

FCC Test Report (Co-Located)

Report No.: RF170609C20A-2

FCC ID: QXO-AP3915E

Test Model: AP3915e

Series Model: AP7632 (refer to item 3.1 for more details)

Received Date: Jun. 09, 2017

Test Date: Sep. 14 ~ Sep. 15, 2017

Issued Date: Sep. 25, 2017

Applicant: Extreme Networks, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Release Control Record

Issue No.	Description	Date Issued
RF170609C20A-2	Original release.	Sep. 25, 2017

1 Certificate of Conformity

Product: Wireless 802.11 a/ac+b/g/n Indoor Access Point

Brand: Extreme Networks

Test Model: AP3915e

Series Model: AP7632 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: Extreme Networks, Inc.

Test Date: Sep. 14 ~ Sep. 15, 2017

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 EMC characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Sep. 25, 2017
Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Sep. 25, 2017
Ken Liu / Senior Manager

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 -0.1dB at 2390.00MHz and 2352.00MHz.

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	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless 802.11 a/ac+b/g/n Indoor Access Point	
Brand	Extreme Networks	
Test Model	AP3915e	
Series Model	AP7632	
Model Difference	Refer to note for more details	
Status of EUT	Engineering sample	
Power Supply Rating	12Vdc from adapter 54Vdc from POE	
Modulation Type	WLAN	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
	Bluetooth LE	GFSK
	Zigbee	O-QPSK
Modulation Technology	WLAN	DSSS, OFDM
Transfer Rate	WLAN	802.11b:11/5.5/2/1Mbps 802.11a/g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
	Bluetooth LE	1Mbps
	Zigbee	250kbps
Operating Frequency	WLAN	2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5180 ~ 5240MHz, 5260~5320MHz, 5500~5720MHz, 5745 ~ 5825MHz
	Bluetooth LE	2402 ~ 2480MHz
	Zigbee	2405 ~ 2480MHz
Number of Channel	WLAN	2412 ~ 2462MHz: 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) 5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500~5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3
	Bluetooth LE	40
	Zigbee	16

Output Power	WLAN	<p>ML-2452-APA2-01, ML-2452-APA2-02 and ML-2452-HPA5-036 Ant.:</p> <p>CDD Mode: 2412~2462MHz: 347.575mW 5260~5320MHz: 223.583mW 5500~5720MHz: 237.173mW</p> <p>Beamforming Mode: 2412~2462MHz: 167.880mW 5260~5320MHz: 111.686mW 5500~5720MHz: 118.577mW</p> <p>ML-2452-HPAG4A6-01 Ant.:</p> <p>CDD Mode: 2412~2462MHz: 337.824mW 5260~5320MHz: 160.254mW 5500~5720MHz: 177.126mW</p> <p>Beamforming Mode: 2412~2462MHz: 167.494mW 5260~5320MHz: 80.168mW 5500~5720MHz: 88.512mW</p> <p>ML-2452-HPA6M4-S36 Ant.:</p> <p>CDD Mode: 2412~2462MHz: 337.824mW 5260~5320MHz: 171.483mW 5500~5720MHz: 177.126mW</p> <p>Beamforming Mode: 2412~2462MHz: 167.494mW 5260~5320MHz: 85.704mW 5500~5720MHz: 88.512mW</p> <p>ML-2452-PNL9M3-036 Ant.:</p> <p>CDD Mode: 2412~2462MHz: 305.978mW 5260~5320MHz: 81.379mW 5500~5720MHz: 83.293mW</p> <p>Beamforming Mode: 2412~2462MHz: 296.189mW 5260~5320MHz: 81.379mW 5500~5720MHz: 83.293mW</p>
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Output Power	WLAN	ML-2452-PNL6M3-N36, ML-2452-PNA5-01R and ML-2452-PNA7-01R Ant.: CDD Mode: 2412~2462MHz: 330.856mW 5260~5320MHz: 67.770mW 5500~5720MHz: 79.152mW Beamforming Mode: 2412~2462MHz: 161.436mW 5260~5320MHz: 33.884mW 5500~5720MHz: 39.537mW ML-2452-PTA2M2-036 and ML-2452-PTA4M4-036 Ant.: CDD Mode: 2412~2462MHz: 360.481mW 5260~5320MHz: 181.928mW 5500~5720MHz: 204.004mW Beamforming Mode: 2412~2462MHz: 169.434mW 5260~5320MHz: 90.991mW 5500~5720MHz: 102.094mW
	Bluetooth LE	ML-2499-HPA8-01 and ML-2452-PNA7-01R Ant.: 1.259mW
	Zigbee	ML-2499-HPA8-01 and ML-2452-PNA7-01R Ant.: 1.622mW
Antenna Type	Refer to Note	
Antenna Connector	Refer to Note	
Accessory Device	NA	
Data Cable Supplied	NA	

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV ADT report no.: RF170609C20-4) is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.72GHz by software.
2. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function	Beamforming
802.11b	2TX	Not Support
802.11g	2TX	Not Support
802.11a	2TX	Not Support
802.11n (HT20)	2TX	Support
802.11n (HT40)	2TX	Support
802.11ac (VHT20)	2TX	Support
802.11ac (VHT40)	2TX	Support
802.11ac (VHT80)	2TX	Support

* The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for 20MHz/40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11n, CDD mode is the worst case for final radiated emission and power line conducted emission tests after pretesting CDD mode and beamforming mode.

3. All models are listed as below. Model: AP3915e was chosen for final test.

Brand	Model	Difference
Extreme Networks	AP3915e	All models are electrically identical, only the cover printing is different.
	AP7632	

4. The EUT consumes power from the following adapter and POE. (Support unit only)

Adapter	
Brand	Powertron Electronics Corp.
Model	PA1024-120IB200
Input Power	100-240Vac, 50-60Hz, 0.6A.
Output Power	12Vdc, 2A, 24W Max
Power Line	1.5m power cable with one core attached on adapter

POE	
Brand	EnGenius
Model	EPA5006GP
Input Power	100-240Vac, 50-60Hz, 0.8A
Output Power	54Vdc, 0.6A Pin 4, 5: 54Vdc Pin 7, 8: Return

5. The following antennas were provided to the EUT.

No.	Function	Type	Manufacturer/ Vendor	Model	Gain (dBi)		Connector
					2.4GHz Band	5GHz Band	
1	WLAN	Dipole	Wha Yu	ML-2452-APA2-01	3.17	4.85	RP-SMA Male
2	WLAN	Dipole	Wha Yu	ML-2452-APA2-02	3	5	RP-SMA Male
3	WLAN	Dipole	Laird	ML-2452-HPA5-036	3	5	RP-SMA Male
4	WLAN	Dipole	Laird	ML-2452-HPAG4A6-01	4	7.3	N Male
5	WLAN	Dipole	Ventev	ML-2452-HPA6M4-S36	6.0	6.0	RP-SMA
6	WLAN	Panel	Laird	ML-2452-PNL9M3-036	11.0	10.7	RP-SMA Male
7	WLAN	Panel	Laird	ML-2452-PNL6M3-N36	6	6	N Male
8	WLAN	Panel	Laird	ML-2452-PNA5-01R	5.5	6	N Male
9	WLAN & BT LE & Zigbee	Panel	Laird	ML-2452-PNA7-01R	7.8	10.7	N Male
10	WLAN	Patch	Laird	ML-2452-PTA2M2-036	4	5	RP-SMA Male
11	WLAN	Patch	Laird	ML-2452-PTA4M4-036	5	6.6	RP-SMA Male
12	BT LE & Zigbee	Omni	Laird	ML-2499-HPA8-01	8	-	Fixed N-Male Std polarity

* ML-2452-PNL9M3-036 Ant. was cross-polarized antenna.

3.2 Description of Test Modes

For 2.4GHz

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

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):

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

For 5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500~5720MHz:

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

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):

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):

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

For Bluetooth LE:

40 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (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

For Zigbee:

16 channels are provided to this EUT:

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to			Description
	RE \geq 1G	RE $<$ 1G	OB	
A	-	√	-	Power from adapter
B	√	√	√	Power from POE

Where **RE \geq 1G**: Radiated Emission above 1GHz & Bandedge Measurement **RE $<$ 1G**: Radiated Emission below 1GHz
OB: Conducted Out-Band Emission Measurement

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	Ant.	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
B	ML-2452-APA2-01	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 39	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-APA2-01	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 11	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-APA2-01	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 39	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-APA2-01	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 11	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-APA2-02	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 39	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-APA2-02	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 11	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-APA2-02	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 39	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-APA2-02	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 52 + CH 11	BPSK
		802.11a	5260~5320	52 to 64		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-HPAG4A6-01	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK

EUT Configure Mode	Ant.	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
B	ML-2452-HPAG4A6-01	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-HPAG4A6-01	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-HPAG4A6-01	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-HPA6M4-S36	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-HPA6M4-S36	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-HPA6M4-S36	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-HPA6M4-S36	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-PNL9M3-036	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-PNL9M3-036	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-PNL9M3-036	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-PNL9M3-036	802.11g	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11n (HT20)	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-PNA7-01R	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK
B	ML-2452-PNA7-01R	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
B	ML-2452-PNA7-01R	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK

EUT Configure Mode	Ant.	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
B	ML-2452-PNA7-01R	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	2405-2480	11 to 26		O-QPSK
B	ML-2452-PTA4M4-036	802.11g	2412-2462	1 to 11	CH 6 + CH 116 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402-2480	0 to 39		GFSK
B	ML-2452-PTA4M4-036	802.11g	2412-2462	1 to 11	CH 6 + CH 116 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405-2480	11 to 26		O-QPSK
B	ML-2452-PTA4M4-036	802.11g	2412-2462	1 to 11	CH 6 + CH 116 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402-2480	0 to 39		GFSK
B	ML-2452-PTA4M4-036	802.11g	2412-2462	1 to 11	CH 6 + CH 116 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	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	Ant.	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A, B	ML-2452-APA2-01	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 52 + CH 39	BPSK
		802.11a	5260-5320	52 to 64		OFDM
	ML-2452-PNA7-01R	BT LE	2402-2480	0 to 39		GFSK
A, B	ML-2452-APA2-01	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 52 + CH 11	BPSK
		802.11a	5260-5320	52 to 64		OFDM
	ML-2452-PNA7-01R	Zigbee	2405-2480	11 to 26		O-QPSK
A, B	ML-2452-APA2-01	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 52 + CH 39	BPSK
		802.11a	5260-5320	52 to 64		OFDM
	ML-2499-HPA8-01	BT LE	2402-2480	0 to 39		GFSK
A, B	ML-2452-APA2-01	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 52 + CH 11	BPSK
		802.11a	5260-5320	52 to 64		OFDM
	ML-2499-HPA8-01	Zigbee	2405-2480	11 to 26		O-QPSK
A, B	ML-2452-PNA7-01R	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402-2480	0 to 39		GFSK
A, B	ML-2452-PNA7-01R	802.11n (HT20)	2412-2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405-2480	11 to 26		O-QPSK

EUT Configure Mode	Ant.	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A, B	ML-2452-PNA7-01R	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 144 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
A, B	ML-2452-PNA7-01R	802.11n (HT20)	2412~2462	1 to 11	CH 6 + CH 144 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK
A, B	ML-2452-PTA4M4-036	802.11g	2412~2462	1 to 11	CH 6 + CH 116 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	BT LE	2402~2480	0 to 39		GFSK
A, B	ML-2452-PTA4M4-036	802.11g	2412~2462	1 to 11	CH 6 + CH 116 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2452-PNA7-01R	Zigbee	2405~2480	11 to 26		O-QPSK
A, B	ML-2452-PTA4M4-036	802.11g	2412~2462	1 to 11	CH 6 + CH 116 + CH 39	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	BT LE	2402~2480	0 to 39		GFSK
A, B	ML-2452-PTA4M4-036	802.11g	2412~2462	1 to 11	CH 6 + CH 116 + CH 11	BPSK
		802.11a	5500-5720	100 to 144		OFDM
	ML-2499-HPA8-01	Zigbee	2405~2480	11 to 26		O-QPSK

Conducted Out-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	Ant.	Mode	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
B	ML-2452-APA2-01	802.11b	2412~2462	1 to 11	CH 11 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM
B	ML-2452-APA2-02	802.11b	2412~2462	1 to 11	CH 11 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM
B	ML-2452-HPAG4A6-01	802.11b	2412~2462	1 to 11	CH 6 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM
B	ML-2452-HPA6M4-S36	802.11b	2412~2462	1 to 11	CH 6 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM
B	ML-2452-PNL9M3-036	802.11b	2412~2462	1 to 11	CH 1 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM
B	ML-2452-PNA7-01R	802.11b	2412~2462	1 to 11	CH 6 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM
B	ML-2452-PTA4M4-036	802.11b	2412~2462	1 to 11	CH 11 + CH 122	BPSK
		802.11ac (VHT80)	5500-5720	106 to 138		OFDM

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	27 deg. C, 66% RH	120Vac, 60Hz	Jones Chang
RE<1G	28 deg. C, 68% RH	120Vac, 60Hz	Jones Chang
OB	25 deg. C, 70% RH	120Vac, 60Hz	Edward Lin

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.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	USB Flash	HP	v250W	10	FCC DoC Approved	-
C.	Adapter	Powertron Electronics Corp.	PA1024-120IB200	NA	NA	Provided by manufacturer
D.	POE	EnGenius	EPA5006GP	NA	NA	Provided by manufacturer

Note:

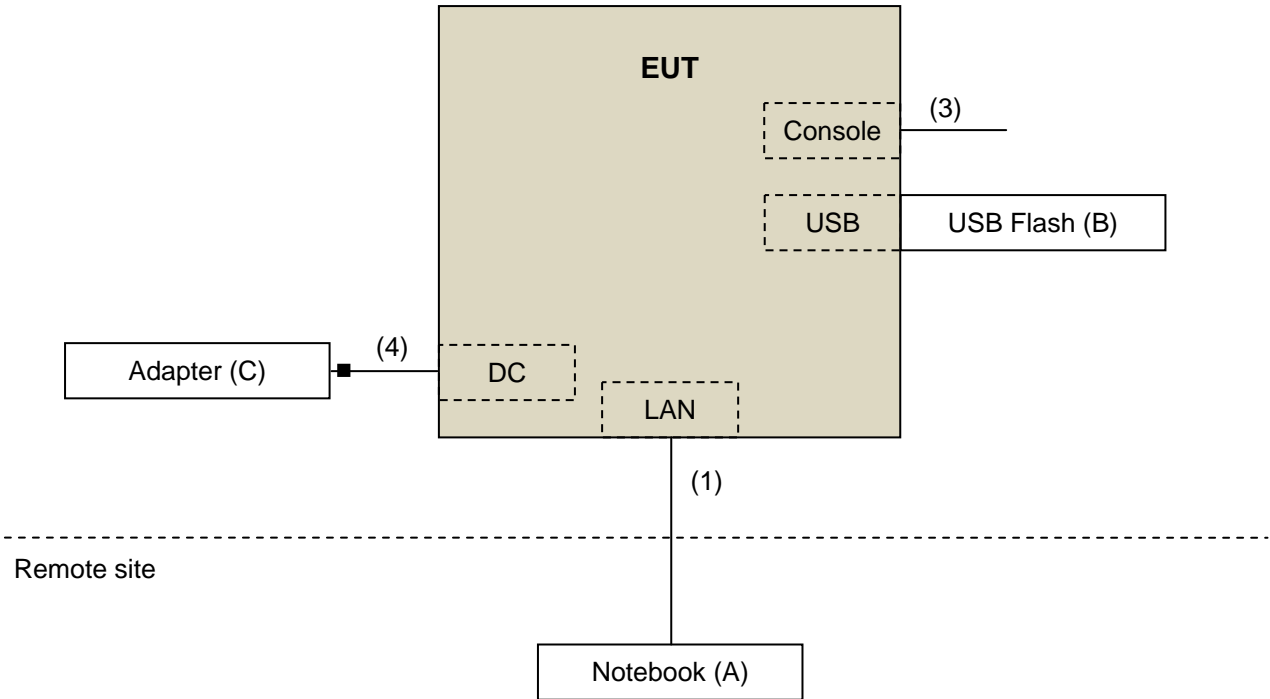
1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45, Cat5e	1	3	N	0	-
2.	RJ45, Cat5e	1	1.8	N	0	-
3.	Console cable	1	1	N	0	Provided by manufacturer
4.	Power cable	1	1.5	N	1	Provided by manufacturer

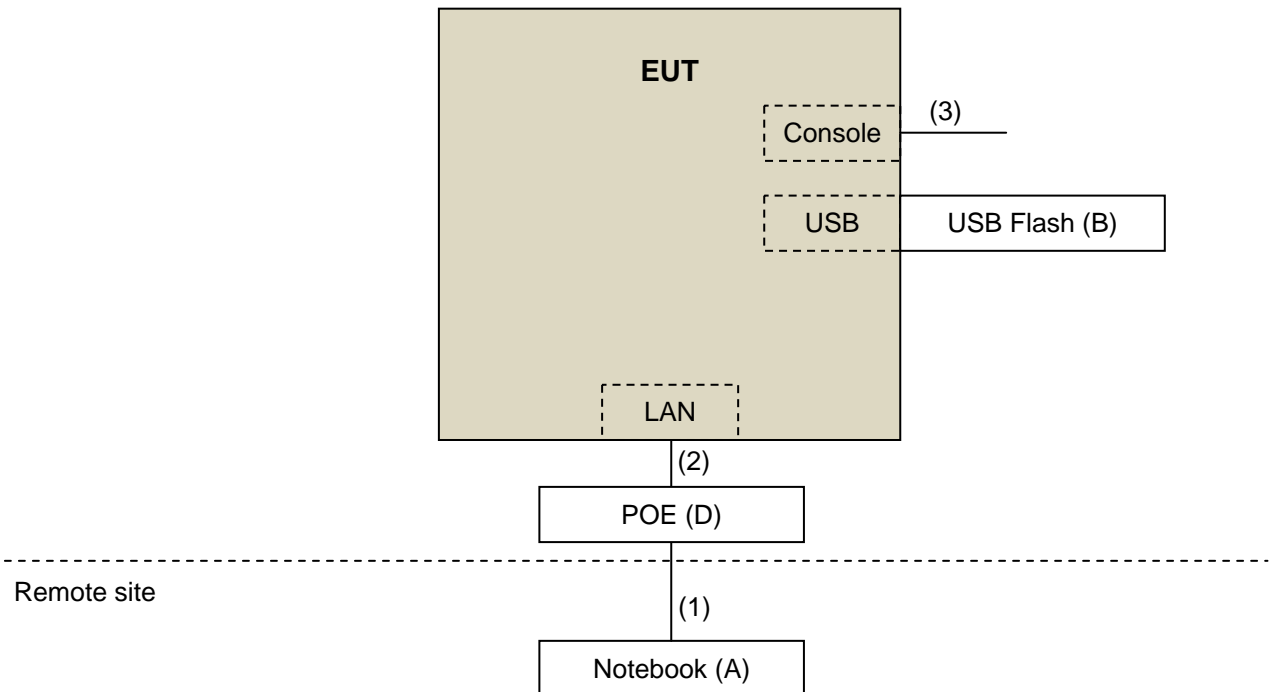
Note: The core(s) is(are) originally attached to the cable(s).

3.3.1 Configuration of System under Test

Adapter Mode



POE Mode



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.

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC).
The test report has been issued separately.

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. Other emissions shall be at least 20dB below the highest level of the desired power:

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 v01r04		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	<input checked="" type="checkbox"/> 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}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 02, 2017	May 01, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Nov. 16, 2016	Nov. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	9120D	209	Dec. 27, 2016	Dec. 26, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent	8447D	2944A10738	Aug. 21, 2017	Aug. 20, 2018
Preamplifier Agilent	8449B	3008A01922	Sep. 18, 2016	Sep. 17, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2017	Aug. 20, 2018
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-SM-8 000	Cable-CH3-03 (309224+170907)	Sep.11, 2017	Sep. 10, 2018
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 17, 2016	Oct. 16, 2017

- 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 HwaYa Chamber 3.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
5. The IC Site Registration No. is IC 7450F-3.

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. Both X and Y axes 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:

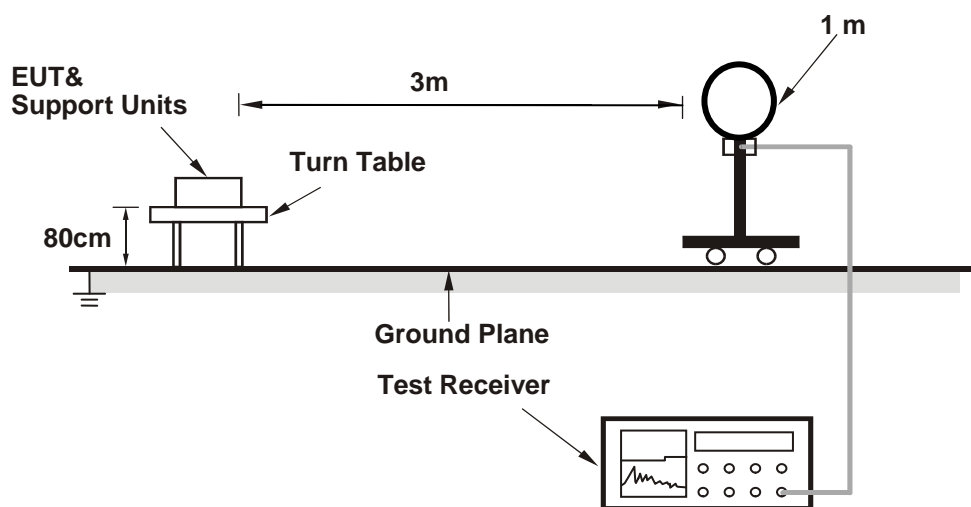
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) 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

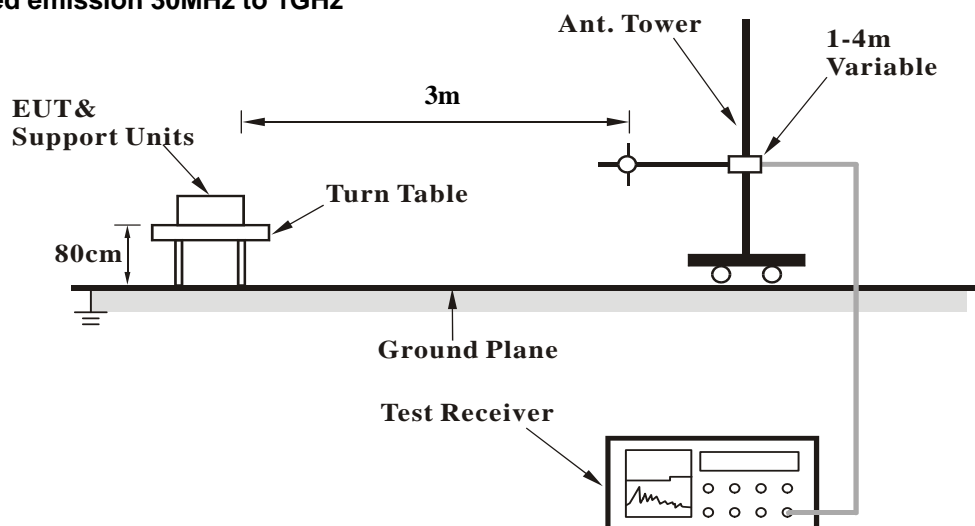
No deviation.

4.1.5 Test Setup

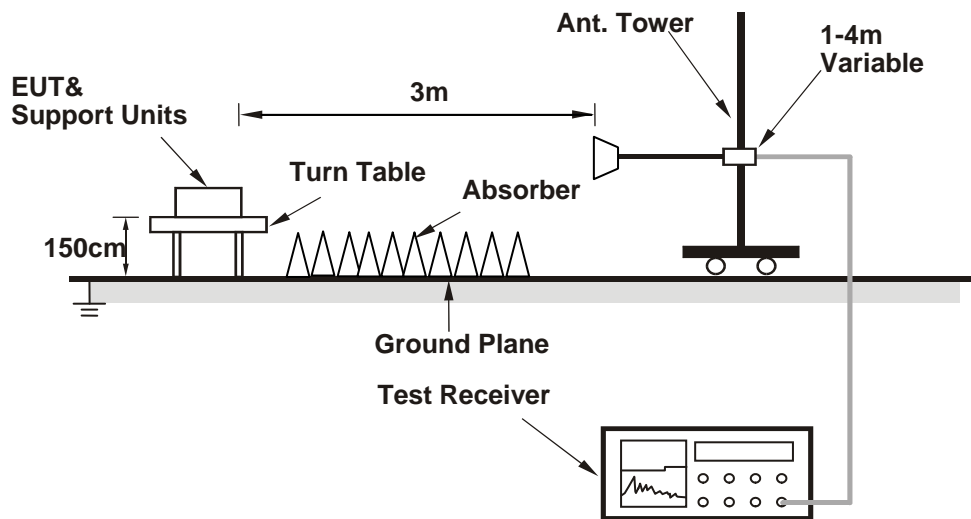
For Radiated emission below 30MHz



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

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- 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.
- The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz Data:

ML-2452-APA2-01 Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	111.5 PK			1.45 H	299	78.3	33.2
2	*2437.00	101.3 AV			1.45 H	299	68.1	33.2
3	*2480.00	105.3 PK			1.35 H	0	71.9	33.4
4	*2480.00	100.7 AV			1.35 H	0	67.3	33.4
5	2483.50	72.5 PK	74.0	-1.5	1.35 H	0	39.1	33.4
6	2483.50	50.0 AV	54.0	-4.0	1.35 H	0	16.6	33.4
7	4874.00	59.4 PK	74.0	-14.6	1.89 H	166	55.8	3.6
8	4874.00	46.8 AV	54.0	-7.2	1.89 H	166	43.2	3.6
9	4960.00	51.3 PK	74.0	-22.7	1.43 H	339	47.6	3.7
10	4960.00	39.5 AV	54.0	-14.5	1.43 H	339	35.8	3.7
11	5150.00	58.8 PK	74.0	-15.2	1.66 H	228	55.2	3.6
12	5150.00	45.9 AV	54.0	-8.1	1.66 H	228	42.3	3.6
13	*5260.00	104.4 PK			1.40 H	296	64.8	39.6
14	*5260.00	94.0 AV			1.40 H	296	54.4	39.6
15	#10520.00	61.5 PK	74.0	-12.5	1.73 H	220	44.5	17.0
16	#10520.00	47.4 AV	54.0	-6.6	1.73 H	220	30.4	17.0

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 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	119.8 PK			1.93 V	193	86.6	33.2
2	*2437.00	108.1 AV			1.93 V	193	74.9	33.2
3	*2480.00	93.7 PK			1.98 V	270	60.3	33.4
4	*2480.00	89.9 AV			1.98 V	270	56.5	33.4
5	2483.50	62.6 PK	74.0	-11.4	1.98 V	270	29.2	33.4
6	2483.50	47.0 AV	54.0	-7.0	1.98 V	270	13.6	33.4
7	4874.00	60.9 PK	74.0	-13.1	1.97 V	222	57.3	3.6
8	4874.00	45.9 AV	54.0	-8.1	1.97 V	222	42.3	3.6
9	4960.00	50.1 PK	74.0	-23.9	2.42 V	93	46.4	3.7
10	4960.00	37.2 AV	54.0	-16.8	2.42 V	93	33.5	3.7
11	5150.00	61.1 PK	74.0	-12.9	2.06 V	300	57.5	3.6
12	5150.00	49.3 AV	54.0	-4.7	2.06 V	300	45.7	3.6
13	*5260.00	123.9 PK			1.70 V	135	84.3	39.6
14	*5260.00	113.7 AV			1.70 V	135	74.1	39.6
15	#10520.00	62.2 PK	74.0	-11.8	1.72 V	254	45.2	17.0
16	#10520.00	48.6 AV	54.0	-5.4	1.72 V	254	31.6	17.0

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.

ML-2452-APA2-01 Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	62.3 PK	74.0	-11.7	1.44 H	337	29.4	32.9
2	2390.00	49.9 AV	54.0	-4.1	1.44 H	337	17.0	32.9
3	*2405.00	91.0 PK			1.30 H	359	58.0	33.0
4	*2405.00	88.7 AV			1.30 H	359	55.7	33.0
5	*2437.00	111.6 PK			1.47 H	294	78.4	33.2
6	*2437.00	101.5 AV			1.47 H	294	68.3	33.2
7	4810.00	51.8 PK	74.0	-22.2	1.40 H	330	48.2	3.6
8	4810.00	40.0 AV	54.0	-14.0	1.40 H	330	36.4	3.6
9	4874.00	59.8 PK	74.0	-14.2	1.82 H	169	56.2	3.6
10	4874.00	47.1 AV	54.0	-6.9	1.82 H	169	43.5	3.6
11	5150.00	58.9 PK	74.0	-15.1	1.55 H	242	55.3	3.6
12	5150.00	46.6 AV	54.0	-7.4	1.55 H	242	43.0	3.6
13	*5260.00	104.8 PK			1.55 H	285	65.2	39.6
14	*5260.00	94.1 AV			1.55 H	285	54.5	39.6
15	#10520.00	61.9 PK	74.0	-12.1	1.72 H	244	44.9	17.0
16	#10520.00	47.7 AV	54.0	-6.3	1.72 H	244	30.7	17.0

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 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	62.4 PK	74.0	-11.6	1.77 V	243	29.5	32.9
2	2390.00	47.0 AV	54.0	-7.0	1.77 V	243	14.1	32.9
3	*2405.00	103.9 PK			2.01 V	273	70.9	33.0
4	*2405.00	99.7 AV			2.01 V	273	66.7	33.0
5	*2437.00	119.6 PK			1.92 V	200	86.4	33.2
6	*2437.00	108.5 AV			1.92 V	200	75.3	33.2
7	4810.00	50.3 PK	74.0	-23.7	2.37 V	90	46.7	3.6
8	4810.00	37.4 AV	54.0	-16.6	2.37 V	90	33.8	3.6
9	4874.00	60.8 PK	74.0	-13.2	1.74 V	211	57.2	3.6
10	4874.00	45.7 AV	54.0	-8.3	1.74 V	211	42.1	3.6
11	5150.00	61.4 PK	74.0	-12.6	2.11 V	305	57.8	3.6
12	5150.00	49.8 AV	54.0	-4.2	2.11 V	305	46.2	3.6
13	*5260.00	88.2 PK			1.74 V	100	84.4	3.8
14	*5260.00	78.1 AV			1.74 V	100	74.3	3.8
15	#10520.00	62.1 PK	74.0	-11.9	1.80 V	260	45.1	17.0
16	#10520.00	48.6 AV	54.0	-5.4	1.80 V	260	31.6	17.0

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.

ML-2452-APA2-01 Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.3 PK	74.0	-16.7	1.50 H	58	24.4	32.9
2	2390.00	46.2 AV	54.0	-7.8	1.50 H	58	13.3	32.9
3	*2437.00	111.6 PK			1.42 H	311	78.4	33.2
4	*2437.00	100.9 AV			1.42 H	311	67.7	33.2
5	*2480.00	92.2 PK			1.63 H	321	58.8	33.4
6	*2480.00	88.0 AV			1.63 H	321	54.6	33.4
7	2483.50	58.8 PK	74.0	-15.2	1.50 H	1	25.4	33.4
8	2483.50	48.6 AV	54.0	-5.4	1.50 H	1	15.2	33.4
9	4874.00	51.3 PK	74.0	-22.7	1.82 H	166	47.7	3.6
10	4874.00	42.4 AV	54.0	-11.6	1.82 H	166	38.8	3.6
11	4960.00	45.6 PK	74.0	-28.4	1.83 H	120	41.9	3.7
12	4960.00	33.4 AV	54.0	-20.6	1.83 H	120	29.7	3.7
13	5150.00	59.0 PK	74.0	-15.0	1.46 H	206	55.4	3.6
14	5150.00	49.0 AV	54.0	-5.0	1.46 H	206	45.4	3.6
15	*5260.00	105.0 PK			1.27 H	301	65.4	39.6
16	*5260.00	94.2 AV			1.27 H	301	54.6	39.6
17	#10520.00	59.5 PK	74.0	-14.5	1.88 H	218	42.5	17.0
18	#10520.00	46.9 AV	54.0	-7.1	1.88 H	218	29.9	17.0

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 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	67.5 PK	74.0	-6.5	1.44 V	21	34.6	32.9
2	2390.00	52.4 AV	54.0	-1.6	1.44 V	21	19.5	32.9
3	*2437.00	121.5 PK			2.12 V	16	88.3	33.2
4	*2437.00	110.7 AV			2.12 V	16	77.5	33.2
5	*2480.00	102.1 PK			1.75 V	300	68.7	33.4
6	*2480.00	97.7 AV			1.75 V	300	64.3	33.4
7	2483.50	73.3 PK	74.0	-0.7	1.64 V	137	39.9	33.4
8	2483.50	53.7 AV	54.0	-0.3	1.64 V	137	20.3	33.4
9	4874.00	60.9 PK	74.0	-13.1	1.77 V	72	57.3	3.6
10	4874.00	46.8 AV	54.0	-7.2	1.77 V	72	43.2	3.6
11	4960.00	50.5 PK	74.0	-23.5	2.40 V	97	46.8	3.7
12	4960.00	37.4 AV	54.0	-16.6	2.40 V	97	33.7	3.7
13	5150.00	61.5 PK	74.0	-12.5	2.02 V	303	57.9	3.6
14	5150.00	51.7 AV	54.0	-2.3	2.02 V	303	48.1	3.6
15	*5260.00	124.9 PK			1.67 V	298	85.3	39.6
16	*5260.00	114.0 AV			1.67 V	298	74.4	39.6
17	#10520.00	60.2 PK	74.0	-13.8	1.73 V	241	43.2	17.0
18	#10520.00	47.4 AV	54.0	-6.6	1.73 V	241	30.4	17.0

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.

ML-2452-APA2-01 Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	58.4 PK	74.0	-15.6	1.44 H	77	25.5	32.9
2	2390.00	47.5 AV	54.0	-6.5	1.44 H	77	14.6	32.9
3	*2405.00	91.8 PK			1.22 H	55	58.8	33.0
4	*2405.00	88.4 AV			1.22 H	55	55.4	33.0
5	*2437.00	111.7 PK			1.44 H	301	78.5	33.2
6	*2437.00	101.7 AV			1.44 H	301	68.5	33.2
7	4810.00	49.9 PK	74.0	-24.1	1.73 H	143	46.3	3.6
8	4810.00	37.4 AV	54.0	-16.6	1.73 H	143	33.8	3.6
9	4874.00	51.8 PK	74.0	-22.2	1.85 H	160	48.2	3.6
10	4874.00	42.8 AV	54.0	-11.2	1.85 H	160	39.2	3.6
11	5150.00	52.1 PK	74.0	-21.9	1.49 H	200	48.5	3.6
12	5150.00	44.2 AV	54.0	-9.8	1.49 H	200	40.6	3.6
13	*5260.00	105.2 PK			1.33 H	244	65.6	39.6
14	*5260.00	94.5 AV			1.33 H	244	54.9	39.6
15	#10520.00	59.7 PK	74.0	-14.3	1.90 H	222	42.7	17.0
16	#10520.00	47.2 AV	54.0	-6.8	1.90 H	222	30.2	17.0

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 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	65.7 PK	74.0	-8.3	1.49 V	319	32.8	32.9
2	2390.00	53.7 AV	54.0	-0.3	1.49 V	319	20.8	32.9
3	*2405.00	104.7 PK			1.40 V	358	71.7	33.0
4	*2405.00	100.5 AV			1.40 V	358	67.5	33.0
5	*2437.00	122.1 PK			2.15 V	18	88.9	33.2
6	*2437.00	111.3 AV			2.15 V	18	78.1	33.2
7	4810.00	50.1 PK	74.0	-23.9	2.55 V	44	46.5	3.6
8	4810.00	36.7 AV	54.0	-17.3	2.55 V	44	33.1	3.6
9	4874.00	61.4 PK	74.0	-12.6	2.19 V	90	57.8	3.6
10	4874.00	50.1 AV	54.0	-3.9	2.19 V	90	46.5	3.6
11	5150.00	56.7 PK	74.0	-17.3	2.54 V	311	53.1	3.6
12	5150.00	43.9 AV	54.0	-10.1	2.54 V	311	40.3	3.6
13	*5260.00	125.0 PK			1.79 V	288	85.4	39.6
14	*5260.00	114.0 AV			1.79 V	288	74.4	39.6
15	#10520.00	60.3 PK	74.0	-13.7	1.44 V	238	43.3	17.0
16	#10520.00	47.4 AV	54.0	-6.6	1.44 V	238	30.4	17.0

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.

ML-2452-APA2-02 Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	112.7 PK			1.55 H	233	79.5	33.2
2	*2437.00	103.7 AV			1.55 H	233	70.5	33.2
3	*2480.00	105.1 PK			1.68 H	269	71.7	33.4
4	*2480.00	100.5 AV			1.68 H	269	67.1	33.4
5	2483.50	61.2 PK	74.0	-12.8	1.29 H	45	27.8	33.4
6	2483.50	50.0 AV	54.0	-4.0	1.29 H	45	16.6	33.4
7	4874.00	62.1 PK	74.0	-11.9	1.19 H	196	58.5	3.6
8	4874.00	49.1 AV	54.0	-4.9	1.19 H	196	45.5	3.6
9	4960.00	51.0 PK	74.0	-23.0	1.39 H	358	47.3	3.7
10	4960.00	39.9 AV	54.0	-14.1	1.39 H	358	36.2	3.7
11	5150.00	56.4 PK	74.0	-17.6	1.69 H	249	52.8	3.6
12	5150.00	45.3 AV	54.0	-8.7	1.69 H	249	41.7	3.6
13	*5260.00	105.0 PK			1.55 H	253	65.4	39.6
14	*5260.00	94.9 AV			1.55 H	253	55.3	39.6
15	#10520.00	62.5 PK	74.0	-11.5	1.88 H	256	45.5	17.0
16	#10520.00	49.1 AV	54.0	-4.9	1.88 H	256	32.1	17.0

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 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	119.3 PK			1.98 V	188	86.1	33.2
2	*2437.00	108.5 AV			1.98 V	188	75.3	33.2
3	*2480.00	92.9 PK			1.99 V	277	59.5	33.4
4	*2480.00	89.8 AV			1.99 V	277	56.4	33.4
5	2483.50	62.6 PK	74.0	-11.4	2.01 V	223	29.2	33.4
6	2483.50	47.0 AV	54.0	-7.0	2.01 V	223	13.6	33.4
7	4874.00	62.1 PK	74.0	-11.9	1.50 V	300	58.5	3.6
8	4874.00	46.4 AV	54.0	-7.6	1.50 V	300	42.8	3.6
9	4960.00	51.0 PK	74.0	-23.0	2.55 V	360	47.3	3.7
10	4960.00	37.9 AV	54.0	-16.1	2.55 V	110	34.2	3.7
11	5150.00	55.8 PK	74.0	-18.2	2.08 V	308	52.2	3.6
12	5150.00	45.1 AV	54.0	-8.9	2.08 V	308	41.5	3.6
13	*5260.00	89.2 PK			1.70 V	120	85.4	3.8
14	*5260.00	79.0 AV			1.70 V	120	75.2	3.8
15	#10520.00	62.6 PK	74.0	-11.4	2.01 V	169	45.6	17.0
16	#10520.00	49.5 AV	54.0	-4.5	2.01 V	169	32.5	17.0

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.

ML-2452-APA2-02 Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	55.9 PK	74.0	-18.1	1.99 H	64	23.0	32.9
2	2390.00	46.1 AV	54.0	-7.9	1.99 H	64	13.2	32.9
3	*2405.00	92.5 PK			1.56 H	66	59.5	33.0
4	*2405.00	88.4 AV			1.56 H	66	55.4	33.0
5	*2437.00	112.3 PK			1.55 H	295	79.1	33.2
6	*2437.00	102.4 AV			1.55 H	295	69.2	33.2
7	4810.00	50.5 PK	74.0	-23.5	2.32 H	170	46.9	3.6
8	4810.00	37.4 AV	54.0	-16.6	2.32 H	170	33.8	3.6
9	4874.00	61.1 PK	74.0	-12.9	1.45 H	223	57.5	3.6
10	4874.00	48.3 AV	54.0	-5.7	1.45 H	223	44.7	3.6
11	5150.00	55.1 PK	74.0	-18.9	1.63 H	247	51.5	3.6
12	5150.00	46.0 AV	54.0	-8.0	1.63 H	247	42.4	3.6
13	*5260.00	105.0 PK			1.55 H	288	65.4	39.6
14	*5260.00	94.6 AV			1.55 H	288	55.0	39.6
15	#10520.00	62.2 PK	74.0	-11.8	1.83 H	250	45.2	17.0
16	#10520.00	49.0 AV	54.0	-5.0	1.83 H	250	32.0	17.0

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 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	59.1 PK	74.0	-14.9	1.35 V	10	26.2	32.9
2	2390.00	46.4 AV	54.0	-7.6	1.35 V	10	13.5	32.9
3	*2405.00	103.8 PK			1.32 V	5	70.8	33.0
4	*2405.00	99.5 AV			1.32 V	5	66.5	33.0
5	*2437.00	119.7 PK			1.88 V	189	86.5	33.2
6	*2437.00	108.3 AV			1.88 V	189	75.1	33.2
7	4810.00	49.9 PK	74.0	-24.1	1.57 V	65	46.3	3.6
8	4810.00	37.1 AV	54.0	-16.9	1.57 V	65	33.5	3.6
9	4874.00	61.3 PK	74.0	-12.7	1.89 V	204	57.7	3.6
10	4874.00	46.0 AV	54.0	-8.0	1.89 V	204	42.4	3.6
11	5150.00	54.8 PK	74.0	-19.2	2.27 V	269	51.2	3.6
12	5150.00	44.1 AV	54.0	-9.9	2.27 V	269	40.5	3.6
13	*5260.00	88.5 PK			1.77 V	110	84.7	3.8
14	*5260.00	78.3 AV			1.77 V	110	74.5	3.8
15	#10520.00	62.5 PK	74.0	-11.5	1.90 V	254	45.5	17.0
16	#10520.00	48.6 AV	54.0	-5.4	1.90 V	254	31.6	17.0

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.

ML-2452-APA2-02 Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.5 PK	74.0	-16.5	1.65 H	44	24.6	32.9
2	2390.00	47.3 AV	54.0	-6.7	1.65 H	44	14.4	32.9
3	*2437.00	111.0 PK			1.62 H	305	77.8	33.2
4	*2437.00	102.2 AV			1.62 H	305	69.0	33.2
5	*2480.00	92.3 PK			1.42 H	331	58.9	33.4
6	*2480.00	88.6 AV			1.42 H	331	55.2	33.4
7	2483.50	59.9 PK	74.0	-14.1	1.49 H	1	26.5	33.4
8	2483.50	49.5 AV	54.0	-4.5	1.49 H	1	16.1	33.4
9	4874.00	51.9 PK	74.0	-22.1	1.88 H	176	48.3	3.6
10	4874.00	42.4 AV	54.0	-11.6	1.88 H	176	38.8	3.6
11	4960.00	45.4 PK	74.0	-28.6	1.91 H	129	41.7	3.7
12	4960.00	33.3 AV	54.0	-20.7	1.91 H	129	29.6	3.7
13	5150.00	56.1 PK	74.0	-17.9	1.58 H	205	52.5	3.6
14	5150.00	45.9 AV	54.0	-8.1	1.58 H	205	42.3	3.6
15	*5260.00	106.4 PK			1.44 H	287	66.8	39.6
16	*5260.00	95.3 AV			1.44 H	287	55.7	39.6
17	#10520.00	61.8 PK	74.0	-12.2	2.28 H	279	44.8	17.0
18	#10520.00	48.6 AV	54.0	-5.4	2.28 H	279	31.6	17.0

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 6 + CH 52 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	67.4 PK	74.0	-6.6	1.44 V	22	34.5	32.9
2	2390.00	52.6 AV	54.0	-1.4	1.44 V	22	19.7	32.9
3	*2437.00	121.7 PK			2.10 V	17	88.5	33.2
4	*2437.00	111.0 AV			2.10 V	17	77.8	33.2
5	*2480.00	102.2 PK			1.84 V	227	68.8	33.4
6	*2480.00	97.9 AV			1.84 V	227	64.5	33.4
7	2483.50	72.9 PK	74.0	-1.1	1.60 V	138	39.5	33.4
8	2483.50	53.5 AV	54.0	-0.5	1.60 V	138	20.1	33.4
9	4874.00	61.1 PK	74.0	-12.9	1.49 V	101	57.5	3.6
10	4874.00	47.1 AV	54.0	-6.9	1.49 V	101	43.5	3.6
11	4960.00	51.5 PK	74.0	-22.5	2.40 V	99	47.8	3.7
12	4960.00	38.4 AV	54.0	-15.6	2.40 V	99	34.7	3.7
13	5150.00	55.4 PK	74.0	-18.6	2.08 V	306	51.8	3.6
14	5150.00	44.5 AV	54.0	-9.5	2.08 V	306	40.9	3.6
15	*5260.00	125.3 PK			1.85 V	298	85.7	39.6
16	*5260.00	115.1 AV			1.85 V	298	75.5	39.6
17	#10520.00	61.5 PK	74.0	-12.5	2.14 V	284	44.5	17.0
18	#10520.00	49.5 AV	54.0	-4.5	2.14 V	284	32.5	17.0

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.

ML-2452-APA2-02 Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	59.4 PK	74.0	-14.6	1.49 H	76	26.5	32.9
2	2390.00	48.8 AV	54.0	-5.2	1.49 H	76	15.9	32.9
3	*2405.00	92.1 PK			1.55 H	67	59.1	33.0
4	*2405.00	88.5 AV			1.55 H	67	55.5	33.0
5	*2437.00	111.7 PK			1.55 H	331	78.5	33.2
6	*2437.00	102.0 AV			1.55 H	331	68.8	33.2
7	4810.00	50.2 PK	74.0	-23.8	1.75 H	145	46.6	3.6
8	4810.00	37.1 AV	54.0	-16.9	1.75 H	145	33.5	3.6
9	4874.00	51.9 PK	74.0	-22.1	2.04 H	157	48.3	3.6
10	4874.00	42.6 AV	54.0	-11.4	2.04 H	157	39.0	3.6
11	5150.00	55.4 PK	74.0	-18.6	1.50 H	201	51.8	3.6
12	5150.00	44.9 AV	54.0	-9.1	1.50 H	201	41.3	3.6
13	*5260.00	105.4 PK			1.37 H	280	65.8	39.6
14	*5260.00	95.1 AV			1.37 H	280	55.5	39.6
15	#10520.00	60.6 PK	74.0	-13.4	1.99 H	238	43.6	17.0
16	#10520.00	47.5 AV	54.0	-6.5	1.99 H	238	30.5	17.0

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 6 + CH 52 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	65.9 PK	74.0	-8.1	1.66 V	227	33.0	32.9
2	2390.00	53.9 AV	54.0	-0.1	1.66 V	227	21.0	32.9
3	*2405.00	104.5 PK			1.39 V	359	71.5	33.0
4	*2405.00	100.4 AV			1.39 V	359	67.4	33.0
5	*2437.00	122.2 PK			2.12 V	24	89.0	33.2
6	*2437.00	111.4 AV			2.12 V	24	78.2	33.2
7	4810.00	50.2 PK	74.0	-23.8	2.48 V	66	46.6	3.6
8	4810.00	37.3 AV	54.0	-16.7	2.48 V	66	33.7	3.6
9	4874.00	61.2 PK	74.0	-12.8	2.21 V	93	57.6	3.6
10	4874.00	49.9 AV	54.0	-4.1	2.21 V	93	46.3	3.6
11	5150.00	56.1 PK	74.0	-17.9	2.06 V	303	52.5	3.6
12	5150.00	45.2 AV	54.0	-8.8	2.06 V	303	41.6	3.6
13	*5260.00	125.1 PK			1.85 V	299	85.5	39.6
14	*5260.00	114.1 AV			1.85 V	299	74.5	39.6
15	#10520.00	60.5 PK	74.0	-13.5	1.71 V	243	43.5	17.0
16	#10520.00	47.7 AV	54.0	-6.3	1.71 V	243	30.7	17.0

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.

ML-2452-HPAG4A6-01 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	121.4 PK			1.55 H	255	88.2	33.2
2	*2437.00	110.7 AV			1.55 H	255	77.5	33.2
3	*2480.00	102.7 PK			1.73 H	21	69.3	33.4
4	*2480.00	97.8 AV			1.73 H	21	64.4	33.4
5	2483.50	60.9 PK	74.0	-13.1	1.53 H	212	27.5	33.4
6	2483.50	47.1 AV	54.0	-6.9	1.53 H	212	13.7	33.4
7	4874.00	60.2 PK	74.0	-13.8	2.28 H	140	56.6	3.6
8	4874.00	51.7 AV	54.0	-2.3	2.28 H	140	48.1	3.6
9	4960.00	47.3 PK	74.0	-26.7	1.88 H	40	43.6	3.7
10	4960.00	37.0 AV	54.0	-17.0	1.88 H	40	33.3	3.7
11	#5470.00	54.8 PK	74.0	-19.2	2.20 H	121	53.6	1.2
12	#5470.00	43.9 AV	54.0	-10.1	2.20 H	121	42.7	1.2
13	*5720.00	103.5 PK			1.43 H	38	63.6	39.9
14	*5720.00	92.8 AV			1.43 H	39	52.9	39.9
15	#5825.00	55.9 PK	74.0	-18.1	1.95 H	101	53.7	2.2
16	#5825.00	46.1 AV	54.0	-7.9	1.95 H	101	43.9	2.2
17	11440.00	58.6 PK	74.0	-15.4	1.74 H	198	44.1	14.5
18	11440.00	45.7 AV	54.0	-8.3	1.74 H	198	31.2	14.5

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.

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	122.3 PK			1.24 V	266	89.1	33.2
2	*2437.00	111.3 AV			1.24 V	266	78.1	33.2
3	*2480.00	90.2 PK			2.49 V	255	56.8	33.4
4	*2480.00	85.9 AV			2.49 V	255	52.5	33.4
5	2483.50	56.8 PK	74.0	-17.2	2.49 V	255	23.4	33.4
6	2483.50	45.9 AV	54.0	-8.1	2.49 V	255	12.5	33.4
7	4874.00	57.1 PK	74.0	-16.9	2.13 V	142	53.5	3.6
8	4874.00	51.7 AV	54.0	-2.3	2.13 V	142	48.1	3.6
9	4960.00	47.1 PK	74.0	-26.9	1.89 V	25	43.4	3.7
10	4960.00	35.9 AV	54.0	-18.1	1.89 V	25	32.2	3.7
11	#5470.00	56.9 PK	74.0	-17.1	2.44 V	164	52.9	4.0
12	#5470.00	45.9 AV	54.0	-8.1	2.44 V	164	41.9	4.0
13	*5720.00	117.5 PK			1.65 V	298	77.1	40.4
14	*5720.00	106.1 AV			1.65 V	298	65.7	40.4
15	#5825.00	56.9 PK	74.0	-17.1	2.44 V	266	52.2	4.7
16	#5825.00	46.8 AV	54.0	-7.2	2.44 V	266	42.1	4.7
17	11440.00	59.6 PK	74.0	-14.4	2.08 V	36	41.3	18.3
18	11440.00	48.4 AV	54.0	-5.6	2.08 V	36	30.1	18.3

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.

ML-2452-HPAG4A6-01 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.2 PK	74.0	-16.8	1.16 H	74	24.3	32.9
2	2390.00	46.7 AV	54.0	-7.3	1.16 H	74	13.8	32.9
3	*2405.00	94.5 PK			1.97 H	73	61.5	33.0
4	*2405.00	89.2 AV			1.97 H	73	56.2	33.0
5	*2437.00	117.3 PK			2.07 H	255	84.1	33.2
6	*2437.00	107.6 AV			2.07 H	255	74.4	33.2
7	4810.00	49.3 PK	74.0	-24.7	2.34 H	163	45.7	3.6
8	4810.00	37.2 AV	54.0	-16.8	2.34 H	163	33.6	3.6
9	4874.00	47.3 PK	74.0	-26.7	1.85 H	179	43.7	3.6
10	4874.00	40.4 AV	54.0	-13.6	1.85 H	179	36.8	3.6
11	#5470.00	55.4 PK	74.0	-18.6	1.74 H	265	54.2	1.2
12	#5470.00	44.7 AV	54.0	-9.3	1.74 H	265	43.5	1.2
13	*5720.00	102.5 PK			1.78 H	356	62.6	39.9
14	*5720.00	94.6 AV			1.78 H	356	54.7	39.9
15	#5825.00	56.5 PK	74.0	-17.5	2.23 H	269	54.3	2.2
16	#5825.00	45.9 AV	54.0	-8.1	2.23 H	269	43.7	2.2
17	11440.00	57.6 PK	74.0	-16.4	2.22 H	314	43.1	14.5
18	11440.00	44.6 AV	54.0	-9.4	2.22 H	314	30.1	14.5

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.

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	59.4 PK	74.0	-14.6	1.45 V	33	26.5	32.9
2	2390.00	45.9 AV	54.0	-8.1	1.45 V	33	13.0	32.9
3	*2405.00	104.6 PK			1.46 V	32	71.6	33.0
4	*2405.00	100.4 AV			1.46 V	32	67.4	33.0
5	*2437.00	121.5 PK			1.32 V	266	88.3	33.2
6	*2437.00	111.0 AV			1.32 V	266	77.8	33.2
7	4810.00	50.4 PK	74.0	-23.6	2.14 V	30	46.8	3.6
8	4810.00	37.4 AV	54.0	-16.6	2.14 V	30	33.8	3.6
9	4874.00	60.2 PK	74.0	-13.8	2.20 V	154	56.6	3.6
10	4874.00	51.7 AV	54.0	-2.3	2.20 V	154	48.1	3.6
11	#5470.00	55.6 PK	74.0	-18.4	2.21 V	313	54.4	1.2
12	#5470.00	46.3 AV	54.0	-7.7	2.21 V	313	45.1	1.2
13	*5720.00	117.5 PK			1.71 V	67	77.6	39.9
14	*5720.00	106.3 AV			1.71 V	67	66.4	39.9
15	#5825.00	57.5 PK	74.0	-16.5	1.39 V	233	55.3	2.2
16	#5825.00	46.4 AV	54.0	-7.6	1.39 V	233	44.2	2.2
17	11440.00	56.8 PK	74.0	-17.2	2.12 V	55	42.3	14.5
18	11440.00	43.8 AV	54.0	-10.2	2.12 V	55	29.3	14.5

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.

ML-2452-HPAG4A6-01 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	102.3 PK			1.77 H	44	69.1	33.2
2	*2437.00	91.9 AV			1.77 H	44	58.7	33.2
3	*2480.00	89.7 PK			2.20 H	124	56.3	33.4
4	*2480.00	85.9 AV			2.20 H	124	52.5	33.4
5	2483.50	59.9 PK	74.0	-14.1	1.24 H	313	26.5	33.4
6	2483.50	45.6 AV	54.0	-8.4	1.24 H	313	12.2	33.4
7	4874.00	55.1 PK	74.0	-18.9	2.21 H	180	51.5	3.6
8	4874.00	40.8 AV	54.0	-13.2	2.21 H	180	37.2	3.6
9	4960.00	45.8 PK	74.0	-28.2	2.01 H	188	42.1	3.7
10	4960.00	32.3 AV	54.0	-21.7	2.01 H	188	28.6	3.7
11	#5470.00	59.1 PK	74.0	-14.9	2.04 H	265	55.1	4.0
12	#5470.00	49.2 AV	54.0	-4.8	2.04 H	265	45.2	4.0
13	*5720.00	108.8 PK			1.61 H	205	68.4	40.4
14	*5720.00	99.3 AV			1.61 H	205	58.9	40.4
15	#5825.00	59.0 PK	74.0	-15.0	1.75 H	263	54.3	4.7
16	#5825.00	48.9 AV	54.0	-5.1	1.75 H	263	44.2	4.7
17	11440.00	60.8 PK	74.0	-13.2	1.77 H	278	42.5	18.3
18	11440.00	48.2 AV	54.0	-5.8	1.77 H	278	29.9	18.3

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	119.6 PK			1.56 V	332	86.4	33.2
2	*2437.00	108.6 AV			1.56 V	332	75.4	33.2
3	*2480.00	101.7 PK			1.78 V	213	68.3	33.4
4	*2480.00	97.4 AV			1.78 V	213	64.0	33.4
5	2483.50	70.6 PK	74.0	-3.4	1.71 V	145	37.2	33.4
6	2483.50	51.0 AV	54.0	-3.0	1.71 V	145	17.6	33.4
7	4874.00	66.8 PK	74.0	-7.2	1.68 V	109	63.2	3.6
8	4874.00	52.9 AV	54.0	-1.1	1.68 V	109	49.3	3.6
9	4960.00	44.7 PK	74.0	-29.3	1.95 V	314	41.0	3.7
10	4960.00	32.7 AV	54.0	-21.3	1.95 V	314	29.0	3.7
11	#5470.00	59.2 PK	74.0	-14.8	1.83 V	293	55.2	4.0
12	#5470.00	49.0 AV	54.0	-5.0	1.83 V	293	45.0	4.0
13	*5720.00	123.0 PK			1.87 V	342	82.6	40.4
14	*5720.00	112.2 AV			1.87 V	342	71.8	40.4
15	#5825.00	59.0 PK	74.0	-15.0	2.54 V	336	54.3	4.7
16	#5825.00	48.0 AV	54.0	-6.0	2.54 V	336	43.3	4.7
17	11440.00	62.9 PK	74.0	-11.1	2.09 V	50	44.6	18.3
18	11440.00	48.4 AV	54.0	-5.6	2.09 V	50	30.1	18.3

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.

ML-2452-HPAG4A6-01 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	55.0 PK	74.0	-19.0	1.73 H	314	22.1	32.9
2	2390.00	46.3 AV	54.0	-7.7	1.73 H	314	13.4	32.9
3	*2405.00	99.5 PK			1.24 H	262	66.5	33.0
4	*2405.00	94.5 AV			1.24 H	262	61.5	33.0
5	*2437.00	117.8 PK			2.13 H	233	84.6	33.2
6	*2437.00	108.0 AV			2.13 H	233	74.8	33.2
7	4810.00	43.9 PK	74.0	-30.1	1.72 H	302	40.3	3.6
8	4810.00	30.8 AV	54.0	-23.2	1.72 H	302	27.2	3.6
9	4874.00	65.7 PK	74.0	-8.3	1.63 H	258	62.1	3.6
10	4874.00	51.1 AV	54.0	-2.9	1.63 H	258	47.5	3.6
11	#5470.00	58.0 PK	74.0	-16.0	1.63 H	299	54.0	4.0
12	#5470.00	47.1 AV	54.0	-6.9	1.63 H	299	43.1	4.0
13	*5720.00	104.6 PK			1.74 H	218	64.2	40.4
14	*5720.00	96.1 AV			1.74 H	218	55.7	40.4
15	#5825.00	59.3 PK	74.0	-14.7	1.76 H	284	54.6	4.7
16	#5825.00	48.8 AV	54.0	-5.2	1.76 H	284	44.1	4.7
17	11440.00	61.6 PK	74.0	-12.4	1.79 H	200	43.3	18.3
18	11440.00	47.0 AV	54.0	-7.0	1.79 H	200	28.7	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	61.1 PK	74.0	-12.9	1.65 V	294	28.2	32.9
2	2390.00	52.2 AV	54.0	-1.8	1.65 V	294	19.3	32.9
3	*2405.00	102.5 PK			1.24 V	231	69.5	33.0
4	*2405.00	97.7 AV			1.24 V	231	64.7	33.0
5	*2437.00	119.8 PK			1.35 V	332	86.6	33.2
6	*2437.00	109.2 AV			1.35 V	332	76.0	33.2
7	4810.00	46.5 PK	74.0	-27.5	1.66 V	322	42.9	3.6
8	4810.00	33.0 AV	54.0	-21.0	1.66 V	322	29.4	3.6
9	4874.00	66.6 PK	74.0	-7.4	1.35 V	269	63.0	3.6
10	4874.00	52.9 AV	54.0	-1.1	1.35 V	269	49.3	3.6
11	#5470.00	58.7 PK	74.0	-15.3	1.63 V	77	54.7	4.0
12	#5470.00	48.6 AV	54.0	-5.4	1.63 V	77	44.6	4.0
13	*5720.00	117.6 PK			1.78 V	319	77.2	40.4
14	*5720.00	107.1 AV			1.78 V	319	66.7	40.4
15	#5825.00	59.1 PK	74.0	-14.9	2.49 V	317	54.4	4.7
16	#5825.00	47.9 AV	54.0	-6.1	2.49 V	317	43.2	4.7
17	11440.00	62.6 PK	74.0	-11.4	2.12 V	52	44.3	18.3
18	11440.00	49.5 AV	54.0	-4.5	2.12 V	52	31.2	18.3

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.

ML-2452-HPA6M4-S36 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	118.8 PK			1.82 H	234	85.6	33.2
2	*2437.00	110.2 AV			1.82 H	234	77.0	33.2
3	*2480.00	105.0 PK			1.46 H	357	71.6	33.4
4	*2480.00	99.8 AV			1.46 H	357	66.4	33.4
5	2483.50	61.8 PK	74.0	-12.2	1.64 H	341	28.4	33.4
6	2483.50	50.5 AV	54.0	-3.5	1.64 H	341	17.1	33.4
7	4874.00	51.7 PK	74.0	-22.3	1.77 H	77	48.1	3.6
8	4874.00	38.9 AV	54.0	-15.1	1.77 H	77	35.3	3.6
9	4960.00	51.9 PK	74.0	-22.1	1.76 H	49	48.2	3.7
10	4960.00	39.4 AV	54.0	-14.6	1.76 H	49	35.7	3.7
11	#5470.00	58.4 PK	74.0	-15.6	1.99 H	284	54.4	4.0
12	#5470.00	46.9 AV	54.0	-7.1	1.99 H	284	42.9	4.0
13	*5720.00	102.1 PK			1.84 H	203	61.7	40.4
14	*5720.00	94.1 AV			1.84 H	203	53.7	40.4
15	#5825.00	59.3 PK	74.0	-14.7	1.93 H	332	54.6	4.7
16	#5825.00	48.9 AV	54.0	-5.1	1.93 H	332	44.2	4.7
17	11440.00	61.3 PK	74.0	-12.7	1.94 H	268	43.0	18.3
18	11440.00	48.3 AV	54.0	-5.7	1.94 H	268	30.0	18.3

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	122.9 PK			1.62 V	231	89.7	33.2
2	*2437.00	113.1 AV			1.89 V	231	79.9	33.2
3	*2480.00	93.0 PK			2.43 V	277	59.6	33.4
4	*2480.00	91.0 AV			2.43 V	277	57.6	33.4
5	2483.50	61.1 PK	74.0	-12.9	2.01 V	269	27.7	33.4
6	2483.50	47.2 AV	54.0	-6.8	2.01 V	269	13.8	33.4
7	4874.00	56.9 PK	74.0	-17.1	1.97 V	224	53.3	3.6
8	4874.00	45.2 AV	54.0	-8.8	1.97 V	224	41.6	3.6
9	4960.00	49.3 PK	74.0	-24.7	2.44 V	89	45.6	3.7
10	4960.00	37.5 AV	54.0	-16.5	2.44 V	89	33.8	3.7
11	#5470.00	58.7 PK	74.0	-15.3	2.63 V	356	54.7	4.0
12	#5470.00	48.4 AV	54.0	-5.6	2.63 V	356	44.4	4.0
13	*5720.00	117.5 PK			1.74 V	211	77.1	40.4
14	*5720.00	106.5 AV			1.74 V	211	66.1	40.4
15	#5825.00	58.7 PK	74.0	-15.3	1.69 V	23	54.0	4.7
16	#5825.00	47.8 AV	54.0	-6.2	1.69 V	23	43.1	4.7
17	11440.00	62.6 PK	74.0	-11.4	2.29 V	186	44.3	18.3
18	11440.00	49.7 AV	54.0	-4.3	2.29 V	186	31.4	18.3

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.

ML-2452-HPA6M4-S36 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	60.4 PK	74.0	-13.6	1.64 H	53	27.5	32.9
2	2390.00	49.6 AV	54.0	-4.4	1.64 H	53	16.7	32.9
3	*2405.00	104.7 PK			1.64 H	32	71.7	33.0
4	*2405.00	99.8 AV			1.64 H	32	66.8	33.0
5	*2437.00	117.8 PK			2.03 H	188	84.6	33.2
6	*2437.00	108.7 AV			2.03 H	188	75.5	33.2
7	4810.00	49.1 PK	74.0	-24.9	1.39 H	77	45.5	3.6
8	4810.00	37.8 AV	54.0	-16.2	1.39 H	77	34.2	3.6
9	4874.00	51.2 PK	74.0	-22.8	1.82 H	134	47.6	3.6
10	4874.00	38.5 AV	54.0	-15.5	1.82 H	134	34.9	3.6
11	#5470.00	58.5 PK	74.0	-15.5	1.48 H	266	54.5	4.0
12	#5470.00	47.1 AV	54.0	-6.9	1.48 H	266	43.1	4.0
13	*5720.00	103.1 PK			1.64 H	227	62.7	40.4
14	*5720.00	95.3 AV			1.64 H	227	54.9	40.4
15	#5825.00	59.0 PK	74.0	-15.0	1.79 H	183	54.3	4.7
16	#5825.00	50.0 AV	54.0	-4.0	1.79 H	183	45.3	4.7
17	11440.00	60.8 PK	74.0	-13.2	1.30 H	304	42.5	18.3
18	11440.00	47.4 AV	54.0	-6.6	1.30 H	304	29.1	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	58.4 PK	74.0	-15.6	1.95 V	243	25.5	32.9
2	2390.00	47.1 AV	54.0	-6.9	1.95 V	243	14.2	32.9
3	*2405.00	93.1 PK			1.93 V	254	60.1	33.0
4	*2405.00	90.3 AV			1.93 V	254	57.3	33.0
5	*2437.00	122.9 PK			1.93 V	269	89.7	33.2
6	*2437.00	113.0 AV			1.93 V	269	79.8	33.2
7	4810.00	50.9 PK	74.0	-23.1	2.33 V	84	47.3	3.6
8	4810.00	37.5 AV	54.0	-16.5	2.33 V	84	33.9	3.6
9	4874.00	56.8 PK	74.0	-17.2	1.36 V	202	53.2	3.6
10	4874.00	44.7 AV	54.0	-9.3	1.36 V	202	41.1	3.6
11	#5470.00	58.2 PK	74.0	-15.8	2.08 V	314	54.2	4.0
12	#5470.00	47.9 AV	54.0	-6.1	2.08 V	314	43.9	4.0
13	*5720.00	115.6 PK			2.14 V	248	75.2	40.4
14	*5720.00	104.3 AV			2.14 V	248	63.9	40.4
15	#5825.00	58.6 PK	74.0	-15.4	2.91 V	183	53.9	4.7
16	#5825.00	48.3 AV	54.0	-5.7	2.91 V	183	43.6	4.7
17	11440.00	61.6 PK	74.0	-12.4	1.71 V	170	43.3	18.3
18	11440.00	48.5 AV	54.0	-5.5	1.71 V	170	30.2	18.3

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.

ML-2452-HPA6M4-S36 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	117.9 PK			1.99 H	307	84.7	33.2
2	*2437.00	108.0 AV			1.99 H	307	74.8	33.2
3	*2480.00	91.0 PK			1.73 H	49	57.6	33.4
4	*2480.00	87.0 AV			1.73 H	49	53.6	33.4
5	2483.50	60.6 PK	74.0	-13.4	1.55 H	57	27.2	33.4
6	2483.50	46.3 AV	54.0	-7.7	1.55 H	57	12.9	33.4
7	4874.00	50.5 PK	74.0	-23.5	2.03 H	179	46.9	3.6
8	4874.00	37.1 AV	54.0	-16.9	2.03 H	179	33.5	3.6
9	4960.00	47.2 PK	74.0	-26.8	1.67 H	177	43.5	3.7
10	4960.00	34.2 AV	54.0	-19.8	1.67 H	177	30.5	3.7
11	#5470.00	59.1 PK	74.0	-14.9	1.84 H	261	55.1	4.0
12	#5470.00	48.3 AV	54.0	-5.7	1.84 H	261	44.3	4.0
13	*5720.00	102.9 PK			1.83 H	237	62.5	40.4
14	*5720.00	94.7 AV			1.83 H	237	54.3	40.4
15	#5825.00	59.0 PK	74.0	-15.0	1.96 H	204	54.3	4.7
16	#5825.00	47.5 AV	54.0	-6.5	1.96 H	204	42.8	4.7
17	11440.00	60.9 PK	74.0	-13.1	1.62 H	311	42.6	18.3
18	11440.00	48.1 AV	54.0	-5.9	1.62 H	311	29.8	18.3

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	121.1 PK			1.68 V	331	87.9	33.2
2	*2437.00	111.3 AV			1.68 V	331	78.1	33.2
3	*2480.00	103.6 PK			1.59 V	350	70.2	33.4
4	*2480.00	98.7 AV			1.59 V	350	65.3	33.4
5	2483.50	70.3 PK	74.0	-3.7	1.74 V	341	36.9	33.4
6	2483.50	47.0 AV	54.0	-7.0	1.74 V	341	13.6	33.4
7	4874.00	52.7 PK	74.0	-21.3	2.12 V	136	49.1	3.6
8	4874.00	42.8 AV	54.0	-11.2	2.12 V	136	39.2	3.6
9	4960.00	48.0 PK	74.0	-26.0	1.64 V	244	44.3	3.7
10	4960.00	35.4 AV	54.0	-18.6	1.64 V	244	31.7	3.7
11	#5470.00	58.5 PK	74.0	-15.5	1.93 V	227	54.5	4.0
12	#5470.00	48.3 AV	54.0	-5.7	1.93 V	227	44.3	4.0
13	*5720.00	116.5 PK			2.08 V	313	76.1	40.4
14	*5720.00	105.7 AV			2.08 V	313	65.3	40.4
15	#5825.00	58.6 PK	74.0	-15.4	3.04 V	278	53.9	4.7
16	#5825.00	47.1 AV	54.0	-6.9	3.04 V	278	42.4	4.7
17	11440.00	61.4 PK	74.0	-12.6	2.06 V	193	43.1	18.3
18	11440.00	48.4 AV	54.0	-5.6	2.06 V	193	30.1	18.3

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.

ML-2452-HPA6M4-S36 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	56.1 PK	74.0	-17.9	1.63 H	72	23.2	32.9
2	2390.00	45.5 AV	54.0	-8.5	1.63 H	72	12.6	32.9
3	*2405.00	91.6 PK			1.50 H	50	58.6	33.0
4	*2405.00	87.5 AV			1.50 H	50	54.5	33.0
5	*2437.00	118.5 PK			1.73 H	248	85.3	33.2
6	*2437.00	108.3 AV			1.73 H	248	75.1	33.2
7	4810.00	49.9 PK	74.0	-24.1	2.20 H	164	46.3	3.6
8	4810.00	36.6 AV	54.0	-17.4	2.20 H	164	33.0	3.6
9	4874.00	51.3 PK	74.0	-22.7	1.43 H	199	47.7	3.6
10	4874.00	38.0 AV	54.0	-16.0	1.43 H	199	34.4	3.6
11	#5470.00	59.2 PK	74.0	-14.8	2.36 H	297	55.2	4.0
12	#5470.00	47.3 AV	54.0	-6.7	2.36 H	297	43.3	4.0
13	*5720.00	102.3 PK			1.66 H	283	61.9	40.4
14	*5720.00	95.1 AV			1.66 H	283	54.7	40.4
15	#5825.00	58.8 PK	74.0	-15.2	3.21 H	99	54.1	4.7
16	#5825.00	49.0 AV	54.0	-5.0	3.21 H	99	44.3	4.7
17	11440.00	61.4 PK	74.0	-12.6	1.55 H	318	43.1	18.3
18	11440.00	48.8 AV	54.0	-5.2	1.55 H	318	30.5	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	59.3 PK	74.0	-14.7	1.73 V	359	26.4	32.9
2	2390.00	46.4 AV	54.0	-7.6	1.73 V	359	13.5	32.9
3	*2405.00	103.6 PK			1.69 V	355	70.6	33.0
4	*2405.00	100.1 AV			1.69 V	355	67.1	33.0
5	*2437.00	122.1 PK			1.98 V	267	88.9	33.2
6	*2437.00	112.1 AV			1.98 V	267	78.9	33.2
7	4810.00	50.6 PK	74.0	-23.4	1.82 V	66	47.0	3.6
8	4810.00	37.1 AV	54.0	-16.9	1.82 V	66	33.5	3.6
9	4874.00	56.1 PK	74.0	-17.9	2.03 V	184	52.5	3.6
10	4874.00	44.8 AV	54.0	-9.2	2.03 V	184	41.2	3.6
11	#5470.00	59.3 PK	74.0	-14.7	1.37 V	263	55.3	4.0
12	#5470.00	49.2 AV	54.0	-4.8	1.37 V	263	45.2	4.0
13	*5720.00	116.7 PK			1.98 V	263	76.3	40.4
14	*5720.00	106.3 AV			1.98 V	263	65.9	40.4
15	#5825.00	58.5 PK	74.0	-15.5	2.26 V	314	53.8	4.7
16	#5825.00	47.6 AV	54.0	-6.4	2.26 V	314	42.9	4.7
17	11440.00	62.8 PK	74.0	-11.2	1.88 V	164	44.5	18.3
18	11440.00	49.1 AV	54.0	-4.9	1.88 V	164	30.8	18.3

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.

ML-2452-PNL9M3-036 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2352.00	62.8 PK	74.0	-11.2	1.57 H	119	29.3	33.5
2	2352.00	53.9 AV	54.0	-0.1	1.57 H	119	20.4	33.5
3	*2437.00	120.9 PK			1.48 H	355	86.9	34.0
4	*2437.00	111.5 AV			1.48 H	355	77.5	34.0
5	*2480.00	93.9 PK			1.89 H	73	59.7	34.2
6	*2480.00	89.9 AV			1.89 H	73	55.7	34.2
7	2483.50	59.5 PK	74.0	-14.5	1.65 H	56	25.3	34.2
8	2483.50	49.0 AV	54.0	-5.0	1.65 H	56	14.8	34.2
9	4874.00	54.8 PK	74.0	-19.2	1.64 H	79	51.8	3.0
10	4874.00	40.3 AV	54.0	-13.7	1.64 H	79	37.3	3.0
11	4960.00	48.7 PK	74.0	-25.3	1.80 H	120	45.6	3.1
12	4960.00	37.1 AV	54.0	-16.9	1.80 H	120	34.0	3.1
13	#5470.00	57.9 PK	74.0	-16.1	2.04 H	348	53.9	4.0
14	#5470.00	47.0 AV	54.0	-7.0	2.04 H	348	43.0	4.0
15	*5720.00	114.7 PK			1.44 H	329	74.3	40.4
16	*5720.00	106.5 AV			1.44 H	329	66.1	40.4
17	#5825.00	59.8 PK	74.0	-14.2	2.99 H	11	55.1	4.7
18	#5825.00	50.0 AV	54.0	-4.0	2.99 H	11	45.3	4.7
19	11440.00	63.0 PK	74.0	-11.0	1.76 H	233	44.7	18.3
20	11440.00	50.1 AV	54.0	-3.9	1.76 H	233	31.8	18.3

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	121.2 PK			1.64 V	78	87.2	34.0
2	*2437.00	111.0 AV			1.64 V	78	77.0	34.0
3	*2480.00	105.1 PK			1.49 V	44	70.9	34.2
4	*2480.00	99.9 AV			1.49 V	44	65.7	34.2
5	2483.50	60.2 PK	74.0	-13.8	1.33 V	27	26.0	34.2
6	2483.50	49.0 AV	54.0	-5.0	1.33 V	27	14.8	34.2
7	4874.00	51.6 PK	74.0	-22.4	1.50 V	34	48.6	3.0
8	4874.00	38.8 AV	54.0	-15.2	1.50 V	34	35.8	3.0
9	4960.00	49.4 PK	74.0	-24.6	1.87 V	213	46.3	3.1
10	4960.00	37.2 AV	54.0	-16.8	1.87 V	213	34.1	3.1
11	#5470.00	57.8 PK	74.0	-16.2	2.78 V	330	53.8	4.0
12	#5470.00	47.6 AV	54.0	-6.4	2.78 V	330	43.6	4.0
13	*5720.00	114.8 PK			1.24 V	359	74.4	40.4
14	*5720.00	104.1 AV			1.24 V	359	63.7	40.4
15	#5825.00	57.8 PK	74.0	-16.2	1.63 V	2	53.1	4.7
16	#5825.00	47.3 AV	54.0	-6.7	1.63 V	2	42.6	4.7
17	11440.00	64.2 PK	74.0	-9.8	1.88 V	269	45.9	18.3
18	11440.00	49.5 AV	54.0	-4.5	1.88 V	269	31.2	18.3

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.

ML-2452-PNL9M3-036 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2352.00	61.3 PK	74.0	-12.7	1.89 H	11	28.6	32.7
2	2352.00	53.3 AV	54.0	-0.7	1.89 H	11	20.6	32.7
3	2390.00	57.2 PK	74.0	-16.8	1.63 H	98	24.3	32.9
4	2390.00	47.0 AV	54.0	-7.0	1.63 H	98	14.1	32.9
5	*2405.00	93.6 PK			1.44 H	78	60.6	33.0
6	*2405.00	88.6 AV			1.44 H	78	55.6	33.0
7	*2437.00	118.5 PK			1.87 H	342	85.3	33.2
8	*2437.00	108.5 AV			1.87 H	342	75.3	33.2
9	4810.00	50.9 PK	74.0	-23.1	2.34 H	158	47.3	3.6
10	4810.00	39.7 AV	54.0	-14.3	2.34 H	159	36.1	3.6
11	4874.00	52.1 PK	74.0	-21.9	1.33 H	342	48.5	3.6
12	4874.00	38.7 AV	54.0	-15.3	1.33 H	342	35.1	3.6
13	#5470.00	58.2 PK	74.0	-15.8	1.79 H	334	54.2	4.0
14	#5470.00	47.9 AV	54.0	-6.1	1.79 H	334	43.9	4.0
15	*5720.00	115.2 PK			1.45 H	353	74.8	40.4
16	*5720.00	106.7 AV			1.45 H	353	66.3	40.4
17	#5825.00	58.2 PK	74.0	-15.8	2.03 H	342	53.5	4.7
18	#5825.00	48.7 AV	54.0	-5.3	2.03 H	342	44.0	4.7
19	11440.00	62.6 PK	74.0	-11.4	1.43 H	265	44.3	18.3
20	11440.00	50.7 AV	54.0	-3.3	1.43 H	265	32.4	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	60.5 PK	74.0	-13.5	1.44 V	31	27.6	32.9
2	2390.00	48.4 AV	54.0	-5.6	1.44 V	31	15.5	32.9
3	*2405.00	102.3 PK			1.33 V	355	69.3	33.0
4	*2405.00	99.4 AV			1.33 V	355	66.4	33.0
5	*2437.00	120.7 PK			1.84 V	11	87.5	33.2
6	*2437.00	110.6 AV			1.84 V	11	77.4	33.2
7	4810.00	47.3 PK	74.0	-26.7	1.94 V	5	43.7	3.6
8	4810.00	35.5 AV	54.0	-18.5	1.94 V	5	31.9	3.6
9	4874.00	53.9 PK	74.0	-20.1	1.84 V	146	50.3	3.6
10	4874.00	41.8 AV	54.0	-12.2	1.84 V	146	38.2	3.6
11	#5470.00	57.7 PK	74.0	-16.3	2.05 V	174	53.7	4.0
12	#5470.00	47.1 AV	54.0	-6.9	2.05 V	174	43.1	4.0
13	*5720.00	114.6 PK			1.22 V	31	74.2	40.4
14	*5720.00	103.5 AV			1.22 V	31	63.1	40.4
15	#5825.00	57.8 PK	74.0	-16.2	2.69 V	348	53.1	4.7
16	#5825.00	48.1 AV	54.0	-5.9	2.69 V	348	43.4	4.7
17	11440.00	65.1 PK	74.0	-8.9	1.84 V	269	46.8	18.3
18	11440.00	51.5 AV	54.0	-2.5	1.84 V	269	33.2	18.3

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.

ML-2452-PNL9M3-036 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2352.00	61.1 PK	74.0	-12.9	1.47 H	13	27.6	33.5
2	2352.00	53.6 AV	54.0	-0.4	1.47 H	13	20.1	33.5
3	*2437.00	119.4 PK			1.88 H	324	85.4	34.0
4	*2437.00	108.2 AV			1.88 H	324	74.2	34.0
5	*2480.00	94.3 PK			1.55 H	50	60.1	34.2
6	*2480.00	88.8 AV			1.55 H	50	54.6	34.2
7	2483.50	58.5 PK	74.0	-15.5	1.63 H	48	24.3	34.2
8	2483.50	48.6 AV	54.0	-5.4	1.63 H	48	14.4	34.2
9	4874.00	51.3 PK	74.0	-22.7	1.00 H	6	48.3	3.0
10	4874.00	38.2 AV	54.0	-15.8	1.00 H	6	35.2	3.0
11	4960.00	49.7 PK	74.0	-24.3	1.87 H	203	46.6	3.1
12	4960.00	37.0 AV	54.0	-17.0	1.87 H	203	33.9	3.1
13	#5470.00	57.5 PK	74.0	-16.5	2.39 H	267	53.5	4.0
14	#5470.00	46.9 AV	54.0	-7.1	2.39 H	267	42.9	4.0
15	*5720.00	115.9 PK			1.47 H	351	75.5	40.4
16	*5720.00	105.2 AV			1.47 H	351	64.8	40.4
17	#5825.00	59.0 PK	74.0	-15.0	2.63 H	347	54.3	4.7
18	#5825.00	48.9 AV	54.0	-5.1	2.63 H	347	44.2	4.7
19	11440.00	62.2 PK	74.0	-11.8	1.23 H	269	43.9	18.3
20	11440.00	49.6 AV	54.0	-4.4	1.23 H	269	31.3	18.3

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	121.4 PK			1.63 V	352	87.4	34.0
2	*2437.00	110.1 AV			1.63 V	352	76.1	34.0
3	*2480.00	105.8 PK			1.75 V	17	71.6	34.2
4	*2480.00	100.5 AV			1.75 V	17	66.3	34.2
5	2483.50	62.1 PK	74.0	-11.9	1.46 V	26	27.9	34.2
6	2483.50	50.5 AV	54.0	-3.5	1.46 V	26	16.3	34.2
7	4874.00	53.1 PK	74.0	-20.9	1.20 V	45	50.1	3.0
8	4874.00	40.3 AV	54.0	-13.7	1.20 V	45	37.3	3.0
9	4960.00	50.8 PK	74.0	-23.2	1.73 V	346	47.7	3.1
10	4960.00	38.1 AV	54.0	-15.9	1.73 V	346	35.0	3.1
11	#5470.00	58.1 PK	74.0	-15.9	2.64 V	349	54.1	4.0
12	#5470.00	47.9 AV	54.0	-6.1	2.64 V	349	43.9	4.0
13	*5720.00	116.0 PK			1.13 V	352	75.6	40.4
14	*5720.00	104.6 AV			1.13 V	352	64.2	40.4
15	#5825.00	58.6 PK	74.0	-15.4	3.04 V	269	53.9	4.7
16	#5825.00	47.2 AV	54.0	-6.8	3.04 V	269	42.5	4.7
17	11440.00	63.6 PK	74.0	-10.4	1.76 V	221	45.3	18.3
18	11440.00	49.6 AV	54.0	-4.4	1.76 V	221	31.3	18.3

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.

ML-2452-PNL9M3-036 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2352.00	60.0 PK	74.0	-14.0	1.87 H	3	27.3	32.7
2	2352.00	53.0 AV	54.0	-1.0	1.87 H	3	20.3	32.7
3	2390.00	56.6 PK	74.0	-17.4	1.35 H	68	23.7	32.9
4	2390.00	45.2 AV	54.0	-8.8	1.35 H	68	12.3	32.9
5	*2405.00	92.7 PK			1.48 H	48	59.7	33.0
6	*2405.00	87.7 AV			1.48 H	48	54.7	33.0
7	*2437.00	117.9 PK			1.34 H	349	84.7	33.2
8	*2437.00	107.7 AV			1.34 H	349	74.5	33.2
9	4810.00	50.1 PK	74.0	-23.9	2.14 H	163	46.5	3.6
10	4810.00	37.0 AV	54.0	-17.0	2.14 H	163	33.4	3.6
11	4874.00	51.4 PK	74.0	-22.6	1.05 H	354	47.8	3.6
12	4874.00	38.7 AV	54.0	-15.3	1.05 H	354	35.1	3.6
13	#5470.00	58.2 PK	74.0	-15.8	2.39 H	344	54.2	4.0
14	#5470.00	47.6 AV	54.0	-6.4	2.39 H	344	43.6	4.0
15	*5720.00	115.2 PK			1.40 H	351	74.8	40.4
16	*5720.00	104.3 AV			1.40 H	351	63.9	40.4
17	#5825.00	59.0 PK	74.0	-15.0	1.72 H	326	54.3	4.7
18	#5825.00	49.9 AV	54.0	-4.1	1.72 H	326	45.2	4.7
19	11440.00	61.3 PK	74.0	-12.7	1.08 H	269	43.0	18.3
20	11440.00	48.6 AV	54.0	-5.4	1.08 H	269	30.3	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.5 PK	74.0	-16.5	1.48 V	355	24.6	32.9
2	2390.00	46.1 AV	54.0	-7.9	1.48 V	355	13.2	32.9
3	*2405.00	102.9 PK			1.63 V	351	69.9	33.0
4	*2405.00	98.8 AV			1.63 V	351	65.8	33.0
5	*2437.00	120.2 PK			1.47 V	9	87.0	33.2
6	*2437.00	109.2 AV			1.47 V	9	76.0	33.2
7	4810.00	46.8 PK	74.0	-27.2	2.00 V	25	43.2	3.6
8	4810.00	32.9 AV	54.0	-21.1	2.00 V	25	29.3	3.6
9	4874.00	53.1 PK	74.0	-20.9	1.47 V	48	49.5	3.6
10	4874.00	39.7 AV	54.0	-14.3	1.47 V	48	36.1	3.6
11	#5470.00	59.3 PK	74.0	-14.7	1.49 V	356	55.3	4.0
12	#5470.00	49.1 AV	54.0	-4.9	1.49 V	356	45.1	4.0
13	*5720.00	114.5 PK			1.14 V	346	74.1	40.4
14	*5720.00	104.1 AV			1.14 V	346	63.7	40.4
15	#5825.00	58.5 PK	74.0	-15.5	1.83 V	296	53.8	4.7
16	#5825.00	48.9 AV	54.0	-5.1	1.83 V	296	44.2	4.7
17	11440.00	62.3 PK	74.0	-11.7	1.83 V	269	44.0	18.3
18	11440.00	49.7 AV	54.0	-4.3	1.83 V	269	31.4	18.3

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.

ML-2452-PNA7-01R Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2351.00	59.3 PK	74.0	-14.7	1.68 H	19	26.6	32.7
2	2351.00	51.1 AV	54.0	-2.9	1.68 H	19	18.4	32.7
3	*2437.00	123.3 PK			1.83 H	354	90.1	33.2
4	*2437.00	113.2 AV			1.83 H	354	80.0	33.2
5	*2480.00	105.5 PK			1.72 H	10	72.1	33.4
6	*2480.00	102.3 AV			1.72 H	10	68.9	33.4
7	2483.50	60.8 PK	74.0	-13.2	1.93 H	43	27.4	33.4
8	2483.50	51.6 AV	54.0	-2.4	1.93 H	43	18.2	33.4
9	4874.00	66.1 PK	74.0	-7.9	2.00 H	79	62.5	3.6
10	4874.00	51.7 AV	54.0	-2.3	2.00 H	79	48.1	3.6
11	4960.00	51.8 PK	74.0	-22.2	1.63 H	317	48.1	3.7
12	4960.00	39.7 AV	54.0	-14.3	1.63 H	317	36.0	3.7
13	#5470.00	58.6 PK	74.0	-15.4	1.79 H	265	54.6	4.0
14	#5470.00	47.7 AV	54.0	-6.3	1.79 H	265	43.7	4.0
15	*5720.00	119.1 PK			1.83 H	359	78.7	40.4
16	*5720.00	108.6 AV			1.83 H	359	68.2	40.4
17	#5825.00	59.4 PK	74.0	-14.6	2.93 H	172	54.7	4.7
18	#5825.00	49.6 AV	54.0	-4.4	2.93 H	172	44.9	4.7
19	11440.00	60.6 PK	74.0	-13.4	1.66 H	293	42.3	18.3
20	11440.00	48.7 AV	54.0	-5.3	1.66 H	293	30.4	18.3

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2351.00	58.7 PK	74.0	-15.3	2.08 V	27	26.0	32.7
2	2351.00	47.6 AV	54.0	-6.4	2.08 V	27	14.9	32.7
3	*2437.00	112.4 PK			3.11 V	317	79.2	33.2
4	*2437.00	103.2 AV			3.11 V	317	70.0	33.2
5	*2480.00	92.7 PK			2.13 V	278	59.3	33.4
6	*2480.00	89.1 AV			2.13 V	278	55.7	33.4
7	2483.50	57.3 PK	74.0	-16.7	1.89 V	263	23.9	33.4
8	2483.50	46.9 AV	54.0	-7.1	1.89 V	263	13.5	33.4
9	4874.00	60.2 PK	74.0	-13.8	2.69 V	38	56.6	3.6
10	4874.00	46.7 AV	54.0	-7.3	2.69 V	38	43.1	3.6
11	4960.00	50.4 PK	74.0	-23.6	2.49 V	107	46.7	3.7
12	4960.00	37.1 AV	54.0	-16.9	2.49 V	107	33.4	3.7
13	#5470.00	58.2 PK	74.0	-15.8	2.84 V	347	54.2	4.0
14	#5470.00	48.1 AV	54.0	-5.9	2.84 V	347	44.1	4.0
15	*5720.00	108.5 PK			3.14 V	8	68.1	40.4
16	*5720.00	98.0 AV			3.14 V	8	57.6	40.4
17	#5825.00	58.4 PK	74.0	-15.6	3.43 V	269	53.7	4.7
18	#5825.00	48.3 AV	54.0	-5.7	3.43 V	269	43.6	4.7
19	11440.00	59.4 PK	74.0	-14.6	2.78 V	105	41.1	18.3
20	11440.00	47.9 AV	54.0	-6.1	2.78 V	105	29.6	18.3

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.

ML-2452-PNA7-01R Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2351.00	58.7 PK	74.0	-15.3	1.53 H	9	26.0	32.7
2	2351.00	50.7 AV	54.0	-3.3	1.53 H	9	18.0	32.7
3	2390.00	57.3 PK	74.0	-16.7	1.73 H	15	24.4	32.9
4	2390.00	52.2 AV	54.0	-1.8	1.73 H	15	19.3	32.9
5	*2405.00	103.4 PK			1.67 H	23	70.4	33.0
6	*2405.00	99.4 AV			1.67 H	23	66.4	33.0
7	*2437.00	123.0 PK			1.65 H	343	89.8	33.2
8	*2437.00	112.9 AV			1.65 H	343	79.7	33.2
9	4810.00	49.4 PK	74.0	-24.6	2.08 H	123	45.8	3.6
10	4810.00	36.7 AV	54.0	-17.3	2.08 H	123	33.1	3.6
11	4874.00	65.1 PK	74.0	-8.9	1.83 H	69	61.5	3.6
12	4874.00	50.9 AV	54.0	-3.1	1.83 H	69	47.3	3.6
13	#5470.00	58.1 PK	74.0	-15.9	1.67 H	349	54.1	4.0
14	#5470.00	46.9 AV	54.0	-7.1	1.67 H	349	42.9	4.0
15	*5720.00	118.3 PK			1.48 H	347	77.9	40.4
16	*5720.00	107.5 AV			1.48 H	347	67.1	40.4
17	#5825.00	58.8 PK	74.0	-15.2	1.24 H	344	54.1	4.7
18	#5825.00	48.6 AV	54.0	-5.4	1.24 H	344	43.9	4.7
19	11440.00	61.1 PK	74.0	-12.9	1.83 H	248	42.8	18.3
20	11440.00	48.8 AV	54.0	-5.2	1.83 H	248	30.5	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2351.00	56.9 PK	74.0	-17.1	1.55 V	13	26.1	30.8
2	2351.00	45.2 AV	54.0	-8.8	1.55 V	13	14.4	30.8
3	2390.00	55.2 PK	74.0	-18.8	1.69 V	340	24.2	31.0
4	2390.00	44.7 AV	54.0	-9.3	1.69 V	340	13.7	31.0
5	*2405.00	101.8 PK			1.53 V	13	70.6	31.2
6	*2405.00	98.6 AV			1.53 V	13	67.4	31.2
7	*2437.00	110.8 PK			3.49 V	333	79.5	31.3
8	*2437.00	99.9 AV			3.49 V	333	68.6	31.3
9	4810.00	46.2 PK	74.0	-27.8	2.32 V	45	45.8	0.4
10	4810.00	32.9 AV	54.0	-21.1	2.32 V	45	32.5	0.4
11	4874.00	50.7 PK	74.0	-23.3	1.39 V	104	50.1	0.6
12	4874.00	37.2 AV	54.0	-16.8	1.39 V	104	36.6	0.6
13	#5470.00	59.1 PK	74.0	-14.9	1.62 V	347	55.1	4.0
14	#5470.00	49.3 AV	54.0	-4.7	1.62 V	347	45.3	4.0
15	*5720.00	106.7 PK			3.12 V	14	66.3	40.4
16	*5720.00	97.3 AV			3.12 V	14	56.9	40.4
17	#5825.00	58.5 PK	74.0	-15.5	2.79 V	352	53.8	4.7
18	#5825.00	47.3 AV	54.0	-6.7	2.79 V	352	42.6	4.7
19	11440.00	59.2 PK	74.0	-14.8	2.84 V	159	40.9	18.3
20	11440.00	47.6 AV	54.0	-6.4	2.84 V	159	29.3	18.3

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.

ML-2452-PNA7-01R Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11n (HT20) + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	123.9 PK			1.59 H	341	90.7	33.2
2	*2437.00	113.3 AV			1.59 H	341	80.1	33.2
3	*2480.00	106.0 PK			1.53 H	24	72.6	33.4
4	*2480.00	102.1 AV			1.53 H	24	68.7	33.4
5	2483.50	60.7 PK	74.0	-13.3	1.97 H	14	27.3	33.4
6	2483.50	50.3 AV	54.0	-3.7	1.97 H	14	16.9	33.4
7	4874.00	65.9 PK	74.0	-8.1	1.94 H	77	62.3	3.6
8	4874.00	51.7 AV	54.0	-2.3	1.94 H	77	48.1	3.6
9	4960.00	52.0 PK	74.0	-22.0	1.50 H	340	48.3	3.7
10	4960.00	39.7 AV	54.0	-14.3	1.50 H	340	36.0	3.7
11	#5470.00	59.1 PK	74.0	-14.9	2.74 H	351	54.4	4.7
12	#5470.00	48.3 AV	54.0	-5.7	2.74 H	351	43.6	4.7
13	*5720.00	119.9 PK			1.58 H	349	78.9	41.0
14	*5720.00	109.8 AV			1.58 H	349	68.8	41.0
15	#5825.00	59.5 PK	74.0	-14.5	3.06 H	344	54.1	5.4
16	#5825.00	50.7 AV	54.0	-3.3	3.06 H	344	45.3	5.4
17	11440.00	60.7 PK	74.0	-13.3	1.73 H	269	43.1	17.6
18	11440.00	47.9 AV	54.0	-6.1	1.73 H	269	30.3	17.6

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 6 + CH 144 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	112.7 PK			3.06 V	313	79.5	33.2
2	*2437.00	102.9 AV			3.06 V	313	69.7	33.2
3	*2480.00	93.2 PK			2.04 V	254	59.8	33.4
4	*2480.00	90.1 AV			2.04 V	254	56.7	33.4
5	2483.50	57.7 PK	74.0	-16.3	2.09 V	297	24.3	33.4
6	2483.50	47.0 AV	54.0	-7.0	2.09 V	297	13.6	33.4
7	4874.00	60.4 PK	74.0	-13.6	2.66 V	45	56.8	3.6
8	4874.00	46.3 AV	54.0	-7.7	2.66 V	45	42.7	3.6
9	4960.00	50.6 PK	74.0	-23.4	2.17 V	105	46.9	3.7
10	4960.00	36.8 AV	54.0	-17.2	2.17 V	105	33.1	3.7
11	#5470.00	60.0 PK	74.0	-14.0	1.57 V	308	55.3	4.7
12	#5470.00	49.8 AV	54.0	-4.2	1.57 V	308	45.1	4.7
13	*5720.00	108.3 PK			3.11 V	14	67.3	41.0
14	*5720.00	98.9 AV			3.11 V	14	57.9	41.0
15	#5825.00	60.0 PK	74.0	-14.0	2.74 V	323	54.6	5.4
16	#5825.00	49.2 AV	54.0	-4.8	2.74 V	323	43.8	5.4
17	11440.00	59.5 PK	74.0	-14.5	2.69 V	146	41.9	17.6
18	11440.00	47.1 AV	54.0	-6.9	2.69 V	146	29.5	17.6

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.

ML-2452-PNA7-01R Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11n (HT20) + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.5 PK	74.0	-16.5	1.75 H	68	24.6	32.9
2	2390.00	52.5 AV	54.0	-1.5	1.75 H	68	19.6	32.9
3	*2405.00	103.6 PK			1.83 H	7	70.6	33.0
4	*2405.00	99.5 AV			1.83 H	7	66.5	33.0
5	*2437.00	124.0 PK			1.74 H	49	90.8	33.2
6	*2437.00	113.3 AV			1.74 H	49	80.1	33.2
7	4810.00	49.8 PK	74.0	-24.2	2.11 H	120	46.2	3.6
8	4810.00	37.0 AV	54.0	-17.0	2.11 H	120	33.4	3.6
9	4874.00	66.6 PK	74.0	-7.4	1.63 H	84	63.0	3.6
10	4874.00	52.2 AV	54.0	-1.8	1.63 H	84	48.6	3.6
11	#5470.00	58.2 PK	74.0	-15.8	2.64 H	352	54.2	4.0
12	#5470.00	46.9 AV	54.0	-7.1	2.64 H	352	42.9	4.0
13	*5720.00	118.3 PK			1.89 H	355	77.9	40.4
14	*5720.00	108.3 AV			1.89 H	355	67.9	40.4
15	#5825.00	59.2 PK	74.0	-14.8	2.66 H	342	54.5	4.7
16	#5825.00	49.0 AV	54.0	-5.0	2.66 H	342	44.3	4.7
17	11440.00	60.8 PK	74.0	-13.2	2.04 H	263	42.5	18.3
18	11440.00	48.4 AV	54.0	-5.6	2.04 H	263	30.1	18.3

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 6 + CH 144 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.9 PK	74.0	-16.1	1.83 V	342	25.0	32.9
2	2390.00	47.6 AV	54.0	-6.4	1.83 V	342	14.7	32.9
3	*2405.00	103.9 PK			1.62 V	24	70.9	33.0
4	*2405.00	99.9 AV			1.62 V	24	66.9	33.0
5	*2437.00	112.9 PK			3.26 V	341	79.7	33.2
6	*2437.00	102.6 AV			3.26 V	341	69.4	33.2
7	4810.00	49.6 PK	74.0	-24.4	2.08 V	73	46.0	3.6
8	4810.00	36.5 AV	54.0	-17.5	2.08 V	73	32.9	3.6
9	4874.00	58.3 PK	74.0	-15.7	1.35 V	109	54.7	3.6
10	4874.00	43.9 AV	54.0	-10.1	1.35 V	109	40.3	3.6
11	#5470.00	58.6 PK	74.0	-15.4	2.63 V	351	54.6	4.0
12	#5470.00	48.3 AV	54.0	-5.7	2.63 V	351	44.3	4.0
13	*5720.00	109.9 PK			2.69 V	18	69.5	40.4
14	*5720.00	99.1 AV			2.69 V	18	58.7	40.4
15	#5825.00	59.2 PK	74.0	-14.8	2.98 V	341	54.5	4.7
16	#5825.00	48.6 AV	54.0	-5.4	2.98 V	341	43.9	4.7
17	11440.00	59.3 PK	74.0	-14.7	2.53 V	147	41.0	18.3
18	11440.00	47.3 AV	54.0	-6.7	2.53 V	147	29.0	18.3

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.

ML-2452-PTA4M4-036 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11a + BT LE

CHANNEL	CH 6 + CH 116 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	57.2 PK	74.0	-16.8	1.83 H	142	24.3	32.9
2	2390.00	47.3 AV	54.0	-6.7	1.83 H	142	14.4	32.9
3	*2437.00	119.3 PK			1.93 H	56	86.1	33.2
4	*2437.00	108.5 AV			1.93 H	56	75.3	33.2
5	*2480.00	91.5 PK			2.84 H	43	58.1	33.4
6	*2480.00	87.5 AV			2.84 H	43	54.1	33.4
7	4874.00	50.7 PK	74.0	-23.3	1.63 H	142	47.1	3.6
8	4874.00	39.2 AV	54.0	-14.8	1.63 H	142	35.6	3.6
9	4960.00	46.0 PK	74.0	-28.0	1.95 H	218	42.3	3.7
10	4960.00	33.2 AV	54.0	-20.8	1.95 H	218	29.5	3.7
11	*5580.00	119.5 PK			2.63 H	59	79.4	40.1
12	*5580.00	108.8 AV			2.63 H	59	68.7	40.1
13	11160.00	63.0 PK	74.0	-11.0	2.21 H	183	44.3	18.7
14	11160.00	49.6 AV	54.0	-4.4	2.21 H	183	30.9	18.7

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 6 + CH 116 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	55.5 PK	74.0	-18.5	2.31 V	189	22.6	32.9
2	2390.00	47.5 AV	54.0	-6.5	2.31 V	189	14.6	32.9
3	*2437.00	117.1 PK			2.63 V	351	83.9	33.2
4	*2437.00	107.1 AV			2.63 V	351	73.9	33.2
5	*2480.00	90.2 PK			2.06 V	173	56.8	33.4
6	*2480.00	86.9 AV			2.06 V	173	53.5	33.4
7	4874.00	50.5 PK	74.0	-23.5	1.81 V	301	46.9	3.6
8	4874.00	37.9 AV	54.0	-16.1	1.81 V	301	34.3	3.6
9	4960.00	46.0 PK	74.0	-28.0	1.62 V	189	42.3	3.7
10	4960.00	35.2 AV	54.0	-18.8	1.62 V	189	31.5	3.7
11	*5580.00	115.0 PK			2.69 V	173	74.9	40.1
12	*5580.00	104.2 AV			2.69 V	173	64.1	40.1
13	11160.00	61.7 PK	74.0	-12.3	2.78 V	301	43.0	18.7
14	11160.00	48.6 AV	54.0	-5.4	2.78 V	301	29.9	18.7

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.

ML-2452-PTA4M4-036 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11a + Zigbee

CHANNEL	CH 6 + CH 116 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	56.2 PK	74.0	-17.8	1.93 H	124	23.3	32.9
2	2390.00	46.1 AV	54.0	-7.9	1.93 H	124	13.2	32.9
3	*2405.00	89.9 PK			2.51 H	54	56.9	33.0
4	*2405.00	86.9 AV			2.51 H	54	53.9	33.0
5	*2437.00	119.2 PK			1.84 H	76	86.0	33.2
6	*2437.00	108.3 AV			1.84 H	76	75.1	33.2
7	4810.00	45.6 PK	74.0	-28.4	1.92 H	207	42.0	3.6
8	4810.00	32.7 AV	54.0	-21.3	1.92 H	207	29.1	3.6
9	4874.00	50.5 PK	74.0	-23.5	1.77 H	155	46.9	3.6
10	4874.00	38.2 AV	54.0	-15.8	1.77 H	155	34.6	3.6
11	*5580.00	118.8 PK			2.14 H	78	78.7	40.1
12	*5580.00	108.4 AV			2.14 H	78	68.3	40.1
13	11160.00	62.8 PK	74.0	-11.2	2.69 H	283	44.1	18.7
14	11160.00	49.0 AV	54.0	-5.0	2.69 H	283	30.3	18.7

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 6 + CH 116 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	54.8 PK	74.0	-19.2	1.78 V	203	21.9	32.9
2	2390.00	45.5 AV	54.0	-8.5	1.78 V	203	12.6	32.9
3	*2405.00	87.9 PK			2.26 V	163	54.9	33.0
4	*2405.00	85.5 AV			2.26 V	163	52.5	33.0
5	*2437.00	116.2 PK			2.54 V	341	83.0	33.2
6	*2437.00	106.1 AV			2.54 V	341	72.9	33.2
7	4810.00	44.9 PK	74.0	-29.1	1.84 V	269	41.3	3.6
8	4810.00	34.0 AV	54.0	-20.0	1.84 V	269	30.4	3.6
9	4874.00	49.6 PK	74.0	-24.4	1.91 V	303	46.0	3.6
10	4874.00	37.8 AV	54.0	-16.2	1.91 V	303	34.2	3.6
11	*5580.00	115.0 PK			2.41 V	167	74.9	40.1
12	*5580.00	104.1 AV			2.41 V	167	64.0	40.1
13	11160.00	61.8 PK	74.0	-12.2	1.73 V	164	43.1	18.7
14	11160.00	48.5 AV	54.0	-5.5	1.73 V	164	29.8	18.7

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.

ML-2452-PTA4M4-036 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11a + BT LE

CHANNEL	CH 6 + CH 116 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	118.2 PK			2.34 H	69	85.0	33.2
2	*2437.00	108.1 AV			2.34 H	69	74.9	33.2
3	*2480.00	89.3 PK			2.43 H	274	55.9	33.4
4	*2480.00	87.2 AV			2.43 H	274	53.8	33.4
5	2483.50	56.5 PK	74.0	-17.5	1.96 H	183	23.1	33.4
6	2483.50	46.1 AV	54.0	-7.9	1.96 H	183	12.7	33.4
7	4874.00	61.0 PK	74.0	-13.0	2.14 H	299	57.4	3.6
8	4874.00	48.1 AV	54.0	-5.9	2.14 H	299	44.5	3.6
9	4960.00	45.0 PK	74.0	-29.0	1.86 H	264	41.3	3.7
10	4960.00	32.8 AV	54.0	-21.2	1.86 H	264	29.1	3.7
11	*5580.00	119.4 PK			2.45 H	56	79.3	40.1
12	*5580.00	109.3 AV			2.45 H	56	69.2	40.1
13	11160.00	63.0 PK	74.0	-11.0	1.47 H	72	44.3	18.7
14	11160.00	48.8 AV	54.0	-5.2	1.47 H	72	30.1	18.7

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 6 + CH 116 + CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*2437.00	115.6 PK			1.86 V	167	82.4	33.2
2	*2437.00	105.4 AV			1.86 V	167	72.2	33.2
3	*2480.00	89.2 PK			1.93 V	268	55.8	33.4
4	*2480.00	85.4 AV			1.93 V	268	52.0	33.4
5	2483.50	55.7 PK	74.0	-18.3	1.63 V	324	22.3	33.4
6	2483.50	45.8 AV	54.0	-8.2	1.63 V	324	12.4	33.4
7	4874.00	59.9 PK	74.0	-14.1	2.49 V	354	56.3	3.6
8	4874.00	45.8 AV	54.0	-8.2	2.49 V	354	42.2	3.6
9	4960.00	44.3 PK	74.0	-29.7	2.06 V	188	40.6	3.7
10	4960.00	31.6 AV	54.0	-22.4	2.06 V	188	27.9	3.7
11	*5580.00	115.5 PK			2.63 V	147	75.4	40.1
12	*5580.00	104.7 AV			2.63 V	147	64.6	40.1
13	11160.00	61.5 PK	74.0	-12.5	2.97 V	148	42.8	18.7
14	11160.00	48.5 AV	54.0	-5.5	2.97 V	148	29.8	18.7

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.

ML-2452-PTA4M4-036 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11a + Zigbee

CHANNEL	CH 6 + CH 116 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	55.7 PK	74.0	-18.3	2.03 H	139	22.8	32.9
2	2390.00	45.2 AV	54.0	-8.8	2.03 H	139	12.3	32.9
3	*2405.00	89.4 PK			2.61 H	49	56.4	33.0
4	*2405.00	86.5 AV			2.61 H	49	53.5	33.0
5	*2437.00	118.1 PK			2.26 H	81	84.9	33.2
6	*2437.00	107.2 AV			2.26 H	81	74.0	33.2
7	4810.00	44.6 PK	74.0	-29.4	2.17 H	269	41.0	3.6
8	4810.00	31.7 AV	54.0	-22.3	2.17 H	269	28.1	3.6
9	4874.00	50.2 PK	74.0	-23.8	1.79 H	166	46.6	3.6
10	4874.00	37.2 AV	54.0	-16.8	1.79 H	166	33.6	3.6
11	*5580.00	119.4 PK			2.08 H	119	79.3	40.1
12	*5580.00	109.1 AV			2.08 H	119	69.0	40.1
13	11160.00	63.6 PK	74.0	-10.4	2.83 H	194	44.9	18.7
14	11160.00	49.9 AV	54.0	-4.1	2.83 H	194	31.2	18.7

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 6 + CH 116 + CH 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2390.00	54.4 PK	74.0	-19.6	1.73 V	268	21.5	32.9
2	2390.00	44.7 AV	54.0	-9.3	1.73 V	268	11.8	32.9
3	*2405.00	87.3 PK			2.14 V	149	54.3	33.0
4	*2405.00	84.6 AV			2.14 V	149	51.6	33.0
5	*2437.00	115.4 PK			2.47 V	315	82.2	33.2
6	*2437.00	105.0 AV			2.47 V	315	71.8	33.2
7	4810.00	43.9 PK	74.0	-30.1	1.86 V	193	40.3	3.6
8	4810.00	29.9 AV	54.0	-24.1	1.86 V	193	26.3	3.6
9	4874.00	48.7 PK	74.0	-25.3	2.04 V	316	45.1	3.6
10	4874.00	36.7 AV	54.0	-17.3	2.04 V	316	33.1	3.6
11	*5580.00	115.6 PK			2.43 V	187	75.5	40.1
12	*5580.00	104.8 AV			2.43 V	187	64.7	40.1
13	11160.00	62.1 PK	74.0	-11.9	2.97 V	306	43.4	18.7
14	11160.00	49.0 AV	54.0	-5.0	2.97 V	306	30.3	18.7

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.

Below 1GHz data

ML-2452-APA2-01 Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 52 + CH 39	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	57.12	28.6 QP	40.0	-11.4	2.00 H	189	43.2	-14.6
2	90.17	28.2 QP	43.5	-15.3	2.00 H	83	47.8	-19.6
3	125.17	31.6 QP	43.5	-11.9	1.51 H	215	47.4	-15.8
4	218.50	32.6 QP	46.0	-13.4	1.51 H	270	48.7	-16.1
5	323.49	33.7 QP	46.0	-12.3	1.00 H	160	45.9	-12.2
6	379.87	31.9 QP	46.0	-14.1	1.00 H	226	43.4	-11.5

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	35.73	36.7 QP	40.0	-3.3	1.50 V	144	52.7	-16.0
2	62.95	36.9 QP	40.0	-3.1	1.50 V	50	52.1	-15.2
3	125.17	31.7 QP	43.5	-11.8	1.02 V	283	47.5	-15.8
4	204.89	28.0 QP	43.5	-15.5	1.02 V	13	44.8	-16.8
5	307.93	33.0 QP	46.0	-13.0	1.50 V	112	45.6	-12.6
6	426.53	29.7 QP	46.0	-16.3	1.02 V	213	40.3	-10.6

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

CHANNEL	CH 6 + CH 52 + CH 39	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	61.01	28.4 QP	40.0	-11.6	1.49 H	17	43.4	-15.0
2	113.50	30.9 QP	43.5	-12.6	1.49 H	65	47.7	-16.8
3	189.33	28.8 QP	43.5	-14.7	1.49 H	142	45.0	-16.2
4	280.71	27.1 QP	46.0	-18.9	1.01 H	103	40.2	-13.1
5	354.60	28.8 QP	46.0	-17.2	1.01 H	112	40.8	-12.0
6	490.70	24.7 QP	46.0	-21.3	1.49 H	105	34.4	-9.7

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	35.73	34.6 QP	40.0	-5.4	1.00 V	208	50.6	-16.0
2	97.95	34.7 QP	43.5	-8.8	1.00 V	40	53.5	-18.8
3	125.17	32.9 QP	43.5	-10.6	1.00 V	197	48.7	-15.8
4	171.83	30.3 QP	43.5	-13.2	1.00 V	114	44.7	-14.4
5	453.75	29.2 QP	46.0	-16.8	1.00 V	161	39.3	-10.1
6	543.19	23.1 QP	46.0	-22.9	1.00 V	90	32.0	-8.9

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.
4. Margin value = Emission Level – Limit value

ML-2452-APA2-01 Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 52 + CH 11	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	70.73	29.2 QP	40.0	-10.8	1.51 H	285	45.6	-16.4
2	109.62	34.3 QP	43.5	-9.2	1.51 H	66	51.7	-17.4
3	154.33	32.3 QP	43.5	-11.2	1.00 H	95	46.2	-13.9
4	206.83	34.5 QP	43.5	-9.0	1.00 H	264	51.3	-16.8
5	267.10	35.1 QP	46.0	-10.9	1.00 H	158	48.9	-13.8
6	379.87	31.9 QP	46.0	-14.1	1.00 H	226	43.4	-11.5

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	55.18	37.9 QP	40.0	-2.1	1.50 V	34	52.4	-14.5
2	111.56	32.3 QP	43.5	-11.2	1.02 V	276	49.5	-17.2
3	140.72	28.3 QP	43.5	-15.2	1.02 V	95	42.7	-14.4
4	208.77	30.2 QP	43.5	-13.3	1.02 V	23	46.8	-16.6
5	342.93	31.3 QP	46.0	-14.7	1.02 V	196	43.4	-12.1
6	397.37	31.1 QP	46.0	-14.9	1.50 V	13	42.4	-11.3

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

CHANNEL	CH 6 + CH 52 + CH 11	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	61.01	28.5 QP	40.0	-11.5	1.00 H	73	43.5	-15.0
2	105.73	30.8 QP	43.5	-12.7	1.50 H	244	48.6	-17.8
3	189.33	27.6 QP	43.5	-15.9	1.50 H	246	43.8	-16.2
4	311.82	27.6 QP	46.0	-18.4	1.00 H	44	40.1	-12.5
5	403.20	30.9 QP	46.0	-15.1	1.00 H	107	42.1	-11.2
6	477.09	27.6 QP	46.0	-18.4	1.50 H	117	37.4	-9.8

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	43.51	33.8 QP	40.0	-6.2	1.00 V	15	48.5	-14.7
2	92.12	35.6 QP	43.5	-7.9	1.00 V	83	55.1	-19.5
3	152.39	32.0 QP	43.5	-11.5	1.00 V	265	46.0	-14.0
4	206.83	28.7 QP	43.5	-14.8	1.00 V	22	45.5	-16.8
5	374.04	24.7 QP	46.0	-21.3	1.00 V	105	36.3	-11.6
6	937.88	30.3 QP	46.0	-15.7	1.00 V	36	32.7	-2.4

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.
4. Margin value = Emission Level – Limit value

ML-2452-APA2-01 Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 52 + CH 39	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	68.79	27.8 QP	40.0	-12.2	1.49 H	139	43.9	-16.1
2	109.62	34.0 QP	43.5	-9.5	1.49 H	248	51.4	-17.4
3	158.22	30.5 QP	43.5	-13.0	1.49 H	81	44.3	-13.8
4	272.94	35.5 QP	46.0	-10.5	1.49 H	323	48.9	-13.4
5	467.36	28.1 QP	46.0	-17.9	1.49 H	119	38.0	-9.9
6	687.07	25.0 QP	46.0	-21.0	1.00 H	336	31.3	-6.3

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	55.18	38.0 QP	40.0	-2.0	1.00 V	15	52.5	-14.5
2	152.39	30.1 QP	43.5	-13.4	1.00 V	302	44.1	-14.0
3	249.60	29.8 QP	46.0	-16.2	1.00 V	342	44.4	-14.6
4	307.93	32.3 QP	46.0	-13.7	1.50 V	129	44.9	-12.6
5	412.92	28.7 QP	46.0	-17.3	1.00 V	170	39.8	-11.1
6	453.75	29.7 QP	46.0	-16.3	1.00 V	128	39.8	-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.
4. Margin value = Emission Level – Limit value

CHANNEL	CH 6 + CH 52 + CH 39	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	61.01	26.6 QP	40.0	-13.4	1.00 H	8	41.6	-15.0
2	115.45	29.8 QP	43.5	-13.7	1.50 H	223	46.4	-16.6
3	169.89	26.8 QP	43.5	-16.7	1.50 H	306	41.0	-14.2
4	270.99	24.9 QP	46.0	-21.1	1.00 H	108	38.4	-13.5
5	444.03	26.1 QP	46.0	-19.9	1.50 H	104	36.4	-10.3
6	564.58	23.1 QP	46.0	-22.9	1.50 H	5	31.5	-8.4

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	59.06	36.9 QP	40.0	-3.1	1.00 V	4	51.6	-14.7
2	105.73	31.9 QP	43.5	-11.6	1.00 V	49	49.7	-17.8
3	201.00	27.3 QP	43.5	-16.2	1.00 V	16	44.0	-16.7
4	368.21	22.4 QP	46.0	-23.6	1.00 V	160	34.2	-11.8
5	479.03	25.0 QP	46.0	-21.0	1.00 V	179	34.8	-9.8
6	762.90	26.0 QP	46.0	-20.0	1.00 V	344	30.7	-4.7

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

ML-2452-APA2-01 Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 52 + CH 11	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	45.45	24.3 QP	40.0	-15.7	1.49 H	55	39.0	-14.7
2	152.39	31.9 QP	43.5	-11.6	1.00 H	84	45.9	-14.0
3	249.60	31.2 QP	46.0	-14.8	1.00 H	59	45.8	-14.6
4	327.38	34.1 QP	46.0	-11.9	1.00 H	328	46.2	-12.1
5	416.81	26.6 QP	46.0	-19.4	1.00 H	131	37.6	-11.0
6	687.07	25.0 QP	46.0	-21.0	1.00 H	336	31.3	-6.3

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	37.68	37.5 QP	40.0	-2.5	1.00 V	196	53.0	-15.5
2	125.17	31.3 QP	43.5	-12.2	1.00 V	338	47.1	-15.8
3	214.61	29.4 QP	43.5	-14.1	1.00 V	36	45.6	-16.2
4	346.82	29.5 QP	46.0	-16.5	1.50 V	236	41.7	-12.2
5	426.53	28.3 QP	46.0	-17.7	1.50 V	43	38.9	-10.6
6	480.97	30.0 QP	46.0	-16.0	1.00 V	128	39.8	-9.8

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

CHANNEL	CH 6 + CH 52 + CH 11	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	57.12	25.9 QP	40.0	-14.1	1.50 H	48	40.5	-14.6
2	105.73	31.0 QP	43.5	-12.5	1.50 H	230	48.8	-17.8
3	152.39	30.2 QP	43.5	-13.3	1.50 H	117	44.2	-14.0
4	296.27	25.4 QP	46.0	-20.6	1.01 H	113	38.2	-12.8
5	356.54	29.5 QP	46.0	-16.5	1.01 H	106	41.5	-12.0
6	467.36	28.7 QP	46.0	-17.3	1.50 H	117	38.6	-9.9

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	43.51	34.4 QP	40.0	-5.6	1.00 V	43	49.1	-14.7
2	90.17	34.5 QP	43.5	-9.0	1.00 V	127	54.1	-19.6
3	162.11	32.1 QP	43.5	-11.4	1.00 V	294	46.0	-13.9
4	208.77	28.9 QP	43.5	-14.6	1.00 V	29	45.5	-16.6
5	389.59	26.1 QP	46.0	-19.9	1.50 V	279	37.5	-11.4
6	564.58	24.3 QP	46.0	-21.7	1.00 V	112	32.7	-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.
4. Margin value = Emission Level – Limit value

ML-2452-PNA7-01R Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	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	92.12	27.4 QP	43.5	-16.1	2.00 H	224	46.9	-19.5
2	146.56	31.0 QP	43.5	-12.5	1.01 H	215	45.1	-14.1
3	265.16	34.6 QP	46.0	-11.4	1.01 H	332	48.5	-13.9
4	333.21	33.8 QP	46.0	-12.2	1.01 H	323	45.8	-12.0
5	562.64	24.9 QP	46.0	-21.1	1.50 H	103	33.3	-8.4
6	589.86	24.0 QP	46.0	-22.0	1.50 H	226	31.7	-7.7

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	45.45	36.4 QP	40.0	-3.6	1.00 V	14	51.1	-14.7
2	125.17	30.6 QP	43.5	-12.9	1.00 V	342	46.4	-15.8
3	212.66	30.5 QP	43.5	-13.0	1.00 V	28	46.8	-16.3
4	265.16	31.7 QP	46.0	-14.3	1.00 V	59	45.6	-13.9
5	463.48	28.5 QP	46.0	-17.5	1.00 V	122	38.5	-10.0
6	558.75	24.3 QP	46.0	-21.7	1.49 V	163	32.8	-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

CHANNEL	CH 6 + CH 144 + CH 39	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	61.01	27.5 QP	40.0	-12.5	1.99 H	10	42.5	-15.0
2	97.95	29.7 QP	43.5	-13.8	1.99 H	252	48.5	-18.8
3	212.66	27.0 QP	43.5	-16.5	1.00 H	232	43.3	-16.3
4	395.43	30.7 QP	46.0	-15.3	1.00 H	106	42.0	-11.3
5	574.30	24.6 QP	46.0	-21.4	1.50 H	9	32.7	-8.1
6	939.83	30.5 QP	46.0	-15.5	1.00 H	202	32.9	-2.4

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	43.51	34.4 QP	40.0	-5.6	1.00 V	15	49.1	-14.7
2	125.17	31.1 QP	43.5	-12.4	1.00 V	173	46.9	-15.8
3	181.55	29.3 QP	43.5	-14.2	1.00 V	53	44.7	-15.4
4	294.32	26.0 QP	46.0	-20.0	1.50 V	71	38.9	-12.9
5	490.70	28.9 QP	46.0	-17.1	1.00 V	177	38.6	-9.7
6	939.83	31.4 QP	46.0	-14.6	1.50 V	22	33.8	-2.4

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.
4. Margin value = Emission Level – Limit value

ML-2452-PNA7-01R Ant. + ML-2452-PNA7-01R Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	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	57.12	27.7 QP	40.0	-12.3	2.00 H	59	42.3	-14.6
2	109.62	32.3 QP	43.5	-11.2	1.50 H	14	49.7	-17.4
3	197.11	32.6 QP	43.5	-10.9	1.01 H	244	49.2	-16.6
4	284.60	36.1 QP	46.0	-9.9	1.01 H	313	49.1	-13.0
5	391.54	30.5 QP	46.0	-15.5	1.01 H	115	41.9	-11.4
6	463.48	28.5 QP	46.0	-17.5	2.00 H	149	38.5	-10.0

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	33.79	37.3 QP	40.0	-2.7	1.00 V	44	53.3	-16.0
2	105.73	30.3 QP	43.5	-13.2	1.00 V	327	48.1	-17.8
3	167.94	27.9 QP	43.5	-15.6	1.00 V	108	42.0	-14.1
4	307.93	33.6 QP	46.0	-12.4	1.49 V	230	46.2	-12.6
5	420.70	29.3 QP	46.0	-16.7	1.00 V	116	40.2	-10.9
6	482.92	25.9 QP	46.0	-20.1	1.00 V	148	35.7	-9.8

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

CHANNEL	CH 6 + CH 144 + CH 11	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	61.01	26.8 QP	40.0	-13.2	1.01 H	15	41.8	-15.0
2	115.45	30.3 QP	43.5	-13.2	1.50 H	249	46.9	-16.6
3	212.66	27.9 QP	43.5	-15.6	1.01 H	226	44.2	-16.3
4	352.65	29.8 QP	46.0	-16.2	1.01 H	203	41.8	-12.0
5	473.20	28.0 QP	46.0	-18.0	1.50 H	122	37.9	-9.9
6	566.52	24.4 QP	46.0	-21.6	1.50 H	130	32.8	-8.4

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	53.23	35.7 QP	40.0	-4.3	1.49 V	297	50.0	-14.3
2	88.23	34.6 QP	43.5	-8.9	1.00 V	93	54.4	-19.8
3	125.17	31.2 QP	43.5	-12.3	1.49 V	193	47.0	-15.8
4	208.77	29.2 QP	43.5	-14.3	1.00 V	39	45.8	-16.6
5	379.87	27.3 QP	46.0	-18.7	1.49 V	290	38.8	-11.5
6	445.98	32.6 QP	46.0	-13.4	1.00 V	196	42.9	-10.3

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

ML-2452-PNA7-01R Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + BT LE

CHANNEL	CH 6 + CH 144 + CH 39	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	66.84	27.8 QP	40.0	-12.2	1.50 H	155	43.7	-15.9
2	109.62	33.1 QP	43.5	-10.4	1.50 H	250	50.5	-17.4
3	212.66	35.2 QP	43.5	-8.3	1.00 H	239	51.5	-16.3
4	265.16	35.1 QP	46.0	-10.9	1.00 H	163	49.0	-13.9
5	410.98	27.6 QP	46.0	-18.4	1.00 H	129	38.7	-11.1
6	562.64	24.9 QP	46.0	-21.1	1.50 H	298	33.3	-8.4

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	33.79	36.8 QP	40.0	-3.2	1.00 V	146	52.8	-16.0
2	107.67	31.3 QP	43.5	-12.2	1.00 V	294	48.9	-17.6
3	212.66	31.2 QP	43.5	-12.3	1.00 V	44	47.5	-16.3
4	294.32	31.9 QP	46.0	-14.1	1.49 V	143	44.8	-12.9
5	399.31	30.6 QP	46.0	-15.4	1.49 V	2	41.9	-11.3
6	479.03	29.1 QP	46.0	-16.9	1.49 V	10	38.9	-9.8

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

CHANNEL	CH 6 + CH 144 + CH 39	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	61.01	26.4 QP	40.0	-13.6	1.50 H	14	41.4	-15.0
2	115.45	30.7 QP	43.5	-12.8	1.50 H	45	47.3	-16.6
3	154.33	30.5 QP	43.5	-13.0	1.50 H	100	44.4	-13.9
4	210.72	26.6 QP	43.5	-16.9	1.01 H	257	43.1	-16.5
5	467.36	28.5 QP	46.0	-17.5	1.50 H	130	38.4	-9.9
6	566.52	24.9 QP	46.0	-21.1	1.50 H	114	33.3	-8.4

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	43.51	34.2 QP	40.0	-5.8	1.00 V	151	48.9	-14.7
2	125.17	32.5 QP	43.5	-11.0	1.00 V	197	48.3	-15.8
3	181.55	30.4 QP	43.5	-13.1	1.00 V	43	45.8	-15.4
4	302.10	24.5 QP	46.0	-21.5	1.00 V	74	37.2	-12.7
5	444.03	30.5 QP	46.0	-15.5	1.00 V	175	40.8	-10.3
6	558.75	24.0 QP	46.0	-22.0	1.00 V	280	32.5	-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

ML-2452-PNA7-01R Ant. + ML-2499-HPA8-01 Ant.

802.11n (HT20) + 802.11a + Zigbee

CHANNEL	CH 6 + CH 144 + CH 11	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	57.12	27.2 QP	40.0	-12.8	1.50 H	204	41.8	-14.6
2	125.17	30.0 QP	43.5	-13.5	1.50 H	225	45.8	-15.8
3	197.11	33.3 QP	43.5	-10.2	1.50 H	276	49.9	-16.6
4	286.55	34.7 QP	46.0	-11.3	1.00 H	1	47.7	-13.0
5	389.59	29.6 QP	46.0	-16.4	1.00 H	131	41.0	-11.4
6	477.09	27.1 QP	46.0	-18.9	1.50 H	140	36.9	-9.8

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	45.45	35.1 QP	40.0	-4.9	1.00 V	288	49.8	-14.7
2	84.34	30.2 QP	40.0	-9.8	1.49 V	247	49.6	-19.4
3	154.33	27.2 QP	43.5	-16.3	1.00 V	280	41.1	-13.9
4	265.16	32.3 QP	46.0	-13.7	1.00 V	67	46.2	-13.9
5	399.31	30.6 QP	46.0	-15.4	1.49 V	2	41.9	-11.3
6	479.03	29.1 QP	46.0	-16.9	1.49 V	10	38.9	-9.8

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

CHANNEL	CH 6 + CH 144 + CH 11	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	57.12	26.4 QP	40.0	-13.6	1.50 H	85	41.0	-14.6
2	97.95	27.6 QP	43.5	-15.9	1.50 H	92	46.4	-18.8
3	154.33	29.1 QP	43.5	-14.4	1.00 H	83	43.0	-13.9
4	210.72	28.6 QP	43.5	-14.9	1.00 H	231	45.1	-16.5
5	339.04	28.9 QP	46.0	-17.1	1.00 H	251	41.0	-12.1
6	939.83	31.1 QP	46.0	-14.9	1.00 H	353	33.5	-2.4

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	53.23	35.0 QP	40.0	-5.0	1.00 V	287	49.3	-14.3
2	125.17	32.3 QP	43.5	-11.2	1.00 V	190	48.1	-15.8
3	181.55	30.3 QP	43.5	-13.2	1.00 V	77	45.7	-15.4
4	379.87	25.5 QP	46.0	-20.5	1.00 V	297	37.0	-11.5
5	469.31	30.3 QP	46.0	-15.7	1.00 V	175	40.2	-9.9
6	650.13	28.4 QP	46.0	-17.6	1.00 V	302	35.2	-6.8

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

ML-2452-PTA4M4-036 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11a + BT LE

CHANNEL	CH 6 + CH 116 + CH 39	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	57.12	26.6 QP	40.0	-13.4	1.50 H	109	41.2	-14.6
2	125.17	32.3 QP	43.5	-11.2	1.50 H	202	48.1	-15.8
3	237.94	30.2 QP	46.0	-15.8	1.00 H	218	45.4	-15.2
4	381.82	31.4 QP	46.0	-14.6	1.00 H	116	43.0	-11.6
5	500.42	25.6 QP	46.0	-20.4	1.50 H	126	35.1	-9.5
6	648.18	24.8 QP	46.0	-21.2	1.50 H	307	31.6	-6.8

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	47.40	36.7 QP	40.0	-3.3	1.00 V	9	51.2	-14.5
2	125.17	30.4 QP	43.5	-13.1	1.00 V	305	46.2	-15.8
3	185.44	28.3 QP	43.5	-15.2	1.00 V	158	44.2	-15.9
4	265.16	32.4 QP	46.0	-13.6	1.00 V	69	46.3	-13.9
5	418.76	28.0 QP	46.0	-18.0	1.00 V	132	38.9	-10.9
6	500.42	25.0 QP	46.0	-21.0	1.00 V	79	34.5	-9.5

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

CHANNEL	CH 6 + CH 116 + CH 39	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	57.12	25.9 QP	40.0	-14.1	1.50 H	207	40.5	-14.6
2	144.61	29.7 QP	43.5	-13.8	1.00 H	123	43.8	-14.1
3	191.28	28.5 QP	43.5	-15.0	1.50 H	117	44.9	-16.4
4	280.71	27.5 QP	46.0	-18.5	1.00 H	116	40.6	-13.1
5	453.75	28.0 QP	46.0	-18.0	1.50 H	102	38.1	-10.1
6	480.97	27.2 QP	46.0	-18.8	1.50 H	91	37.0	-9.8

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	51.29	34.5 QP	40.0	-5.5	1.00 V	327	48.9	-14.4
2	88.23	34.7 QP	43.5	-8.8	1.00 V	140	54.5	-19.8
3	179.61	29.0 QP	43.5	-14.5	1.00 V	45	44.1	-15.1
4	206.83	27.9 QP	43.5	-15.6	1.00 V	43	44.7	-16.8
5	453.75	28.8 QP	46.0	-17.2	1.00 V	150	38.9	-10.1
6	937.88	29.3 QP	46.0	-16.7	1.00 V	7	31.7	-2.4

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.
4. Margin value = Emission Level – Limit value

ML-2452-PTA4M4-036 Ant. + ML-2452-PNA7-01R Ant.

802.11g + 802.11a + Zigbee

CHANNEL	CH 6 + CH 116 + CH 11	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	66.84	25.0 QP	40.0	-15.0	1.00 H	114	40.9	-15.9
2	107.67	32.9 QP	43.5	-10.6	1.50 H	221	50.5	-17.6
3	175.72	30.0 QP	43.5	-13.5	1.50 H	279	44.6	-14.6
4	222.38	31.8 QP	46.0	-14.2	1.50 H	94	48.0	-16.2
5	333.21	33.6 QP	46.0	-12.4	1.00 H	319	45.6	-12.0
6	539.30	23.2 QP	46.0	-22.8	1.50 H	316	32.3	-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	59.06	38.0 QP	40.0	-2.0	1.00 V	56	52.7	-14.7
2	105.73	31.3 QP	43.5	-12.2	1.00 V	9	49.1	-17.8
3	185.44	28.3 QP	43.5	-15.2	1.00 V	158	44.2	-15.9
4	249.60	28.8 QP	46.0	-17.2	1.00 V	139	43.4	-14.6
5	313.77	32.3 QP	46.0	-13.7	1.50 V	105	44.8	-12.5
6	463.48	28.7 QP	46.0	-17.3	1.00 V	116	38.7	-10.0

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

CHANNEL	CH 6 + CH 116 + CH 11	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	33.79	22.4 QP	40.0	-17.6	1.00 H	119	38.4	-16.0
2	99.89	27.5 QP	43.5	-16.0	1.00 H	211	46.1	-18.6
3	152.39	29.8 QP	43.5	-13.7	1.00 H	132	43.8	-14.0
4	208.77	28.4 QP	43.5	-15.1	1.00 H	247	45.0	-16.6
5	280.71	26.9 QP	46.0	-19.1	1.00 H	109	40.0	-13.1
6	453.75	27.0 QP	46.0	-19.0	1.00 H	199	37.1	-10.1

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	51.29	34.4 QP	40.0	-5.6	1.00 V	12	48.8	-14.4
2	181.55	29.6 QP	43.5	-13.9	1.00 V	84	45.0	-15.4
3	206.83	28.0 QP	43.5	-15.5	1.00 V	24	44.8	-16.8
4	375.98	24.3 QP	46.0	-21.7	1.00 V	176	35.9	-11.6
5	453.75	30.3 QP	46.0	-15.7	1.00 V	177	40.4	-10.1
6	939.83	29.6 QP	46.0	-16.4	1.00 V	92	32.0	-2.4

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.
4. Margin value = Emission Level – Limit value

ML-2452-PTA4M4-036 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11a + BT LE

CHANNEL	CH 6 + CH 116 + CH 39	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	33.79	24.4 QP	40.0	-15.6	1.49 H	85	40.4	-16.0
2	125.17	30.8 QP	43.5	-12.7	1.49 H	213	46.6	-15.8
3	197.11	32.8 QP	43.5	-10.7	1.49 H	258	49.4	-16.6
4	294.32	34.1 QP	46.0	-11.9	1.00 H	307	47.0	-12.9
5	374.04	30.8 QP	46.0	-15.2	1.00 H	220	42.4	-11.6
6	552.91	24.0 QP	46.0	-22.0	1.49 H	298	32.7	-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	68.79	33.8 QP	40.0	-6.2	1.00 V	15	49.9	-16.1
2	150.45	29.5 QP	43.5	-14.0	1.00 V	332	43.6	-14.1
3	263.21	32.4 QP	46.0	-13.6	1.00 V	61	46.4	-14.0
4	337.10	30.3 QP	46.0	-15.7	1.50 V	204	42.4	-12.1
5	414.87	28.8 QP	46.0	-17.2	1.00 V	147	39.8	-11.0
6	747.34	28.1 QP	46.0	-17.9	1.50 V	193	33.0	-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.
4. Margin value = Emission Level – Limit value

CHANNEL	CH 6 + CH 116 + CH 39	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	57.12	24.5 QP	40.0	-15.5	1.00 H	69	39.1	-14.6
2	99.89	26.1 QP	43.5	-17.4	1.00 H	201	44.7	-18.6
3	125.17	27.6 QP	43.5	-15.9	1.00 H	15	43.4	-15.8
4	181.55	24.6 QP	43.5	-18.9	1.00 H	142	40.0	-15.4
5	280.71	27.9 QP	46.0	-18.1	1.00 H	96	41.0	-13.1
6	410.98	29.0 QP	46.0	-17.0	1.00 H	106	40.1	-11.1

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	33.79	36.7 QP	40.0	-3.3	1.00 V	76	52.7	-16.0
2	88.23	34.8 QP	43.5	-8.7	1.00 V	114	54.6	-19.8
3	162.11	32.5 QP	43.5	-11.0	1.00 V	337	46.4	-13.9
4	208.77	28.5 QP	43.5	-15.0	1.00 V	36	45.1	-16.6
5	512.08	27.2 QP	46.0	-18.8	1.00 V	313	36.4	-9.2
6	593.74	27.6 QP	46.0	-18.4	1.00 V	315	35.3	-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.
4. Margin value = Emission Level – Limit value

ML-2452-PTA4M4-036 Ant. + ML-2499-HPA8-01 Ant.

802.11g + 802.11a + Zigbee

CHANNEL	CH 6 + CH 116 + CH 11	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	66.84	27.2 QP	40.0	-12.8	1.49 H	154	43.1	-15.9
2	125.17	30.8 QP	43.5	-12.7	1.49 H	213	46.6	-15.8
3	214.61	34.6 QP	43.5	-8.9	1.00 H	257	50.8	-16.2
4	354.60	33.6 QP	46.0	-12.4	1.00 H	226	45.6	-12.0
5	475.14	27.7 QP	46.0	-18.3	1.00 H	101	37.6	-9.9
6	578.19	23.9 QP	46.0	-22.1	1.00 H	282	31.9	-8.0

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	47.40	35.9 QP	40.0	-4.1	1.00 V	15	50.4	-14.5
2	115.45	31.2 QP	43.5	-12.3	1.00 V	289	47.8	-16.6
3	300.16	33.3 QP	46.0	-12.7	1.50 V	122	46.0	-12.7
4	465.42	30.6 QP	46.0	-15.4	1.00 V	126	40.6	-10.0
5	537.36	23.8 QP	46.0	-22.2	1.00 V	314	32.9	-9.1
6	640.41	23.5 QP	46.0	-22.5	1.00 V	134	30.3	-6.8

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

CHANNEL	CH 6 + CH 116 + CH 11	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	61.01	26.6 QP	40.0	-13.4	1.00 H	24	41.6	-15.0
2	115.45	29.0 QP	43.5	-14.5	1.00 H	6	45.6	-16.6
3	154.33	27.4 QP	43.5	-16.1	1.00 H	155	41.3	-13.9
4	191.28	27.8 QP	43.5	-15.7	1.00 H	105	44.2	-16.4
5	309.88	28.1 QP	46.0	-17.9	1.00 H	50	40.7	-12.6
6	385.70	32.3 QP	46.0	-13.7	1.00 H	97	43.8	-11.5

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	55.18	36.5 QP	40.0	-3.5	1.00 V	303	51.0	-14.5
2	88.23	34.4 QP	43.5	-9.1	1.00 V	117	54.2	-19.8
3	125.17	33.0 QP	43.5	-10.5	1.00 V	195	48.8	-15.8
4	206.83	28.7 QP	43.5	-14.8	1.00 V	22	45.5	-16.8
5	387.65	23.9 QP	46.0	-22.1	1.00 V	10	35.4	-11.5
6	564.58	23.6 QP	46.0	-22.4	1.00 V	107	32.0	-8.4

Remarks:

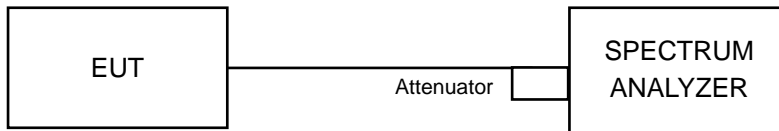
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

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

- Set the RBW = 100 kHz.
- Set the VBW \geq 300 kHz.
- Detector = average.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOB

- Set RBW = 100 kHz.
- Set VBW \geq 300 kHz.
- Detector = average.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- 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.

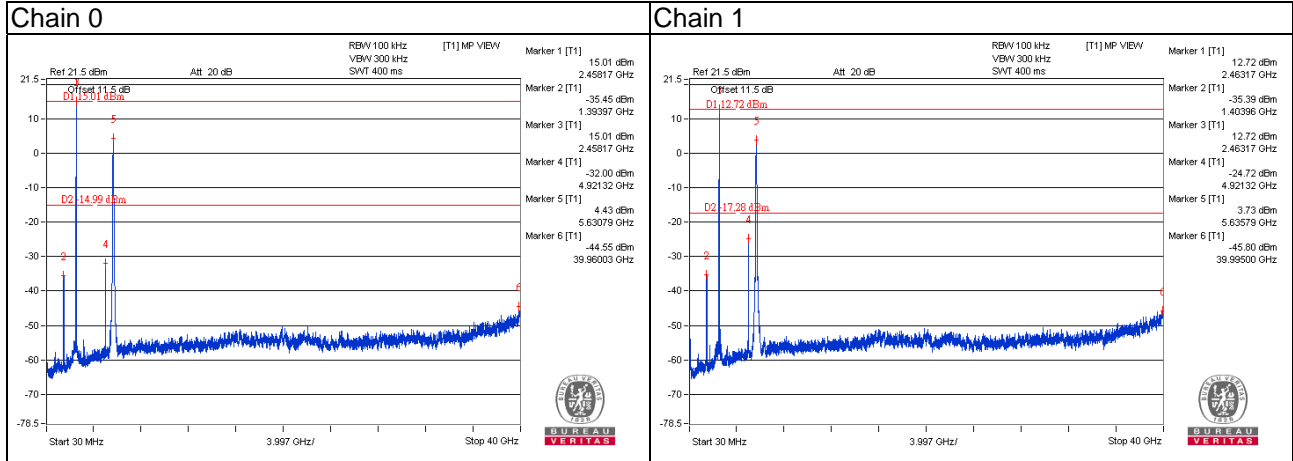
4.2.7 Test Results

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

ML-2452-APA2-01

802.11b + 802.11ac (VHT80)

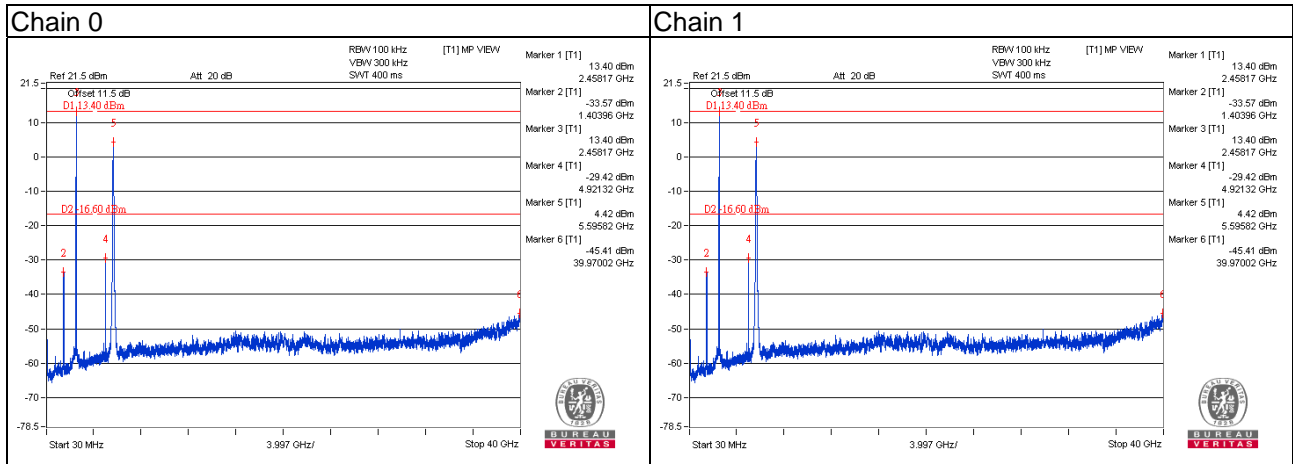
CH 11 + CH 122



ML-2452-APA2-02

802.11b + 802.11ac (VHT80)

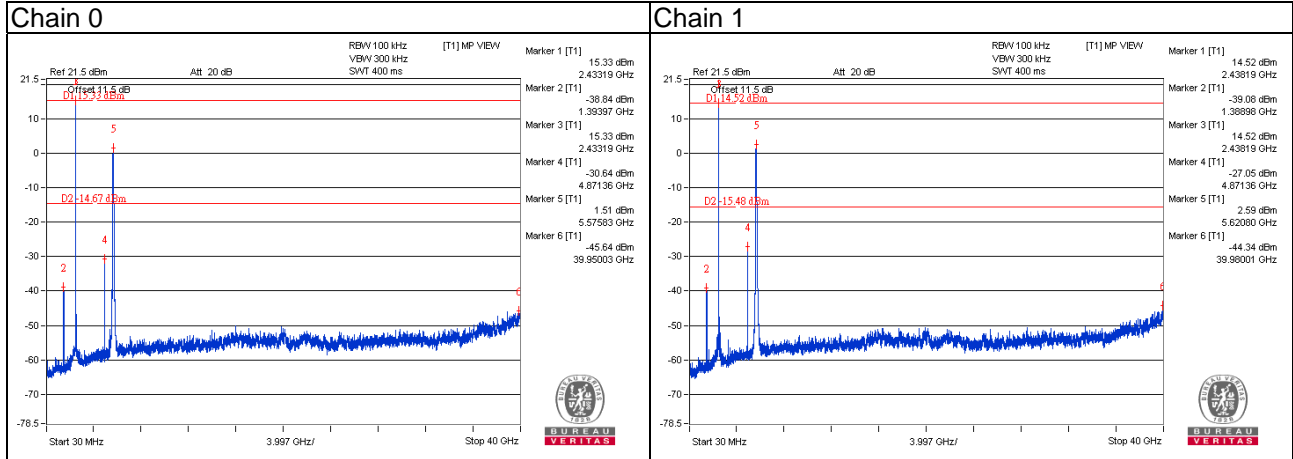
CH 11 + CH 122



ML-2452-HPAG4A6-01

802.11b + 802.11ac (VHT80)

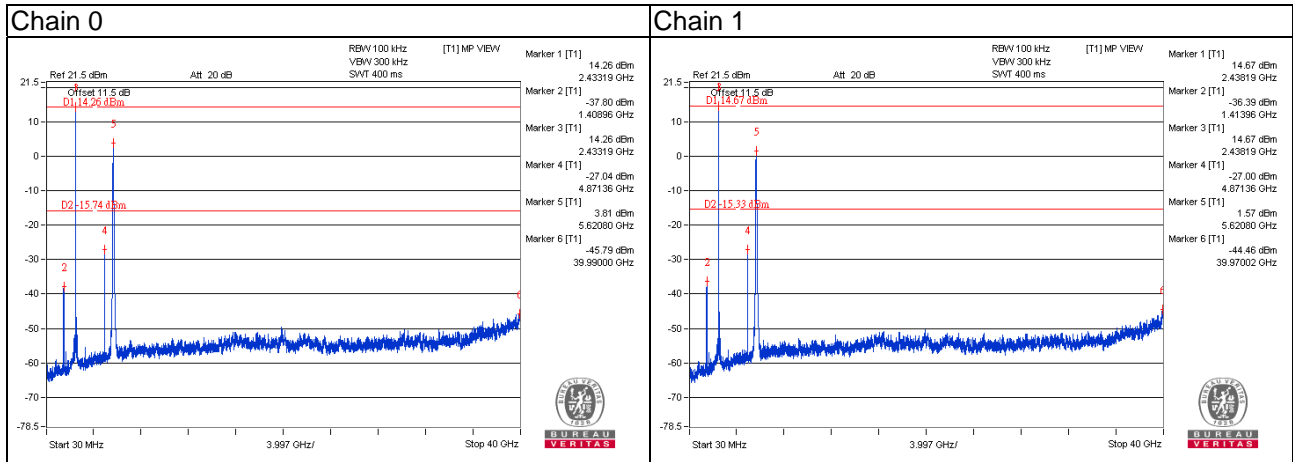
CH 6 + CH 122



ML-2452-HPA6M4-S36

802.11b + 802.11ac (VHT80)

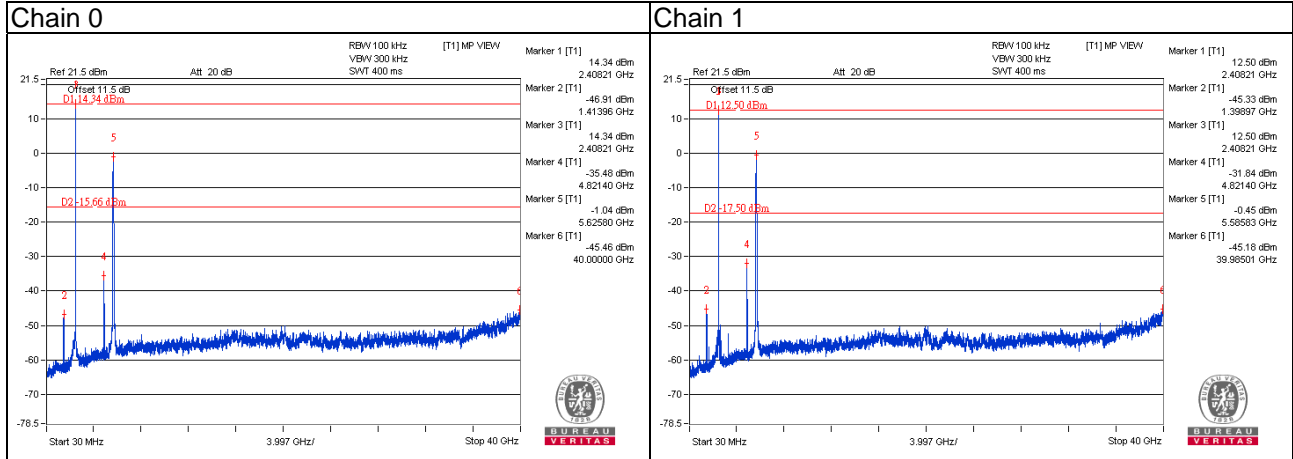
CH 6 + CH 122



ML-2452-PNL9M3-036

802.11b + 802.11ac (VHT80)

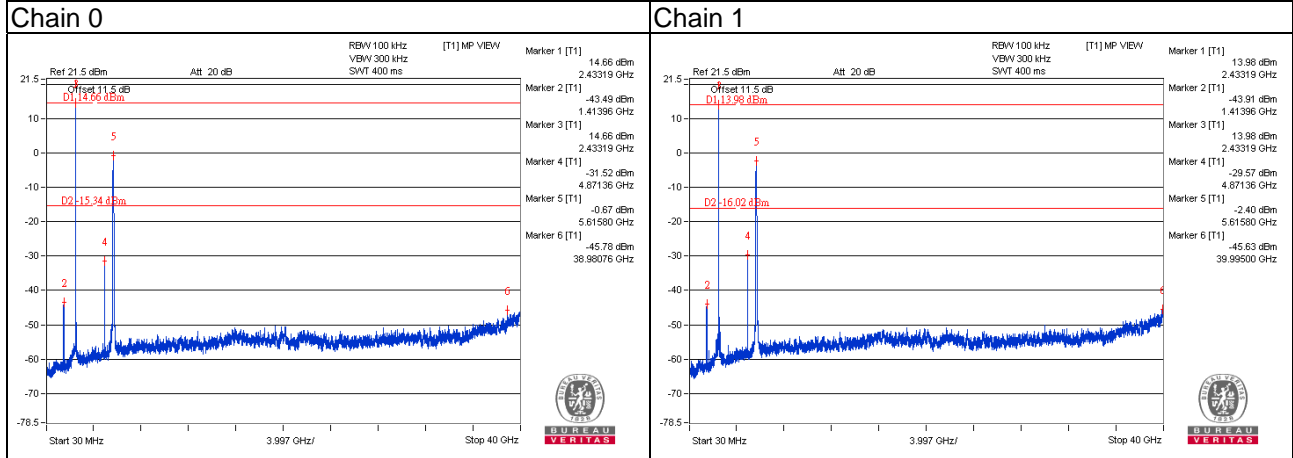
CH 1 + CH 122



ML-2452-PNA7-01R

802.11b + 802.11ac (VHT80)

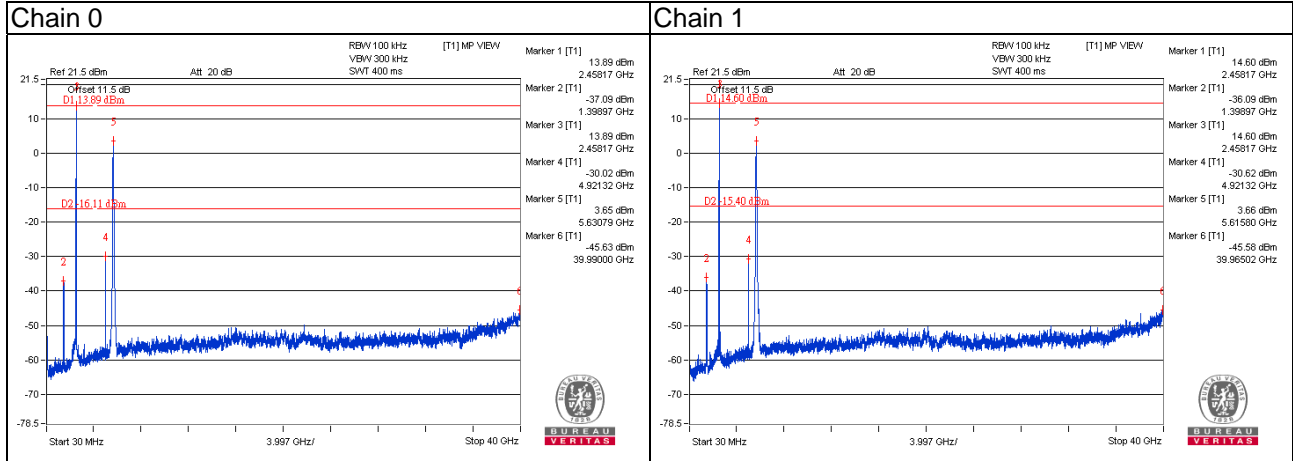
CH 6 + CH 122



ML-2452-PTA4M4-036

802.11b + 802.11ac (VHT80)

CH 11 + CH 122



5 Pictures of Test Arrangements

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

Appendix – Information on 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:

Linko EMC/RF Lab

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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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