FCC TEST REPORT

REPORT NO.:	RF130313E02G
MODEL NO.:	RT5390
FCC ID:	VQF-RT5390
RECEIVED:	May 27, 2014
TESTED:	June 17 to 18, 2014
ISSUED:	Aug. 11, 2014
APPLICANT:	MediaTek Inc.
ADDRESS:	No. 1, Dusing 1st Rd., Hsinchu Science Park, Hsinchu City 30078, Taiwan
ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS :	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130313E02G	Original release	Aug. 11, 2014

1. CERTIFICATION

PRODUCT:	802.11b/g/n 1T1R WLAN Mini Card
BRAND NAME:	MediaTek
MODEL NO.:	RT5390
TEST SAMPLE:	MASS-PRODUCTION
APPLICANT:	MediaTek Inc.
TESTED:	June 17 to 18, 2014
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)** ANSI C63.10-2009

The above equipment (Model: RT5390) 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 : _____ , **DATE:** *Aug. 11, 2014*
(Midoli Peng, Specialist)

APPROVED BY : _____ , **DATE:** *Aug. 11, 2014*
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -12.21dB at 0.47031MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.6dB at 2390.00MHz & 2483.64MHz & 2483.72MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is I-PEX not a standard connector.

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:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.86 dB
Radiated emissions (30MHz-1GHz)	5.43 dB
Radiated emissions (1GHz -6GHz)	3.72 dB
Radiated emissions (6GHz -18GHz)	4.00 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11b/g/n 1T1R WLAN Mini Card
MODEL NO.	RT5390
POWER SUPPLY	DC 3.3V±10% from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS,OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 150Mbps
OPERATING FREQUENCY	2.412 ~ 2.462GHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
MAXIMUM OUTPUT POWER	802.11b: 106.17mW 802.11g: 231.739mW 802.11n (HT20): 206.538mW 802.11n (HT40): 169.434mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF130313E02E design is as the following information:
   - **u** Upgraded standard version.
   - **u** The Transfer of Control including all of the equipment currently authorized to the Ralink is affected; and that MediaTek Inc. assumes responsibility for the continued compliance of equipment marketed under the Ralink Technology Corp. Grantee Code.
2. According to above conditions, all test items need to be performed. And all data was verified to meet the requirements.

3. The antennas provided to the EUT, please refer to the following table:

Set 1						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	JOYMAX	IWX-145XRSXX-999	3.7	200 mm	Dipole	I-PEX
Chain (1)	JOYMAX	IWX-145XRSXX-999	3.7	200 mm	Dipole	I-PEX
Set 2						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APP6P-700119	3.5	225 mm	PIFA	I-PEX
Chain (1)	ACON	APP6P-700119	3.5	225 mm	PIFA	I-PEX
Set 3						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WHA YU	C923-520020-A	0.82	205 mm	PIFA	I-PEX
Chain (1)	WHA YU	C923-520021-A	0.12	310 mm	PIFA	I-PEX
Set 4						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Ji-Haw	1415-017J0H2	2.11	130 mm	PIFA	I-PEX
Chain (1)	Ji-Haw	1415-017J0H2	2.11	130 mm	PIFA	I-PEX
Set 5						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	81XCAE15.G28	0.82	330 mm	PIFA	I-PEX
Chain (1)	WNC	81XCAE15.G28	0.82	330 mm	PIFA	I-PEX
Set 6						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	6036B0054202 (81.EDG15.G74)	0.13	420 mm	PIFA	I-PEX
Chain (1)	WNC	6036B0054102 (81.EDG15.G75)	-0.54	545 mm	PIFA	I-PEX
Set 7						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	DC33000L400	-2.12	344 mm	PIFA	I-PEX
Chain (1)	WNC	DC33000L400	-3.40	591 mm	PIFA	I-PEX

Set 8						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WHA YU GROUP	DQ652018600 (C680-520186-A)	2.83	415 mm	PIFA	I-PEX
Chain (1)	WHA YU GROUP	DQ652018600 (C680-520186-A)	1.35	475 mm	PIFA	I-PEX
Set 9						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	81.EEW15.018	1.65	700 mm	PIFA	I-PEX
Chain (1)	WNC	81.EEW15.018	1.57	700 mm	PIFA	I-PEX
Set 10						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	81XCAE15.G17	1.65	700 mm	PIFA	I-PEX
Chain (1)	WNC	81XCAE15.G17	1.65	700 mm	PIFA	I-PEX
Set 11						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	81XCAF15.G01	1.59	1050 mm	Dipole	I-PEX
Chain (1)	WNC	81XCAF15.G01	1.59	1050 mm	Dipole	I-PEX
Set 12						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WHA YU GROUP	DQ652024900	0.24	170 mm	PIFA	I-PEX
Chain (1)	WHA YU GROUP	DQ652024900	-1.35	170 mm	PIFA	I-PEX
Set 13						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Tyco	M5	2.27	350 mm	PIFA	I-PEX
Chain (1)	Tyco	M5	2.31	300 mm	PIFA	I-PEX

Set 14						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Acon	APP6P-700233	1.36	300 mm	PIFA	I-PEX
Chain (1)	Acon	APP6P-700233	1.43	350 mm	PIFA	I-PEX
Set 15						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WONDERFUL	1415-01DC0H2	2.9	235 mm	PIFA	I-PEX
Chain (1)	WONDERFUL	1415-01DC0H2	2.9	235 mm	PIFA	I-PEX
Set 16						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WHA YU GROUP	DQ652021600	-0.13	510 mm	PIFA	I-PEX
Chain (1)	WHA YU GROUP	DQ652021600	0.30	510 mm	PIFA	I-PEX
Set 17						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APP8P-700182	2.62	600mm	PIFA	I-PEX
Chain (1)	ACON	APP8P-700181	2.80	540mm	PIFA	I-PEX
Set 18						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	HPMH-B3035050G00011	0.20	600mm	PIFA	I-PEX
Chain (1)	WNC	HPMH-B3035050G00011	1.97	540 mm	PIFA	I-PEX
Set 19						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APP8P-700180	-0.96	519 mm	PIFA	I-PEX
Chain (1)	ACON	APP8P-700180	0.22	690 mm	PIFA	I-PEX

Set 20						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Amphenol	FL5202-11-001-C	-1.41	521 mm	PIFA	U.FL
Chain (1)	Amphenol	FL5202-11-001-C	-0.77	710 mm	PIFA	U.FL
Set 21						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Amphenol	IV5218-11-002-C	0.55	500 mm	PIFA	U.FL
Chain (1)	Amphenol	IV5218-11-001-C	0.31	821 mm	PIFA	U.FL
Set 22						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Yageo	6036B0088901	1.46	487 mm	PIFA	I-PEX
Chain (1)	Yageo	6036B0089001	0.95	811 mm	PIFA	I-PEX
Set 23						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	6036B0086802 (81.EHC15.G63)	-1.30	415 mm	PIFA	U.FL
Chain (1)	WNC	6036B0087102 (81.EHC15.G64)	-0.49	710 mm	PIFA	U.FL
Set 24						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Yageo	6036B0086801	-2.69	415 mm	PIFA	U.FL
Chain (1)	Yageo	6036B0087101	-1.09	710 mm	PIFA	U.FL
Set 25						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	6036B0087702 (81.EHC15.G73)	-0.58	688 mm	PIFA	U.FL
Chain (1)	WNC	6036B0087602 (81.EHC15.G74)	0.09	1018 mm	PIFA	U.FL

Set 26						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APM8P-700037	0.82	688 mm	PIFA	I-PEX
Chain (1)	ACON	APM8P-700038	0.75	1018 mm	PIFA	I-PEX
Set 27						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APM8P-700035	1.81	760mm	PIFA	I-PEX
Chain (1)	ACON	APM8P-700036	1.16	960mm	PIFA	I-PEX
Set 28						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	6036B0088203	1.21	760mm	PIFA	U.FL
Chain (1)	WNC	6036B0088303	-0.07	960mm	PIFA	U.FL
Set 29						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APP8P-700146	0.76	480 mm	PIFA	IPX
Chain (1)	ACON	APP8P-700147	-0.55	728 mm	PIFA	IPX
Set 30						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	HPMH-B2985050G00020	-1.73	480 mm	PIFA	I-PEX
Chain (1)	WNC	HPMH-B2985050G00021	-3.61	728 mm	PIFA	I-PEX
Set 31						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Foxconn	WDAN-HMRAN001-DH/79010T900-600-G	0.45	595mm	PIFA	I-PEX
Chain (1)	Foxconn	WDAN-HMRAN002-DH/79010T800-600-G	1.85	402mm	PIFA	I-PEX

Set 32						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APP8P-700225	1.7	595mm	PIFA	U.FL
Chain (1)	ACON	APP8P-700226	1.22	402 mm	PIFA	U.FL
Set 33						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Yageo	CAN43130WIFO04921/ 79010SQ00-011-G	0.23	425mm	PIFA	U.FL
Chain (1)	Yageo	CAN43130WIFO04922/ 79010SR00-011-G	1.53	740mm	PIFA	U.FL
Set 34						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Foxconn	WDAN-HMCH1401-DH/ 79010T000-600-G	-0.99	425mm	PIFA	I-PEX
Chain (1)	Foxconn	WDAN-HMCH1402-DH/ 79010SY00-600-G	-0.09	740mm	PIFA	I-PEX
Set 35						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WHAYU	C107-520757-A/79010 T100-12S-G	-0.18	495 mm	PIFA	I-PEX
Chain (1)	WHAYU	C107-520756-A/79010 SS00-12S-G	2.58	825 mm	PIFA	I-PEX
Set 36						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Foxconn	WDAN-HMCH1501-DH/ 79010SW00-600-G	-0.35	495mm	PIFA	I-PEX
Chain (1)	Foxconn	WDAN-HMCH1502-DH/ 79010SV00-600-G	0.38	825mm	PIFA	I-PEX
Set 37						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	SkyCross	cead00009	2.98	320mm	PIFA	I-PEX
Chain (1)	SkyCross	cead00010	2.98	320mm	PIFA	I-PEX

Set 38						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Mgear	C6214-520005PA	3.4	335 mm	PIFA	I-PEX
Chain (1)	Mgear	C6214-520005PA	3.4	335 mm	PIFA	I-PEX
Set 39						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	650677-001	2.76	530mm	PIFA	I-PEX
Chain (1)	N/A	N/A	N/A	N/A	N/A	N/A
Set 40						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Amphenol	IV5233-15-003-C	0.54	520 mm	PIFA	I-PEX
Chain (1)	Amphenol	IV5233-15-002-C	-0.53	790 mm	PIFA	I-PEX
Set 41						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	6036B0091201	-1.11	520 mm	PIFA	U.FL
Chain (1)	WNC	6036B0091401	-0.95	790 mm	PIFA	U.FL
Set 42						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Yageo	6036B0091202	0.8	520 mm	PIFA	U.FL
Chain (1)	Yageo	6036B0091402	0.25	790 mm	PIFA	U.FL
Set 43						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	JI-HAW	14-NL-7-1	3	113mm	PIFA	I-PEX
Chain (1)	JI-HAW	14-NL-7-1	3	113mm	PIFA	I-PEX
Set 44						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	JI-HAW	14-NK-7-1	3	113mm	PIFA	I-PEX
Chain (1)	JI-HAW	14-NK-7-1	3	113mm	PIFA	I-PEX

Set 45						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	JI-HAW	14-NE-7-1	3	113mm	PIFA	I-PEX
Chain (1)	JI-HAW	14-NE-7-1	3	113mm	PIFA	I-PEX
Set 46						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	25.90A85.001 (APP8P-700180)	-0.96	519mm	PIFA	I-PEX
Chain (1)	ACON	25.90A85.001 (APP8P-700180)	0.22	690mm	PIFA	I-PEX
Set 47						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	Amphenol	25.90A86.001 (FL5202-11-001-C)	-1.41	519mm	PIFA	I-PEX
Chain (1)	Amphenol	25.90A86.001 (FL5202-11-001-C)	-0.77	690mm	PIFA	I-PEX
Set 48						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	25.90A87.001 (APP8P-700182)	2.62	600mm	PIFA	I-PEX
Chain (1)	ACON	25.90A87.001 (APP8P-700181)	2.80	540mm	PIFA	I-PEX
Set 49						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	WNC	25.90A8K.001 (81.EHC15.G87)	0.20	600mm	PIFA	I-PEX
Chain (1)	WNC	25.90A8K.001 (81.EHC15.G87)	1.97	540mm	PIFA	I-PEX
Set 50						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	YAGEO	CAN43130WIAS04911	1.34	615.0 mm	PIFA	I-PEX
Chain (1)	YAGEO	CAN43130WIAS04912	0.88	960.0 mm	PIFA	I-PEX
Set 51						
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)		Antenna Type	Connector
Chain (0)	Wanshih	1415-020Y000	2.72		PIFA	I-PEX
Chain (1)	Wanshih	1415-020Y000	2.80		PIFA	I-PEX

Set 52					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WHA YU GROUP	C1335-520129-A	2.93	PIFA	I-PEX
Chain (1)	WHA YU GROUP	C1335-520130-A	2.89	PIFA	I-PEX
Set 53					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	APP8P-700362 (25.90ABC.001)	0.59	PIFA	I-PEX
Chain (1)	ACON	APP8P-700363 (25.90ABA.001)	1.44	PIFA	I-PEX
Set 54					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EL815.G44 (25.90A8S.001)	-0.29	PIFA	I-PEX
Chain (1)	WNC	81.EL815.G45 (25.90A8R.001)	-0.31	PIFA	I-PEX
Set 55					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	1415-023C000 (81.EL815.G50)	-1.57	PIFA	I-PEX
Chain (1)	WNC	1415-023C000 (81.EL815.G50)	-2.83	PIFA	I-PEX
Set 56					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	CAN4313HP0661LLB 1 (1415-023G000)	0.02	PIFA	I-PEX
Chain (1)	Yageo	CAN4313HP0661LLB 1 (1415-023G000)	0.88	PIFA	I-PEX
Set 57					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	APP8P-700360	0.01	PIFA	I-PEX
Chain (1)	ACON	APP8P-700361	1.94	PIFA	I-PEX

Set 58					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EL815.G42 (25.90AAD.001)	-2.34	PIFA	I-PEX
Chain (1)	WNC	81.EL815.G43 (25.90AAC.001)	-3.79	PIFA	I-PEX
Set 59					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Quanta	R12_AN-090-A/B	1.6	PIFA	I-PEX
Chain (1)	Quanta	R12_AN-090-A/B	0.3	PIFA	I-PEX
Set 60					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Quanta	R15_AN-090-A/B	0.8	PIFA	I-PEX
Chain (1)	Quanta	R15_AN-090-A/B	0.4	PIFA	I-PEX
Set 61					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Quanta	R18_AN-090-A/B	1.5	PIFA	I-PEX
Chain (1)	Quanta	R18_AN-090-A/B	0.5	PIFA	I-PEX
Set 62					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	6036B0088901/CAN43130LIIN03841	0.68	PIFA	HRS
Chain (1)	Yageo	6036B0089001/CAN43130LIIN03842	-0.62	PIFA	HRS
Set 63					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EKT15.G09	-0.28	PIFA	U.FL
Chain (1)	WNC	81.EKT15.G10	-0.26	PIFA	U.FL

Set 64					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Foxconn	790116700-600-G	0.58	PIFA	I-PEX
Chain (1)	Foxconn	790116800-600-G	0.29	PIFA	I-PEX
Set 65					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EKT15.G07	0.09	PIFA	U.FL
Chain (1)	WNC	81.EKT15.G08	-1.43	PIFA	U.FL
Set 66					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EL815.G54	-2.04	PIFAPIFA	U.FL
Chain (1)	WNC	81.EL815.G53	-2.58	PIFAPIFA	U.FL
Set 67					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WHAYU	C435-520153-A	-0.6	PIFA	U.FL
Chain (1)	WHAYU	C435-520152-A	1.41	PIFA	U.FL
Set 68					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	6036B0088901/CAN43130LIIN03841	-2.2	PIFA	HRS
Chain (1)	Yageo	6036B0089001/CAN43130LIIN03842	-2.16	PIFA	HRS
Set 69					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EKT15.G11	-1.35	PIFA	U.FL
Chain (1)	WNC	81.EKT15.G12	-2.09	PIFA	U.FL
Set 70					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	iem	IA-110196	0.22	PIFA	U.FL
Chain (1)	iem	IA-110197	0.53	PIFA	U.FL

Set 71					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Smart Approach	SE-ECC50-002	-1.17	PIFA	U.FL
Chain (1)	Smart Approach	SE- ECC50-001	0.45	PIFA	U.FL
Set 72					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	DQ643130W13	0.19	PIFA	U.FL
Chain (1)	Yageo	DQ643130W13	-1.98	PIFA	U.FL
Set 73					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Foxconn	DQ6HQR36000 / WDAN-HQR36001-DH	-1.00	PIFA	U.FL
Chain (1)	Foxconn	DQ6HQR36000 / WDAN-HQR36001-DH	-0.60	PIFA	U.FL
Set 74					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	DQ6Y15GCB00 (81.EZY15.GCB)	-0.21	PIFA	U.FL
Chain (1)	WNC	DQ6Y15GCB00 (81.EZY15.GCB)	-1.75	PIFA	U.FL
Set 75					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	DQ64313HQ01 / CAN4313HQ0671LLB1	-1.75	PIFA	U.FL
Chain (1)	Yageo	DQ64313HQ01 / CAN4313HQ0671LLB1	0.89	PIFA	U.FL
Set 76					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Foxconn	DQ6HQR33000 / WDAN-HQR33001-DH	-1.10	PIFA	U.FL
Chain (1)	Foxconn	DQ6HQR33000 / WDAN-HQR33001-DH	1.77	PIFA	U.FL

Set 77					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	DQ6Y15GCA00 (81.EZY15.GCA)	0.17	PIFA	U.FL
Chain (1)	WNC	DQ6Y15GCA00 (81.EZY15.GCA)	-0.88	PIFA	U.FL
Set 78					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	DQ64313HQ00 / CAN4313HQ0670LLB1	-0.34	PIFA	U.FL
Chain (1)	Yageo	DQ64313HQ00 / CAN4313HQ0670LLB1	0.08	PIFA	U.FL
Set 79					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Foxconn	DQ6HQR39000 / WDAN-HQR39001-DH	-0.74	PIFA	U.FL
Chain (1)	Foxconn	DQ6HQR39000 / WDAN-HQR39001-DH	-1.53	PIFA	U.FL
Set 80					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	DQ6Y15GCN00 (81.EZY15.GCN)	-0.28	PIFA	U.FL
Chain (1)	WNC	DQ6Y15GCN00 (81.EZY15.GCN)	-1.34	PIFA	U.FL
Set 81					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	DQ64313HQ02 / CAN4313HQ0672LLB1	-0.36	PIFA	U.FL
Chain (1)	Yageo	DQ64313HQ02 / CAN4313HQ0672LLB1	0.46	PIFA	U.FL
Set 82					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	57.EEW15.0AP	2.64	PIFA	U.FL
Chain (1)	WNC	57XCAE15.030	0.93	PIFA	U.FL

Set 83					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	57XCAE15.028	0.67	PIFA	U.FL
Chain (1)	WNC	57XCAE15.030	1.80	PIFA	U.FL
Set 84					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Foxconn	DQ6U3300100 / WDAN-HQU33001-DH	-1.28	PIFA	U.FL
Chain (1)	Foxconn	DQ6U3300100 / WDAN-HQU33001-DH	-2.03	PIFA	U.FL
Set 85					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Hong-Lin	DQ602333400	-2.50	PIFA	U.FL
Chain (1)	Hong-Lin	DQ602333400	-0.68	PIFA	U.FL
Set 86					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	JESS-LINK	PANT12A00007-1/ DQ612A00001	0.29	PIFA	U.FL
Chain (1)	JESS-LINK	PANT12A00007-1/ DQ612A00001	1.78	PIFA	U.FL
Set 87					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	DQ6815G7400 (81.EL815.G74)	-0.53	PIFA	U.FL
Chain (1)	WNC	DQ6815G7400 (81.EL815.G74)	-0.63	PIFA	U.FL
Set 88					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WANSHIH	UC1WFI0095	1.99	PIFA	U.FL
Chain (1)	WANSHIH	UC1WFI0095	2.95	PIFA	U.FL

Set 89					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WHA YU	C1335-520176-A	1.49	PIFA	U.FL
Chain (1)	WHA YU	C1335-520176-A	1.91	PIFA	U.FL
Set 90					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	JOINSOON	IA-120138 Arroyo3	2.15	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA
Set 91					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	JOINSOON	IA-120138 Lawrence2	2.15	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA
Set 92					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	6036B0105001/CAN4 313HV0636WLA1	1.35	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA
Set 93					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	6036B0105002/ 81.EKT15.G09	-0.28	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA
Set 94					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	6036B0088903/ 81.EKT15.G11	-0.73	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA

Set 95					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	6036B0088901/CAN43130LIIN03841	-1.09	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA
Set 96					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.EZY15.GAN/ 25.91458.001	-0.59	PIFA	U.FL
Chain (1)	WNC	81.EZY15.GAP/ 25.91459.001	-2.74	PIFA	U.FL
Set 97					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	25.90AEF.001 (81.EL815.G70)	-0.21	PIFA	U.FL
Chain (1)	WNC	25.90AEE.001 (81.EL815.G71)	-0.73	PIFA	U.FL
Set 98					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	25.90AEH.001 (APP8P-700411)	0.70	PIFA	U.FL
Chain (1)	ACON	25.90AEG.001 (APP8P-700412)	1.51	PIFA	U.FL
Set 99					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	APE8P-700001	-1.68	PIFA	U.FL
Chain (1)	ACON	APE8P-700001	2.04	PIFA	U.FL
Set 100					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	1415-02D1000 / CAN4313HP0691LLB1	0.95	PIFA	U.FL
Chain (1)	Yageo	1415-02D1000 / CAN4313HP0691LLB1	-0.64	PIFA	U.FL

Set 101					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Foxconn	DQ6U3600100 / WDAN-HQU36001-DH	0.28	PIFA	U.FL
Chain (1)	Foxconn	DQ6U3600100 / WDAN-HQU36001-DH	-1.42	PIFA	U.FL
Set 102					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Hong-Lin	DQ602333900	-1.50	PIFA	U.FL
Chain (1)	Hong-Lin	DQ602333900	-0.42	PIFA	U.FL
Set 103					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	JESS-LINK	DQ612A00002	-1.10	PIFA	U.FL
Chain (1)	JESS-LINK	DQ612A00002	-0.59	PIFA	U.FL
Set 104					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	DQ6815G7500(81.EL815.G75)	-0.41	PIFA	U.FL
Chain (1)	WNC	DQ6815G7500(81.EL815.G75)	-0.71	PIFA	U.FL
Set 105					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	6036B0088901/CAN43130LIIN03841	-0.41	PIFA	U.FL
Chain (1)	NA	NA	NA	NA	NA
Set 106					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	25.90A8X.011(81.EL815.G14)	-0.53	PIFA	U.FL
Chain (1)	WNC	25.90A8Y.001(81.EL815.G15)	-2.66	PIFA	U.FL

Set 107					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	25.90A8Z.001 (APP8P-700333)	-2.11	PIFA	U.FL
Chain (1)	ACON	25.90A90.001 (APP8P-700334)	-2.24	PIFA	U.FL
Set 108					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	25.90A9K.001(81.EL815.G18)	-1.63	PIFA	U.FL
Chain (1)	WNC	25.90A9L.001(81.EL815.G19)	-3.62	PIFA	U.FL
Set 109					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	25.90A9K.021(APP8P-700337)	-0.83	PIFA	U.FL
Chain (1)	ACON	25.90A9L.021(APP8P-700338)	-0.87	PIFA	U.FL
Set 110					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	25.90A92.001 (81.EL815.022)	2.12	PIFA	U.FL
Chain (1)	WNC	25.90A9J.001 (81.EL815.023)	2.80	PIFA	U.FL
Set 111					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	25.90A92.011(CAN43131WLWT05951)	-0.65	PIFA	U.FL
Chain (1)	Yageo	25.90A92.011(CAN43131WLWT05951)	2.30	PIFA	U.FL
Set 112					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Yageo	25.90A96.011 / CAN43131WLWT05923	-2.47	PIFA	U.FL
Chain (1)	Yageo	25.90A95.011 / CAN43131WLWT05924	-2.28	PIFA	U.FL

Set 113					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ACON	25.90A8X.011(APP8P-700329)	-0.06	PIFA	U.FL
Chain (1)	ACON	25.90A8Y.001(APP8P-700330)	-4.85	PIFA	U.FL
Set 114					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	81.XCI15.G07	1.68	Dipole	SMA
Chain (1)	WNC	81.XCI15.G07	0.02	Dipole	SMA
Set 115					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ADVANCED-CONNECTEK INC.	C-APP6P-700744	-0.44	PIFA	U.FL
Chain (1)	ADVANCED-CONNECTEK INC.	C-APP6P-700745	-1.53	PIFA	U.FL
Set 116					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Smart Approach	SE-EIPNA-001	-2.29	PIFA	I-PEX
Chain (1)	Smart Approach	SE-EIPNA-002	0.13	PIFA	I-PEX
Set 117					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ADVANCED-CONNECTEK INC.	C-APP6P-700744	-0.46	PIFA	U.FL
Chain (1)	ADVANCED-CONNECTEK INC.	C-APP6P-700745	-2.41	PIFA	U.FL

Set 118					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Hong-Lin	DQ602351300	-1.41	PIFA	LC
Chain (1)	Hong-Lin	DQ602351300	-2.40	PIFA	LC
Set 119					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	JESS-LINK PRODUCTS CO., LTD	DQ612A00013	1.78	PIFA	MHF
Chain (1)	JESS-LINK PRODUCTS CO., LTD	DQ612A00013	0.29	PIFA	MHF
Set 120					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Wistron Neweb Corporation	57XCAE15.028	0.67	PIFA	U.FL
Chain (1)	Wistron Neweb Corporation	57XCAE15.030	1.80	PIFA	U.FL
Set 121					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Wistron Neweb Corporation	57.EEW15.0AP	2.64	PIFA	U.FL
Chain (1)	Wistron Neweb Corporation	57XCAE15.030	0.93	PIFA	U.FL
Set 122					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Wistron Neweb Corp.	6036B0105002 (81.EKT15.G09)	-0.28	PIFA	U.FL
Chain (1)	Wistron Neweb Corp.	6036B0105102 (81.EKT15.G10)	-0.26	PIFA	U.FL

Set 123					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	ICT-LANTO	DQ61RF14200 / LA81RF142-1H	1.81	PIFA	I-PEX
Chain (1)	ICT-LANTO	DQ61RF14200 / LA81RF142-1H	-0.60	PIFA	I-PEX
Set 124					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Wistron Neweb Corp.	DQ6K15G7000 (81EAAK15.G70)	-0.81	PIFA	I-PEX
Chain (1)	Wistron Neweb Corp.	DQ6K15G7000 (81EAAK15.G70)	2.02	PIFA	I-PEX
Set 125					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	WNC	DC330014C10 (81.EL815.G54)	-2.04	PIFA	I-PEX
Chain (1)	WNC	DC330014C00 (81.EL815.G53)	-2.58	PIFA	I-PEX
Set 126					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	SA	SE-ECC50-002	-1.17	PIFA	I-PEX
Chain (1)	SA	SE- ECC50-001	0.45	PIFA	I-PEX
Set 127					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	Whayu	C435-520153-A	-0.6	PIFA	TNOV
Chain (1)	Whayu	C435-520152-A	1.41	PIFA	TNOV

Set 128					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	MAG. LAYERS SCIENTIFIC-TECHNICS CO., LTD	PCA-9007-25GC4-A1	-4.84	PIFA	I-PEX
Chain (1)	MAG. LAYERS SCIENTIFIC-TECHNICS CO., LTD	PCA-9007-25GC4-A1	-3.07	PIFA	I-PEX
Set 129					
Chain	Manufacture	Model name	Antenna Gain (Included Cable loss) (dBi)	Antenna Type	Connector
Chain (0)	INPAQ TECHNOLOGY CO., LTD	WA-P-LBLB-04-004	0.74	PIFA	I-PEX
Chain (1)	INPAQ TECHNOLOGY CO., LTD	WA-P-LBLB-04-004	1.91	PIFA	I-PEX

From the above antennas, the antenna set 1 and set 2 were selected as representative antennas for the test and their data were recorded in this report.

4. The EUT has two different types could be chose and please refer the below table:

Type	Description
Type 1	Half size with 1 Antenna Connector
Type 2	Half size with 2 Antenna Connectors

From the above types, type 2 was selected as representative type for the test and its data was recorded in this report.

5. The EUT incorporates a SISO function with 802.11n.

6. The EUT is 1 * 1 spatial SISO without beam forming function.

7. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

11 channels are provided for 802.11b, 802.11g, 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		

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO					DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	OB	
1	√	√	√	√	√	With Dipole Antenna
2	-	-	√	-	-	With PIFA Antenna

Where **PLC:** Power Line Conducted Emission **RE < 1G:** Radiated Emission below 1GHz

RE ³ 1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

OB: Conducted Out-Band Emission Measurement

NOTE: 1. "-"means no effect.

2. The EUT's antenna (PIFA) had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

POWER LINE CONDUCTED EMISSION TEST:

☒ 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	1	OFDM	BPSK	6

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	1	OFDM	BPSK	6

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

ANTENNA PORT CONDUCTED 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz	1 to 11	1, 6, 11	OFDM	BPSK	13
For 2.4 GHz	3 to 9	3, 6, 9	OFDM	BPSK	27

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
PLC	25deg. 70C,%RH	120Vac, 60Hz	Mike Hsieh
RE<1G	25deg. C, 69%RH	120Vac, 60Hz	Tim Ho
RE³1G	22deg. C, 63%RH	120Vac, 60Hz	Nelson Teng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Chilin Lee
OB	25deg. C, 60%RH	120Vac, 60Hz	Chilin Lee

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C(15.247)
558074 D01 DTS Meas Guidance v03r02
ANSI C63.10-2009

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

3.4 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is ≥ 98 %, duty factor is not required.

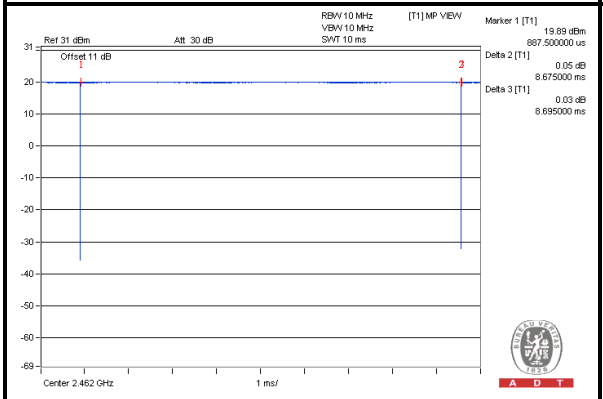
802.11b: Duty cycle = 8.675 ms/8.695 ms = 0.998

802.11g: Duty cycle = 1.43625 ms/1.445 ms = 0.994

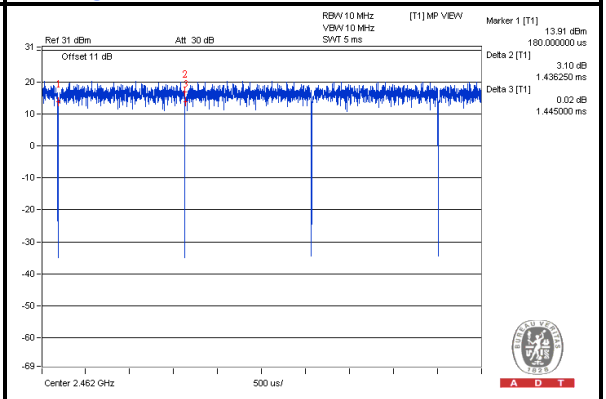
802.11n (HT20): Duty cycle = 1.34625 ms/1.35875 ms = 0.991

802.11n (HT40): Duty cycle = 0.665 ms/0.67375 ms = 0.987

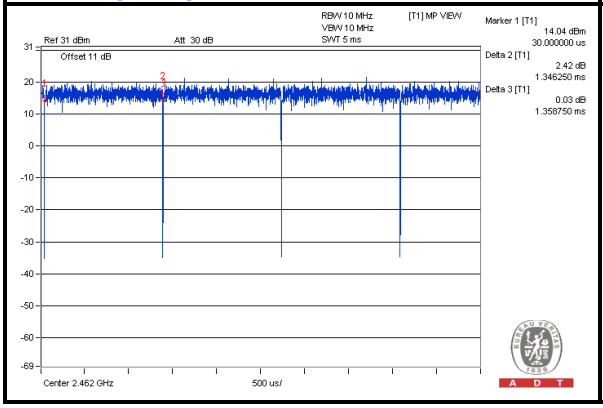
802.11b



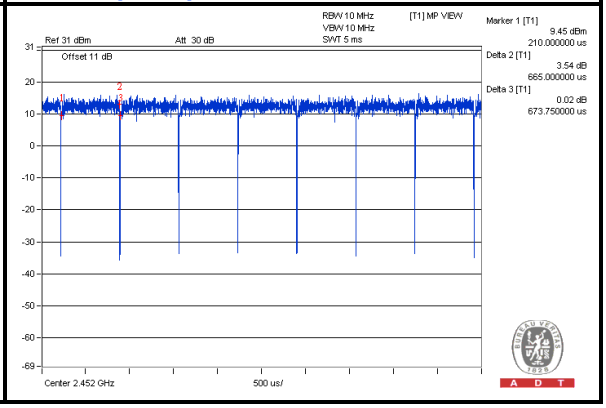
802.11g



802.11n (HT20)



802.11n (HT40)



3.5 DESCRIPTION OF SUPPORT UNITS

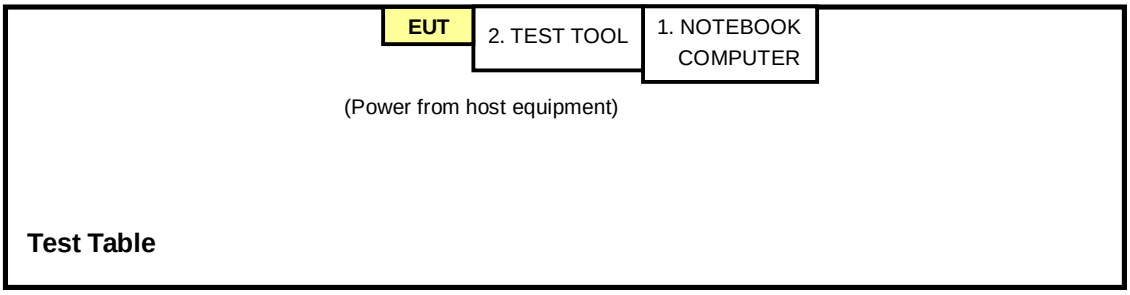
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	E6400	D814C A00 APCC	NA
2	TEST TOOL	MediaTek	NA	NA	NA

No.	Signal cable description
1	NA
2	NA

Note: The power cords of the above support units were unshielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Apr. 29, 2014	Apr. 28, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 12, 2013	Sep. 11, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100071	Nov. 13, 2013	Nov. 12, 2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 10 , 2014	Mar. 09, 2015
50 ohms Terminator	N/A	EMC-03	Sep. 24, 2013	Sep. 23, 2014
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2013	Sep. 30, 2014
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

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 Shielded Room No. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: June 18, 2014

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
d. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

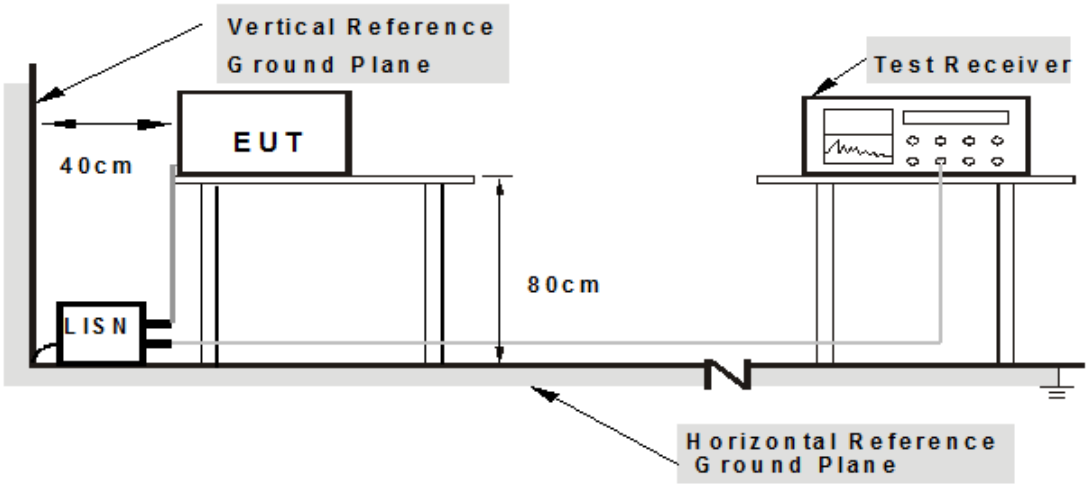
NOTE:

1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program “RT5x9xQA.exe[V1.0.9.1]” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

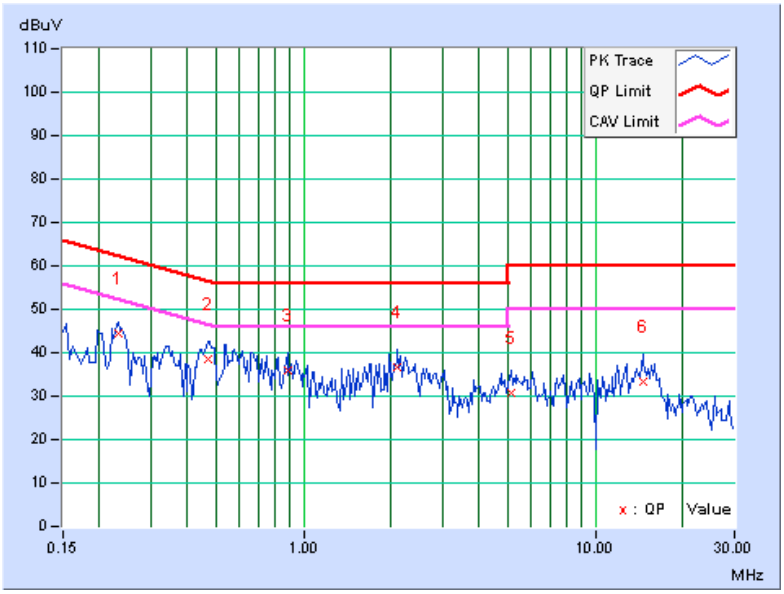
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23203	0.07	44.55	33.14	44.62	33.21	62.38	52.38	-17.75	-19.16
2	**0.47031**	**0.09**	**38.36**	**34.20**	**38.45**	**34.29**	**56.51**	**46.51**	**-18.05**	**-12.21**
3	0.88047	0.12	35.74	33.65	35.86	33.77	56.00	46.00	-20.14	-12.23
4	2.10547	0.17	36.58	31.77	36.75	31.94	56.00	46.00	-19.25	-14.06
5	5.17969	0.30	30.30	23.14	30.60	23.44	60.00	50.00	-29.40	-26.56
6	14.64453	0.58	32.60	25.72	33.18	26.30	60.00	50.00	-26.82	-23.70

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

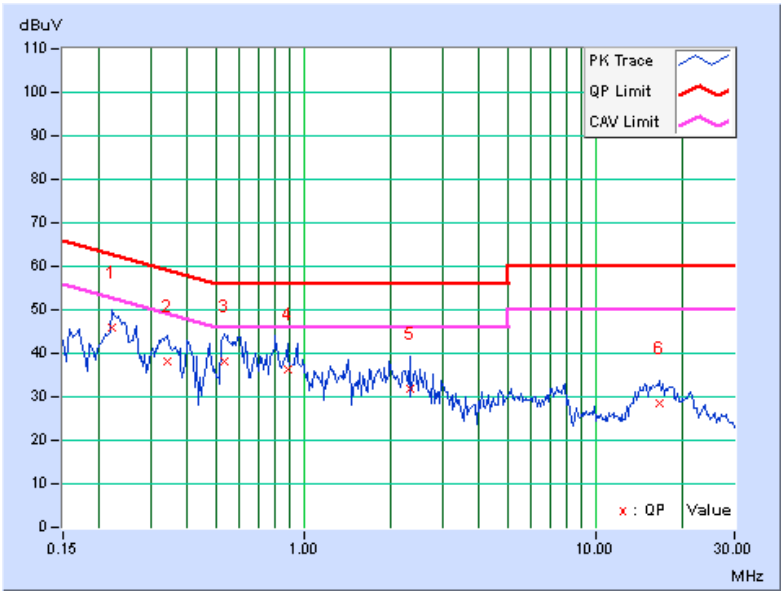


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22031	0.07	45.77	35.54	45.84	35.61	62.81	52.81	-16.97	-17.20
2	0.34141	0.08	38.07	33.12	38.15	33.20	59.17	49.17	-21.01	-15.96
3	0.53281	0.10	38.07	30.42	38.17	30.52	56.00	46.00	-17.83	-15.48
4	0.88047	0.12	36.17	33.41	36.29	33.53	56.00	46.00	-19.71	-12.47
5	2.32031	0.19	31.75	24.37	31.94	24.56	56.00	46.00	-24.06	-21.44
6	16.65234	0.62	28.00	23.10	28.62	23.72	60.00	50.00	-31.38	-26.28

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Jan. 15, 2014	Jan. 14, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 27, 2014	Feb. 26, 2015
RF Cable	NA	CHHCAB_001	Oct. 06, 2013	Oct. 05, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000220091110	Dec. 06, 2013	Dec. 05, 2014
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 29, 2013	Oct. 28, 2014
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: June 17, 2014

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters 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:

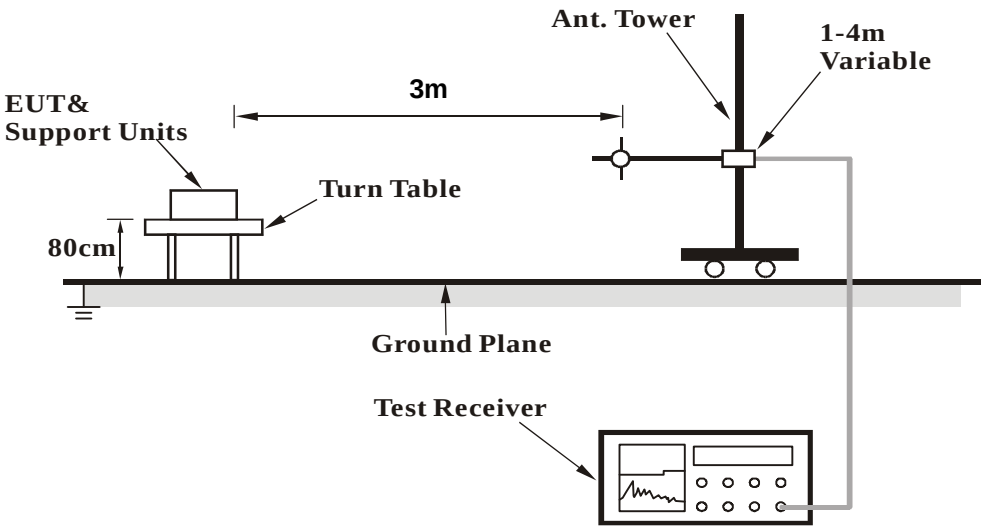
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

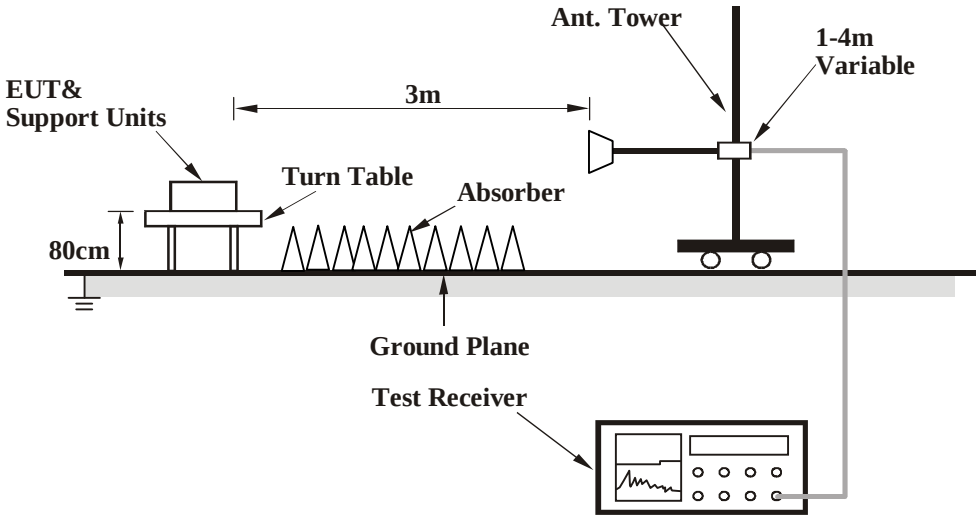
No deviation

4.2.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS (With Dipole antenna)

BELOW 1GHz WORST-CASE DATA

802.11g

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

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	99.79	36.3 QP	43.5	-7.2	1.50 H	360	53.64	-17.35
2	165.99	40.1 QP	43.5	-3.4	1.00 H	250	52.96	-12.88
3	199.17	42.4 QP	43.5	-1.1	1.50 H	360	58.14	-15.72
4	232.39	39.7 QP	46.0	-6.3	1.50 H	77	54.35	-14.62
5	697.02	39.4 QP	46.0	-6.7	1.00 H	249	42.52	-3.17
6	743.29	40.8 QP	46.0	-5.2	2.00 H	215	42.67	-1.85
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	36.55	34.6 QP	40.0	-5.4	1.50 V	0	48.56	-13.94
2	753.18	41.9 QP	46.0	-4.1	1.50 V	148	43.51	-1.60
3	798.19	30.4 QP	46.0	-15.6	2.00 V	360	31.39	-0.97
4	818.22	40.6 QP	46.0	-5.4	1.50 V	155	41.27	-0.65
5	897.18	40.3 QP	46.0	-5.7	1.00 V	283	39.84	0.44
6	924.97	40.4 QP	46.0	-5.6	1.00 V	272	39.24	1.15

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

ABOVE 1GHz DATA

802.11b

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	2389.73	55.6 PK	74.0	-18.4	1.57 H	170	25.50	30.10
2	2389.73	42.7 AV	54.0	-11.3	1.57 H	170	12.60	30.10
3	*2412.00	98.4 PK			1.60 H	162	68.30	30.10
4	*2412.00	95.3 AV			1.60 H	162	65.20	30.10
5	4824.00	46.3 PK	74.0	-27.7	1.59 H	50	10.90	35.40
6	4824.00	40.1 AV	54.0	-13.9	1.59 H	50	4.70	35.40
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	2358.27	57.8 PK	74.0	-16.2	1.38 V	86	27.90	29.90
2	2358.27	45.7 AV	54.0	-8.3	1.38 V	86	15.80	29.90
3	*2412.00	106.0 PK			1.38 V	79	75.90	30.10
4	*2412.00	103.1 AV			1.38 V	79	73.00	30.10
5	4824.00	52.2 PK	74.0	-21.8	1.18 V	2	16.80	35.40
6	4824.00	50.3 AV	54.0	-3.7	1.18 V	2	14.90	35.40

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	97.6 PK			1.48 H	167	67.40	30.20
2	*2437.00	94.2 AV			1.48 H	167	64.00	30.20
3	4874.00	45.0 PK	74.0	-29.0	1.65 H	50	9.50	35.50
4	4874.00	38.6 AV	54.0	-15.4	1.65 H	50	3.10	35.50
5	7311.00	48.5 PK	74.0	-25.5	1.20 H	20	6.50	42.00
6	7311.00	36.5 AV	54.0	-17.5	1.20 H	20	-5.50	42.00
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	104.4 PK			1.36 V	70	74.20	30.20
2	*2437.00	101.6 AV			1.36 V	70	71.40	30.20
3	4874.00	51.3 PK	74.0	-22.7	1.54 V	354	15.80	35.50
4	4874.00	48.6 AV	54.0	-5.4	1.54 V	354	13.10	35.50
5	7311.00	48.6 PK	74.0	-25.4	1.45 V	0	6.60	42.00
6	7311.00	36.6 AV	54.0	-17.4	1.45 V	0	-5.40	42.00

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.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	94.9 PK			1.49 H	170	64.60	30.30
2	*2462.00	91.3 AV			1.49 H	170	61.00	30.30
3	2500.00	55.0 PK	74.0	-19.0	1.49 H	171	24.50	30.50
4	2500.00	41.7 AV	54.0	-12.3	1.49 H	171	11.20	30.50
5	4924.00	45.1 PK	74.0	-28.9	1.60 H	51	9.50	35.60
6	4924.00	38.0 AV	54.0	-16.0	1.60 H	51	2.40	35.60
7	7386.00	49.2 PK	74.0	-24.8	1.10 H	334	7.10	42.10
8	7386.00	36.7 AV	54.0	-17.3	1.10 H	334	-5.40	42.10
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	*2462.00	101.9 PK			1.32 V	80	71.60	30.30
2	*2462.00	99.1 AV			1.32 V	80	68.80	30.30
3	2483.85	55.0 PK	74.0	-19.0	1.33 V	80	24.60	30.40
4	2483.85	43.0 AV	54.0	-11.0	1.33 V	80	12.60	30.40
5	4924.00	51.3 PK	74.0	-22.7	1.92 V	0	15.70	35.60
6	4924.00	48.5 AV	54.0	-5.5	1.92 V	0	12.90	35.60
7	7386.00	50.1 PK	74.0	-23.9	1.54 V	26	8.00	42.10
8	7386.00	37.1 AV	54.0	-16.9	1.54 V	26	-5.00	42.10

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.

802.11g

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	2360.00	56.5 PK	74.0	-17.5	1.56 H	168	26.60	29.90
2	2360.00	43.6 AV	54.0	-10.4	1.56 H	168	13.70	29.90
3	*2412.00	98.6 PK			1.47 H	166	68.50	30.10
4	*2412.00	89.0 AV			1.47 H	166	58.90	30.10
5	4824.00	42.1 PK	74.0	-31.9	1.31 H	24	6.70	35.40
6	4824.00	31.0 AV	54.0	-23.0	1.31 H	24	-4.40	35.40
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	69.8 PK	74.0	-4.2	1.04 V	271	39.70	30.10
2	2390.00	53.3 AV	54.0	-0.7	1.04 V	271	23.20	30.10
3	*2412.00	108.0 PK			1.04 V	282	77.90	30.10
4	*2412.00	99.0 AV			1.04 V	282	68.90	30.10
5	4824.00	42.5 PK	74.0	-31.5	1.40 V	153	7.10	35.40
6	4824.00	31.4 AV	54.0	-22.6	1.40 V	153	-4.00	35.40

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	97.5 PK			1.47 H	168	67.30	30.20
2	*2437.00	88.3 AV			1.47 H	168	58.10	30.20
3	4874.00	44.5 PK	74.0	-29.5	1.21 H	40	9.00	35.50
4	4874.00	31.9 AV	54.0	-22.1	1.21 H	40	-3.60	35.50
5	7311.00	49.1 PK	74.0	-24.9	1.30 H	63	7.10	42.00
6	7311.00	36.4 AV	54.0	-17.6	1.30 H	63	-5.60	42.00
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	106.7 PK			1.00 V	257	76.50	30.20
2	*2437.00	97.6 AV			1.00 V	257	67.40	30.20
3	4874.00	44.7 PK	74.0	-29.3	1.34 V	18	9.20	35.50
4	4874.00	32.3 AV	54.0	-21.7	1.34 V	18	-3.20	35.50
5	7311.00	49.3 PK	74.0	-24.7	1.35 V	2	7.30	42.00
6	7311.00	36.5 AV	54.0	-17.5	1.35 V	2	-5.50	42.00

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.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	94.7 PK			1.50 H	169	64.40	30.30
2	*2462.00	84.9 AV			1.50 H	169	54.60	30.30
3	2499.34	54.5 PK	74.0	-19.5	1.51 H	170	24.00	30.50
4	2499.34	41.7 AV	54.0	-12.3	1.51 H	170	11.20	30.50
5	4924.00	42.5 PK	74.0	-31.5	1.14 H	156	6.90	35.60
6	4924.00	30.8 AV	54.0	-23.2	1.14 H	156	-4.80	35.60
7	7386.00	49.5 PK	74.0	-24.5	1.23 H	280	7.40	42.10
8	7386.00	36.7 AV	54.0	-17.3	1.23 H	280	-5.40	42.10
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	*2462.00	104.4 PK			1.04 V	169	74.10	30.30
2	*2462.00	92.7 AV			1.04 V	169	62.40	30.30
3	2484.20	55.4 PK	74.0	-18.6	1.31 V	148	25.00	30.40
4	2484.20	42.2 AV	54.0	-11.8	1.31 V	148	11.80	30.40
5	4924.00	42.7 PK	74.0	-31.3	1.03 V	147	7.10	35.60
6	4924.00	31.1 AV	54.0	-22.9	1.03 V	147	-4.50	35.60
7	7386.00	49.8 PK	74.0	-24.2	1.14 V	277	7.70	42.10
8	7386.00	36.9 AV	54.0	-17.1	1.14 V	277	-5.20	42.10

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.

802.11n (HT20)

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	56.0 PK	74.0	-18.0	2.07 H	158	25.90	30.10
2	2390.00	43.3 AV	54.0	-10.7	2.07 H	158	13.20	30.10
3	*2412.00	96.8 PK			2.01 H	158	66.70	30.10
4	*2412.00	87.3 AV			2.01 H	158	57.20	30.10
5	4824.00	41.8 PK	74.0	-32.2	1.44 H	36	6.40	35.40
6	4824.00	30.8 AV	54.0	-23.2	1.44 H	36	-4.60	35.40
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**	**73.4 PK**	**74.0**	**-0.6**	**1.03 V**	**282**	**43.30**	**30.10**
2	**2390.00**	**53.4 AV**	**54.0**	**-0.6**	**1.03 V**	**282**	**23.30**	**30.10**
3	*2412.00	107.2 PK			1.03 V	282	77.10	30.10
4	*2412.00	98.1 AV			1.03 V	282	68.00	30.10
5	4824.00	43.5 PK	74.0	-30.5	1.29 V	103	8.10	35.40
6	4824.00	31.5 AV	54.0	-22.5	1.29 V	103	-3.90	35.40

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	96.8 PK			1.41 H	159	66.60	30.20
2	*2437.00	87.3 AV			1.41 H	159	57.10	30.20
3	4874.00	42.5 PK	74.0	-31.5	1.32 H	230	7.00	35.50
4	4874.00	31.0 AV	54.0	-23.0	1.32 H	230	-4.50	35.50
5	7311.00	51.2 PK	74.0	-22.8	1.32 H	149	9.20	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.32 H	149	-4.70	42.00
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	104.3 PK			1.36 V	97	74.10	30.20
2	*2437.00	94.7 AV			1.36 V	97	64.50	30.20
3	4874.00	42.7 PK	74.0	-31.3	1.78 V	346	7.20	35.50
4	4874.00	31.4 AV	54.0	-22.6	1.78 V	346	-4.10	35.50
5	7311.00	51.2 PK	74.0	-22.8	1.39 V	314	9.20	42.00
6	7311.00	37.5 AV	54.0	-16.5	1.39 V	314	-4.50	42.00

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.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	94.0 PK			1.46 H	170	63.70	30.30
2	*2462.00	85.0 AV			1.46 H	170	54.70	30.30
3	2498.85	54.6 PK	74.0	-19.4	1.46 H	174	24.10	30.50
4	2498.85	41.7 AV	54.0	-12.3	1.46 H	174	11.20	30.50
5	4924.00	42.9 PK	74.0	-31.1	1.26 H	224	7.30	35.60
6	4924.00	30.8 AV	54.0	-23.2	1.26 H	224	-4.80	35.60
7	7386.00	50.1 PK	74.0	-23.9	1.44 H	200	8.00	42.10
8	7386.00	36.8 AV	54.0	-17.2	1.44 H	200	-5.30	42.10
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	*2462.00	106.2 PK			1.33 V	280	75.90	30.30
2	*2462.00	92.7 AV			1.33 V	280	62.40	30.30
3	2483.50	62.2 PK	74.0	-11.8	1.24 V	71	31.80	30.40
4	2483.50	46.7 AV	54.0	-7.3	1.24 V	71	16.30	30.40
5	4924.00	43.1 PK	74.0	-30.9	1.66 V	34	7.50	35.60
6	4924.00	31.0 AV	54.0	-23.0	1.66 V	34	-4.60	35.60
7	7386.00	50.9 PK	74.0	-23.1	1.40 V	321	8.80	42.10
8	7386.00	37.2 AV	54.0	-16.8	1.40 V	321	-4.90	42.10

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.

802.11n (HT40)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	58.7 PK	74.0	-15.3	1.58 H	170	28.60	30.10
2	2390.00	44.7 AV	54.0	-9.3	1.58 H	170	14.60	30.10
3	*2422.00	92.7 PK			1.59 H	171	62.50	30.20
4	*2422.00	83.3 AV			1.59 H	171	53.10	30.20
5	4844.00	43.2 PK	74.0	-30.8	1.22 H	103	7.70	35.50
6	4844.00	30.8 AV	54.0	-23.2	1.22 H	103	-4.70	35.50
7	7266.00	51.0 PK	74.0	-23.0	1.44 H	98	9.10	41.90
8	7266.00	36.7 AV	54.0	-17.3	1.44 H	98	-5.20	41.90
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	69.6 PK	74.0	-4.4	1.02 V	272	39.50	30.10
2	2390.00	53.0 AV	54.0	-1.0	1.02 V	272	22.90	30.10
3	*2422.00	100.2 PK			1.02 V	283	70.00	30.20
4	*2422.00	90.4 AV			1.02 V	283	60.20	30.20
5	4844.00	43.1 PK	74.0	-30.9	1.20 V	152	7.60	35.50
6	4844.00	31.2 AV	54.0	-22.8	1.20 V	152	-4.30	35.50
7	7266.00	51.2 PK	74.0	-22.8	1.13 V	25	9.30	41.90
8	7266.00	37.5 AV	54.0	-16.5	1.13 V	25	-4.40	41.90

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	94.0 PK			1.60 H	170	63.80	30.20
2	*2437.00	84.4 AV			1.60 H	170	54.20	30.20
3	4874.00	42.3 PK	74.0	-31.7	1.49 H	15	6.80	35.50
4	4874.00	31.1 AV	54.0	-22.9	1.49 H	15	-4.40	35.50
5	7311.00	49.3 PK	74.0	-24.7	1.32 H	72	7.30	42.00
6	7311.00	36.9 AV	54.0	-17.1	1.32 H	72	-5.10	42.00
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	100.7 PK			1.01 V	152	70.50	30.20
2	*2437.00	92.1 AV			1.01 V	152	61.90	30.20
3	4874.00	42.8 PK	74.0	-31.2	1.29 V	114	7.30	35.50
4	4874.00	31.6 AV	54.0	-22.4	1.29 V	114	-3.90	35.50
5	7311.00	50.7 PK	74.0	-23.3	1.39 V	309	8.70	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.39 V	309	-4.70	42.00

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.

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2452.00	93.1 PK			1.41 H	159	62.80	30.30
2	*2452.00	83.3 AV			1.41 H	159	53.00	30.30
3	2484.16	54.9 PK	74.0	-19.1	1.69 H	163	24.50	30.40
4	2484.16	42.2 AV	54.0	-11.8	1.69 H	163	11.80	30.40
5	4904.00	42.6 PK	74.0	-31.4	1.37 H	23	7.00	35.60
6	4904.00	31.0 AV	54.0	-23.0	1.37 H	23	-4.60	35.60
7	7356.00	48.7 PK	74.0	-25.3	1.09 H	143	6.70	42.00
8	7356.00	36.6 AV	54.0	-17.4	1.09 H	143	-5.40	42.00
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	*2452.00	101.4 PK			1.03 V	296	71.10	30.30
2	*2452.00	92.2 AV			1.03 V	296	61.90	30.30
3	2483.64	65.8 PK	74.0	-8.2	1.03 V	296	35.40	30.40
4	**2483.64**	**53.4 AV**	**54.0**	**-0.6**	**1.03 V**	**296**	**23.00**	**30.40**
5	4904.00	42.9 PK	74.0	-31.1	1.13 V	149	7.30	35.60
6	4904.00	31.3 AV	54.0	-22.7	1.13 V	149	-4.30	35.60
7	7356.00	49.2 PK	74.0	-24.8	1.15 V	15	7.20	42.00
8	7356.00	37.1 AV	54.0	-16.9	1.15 V	15	-4.90	42.00

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.

4.2.8 TEST RESULTS (With PIFA antenna)

BELOW 1GHz WORST-CASE DATA

802.11g

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

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	165.99	35.1 QP	43.5	-8.4	2.00 H	256	47.97	-12.88
2	240.01	39.0 QP	46.0	-7.0	1.00 H	261	52.79	-13.80
3	656.77	37.5 QP	46.0	-8.5	1.00 H	239	41.23	-3.73
4	699.40	39.9 QP	46.0	-6.1	1.00 H	249	42.96	-3.10
5	754.01	40.4 QP	46.0	-5.6	1.00 H	142	41.99	-1.59
6	796.54	41.7 QP	46.0	-4.3	1.50 H	360	42.63	-0.94
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	30.10	36.6 QP	40.0	-3.4	1.00 V	257	50.89	-14.29
2	199.17	39.3 QP	43.5	-4.2	2.00 V	316	55.04	-15.72
3	753.23	40.1 QP	46.0	-5.9	1.50 V	271	41.74	-1.60
4	796.59	42.3 QP	46.0	-3.7	1.50 V	360	43.25	-0.94
5	874.34	40.6 QP	46.0	-5.5	1.00 V	250	40.54	0.01
6	924.39	41.8 QP	46.0	-4.2	1.00 V	292	40.66	1.15

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

ABOVE 1GHz DATA

802.11b

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	1.41 H	93	26.00	30.10
2	2390.00	45.0 AV	54.0	-9.0	1.41 H	93	14.90	30.10
3	*2412.00	101.6 PK			1.28 H	289	71.50	30.10
4	*2412.00	98.4 AV			1.28 H	289	68.30	30.10
5	4824.00	50.8 PK	74.0	-23.2	1.43 H	198	15.40	35.40
6	4824.00	48.0 AV	54.0	-6.0	1.43 H	198	12.60	35.40
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	55.3 PK	74.0	-18.7	1.01 V	150	25.20	30.10
2	2390.00	41.0 AV	54.0	-13.0	1.01 V	150	10.90	30.10
3	*2412.00	97.5 PK			1.31 V	333	67.40	30.10
4	*2412.00	94.3 AV			1.31 V	333	64.20	30.10
5	4824.00	53.3 PK	74.0	-20.7	1.02 V	285	17.90	35.40
6	4824.00	51.7 AV	54.0	-2.3	1.02 V	285	16.30	35.40

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	101.7 PK			1.26 H	285	71.50	30.20
2	*2437.00	98.5 AV			1.26 H	285	68.30	30.20
3	4874.00	52.5 PK	74.0	-21.5	1.61 H	323	17.00	35.50
4	4874.00	50.3 AV	54.0	-3.7	1.61 H	323	14.80	35.50
5	7311.00	48.8 PK	74.0	-25.2	1.21 H	174	6.80	42.00
6	7311.00	37.6 AV	54.0	-16.4	1.21 H	174	-4.40	42.00
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	97.6 PK			1.32 V	336	67.40	30.20
2	*2437.00	94.4 AV			1.32 V	336	64.20	30.20
3	4874.00	52.8 PK	74.0	-21.2	1.31 V	278	17.30	35.50
4	4874.00	50.8 AV	54.0	-3.2	1.31 V	278	15.30	35.50
5	7311.00	48.4 PK	74.0	-25.6	1.00 V	50	6.40	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.00 V	50	-4.70	42.00

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.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	108.1 PK			1.43 H	104	77.80	30.30
2	*2462.00	105.0 AV			1.43 H	104	74.70	30.30
3	2483.50	60.7 PK	74.0	-13.3	1.43 H	269	30.30	30.40
4	2483.50	49.5 AV	54.0	-4.5	1.43 H	269	19.10	30.40
5	4924.00	52.3 PK	74.0	-21.7	1.70 H	319	16.70	35.60
6	4924.00	50.2 AV	54.0	-3.8	1.70 H	319	14.60	35.60
7	7386.00	49.2 PK	74.0	-24.8	1.00 H	86	7.10	42.10
8	7386.00	37.9 AV	54.0	-16.1	1.00 H	86	-4.20	42.10
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	*2462.00	102.0 PK			1.58 V	331	71.70	30.30
2	*2462.00	98.7 AV			1.58 V	331	68.40	30.30
3	2483.50	57.4 PK	74.0	-16.6	1.53 V	355	27.00	30.40
4	2483.50	45.1 AV	54.0	-8.9	1.53 V	355	14.70	30.40
5	4924.00	52.5 PK	74.0	-21.5	1.31 V	286	16.90	35.60
6	4924.00	50.4 AV	54.0	-3.6	1.31 V	286	14.80	35.60
7	7386.00	49.0 PK	74.0	-25.0	1.00 V	43	6.90	42.10
8	7386.00	37.7 AV	54.0	-16.3	1.00 V	43	-4.40	42.10

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.

802.11g

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	66.6 PK	74.0	-7.4	1.56 H	13	36.50	30.10
2	2390.00	49.7 AV	54.0	-4.3	1.56 H	13	19.60	30.10
3	*2412.00	104.2 PK			1.44 H	10	74.10	30.10
4	*2412.00	95.3 AV			1.44 H	10	65.20	30.10
5	4824.00	49.5 PK	74.0	-24.5	1.27 H	216	14.10	35.40
6	4824.00	36.1 AV	54.0	-17.9	1.27 H	216	0.70	35.40
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	55.0 PK	74.0	-19.0	1.46 V	37	24.90	30.10
2	2390.00	42.6 AV	54.0	-11.4	1.46 V	37	12.50	30.10
3	*2412.00	98.8 PK			1.62 V	20	68.70	30.10
4	*2412.00	85.8 AV			1.62 V	20	55.70	30.10
5	4824.00	49.4 PK	74.0	-24.6	1.14 V	78	14.00	35.40
6	4824.00	36.5 AV	54.0	-17.5	1.14 V	78	1.10	35.40

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	106.4 PK			1.43 H	276	76.20	30.20
2	*2437.00	91.8 AV			1.43 H	276	61.60	30.20
3	4874.00	48.5 PK	74.0	-25.5	1.31 H	175	13.00	35.50
4	4874.00	36.2 AV	54.0	-17.8	1.31 H	175	0.70	35.50
5	7311.00	48.5 PK	74.0	-25.5	1.00 H	76	6.50	42.00
6	7311.00	36.7 AV	54.0	-17.3	1.00 H	76	-5.30	42.00
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	100.1 PK			1.61 V	0	69.90	30.20
2	*2437.00	83.5 AV			1.61 V	0	53.30	30.20
3	4874.00	48.9 PK	74.0	-25.1	1.17 V	86	13.40	35.50
4	4874.00	36.4 AV	54.0	-17.6	1.17 V	86	0.90	35.50
5	7311.00	48.1 PK	74.0	-25.9	1.00 V	30	6.10	42.00
6	7311.00	36.9 AV	54.0	-17.1	1.00 V	30	-5.10	42.00

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.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	107.0 PK			1.44 H	9	76.70	30.30
2	*2462.00	97.8 AV			1.44 H	9	67.50	30.30
3	2483.50	71.1 PK	74.0	-2.9	1.44 H	17	40.70	30.40
4	2483.50	49.3 AV	54.0	-4.7	1.44 H	17	18.90	30.40
5	4924.00	49.3 PK	74.0	-24.7	1.34 H	156	13.70	35.60
6	4924.00	36.7 AV	54.0	-17.3	1.34 H	156	1.10	35.60
7	7386.00	48.6 PK	74.0	-25.4	1.00 H	54	6.50	42.10
8	7386.00	37.4 AV	54.0	-16.6	1.00 H	54	-4.70	42.10
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	*2462.00	101.4 PK			1.54 V	45	71.10	30.30
2	*2462.00	87.2 AV			1.54 V	45	56.90	30.30
3	2483.50	73.2 PK	74.0	-0.8	1.52 V	10	42.80	30.40
4	2483.50	43.9 AV	54.0	-10.1	1.52 V	10	13.50	30.40
5	4924.00	49.5 PK	74.0	-24.5	1.19 V	83	13.90	35.60
6	4924.00	36.8 AV	54.0	-17.2	1.19 V	83	1.20	35.60
7	7386.00	48.7 PK	74.0	-25.3	1.00 V	45	6.60	42.10
8	7386.00	37.2 AV	54.0	-16.8	1.00 V	45	-4.90	42.10

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.

802.11n (HT20)

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	69.7 PK	74.0	-4.3	1.57 H	14	39.60	30.10
2	2390.00	52.1 AV	54.0	-1.9	1.57 H	14	22.00	30.10
3	*2412.00	103.8 PK			1.44 H	11	73.70	30.10
4	*2412.00	94.4 AV			1.44 H	11	64.30	30.10
5	4824.00	49.3 PK	74.0	-24.7	1.31 H	262	13.90	35.40
6	4824.00	35.8 AV	54.0	-18.2	1.31 H	262	0.40	35.40
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	61.0 PK	74.0	-13.0	1.59 V	321	30.90	30.10
2	2390.00	43.3 AV	54.0	-10.7	1.59 V	321	13.20	30.10
3	*2412.00	97.9 PK			1.51 V	243	67.80	30.10
4	*2412.00	84.3 AV			1.51 V	243	54.20	30.10
5	4824.00	48.7 PK	74.0	-25.3	1.15 V	76	13.30	35.40
6	4824.00	36.1 AV	54.0	-17.9	1.15 V	76	0.70	35.40

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	107.3 PK			1.31 H	241	77.10	30.20
2	*2437.00	98.8 AV			1.31 H	241	68.60	30.20
3	4874.00	48.0 PK	74.0	-26.0	1.29 H	253	12.50	35.50
4	4874.00	35.2 AV	54.0	-18.8	1.29 H	253	-0.30	35.50
5	7311.00	49.5 PK	74.0	-24.5	1.00 H	247	7.50	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.00 H	247	-4.70	42.00
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	100.2 PK			1.24 V	311	70.00	30.20
2	*2437.00	85.9 AV			1.24 V	311	55.70	30.20
3	4874.00	48.9 PK	74.0	-25.1	1.17 V	79	13.40	35.50
4	4874.00	35.6 AV	54.0	-18.4	1.17 V	79	0.10	35.50
5	7311.00	49.1 PK	74.0	-24.9	1.00 V	281	7.10	42.00
6	7311.00	37.5 AV	54.0	-16.5	1.00 V	281	-4.50	42.00

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.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	107.6 PK			1.45 H	10	77.30	30.30
2	*2462.00	98.1 AV			1.45 H	10	67.80	30.30
3	2483.50	72.7 PK	74.0	-1.3	1.44 H	18	42.30	30.40
4	2483.50	52.9 AV	54.0	-1.1	1.44 H	18	22.50	30.40
5	4924.00	48.7 PK	74.0	-25.3	1.23 H	177	13.10	35.60
6	4924.00	35.9 AV	54.0	-18.1	1.23 H	177	0.30	35.60
7	7386.00	49.2 PK	74.0	-24.8	1.00 H	65	7.10	42.10
8	7386.00	37.4 AV	54.0	-16.6	1.00 H	65	-4.70	42.10
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	*2462.00	100.6 PK			1.51 V	47	70.30	30.30
2	*2462.00	86.4 AV			1.51 V	47	56.10	30.30
3	2483.50	73.1 PK	74.0	-0.9	1.52 V	10	42.70	30.40
4	2483.50	45.4 AV	54.0	-8.6	1.52 V	10	15.00	30.40
5	4924.00	49.2 PK	74.0	-24.8	1.16 V	83	13.60	35.60
6	4924.00	36.3 AV	54.0	-17.7	1.16 V	83	0.70	35.60
7	7386.00	49.6 PK	74.0	-24.4	1.00 V	174	7.50	42.10
8	7386.00	37.7 AV	54.0	-16.3	1.00 V	174	-4.40	42.10

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.

802.11n (HT40)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	68.7 PK	74.0	-5.3	1.56 H	13	38.60	30.10
2	2390.00	52.6 AV	54.0	-1.4	1.56 H	13	22.50	30.10
3	*2422.00	101.3 PK			1.43 H	10	71.10	30.20
4	*2422.00	91.4 AV			1.43 H	10	61.20	30.20
5	4844.00	47.1 PK	74.0	-26.9	1.21 H	48	11.60	35.50
6	4844.00	34.2 AV	54.0	-19.8	1.21 H	48	-1.30	35.50
7	7266.00	48.1 PK	74.0	-25.9	1.00 H	126	6.20	41.90
8	7266.00	36.5 AV	54.0	-17.5	1.00 H	126	-5.40	41.90
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	61.9 PK	74.0	-12.1	1.32 V	48	31.80	30.10
2	2390.00	44.0 AV	54.0	-10.0	1.32 V	48	13.90	30.10
3	*2422.00	95.1 PK			1.36 V	236	64.90	30.20
4	*2422.00	86.1 AV			1.36 V	236	55.90	30.20
5	4844.00	47.6 PK	74.0	-26.4	1.14 V	79	12.10	35.50
6	4844.00	34.5 AV	54.0	-19.5	1.14 V	79	-1.00	35.50
7	7266.00	48.4 PK	74.0	-25.6	1.00 V	23	6.50	41.90
8	7266.00	36.7 AV	54.0	-17.3	1.00 V	23	-5.20	41.90

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.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	104.5 PK			1.44 H	271	74.30	30.20
2	*2437.00	86.6 AV			1.44 H	271	56.40	30.20
3	4874.00	47.7 PK	74.0	-26.3	1.25 H	66	12.20	35.50
4	4874.00	34.3 AV	54.0	-19.7	1.25 H	66	-1.20	35.50
5	7311.00	48.7 PK	74.0	-25.3	1.00 H	249	6.70	42.00
6	7311.00	36.8 AV	54.0	-17.2	1.00 H	249	-5.20	42.00
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	100.0 PK			1.33 V	236	69.80	30.20
2	*2437.00	89.8 AV			1.33 V	236	59.60	30.20
3	4874.00	47.8 PK	74.0	-26.2	1.19 V	86	12.30	35.50
4	4874.00	34.6 AV	54.0	-19.4	1.19 V	86	-0.90	35.50
5	7311.00	48.9 PK	74.0	-25.1	1.00 V	65	6.90	42.00
6	7311.00	36.9 AV	54.0	-17.1	1.00 V	65	-5.10	42.00

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.

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2452.00	103.5 PK			1.44 H	9	73.20	30.30
2	*2452.00	94.5 AV			1.44 H	9	64.20	30.30
3	2483.72	70.6 PK	74.0	-3.4	1.44 H	19	40.20	30.40
4	**2483.72**	**53.4 AV**	**54.0**	**-0.6**	**1.44 H**	**19**	**23.00**	**30.40**
5	4904.00	48.5 PK	74.0	-25.5	1.23 H	73	12.90	35.60
6	4904.00	35.4 AV	54.0	-18.6	1.23 H	73	-0.20	35.60
7	7356.00	49.2 PK	74.0	-24.8	1.00 H	252	7.20	42.00
8	7356.00	37.6 AV	54.0	-16.4	1.00 H	252	-4.40	42.00
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	*2452.00	99.0 PK			1.28 V	351	68.70	30.30
2	*2452.00	82.7 AV			1.28 V	351	52.40	30.30
3	2484.50	72.0 PK	74.0	-2.0	1.24 V	355	41.60	30.40
4	2484.50	46.3 AV	54.0	-7.7	1.24 V	355	15.90	30.40
5	4904.00	48.3 PK	74.0	-25.7	1.21 V	84	12.70	35.60
6	4904.00	35.2 AV	54.0	-18.8	1.21 V	84	-0.40	35.60
7	7356.00	49.1 PK	74.0	-24.9	1.00 V	67	7.10	42.00
8	7356.00	37.4 AV	54.0	-16.6	1.00 V	67	-4.60	42.00

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.

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

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. Tested date : June 18, 2014

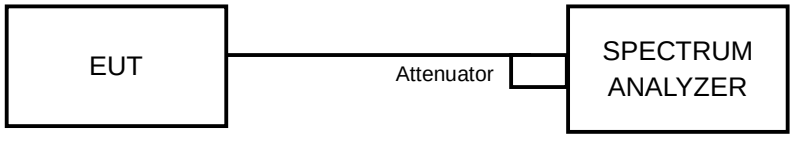
4.3.3 TEST PROCEDURE

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.09	0.5	PASS
6	2437	11.13	0.5	PASS
11	2462	12.10	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.34	0.5	PASS
6	2437	16.35	0.5	PASS
11	2462	16.34	0.5	PASS

802.11n (HT20)

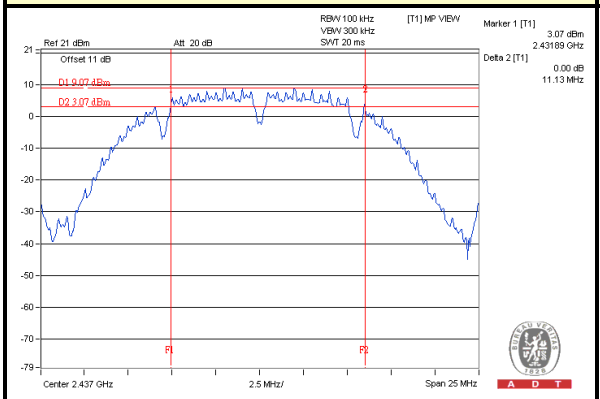
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.80	0.5	PASS
6	2437	16.43	0.5	PASS
11	2462	16.96	0.5	PASS

802.11n (HT40)

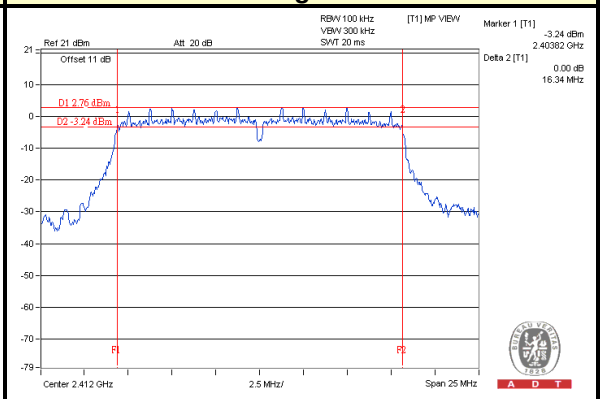
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.50	0.5	PASS
6	2437	35.48	0.5	PASS
9	2452	35.35	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

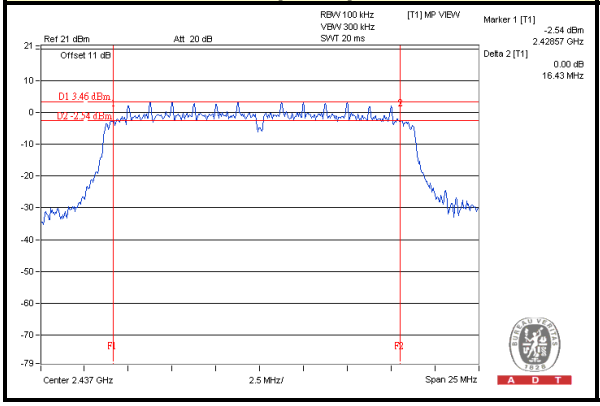
802.11b : CH6



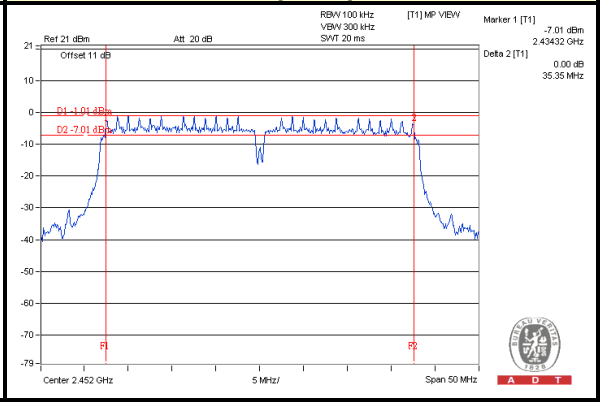
802.11g : CH1



802.11n (HT20) : CH6



802.11n (HT40) : CH6



4.4 CONDUCTED OUTPUT POWER MEASUREMENT

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	1014008	Apr. 30, 2014	Apr. 29, 2015
Power sensor Anritsu	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 2015

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. Tested date : June 18, 2014

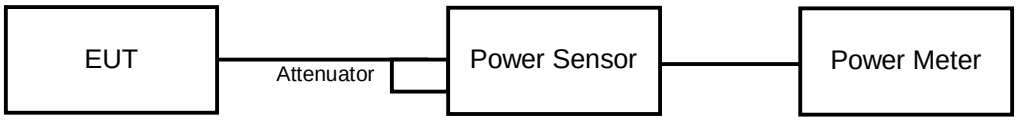
4.4.3 TEST PROCEDURES

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

FOR PEAK POWER

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	106.17	20.26	30	PASS
6	2437	105.925	20.25	30	PASS
11	2462	95.06	19.78	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	231.739	23.65	30	PASS
6	2437	228.56	23.59	30	PASS
11	2462	225.944	23.54	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	201.837	23.05	30	PASS
6	2437	206.538	23.15	30	PASS
11	2462	165.196	22.18	30	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
3	2422	124.451	20.95	30	PASS
6	2437	169.434	22.29	30	PASS
9	2452	145.211	21.62	30	PASS

FOR AVERAGE POWER

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	68.234	18.34
6	2437	67.920	18.32
11	2462	60.117	17.79

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	31.696	15.01
6	2437	33.574	15.26
11	2462	26.062	14.16

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	34.356	15.36
6	2437	32.961	15.18
11	2462	25.645	14.09

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
3	2422	22.699	13.56
6	2437	34.834	15.42
9	2452	24.946	13.97

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

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. Tested date : June 18, 2014

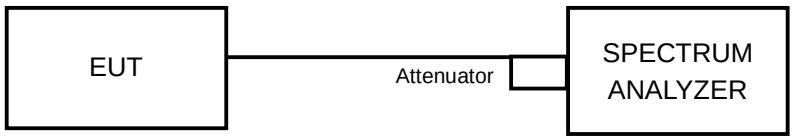
4.5.3 TEST PROCEDURE

1. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
2. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
3. Use the peak marker function to determine the maximum amplitude level.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-4.87	8	PASS
6	2437	-4.32	8	PASS
11	2462	-5.33	8	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-12.10	8	PASS
6	2437	-10.57	8	PASS
11	2462	-13.21	8	PASS

802.11n (HT20)

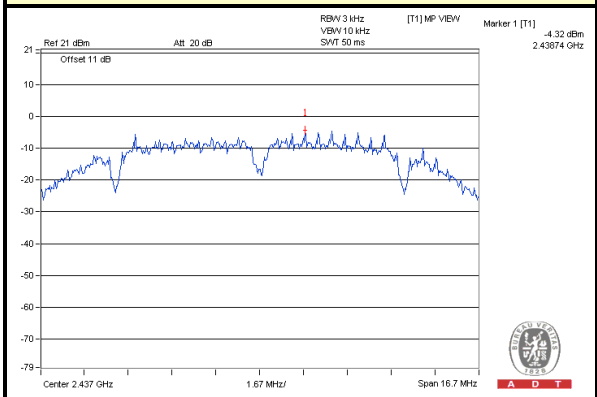
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-10.82	8	PASS
6	2437	-11.42	8	PASS
11	2462	-12.96	8	PASS

802.11n (HT40)

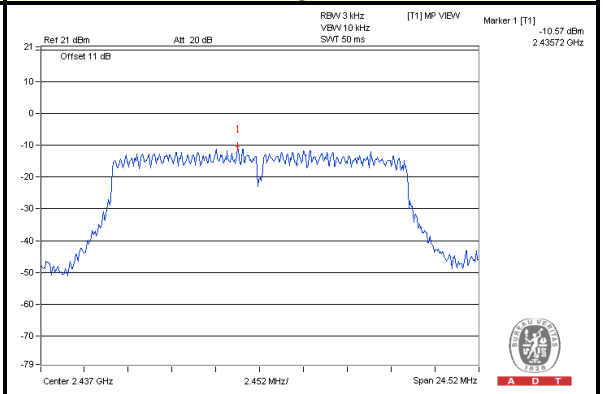
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
3	2422	-16.58	8	PASS
6	2437	-13.77	8	PASS
9	2452	-16.42	8	PASS

SPECTRUM PLOT OF WORST VALUE

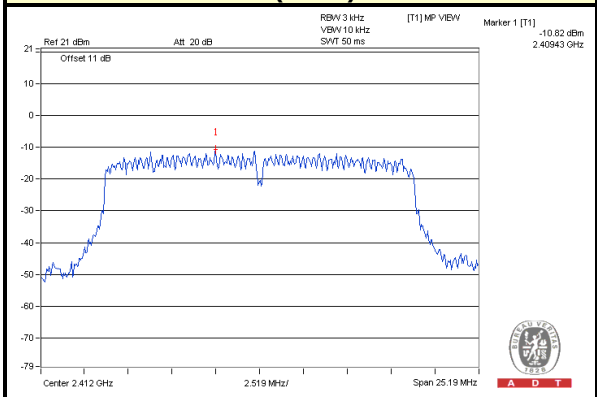
802.11b : CH6



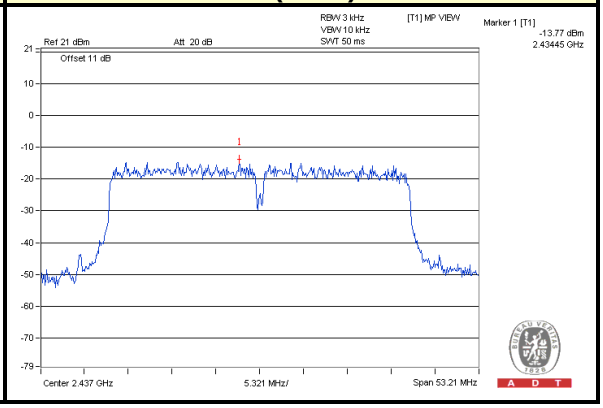
802.11g : CH6



802.11n (HT20) : CH1



802.11n (HT40) : CH6



4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

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. Tested date : June 18, 2014

4.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

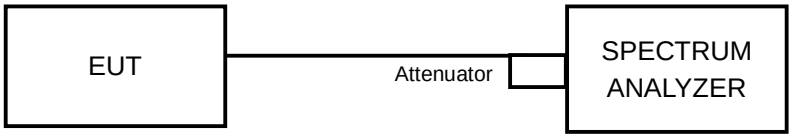
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

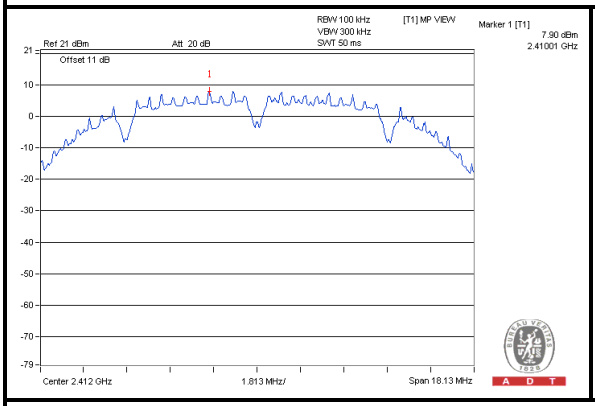
Same as Item 4.3.6

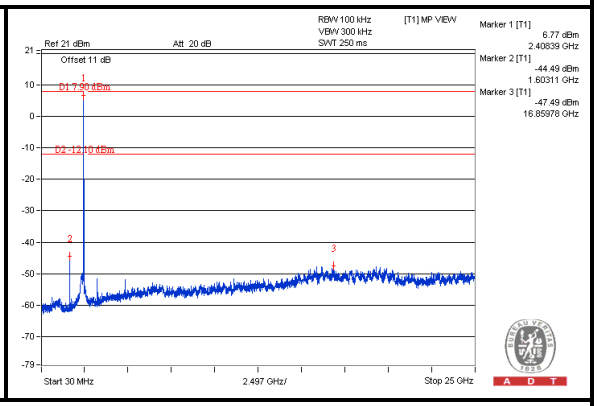
4.6.7 TEST RESULTS

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

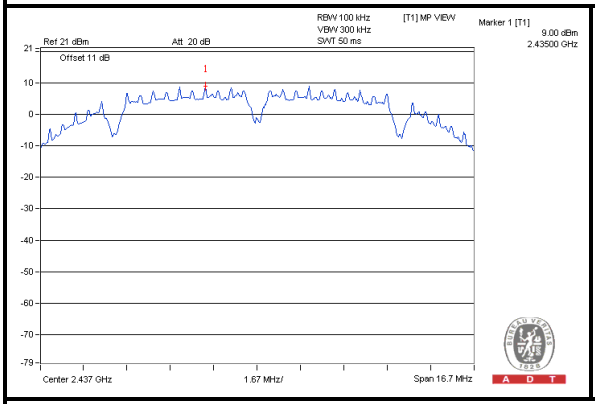
802.11b

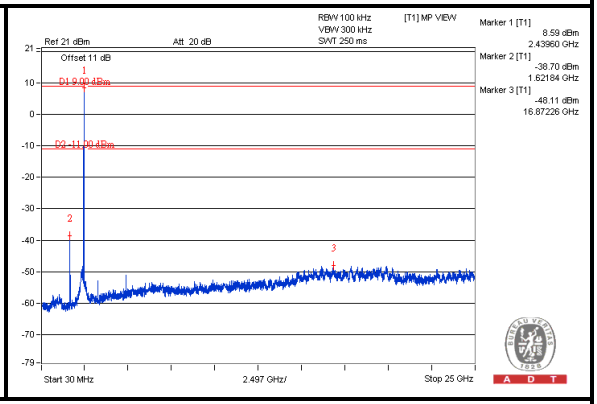
CH 1



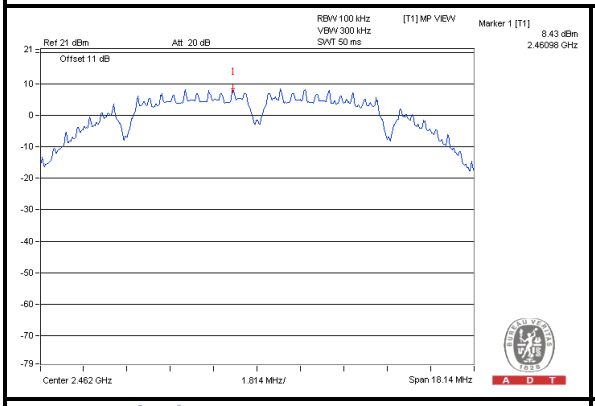


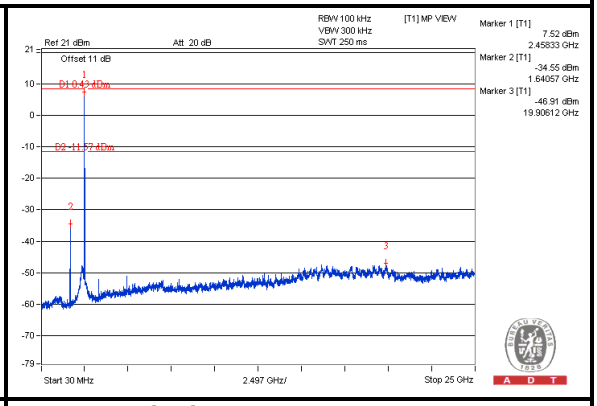
CH 6



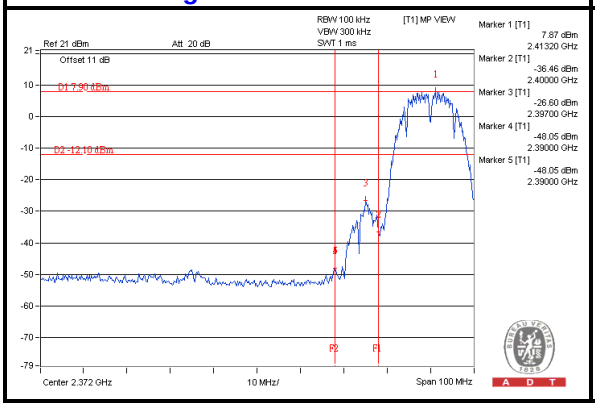


CH 11

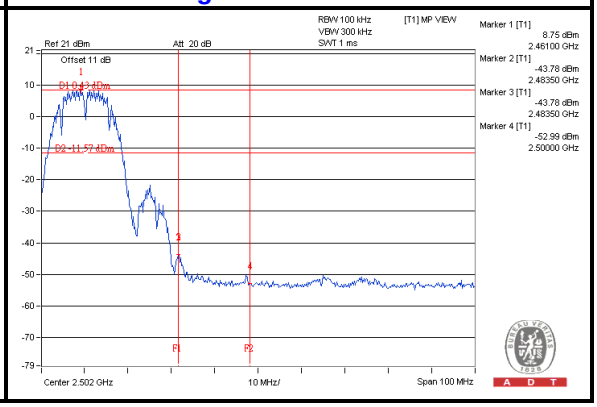




CH 1 Band edge

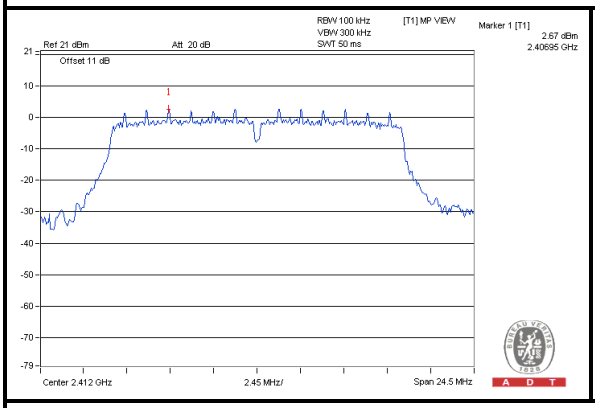


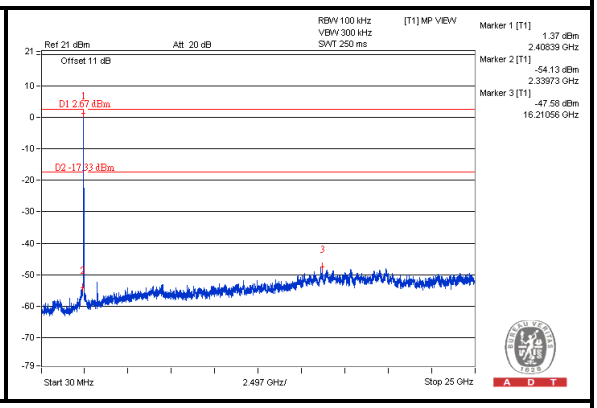
CH 11 Band edge



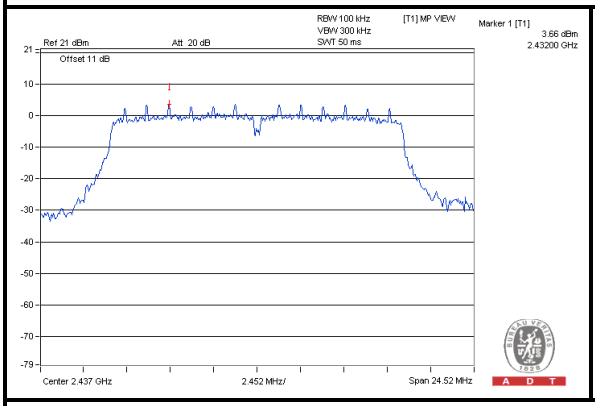
802.11g

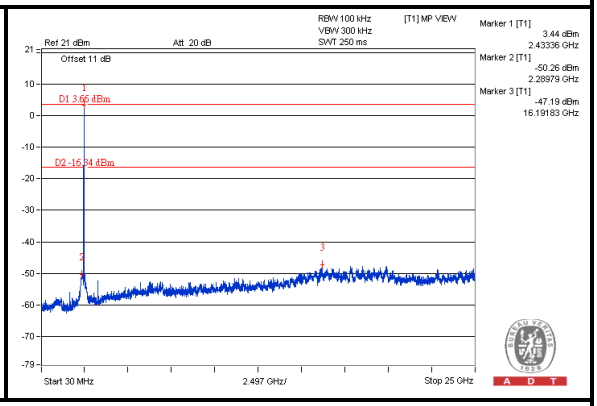
CH 1



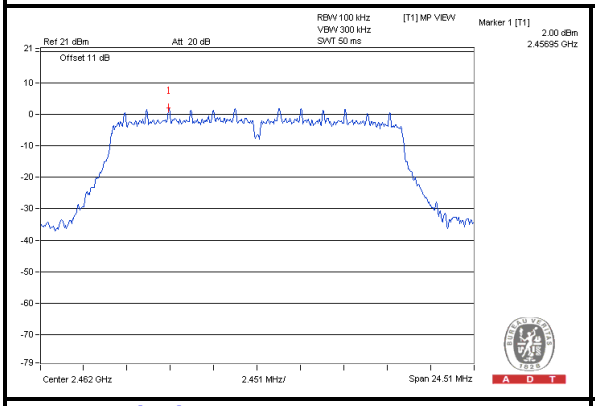


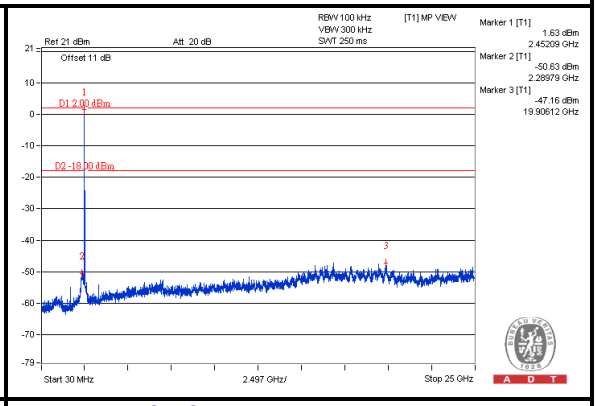
CH 6



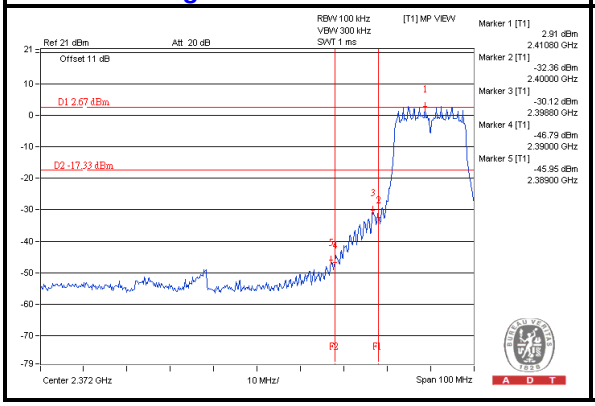


CH 11

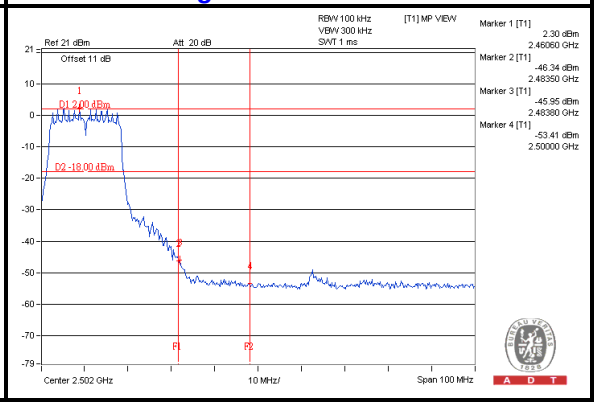




CH 1 Band edge

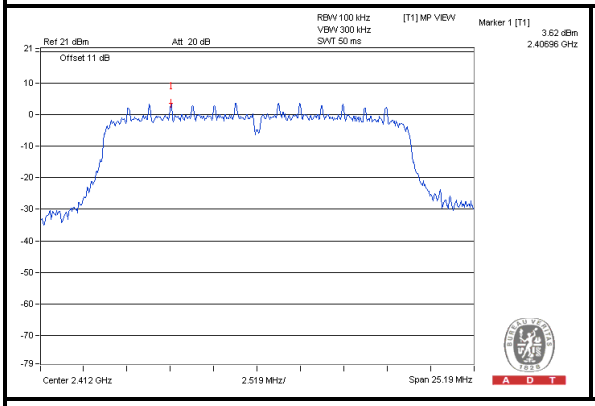


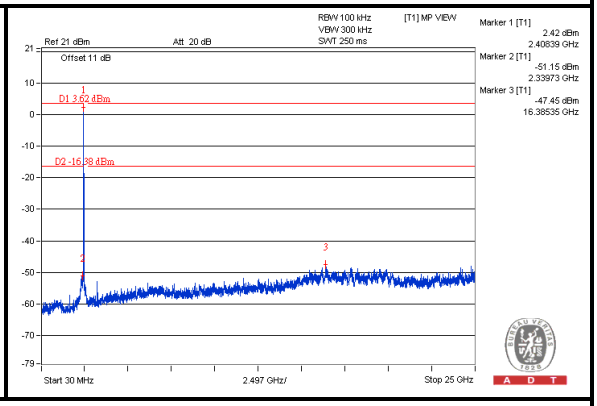
CH 11 Band edge



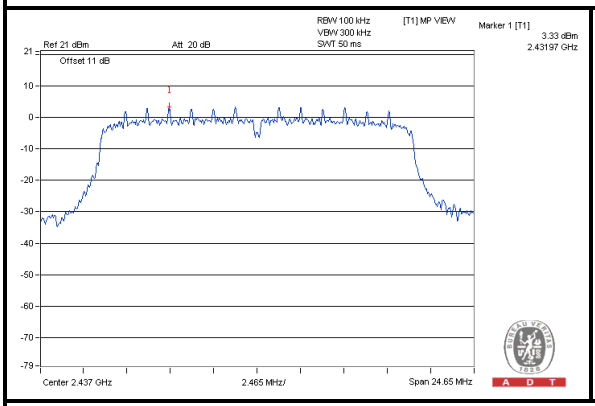
802.11n (HT20)

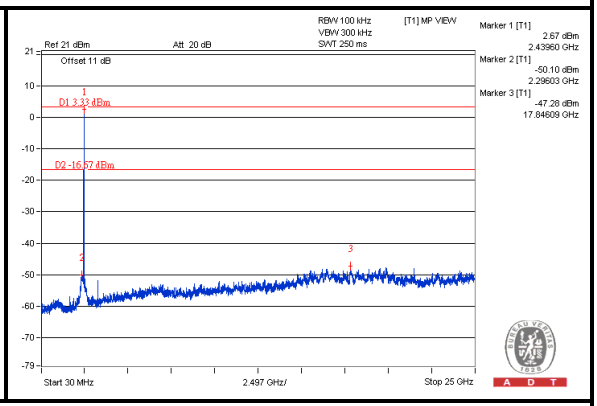
CH 1



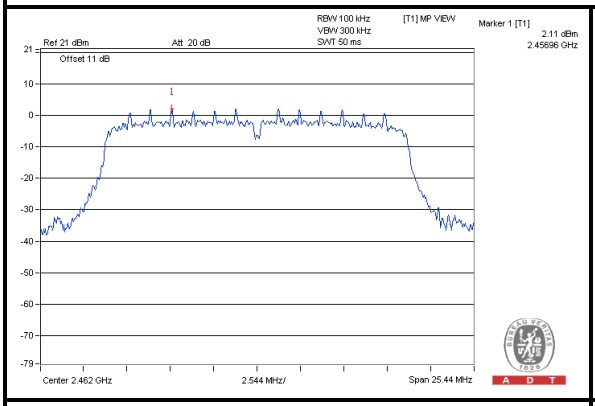


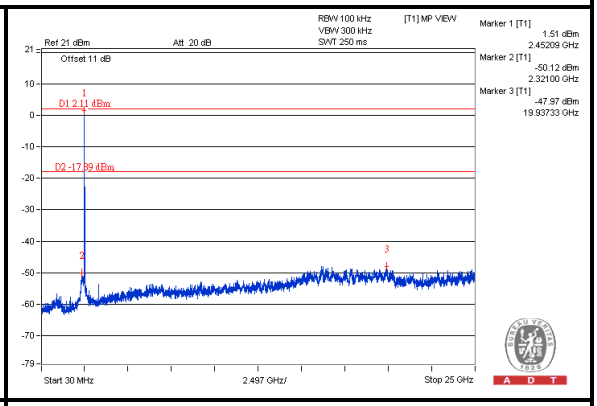
CH 6



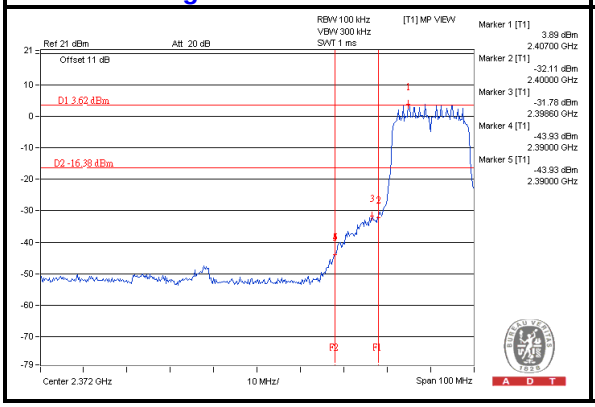


CH 11

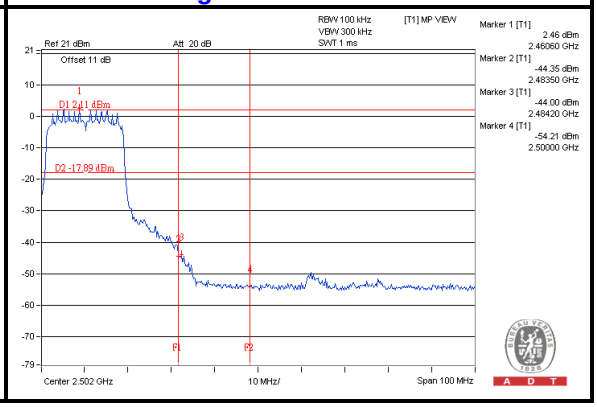




CH 1 Band edge

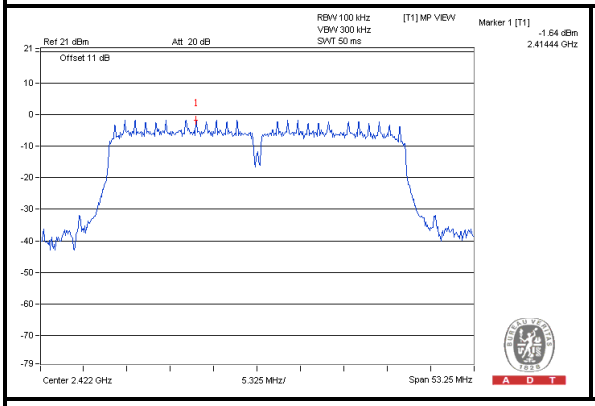


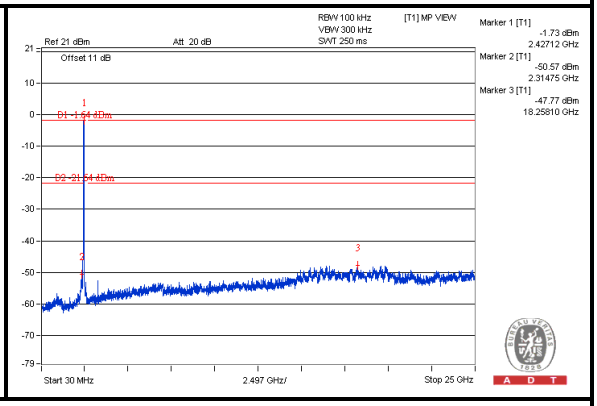
CH 11 Band edge



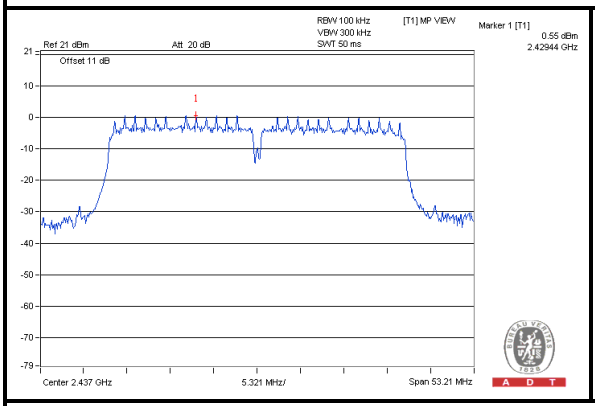
802.11n (HT40)

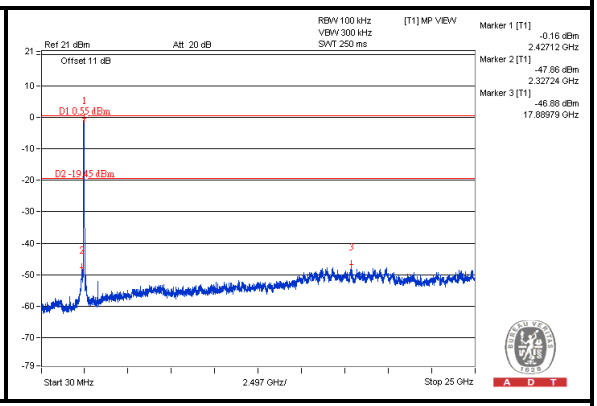
CH 3



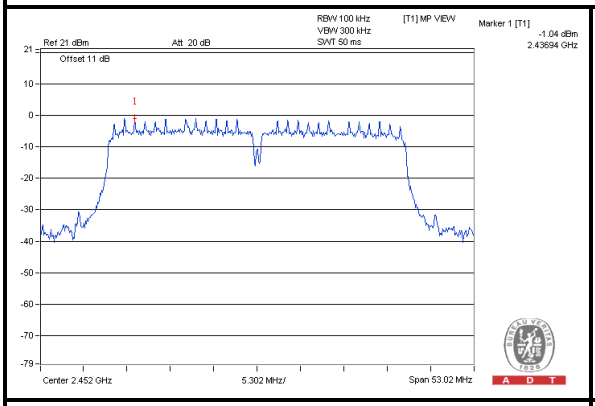


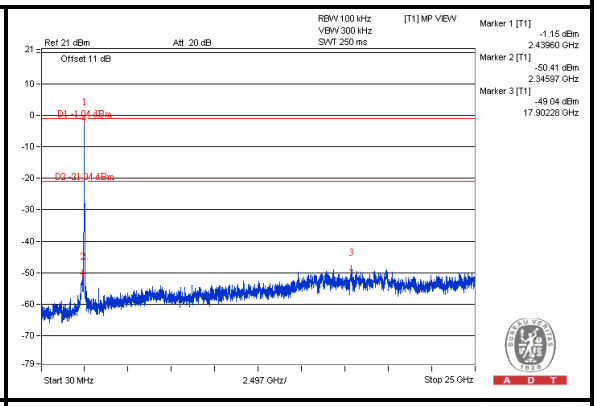
CH 6



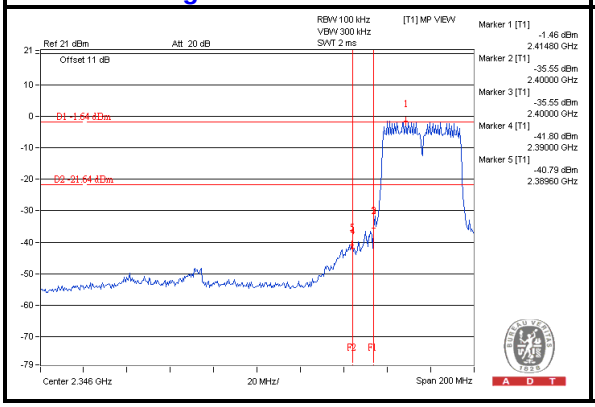


CH 9

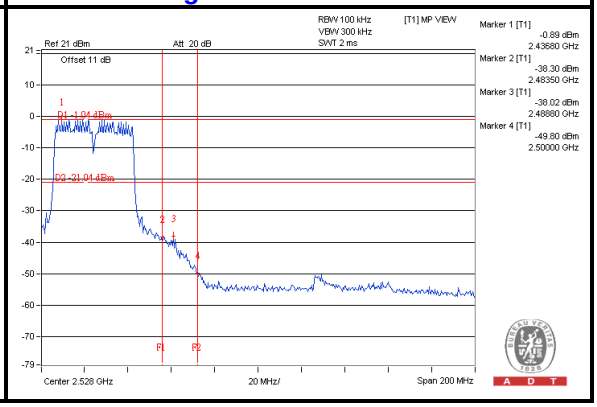




CH 3 Band edge



CH 9 Band edge



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. 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 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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Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
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Fax: 886-3-5935342

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

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

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

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---