

FCC Test Report

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

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

Date of Receipt	Sep. 18, 2017
Issued Date	Oct. 18, 2017
Report No.	1790233R-RFUSP73V00
Report Version	V1.0



The test results relate only to the samples tested.

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

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Test Report

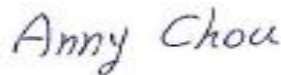
Issued Date: Oct. 18, 2017

Report No.: 1790233R-RFUSP73V00



Product Name	VUZE+ Camera
Applicant	Humaneyes Technologies Ltd.
Address	Communication Center, Neve Ilan D.N. Harey Jerusalem , 9085000
Manufacturer	ABILITY ENTERPRISE CO., LTD.
Model No.	HETVZ-P
FCC ID.	2AKDRHETVZ-P
EUT Rated Voltage	AC 100-240V, 50/60Hz or DC 3.8V By Battery
EUT Test Voltage	AC 120V/60Hz
Trade Name	VUZE+
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2016 ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By :



(Senior Adm. Specialist / Anny Chou)

Tested By :



(Assistant Engineer / Boris Hsu)

Approved By :



(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	VUZE+ Camera
Trade Name	VUZE+
Model No.	HETVZ-P
FCC ID.	2AKDRHETVZ-P
Frequency Range	2402-2480MHz
Channel Number	79
Type of Modulation	FHSS: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	PIFA Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
USB Cable	Shielded, 0.8m
Power Adapter	MFR: U, M/N: KSA29B0500200D5 Input: AC 100-240V, 50/60Hz, 0.5A Output: DC 5V, 2A
Contain Module	Broadcom / BCM43340

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LYNwave	HE2011W	PIFA Antenna	-7.71 dBi for 2.4 GHz

Note:

1. The antenna of EUT conforms to FCC 15.203.

Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 20:	2422 MHz	Channel 40:	2442 MHz	Channel 60:	2462 MHz
Channel 01:	2403 MHz	Channel 21:	2423 MHz	Channel 41:	2443 MHz	Channel 61:	2463 MHz
Channel 02:	2404 MHz	Channel 22:	2424 MHz	Channel 42:	2444 MHz	Channel 62:	2464 MHz
Channel 03:	2405 MHz	Channel 23:	2425 MHz	Channel 43:	2445 MHz	Channel 63:	2465 MHz
Channel 04:	2406 MHz	Channel 24:	2426 MHz	Channel 44:	2446 MHz	Channel 64:	2466 MHz
Channel 05:	2407 MHz	Channel 25:	2427 MHz	Channel 45:	2447 MHz	Channel 65:	2467 MHz
Channel 06:	2408 MHz	Channel 26:	2428 MHz	Channel 46:	2448 MHz	Channel 66:	2468 MHz
Channel 07:	2409 MHz	Channel 27:	2429 MHz	Channel 47:	2449 MHz	Channel 67:	2469 MHz
Channel 08:	2410 MHz	Channel 28:	2430 MHz	Channel 48:	2450 MHz	Channel 68:	2470 MHz
Channel 09:	2411 MHz	Channel 29:	2431 MHz	Channel 49:	2451 MHz	Channel 69:	2471 MHz
Channel 10:	2412 MHz	Channel 30:	2432 MHz	Channel 50:	2452 MHz	Channel 70:	2472 MHz
Channel 11:	2413 MHz	Channel 31:	2433 MHz	Channel 51:	2453 MHz	Channel 71:	2473 MHz
Channel 12:	2414 MHz	Channel 32:	2434 MHz	Channel 52:	2454 MHz	Channel 72:	2474 MHz
Channel 13:	2415 MHz	Channel 33:	2435 MHz	Channel 53:	2455 MHz	Channel 73:	2475 MHz
Channel 14:	2416 MHz	Channel 34:	2436 MHz	Channel 54:	2456 MHz	Channel 74:	2476 MHz
Channel 15:	2417 MHz	Channel 35:	2437 MHz	Channel 55:	2457 MHz	Channel 75:	2477 MHz
Channel 16:	2418 MHz	Channel 36:	2438 MHz	Channel 56:	2458 MHz	Channel 76:	2478 MHz
Channel 17:	2419 MHz	Channel 37:	2439 MHz	Channel 57:	2459 MHz	Channel 77:	2479 MHz
Channel 18:	2420 MHz	Channel 38:	2440 MHz	Channel 58:	2460 MHz	Channel 78:	2480 MHz
Channel 19:	2421 MHz	Channel 39:	2441 MHz	Channel 59:	2461 MHz		

Note:

1. The EUT is a VUZE+ Camera with a built-in Bluetooth V3.0, V2.1+EDR transceiver, this report for Bluetooth V3.0, V2.1+EDR.
2. The WLAN module of EUT has been made in FCC ID: 2AKDRHETVZ-P.
3. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
4. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test
5. Bluetooth operation was evaluated at both 1Mb/s and 3Mb/s data rates. 2Mb/s data rate was found, through pre-testing, to produce emissions similar to those for 3Mb/s.
6. 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 - 1Mbps (GFSK)
	Mode 2: Transmit - 3Mbps (8DPSK)

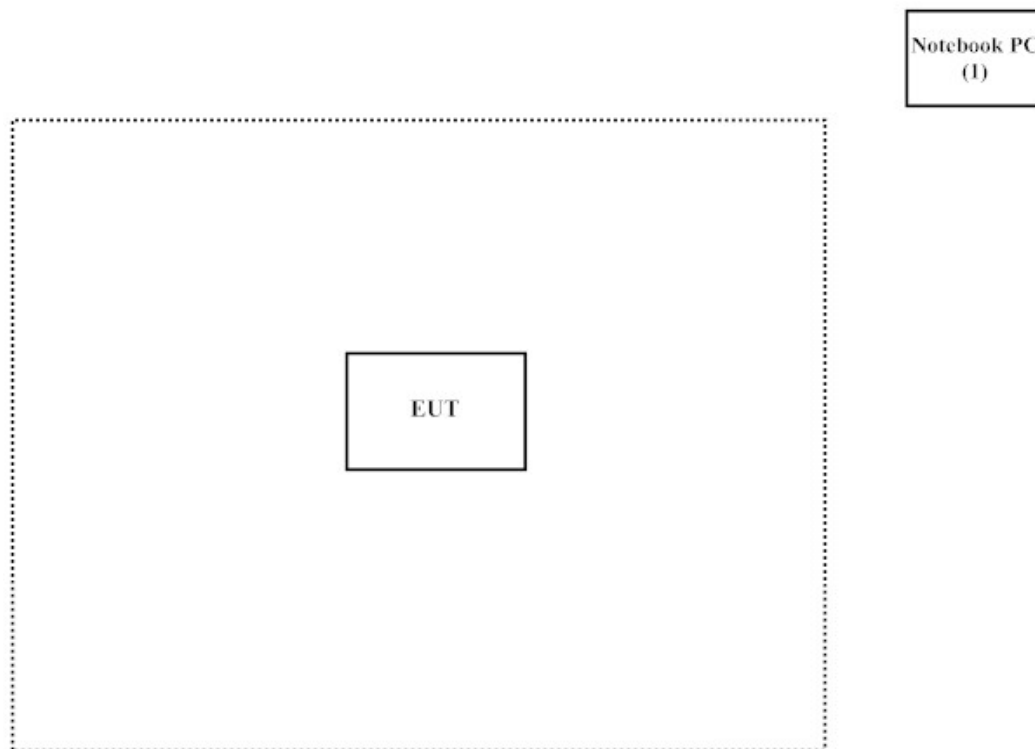
1.3. Tested System Details

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

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

Signal Cable Type	Signal cable Description
N/A	

1.4. Configuration of Tested System



1.5. EUT Exercise Software

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

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	30-65
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>

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E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW3023

1.7. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2016/11/28	2017/11/27
X	Spectrum Analyzer	Agilent	N9010A	MY48030495	2017/7/22	2018/7/21
X	Power Meter	Anritsu	ML2495A	6K00003357	2017/6/23	2018/6/22
X	Pulse power sensor	Anritsu	MA2411B	0846193	2017/6/23	2018/6/22
X	EMI Test Receiver	R&S	ESCS 30	100369	2017/10/13	2018/10/12
X	LISN	R&S	ESH3-Z5	836679/017	2017/1/7	2018/1/6
X	LISN	R&S	ENV216	100097	2017/1/7	2018/1/6
X	Coaxial Cable	QTK(Arnist)	RG 400	LC018-RG	2017/6/25	2018/6/24

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 Conduction Test System V8.0.110

For Radiated measurements /Site3/CB8

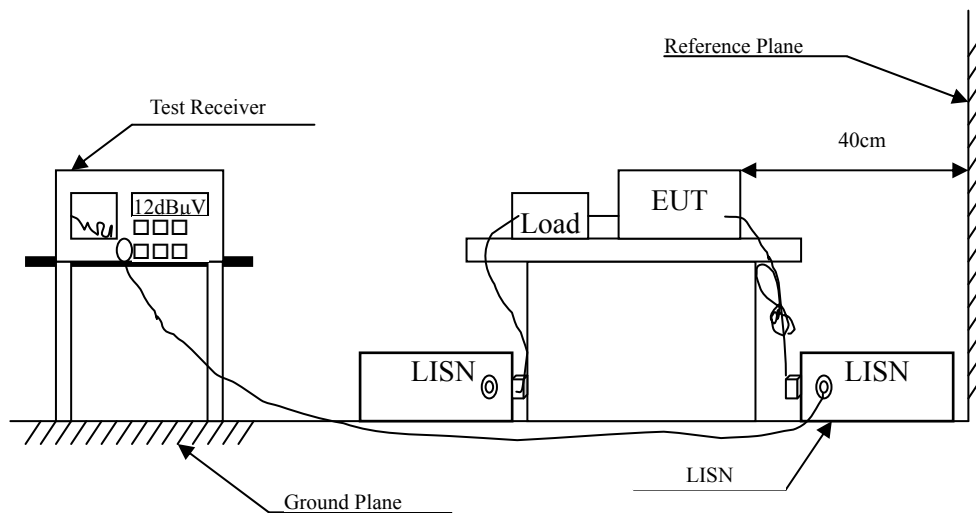
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSP40	100170	2017/1/5	2018/1/4
X	Loop Antenna	Teseq	HLA6121	37133	2017/3/18	2018/3/17
X	Bi-Log Antenna	Schaffner Chase	CBL6112B	2707	2017/6/11	2018/6/10
X	Horn Antenna	ETS-Lindgren	3117	00135205	2017/4/6	2018/4/5
X	Horn Antenna	Schwarzbeck	BBHA9170	9170430	2017/1/11	2018/1/10
X	Pre-Amplifier	QTK	AP/0100A	CHM/0901069	2017/6/23	2018/6/22
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2017/1/26	2018/1/24
X	Pre-Amplifier	NARDA WE	DBL-1840N506	013	2017/9/30	2018/9/29
X	Filter	MicroTRON	BRM50701	019	2016/11/2	2017/11/1
X	Filter	Microwave Circuits	N0257881	36681	2016/12/7	2017/12/6
X	EMI Test Receiver	R&S	ESR26	101385	2017/9/29	2018/9/28
X	Coaxial Cable	QTK(Arnist)	SUCOFLEX 106	L1606-015C	2017/6/23	2018/6/22
X	EMI Test Receiver	R&S	ESCS 30	838251/001	2017/7/21	2018/7/20
X	Coaxial Cable	QTK(Arnist)	RG 214	LC003-RG	2017/6/16	2018/6/15
X	Coaxial signal switch	Anritsu	MP59B	6201415889	2017/6/16	2018/6/15

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 Peripherals 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 refer 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 the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

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

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

2.4. Uncertainty

± 2.26 dB

2.5. Test Result of Conducted Emission

Product : VUZE+ Camera
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
LINE 1					
Quasi-Peak					
0.170	9.757	43.290	53.047	-12.382	65.429
0.228	9.771	41.500	51.271	-12.500	63.771
0.353	9.747	33.990	43.737	-16.463	60.200
0.443	9.738	31.260	40.998	-16.631	57.629
13.466	10.012	20.270	30.282	-29.718	60.000
20.166	10.083	15.660	25.743	-34.257	60.000
Average					
0.170	9.757	31.120	40.877	-14.552	55.429
0.228	9.771	25.540	35.311	-18.460	53.771
0.353	9.747	21.670	31.417	-18.783	50.200
0.443	9.738	13.090	22.828	-24.801	47.629
13.466	10.012	10.680	20.692	-29.308	50.000
20.166	10.083	6.920	17.003	-32.997	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+ Camera
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

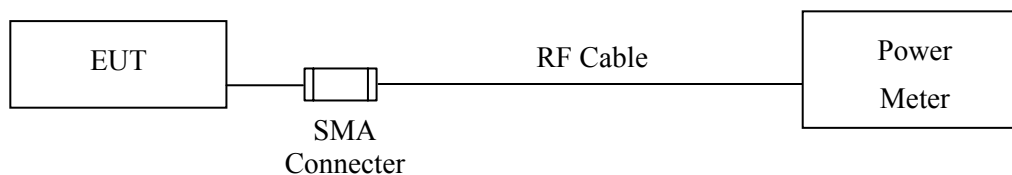
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dB μ V	dB μ V	dB	dB μ V
LINE 2					
Quasi-Peak					
0.170	9.714	40.950	50.664	-14.765	65.429
0.228	9.754	41.290	51.044	-12.727	63.771
0.345	9.761	34.570	44.331	-16.098	60.429
0.451	9.775	31.060	40.835	-16.565	57.400
13.787	10.115	21.520	31.635	-28.365	60.000
21.638	10.257	15.750	26.007	-33.993	60.000
Average					
0.170	9.714	30.540	40.254	-15.175	55.429
0.228	9.754	6.750	16.504	-37.267	53.771
0.345	9.761	21.680	31.441	-18.988	50.429
0.451	9.775	25.960	35.735	-11.665	47.400
13.787	10.115	13.180	23.295	-26.705	50.000
21.638	10.257	10.000	20.257	-29.743	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

3. Peak Power Output

3.1. Test Setup



3.2. Limit

The maximum peak power shall be less 1Watt.

3.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

3.4. Uncertainty

± 1.19 dB

3.5. Test Result of Peak Power Output

Product : VUZE+ Camera
Test Item : Peak Power Output
Test Site : No.3 OATS
Test date : 2017/10/12
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	8.37	1 Watt= 30 dBm	Pass
Channel 39	2441.00	8.49	1 Watt= 30 dBm	Pass
Channel 78	2480.00	8.91	1 Watt= 30 dBm	Pass

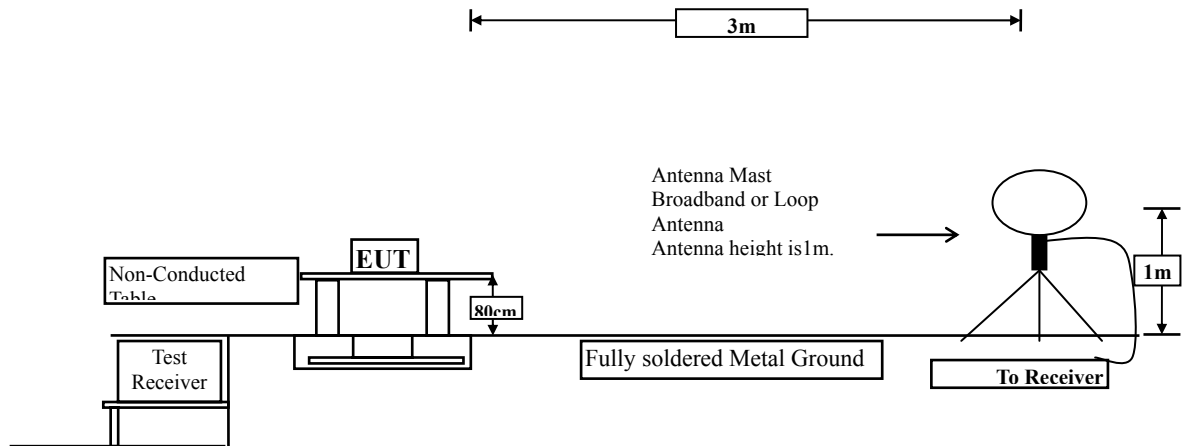
Product : VUZE+ Camera
Test Item : Peak Power Output
Test Site : No.3 OATS
Test date : 2017/10/12
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	7.44	1 Watt= 30 dBm	Pass
Channel 39	2441.00	7.18	1 Watt= 30 dBm	Pass
Channel 78	2480.00	7.31	1 Watt= 30 dBm	Pass

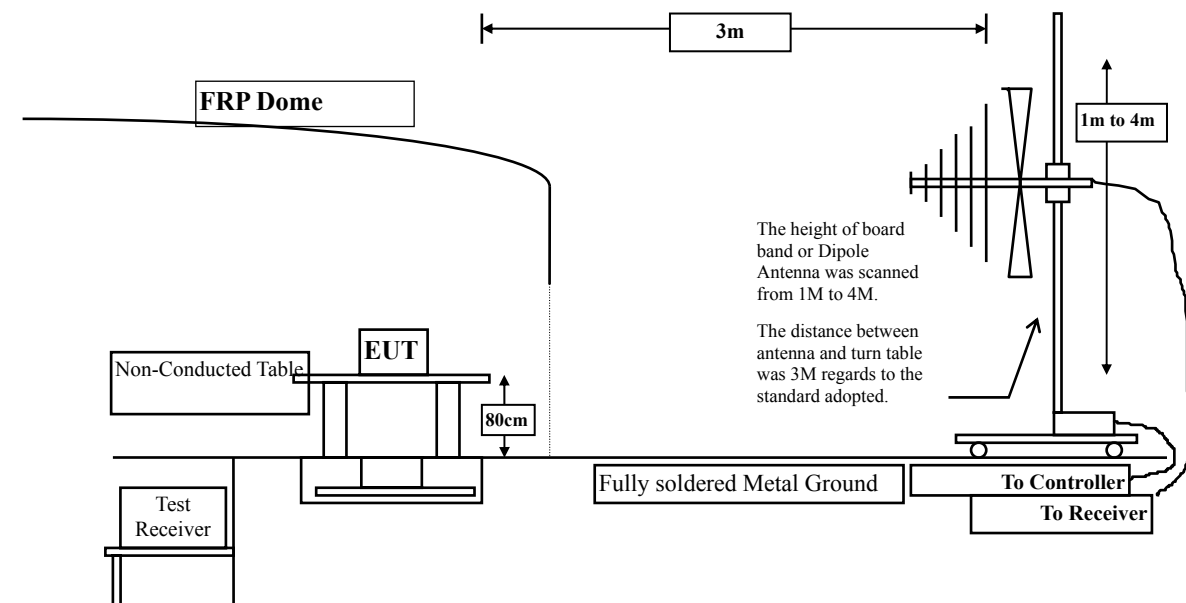
4. Radiated Emission

4.1. Test Setup

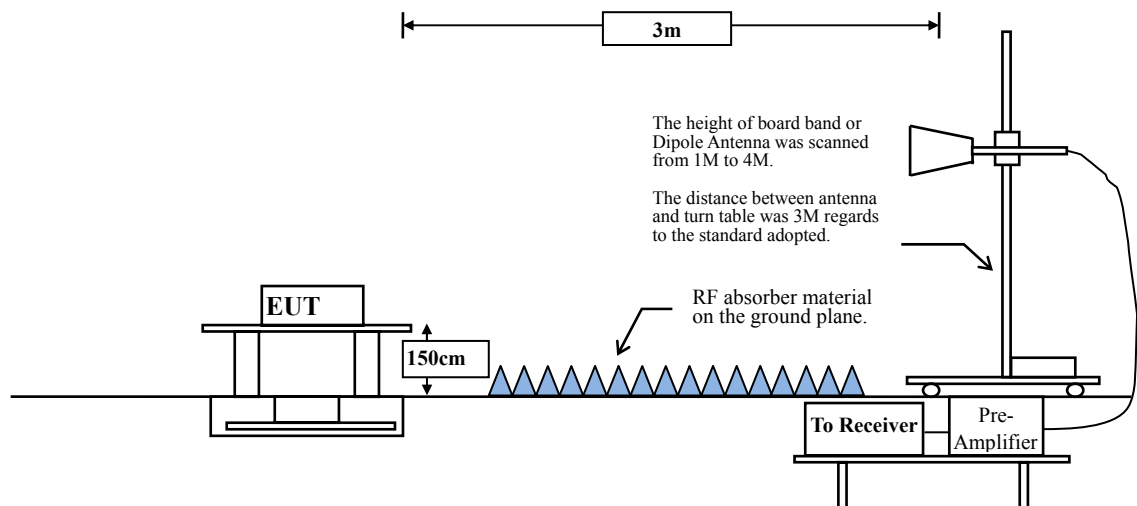
Under 30MHz



Below 1GHz



Above 1GHz



4.2. Limits

➤ General Radiated Emission 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 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:
1. RF Voltage (dB μ V) = 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.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested compliance to FCC 47CFR 15.247 requirements.

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

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

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

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

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

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

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

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

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

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

4.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

4.5. Test Result of Radiated Emission

Product : VUZE+ Camera
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2402MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
4804.000	-9.896	56.554	46.658	-27.342	74.000
7206.000	-5.013	52.677	47.664	-26.336	74.000
9608.000	-1.472	48.995	47.524	-26.476	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	-6.585	50.799	44.214	-29.786	74.000
7206.000	-4.144	51.805	47.661	-26.339	74.000
9608.000	-1.075	50.038	48.964	-25.036	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. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE+ Camera
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
4882.000	-10.318	54.532	44.214	-29.786	74.000
7323.000	-3.858	49.372	45.514	-28.486	74.000
9764.000	-2.596	50.118	47.522	-26.478	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	-7.606	50.017	42.411	-31.589	74.000
7323.000	-2.977	47.590	44.614	-29.386	74.000
9764.000	-2.131	49.745	47.614	-26.386	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. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE+ Camera
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2480MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
4960.000	-10.666	55.016	44.351	-29.649	74.000
7440.000	-3.631	49.245	45.614	-28.386	74.000
9920.000	-2.397	49.971	47.574	-26.426	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	-7.869	52.499	44.631	-29.369	74.000
7440.000	-2.772	49.757	46.985	-27.015	74.000
9920.000	-1.895	50.409	48.514	-25.486	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. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE+ Camera
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)(2402MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector:					
4804.000	-9.896	55.034	45.138	-28.862	74.000
7206.000	-5.013	50.335	45.322	-28.678	74.000
9608.000	-1.472	48.612	47.141	-26.859	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	-6.585	53.210	46.625	-27.375	74.000
7206.000	-4.144	49.783	45.639	-28.361	74.000
9608.000	-1.075	49.588	48.514	-25.486	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. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE+ Camera
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector:					
4882.000	-10.318	52.432	42.114	-31.886	74.000
7323.000	-3.858	48.493	44.635	-29.365	74.000
9764.000	-2.596	50.080	47.484	-26.516	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	-7.606	49.147	41.541	-32.459	74.000
7323.000	-2.977	48.590	45.614	-28.386	74.000
9764.000	-2.131	49.065	46.934	-27.066	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. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE+ Camera
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
4960.000	-10.666	54.916	44.251	-29.749	74.000
7440.000	-3.631	50.582	46.951	-27.049	74.000
9920.000	-2.397	49.911	47.514	-26.486	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	-7.869	55.382	47.514	-26.486	74.000
7440.000	-2.772	49.466	46.694	-27.306	74.000
9920.000	-1.895	49.739	47.844	-26.156	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. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product :
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2441MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
190.261	-19.206	51.807	32.602	-10.898	43.500
321.000	-13.859	45.424	31.565	-14.435	46.000
373.014	-10.683	41.073	30.390	-15.610	46.000
550.145	-6.907	37.906	30.999	-15.001	46.000
762.420	-5.770	39.660	33.890	-12.110	46.000
846.768	-4.358	38.984	34.626	-11.374	46.000
Vertical					
159.333	-15.537	45.498	29.961	-13.539	43.500
384.261	-12.121	43.324	31.203	-14.797	46.000
524.841	-10.154	39.784	29.629	-16.371	46.000
694.942	-8.044	38.986	30.942	-15.058	46.000
762.420	-7.769	39.660	31.891	-14.109	46.000
845.362	-6.954	38.125	31.172	-14.828	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE+ Camera
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

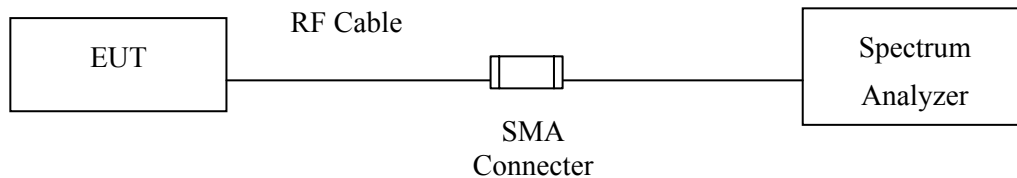
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
190.261	-19.206	49.807	30.602	-12.898	43.500
333.652	-13.515	45.232	31.717	-14.283	46.000
433.464	-11.604	42.054	30.450	-15.550	46.000
606.377	-5.252	36.283	31.030	-14.970	46.000
762.420	-5.770	39.660	33.890	-12.110	46.000
827.087	-3.833	36.192	32.359	-13.641	46.000
Vertical					
195.884	-18.375	49.987	31.612	-11.888	43.500
290.072	-17.713	49.056	31.343	-14.657	46.000
384.261	-12.121	44.324	32.203	-13.797	46.000
524.841	-10.154	39.884	29.729	-16.271	46.000
694.942	-8.044	38.986	30.942	-15.058	46.000
776.478	-7.839	37.576	29.737	-16.263	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

5. RF Antenna Conducted Test

5.1. Test Setup



5.2. Limits

According to FCC Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

5.4. Uncertainty

$\pm 1.20\text{dB}$

5.5. Test Result of RF Antenna Conducted Test

Product : VUZE+ Camera
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test date : 2017/10/11
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Figure Channel 00:

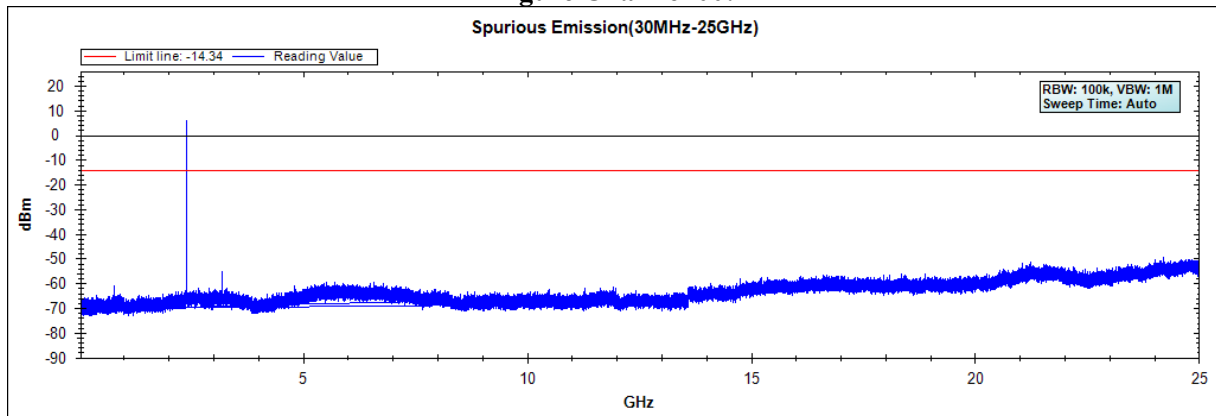


Figure Channel 39:

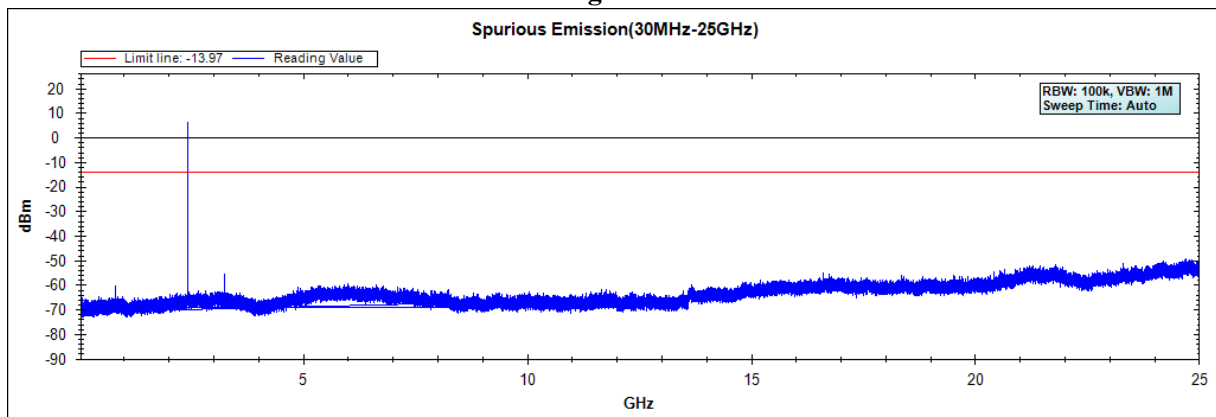
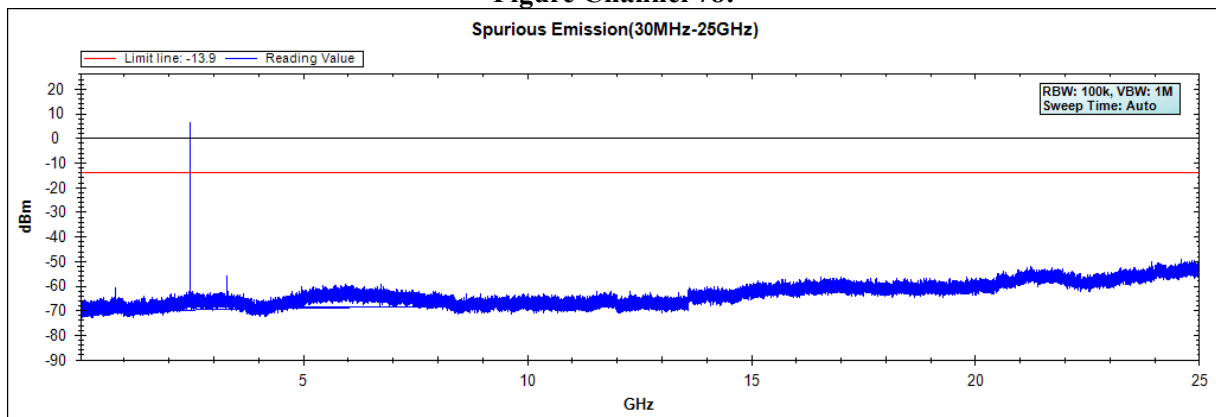
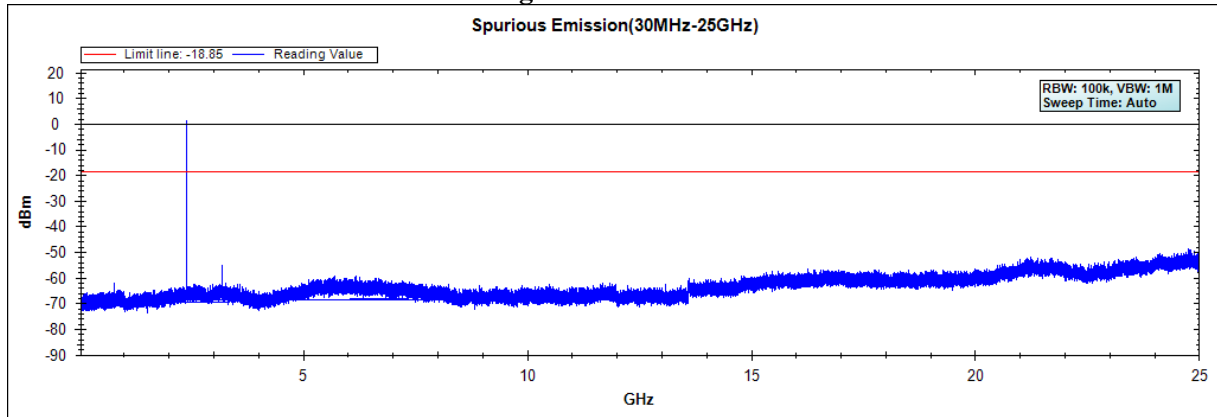
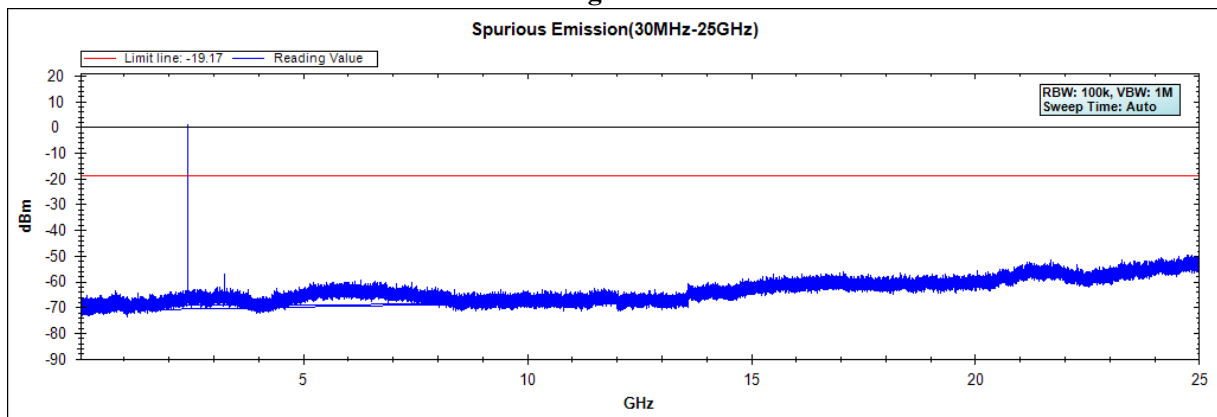
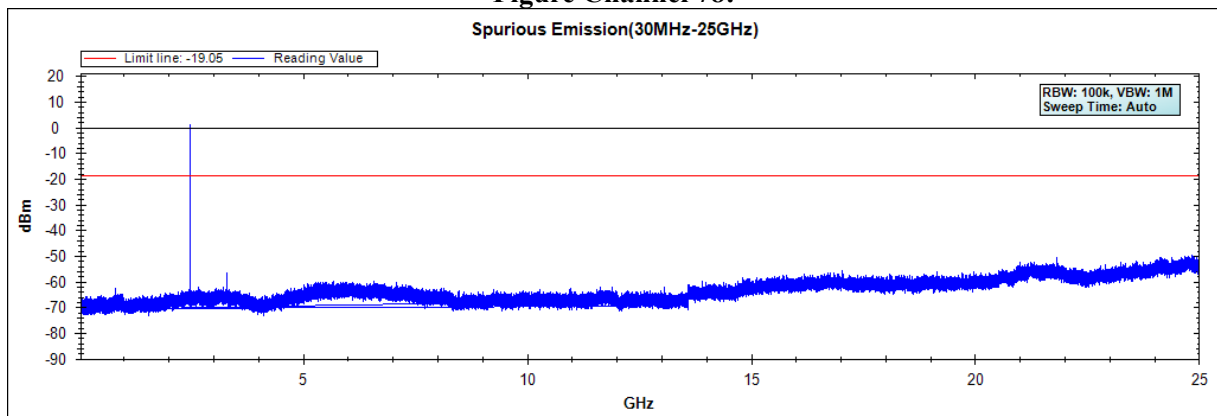


Figure Channel 78:



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

Product : VUZE+ Camera
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test date : 2017/10/11
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

Figure Channel 00:**Figure Channel 39:****Figure Channel 78:**

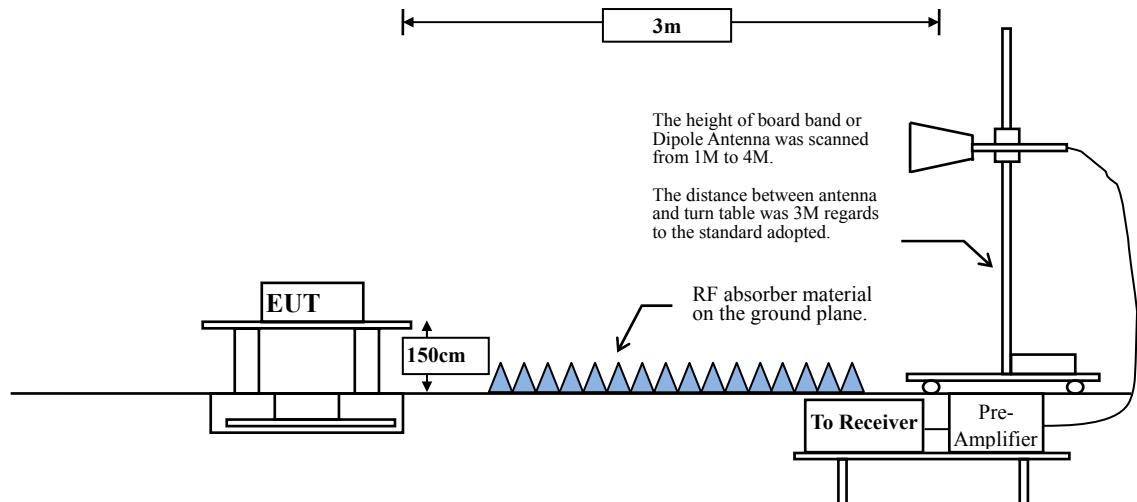
Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

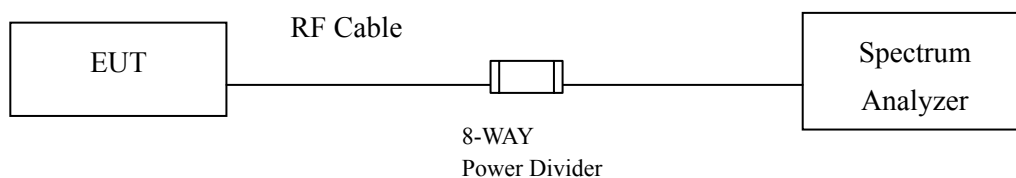
6.1. Test Setup

RF Radiated Measurement:

Above 1GHz



RF Conducted Measurement



6.2. Limit

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

6.3. Test Procedure

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 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 setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.

6.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

6.5. Test Result of Band Edge

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2402MHz)

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
00 (Peak)	2390.000	6.474	41.544	48.019	74.00	54.00	Pass
00 (Peak)	2400.000	6.528	54.678	61.206	--	--	--
00 (Peak)	2402.174	6.541	83.496	90.037	--	--	--
00 (Average)	2390.000	6.474	22.238	28.713	74.00	54.00	Pass
00 (Average)	2400.000	6.528	25.279	31.807	--	--	--
00 (Average)	2402.174	6.541	71.001	77.542	--	--	--

Figure Channel 00:

Horizontal (Peak)

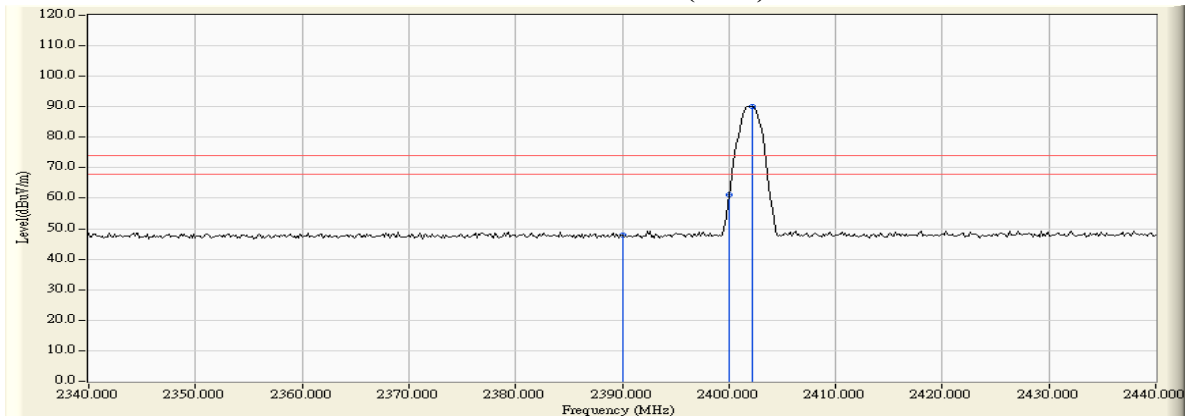
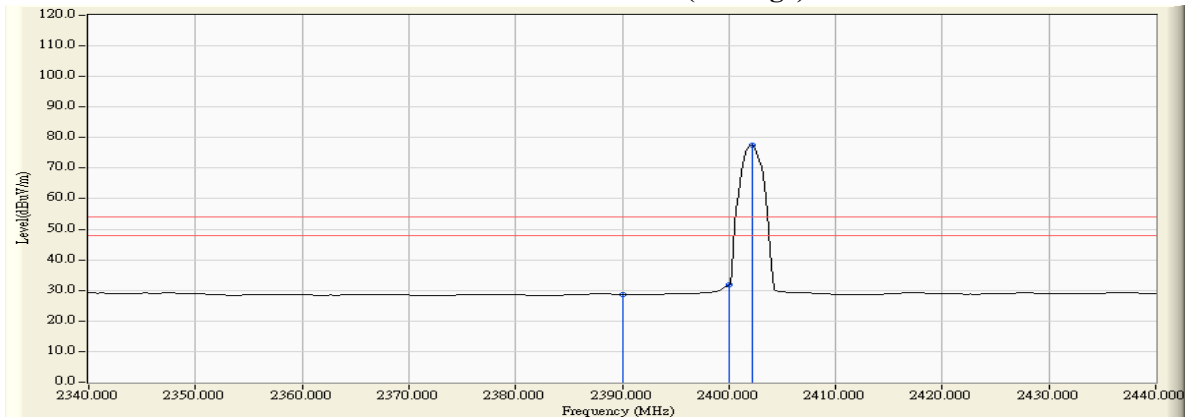


Figure Channel 00:

Horizontal (Average)



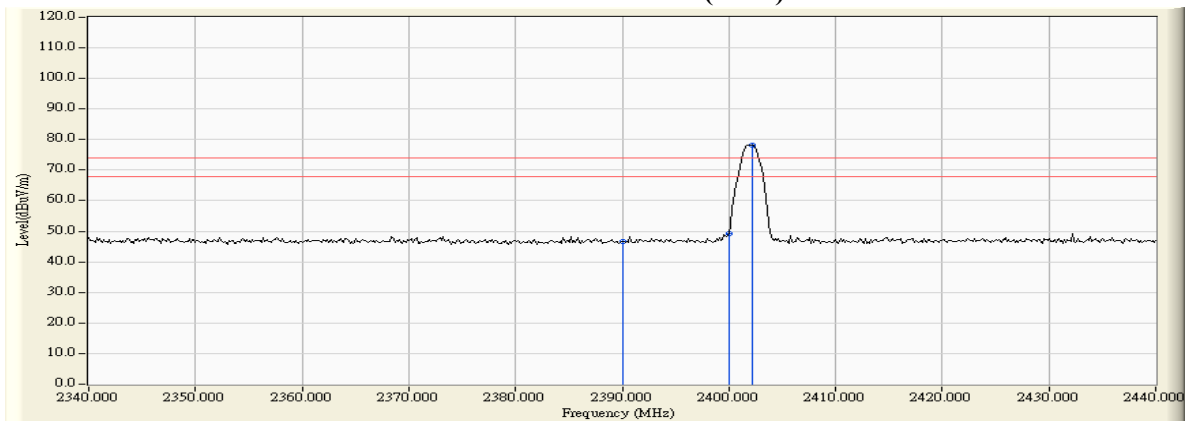
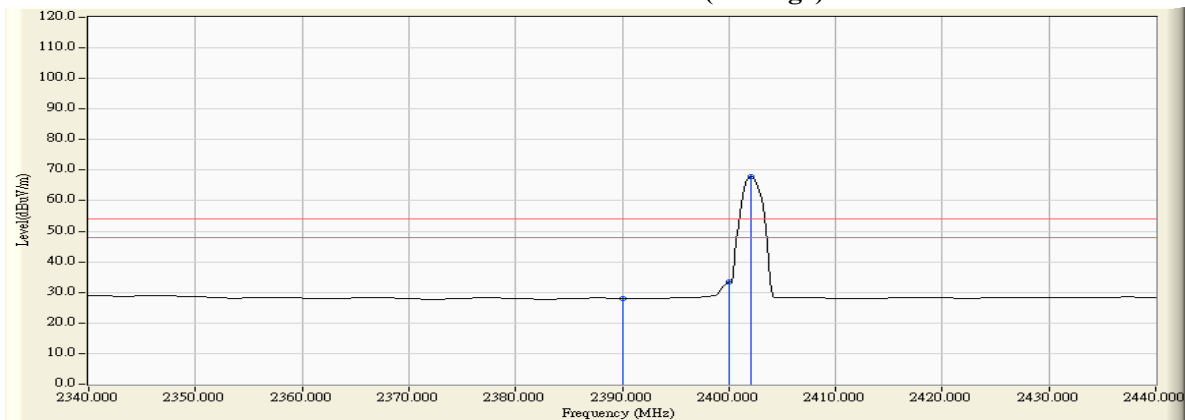
Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2402MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
00 (Peak)	2390.000	5.880	40.773	46.654	74.00	54.00	Pass
00 (Peak)	2400.000	5.879	43.254	49.133	--	--	--
00 (Peak)	2402.174	5.884	72.347	78.231	--	--	--
00 (Average)	2390.000	5.880	22.175	28.056	74.00	54.00	Pass
00 (Average)	2400.000	5.879	27.479	33.358	--	--	--
00 (Average)	2402.029	5.884	62.110	67.994	--	--	--

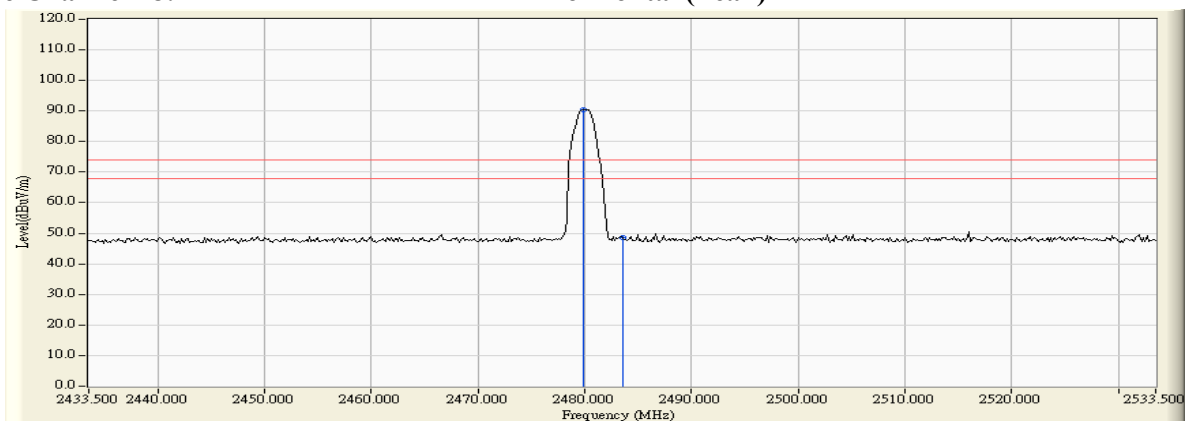
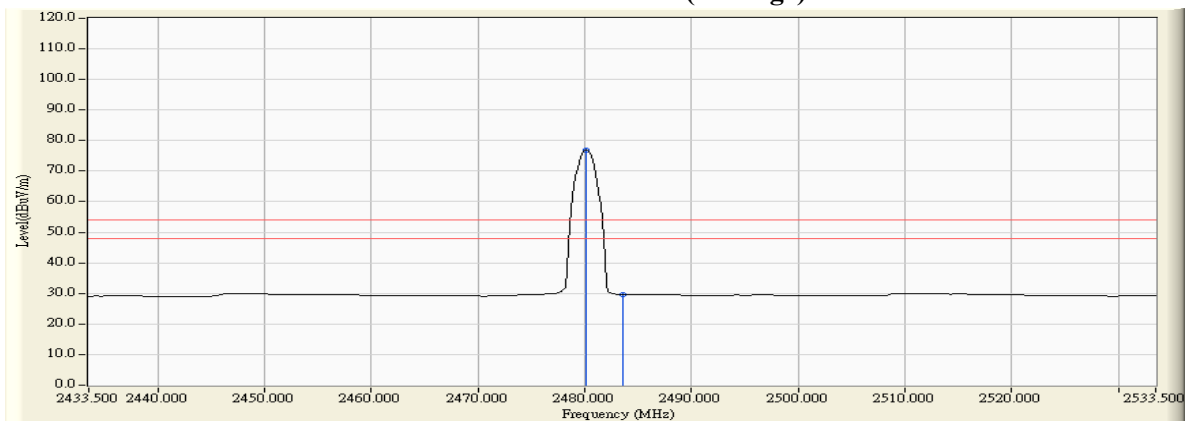
Figure Channel 00:**VERTICAL (Peak)****Figure Channel 00:****VERTICAL (Average)****Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2480MHz)

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
78 (Peak)	2479.877	7.085	83.469	90.553	--	--	Pass
78 (Peak)	2483.500	7.110	41.330	48.440	74.00	54.00	Pass
78 (Average)	2480.167	7.087	69.703	76.789	--	--	Pass
78 (Average)	2483.500	7.110	22.466	29.576	74.00	54.00	Pass

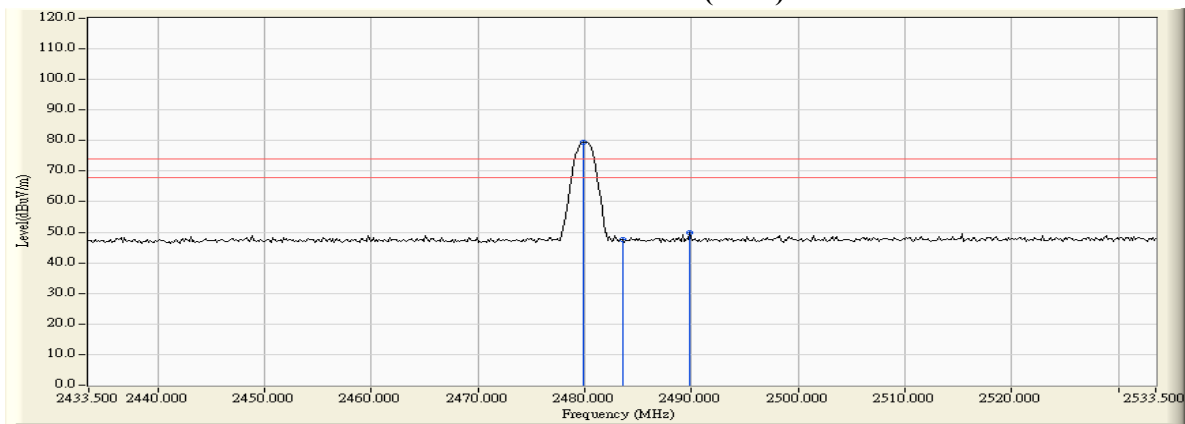
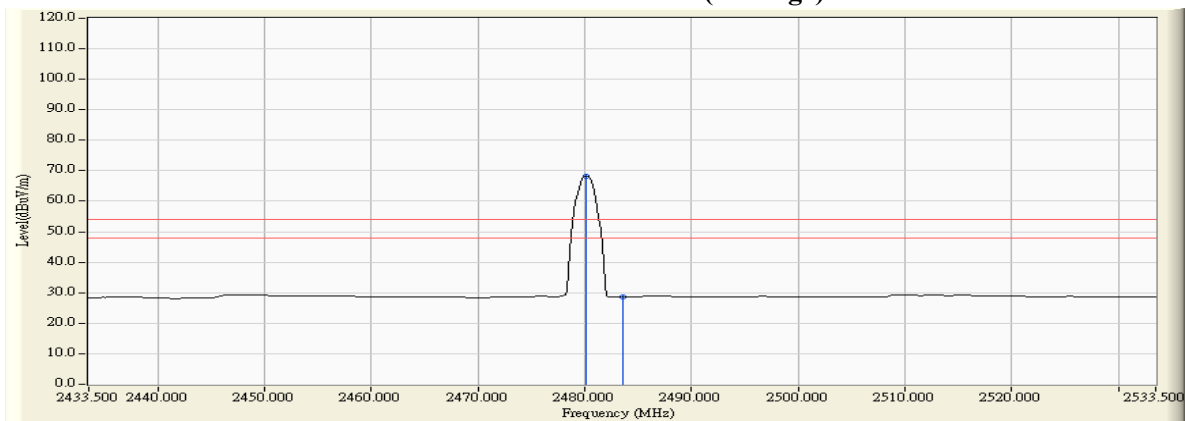
Figure Channel 78:**Horizontal (Peak)****Figure Channel 78:****Horizontal (Average)****Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2480MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
78 (Peak)	2479.877	6.341	73.057	79.398	--	--	Pass
78 (Peak)	2483.500	6.363	41.257	47.620	74.00	54.00	Pass
78 (Peak)	2489.877	6.403	43.493	49.896	74.00	54.00	Pass
78 (Average)	2480.167	6.343	62.009	68.351	--	--	Pass
78 (Average)	2483.500	6.363	22.251	28.614	74.00	54.00	Pass

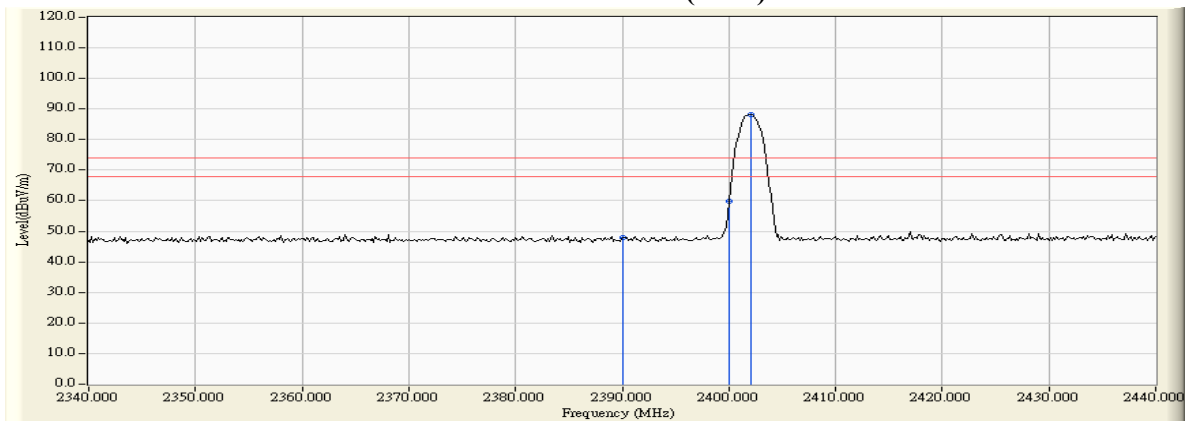
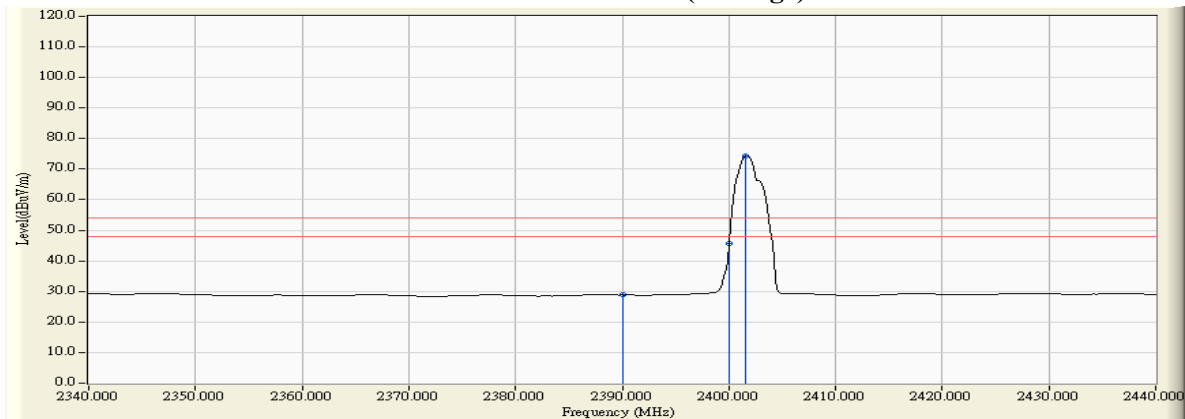
Figure Channel 78:**VERTICAL (Peak)****Figure Channel 78:****VERTICAL (Average)****Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2402MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
00 (Peak)	2390.000	6.474	41.348	47.823	74.00	54.00	Pass
00 (Peak)	2400.000	6.528	53.296	59.824	--	--	--
00 (Peak)	2402.029	6.540	81.715	88.255	--	--	--
00 (Average)	2390.000	6.474	22.325	28.800	74.00	54.00	Pass
00 (Average)	2400.000	6.528	39.091	45.619	--	--	--
00 (Average)	2401.594	6.538	67.876	74.414	--	--	--

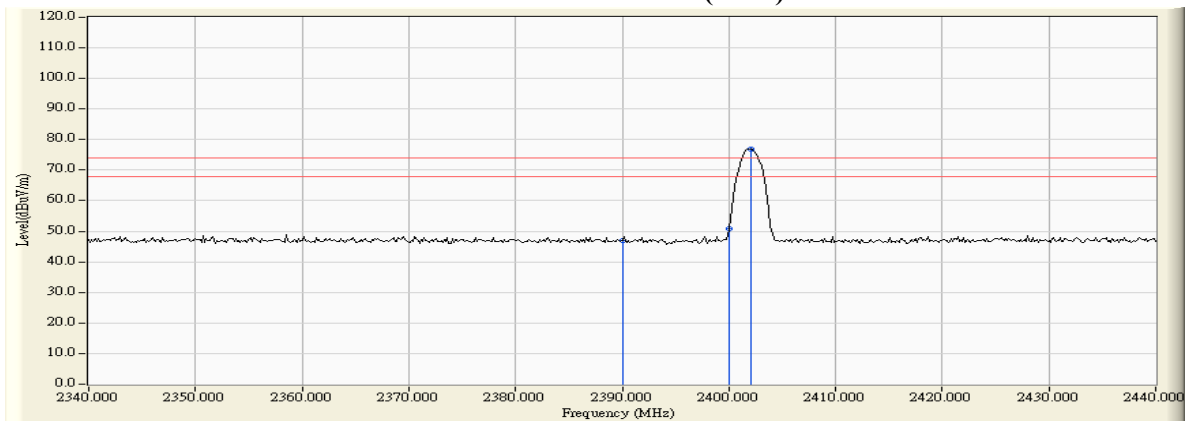
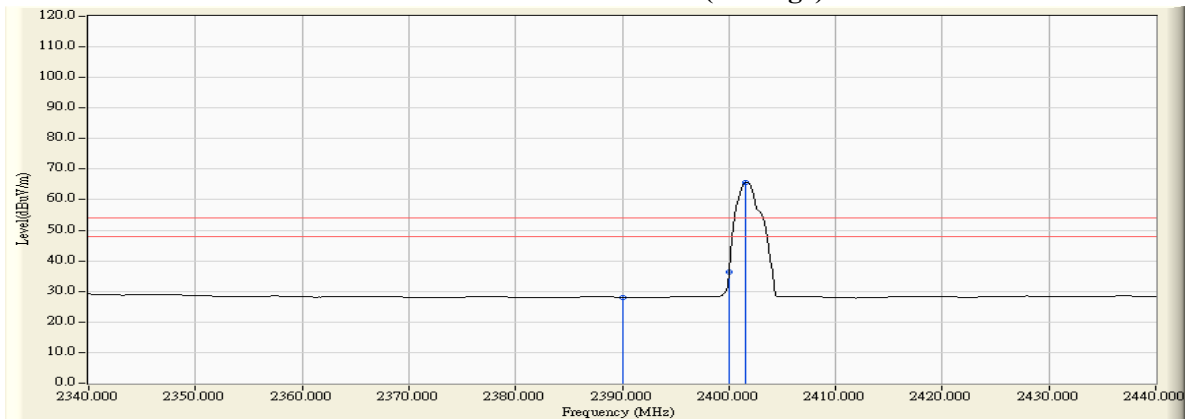
Figure Channel 00:
Horizontal (Peak)

Figure Channel 00:
Horizontal (Average)

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2402MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
00 (Peak)	2390.000	5.880	41.174	47.055	74.00	54.00	Pass
00 (Peak)	2400.000	5.879	44.936	50.815	--	--	--
00 (Peak)	2402.029	5.884	71.065	76.949	--	--	--
00 (Average)	2390.000	5.880	22.241	28.122	74.00	54.00	Pass
00 (Average)	2400.000	5.879	30.583	36.462	--	--	--
00 (Average)	2401.594	5.883	59.704	65.587	--	--	--

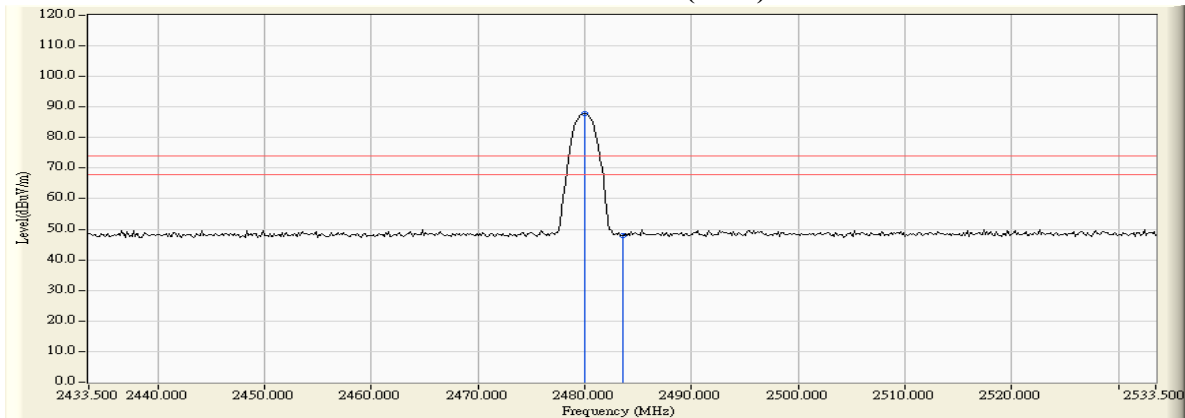
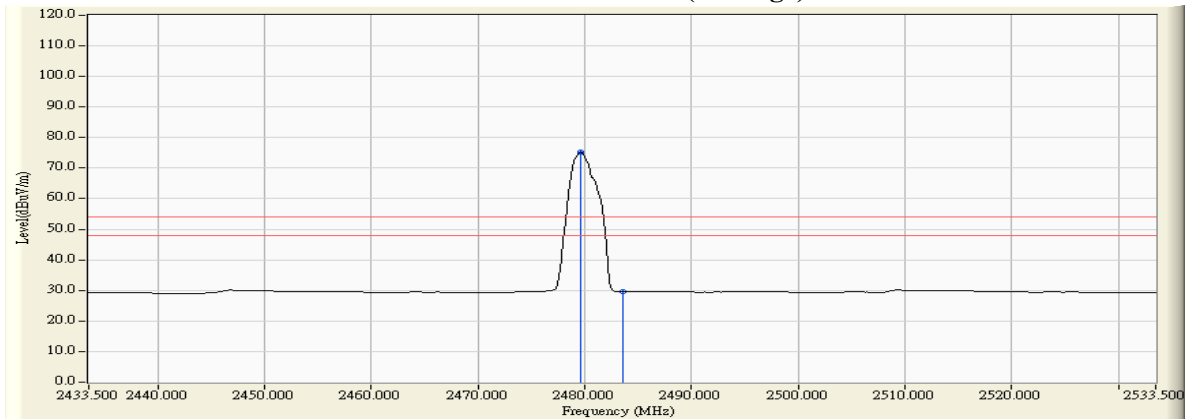
Figure Channel 00: VERTICAL (Peak)**Figure Channel 00: VERTICAL (Average)****Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
78 (Peak)	2480.022	7.086	80.766	87.851	--	--	Pass
78 (Peak)	2483.500	7.110	40.810	47.920	74.00	54.00	Pass
78 (Average)	2479.587	7.082	68.093	75.175	--	--	Pass
78 (Average)	2483.500	7.110	22.361	29.471	74.00	54.00	Pass

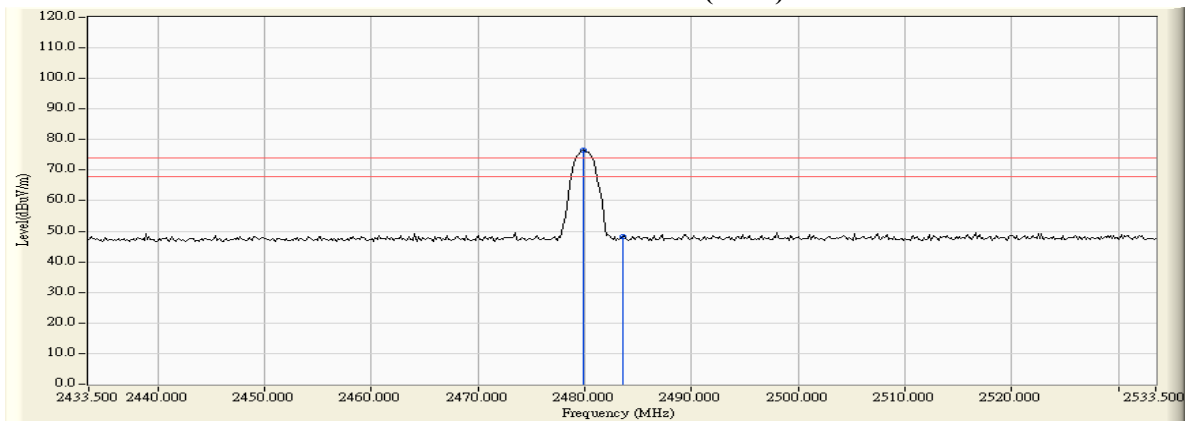
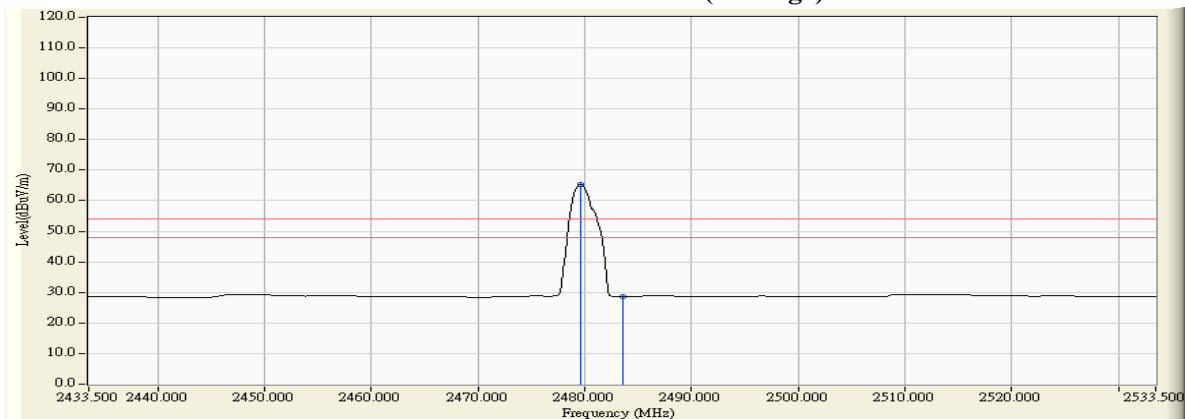
Figure Channel 00:**Horizontal (Peak)****Figure Channel 00:****Horizontal (Average)****Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test date : 2017/10/11
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

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
78 (Peak)	2479.877	6.341	70.224	76.565	--	--	Pass
78 (Peak)	2483.500	6.363	41.901	48.264	74.00	54.00	Pass
78 (Average)	2479.587	6.338	59.052	65.391	--	--	Pass
78 (Average)	2483.500	6.363	22.249	28.612	74.00	54.00	Pass

Figure Channel 78:
VERTICAL (Peak)

Figure Channel 78:
VERTICAL (Average)


Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “*” means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(Hopping off)

Measurement Level	Result
Δ (dB)	
> 20	PASS

Figure Channel 00:

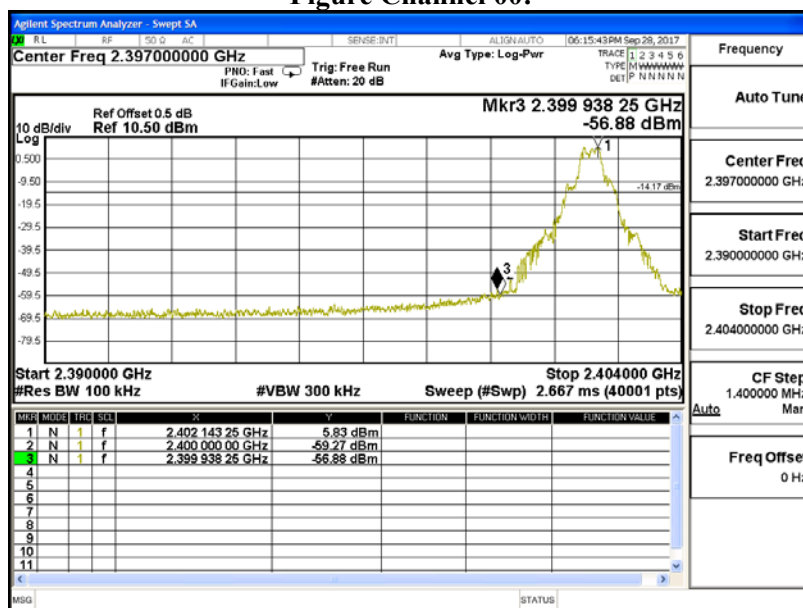
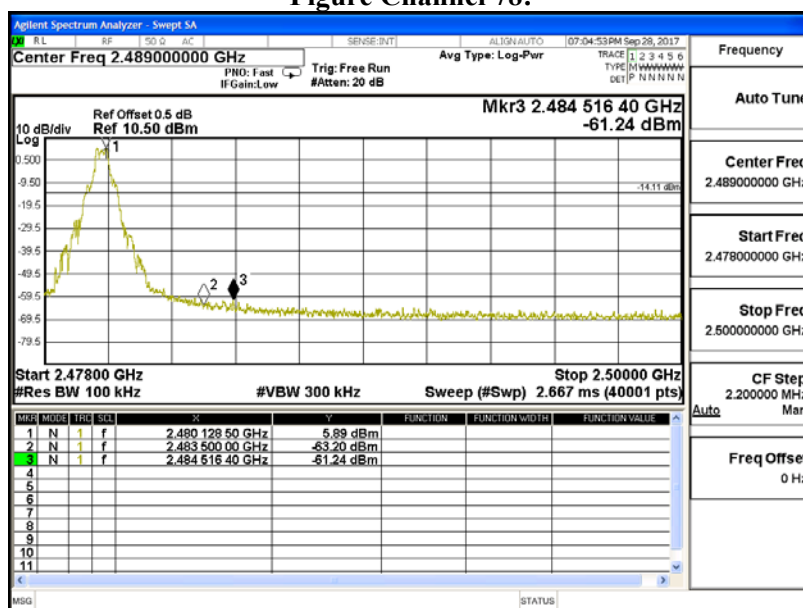


Figure Channel 78:



Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (Hopping off)

Measurement Level	Result
Δ (dB)	
> 20	PASS

Figure Channel 00:

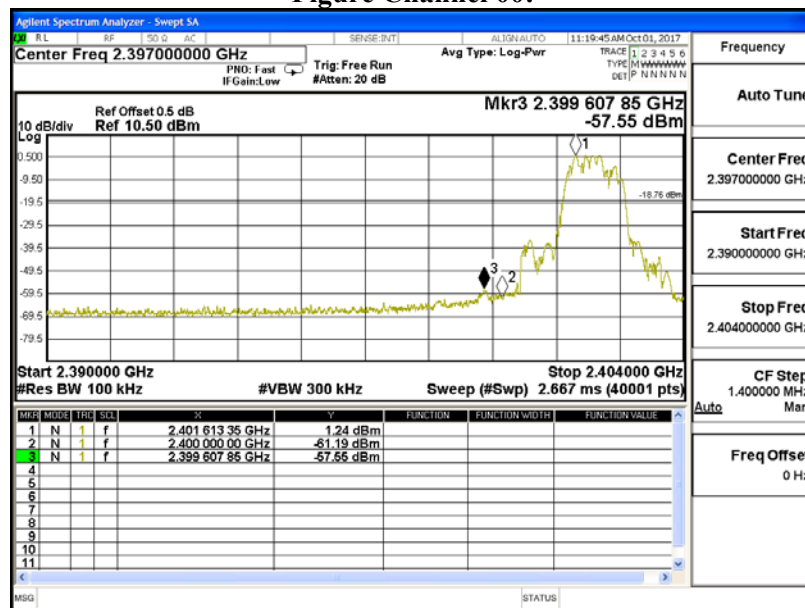
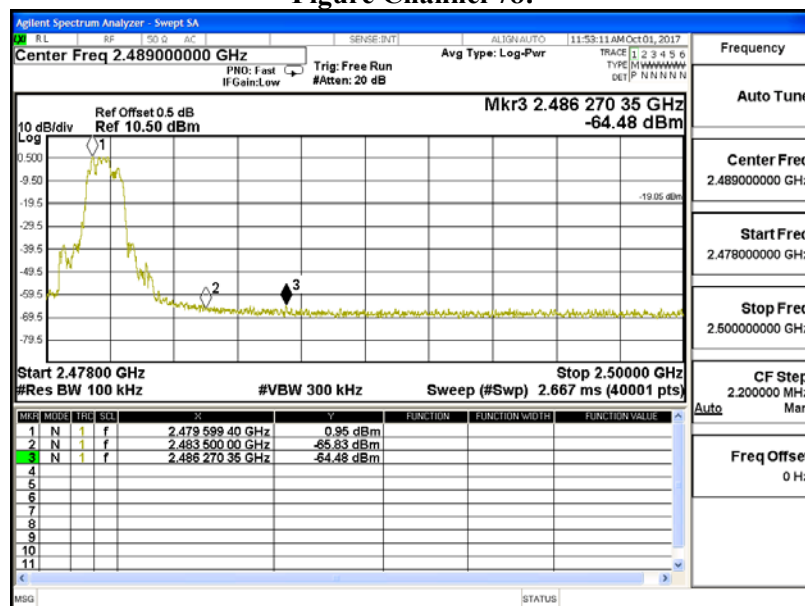


Figure Channel 78:



Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(Hopping on)

Measurement Level	Result
Δ (dB)	
> 20	PASS

Figure Channel 00 Hopping:

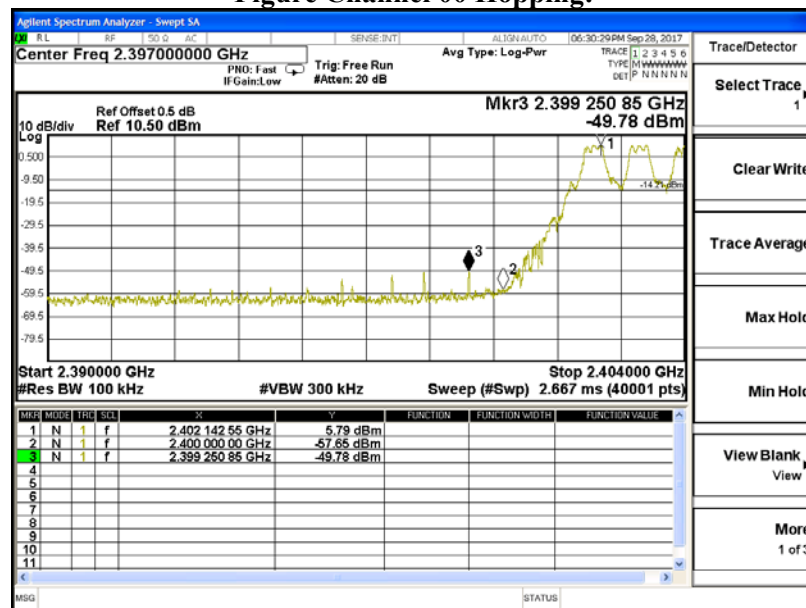
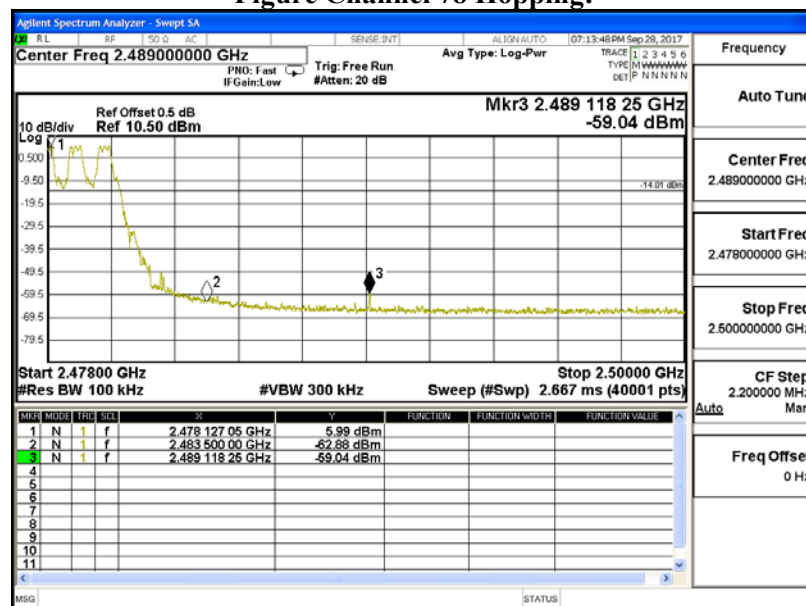


Figure Channel 78 Hopping:



Product : VUZE+ Camera
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (Hopping on)

Measurement Level Δ (dB)	Result
> 20	PASS

Figure Channel 00 Hopping:

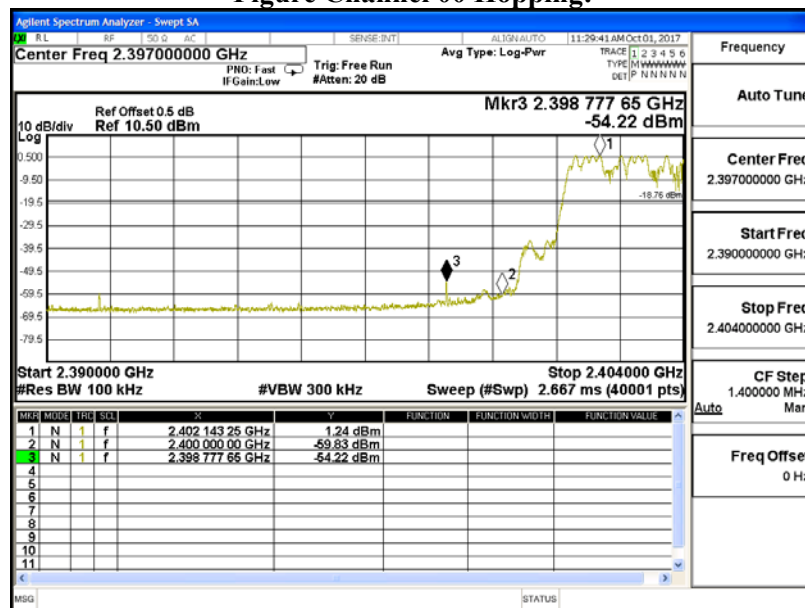
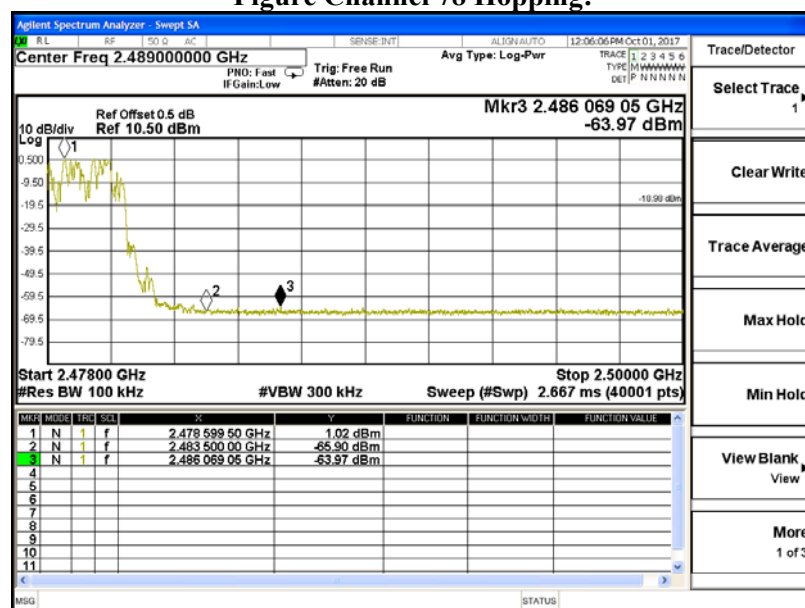
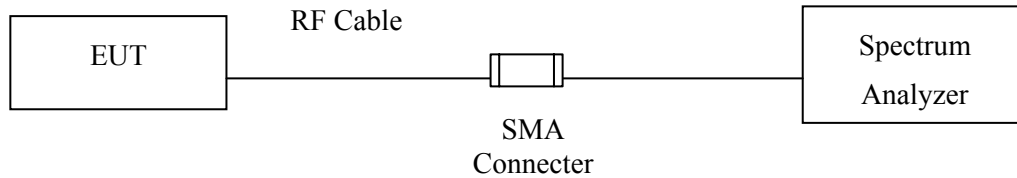


Figure Channel 78 Hopping:



7. Channel Number

7.1. Test Setup



7.2. Limit

Frequency hopping systems operating in the 2400-2483.5 MHz bands shall use at least 75 hopping frequencies.

7.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

7.4. Uncertainty

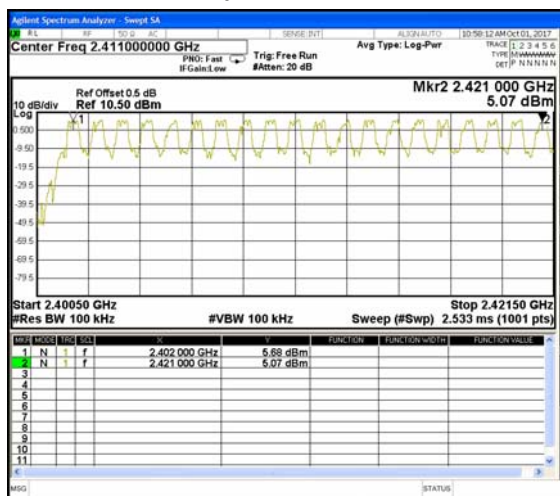
N/A

7.5. Test Result of Channel Number

Product : VUZE+ Camera
 Test Item : Channel Number
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>75	Pass

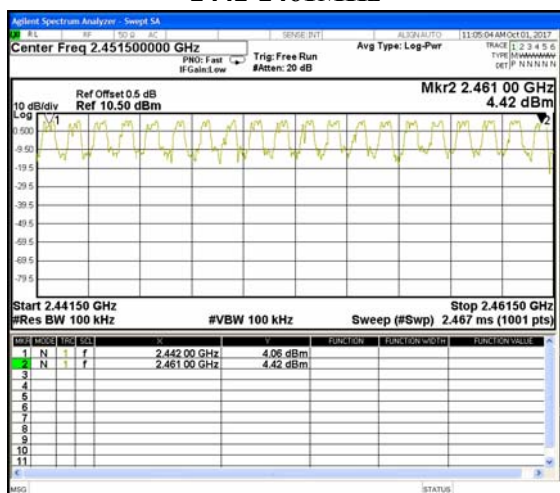
2402-2421MHz



2422-2441MHz



2442-2461MHz



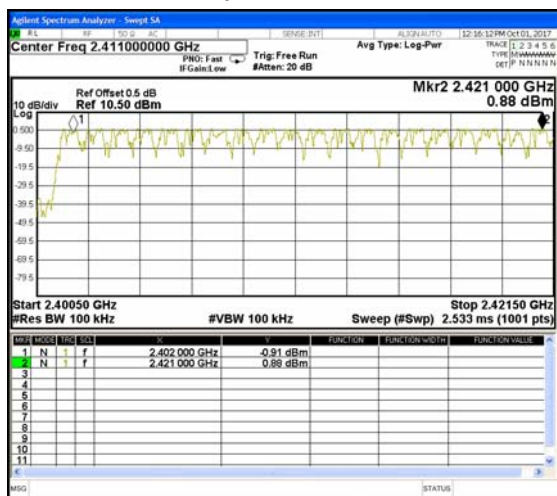
2462-2480MHz



Product : VUZE+ Camera
 Test Item : Channel Number
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>75	Pass

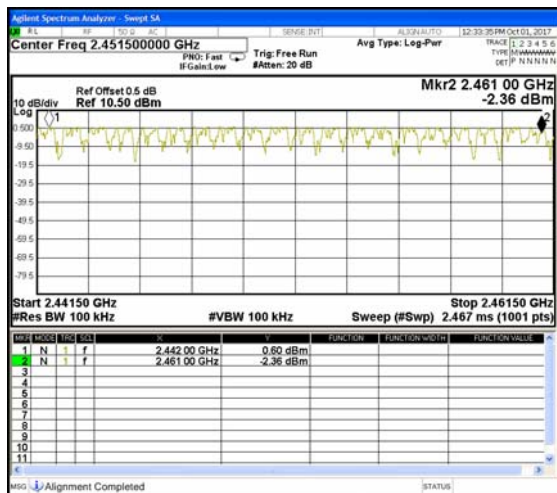
2402-2421MHz



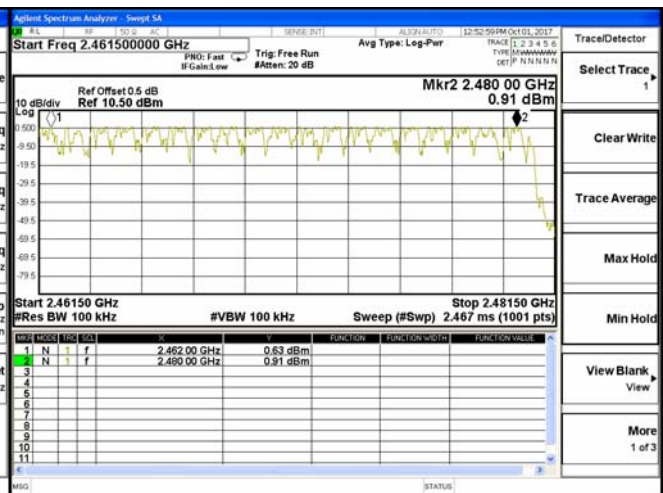
2422-2441MHz



2442-2461MHz

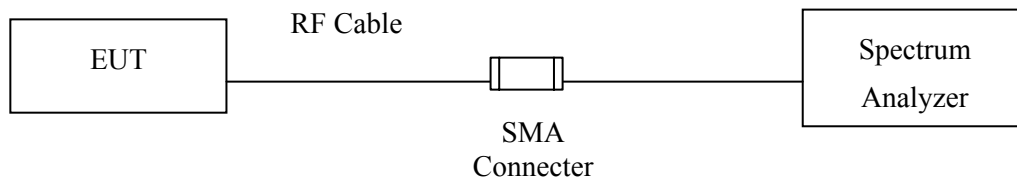


2462-2480MHz



8. Channel Separation

8.1. Test Setup



8.2. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

8.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

8.4. Uncertainty

$\pm 283\text{Hz}$

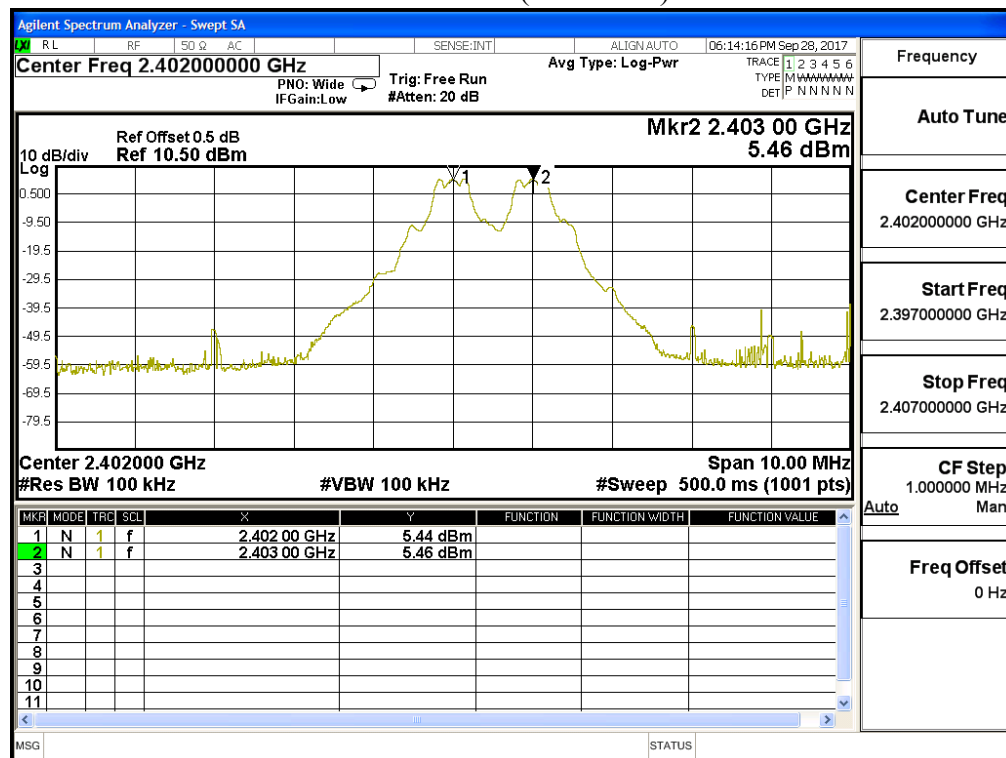
8.5. Test Result of Channel Separation

Product : VUZE+ Camera
 Test Item : Channel Separation
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

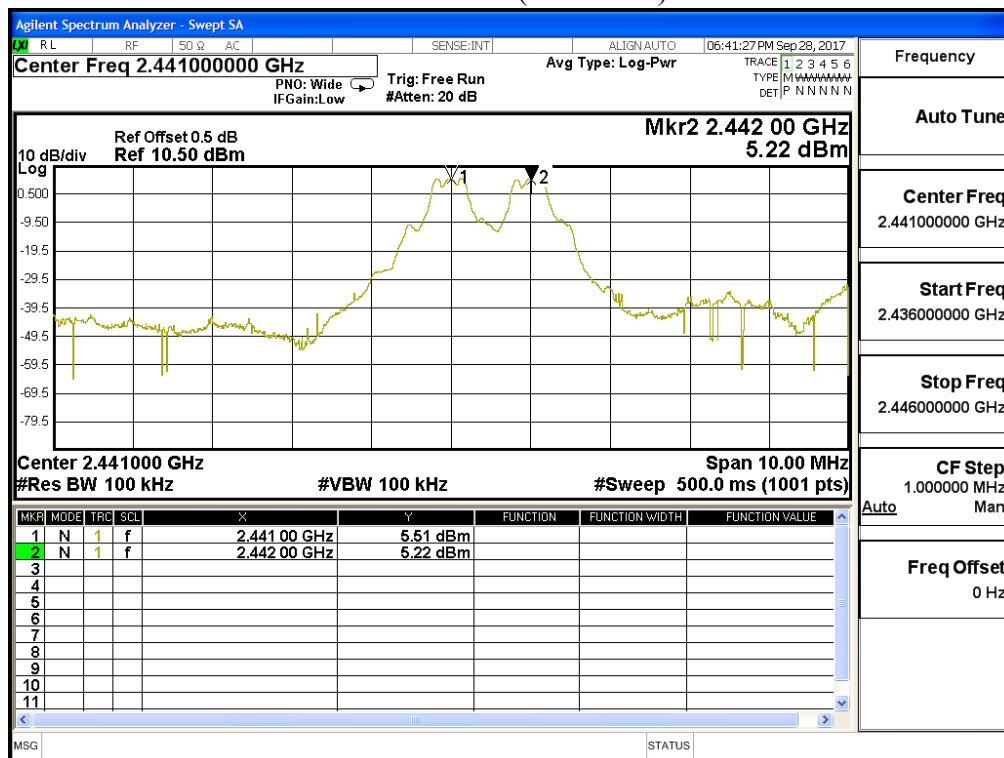
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
00	2402	1000	>25 kHz	544.0	Pass
39	2441	1000	>25 kHz	538.0	Pass
78	2480	1000	>25 kHz	538.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.

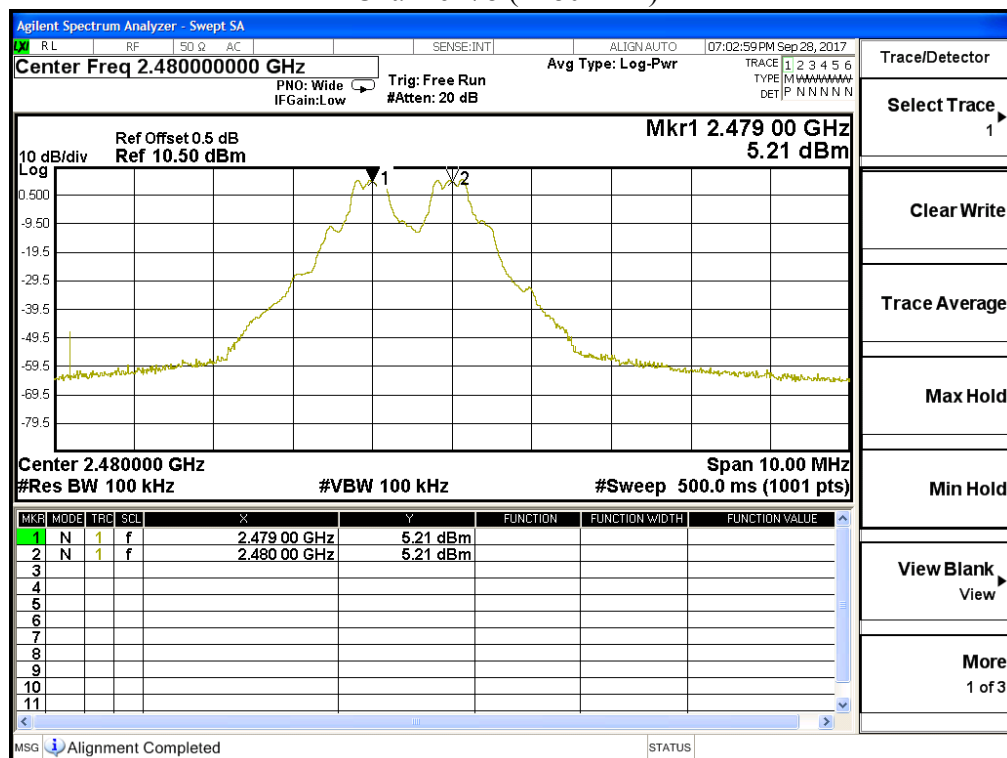
Channel 00 (2402MHz)



Channel 39 (2441MHz)

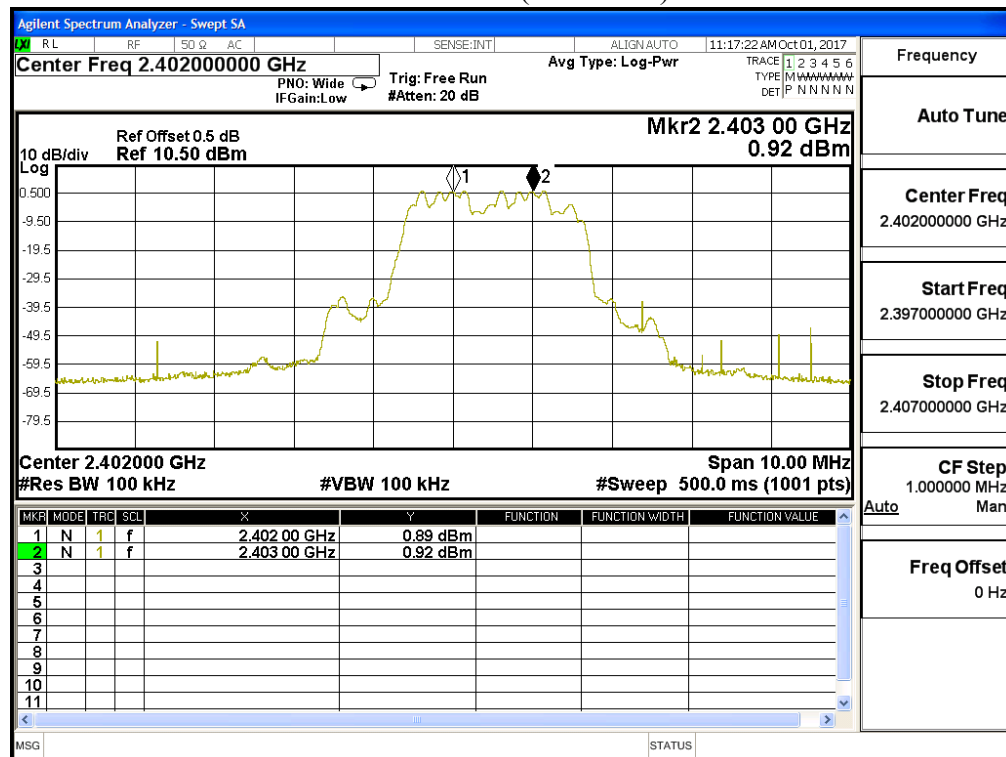


Channel 78 (2480MHz)

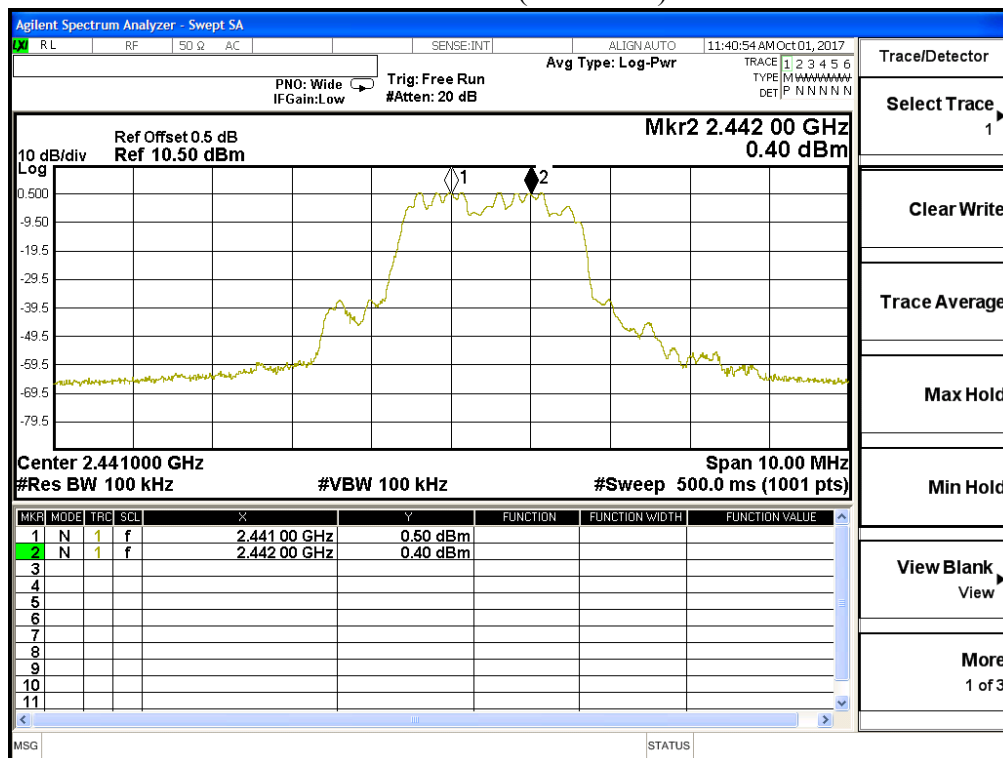


Channel No.	Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
00	2402	1000	>25 kHz	820.0	Pass
39	2441	1000	>25 kHz	820.0	Pass
78	2480	1000	>25 kHz	822.0	Pass

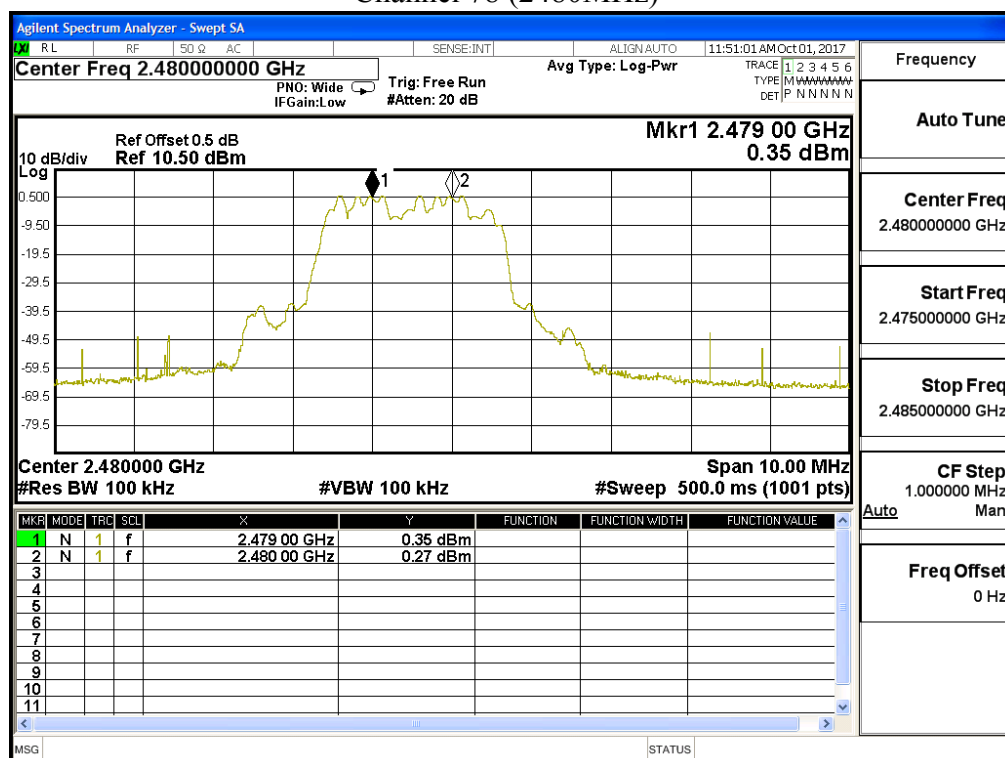
Channel 00 (2402MHz)



Channel 39 (2441MHz)

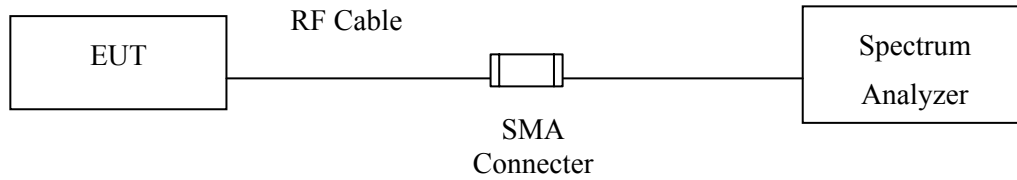


Channel 78 (2480MHz)



9. Dwell Time

9.1. Test Setup



9.2. Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

9.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

9.4. Uncertainty

$\pm 25\text{msec}$

9.5. Test Result of Dwell Time

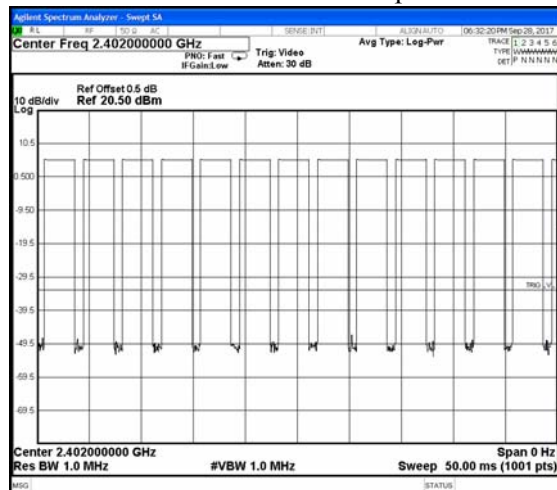
Product : VUZE+ Camera
 Test Item : Dwell Time
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (Channel 00,39,78 –DH5)

Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Duty cycle	Dwell Time (Sec)	Limit (Sec)	Result
2402	2.877	13	50	0.75	0.299	0.4	Pass
2441	2.877	13	50	0.75	0.299	0.4	Pass
2480	2.877	13	50	0.75	0.299	0.4	Pass

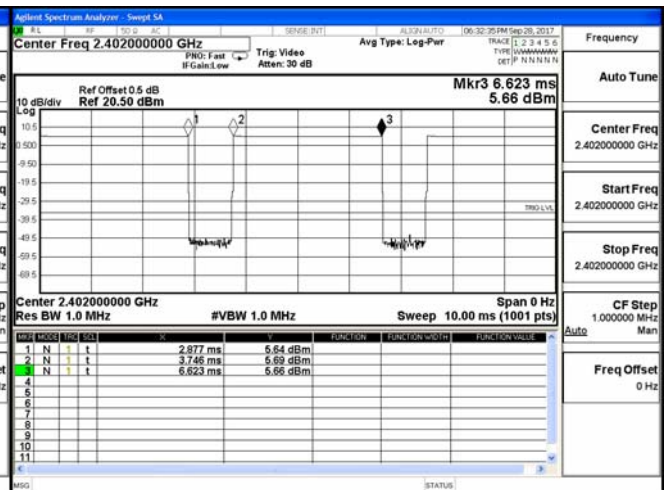
Duty cycle = ((Time slot length(ms)*Hopping of Number) / Sweep time (ms)

Dwell time = (Duty cycle /79) * (79*0.4)

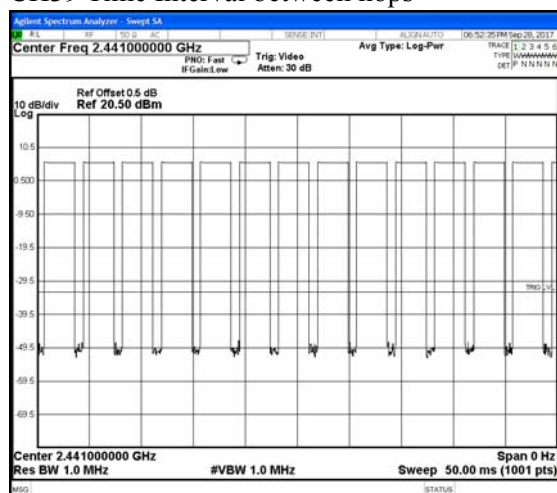
CH 00 Time Interval between hops



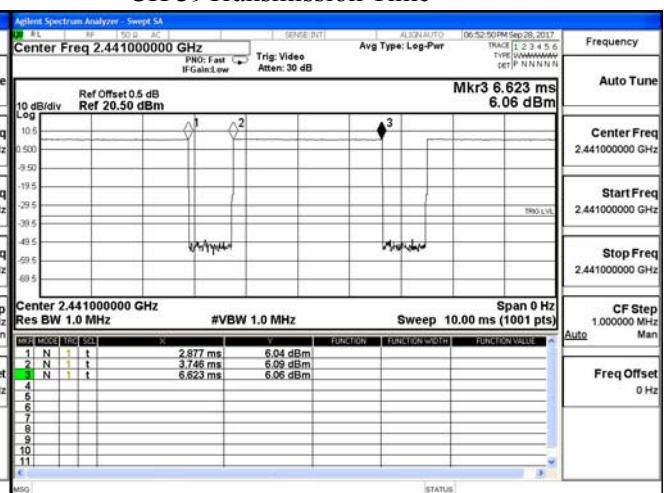
CH 00 Transmission Time



CH39 Time Interval between hops

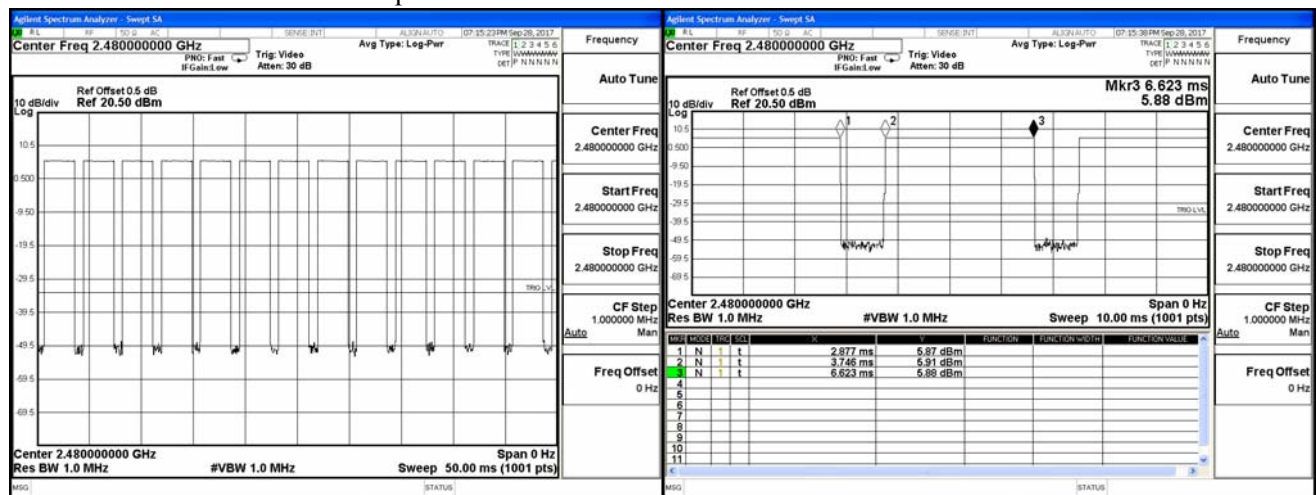


CH 39 Transmission Time



CH 78 Time Interval between hops

CH 78 Transmission Time



Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

Product : VUZE+ Camera
 Test Item : Dwell Time
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (Channel 00,39,78 –DH5)

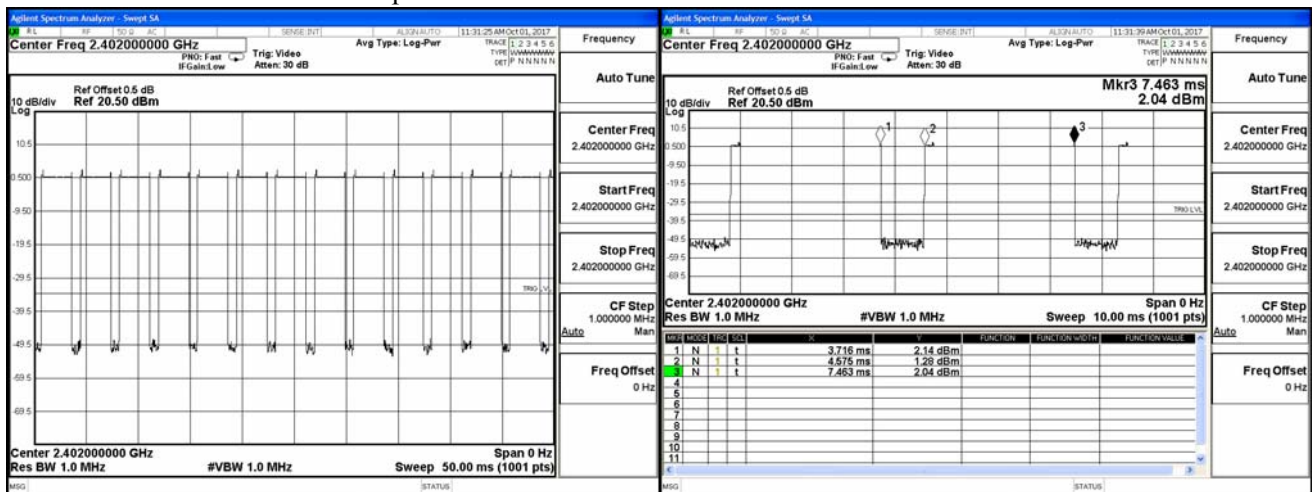
Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Duty cycle	Dwell Time (Sec)	Limit (Sec)	Result
2402	2.888	13	50	0.75	0.300	0.4	Pass
2441	2.887	13	50	0.75	0.300	0.4	Pass
2480	2.888	13	50	0.75	0.300	0.4	Pass

Duty cycle = ((Time slot length(ms)*Hopping of Number) / Sweep time (ms))

Dwell time = (Duty cycle /79) * (79*0.4)

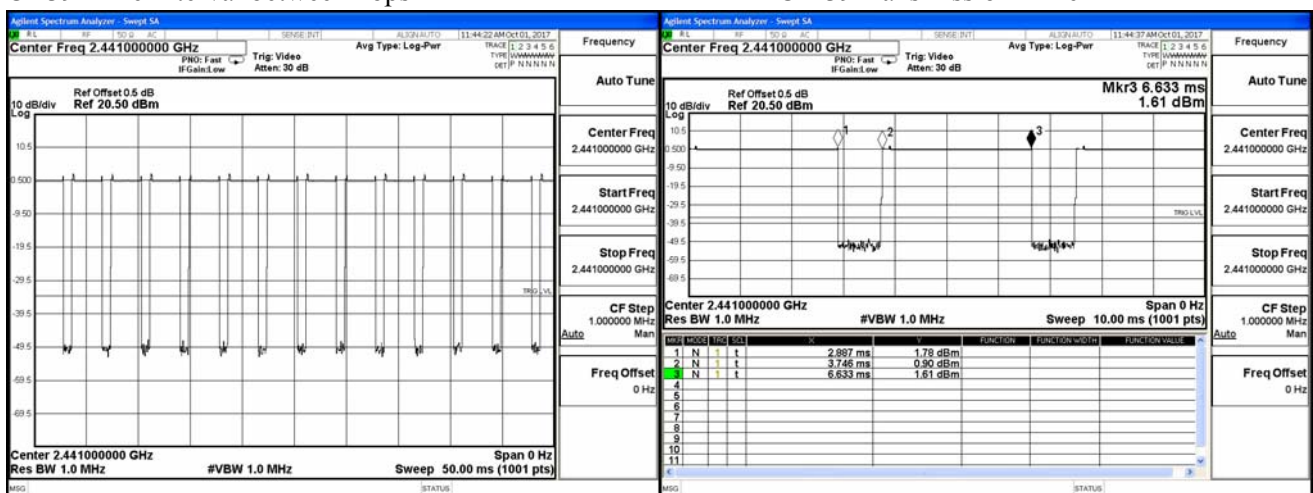
CH 00 Time Interval between hops

CH 00 Transmission Time

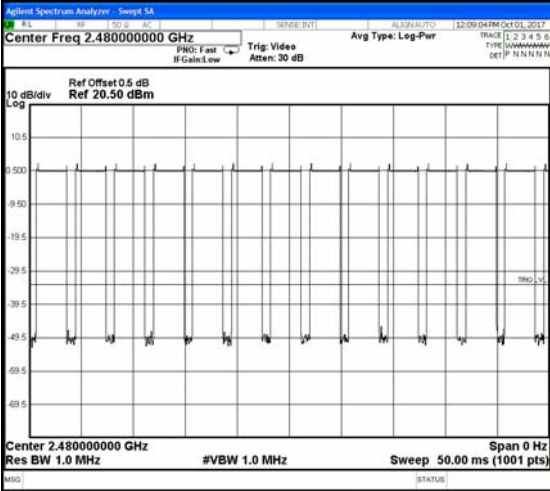


CH39 Time Interval between hops

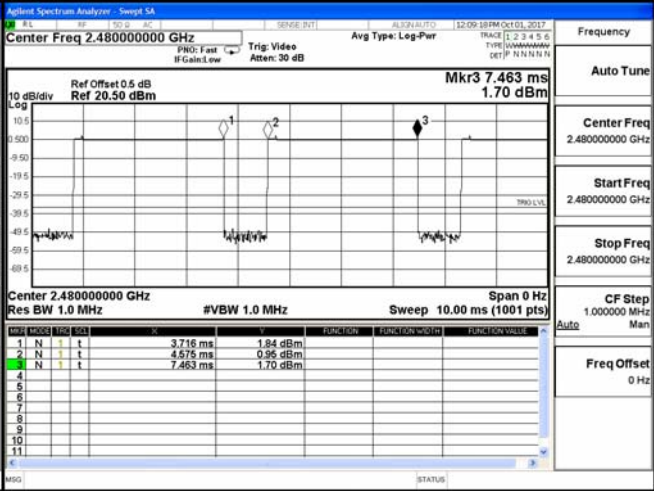
CH 39 Transmission Time



CH 78 Time Interval between hops



CH 78 Transmission Time

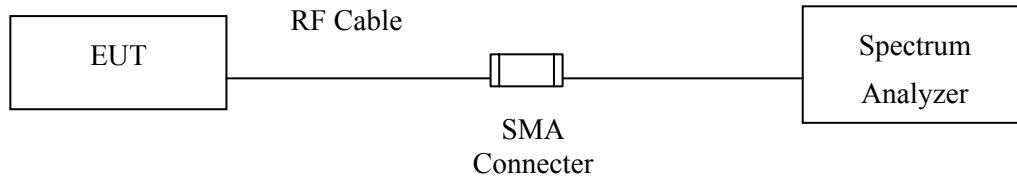


Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

10. Occupied Bandwidth

10.1. Test Setup



10.2. Limits

N/A

10.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

10.4. Uncertainty

$\pm 283\text{Hz}$

10.5. Test Result of Occupied Bandwidth

Product : VUZE+ Camera
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	816	--	NA
39	2441	807	--	NA
78	2480	807	--	NA

Figure Channel 00:

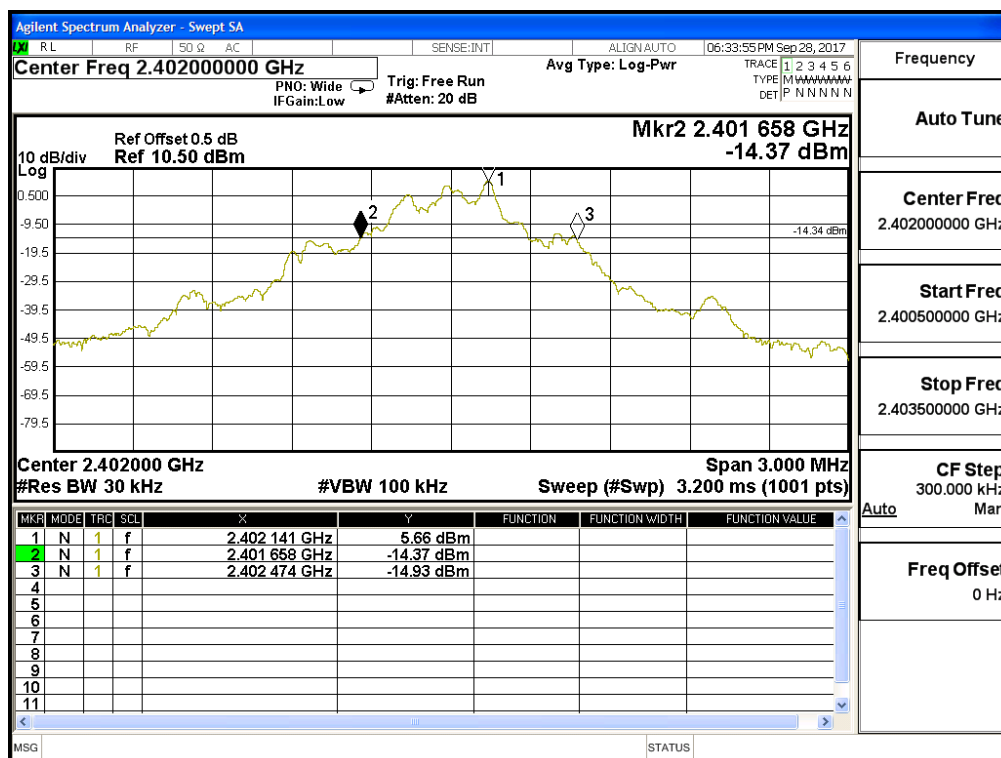


Figure Channel 39:

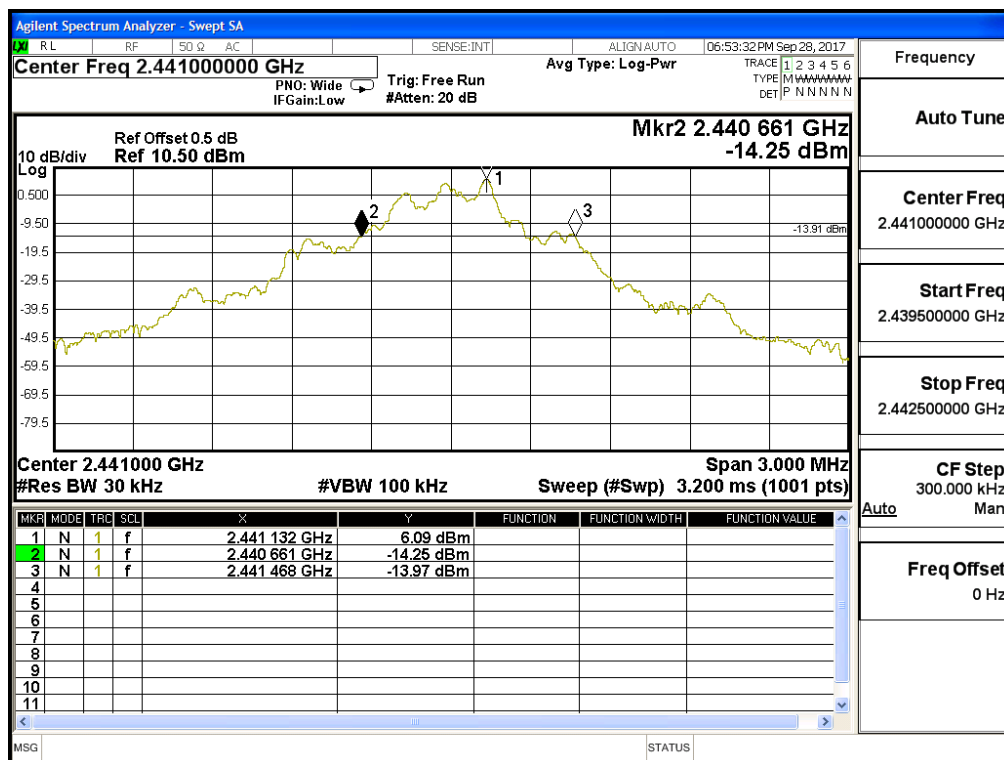
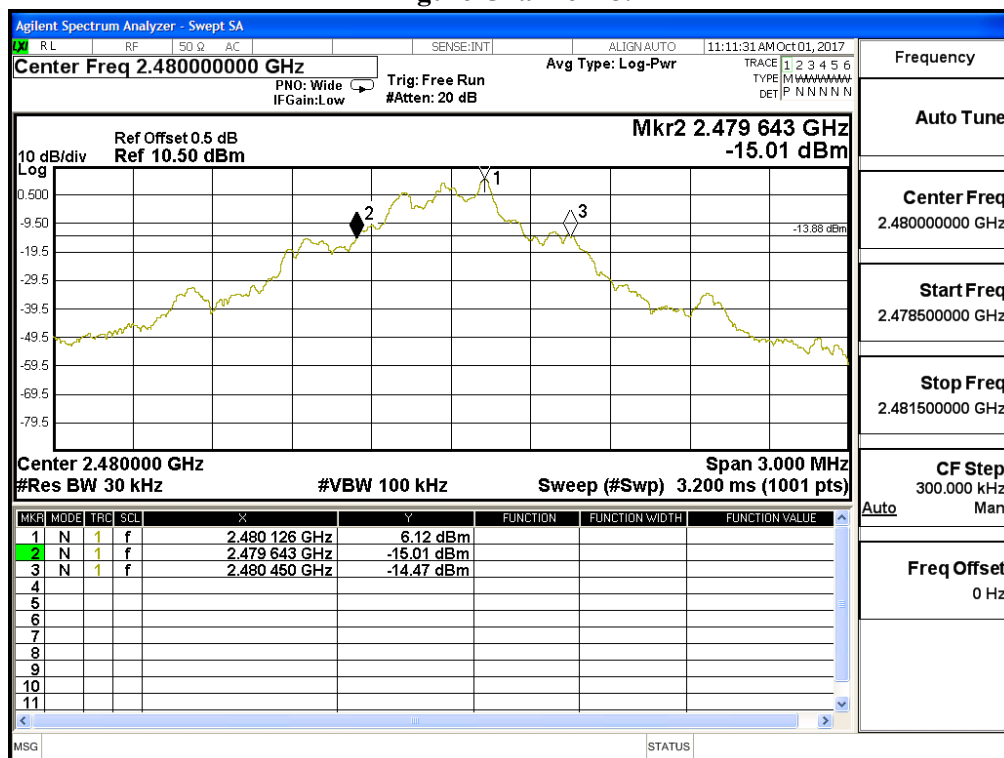


Figure Channel 78:



Product : VUZE+ Camera
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2402MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1230	--	NA
39	2441	1230	--	NA
78	2480	1233	--	NA

Figure Channel 00:

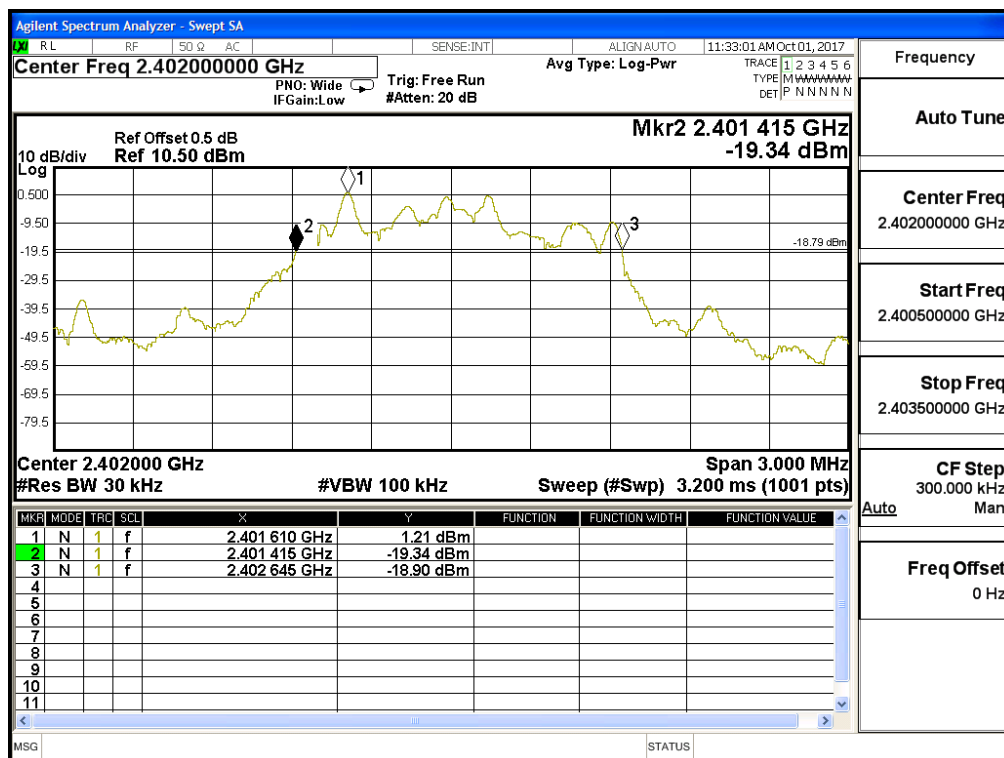


Figure Channel 39:

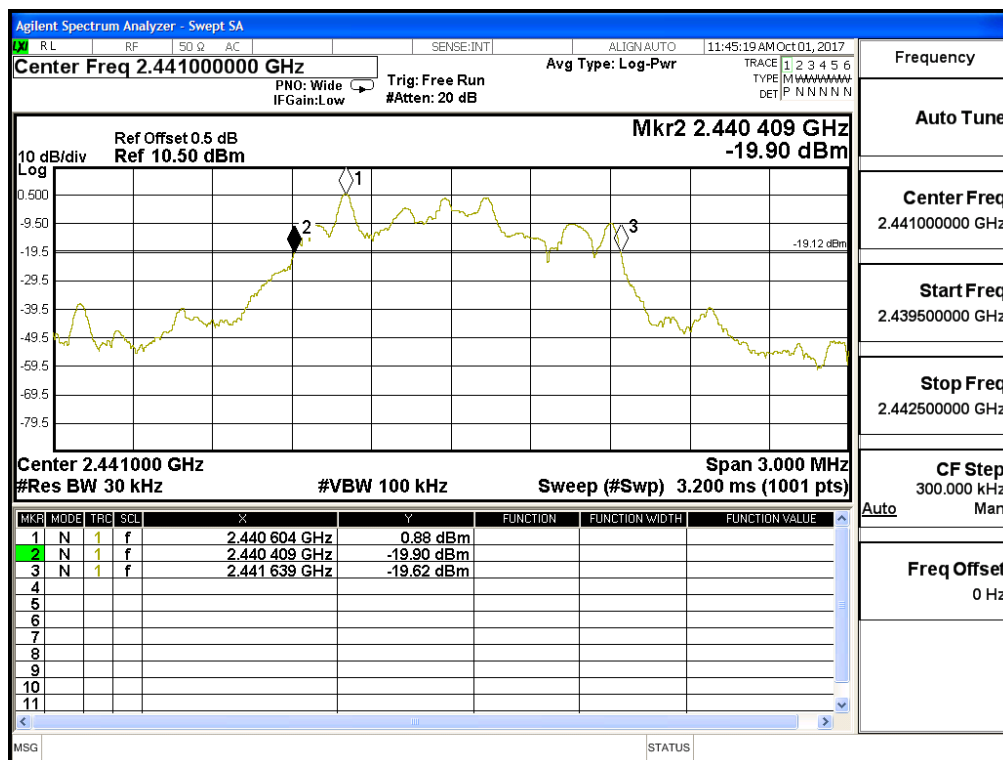
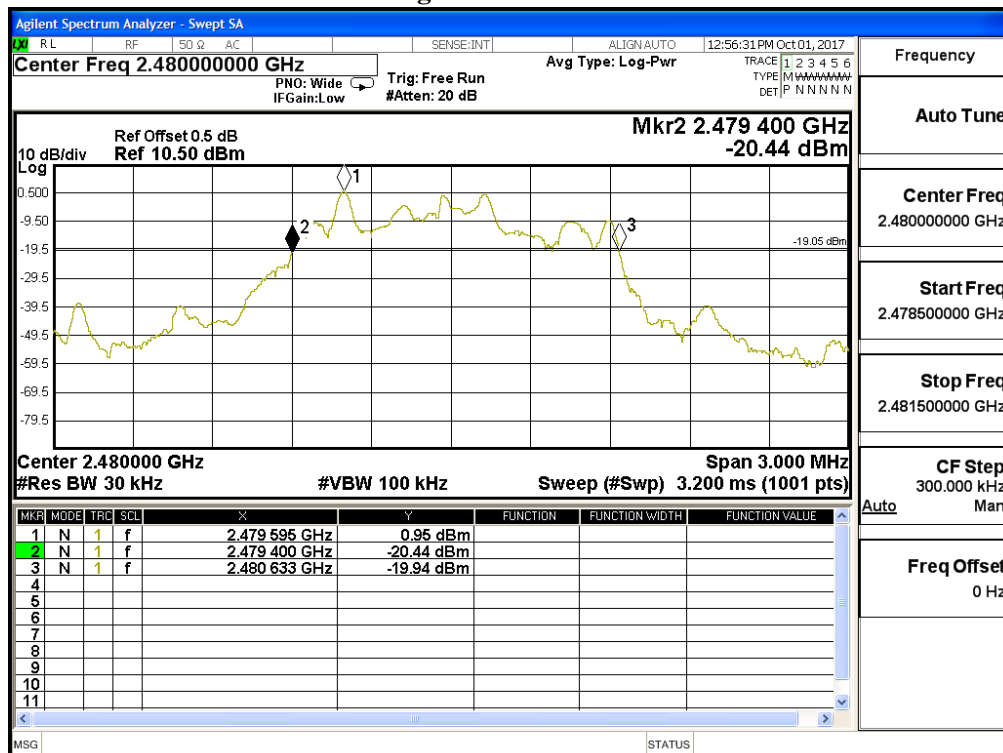


Figure Channel 78:



11. EMI Reduction Method During Compliance Testing

No modification was made during testing.