetooth transceiver, this report for WLAN 5G.
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. (802.11a is 6Mbps、802.11n-20BW is 7.2Mbps、802.11n-40BW is 15Mbps and 802.11ac(80M-BW) is 32.5 Mbps)
4. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure 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 (802.11a-6Mbps) Mode 2: Transmit (802.11n-20BW 7.2Mbps) Mode 3: Transmit (802.11n-40BW 15Mbps) Mode 4 Transmit (802.11ac-80BW-32.5Mbps) Mode 5: Charge mode

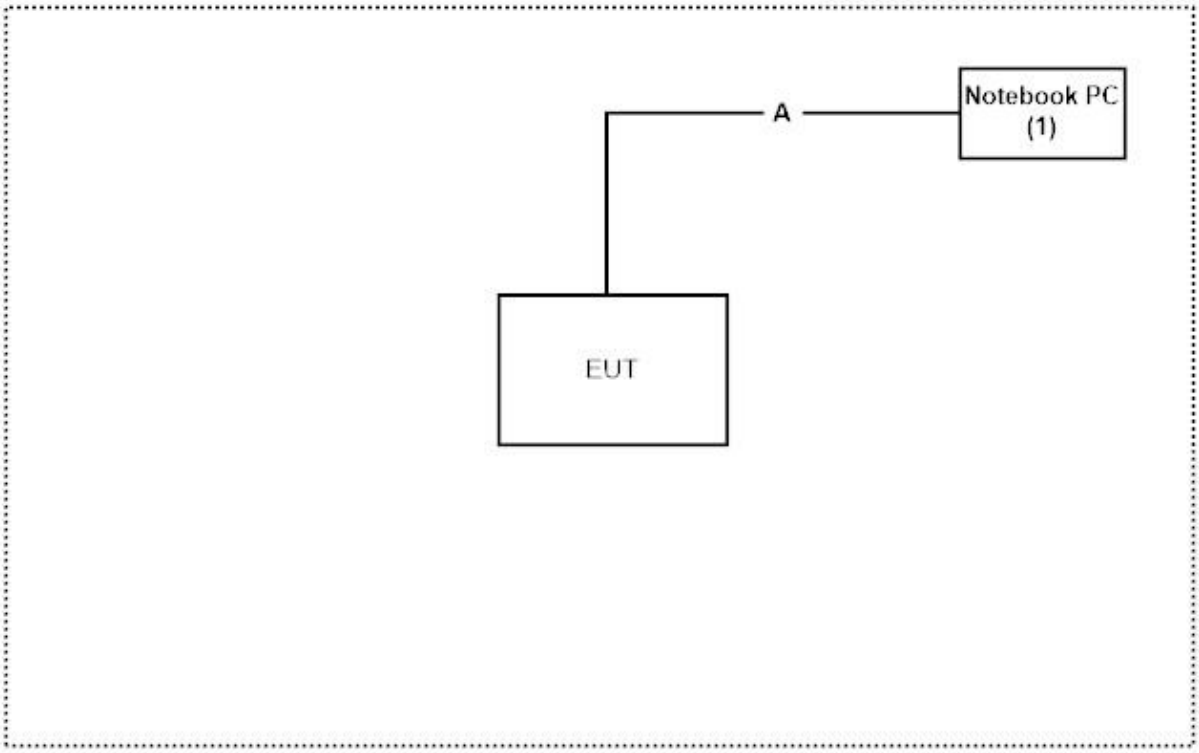
1.2. Tested System Datails

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 on 1.4
(2) Execute “Tera Term v4.99” on the Notebook PC.
(3) Configure the test mode, the test channel, and the data rate.
(4) Start the continuous transmission.
(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:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd
Site Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : info.tw@dekra.com

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

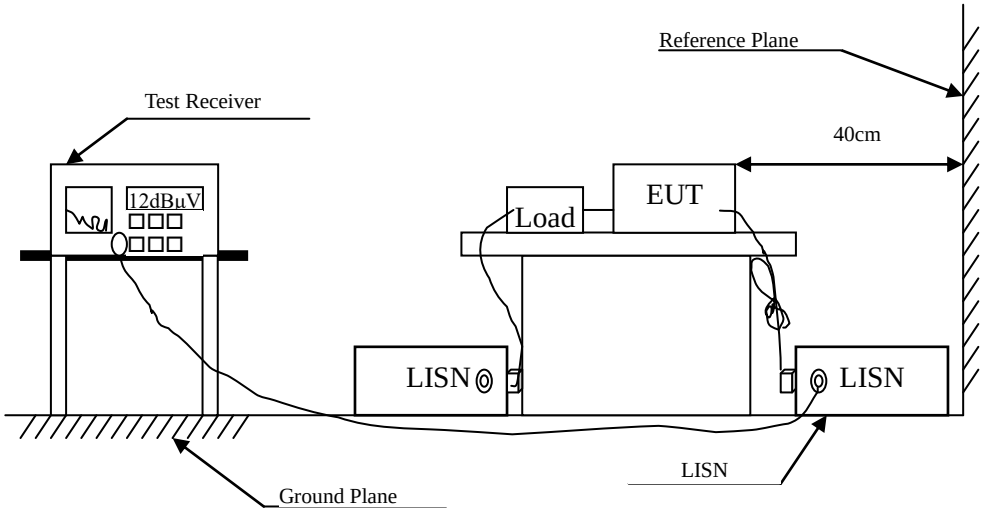
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2018/03/12	2019/03/11
	Loop Antenna	Teseq	HLA6121	37133	2017/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2018/06/24	2019/06/23
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2018/06/14	2019/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	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
X	Horn Antenna	Com-Power	AH-840	101043	2018/01/09	2019/01/08
X	Amplifier + Cable	EMCI	EMC184045SE	980370	2018/03/21	2019/03/20
X	Filter	MICRO-TRONICS	BRM50702	G270	2018/08/06	2019/08/05
X	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 (dBµV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

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 invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2014; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

2.4. Uncertainty

± 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 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.154	9.748	38.900	48.648	-17.238	65.886
0.162	9.745	37.300	47.045	-18.612	65.657
0.197	9.738	32.060	41.798	-22.859	64.657
0.498	9.750	32.940	42.690	-13.367	56.057
3.369	9.866	19.000	28.866	-27.134	56.000
9.189	10.047	18.020	28.067	-31.933	60.000
Average					
0.154	9.748	25.220	34.968	-20.918	55.886
0.162	9.745	29.470	39.215	-16.442	55.657
0.197	9.738	22.330	32.068	-22.589	54.657
0.498	9.750	31.180	40.930	-5.127	46.057
3.369	9.866	11.030	20.896	-25.104	46.000
9.189	10.047	13.780	23.827	-26.173	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 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.166	9.736	37.020	46.756	-18.787	65.543
0.193	9.738	32.280	42.018	-22.753	64.771
0.220	9.739	27.200	36.939	-27.061	64.000
0.377	9.735	21.520	31.255	-28.259	59.514
0.513	9.741	30.320	40.061	-15.939	56.000
3.580	9.871	24.180	34.051	-21.949	56.000
Average					
0.166	9.736	21.130	30.866	-24.677	55.543
0.193	9.738	25.530	35.268	-19.503	54.771
0.220	9.739	4.270	14.009	-39.991	54.000
0.377	9.735	18.890	28.625	-20.889	49.514
0.513	9.741	23.150	32.891	-13.109	46.000
3.580	9.871	17.800	27.671	-18.329	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 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.150	9.749	40.000	49.749	-16.251	66.000
0.162	9.745	36.640	46.385	-19.272	65.657
0.283	9.741	26.120	35.861	-26.339	62.200
0.513	9.751	33.860	43.611	-12.389	56.000
3.650	9.883	20.700	30.583	-25.417	56.000
9.177	10.047	17.840	27.887	-32.113	60.000
Average					
0.150	9.749	24.110	33.859	-22.141	56.000
0.162	9.745	27.250	36.995	-18.662	55.657
0.283	9.741	15.500	25.241	-26.959	52.200
0.513	9.751	27.630	37.381	-8.619	46.000
3.650	9.883	15.590	25.473	-20.527	46.000
9.177	10.047	11.490	21.537	-28.463	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 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.150	9.739	39.040	48.779	-17.221	66.000
0.162	9.736	37.600	47.336	-18.321	65.657
0.181	9.737	34.160	43.897	-21.217	65.114
0.509	9.740	30.420	40.160	-15.840	56.000
3.373	9.866	22.880	32.746	-23.254	56.000
3.591	9.871	24.620	34.491	-21.509	56.000
Average					
0.150	9.739	28.350	38.089	-17.911	56.000
0.162	9.736	21.330	31.066	-24.591	55.657
0.181	9.737	20.410	30.147	-24.967	55.114
0.509	9.740	20.830	30.570	-15.430	46.000
3.373	9.866	8.370	18.236	-27.764	46.000
3.591	9.871	12.410	22.281	-23.719	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 5: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
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
Average					
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 5: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
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
Average					
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

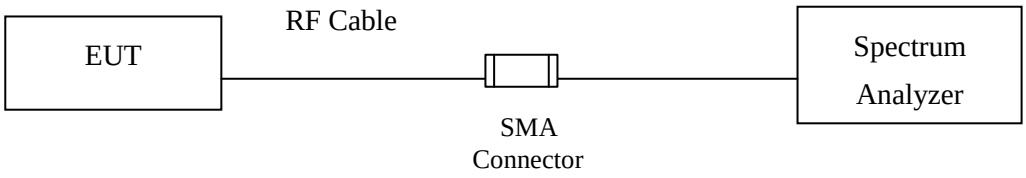
Note:

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

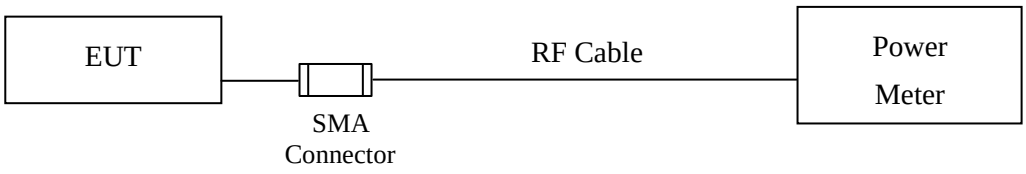
3. Maximun conducted output power

3.1. Test Setup

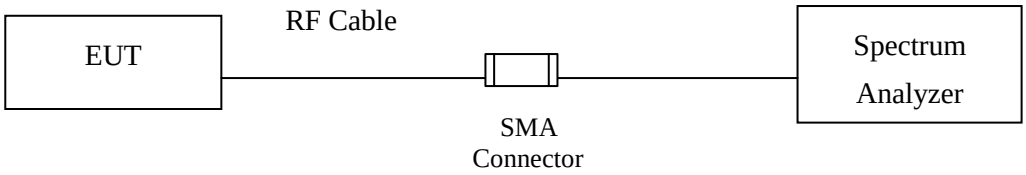
99% Occupied Bandwidth



Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



3.2. Limits

3.2.1. For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna

gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.3. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT

was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

802.11an (BW≦40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)
Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D03 section D) procedure is used for measurements.

3.4. Uncertainty

± 1.62 dB

3.5. Test Result of Maximum conducted output power

Product : VUZE-XR Camera
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/09/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	10.57	--	--	--	--	--	--	--	<30dBm
44	5220	10.1	10.09	10.07	10.06	10.05	10.03	10.01	9.99	<30dBm
48	5240	10.63	--	--	--	--	--	--	--	<30dBm
149	5745	11.45	--	--	--	--	--	--	--	<30dBm
157	5785	10.9	10.89	10.85	10.81	10.79	10.78	10.77	10.75	<30dBm
165	5825	10.72	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
36	5180	10.57	30
44	5220	10.1	30
48	5240	10.63	30
149	5745	11.45	30
157	5785	10.9	30
165	5825	10.72	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

Product : VUZE-XR Camera
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/09/17
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	
		Measurement Level (dBm)								
36	5180	10.19	--	--	--	--	--	--	--	<30dBm
44	5220	9.79	9.77	9.75	9.74	9.71	9.69	9.68	9.64	<30dBm
48	5240	10.45	--	--	--	--	--	--	--	<30dBm
149	5745	10.85	--	--	--	--	--	--	--	<30dBm
157	5785	10.62	10.6	10.58	10.57	10.56	10.55	10.51	10.49	<30dBm
165	5825	10.55	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
36	5180	10.19	30
44	5220	9.79	30
48	5240	10.45	30
149	5745	10.85	30
157	5785	10.62	30
165	5825	10.55	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

Product : VUZE-XR Camera
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/09/17
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		15	30	45	60	90	120	135	150	
		Measurement Level (dBm)								
38	5190	9.76	--	--	--	--	--	--	--	<30dBm
46	5230	9.73	9.71	9.69	9.64	9.63	9.62	9.59	9.58	<30dBm
151	5755	10.27	--	--	--	--	--	--	--	<30dBm
159	5795	10.59	10.55	10.52	10.51	10.49	10.47	10.45	10.44	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
38	5190	9.76	30
46	5230	9.73	30
151	5755	10.27	30
159	5795	10.59	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

Product : VUZE-XR Camera
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)

Chain A

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	9.74	9.71	9.69	9.68	9.65	9.64	9.62	9.61	9.58	9.54	<30dBm
155	5775	10.28	10.26	10.25	10.22	10.19	10.18	10.16	10.15	10.11	10.10	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

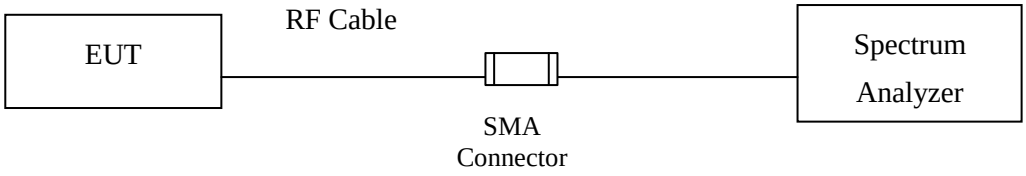
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
42	5210	9.74	30
155	5775	10.28	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

4. Peak Power Spectral Density

4.1. Test Setup



4.2. Limits

(1) For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.3. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (500 kHz/100 kHz) = 6.98 dB.

4.4. Uncertainty

± 1.62 dB

4.5. Test Result of Peak Power Spectral Density

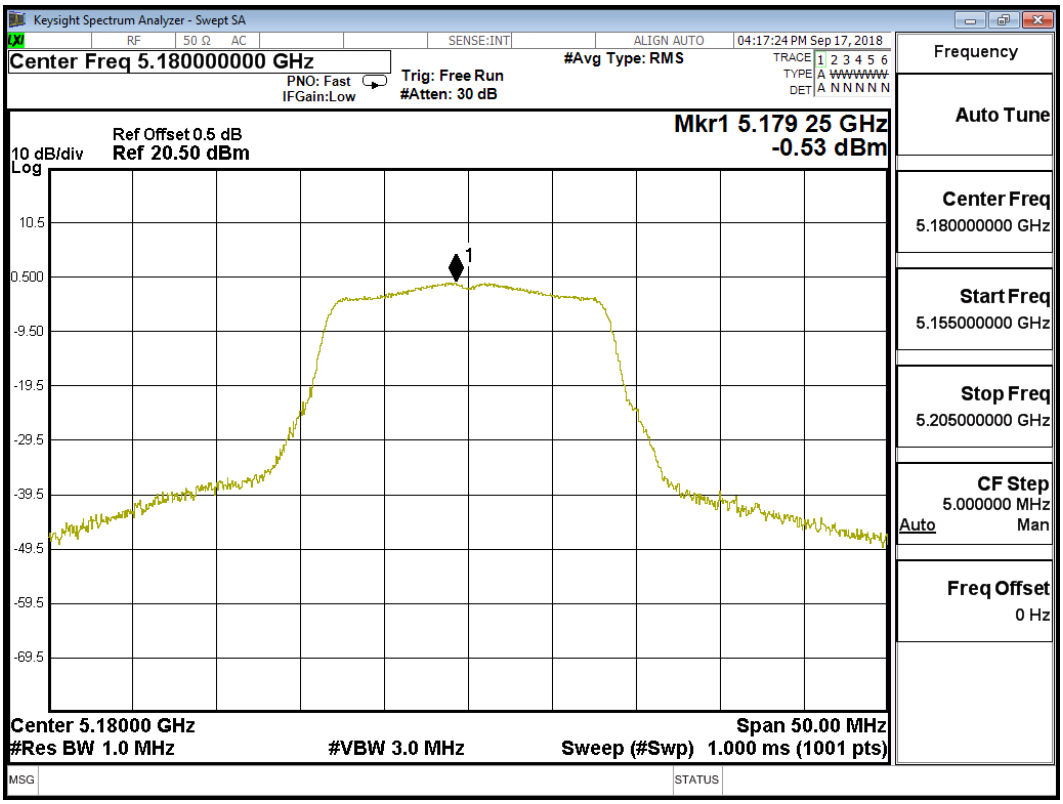
Product : VUZE-XR Camera
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	-0.530	11	Pass
44	5220	6	0.000	11	Pass
48	5240	6	0.170	11	Pass

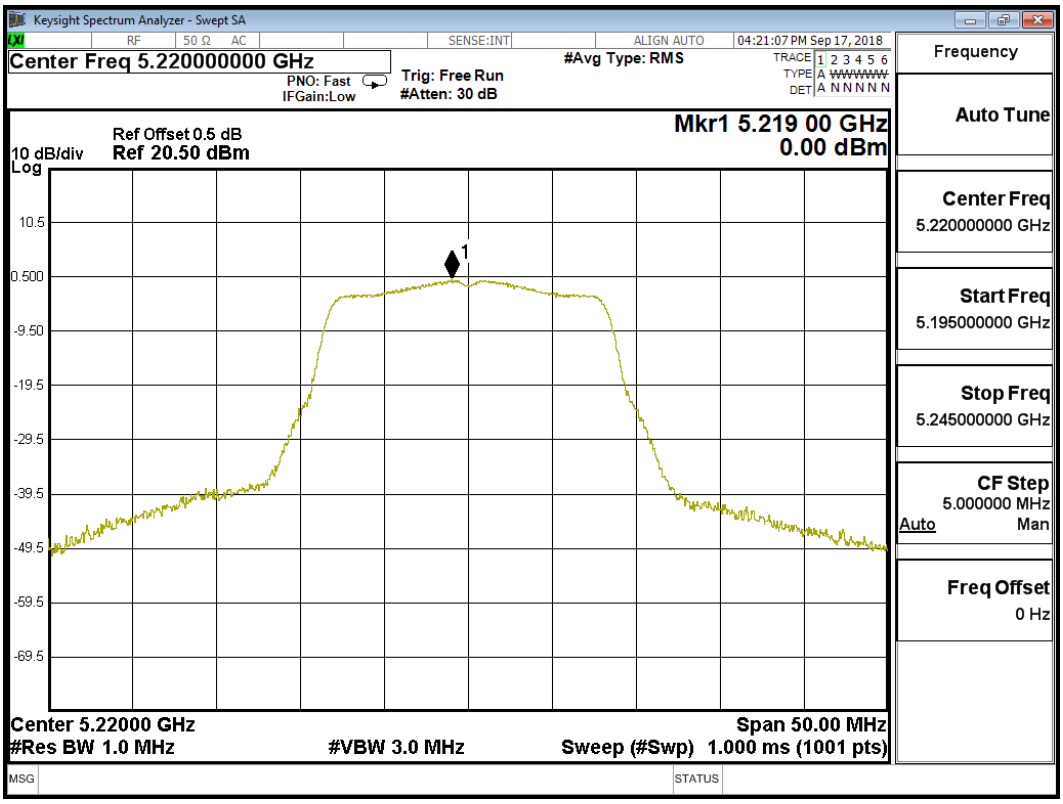
Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-8.710	6.980	-1.730	<30	Pass
157	5785	6	-8.940	6.980	-1.960	<30	Pass
165	5825	6	-9.600	6.980	-2.620	<30	Pass

Note: Total PPSD Value = PPSD value + BWCF.

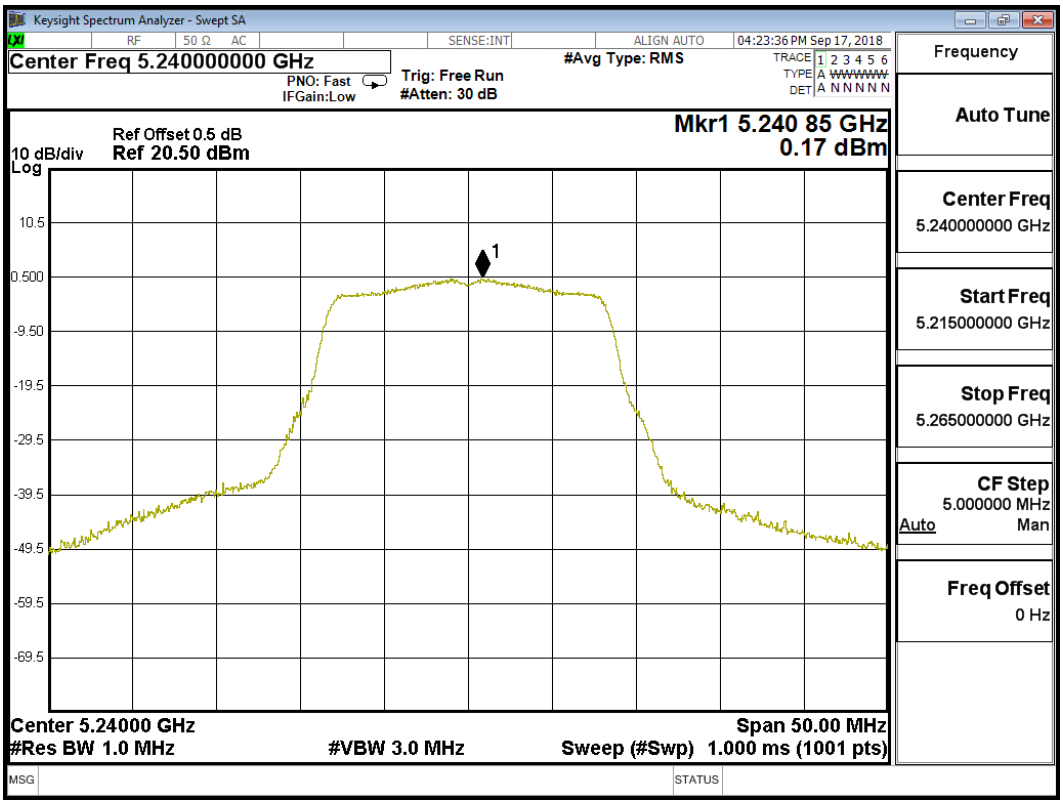
Channel 36:



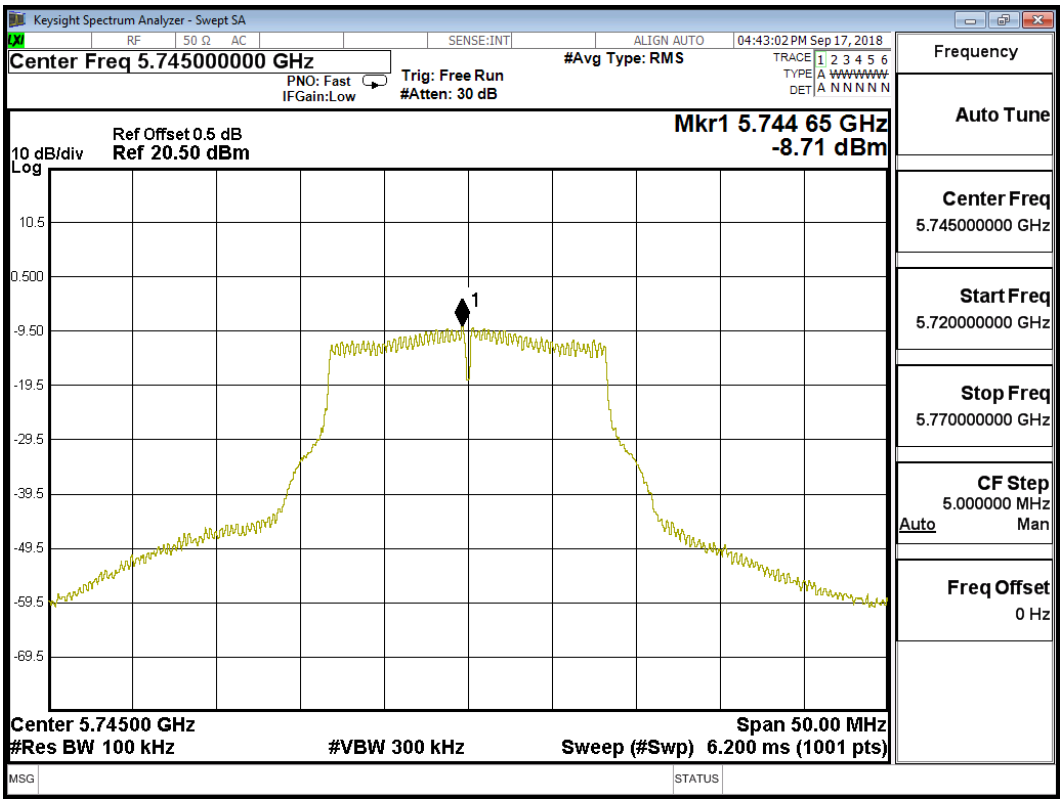
Channel 44:



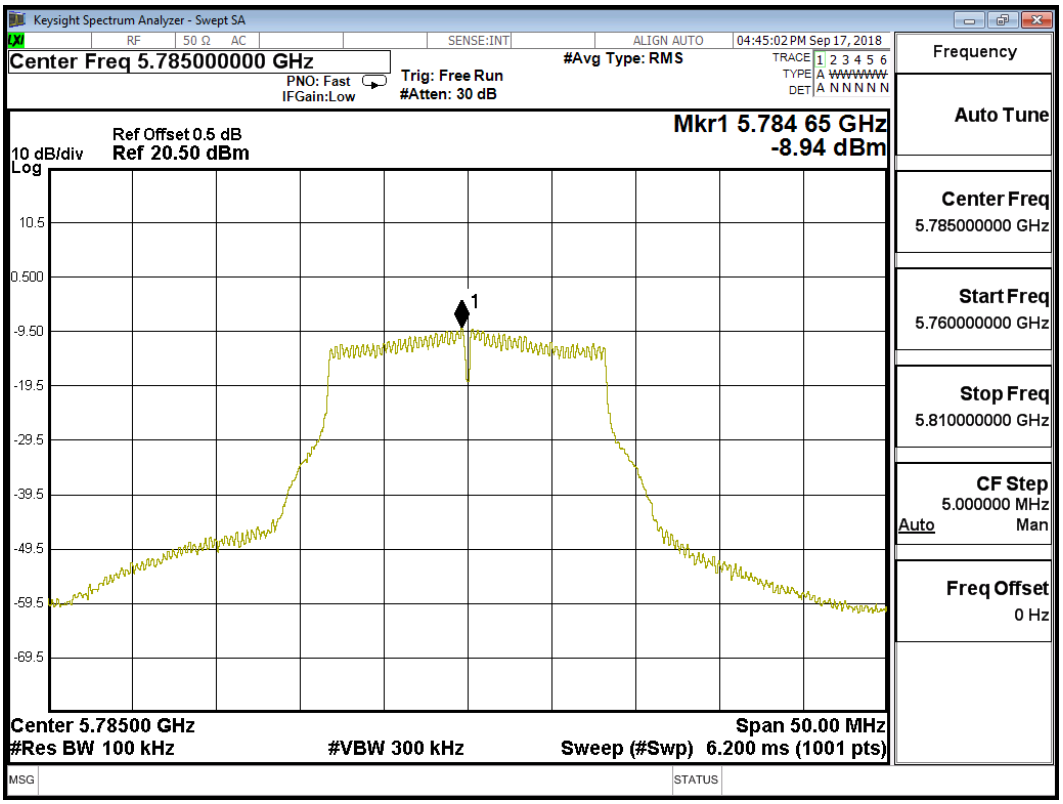
Channel 48:



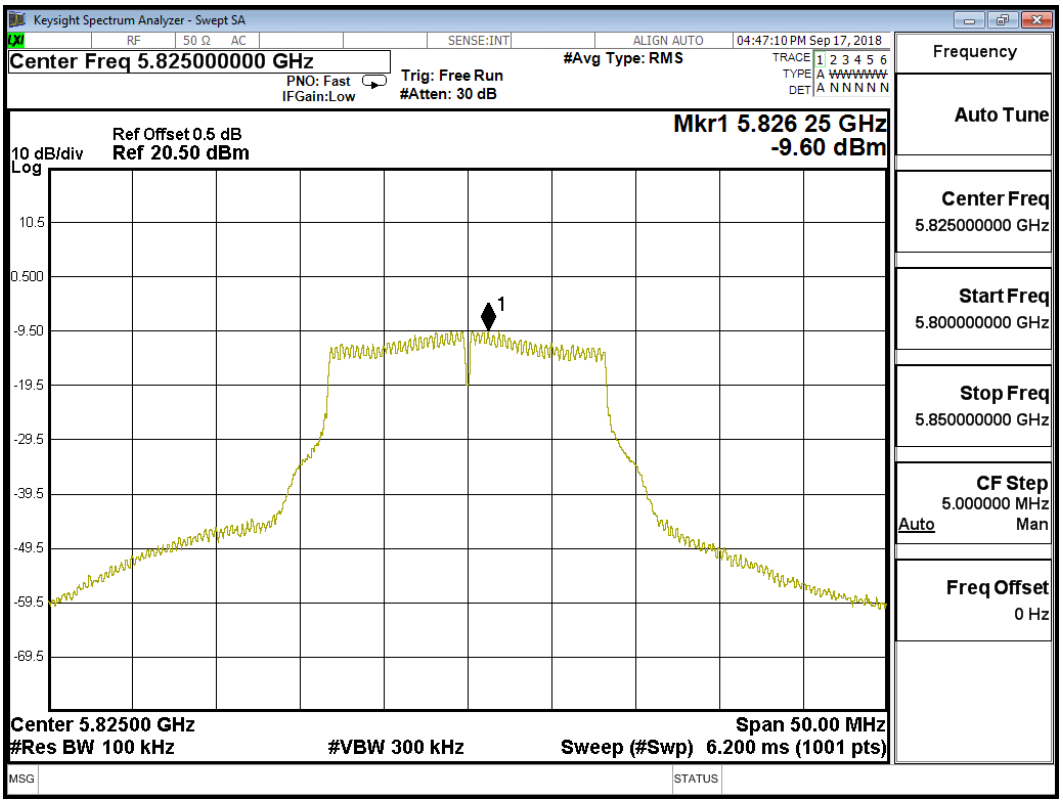
Channel 149



Channel 157



Channel 165



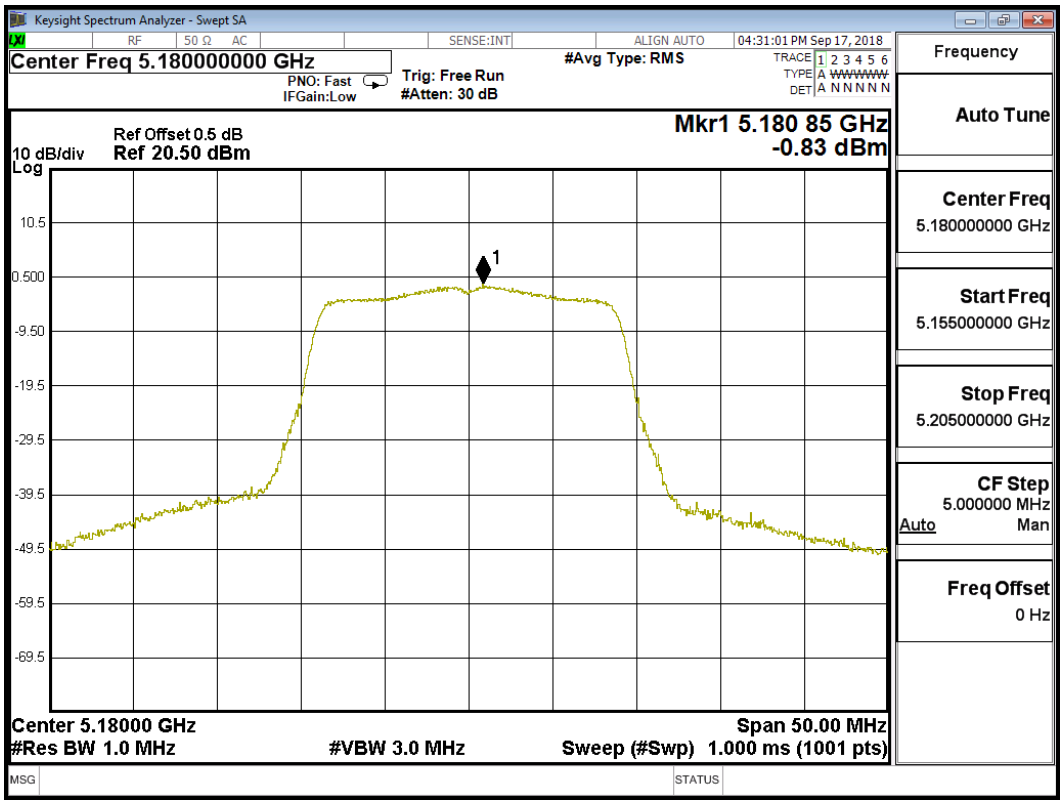
Product : VUZE-XR Camera
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	HT0	-0.830	11	Pass
44	5220	HT0	-0.720	11	Pass
48	5240	HT0	-0.460	11	Pass

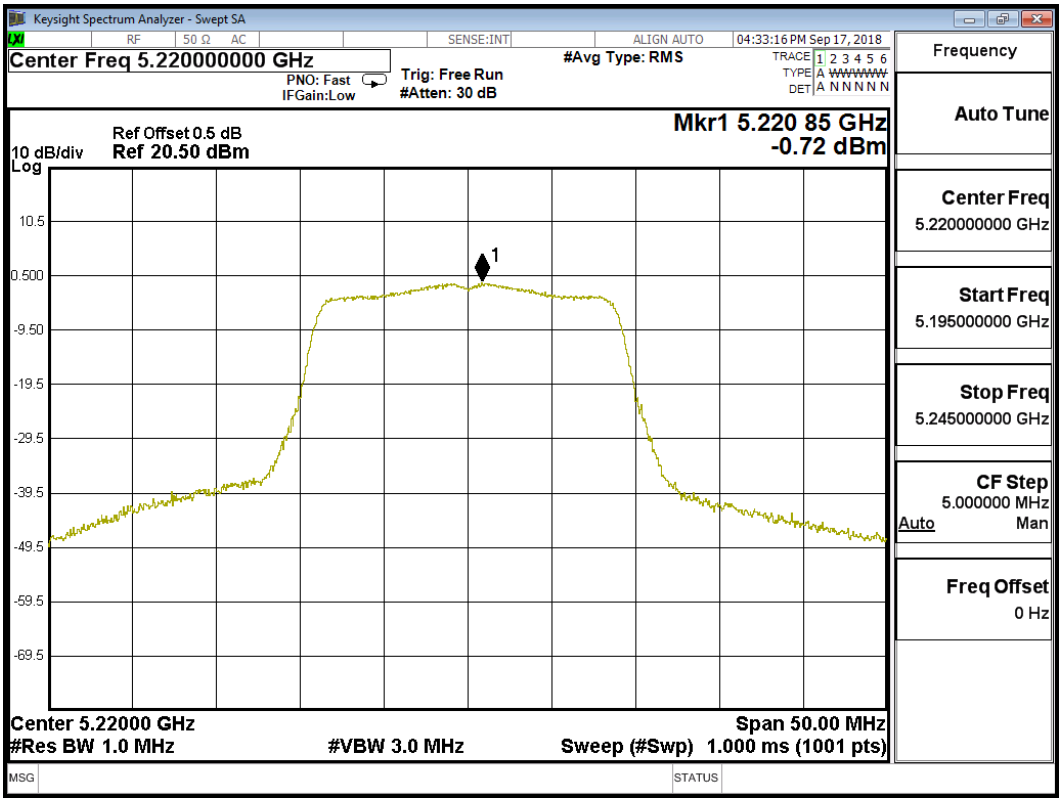
Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	HT0	-9.150	6.980	-2.170	<30	Pass
157	5785	HT0	-9.440	6.980	-2.460	<30	Pass
165	5825	HT0	-9.570	6.980	-2.590	<30	Pass

Note: Total PPSD Value = PPSD value + BWCF.

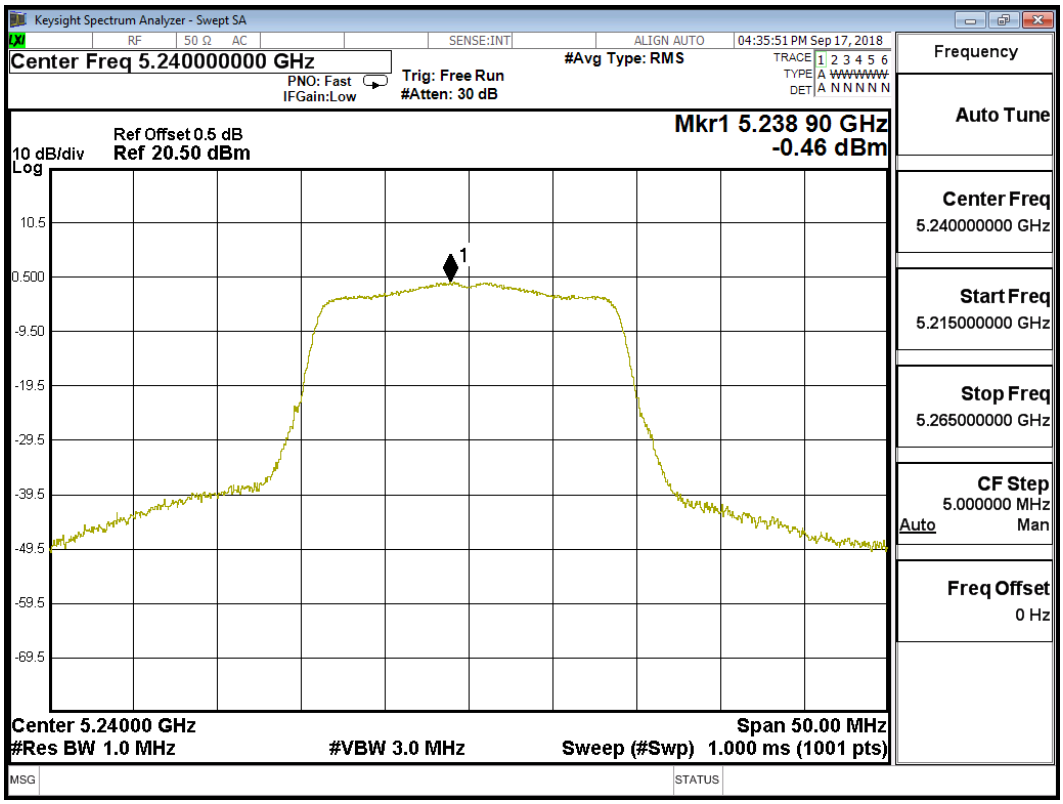
Channel 36



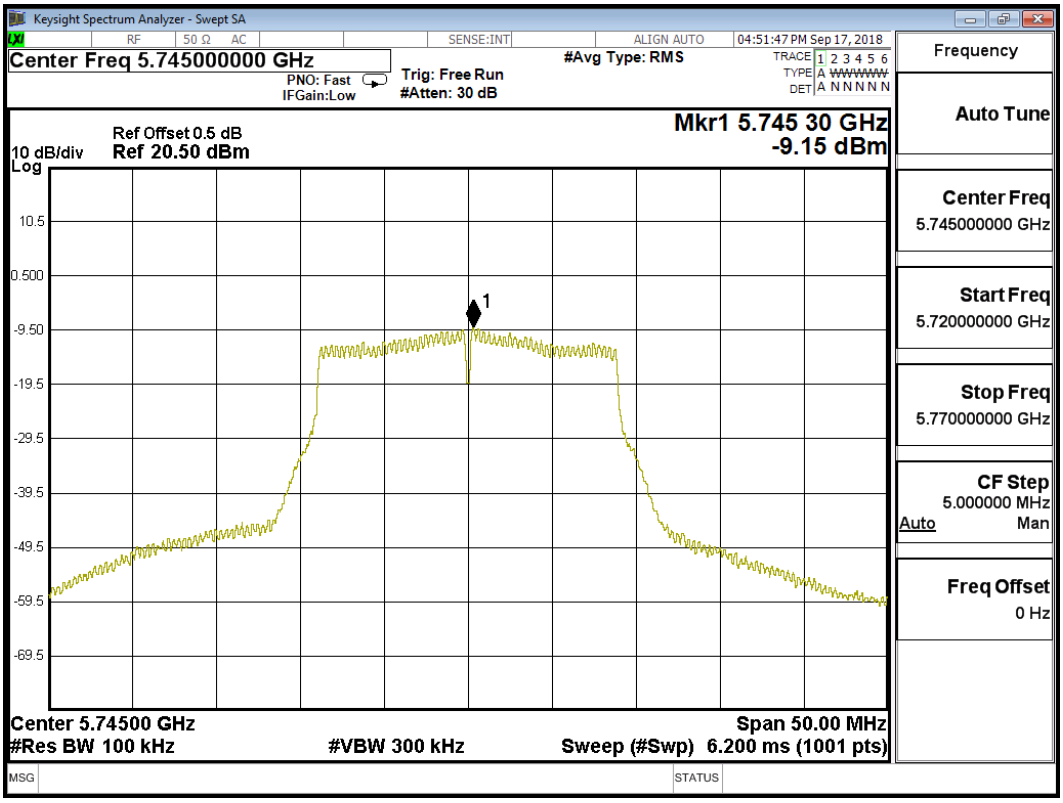
Channel 44



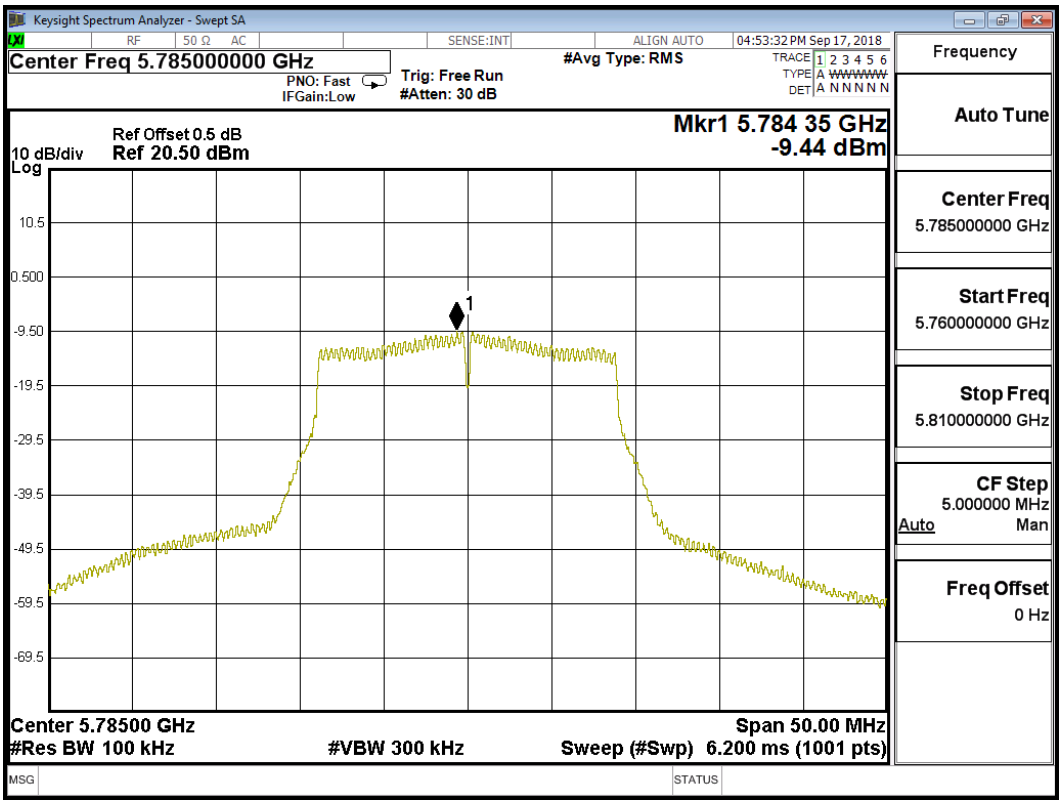
Channel 48



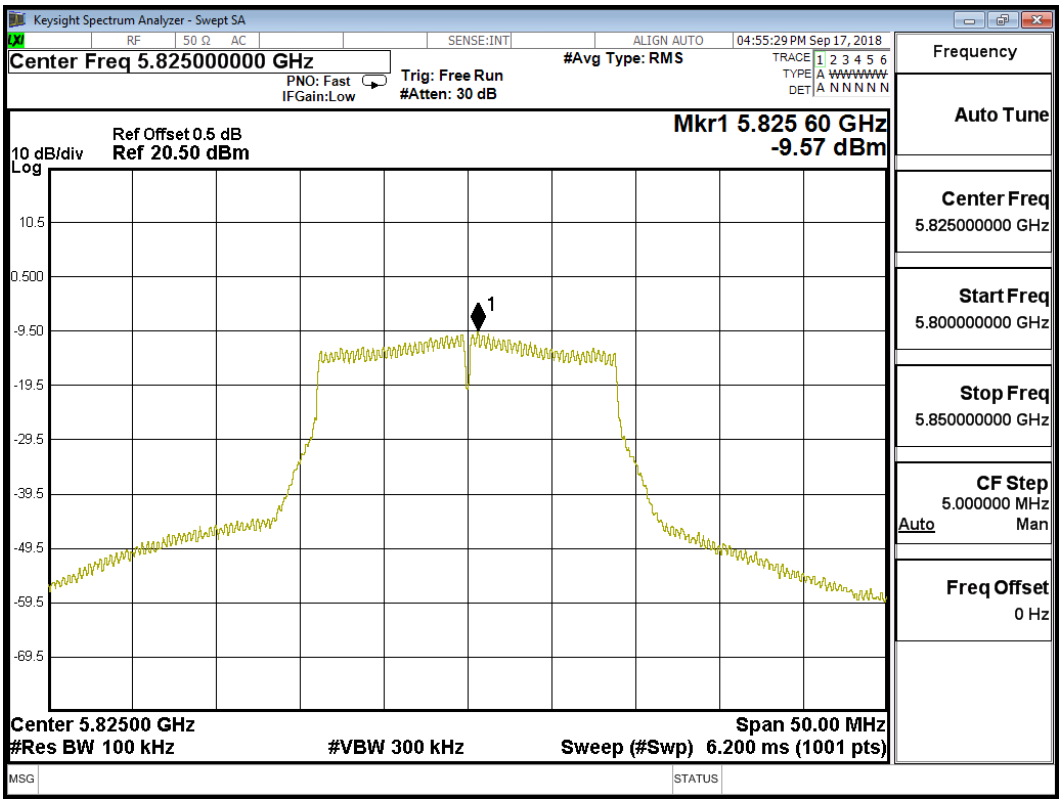
.Channel 149



Channel 157



Channel 165



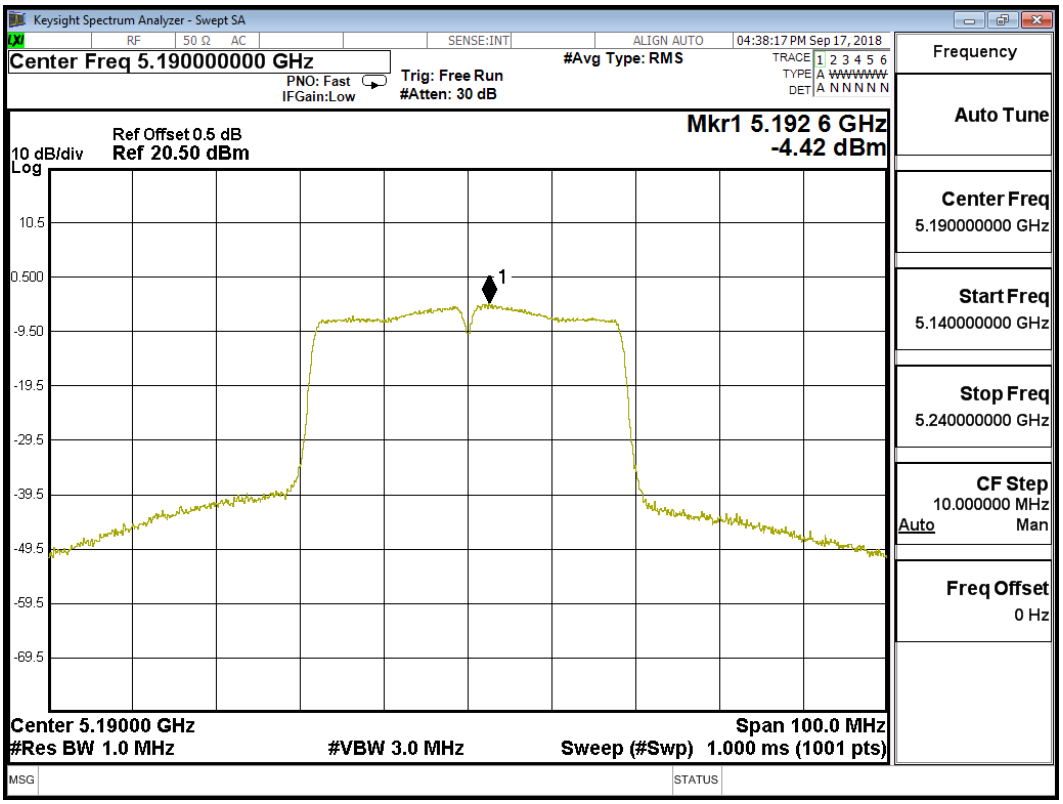
Product : VUZE-XR Camera
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	6	-4.420	11	Pass
46	5230	6	-4.120	11	Pass

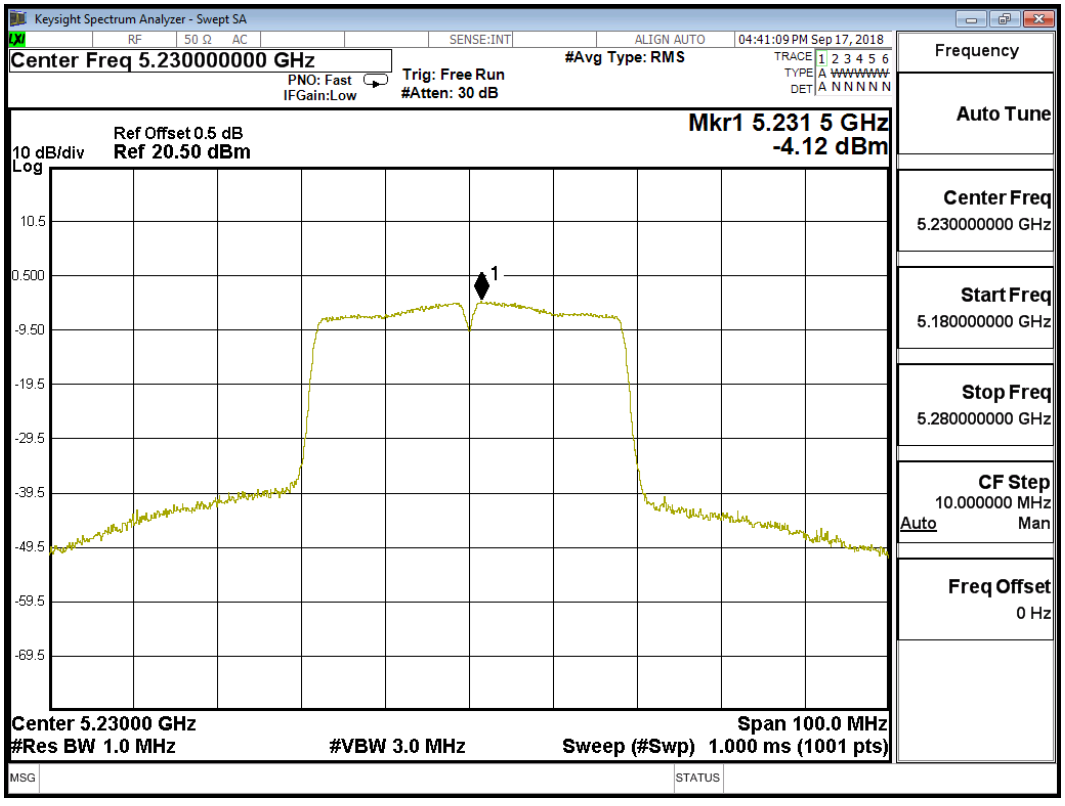
Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
151	5755	HT0	-13.400	6.980	-6.420	<30	Pass
159	5795	HT0	-13.720	6.980	-6.740	<30	Pass

Note: Total PPSD Value = PPSD value + BWCF.

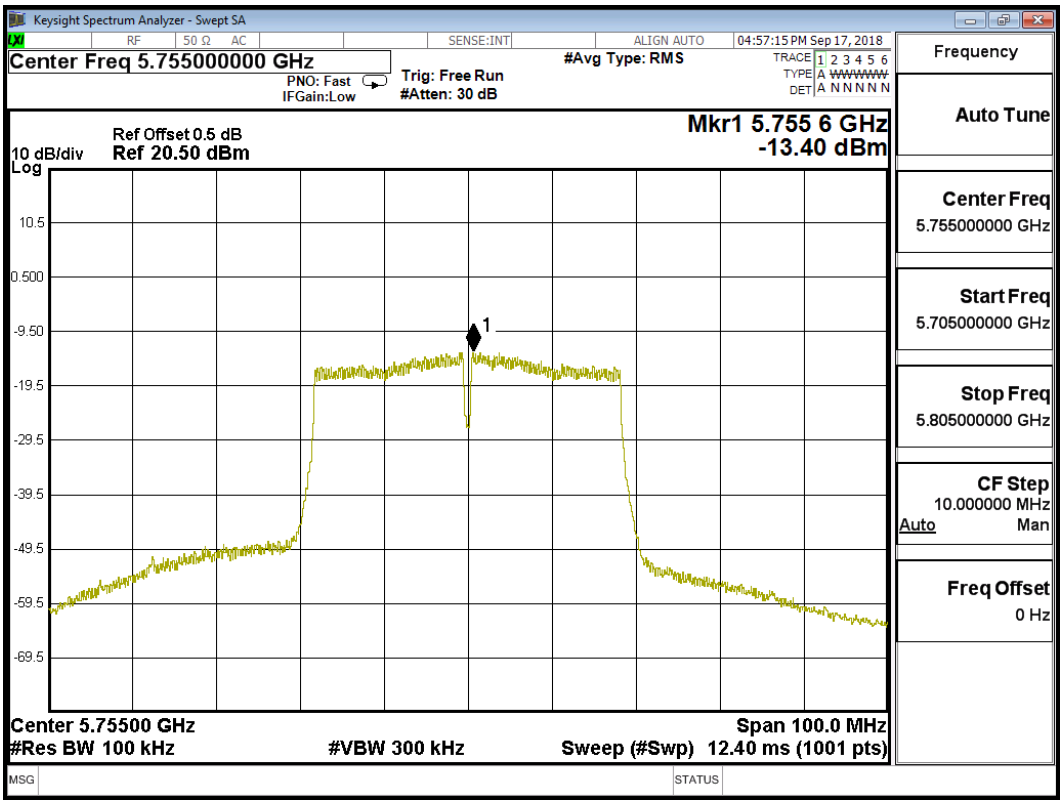
Channel 38



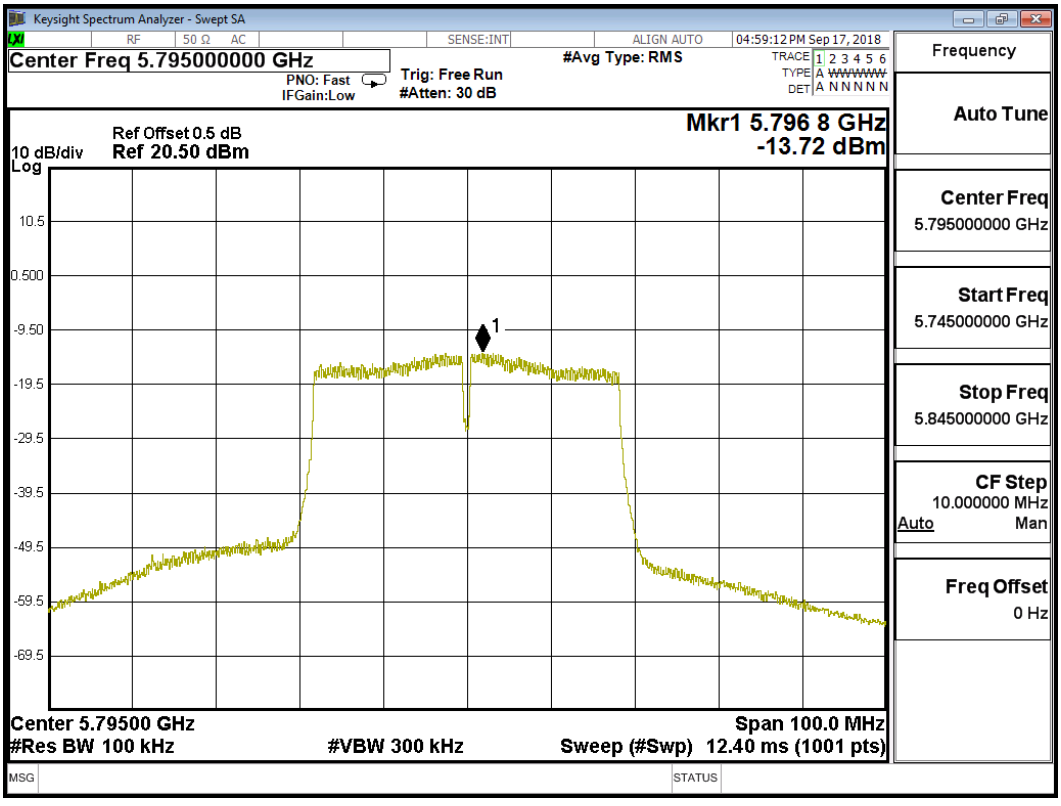
Channel 46



Channel 151



Channel 159

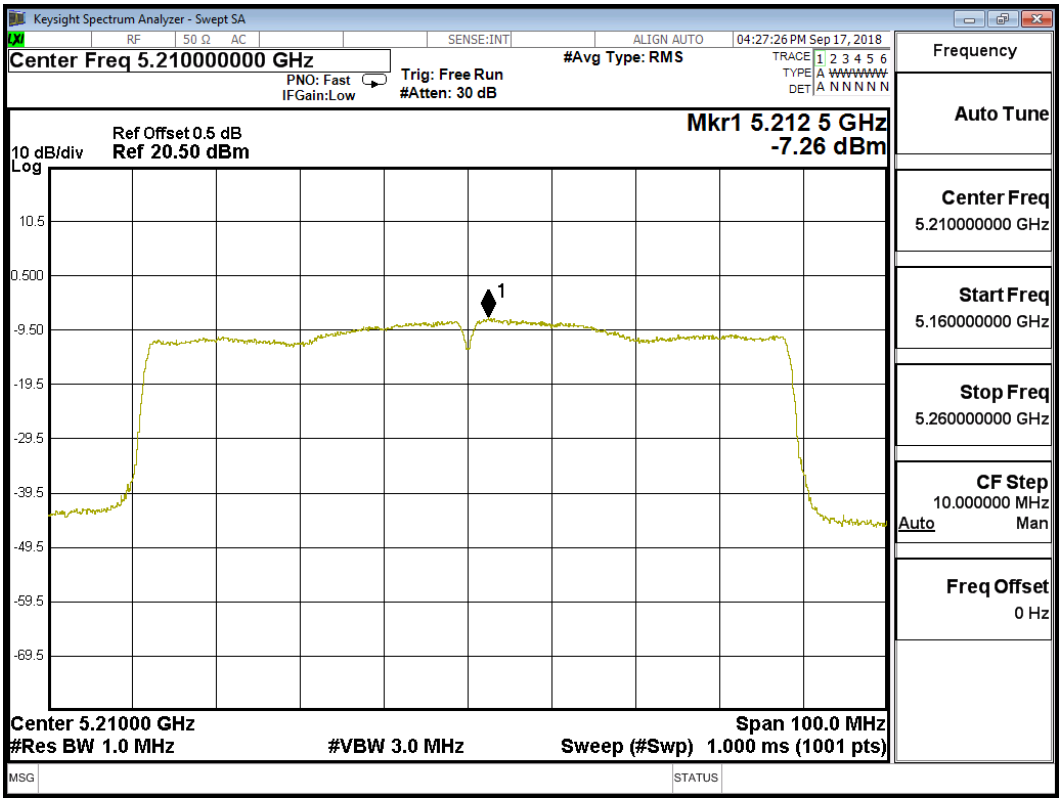


Product : VUZE-XR Camera
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)

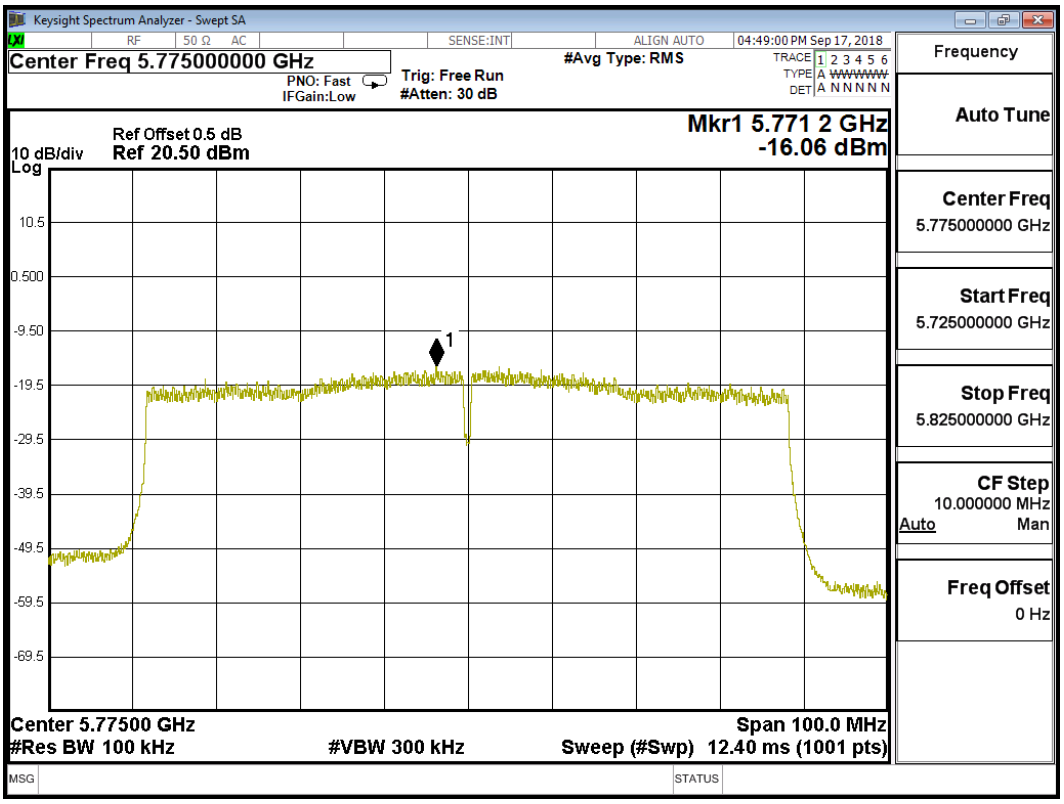
Channel Number	Frequency (MHz)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Result
42	5210	-7.260	--	-7.260	<11
155	5775	-16.060	6.98	-9.080	<30

Note: Total PPSD Value = PPSD value + BWCF

Channel 42



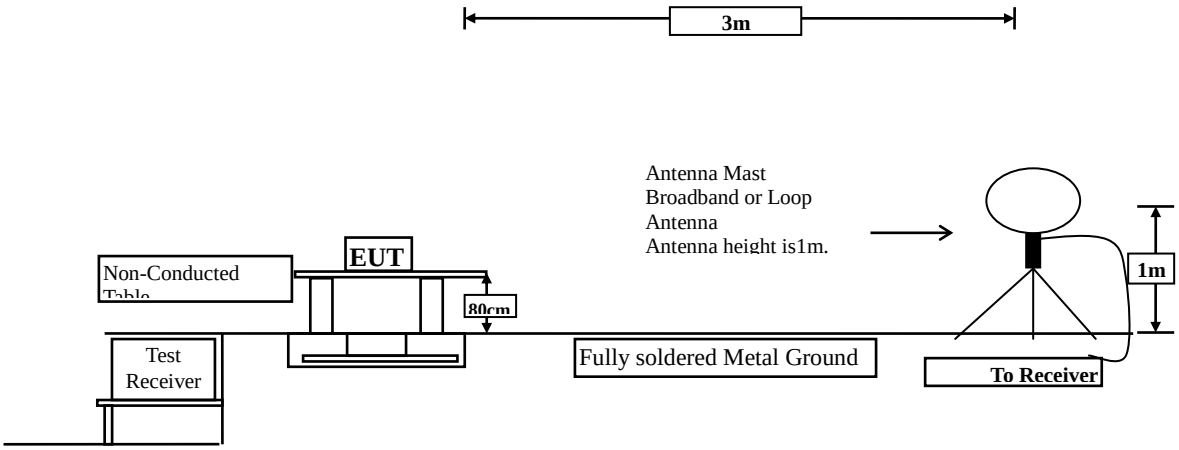
Channel 155



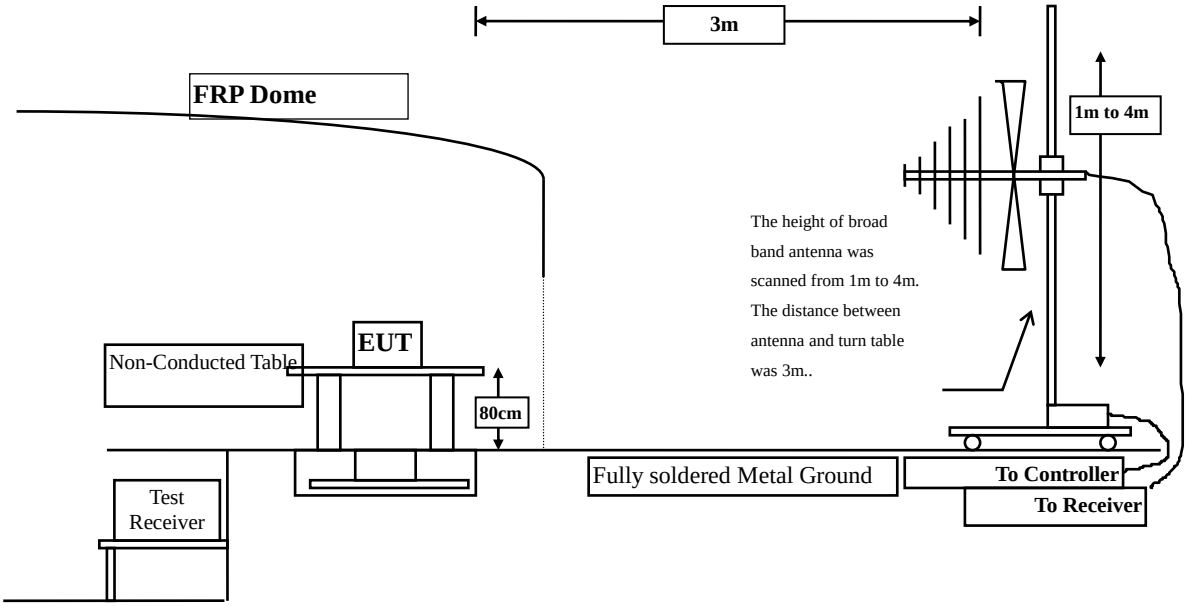
5. Radiated Emission

5.1. Test Setup

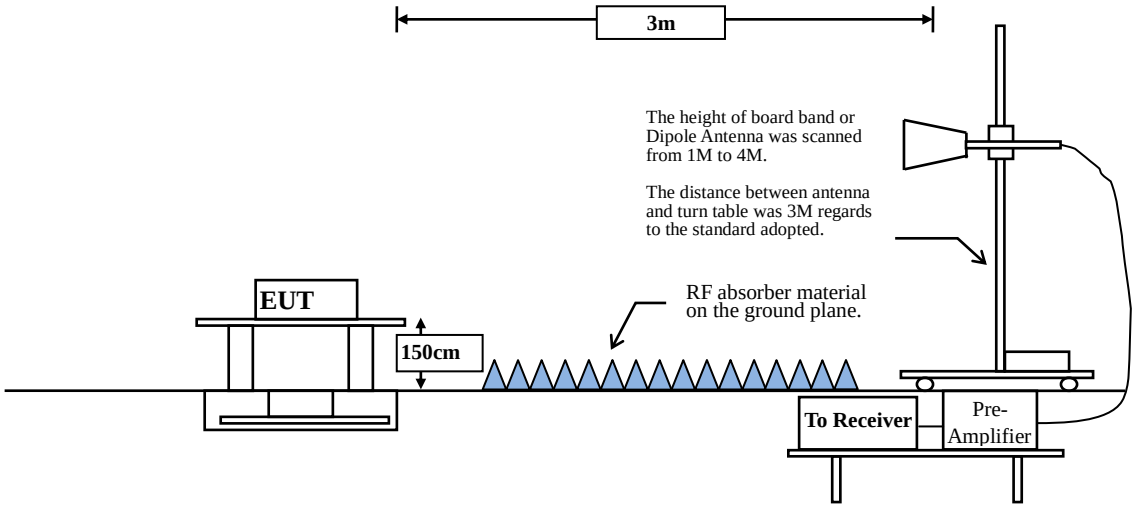
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



5.2. 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)

5.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 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 form 9kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW ≥ 3MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 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.)

5GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	92.34	1.4212	704	1K
802.11n20	92.30	1.3270	754	1K
802.11n40	84.03	0.6406	1561	3K
802.11ac80	69.33	0.3015	3317	5K

Note: Duty Cycle Refer to Section 8

5.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

5.5. Test Result of Radiated Emission

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10360.000	10.540	43.080	53.620	-20.380	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	12.044	41.840	53.883	-20.117	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10440.000	9.649	42.420	52.068	-21.932	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10440.000	11.429	42.310	53.738	-20.262	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10480.000	10.166	43.340	53.506	-20.494	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10480.000	12.101	41.480	53.581	-20.419	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11490.000	14.326	37.570	51.895	-22.105	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical Peak Detector:					
11490.000	15.842	37.720	53.561	-20.439	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11570.000	14.849	37.430	52.279	-21.721	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11570.000	16.215	37.600	53.814	-20.186	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11650.000	13.179	36.220	49.399	-24.601	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11650.000	14.634	36.400	51.034	-22.966	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10360.000	10.540	42.630	53.170	-20.830	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	12.044	41.570	53.613	-20.387	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10440.000	9.649	42.390	52.038	-21.962	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10440.000	11.429	41.710	53.138	-20.862	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10480.000	10.166	42.030	52.196	-21.804	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10480.000	12.101	41.850	53.951	-20.049	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5745MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11490.000	14.326	37.230	51.555	-22.445	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11490.000	15.842	37.480	53.321	-20.679	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11570.000	14.849	37.270	52.119	-21.881	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11570.000	16.215	37.720	53.934	-20.066	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5825MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11650.000	13.179	36.430	49.609	-24.391	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11650.000	14.634	36.240	50.874	-23.126	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10380.000	10.164	41.990	52.154	-21.846	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10380.000	11.729	42.110	53.840	-20.160	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10460.000	9.786	42.210	51.996	-22.004	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10460.000	11.644	41.740	53.384	-20.616	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11510.000	14.402	37.830	52.232	-21.768	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11510.000	15.894	38.070	53.964	-20.036	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5795MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11590.000	14.599	37.960	52.559	-21.441	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11590.000	16.007	37.940	53.947	-20.053	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10420.000	9.711	41.410	51.122	-22.878	74.000
11550.000	*	*	*	*	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10420.000	11.415	42.290	53.705	-20.295	74.000
11550.000	*	*	*	*	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 : 2018/09/04
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11550.000	14.599	37.660	52.259	-21.741	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11550.000	16.007	37.870	53.877	-20.123	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
105.913	-7.662	35.400	27.738	-15.762	43.500
419.406	-0.249	36.795	36.546	-9.454	46.000
491.101	1.527	31.125	32.652	-13.348	46.000
713.217	3.793	27.596	31.390	-14.610	46.000
791.942	6.389	28.419	34.808	-11.192	46.000
841.145	6.084	27.703	33.786	-12.214	46.000
Vertical					
Peak Detector					
59.522	-11.334	40.568	29.235	-10.765	40.000
105.913	-4.505	38.188	33.683	-9.817	43.500
380.043	0.952	26.061	27.013	-18.987	46.000
540.304	2.156	25.796	27.952	-18.048	46.000
614.812	1.709	25.297	27.006	-18.994	46.000
791.942	2.684	28.482	31.166	-14.834	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
105.913	-7.662	38.038	30.376	-13.124	43.500
419.406	-0.249	35.887	35.638	-10.362	46.000
491.101	1.527	32.235	33.762	-12.238	46.000
713.217	3.793	27.168	30.962	-15.038	46.000
791.942	6.389	28.694	35.083	-10.917	46.000
842.551	6.215	27.694	33.910	-12.090	46.000
Vertical					
Peak Detector					
105.913	-4.505	37.459	32.954	-10.546	43.500
378.638	0.816	26.125	26.941	-19.059	46.000
540.304	2.156	24.283	26.439	-19.561	46.000
614.812	1.709	25.814	27.523	-18.477	46.000
791.942	2.684	28.493	31.177	-14.823	46.000
842.551	2.364	26.072	28.437	-17.563	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
41.246	-5.608	37.134	31.526	-8.474	40.000
105.913	-7.662	36.937	29.275	-14.225	43.500
419.406	-0.249	35.813	35.564	-10.436	46.000
491.101	1.527	31.616	33.143	-12.857	46.000
713.217	3.793	26.301	30.095	-15.905	46.000
791.942	6.389	29.686	36.075	-9.925	46.000
Vertical					
Peak Detector					
59.522	-11.334	41.516	30.183	-9.817	40.000
380.043	0.952	26.347	27.299	-18.701	46.000
540.304	2.156	24.472	26.628	-19.372	46.000
614.812	1.709	25.401	27.110	-18.890	46.000
791.942	2.684	29.501	32.185	-13.815	46.000
842.551	2.364	26.892	29.257	-16.743	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
107.319	-7.605	35.576	27.972	-15.528	43.500
419.406	-0.249	35.975	35.726	-10.274	46.000
491.101	1.527	31.609	33.136	-12.864	46.000
565.609	1.958	27.158	29.116	-16.884	46.000
791.942	6.389	29.043	35.432	-10.568	46.000
842.551	6.215	26.428	32.644	-13.356	46.000
Vertical					
Peak Detector					
105.913	-4.505	34.790	30.285	-13.215	43.500
381.449	0.721	26.606	27.328	-18.672	46.000
540.304	2.156	24.827	26.983	-19.017	46.000
614.812	1.709	25.802	27.511	-18.489	46.000
791.942	2.684	28.651	31.335	-14.665	46.000
842.551	2.364	25.531	27.896	-18.104	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
105.913	-7.662	35.295	27.633	-15.867	43.500
419.406	-0.249	35.743	35.494	-10.506	46.000
491.101	1.527	31.903	33.430	-12.570	46.000
713.217	3.793	27.098	30.892	-15.108	46.000
791.942	6.389	29.339	35.728	-10.272	46.000
841.145	6.084	27.675	33.758	-12.242	46.000
Vertical					
Peak Detector					
107.319	-4.107	34.299	30.192	-13.308	43.500
378.638	0.816	26.503	27.319	-18.681	46.000
540.304	2.156	24.144	26.300	-19.700	46.000
614.812	1.709	26.008	27.717	-18.283	46.000
791.942	2.684	29.063	31.747	-14.253	46.000
841.145	2.297	25.981	28.277	-17.723	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
107.319	-7.605	35.935	28.331	-15.169	43.500
419.406	-0.249	36.978	36.729	-9.271	46.000
491.101	1.527	31.840	33.367	-12.633	46.000
713.217	3.793	26.644	30.438	-15.562	46.000
791.942	6.389	29.353	35.742	-10.258	46.000
842.551	6.215	26.720	32.936	-13.064	46.000
Vertical					
Peak Detector					
107.319	-4.107	35.236	31.129	-12.371	43.500
380.043	0.952	25.920	26.872	-19.128	46.000
540.304	2.156	25.073	27.229	-18.771	46.000
614.812	1.709	25.315	27.024	-18.976	46.000
780.696	2.767	28.135	30.902	-15.098	46.000
900.188	1.948	25.023	26.971	-19.029	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
107.319	-7.605	34.815	27.211	-16.289	43.500
419.406	-0.249	36.494	36.245	-9.755	46.000
491.101	1.527	31.935	33.462	-12.538	46.000
713.217	3.793	26.946	30.740	-15.260	46.000
791.942	6.389	29.497	35.886	-10.114	46.000
843.957	6.353	26.415	32.768	-13.232	46.000
Vertical					
Peak Detector					
59.522	-11.334	42.429	31.096	-8.904	40.000
105.913	-4.505	36.063	31.558	-11.942	43.500
381.449	0.721	26.956	27.678	-18.322	46.000
540.304	2.156	24.436	26.592	-19.408	46.000
614.812	1.709	25.702	27.411	-18.589	46.000
791.942	2.684	28.593	31.277	-14.723	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
104.507	-7.932	34.257	26.325	-17.175	43.500
419.406	-0.249	35.674	35.425	-10.575	46.000
491.101	1.527	32.193	33.720	-12.280	46.000
713.217	3.793	26.860	30.654	-15.346	46.000
791.942	6.389	29.268	35.657	-10.343	46.000
841.145	6.084	26.937	33.020	-12.980	46.000
Vertical					
Peak Detector					
107.319	-4.107	33.038	28.931	-14.569	43.500
381.449	0.721	26.319	27.041	-18.959	46.000
540.304	2.156	24.457	26.613	-19.387	46.000
614.812	1.709	25.746	27.455	-18.545	46.000
791.942	2.684	28.713	31.397	-14.603	46.000
841.145	2.297	25.606	27.902	-18.098	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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/09/04
Test Mode : Mode 5: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
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
Vertical					
Peak Detector					
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

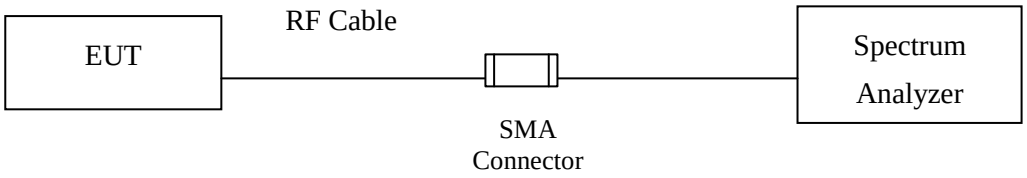
Note:

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 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.
6. No emission found between lowest internal used/generated frequency to 30MHz.

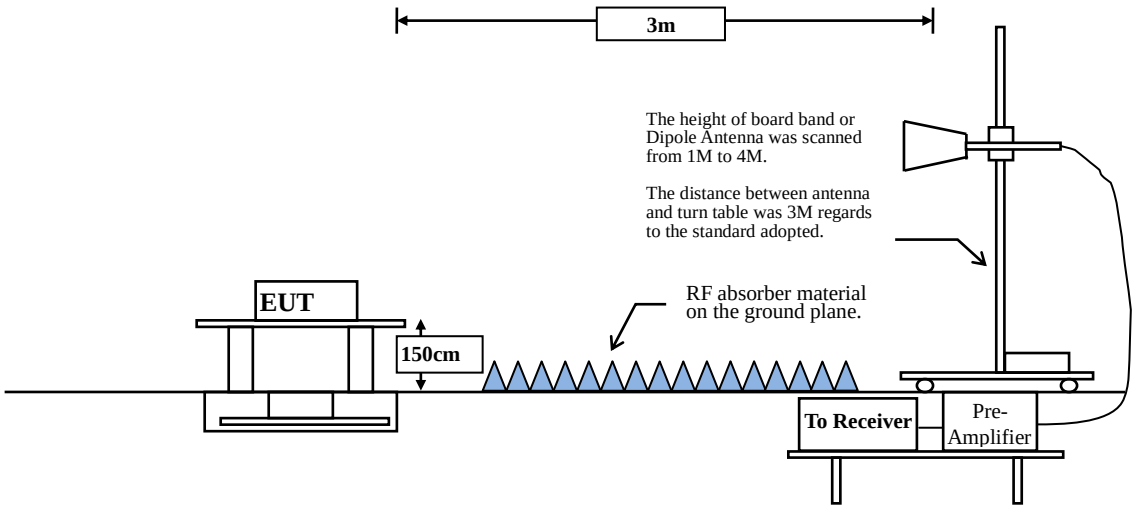
6. Band Edge

6.1. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



6.2. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBμV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBμV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

6.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 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 can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

RBW and VBW Parameter setting:

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW ≥ 3MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 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.)

5GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	92.34	1.4212	704	1K
802.11n20	92.30	1.3270	754	1K
802.11n40	84.03	0.6406	1561	3K
802.11ac80	69.33	0.3015	3317	5K

Note: Duty Cycle Refer to Section 8

6.4. Uncertainty

± 4.08 dB above 1GHz

± 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 : 2018/09/27
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

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
36 (Peak)	5135.072	2.841	58.068	60.909	74.00	54.00	Pass
36 (Peak)	5150.000	2.796	64.529	67.325	74.00	54.00	Pass
36 (Peak)	5180.725	2.693	101.464	104.157	--	--	--
36 (Average)	5127.536	2.863	37.582	40.445	74.00	54.00	Pass
36 (Average)	5150.000	2.796	42.462	45.258	74.00	54.00	Pass
36 (Average)	5181.159	2.692	90.957	93.649	--	--	--

Figure Channel 36: Horizontal (Peak)

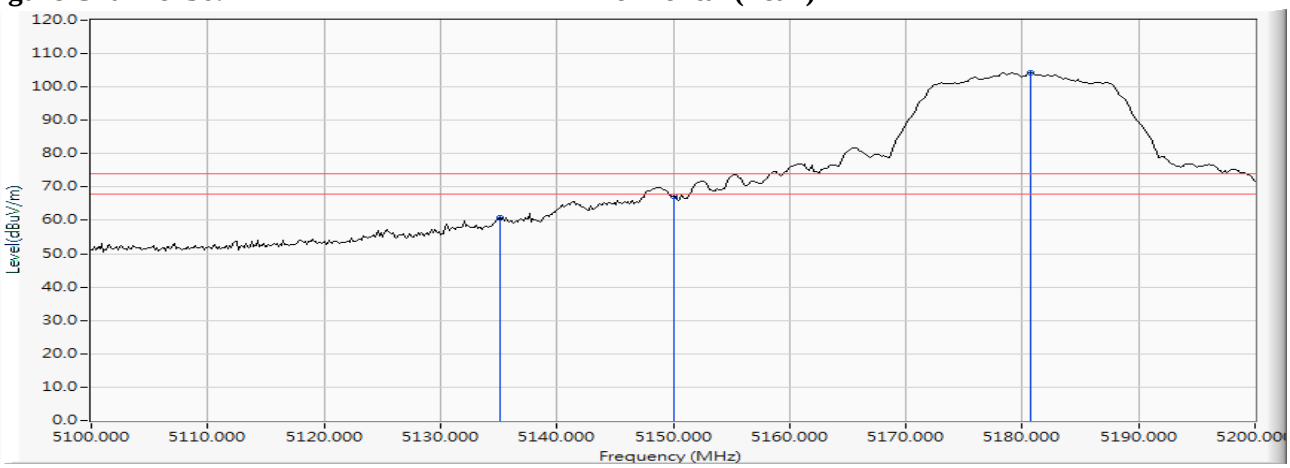
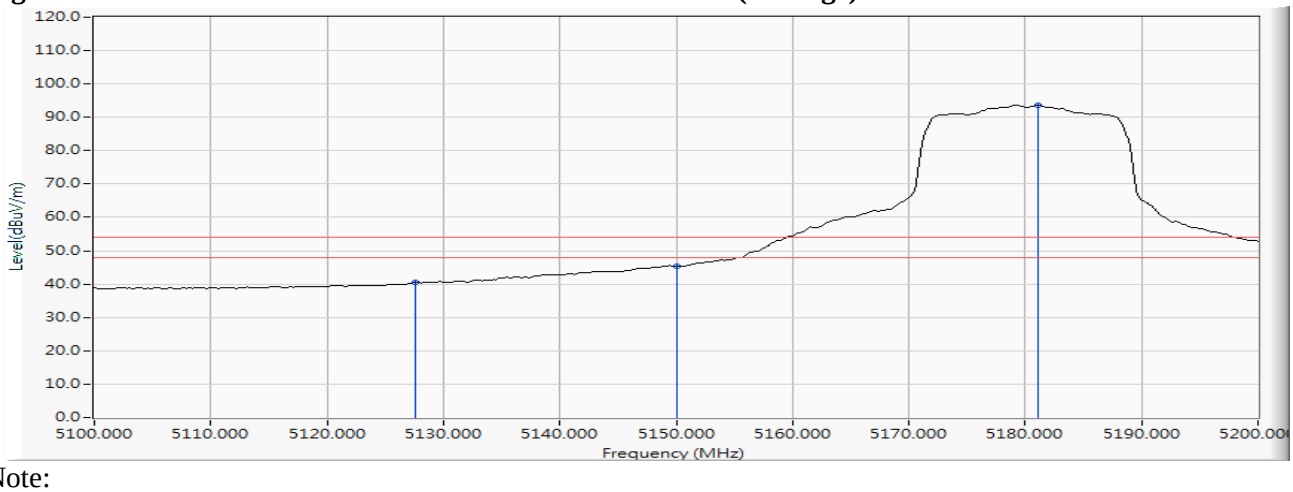


Figure Channel 36: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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 : 2018/09/27
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

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
36 (Peak)	5148.986	3.327	63.021	66.348	74.00	54.00	Pass
36 (Peak)	5150.000	3.331	60.320	63.652	74.00	54.00	Pass
36 (Peak)	5180.725	3.476	97.496	100.972	--	--	--
36 (Average)	5135.072	3.257	37.000	40.256	74.00	54.00	Pass
36 (Average)	5150.000	3.331	39.894	43.226	74.00	54.00	Pass
36 (Average)	5181.159	3.478	86.974	90.452	--	--	--

Figure Channel 36: Vertical (Peak)

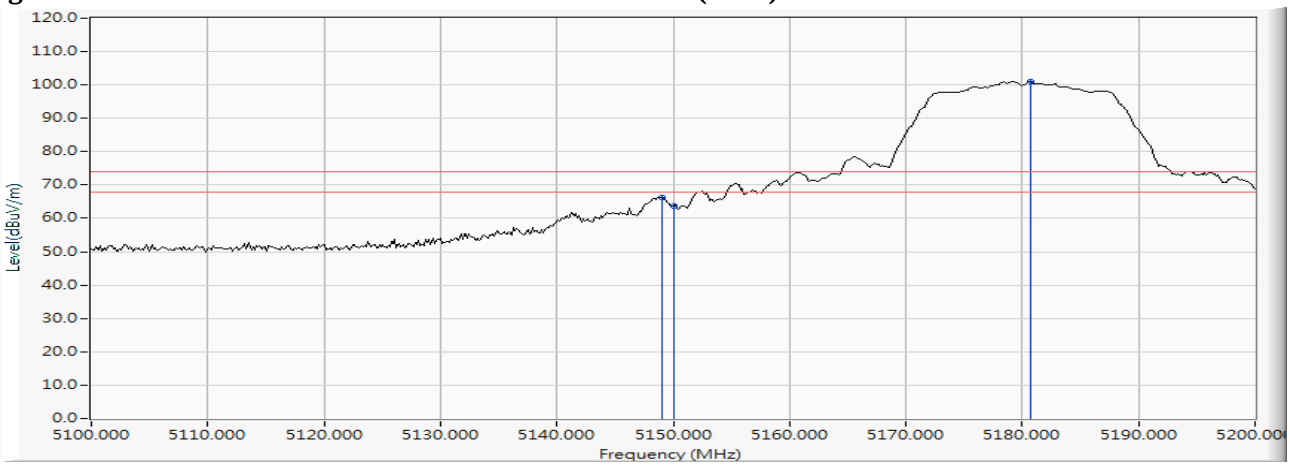
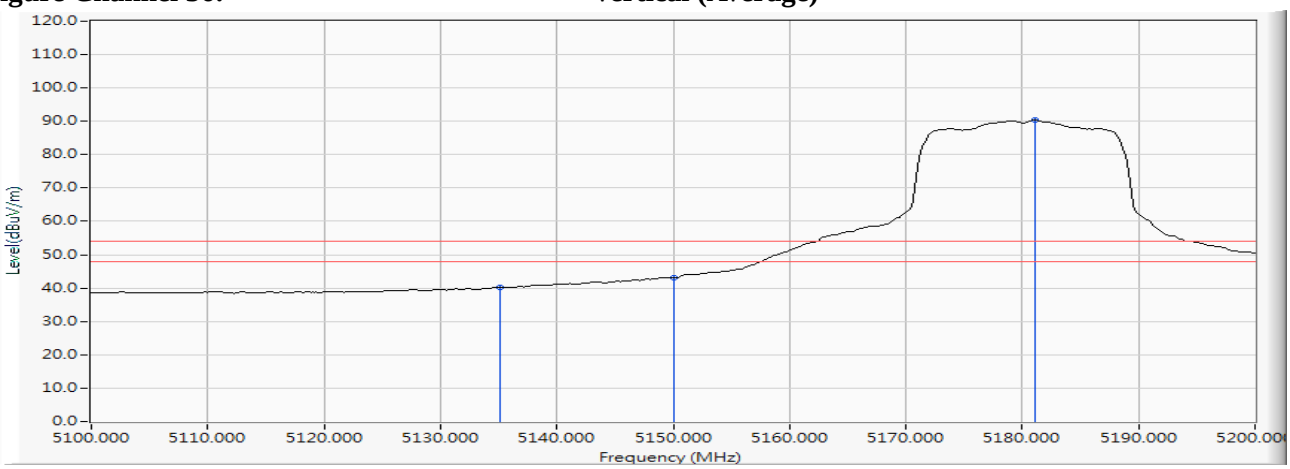


Figure Channel 36: Vertical (Average)

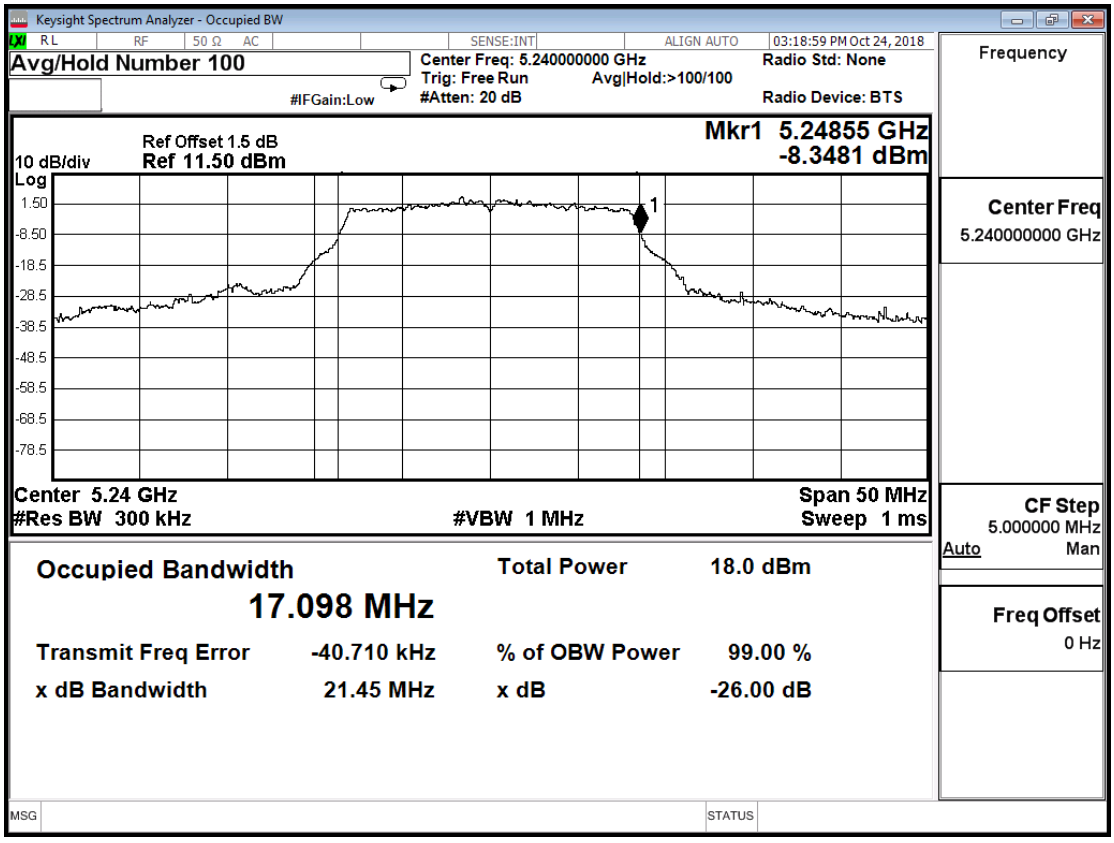


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

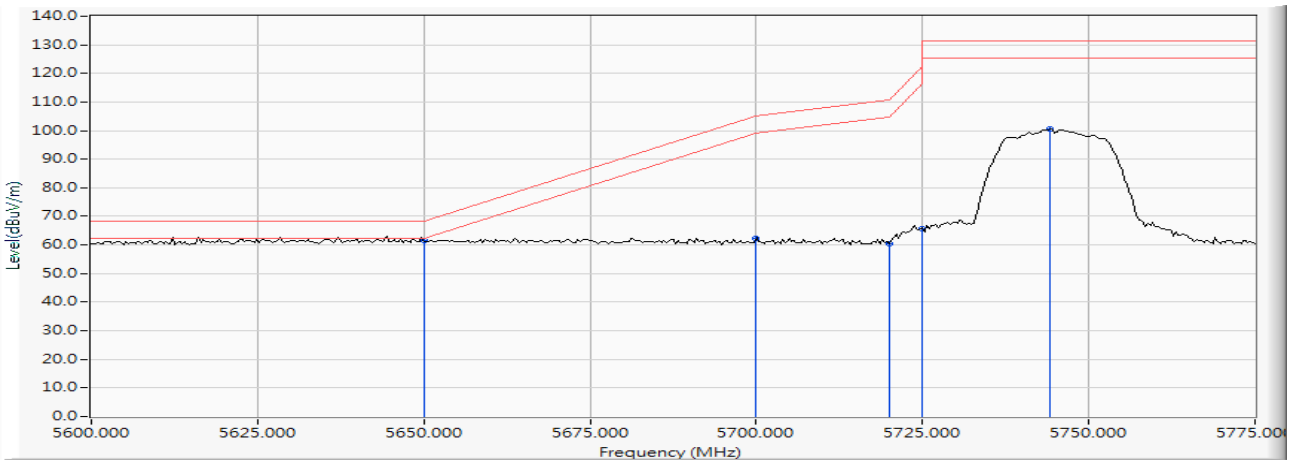
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5248.55	<5250	PASS

NOTE: Accordance with 15.215 requirement.

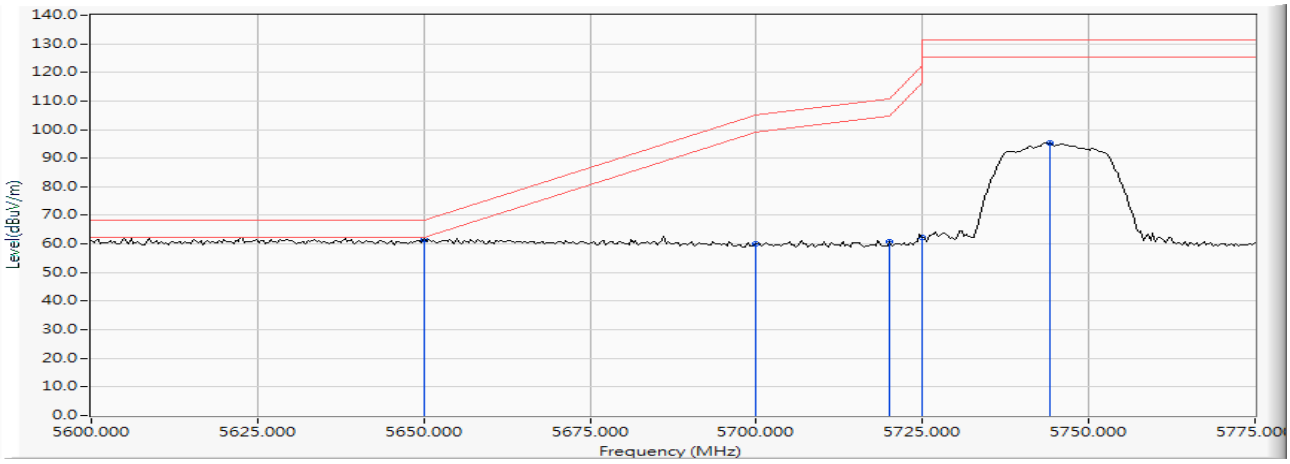


Product	:	VUZE-XR Camera
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/09/10
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)-Channel 149

RF Radiated Measurement:



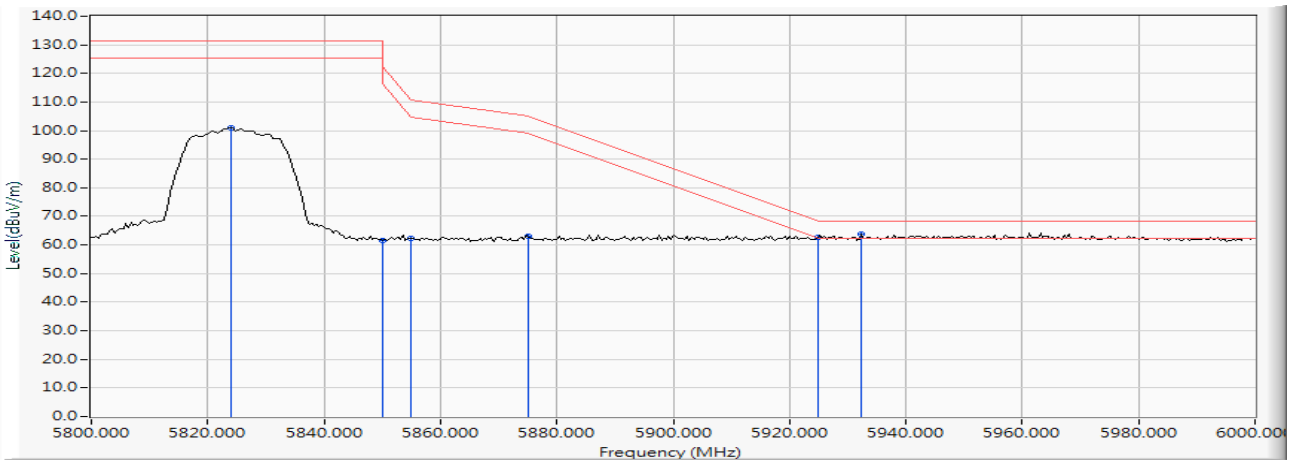
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5650.000	4.764	56.771	61.536	-6.684	68.220	Pass
Horizontal	5700.000	5.002	57.183	62.185	-43.015	105.200	Pass
Horizontal	5720.000	5.083	55.523	60.606	-50.194	110.800	Pass
Horizontal	5725.000	5.104	60.666	65.769	-56.431	122.200	Pass
Horizontal	5744.200	5.183	95.330	100.513	-30.687	131.200	Pass



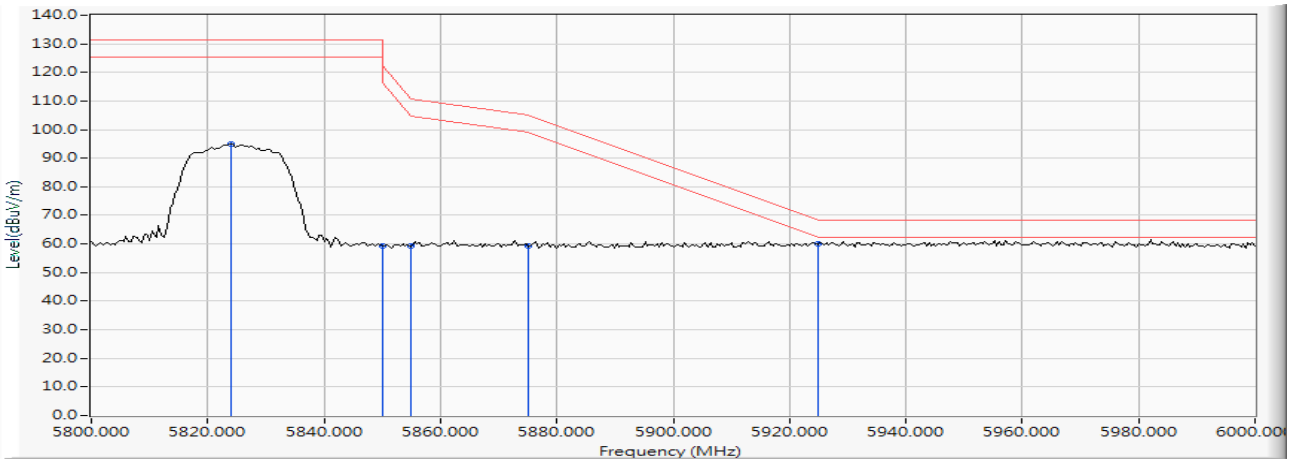
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5650.000	4.361	57.202	61.564	-6.656	68.220	Pass
Vertical	5700.000	4.176	55.722	59.898	-45.302	105.200	Pass
Vertical	5720.000	4.200	56.488	60.688	-50.112	110.800	Pass
Vertical	5725.000	4.215	58.021	62.236	-59.964	122.200	Pass
Vertical	5744.200	4.272	91.055	95.327	-35.873	131.200	Pass

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/10
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 165

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5824.000	5.534	95.375	100.909	-30.291	131.200	Pass
Horizontal	5850.000	5.715	56.017	61.732	-60.468	122.200	Pass
Horizontal	5855.000	5.757	56.567	62.324	-48.476	110.800	Pass
Horizontal	5875.000	5.931	57.084	63.015	-42.185	105.200	Pass
Horizontal	5925.000	6.245	56.560	62.806	-5.394	68.200	Pass
Horizontal	5932.400	6.270	57.689	63.959	-4.241	68.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5824.000	4.296	90.598	94.895	-36.305	131.200	Pass
Vertical	5850.000	4.194	54.987	59.181	-63.019	122.200	Pass
Vertical	5855.000	4.181	55.175	59.356	-51.444	110.800	Pass
Vertical	5875.000	4.137	55.282	59.419	-45.781	105.200	Pass
Vertical	5925.000	4.270	55.793	60.063	-8.137	68.200	Pass

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/27
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

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
36 (Peak)	5143.333	2.817	67.953	70.770	74.00	54.00	Pass
36 (Peak)	5150.000	2.796	70.576	73.372	74.00	54.00	Pass
36 (Peak)	5177.971	2.702	102.456	105.158	--	--	--
36 (Average)	5138.261	2.832	40.514	43.345	74.00	54.00	Pass
36 (Average)	5150.000	2.796	43.969	46.765	74.00	54.00	Pass
36 (Average)	5179.130	2.698	90.161	92.860	--	--	--

Figure Channel 36: Horizontal (Peak)

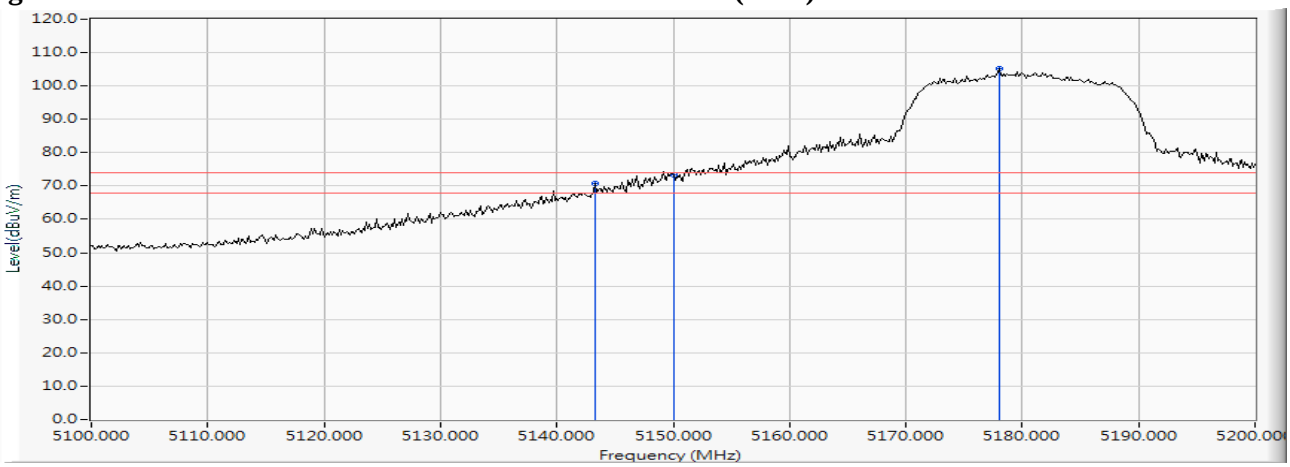
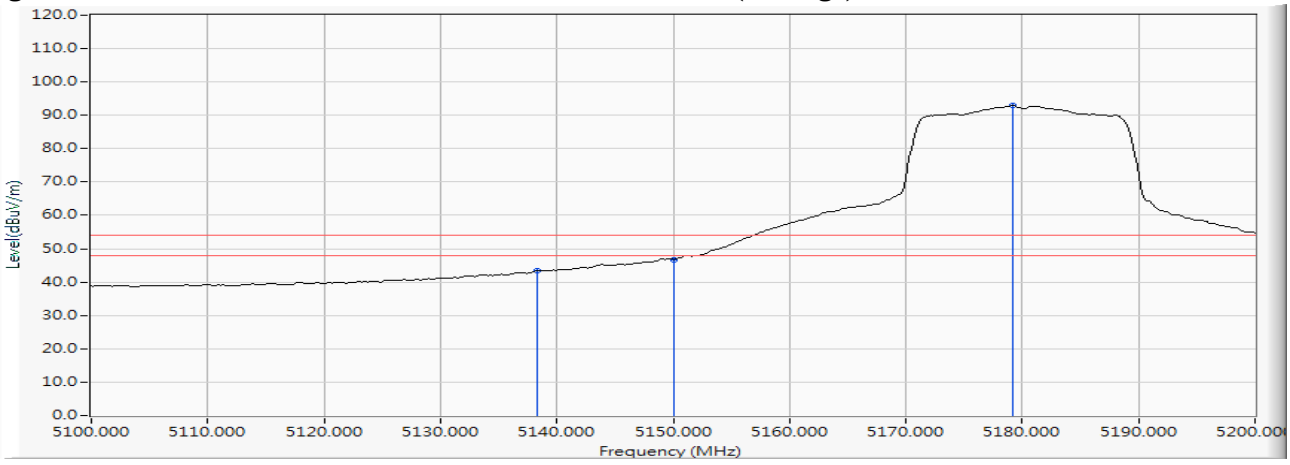


Figure Channel 36: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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 : 2018/09/27
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

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
36 (Peak)	5134.783	3.256	58.652	61.907	74.00	54.00	Pass
36 (Peak)	5150.000	3.331	64.509	67.841	74.00	54.00	Pass
36 (Peak)	5177.681	3.463	97.324	100.786	--	--	--
36 (Average)	5130.290	3.232	36.560	39.792	74.00	54.00	Pass
36 (Average)	5150.000	3.331	40.603	43.935	74.00	54.00	Pass
36 (Average)	5181.304	3.479	85.986	89.465	--	--	--

Figure Channel 36: Vertical (Peak)

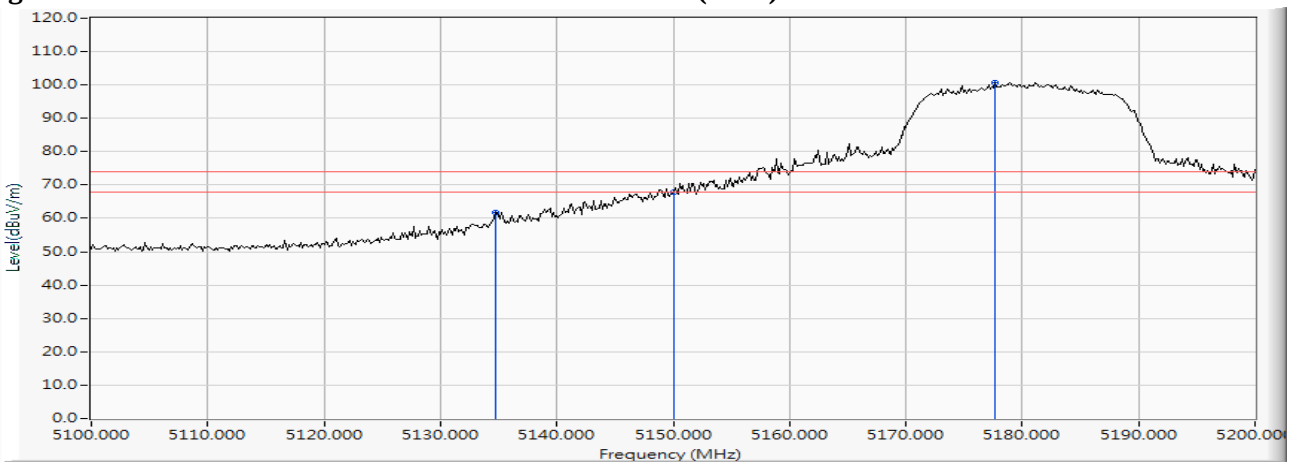


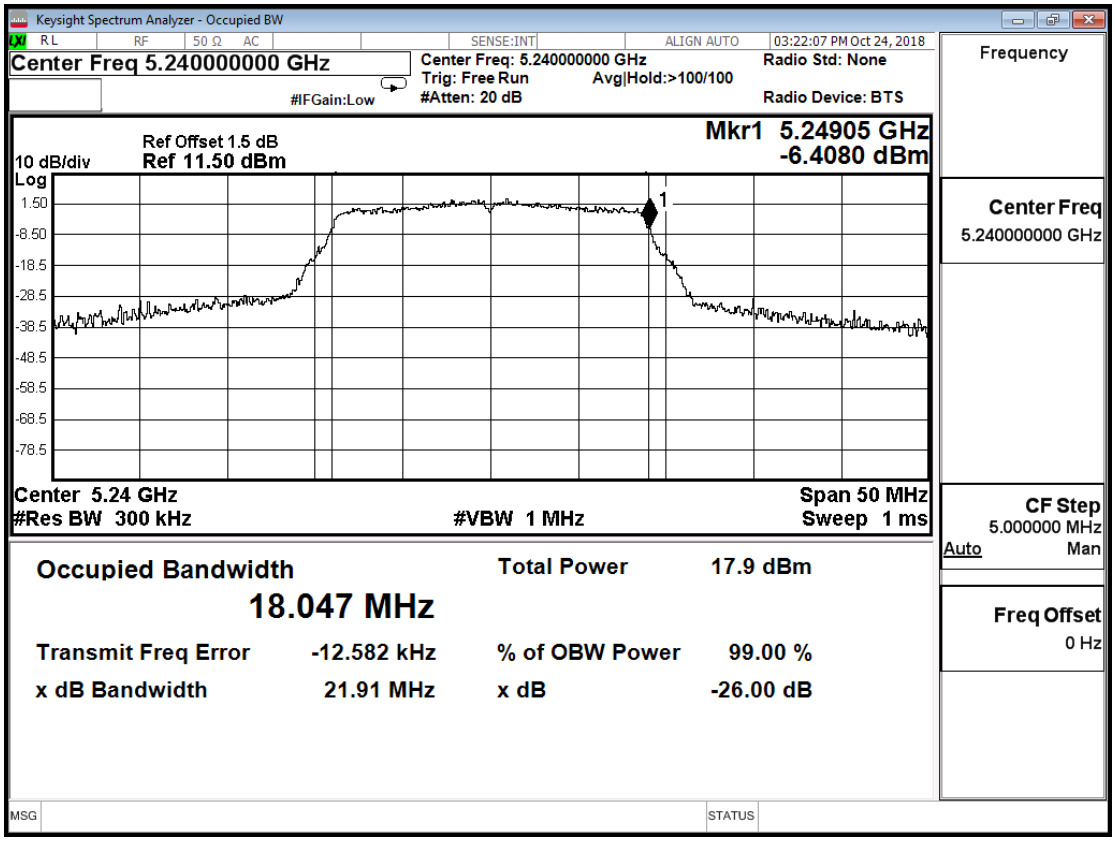
Figure Channel 36: Vertical (Average)

Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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 Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) Channel 48

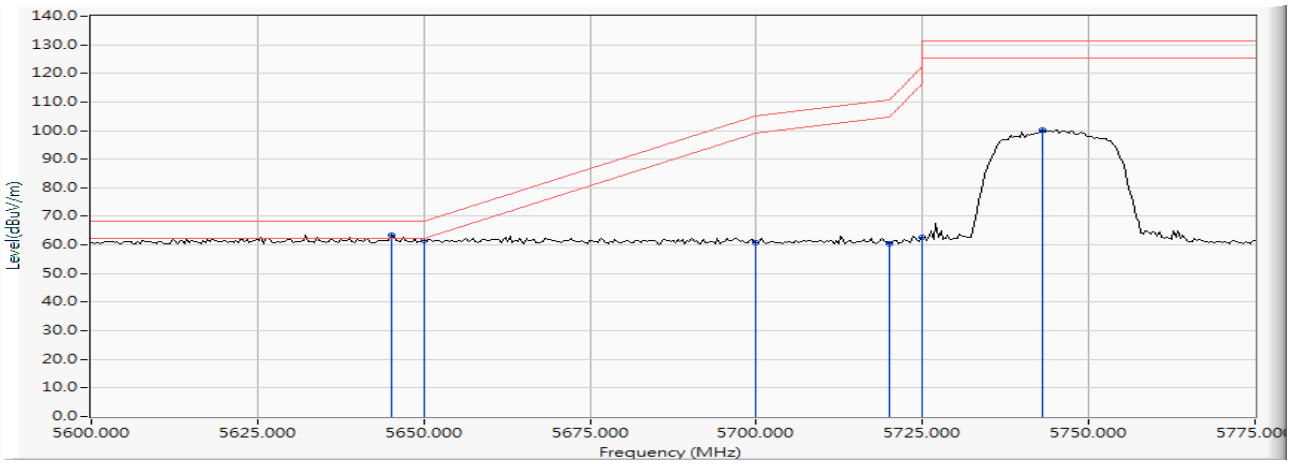
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.05	<5250	PASS

NOTE: Accordance with 15.215 requirement.

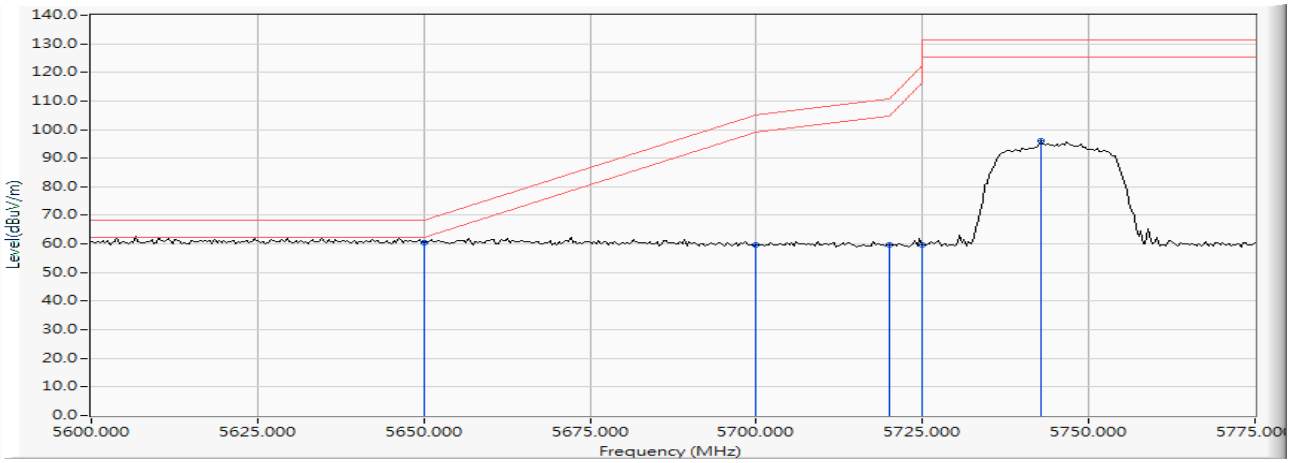


Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/10
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)-Channel 149

RF Radiated Measurement:



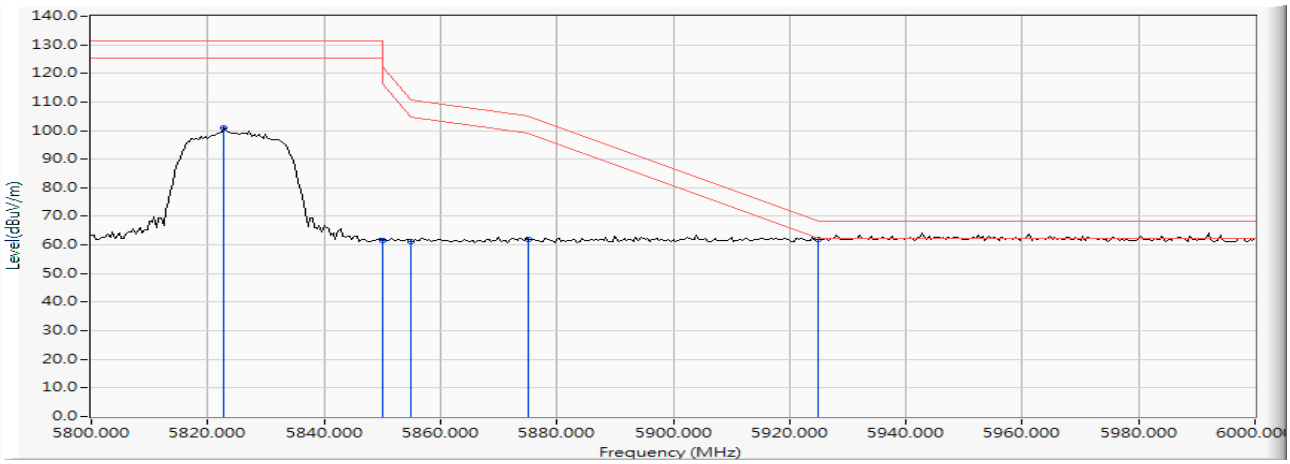
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5645.150	4.718	58.677	63.394	-4.826	68.220	Pass
Horizontal	5650.000	4.764	56.812	61.577	-6.643	68.220	Pass
Horizontal	5700.000	5.002	55.968	60.970	-44.230	105.200	Pass
Horizontal	5720.000	5.083	55.399	60.482	-50.318	110.800	Pass
Horizontal	5725.000	5.104	57.457	62.560	-59.640	122.200	Pass
Horizontal	5743.150	5.180	95.121	100.300	-30.900	131.200	Pass



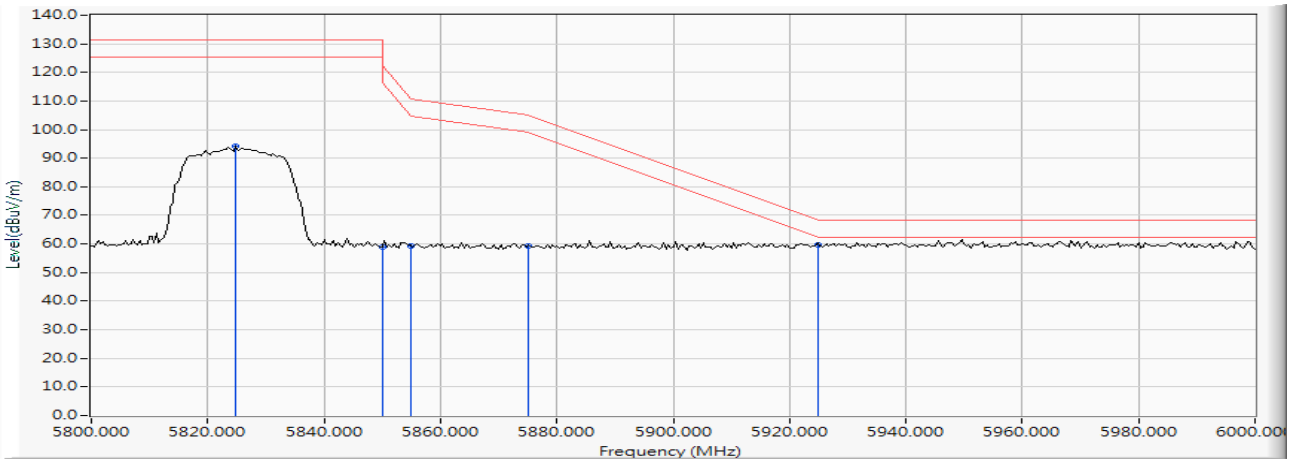
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5650.000	4.361	56.246	60.608	-7.612	68.220	Pass
Vertical	5700.000	4.176	55.372	59.548	-45.652	105.200	Pass
Vertical	5720.000	4.200	55.495	59.695	-51.105	110.800	Pass
Vertical	5725.000	4.215	55.360	59.575	-62.625	122.200	Pass
Vertical	5742.800	4.268	91.638	95.906	-35.294	131.200	Pass

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/10
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)-Channel 165

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5822.800	5.527	95.301	100.827	-30.373	131.200	Pass
Horizontal	5850.000	5.715	55.907	61.622	-60.578	122.200	Pass
Horizontal	5855.000	5.757	55.495	61.252	-49.548	110.800	Pass
Horizontal	5875.000	5.931	56.184	62.115	-43.085	105.200	Pass
Horizontal	5925.000	6.245	55.866	62.112	-6.088	68.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5824.800	4.294	89.985	94.278	-36.922	131.200	Pass
Vertical	5850.000	4.194	54.811	59.005	-63.195	122.200	Pass
Vertical	5855.000	4.181	55.240	59.421	-51.379	110.800	Pass
Vertical	5875.000	4.137	55.236	59.373	-45.827	105.200	Pass
Vertical	5925.000	4.270	55.480	59.750	-8.450	68.200	Pass

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/27
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 38

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
38 (Peak)	5137.971	2.832	65.525	68.357	74.00	54.00	Pass
38 (Peak)	5150.000	2.796	67.730	70.526	74.00	54.00	Pass
38 (Peak)	5186.667	2.673	98.292	100.965	--	--	--
38 (Average)	5135.072	2.841	38.475	41.316	74.00	54.00	Pass
38 (Average)	5150.000	2.796	46.995	49.791	74.00	54.00	Pass
38 (Average)	5192.029	2.656	87.202	89.858	--	--	--

Figure Channel 38: Horizontal (Peak)

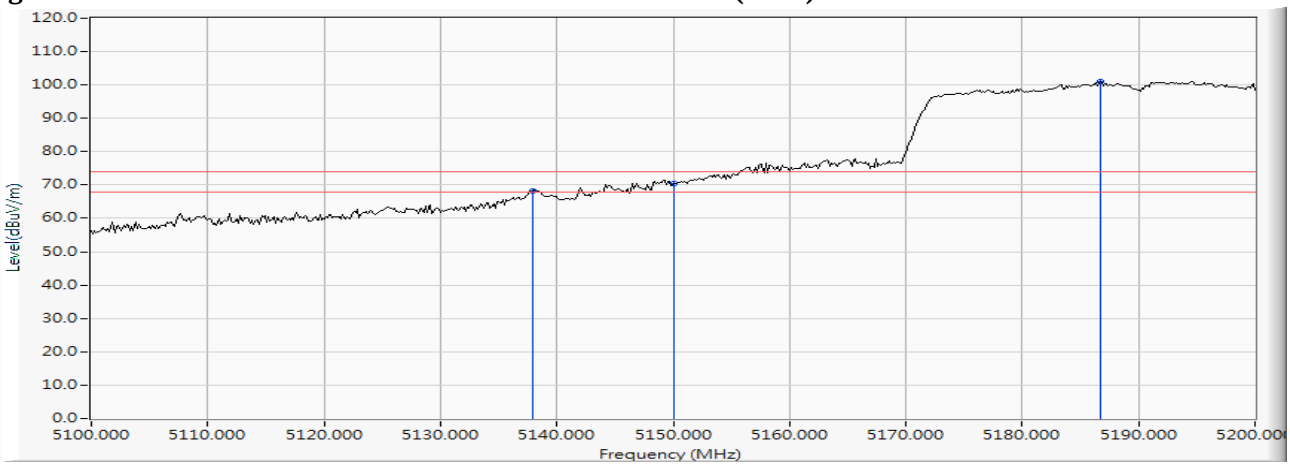
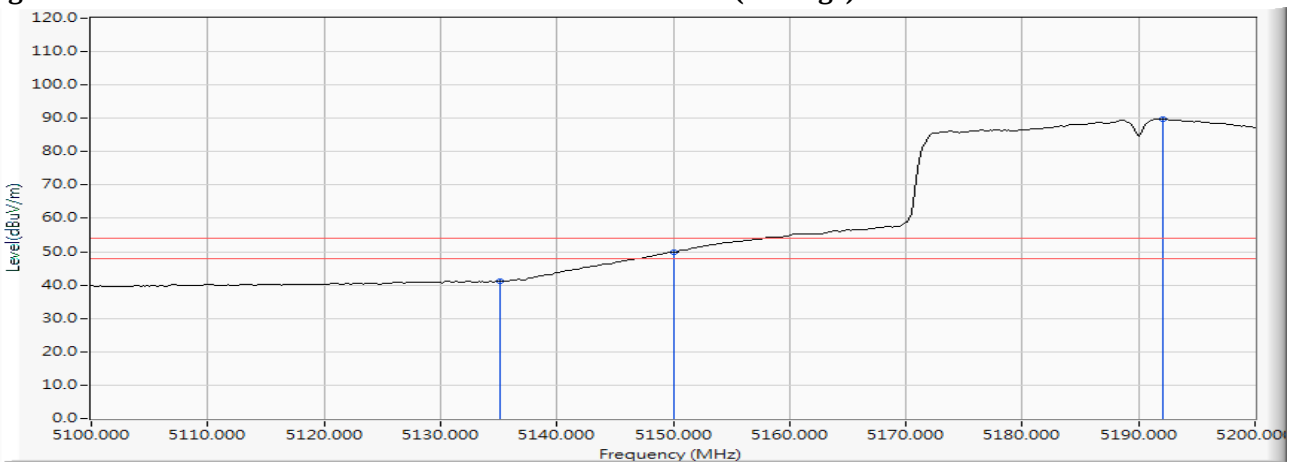


Figure Channel 38: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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 : 2018/09/27
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 38

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
38 (Peak)	5138.116	3.272	61.209	64.481	74.00	54.00	Pass
38 (Peak)	5150.000	3.331	63.772	67.104	74.00	54.00	Pass
38 (Peak)	5186.667	3.504	94.200	97.704	--	--	--
38 (Average)	5135.942	3.260	37.021	40.282	74.00	54.00	Pass
38 (Average)	5150.000	3.331	43.397	46.729	74.00	54.00	Pass
38 (Average)	5191.594	3.529	82.963	86.491	--	--	--

Figure Channel 38: Vertical (Peak)

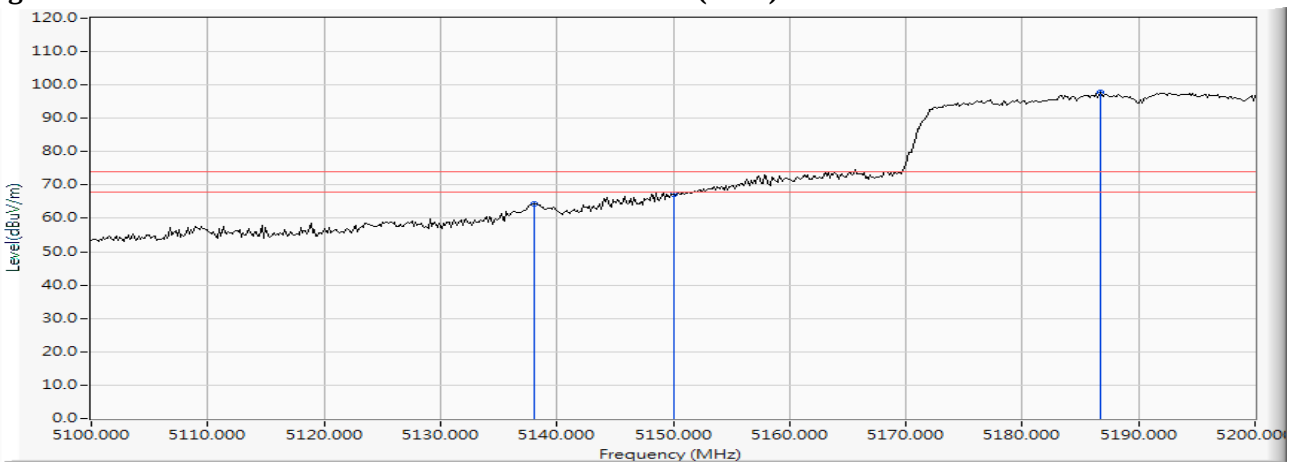
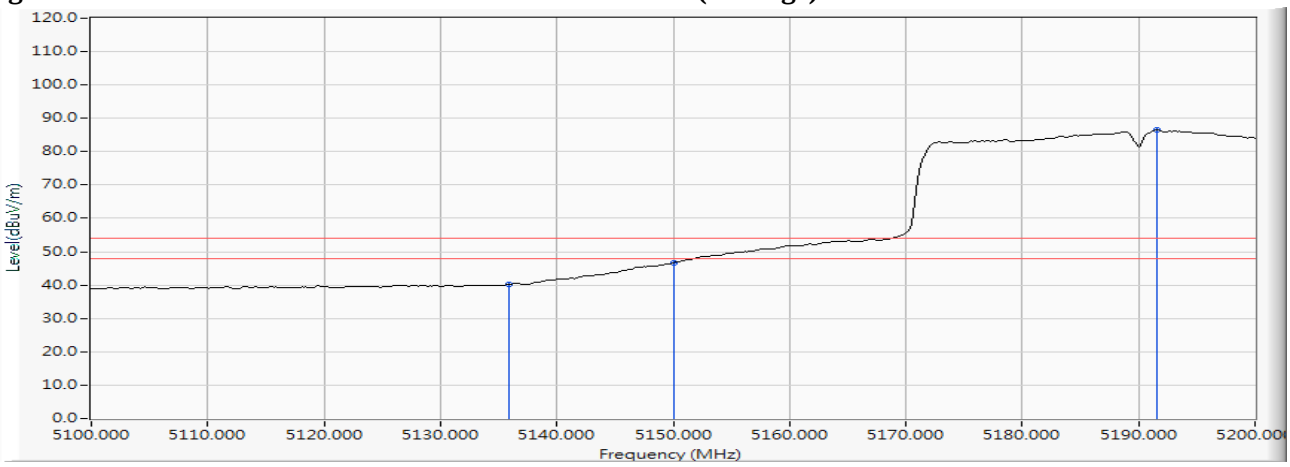


Figure Channel 38: Vertical (Average)

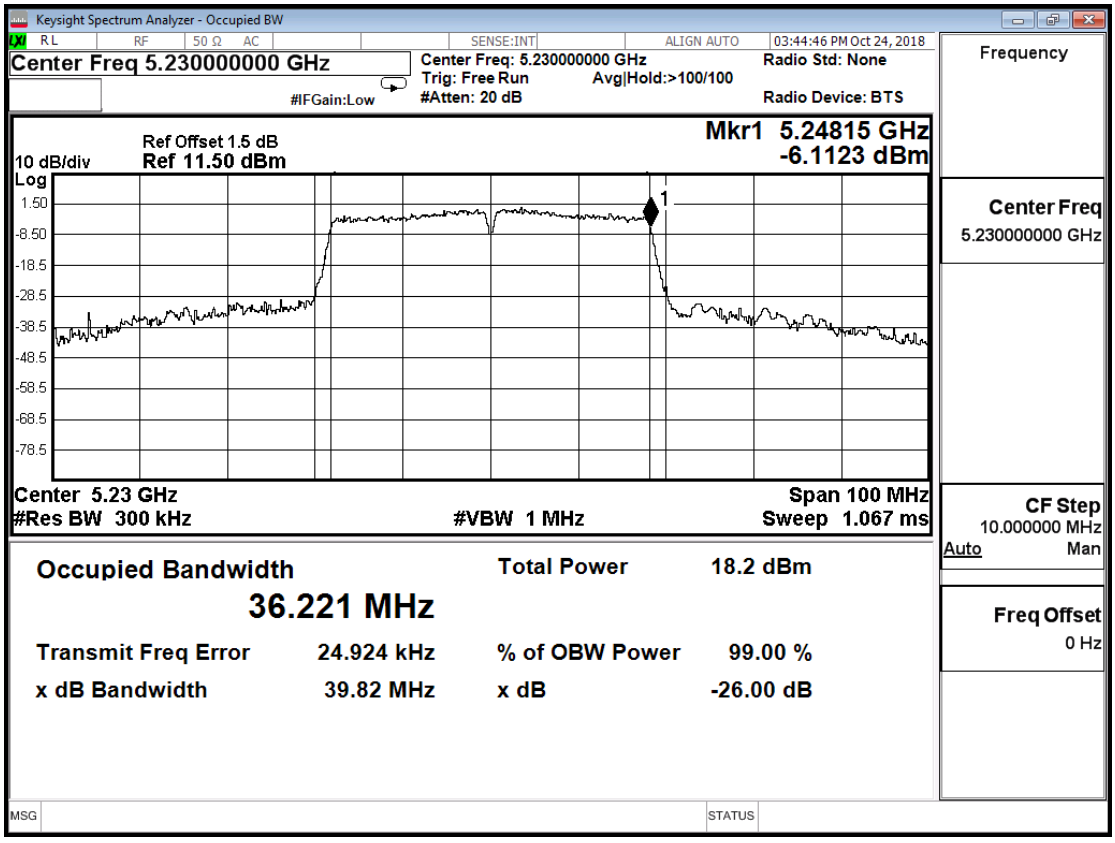


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 46

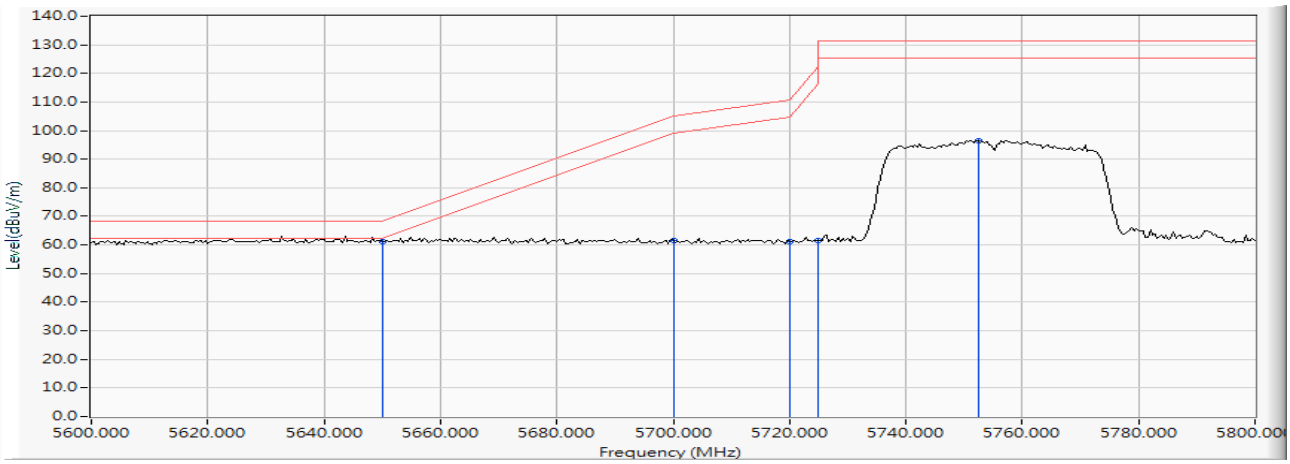
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5248.15	<5250	PASS

NOTE: Accordance with 15.215 requirement.

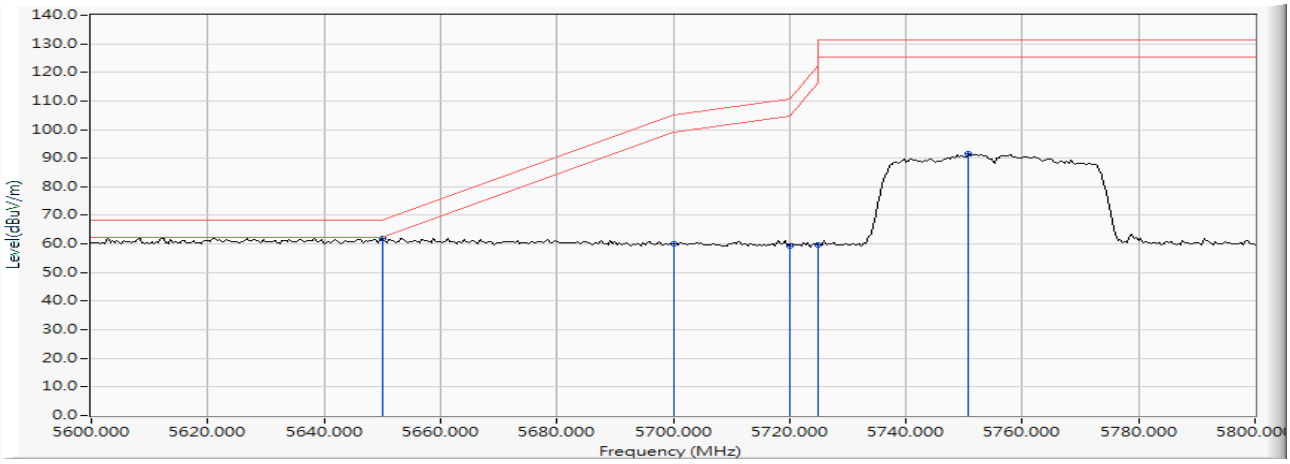


Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/10
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 151

RF Radiated Measurement :



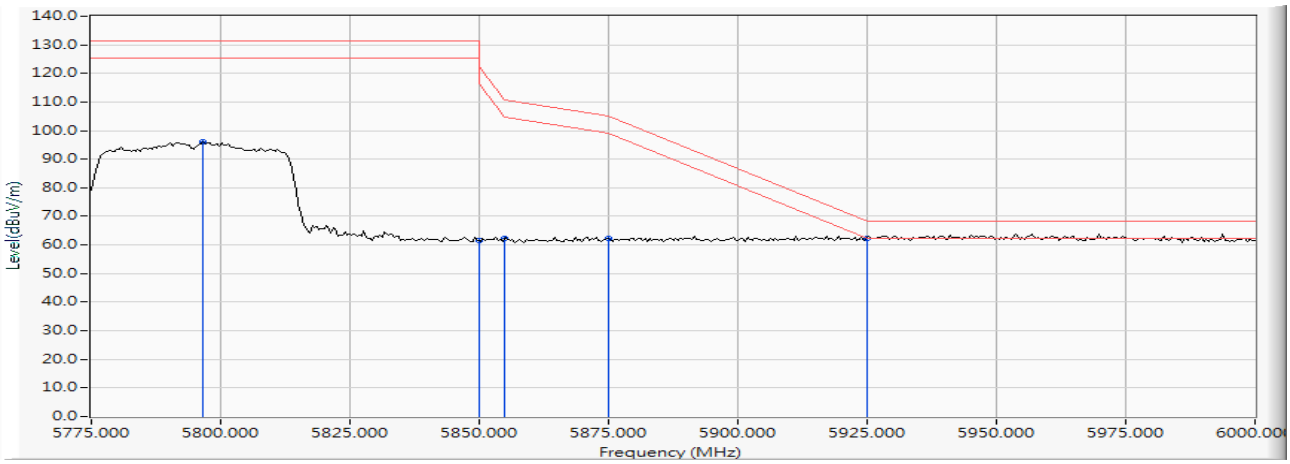
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5650.000	4.764	56.526	61.291	-6.929	68.220	Pass
Horizontal	5700.000	5.002	56.382	61.384	-43.816	105.200	Pass
Horizontal	5720.000	5.083	56.185	61.268	-49.532	110.800	Pass
Horizontal	5725.000	5.104	56.292	61.395	-60.805	122.200	Pass
Horizontal	5752.400	5.213	91.323	96.536	-34.664	131.200	Pass



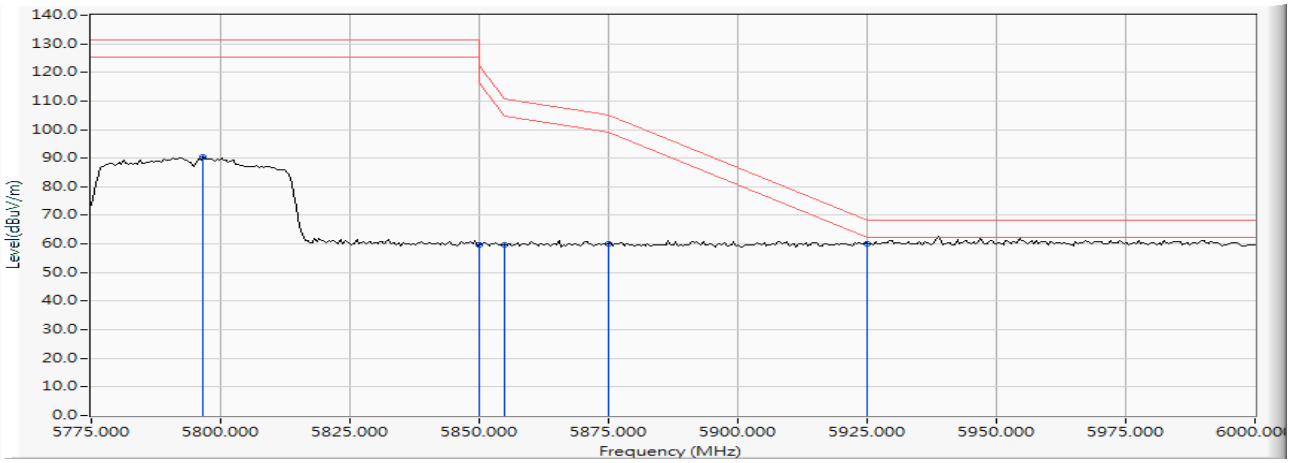
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5650.000	4.361	57.652	62.014	-6.206	68.220	Pass
Vertical	5700.000	4.176	55.696	59.872	-45.328	105.200	Pass
Vertical	5720.000	4.200	55.272	59.472	-51.328	110.800	Pass
Vertical	5725.000	4.215	55.505	59.720	-62.480	122.200	Pass
Vertical	5750.800	4.288	87.136	91.424	-39.776	131.200	Pass

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/10
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 159

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5796.600	5.368	90.756	96.124	-35.076	131.200	Pass
Horizontal	5850.000	5.715	55.660	61.375	-60.825	122.200	Pass
Horizontal	5855.000	5.757	56.733	62.490	-48.310	110.800	Pass
Horizontal	5875.000	5.931	56.398	62.329	-42.871	105.200	Pass
Horizontal	5925.000	6.245	55.917	62.163	-6.037	68.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5796.600	4.379	85.903	90.282	-40.918	131.200	Pass
Vertical	5850.000	4.194	55.570	59.764	-62.436	122.200	Pass
Vertical	5855.000	4.181	55.615	59.796	-51.004	110.800	Pass
Vertical	5875.000	4.137	55.977	60.114	-45.086	105.200	Pass
Vertical	5925.000	4.270	55.943	60.213	-7.987	68.200	Pass

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/09/27
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)-Channel 42

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
42 (Peak)	5150.000	2.796	45.999	48.795	74.00	54.00	Pass
42 (Peak)	5211.800	2.767	82.279	85.045	--	--	--
42 (Average)	5150.000	2.796	44.517	47.313	74.00	54.00	Pass
42 (Average)	5211.800	2.767	81.582	84.348	--	--	--

Figure Channel 42: Horizontal (Peak)

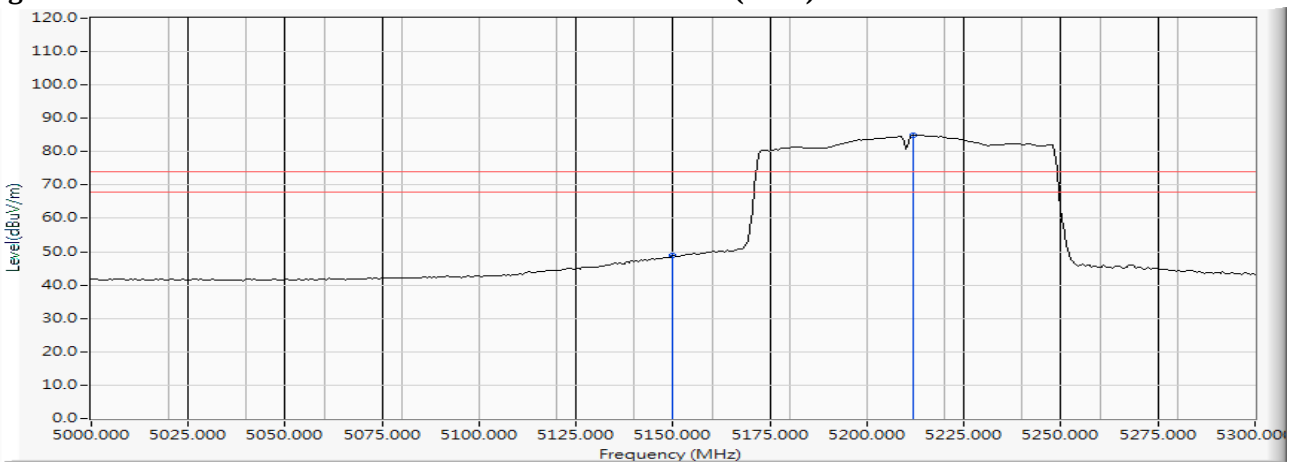
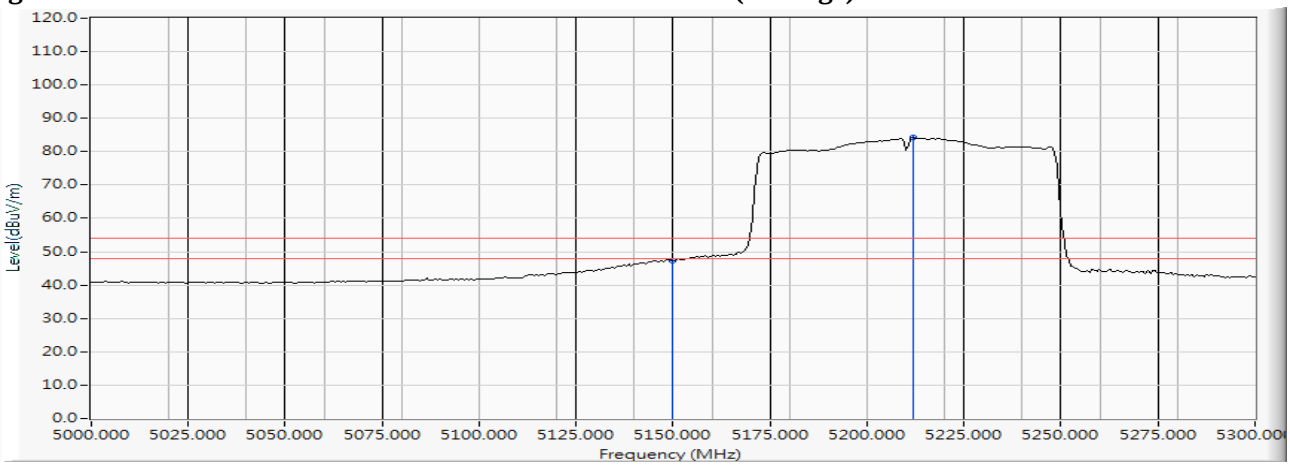


Figure Channel 42: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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	:	2018/09/27
Test Mode	:	Mode 4 Transmit (802.11ac-80BW-32.5Mbps) -Channel 42

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
42 (Peak)	5150.000	3.331	42.177	45.509	74.00	54.00	Pass
42 (Peak)	5211.800	3.613	78.154	81.767	--	--	--
42 (Average)	5150.000	3.331	41.364	44.696	74.00	54.00	Pass
42 (Average)	5211.800	3.613	77.394	81.007	--	--	--

Figure Channel 42: Vertical (Peak)

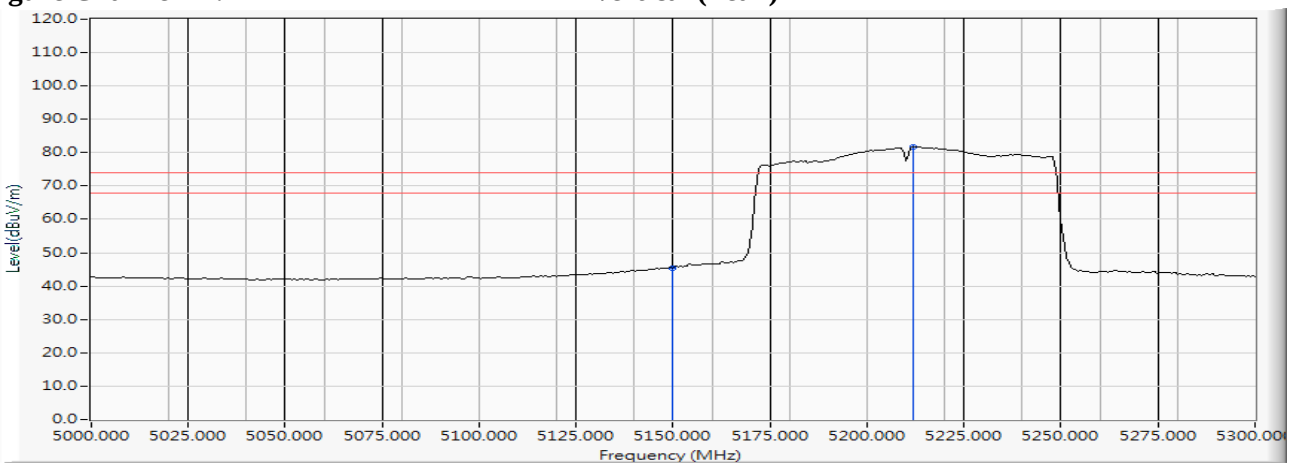
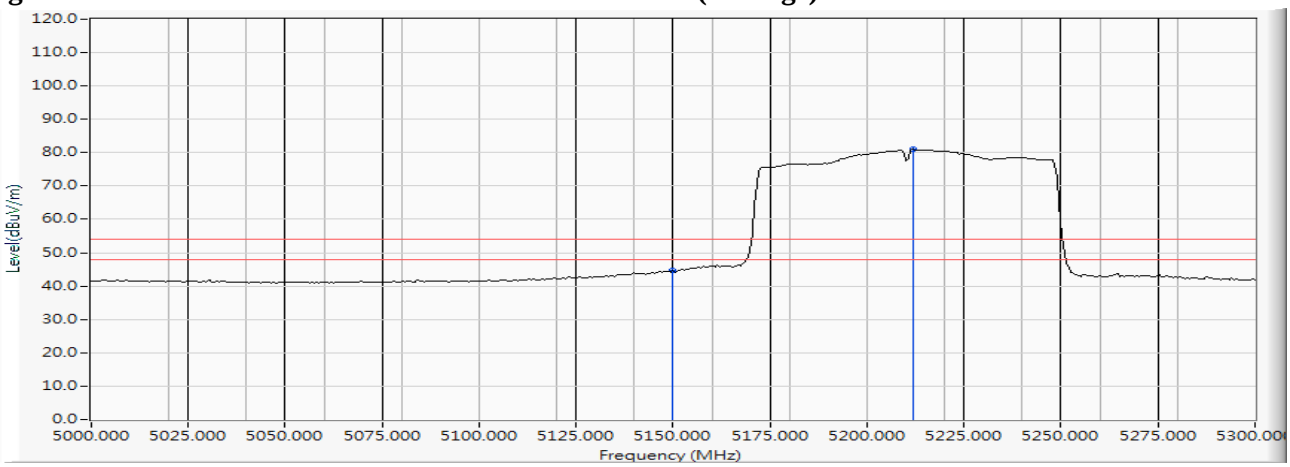


Figure Channel 42: Vertical (Average)

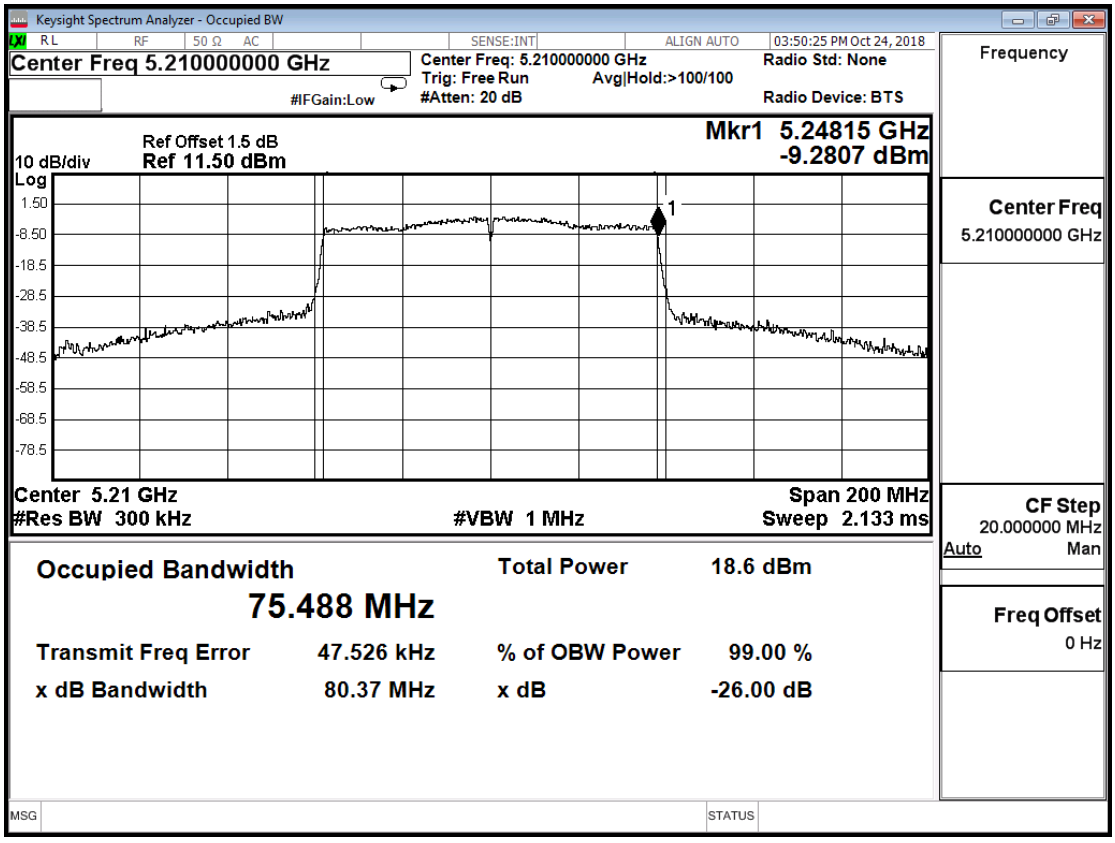


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) -Channel 42

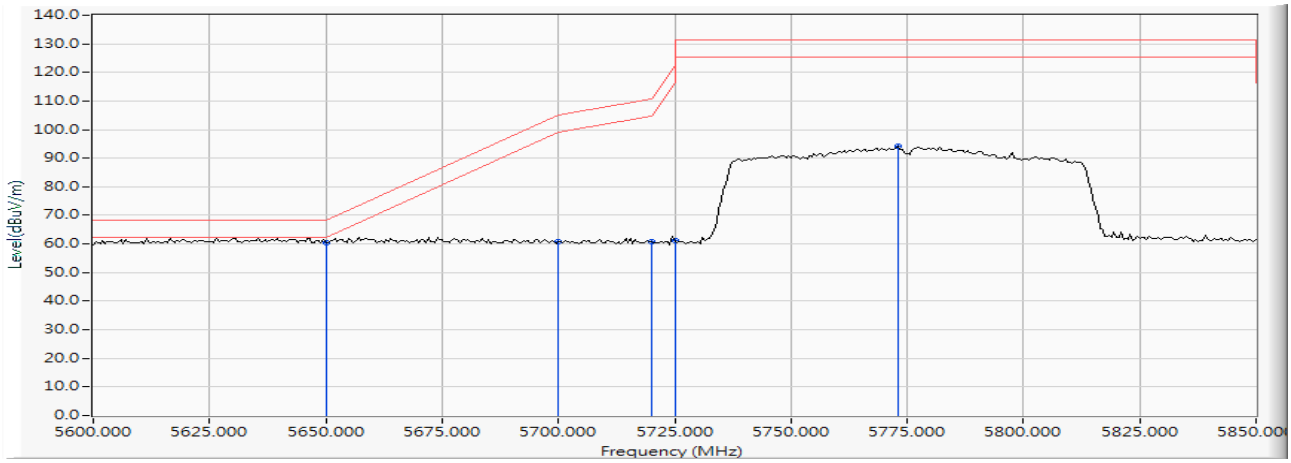
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5248.15	<5250	PASS

NOTE: Accordance with 15.215 requirement.

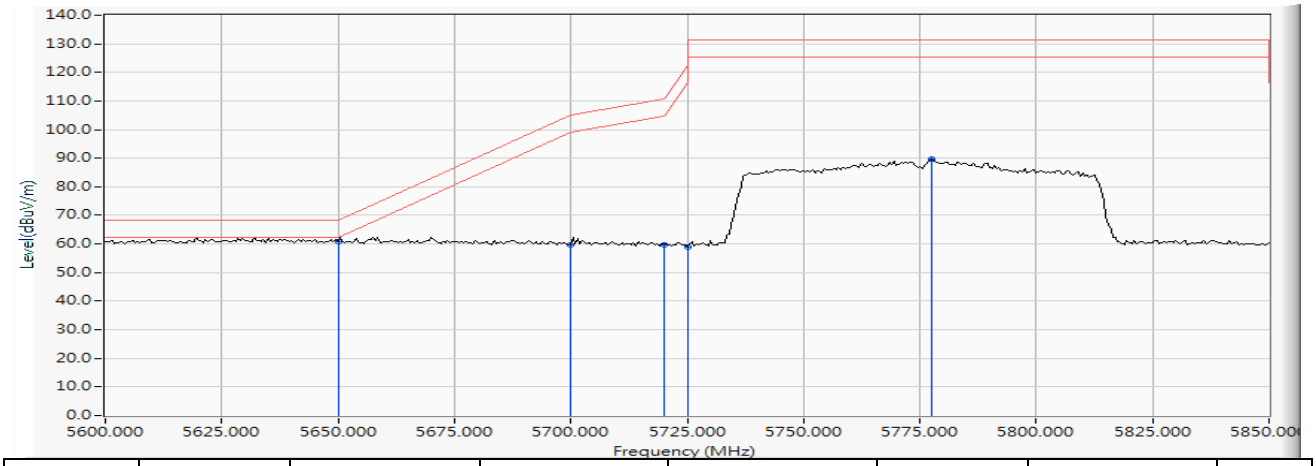


Product : VUZE-XR Camera
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2017/09/10
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)-Channel 155

RF Radiated Measurement:



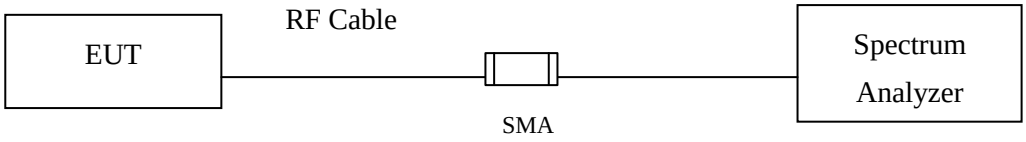
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5650.000	4.764	55.531	60.296	-7.924	68.220	Pass
Horizontal	5700.000	5.002	55.877	60.879	-44.321	105.200	Pass
Horizontal	5720.000	5.083	55.732	60.815	-49.985	110.800	Pass
Horizontal	5725.000	5.104	55.906	61.009	-61.191	122.200	Pass
Horizontal	5773.000	5.285	88.765	94.049	-37.151	131.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5650.000	4.361	56.613	60.975	-7.245	68.220	Pass
Vertical	5700.000	4.176	55.377	59.553	-45.647	105.200	Pass
Vertical	5720.000	4.200	55.383	59.583	-51.217	110.800	Pass
Vertical	5725.000	4.215	54.727	58.942	-63.258	122.200	Pass
Vertical	5777.500	4.350	85.192	89.542	-41.658	131.200	Pass

7. Occupied Bandwidth

7.1. Test Setup



7.2. Limits

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

7.3. .Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

7.4. Uncertainty

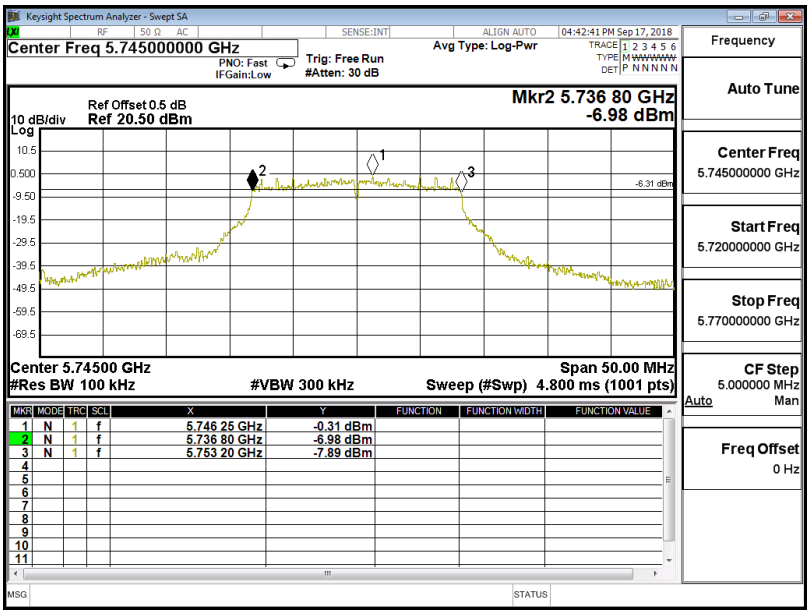
± 681.6Hz

7.5. Test Result of Occupied Bandwidth

Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16400	>500	Pass

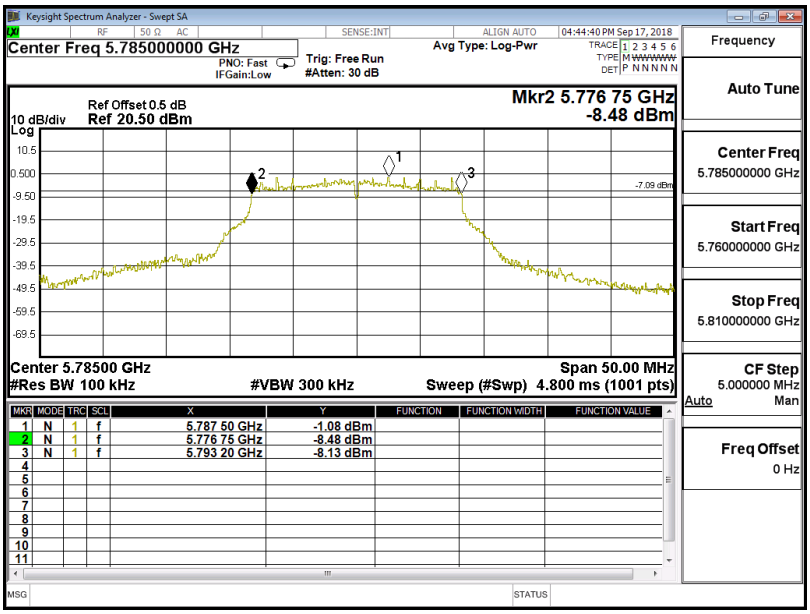
Figure Channel 149:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	16450	>500	Pass

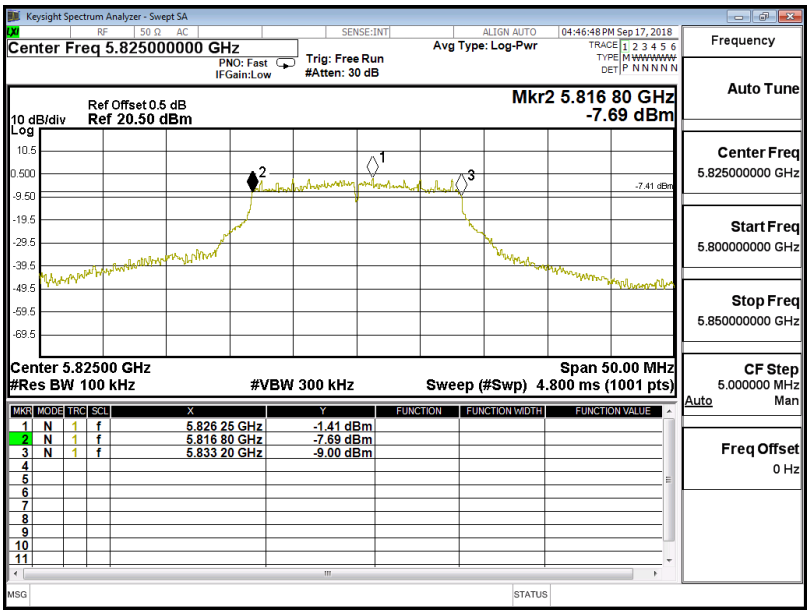
Figure Channel 157:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	16400	>500	Pass

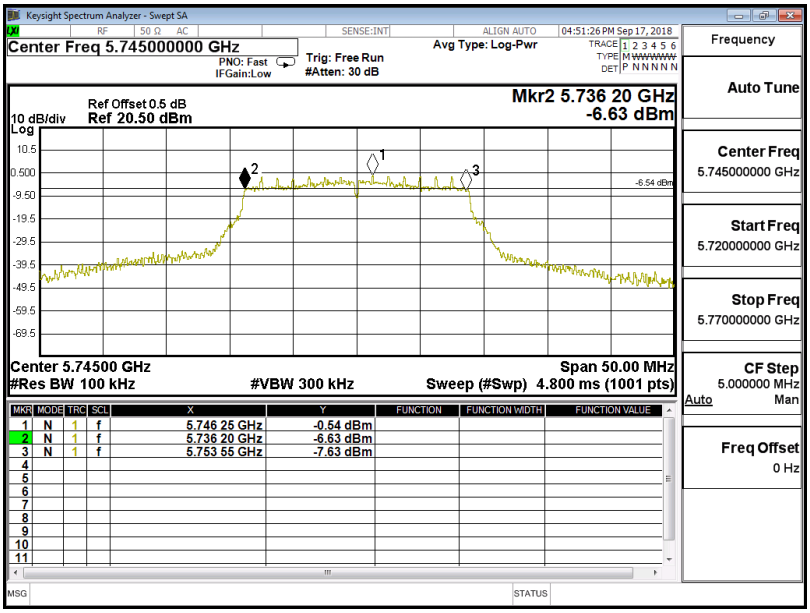
Figure Channel 165:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5745MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	17350	>500	Pass

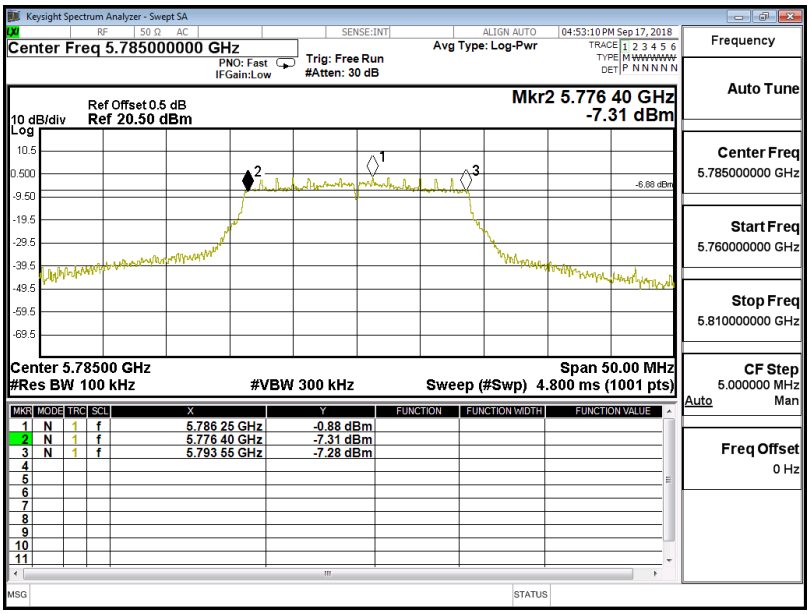
Figure Channel 149:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	17150	>500	Pass

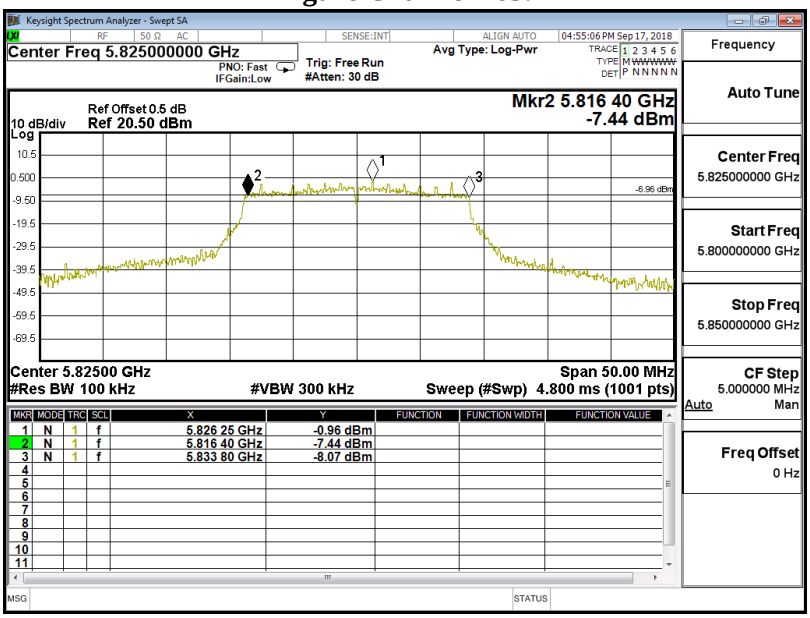
Figure Channel 157:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5825MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	17400	>500	Pass

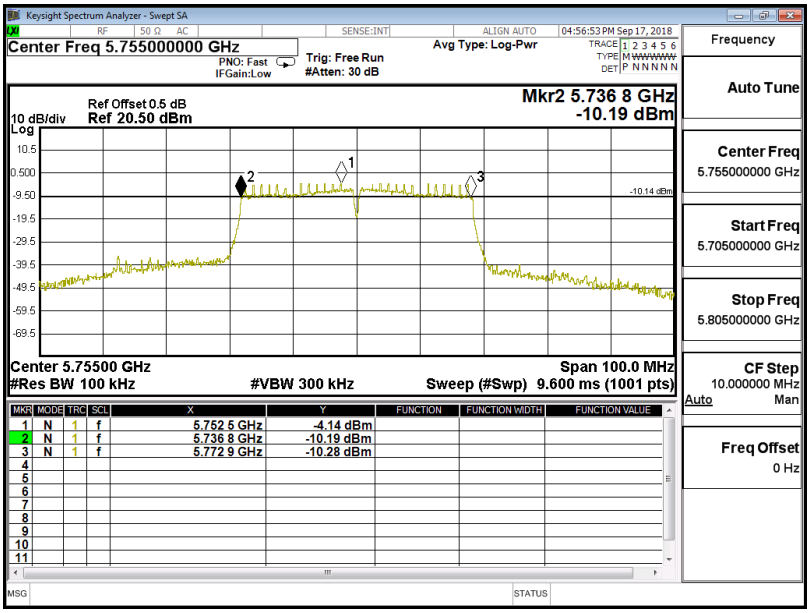
Figure Channel 165:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755.00	36100	>500	Pass

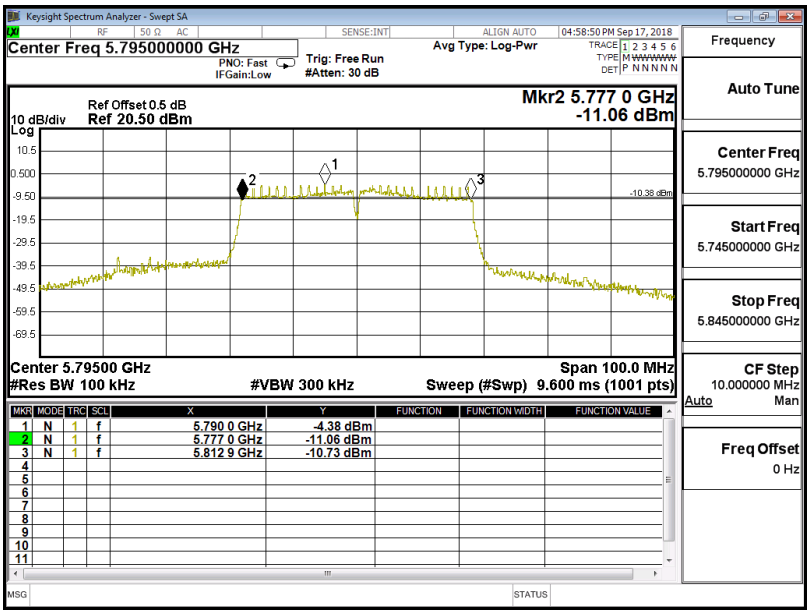
Figure Channel 151:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5795MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
159	5795.00	35900	>500	Pass

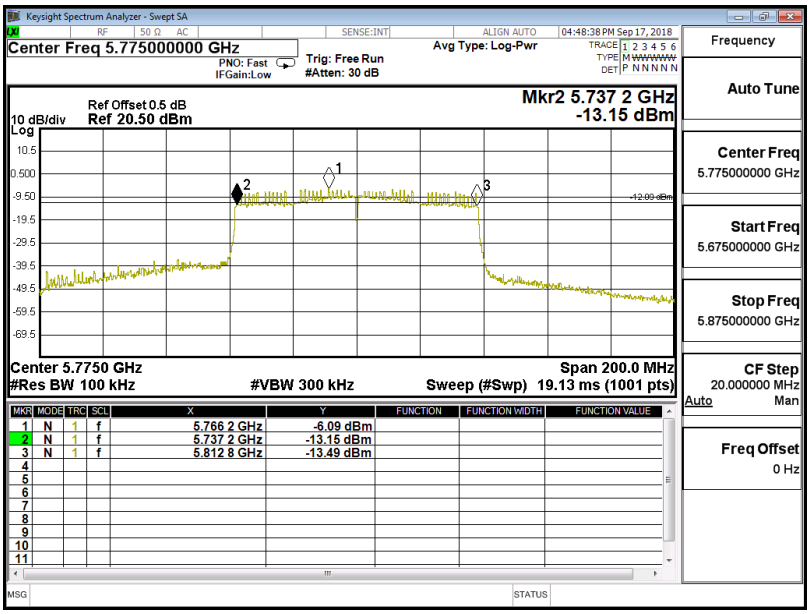
Figure Channel 159:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

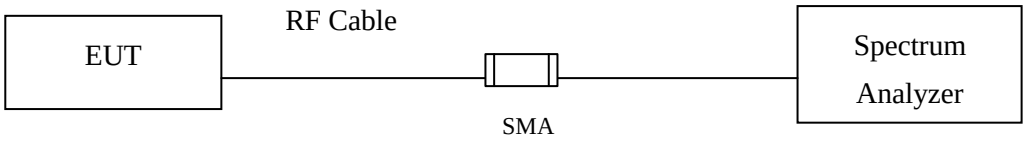
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	75600	>500	Pass

Figure Channel 155:



8. Duty Cycle

8.1. Test Setup



8.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to test procedure of KDB789033 for compliance to FCC 47CFR 15.407 requirements.

8.3. Uncertainty

± 2.31msec

8.4. Test Result of Duty Cycle

Product : VUZE-XR Camera
Test Item : Duty Cycle
Test Mode : Mode 1 MIMO: Transmit

Duty Cycle Formula:

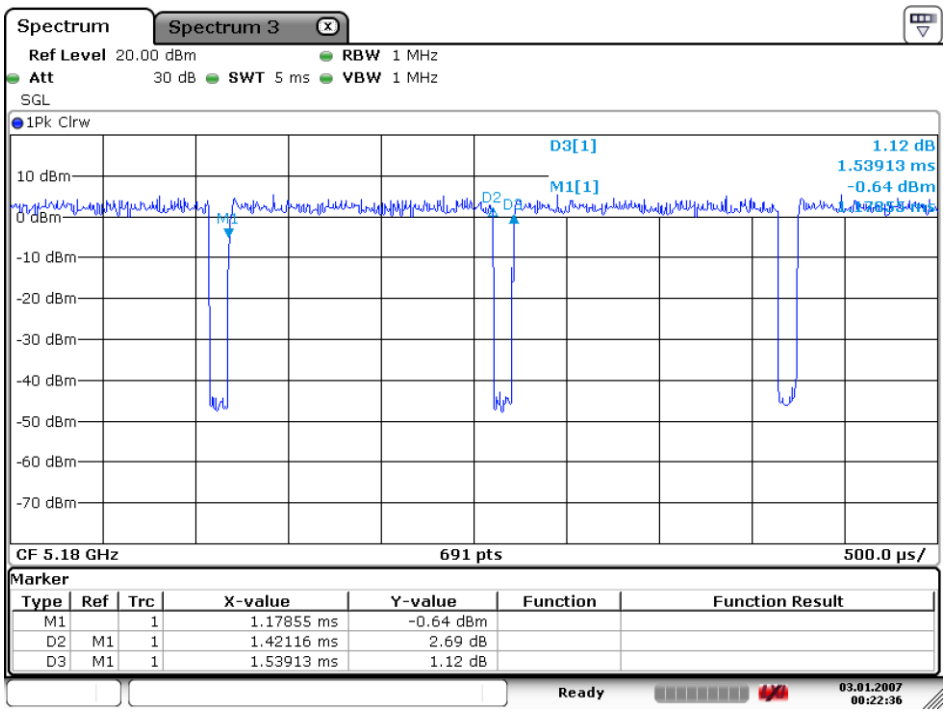
Duty Cycle = Ton / (Ton + Toff)

Duty Factor = 10 Log (1/Duty Cycle)

Results:

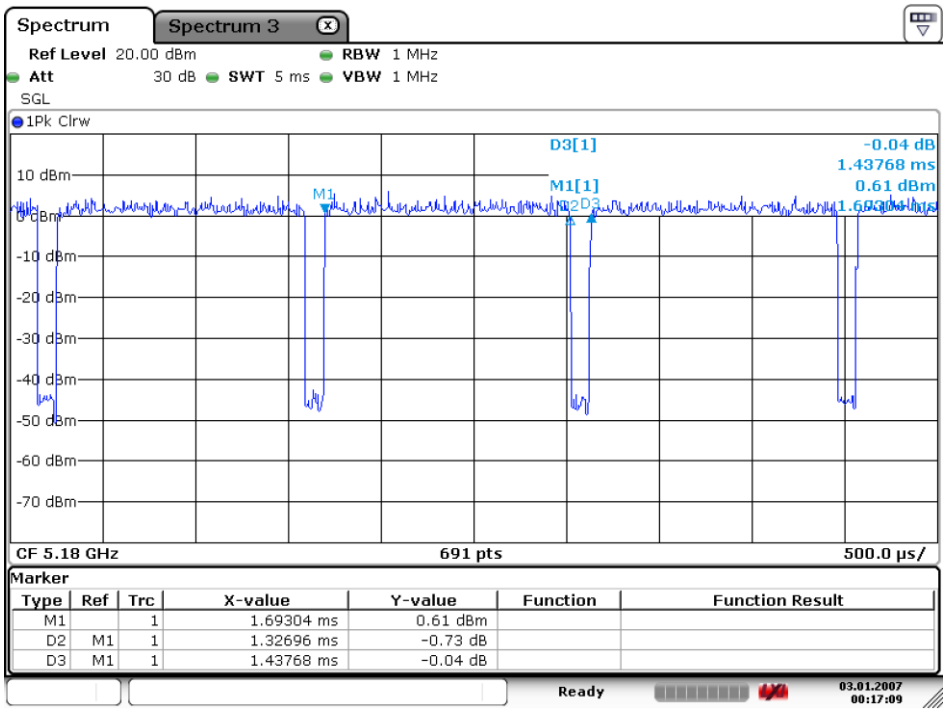
5GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	1.4212	1.5391	92.34	0.35
802.11n20	1.3270	1.4377	92.30	0.35
802.11n40	0.6406	0.7623	84.03	0.76
802.11ac80	0.3015	0.4348	69.33	1.59

802.11a



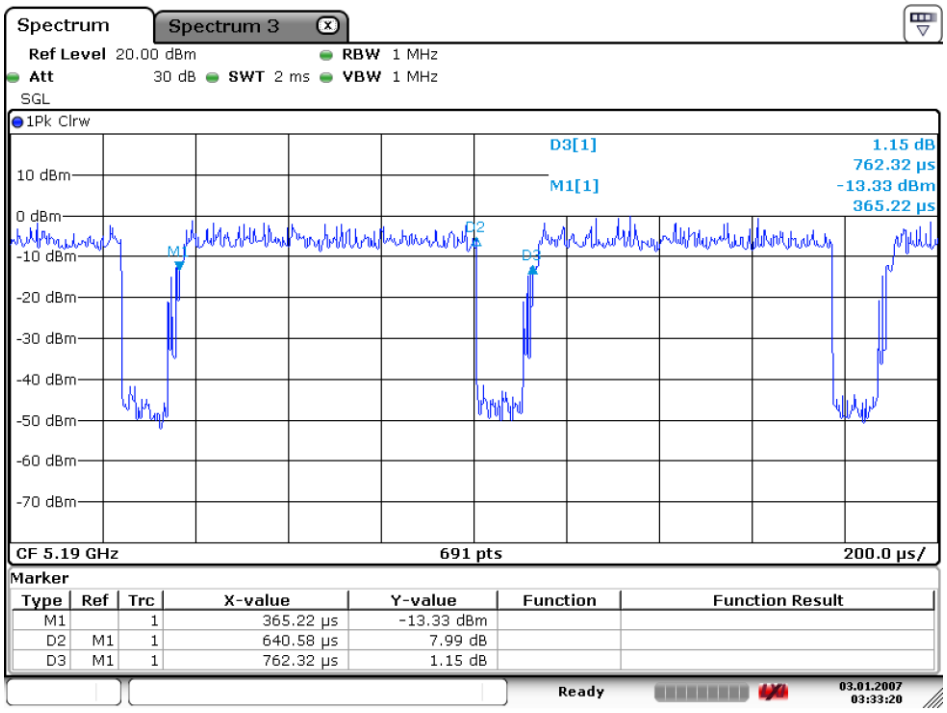
Date: 3.JAN.2007 00:22:37

802.11n20



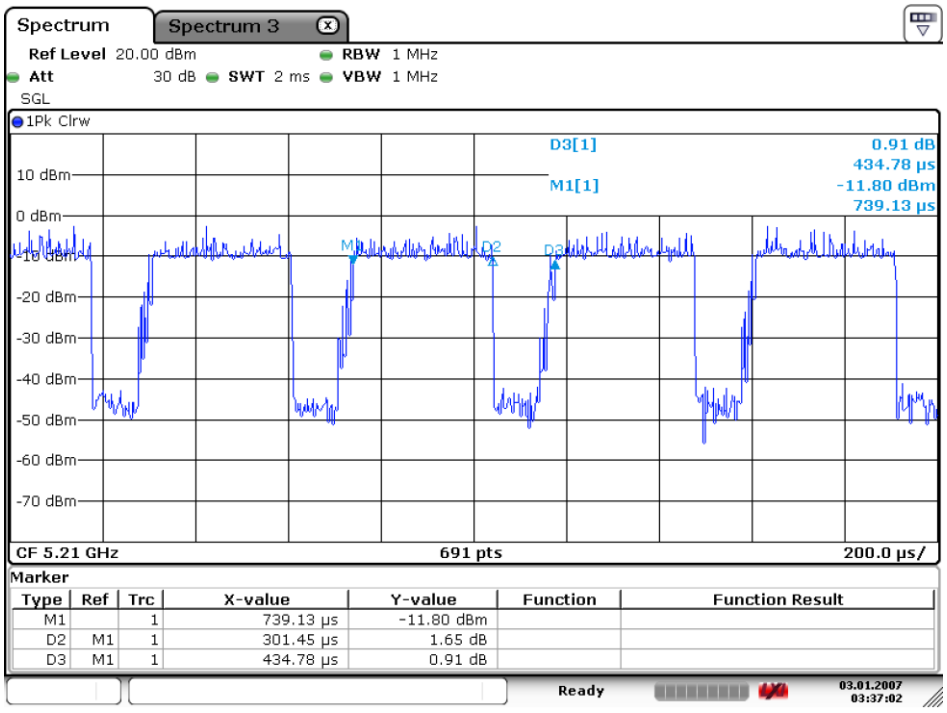
Date: 3.JAN.2007 00:17:09

802.11n40



Date: 3.JAN.2007 03:33:20

802.11ac80



Date: 3.JAN.2007 03:37:03

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs