RADIO TEST REPORT

(Spot Check)

Product	:	Arlo Go 2 Wireless Security Camera
Model Name	:	VML2030
FCC ID	:	2APLE18300421
Reused FCC ID	:	2APLE18300416
Test Regulation	:	FCC 47 CFR Part 15 Subpart C (Section 15.247)
Received Date	:	2021/8/3
Test Date	:	2021/8/9 ~ 2021/8/12
Issued Date	:	2021/8/18
Applicant	:	Arlo Technologies Inc 2200 Faraday Avenue, Suite 150, Carlsbad, CA 92008, USA
Issued By	:	Underwriters Laboratories Taiwan Co., Ltd. Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Testing Laboratory
3398

REVISION HISTORY

Original Test Report No.: 4790055266-US-R0-V0

Rev.	Test report No.	Date	Page revised	Contents
Original	4790055266-US-R0-V0	2021/8/18	-	Initial issue

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1. Attestation of Test Results

APPLICANT:	Arlo Technologies Inc 2200 Faraday Avenue, Suite 150, Carlsbad, CA 92008, USA
MANUFACTURER:	Funing Precision Component Co., Ltd. Lot B, Que Vo Industrial Zone, Van Duong Ward, Bac Ninh City, Bac Ninh Province, Vietnam
EUT DESCRIPTION:	Arlo Go 2 Wireless Security Camera
BRAND:	Arlo
MODEL:	VML2030
SAMPLE STAGE:	Engineering Verification Test sample
DATE of TESTED:	2021/8/9 ~ 2021/8/12

APPLICABLE STANDARDS	
STANDARD	**Test Results**
FCC 47 CFR PART 15 Subpart C (Section 15.247)	PASS

Underwriters Laboratories Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Taiwan Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Taiwan Co., Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Prepared By:

Sally Lu Date : 2021/8/18
Project Handler

Approved and Authorized By:

Mike Cai Date : 2021/8/18
Engineer Project Associate

2. Summary of Test Results

Summary of Test Results		
FCC Clause	**Test Items**	**Result**
15.247(a)(2)	6dB Bandwidth	Note 1
15.247(b)	Conducted Output Power	PASS
15.247(e)	Power Spectral Density	Note 1
15.247(d)	Antenna Port Emission	Note 1
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS
15.207	AC Power Conducted Emission	PASS
15.203	Antenna Requirement	Note 1

Note:
1. This prepared for FCC Spot Check Verification Report, the test items and spot–check test data are decided by applicant's engineering judgment, for more details please refer to declaration letter exhibit.
2. For the Radiated Band Edge test plots were recorded in Appendix I, the Radiated Emissions test plots were recorded in Appendix II.

3. Test Methodology and Reference Procedures

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2, KDB558074 D01 Meas Guidance v05r02, KDB414788 D01 Radiated Test Site v01r01, ANSI C63.10-2013.

4. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398. The full scope of accreditation can be viewed at http://accreditation.taftw.org.tw/taf/public/basic/viewApplyItems.action?unitNo=3398

5. Measurement Uncertainty

For statement of conformity, accuracy method (Section 8.2.4 and 8.2.5 of ISO Guide 98-4) was applied as decision rule for measurement in this test report.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor k=2.

Measurement	Frequency	Uncertainty
Conducted disturbance at mains terminals ports	150kHz ~ 30MHz	±3.1 dB
RF Conducted	9 kHz - 40GHz	±1.9 dB
Radiated disturbance below 30MHz	9 kHz - 30 MHz	±1.9 dB
Radiated disturbance below 1 GHz	30MHz ~ 1GHz	±5.4 dB
Radiated disturbance above 1 GHz	1GHz ~ 40GHz	±4.7 dB

6. Equipment under Test

6.1. Description of EUT

Product	Arlo Go 2 Wireless Security Camera
Brand Name	Arlo
Model Name	VML2030
Operating Frequency	2412MHz ~ 2462MHz
Modulation	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to MCS7
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20)
Maximum Output Power	802.11b: 23.11 dBm 802.11g: 24.44 dBm 802.11n (HT20): 24.4 dBm
Normal Voltage	3.6Vdc from battery 5Vdc from Host
S/N	N/A
Sample ID	4125444
Software Version	N/A

Note:

1. This spot check report was issued based on the re-used report with report number 4790055264-US-R0-V0. The WiFi part PCB layout and antenna of EUT is the same as the original device, the only diffident is the LTE module of EUT. Therefore, only the output power and worst case of the emission was performed and recorded in this report.

2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

Modulation Mode	Tx,Rx Function
802.11b	1TX,1RX
802.11g	1TX,1RX
802.11n (HT20)	1TX,1RX

3. The EUT could be supplied with rechargeable battery as the following table:

Product	Manufacturer / Trademark	Model	Description
Rechargeable Li-ion Battery	Arlo	A-14	Rating:3.6Vdc

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual.

6.2. Channel List

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	-	-

6.3. Test Condition

Test Item	Test Site No.	Environmental Condition	Input Power	Test Date	Tested by
Antenna Port Conducted Measurement	SR4	24~27°C/ 59~66%RH	120Vac / 60 Hz	2021/08/09~ 2021/08/12	Wayne Chen
Radiated Spurious Emission	966-2	24~27°C/ 59~66%RH	120Vac / 60 Hz	2021/08/09~ 2021/08/12	Wayne Chen
AC power Line Conducted Emission	SR1	24~27°C/ 59~66%RH	120Vac / 60 Hz	2021/08/09~ 2021/08/12	Wayne Chen

FCC Test Firm Registration Number: 498077

6.4. Description of Available Antennas

Ant. No.	Transmitter Circuit	Brand Name	Model Name	Ant. Type	Maximum Gain (dBi)
1	Chain (0)	INPAQ	WAG-M-LA-00-062	PIFA	1.3

Note: The above antenna information was provided from customer and for more detailed features description, please refer the manufacturer's specification or user's manual.

6.5. Test Mode Applicability and Tested Channel Detail

- The EUT has three power source types: 3.6Vdc from battery, 5Vdc from Laptop and 5Vdc from Adapter, above three types were pre-tested, the AC power line conducted emission worst case was found in the 5Vdc from Laptop, the others worst case was found in the 5Vdc from Adapter. Therefore, only the test data of the 5Vdc was recorded in this report.
- For Antenna Port Conducted Measurement, this item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.
- For below 1 GHz radiated emission and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Test item	Mode	Modulation Technology	Modulation Type	Available Channel	Test Channel	Data Rate
Radiated Emissions (Above 1GHz)	802.11b	DSSS	DBPSK	1 to 11	6	1 Mbps
	802.11g	OFDM	BPSK	1 to 11	6	6 Mbps
Radiated Emissions (Below 1GHz)	802.11b	DSSS	DBPSK	1 to 11	6	1 Mbps
AC Power Line Conducted Emission	802.11b	DSSS	DBPSK	1 to 11	6	1 Mbps
RF output power	802.11b	DSSS	DBPSK	1 to 11	1,6,11	1 Mbps
	802.11g	OFDM	BPSK	1 to 11	1,6,11	6 Mbps
	802.11n20	OFDM	BPSK	1 to 11	1,6,11	MCS0

7. Test Equipment

Test Equipment List					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Expired date**
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070827	2020/11/11	2021/11/10
EMI Test Receiver	Rohde & Schwarz	ESR7	101754	2020/12/11	2021/12/10
Loop Antenna	ETS lindgren	6502	00213440	2020/12/25	2021/12/24
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck & EMCI	VULB 9168 & N-6-05	774 & AT-N0538	2021/1/13	2022/1/12
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01690	2020/12/30	2021/12/29
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	781	2020/12/30	2021/12/29
Preamplifier (30-1000 MHz)	EMCI	EMC330E	980405	2021/6/8	2022/6/7
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980406	2021/2/3	2022/2/2
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980426	2021/5/19	2022/5/18
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-4 & 170425-2	2021/1/22	2022/1/21
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-1 & 170214-2	2021/1/22	2022/1/21

Test Equipment List					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Expired date**
Antenna Port Conducted Measurement					
Spectrum Analyzer	Keysight	N9010A	MY56070834	2020/11/6	2021/11/5
Pulse Power Sensor	Anritsu	MA2411B	1531202	2020/12/21	2021/12/20
Power Meter	Anritsu	ML2495A	1645002	2020/12/21	2021/12/20
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	2020/11/17	2021/11/16
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	2020/8/19	2021/8/18
Cables	TITAN	CFD200	T0732ACFD20020A300-1	2021/3/2	2022/3/1

UL Software		
Description	**Name**	**Version**
Radiated measurement	e3	6.191211 (V6)
Conducted measurement	RF Conducted Test Tools	ver 2.4.0.620b
AC power Line Conducted Emission	EZ_EMC	UL-3A1.2

8. Description of Test Setup

For Radiated Emissions

Support Equipment

ID	Equipment	Brand Name	Model Name	S/N	Remark
A	Laptop	DELL	Latitude E5470	5M2MWF2	Provide by Lab

I/O Cables

ID	Equipment	Brand Name	Model Name	Length (m)	Remark
1	Micro USB console cable	N/A	N/A	1	Provide by Client

For AC power Line Conducted Emission

Support Equipment

ID	Equipment	Brand Name	Model Name	S/N	Remark
A	Adapter	Arlo	2ADB010B	332-50094-02	Provide by Client

I/O Cables

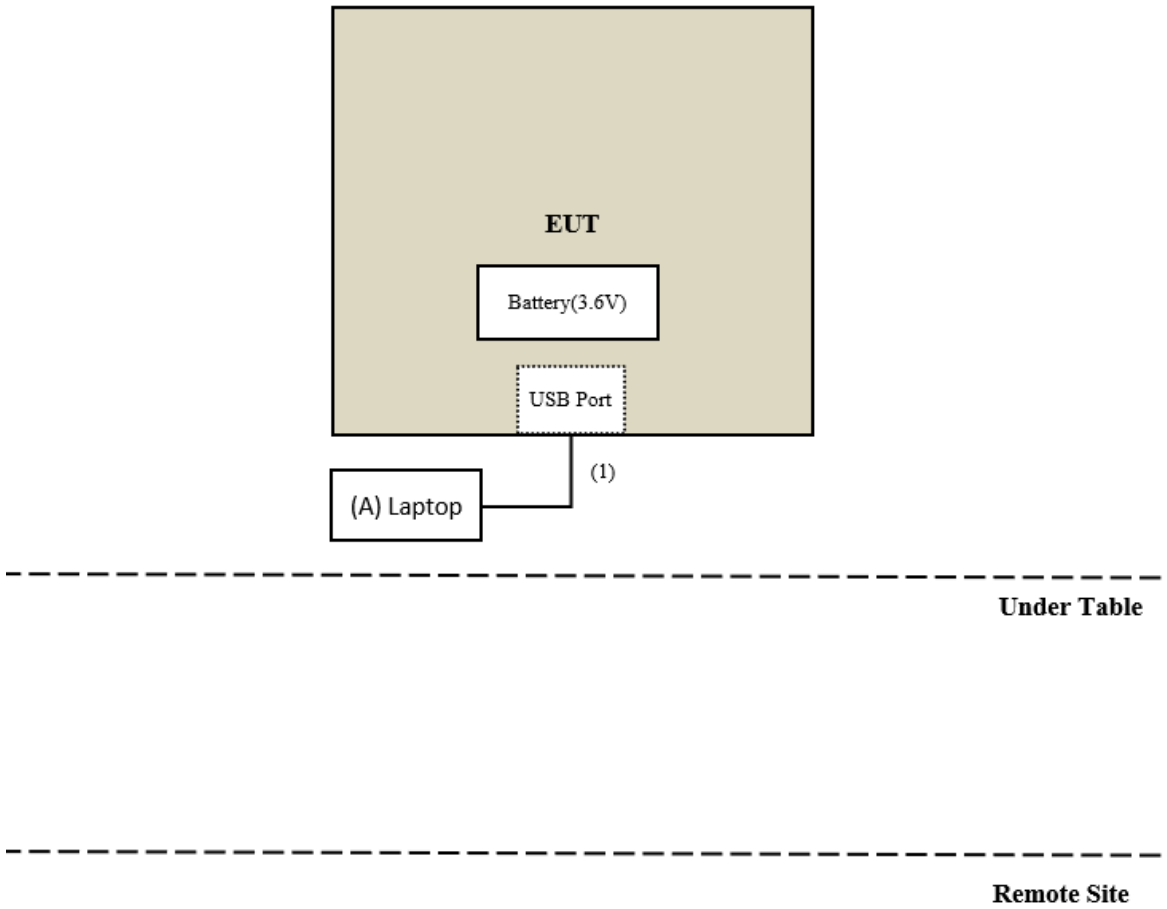
ID	Equipment	Brand Name	Model Name	Length (m)	Remark
1	Micro USB console cable	N/A	N/A	1	Provide by Client

Test Setup

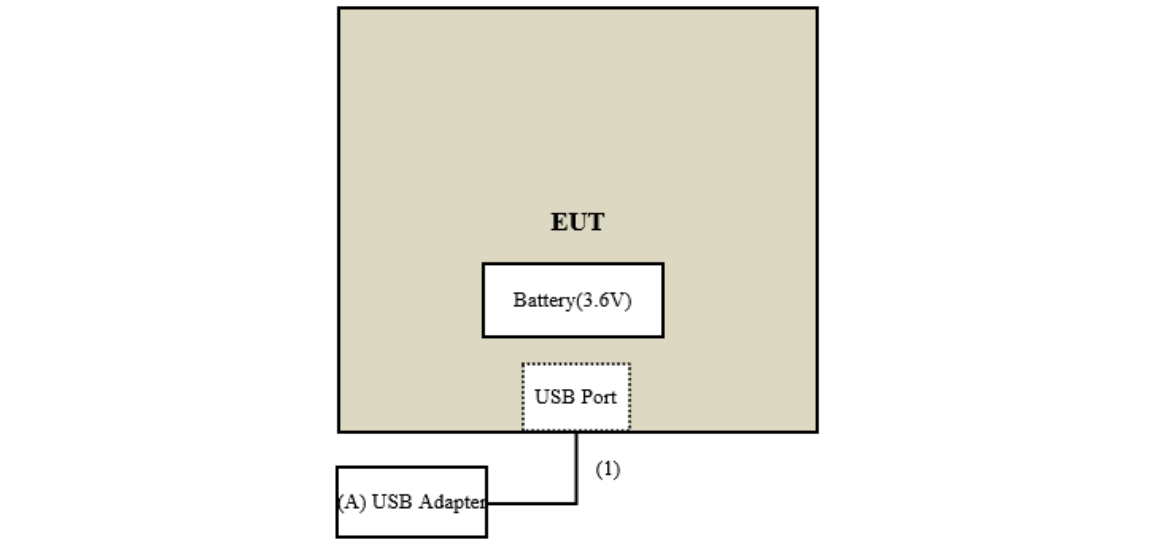
Controlled using a bespoke application (Tera Term tool to paste wl command) on a test Notebook. The application was used to enable a continuous transmission mode and to select the test channels, data rates, modulation schemes and power setting as required.

Setup Diagram for Test

For Radiated Emissions



For AC power Line Conducted Emission



9. Test Results

9.1. Conducted Output Power

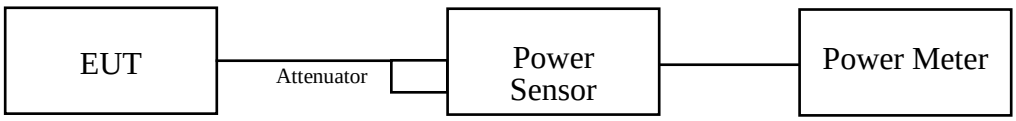
Requirements

For systems using digital modulation in the 2400-2483.5 MHz bands: 1 Watt.

Test Procedure

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

Test Setup



The loss between RF output port of the EUT and the input port of the Power Meter has been taken into consideration.

Test Data

Peak Power

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	104.713	20.20	30	PASS
6	2437	204.644	23.11	30	PASS
11	2462	131.522	21.19	30	PASS

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	189.671	22.78	30	PASS
6	2437	277.971	24.44	30	PASS
11	2462	216.77	23.36	30	PASS

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	183.654	22.64	30	PASS
6	2437	275.423	24.40	30	PASS
11	2462	180.717	22.57	30	PASS

Average Power (Reference Only)

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	54.576	17.37
6	2437	126.474	21.02
11	2462	73.961	18.69

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	29.242	14.66
6	2437	71.614	18.55
11	2462	34.435	15.37

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	27.227	14.35
6	2437	61.802	17.91
11	2462	27.479	14.39

9.2. Radiated Spurious Emission

Requirements

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency(MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Test Procedures

[For 9 kHz ~ 30 MHz]

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. For measurement below 30MHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

NOTE:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

[For above 30 MHz]

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.

b. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.

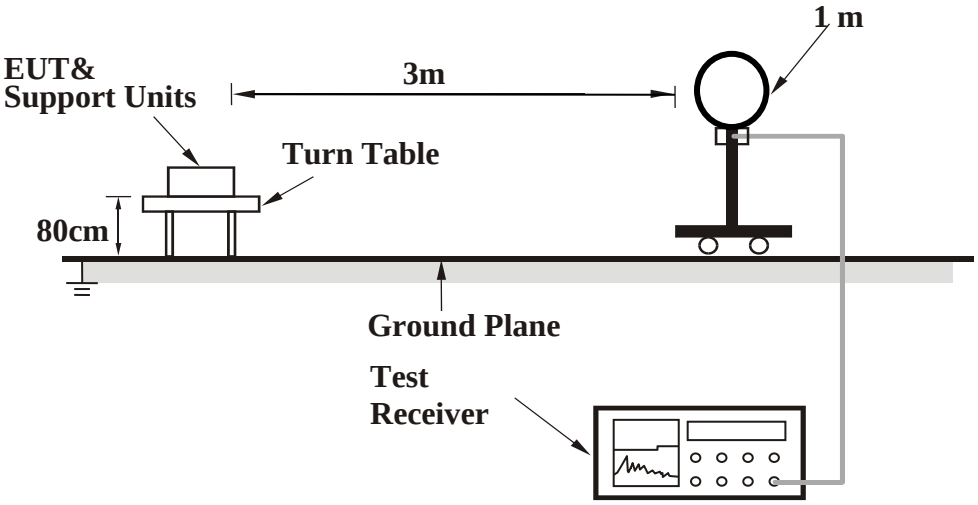
c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.

Configuration	Average	
	RBW	VBW
802.11b	1MHz	10Hz
802.11g		1kHz
802.11n (HT20)		1kHz

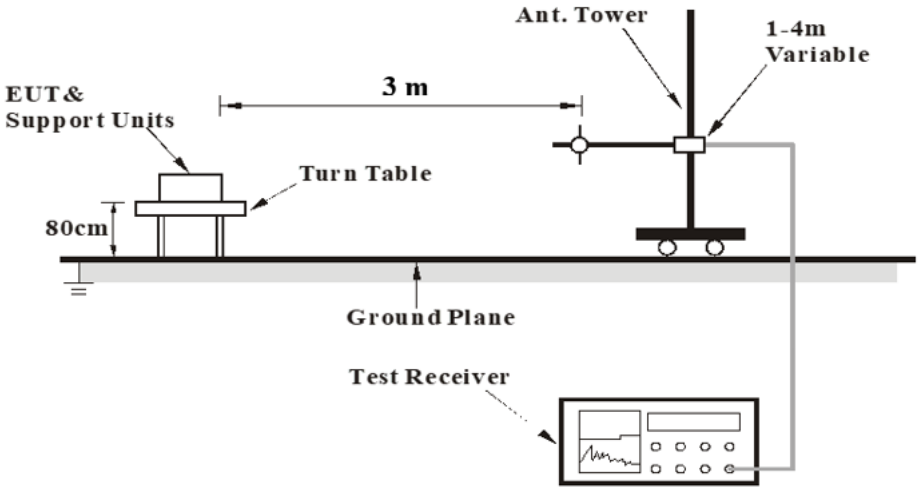
d. All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported.

Test Setup

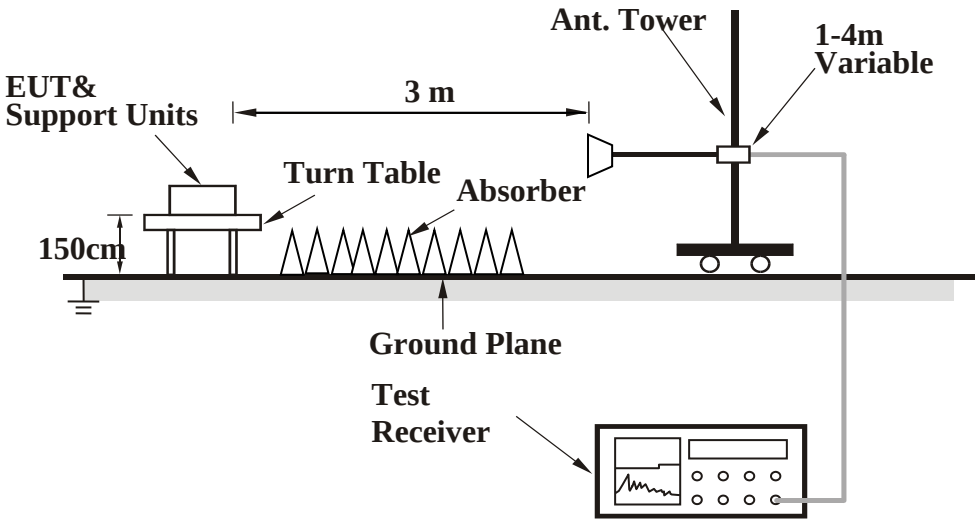
<Frequency Range 9 kHz ~ 30 MHz>



<Frequency Range 30 MHz ~ 1 GHz >



<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the Setup Configurations.

Test Data

Above 1GHz Data

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
*	4874	49.22	2.66	51.88	74	-22.12	Peak
-	7311	42.01	10.62	52.63	54	-1.37	Average
-	7311	45.27	10.62	55.89	74	-18.11	Peak
-	2389.99	32.34	16.1	48.44	54	-5.56	Average
@	2437	90.16	16.12	106.28	-	-	Average
-	2484.42	31.4	16.1	47.5	54	-6.5	Average
-	2348.57	41.11	16.04	57.15	74	-16.85	Peak
@	2437	93.73	16.12	109.85	-	-	Peak
-	2488.41	40.15	16.1	56.25	74	-17.75	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
*	4874	49.5	2.66	52.16	74	-21.84	Peak
-	7311	43.01	10.62	53.63	54	-0.37	Average
-	7311	46.42	10.62	57.04	74	-16.96	Peak
-	2389.99	33.38	16.1	49.48	54	-4.52	Average
@	2437	91.03	16.12	107.15	-	-	Average
-	2484.99	33.11	16.1	49.21	54	-4.79	Average
-	2348.19	41.51	16.04	57.55	74	-16.45	Peak
@	2437	94.93	16.12	111.05	-	-	Peak
-	2498.48	42.55	16.1	58.65	74	-15.35	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

802.11g

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
*	4874	44.92	2.66	47.58	74	-26.42	Peak
-	7311	32.48	10.62	43.1	54	-10.9	Average
-	7311	43.45	10.62	54.07	74	-19.93	Peak
-	2388.66	35.89	16.1	51.99	54	-2.01	Average
@	2437	85.24	16.12	101.36	-	-	Average
-	2483.66	34.28	16.1	50.38	54	-3.62	Average
-	2379.35	47.58	16.08	63.66	74	-10.34	Peak
@	2437	90.99	16.12	107.11	-	-	Peak
-	2485.75	41.94	16.1	58.04	74	-15.96	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
*	4874	47.99	2.66	50.65	74	-23.35	Peak
-	7311	35.43	10.62	46.05	54	-7.95	Average
-	7311	46.72	10.62	57.34	74	-16.66	Peak
-	2388.66	37.64	16.1	53.74	54	-0.26	Average
@	2437	87.28	16.12	103.4	-	-	Average
-	2484.99	36.82	16.1	52.92	54	-1.08	Average
-	2371.37	47.97	16.07	64.04	74	-9.96	Peak
@	2437	94.55	16.12	110.67	-	-	Peak
-	2485.18	48.47	16.1	64.57	74	-9.43	Peak

Remarks:

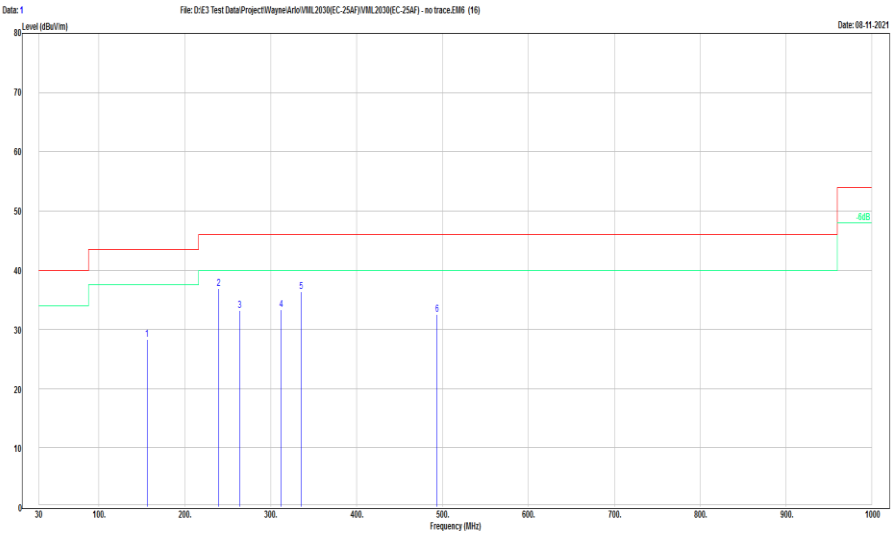
1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

30 MHz ~ 1 GHz Data

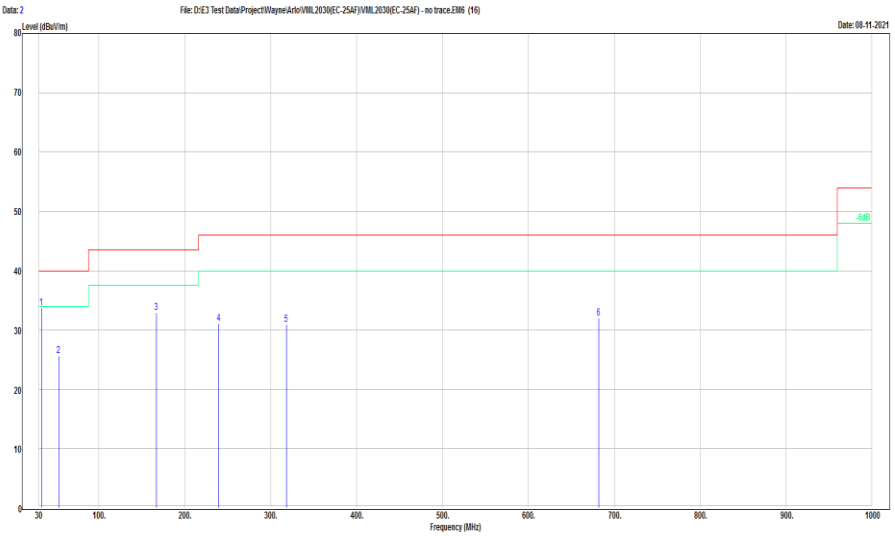
802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	30 MHz ~ 1 GHz

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	156.1	39.5	-11.21	28.29	43.5	-15.21	Peak
-	239.52	49.01	-12.12	36.89	46	-9.11	Peak
-	263.77	44.41	-11.22	33.19	46	-12.81	Peak
-	312.27	43.02	-9.65	33.37	46	-12.63	Peak
-	335.55	45.1	-8.79	36.31	46	-9.69	Peak
-	493.66	37.41	-4.82	32.59	46	-13.41	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	32.91	46.06	-12.4	33.66	40	-6.34	Peak
-	53.28	36.78	-11.11	25.67	40	-14.33	Peak
-	166.77	44.07	-11.13	32.94	43.5	-10.56	Peak
-	239.52	43.22	-12.12	31.1	46	-14.9	Peak
-	318.09	40.3	-9.38	30.92	46	-15.08	Peak
-	681.84	32.78	-0.77	32.01	46	-13.99	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. The peak result complies with QP limit, QP result is deemed to comply with QP limit.
5. The other emission levels were very low against the limit.

9.3. AC Power Line Conducted Emission

Requirements

Frequency (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

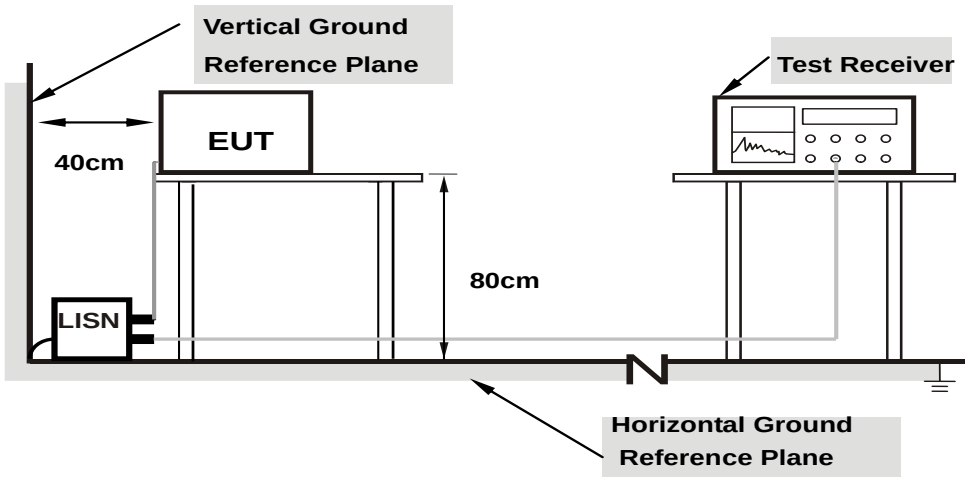
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

Test Setup



Note: 1.Support units were connected to second LISN.

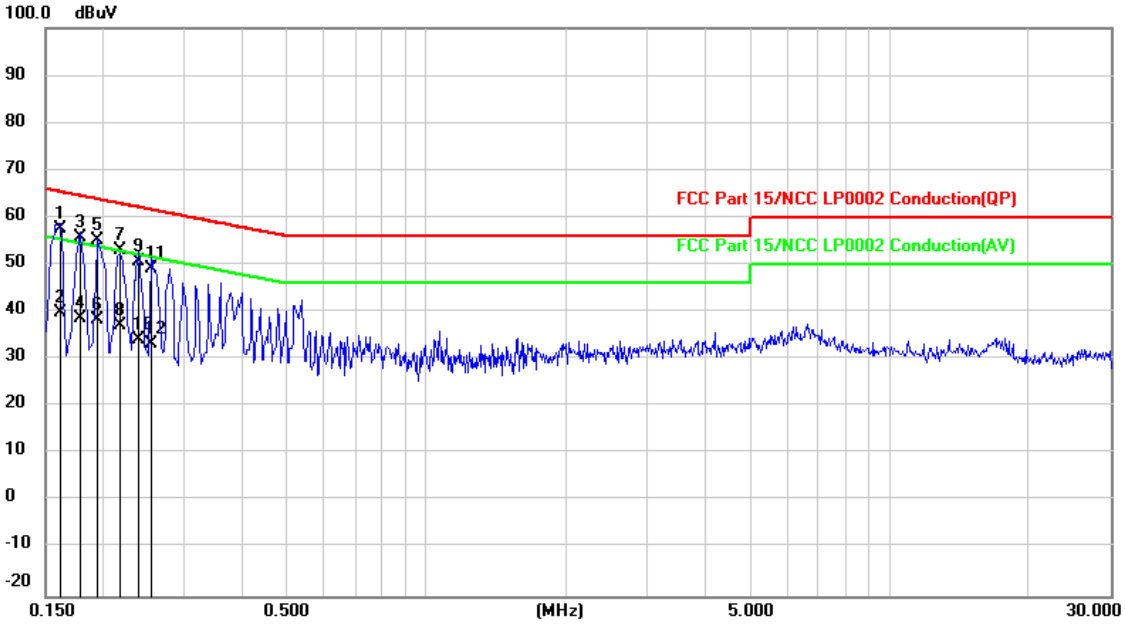
For the actual test configuration, please refer to the Setup Configurations.

Test Data

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	150 kHz ~ 30 MHz

Phase of Power：Line (L)

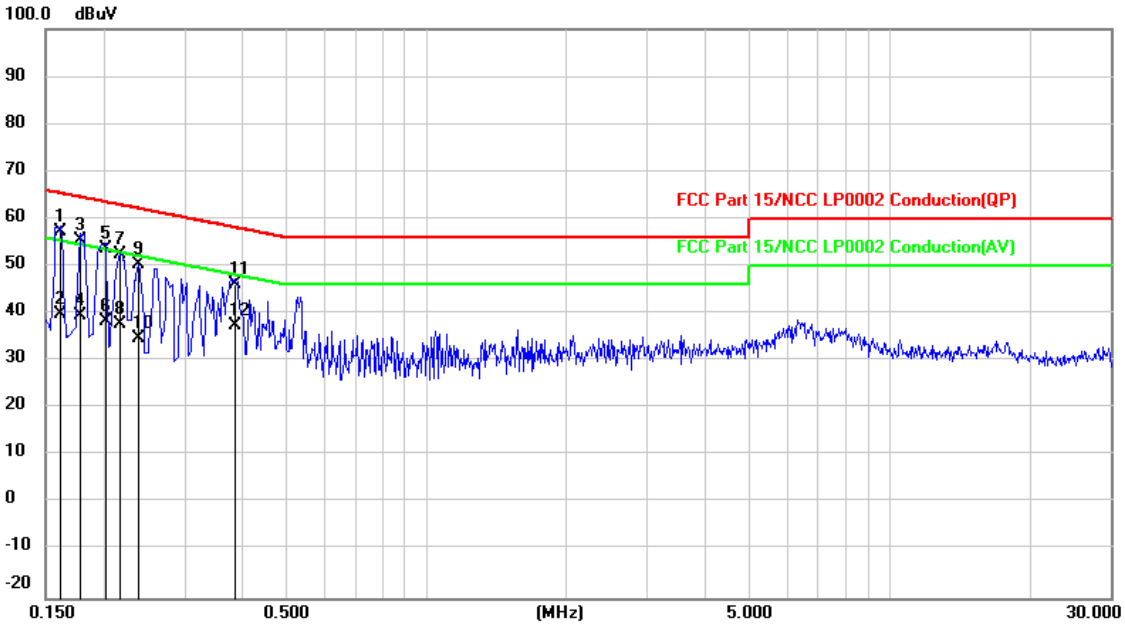


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1620	38.04	19.50	57.54	65.36	-7.82	QP
2	0.1620	20.36	19.50	39.86	55.36	-15.50	AVG
3	0.1780	36.39	19.49	55.88	64.58	-8.70	QP
4	0.1780	19.31	19.49	38.80	54.58	-15.78	AVG
5	0.1940	35.70	19.49	55.19	63.86	-8.67	QP
6	0.1940	18.79	19.49	38.28	53.86	-15.58	AVG
7	0.2180	33.68	19.49	53.17	62.89	-9.72	QP
8	0.2180	17.63	19.49	37.12	52.89	-15.77	AVG
9	0.2380	31.30	19.49	50.79	62.17	-11.38	QP
10	0.2380	14.71	19.49	34.20	52.17	-17.97	AVG
11	0.2540	29.53	19.49	49.02	61.63	-12.61	QP
12	0.2540	13.69	19.49	33.18	51.63	-18.45	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

Phase of Power：Neutral (N)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1620	37.63	19.50	57.13	65.36	-8.23	QP
2	0.1620	20.48	19.50	39.98	55.36	-15.38	AVG
3	0.1780	36.04	19.49	55.53	64.58	-9.05	QP
4	0.1780	20.00	19.49	39.49	54.58	-15.09	AVG
5	0.2020	34.26	19.49	53.75	63.53	-9.78	QP
6	0.2020	18.76	19.49	38.25	53.53	-15.28	AVG
7	0.2180	32.93	19.49	52.42	62.89	-10.47	QP
8	0.2180	18.15	19.49	37.64	52.89	-15.25	AVG
9	0.2380	30.87	19.49	50.36	62.17	-11.81	QP
10	0.2380	15.19	19.49	34.68	52.17	-17.49	AVG
11	0.3860	26.75	19.48	46.23	58.15	-11.92	QP
12	0.3860	18.04	19.48	37.52	48.15	-10.63	AVG

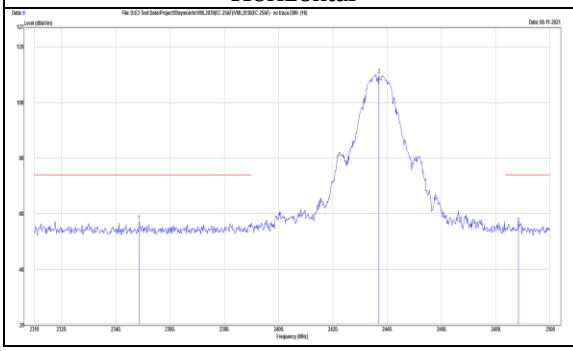
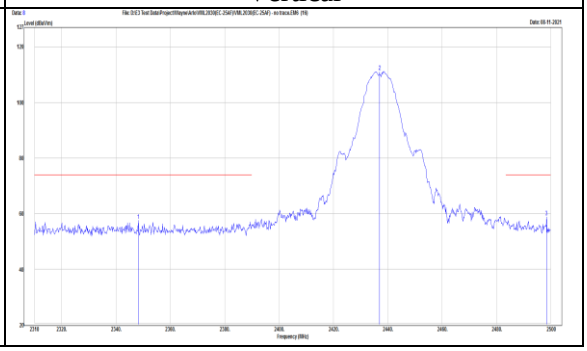
Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

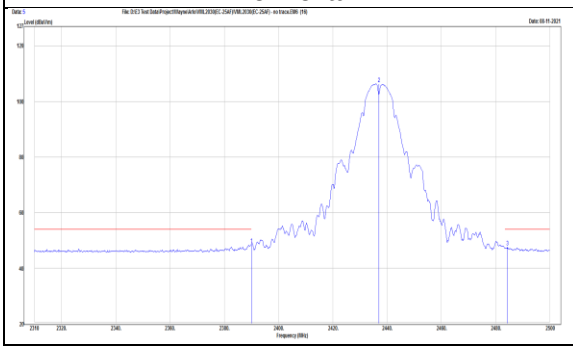
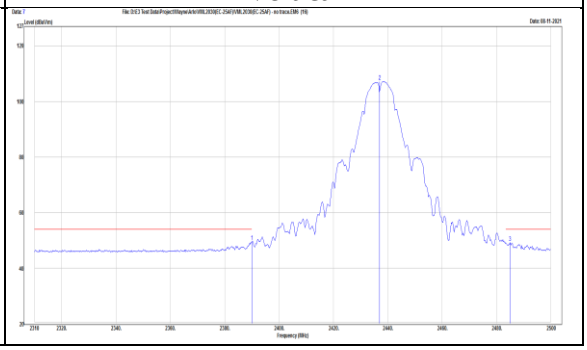
Appendix I Radiated Band Edge Measurement

802.11b

Peak

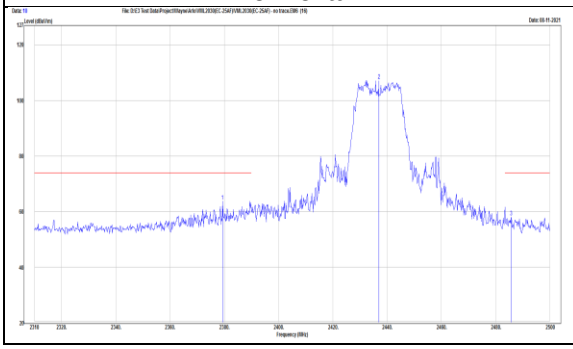
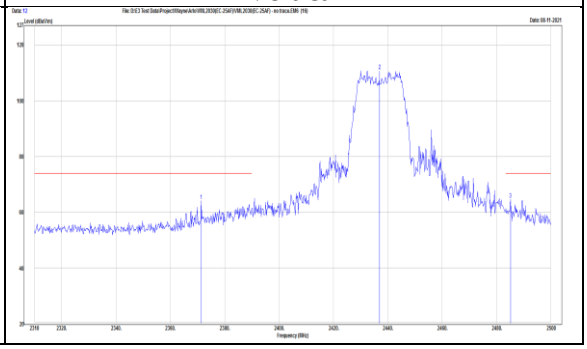
Ch6	
Horizontal	Vertical
	

Average

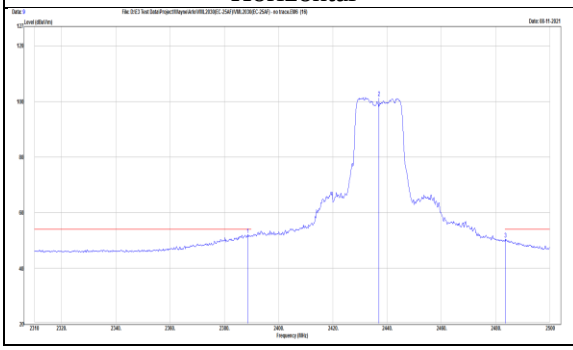
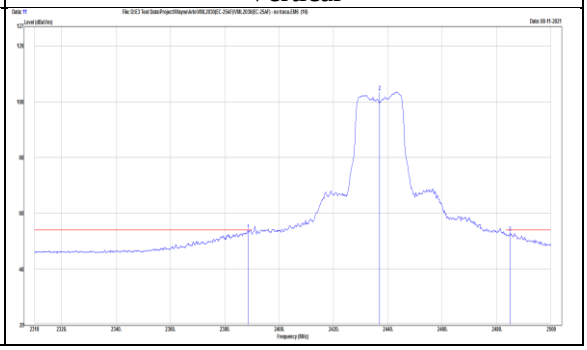
Ch6	
Horizontal	Vertical
	

802.11g

Peak

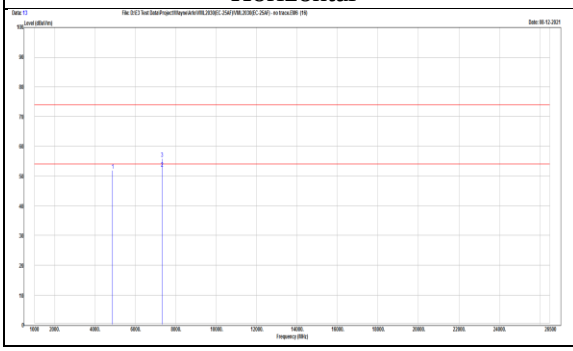
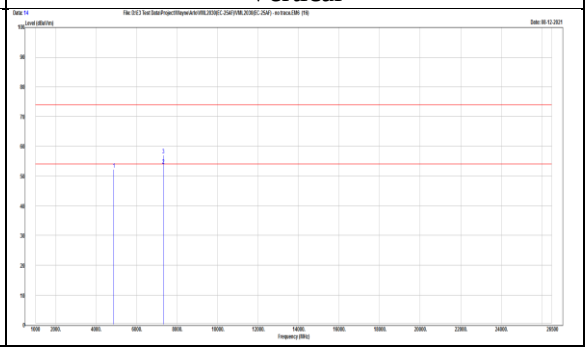
Ch6	
Horizontal	Vertical
	

Average

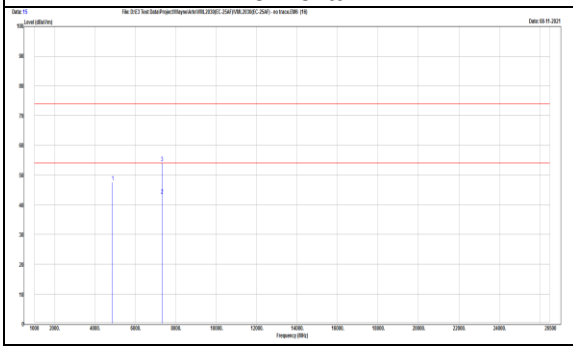
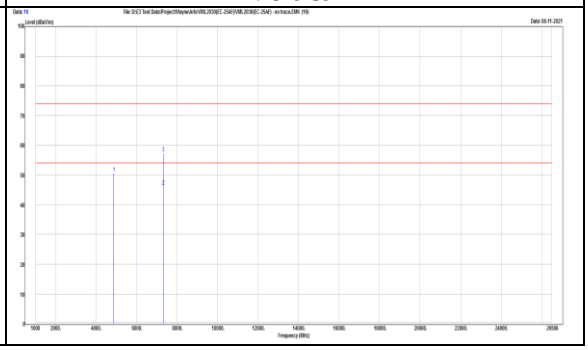
Ch6	
Horizontal	Vertical
	

Appendix II Radiated Spurious Emission Measurement

802.11b

Ch6	
Horizontal	Vertical
	

802.11g

Ch6	
Horizontal	Vertical
	

END OF REPORT