FCC Test Report

(Co-Located)

Report No.:	RFBCKS-WTW-P22051021A-1
FCC ID:	TVE-3918T05646
Test Model:	FAP-431G, FAP-433G
Series Model:	FortiAP 431Gxxxxxx, FAP-431Gxxxxxx, FORTIAP-431Gxxxxxx, FortiAP 433Gxxxxxx, FAP-433Gxxxxxx, FORTIAP-433Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)
Received Date:	2022/5/31
Test Date:	2022/10/17 ~ 2022/11/8
Issued Date:	2023/6/27
Applicant:	Fortinet Inc.
Address:	899 Kifer Road Sunnyvale, CA 94086 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location (1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
Test Location (2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number(1):	788550 / TW0003
FCC Registration / Designation Number(2):	281270 / TW0032

Table of Contents

Release Control Record 3

1 Certificate of Conformity 4

2 Summary of Test Results 5

2.1 Measurement Uncertainty 5
2.2 Modification Record 5

3 General Information 6

3.1 General Description of EUT 6
3.2 Description of Test Modes 20
3.2.1 Test Mode Applicability and Tested Channel Detail 26
3.3 Description of Support Units 29
3.3.1 Configuration of System under Test 29
3.4 General Description of Applied Standards 30

4 Test Types and Results 31

4.1 Radiated Emission and Bandedge Measurement 31
4.1.1 Limits of Radiated Emission and Bandedge Measurement 31
4.1.2 Test Instruments 32
4.1.3 Test Procedures 35
4.1.4 Deviation from Test Standard 35
4.1.5 Test Setup 36
4.1.6 EUT Operating Conditions 37
4.1.7 Test Results 38
4.2 Conducted Out of Band Emission Measurement 90
4.2.1 Limits of Conducted Out of Band Emission Measurement 90
4.2.2 Test Setup 90
4.2.3 Test Instruments 90
4.2.4 Test Procedure 90
4.2.5 Deviation from Test Standard 90
4.2.6 EUT Operating Condition 90
4.2.7 Test Results 91

5 Pictures of Test Arrangements 95

Appendix – Information of the Testing Laboratories 96

Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P22051021A-1	Original release	2023/6/27

1 Certificate of Conformity

Product:	Secured Wireless Access Point
Brand:	FORTINET
Test Model:	FAP-431G, FAP-433G
Series Model:	FortiAP 431Gxxxxxx, FAP-431Gxxxxxx, FORTIAP-431Gxxxxxx, FortiAP 433Gxxxxxx, FAP-433Gxxxxxx, FORTIAP-433Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)
Sample Status:	Engineering sample
Applicant:	Fortinet, Inc.
Test Date:	2022/10/17 ~ 2022/11/8
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10-2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** 2023/6/27

Pettie Chen / Senior Specialist

Approved by : Jeremy Lin , **Date:** 2023/6/27

Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407)		
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d) 15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.4dB at 5350.00MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.93 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Secured Wireless Access Point
Brand	FORTINET
Test Model	FAP-431G, FAP-433G
Series Model	FortiAP 431Gxxxxxx, FAP-431Gxxxxxx, FORTIAP-431Gxxxxxx, FortiAP 433Gxxxxxx, FAP-433Gxxxxxx, FORTIAP-433Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)
Model Difference	Refer to note
Sample Status	Engineering sample
Power Supply Rating	12Vdc from Adapter 55Vdc from PoE

WLAN 2.4G & 5G:

Modulation Type	802.11b: BPSK, QPSK, CCK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	**2.4GHz Band:** 802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to 600Mbps VHT20/40: up to 800Mbps 802.11ax: up to 1147.1Mbps **5.0GHz Band:** 802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to 600Mbps 802.11ac (VHT20/40/80/160): up to 1733.3Mbps 802.11ax: up to 4803.9Mbps
Operating Frequency	**2.4GHz Band:** 2412 ~ 2462MHz **5.0GHz Band:** 5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz

Number of Channel	**2.4GHz Band:** 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 13 802.11n (HT40), VHT40, 802.11ax (HE40): 9 **5.0GHz Band:** Radio 2: 5180 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 8 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2 802.11ac (VHT80+VHT80), 802.11ax (HE80+HE80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 802.11ac (VHT80+VHT80), 802.11ax (HE80+HE80): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 Radio 3: 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 802.11ac (VHT160), 802.11ax (HE160): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1

WLAN 5.9G:

Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 3466.7 Mbps 802.11ax: up to 4804 Mbps
Operating Frequency	5815 ~ 5885 MHz
Number of Channel	Radio 2: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 3 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 Radio 3: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 3 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 802.11ac (VHT160), 802.11ax (HE160): 1

6E:

Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11ax: up to 4803.9Mbps
Operating Frequency	5955 ~ 6415MHz, 6435 ~ 6525MHz, 6525 ~ 6875MHz, 6875 ~ 7115MHz
Number of Channel	802.11a/ax (HE20): 59 802.11ax (HE40): 29 802.11ax (HE80): 14 802.11ax (HE160): 7

Zigbee:

Modulation Type	O-QPSK
Modulation Technology	DSSS
Transfer Rate	250 kbps
Operating Frequency	2405 ~ 2480MHz
Number of Channel	16

BT LE:

Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	Up to 2 Mbps
Operating Frequency	2.402 GHz ~ 2.48 GHz
Number of Channel	40
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of BV CPS report no.: RFBCKS-WTW-P22051021-6. Differences compared with the original report are as below
   - Software enabling 5250-5320 MHz and 5500-5720 MHz band
   - The Radio 3 UNII-2A/2C Scanning Radio only Support RX only by software control
   - For Radio 2: Software enable CH 42+58, CH 106+122 modes [802.11ac (VHT80+VHT80), 802.11ax (HE80+HE80)]

   Therefore, the EUT was tested and presented in the test report.
2. The following models are provided to this EUT. The model FAP-431G, FAP-433G were chosen for final test.

Brand	Test Model	Series Model	Difference
Fortinet	FAP-431G	FortiAP 431Gxxxxxx, FAP-431Gxxxxxx, FORTIAP-431Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)	internal antenna
	FAP-433G	FortiAP 433Gxxxxxx, FAP-433Gxxxxxx, FORTIAP-433Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)	external antenna

3. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

2.4GHz Band:

2.4 GHz Band		
Radio 1		
Modulation Mode	TX & RX Configuration	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX

Note:

1. All of modulation mode support beamforming function except 802.11b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.

Radio 3_Scanning Radio		
Modulation Mode	TX & RX Configuration	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX

5.0GHz Band:

5 GHz Band		
Radio 2		
Modulation Mode	TX & RX Configuration	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT80+VHT80)	2TX+2TX	2RX+2RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE80+HE80)	2TX+2TX	2RX+2RX
Note: 1. All of modulation mode support beamforming function except 802.11a modulation mode. 2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.		
Radio 3		
Modulation Mode	TX & RX Configuration	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT160)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX
Note: 1. All of modulation mode support beamforming function except 802.11a modulation mode. 2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.		

Radio 3_Scanning Radio (For UNII-1/3)		
Modulation Mode	TX & RX Configuration	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX

Radio 3_Scanning Radio (For UNII-2A/2C)		
Modulation Mode	TX & RX Configuration	
802.11a	-	2RX
802.11n (HT20)	-	2RX
802.11n (HT40)	-	2RX
802.11ac (VHT20)	-	2RX
802.11ac (VHT40)	-	2RX
802.11ac (VHT80)	-	2RX
802.11ax (HE20)	-	2RX
802.11ax (HE40)	-	2RX
802.11ax (HE80)	-	2RX

5.9GHz Band:

5 GHz Band			
Radio	Modulation Mode	Tx & Rx Configuration	
Radio 2	802.11a	4TX	4RX
	802.11n (HT20)	4TX	4RX
	802.11n (HT40)	4TX	4RX
	802.11ac (VHT20)	4TX	4RX
	802.11ac (VHT40)	4TX	4RX
	802.11ac (VHT80)	4TX	4RX
	802.11ax (HE20)	4TX	4RX
	802.11ax (HE40)	4TX	4RX
	802.11ax (HE80)	4TX	4RX

Note:
1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The EUT device modulation technique OFDMA does not support partial RUs (resource units).

5 GHz Band			
Radio	Modulation Mode	Tx & Rx Configuration	
Radio 3	802.11a	4TX	4RX
	802.11n (HT20)	4TX	4RX
	802.11n (HT40)	4TX	4RX
	802.11ac (VHT20)	4TX	4RX
	802.11ac (VHT40)	4TX	4RX
	802.11ac (VHT80)	4TX	4RX
	802.11ac (VHT160)	4TX	4RX
	802.11ax (HE20)	4TX	4RX
	802.11ax (HE40)	4TX	4RX
	802.11ax (HE80)	4TX	4RX
	802.11ax (HE160)	4TX	4RX

Note:
1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The EUT device modulation technique OFDMA does not support partial RUs (resource units).

5 GHz Band			
Radio	Modulation Mode	Tx & Rx Configuration	
Scanning Radio	802.11a	2TX	2RX
	802.11n (HT20)	2TX	2RX
	802.11n (HT40)	2TX	2RX
	802.11ac (VHT20)	2TX	2RX
	802.11ac (VHT40)	2TX	2RX
	802.11ac (VHT80)	2TX	2RX
	802.11ac (VHT160)	2TX	2RX
	802.11ax (HE20)	2TX	2RX
	802.11ax (HE40)	2TX	2RX
	802.11ax (HE80)	2TX	2RX
	802.11ax (HE160)	2TX	2RX

6E:

Radio 3		
Modulation Mode	TX & RX Configuration	
802.11a	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX

Note:
1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.

Radio 3_Scanning Radio		
Modulation Mode	TX & RX Configuration	
802.11a	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX
802.11ax (HE160)	2TX	2RX

4. The EUT consumes power from the following adapter and POE.

Adapter (support units only)	
Brand	Asian Power Devices Inc.
Model	WA-30J12R
Input Power	100-240Vac, 50-60Hz, 0.9A MAX
Output Power	12Vdc, 2.5A
Power Line	1.5m cable without core attached on adapter

POE (support units only)	
Brand	EnGenius
Model	EPA5006GAT
Input Power	100-240Vac, 50-60Hz, 0.8A
Output Power	54Vdc, 0.6A PIN 4,5:54Vdc PIN 7,8:RETURN

5. The antenna information is listed as below.

Model	Radio	Chip	Mode	Antennas	Ant. Type	Bands Supported
FAP-433G	Radio 1	QCN-5124	4x4 MIMO	ANT 0/1/2/3	External	2.4GHz WLAN
	Radio 2	QCN-5154	4x4 MIMO	ANT 0/1/2/3	External	U-NII-1, 2A, 2C, 3 WLAN up to 80MHz+80MHz
	Radio 3_6G	QCN-9074	4x4 MIMO	ANT 4/5/6/7	Integrated (Non-detachable external antenna)	6GHz WLAN
	Radio 3_5GH	QCN-9074	4x4 MIMO	ANT 4/5/6/7	Integrated (Non-detachable external antenna)	U-NII-2C, 3, 4 WLAN up to 160MHz
	Radio 3 _Scanning	QCN-9074	2x2 MIMO	ANT 4/6	Integrated (Non-detachable external antenna)	2.4GHz WLAN, U-NII-1, 3, 4 WLAN, 6GHz WLAN (TX/RX), U-NII-2A, 2C (Receiver only)
	Radio 4	EFR32MG21	-	ANT 8	Integrated	BT / Zigbee
FAP-431G	Radio 1	QCN-5124	4x4 MIMO	ANT 0/1/2/3	Integrated	2.4GHz WLAN
	Radio 2	QCN-5154	4x4 MIMO	ANT 0/1/2/3	Integrated	U-NII-1, 2A, 2C, 3, 4 WLAN up to 80MHz+80MHz
	Radio 3_6G	QCN-9074	4x4 MIMO	ANT 4/5/6/7	Integrated	6GHz WLAN
	Radio 3_5GH	QCN-9074	4x4 MIMO	ANT 4/5/6/7	Integrated	U-NII-2C, 3 WLAN up to 160MHz U-NII-4 WLAN up to 160 MHz
	Radio 3 _Scanning	QCN-9074	2x2 MIMO	ANT 4/6	Integrated	2.4GHz WLAN, U-NII-1, 3, 4 WLAN, 6GHz WLAN (TX/RX), U-NII-2A, 2C (Receiver only)
	Radio 4	EFR32MG21	-	ANT 8	Integrated	BT / Zigbee

Model: FAP-431G

Antenna Type		PIFA			
Connector Type		ipex(MHF)			
Antenna NO.	RF Chain NO.	Brand	Model	Antenna Net Gain (dBi)	Frequency range
ANT0(DB4)	Radio1 2G CH0 Radio2 5G CH0 Radio2 5GL CH0	WNC	FortiAP-431G	1.41	2.4~2.4835GHz
				4.62	5.15~5.25GHz
				4.62	5.25~5.35GHz
				4.35	5.47~5.725GHz
				3.91	5.725~5.85GHz
				3.91	5.85~5.895GHz
ANT1(DB3)	Radio1 2G CH1 Radio2 5G CH1 Radio2 5GL CH1	WNC	FortiAP-431G	1.72	2.4~2.4835GHz
				3.38	5.15~5.25GHz
				3.61	5.25~5.35GHz
				3.72	5.47~5.725GHz
				3.72	5.725~5.85GHz
				3.72	5.85~5.895GHz
ANT2(DB1)	Radio1 2G CH2 Radio2 5G CH2 Radio2 5GL CH2	WNC	FortiAP-431G	1.54	2.4~2.4835GHz
				4.85	5.15~5.25GHz
				4.85	5.25~5.35GHz
				4.51	5.47~5.725GHz
				4.30	5.725~5.85GHz
				4.30	5.85~5.895GHz
ANT3(DB2)	Radio1 2G CH3 Radio2 5G CH3 Radio2 5GL CH3	WNC	FortiAP-431G	2.38	2.4~2.4835GHz
				3.48	5.15~5.25GHz
				3.52	5.25~5.35GHz
				3.58	5.47~5.725GHz
				3.55	5.725~5.85GHz
				3.55	5.85~5.895GHz
ANT4(TB4)	Radio3 5GH CH0 Radio3 6G CH0 Radio 3 Scanning 2/5/6G CH0 (U-NII-2A, 2C receiver only)	WNC	FortiAP-431G	3.50	2.4~2.4835GHz
				4.98	5.15~5.25GHz
				4.98	5.25~5.35GHz
				4.98	5.47~5.725GHz
				4.50	5.725~5.85GHz
				4.50	5.85~5.895GHz
				4.80	5.925~6.425GHz
				4.80	6.425~6.525GHz
				5.50	6.525~6.875GHz
				5.50	6.875~7.125GHz

Antenna NO.	RF Chain NO.	Brand	Model	Antenna Net Gain (dBi)	Frequency range
ANT5(TB1)	Radio3 5GH CH1 Radio3 6G CH1	WNC	FortiAP-431G	4.76	5.47~5.725GHz
				4.38	5.725~5.85GHz
				4.38	5.85~5.895GHz
				4.32	5.925~6.425GHz
				4.32	6.425~6.525GHz
				4.84	6.525~6.875GHz
				4.84	6.875~7.125GHz
ANT6(TB2)	Radio3 5GH CH2 Radio3 6G CH2 Radio 3 Scanning 2/5/6G CH1 (U-NII-2A, 2C receiver only)	WNC	FortiAP-431G	2.58	2.4~2.4835GHz
				4.47	5.15~5.25GHz
				4.81	5.25~5.35GHz
				5.30	5.47~5.725GHz
				5.30	5.725~5.85GHz
				5.30	5.85~5.895GHz
				4.60	5.925~6.425GHz
				4.60	6.425~6.525GHz
				5.20	6.525~6.875GHz
				5.20	6.875~7.125GHz
ANT7(TB3)	Radio3 5GH CH3 Radio3 6G CH3	WNC	FortiAP-431G	5.09	5.47~5.725GHz
				5.09	5.725~5.85GHz
				5.09	5.85~5.895GHz
				4.20	5.925~6.425GHz
				3.94	6.425~6.525GHz
				4.50	6.525~6.875GHz
				4.50	6.875~7.125GHz

Item	RF Chain NO.	Brand	Model	Antenna Type	Connector	Gain(dBi)
ANT8	Radio 4 (BLE/Zigbee)	WNC	FortiAP-431G	PIFA	ipex(MHF)	3.8

Radio 1

Frequency Range	Directional Gain (dBi)
2400~2483.5MHz	6.37

Radio 2

Frequency Range	Directional Gain (dBi)
5150~5250MHz	6.94
5250~5350MHz	6.98
5470~5725MHz	6.06
5725~5850MHz	6.31

For 802.11ac (VHT80+VHT80) and 802.11ax (HE80+ HE80)

Chan.	Chan. Freq. (MHz)	Directional Gain (dBi)
42+58(L)	5210	4.36
42+58(H)	5290	4.39
106+122(L)	5530	4.03
106+122(H)	5610	3.92

Radio 3

Frequency Range	Directional Gain (dBi)
5470~5725MHz	7.11
5725~5850MHz	6.91
5850~5895MHz	6.61
5925~6425MHz	6.37
6425~6525MHz	6.98
6525~6875MHz	7.11
6875~7125MHz	7.62

Model: FAP-433G

Antenna Type		Dipole			
Connector Type		R-SMA (ANT0 ~ ANT3); ipex (ANT4 ~ ANT7)			
Antenna No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency range
ANT0	Radio 1 2G CH0 Radio 2 5G CH0 Radio 2 5GL CH0	MAGLAYERS	EDA-1410-6 G0R2-A3	5.65	2.4~2.4835GHz
				5.31	5.15~5.25GHz
				5.37	5.25~5.35GHz
				5.94	5.47~5.725GHz
				5.45	5.725~5.85GHz
ANT1	Radio 1 2G CH1 Radio 2 5G CH1 Radio 2 5GL CH1	MAGLAYERS	EDA-1410-6 G0R2-A3	5.65	2.4~2.4835GHz
				5.31	5.15~5.25GHz
				5.37	5.25~5.35GHz
				5.94	5.47~5.725GHz
				5.45	5.725~5.85GHz
ANT2	Radio 1 2G CH2 Radio 2 5G CH2 Radio 2 5GL CH2	MAGLAYERS	EDA-1410-6 G0R2-A3	5.65	2.4~2.4835GHz
				5.31	5.15~5.25GHz
				5.37	5.25~5.35GHz
				5.94	5.47~5.725GHz
				5.45	5.725~5.85GHz
ANT3	Radio 1 2G CH3 Radio 2 5G CH3 Radio 2 5GL CH3	MAGLAYERS	EDA-1410-6 G0R2-A3	5.65	2.4~2.4835GHz
				5.31	5.15~5.25GHz
				5.37	5.25~5.35GHz
				5.94	5.47~5.725GHz
				5.45	5.725~5.85GHz
ANT4	Radio 3 5GH CH0 Radio 3 6G CH0 2/5/6G CH0 (U-NII-2A, 2C receiver only)	MAGLAYERS	BTEAWT14136G0C1A02	3.11	2.4~2.4835GHz
				2.27	5.15~5.25GHz
				2.27	5.25~5.35GHz
				2.81	5.47~5.725GHz
				2.81	5.725~5.85GHz
				2.81	5.85~5.895GHz
				2.55	5.925~6.425GHz
				2.55	6.425~6.525GHz
				2.74	6.525~6.875GHz
				2.74	6.875~7.125GHz

Antenna No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency range
ANT5	Radio 3 5GH CH1 Radio 3 6G CH1	MAGLAYERS	BTEAWT141 36G0C1A02	2.81	5.47~5.725GHz
				2.81	5.725~5.85GHz
				2.81	5.85~5.895GHz
				2.55	5.925~6.425GHz
				2.55	6.425~6.525GHz
				2.74	6.525~6.875GHz
				2.74	6.875~7.125GHz
ANT6	Radio 3 5GH CH2 Radio 3 6G CH2 2/5/6G CH1 (U-NII-2A, 2C receiver only)	MAGLAYERS	BTEAWT141 36G0C1A01	2.81	2.4~2.4835GHz
				2.39	5.15~5.25GHz
				2.39	5.25~5.35GHz
				2.39	5.47~5.725GHz
				2.39	5.725~5.85GHz
				2.21	5.85~5.895GHz
				2.71	5.925~6.425GHz
				2.71	6.425~6.525GHz
				2.61	6.525~6.875GHz
				2.61	6.875~7.125GHz
ANT7	Radio 3 5GH CH3 Radio 3 6G CH3	MAGLAYERS	BTEAWT141 36G0C1A01	2.39	5.47~5.725GHz
				2.39	5.725~5.85GHz
				2.21	5.85~5.895GHz
				2.71	5.925~6.425GHz
				2.71	6.425~6.525GHz
				2.61	6.525~6.875GHz
				2.61	6.875~7.125GHz

Item	RF Chain NO.	Brand	Model	Antenna Type	Connector	Gain(dBi)
ANT8	Radio 4 (BLE/Zigbee)	WNC	FortiAP-431G	PIFA	ipex(MHF)	3.8

Radio 1

Antenna Gain	Directional Gain (dBi)
2400~2483.5MHz	6.59

Radio 2

Antenna Gain	Directional Gain (dBi)
5150~5250MHz	7.06
5250~5350MHz	7.16
5470~5725MHz	7.52
5725~5850MHz	7.16

For 802.11ac (VHT80+VHT80) and 802.11ax (HE80+ HE80)

Chan.	Chan. Freq. (MHz)	Directional Gain (dBi)
42+58(L)	5210	5.16
42+58(H)	5290	5.13
106+122(L)	5530	5.44
106+122(H)	5610	5.46

Radio 3

Antenna Gain	Directional Gain (dBi)
5470~5725MHz	8.35
5725~5850MHz	8.26
5850~5895MHz	8.10
5925~6425MHz	7.12
6425~6525MHz	7.29
6525~6875MHz	7.33
6875~7125MHz	7.43

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

6. Radio 1, Radio 2, Radio 3 (5G_H) and Radio 4 can transmit simultaneously.
   But Radio 2 (5G), Radio 3 (5G_H) cannot transmit in the same band simultaneously.
   Radio 4 (BLE) and Radio 4 (Zigbee) cannot transmit simultaneously.

3.2 Description of Test Modes

WLAN:

For 2.4GHz

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

7 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

For 5180~5320MHz:

8 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

4 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz
54	5270 MHz	62	5310 MHz

2 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
50	5250 MHz

1 channel is provided for 802.11ac (VHT80+VHT80), 802.11ax (HE80+HE80):

Channel	Frequency
42+58	5210 MHz + 5290 MHz

For 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
114	5570 MHz

1 channel is provided for 802.11ac (VHT80+VHT80), 802.11ax (HE80+HE80):

Channel	Frequency
106+122	5530 MHz + 5610 MHz

For 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
155	5775 MHz

For 5845 ~ 5885 MHz

3 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency
*169	5845 MHz	173	5865 MHz	177	5885 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
*167	5835 MHz	175	5875 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
*171	5855 MHz

1 channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
*163	5815 MHz

Note: * U-NII-3 & -4 span channels.

6E:

For 5925 ~ 6425MHz (U-NII-5 band)

24 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	5955 MHz	5	5975 MHz	9	5995 MHz	13	6015 MHz
17	6035 MHz	21	6055 MHz	25	6075 MHz	29	6095 MHz
33	6115 MHz	37	6135 MHz	41	6155 MHz	45	6175 MHz
49	6195 MHz	53	6215 MHz	57	6235 MHz	61	6255 MHz
65	6275 MHz	69	6295 MHz	73	6315 MHz	77	6335 MHz
81	6355 MHz	85	6375 MHz	89	6395 MHz	93	6415 MHz

12 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
3	5965 MHz	11	6005 MHz	19	6045 MHz	27	6085 MHz
35	6125 MHz	43	6165 MHz	51	6205 MHz	59	6245 MHz
67	6285 MHz	75	6325 MHz	83	6365 MHz	91	6405 MHz

6 channel is provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
7	5985 MHz	23	6065 MHz	39	6145 MHz	55	6225 MHz
71	6305 MHz	87	6385 MHz				

3 channels are provided for 802.11ax (HE160):

Channel	Frequency	Channel	Frequency	Channel	Frequency
15	6025 MHz	47	6185 MHz	79	6345 MHz

For 6425 ~ 6525MHz (U-NII-6 band)

5 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
97	6435 MHz	101	6455 MHz	105	6475 MHz	109	6495 MHz
113	6515 MHz						

3 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
99	6445 MHz	107	6485 MHz	*115	6525 MHz

2 channel are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
103	6465 MHz	*119	6545 MHz

1 channel is provided for 802.11ax (HE160):

Channel	Frequency
*111	6505 MHz

For 6525 ~ 6875MHz (U-NII-7 band)

18 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
117	6535 MHz	121	6555 MHz	125	6575 MHz	129	6595 MHz
133	6615 MHz	137	6635 MHz	141	6655 MHz	145	6675 MHz
149	6695 MHz	153	6715 MHz	157	6735 MHz	161	6755 MHz
165	6775 MHz	169	6795 MHz	173	6815 MHz	177	6835 MHz
181	6855 MHz	*185	6875 MHz				

9 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
123	6565 MHz	131	6605 MHz	139	6645 MHz	147	6685 MHz
155	6725 MHz	163	6765 MHz	171	6805 MHz	179	6845 MHz
*187	6885 MHz						

4 channels are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
135	6625 MHz	151	6705 MHz	167	6785 MHz	*183	6865 MHz

2 channels are provided for 802.11ax (HE160):

Channel	Frequency	Channel	Frequency
143	6665 MHz	*175	6825 MHz

For 6875 ~ 7125MHz (U-NII-8 band):

12 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
189	6895 MHz	193	6915 MHz	197	6935 MHz	201	6955 MHz
205	6975 MHz	209	6995 MHz	213	7015 MHz	217	7035 MHz
221	7055 MHz	225	7075 MHz	229	7095 MHz	233	7115 MHz

5 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
195	6925 MHz	203	6965 MHz	211	7005 MHz
219	7045 MHz	227	7085 MHz		

2 channel is provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
199	6945 MHz	215	7025 MHz

1 channel is provided for 802.11ax (HE160):

Channel	Frequency
207	6985 MHz

Note: * mean this's straddle channel.

Zigbee:

16 channels are provided for Zigbee:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
11	2405	15	2425	19	2445	23	2465
12	2410	16	2430	20	2450	24	2470
13	2415	17	2435	21	2455	25	2475
14	2420	18	2440	22	2460	26	2480

BT LE:

40 channels are provided for BT-LE:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to			Description	
	RE≥1G	RE<1G	CB	EUT Model	Power
A	√	√	√	FAP-431G	Power from adapter
B	-	√	-		Power from PoE
C	√	√	√	FAP-433G	Power from adapter
D	-	√	-		Power from PoE

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz

CB: Conducted Out of Band Emission Measurement

Note: The antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane (For Model: FAP-431G), X-plane (For Model: FAP-433G)**

Radiated Emission Test (Above 1GHz):

☒ 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).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A	Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: BLE 2M	2412-2462	1 to 11	11+60+110+19	DSSS
		5250-5320	52 to 64		OFDMA
		5500-5720	102 to 142		OFDMA
		2402-2480	0 to 39		GFSK
A	Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: BLE 2M	2412-2462	1 to 11	11+116+47+19	DSSS
		5500-5720	100 to 144		OFDM
		5925-6425	15 to 79		OFDMA
		2402-2480	0 to 39		GFSK
A	Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: Zigbee	2412-2462	1 to 11	11+60+110+18	DSSS
		5250-5320	52 to 64		OFDMA
		5500-5720	102 to 142		OFDMA
		2405-2480	11 to 26		O-QPSK
A	Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11ax (HE160) + Radio 4: Zigbee	2412-2462	1 to 11	11+116+47+18	DSSS
		5500-5720	100 to 144		OFDM
		5925-6425	15 to 79		OFDMA
		2405-2480	11 to 26		O-QPSK
C	Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M	2412-2462	1 to 11	11+62+138+19	DSSS
		5250-5320	54 to 62		OFDMA
		5500-5720	106 to 138		OFDMA
		2402-2480	0 to 39		GFSK
C	Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M	2412-2462	1 to 11	11+138+39+19	DSSS
		5500-5720	106 to 138		OFDMA
		5925-6425	7 to 87		OFDMA
		2402-2480	0 to 39		GFSK
C	Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee	2412-2462	1 to 11	11+62+138+11	DSSS
		5250-5320	54 to 62		OFDMA
		5500-5720	106 to 138		OFDMA
		2405-2480	11 to 26		O-QPSK
C	Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee	2412-2462	1 to 11	11+138+39+11	DSSS
		5500-5720	106 to 138		OFDM
		5925-6425	7 to 87		OFDMA
		2405-2480	11 to 26		O-QPSK

Radiated Emission Test (Below 1GHz):

☒ 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).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A, B	Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: BLE 2M	2412-2462	1 to 11	11+60+110+19	DSSS
		5250-5320	52 to 64		OFDMA
		5500-5720	102 to 142		OFDMA
		2402-2480	0 to 39		GFSK
A, B	Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: BLE 2M	2412-2462	1 to 11	11+116+47+19	DSSS
		5500-5720	100 to 144		OFDM
		5925-6425	15 to 79		OFDMA
		2402-2480	0 to 39		GFSK
A, B	Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: Zigbee	2412-2462	1 to 11	11+60+110+18	DSSS
		5250-5320	52 to 64		OFDMA
		5500-5720	102 to 142		OFDMA
		2405-2480	11 to 26		O-QPSK
A, B	Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11ax (HE160) + Radio 4: Zigbee	2412-2462	1 to 11	11+116+47+18	DSSS
		5500-5720	100 to 144		OFDM
		5925-6425	15 to 79		OFDMA
		2405-2480	11 to 26		O-QPSK
C, D	Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M	2412-2462	1 to 11	11+62+138+19	DSSS
		5250-5320	54 to 62		OFDMA
		5500-5720	106 to 138		OFDMA
		2402-2480	0 to 39		GFSK
C, D	Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M	2412-2462	1 to 11	11+138+39+19	DSSS
		5500-5720	106 to 138		OFDMA
		5925-6425	7 to 87		OFDMA
		2402-2480	0 to 39		GFSK
C, D	Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee	2412-2462	1 to 11	11+62+138+11	DSSS
		5250-5320	54 to 62		OFDMA
		5500-5720	106 to 138		OFDMA
		2405-2480	11 to 26		O-QPSK
C, D	Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee	2412-2462	1 to 11	11+138+39+11	DSSS
		5500-5720	106 to 138		OFDM
		5925-6425	7 to 87		OFDMA
		2405-2480	11 to 26		O-QPSK

Conducted Out of Band Emission Measurement:

☒ 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).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A	Radio 1: 802.11b + Radio 2: 802.11ax (HE20)	2412-2462	1 to 11	11+60	DSSS
		5250-5320	52 to 64		OFDMA
A	Radio 1: 802.11b + Radio 2: 802.11ax (HE20)	2412-2462	1 to 11	11+116	DSSS
		5500-5720	100 to 144		OFDMA
C	Radio 1: 802.11b + Radio 2: 802.11ax (HE40)	2412-2462	1 to 11	11+62	DSSS
		5250-5320	54 to 62		OFDMA
C	Radio 1: 802.11b + Radio 2: 802.11ax (HE80)	2412-2462	1 to 11	11+138	DSSS
		5500-5720	106 to 138		OFDMA

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 72% RH 24 deg. C, 65% RH	120Vac, 60Hz	Wade Haung Randy Wu
RE<1G	23 deg. C, 66% RH 25 deg. C, 77% RH	120Vac, 60Hz 55Vdc	Wade Haung Randy Wu
CB	23 deg. C, 72% RH	120Vac, 60Hz	Frank Liu

3.3 Description of Support Units

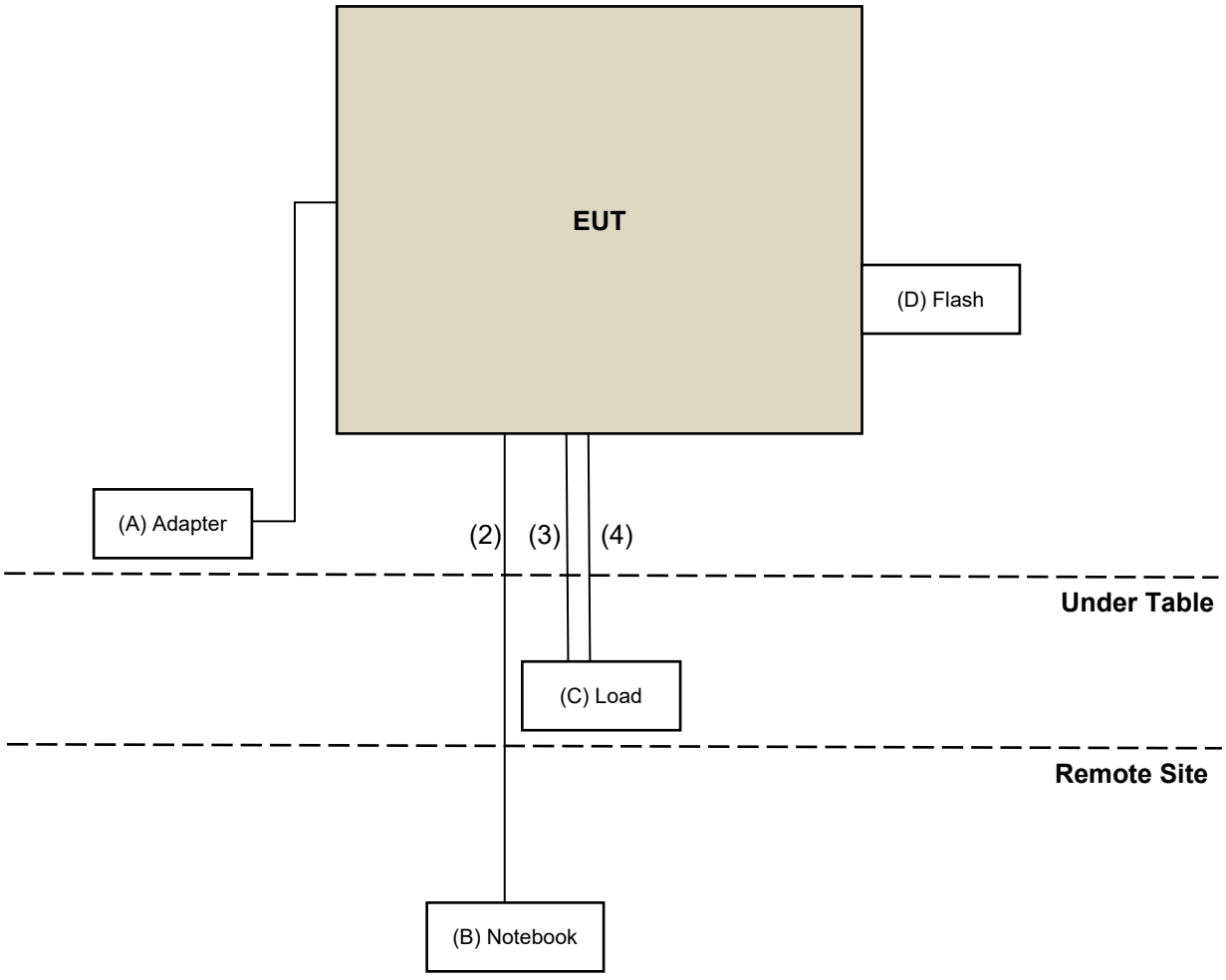
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	Asian Power Devices Inc.	WA-48A12R	NA	NA	Provided by client
B.	Notebook	Lenovo	20J4 MD A003TW	PF-11H9AK	FCC DoC Approved	-
C.	Load	NA	NA	NA	NA	-
D.	USB Flash	SanDisk	NA	NA	NA	-
E.	PoE	Microsemi	PD-9501-10GC/AC	NA	NA	Provided by client

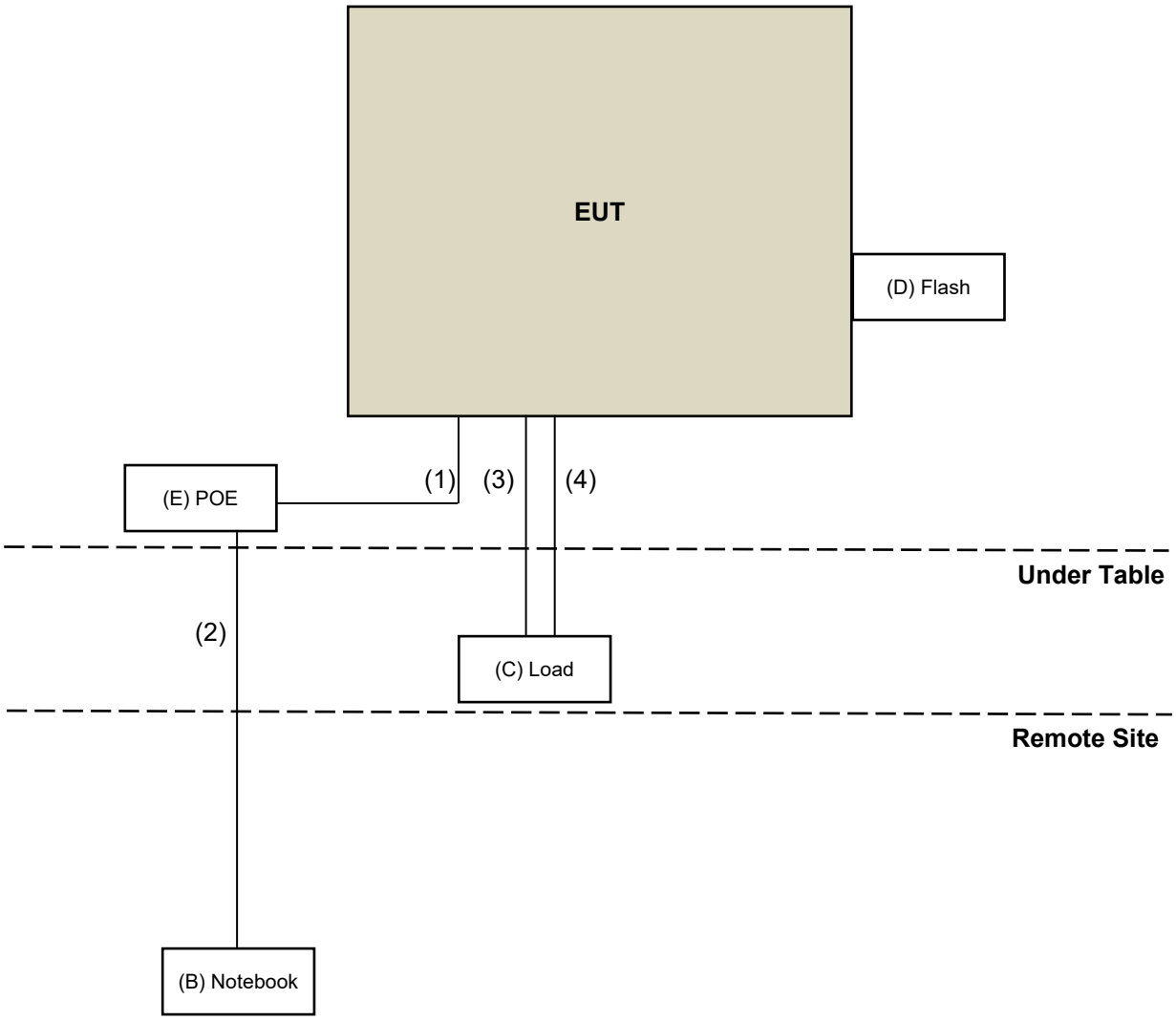
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	1.5	N	0	RJ45, Cat5e
2.	LAN cable	1	10	N	0	RJ45, Cat5e
3.	LAN cable	1	1.5	N	0	RJ45, Cat5e
4.	LAN cable	1	1.5	N	0	RJ45, Cat5e

3.3.1 Configuration of System under Test

Mode A, C



Mode B, D



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (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

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v02r01			Field Strength at 3m	
			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)		PK: -27 (dBm/MHz)	PK: 68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)			
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
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower KaiTuo	NA	NA	NA	NA
Antenna Tower Controller KaiTuo	KT-2000	NA	NA	NA
Turn Table Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208675	NA	NA
Test Receiver R&S	ESR3	102579	2022/7/1	2023/6/30
MXA Signal Analyzer KEYSIGHT	N9020B	MY60110462	2021/12/21	2022/12/20
Pre-amplifier EMCI	EMC001340	980269	2022/6/28	2023/6/27
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
Pre_Amplifier EMCI	EMC330N	980783	2022/1/17	2023/1/16
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-995	2021/10/28	2022/10/27
			2022/10/20	2023/10/19
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-9000	201252	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-3000	201250	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201245	2022/1/17	2023/1/16
Horn Antenna RFSPIN	DRH18-E	210104A18E	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC118A45SE	980810	2021/12/30	2022/12/29
RF Coaxial Cable EMCI	EMC104-SM-SM-9000	201230	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-3000	201242	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-1000	210101	2022/1/17	2023/1/16
Pre_Amplifier EMCI	EMC184045SE	980787	2022/1/17	2023/1/16
Horn Antenna Schwarzbeck	BBHA 9170	9170-1048	2021/11/14	2022/11/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-5000	201259	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-3000	201256	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201253	2022/1/17	2023/1/16

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM - 966 chamber 7.

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
Test Receiver R&S	ESR3+	102782	2021/12/10	2022/12/9
Spectrum Analyzer R&S	FSW43	101866	2022/1/14	2023/1/13
Pre-amplifier EMCI	EMC001340	980269	2022/6/28	2023/6/27
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
Pre_Amplifier EMCI	EMC330N	980782	2022/1/17	2023/1/16
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-1213	2021/10/27	2022/10/26
			2022/10/20	2023/10/19
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201233	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-3000	201235	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-9000	201236	2022/1/17	2023/1/16
Horn Antenna RFSPIN	DRH18-E	210103A18E	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC118A45SE	980808	2021/12/30	2022/12/29
RF Coaxial Cable EMCI	EMC104-SM-SM-1000	210102	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-3000	201231	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-9000	201243	2022/1/17	2023/1/16
Pre_Amplifier EMCI	EMC184045SE	980788	2022/1/17	2023/1/16
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2021/11/14	2022/11/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-5000	201260	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-3000	201257	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2022/1/17	2023/1/16

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM - 966 chamber 8.

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFA-515BSN	NA	NA	NA
Turn Table Max-Full	MFT-201SS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208676	NA	NA
Test Receiver KEYSIGHT	N9038B	MY60180018	2022/2/18	2023/2/17
Spectrum Analyzer KEYSIGHT	N9020B	MY60110513	2021/12/24	2022/12/23
Pre-amplifier EMCI	EMC001340	980269	2022/6/28	2023/6/27
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
Preamplifier EMCI	EMC330N	4585/4/30	2022/1/17	2023/1/16
Bi_Log Antenna Schwarbeck	VULB9168	9168-1214	2021/10/27 2022/10/20	2022/10/26 2023/10/19
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-9000	201251	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-3000	201249	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201248	2022/1/17	2023/1/16
Horn Antenna RF SPIN	DRH18-E	210101A18E	2021/11/14	2022/11/13
Preamplifier EMCI	EMC118A45SE	980809	2021/12/30	2022/12/29
RF Coaxial Cable EMCI	EMC104-SM-SM-9000	201244	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-3000	201232	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-1000	210103	2022/1/17	2023/1/16
Preamplifier EMCI	EMC184045SE	980786	2022/1/17	2023/1/16
Horn Antenna SCHWARZBECK	BBHA 9170	9170-1048	2021/11/14	2022/11/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-5000	201261	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-3000	201258	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201255	2022/1/17	2023/1/16

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM - 966 chamber 9.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

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. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect 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:

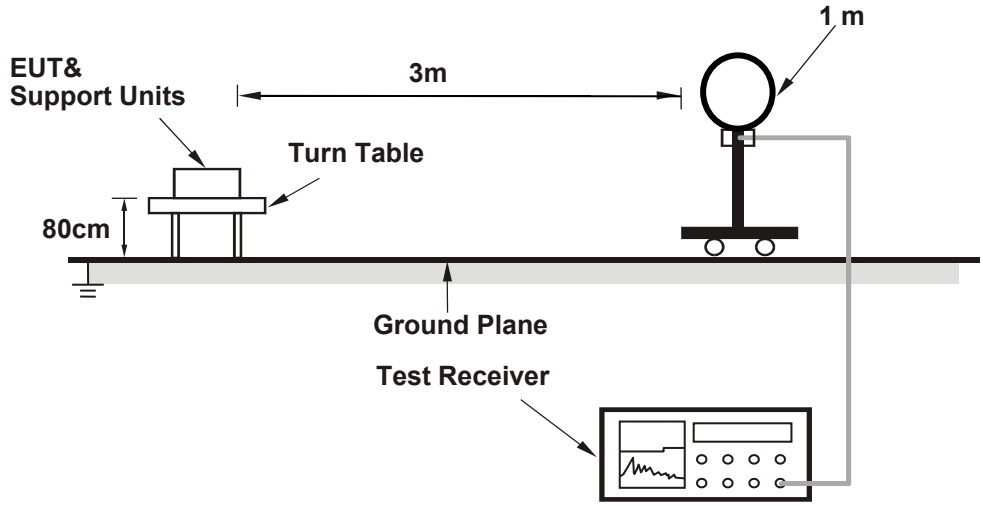
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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 and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

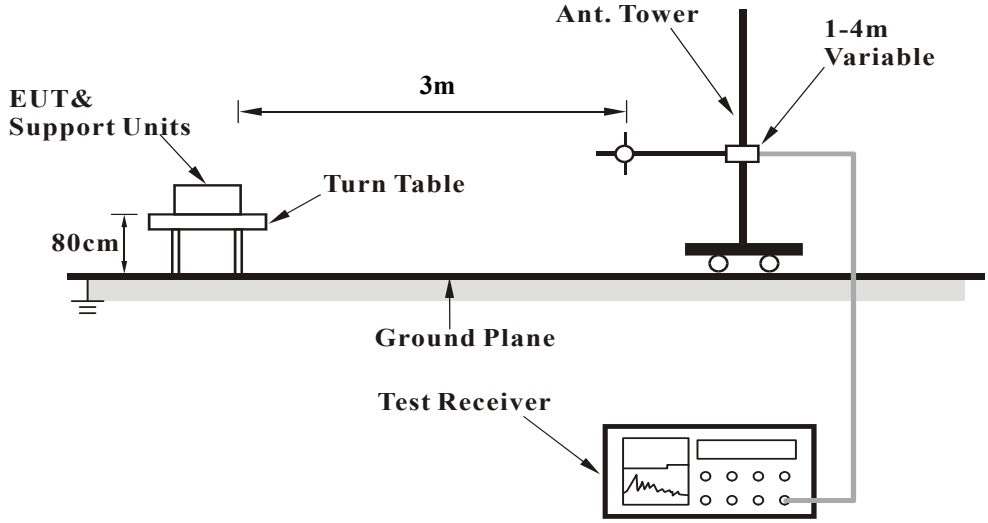
No deviation.

4.1.5 Test Setup

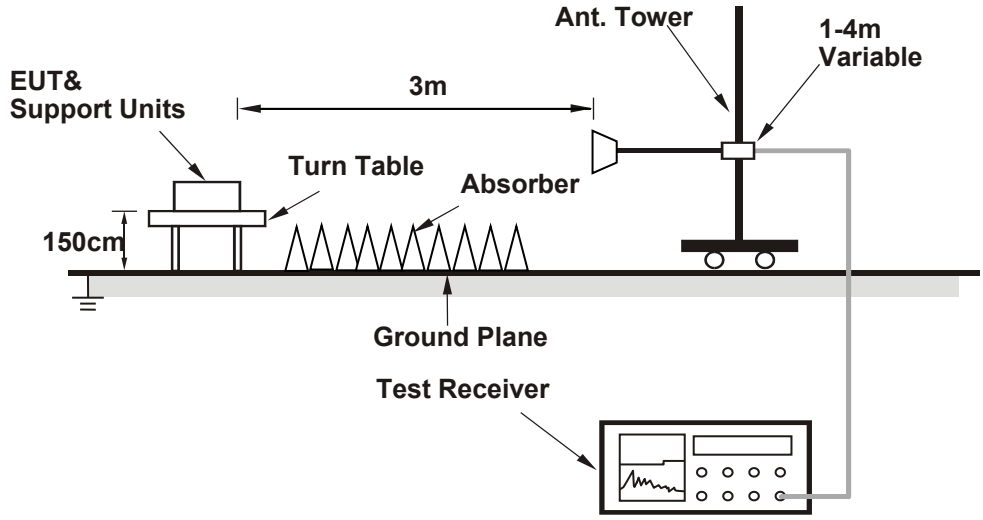
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz Data:

Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 60 + CH 110 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	115.5 PK			1.07 H	304	83.7	31.8
2	*2440.00	114.1 AV			1.07 H	304	82.3	31.8
3	*2462.00	120.1 PK			1.54 H	285	88.3	31.8
4	*2462.00	117.7 AV			1.54 H	285	85.9	31.8
5	2488.69	60.6 PK	74.0	-13.4	1.54 H	285	28.7	31.9
6	2488.69	52.1 AV	54.0	-1.9	1.54 H	285	20.2	31.9
7	4880.00	54.2 PK	74.0	-19.8	3.50 H	291	50.8	3.4
8	4880.00	46.5 AV	54.0	-7.5	3.50 H	291	43.1	3.4
9	4924.00	51.1 PK	74.0	-22.9	1.65 H	43	47.8	3.3
10	4924.00	42.7 AV	54.0	-11.3	1.65 H	43	39.4	3.3
11	7320.00	59.9 PK	74.0	-14.1	3.06 H	61	51.6	8.3
12	7320.00	53.2 AV	54.0	-0.8	3.06 H	61	44.9	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	114.4 PK			3.18 V	339	82.6	31.8
2	*2440.00	113.2 AV			3.18 V	339	81.4	31.8
3	*2462.00	112.3 PK			1.45 V	214	80.5	31.8
4	*2462.00	108.8 AV			1.45 V	214	77.0	31.8
5	2488.69	59.9 PK	74.0	-14.1	1.45 V	214	28.0	31.9
6	2488.69	42.1 AV	54.0	-11.9	1.45 V	214	10.2	31.9
7	4880.00	57.3 PK	74.0	-16.7	1.79 V	356	53.9	3.4
8	4880.00	52.4 AV	54.0	-1.6	1.79 V	356	49.0	3.4
9	4924.00	48.8 PK	74.0	-25.2	1.53 V	10	45.5	3.3
10	4924.00	39.3 AV	54.0	-14.7	1.53 V	10	36.0	3.3
11	7320.00	57.3 PK	74.0	-16.7	1.44 V	7	49.0	8.3
12	7320.00	49.2 AV	54.0	-4.8	1.44 V	7	40.9	8.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 60 + CH 110 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	121.6 PK			1.56 H	47	81.6	40.0
2	*5300.00	113.0 AV			1.56 H	47	73.0	40.0
3	5460.00	60.1 PK	74.0	-13.9	1.56 H	293	58.2	1.9
4	5460.00	52.0 AV	54.0	-2.0	1.56 H	293	50.1	1.9
5	#5470.00	63.3 PK	68.2	-4.9	1.56 H	293	61.4	1.9
6	#5550.00	118.3 PK			1.56 H	293	77.6	40.7
7	#5550.00	109.7 AV			1.56 H	293	69.0	40.7
8	10600.00	55.0 PK	74.0	-19.0	1.67 H	297	47.0	8.0
9	10600.00	44.9 AV	54.0	-9.1	1.67 H	297	36.9	8.0
10	11100.00	56.0 PK	74.0	-18.0	1.78 H	145	47.4	8.6
11	11100.00	46.6 AV	54.0	-7.4	1.78 H	145	38.0	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	116.7 PK			3.52 V	13	76.7	40.0
2	*5300.00	109.0 AV			3.52 V	13	69.0	40.0
3	5460.00	56.0 PK	74.0	-18.0	1.97 V	20	54.1	1.9
4	5460.00	47.5 AV	54.0	-6.5	1.97 V	20	45.6	1.9
5	#5470.00	57.0 PK	-68.2	-11.2	1.97 V	20	55.1	1.9
6	#5550.00	112.7 PK			1.97 V	20	72.0	40.7
7	#5550.00	105.2 AV			1.97 V	20	64.5	40.7
8	10600.00	55.0 PK	74.0	-19.0	2.02 V	92	47.0	8.0
9	10600.00	45.3 AV	54.0	-8.7	2.02 V	92	37.3	8.0
10	11100.00	55.4 PK	74.0	-18.6	1.81 V	254	46.8	8.6
11	11100.00	46.2 AV	54.0	-7.8	1.81 V	254	37.6	8.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	115.4 PK			1.06 H	303	83.6	31.8
2	*2440.00	114.0 AV			1.06 H	303	82.2	31.8
3	*2462.00	120.0 PK			1.52 H	282	88.2	31.8
4	*2462.00	117.6 AV			1.52 H	282	85.8	31.8
5	2488.69	60.5 PK	74.0	-13.5	1.52 H	282	28.6	31.9
6	2488.69	52.0 AV	54.0	-2.0	1.52 H	282	20.1	31.9
7	4880.00	54.1 PK	74.0	-19.9	3.52 H	289	50.7	3.4
8	4880.00	46.5 AV	54.0	-7.5	3.52 H	289	43.1	3.4
9	4924.00	51.0 PK	74.0	-23.0	1.64 H	41	47.7	3.3
10	4924.00	42.6 AV	54.0	-11.4	1.64 H	41	39.3	3.3
11	7320.00	59.9 PK	74.0	-14.1	3.04 H	60	51.6	8.3
12	7320.00	53.1 AV	54.0	-0.9	3.04 H	60	44.8	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	114.3 PK			3.20 V	335	82.5	31.8
2	*2440.00	113.2 AV			3.20 V	335	81.4	31.8
3	*2462.00	112.2 PK			1.46 V	216	80.4	31.8
4	*2462.00	108.7 AV			1.46 V	216	76.9	31.8
5	2488.69	59.8 PK	74.0	-14.2	1.46 V	216	27.9	31.9
6	2488.69	42.0 AV	54.0	-12.0	1.46 V	216	10.1	31.9
7	4880.00	57.4 PK	74.0	-16.6	1.75 V	352	54.0	3.4
8	4880.00	52.4 AV	54.0	-1.6	1.75 V	352	49.0	3.4
9	4924.00	48.9 PK	74.0	-25.1	1.52 V	11	45.6	3.3
10	4924.00	39.2 AV	54.0	-14.8	1.52 V	11	35.9	3.3
11	7320.00	57.3 PK	74.0	-16.7	1.43 V	5	49.0	8.3
12	7320.00	49.1 AV	54.0	-4.9	1.43 V	5	40.8	8.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	117.7 PK			1.73 H	40	76.9	40.8
2	*5580.00	111.0 AV			1.73 H	40	70.2	40.8
3	11160.00	55.4 PK	74.0	-18.6	1.63 H	280	46.6	8.8
4	11160.00	46.4 AV	54.0	-7.6	1.63 H	280	37.6	8.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	116.5 PK			3.73 V	352	75.7	40.8
2	*5580.00	109.8 AV			3.73 V	352	69.0	40.8
3	11160.00	54.7 PK	74.0	-19.3	1.80 V	95	45.9	8.8
4	11160.00	45.8 AV	54.0	-8.2	1.80 V	95	37.0	8.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6185.00	111.4 PK			1.95 H	52	68.5	42.9
2	*6185.00	98.6 AV			1.95 H	52	55.7	42.9
3	12370.00	55.7 PK	74.0	-18.3	2.61 H	97	47.2	8.5
4	12370.00	44.7 AV	54.0	-9.3	2.61 H	97	36.2	8.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6185.00	106.7 PK			2.20 V	2	63.8	42.9
2	*6185.00	94.0 AV			2.20 V	2	51.1	42.9
3	12370.00	55.4 PK	74.0	-18.6	1.82 V	236	46.9	8.5
4	12370.00	44.4 AV	54.0	-9.6	1.82 V	236	35.9	8.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 60 + CH 110 + CH 18	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	114.5 PK			1.05 H	306	82.7	31.8
2	*2440.00	111.3 AV			1.05 H	306	79.5	31.8
3	*2462.00	120.5 PK			1.52 H	285	88.7	31.8
4	*2462.00	118.3 AV			1.52 H	285	86.5	31.8
5	2488.69	60.8 PK	74.0	-13.2	1.52 H	285	28.9	31.9
6	2488.69	52.3 AV	54.0	-1.7	1.52 H	285	20.4	31.9
7	4880.00	54.1 PK	74.0	-19.9	1.82 H	301	50.7	3.4
8	4880.00	46.4 AV	54.0	-7.6	1.82 H	301	43.0	3.4
9	4924.00	51.3 PK	74.0	-22.7	1.74 H	43	48.0	3.3
10	4924.00	43.1 AV	54.0	-10.9	1.74 H	43	39.8	3.3
11	7320.00	52.0 PK	74.0	-22.0	2.81 H	70	43.7	8.3
12	7320.00	44.6 AV	54.0	-9.4	2.81 H	70	36.3	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	113.4 PK			2.36 V	331	81.6	31.8
2	*2440.00	110.2 AV			2.36 V	331	78.4	31.8
3	*2462.00	112.3 PK			1.46 V	215	80.5	31.8
4	*2462.00	108.9 AV			1.46 V	215	77.1	31.8
5	2488.69	59.8 PK	74.0	-14.2	1.46 V	215	27.9	31.9
6	2488.69	42.0 AV	54.0	-12.0	1.46 V	215	10.1	31.9
7	4880.00	56.9 PK	74.0	-17.1	1.66 V	4	53.5	3.4
8	4880.00	52.1 AV	54.0	-1.9	1.66 V	4	48.7	3.4
9	4924.00	48.8 PK	74.0	-25.2	1.51 V	6	45.5	3.3
10	4924.00	39.3 AV	54.0	-14.7	1.51 V	6	36.0	3.3
11	7320.00	49.8 PK	74.0	-24.2	1.34 V	1	41.5	8.3
12	7320.00	41.6 AV	54.0	-12.4	1.34 V	1	33.3	8.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 60 + CH 110 + CH 18	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	121.5 PK			1.57 H	48	81.5	40.0
2	*5300.00	113.1 AV			1.57 H	48	73.1	40.0
3	5460.00	60.0 PK	74.0	-14.0	1.52 H	291	58.1	1.9
4	5460.00	51.9 AV	54.0	-2.1	1.52 H	291	50.0	1.9
5	#5470.00	63.4 PK	68.2	-4.8	1.52 H	291	61.5	1.9
6	#5550.00	118.4 PK	68.2	50.2	1.52 H	291	77.7	40.7
7	#5550.00	109.8 AV	54.0	55.8	1.52 H	291	69.1	40.7
8	10600.00	55.0 PK	74.0	-19.0	1.65 H	299	47.0	8.0
9	10600.00	44.8 AV	54.0	-9.2	1.65 H	299	36.8	8.0
10	11100.00	56.1 PK	74.0	-17.9	1.77 H	143	47.5	8.6
11	11100.00	46.7 AV	54.0	-7.3	1.77 H	143	38.1	8.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	116.6 PK			3.50 V	14	76.6	40.0
2	*5300.00	108.9 AV			3.50 V	14	68.9	40.0
3	5460.00	56.1 PK	74.0	-17.9	1.96 V	18	54.2	1.9
4	5460.00	47.6 AV	54.0	-6.4	1.96 V	18	45.7	1.9
5	#5470.00	57.1 PK	68.2	-11.1	1.96 V	18	55.2	1.9
6	#5550.00	112.8 PK	68.2	44.6	1.96 V	18	72.1	40.7
7	#5550.00	105.3 AV	54.0	51.3	1.96 V	18	64.6	40.7
8	10600.00	55.1 PK	74.0	-18.9	2.04 V	90	47.1	8.0
9	10600.00	45.4 AV	54.0	-8.6	2.04 V	90	37.4	8.0
10	11100.00	55.3 PK	74.0	-18.7	1.79 V	255	46.7	8.6
11	11100.00	46.1 AV	54.0	-7.9	1.79 V	255	37.5	8.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	114.4 PK			1.02 H	304	82.6	31.8
2	*2440.00	111.3 AV			1.02 H	304	79.5	31.8
3	*2462.00	120.5 PK			1.51 H	285	88.7	31.8
4	*2462.00	118.3 AV			1.51 H	285	86.5	31.8
5	2488.69	60.9 PK	74.0	-13.1	1.51 H	285	29.0	31.9
6	2488.69	52.4 AV	54.0	-1.6	1.51 H	285	20.5	31.9
7	4880.00	54.1 PK	74.0	-19.9	1.82 H	301	50.7	3.4
8	4880.00	46.2 AV	54.0	-7.8	1.82 H	301	42.8	3.4
9	4924.00	51.2 PK	74.0	-22.8	1.74 H	48	47.9	3.3
10	4924.00	43.0 AV	54.0	-11.0	1.74 H	48	39.7	3.3
11	7320.00	51.9 PK	74.0	-22.1	2.81 H	70	43.6	8.3
12	7320.00	44.6 AV	54.0	-9.4	2.81 H	70	36.3	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	113.2 PK			2.37 V	335	81.4	31.8
2	*2440.00	109.9 AV			2.37 V	335	78.1	31.8
3	*2462.00	112.0 PK			1.47 V	208	80.2	31.8
4	*2462.00	108.7 AV			1.47 V	208	76.9	31.8
5	2488.69	60.3 PK	74.0	-13.7	1.47 V	208	28.4	31.9
6	2488.69	42.3 AV	54.0	-11.7	1.47 V	208	10.4	31.9
7	4880.00	56.8 PK	74.0	-17.2	1.65 V	5	53.4	3.4
8	4880.00	52.1 AV	54.0	-1.9	1.65 V	5	48.7	3.4
9	4924.00	48.9 PK	74.0	-25.1	1.55 V	7	45.6	3.3
10	4924.00	39.1 AV	54.0	-14.9	1.55 V	7	35.8	3.3
11	7320.00	49.6 PK	74.0	-24.4	1.28 V	0	41.3	8.3
12	7320.00	41.3 AV	54.0	-12.7	1.28 V	0	33.0	8.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	117.6 PK			1.71 H	38	76.8	40.8
2	*5580.00	111.0 AV			1.71 H	38	70.2	40.8
3	11160.00	55.3 PK	74.0	-18.7	1.62 H	278	46.5	8.8
4	11160.00	46.4 AV	54.0	-7.6	1.62 H	278	37.6	8.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	116.5 PK			3.71 V	349	74.9	41.6
2	*5580.00	109.7 AV			3.71 V	349	68.1	41.6
3	11160.00	54.7 PK	74.0	-19.3	1.81 V	94	46.1	8.6
4	11160.00	45.7 AV	54.0	-8.3	1.81 V	94	37.1	8.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6185.00	111.5 PK			1.92 H	50	68.6	42.9
2	*6185.00	98.6 AV			1.92 H	50	55.7	42.9
3	12370.00	55.8 PK	74.0	-18.2	2.60 H	94	47.3	8.5
4	12370.00	44.7 AV	54.0	-9.3	2.60 H	94	36.2	8.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6185.00	106.8 PK			2.18 V	4	63.9	42.9
2	*6185.00	94.0 AV			2.18 V	4	51.1	42.9
3	12370.00	55.4 PK	74.0	-18.6	1.81 V	234	46.9	8.5
4	12370.00	44.3 AV	54.0	-9.7	1.81 V	234	35.8	8.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	105.5 PK			2.22 H	164	73.5	32.0
2	*2440.00	103.4 AV			2.22 H	164	71.4	32.0
3	*2462.00	110.5 PK			1.66 H	182	78.5	32.0
4	*2462.00	108.6 AV			1.66 H	182	76.6	32.0
5	2483.50	58.6 PK	74.0	-15.4	1.66 H	182	26.6	32.0
6	2483.50	47.5 AV	54.0	-6.5	1.66 H	182	15.5	32.0
7	4880.00	49.6 PK	74.0	-24.4	1.56 H	312	46.4	3.2
8	4880.00	39.5 AV	54.0	-14.5	1.56 H	312	36.3	3.2
9	4924.00	47.7 PK	74.0	-26.3	1.22 H	331	44.4	3.3
10	4924.00	35.7 AV	54.0	-18.3	1.22 H	331	32.4	3.3
11	7320.00	56.3 PK	74.0	-17.7	2.11 H	252	47.6	8.7
12	7320.00	46.0 AV	54.0	-8.0	2.11 H	252	37.3	8.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	114.6 PK			3.13 V	215	82.6	32.0
2	*2440.00	112.3 AV			3.13 V	215	80.3	32.0
3	*2462.00	120.5 PK			2.31 V	222	88.5	32.0
4	*2462.00	118.5 AV			2.31 V	222	86.5	32.0
5	2483.50	61.3 PK	74.0	-12.7	2.31 V	222	29.3	32.0
6	2483.50	53.5 AV	54.0	-0.5	2.31 V	222	21.5	32.0
7	4880.00	48.8 PK	74.0	-25.2	2.55 V	223	45.6	3.2
8	4880.00	38.8 AV	54.0	-15.2	2.55 V	223	35.6	3.2
9	4924.00	49.9 PK	74.0	-24.1	2.23 V	28	46.6	3.3
10	4924.00	44.4 AV	54.0	-9.6	2.23 V	28	41.1	3.3
11	7320.00	57.9 PK	74.0	-16.1	2.55 V	214	49.2	8.7
12	7320.00	50.4 AV	54.0	-3.6	2.55 V	214	41.7	8.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	111.1 PK			2.33 H	256	71.2	39.9
2	*5310.00	98.7 AV			2.33 H	256	58.8	39.9
3	5350.00	61.6 PK	74.0	-12.4	2.33 H	256	59.2	2.4
4	5350.00	46.8 AV	54.0	-7.2	2.33 H	256	44.4	2.4
5	#5470.00	58.6 PK	68.2	-9.6	2.79 H	66	56.1	2.5
6	*5690.00	105.1 PK			2.79 H	66	63.8	41.3
7	*5690.00	93.6 AV			2.79 H	66	52.3	41.3
8	#5850.00	60.1 PK	68.2	-8.1	2.79 H	66	56.2	3.9
9	10620.00	56.3 PK	74.0	-17.7	1.66 H	241	48.3	8.0
10	10620.00	42.2 AV	54.0	-11.8	1.66 H	241	34.2	8.0
11	11380.00	55.3 PK	74.0	-18.7	1.72 H	113	46.3	9.0
12	11380.00	45.5 AV	54.0	-8.5	1.72 H	113	36.5	9.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	121.0 PK			2.22 V	264	81.1	39.9
2	*5310.00	108.4 AV			2.22 V	264	68.5	39.9
3	5350.00	67.6 PK	74.0	-6.4	2.22 V	264	65.2	2.4
4	**5350.00**	**53.6 AV**	**54.0**	**-0.4**	**2.22 V**	**264**	**51.2**	**2.4**
5	#5470.00	66.7 PK	68.2	-1.5	2.33 V	252	64.2	2.5
6	*5690.00	117.5 PK			2.33 V	252	76.2	41.3
7	*5690.00	106.1 AV			2.33 V	252	64.8	41.3
8	#5850.00	67.4 PK	68.2	-0.8	2.33 V	252	63.5	3.9
9	10620.00	56.1 PK	74.0	-17.9	1.55 V	164	48.1	8.0
10	10620.00	42.2 AV	54.0	-11.8	1.55 V	164	34.2	8.0
11	11380.00	56.3 PK	74.0	-17.7	1.66 V	158	47.3	9.0
12	11380.00	46.1 AV	54.0	-7.9	1.66 V	158	37.1	9.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	105.6 PK			2.21 H	152	73.6	32.0
2	*2440.00	103.4 AV			2.21 H	152	71.4	32.0
3	*2462.00	110.2 PK			1.66 H	184	78.2	32.0
4	*2462.00	108.1 AV			1.66 H	184	76.1	32.0
5	2483.50	58.0 PK	74.0	-16.0	1.66 H	184	26.0	32.0
6	2483.50	47.1 AV	54.0	-6.9	1.66 H	184	15.1	32.0
7	4880.00	49.3 PK	74.0	-24.7	1.51 H	314	46.1	3.2
8	4880.00	39.0 AV	54.0	-15.0	1.51 H	314	35.8	3.2
9	4924.00	47.8 PK	74.0	-26.2	1.11 H	314	44.5	3.3
10	4924.00	36.1 AV	54.0	-17.9	1.11 H	314	32.8	3.3
11	7320.00	56.1 PK	74.0	-17.9	2.31 H	222	47.4	8.7
12	7320.00	46.3 AV	54.0	-7.7	2.31 H	222	37.6	8.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	78.4 PK			3.38 V	231	82.4	-4.0
2	*2440.00	76.2 AV			3.38 V	231	80.2	-4.0
3	*2462.00	120.2 PK			2.21 V	201	88.2	32.0
4	*2462.00	118.1 AV			2.21 V	201	86.1	32.0
5	2483.50	61.1 PK	74.0	-12.9	2.21 V	201	29.1	32.0
6	2483.50	53.1 AV	54.0	-0.9	2.21 V	201	21.1	32.0
7	4880.00	48.3 PK	74.0	-25.7	2.44 V	222	45.1	3.2
8	4880.00	39.0 AV	54.0	-15.0	2.44 V	222	35.8	3.2
9	4924.00	49.4 PK	74.0	-24.6	2.21 V	12	46.1	3.3
10	4924.00	41.5 AV	54.0	-12.5	2.21 V	12	38.2	3.3
11	7320.00	58.1 PK	74.0	-15.9	2.48 V	215	49.4	8.7
12	7320.00	49.8 AV	54.0	-4.2	2.48 V	215	41.1	8.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	59.1 PK	68.2	-9.1	2.22 H	197	56.6	2.5
2	*5690.00	103.4 PK			2.22 H	197	62.1	41.3
3	*5690.00	90.6 AV			2.22 H	197	49.3	41.3
4	#5850.00	60.3 PK	68.2	-7.9	2.22 H	197	56.4	3.9
5	11380.00	56.3 PK	74.0	-17.7	1.66 H	88	47.3	9.0
6	11380.00	44.3 AV	54.0	-9.7	1.66 H	88	35.3	9.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.6 PK	68.2	-7.6	2.22 V	231	58.1	2.5
2	*5690.00	120.3 PK			2.22 V	231	79.0	41.3
3	*5690.00	106.4 AV			2.22 V	231	65.1	41.3
4	#5850.00	60.8 PK	68.2	-7.4	2.22 V	231	56.9	3.9
5	11380.00	56.3 PK	74.0	-17.7	1.33 V	182	47.3	9.0
6	11380.00	44.5 AV	54.0	-9.5	1.33 V	182	35.5	9.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6145.00	107.2 PK			2.55 H	66	64.5	42.7
2	*6145.00	99.0 AV			2.55 H	66	56.3	42.7
3	12290.00	55.2 PK	74.0	-18.8	2.11 H	133	46.1	9.1
4	12290.00	47.4 AV	54.0	-6.6	2.11 H	133	38.3	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6145.00	119.9 PK			2.55 V	241	77.2	42.7
2	*6145.00	110.9 AV			2.55 V	241	68.2	42.7
3	12290.00	56.3 PK	74.0	-17.7	3.33 V	184	47.2	9.1
4	12290.00	48.4 AV	54.0	-5.6	3.33 V	184	39.3	9.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 62 + CH 138 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2366.40	60.3 PK	74.0	-13.7	1.00 H	311	28.2	32.1
2	2366.40	52.6 AV	54.0	-1.4	1.00 H	311	20.5	32.1
3	*2405.00	116.2 PK			1.00 H	311	84.2	32.0
4	*2405.00	113.4 AV			1.00 H	311	81.4	32.0
5	*2462.00	110.5 PK			1.55 H	171	78.5	32.0
6	*2462.00	108.2 AV			1.55 H	171	76.2	32.0
7	2483.50	58.4 PK	74.0	-15.6	1.55 H	171	26.4	32.0
8	2483.50	47.5 AV	54.0	-6.5	1.55 H	171	15.5	32.0
9	4810.00	48.4 PK	74.0	-25.6	1.22 H	311	45.2	3.2
10	4810.00	41.3 AV	54.0	-12.7	1.22 H	311	38.1	3.2
11	4924.00	47.6 PK	74.0	-26.4	1.11 H	331	44.3	3.3
12	4924.00	35.6 AV	54.0	-18.4	1.11 H	331	32.3	3.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2366.40	59.3 PK	74.0	-14.7	2.22 V	49	27.2	32.1
2	2366.40	50.5 AV	54.0	-3.5	2.22 V	49	18.4	32.1
3	*2405.00	113.3 PK			2.22 V	49	81.3	32.0
4	*2405.00	110.4 AV			2.22 V	49	78.4	32.0
5	*2462.00	120.4 PK			2.21 V	194	88.4	32.0
6	*2462.00	118.6 AV			2.21 V	194	86.6	32.0
7	2483.50	61.3 PK	74.0	-12.7	2.21 V	194	29.3	32.0
8	2483.50	53.3 AV	54.0	-0.7	2.21 V	194	21.3	32.0
9	4810.00	48.6 PK	74.0	-25.4	1.88 V	333	45.4	3.2
10	4810.00	43.5 AV	54.0	-10.5	1.88 V	333	40.3	3.2
11	4924.00	49.7 PK	74.0	-24.3	2.11 V	23	46.4	3.3
12	4924.00	41.8 AV	54.0	-12.2	2.11 V	23	38.5	3.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 62 + CH 138 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	111.0 PK			2.23 H	246	71.1	39.9
2	*5310.00	98.4 AV			2.23 H	246	58.5	39.9
3	5350.00	61.6 PK	74.0	-12.4	2.23 H	246	59.2	2.4
4	5350.00	46.9 AV	54.0	-7.1	2.23 H	246	44.5	2.4
5	#5470.00	58.6 PK	68.2	-9.6	2.82 H	70	56.1	2.5
6	*5690.00	104.7 PK			2.82 H	70	63.4	41.3
7	*5690.00	93.4 AV			2.82 H	70	52.1	41.3
8	#5850.00	60.1 PK	68.2	-8.1	2.82 H	70	56.2	3.9
9	10620.00	56.1 PK	74.0	-17.9	1.66 H	241	48.1	8.0
10	10620.00	42.2 AV	54.0	-11.8	1.66 H	241	34.2	8.0
11	11380.00	55.2 PK	74.0	-18.8	1.82 H	133	46.2	9.0
12	11380.00	45.1 AV	54.0	-8.9	1.82 H	133	36.1	9.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	121.1 PK			2.22 V	264	81.2	39.9
2	*5310.00	108.2 AV			2.22 V	264	68.3	39.9
3	5350.00	67.7 PK	74.0	-6.3	2.22 V	264	65.3	2.4
4	5350.00	53.4 AV	54.0	-0.6	2.22 V	264	51.0	2.4
5	#5470.00	66.7 PK	68.2	-1.5	2.22 V	264	64.2	2.5
6	*5690.00	117.5 PK			2.22 V	264	76.2	41.3
7	*5690.00	106.1 AV			2.22 V	264	64.8	41.3
8	#5850.00	67.3 PK	68.2	-0.9	2.22 V	264	63.4	3.9
9	10620.00	56.1 PK	74.0	-17.9	1.50 V	182	48.1	8.0
10	10620.00	42.2 AV	54.0	-11.8	1.50 V	182	34.2	8.0
11	11380.00	56.3 PK	74.0	-17.7	1.56 V	171	47.3	9.0
12	11380.00	46.1 AV	54.0	-7.9	1.56 V	171	37.1	9.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2366.40	60.3 PK	74.0	-13.7	1.33 H	314	28.2	32.1
2	2366.40	52.2 AV	54.0	-1.8	1.33 H	314	20.1	32.1
3	*2405.00	116.4 PK			1.33 H	314	84.4	32.0
4	*2405.00	113.3 AV			1.33 H	314	81.3	32.0
5	*2462.00	110.2 PK			1.64 H	155	78.2	32.0
6	*2462.00	108.4 AV			1.64 H	155	76.4	32.0
7	2483.50	57.7 PK	74.0	-16.3	1.64 H	155	25.7	32.0
8	2483.50	47.2 AV	54.0	-6.8	1.64 H	155	15.2	32.0
9	4810.00	48.5 PK	74.0	-25.5	2.11 H	282	45.3	3.2
10	4810.00	41.4 AV	54.0	-12.6	2.11 H	282	38.2	3.2
11	4924.00	47.7 PK	74.0	-26.3	1.00 H	331	44.4	3.3
12	4924.00	35.6 AV	54.0	-18.4	1.00 H	331	32.3	3.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2366.40	59.3 PK	74.0	-14.7	2.11 V	314	27.2	32.1
2	2366.40	50.2 AV	54.0	-3.8	2.11 V	314	18.1	32.1
3	*2405.00	113.2 PK			2.11 V	314	81.2	32.0
4	*2405.00	110.4 AV			2.11 V	314	78.4	32.0
5	*2462.00	120.4 PK			2.11 V	182	88.4	32.0
6	*2462.00	118.2 AV			2.11 V	182	86.2	32.0
7	2483.50	61.2 PK	74.0	-12.8	2.11 V	182	29.2	32.0
8	2483.50	53.3 AV	54.0	-0.7	2.11 V	182	21.3	32.0
9	4810.00	48.4 PK	74.0	-25.6	1.66 V	311	45.2	3.2
10	4810.00	43.5 AV	54.0	-10.5	1.66 V	311	40.3	3.2
11	4924.00	49.7 PK	74.0	-24.3	2.11 V	31	46.4	3.3
12	4924.00	41.8 AV	54.0	-12.2	2.11 V	31	38.5	3.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	58.9 PK	68.2	-9.3	2.21 H	182	56.4	2.5
2	*5690.00	102.3 PK			2.21 H	182	61.0	41.3
3	*5690.00	90.6 AV			2.21 H	182	49.3	41.3
4	#5850.00	60.1 PK	68.2	-8.1	2.21 H	182	56.2	3.9
5	11380.00	56.2 PK	74.0	-17.8	1.55 H	100	47.2	9.0
6	11380.00	44.1 AV	54.0	-9.9	1.55 H	100	35.1	9.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.6 PK	68.2	-7.6	2.22 V	231	58.1	2.5
2	*5690.00	120.4 PK			2.22 V	231	79.1	41.3
3	*5690.00	106.5 AV			2.22 V	231	65.2	41.3
4	#5850.00	60.6 PK	68.2	-7.6	2.22 V	231	56.7	3.9
5	11380.00	56.1 PK	74.0	-17.9	1.41 V	182	47.1	9.0
6	11380.00	44.1 AV	54.0	-9.9	1.41 V	182	35.1	9.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6145.00	107.2 PK			2.55 H	66	64.5	42.7
2	*6145.00	99.0 AV			2.55 H	66	56.3	42.7
3	12290.00	55.2 PK	74.0	-18.8	2.11 H	133	46.1	9.1
4	12290.00	47.4 AV	54.0	-6.6	2.11 H	133	38.3	9.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*6145.00	119.9 PK			2.55 V	241	77.2	42.7
2	*6145.00	110.9 AV			2.55 V	241	68.2	42.7
3	12290.00	56.3 PK	74.0	-17.7	3.33 V	184	47.2	9.1
4	12290.00	48.4 AV	54.0	-5.6	3.33 V	184	39.3	9.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz data

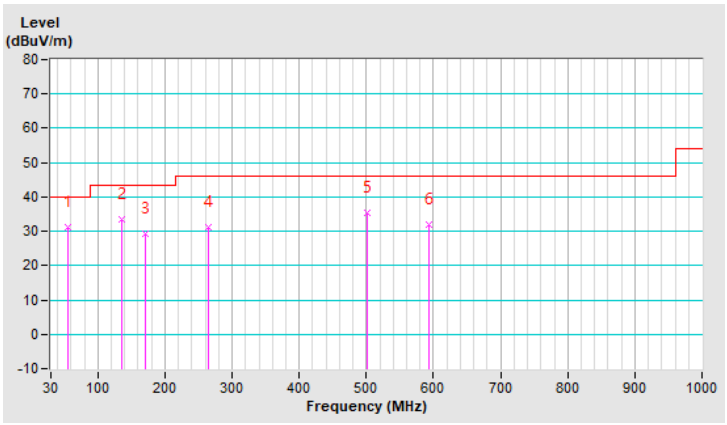
Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 60 + CH 110 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	56.19	31.1 QP	40.0	-8.9	1.99 H	142	44.6	-13.5
2	135.73	33.4 QP	43.5	-10.1	1.51 H	294	47.4	-14.0
3	171.62	29.2 QP	43.5	-14.3	1.51 H	201	43.1	-13.9
4	264.74	31.1 QP	46.0	-14.9	1.00 H	320	45.3	-14.2
5	500.45	35.5 QP	46.0	-10.5	1.99 H	39	43.8	-8.3
6	592.60	32.0 QP	46.0	-14.0	1.99 H	71	38.0	-6.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

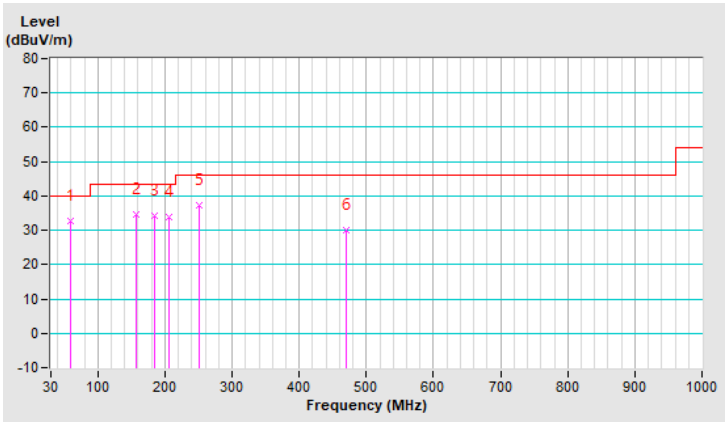


CHANNEL	CH 11 + CH 60 + CH 110 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	59.10	32.6 QP	40.0	-7.4	1.01 V	214	46.3	-13.7
2	157.07	34.7 QP	43.5	-8.8	1.51 V	340	47.8	-13.1
3	185.20	34.4 QP	43.5	-9.1	1.01 V	152	49.8	-15.4
4	205.57	33.7 QP	43.5	-9.8	1.01 V	355	50.7	-17.0
5	250.19	37.3 QP	46.0	-8.7	1.99 V	339	52.0	-14.7
6	469.41	30.1 QP	46.0	-15.9	1.51 V	161	38.8	-8.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



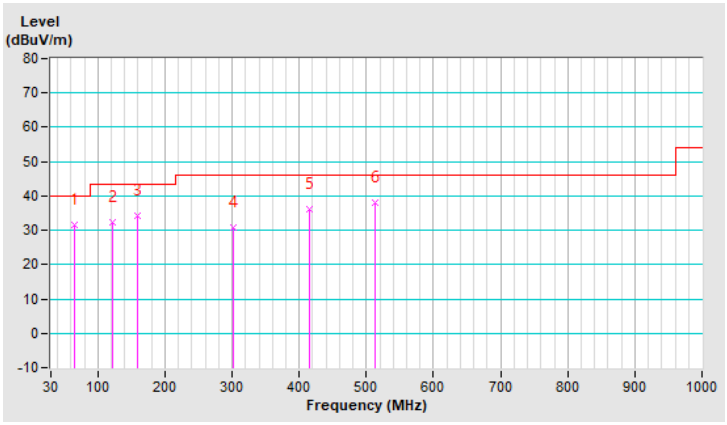
Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	65.89	31.6 QP	40.0	-8.4	1.99 H	196	46.6	-15.0
2	121.18	32.3 QP	43.5	-11.2	1.50 H	101	47.6	-15.3
3	159.98	34.3 QP	43.5	-9.2	1.99 H	282	47.5	-13.2
4	302.57	30.8 QP	46.0	-15.2	1.00 H	196	43.7	-12.9
5	416.06	36.1 QP	46.0	-9.9	1.99 H	91	46.2	-10.1
6	513.06	38.0 QP	46.0	-8.0	1.99 H	82	45.9	-7.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

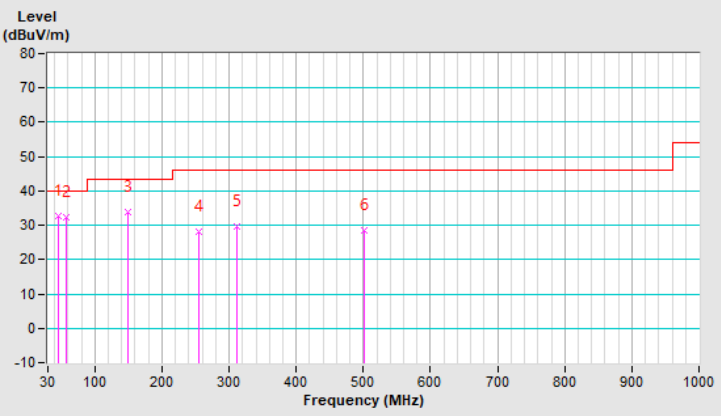


CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	46.49	32.8 QP	40.0	-7.2	1.00 V	199	46.1	-13.3
2	58.13	32.4 QP	40.0	-7.6	1.00 V	204	46.2	-13.8
3	148.34	33.8 QP	43.5	-9.7	1.00 V	181	47.1	-13.3
4	254.07	28.0 QP	46.0	-18.0	2.00 V	233	42.6	-14.6
5	312.27	29.8 QP	46.0	-16.2	1.50 V	309	42.5	-12.7
6	500.45	28.7 QP	46.0	-17.3	1.50 V	121	37.0	-8.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



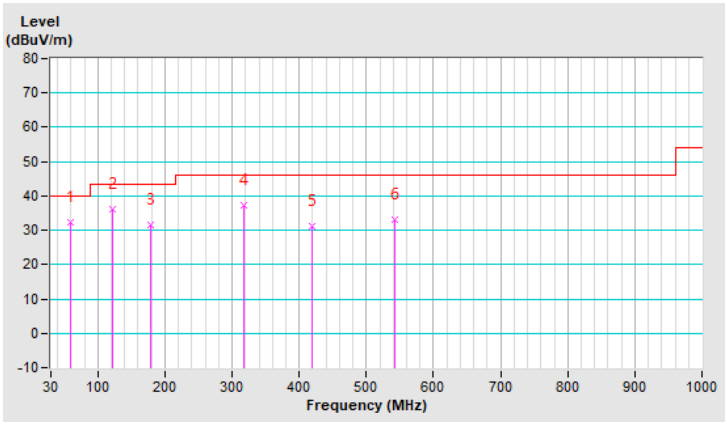
Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 60 + CH 110 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	59.10	32.3 QP	40.0	-7.7	1.51 H	111	46.0	-13.7
2	122.15	36.1 QP	43.5	-7.4	1.99 H	310	51.3	-15.2
3	178.41	31.4 QP	43.5	-12.1	1.51 H	99	46.1	-14.7
4	318.09	37.2 QP	46.0	-8.8	1.51 H	215	49.6	-12.4
5	418.97	31.2 QP	46.0	-14.8	1.00 H	98	41.1	-9.9
6	543.13	33.0 QP	46.0	-13.0	1.99 H	84	40.5	-7.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

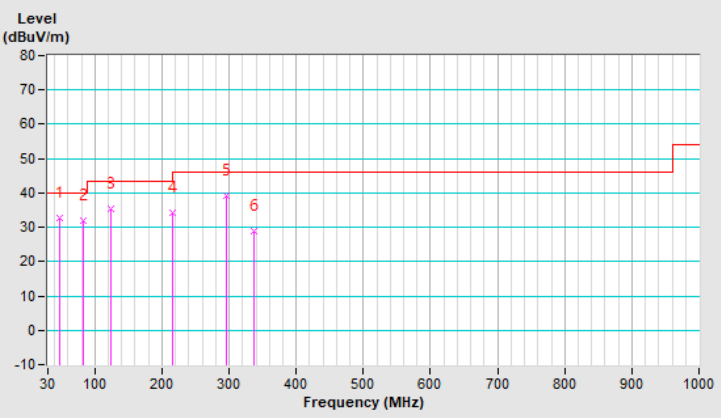


CHANNEL	CH 11 + CH 60 + CH 110 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.46	32.9 QP	40.0	-7.1	1.51 V	329	46.2	-13.3
2	82.38	32.1 QP	40.0	-7.9	1.51 V	321	50.9	-18.8
3	124.09	35.5 QP	43.5	-8.0	1.00 V	320	50.6	-15.1
4	216.24	34.1 QP	46.0	-11.9	1.99 V	79	51.0	-16.9
5	295.78	39.2 QP	46.0	-6.8	1.51 V	301	52.3	-13.1
6	337.49	28.8 QP	46.0	-17.2	1.99 V	72	40.7	-11.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



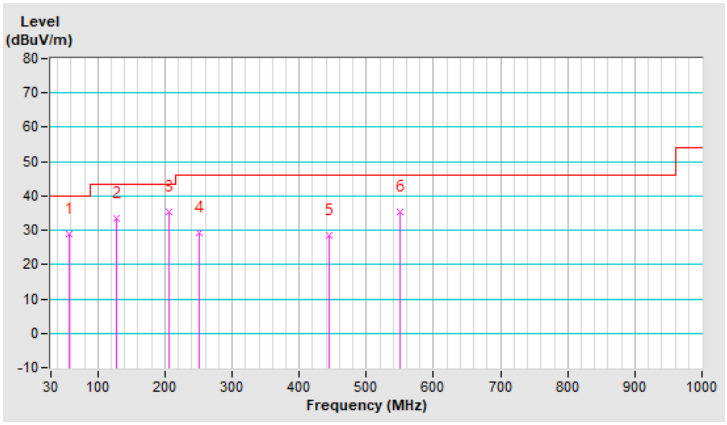
Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	58.13	28.8 QP	40.0	-11.2	1.99 H	349	42.6	-13.8
2	127.97	33.5 QP	43.5	-10.0	1.51 H	71	48.2	-14.7
3	206.54	35.2 QP	43.5	-8.3	1.51 H	78	52.2	-17.0
4	250.19	29.4 QP	46.0	-16.6	1.00 H	11	44.1	-14.7
5	445.16	28.5 QP	46.0	-17.5	1.00 H	12	37.6	-9.1
6	550.89	35.2 QP	46.0	-10.8	1.99 H	314	42.5	-7.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

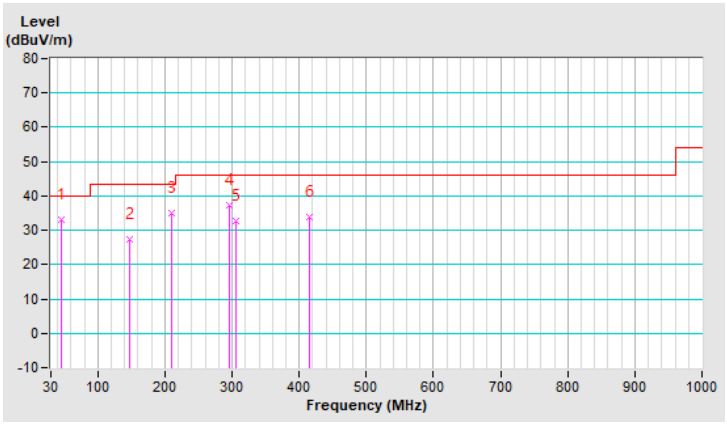


CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	46.49	33.2 QP	40.0	-6.8	1.51 V	152	46.5	-13.3
2	147.37	27.4 QP	43.5	-16.1	1.00 V	167	40.7	-13.3
3	210.42	35.0 QP	43.5	-8.5	1.51 V	82	51.9	-16.9
4	296.75	37.3 QP	46.0	-8.7	1.51 V	82	50.4	-13.1
5	306.45	32.8 QP	46.0	-13.2	2.00 V	164	45.6	-12.8
6	415.09	34.0 QP	46.0	-12.0	2.00 V	82	44.1	-10.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



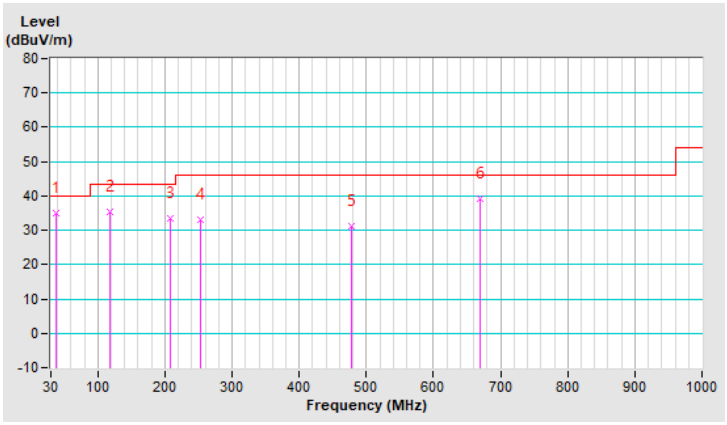
Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 60 + CH 110 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	38.43	34.9 QP	40.0	-5.1	1.50 H	194	48.6	-13.7
2	118.57	35.5 QP	43.5	-8.0	1.50 H	1	51.0	-15.5
3	207.13	33.4 QP	43.5	-10.1	1.01 H	289	50.2	-16.8
4	252.12	33.2 QP	46.0	-12.8	2.00 H	84	47.5	-14.3
5	478.45	31.2 QP	46.0	-14.8	1.50 H	286	39.3	-8.1
6	669.64	39.1 QP	46.0	-6.9	1.01 H	183	43.7	-4.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

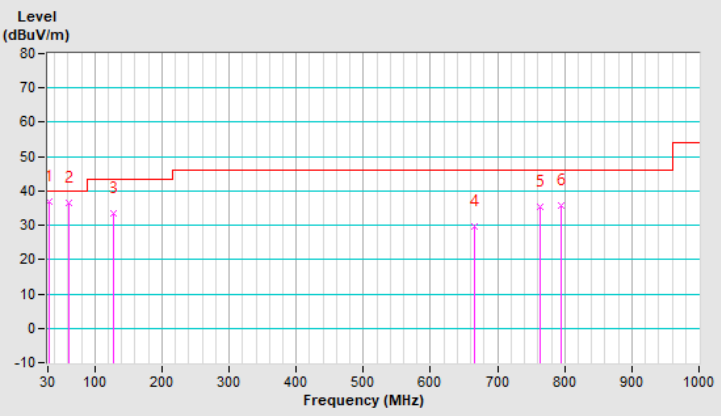


CHANNEL	CH 11 + CH 60 + CH 110 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.41	36.9 QP	40.0	-3.1	1.01 V	281	51.6	-14.7
2	60.93	36.4 QP	40.0	-3.6	1.01 V	50	50.4	-14.0
3	127.00	33.3 QP	43.5	-10.2	2.00 V	224	48.1	-14.8
4	665.42	29.5 QP	46.0	-16.5	1.50 V	189	34.1	-4.6
5	762.42	35.2 QP	46.0	-10.8	1.50 V	294	38.1	-2.9
6	794.75	35.8 QP	46.0	-10.2	1.01 V	9	38.3	-2.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



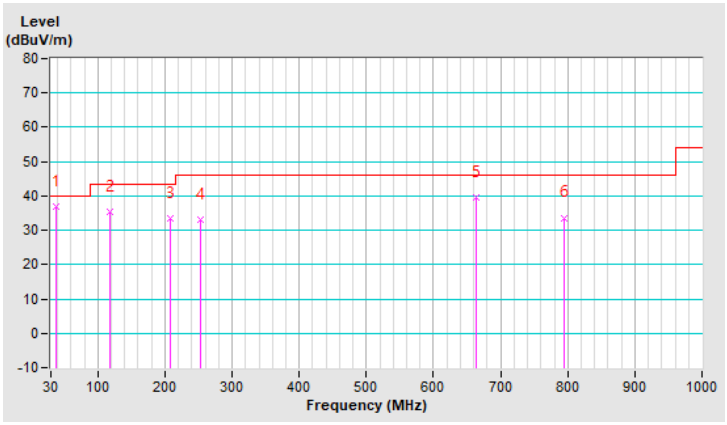
Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.03	36.9 QP	40.0	-3.1	1.50 H	192	50.8	-13.9
2	118.57	35.5 QP	43.5	-8.0	1.50 H	8	51.0	-15.5
3	207.13	33.4 QP	43.5	-10.1	2.00 H	281	50.2	-16.8
4	252.12	33.2 QP	46.0	-12.8	1.50 H	80	47.5	-14.3
5	664.01	39.4 QP	46.0	-6.6	1.01 H	187	44.0	-4.6
6	794.75	33.7 QP	46.0	-12.3	1.50 H	23	36.2	-2.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

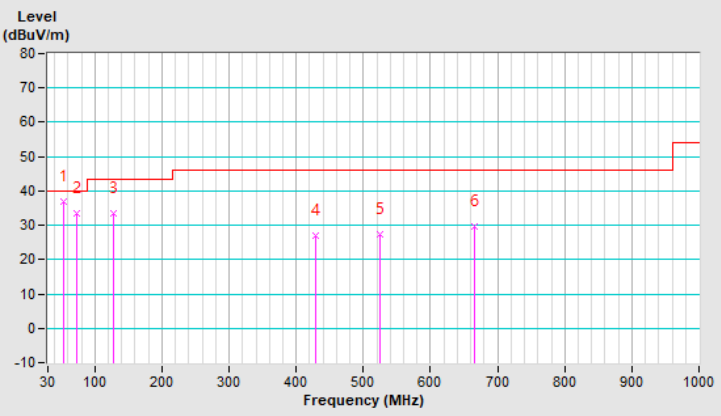


CHANNEL	CH 11 + CH 116 + CH 47 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	52.49	36.8 QP	40.0	-3.2	1.01 V	321	50.0	-13.2
2	72.17	33.5 QP	40.0	-6.5	1.01 V	274	49.6	-16.1
3	127.00	33.3 QP	43.5	-10.2	1.50 V	228	48.1	-14.8
4	429.25	27.1 QP	46.0	-18.9	2.00 V	329	36.5	-9.4
5	524.84	27.3 QP	46.0	-18.7	1.01 V	267	34.7	-7.4
6	665.42	29.5 QP	46.0	-16.5	1.50 V	184	34.1	-4.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



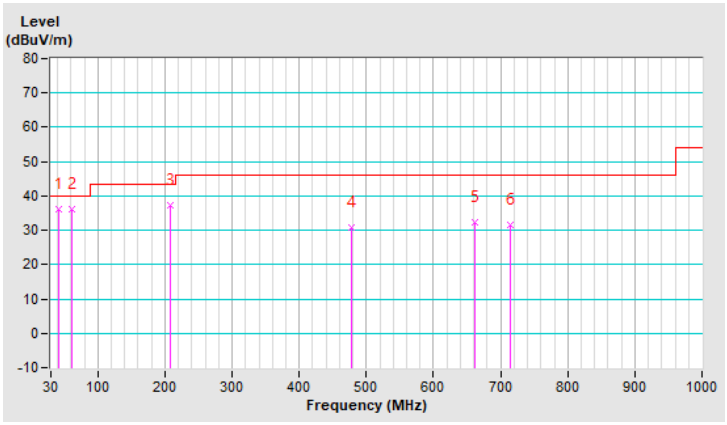
Radio 1: 802.11b + Radio 2: 802.11ax (HE20) + Radio 3: 802.11ax (HE40) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 60 + CH 110 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	41.25	36.1 QP	40.0	-3.9	1.99 H	249	49.5	-13.4
2	60.93	36.0 QP	40.0	-4.0	1.99 H	341	50.0	-14.0
3	207.13	37.3 QP	43.5	-6.2	1.00 H	290	54.1	-16.8
4	478.45	30.7 QP	46.0	-15.3	1.99 H	18	38.8	-8.1
5	661.20	32.2 QP	46.0	-13.8	1.00 H	231	36.8	-4.6
6	714.62	31.4 QP	46.0	-14.6	1.50 H	261	35.3	-3.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

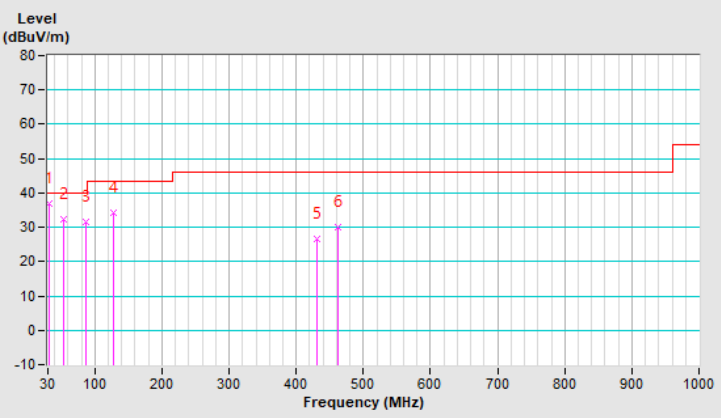


CHANNEL	CH 11 + CH 60 + CH 110 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.41	36.8 QP	40.0	-3.2	1.01 V	270	51.5	-14.7
2	52.49	32.5 QP	40.0	-7.5	1.50 V	342	45.7	-13.2
3	86.23	31.5 QP	40.0	-8.5	1.50 V	289	50.5	-19.0
4	127.00	34.2 QP	43.5	-9.3	1.01 V	171	49.0	-14.8
5	430.65	26.6 QP	46.0	-19.4	2.00 V	312	35.8	-9.2
6	461.58	30.0 QP	46.0	-16.0	1.01 V	334	38.4	-8.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



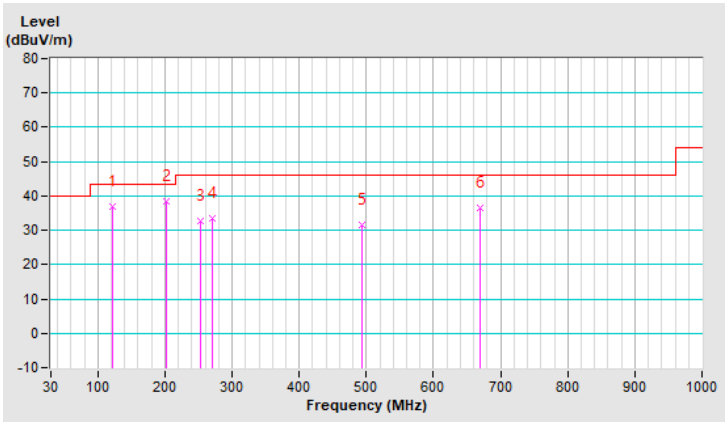
Radio 1: 802.11b + Radio 2: 802.11a + Radio 3: 802.11 ax (HE160) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	121.38	36.8 QP	43.5	-6.7	1.50 H	19	52.0	-15.2
2	201.51	38.5 QP	43.5	-5.0	1.01 H	261	55.2	-16.7
3	253.52	32.6 QP	46.0	-13.4	2.00 H	95	46.8	-14.2
4	270.39	33.6 QP	46.0	-12.4	1.01 H	11	47.1	-13.5
5	493.91	31.5 QP	46.0	-14.5	1.50 H	293	39.4	-7.9
6	669.64	36.7 QP	46.0	-9.3	1.01 H	183	41.3	-4.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

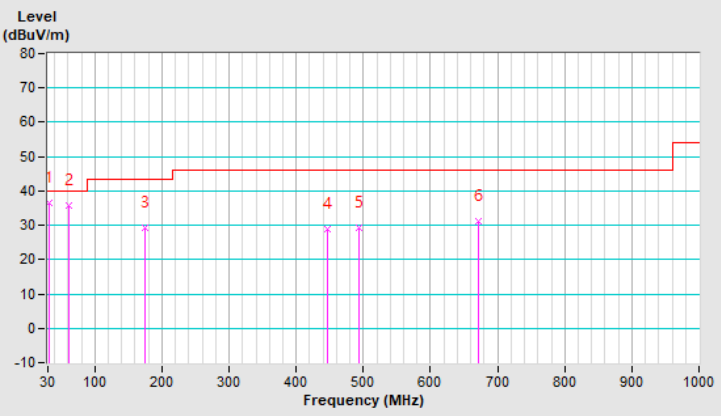


CHANNEL	CH 11 + CH 116 + CH 47 + CH 18	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.41	36.6 QP	40.0	-3.4	1.01 V	281	51.3	-14.7
2	60.93	35.8 QP	40.0	-4.2	1.01 V	84	49.8	-14.0
3	174.80	29.1 QP	43.5	-14.4	2.00 V	291	43.1	-14.0
4	446.12	28.8 QP	46.0	-17.2	1.51 V	319	37.5	-8.7
5	493.91	29.2 QP	46.0	-16.8	1.01 V	17	37.1	-7.9
6	671.04	31.0 QP	46.0	-15.0	1.51 V	185	35.6	-4.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



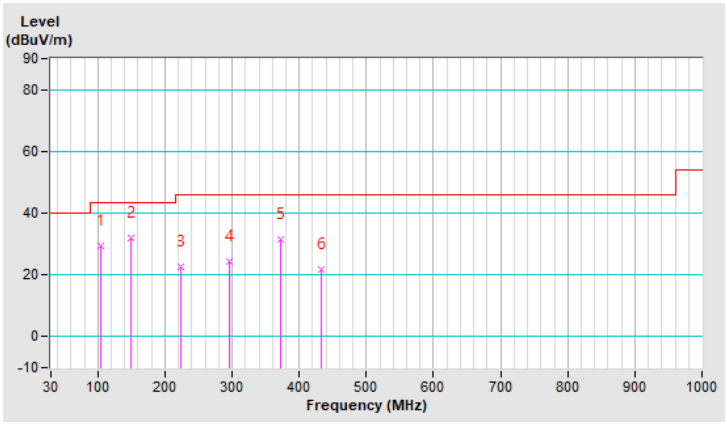
Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	103.72	29.4 QP	43.5	-14.1	1.50 H	116	46.4	-17.0
2	148.34	32.0 QP	43.5	-11.5	1.50 H	100	45.2	-13.2
3	223.03	22.8 QP	46.0	-23.2	1.50 H	199	39.2	-16.4
4	296.75	24.3 QP	46.0	-21.7	1.01 H	18	36.8	-12.5
5	371.44	31.5 QP	46.0	-14.5	1.01 H	192	42.1	-10.6
6	432.55	21.7 QP	46.0	-24.3	1.50 H	184	30.8	-9.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

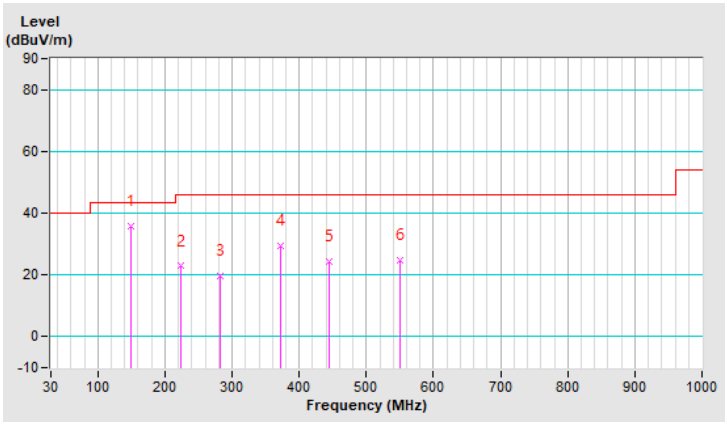


CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	148.34	35.6 QP	43.5	-7.9	1.01 V	281	48.8	-13.2
2	223.03	22.8 QP	46.0	-23.2	1.01 V	285	39.2	-16.4
3	282.20	19.6 QP	46.0	-26.4	1.50 V	2	32.4	-12.8
4	371.44	29.3 QP	46.0	-16.7	1.01 V	80	39.9	-10.6
5	445.16	24.4 QP	46.0	-21.6	1.01 V	142	33.1	-8.7
6	549.92	24.6 QP	46.0	-21.4	1.50 V	130	31.6	-7.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



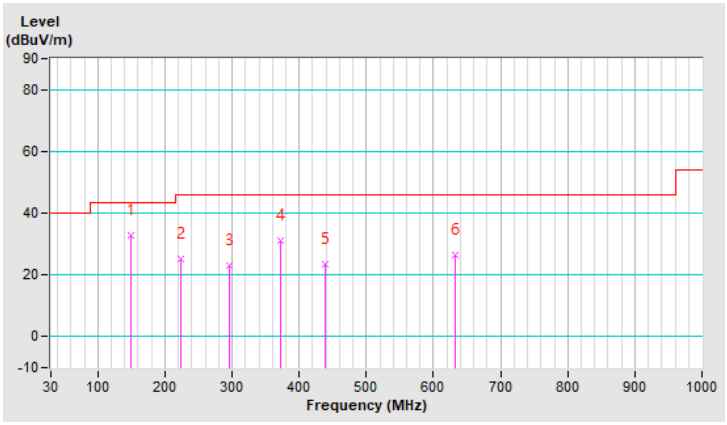
Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3 Radio: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	148.34	32.9 QP	43.5	-10.6	1.50 H	114	46.1	-13.2
2	223.03	25.0 QP	46.0	-21.0	1.50 H	202	41.4	-16.4
3	296.75	22.9 QP	46.0	-23.1	1.01 H	18	35.4	-12.5
4	371.44	31.0 QP	46.0	-15.0	1.01 H	192	41.6	-10.6
5	439.34	23.3 QP	46.0	-22.7	1.01 H	18	32.1	-8.8
6	632.37	26.4 QP	46.0	-19.6	1.50 H	200	31.3	-4.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

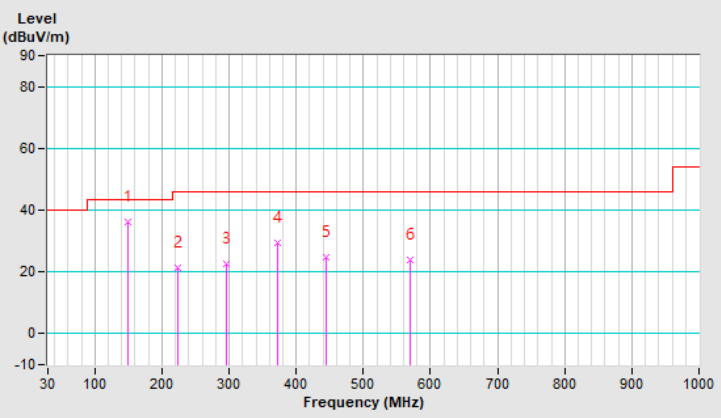


CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	148.34	36.3 QP	43.5	-7.2	1.00 V	253	49.5	-13.2
2	223.03	21.4 QP	46.0	-24.6	1.49 V	281	37.8	-16.4
3	296.75	22.5 QP	46.0	-23.5	1.49 V	4	35.0	-12.5
4	371.44	29.5 QP	46.0	-16.5	1.00 V	89	40.1	-10.6
5	445.16	24.6 QP	46.0	-21.4	1.00 V	170	33.3	-8.7
6	570.29	23.9 QP	46.0	-22.1	1.49 V	130	30.4	-6.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



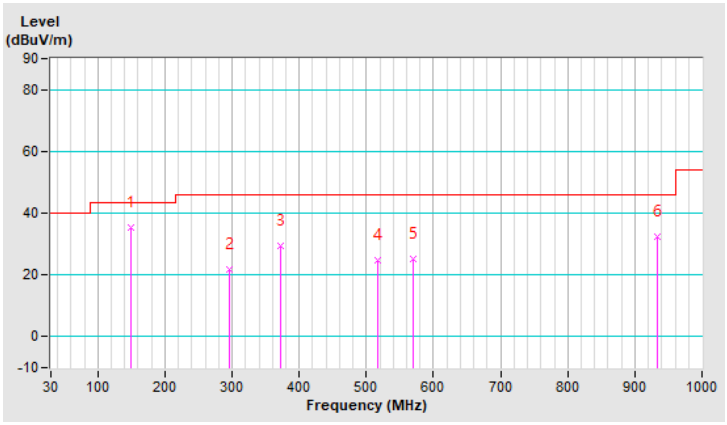
Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 62 + CH 138 + CH 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	40.67	27.2 QP	40.0	-12.8	1.50 H	262	40.7	-13.5
2	103.72	31.3 QP	43.5	-12.2	1.50 H	278	48.3	-17.0
3	371.44	29.1 QP	46.0	-16.9	1.01 H	329	39.7	-10.6
4	437.40	22.7 QP	46.0	-23.3	1.50 H	28	31.6	-8.9
5	548.95	24.2 QP	46.0	-21.8	1.50 H	318	31.2	-7.0
6	668.26	26.8 QP	46.0	-19.2	1.50 H	2	31.3	-4.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

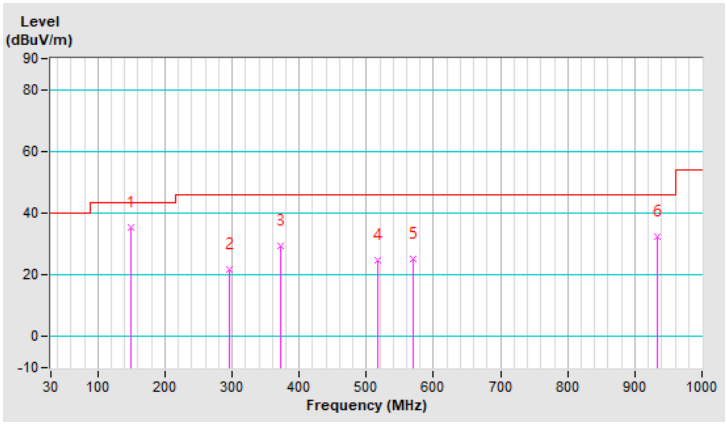


CHANNEL	CH 11 + CH 62 + CH 138 + CH 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	148.34	35.2 QP	43.5	-8.3	1.49 V	246	48.4	-13.2
2	296.75	21.7 QP	46.0	-24.3	1.49 V	358	34.2	-12.5
3	371.44	29.4 QP	46.0	-16.6	1.00 V	91	40.0	-10.6
4	517.91	24.9 QP	46.0	-21.1	1.00 V	88	32.4	-7.5
5	570.29	25.3 QP	46.0	-20.7	1.00 V	280	31.8	-6.5
6	933.07	32.4 QP	46.0	-13.6	1.00 V	310	33.0	-0.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



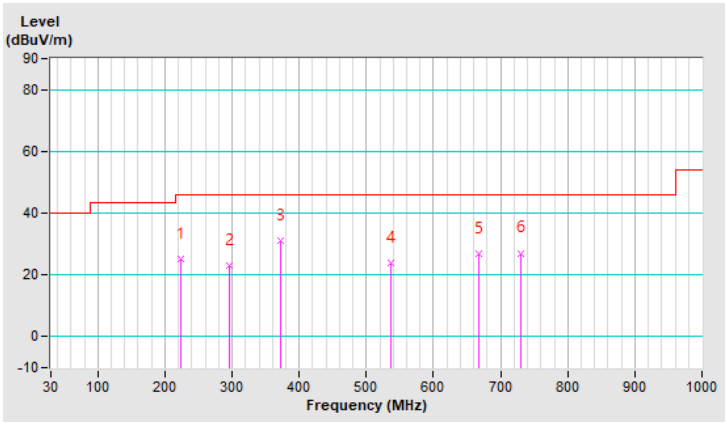
Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3 Radio: 802.11ax (HE80) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	223.03	25.0 QP	46.0	-21.0	1.50 H	202	41.4	-16.4
2	296.75	22.9 QP	46.0	-23.1	1.01 H	18	35.4	-12.5
3	371.44	31.0 QP	46.0	-15.0	1.01 H	192	41.6	-10.6
4	536.34	23.7 QP	46.0	-22.3	1.50 H	37	31.0	-7.3
5	668.26	26.7 QP	46.0	-19.3	1.50 H	324	31.2	-4.5
6	730.34	27.1 QP	46.0	-18.9	1.50 H	11	30.8	-3.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

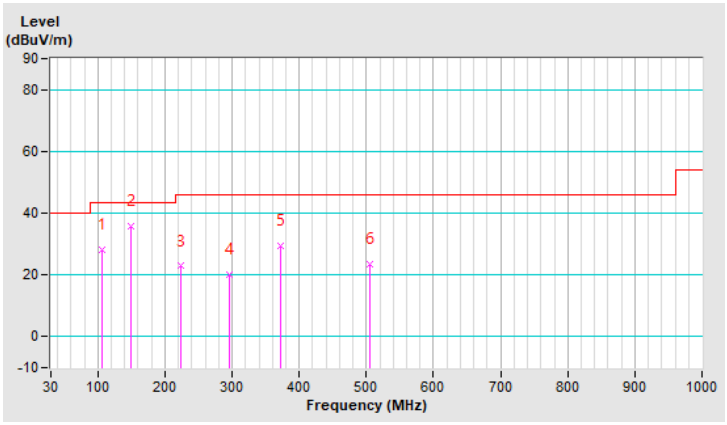


CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	105.66	28.0 QP	43.5	-15.5	1.01 V	203	44.7	-16.7
2	148.34	35.6 QP	43.5	-7.9	1.01 V	281	48.8	-13.2
3	223.03	22.8 QP	46.0	-23.2	1.01 V	285	39.2	-16.4
4	296.75	20.2 QP	46.0	-25.8	1.50 V	12	32.7	-12.5
5	371.44	29.3 QP	46.0	-16.7	1.01 V	80	39.9	-10.6
6	505.30	23.3 QP	46.0	-22.7	1.01 V	357	31.0	-7.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



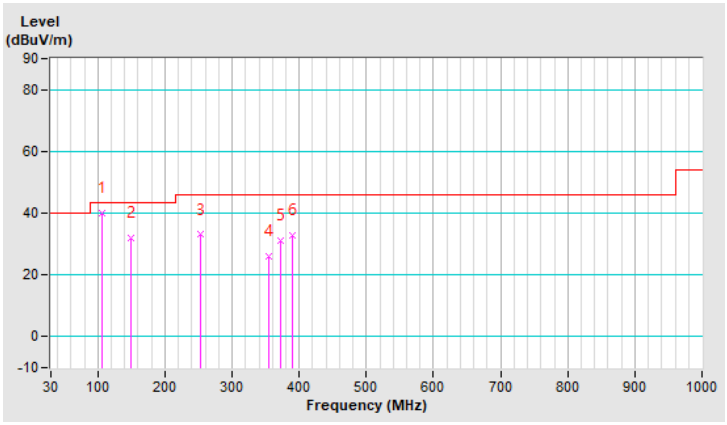
Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3 Radio: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	106.63	39.8 QP	43.5	-3.7	1.99 H	95	56.4	-16.6
2	148.34	31.9 QP	43.5	-11.6	1.99 H	257	45.1	-13.2
3	253.10	33.0 QP	46.0	-13.0	1.00 H	282	47.1	-14.1
4	353.98	25.9 QP	46.0	-20.1	1.00 H	263	37.2	-11.3
5	371.44	31.1 QP	46.0	-14.9	1.00 H	166	41.7	-10.6
6	388.90	32.7 QP	46.0	-13.3	1.50 H	171	42.9	-10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

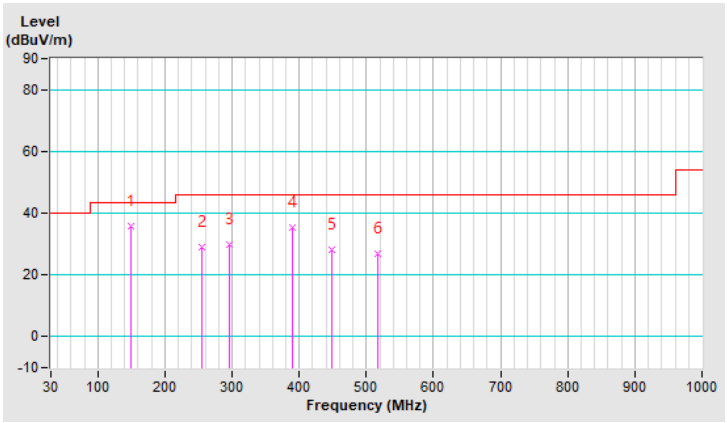


CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	148.34	35.7 QP	43.5	-7.8	1.00 V	154	48.9	-13.2
2	255.04	28.8 QP	46.0	-17.2	1.00 V	110	42.9	-14.1
3	296.75	30.0 QP	46.0	-16.0	1.00 V	147	42.5	-12.5
4	388.90	35.5 QP	46.0	-10.5	1.00 V	22	45.7	-10.2
5	449.04	28.3 QP	46.0	-17.7	1.00 V	237	36.9	-8.6
6	517.91	26.9 QP	46.0	-19.1	1.49 V	291	34.4	-7.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



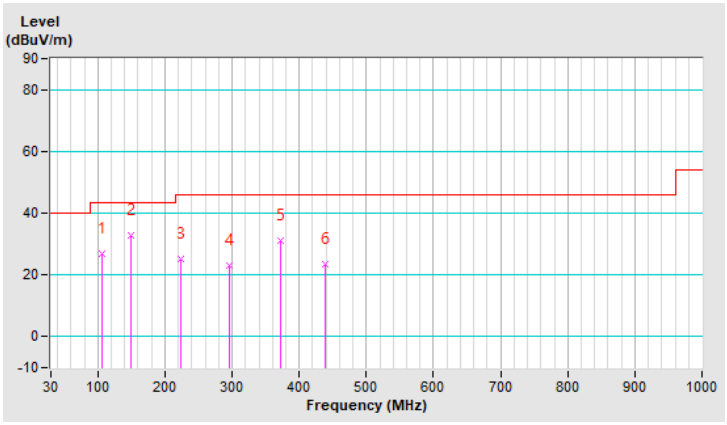
Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3 Radio: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	106.63	26.9 QP	43.5	-16.6	1.50 H	324	43.5	-16.6
2	148.34	32.9 QP	43.5	-10.6	1.50 H	114	46.1	-13.2
3	223.03	25.0 QP	46.0	-21.0	1.50 H	202	41.4	-16.4
4	296.75	22.9 QP	46.0	-23.1	1.01 H	18	35.4	-12.5
5	371.44	31.0 QP	46.0	-15.0	1.01 H	192	41.6	-10.6
6	439.34	23.3 QP	46.0	-22.7	1.01 H	18	32.1	-8.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

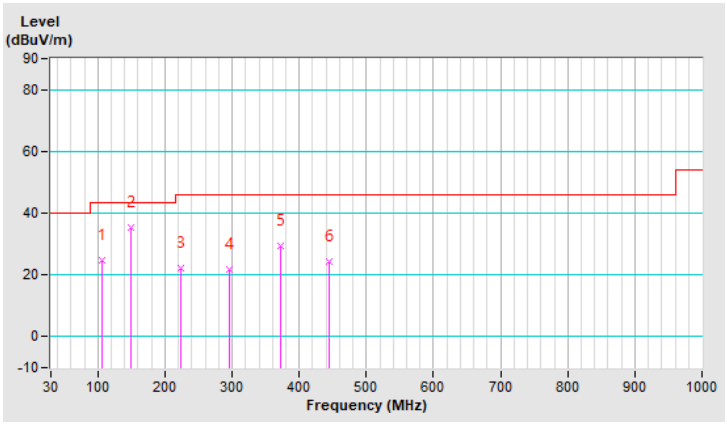


CHANNEL	CH 11 + CH 138 + CH 39 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	106.63	24.8 QP	43.5	-18.7	1.49 V	215	41.4	-16.6
2	148.34	35.2 QP	43.5	-8.3	1.49 V	246	48.4	-13.2
3	223.03	22.0 QP	46.0	-24.0	1.00 V	284	38.4	-16.4
4	296.75	21.7 QP	46.0	-24.3	1.49 V	358	34.2	-12.5
5	371.44	29.4 QP	46.0	-16.6	1.00 V	91	40.0	-10.6
6	445.16	24.3 QP	46.0	-21.7	1.00 V	163	33.0	-8.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



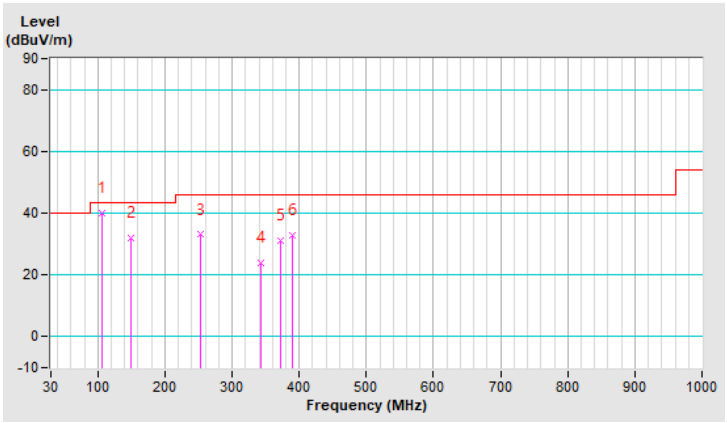
Radio 1: 802.11b + Radio 2: 802.11ax (HE40) + Radio 3: 802.11ax (HE80) + Radio 4: BLE 2M

CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	106.63	39.8 QP	43.5	-3.7	1.99 H	95	56.4	-16.6
2	148.34	31.9 QP	43.5	-11.6	1.99 H	257	45.1	-13.2
3	253.10	33.0 QP	46.0	-13.0	1.00 H	282	47.1	-14.1
4	342.34	23.9 QP	46.0	-22.1	1.00 H	295	35.3	-11.4
5	371.44	31.1 QP	46.0	-14.9	1.00 H	166	41.7	-10.6
6	388.90	32.7 QP	46.0	-13.3	1.50 H	171	42.9	-10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

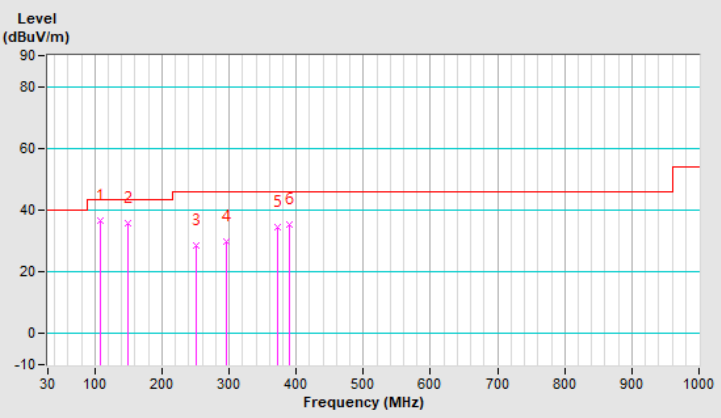


CHANNEL	CH 11 + CH 62 + CH 138 + CH 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	107.60	36.5 QP	43.5	-7.0	1.00 V	164	52.9	-16.4
2	148.34	35.7 QP	43.5	-7.8	1.00 V	154	48.9	-13.2
3	251.16	28.4 QP	46.0	-17.6	1.00 V	104	42.6	-14.2
4	296.75	30.0 QP	46.0	-16.0	1.00 V	147	42.5	-12.5
5	371.44	34.5 QP	46.0	-11.5	1.00 V	18	45.1	-10.6
6	388.90	35.5 QP	46.0	-10.5	1.00 V	22	45.7	-10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



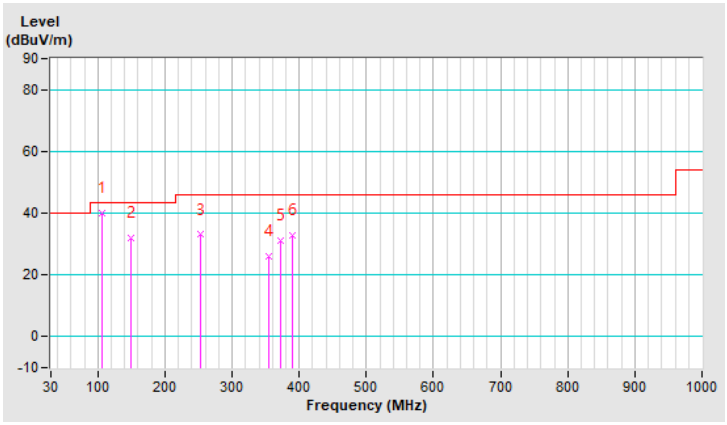
Radio 1: 802.11b + Radio 2: 802.11ax (HE80) + Radio 3: 802.11ax (HE80) + Radio 4: Zigbee

CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	106.63	39.8 QP	43.5	-3.7	1.99 H	95	56.4	-16.6
2	148.34	31.9 QP	43.5	-11.6	1.99 H	257	45.1	-13.2
3	253.10	33.0 QP	46.0	-13.0	1.00 H	282	47.1	-14.1
4	353.98	25.9 QP	46.0	-20.1	1.00 H	263	37.2	-11.3
5	371.44	31.1 QP	46.0	-14.9	1.00 H	166	41.7	-10.6
6	388.90	32.7 QP	46.0	-13.3	1.50 H	171	42.9	-10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

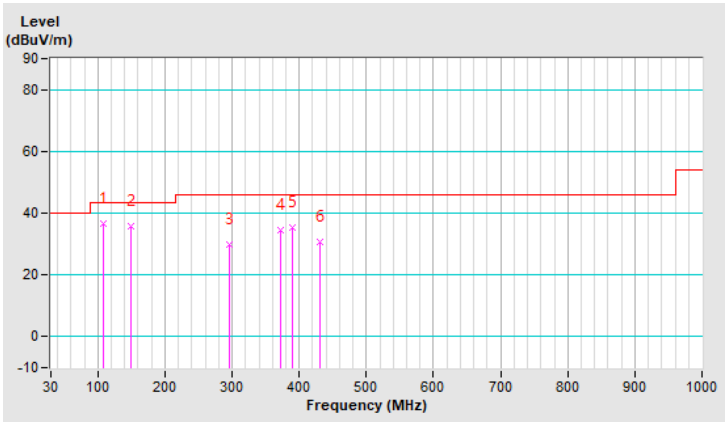


CHANNEL	CH 11 + CH 138 + CH 39 + CH 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	D

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	107.60	36.5 QP	43.5	-7.0	1.00 V	164	52.9	-16.4
2	148.34	35.7 QP	43.5	-7.8	1.00 V	154	48.9	-13.2
3	296.75	30.0 QP	46.0	-16.0	1.00 V	147	42.5	-12.5
4	371.44	34.5 QP	46.0	-11.5	1.00 V	18	45.1	-10.6
5	388.90	35.5 QP	46.0	-10.5	1.00 V	22	45.7	-10.2
6	430.61	30.7 QP	46.0	-15.3	1.00 V	142	39.9	-9.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

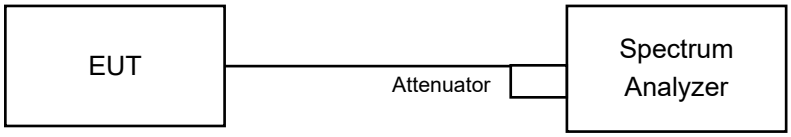


4.2 Conducted Out of Band Emission Measurement

4.2.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

MEASUREMENT PROCEDURE REF

a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep = auto couple.
e. Trace Mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum amplitude level.

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Condition

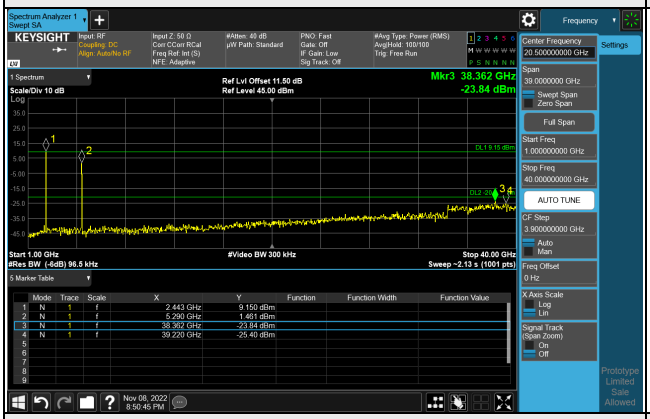
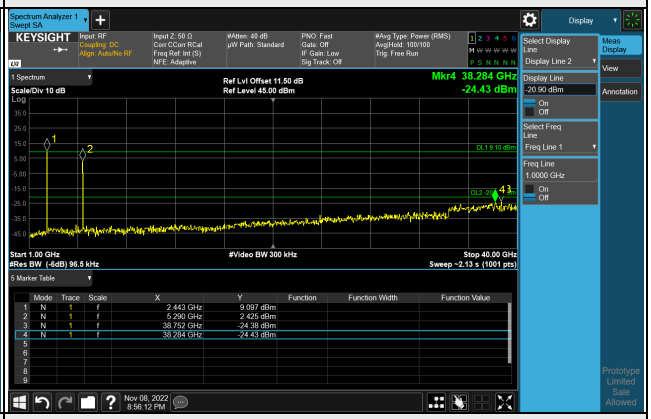
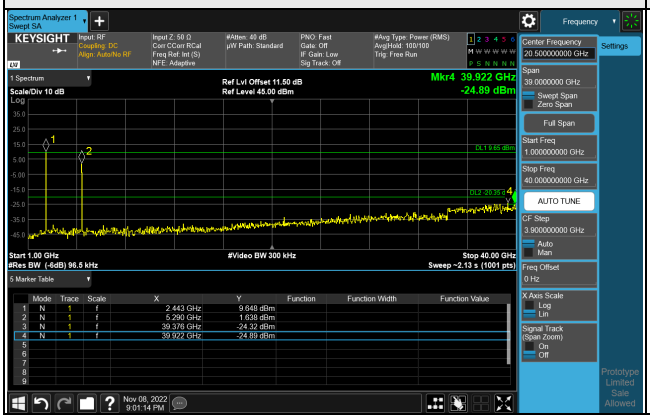
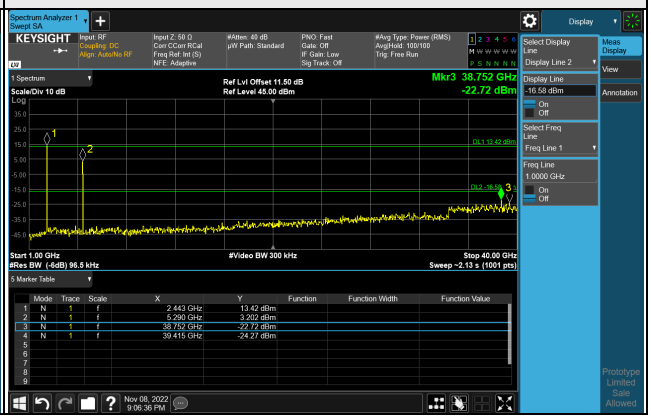
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.2.7 Test Results

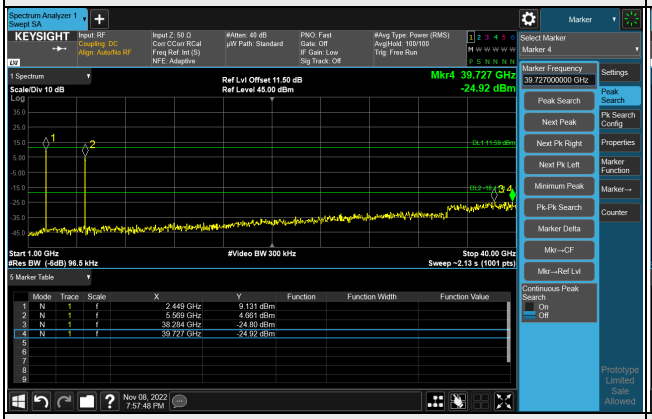
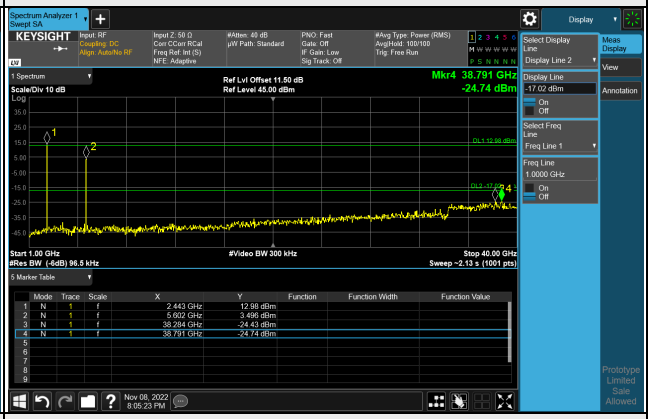
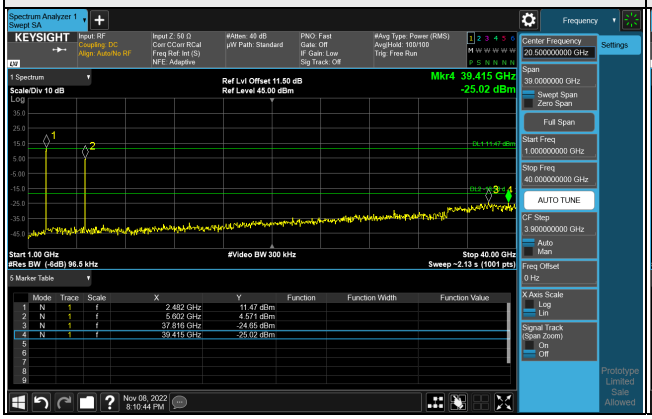
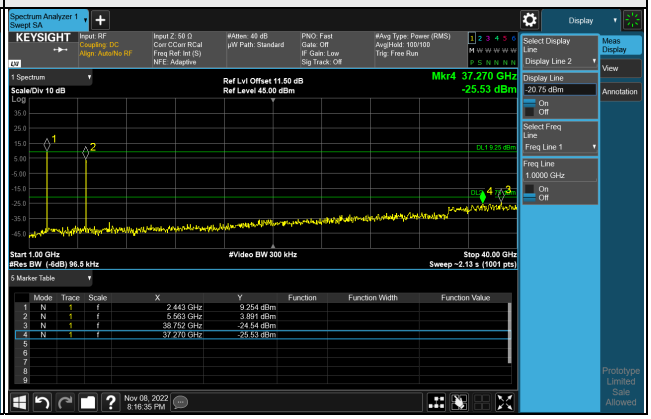
The spectrum plots are attached on the following pages. DL1 line indicates the highest level, and DL2 line indicates the 30dB offset below DL1. It shows compliance with the requirement.

Model: FAP-431G

Radio 1: 802.11b Ch11+Radio 2: 802.11ax (HE20) Ch60

Chain 0	Chain 1
	
Chain 2	**Chain 3**
	

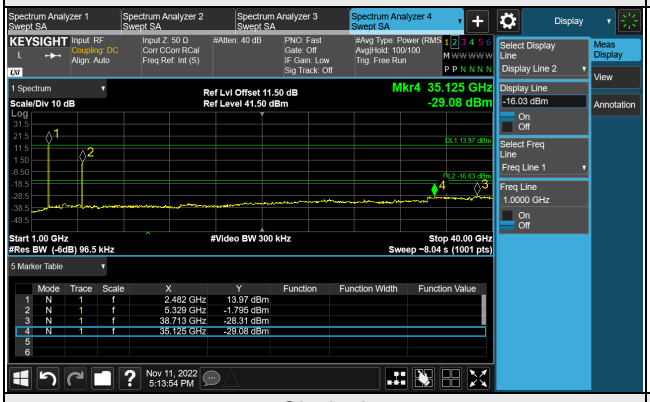
Radio 1: 802.11b Ch11+Radio 2: 802.11ax (HE20) Ch116

Chain 0	Chain 1
	
Chain 2	**Chain 3**
	

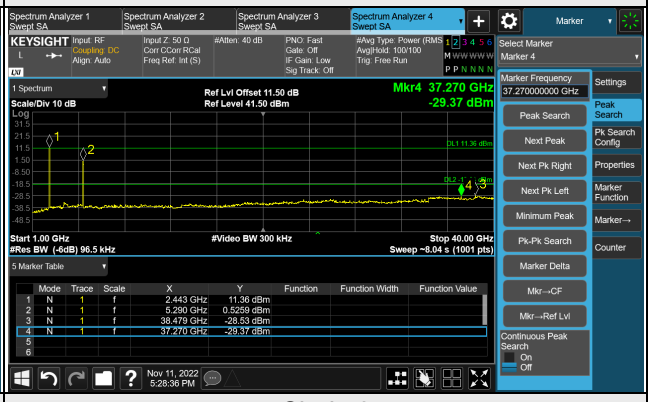
Model: FAP-433G

Radio 1: 802.11b Ch11+Radio 2: 802.11ax (HE40) Ch62

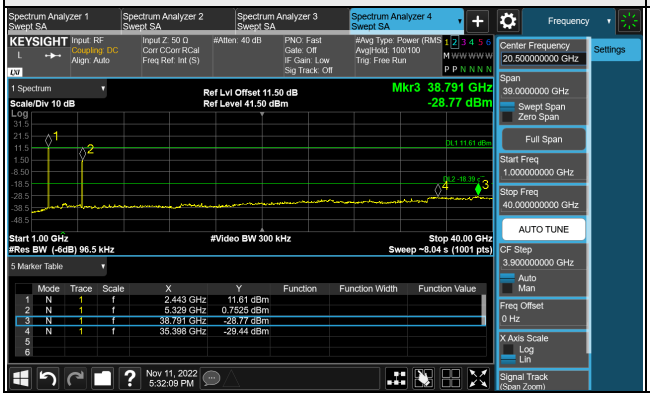
Chain 0



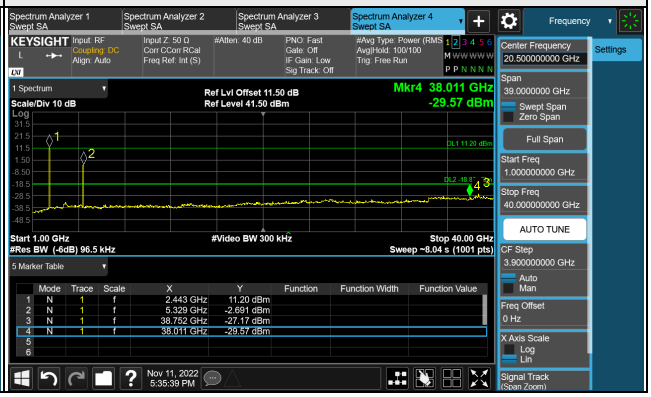
Chain 1



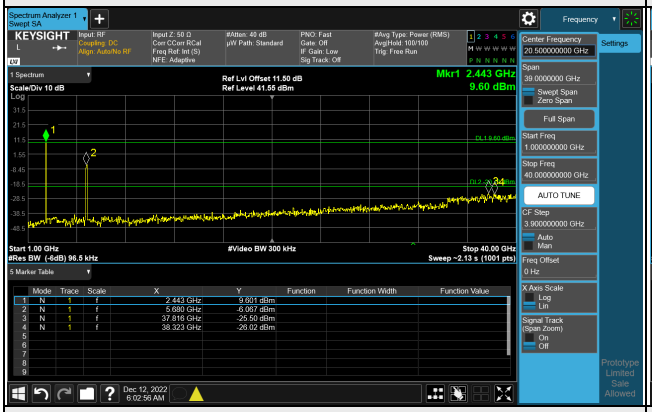
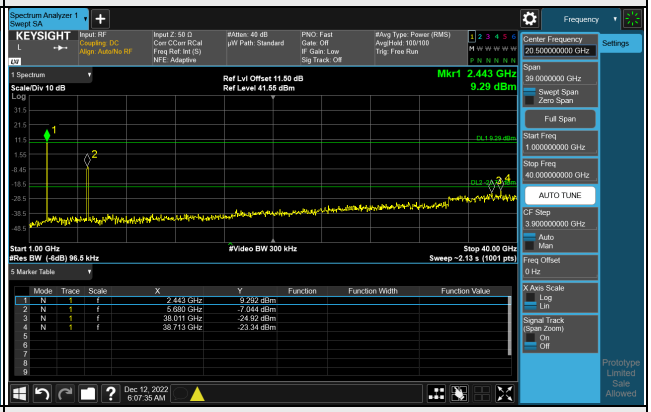
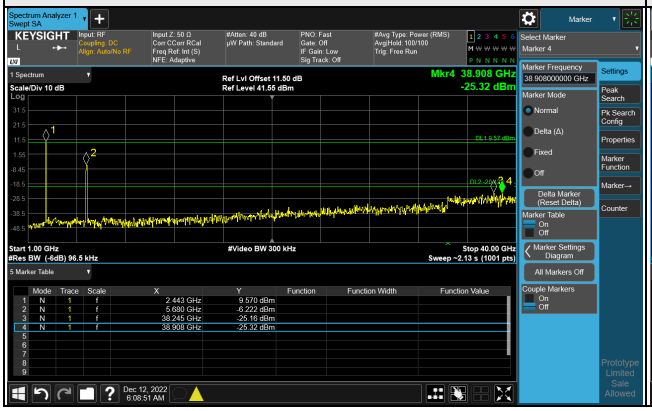
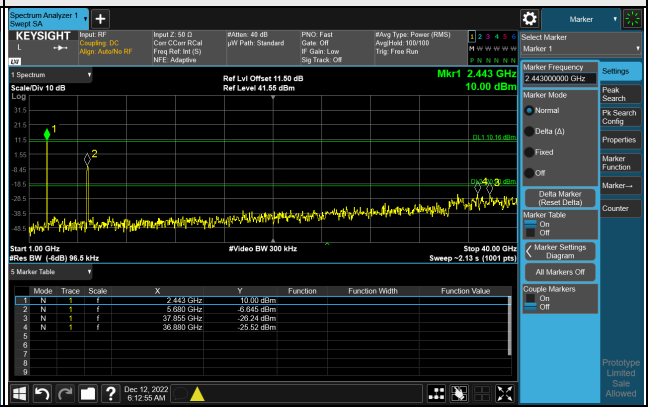
Chain 2



Chain 3



Radio 1: 802.11b Ch11+Radio 2: 802.11ax (HE80) Ch138

Chain 0	Chain 1
	
Chain 2	**Chain 3**
	

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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