

CO-LOCATION RADIO TEST REPORT

Product	:	Pro 5 Wire-Free Spotlight Camera
Model Name	:	VMC4060P
FCC ID	:	2APLE18300422
Test Regulation	:	FCC 47 CFR PART 15 Subpart C (Section 15.247) FCC 47 CFR PART 15 Subpart E (Section 15.407)
Received Date	:	2022/6/21
Test Date	:	2022/6/24 ~ 2022/7/20
Issued Date	:	2022/7/26
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



The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report are responsible of the test sample(s) provided by the client only and are not to be used to indicate applicability to other similar products.



REVISION HISTORY

Original Test Report No.: 4790420462-US-R5-V0

Rev.	Test report No. 4790420462-US-R5-V0	Date	Page revised	Contents
Original	4790420462-US-R5-V0	2022/7/26	-	Initial issue



Table of Contents

2. Summary of Test Results	1.	Atte	station of Test Results	4
4. Facilities and Accreditation	2.	Sum	mary of Test Results	5
5. Measurement Uncertainty .7 6. Equipment under Test .8 6.1. Description of EUT .8 6.2. Test Condition .10 6.3. Description of Available Antennas .10 6.4. Test Mode Applicability and Tested Channel Detail .11 7. Test Equipment .12 8. Description of Test Setup .14 9. Test Results .16 9.1. Radiated Spurious Emission .16	3.	Test	Methodology and Reference Procedures	6
6. Equipment under Test 8 6.1. Description of EUT. 8 6.2. Test Condition 10 6.3. Description of Available Antennas 10 6.4. Test Mode Applicability and Tested Channel Detail 11 7. Test Equipment 12 8. Description of Test Setup 14 9. Test Results 16 9.1. Radiated Spurious Emission 16	4.	Faci	lities and Accreditation	6
6.1. Description of EUT	5.	Mea	surement Uncertainty	7
6.2. Test Condition	6.	Equi	ipment under Test	8
6.3. Description of Available Antennas 10 6.4. Test Mode Applicability and Tested Channel Detail 11 7. Test Equipment 12 8. Description of Test Setup 14 9. Test Results 16 9.1. Radiated Spurious Emission 16			•	
 6.4. Test Mode Applicability and Tested Channel Detail				
 7. Test Equipment				
 8. Description of Test Setup				
 9. Test Results	7.	Test	Equipment1	2
9.1. Radiated Spurious Emission	8.	Desc	ription of Test Setup1	4
	9.	Test	Results1	6
			Radiated Spurious Emission	



1. Attestation of Test Results					
APPLICANT:	PLICANT: Arlo Technologies Inc 2200 Faraday Avenue, Suite 150, Carlsbad, CA 92008, USA				
MANUFACTURER:	FUYU PRECISION COMPONENT CO.,LTD. Lot M1 & Lot F, Quang Chau Industrial Park, Van Trung Commun Viet Yen District, Bac Giang Province, Vietnam				
EUT DESCRIPTION:	Pro 5 Wire-Free Spotlight Camera				
BRAND:	Arlo				
MODEL:	VMC4060P				
SAMPLE STAGE:	Engineering Verification Test sample				
DATE of TESTED:	2022/6/24 ~ 2022/7/20				
APPLICABLE STANDARDS					
S	STANDARD	Test Results			
FCC 47 CFR PART	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 Project Handler Date : 2022/7/26

FCC 47 CFR PART 15 Subpart E (Section 15.407)

Approved and Authorized **B**

PASS

James Chan Date: 2022/7/26 Laboratory Test Engineer

Underwriters Laboratories Taiwan Co., Ltd. Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan Telephone :+886-2-7737-3000 Facsimile (FAX) :+886-3-583-7948



2. Summary of Test Results

Summary of Test Results				
FCC ClauseTest ItemsResult				
15.205 / 15.209 / 15.247(d) / 15.407(b) (1/2/3/4(i/ii)/9) /15.407(b)(5)(8)	Radiated Spurious Emission	PASS		
15.207 15.407(b)(9)	AC Power Conducted Emission	PASS		



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, KDB 789033 D02 General UNII Test Procedure New Rules v02r01, KDB 987594 D02 U-NII 6 GHz EMC Measurement v01r01, 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.		



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	±2.9 dB	
RF Conducted	9 kHz - 40GHz	±2.4 dB	
Radiated disturbance below 30MHz	9 kHz - 30 MHz	±1.9 dB	
Radiated disturbance below 1 GHz	30MHz ~ 1GHz	±5.8 dB	
Radiated disturbance above 1 GHz	1GHz ~ 40GHz	±4.8 dB	



6. Equipment under Test

6.1. Description of EUT

Product	Pro 5 Wire-Free Spotlight Camera			
Brand Name	Arlo			
Model Name	VMC4060P			
	Sub-G	904 MHz ~ 926 MHz		
Operating Frequency	WLAN	2.4GHz: 2412MHz ~ 2462MHz 5GHz: 5180MHz ~ 5240MHz 5260MHz ~ 5320MHz 5500MHz ~ 5720MHz 5745MHz ~ 5825MHz		
	Sub-G	O-QPSK		
Modulation	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM		
	Sub-G	12		
	2.4G WLAN 2412 ~ 2462 MHz	11 for 802.11b, 802.11g, 802.11n (HT20)		
	5G WLAN 5180 ~ 5240 MHz	4 for 802.11a, 802.11n (HT20)		
Number of Channel	5G WLAN 5260 ~ 5320 MHz	4 for 802.11a, 802.11n (HT20)		
	5G WLAN 5500 ~ 5720 MHz	12 for 802.11a, 802.11n (HT20)		
	5G WLAN 5745 ~ 5825 MHz	5 for 802.11a, 802.11n (HT20)		
Normal Voltage	5Vdc from adapter 3.85Vdc for battery			
Sample ID	Conducted Test: 5079774 Radiated Test: 5079774			

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, TaiwanTelephone:+886-2-7737-3000Facsimile (FAX):+886-3-583-7948Doc No: 17-EM-F0876 / 6.0



: 4790420462-US-R5-V0
: 9 of 31
: Jul. 26, 2022
: 2APLE18300422

Note:

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

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

2. The EUT contains following accessory devices:

Product	Brand	Model	Description
AC Adapter	PIE	AD2158	Input: 100-240V, 50/60Hz, 0.3A, Output: 5.0V, 2A
AC Adapter	CWT	2AEA010	Input: 100-240V, 50/60Hz, 0.3A, Output: 5.0V, 2A
USB Cable	Nienyi	310-50012-04	Length: 0.9m
Battery	Arlo	A-4a	4800mAh,3.85V, 18.48WH

3. 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. Test Condition

Test Item	Test Site No.	Environmental Condition	Input Power	Test Date	Tested by
Radiated Spurious Emission	966-2	22~24°C/ 57~68%RH	120Vac / 60 Hz	Jun. 24, 2022 ~ Jul. 20, 2022	WaterNil Guan
AC power Line Conducted Emission	SR1	22~24°C/ 63~66%RH	120Vac / 60 Hz	Jun. 24, 2022 ~ Jul. 20, 2022	Patrick Kuan

FCC Test Firm Registration Number: 498077

6.3. Description of Available Antennas

Ant. No.	Transmitter Circuit	Brand Name	Model Name	Ant. Type	Frequency Band (MHz)	Maximum Gain (dBi)
					2400~2500	2.1
1	Chain (0)	N/A	N/A	Metal	5150~5850	4.5
					900~940	-2.4

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.



6.4. Test Mode Applicability and Tested Channel Detail

Simultaneously transmission condition:

Condition Technology		nology		
1	WLAN (2.4GHz)	SubG		
2	WLAN (5GHz)	SubG		
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.				

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7. Test Equipment

Test Equipment List						
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date	
Radiated Spurious Emission						
Spectrum Analyzer	Keysight	N9010A	MY56070827	2021/11/9	2022/11/8	
EMI Test Receiver	Rohde & Schwarz	ESR7	101754	2021/12/10	2022/12/9	
Loop Antenna	ETS lindgren	6502	00213440	2021/12/23	2022/12/22	
Trilog- Broadband Antenna with 5dB Attenuator	Schwarzbeck	VULB 9168 & N-6-05	774 & AT- N0538	2022/2/8	2023/2/7	
Trilog- Broadband Antenna with 5dB Attenuator	Schwarzbeck	VULB 9168 & N-6-05	773 & AT- N0539	2022/4/6	2023/4/5	
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01690	2021/12/13	2022/12/12	
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01686	2021/12/13	2022/12/12	
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	781	2021/12/17	2022/12/16	
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	759	2021/12/1	2022/11/30	
Preamplifier (30-1000 MHz)	EMCI	EMC330E	980405	2022/6/7	2023/6/6	
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980406	2022/2/16	2023/2/15	
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980426	2022/5/17	2023/5/16	
Signal Generator	Keysight	N5173B	MY53271122	2022/1/18	2023/1/17	
Cables	Hanyitek	K1K50-UP0264- K1K50-2500	170214-4 & 170425-2	2021/12/3	2022/12/2	
Cables	Hanyitek	K1K50-UP0264- K1K50-2500	170214-1 & 170214-2	2021/12/3	2022/12/2	



Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	2021/11/15	2022/11/14
Two-Line V- Network	Rohde & Schwarz	ENV216	102136	2021/8/30	2022/8/29
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	2021/8/26	2022/8/25
Cables	TITAN	CFD200	T0732ACFD20 020A300-1	2022/3/16	2023/3/15

UL Software				
Description	Name	Version		
Radiated measurement	e3	6.191211 (V6)		
AC power Line Conducted Emission	EZ_EMC	UL-3A1.2		



8. Description of Test Setup

Support Equipment

ID	Equipment	Brand Name	Model Name	S/N	Remark
А	AC Adapter	CWT	2AEA010BA3B	332-50108-02	Provided by Client
В	Laptop	DELL	Latitude E5470	CXSKWF2	Provided by Lab

I/O Cables

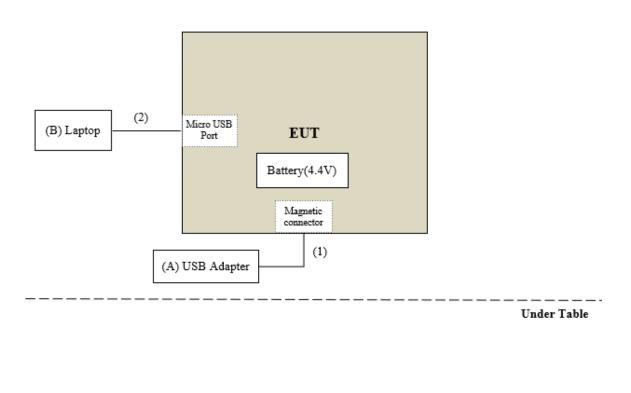
ID	Equipment	Brand Name	Model Name	Length (m)	Remark
1	Magnetic USB Cable	Nienyi	310-50012-04	0.9	Provided by Client
2	Micro USB Cable	WONDER	WA-W07UA	0.8	Provided by Lab



Test Setup

Controlled using a bespoke application (Typing RF command by terminal tool (Putty version 0.62)) 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



Remote Site



9. Test Results

9.1. 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.



Limits of unwanted emission out of the restricted bands

Applic	able To	Limit		
789033 D02 General U	NII Test Procedure New	Field Strength at 3m		
Rules v02r01		PK:74 (dBµV/m)	AV:54 (dBµV/m)	
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m	
5150~5250 MHz	15.407(b)(1)			
5250~5350 MHz	15.407(b)(2)	PK:-27 (dBm/MHz)	PK:68.2(dBµV/m)	
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8(dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}	

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

 $E = \frac{1000000\sqrt{30P}}{3} \mu V/m, \text{ where P is the eirp (Watts).}$



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.

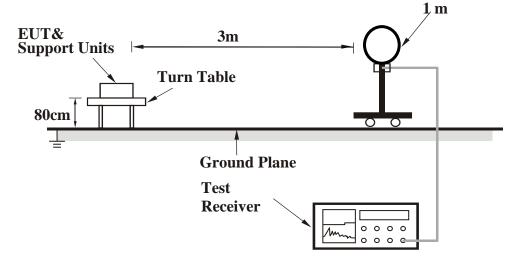
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Note:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. 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.
- 3. 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.
- 4. All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported, the other emission levels were low against the limit.
- 5. Test data of Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
- 6. Test data of Margin(dB) = Result value (dBuV/m) Limit value (dBuV/m).
- 7. Test data of Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) Preamp Factor (dB).
- 8. Test data of Notation "@" = Fundamental Frequency
- 9. Test data of Notation " * " = The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.

<u>Test Setup</u>

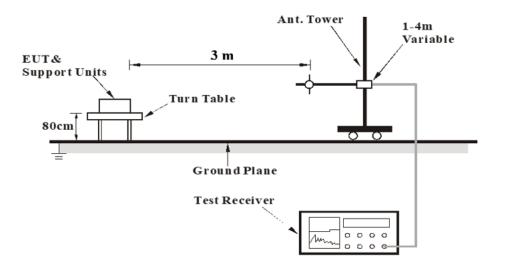
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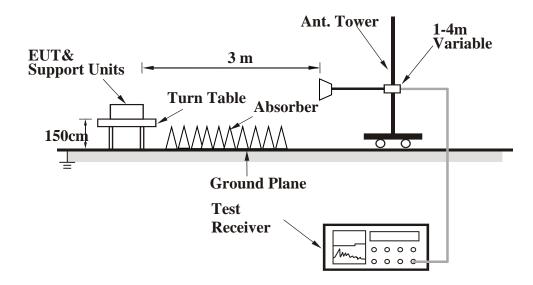


Test report No.	: 4790420462-US-R5-V0
Page	: 20 of 31
Issued date	: Jul. 26, 2022
FCC ID	: 2APLE18300422

<Frequency Range 30 MHz ~ 1 GHz >



<Frequency Range above 1 GHz>



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



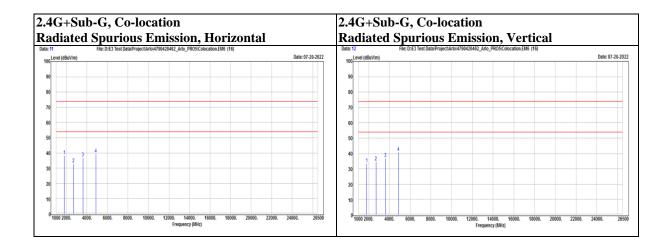
Test report No.	: 4790420462-US-R5-V0
Page	: 21 of 31
Issued date	: Jul. 26, 2022
FCC ID	: 2APLE18300422

Test Data

Above 1 GHz

Mode	WLAN 2.4G Hz +Sub-G	Channel	2.4G 802.11g_Ch6 &
	WLAN 2.40 HZ +Sub-0		SubG_Ch1

Polarization	Notation	Frequenc y	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
		1808	45.51	-7.35	38.16	74	-35.84	РК
Horizontal		2712	36.29	-3.5	32.79	74	-41.21	РК
		3616	37.87	-1	36.87	74	-37.13	PK
		4874	36.81	2.4	39.21	74	-34.79	PK
Vertical		1808	40.84	-7.35	33.49	74	-40.51	PK
		2712	38	-3.5	34.5	74	-39.5	PK
		3616	37.78	-1	36.78	74	-37.22	PK
		4874	38.42	2.4	40.82	74	-33.18	PK





Test report No.	: 4790420462-US-R5-V0
Page	: 22 of 31
Issued date	: Jul. 26, 2022
FCC ID	: 2APLE18300422

Mode	WLAN 5G Hz +Sub-G			Chann	5G 802.11n20_Ch116 & SubG_Ch1			
		P						

Polarization	Notation	Frequenc y	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
		1808	43.24	-7.35	35.89	68.2	-32.31	PK
Homizontal		2712	41.2	-3.5	37.7	74	-36.3	PK
Horizontal		3616	38.28	-1	37.28	74	-36.72	PK
		11160	31.52	18.47	49.99	74	-24.01	PK
Vertical		1808	41.98	-7.35	34.63	68.2	-33.57	PK
		2712	39.2	-3.5	35.7	74	-38.3	PK
		3616	39.61	-1	38.61	74	-35.39	PK
		11160	30.27	18.47	48.74	74	-25.26	PK

G+Sub-G, Co-location adiated Spurious Emission, Horizontal		5G+Sub-G, Co-location Radiated Spurious Emission, Vertical					
15 File: Dit2 Test Data/ProjectAnix4796420452_Anix_PR05Colocation.Ell6 (16) _terrel (dBuVm) 0	Date: 06-29-2022	Data: 16 100_Level (dBuVim) 90	File: DrE3 Test Data Project Anto 4700420482, Anto, PROS Colocation.EMB (18)	Date: 06-29-202			
23		40 30					

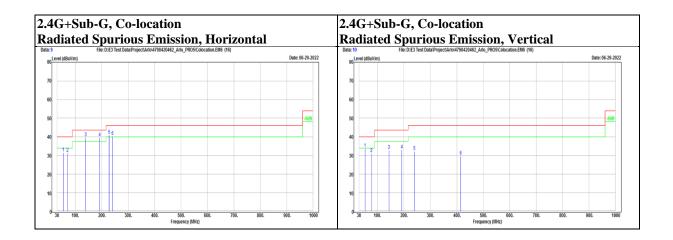
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Test report No.	: 4790420462-US-R5-V0
Page	: 23 of 31
Issued date	: Jul. 26, 2022
FCC ID	: 2APLE18300422

Below 1 GHz

Mode WLAN 2.4G Hz +Sub-G	Channel	2.4G 802.11g_Ch6 & SubG_Ch1
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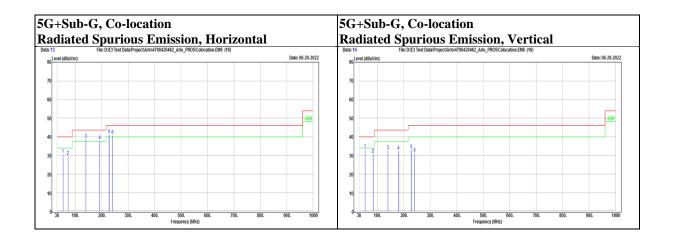
Polarization	Notation	Frequenc y	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
		54.25	42.61	-11.2	31.41	40	-8.59	PK
		69.77	45.28	-14.07	31.21	40	-8.79	РК
Horizontal		138.64	51.89	-12.28	39.61	43.5	-3.89	PK
Horizontai		191.99	52.77	-13.29	39.48	43.5	-4.02	PK
		227.88	53.82	-12.93	40.89	46	-5.11	PK
		240.49	52.43	-12.14	40.29	46	-5.71	PK
		53.28	44.96	-11.16	33.8	40	-6.2	PK
		77.53	46.74	-15.79	30.95	40	-9.05	PK
Vartical		143.49	44.66	-11.84	32.82	43.5	-10.68	PK
Vertical		191.99	46.23	-13.29	32.94	43.5	-10.56	РК
		239.52	44.4	-12.16	32.24	46	-13.76	РК
		414.12	36.41	-6.78	29.63	46	-16.37	РК





Test report No.	: 4790420462-US-R5-V0
Page	: 24 of 31
Issued date	: Jul. 26, 2022
FCC ID	: 2APLE18300422

Mode W	WLAN 5G Hz +Sub-G			Chanr	Channel 5G 802.11n20_Ch116 & SubG_Ch1			κ ^χ	
Polarization	Notation	Frequenc y	Reading	Correct	Result	Limit	Margin	Remark	
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		
		53.28	41.74	-11.16	30.58	40	-9.42	РК	
Herican (1		71.71	44.16	-14.4	29.76	40	-10.24	PK	
		139.61	50.98	-12.21	38.77	43.5	-4.73	PK	
Horizontal		191.99	51.29	-13.29	38	43.5	-5.5	PK	
		227.88	54.14	-12.93	41.21	46	-4.79	PK	
		240.49	53.01	-12.14	40.87	46	-5.13	PK	
		53.28	44.32	-11.16	33.16	40	-6.84	PK	
		83.35	47.97	-17.18	30.79	40	-9.21	PK	
Vartical		139.61	44.78	-12.21	32.57	43.5	-10.93	PK	
Vertical		179.38	44.66	-12.41	32.25	43.5	-11.25	PK	
		227.88	46.03	-12.93	33.1	46	-12.9	PK	
		240.49	43.4	-12.14	31.26	46	-14.74	PK	





9 kHz ~ 30 MHz Data:

For 9 kHz to 30 MHz radiated emission have performed all modes of operation were investigated. The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

No non-compliance noted: KDB 414788 D01 OATS and Chamber Correlation Justification

- Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

- OATs and chamber correlation testing had been performed and chamber measured test results is the worst case test result.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.



9.2. 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

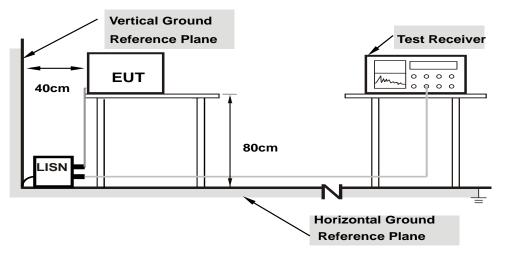
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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.
- 2. All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported, the other emission levels were low against the limit.
- 3. Test data of Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB).
- 4. Test data of Margin(dB) = Result value (dBuV) Limit value (dBuV).
- 5. Test data of Correction Factor (dB) = Insertion loss(dB) + Cable loss(dB).

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Test Setup



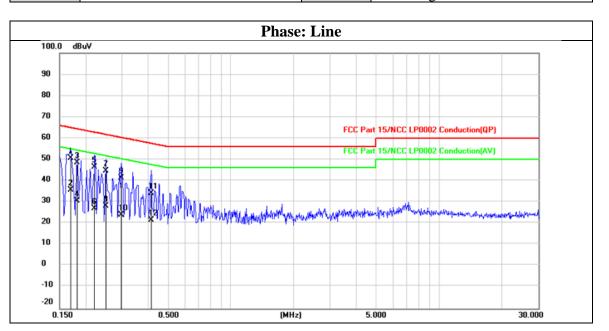
Note: 1.Support units were connected to second LISN.

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



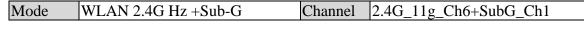
Test Data

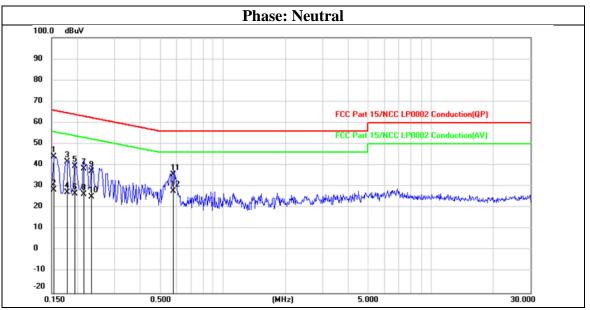
Channel Mode WLAN 2.4G Hz +Sub-G 2.4G_11g_Ch6+SubG_Ch1



No.	Frequency	Reading	Correct	Result	Limit	Margin	Domont
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	Remark
1	0.1700	31.18	19.53	50.71	64.96	-14.25	QP
2	0.1700	16.19	19.53	35.72	54.96	-19.24	AVG
3	0.1819	29.11	19.53	48.64	64.40	-15.76	QP
4	0.1819	10.99	19.53	30.52	54.40	-23.88	AVG
5	0.2220	27.01	19.53	46.54	62.74	-16.20	QP
6	0.2220	7.28	19.53	26.81	52.74	-25.93	AVG
7	0.2500	25.27	19.53	44.80	61.76	-16.96	QP
8	0.2500	8.51	19.53	28.04	51.76	-23.72	AVG
9	0.2980	21.86	19.53	41.39	60.30	-18.91	QP
10	0.2980	4.35	19.53	23.88	50.30	-26.42	AVG
11	0.4140	14.67	19.53	34.20	57.57	-23.37	QP
12	0.4140	2.03	19.53	21.56	47.57	-26.01	AVG



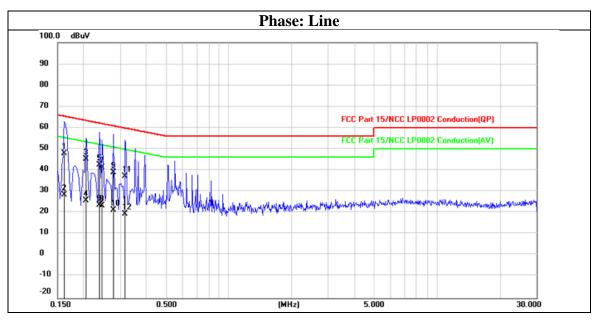




No.	Frequency	Reading	Correct	Result	Limit	Margin	Demonstr
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	Remark
1	0.1539	24.58	19.53	44.11	65.79	-21.68	QP
2	0.1539	9.03	19.53	28.56	55.79	-27.23	AVG
3	0.1780	22.00	19.53	41.53	64.58	-23.05	QP
4	0.1780	7.72	19.53	27.25	54.58	-27.33	AVG
5	0.1940	20.09	19.53	39.62	63.86	-24.24	QP
6	0.1940	7.12	19.53	26.65	53.86	-27.21	AVG
7	0.2140	18.77	19.53	38.30	63.05	-24.75	QP
8	0.2140	6.72	19.53	26.25	53.05	-26.80	AVG
9	0.2340	17.55	19.53	37.08	62.31	-25.23	QP
10	0.2340	5.70	19.53	25.23	52.31	-27.08	AVG
11	0.5780	16.13	19.54	35.67	56.00	-20.33	QP
12	0.5780	8.29	19.54	27.83	46.00	-18.17	AVG



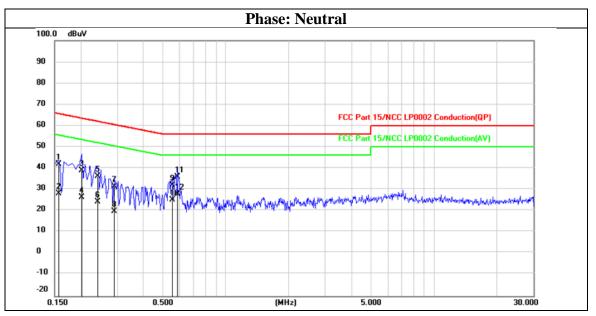
ModeWLAN 5G Hz +Sub-GChannel5G_11n20_Ch116+SubG_Ch1



No	Frequency	Reading	Correct	Result	Limit	Margin	Demonstr
No.	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	Remark
1	0.1620	28.39	19.53	47.92	65.36	-17.44	QP
2	0.1620	8.89	19.53	28.42	55.36	-26.94	AVG
3	0.2060	25.85	19.53	45.38	63.37	-17.99	QP
4	0.2060	6.25	19.53	25.78	53.37	-27.59	AVG
5	0.2380	22.90	19.53	42.43	62.17	-19.74	QP
6	0.2380	4.23	19.53	23.76	52.17	-28.41	AVG
7	0.2460	21.69	19.53	41.22	61.89	-20.67	QP
8	0.2460	3.76	19.53	23.29	51.89	-28.60	AVG
9	0.2779	19.41	19.53	38.94	60.88	-21.94	QP
10	0.2779	1.79	19.53	21.32	50.88	-29.56	AVG
11	0.3180	17.48	19.53	37.01	59.76	-22.75	QP
12	0.3180	-0.22	19.53	19.31	49.76	-30.45	AVG



Mode WLAN 5G Hz +Sub-G Channel 5G_11n20_Ch116+SubG_Ch1



No.	Frequency	Reading	Correct	Result	Limit	Margin	Damari
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	Remark
1	0.1580	22.48	19.53	42.01	65.57	-23.56	QP
2	0.1580	8.56	19.53	28.09	55.57	-27.48	AVG
3	0.2020	19.40	19.53	38.93	63.53	-24.60	QP
4	0.2020	6.75	19.53	26.28	53.53	-27.25	AVG
5	0.2420	16.82	19.53	36.35	62.03	-25.68	QP
6	0.2420	4.87	19.53	24.40	52.03	-27.63	AVG
7	0.2900	11.82	19.53	31.35	60.52	-29.17	QP
8	0.2900	0.16	19.53	19.69	50.52	-30.83	AVG
9	0.5540	12.58	19.54	32.12	56.00	-23.88	QP
10	0.5540	5.58	19.54	25.12	46.00	-20.88	AVG
11	0.5860	16.51	19.54	36.05	56.00	-19.95	QP
12	0.5860	8.28	19.54	27.82	46.00	-18.18	AVG

END OF REPORT