APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
Shenzhen Leshi Video Technology Co.,Ltd

Battery video alarm camera
Model No.: C390S, C390

FCC ID: 2AJPAC390S

Prepared for	:	Shenzhen Leshi Video Technology Co.,Ltd
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Report No.	:	ATE20182222
Date of Test	:	January 7-January 10, 2019
Date of Report	:	January 11, 2019

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Test Report Certification

Applicant	:	Shenzhen Leshi Video Technology Co.,Ltd
Address	:	5th Floor, 2nd Block, Zhongyuntai Industrial Park, No.1 Road, Tangtou, Shiyan Street, Bao'an District, Shenzhen, China
Manufacturer	:	Shenzhen Leshi Video Technology Co.,Ltd
Address	:	5th Floor, 2nd Block, Zhongyuntai Industrial Park, No.1 Road, Tangtou, Shiyan Street, Bao'an District, Shenzhen, China
Product	:	Battery video alarm camera
Model No.	:	C390S, C390
Trade name	:	Freecam

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2018
ANSI C63.10: 2013

The EUT was tested according to DTS test procedure of August 24, 2018 KDB558074 D01 DTS Meas Guidance v05 for compliance to FCC 47CFR 15.247 requirements.
The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements. This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test :	January 7-January 10, 2019
Date of Report :	January 11, 2019
Test Engineer :	(Frank Lü, Engineer)
Prepared by :	(Stone Yang, Engineer)
Approved & Authorized Signer :	(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Battery video alarm camera
Model Number	:	C390S, C390 (Note: We hereby state that these models are identical in interior structure, electrical circuits and components, C390S has one more solar charging plate than C390. Therefore, only model C390S is for tests.)
Frequency Range	:	802.11b/g/n(20MHz): 2412-2462MHz
Number of Channels	:	802.11b/g/n (20MHz):11
Antenna Gain	:	4dBi
Type of Antenna	:	FPCB antenna with ipex connector
Power Supply	:	DC 3.7V Li-ion battery
Data Rate	:	802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: 72.2~6.5Mbps
Modulation Type	:	DSSS, OFDM
Hardware version	:	V1.1
Software version	:	V2.4.7.8

1.2.Carrier Frequency of Channels

802.11b, 802.11g, 802.11n (20MHz)

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

1.3.Accessory and Auxiliary Equipment

AC/DC Power Adapter: (provided by laboratory)	:	Model:TEKA006-0501000UKU
		Input: 100-240V~50/60Hz 0.3A
		Output: DC 5V/1A

1.4.Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISEDC) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd.
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

1.5.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 05, 2019	1 Year
EMI Test Receiver	Rohde&Schwarz	ESR	101817	Jan. 05, 2019	1 Year
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 05, 2019	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 05, 2019	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 05, 2019	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 05, 2019	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 05, 2019	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 05, 2019	1 Year
Open Switch and Control Unit	Rohde&Schwarz	OSP120 + OSP-B157	101244 + 100866	Jan. 05, 2019	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 05, 2019	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 05, 2019	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 05, 2019	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 05, 2019	1 Year
RF COAXIAL CABLE	SUHNER	N-5m(Frequency range:9KHz-26.5GHz)	NO.3	Jan. 05, 2019	1 Year
RF COAXIAL CABLE	SUHNER	N-5m(Frequency range:9KHz-26.5GHz)	NO.4	Jan. 05, 2019	1 Year
RF COAXIAL CABLE	SUHNER	N-1m(Frequency range:9KHz-26.5GHz)	NO.5	Jan. 05, 2019	1 Year
RF COAXIAL CABLE	SUHNER	N-1m(Frequency range:9KHz-26.5GHz)	NO.6	Jan. 05, 2019	1 Year
Conducted Emission Measurement Software: ES-K1 V1.71					
Radiated Emission Measurement Software: EZ_EMC V1.1.4.2					

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **1.802.11b Transmitting mode**
Low Channel: 2412MHz
Middle Channel: 2437MHz
High Channel: 2462MHz

2.802.11g Transmitting mode
Low Channel: 2412MHz
Middle Channel: 2437MHz
High Channel: 2462MHz

3.802.11n (20MHz) Transmitting mode
Low Channel: 2412MHz
Middle Channel: 2437MHz
High Channel: 2462MHz

Note: The WiFi has been tested under continuous transmission mode.
EUT is connected to a computer through the usb-serial controller tool and Use test software to set the test mode.
Test software is CC3100_CC3200_RadioTool-1.2-windows-installer

output power setting table

Test Mode	Set Tx Output Power	Data rate
802.11b	16dBm	11Mbps
802.11g	17dBm	54Mbps
802.11n(HT20)	17dBm	MCS7

3.2.Configuration and peripherals

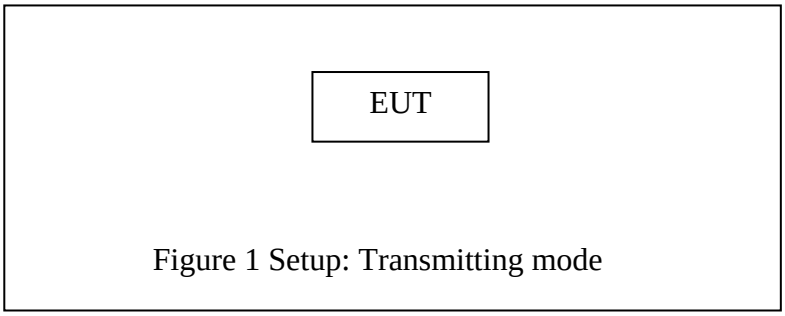


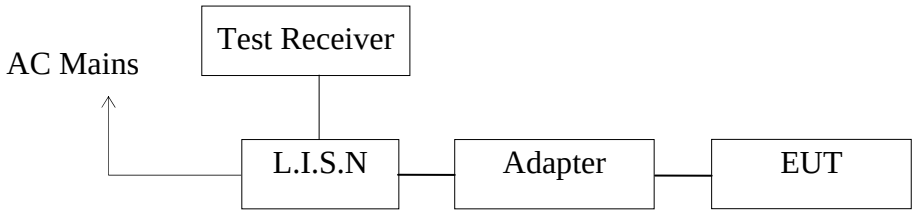
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

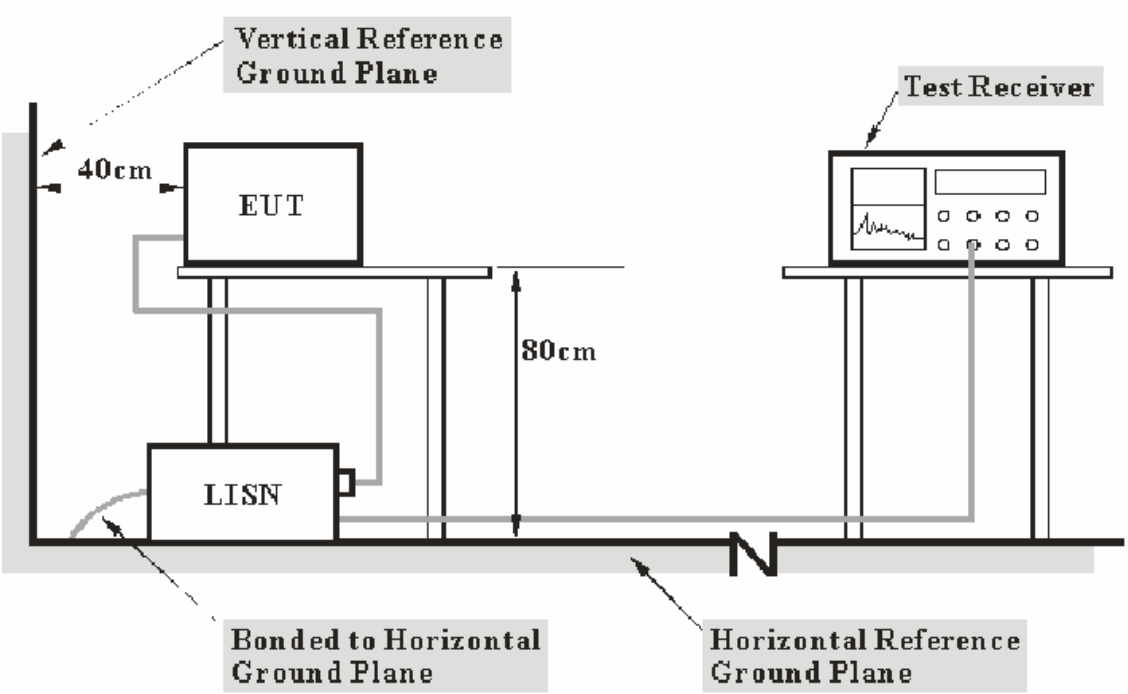
FCC Rules	Description of Test	Result
Section 15.207	Power Line Conducted Emission Test	Compliant
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
KDB558074 D01 DTS Meas Guidance v05	Duty cycle Test	Compliant
ANSI C63.10: 2013 Section 6.9.3	99% occupied Bandwidth Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. POWER LINE CONDUCTED EMISSION TEST

5.1.Block Diagram of Test Setup



5.1.1. Test System Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

5.2.Test Limits

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0
NOTE1: The lower limit shall apply at the transition frequencies. NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

5.3.EUT Configuration on Test

The equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

5.4.Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 5.1.

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in test mode and measure it.

5.5.Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

5.6.Data Sample

Frequency (MHz)	Transducer value (dB)	QuasiPeak Level (dBμV)	Average Level (dBμV)	QuasiPeak Limit (dBμV)	Average Limit (dBμV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	10.5	51.1	34.2	56.0	46.0	4.9	11.8	Pass

Frequency(MHz) = Emission frequency in MHz
Transducer value(dB) = Insertion loss of LISN + Cable Loss
Level(dBμV) = Quasi-peak Reading/Average Reading + Transducer value
Limit (dBμV) = Limit stated in standard
Margin = Limit (dBμV) - Level (dBμV)

Calculation Formula:
Margin = Limit (dBμV) - Level (dBμV)

5.7.Test Results

Pass.
Test Lab: Shielding room
Test Engineer: Frank

The frequency range from 150kHz to 30MHz is checked.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.
Emissions attenuated more than 20 dB below the permissible value are not reported.

All data was recorded in the Quasi-peak and average detection mode.

The spectral diagrams are attached as below.

ACCURATE TECHNOLOGY CO.,LTD

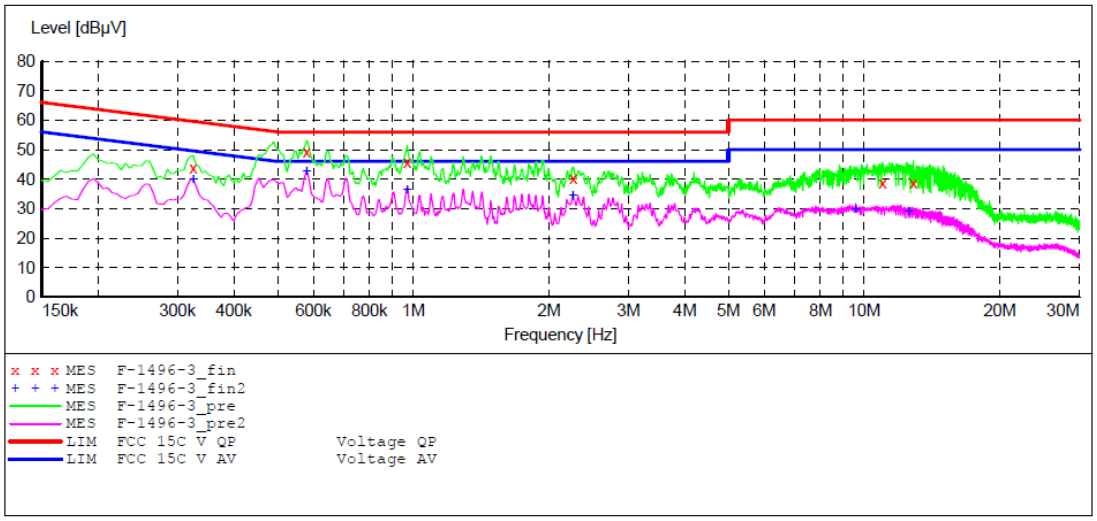
CONDUCTED EMISSION STANDARD FCC PART 15C

```
EUT:                    Battery video alarm camera   M/N:C390S
Manufacturer:           Shenzhen Leshi Video Technology Co.,Ltd
Operating Condition:    WiFi communication
Test Site:              1#Shielding Room
Operator:               Frank
Test Specification:     N  240V/60Hz
Comment:                Report NO.:ATE20182222
Start of Test:          2019-1-7 / 11:57:07
```

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "F-1496-3_fin"

2019-1-7 12:00

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.325000	43.90	10.6	60	15.7	QP	N	GND
0.580000	49.30	10.7	56	6.7	QP	N	GND
0.970000	45.60	10.8	56	10.4	QP	N	GND
2.260000	40.20	11.0	56	15.8	QP	N	GND
10.990000	38.70	11.3	60	21.3	QP	N	GND
12.865000	38.70	11.3	60	21.3	QP	N	GND

MEASUREMENT RESULT: "F-1496-3_fin2"

2019-1-7 12:00

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.325000	39.90	10.6	50	9.7	AV	N	GND
0.580000	42.40	10.7	46	3.6	AV	N	GND
0.970000	36.30	10.8	46	9.7	AV	N	GND
2.260000	34.30	11.0	46	11.7	AV	N	GND
9.580000	29.60	11.3	50	20.4	AV	N	GND
12.550000	29.00	11.3	50	21.0	AV	N	GND

ACCURATE TECHNOLOGY CO.,LTD

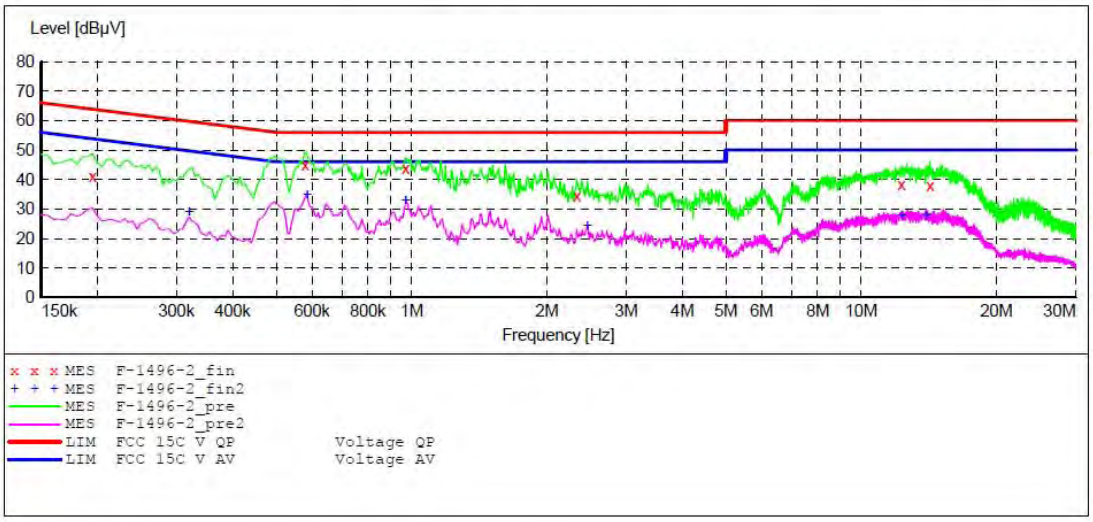
CONDUCTED EMISSION STANDARD FCC PART 15C

EUT:	Battery video alarm camera M/N:C390S
Manufacturer:	Shenzhen Leshi Video Technology Co.,Ltd
Operating Condition:	WiFi communication
Test Site:	1#Shielding Room
Operator:	Frank
Test Specification:	L 240V/60Hz
Comment:	Report NO.:ATE20182222
Start of Test:	2019-1-7 / 11:52:24

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "F-1496-2_fin"

2019-1-7 11:55

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	40.90	10.5	64	22.9	QP	L1	GND
0.580000	45.10	10.7	56	10.9	QP	L1	GND
0.970000	43.80	10.8	56	12.2	QP	L1	GND
2.330000	34.20	11.0	56	21.8	QP	L1	GND
12.295000	38.30	11.3	60	21.7	QP	L1	GND
14.230000	37.90	11.4	60	22.1	QP	L1	GND

MEASUREMENT RESULT: "F-1496-2_fin2"

2019-1-7 11:55

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.320000	29.10	10.6	50	20.6	AV	L1	GND
0.585000	34.70	10.7	46	11.3	AV	L1	GND
0.970000	32.90	10.8	46	13.1	AV	L1	GND
2.460000	24.10	11.0	46	21.9	AV	L1	GND
12.325000	27.70	11.3	50	22.3	AV	L1	GND
13.915000	27.80	11.4	50	22.2	AV	L1	GND

ACCURATE TECHNOLOGY CO.,LTD

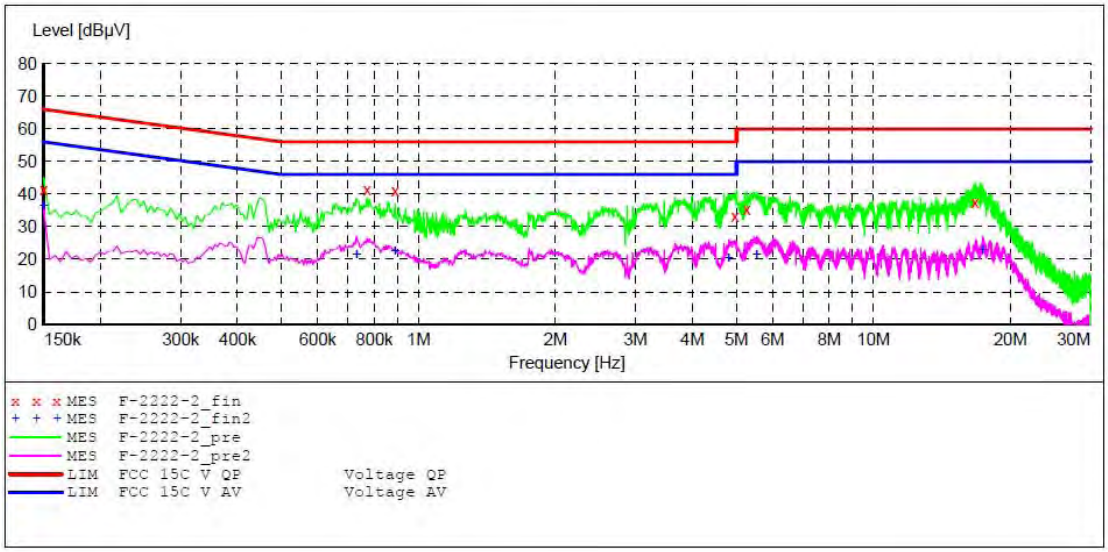
CONDUCTED EMISSION STANDARD FCC PART 15C

EUT:	Battery video alarm camera M/N:C390S
Manufacturer:	Shenzhen Leshi Video Technology Co.,Ltd
Operating Condition:	WiFi communication
Test Site:	1#Shielding Room
Operator:	Frank
Test Specification:	L 120V/60Hz
Comment:	Report NO.:ATE20182222
Start of Test:	2019-1-7 / 9:17:35

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "F-2222-2_fin"

2019-1-7 9:20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	41.60	10.8	66	24.4	QP	L1	GND
0.771000	41.50	11.1	56	14.5	QP	L1	GND
0.888000	41.20	11.1	56	14.8	QP	L1	GND
4.965000	33.30	11.4	56	22.7	QP	L1	GND
5.266500	35.50	11.4	60	24.5	QP	L1	GND
16.728000	37.40	11.7	60	22.6	QP	L1	GND

MEASUREMENT RESULT: "F-2222-2_fin2"

2019-1-7 9:20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	36.40	10.8	56	19.6	AV	L1	GND
0.730500	21.30	11.1	46	24.7	AV	L1	GND
0.888000	22.70	11.1	46	23.3	AV	L1	GND
4.807500	20.20	11.4	46	25.8	AV	L1	GND
5.545500	21.50	11.5	50	28.5	AV	L1	GND
17.385000	22.80	11.7	50	27.2	AV	L1	GND

ACCURATE TECHNOLOGY CO.,LTD

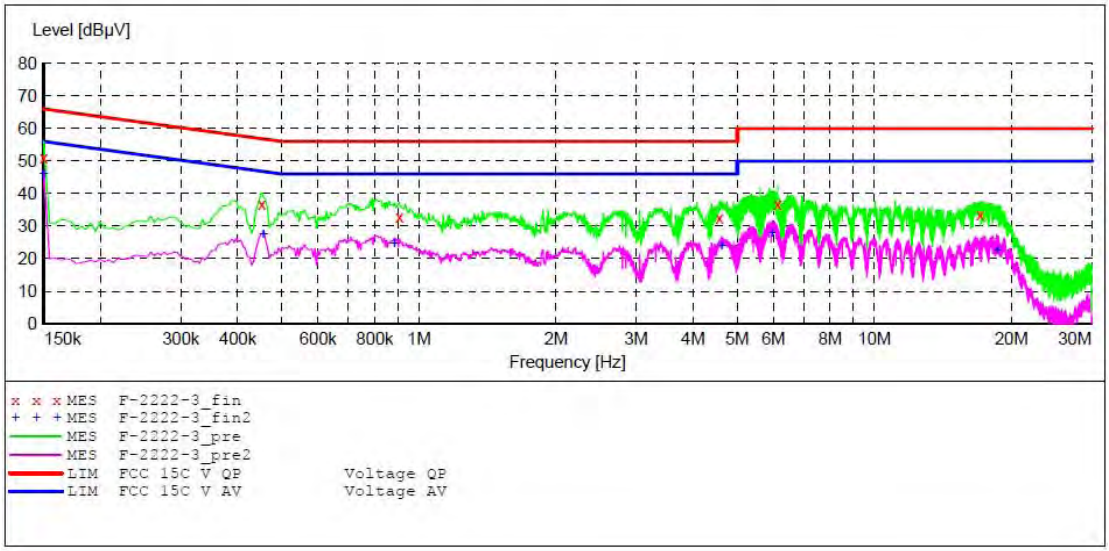
CONDUCTED EMISSION STANDARD FCC PART 15C

EUT:	Battery video alarm camera M/N:C390S
Manufacturer:	Shenzhen Leshi Video Technology Co.,Ltd
Operating Condition:	WiFi communication
Test Site:	1#Shielding Room
Operator:	Frank
Test Specification:	N 120V/60Hz
Comment:	Report NO.:ATE20182222
Start of Test:	2019-1-7 / 9:21:14

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "F-2222-3_fin"

2019-1-7 9:23

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	51.10	10.8	66	14.9	QP	N	GND
0.451500	36.80	11.0	57	20.0	QP	N	GND
0.906000	32.90	11.1	56	23.1	QP	N	GND
4.569000	32.60	11.4	56	23.4	QP	N	GND
6.139500	36.90	11.5	60	23.1	QP	N	GND
17.092500	33.40	11.7	60	26.6	QP	N	GND

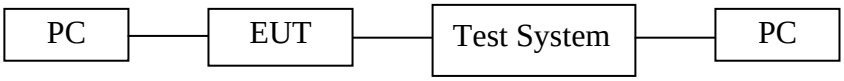
MEASUREMENT RESULT: "F-2222-3_fin2"

2019-1-7 9:23

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	46.10	10.8	56	9.9	AV	N	GND
0.456000	27.40	11.0	47	19.4	AV	N	GND
0.883500	24.80	11.1	46	21.2	AV	N	GND
4.618500	23.80	11.4	46	22.2	AV	N	GND
5.968500	28.00	11.5	50	22.0	AV	N	GND
18.573000	22.70	11.7	50	27.3	AV	N	GND

6. 6DB BANDWIDTH TEST

6.1.Block Diagram of Test Setup



6.2.The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.3.EUT Configuration on Test

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

6.5.Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz.
2. Set the video bandwidth (VBW) ⩾ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.6.Test Result

Test Lab: Shielding room
Test Engineer: Frank

The test was performed with 802.11b				
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Low	2412	9.60	> 0.5MHz	Pass
Middle	2437	9.84	> 0.5MHz	Pass
High	2462	9.84	> 0.5MHz	Pass

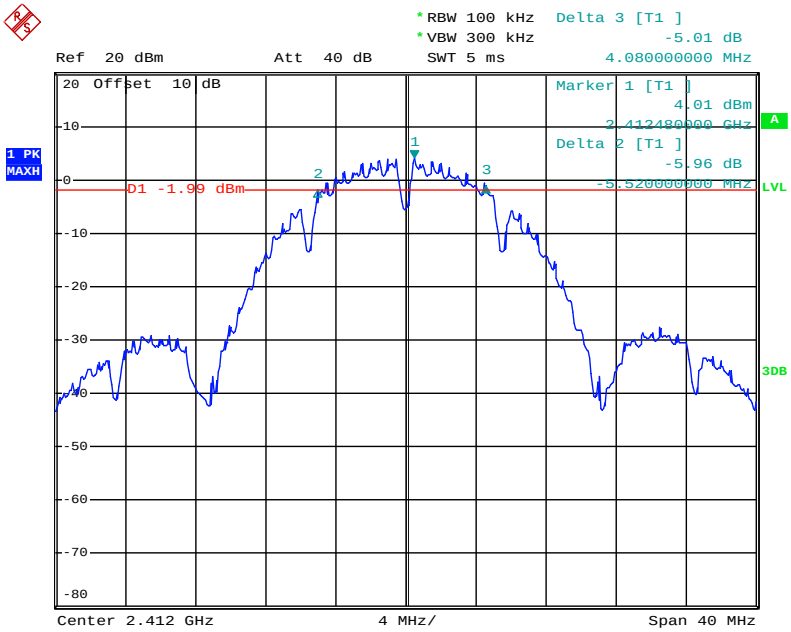
The test was performed with 802.11g				
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Low	2412	15.20	> 0.5MHz	Pass
Middle	2437	15.20	> 0.5MHz	Pass
High	2462	14.88	> 0.5MHz	Pass

The test was performed with 802.11n (Bandwidth: 20 MHz)				
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Low	2412	15.20	> 0.5MHz	Pass
Middle	2437	15.20	> 0.5MHz	Pass
High	2462	15.16	> 0.5MHz	Pass

Note: We tested 802.11b/g/n mode the all data rate and recorded the worst case data for this channel to be 11Mbps for 802.11b mode and 54Mbps for 802.11g mode and MCS7 for 802.11n mode.

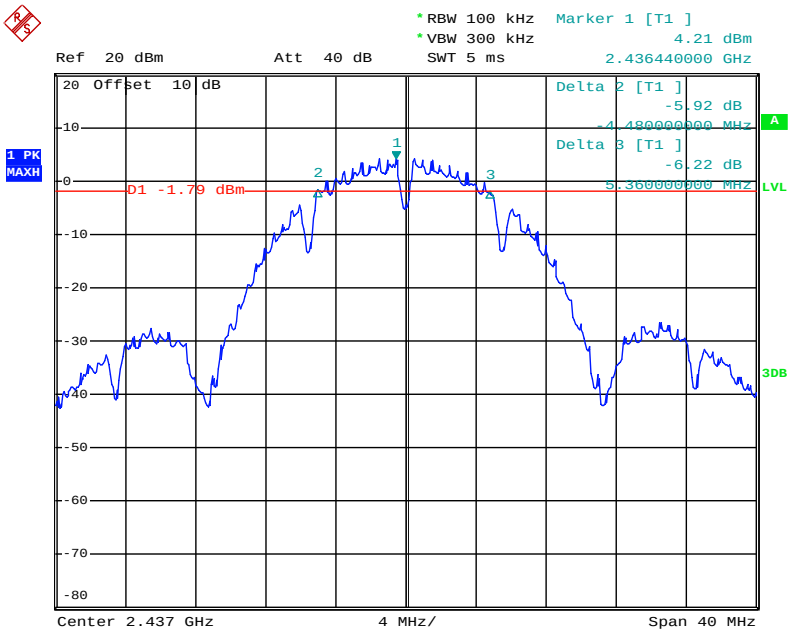
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



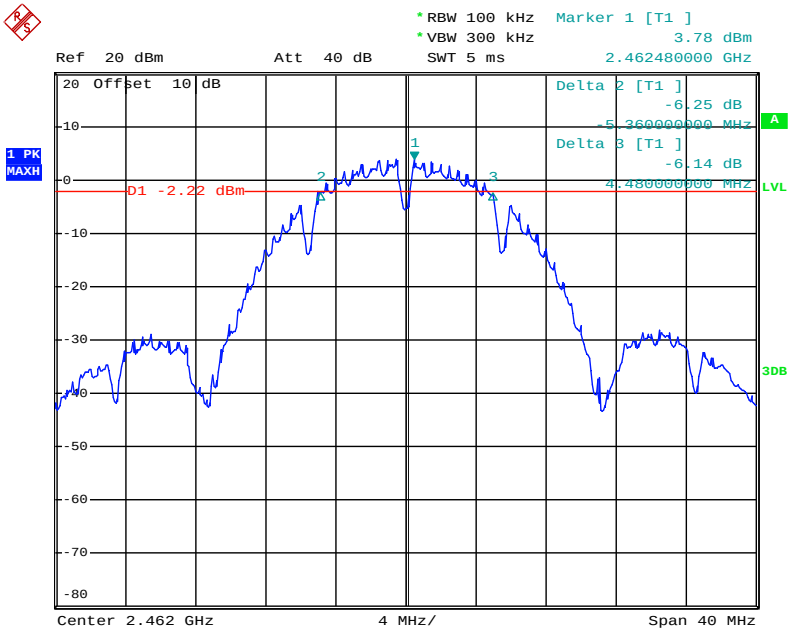
Date: 10.JAN.2019 14:15:57

802.11b Channel Middle 2437MHz



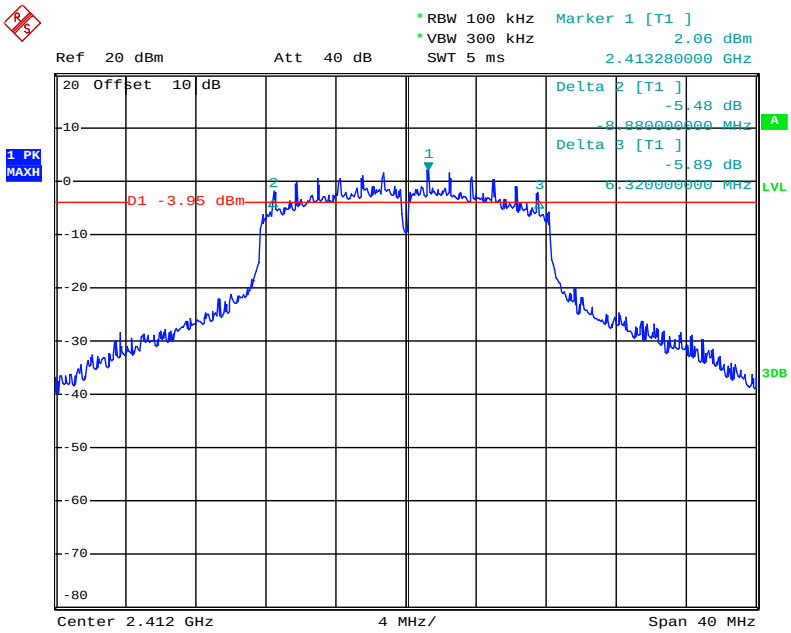
Date: 10.JAN.2019 14:17:43

802.11b Channel High 2462MHz



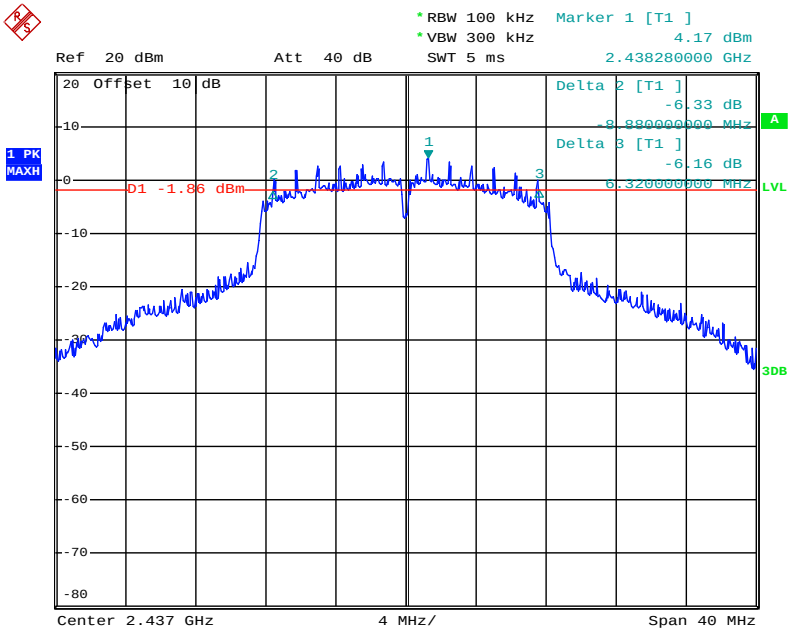
Date: 10.JAN.2019 14:18:56

802.11g Channel Low 2412MHz



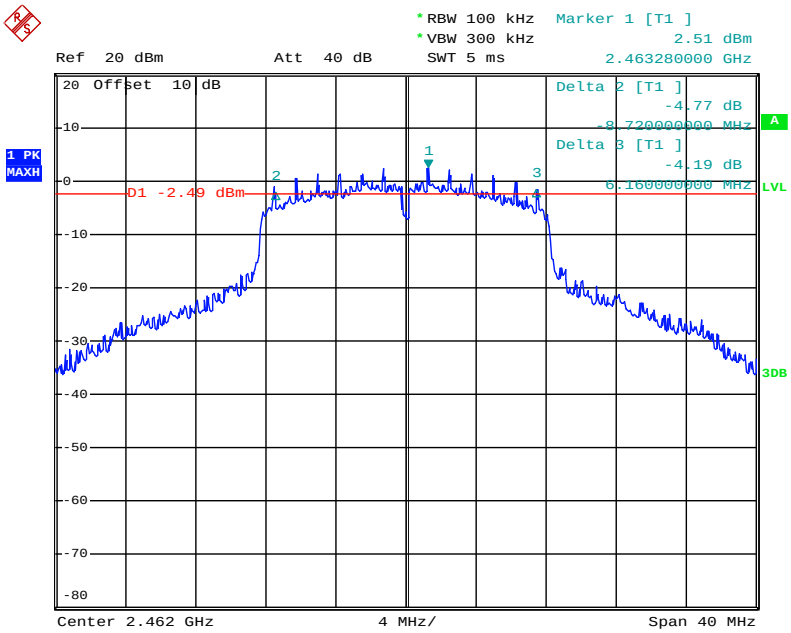
Date: 8.JAN.2019 17:13:06

802.11g Channel Middle 2437MHz



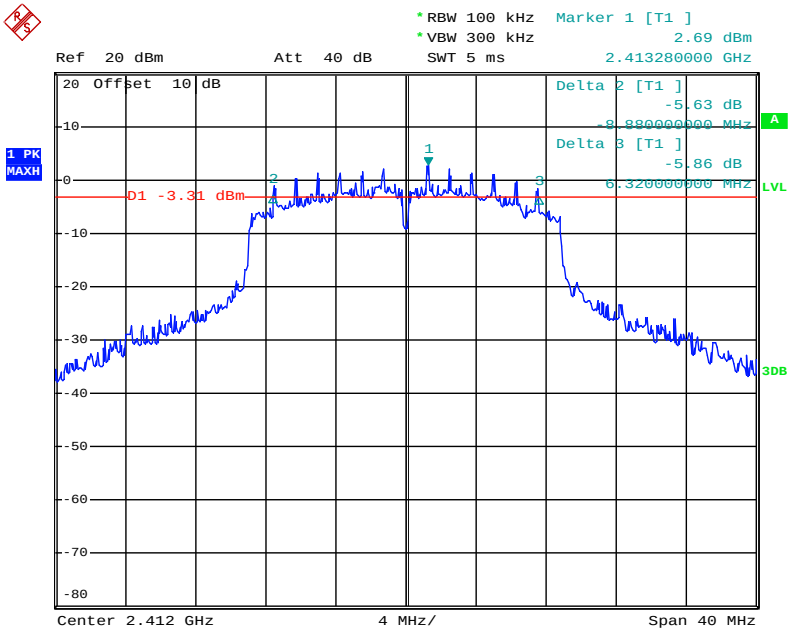
Date: 8.JAN.2019 17:20:50

802.11g Channel High 2462MHz



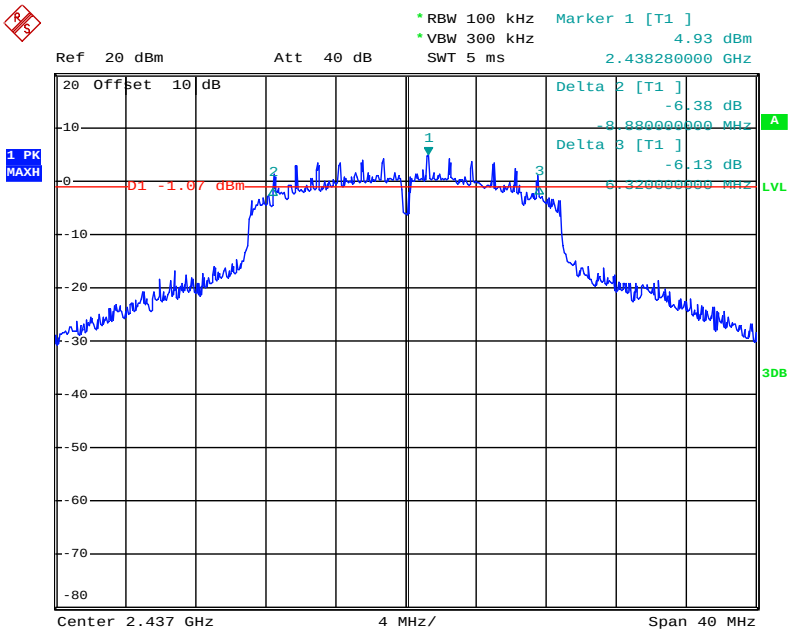
Date: 10.JAN.2019 14:23:04

802.11n Channel Low 2412MHz (20MHz)



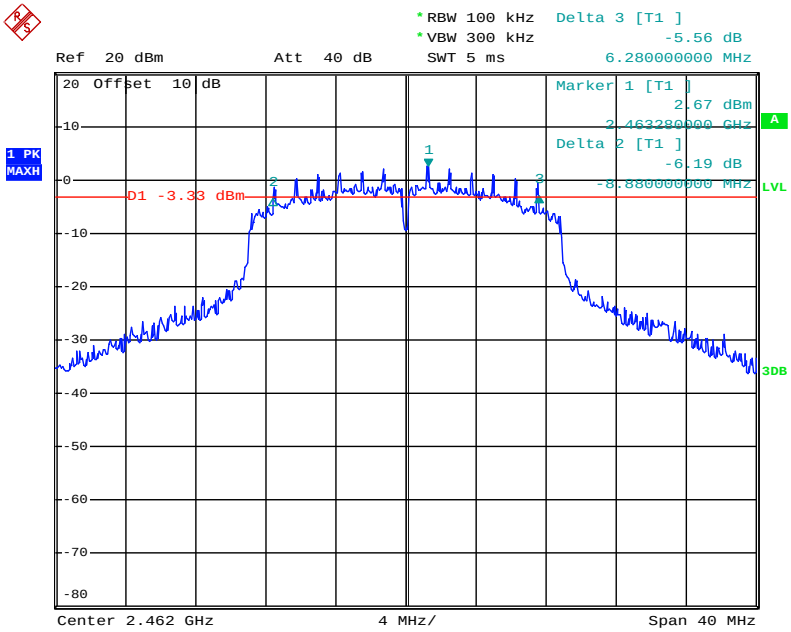
Date: 8.JAN.2019 17:26:01

802.11n Channel Middle 2437MHz (20MHz)



Date: 8.JAN.2019 17:19:32

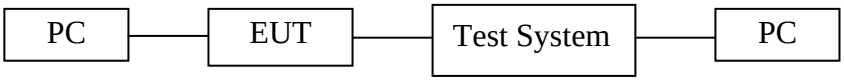
802.11n Channel High 2462MHz (20MHz)



Date: 8.JAN.2019 17:23:46

7. 99% OCCUPIED BANDWIDTH TEST

7.1.Block Diagram of Test Setup



7.2.The Requirement For ANSI C63.10: 2013 Section 6.9.3

ANSI C63.10: 2013 Section 6.9.3: The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

7.3.EUT Configuration on Test

The following equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

7.5.Test Procedure

7.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable. The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

7.5.2.The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

7.5.3.A peak, or peak hold, may be used in place of the sampling detector as this may produce a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold may be necessary to determine the occupied bandwidth if the device is not transmitting continuously.

7.5.4.Set SPA “Meas” function, Select “Occupied Bandwidth” function, Select “99% Power Bandwidth”. The frequency of the upper and lower markers indicating the edges of the transmitters “99% Power” emission bandwidth shall be recorded to automate by SPA.

7.6.Test Result

Test Lab: Shielding room
Test Engineer: Frank

The test was performed with 802.11b		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
Low	2412	14.56
Middle	2437	14.88
High	2462	14.72

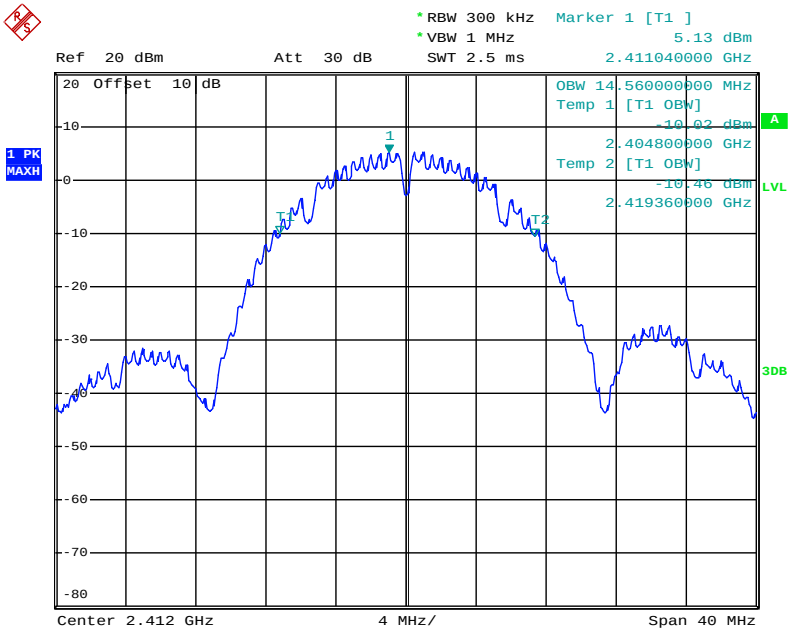
The test was performed with 802.11g		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
Low	2412	16.72
Middle	2437	16.72
High	2462	17.20

The test was performed with 802.11n (Bandwidth: 20 MHz)		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
Low	2412	18.08
Middle	2437	19.60
High	2462	18.00

Note: We tested 802.11b/g/n mode the all data rate and recorded the worst case data for this channel to be 11Mbps for 802.11b mode and 54Mbps for 802.11g mode and MCS7 for 802.11n mode.

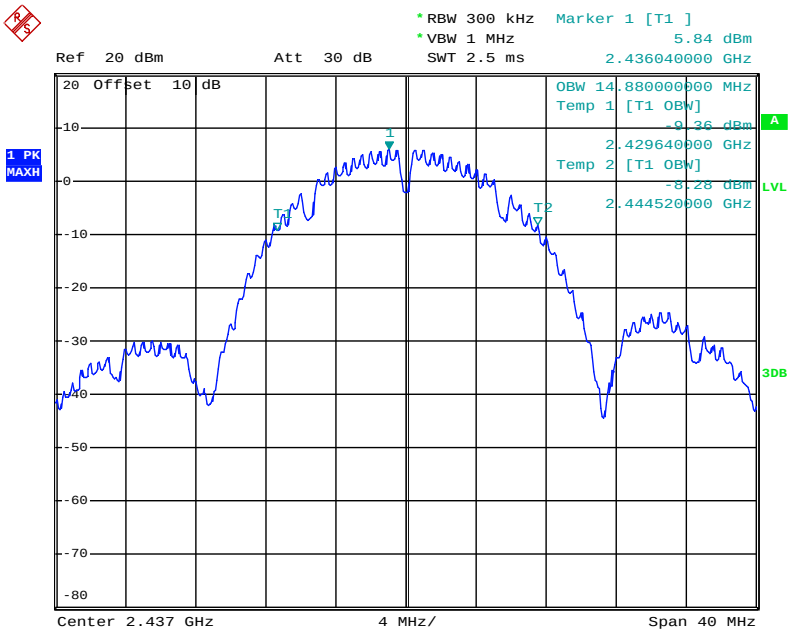
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



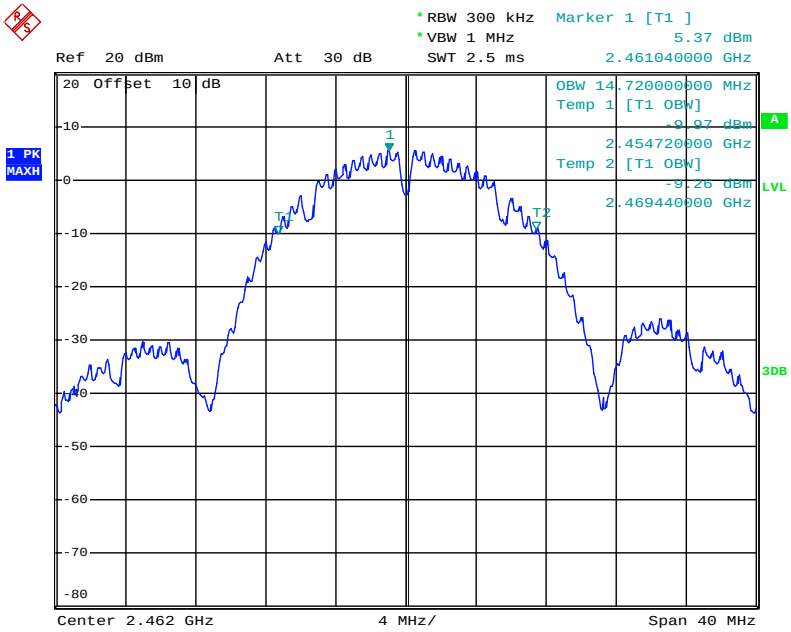
Date: 8.JAN.2019 17:31:07

802.11b Channel Middle 2437MHz



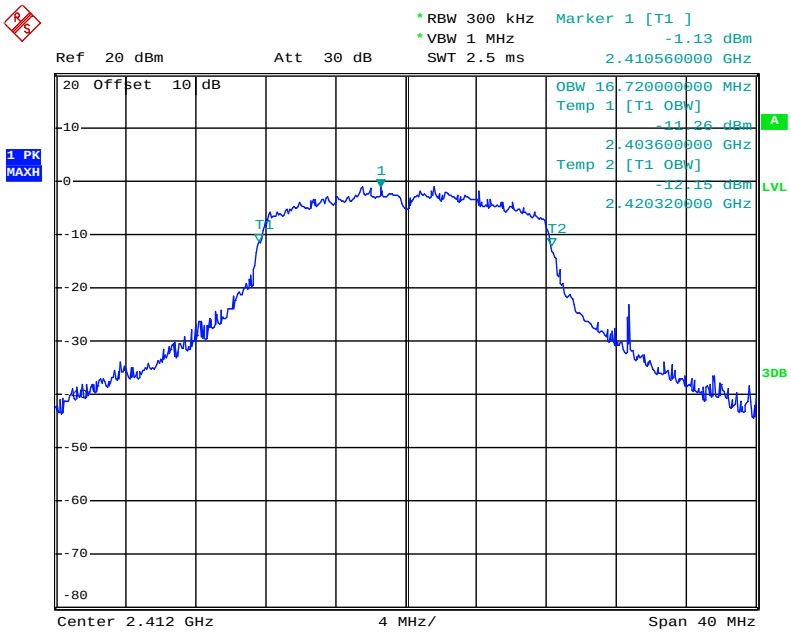
Date: 8.JAN.2019 17:31:31

802.11b Channel High 2462MHz



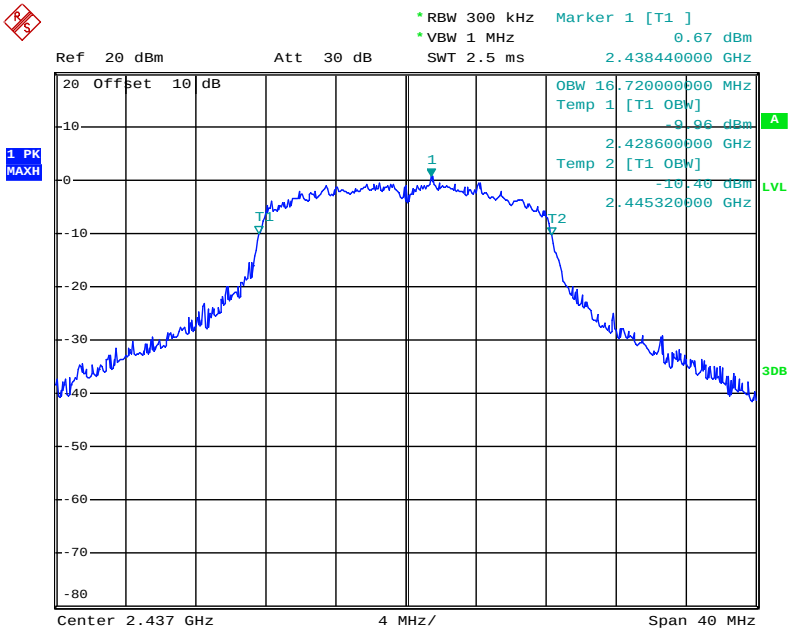
Date: 8.JAN.2019 17:31:57

802.11g Channel Low 2412MHz



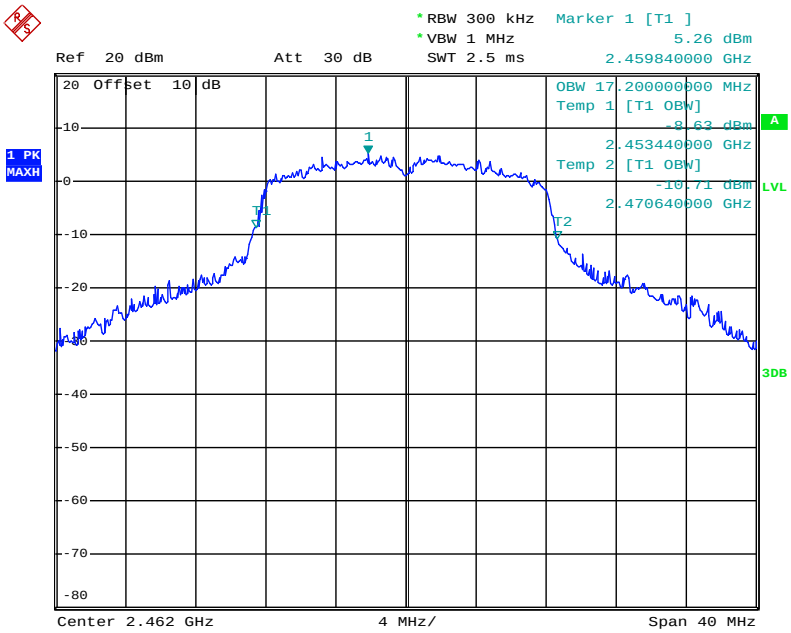
Date: 8.JAN.2019 17:30:07

802.11g Channel Middle 2437MHz



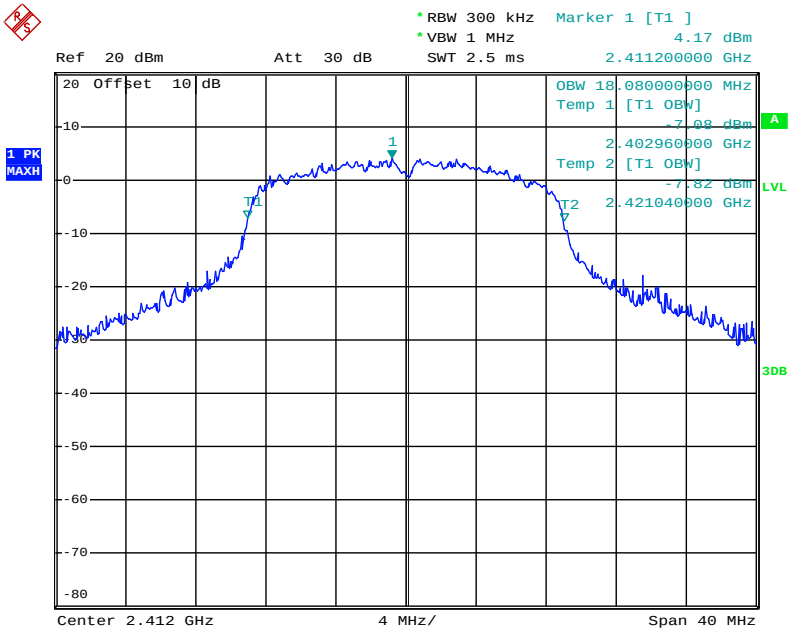
Date: 8.JAN.2019 17:29:35

802.11g Channel High 2462MHz



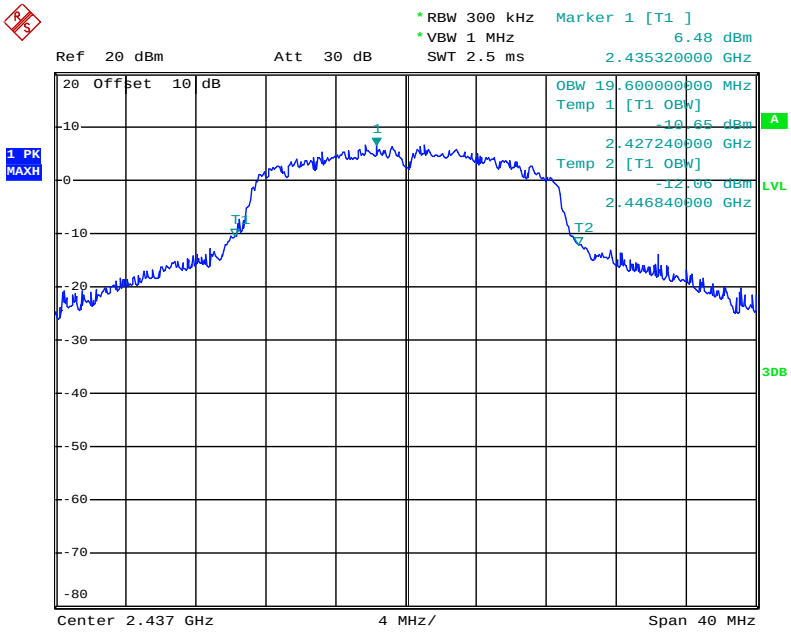
Date: 8.JAN.2019 17:29:03

802.11n Channel Low 2412MHz (20MHz)



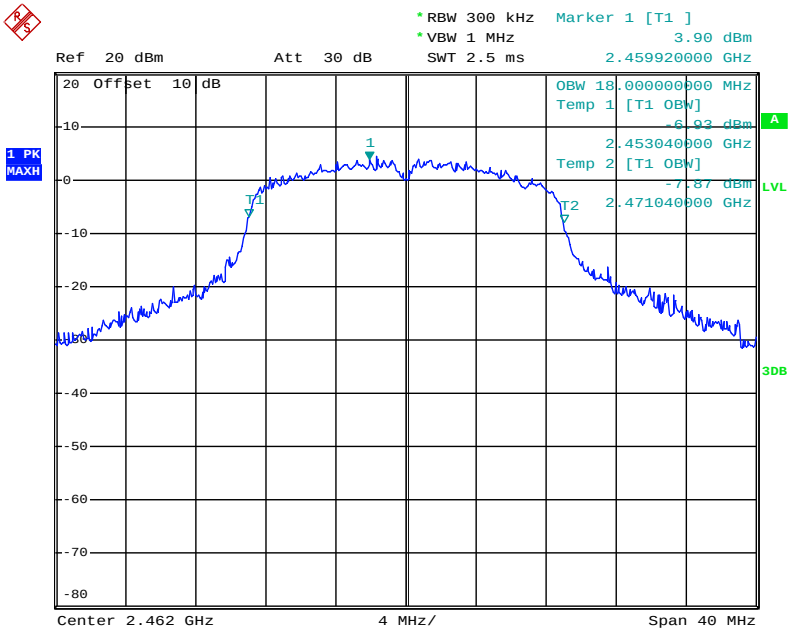
Date: 8.JAN.2019 17:27:34

802.11n Channel Middle 2437MHz (20MHz)



Date: 8.JAN.2019 17:28:05

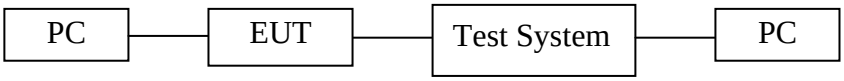
802.11n Channel High 2462MHz (20MHz)



Date: 8.JAN.2019 17:28:30

8. DUTY CYCLE TEST

8.1.Block Diagram of Test Setup



8.2.EUT Configuration on Test

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.3.Operating Condition of EUT

8.3.1.Setup the EUT and simulator as shown as Section 8.1.

8.3.2.Turn on the power of all equipment.

8.3.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

8.4.Test Procedure

Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:
1. A diode detector and an oscilloscope that together have sufficiently short response time to permit accurate measurements of the on- and off-times of the transmitted signal.
2. The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on- and off-times of the transmitted signal
a. Set the center frequency of the instrument to the centre frequency of the transmission
b. Set RBW ⩾ OBW if possible; otherwise, set RBW to the largest available value(10MHz).
c. Set detector = Peak or average.
d. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100.
(For example, if VBW and/or RBW are limited to 3MHz, then the zero-span method of measuring duty cycle shall not be used if T⩽16.7 microseconds.)

8.5.Test Result

Test Lab: Shielding room
Test Engineer: Frank

The test was performed with 802.11b			
Channel	Frequency (MHz)	duty cycle(x)	10log(1/x)
Middle	2437	94%	0.27

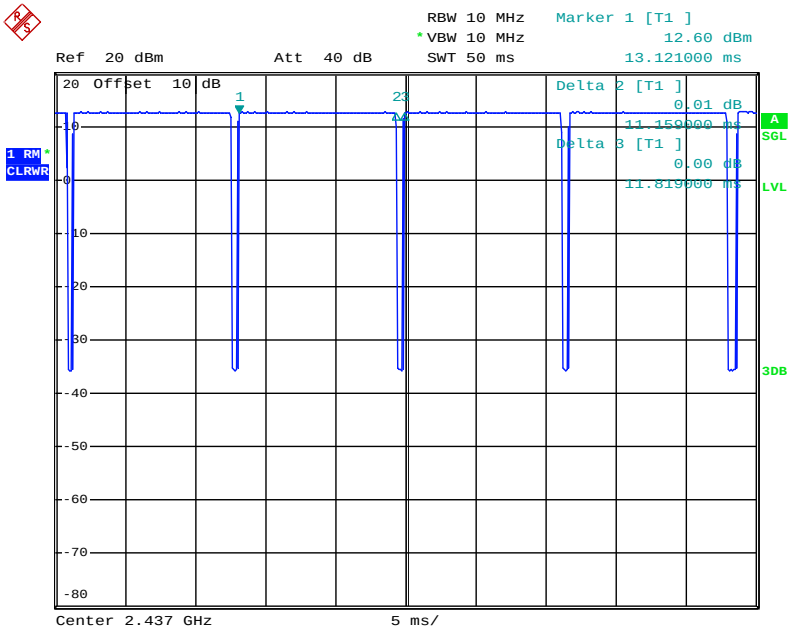
The test was performed with 802.11g			
Channel	Frequency (MHz)	duty cycle(x)	10log(1/x)
Middle	2437	92%	0.36

The test was performed with 802.11n (Bandwidth: 20 MHz)			
Channel	Frequency (MHz)	duty cycle(x)	10log(1/x)
Middle	2437	89%	0.51

Note: We tested 802.11b/g/n mode the all data rate and recorded the worst case data for this channel to be 11Mbps for 802.11b mode and 54Mbps for 802.11g mode and MCS7 for 802.11n mode.

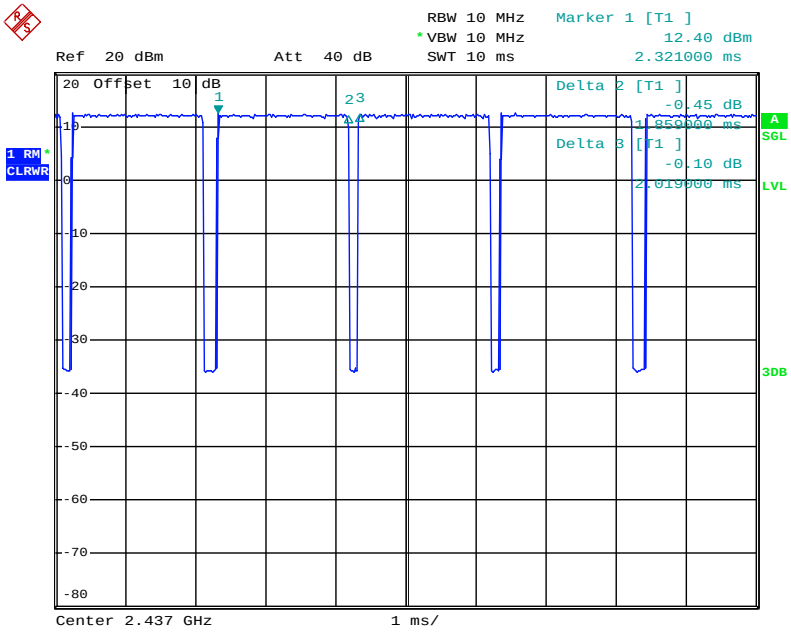
The spectrum analyzer plots are attached as below.

802.11b Channel Middle 2437MHz



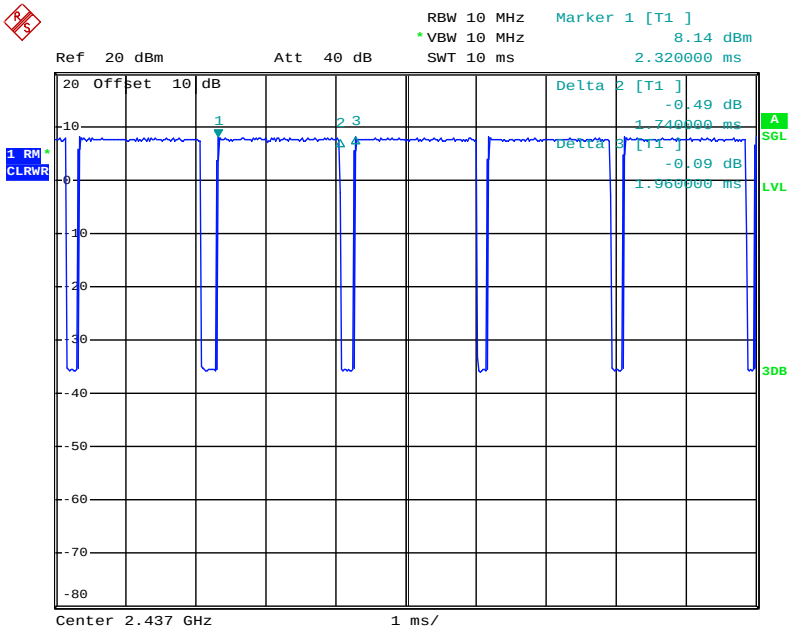
Date: 10.JAN.2019 13:52:09

802.11g Channel Middle 2437MHz



Date: 10.JAN.2019 13:51:13

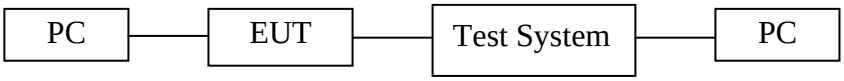
802.11n Channel Middle 2437MHz (20MHz)



Date: 10.JAN.2019 13:53:33

9. MAXIMUM CONDUCTED (AVERAGE) OUTPUT POWER

9.1.Block Diagram of Test Setup



9.2.The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

9.3.EUT Configuration on Test

The equipment is installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.4.Operating Condition of EUT

9.4.1.Setup the EUT and simulator as shown as Section 9.1.

9.4.2.Turn on the power of all equipment.

9.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

9.5.Test Procedure

9.5.1.The EUT was tested according to DTS test procedure of Apr 05, 2017 KDB558074 D01 DTS Meas Guidance v04 for compliance to FCC 47CFR 15.247 requirements.

9.5.2.The transmitter output was connected to the spectrum analyzer through a low loss cable.

9.5.3.Set RBW = 1-5% of the OBW, not to exceed 1 MHz, VBW ⩾ 3 x RBW, Sweep time = auto, Set span to at least 1.5 times the OBW, Detector = RMS.

9.5.4.Measurement the Maximum conducted (average) output power.

9.6.Test Result

Pass.
Test Lab: Shielding room
Test Engineer: Frank

Final power= Ave output power+10log(1/ duty cycle)

The test was performed with 802.11b						
Channel	Frequency (MHz)	Ave output power (dBm)	10log(1/ duty cycle)	Final power (dBm)	Final power (W)	Limits dBm / W
Low	2412	14.99	0.27	15.26	0.034	30 dBm / 1 W
Middle	2437	16.80	0.27	17.07	0.051	30 dBm / 1 W
High	2462	16.53	0.27	16.80	0.048	30 dBm / 1 W

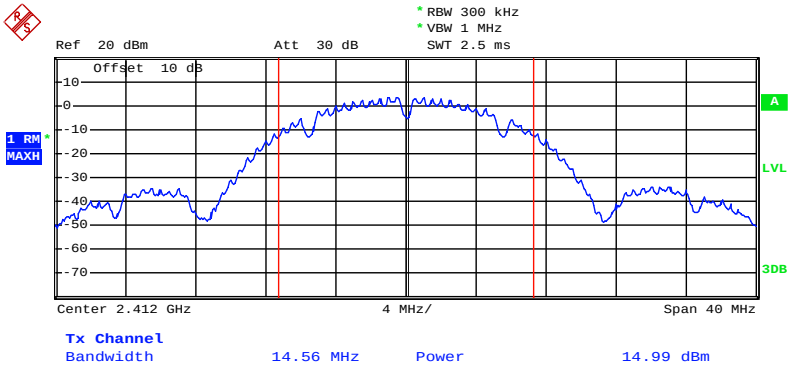
The test was performed with 802.11g						
Channel	Frequency (MHz)	Ave output power (dBm)	10log(1/ duty cycle)	Final power (dBm)	Final power (W)	Limits dBm / W
Low	2412	15.63	0.36	15.99	0.040	30 dBm / 1 W
Middle	2437	17.74	0.36	18.10	0.065	30 dBm / 1 W
High	2462	15.39	0.36	15.75	0.038	30 dBm / 1 W

The test was performed with 802.11n (20MHz)						
Channel	Frequency (MHz)	Ave output power (dBm)	10log(1/ duty cycle)	Final power (dBm)	Final power (W)	Limits dBm / W
Low	2412	15.94	0.51	16.45	0.044	30 dBm / 1 W
Middle	2437	17.87	0.51	18.38	0.069	30 dBm / 1 W
High	2462	15.99	0.51	16.50	0.045	30 dBm / 1 W

Note: We tested 802.11b/g/n mode the all data rate and recorded the worst case data for this channel to be 11Mbps for 802.11b mode and 54Mbps for 802.11g mode and MCS7 for 802.11n mode.

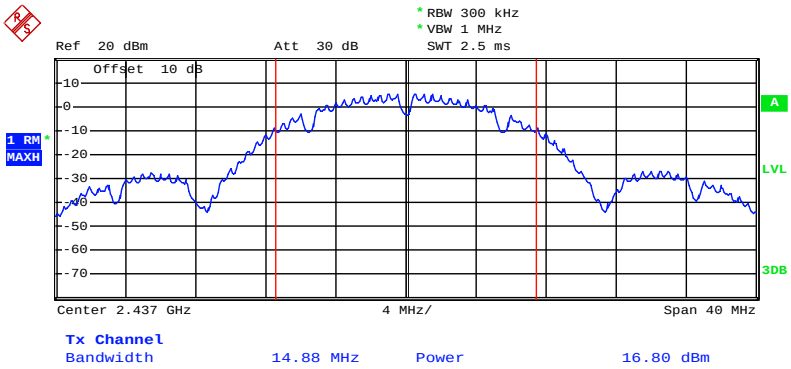
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



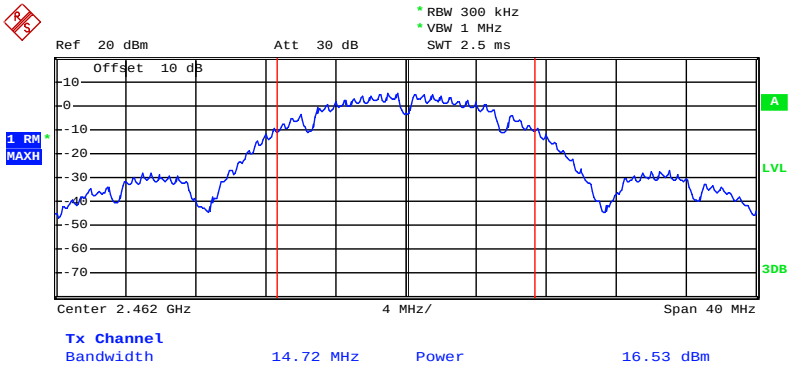
Date: 10.JAN.2019 14:12:04

802.11b Channel Middle 2437MHz



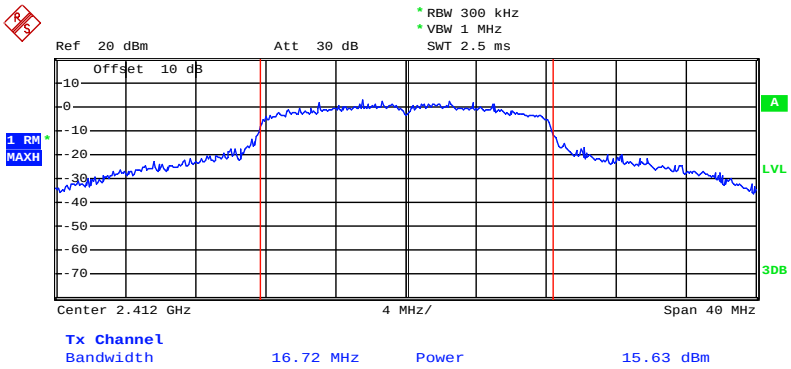
Date: 10.JAN.2019 14:05:24

802.11b Channel High 2462MHz



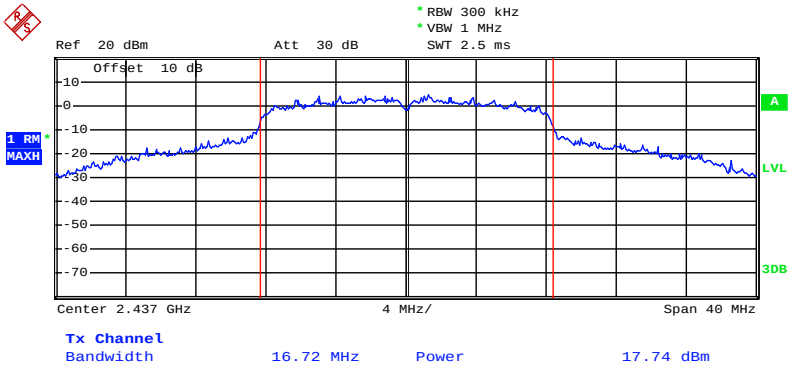
Date: 10.JAN.2019 14:04:15

802.11g Channel Low 2412MHz



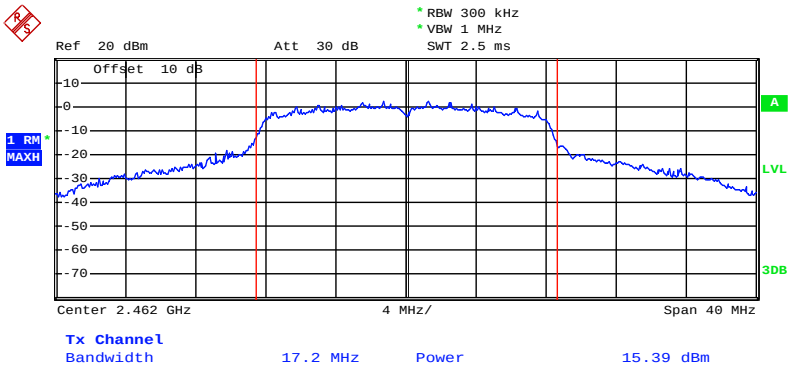
Date: 10.JAN.2019 14:01:12

802.11g Channel Middle 2437MHz



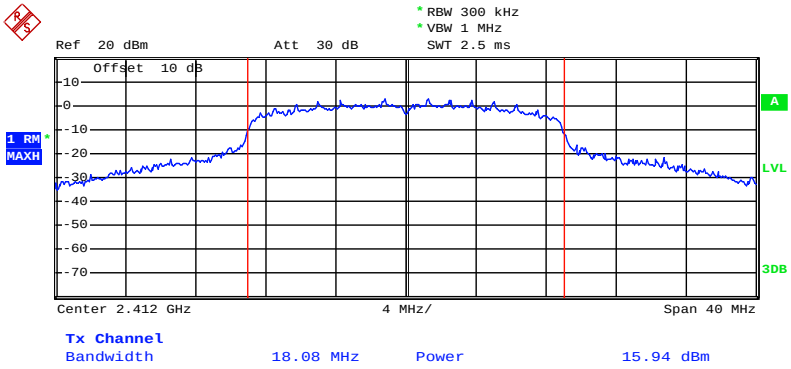
Date: 10.JAN.2019 13:59:43

802.11g Channel High 2462MHz



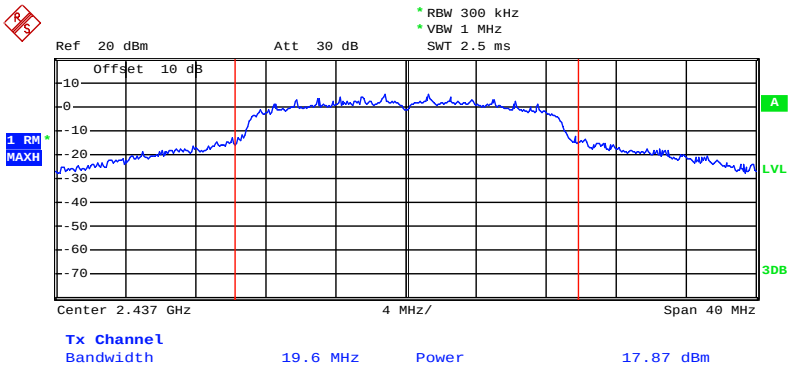
Date: 10.JAN.2019 13:58:52

802.11n Channel Low 2412MHz (20MHz)



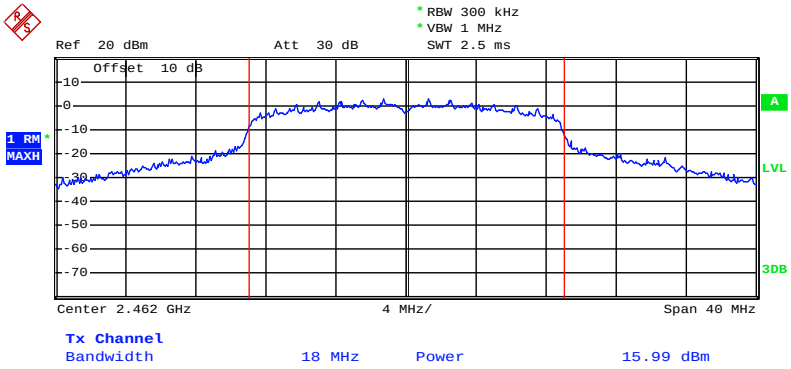
Date: 10.JAN.2019 14:02:13

802.11n Channel Middle 2437MHz (20MHz)



Date: 10.JAN.2019 13:55:20

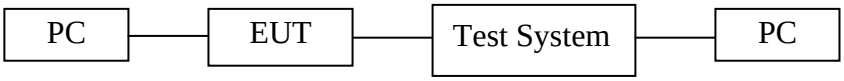
802.11n Channel High 2462MHz (20MHz)



Date: 10.JAN.2019 14:03:13

10.POWER SPECTRAL DENSITY TEST

10.1.Block Diagram of Test Setup



10.2.The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

10.3.EUT Configuration on Test

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.4.Operating Condition of EUT

10.4.1.Setup the EUT and simulator as shown as Section 10.1.

10.4.2.Turn on the power of all equipment.

10.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

10.5.Test Procedure

10.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

10.5.2.Measurement Procedure AVGPSD-2:

This procedure is applicable when the EUT cannot be configured to transmit continuously(i.e., duty cycle<98%), and when sweep triggering/signal gating cannot be used to measure only when the EUT is transmitting at its maximum power control level, and when the transmission duty is constant(i.e., duty cycle variations are less than ±2%):

Measure the dyty cycle(x) of the transmitter output signal as described in Section 6.0.

Set instrument center frequency to DTS channel center frequency.
Set span to at least 1.5×OBW.
Set RBW to: 3kHz≤ RBW≤100kHz.
Set VBW≥ 3×RBW
Detector=power averaging(RMS) or sample detector(when RMS not available).
Ensure that the number of measurement points in sweep≥2×span/RBW.
Sweep time=auto couple.
Do not use sweep triggering. Allow sweep to “free run”.
Employ trace averaging(RMS) mode over a minimum of 100 traces.
Use the peak maker function to determine the maximum amplitude level.
Add 10log(1/x), where x is the duty cycle measured in step(a, to the measured PSD to compute the average PSD during the actual transmission time.
If resultant value exceeds the limit, then reduce RBW(no less than 3kHz) and repeat(note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).

10.6.Test Result

Pass.
Test Lab: Shielding room
Test Engineer: Frank

The test was performed with 802.11b					
Channel	Frequency (MHz)	AVG Power Spectral Density (dBm/3KHz)	10log(1/ duty cycle)	Final Power Spectral Density (dBm/3KHz)	Limits (dBm/3KHz)
Low	2412	-20.05	0.27	-19.78	8 dBm
Middle	2437	-22.59	0.27	-22.32	8 dBm
High	2462	-18.10	0.27	-17.83	8 dBm

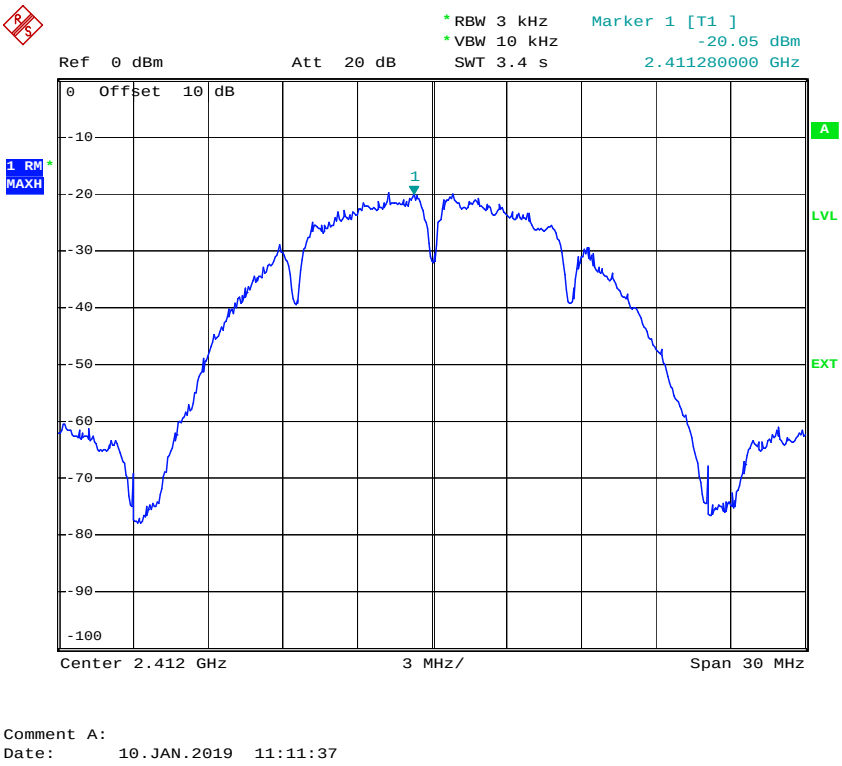
The test was performed with 802.11g					
Channel	Frequency (MHz)	AVG Power Spectral Density (dBm/3KHz)	10log(1/ duty cycle)	Final Power Spectral Density (dBm/3KHz)	Limits (dBm/3KHz)
Low	2412	-24.84	0.36	-24.48	8 dBm
Middle	2437	-21.17	0.36	-20.81	8 dBm
High	2462	-23.50	0.36	-23.14	8 dBm

The test was performed with 802.11n (20MHz)					
Channel	Frequency (MHz)	AVG Power Spectral Density (dBm/3KHz)	10log(1/ duty cycle)	Final Power Spectral Density (dBm/3KHz)	Limits (dBm/3KHz)
Low	2412	-24.59	0.51	-24.08	8 dBm
Middle	2437	-20.76	0.51	-20.25	8 dBm
High	2462	-25.08	0.51	-24.57	8 dBm

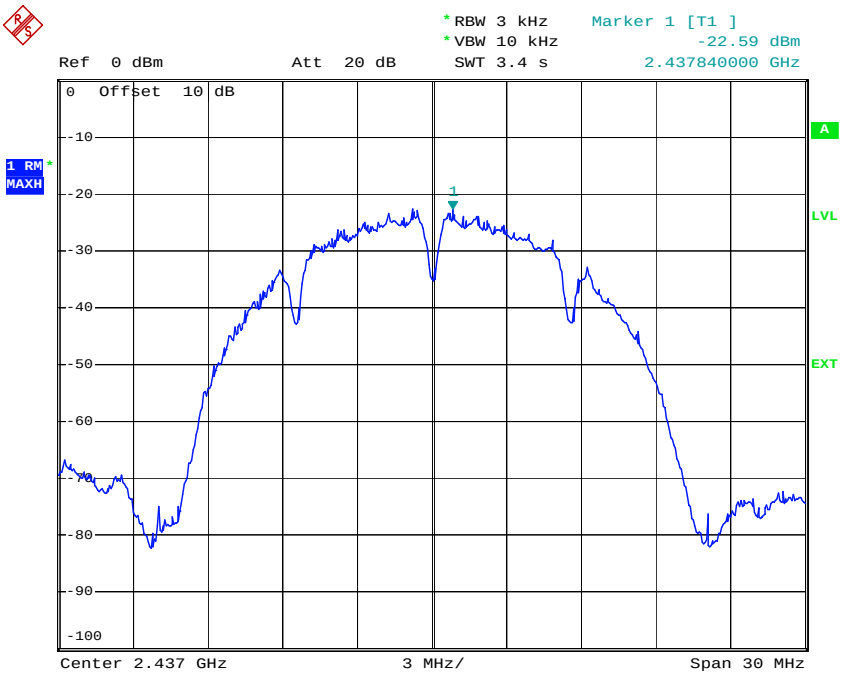
Note: We tested 802.11b/g/n mode the all data rate and recorded the worst case data for this channel to be 11Mbps for 802.11b mode and 54Mbps for 802.11g mode and MCS7 for 802.11n mode.

The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz

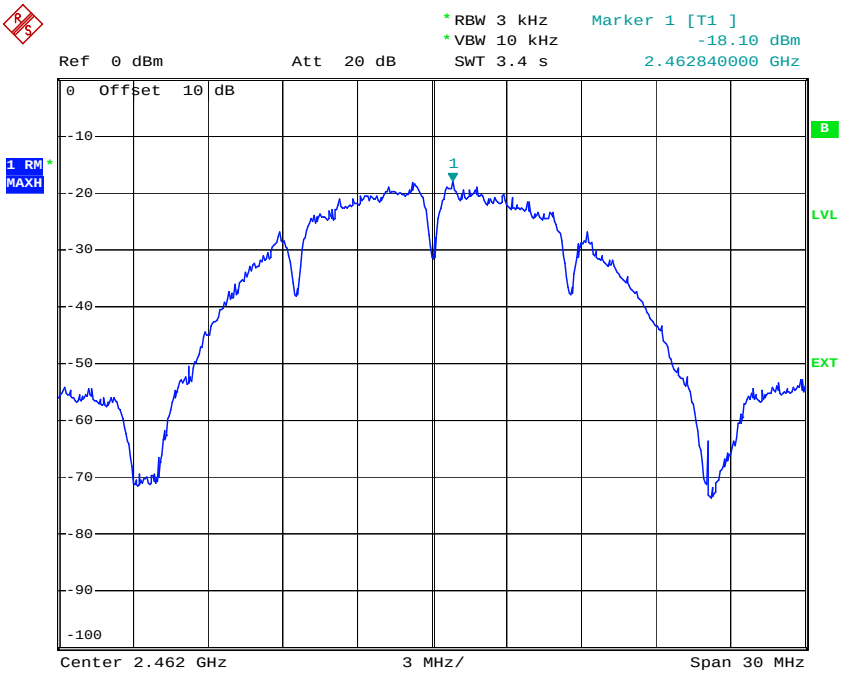


802.11b Channel Middle 2437MHz



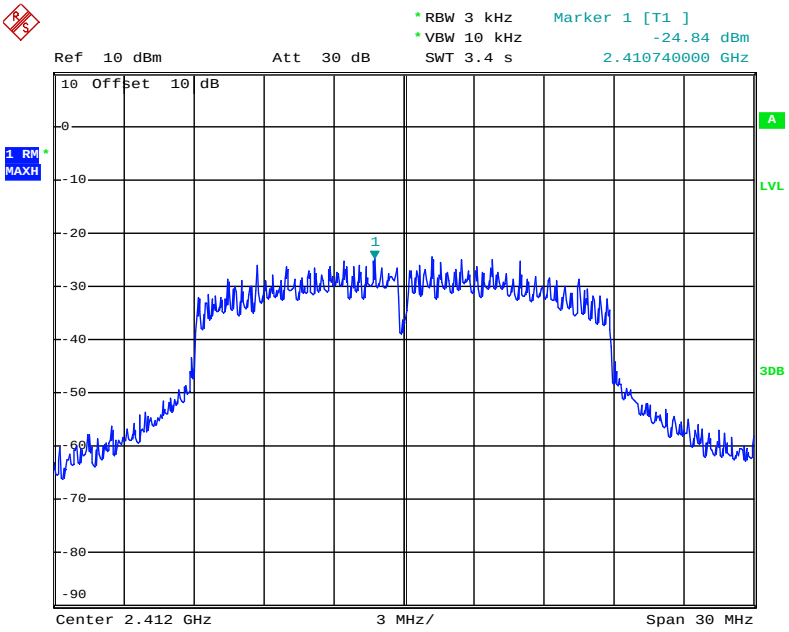
Comment A:
Date: 10.JAN.2019 11:13:20

802.11b Channel High 2462MHz



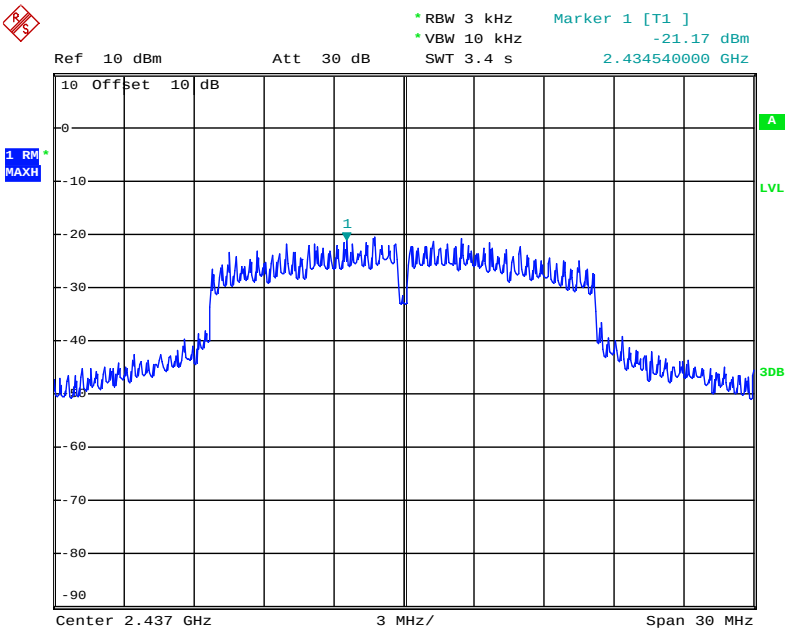
Comment B: M/N:L3H-30085C POWER:N 230V/50Hz
Date: 10.JAN.2019 11:16:00

802.11g Channel Low 2412MHz



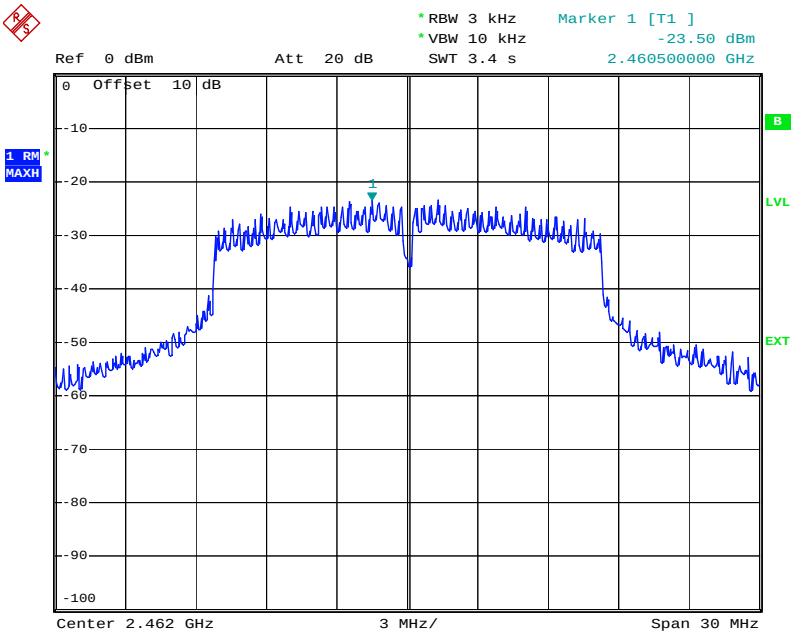
Date: 10.JAN.2019 11:49:03

802.11g Channel Middle 2437MHz



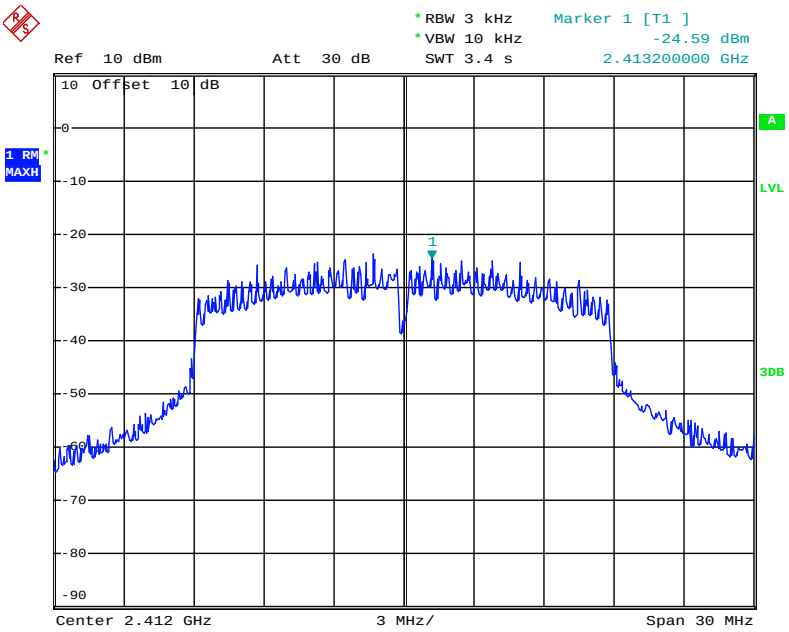
Date: 10.JAN.2019 11:46:35

802.11g Channel High 2462MHz



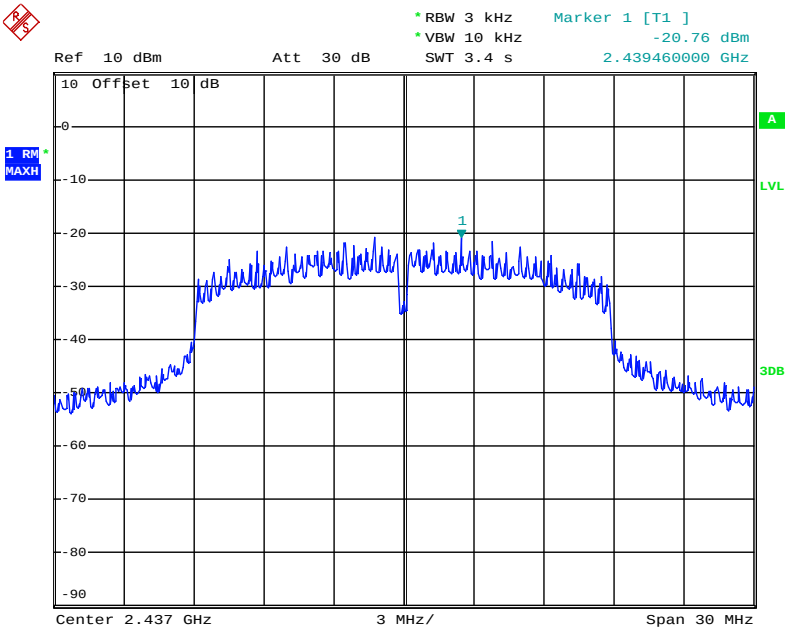
Date: 10.JAN.2019 11:17:34

802.11n Channel Low 2412MHz (20MHz)



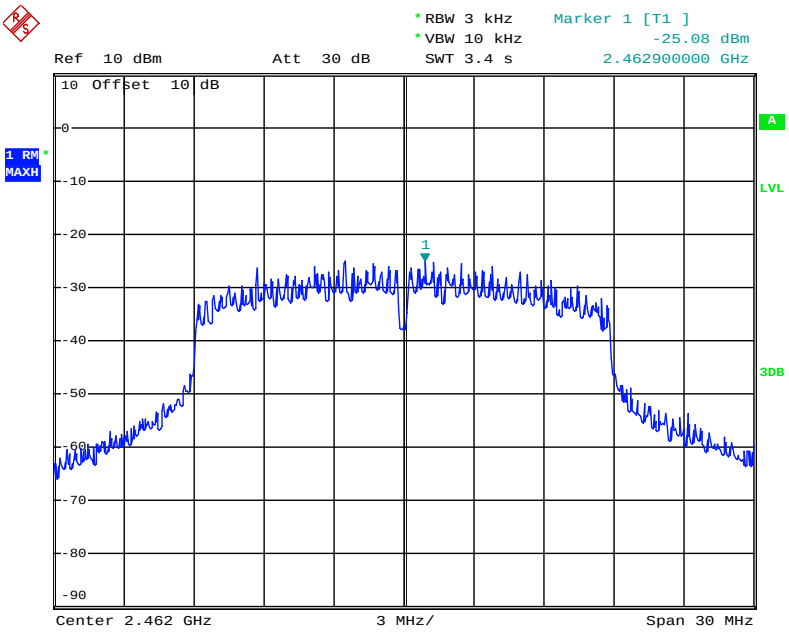
Date: 10.JAN.2019 11:49:20

802.11n Channel Middle 2437MHz (20MHz)



Date: 10.JAN.2019 11:50:04

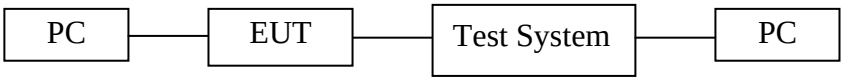
802.11n Channel High 2462MHz (20MHz)



Date: 10.JAN.2019 11:50:57

11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



11.2.The Requirement For Section 15.247(d)

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 a radiated 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, as permitted under paragraph (b)(3) of this section, 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).

11.3.EUT Configuration on Test

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

11.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2462MHz TX frequency to transmit.

11.5.Test Procedure

Conducted Band Edge:

11.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

11.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.

Radiate Band Edge:

11.5.3.The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

11.5.4.The turntable was rotated for 360 degrees to determine the position of maximum emission level.

11.5.5.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

11.5.6.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

11.5.7.RBW=1MHz, VBW=1MHz

11.5.8.The band edges was measured and recorded.

11.6.Test Result

Test Lab: Shielding room
Test Engineer: Frank

The test was performed with 802.11b			
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)	Result
2400	44.03	> 30dBc	Pass
2483.5	47.74	> 30dBc	Pass

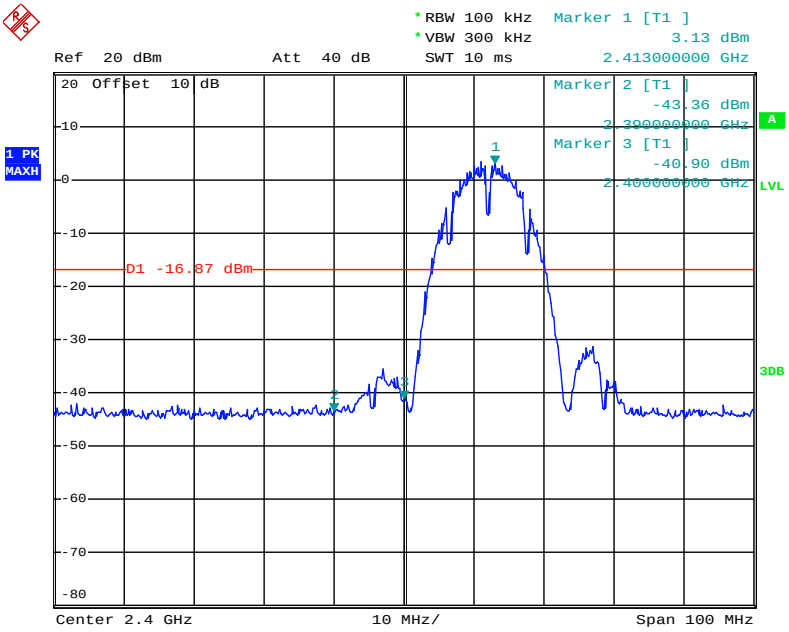
The test was performed with 802.11g			
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)	Result
2400	29.18	> 30dBc	Pass
2483.5	43.34	> 30dBc	Pass

The test was performed with 802.11n (20MHz)			
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)	Result
2400	30.50	> 30dBc	Pass
2483.5	40.91	> 30dBc	Pass

Note: We tested 802.11b/g/n mode the all data rate and recorded the worst case data for this channel to be 11Mbps for 802.11b mode and 54Mbps for 802.11g mode and MCS7 for 802.11n mode.

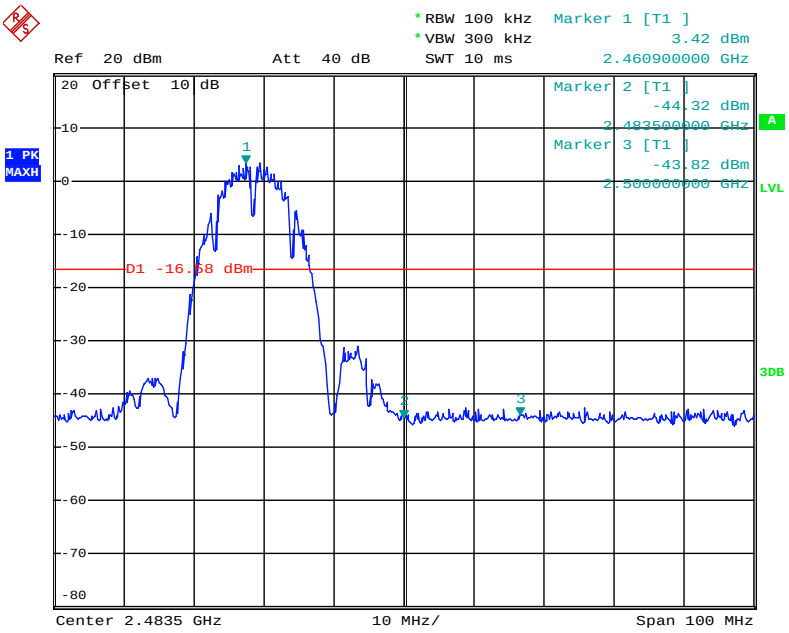
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



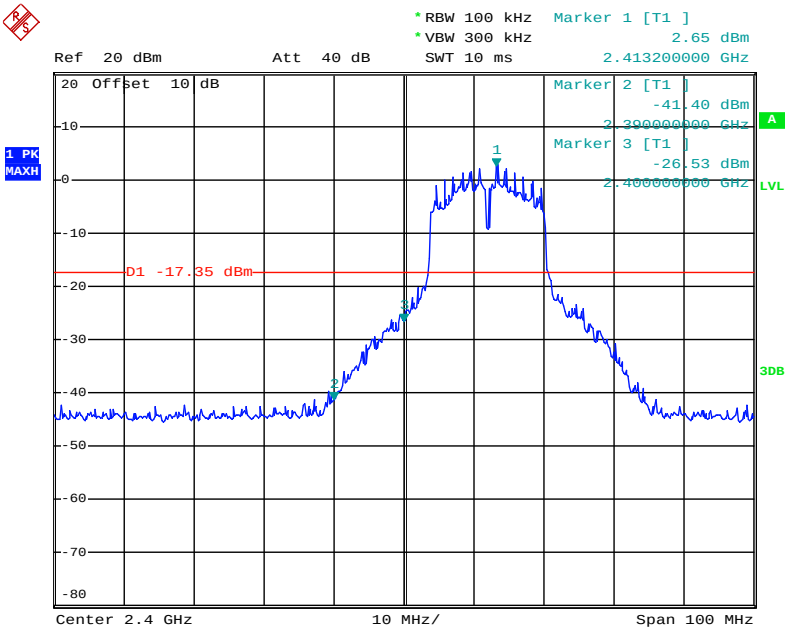
Date: 8.JAN.2019 17:35:01

802.11b Channel High 2462MHz



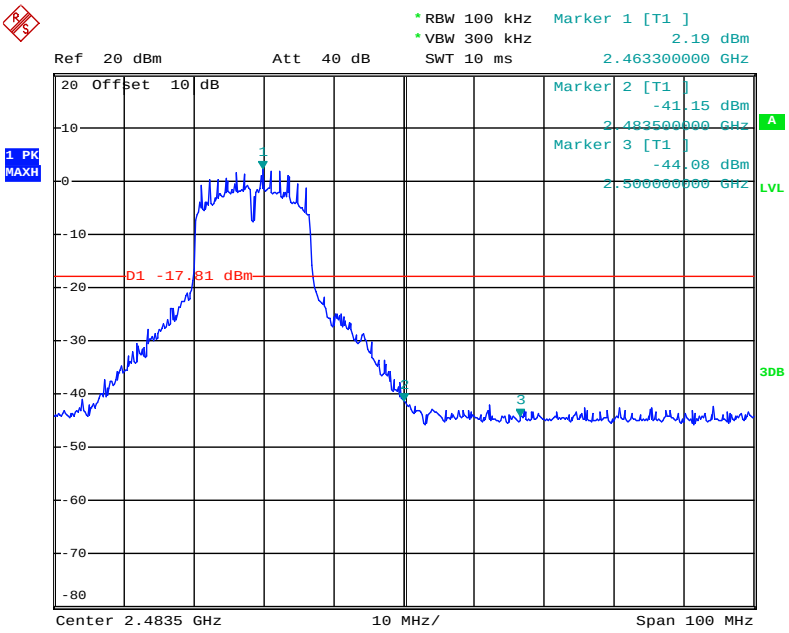
Date: 8.JAN.2019 17:38:38

802.11g Channel Low 2412MHz



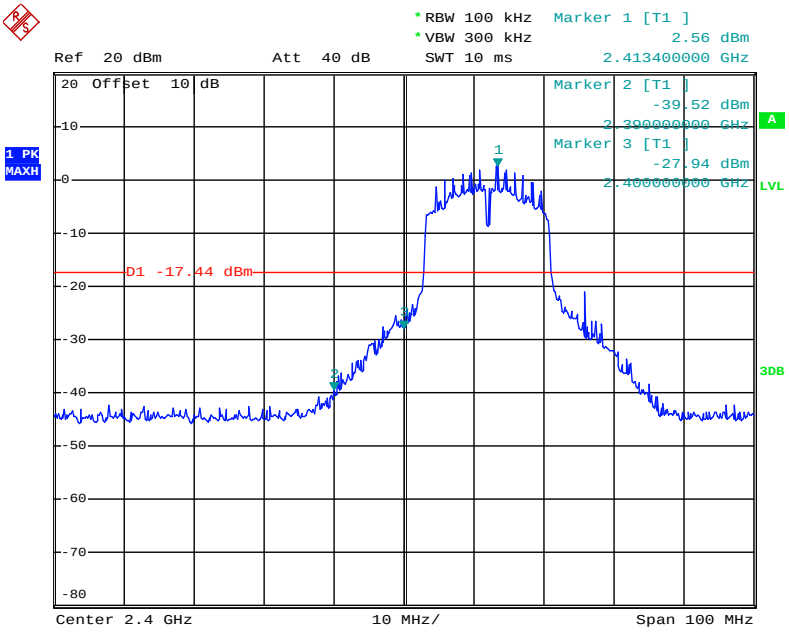
Date: 8.JAN.2019 17:35:49

802.11g Channel High 2462MHz



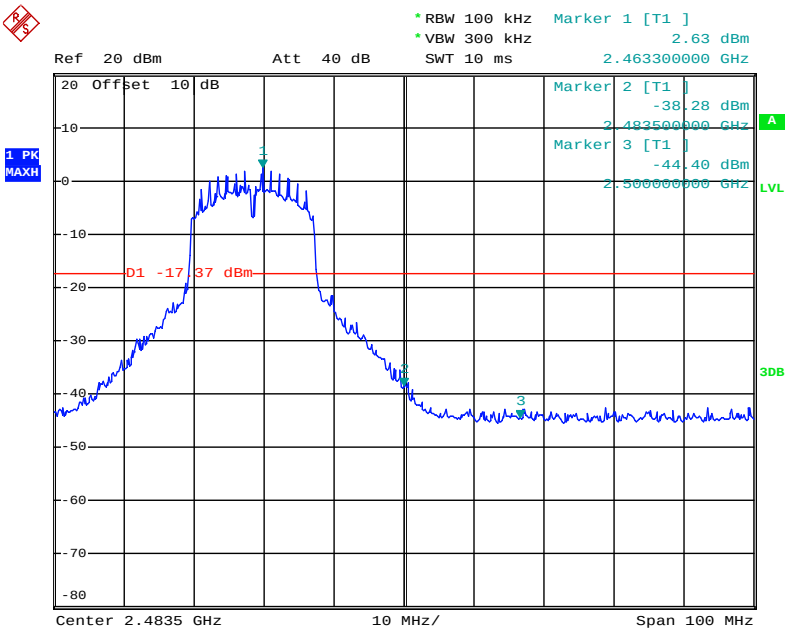
Date: 8.JAN.2019 17:37:56

802.11n Channel Low 2412MHz (20MHz)



Date: 8.JAN.2019 17:36:31

802.11n Channel High 2462MHz (20MHz)



Date: 8.JAN.2019 17:37:19

Radiated Band Edge Result

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

Test Procedure:

The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

Let the EUT work in TX modes then measure it.
We select 2412MHz, 2462MHz TX frequency to transmit(802.11b/g/n20 mode).

During the radiated emission test, the spectrum analyzer was set with the following configurations:
1.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
3.We tested 802.11b/g/n mode the all and the worst-case emissions are reported.

Test Lab: 3m Anechoic chamber
Test Engineer: Frank

Note: We tested 802.11b/g/n mode the all data rate and the worst case data for this channel to be 11Mbps for 802.11b mode.

ACCURATE TECHNOLOGY CO., LTD.
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Site: 1# Chamber
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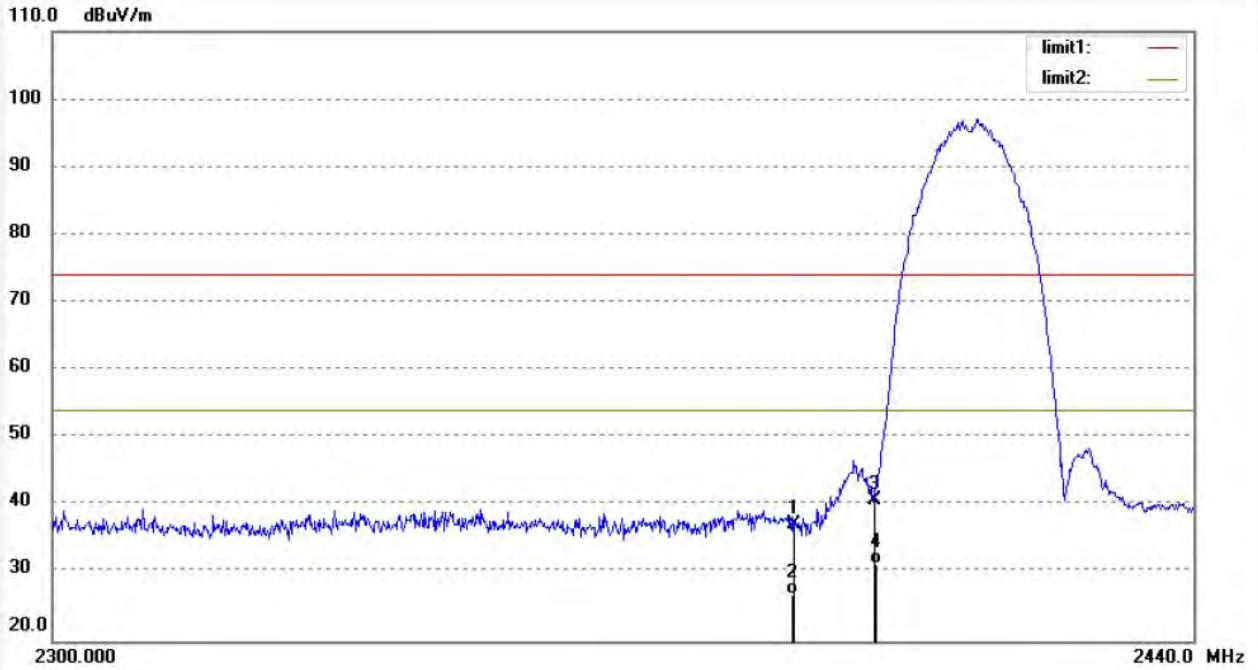
Fax:+86-0755-26503396

Job No.: FRANK2019 #28	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:50:50
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11b)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	43.56	-6.32	37.24	74.00	-36.76	peak	250	52	
2	2390.000	33.18	-6.32	26.86	54.00	-27.14	AVG	200	99	
3	2400.000	47.11	-6.27	40.84	74.00	-33.16	peak	200	211	
4	2400.000	37.65	-6.27	31.38	54.00	-22.62	AVG	200	103	

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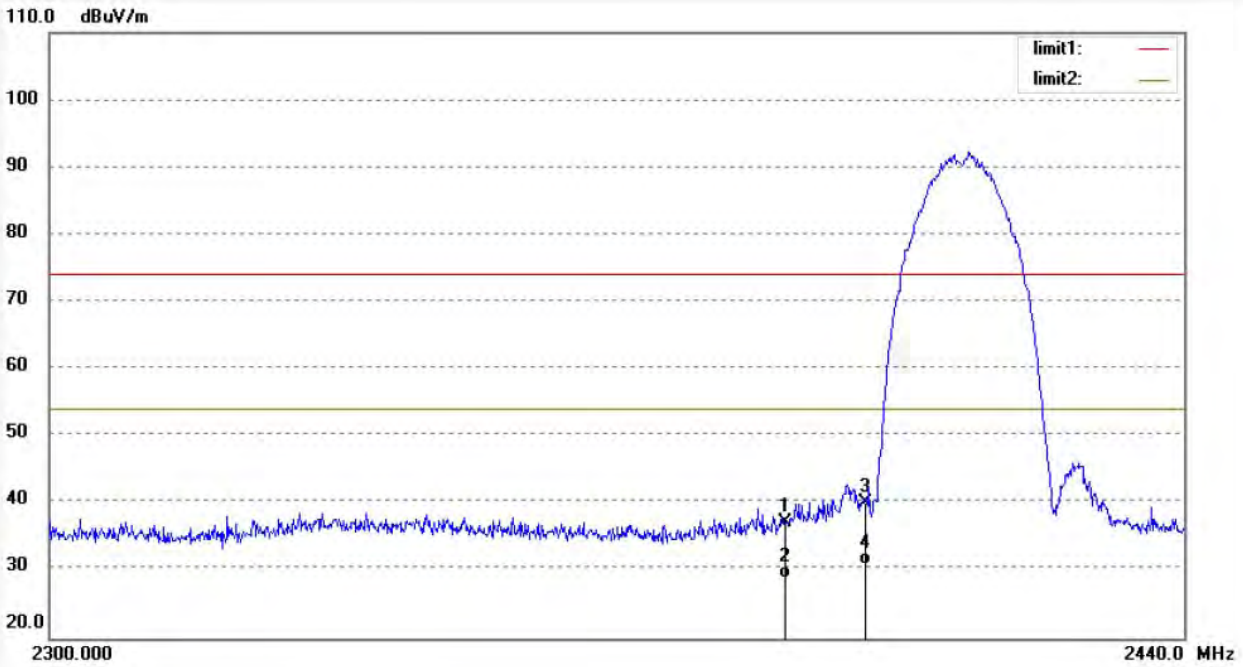
Fax:+86-0755-26503396

Job No.: FRANK2019 #27	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:49:43
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11b)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	43.60	-6.32	37.28	74.00	-36.72	peak	150	302	
2	2390.000	35.15	-6.32	28.83	54.00	-25.17	AVG	150	95	
3	2400.000	46.44	-6.27	40.17	74.00	-33.83	peak	150	121	
4	2400.000	37.15	-6.27	30.88	54.00	-23.12	AVG	150	61	

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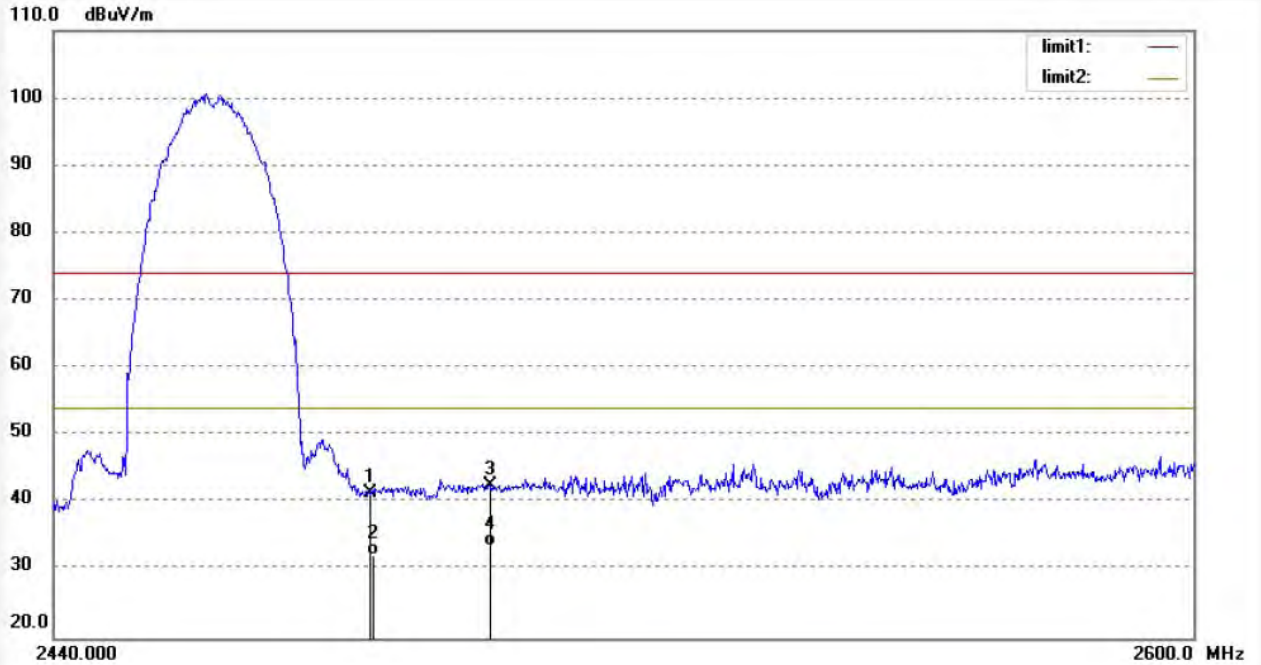
Job No.: FRANK2019 #37	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 15:11:47
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11b)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	47.38	-5.89	41.49	74.00	-32.51	peak	200	198	
2	2483.500	38.15	-5.89	32.26	54.00	-21.74	AVG	200	69	
3	2500.000	48.35	-5.81	42.54	74.00	-31.46	peak	200	219	
4	2500.000	39.45	-5.81	33.64	54.00	-20.36	AVG	200	103	

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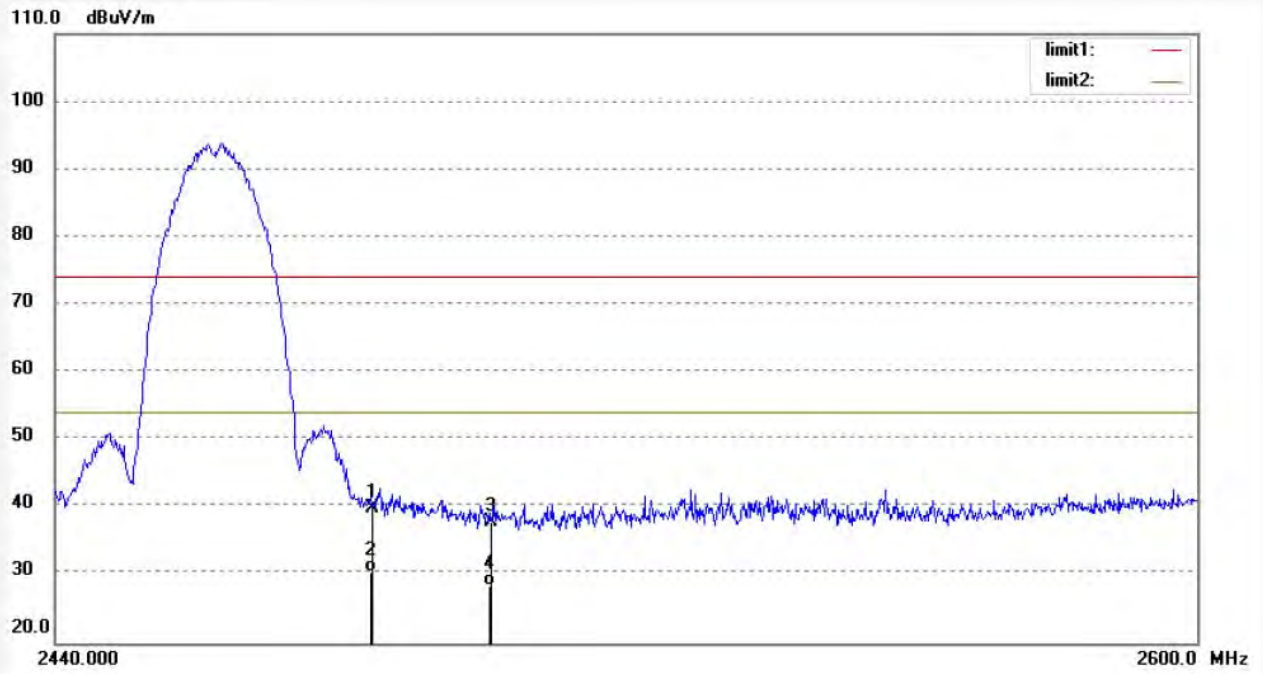
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2019 #38
Standard: FCC Part 15C 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Battery video alarm camera
Mode: TX Channel 11(802.11b)
Model: C390S
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd

Polarization: Vertical
Power Source: DC 3.7V
Date: 2019/01/10
Time: 15:25:40
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.72	-5.89	39.83	74.00	-34.17	peak	150	209	
2	2483.500	36.45	-5.89	30.56	54.00	-23.44	AVG	150	201	
3	2500.000	43.71	-5.81	37.90	74.00	-36.10	peak	150	116	
4	2500.000	34.15	-5.81	28.34	54.00	-25.66	AVG	150	302	

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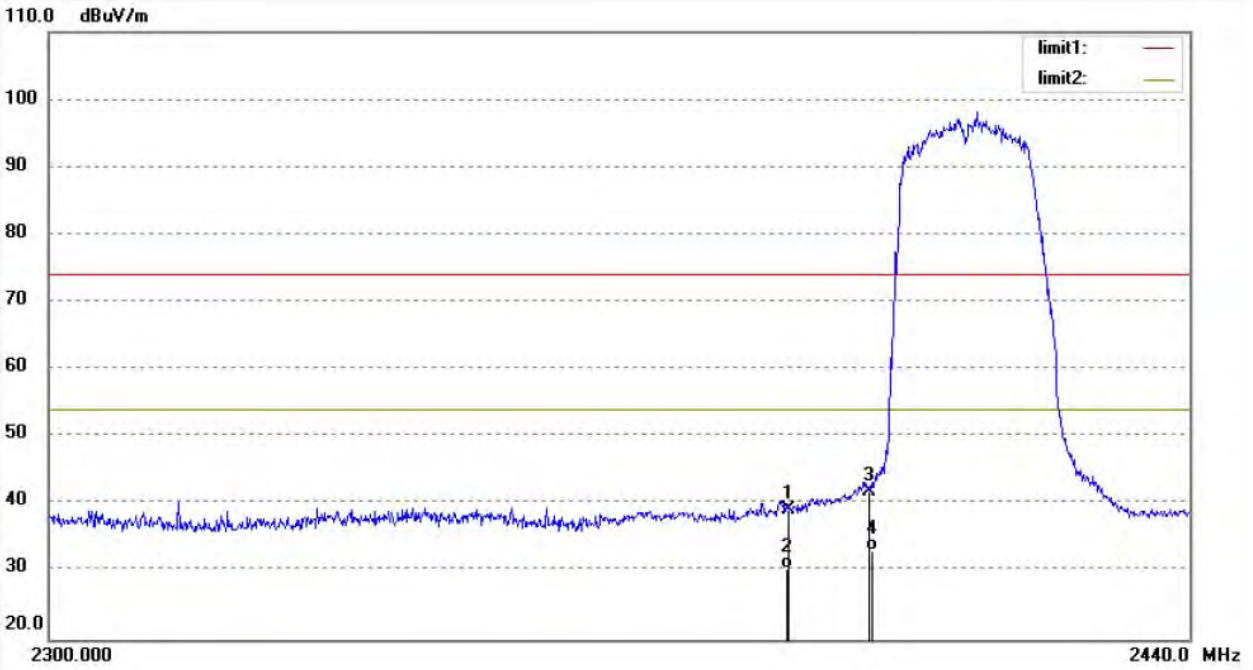
Fax:+86-0755-26503396

Job No.: FRANK2019 #29	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:53:38
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11g)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	45.48	-6.32	39.16	74.00	-34.84	peak	250	302	
2	2390.000	36.75	-6.32	30.43	54.00	-23.57	AVG	200	189	
3	2400.000	48.17	-6.27	41.90	74.00	-32.10	peak	250	66	
4	2400.000	39.45	-6.27	33.18	54.00	-20.82	AVG	200	141	

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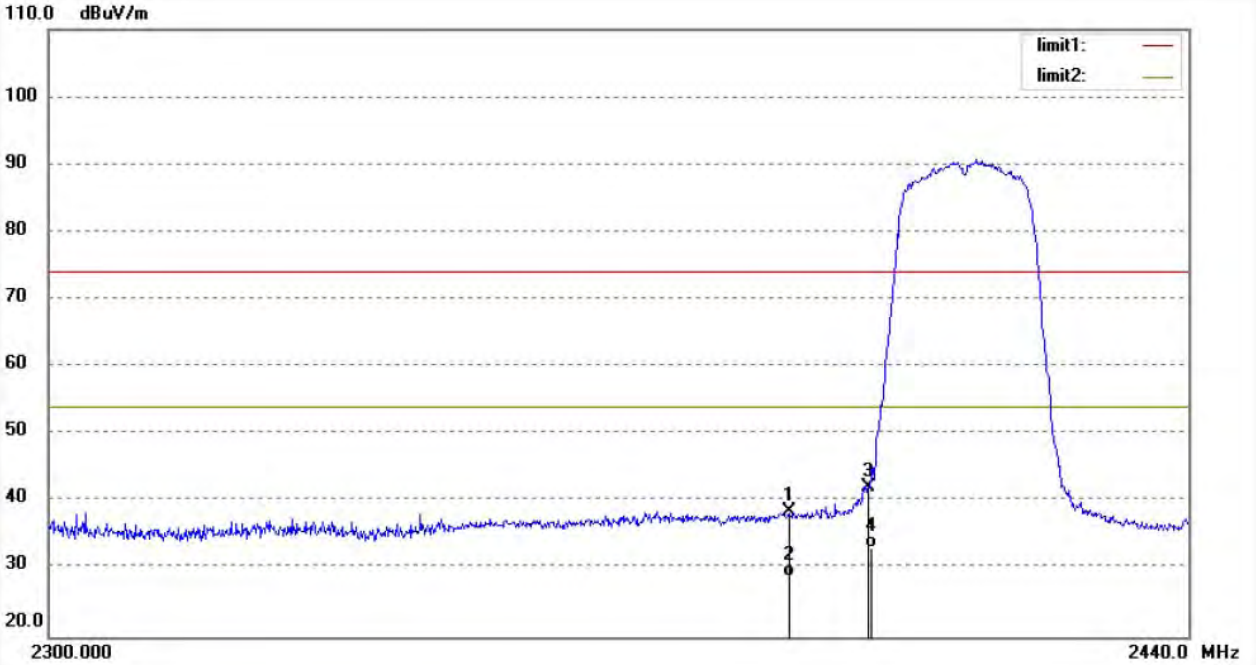
Job No.: FRANK2019 #30	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:56:08
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11g)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	44.77	-6.32	38.45	74.00	-35.55	peak	150	103	
2	2390.000	35.15	-6.32	28.83	54.00	-25.17	AVG	150	249	
3	2400.000	48.33	-6.27	42.06	74.00	-31.94	peak	150	96	
4	2400.000	39.49	-6.27	33.22	54.00	-20.78	AVG	150	159	

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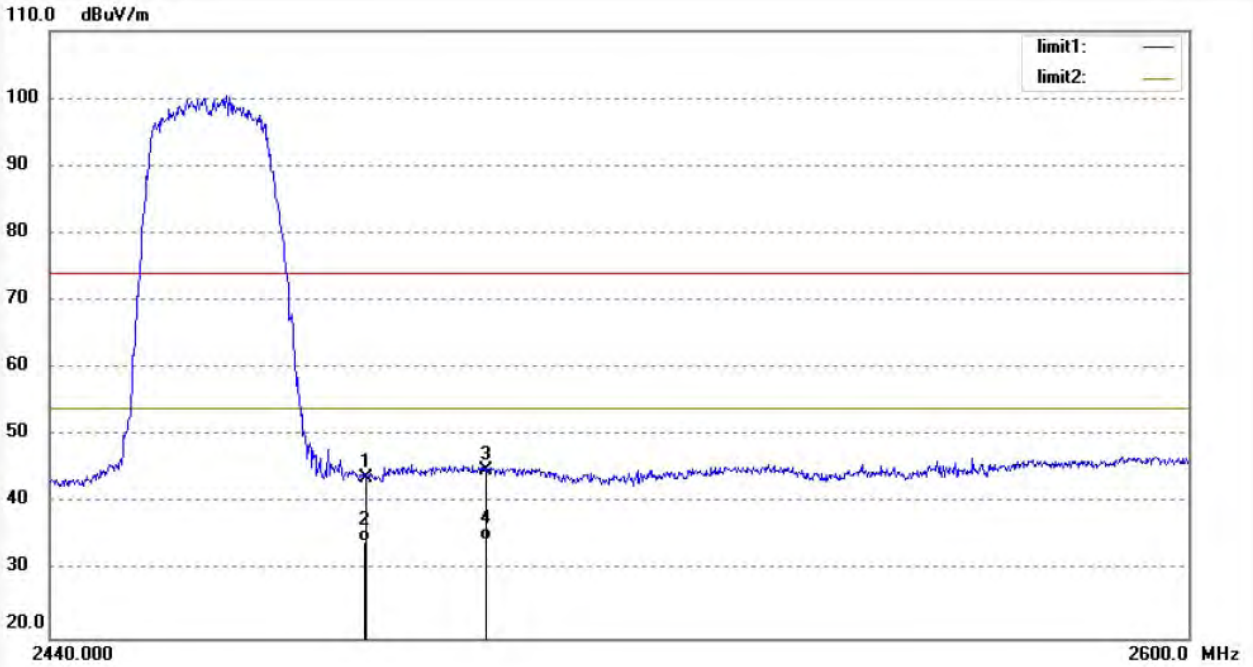
Job No.: FRANK2019 #36	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 15:09:53
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11g)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	49.73	-5.89	43.84	74.00	-30.16	peak	200	99	
2	2483.500	40.12	-5.89	34.23	54.00	-19.77	AVG	200	201	
3	2500.000	50.67	-5.81	44.86	74.00	-29.14	peak	200	321	
4	2500.000	40.32	-5.81	34.51	54.00	-19.49	AVG	200	106	

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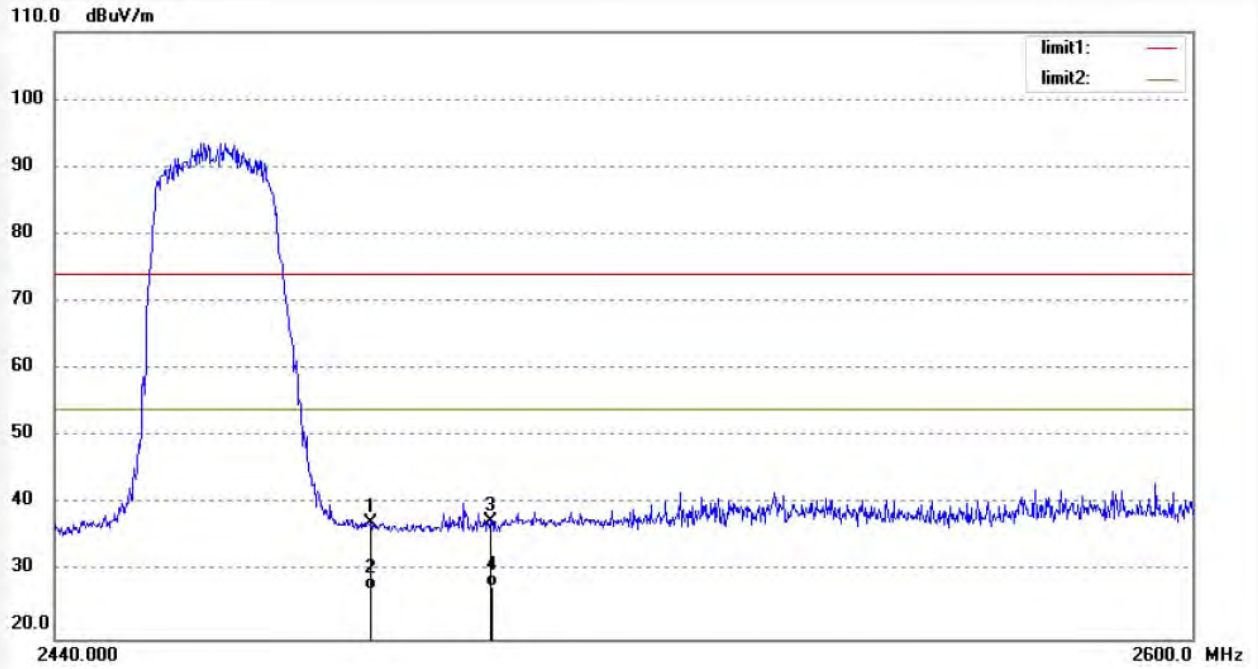
Job No.: FRANK2019 #35	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 15:07:55
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11g)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	43.12	-5.89	37.23	74.00	-36.77	peak	150	110	
2	2483.500	33.12	-5.89	27.23	54.00	-26.77	AVG	150	99	
3	2500.000	43.22	-5.81	37.41	74.00	-36.59	peak	150	248	
4	2500.000	33.54	-5.81	27.73	54.00	-26.27	AVG	150	103	

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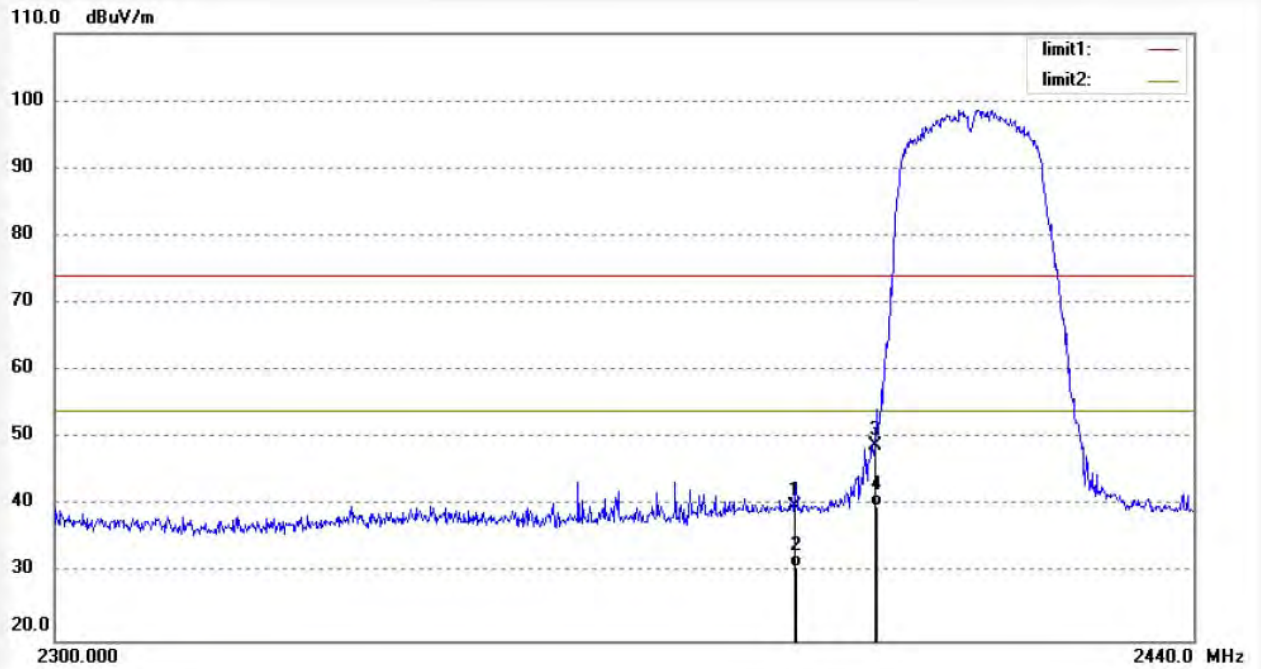
Job No.: FRANK2019 #32
Standard: FCC Part 15C 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Battery video alarm camera
Mode: TX Channel 1(802.11n20)
Model: C390S
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2019/01/10
Time: 15:00:23
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	46.17	-6.32	39.85	74.00	-34.15	peak	250	302	
2	2390.000	37.12	-6.32	30.80	54.00	-23.20	AVG	200	201	
3	2400.000	55.20	-6.27	48.93	74.00	-25.07	peak	250	92	
4	2400.000	46.15	-6.27	39.88	54.00	-14.12	AVG	200	116	

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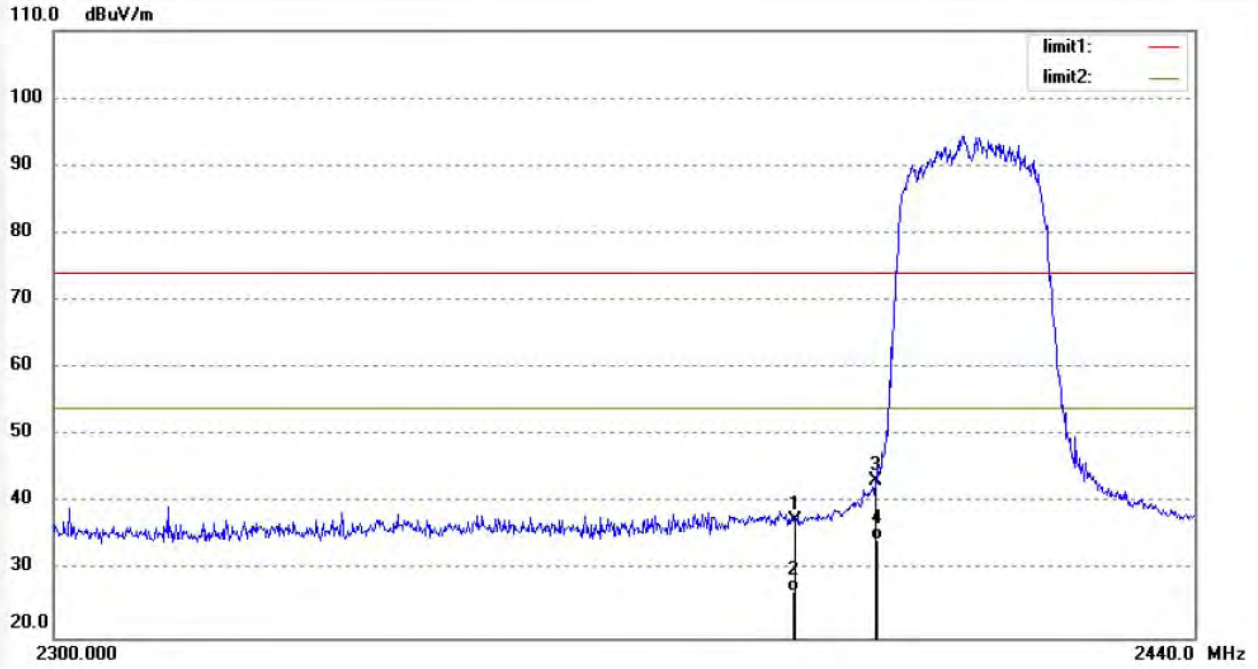
Job No.: FRANK2019 #31	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:58:17
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	43.77	-6.32	37.45	74.00	-36.55	peak	150	302	
2	2390.000	33.15	-6.32	26.83	54.00	-27.17	AVG	150	119	
3	2400.000	49.52	-6.27	43.25	74.00	-30.75	peak	150	92	
4	2400.000	40.87	-6.27	34.60	54.00	-19.40	AVG	150	199	

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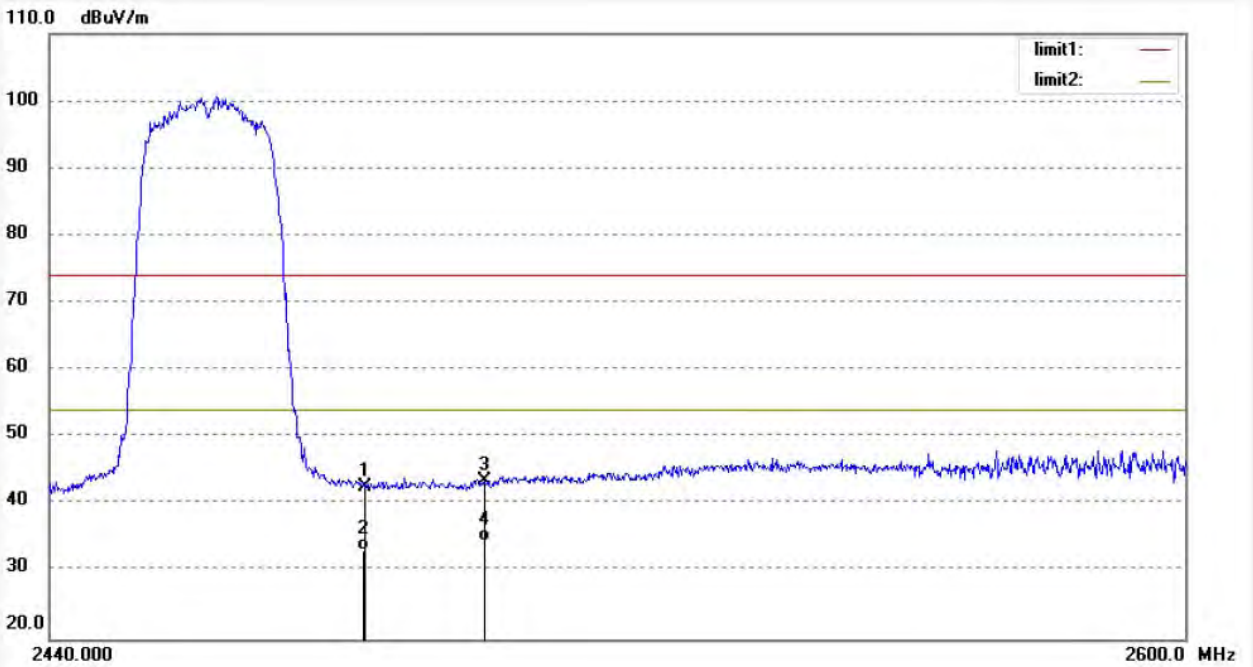
Job No.: FRANK2019 #33	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 15:04:32
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.57	-5.89	42.68	74.00	-31.32	peak	200	103	
2	2483.500	39.12	-5.89	33.23	54.00	-20.77	AVG	200	219	
3	2500.000	49.36	-5.81	43.55	74.00	-30.45	peak	200	332	
4	2500.000	40.32	-5.81	34.51	54.00	-19.49	AVG	200	201	

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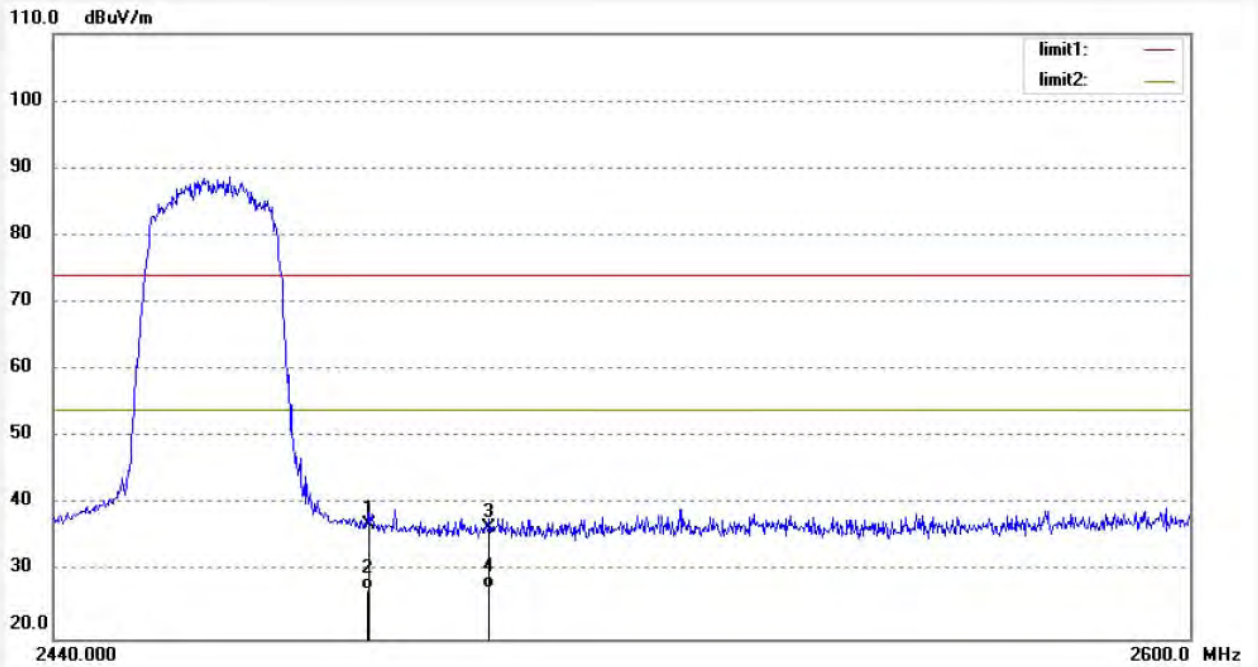
Job No.: FRANK2019 #34	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 15:06:00
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	42.82	-5.89	36.93	74.00	-37.07	peak	150	103	
2	2483.500	33.12	-5.89	27.23	54.00	-26.77	AVG	150	201	
3	2500.000	42.40	-5.81	36.59	74.00	-37.41	peak	150	95	
4	2500.000	33.44	-5.81	27.63	54.00	-26.37	AVG	150	216	

12.RADIATED SPURIOUS EMISSION TEST

12.1.Block Diagram of Test Setup

12.1.1.Block diagram of connection between the EUT and peripherals

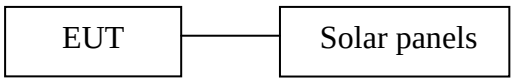
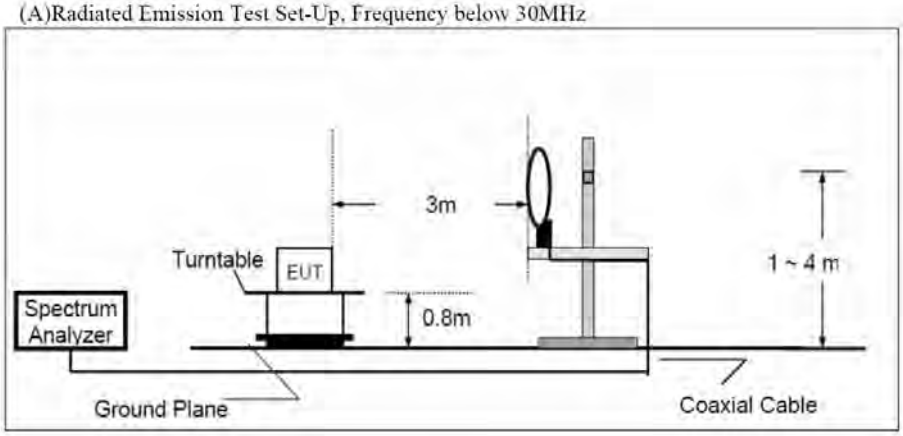


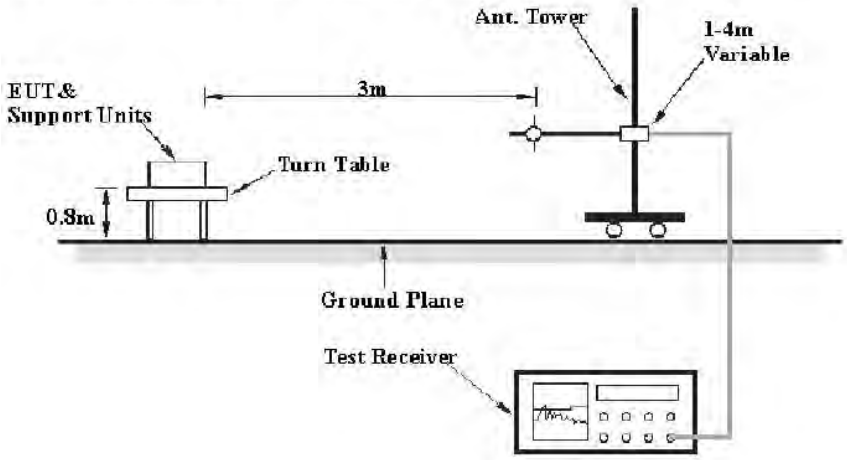
Figure 1 Setup: Transmitting mode

12.1.2.Semi-Anechoic Chamber Test Setup Diagram

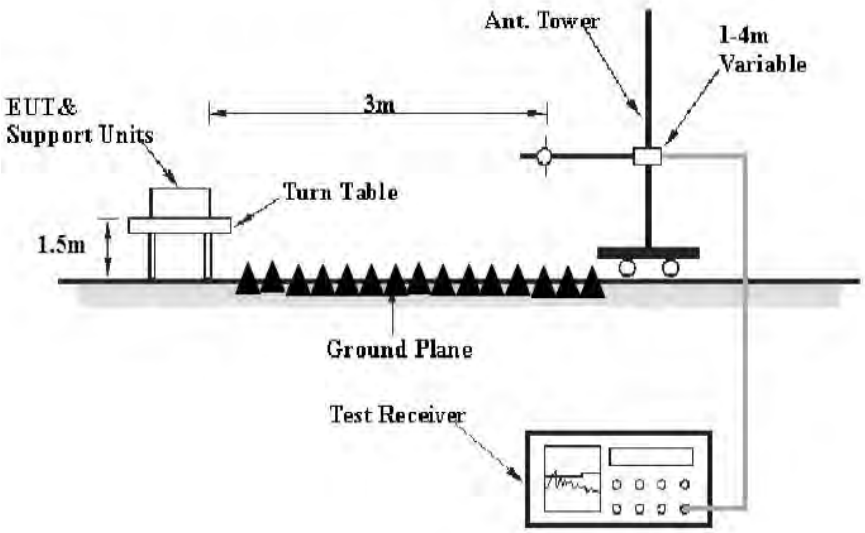
(A)Radiated Emission Test Set-Up, Frequency below 30MHz



(B)Radiated Emission Test Set-Up, Frequency 30MHz-1GHz



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



12.2.The Limit For Section 15.247(d)

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 a radiated 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, as permitted under paragraph (b)(3) of this section, 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).

12.3.Restricted bands of operation

12.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510
[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

12.4.Configuration of EUT on Test

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

12.5.Operating Condition of EUT

12.5.1.Setup the EUT and simulator as shown as Section 12.1.

12.5.2.Turn on the power of all equipment.

12.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

12.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground(Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement.

The frequency range from 30MHz to 26500MHz is checked.
Result = Reading + Corrected Factor
Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain
During the radiated emission test, the spectrum analyzer was set with the following configurations:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

12.7.Data Sample

Frequency (MHz)	Reading (dBμv)	Factor (dB/m)	Result (dBμv/m)	Limit (dBμv/m)	Margin (dB)	Remark
X.XX	48.69	-13.35	35.34	46	-10.66	QP

Frequency(MHz) = Emission frequency in MHz
Reading(dBμv) = Uncorrected Analyzer/Receiver reading
Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain
Result(dBμv/m) = Reading(dBμv) + Factor(dB/m)
Limit (dBμv/m) = Limit stated in standard
Margin (dB) = Result(dBμv/m) - Limit (dBμv/m)
QP = Quasi-peak Reading

Calculation Formula:
Margin(dB) = Result (dBμV/m)–Limit(dBμV/m)
Result(dBμV/m)= Reading(dBμV)+ Factor(dB/m)

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

12.8.Test Results

Pass.
Test Lab: 3m Anechoic chamber
Test Engineer: Frank

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The radiation emissions from 9KHz-30MHz and 18-26.5GHz are not reported, because the test values lower than the limits of 20dB.

4. We tested 802.11b/g/n mode the all data rate and the worst case data for this channel to be MCS7 for 802.11n mode.

Below 1G

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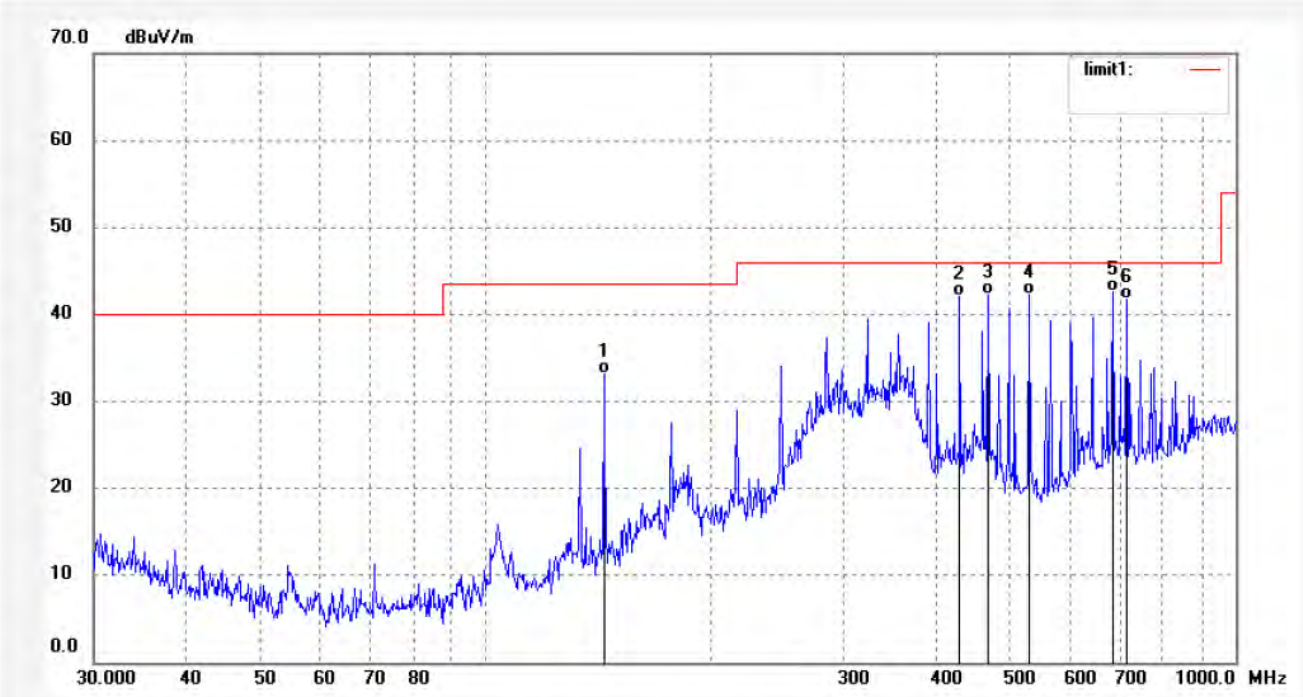
Job No.: FRANK2019 #14	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 19/01/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/22/38
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	143.7760	61.25	-28.03	33.22	43.50	-10.28	QP	200	221	
2	428.7959	59.98	-17.83	42.15	46.00	-3.85	QP	200	198	
3	468.1650	59.09	-16.80	42.29	46.00	-3.71	QP	200	302	
4	531.2910	57.64	-15.37	42.27	46.00	-3.73	QP	200	201	
5	686.6340	54.40	-11.78	42.62	46.00	-3.38	QP	200	156	
6	716.2038	52.82	-11.09	41.73	46.00	-4.27	QP	200	200	

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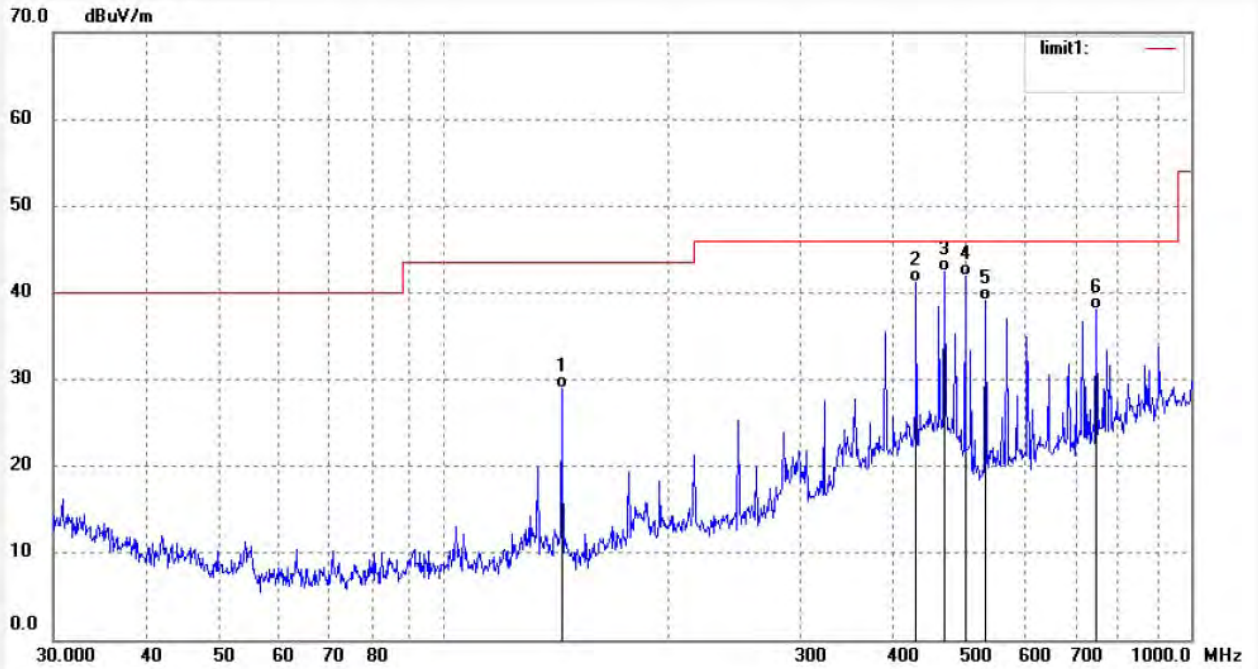
Job No.: FRANK2019 #13	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 19/01/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/22/11
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	143.7760	57.01	-28.03	28.98	43.50	-14.52	QP	100	203	
2	428.7959	58.96	-17.83	41.13	46.00	-4.87	QP	100	212	
3	468.1650	59.30	-16.80	42.50	46.00	-3.50	QP	100	194	
4	498.7302	58.20	-16.34	41.86	46.00	-4.14	QP	100	221	
5	531.2910	54.46	-15.37	39.09	46.00	-6.91	QP	100	216	
6	747.0465	48.38	-10.40	37.98	46.00	-8.02	QP	100	103	

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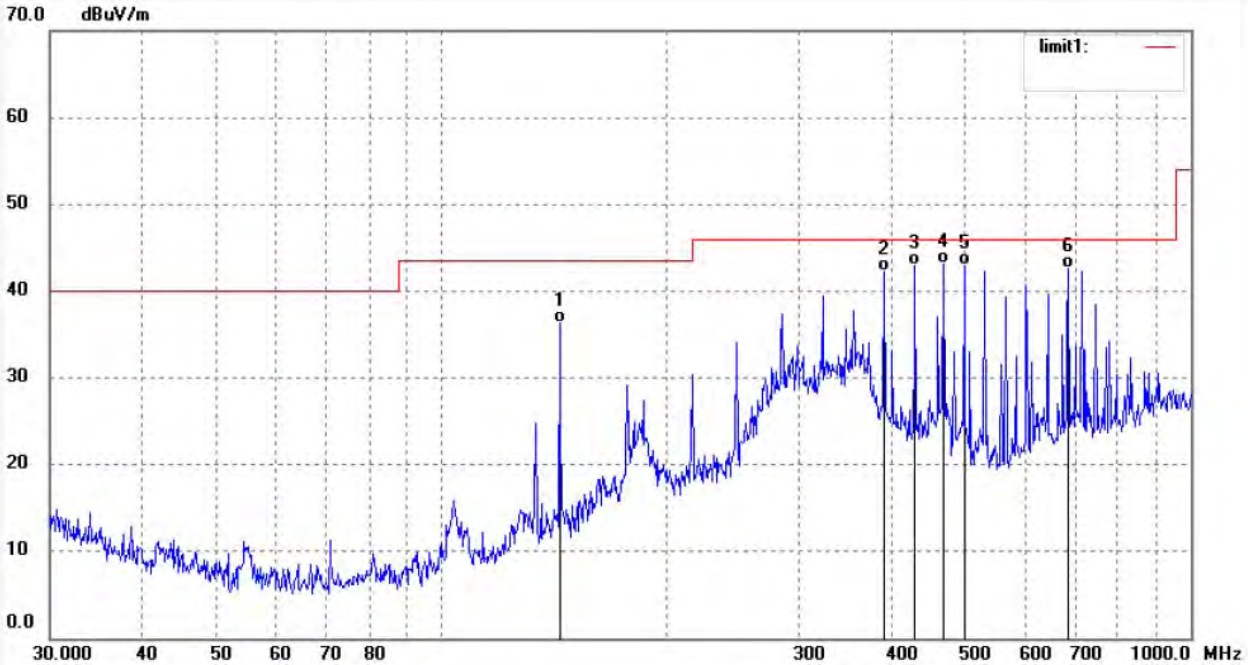
Job No.: FRANK2019 #15	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 19/01/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/22/51
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 6(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	143.7760	64.39	-28.03	36.36	43.50	-7.14	QP	200	198	
2	389.9873	60.74	-18.49	42.25	46.00	-3.75	QP	200	115	
3	428.7959	60.74	-17.83	42.91	46.00	-3.09	QP	200	65	
4	468.1650	59.95	-16.80	43.15	46.00	-2.85	QP	200	22	
5	498.7302	59.25	-16.34	42.91	46.00	-3.09	QP	200	321	
6	686.6340	54.40	-11.78	42.62	46.00	-3.38	QP	200	196	

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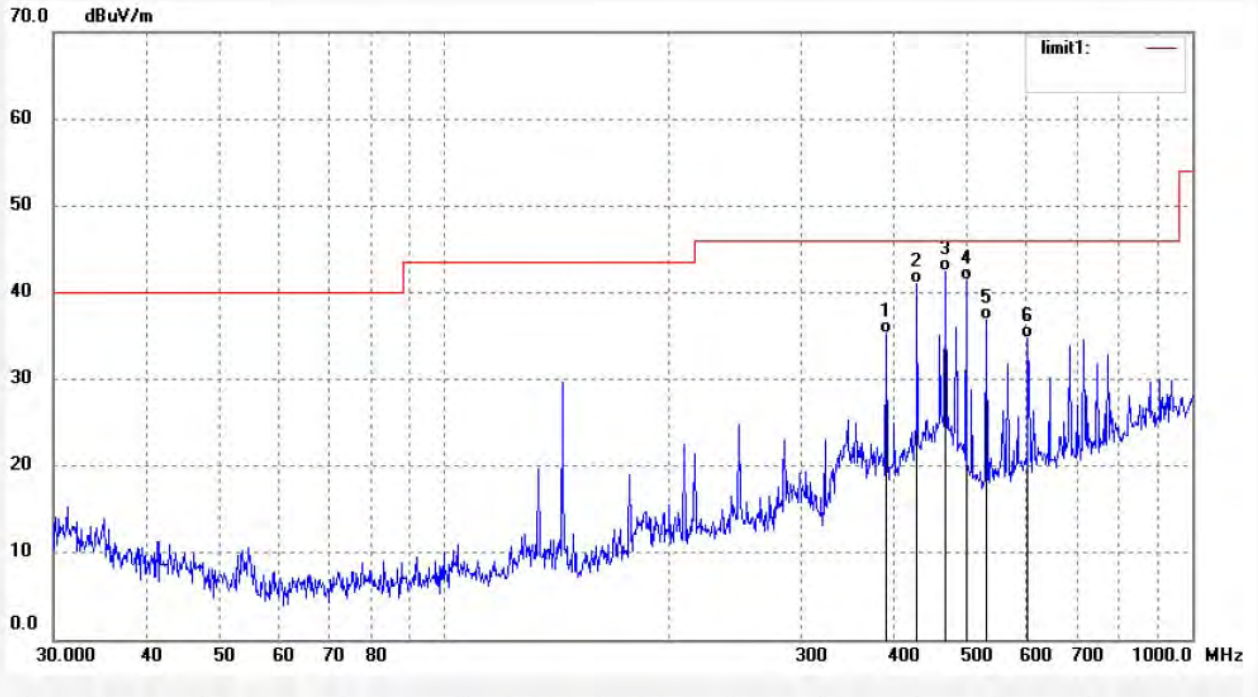
Job No.: FRANK2019 #16	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 19/01/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/23/22
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 6(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	389.9873	53.72	-18.49	35.23	46.00	-10.77	QP	100	211	
2	428.7959	58.92	-17.83	41.09	46.00	-4.91	QP	100	66	
3	468.1650	59.28	-16.80	42.48	46.00	-3.52	QP	100	199	
4	498.7302	57.76	-16.34	41.42	46.00	-4.58	QP	100	226	
5	531.2910	52.22	-15.37	36.85	46.00	-9.15	QP	100	201	
6	602.9287	48.35	-13.63	34.72	46.00	-11.28	QP	100	103	

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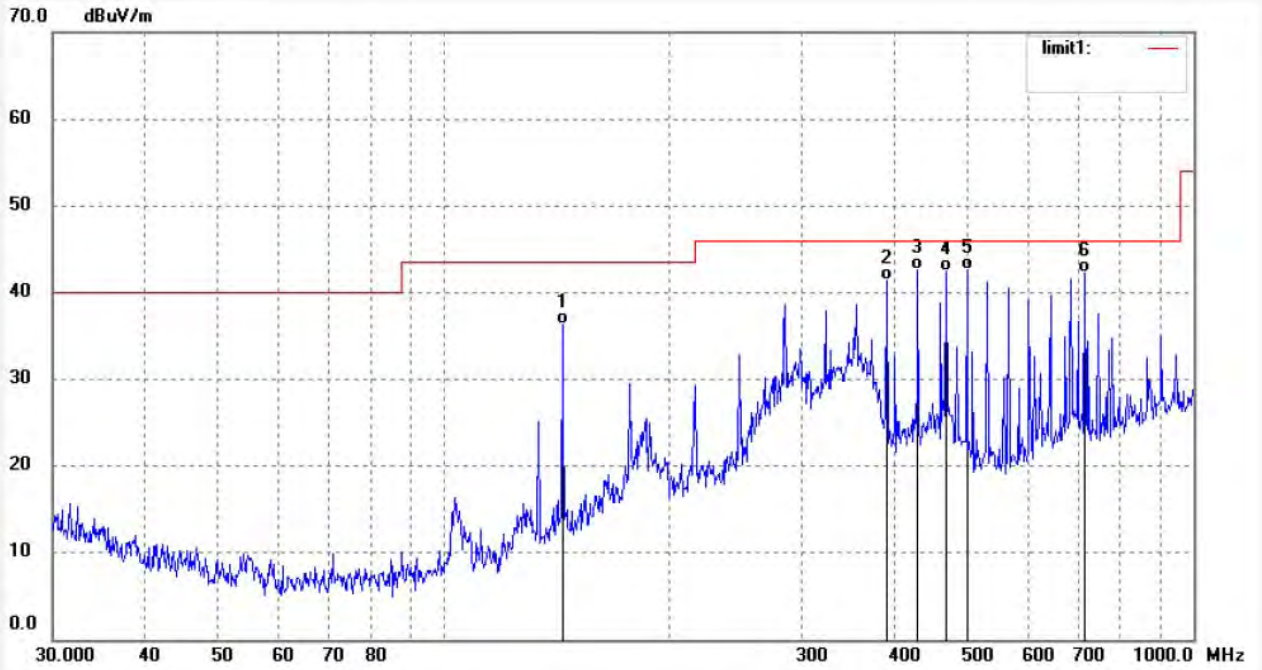
Job No.: FRANK2019 #18	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 19/01/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/24/57
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	143.7760	64.38	-28.03	36.35	43.50	-7.15	QP	200	140	
2	389.9873	59.86	-18.49	41.37	46.00	-4.63	QP	200	65	
3	428.7959	60.46	-17.83	42.63	46.00	-3.37	QP	200	140	
4	468.1650	59.23	-16.80	42.43	46.00	-3.57	QP	200	54	
5	498.7302	58.97	-16.34	42.63	46.00	-3.37	QP	200	29	
6	716.2038	53.40	-11.09	42.31	46.00	-3.69	QP	200	103	

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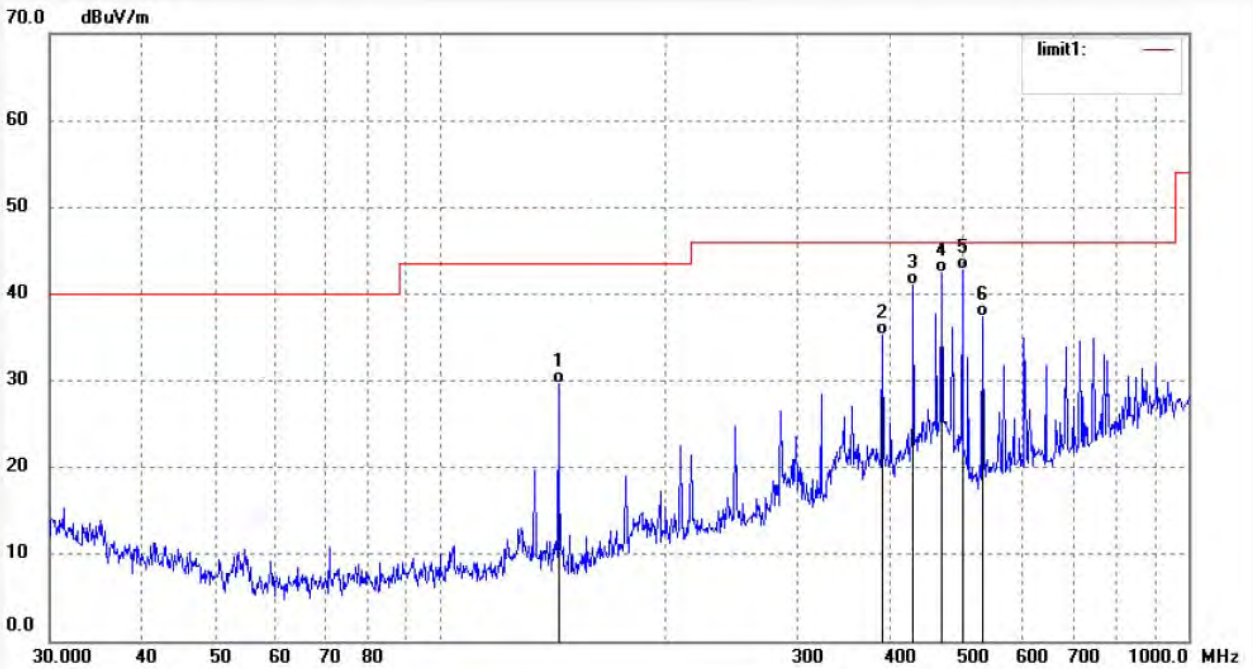
Job No.: FRANK2019 #17	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 19/01/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/23/38
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	143.7760	57.63	-28.03	29.60	43.50	-13.90	QP	100	321	
2	389.9873	53.72	-18.49	35.23	46.00	-10.77	QP	100	339	
3	428.7959	58.92	-17.83	41.09	46.00	-4.91	QP	100	201	
4	468.1650	59.28	-16.80	42.48	46.00	-3.52	QP	100	166	
5	498.7302	59.14	-16.34	42.80	46.00	-3.20	QP	100	311	
6	531.2910	52.75	-15.37	37.38	46.00	-8.62	QP	100	190	

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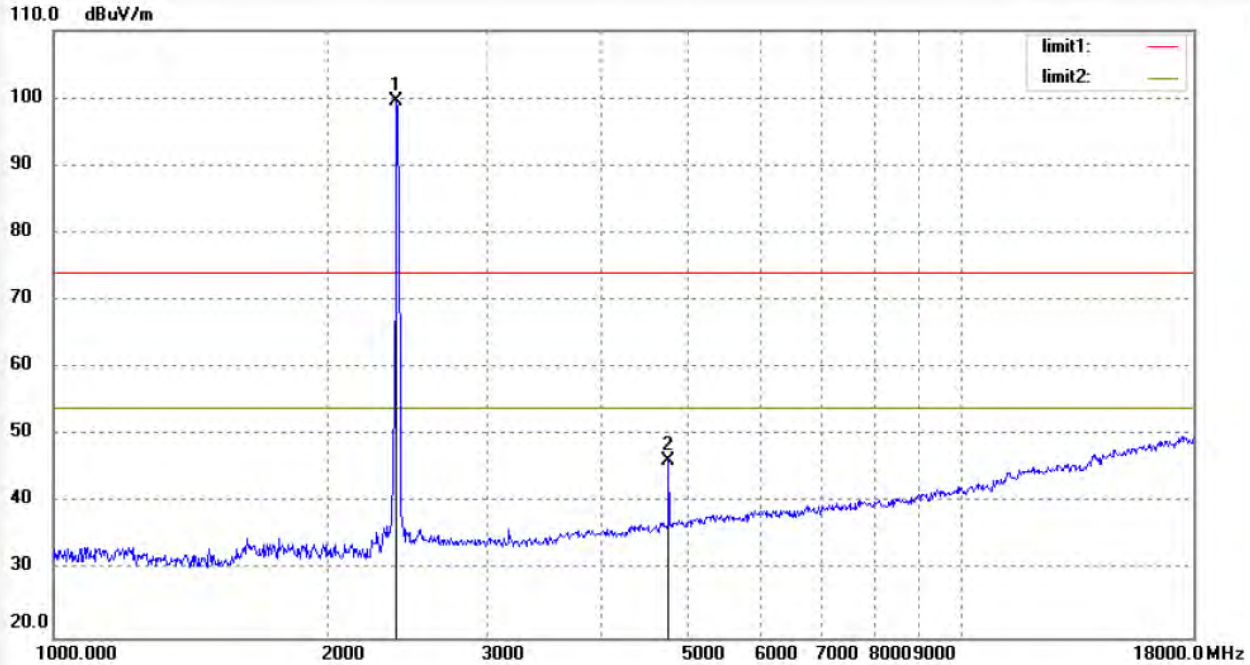
Job No.: FRANK2019 #25	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:46:18
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2412.059	105.78	-6.33	99.45	/	/	peak	250	119	
2	4824.084	45.30	0.82	46.12	74.00	-27.88	peak	250	302	

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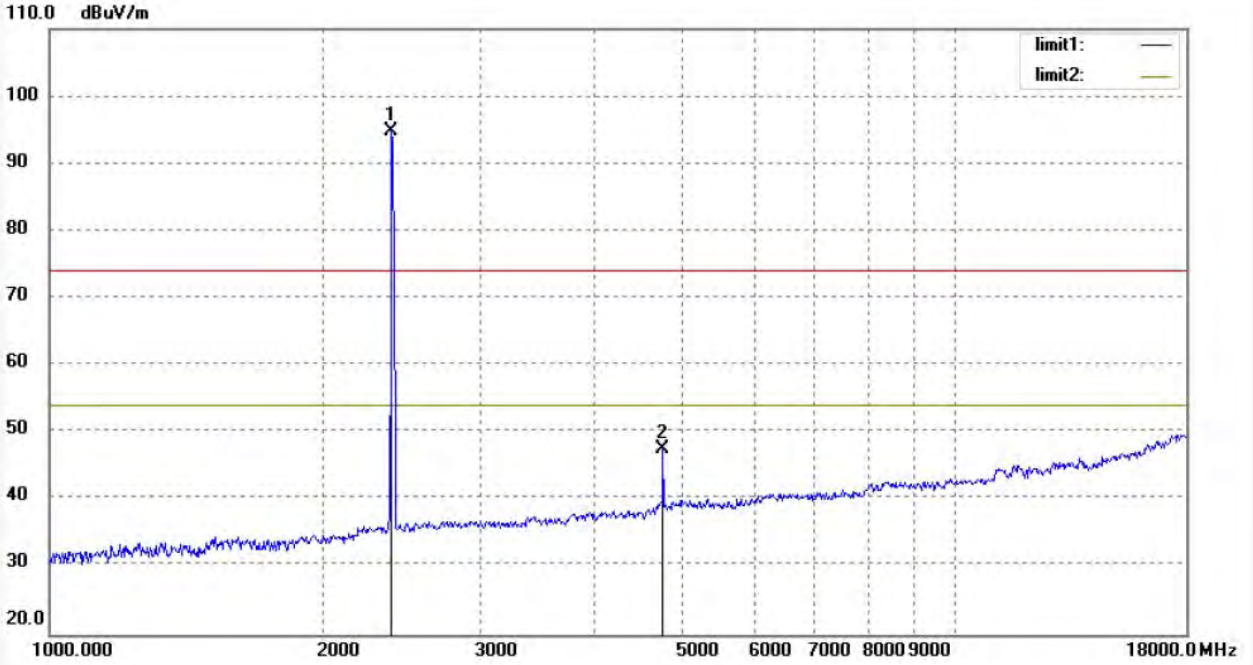
Job No.: FRANK2019 #26	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:48:08
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 1(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2412.059	101.16	-6.33	94.83	/	/	peak	150	145	
2	4824.184	46.78	0.82	47.60	74.00	-26.40	peak	150	302	

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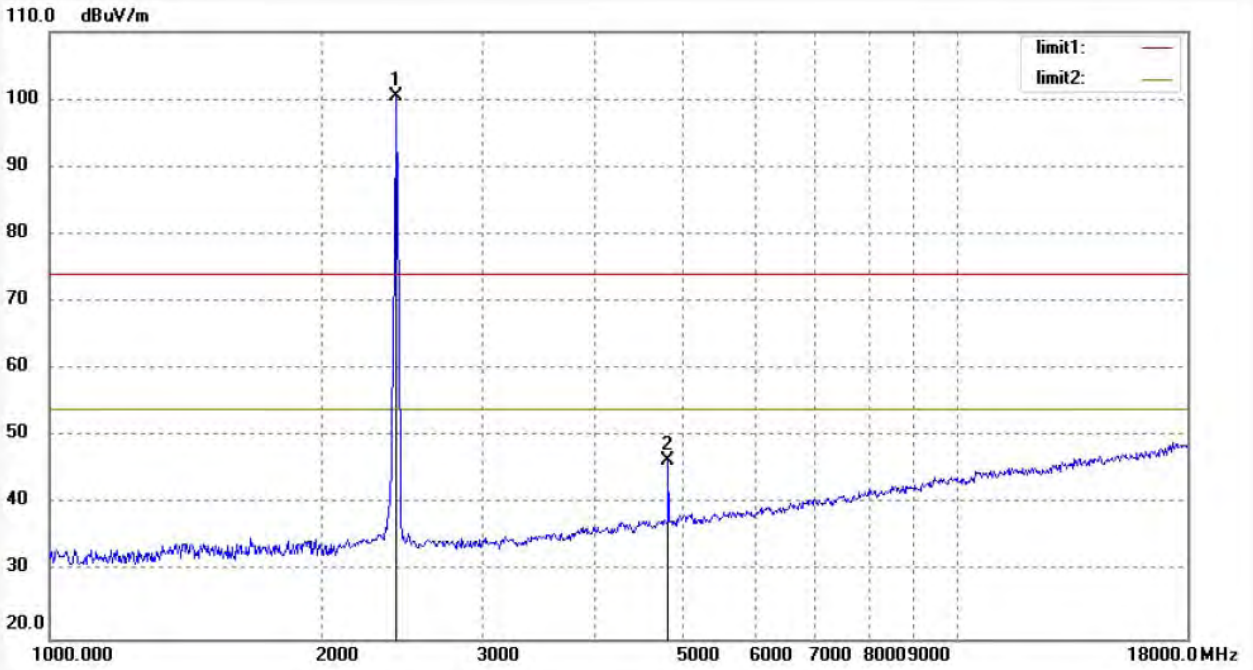
Job No.: FRANK2019 #24	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:44:29
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 6(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2437.121	106.61	-6.20	100.41	/	/	peak	250	149	
2	4874.324	45.34	1.07	46.41	74.00	-27.59	peak	250	302	

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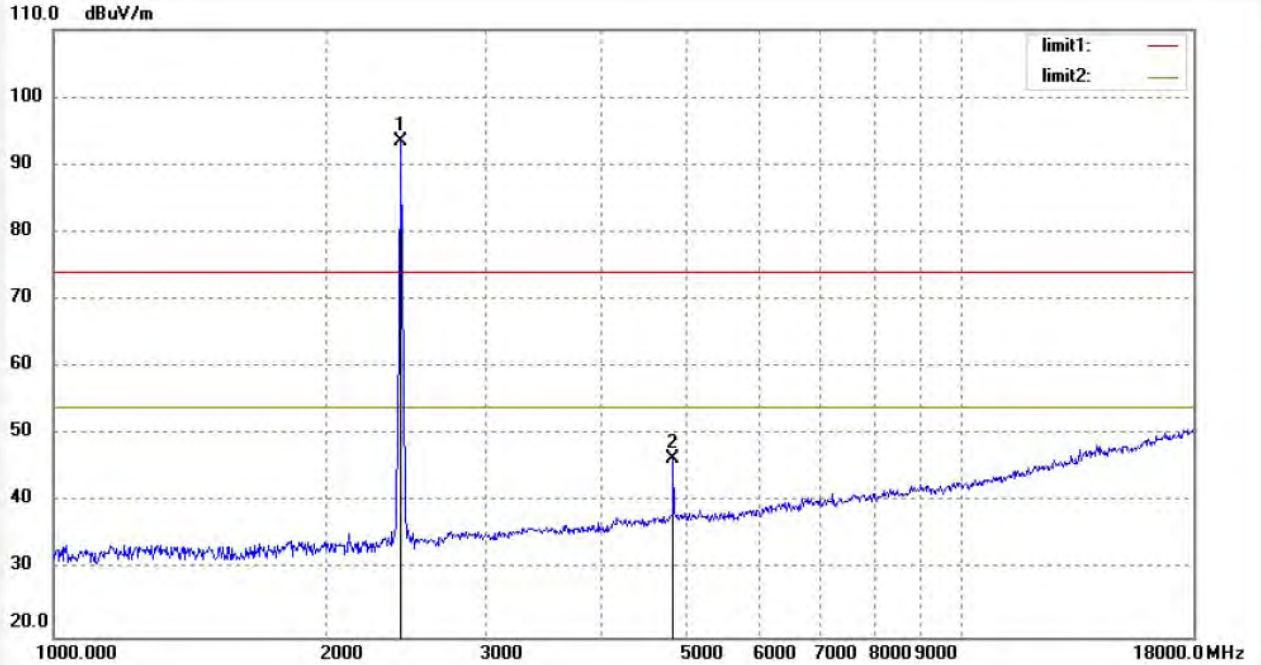
Job No.: FRANK2019 #23	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:42:33
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 6(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2437.100	99.67	-6.24	93.43	/	/	peak	150	199	
2	4874.324	45.35	1.07	46.42	74.00	-27.58	peak	150	63	

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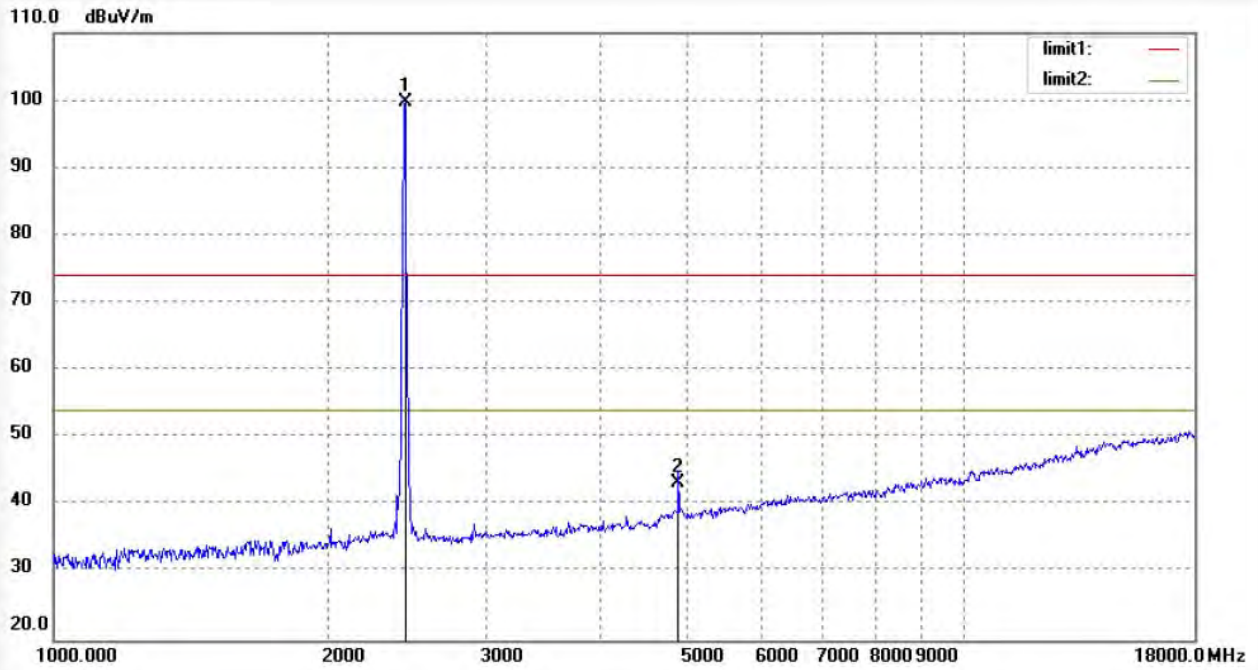
Job No.: FRANK2019 #21	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:38:11
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2462.107	105.90	-6.10	99.80	/	/	peak	250	159	
2	4924.117	42.01	1.32	43.33	74.00	-30.67	peak	200	63	

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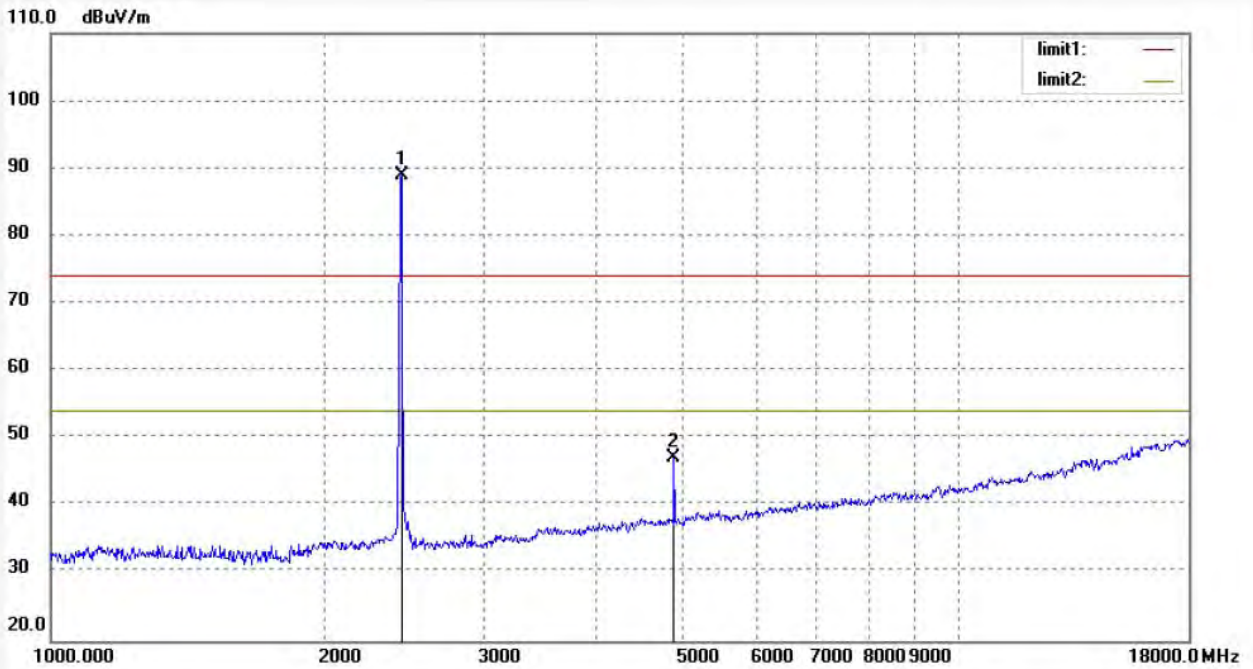
Job No.: FRANK2019 #22	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2019/01/10
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 14:40:14
EUT: Battery video alarm camera	Engineer Signature:
Mode: TX Channel 11(802.11n20)	Distance: 3m
Model: C390S	
Manufacturer: Shenzhen Leshi Video Technology Co.,Ltd	

Note: Report NO.:ATE20182222



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2462.107	95.02	-6.10	88.92	/	/	peak	150	149	
2	4924.017	45.73	1.32	47.05	74.00	-26.95	peak	150	214	

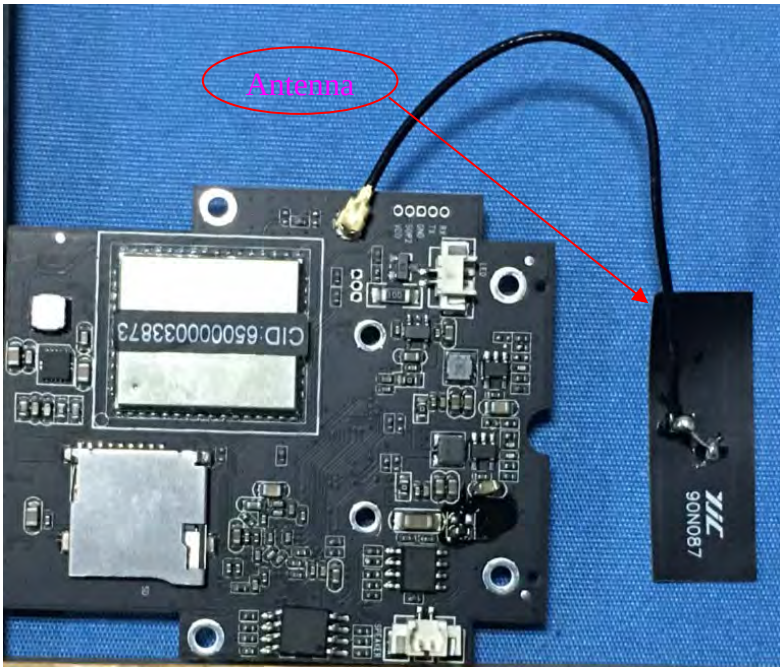
13. ANTENNA REQUIREMENT

13.1. The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

13.2. Antenna Construction

The antenna use a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. The antenna connector used in this product is the ipex connector. The Antenna gain of EUT is 4dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



---------- THE END OF TEST REPORT ----------