FCC Test Report

Product Name	DIGITAL CAMERA
Model No	R03030
FCC ID.	BBP-R03030

Applicant	Ricoh Company Ltd
Address	2-7-1 Izumi Ebina Kanagawa, 243-0460 Japan.

Date of Receipt	Aug. 21, 2019
Issue Date	Sep. 10, 2019
Report No.	1980322R-RFUSP01V00-A
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issue Date: Sep. 10, 2019
Report No.: 1980322R-RFUSP01V00-A

Product Name	DIGITAL CAMERA
Applicant	Ricoh Company Ltd
Address	2-7-1 Izumi Ebina Kanagawa, 243-0460 Japan.
Manufacturer	Ricoh Company, Ltd.
Model No.	R03030
FCC ID.	BBP-R03030
EUT Rated Voltage	DC 3.7V by Battery
EUT Test Voltage	DC 3.7V by Battery
Trade Name	RICOH
Serial No.	A0K8WN000026
FW	V0.2B
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2018 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 15.247 Meas Guidance v05
Test Result	Complied

Documented By : Rita Huang

(Senior Adm. Specialist / Rita Huang)

Tested By : Yun Che Chen

(Engineer / Yunche Chen)

Approved By :

(Director / Vincent Lin)

TABLE OF CONTENTS

	Description	Page
1.	**GENERAL INFORMATION**	**5**
1.1.	EUT Description	5
1.2.	Operational Description	7
1.3.	Tested System Details	8
1.4.	Configuration of Tested System	8
1.5.	EUT Exercise Software	8
1.6.	Test Facility	9
1.7.	List of Test Equipment	10
2.	**Conducted Emission**	**11**
2.1.	Test Setup	11
2.2.	Limits	12
2.3.	Test Procedure	12
2.4.	Uncertainty	12
2.5.	Test Result of Conducted Emission	13
3.	**Peak Power Output**	**17**
3.1.	Test Setup	17
3.2.	Limits	17
3.3.	Test Procedure	17
3.4.	Uncertainty	17
3.5.	Test Result of Peak Power Output	18
4.	**Radiated Emission**	**21**
4.1.	Test Setup	21
4.2.	Limits	22
4.3.	Test Procedure	23
4.4.	Uncertainty	24
4.5.	Test Result of Radiated Emission	25
5.	**RF antenna conducted test**	**49**
5.1.	Test Setup	49
5.2.	Limits	49
5.3.	Test Procedure	49
5.4.	Uncertainty	49
5.5.	Test Result of RF antenna conducted test	50
6.	**Band Edge**	**53**
6.1.	Test Setup	53
6.2.	Limits	54
6.3.	Test Procedure	54
6.4.	Uncertainty	55
6.5.	Test Result of Band Edge	56
7.	**6dB Bandwidth**	**80**
7.1.	Test Setup	80
7.2.	Limits	80

7.3. Test Procedure 80
7.4. Uncertainty 80
7.5. Test Result of 6dB Bandwidth....81

8. Power Density 87

8.1. Test Setup 87
8.2. Limits 87
8.3. Test Procedure 87
8.4. Uncertainty 87
8.5. Test Result of Power Density 88

9. Duty Cycle....94

9.1. Test Setup 94
9.2. Test Procedure 94
9.3. Uncertainty 94
9.4. Test Result of Duty Cycle....95

10. EMI Reduction Method During Compliance Testing 97

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	DIGITAL CAMERA
Trade Name	RICOH
Model No.	R03030
FCC ID.	BBP-R03030
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW
Number of Channels	802.11b/g/n-20MHz:11
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 72.2Mbps
Type of Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	Chip Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
USB Cable	Shielded, 0.3m, with one ferrite core bonded.

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	YAGEO	ANT8010LL04R2400A	Chip Antenna	0.2dBi for 2.4GHz

Note: The antenna of EUT conforms to FCC 15.203.

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

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

Note:

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

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

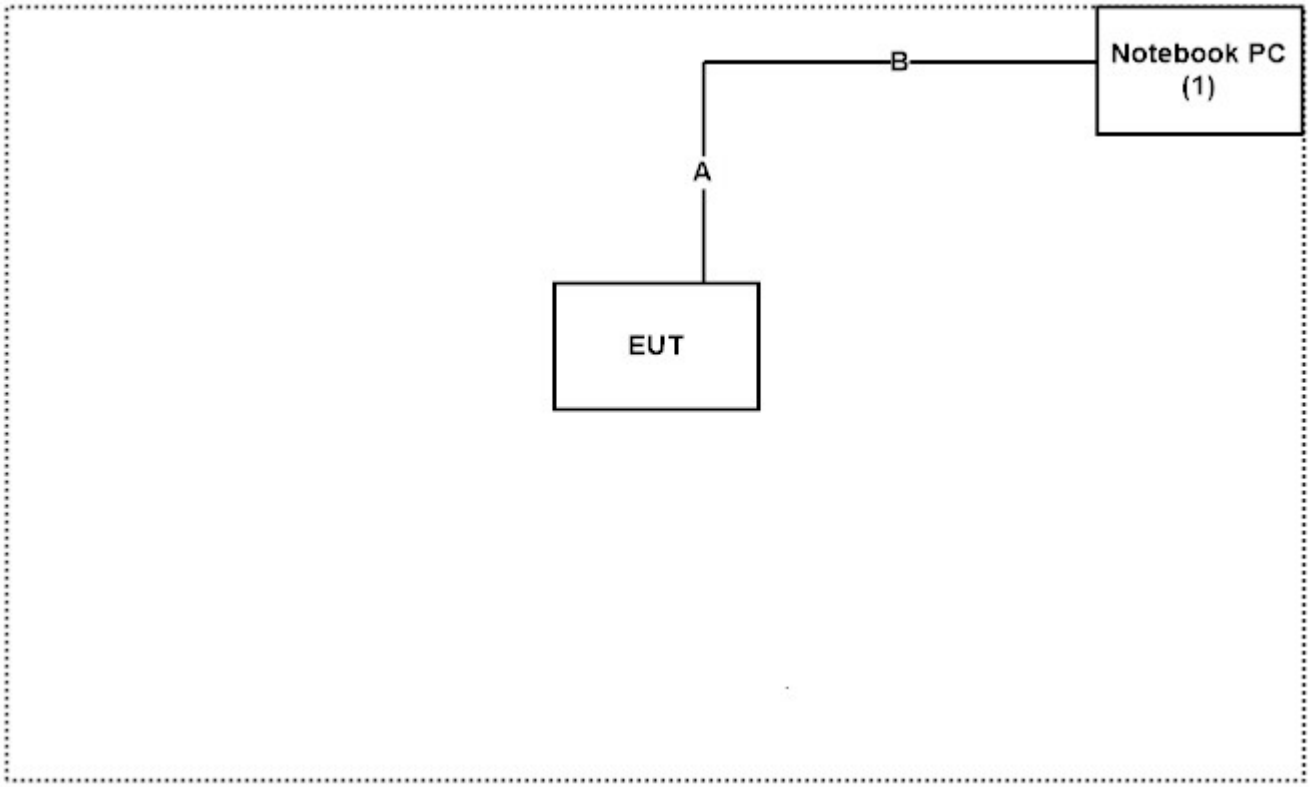
1.3. Tested System Details

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
A	USB Cable	Non-Shielded, 0.3m, with one ferrite core bonded.
B	USB Cable	Non-Shielded, 1.7m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “VendorCommandTool, Version.01.03.20190705” on the EUT.
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	50-65
Barometric pressure (mbar)	860-1060	950-1000

USA : FCC Registration Number: TW3023

Canada : IC Registration Number: 4075A

Site Description: Accredited by TAF
Accredited Number: 3023

Test Laboratory: DEKRA Testing and Certification Co., Ltd
Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
Phone number: 886-2-8601-3788
Fax number: 886-2-8601-3789
Email address: info.tw@dekra.com
Website: http://www.dekra.com.tw

1.7. 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	2019/02/26	2020/02/25
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2018/09/27	2019/09/26
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2019/08/01	2020/07/31
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2019/07/25	2020/07/24
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2019/07/25	2020/07/24
X	EMI Test Receiver	R&S	ESCS 30	100369	2018/11/19	2019/11/18
X	LISN	R&S	ENV216	101105	2019/03/30	2020/03/29
X	LISN	R&S	ESH3-Z5	836679/014	2019/04/02	2020/04/01
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2019/06/21	2020/06/20

For Radiated measurements /Site3/CB8

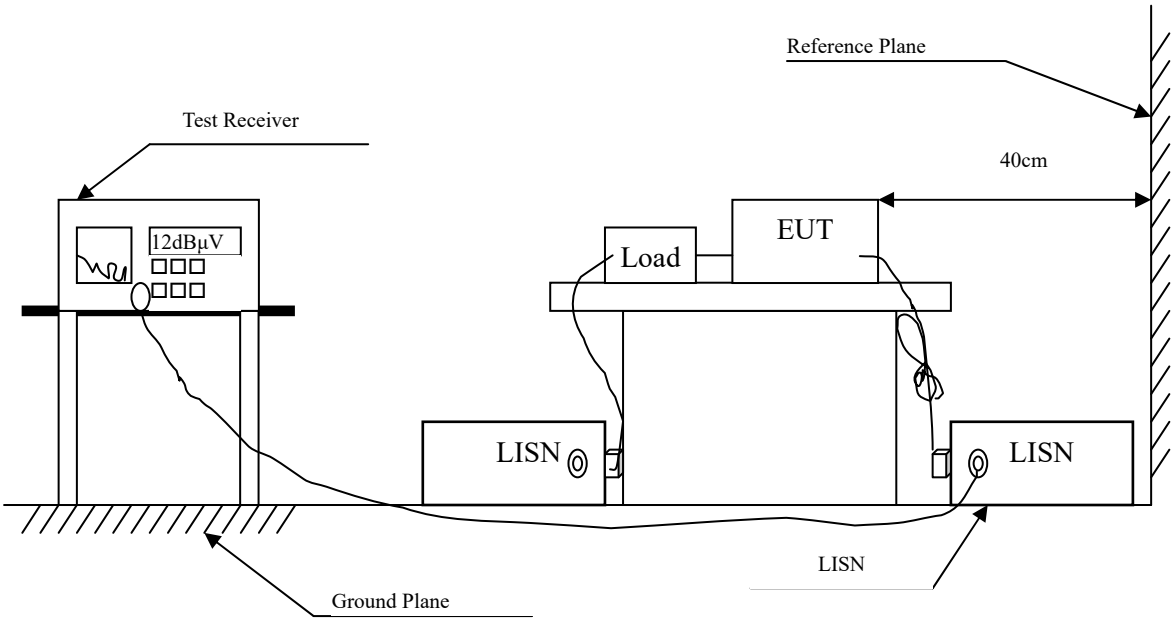
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2019/03/11	2020/03/10
X	Loop Antenna	Teseq	HLA6121	37133	2018/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2019/06/24	2020/06/23
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2019/06/14	2020/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	2019/06/14	2020/06/13
X	Horn Antenna	ETS-Lindgren	3117	00135205	2019/05/03	2020/05/02
X	Horn Antenna	SCHWARZBECK	9120D	576	2018/12/18	2019/12/17
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2019/04/10	2020/04/09
	Horn Antenna	Com-Power	AH-840	101043	2019/01/09	2020/01/08
	Amplifier + Cable	EMCI	EMC184045SE	980370	2019/03/21	2020/03/20
X	Filter	MICRO-TRONICS	BRM50702	G270	2019/08/06	2020/08/05
	Filter	MICRO-TRONICS	BRM50716	G196	2019/08/06	2020/08/05

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	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.3. Test Procedure

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

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

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

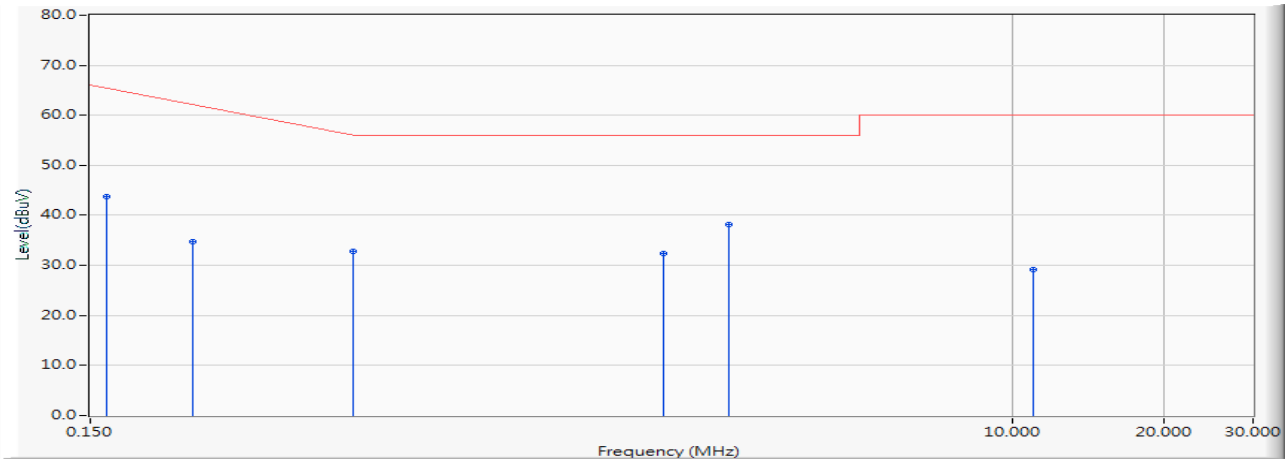
2.4. Uncertainty

± 2.26 dB

2.5. Test Result of Conducted Emission

Product : DIGITAL CAMERA
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2019/08/28
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Line1



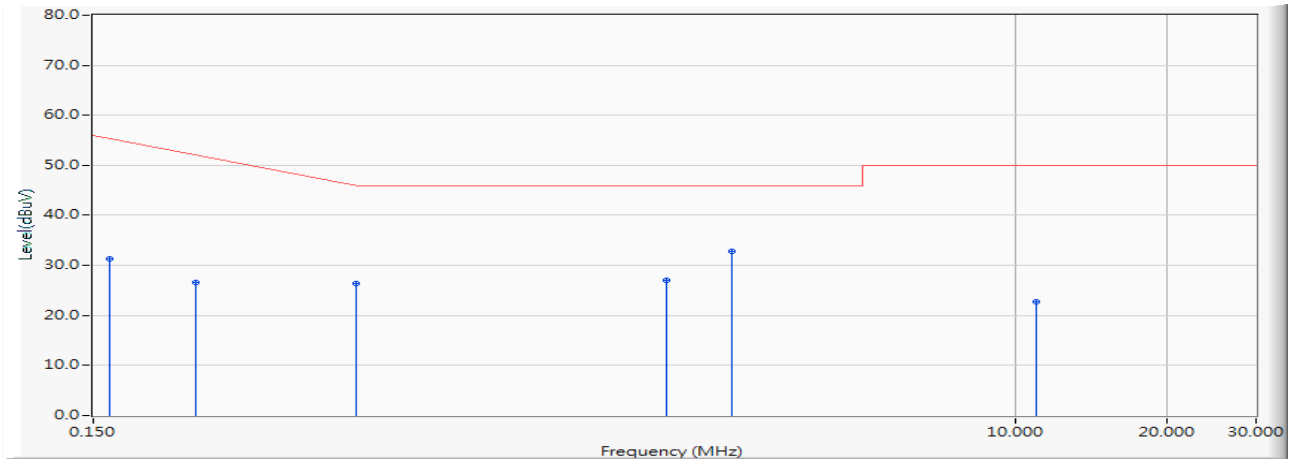
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	9.668	34.100	43.768	-21.889	65.657	QUASIPEAK
2		0.240	9.673	24.980	34.653	-28.776	63.429	QUASIPEAK
3		0.498	9.687	23.200	32.887	-23.170	56.057	QUASIPEAK
4		2.037	9.781	22.560	32.341	-23.659	56.000	QUASIPEAK
5	*	2.744	9.802	28.440	38.242	-17.758	56.000	QUASIPEAK
6		11.005	10.030	19.220	29.250	-30.750	60.000	QUASIPEAK

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	:	DIGITAL CAMERA
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Line1



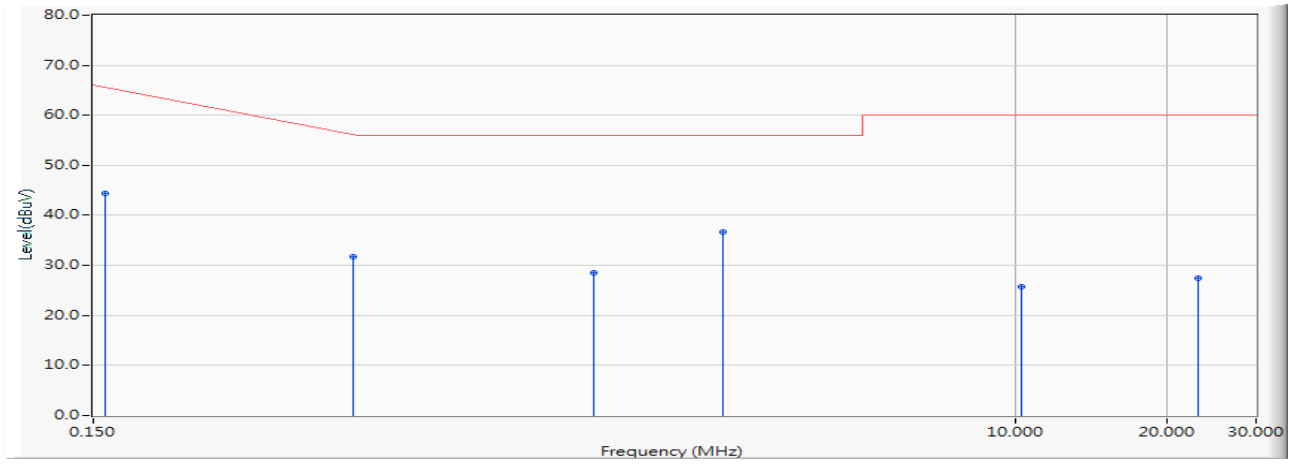
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	9.668	21.550	31.218	-24.439	55.657	AVERAGE
2		0.240	9.673	16.950	26.623	-26.806	53.429	AVERAGE
3		0.498	9.687	16.750	26.437	-19.620	46.057	AVERAGE
4		2.037	9.781	17.150	26.931	-19.069	46.000	AVERAGE
5	*	2.744	9.802	23.070	32.872	-13.128	46.000	AVERAGE
6		11.005	10.030	12.660	22.690	-27.310	50.000	AVERAGE

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	:	DIGITAL CAMERA
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Line2



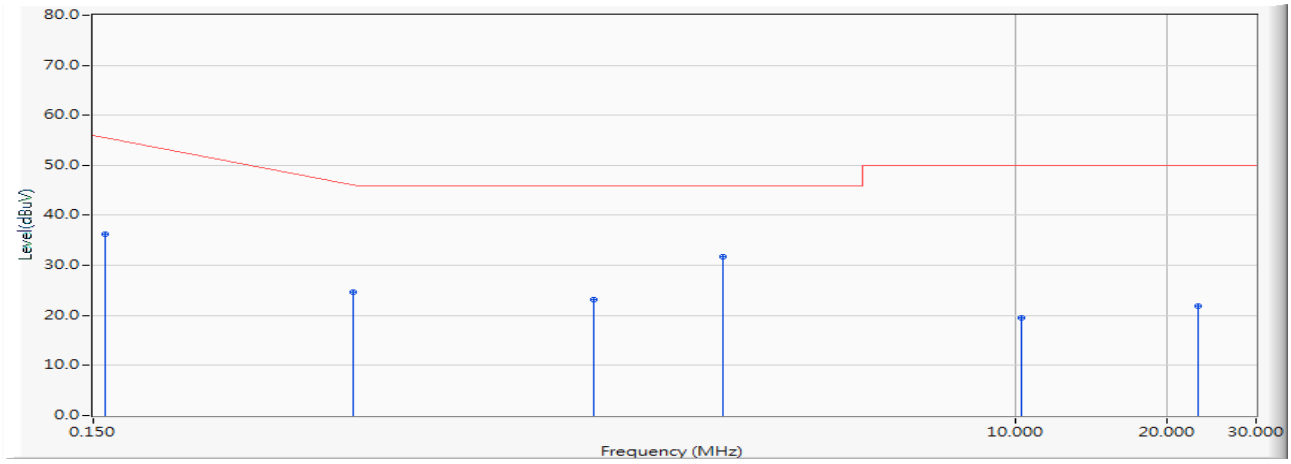
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.158	9.708	34.760	44.468	-21.303	65.771	QUASIPEAK
2		0.490	9.716	22.040	31.756	-24.530	56.286	QUASIPEAK
3		1.466	9.779	18.760	28.539	-27.461	56.000	QUASIPEAK
4	*	2.638	9.840	26.880	36.720	-19.280	56.000	QUASIPEAK
5		10.267	10.090	15.580	25.670	-34.330	60.000	QUASIPEAK
6		23.064	10.410	17.120	27.530	-32.470	60.000	QUASIPEAK

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	:	DIGITAL CAMERA
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Line2



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.158	9.708	26.490	36.198	-19.573	55.771	AVERAGE
2		0.490	9.716	14.850	24.566	-21.720	46.286	AVERAGE
3		1.466	9.779	13.300	23.079	-22.921	46.000	AVERAGE
4	*	2.638	9.840	21.840	31.680	-14.320	46.000	AVERAGE
5		10.267	10.090	9.510	19.600	-30.400	50.000	AVERAGE
6		23.064	10.410	11.520	21.930	-28.070	50.000	AVERAGE

Note:

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

3. Peak Power Output

3.1. Test Setup

3.2. Limits

The maximum peak power shall be less 1 Watt.

3.3. Test Procedure

Tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 8.3.1.3 PKPM1 Peak power meter method. The maximum average conducted output power using KDB 558074 section 8.3.2.3 Method (Measurement using a gated RF average-reading power meter)

3.4. Uncertainty

± 1.19 dB

3.5. Test Result of Peak Power Output

Product : DIGITAL CAMERA
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Date : 2019/09/04
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	11.32	--	--	--	13.97	<30dBm	Pass
06	2437	11.18	11.11	10.93	10.86	13.63	<30dBm	Pass
11	2462	11.18	--	--	--	13.63	<30dBm	Pass

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

Product : DIGITAL CAMERA
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Date : 2019/09/04
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	11.63	--	--	--	--	--	--	--	21.16	<30dBm	Pass
06	2437	11.52	11.41	11.25	11.10	10.99	10.83	10.73	10.62	21.25	<30dBm	Pass
11	2462	11.38	--	--	--	--	--	--	--	21.17	<30dBm	Pass

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

Product : DIGITAL CAMERA
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Date : 2019/09/04
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

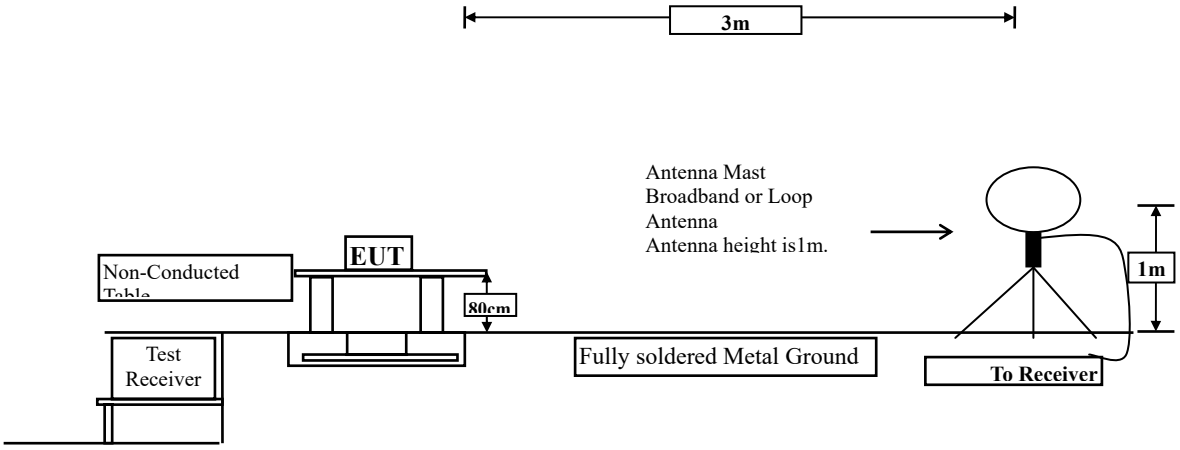
Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7	HT0		
		Measurement Level (dBm)										
01	2412	11.58	--	--	--	--	--	--	--	21.23	<30dBm	Pass
06	2437	11.46	11.30	11.12	11.05	10.88	10.79	10.70	10.57	21.25	<30dBm	Pass
11	2462	11.45	--	--	--	--	--	--	--	21.25	<30dBm	Pass

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

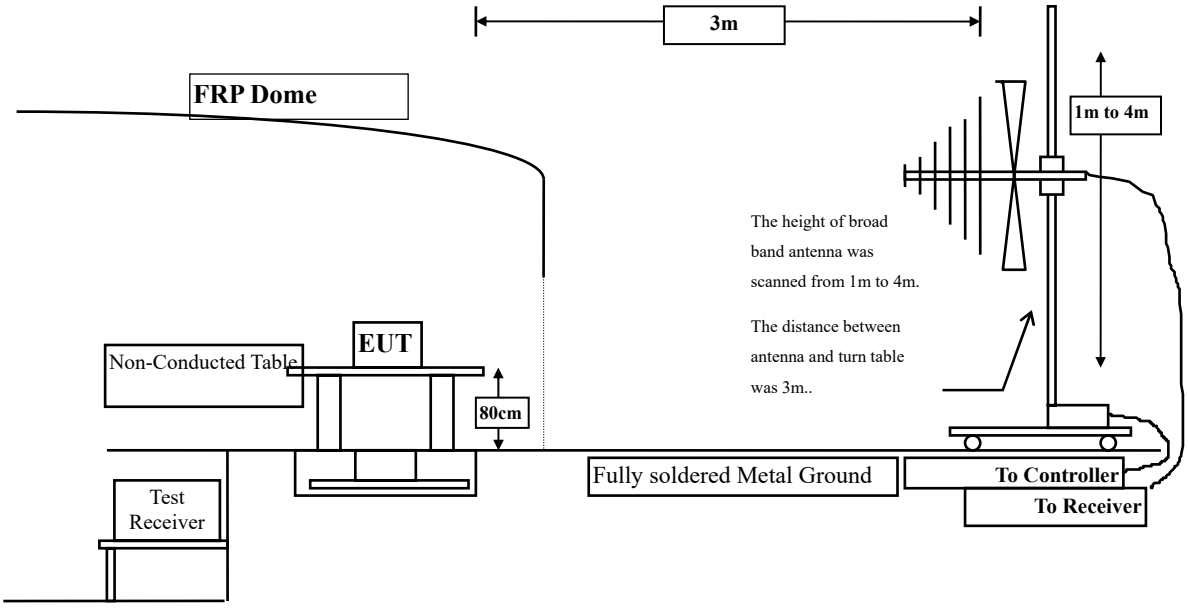
4. Radiated Emission

4.1. Test Setup

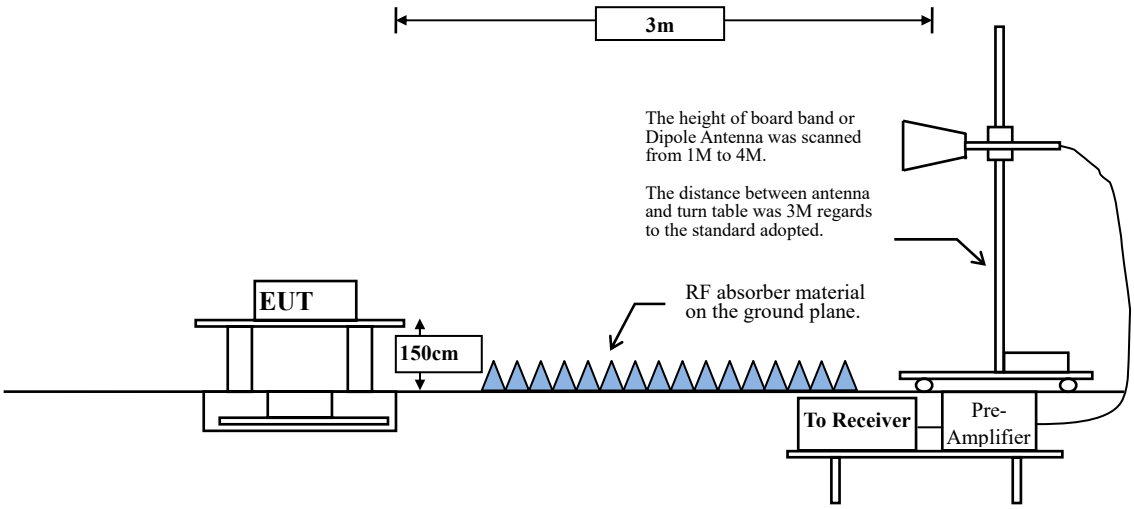
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

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

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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

4.3. Test Procedure

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

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

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

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

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

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

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

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

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

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

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

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

According to KDB 558074 Average power measurement procedure

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.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	99.32	8.4638	118	10
802.11g	94.98	1.3768	726	1000
802.11n20	97.08	1.9275	519	1000

Note: Duty Cycle Refer to Section 9.

4.4. Uncertainty

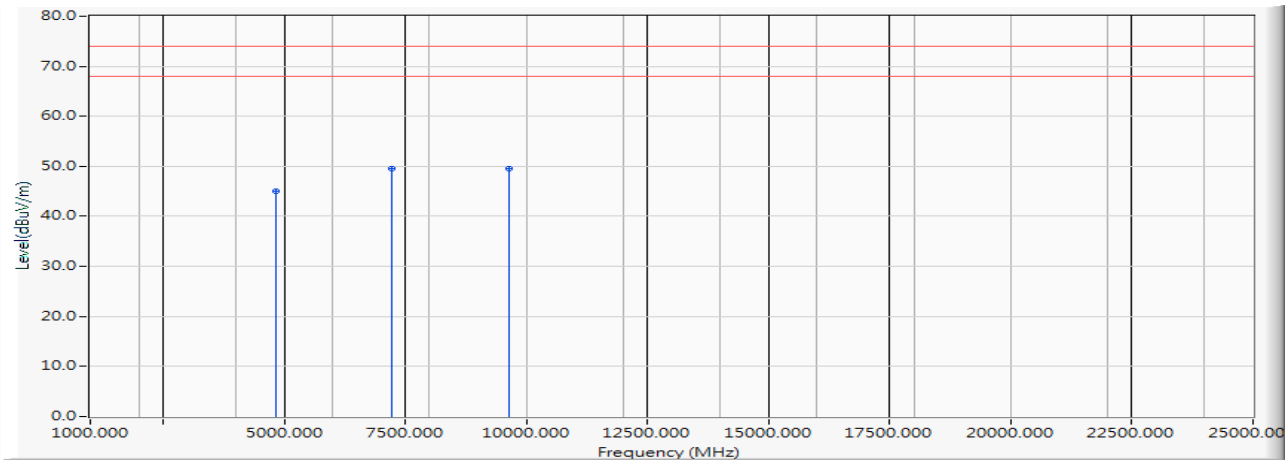
± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

4.5. Test Result of Radiated Emission

Product	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Horizontal



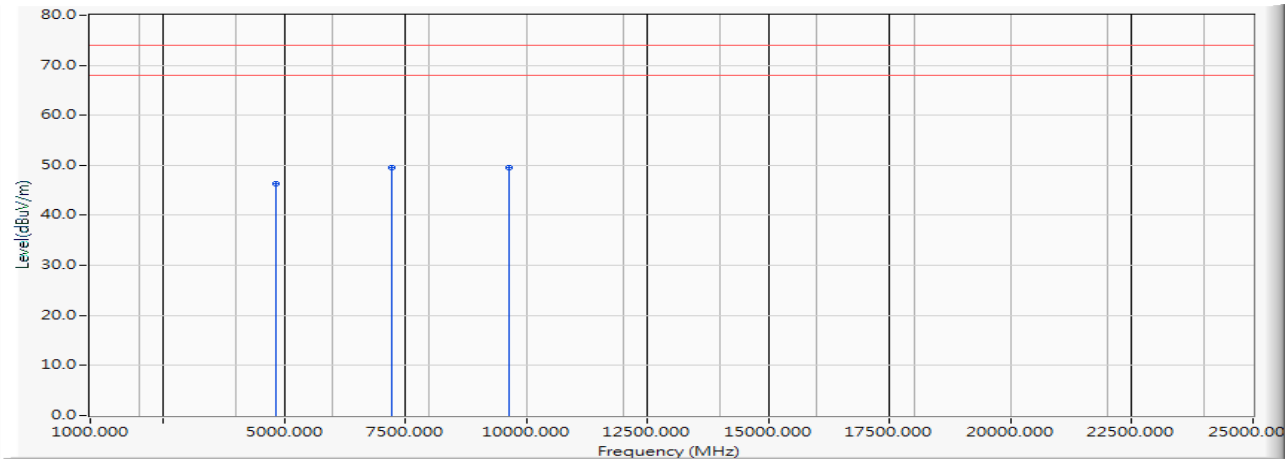
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	4.789	40.330	45.119	-28.881	74.000	PEAK
2		7236.000	12.072	37.460	49.532	-24.468	74.000	PEAK
3	*	9648.000	11.899	37.670	49.569	-24.431	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Vertical



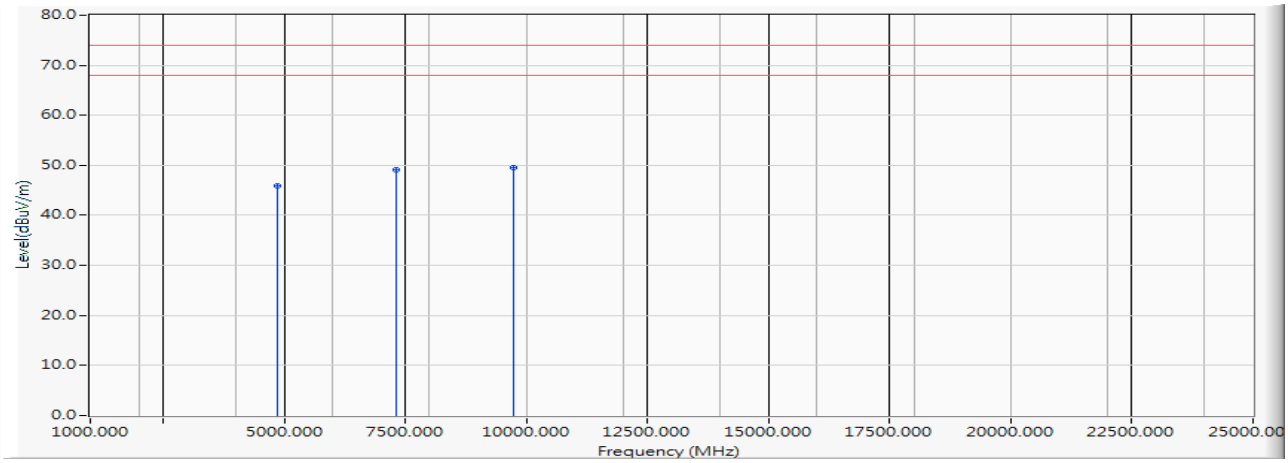
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	4.789	41.610	46.399	-27.601	74.000	PEAK
2		7236.000	12.072	37.430	49.502	-24.498	74.000	PEAK
3	*	9648.000	11.899	37.660	49.559	-24.441	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Horizontal



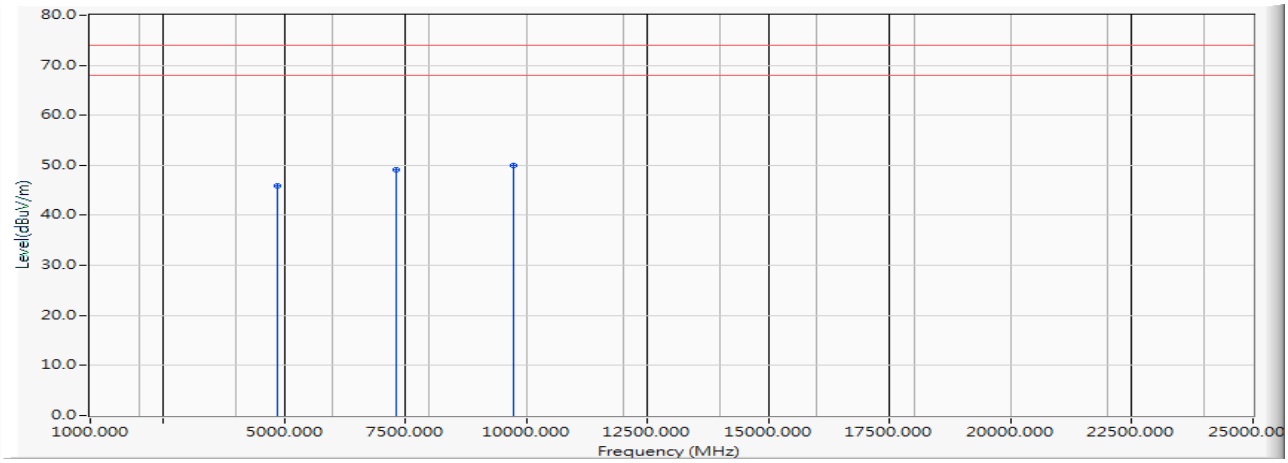
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	5.247	40.710	45.957	-28.043	74.000	PEAK
2		7311.000	11.857	37.180	49.037	-24.963	74.000	PEAK
3	*	9748.000	11.890	37.750	49.640	-24.360	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Vertical



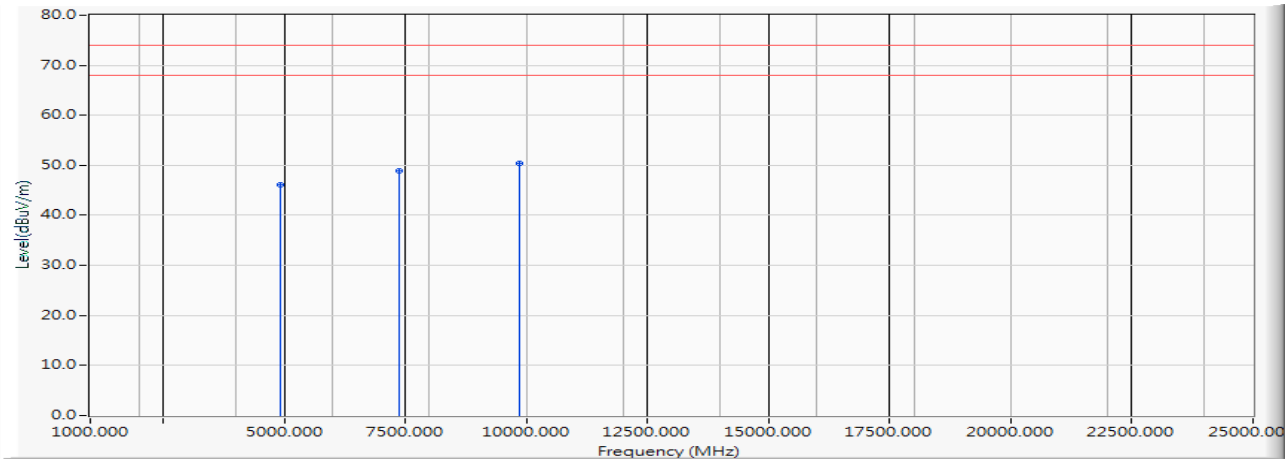
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	5.247	40.750	45.997	-28.003	74.000	PEAK
2		7311.000	11.857	37.330	49.187	-24.813	74.000	PEAK
3	*	9748.000	11.890	38.090	49.980	-24.020	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Horizontal



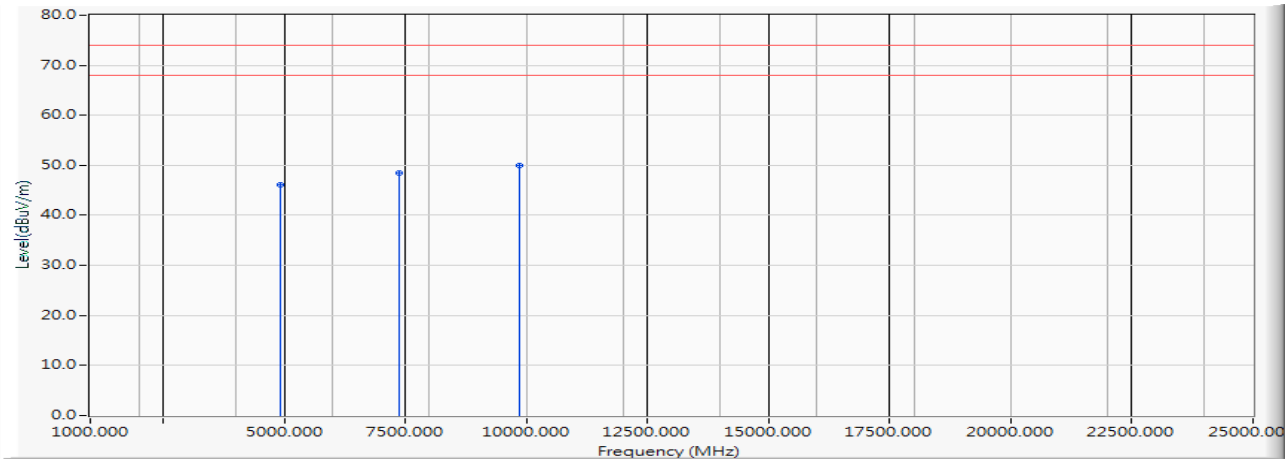
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	5.704	40.320	46.025	-27.975	74.000	PEAK
2		7386.000	11.345	37.570	48.916	-25.084	74.000	PEAK
3	*	9848.000	12.390	37.920	50.309	-23.691	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Vertical



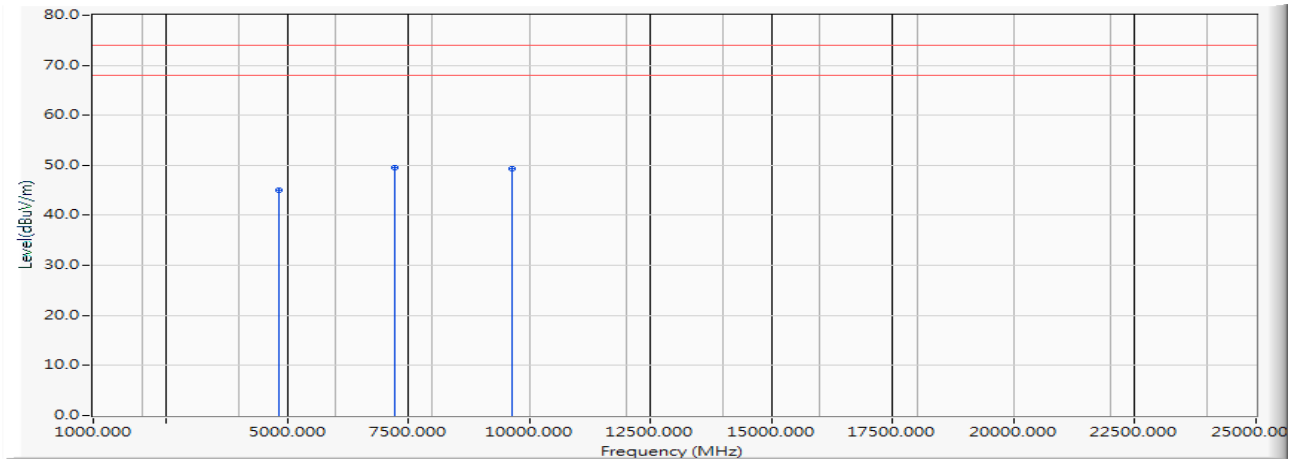
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	5.704	40.370	46.075	-27.925	74.000	PEAK
2		7386.000	11.345	37.080	48.426	-25.574	74.000	PEAK
3	*	9848.000	12.390	37.690	50.079	-23.921	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Horizontal



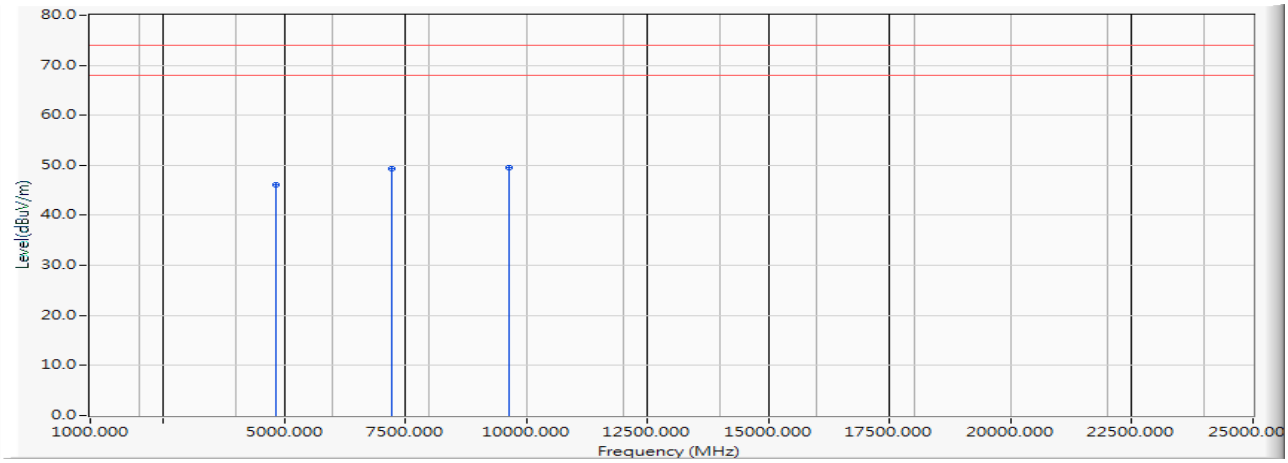
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	4.789	40.268	45.057	-28.943	74.000	PEAK
2	*	7236.000	12.072	37.380	49.452	-24.548	74.000	PEAK
3		9648.000	11.899	37.534	49.433	-24.567	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Vertical



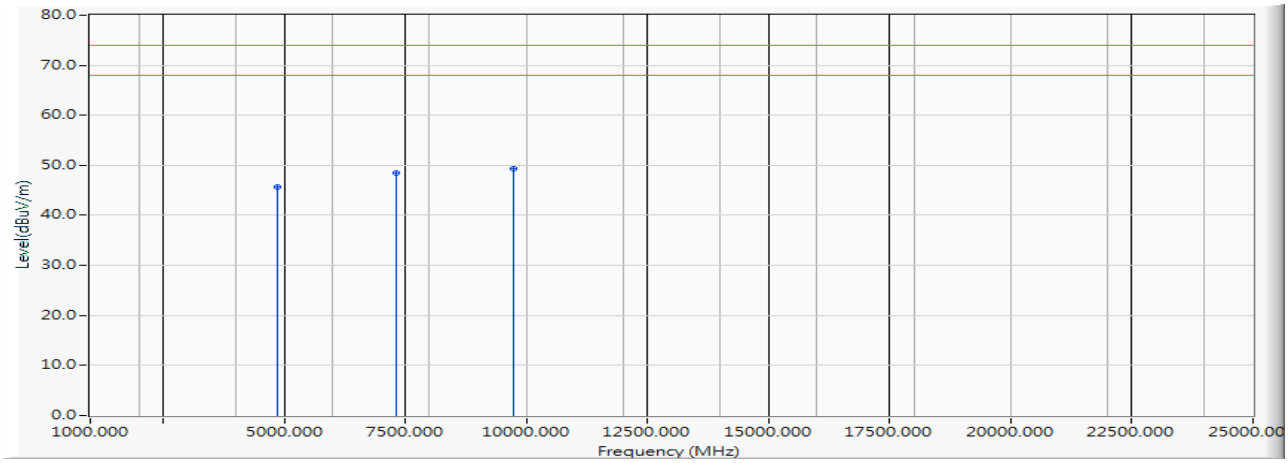
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	4.789	41.337	46.126	-27.874	74.000	PEAK
2		7236.000	12.072	37.306	49.378	-24.622	74.000	PEAK
3	*	9648.000	11.899	37.588	49.487	-24.513	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Horizontal



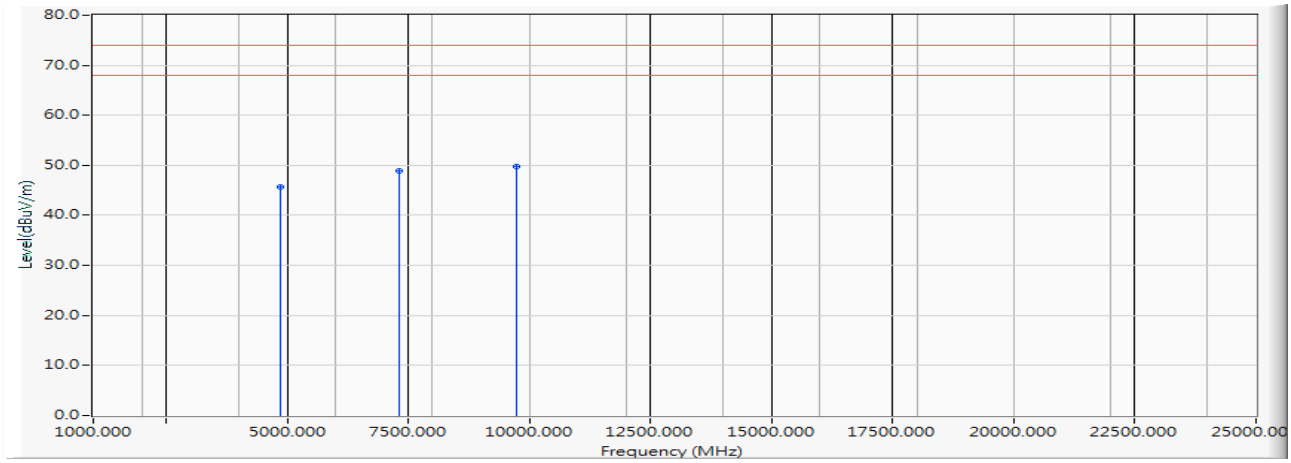
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	5.247	40.516	45.763	-28.237	74.000	PEAK
2		7311.000	11.857	36.708	48.565	-25.435	74.000	PEAK
3	*	9748.000	11.890	37.365	49.255	-24.745	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Vertical



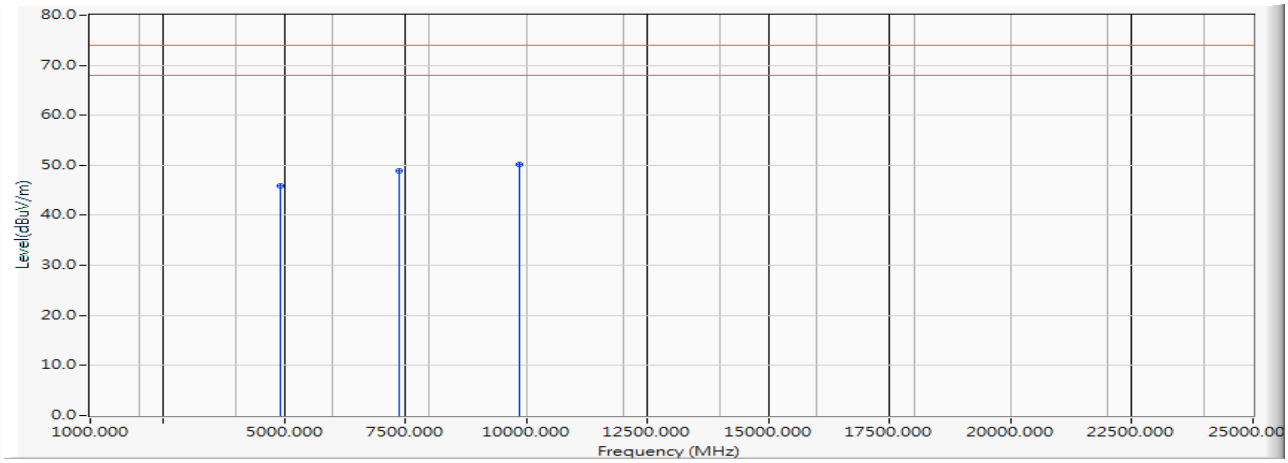
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	5.247	40.492	45.739	-28.261	74.000	PEAK
2		7311.000	11.857	37.099	48.956	-25.044	74.000	PEAK
3	*	9748.000	11.890	37.871	49.761	-24.239	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Horizontal



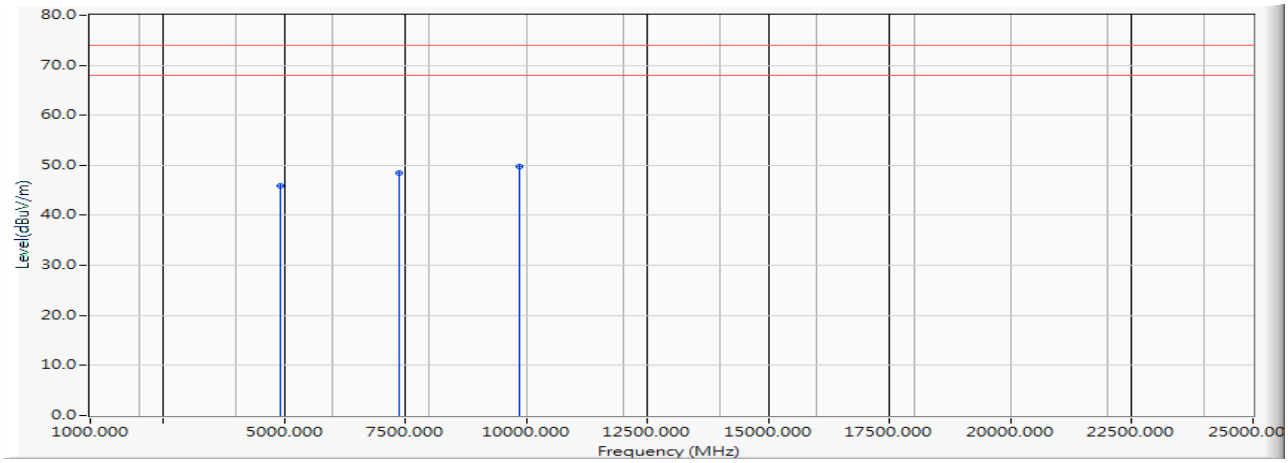
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	5.704	40.170	45.875	-28.125	74.000	PEAK
2		7386.000	11.345	37.511	48.857	-25.143	74.000	PEAK
3	*	9848.000	12.390	37.717	50.106	-23.894	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Vertical



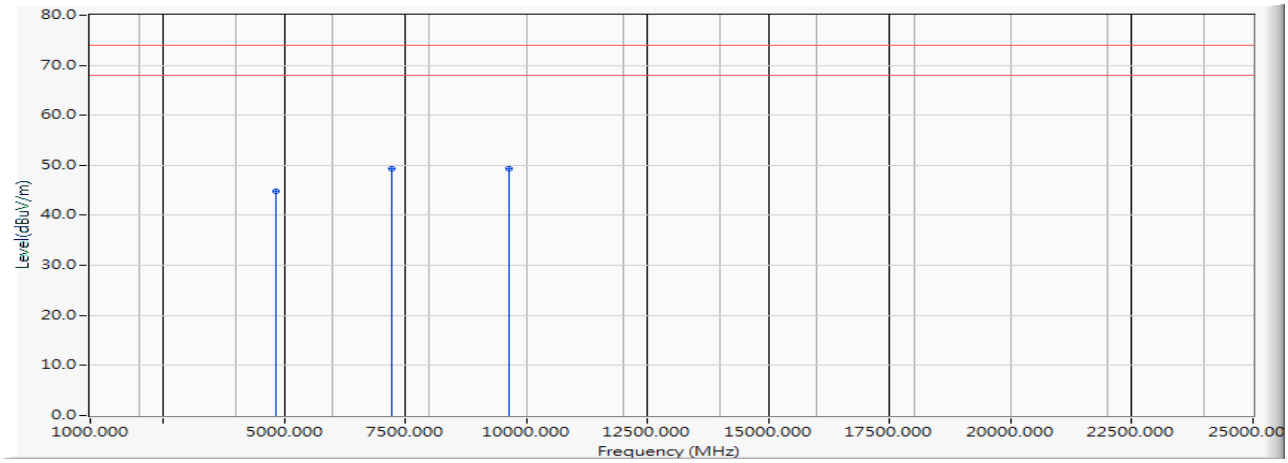
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	5.704	40.226	45.931	-28.069	74.000	PEAK
2		7386.000	11.345	37.111	48.457	-25.543	74.000	PEAK
3	*	9848.000	12.390	37.476	49.865	-24.135	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz)

Horizontal



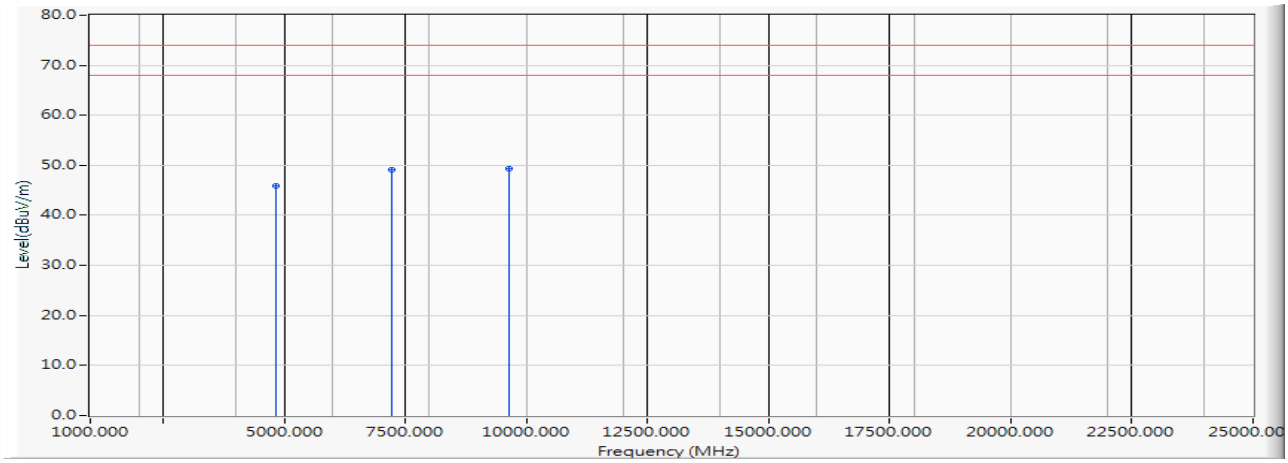
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	39.717	40.107	44.896	-29.104	74.000	PEAK
2		7236.000	46.033	37.256	49.328	-24.672	74.000	PEAK
3	*	9648.000	45.990	37.437	49.336	-24.664	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz)

Vertical



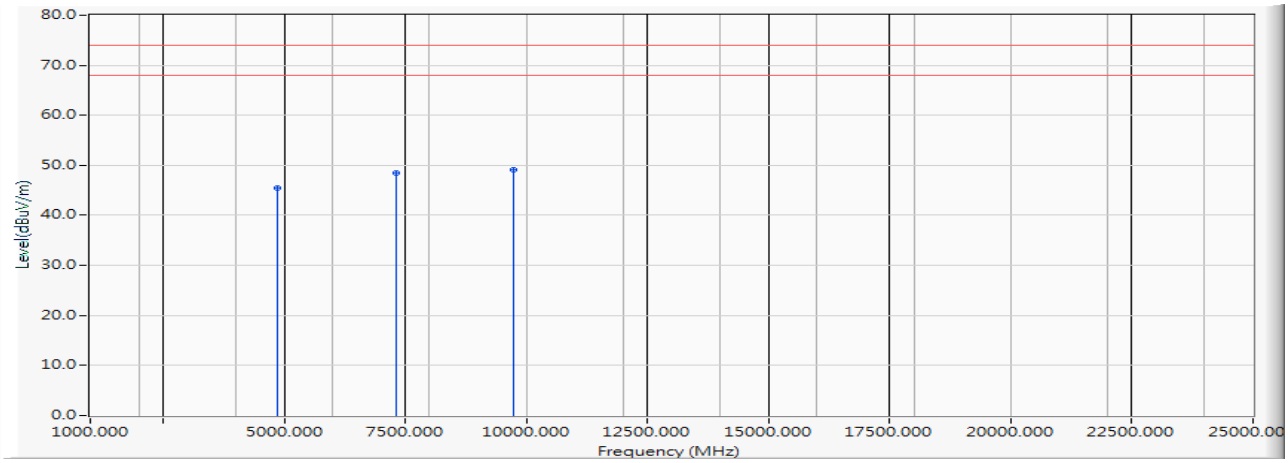
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	4.789	41.153	45.942	-28.058	74.000	PEAK
2		7236.000	12.072	37.112	49.184	-24.816	74.000	PEAK
3	*	9648.000	11.899	37.356	49.255	-24.745	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz)

Horizontal



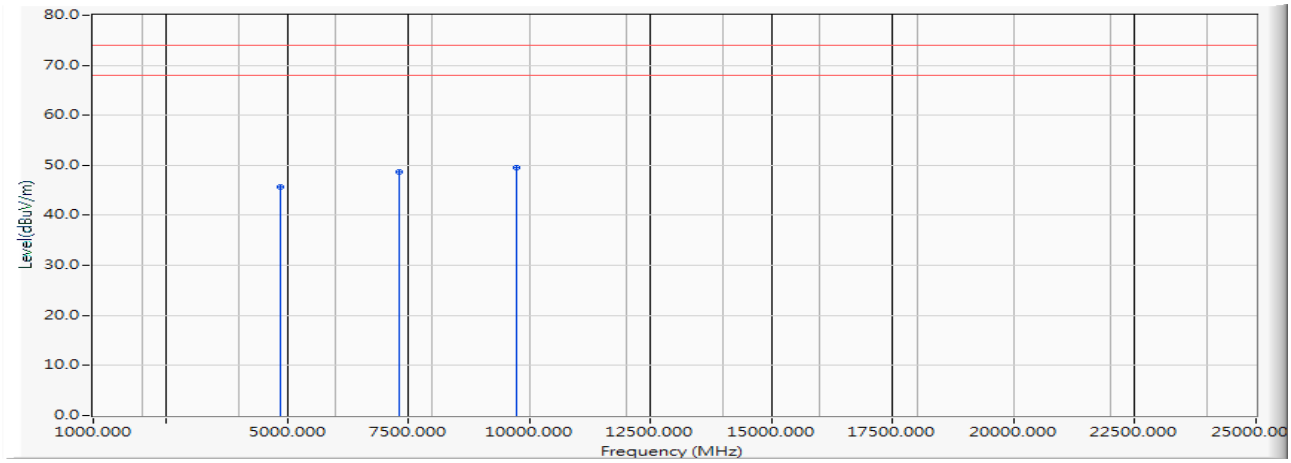
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	5.247	40.328	45.575	-28.425	74.000	PEAK
2		7311.000	11.857	36.516	48.373	-25.627	74.000	PEAK
3	*	9748.000	11.890	37.133	49.023	-24.977	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz)

Vertical



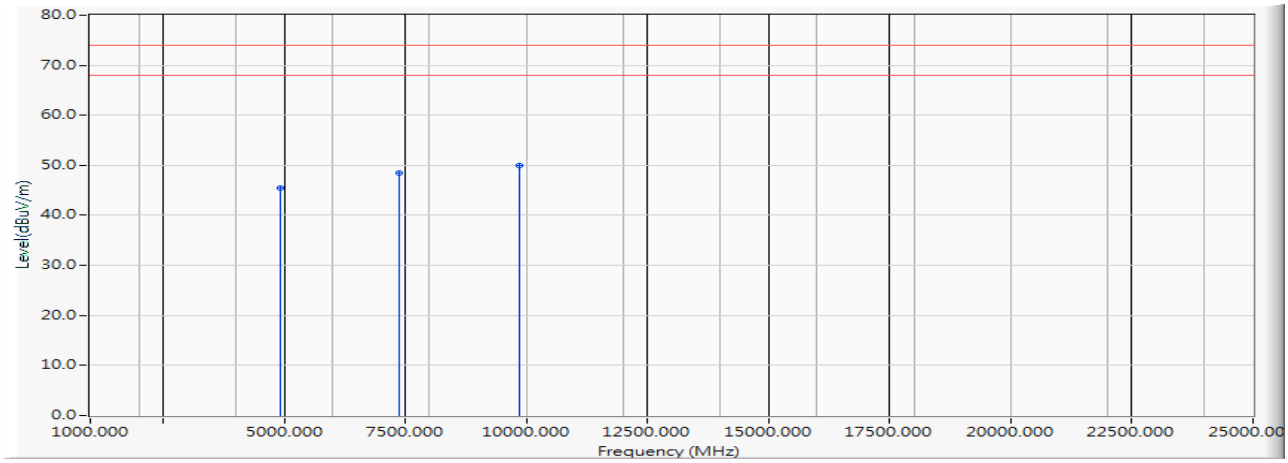
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	5.247	40.366	45.613	-28.387	74.000	PEAK
2		7311.000	11.857	36.870	48.727	-25.273	74.000	PEAK
3	*	9748.000	11.890	37.657	49.547	-24.453	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)

Horizontal



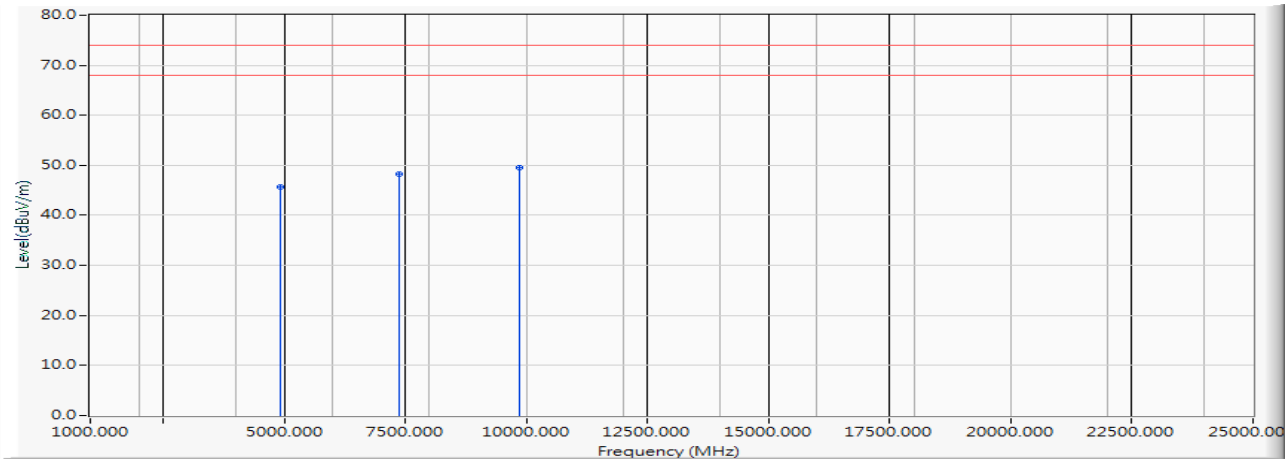
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	5.704	39.837	45.542	-28.458	74.000	PEAK
2		7386.000	11.345	37.113	48.459	-25.541	74.000	PEAK
3	*	9848.000	12.390	37.515	49.904	-24.096	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)

Vertical



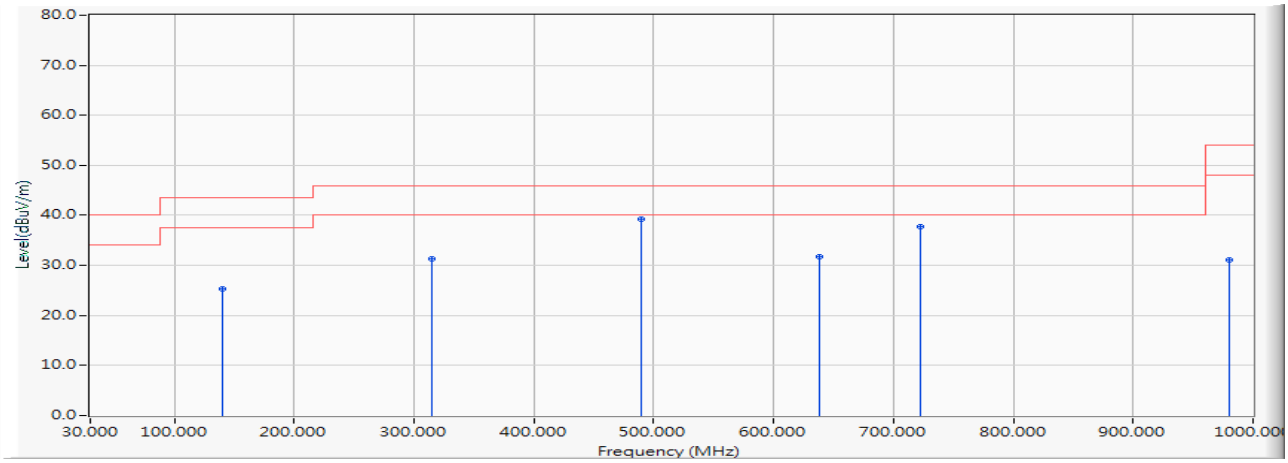
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	5.704	40.067	45.772	-28.228	74.000	PEAK
2		7386.000	11.345	36.859	48.205	-25.795	74.000	PEAK
3	*	9848.000	12.390	37.212	49.601	-24.399	74.000	PEAK

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	:	DIGITAL CAMERA
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)

Horizontal



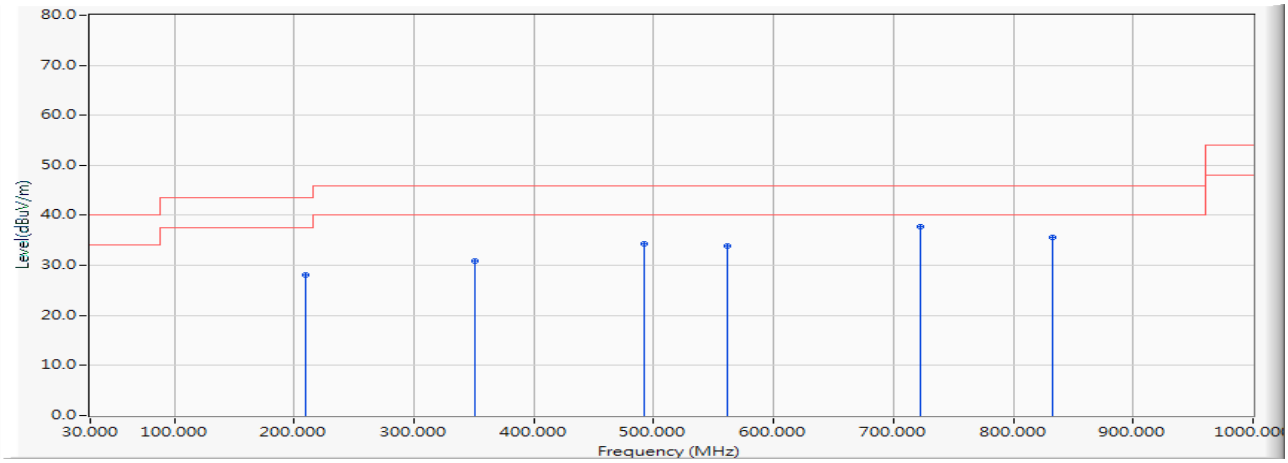
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		139.652	-15.227	40.610	25.384	-18.116	43.500	QUASIPEAK
2		315.377	-12.856	44.253	31.397	-14.603	46.000	QUASIPEAK
3	*	489.696	-9.730	48.986	39.255	-6.745	46.000	QUASIPEAK
4		638.710	-7.190	38.939	31.749	-14.251	46.000	QUASIPEAK
5		723.058	-8.326	46.108	37.782	-8.218	46.000	QUASIPEAK
6		980.319	-5.693	36.826	31.133	-22.867	54.000	QUASIPEAK

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	:	DIGITAL CAMERA
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)

Vertical



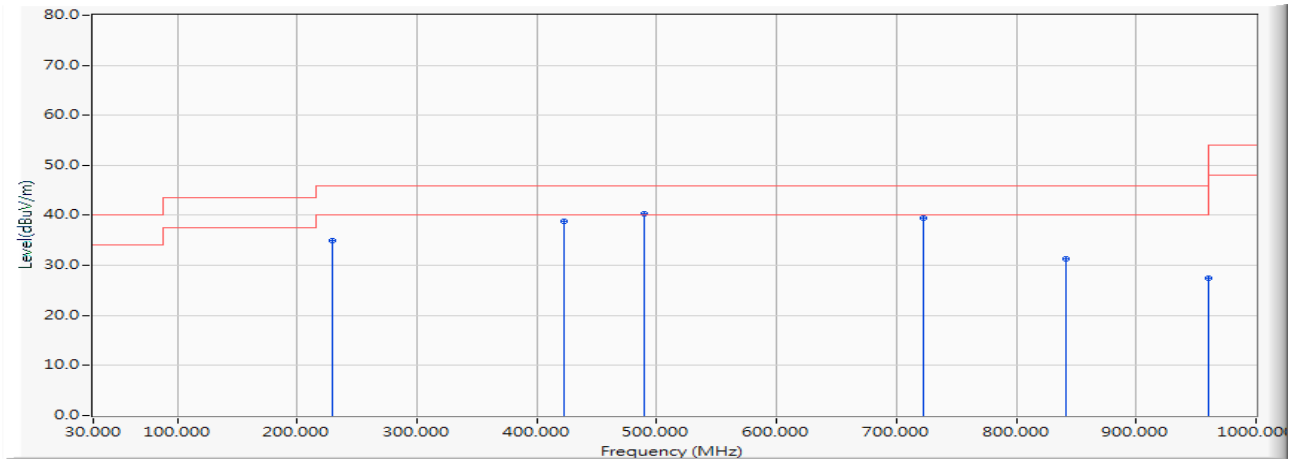
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		209.942	-16.990	44.981	27.991	-15.509	43.500	QUASIPEAK
2		350.522	-10.768	41.711	30.943	-15.057	46.000	QUASIPEAK
3		492.507	-9.650	44.032	34.382	-11.618	46.000	QUASIPEAK
4		561.391	-8.022	41.966	33.943	-12.057	46.000	QUASIPEAK
5	*	723.058	-8.326	46.039	37.713	-8.287	46.000	QUASIPEAK
6		832.710	-7.386	43.070	35.685	-10.315	46.000	QUASIPEAK

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	:	DIGITAL CAMERA
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)

Horizontal



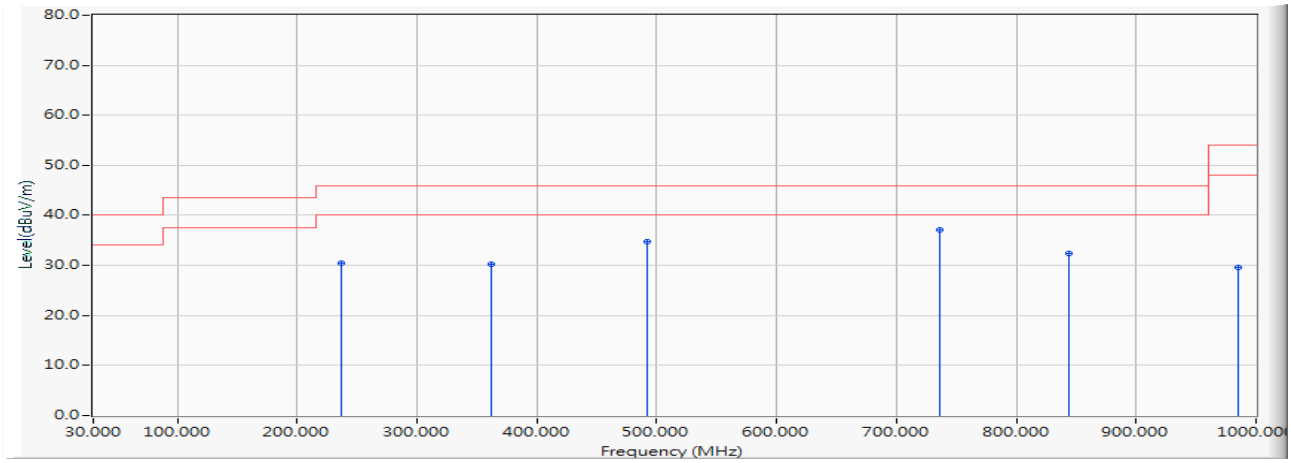
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		229.623	-16.028	50.928	34.901	-11.099	46.000	QUASIPEAK
2		422.217	-10.061	48.812	38.751	-7.249	46.000	QUASIPEAK
3	*	489.696	-9.730	50.048	40.317	-5.683	46.000	QUASIPEAK
4		723.058	-8.326	47.691	39.365	-6.635	46.000	QUASIPEAK
5		841.145	-7.099	38.427	31.328	-14.672	46.000	QUASIPEAK
6		960.638	-6.488	34.008	27.520	-26.480	54.000	QUASIPEAK

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.

Product	:	DIGITAL CAMERA
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)

Vertical



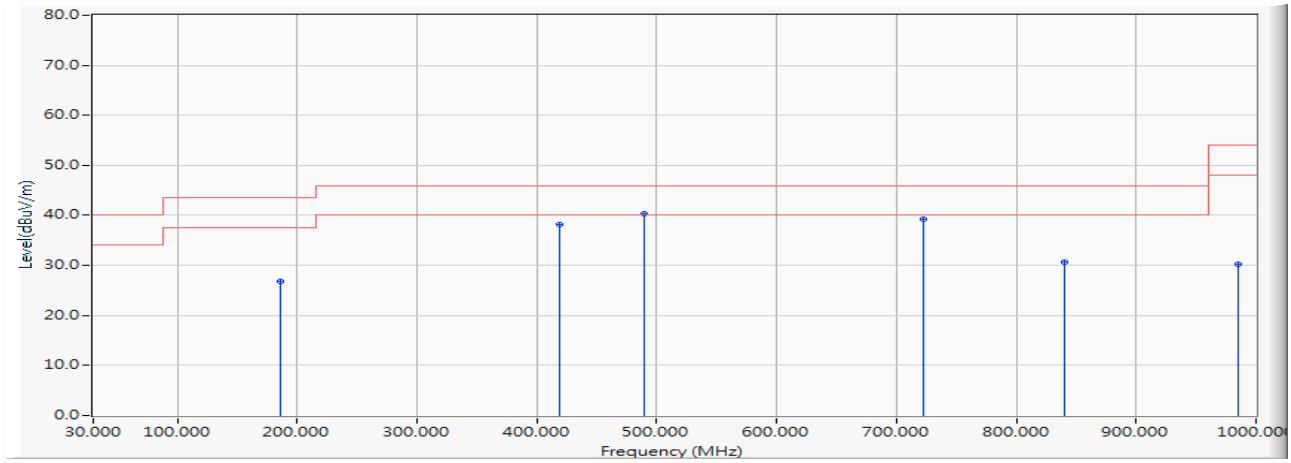
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		236.652	-16.264	46.770	30.506	-15.494	46.000	QUASIPEAK
2		361.768	-10.215	40.445	30.230	-15.770	46.000	QUASIPEAK
3		492.507	-9.650	44.422	34.772	-11.228	46.000	QUASIPEAK
4	*	735.710	-7.163	44.301	37.138	-8.862	46.000	QUASIPEAK
5		843.957	-6.810	39.136	32.326	-13.674	46.000	QUASIPEAK
6		984.536	-5.827	35.384	29.556	-24.444	54.000	QUASIPEAK

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.

Product	:	DIGITAL CAMERA
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz)

Horizontal



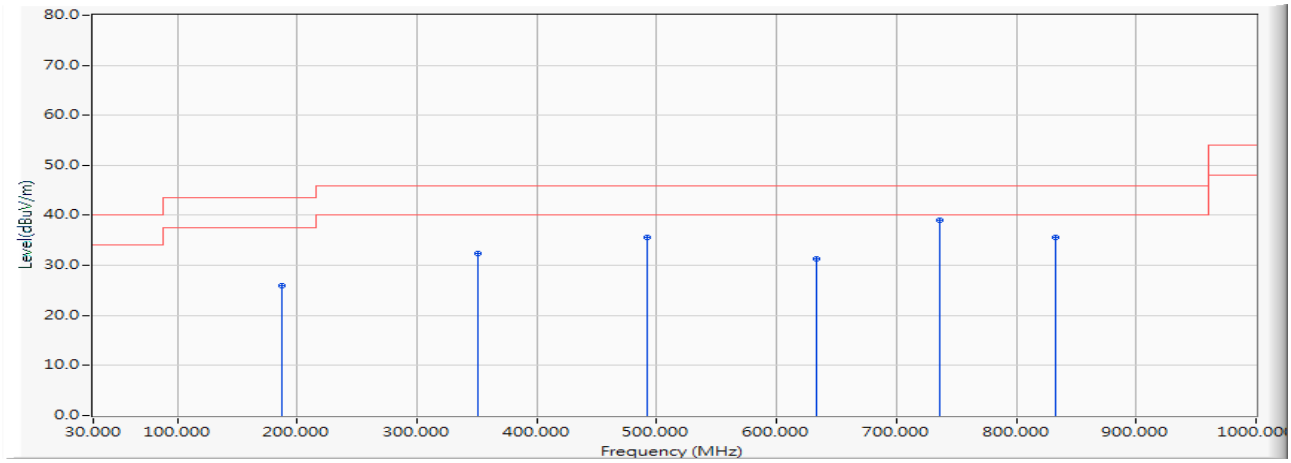
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		186.043	-17.701	44.511	26.810	-16.690	43.500	QUASIPEAK
2		419.406	-10.476	48.557	38.082	-7.918	46.000	QUASIPEAK
3	*	489.696	-9.730	50.080	40.349	-5.651	46.000	QUASIPEAK
4		723.058	-8.326	47.652	39.326	-6.674	46.000	QUASIPEAK
5		839.739	-7.021	37.655	30.633	-15.367	46.000	QUASIPEAK
6		984.536	-5.827	36.062	30.234	-23.766	54.000	QUASIPEAK

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.

Product	:	DIGITAL CAMERA
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/08/28
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz)

Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		187.449	-17.700	43.613	25.913	-17.587	43.500	QUASIPEAK
2		350.522	-10.768	43.188	32.420	-13.580	46.000	QUASIPEAK
3		492.507	-9.650	45.316	35.666	-10.334	46.000	QUASIPEAK
4		633.087	-7.188	38.549	31.362	-14.638	46.000	QUASIPEAK
5	*	735.710	-7.163	46.213	39.050	-6.950	46.000	QUASIPEAK
6		832.710	-7.386	42.990	35.605	-10.395	46.000	QUASIPEAK

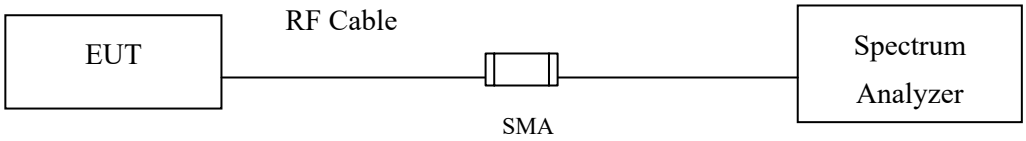
Note:

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

RF antenna Conducted Measurement:



5.2. Limits

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

5.3. Test Procedure

Tested according to DTS test procedure of KDB558074 section 8.5 DTS emissions in non-restricted frequency bands for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

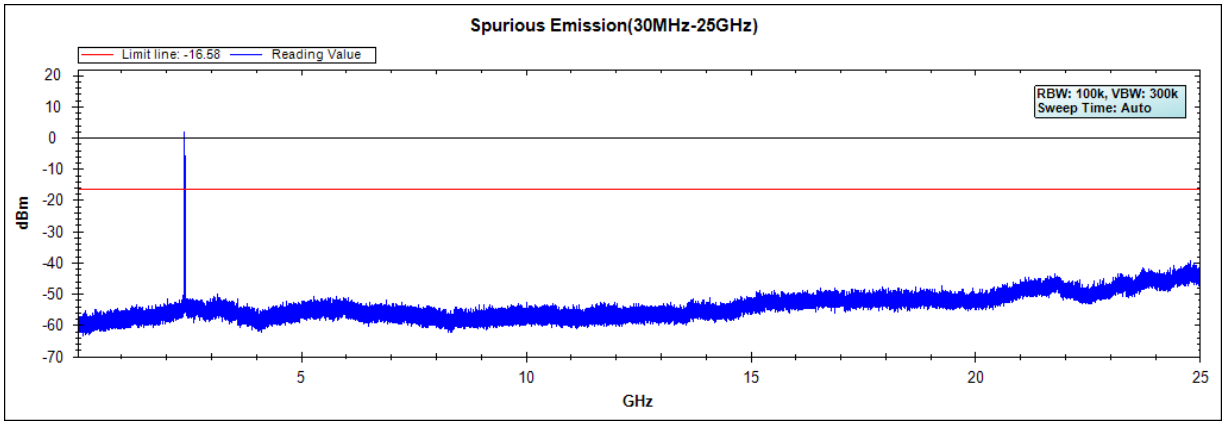
5.4. Uncertainty

The measurement uncertainty
Conducted is defined as ± 1.20dB

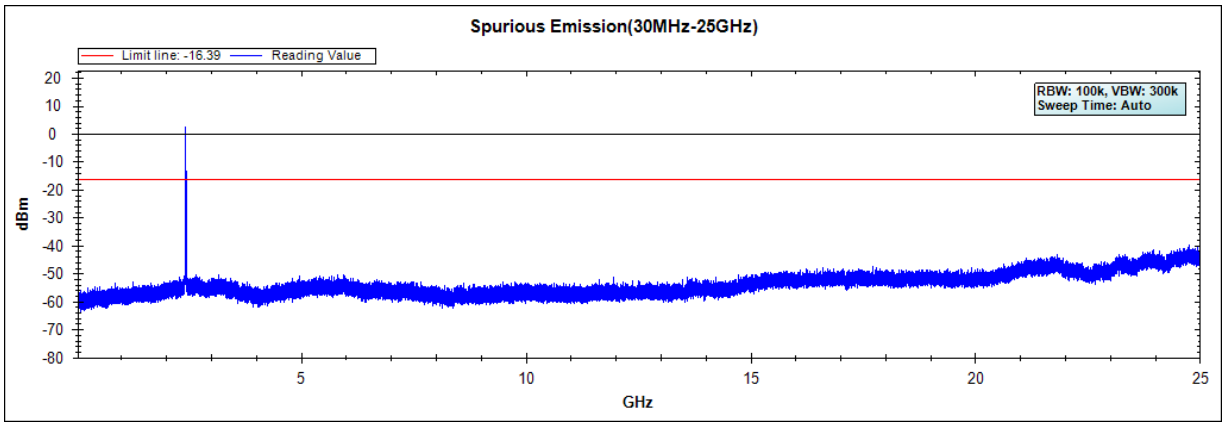
5.5. Test Result of RF antenna conducted test

Product	:	DIGITAL CAMERA
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

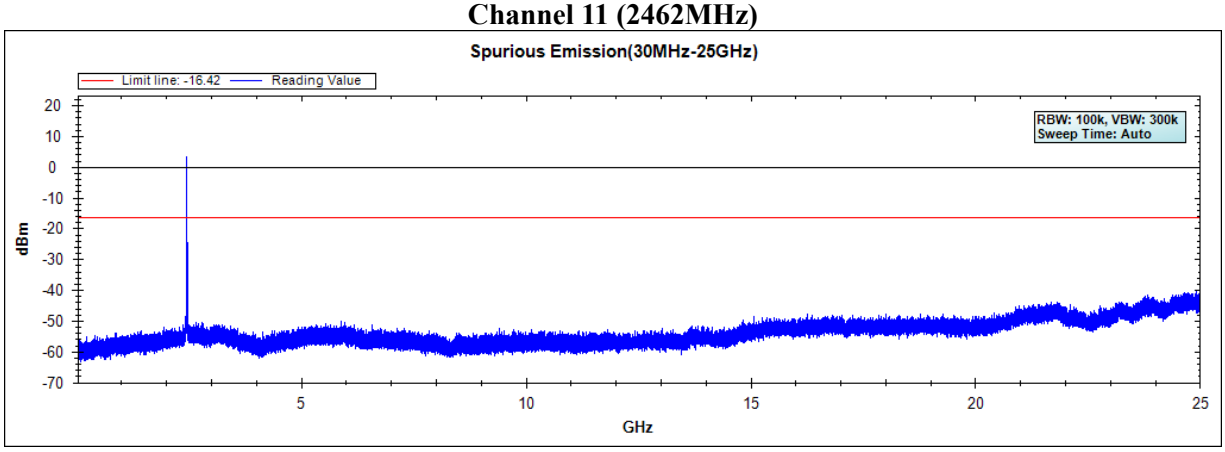
Channel 01 (2412MHz)



Channel 06 (2437MHz)



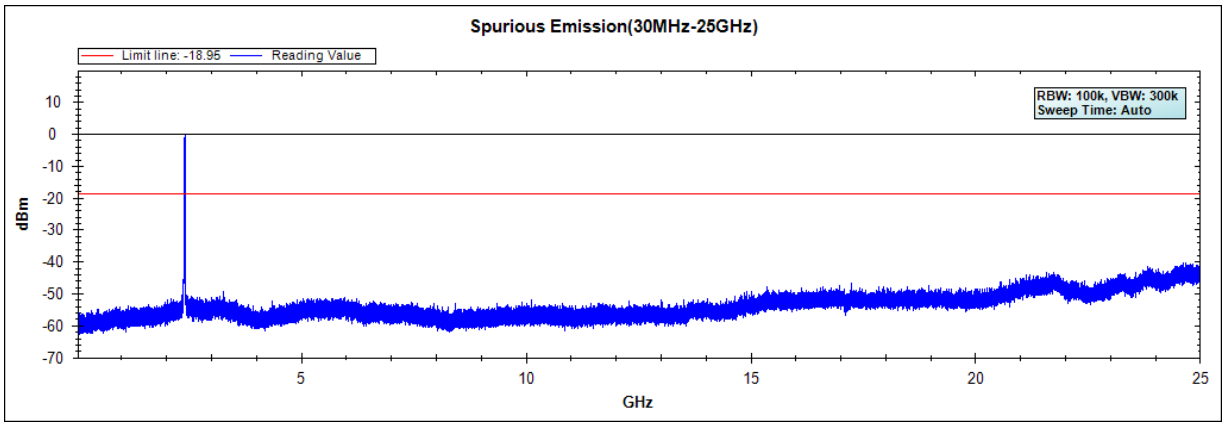
Channel 11 (2462MHz)



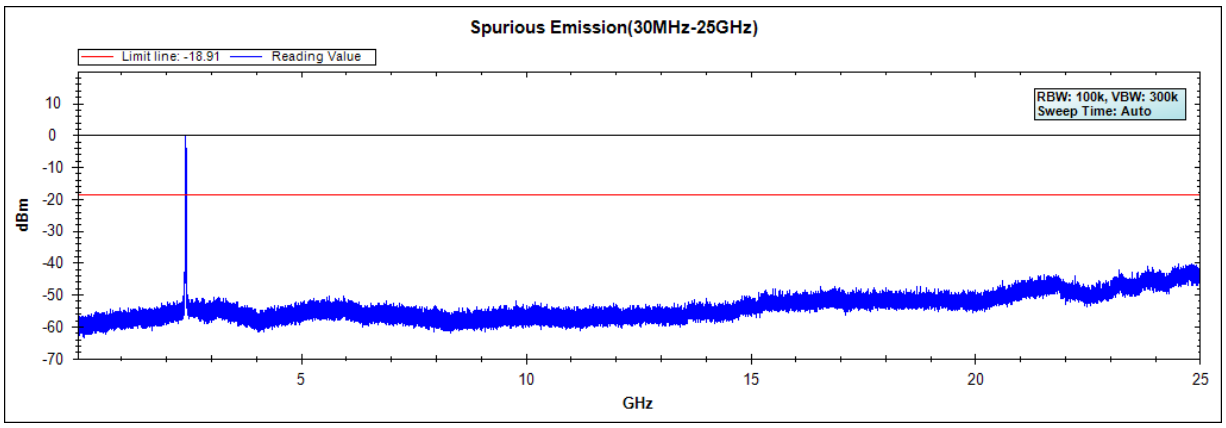
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	DIGITAL CAMERA
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

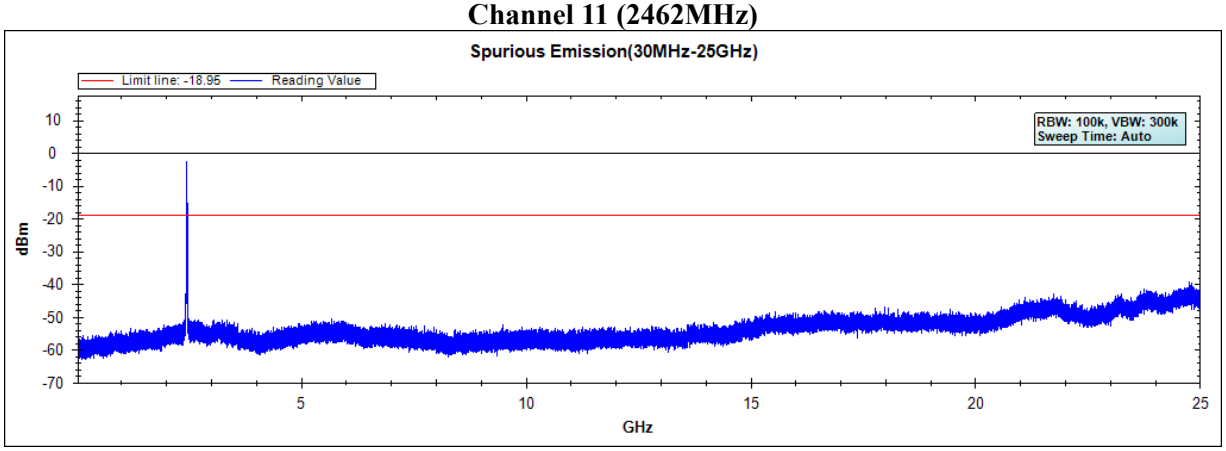
Channel 01 (2412MHz)



Channel 06 (2437MHz)



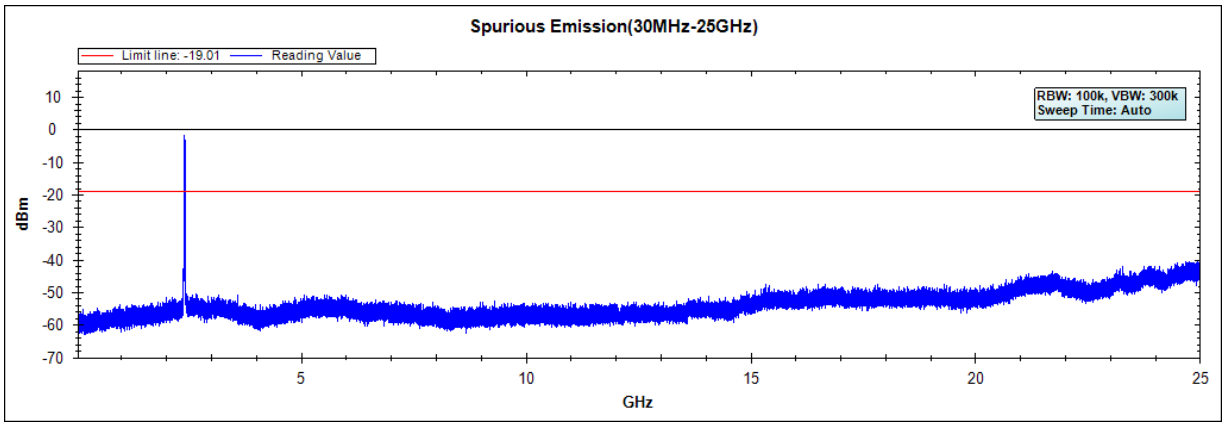
Channel 11 (2462MHz)



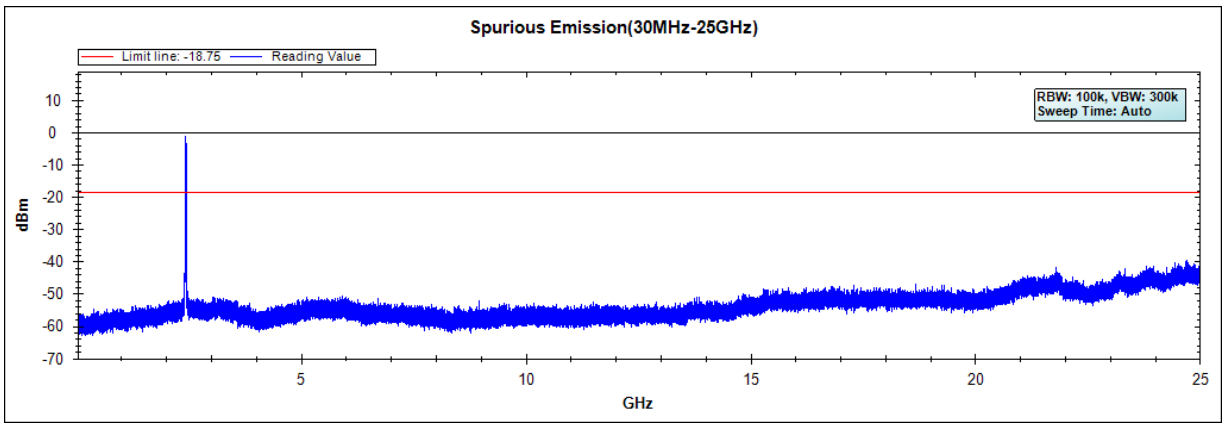
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	DIGITAL CAMERA
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

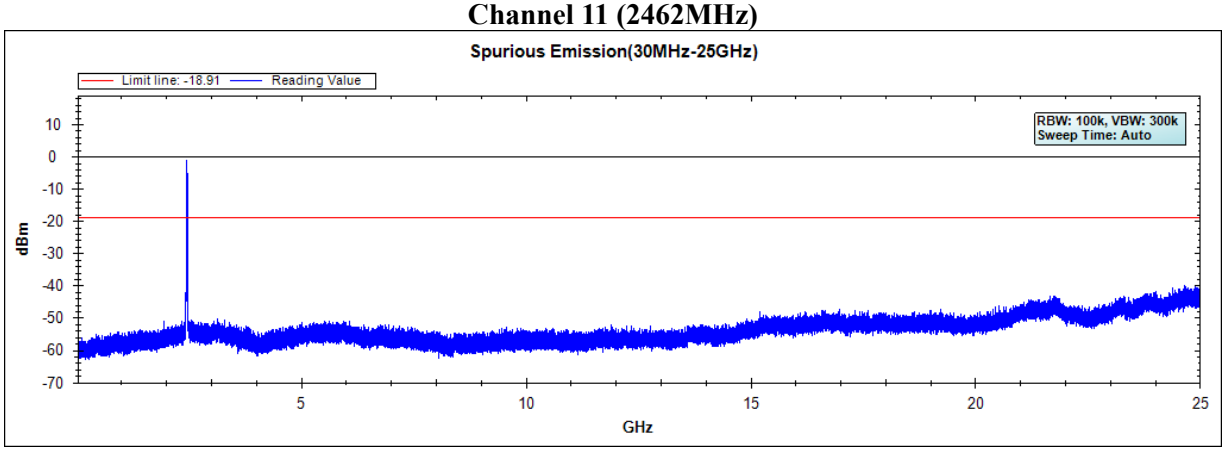
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

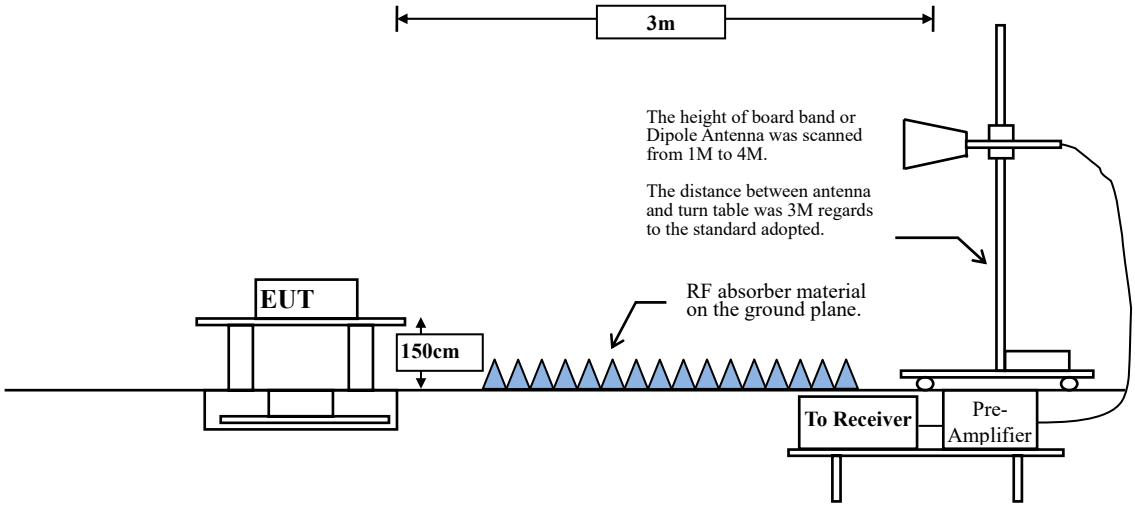


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

6.1. Test Setup

RF Radiated Measurement:



6.2. Limits

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. 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 was setup according to ANSI C63.10, 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

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

According to KDB 558074 Average power measurement procedure

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.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	99.32	8.4638	118	10
802.11g	94.98	1.3768	726	1000
802.11n20	97.08	1.9275	519	1000

Note: Duty Cycle Refer to Section 9.

6.4. Uncertainty

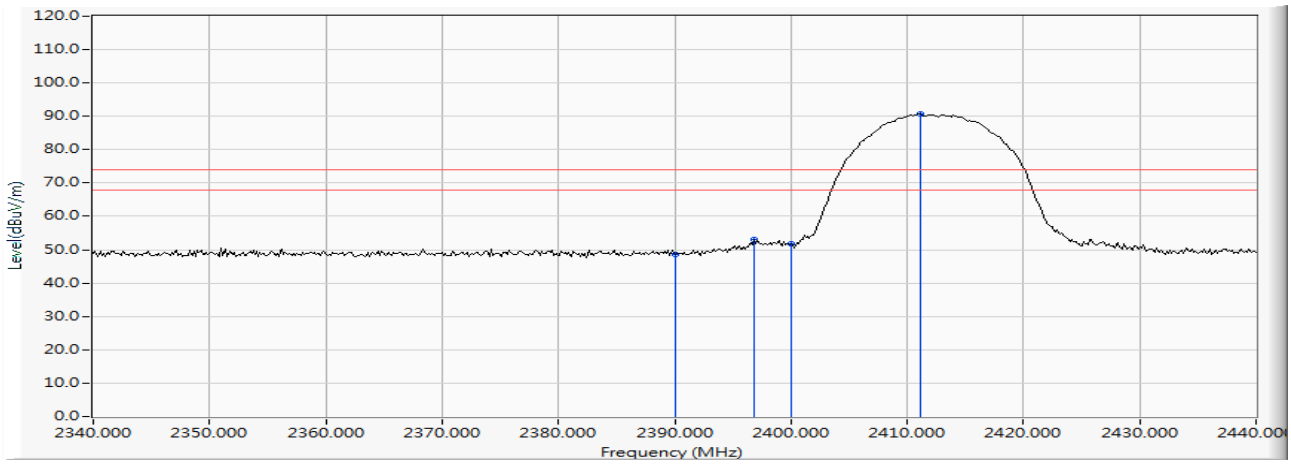
± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

6.5. Test Result of Band Edge

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Horizontal



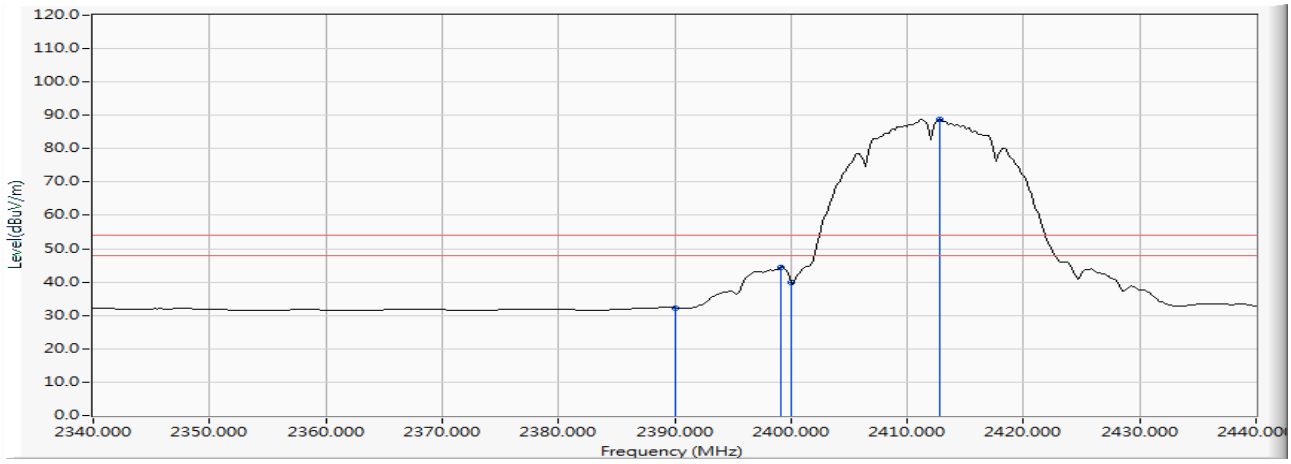
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	39.796	48.559	-25.441	74.000	PEAK
2		2396.812	8.788	44.384	53.172	--	--	PEAK
3		2400.000	8.799	43.021	51.820	--	--	PEAK
4	*	2411.159	8.839	81.898	90.737	--	--	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Horizontal



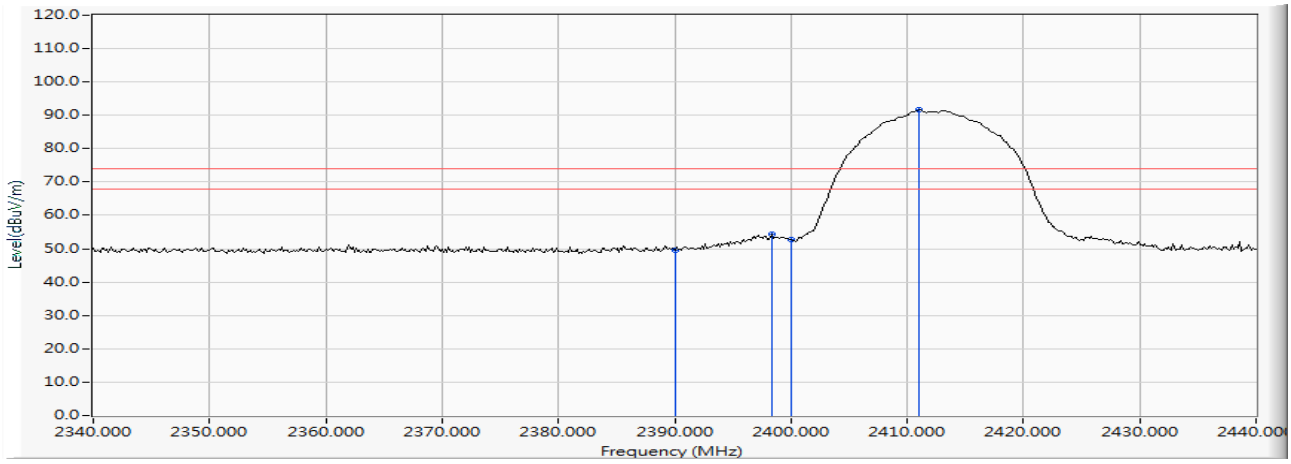
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	23.563	32.326	-21.674	54.000	AVERAGE
2		2399.130	8.797	35.715	44.511	--	--	AVERAGE
3		2400.000	8.799	31.225	40.024	--	--	AVERAGE
4	*	2412.754	8.844	80.031	88.875	--	--	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Vertical



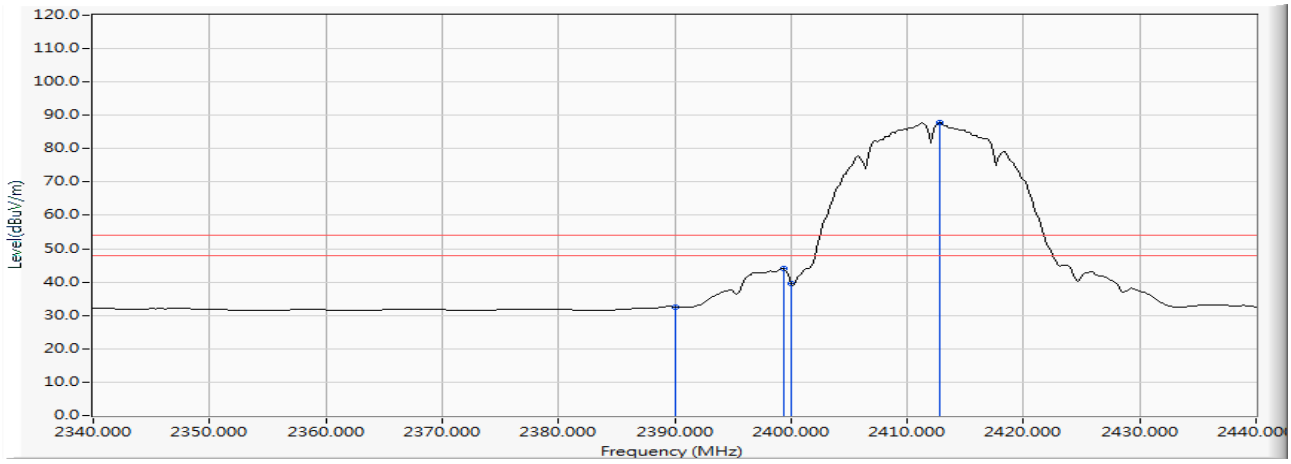
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	40.861	49.624	-24.376	74.000	PEAK
2		2398.406	8.793	45.563	54.356	--	--	PEAK
3		2400.000	8.799	43.845	52.644	--	--	PEAK
4	*	2411.014	8.838	82.734	91.572	--	--	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Vertical



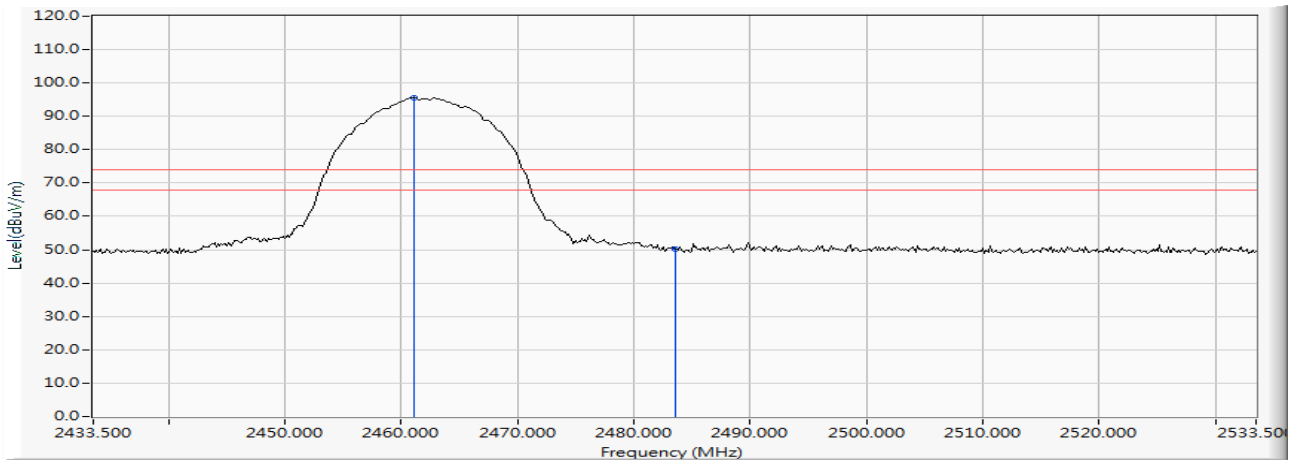
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	23.795	32.558	-21.442	54.000	AVERAGE
2		2399.420	8.797	35.274	44.071	--	--	AVERAGE
3		2400.000	8.799	30.868	39.667	--	--	AVERAGE
4	*	2412.754	8.844	78.963	87.807	--	--	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Horizontal



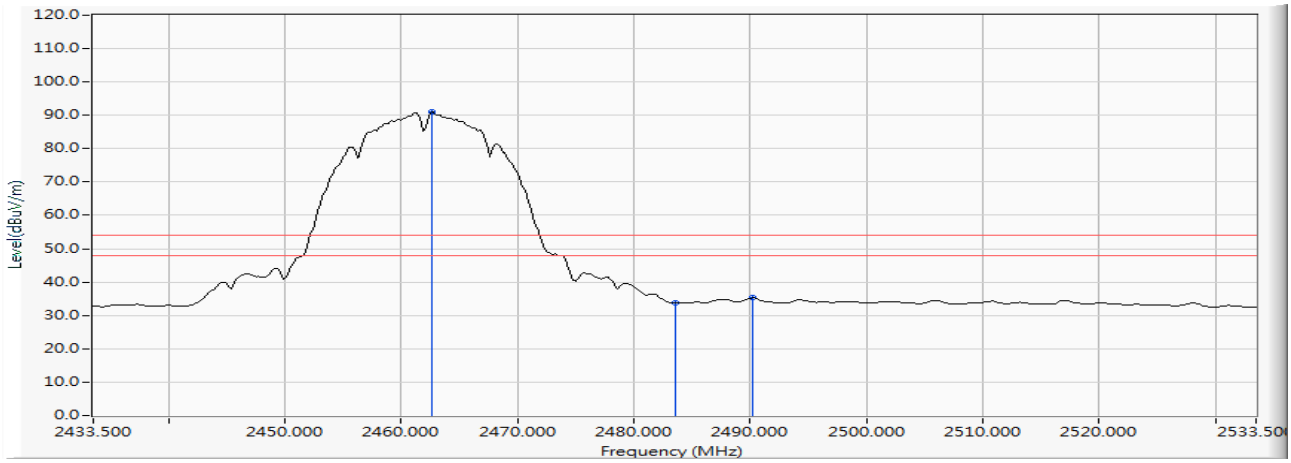
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.036	9.018	86.658	95.676	--	--	PEAK
2		2483.500	9.100	40.993	50.092	-23.908	74.000	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Horizontal



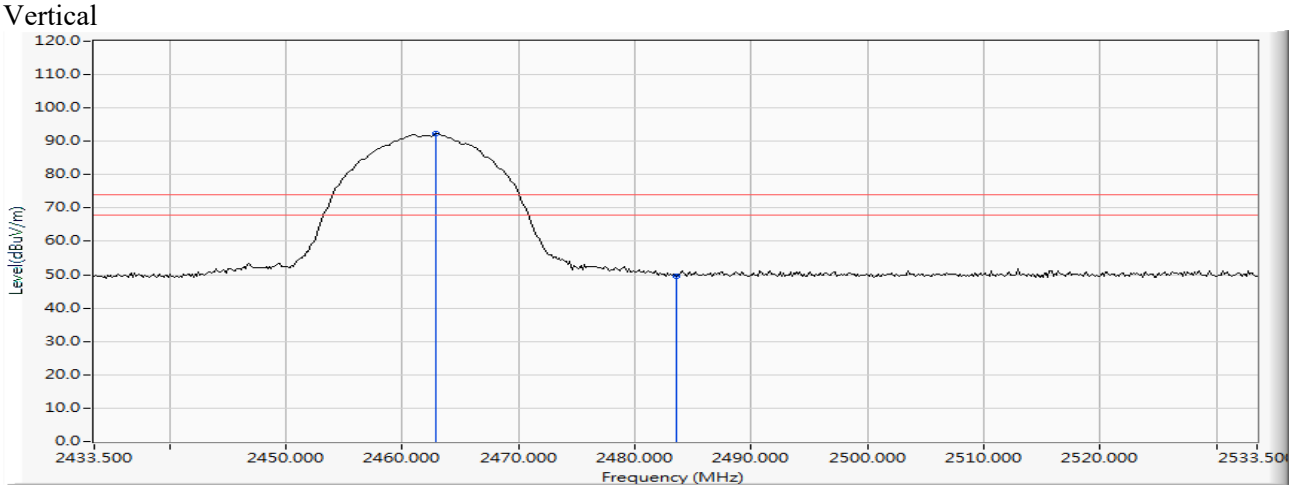
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.630	9.024	81.903	90.927	--	--	AVERAGE
2		2483.500	9.100	24.563	33.662	-20.338	54.000	AVERAGE
3		2490.167	9.124	26.135	35.259	-18.741	54.000	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Vertical



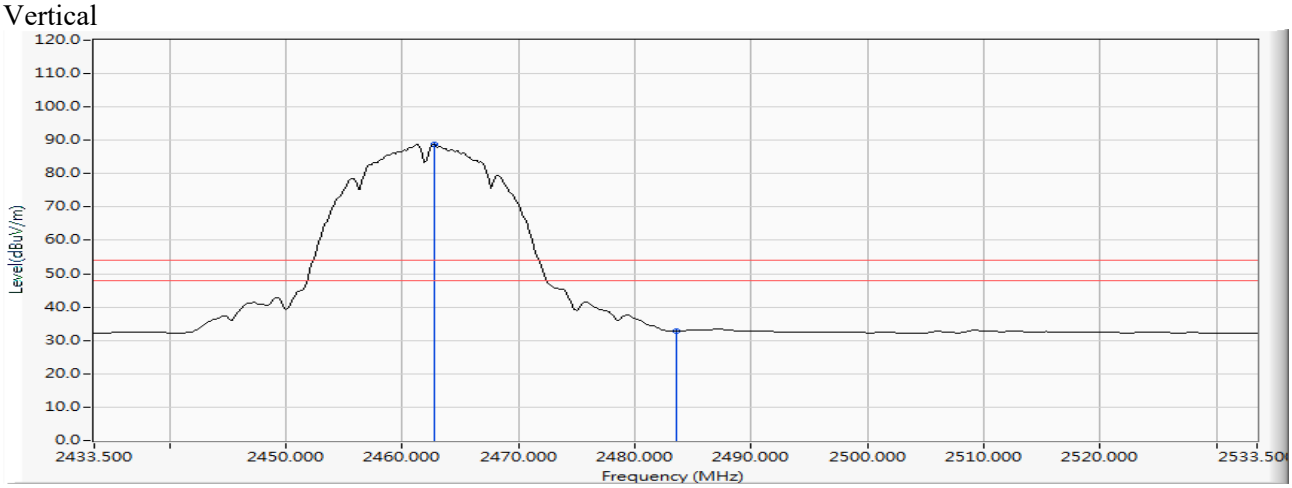
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.920	9.025	83.170	92.195	--	--	PEAK
2		2483.500	9.100	40.535	49.634	-24.366	74.000	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Vertical



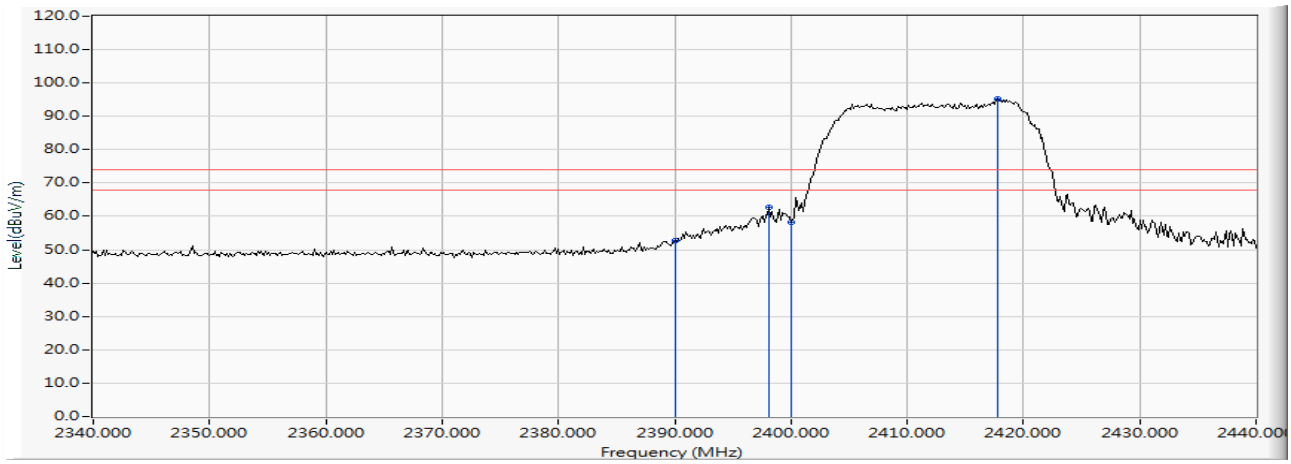
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.775	9.024	79.850	88.874	--	--	AVERAGE
2		2483.500	9.100	23.664	32.763	-21.237	54.000	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Horizontal



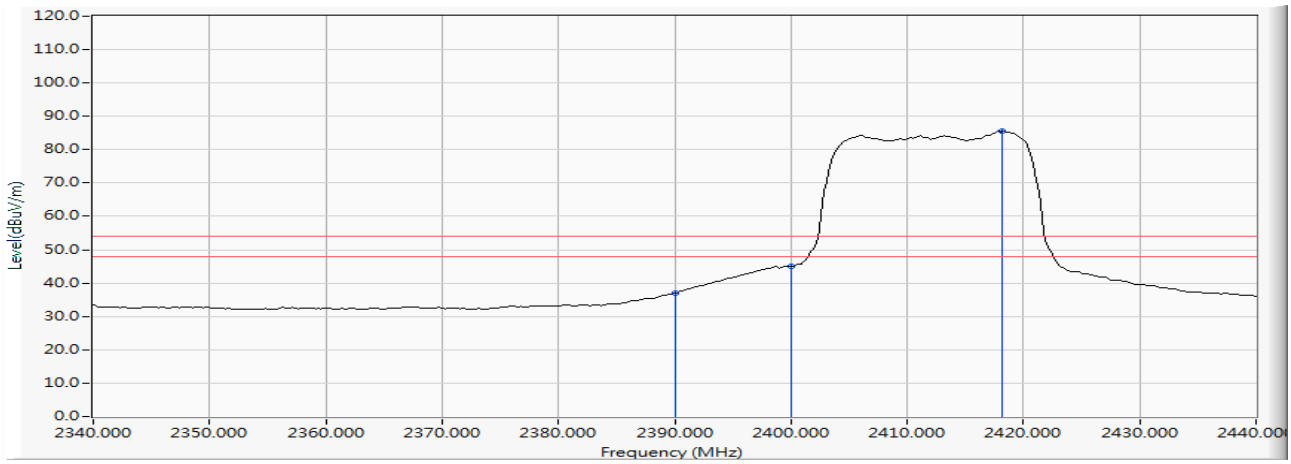
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	44.135	52.898	-21.102	74.000	PEAK
2		2398.116	8.792	54.046	62.838	--	--	PEAK
3		2400.000	8.799	49.484	58.283	--	--	PEAK
4	*	2417.826	8.863	86.523	95.386	--	--	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Horizontal



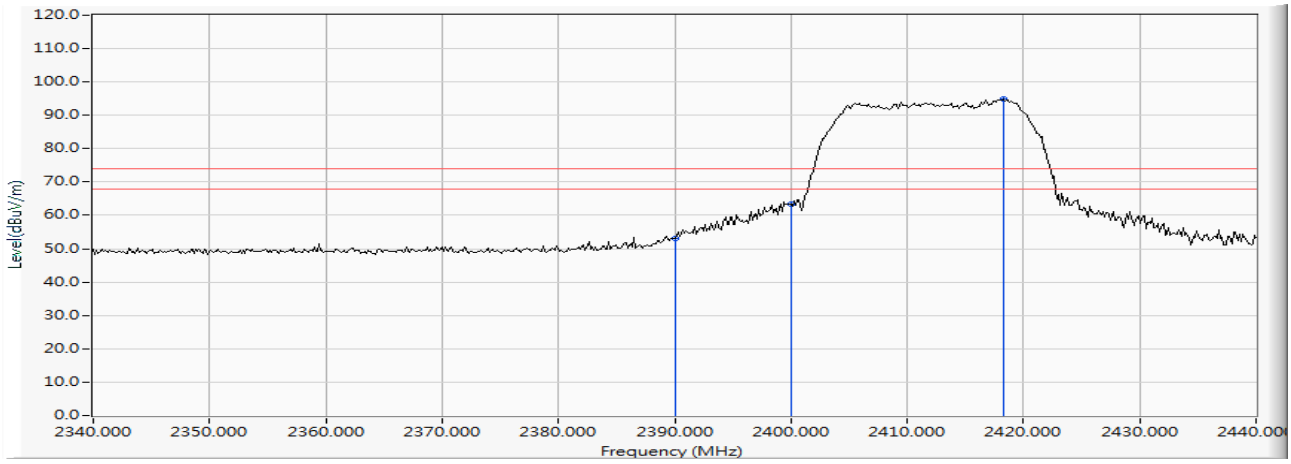
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	28.208	36.971	-17.029	54.000	AVERAGE
2		2400.000	8.799	36.183	44.982	--	--	AVERAGE
3	*	2418.116	8.864	76.638	85.502	--	--	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Vertical



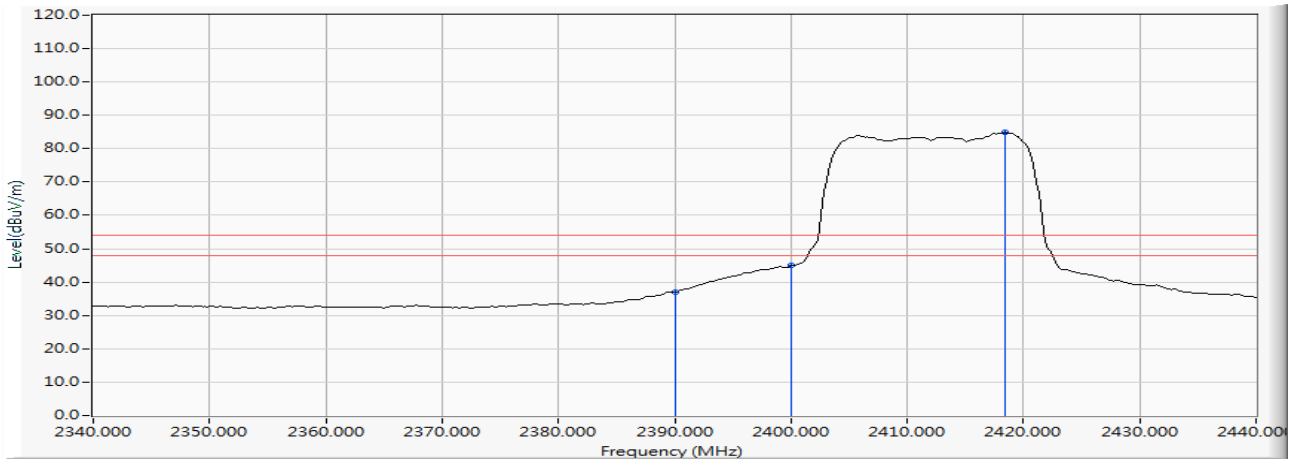
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	44.342	53.105	-20.895	74.000	PEAK
2		2400.000	8.799	54.572	63.371	--	--	PEAK
3	*	2418.261	8.864	86.173	95.037	--	--	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Vertical



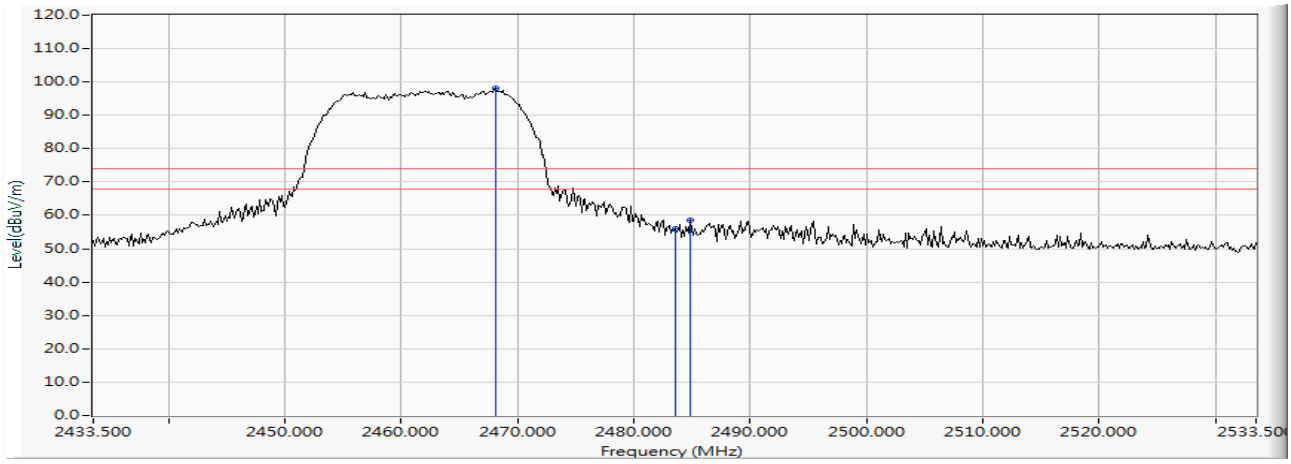
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	28.118	36.881	-17.119	54.000	AVERAGE
2		2400.000	8.799	36.098	44.897	--	--	AVERAGE
3	*	2418.406	8.865	75.936	84.801	--	--	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Horizontal



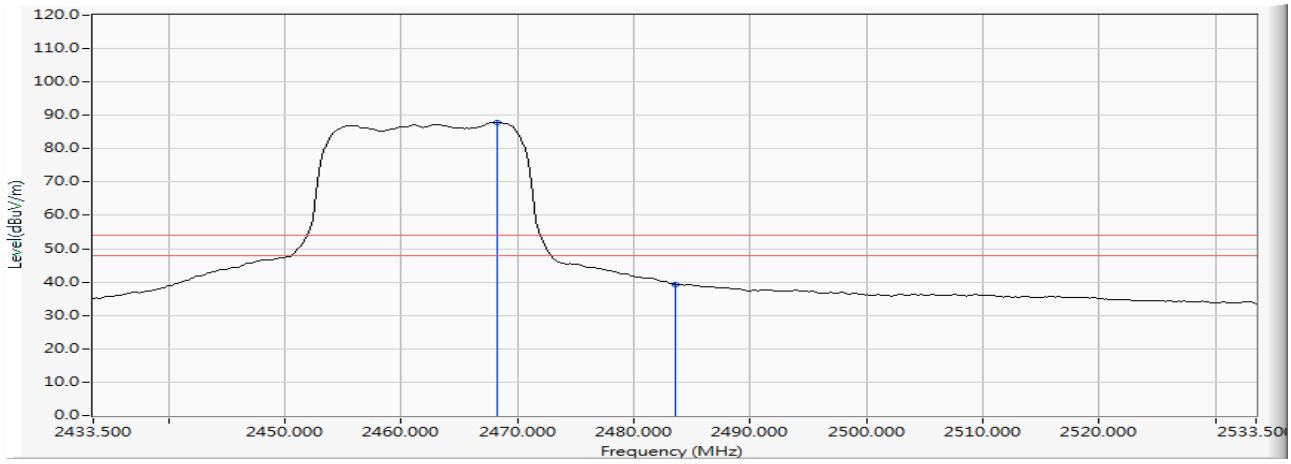
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2468.138	9.044	88.965	98.009	--	--	PEAK
2		2483.500	9.100	46.747	55.846	-18.154	74.000	PEAK
3		2484.804	9.103	49.451	58.555	-15.445	74.000	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Horizontal



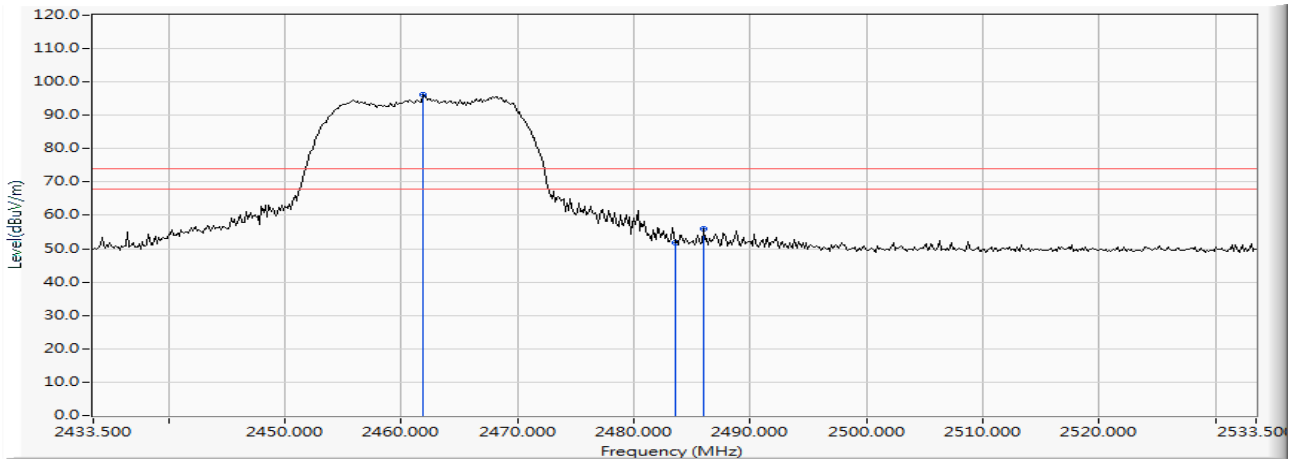
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2468.283	9.044	78.929	87.974	--	--	AVERAGE
2		2483.500	9.100	30.052	39.151	-14.849	54.000	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Vertical



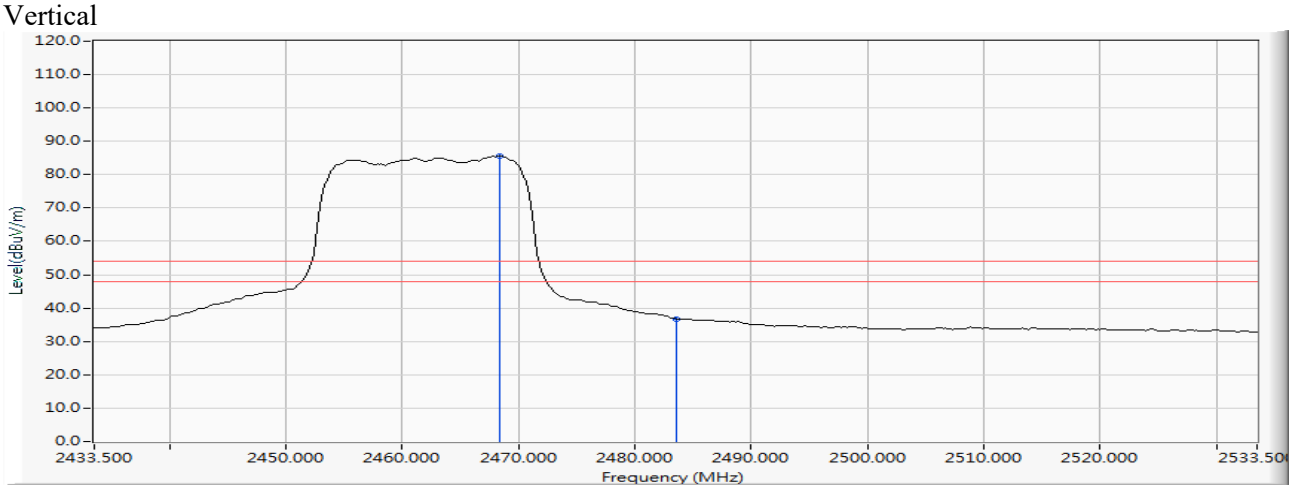
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.906	9.022	87.016	96.037	--	--	PEAK
2		2483.500	9.100	42.777	51.876	-22.124	74.000	PEAK
3		2485.964	9.108	46.735	55.843	-18.157	74.000	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Vertical



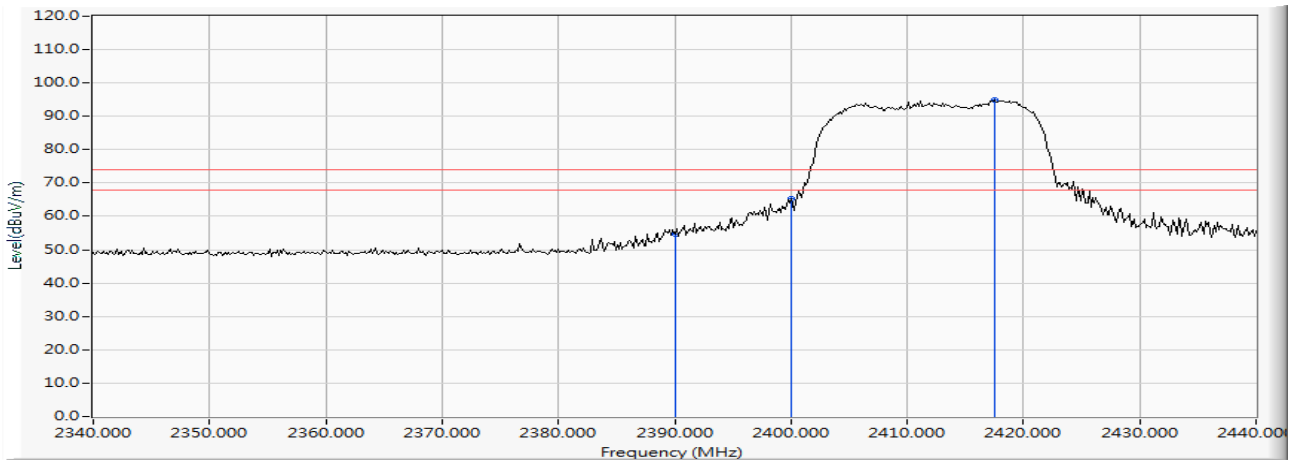
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2468.428	9.045	76.477	85.522	--	--	AVERAGE
2		2483.500	9.100	27.581	36.680	-17.320	54.000	AVERAGE

Note:

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

Product : DIGITAL CAMERA
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2019/09/04
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Horizontal



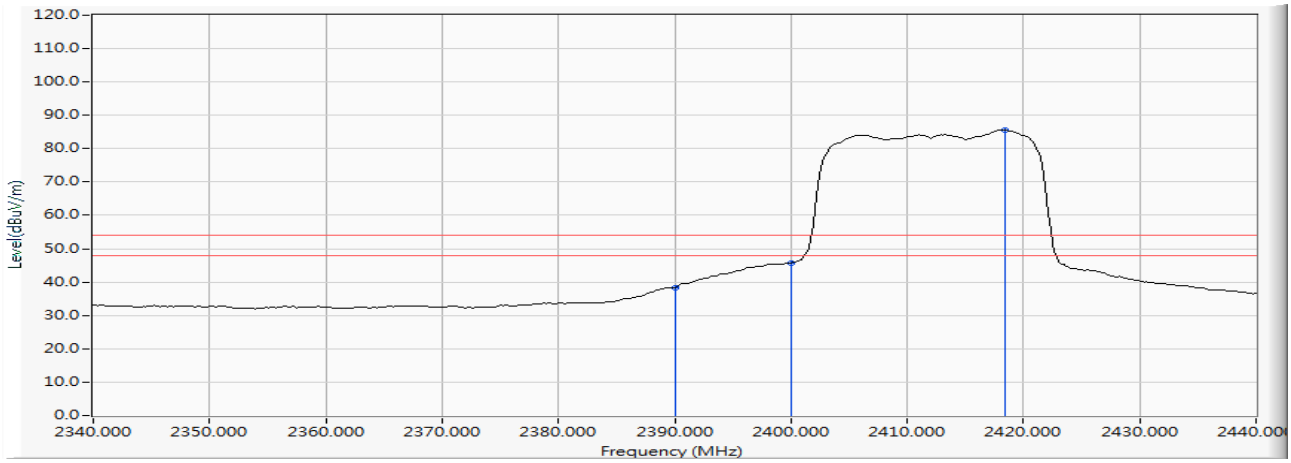
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	45.835	54.598	-19.402	74.000	PEAK
2		2400.000	8.799	56.443	65.242	--	--	PEAK
3	*	2417.536	8.862	86.029	94.891	--	--	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Horizontal



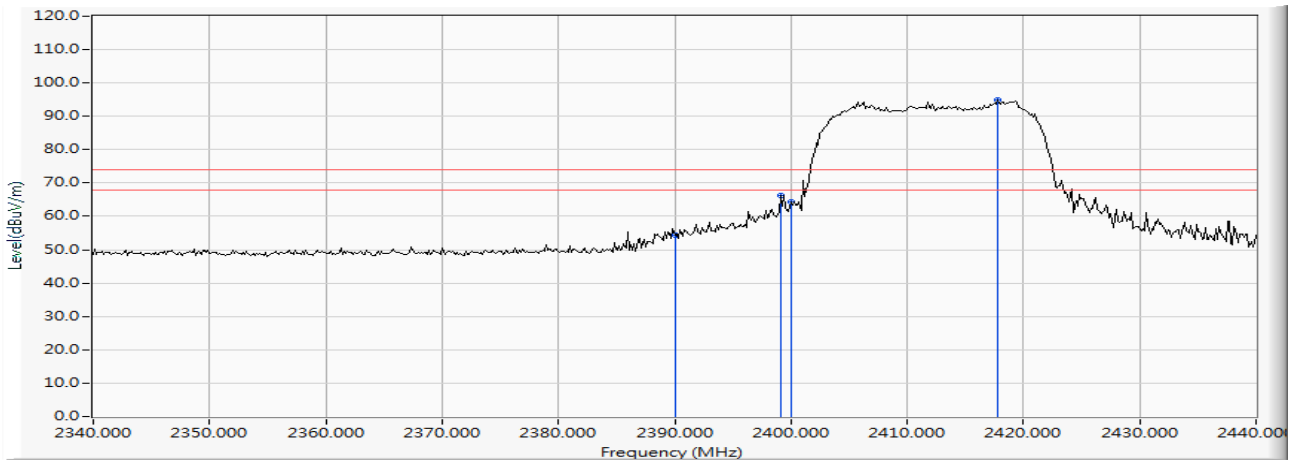
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	29.646	38.409	-15.591	54.000	AVERAGE
2		2400.000	8.799	36.988	45.787	--	--	AVERAGE
3	*	2418.406	8.865	76.706	85.571	--	--	AVERAGE

Note:

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

Product : DIGITAL CAMERA
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2019/09/04
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Vertical



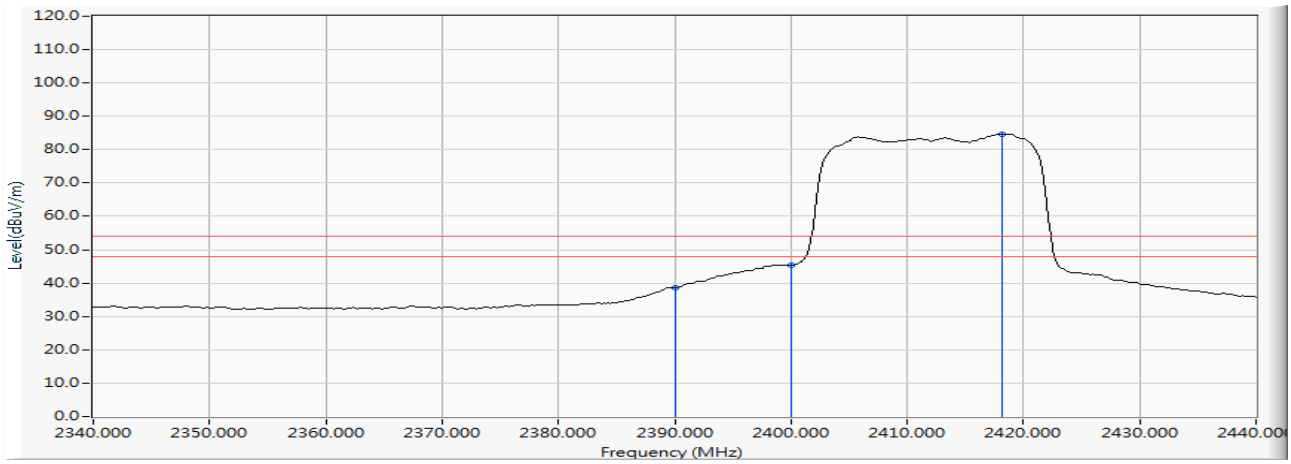
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	45.590	54.353	-19.647	74.000	PEAK
2		2399.130	8.797	57.560	66.356	--	--	PEAK
3		2400.000	8.799	55.513	64.312	--	--	PEAK
4	*	2417.826	8.863	86.037	94.900	--	--	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Vertical



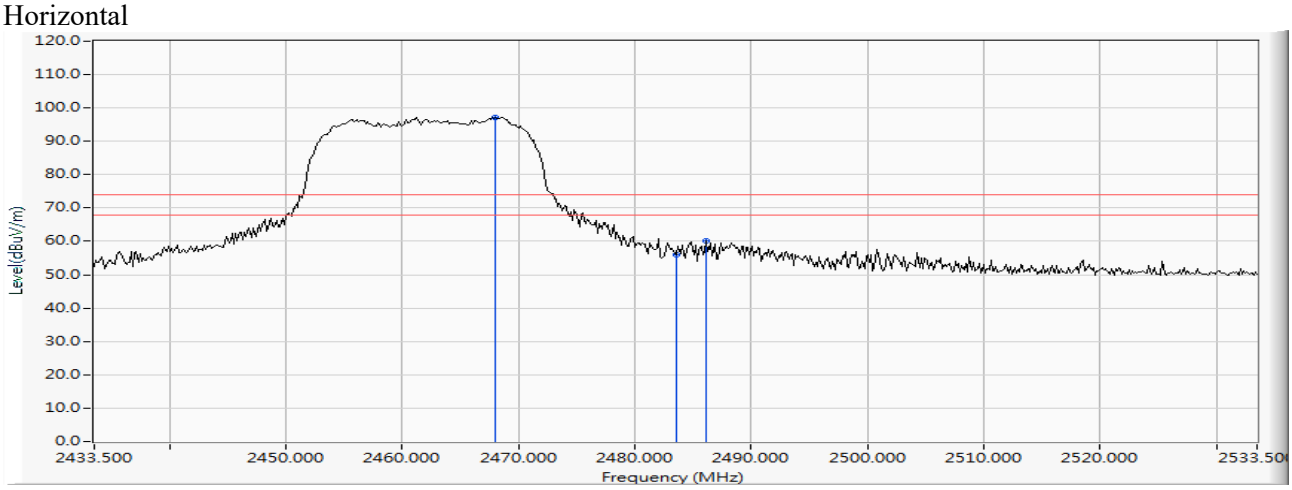
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	29.868	38.631	-15.369	54.000	AVERAGE
2		2400.000	8.799	36.519	45.318	--	--	AVERAGE
3	*	2418.116	8.864	75.828	84.692	--	--	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Horizontal



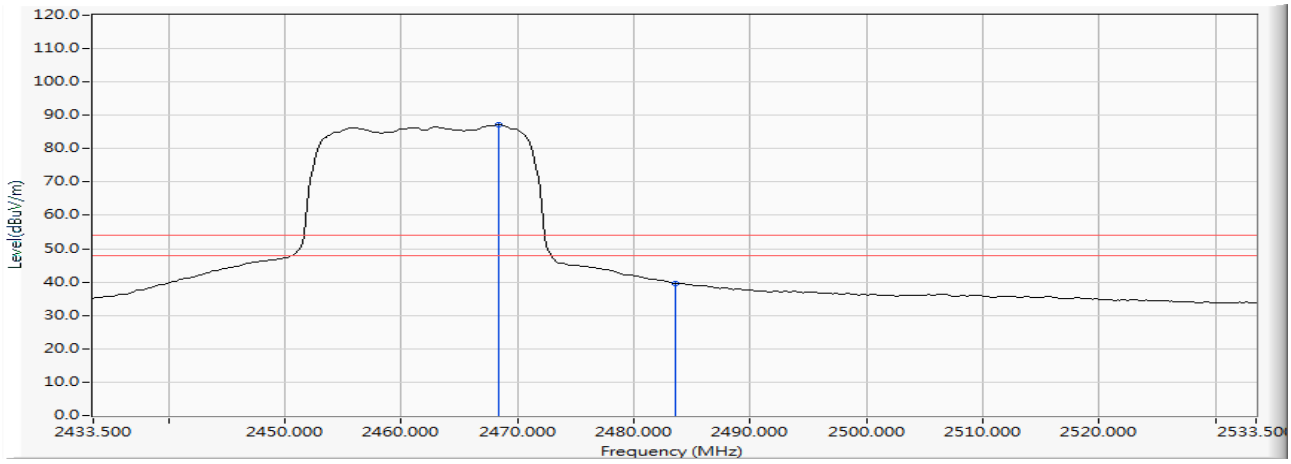
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.993	9.043	88.111	97.155	--	--	PEAK
2		2483.500	9.100	46.865	55.964	-18.036	74.000	PEAK
3		2486.109	9.109	51.051	60.160	-13.840	74.000	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Horizontal



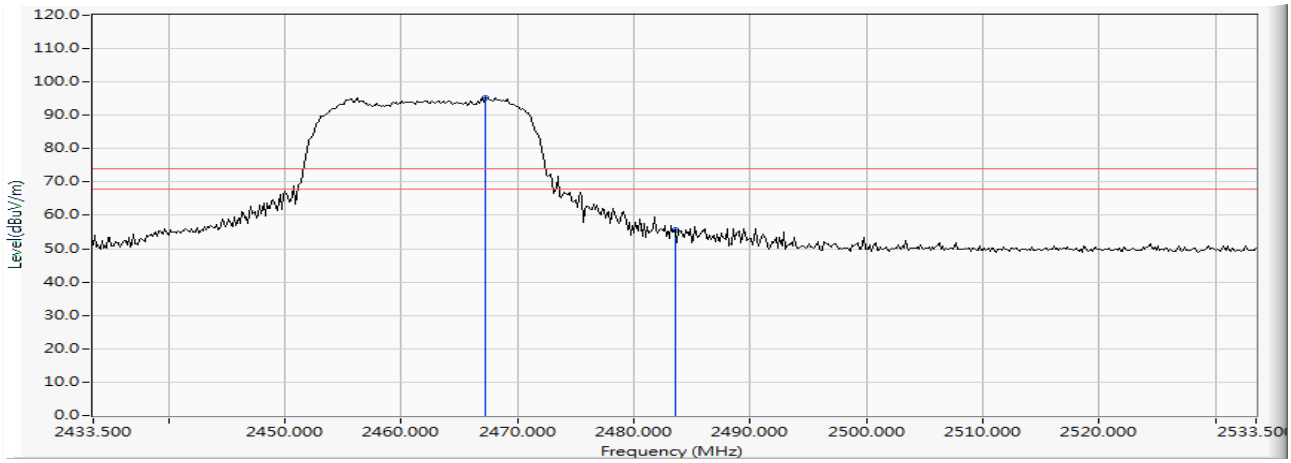
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2468.428	9.045	78.254	87.299	--	--	AVERAGE
2		2483.500	9.100	30.395	39.494	-14.506	54.000	AVERAGE

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Vertical



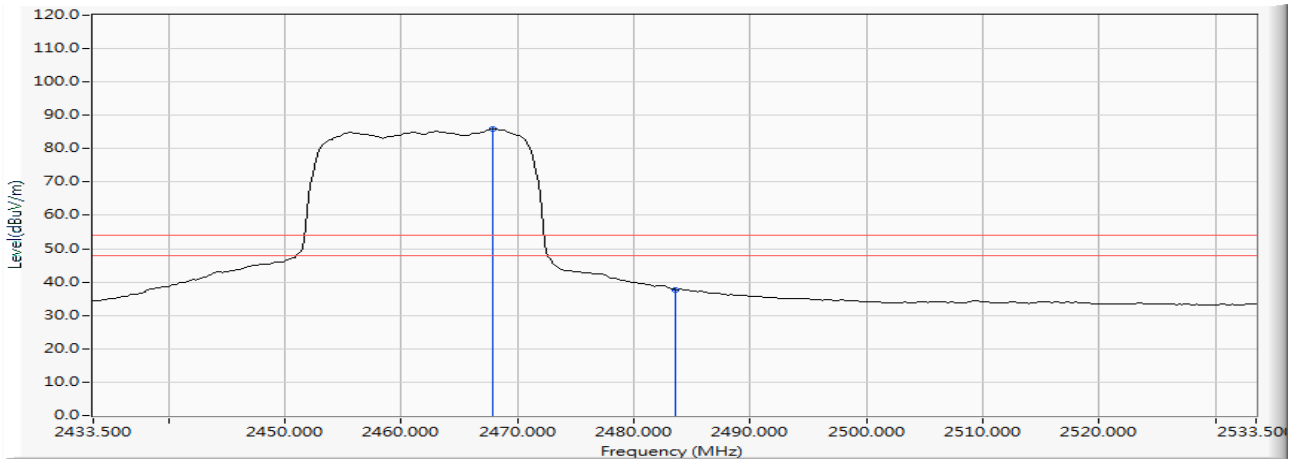
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.268	9.041	86.330	95.371	--	--	PEAK
2		2483.500	9.100	46.495	55.594	-18.406	74.000	PEAK

Note:

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

Product	:	DIGITAL CAMERA
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2019/09/04
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Vertical



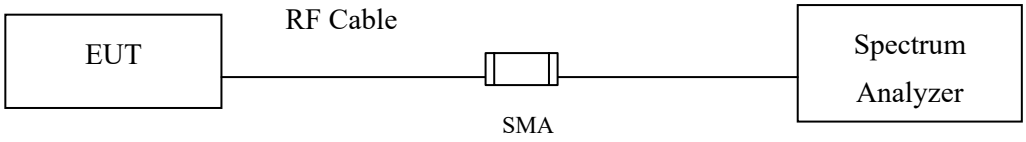
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.848	9.043	77.010	86.053	--	--	AVERAGE
2		2483.500	9.100	28.553	37.652	-16.348	54.000	AVERAGE

Note:

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

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

Tested according to DTS test procedure of KDB558074 section 8.2 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the emission bandwidth, VBW≥3*RBW

7.4. Uncertainty

± 283Hz

7.5. Test Result of 6dB Bandwidth

Product : DIGITAL CAMERA
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	8700	>500	Pass
06	2437	9150	>500	Pass
11	2462	9100	>500	Pass

Figure Channel 01:

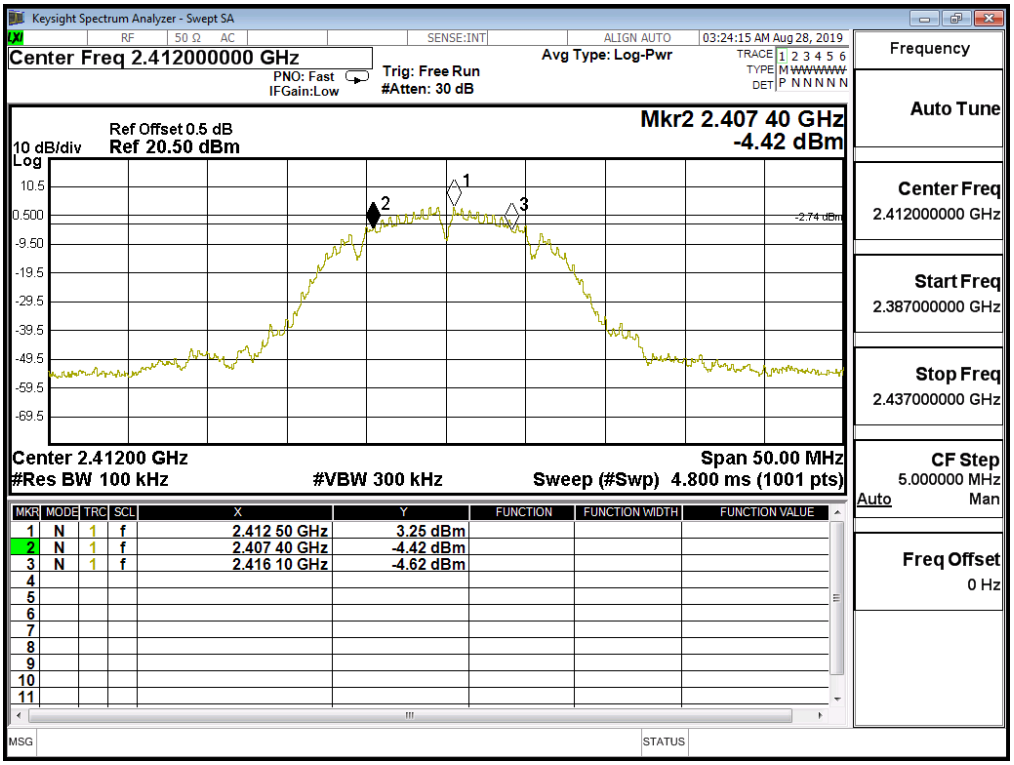


Figure Channel 06:

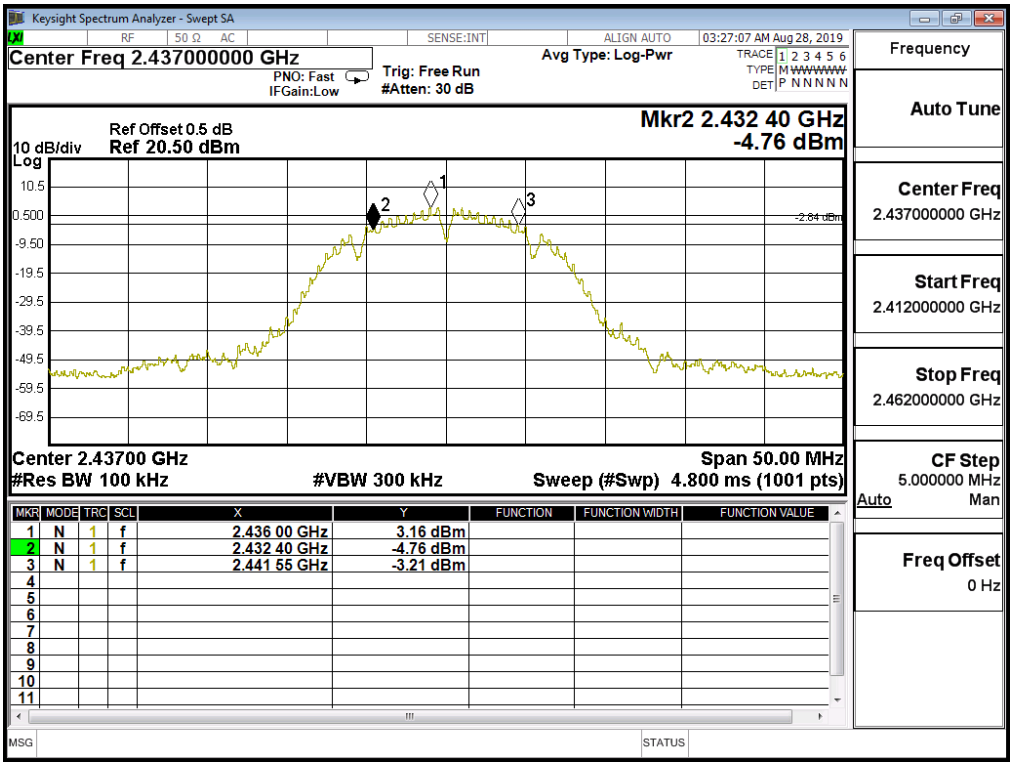
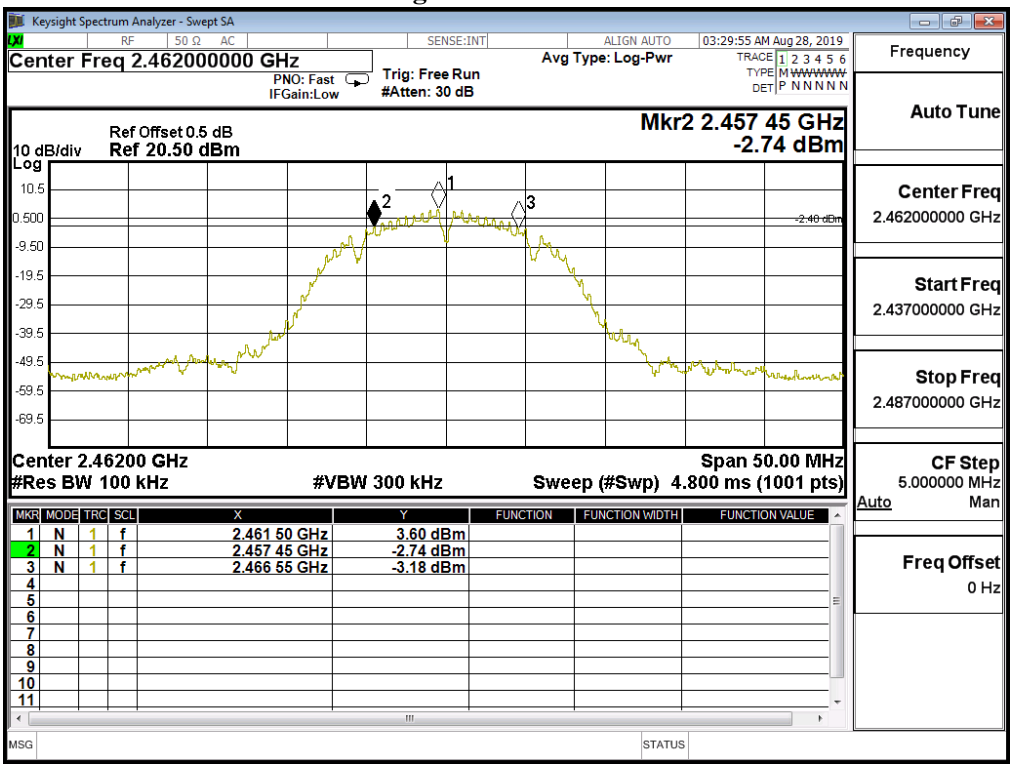


Figure Channel 11:



Product : DIGITAL CAMERA
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16150	>500	Pass
06	2437	15900	>500	Pass
11	2462	16150	>500	Pass

Figure Channel 01:

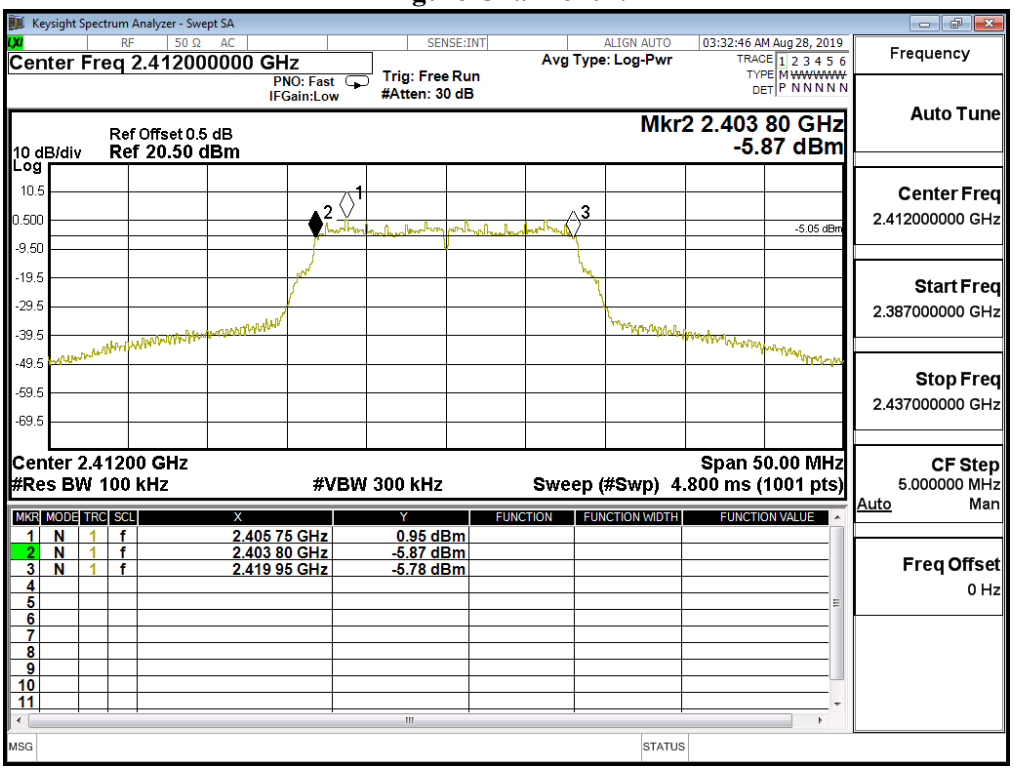


Figure Channel 06:

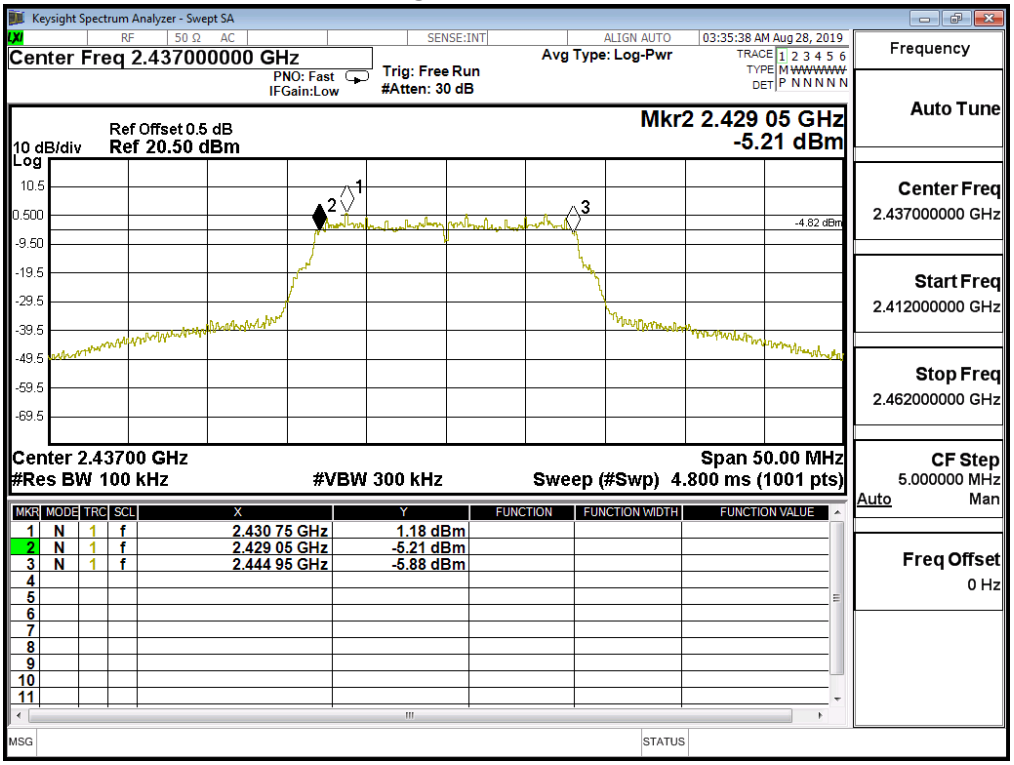
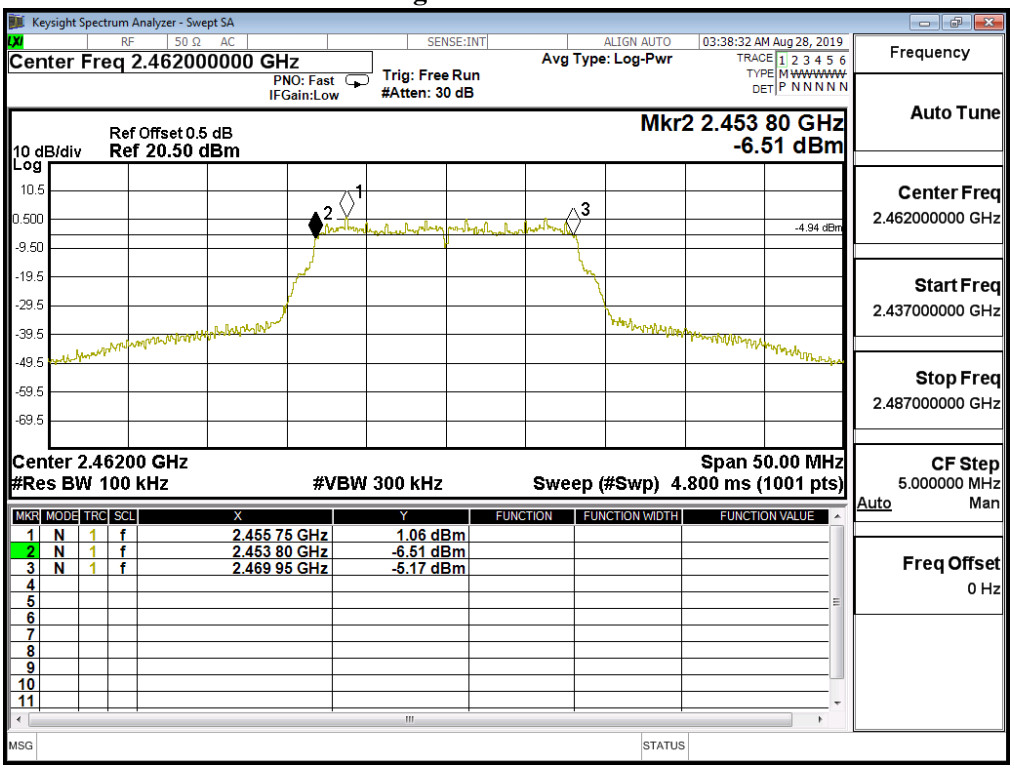


Figure Channel 11:



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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	17650	>500	Pass
06	2437	17600	>500	Pass
11	2462	17600	>500	Pass

Figure Channel 01:

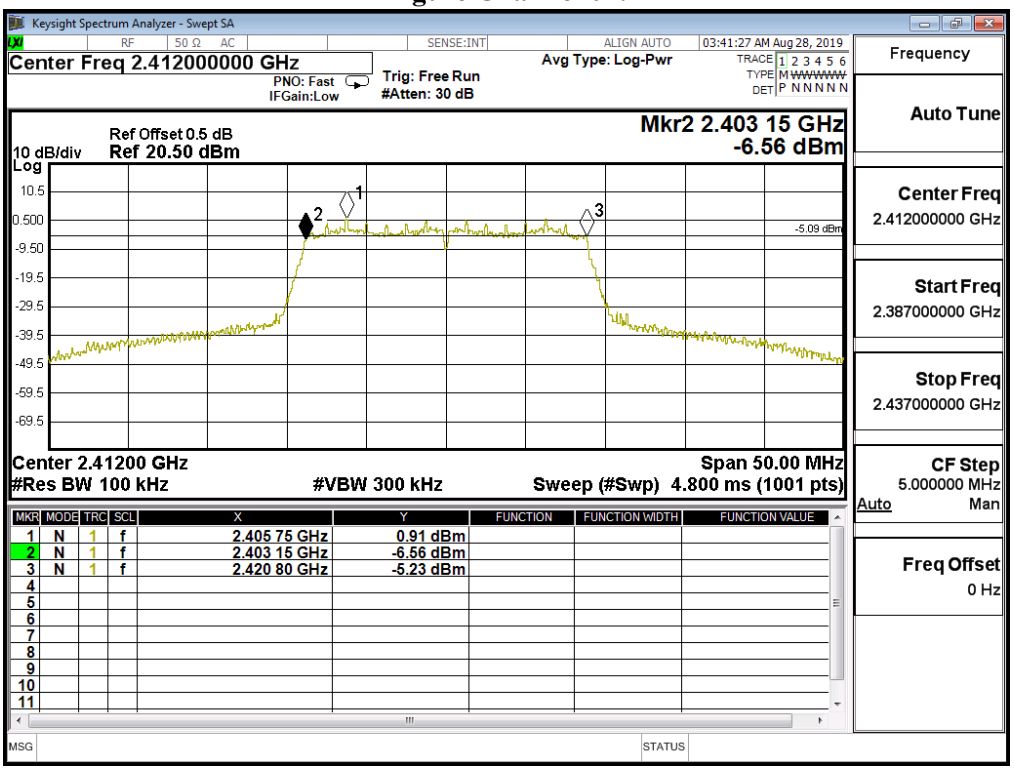


Figure Channel 06:

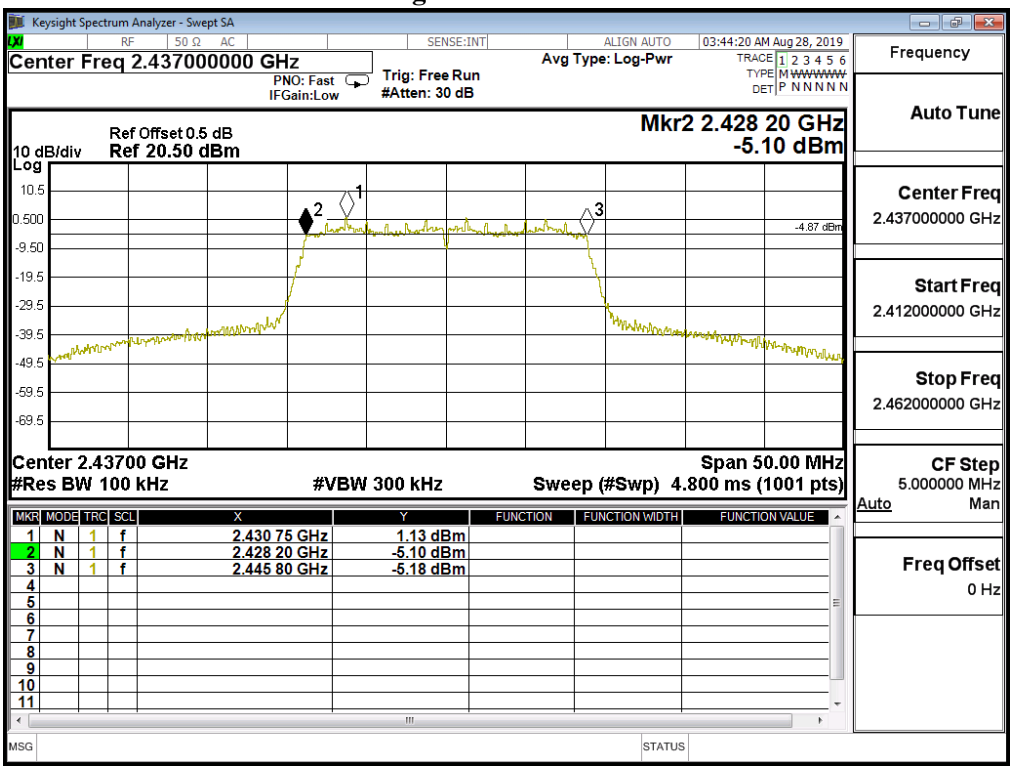
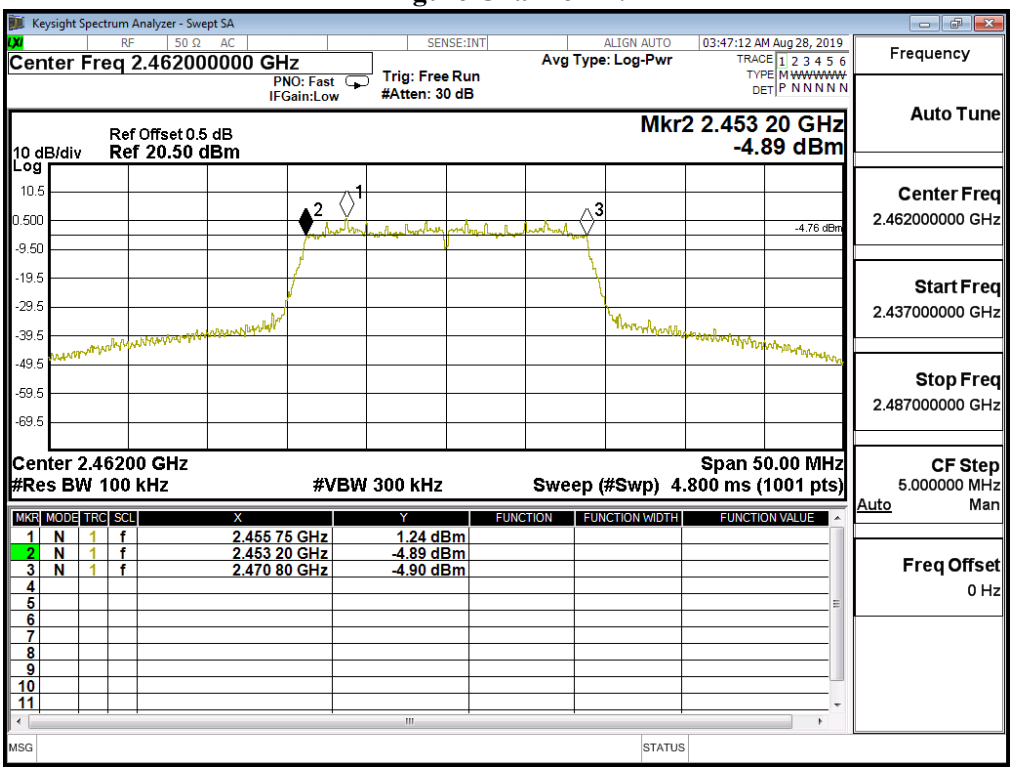
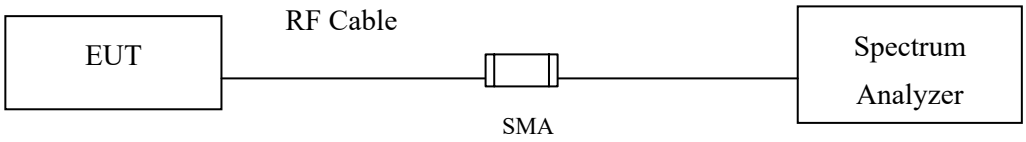


Figure Channel 11:



8. Power Density

8.1. Test Setup



8.2. Limits

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

8.3. Test Procedure

Tested according to DTS test procedure of KDB558074 section 8.4 for compliance to FCC 47CFR 15.247 requirements.

8.4. Uncertainty

± 1.20 dB

8.5. Test Result of Power Density

Product : DIGITAL CAMERA
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	3.420	≦8dBm	Pass
06	2437	3.610	≦8dBm	Pass
11	2462	3.580	≦8dBm	Pass

Figure Channel 01:

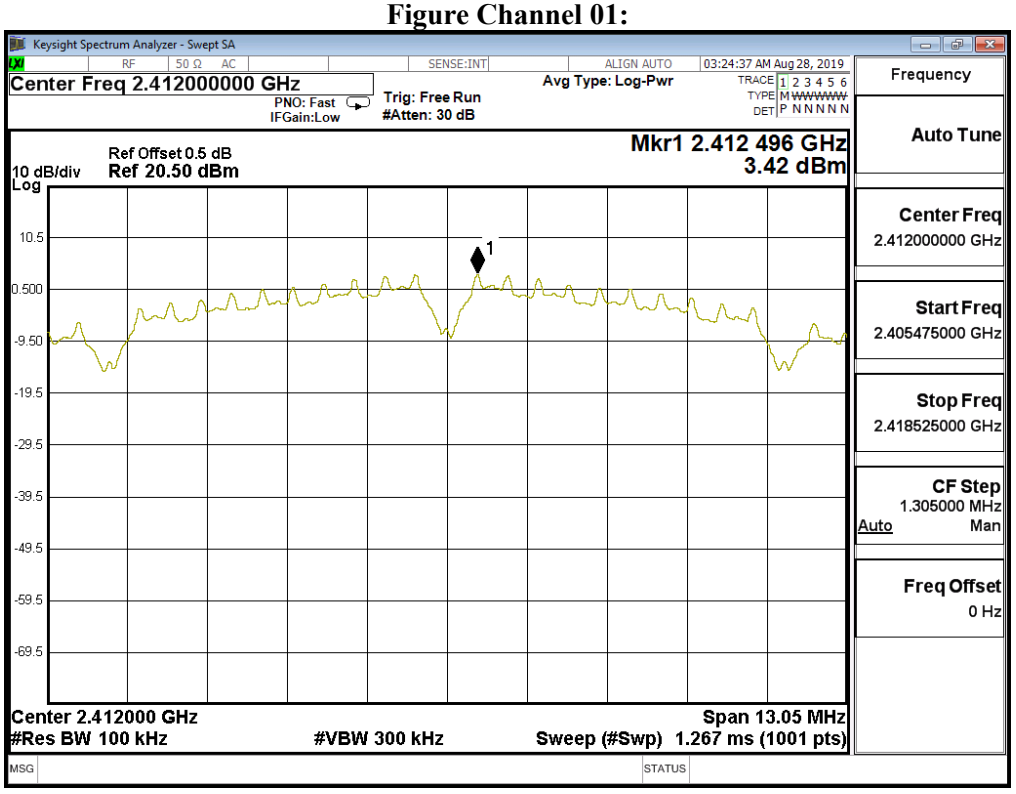


Figure Channel 06:

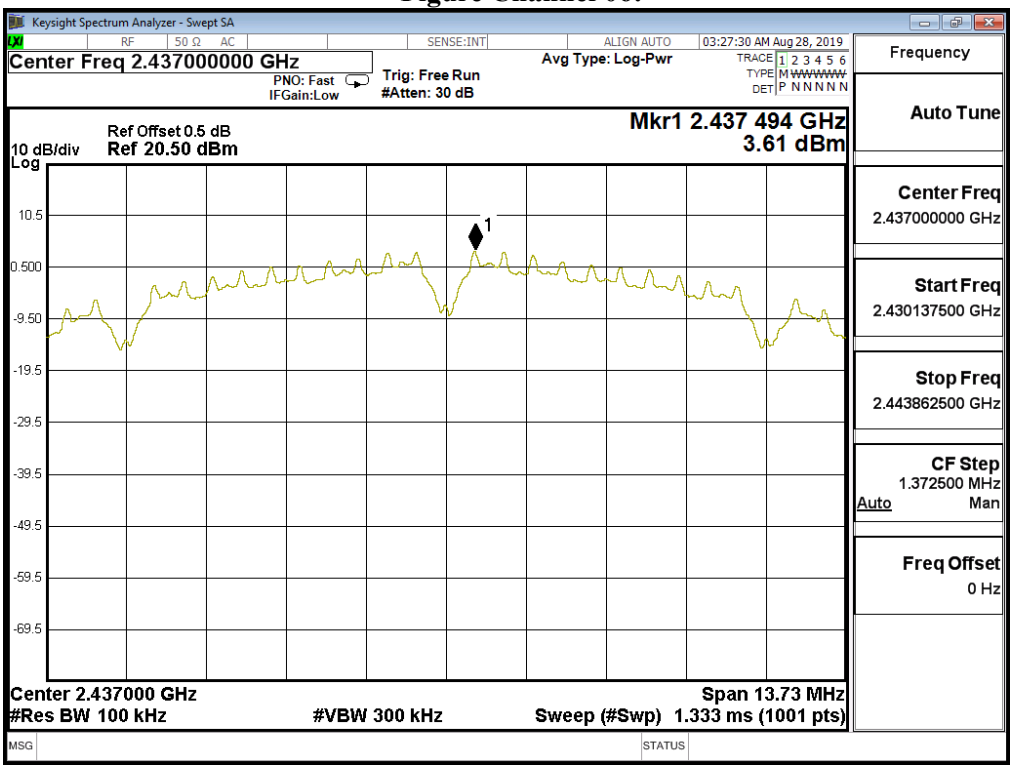
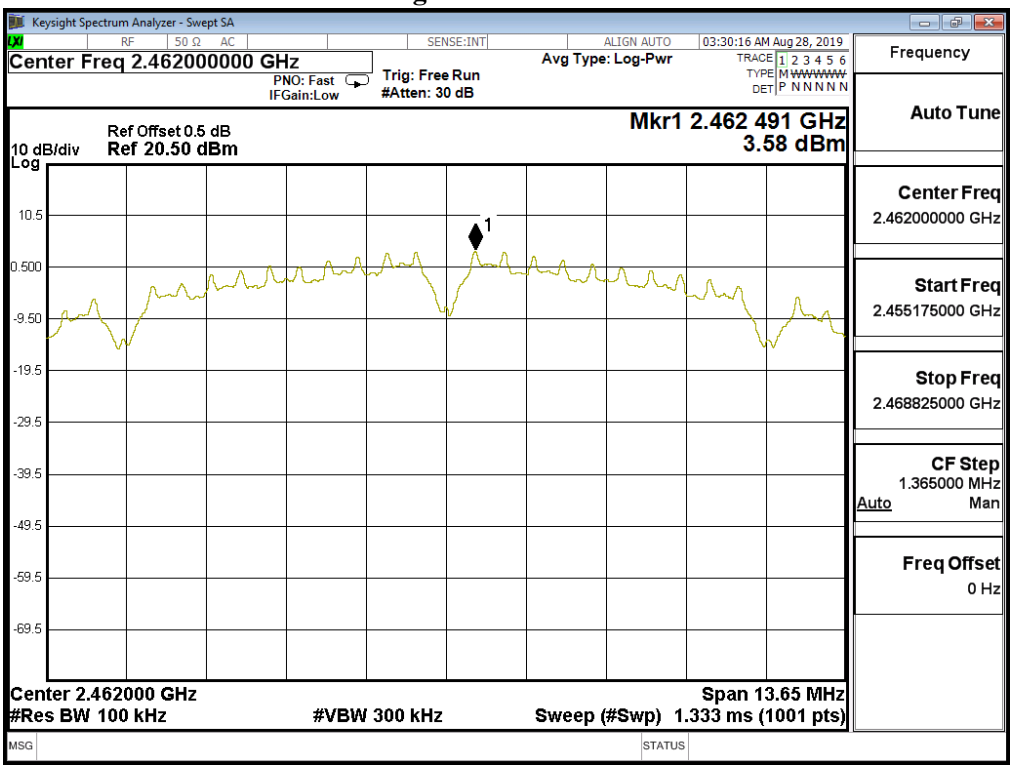


Figure Channel 11:



Product : DIGITAL CAMERA
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	1.050	≦8dBm	Pass
06	2437	1.090	≦8dBm	Pass
11	2462	1.050	≦8dBm	Pass

Figure Channel 01:

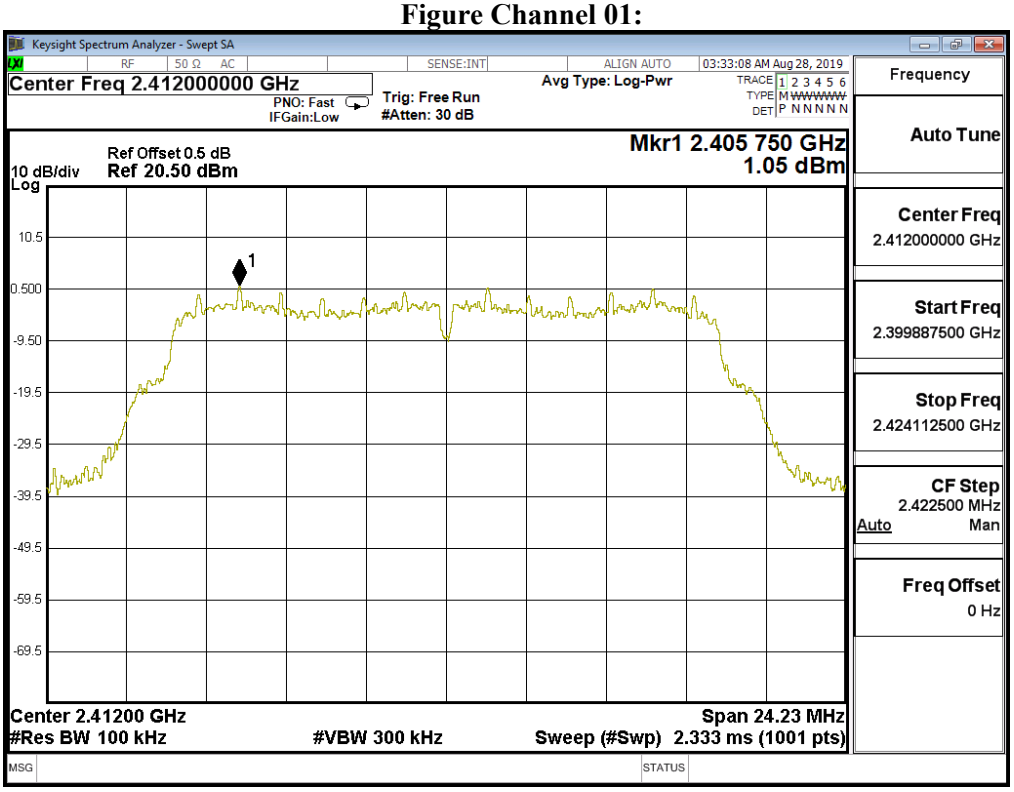


Figure Channel 06:

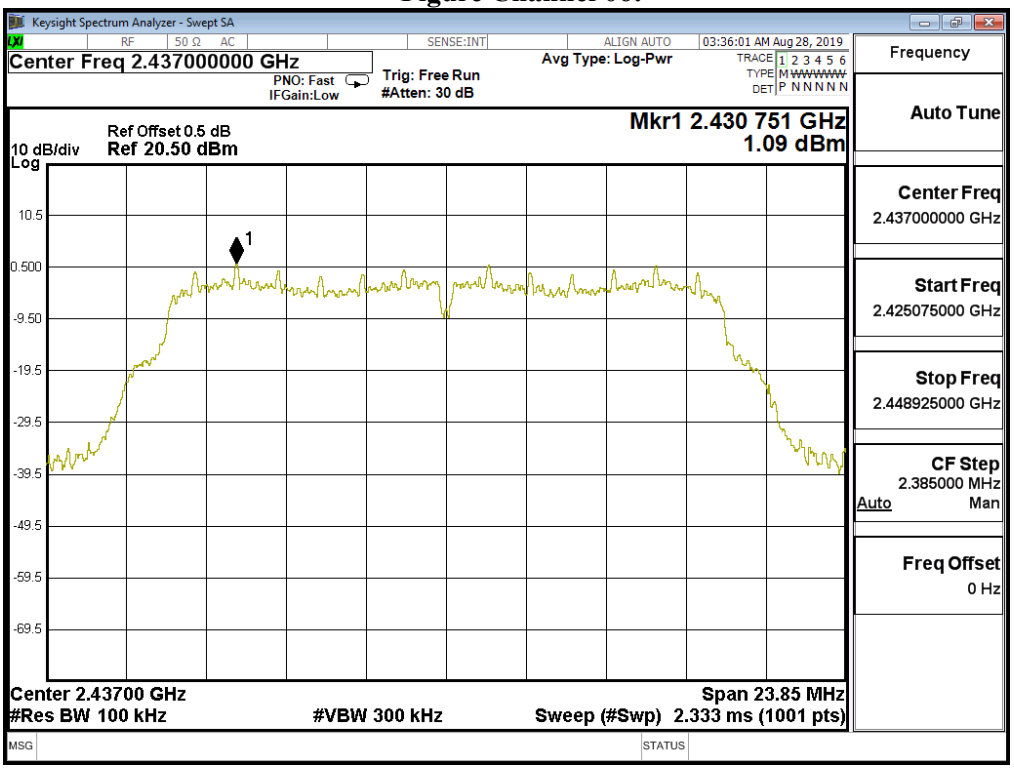
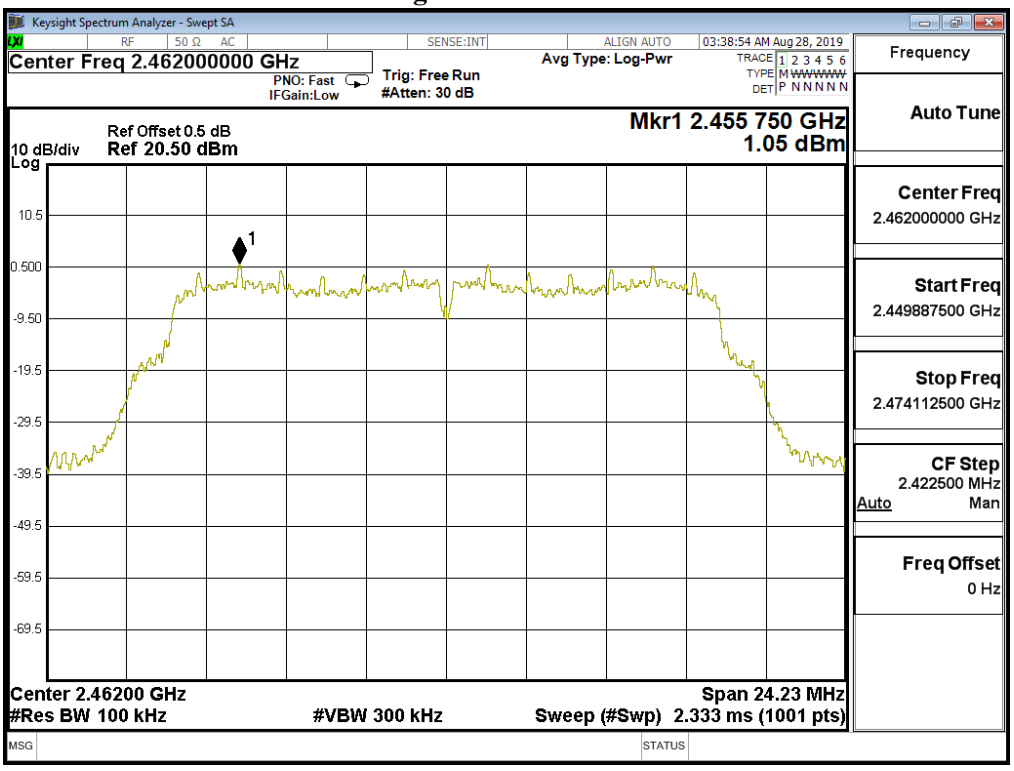


Figure Channel 11:



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

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	0.990	≦8dBm	Pass
06	2437	1.250	≦8dBm	Pass
11	2462	1.090	≦8dBm	Pass

Figure Channel 01:

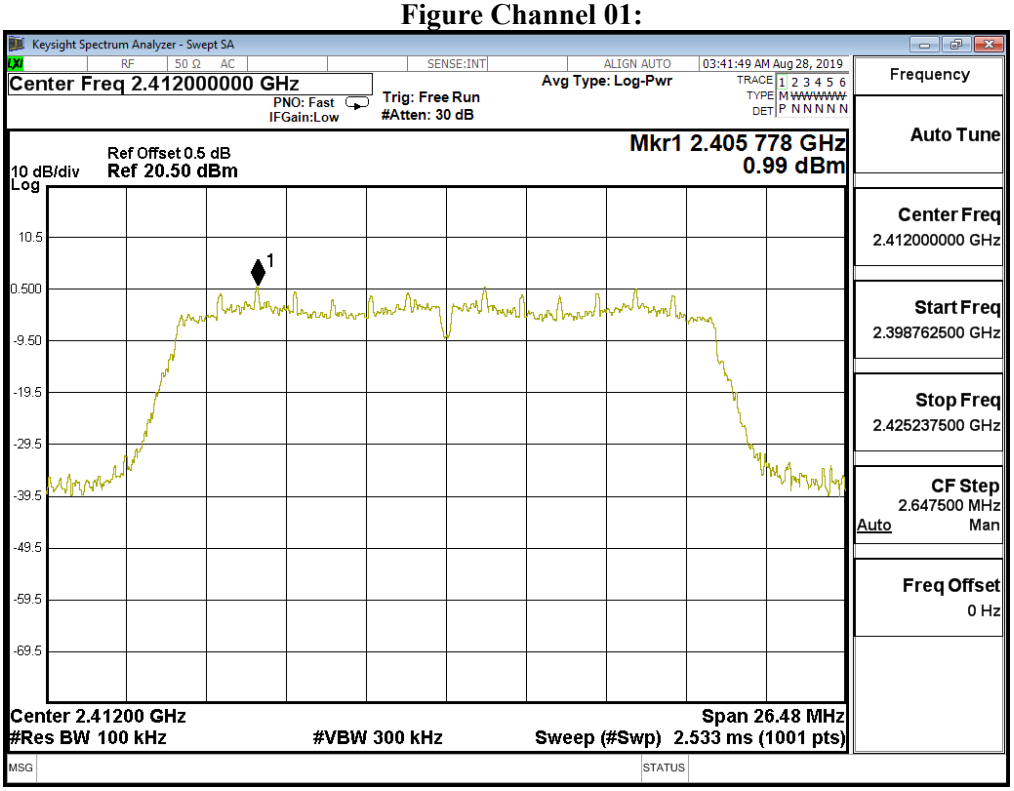


Figure Channel 06:

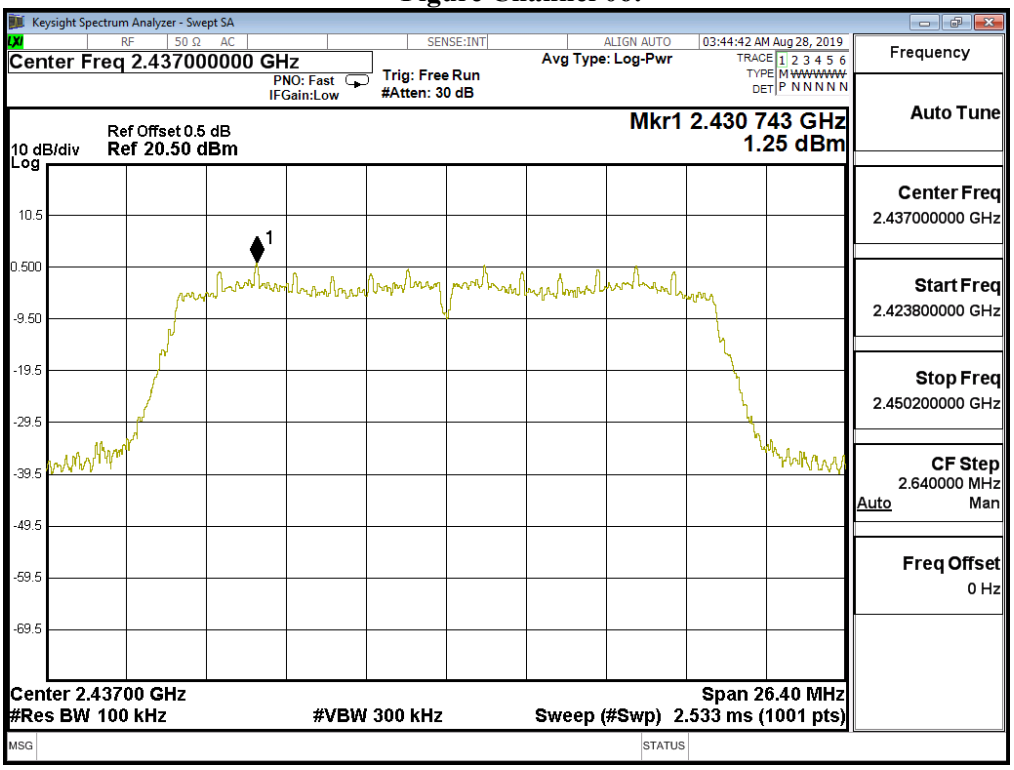
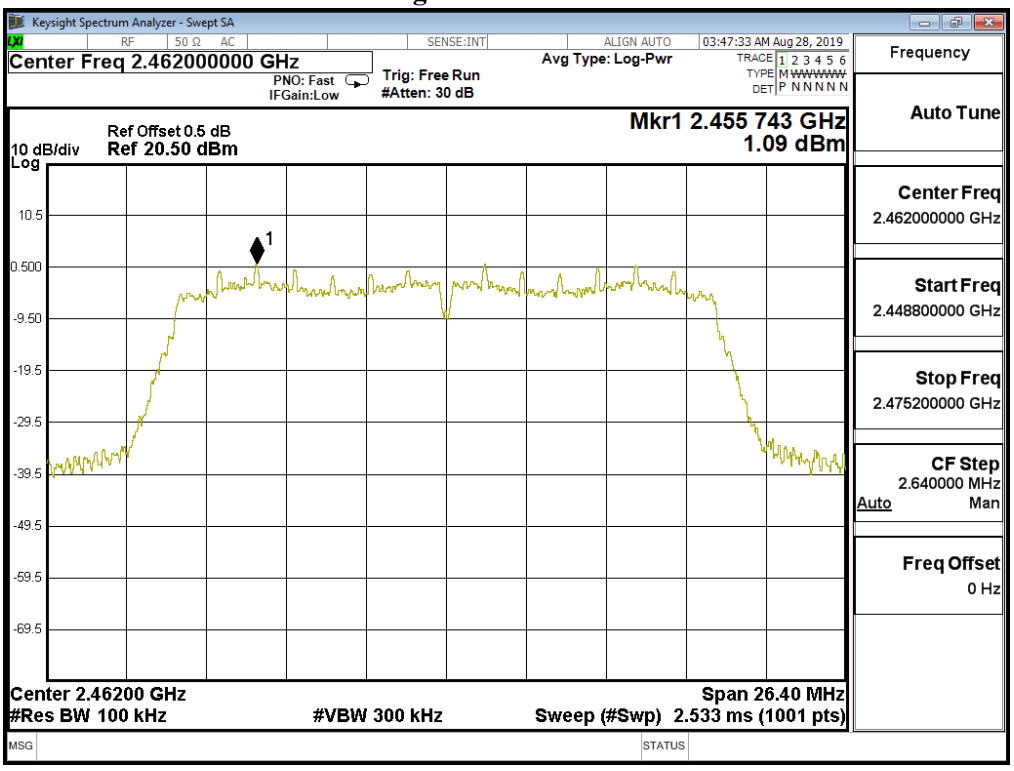
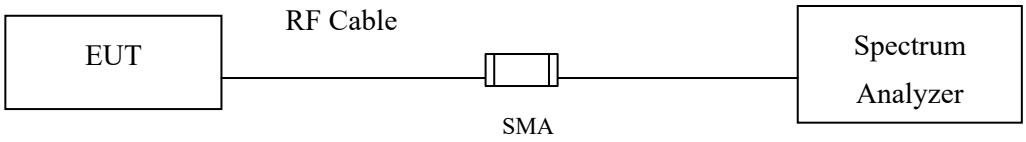


Figure Channel 11:



9. Duty Cycle

9.1. Test Setup



9.2. Test Procedure

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

9.3. Uncertainty

± 2.31msec

9.4. Test Result of Duty Cycle

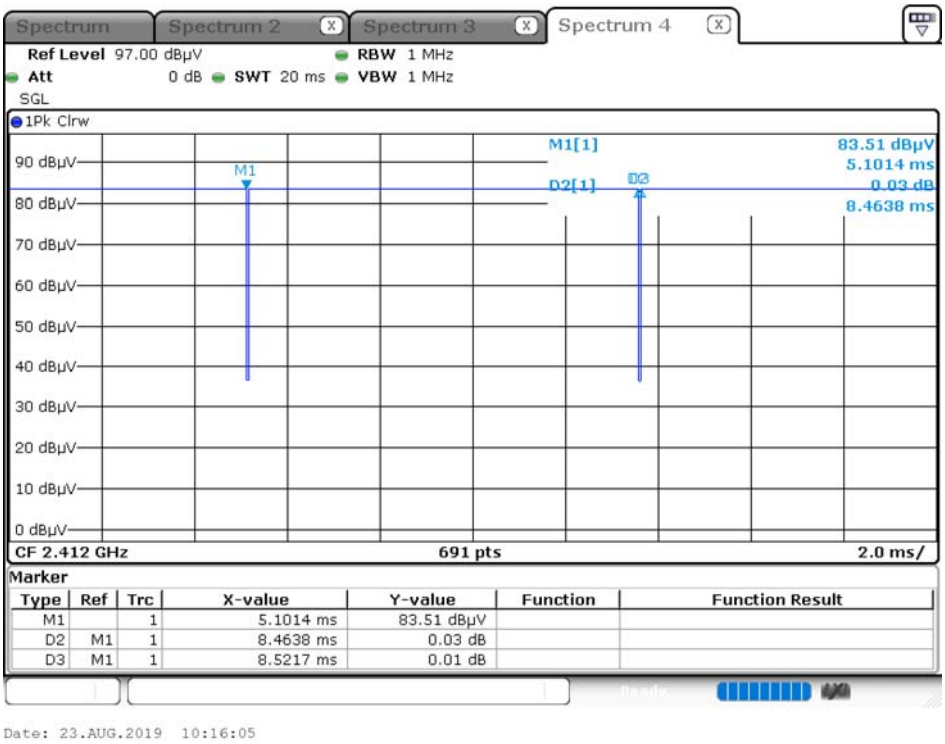
Product : DIGITAL CAMERA
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:
Duty Cycle = Ton / (Ton + Toff)
Duty Factor = 10 Log (1/Duty Cycle)

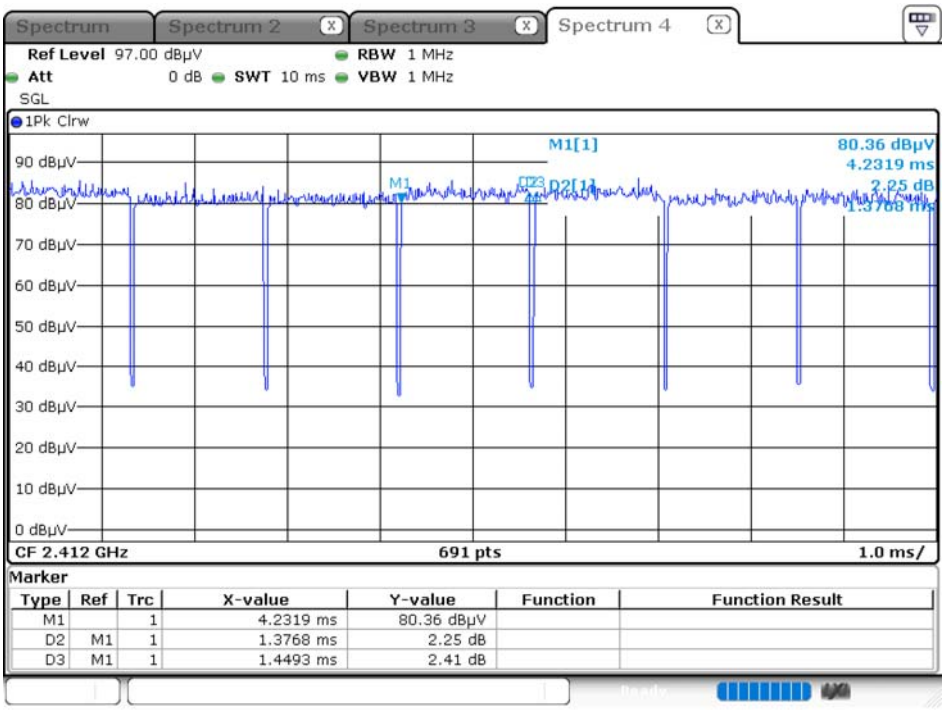
Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	8.4638	8.5217	99.32	0.030
802.11g	1.3768	1.4493	94.98	0.224
802.11n20	1.9275	1.9855	97.08	0.129

802.11b

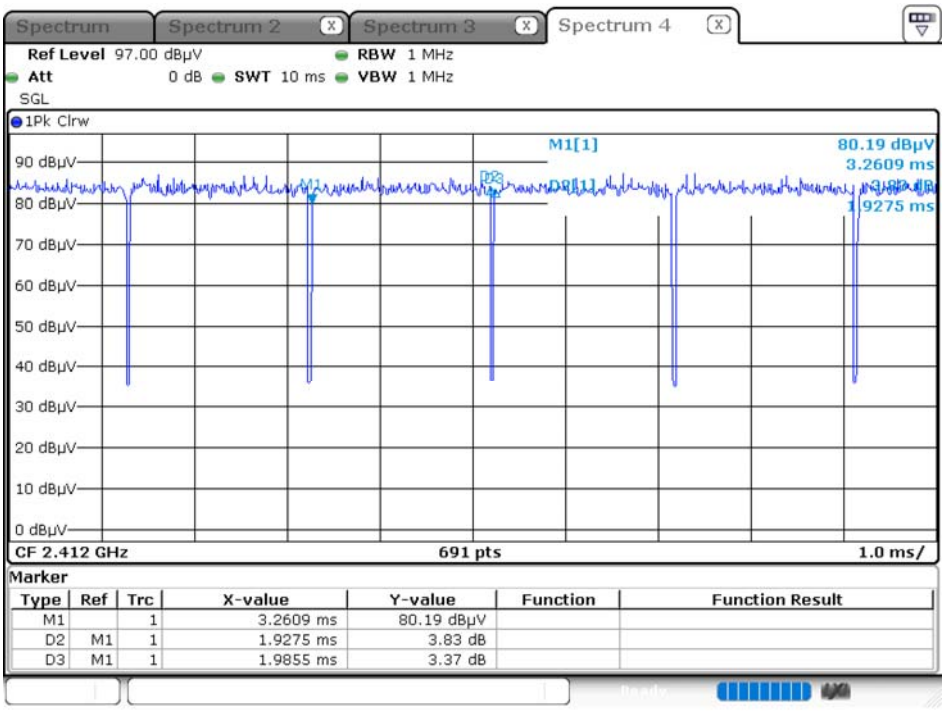


802.11g



Date: 23.AUG.2019 10:41:15

802.11n20



Date: 23.AUG.2019 11:11:31

10. EMI Reduction Method During Compliance Testing

No modification was made during testing.