FCC Test Report (15.247)

Report No.:	RF150422E07
FCC ID:	KA2IR868LC1
Test Model:	DIR-868L, DAP-1750
Received Date:	Apr. 22, 2015
Test Date:	Apr. 27 to May 08, 2015
Issued Date:	May 21, 2015
Applicant:	D-Link Corporation
Address:	No.289, Sinhu 3rd Rd., Neihu District, Taipei City 114, Taiwan, R.O.C.
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.

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Release Control Record

Issue No.	Description	Date Issued
RF150422E07	Original release.	May 21, 2015

1 Certificate of Conformity

Product:	Wireless AC1750 Dual Band Gigabit Cloud Router USB 3.0
Brand:	D-Link
Test Model:	DIR-868L, DAP-1750
Sample Status:	ENGINEERING SAMPLE
Applicant:	D-Link Corporation
Test Date:	Apr. 27 to May 08, 2015
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2009

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

Prepared by : _____ , **Date:** May 21, 2015

Lori Chung / Specialist

Approved by : _____ , **Date:** May 21, 2015

May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (SECTION 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.31dB at 0.37266MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2220.00MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted 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(MHF) not a standard connector.

NOTE: The EUT was operating in 2400 ~ 2483.5MHz, 5150~5250MHz and 5725~5850MHz frequencies band. This report was recorded the RF parameters including 2400 ~ 2483.5MHz and 5725~5850MHz. For the 5150~5250MHz RF parameters was recorded in another test report.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.65 dB
	6GHz ~ 18GHz	3.88 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless AC1750 Dual Band Gigabit Cloud Router USB 3.0
Brand	D-Link
Test Model	DIR-868L, DAP-1750
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 450Mbps 802.11ac: up to 1300Mbps
Operating Frequency	**For 15.407** 5.18 ~ 5.24GHz
	For 15.247 2.412 ~ 2.462GHz, 5.745 ~ 5.825GHz
Number of Channel	**For 15.407** 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
	For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) **For 15.247 (5GHz)** 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	**For 15.407** 802.11a: 295.88mW 802.11ac (VHT20): 414.695mW 802.11ac (VHT40): 279.009mW 802.11ac (VHT80): 76.884mW
	For 15.247 (2.4GHz) 802.11b: 260.338mW 802.11g: 223.301mW 802.11n (HT20): 252.52mW 802.11n (HT40): 129.897mW **For 15.247 (5GHz)** 802.11a: 522.641mW 802.11ac (VHT20): 514.507mW 802.11ac (VHT40): 520.364mW 802.11ac (VHT80): 195.207mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

Note:

1. The EUT has below Model names, which are identical to each other in all aspects except for the following information:

Model Name	Difference
DIR-868L	RJ45 port x 5, with WAN port and transformer
DAP-1750	RJ45 port x 4, without WAN port and transformer

2. 2.4GHz and 5GHz technology can transmit at same time.

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

Antenna No.	Transmitter Circuit	Brand	Model	Ant. Gain(dBi) <Including cable loss>	Frequency range (GHz to GHz)	Antenna Type	Connecter Type	Cable Length (mm)
1	Chain (0)	Alpha	WRGAC35-ANT 1	2.5	2.4~2.4835	PCB	Ipex(MHF)	60
				2.5	5.15~5.85			
2	Chain (1)		WRGAC35-ANT 2	2.5	2.4~2.4835			120
				2.5	5.15~5.85			
3	Chain (2)		WRGAC35-ANT 3	2.5	2.4~2.4835			110
				2.5	5.15~5.85			

4. The EUT must be supplied with a power adapter and following two different models could be chosen as following table:

No	Brand Name	Model No.	Spec.
1	D-LINK	AMS115-1202000FU	Input: 100-240V, 0.8A, 50/60Hz Output: 12V, 2A DC output cable: 1.2m, unshielded
2	D-LINK	WA-24Q12R	Input: 100-240V, 0.7A, 50/60Hz Output: 12V, 2A DC output cable: 1.2m, unshielded
For Radiated Emission test, the EUT was pre-tested with adapter 1 & 2, the worst case was found in adapter 2. Therefore only the test data of the adapter 2 was recorded in this report.			

5. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	3TX	3RX
802.11g	6 ~ 54Mbps	3TX	3RX
802.11n (HT20)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
802.11n (HT40)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	3TX	3RX
802.11n (HT20)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
802.11n (HT40)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
802.11ac (VHT20)	MCS 0~8, Nss=1	3TX	3RX
	MCS 0~8, Nss=2	3TX	3RX
	MCS 0~9, Nss=3	3TX	3RX
802.11ac (VHT40)	MCS 0~9, Nss=1	3TX	3RX
	MCS 0~9, Nss=2	3TX	3RX
	MCS 0~9, Nss=3	3TX	3RX
802.11ac (VHT80)	MCS 0~9, Nss=1	3TX	3RX
	MCS 0~9, Nss=2	3TX	3RX
	MCS 0~9, Nss=3	3TX	3RX

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

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

3.2 Description of Test Modes

For 2.4GHz:

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

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

7 channels are provided for 802.11n (HT40):

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

For 5GHz (5745 ~ 5825MHz):

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

For 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	Model: DIR-868L, with adapter 2
2	-	√	√	-	Model: DAP-1750, with adapter 2
3	-	-	√	-	Model: DIR-868L, with adapter 1
4	-	-	√	-	Model: DAP-1750, with adapter 1

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

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE: "-"means no effect.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

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

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1	DSSS	DBPSK	1

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)
802.11b	1 to 11	1	DSSS	DBPSK	1

Bandedge 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, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 9	OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	23deg. C, 69%RH	120Vac, 60Hz	Gary Cheng
RE<1G	23deg. C, 65%RH	120Vac, 60Hz	Gary Cheng
PLC	20deg. C, 70%RH 25deg. C, 70%RH	120Vac, 60Hz	Mike Hsieh
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

For 5GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	Model: DIR-868L, with adapter 2
2	-	√	√	-	Model: DAP-1750, with adapter 2
3	-	-	√	-	Model: DIR-868L, with adapter 1
4	-	-	√	-	Model: DAP-1750, with adapter 1

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement
NOTE: "-"means no effect.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	157	OFDM	BPSK	6

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)
802.11a	149 to 165	157	OFDM	BPSK	6

Bandedge 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)
802.11a	149 to 165	149, 165	OFDM	BPSK	6
802.11ac (VHT20)	149 to 165	149, 165	OFDM	BPSK	6.5
802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	23deg. C, 69%RH	120Vac, 60Hz	Gary Cheng
RE<1G	23deg. C, 65%RH	120Vac, 60Hz	Gary Cheng
PLC	20deg. C, 70%RH 25deg. C, 70%RH	120Vac, 60Hz	Mike Hsieh
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

2.4GHz Band:

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

If duty cycle of test signal is < 98%, duty factor shall be considered.

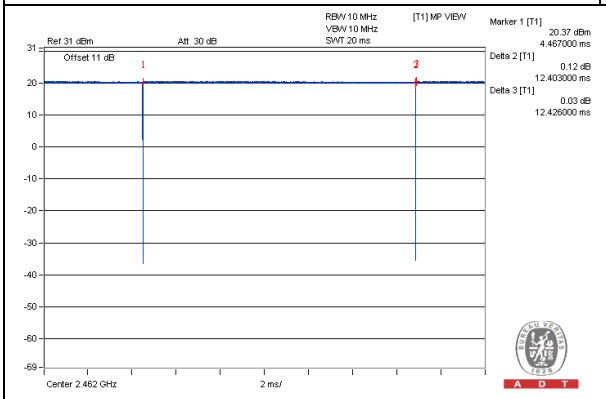
802.11b: Duty cycle = 12.403 ms/12.426 ms = 0.998

802.11g: Duty cycle = 2.063 ms/2.083 ms = 0.99

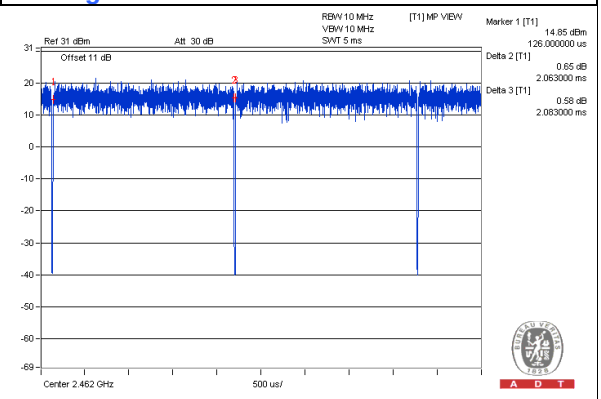
802.11n (HT20): Duty cycle = 1.918 ms/1.939 ms = 0.989

802.11n (HT40): Duty cycle = 0.942 ms/0.962 ms = 0.979, Duty factor = 10 * log(1/0.979) = 0.09

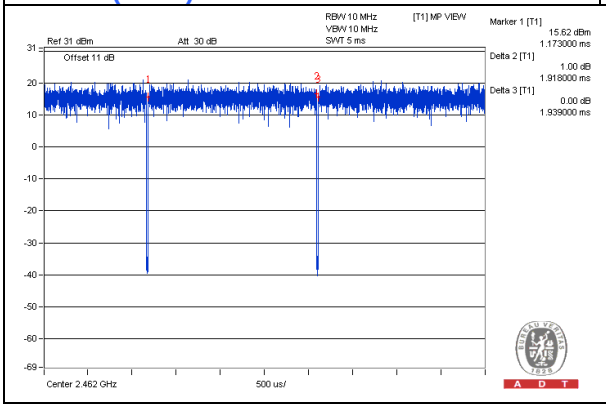
802.11b



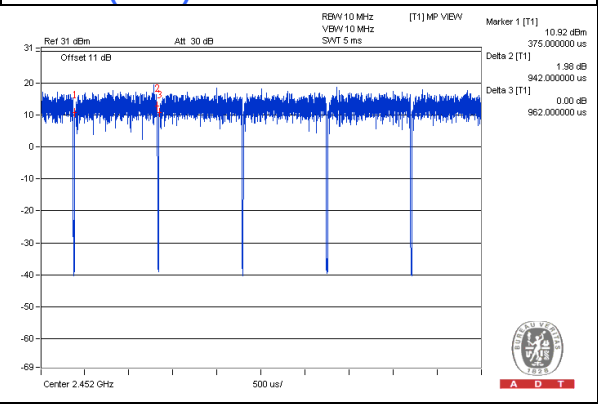
802.11g



802.11n (HT20)



802.11n (HT40)



5GHz Band:

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

If duty cycle of test signal is < 98%, duty factor shall be considered.

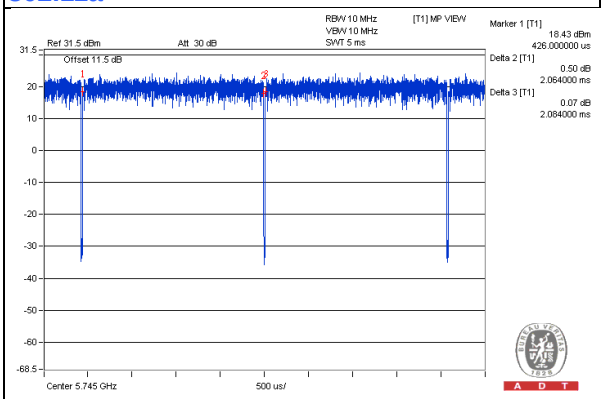
802.11a: Duty cycle = 2.064 ms/2.084 ms = 0.99

802.11ac (VHT20): Duty cycle = 1.919 ms/1.938 ms = 0.99

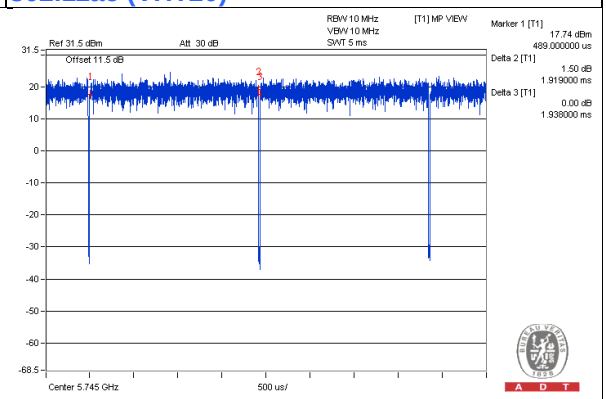
802.11ac (VHT40): Duty cycle = 0.943 ms/0.97 ms = 0.972, Duty factor = 10 * log(1/0.972) = 0.12

802.11ac (VHT80): Duty cycle = 0.459 ms/0.478 ms = 0.96, Duty factor = 10 * log(1/0.96) = 0.18

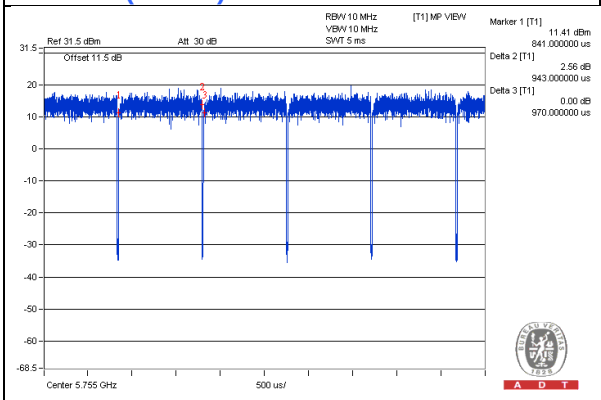
802.11a



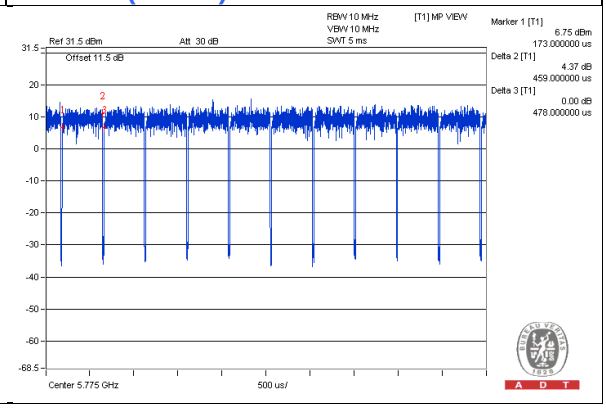
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 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	Remark
A	USB 3.0 HDD	Transcend	JetFlash 700	NA	NA	Provided by Lab
B	NOTEBOOK COMOPUTER	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
C	NOTEBOOK COMOPUTER	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
D	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab

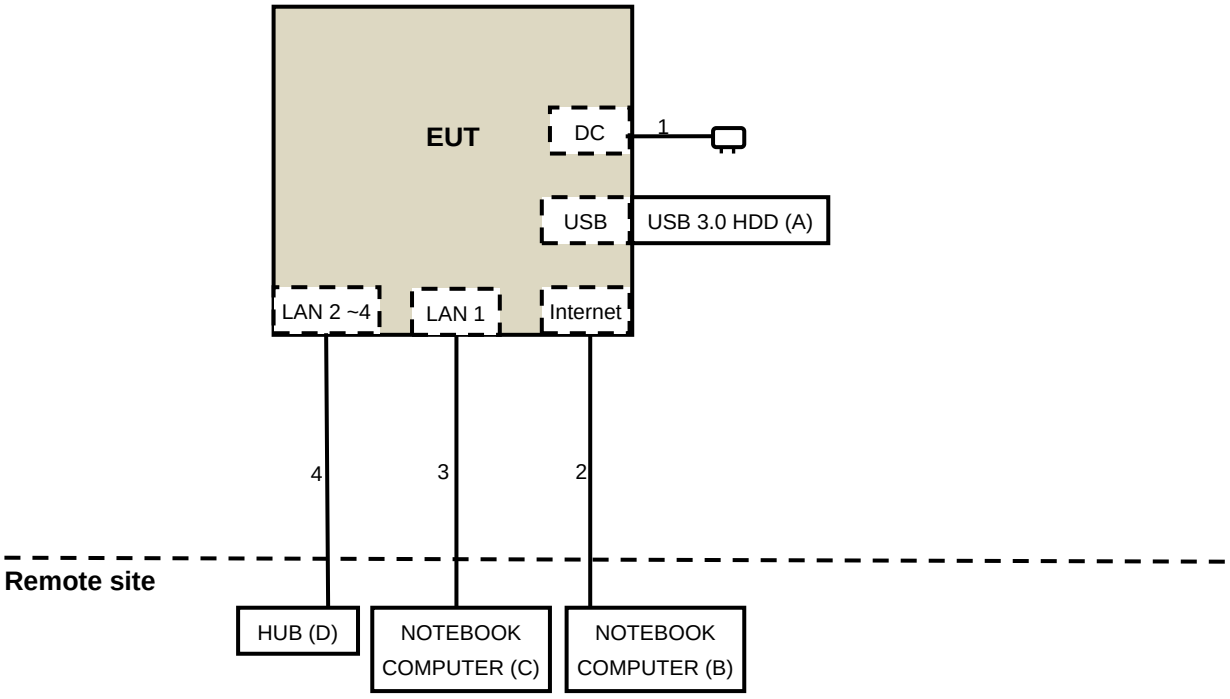
NOTE:

1. All power cords of the above support units are non-shielded (1.8 m).

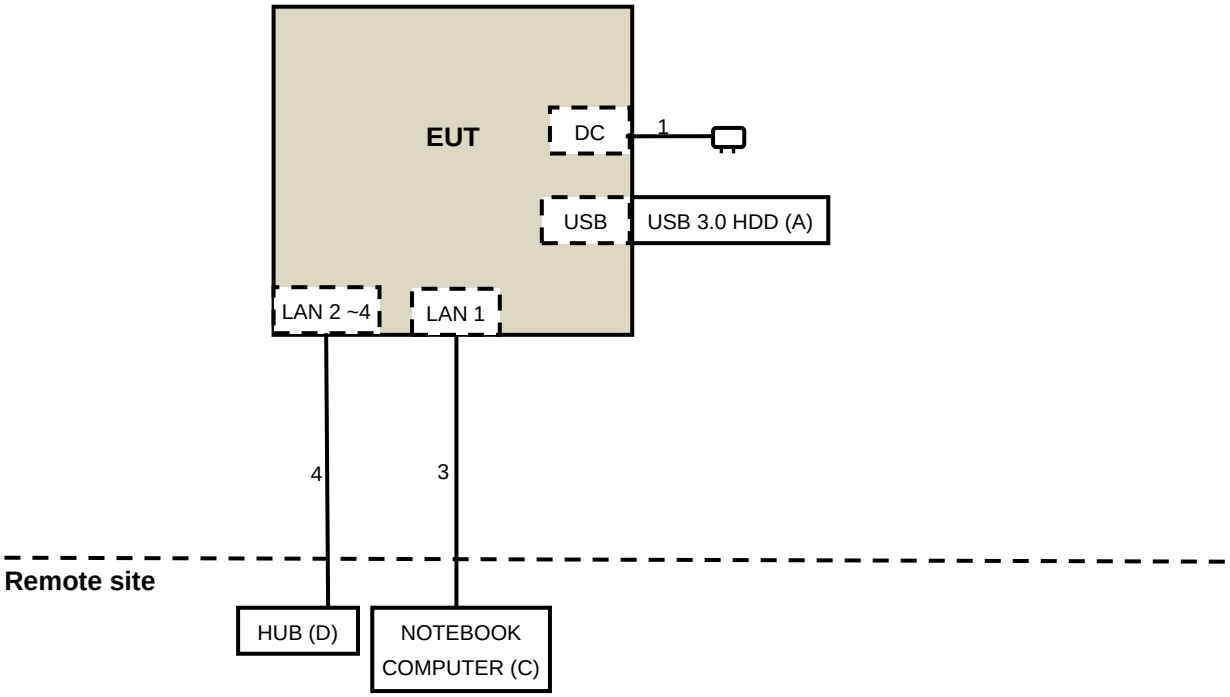
No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1	DC	1	1.2	No	0	Supplied by Client
2	RJ45	1	10	No	0	Provided by Lab
3	RJ45	1	10	No	0	Provided by Lab
4	RJ45	3	10	No	0	Provided by Lab

3.4.1 Configuration of System under Test

For Model: DIR-868L mode:



For Model: DAP-1750 mode:



3.5 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
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2009

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

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

4 Test Types and Results (For 2.4GHz Band)

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

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

4.1.2 Test Instruments

For Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 21, 2014	July 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 09, 2015	Feb. 08, 2016
RF Cable	NA	CHGCAB_001	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	131205 131216 131217 SNMY23684/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Power Meter Anritsu	ML2495A	0824006	May 22, 2014	May 21, 2015
Power Sensor Anritsu	MA2411B	0738172	May 22, 2014	May 21, 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. 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. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Apr. 30 to May 07, 2015

For Below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 06, 2015	Feb. 05, 2016
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Feb. 06, 2015	Feb. 05, 2016
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131213 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
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: May 01, 2015

4.1.3 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:

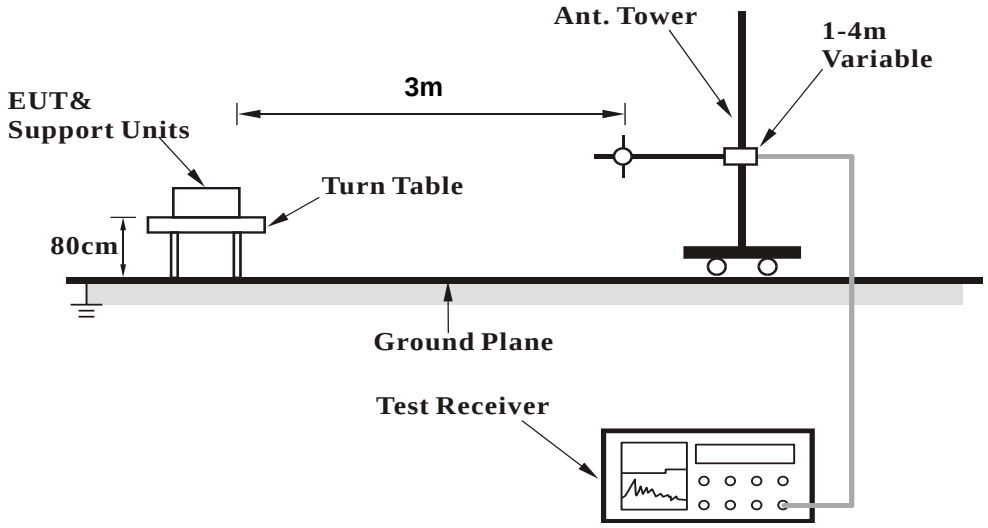
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
4. 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)).
5. 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.
6. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

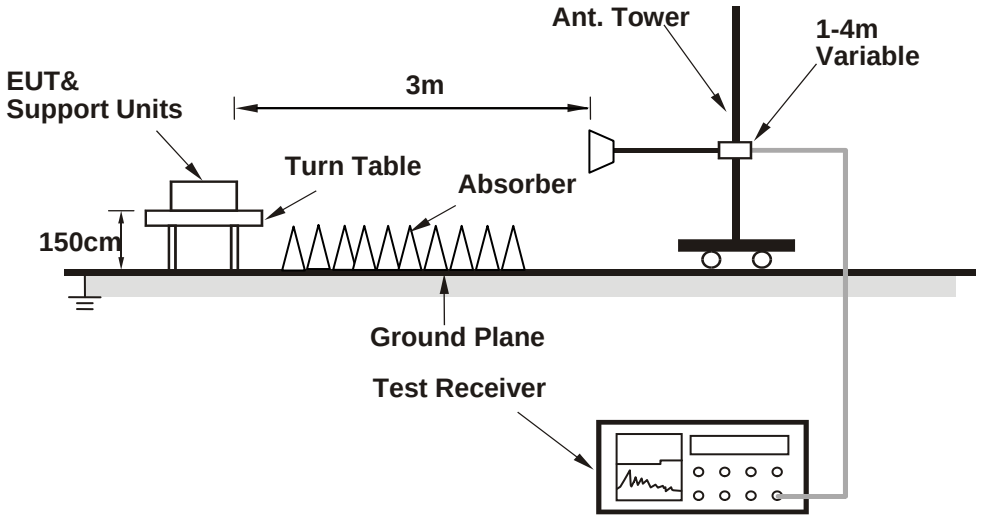
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

For Model: DIR-868L mode:

1. Connect the EUT with the supports units B & C (NOTEBOOK COMPUTER) which is placed on remote site.
2. Controlling software (MTool 2.0.1.0.msi) has been activated to set the EUT on specific status.

For Model: DAP-1750 mode:

1. Connect the EUT with the support unit C (NOTEBOOK COMPUTER) which is placed on remote site.
2. Controlling software (MTool 2.0.1.0.msi) has been activated to set the EUT on specific status.

4.1.7 Test Results (Mode 1)

Above 1GHz Data:

802.11b

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

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	2211.40	66.1 PK	74.0	-7.9	1.76 H	177	72.47	-6.37
2	2211.40	53.8 AV	54.0	-0.2	1.76 H	177	60.17	-6.37
3	2390.00	61.8 PK	74.0	-12.2	1.23 H	360	67.65	-5.85
4	2390.00	53.7 AV	54.0	-0.3	1.23 H	360	59.55	-5.85
5	*2412.00	114.5 PK			1.23 H	360	120.25	-5.75
6	*2412.00	112.1 AV			1.23 H	360	117.85	-5.75
7	4824.00	50.4 PK	74.0	-23.6	1.02 H	261	48.48	1.92
8	4824.00	44.0 AV	54.0	-10.0	1.02 H	261	42.08	1.92
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	2211.40	63.1 PK	74.0	-10.9	1.67 V	92	69.47	-6.37
2	2211.40	53.0 AV	54.0	-1.0	1.67 V	92	59.37	-6.37
3	2390.00	62.2 PK	74.0	-11.8	1.43 V	331	68.05	-5.85
4	2390.00	53.5 AV	54.0	-0.5	1.43 V	331	59.35	-5.85
5	*2412.00	114.5 PK			1.43 V	331	120.25	-5.75
6	*2412.00	112.1 AV			1.43 V	331	117.85	-5.75
7	4824.00	48.3 PK	74.0	-25.7	1.18 V	234	46.38	1.92
8	4824.00	40.1 AV	54.0	-13.9	1.18 V	234	38.18	1.92

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2220.00	67.1 PK	74.0	-6.9	1.01 H	348	73.44	-6.34
2	2220.00	53.6 AV	54.0	-0.4	1.01 H	348	59.94	-6.34
3	2357.00	57.3 PK	74.0	-16.7	1.69 H	354	63.26	-5.96
4	2357.00	49.7 AV	54.0	-4.3	1.69 H	354	55.66	-5.96
5	*2437.00	113.6 PK			1.15 H	340	119.21	-5.61
6	*2437.00	111.2 AV			1.15 H	340	116.81	-5.61
7	4874.00	49.4 PK	74.0	-24.6	1.02 H	66	47.31	2.09
8	4874.00	40.7 AV	54.0	-13.3	1.02 H	66	38.61	2.09
9	7311.00	55.0 PK	74.0	-19.0	1.06 H	64	45.79	9.21
10	7311.00	42.9 AV	54.0	-11.1	1.06 H	64	33.69	9.21
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	2220.00	69.6 PK	74.0	-4.4	1.11 V	92	75.94	-6.34
2	**2220.00**	**53.9 AV**	**54.0**	**-0.1**	**1.11 V**	**92**	**60.24**	**-6.34**
3	2357.00	56.9 PK	74.0	-17.1	1.00 V	92	62.86	-5.96
4	2357.00	48.6 AV	54.0	-5.4	1.00 V	92	54.56	-5.96
5	*2437.00	114.2 PK			1.02 V	94	119.81	-5.61
6	*2437.00	111.6 AV			1.02 V	94	117.21	-5.61
7	4874.00	50.0 PK	74.0	-24.0	1.14 V	236	47.91	2.09
8	4874.00	41.8 AV	54.0	-12.2	1.14 V	236	39.71	2.09
9	7311.00	55.9 PK	74.0	-18.1	1.04 V	226	46.69	9.21
10	7311.00	43.4 AV	54.0	-10.6	1.04 V	226	34.19	9.21

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2220.00	66.5 PK	74.0	-7.5	1.10 H	4	72.84	-6.34
2	2220.00	53.6 AV	54.0	-0.4	1.10 H	4	59.94	-6.34
3	*2462.00	113.6 PK			1.00 H	360	119.07	-5.47
4	*2462.00	111.2 AV			1.00 H	360	116.67	-5.47
5	2483.50	59.6 PK	74.0	-14.4	1.00 H	360	64.94	-5.34
6	2483.50	49.2 AV	54.0	-4.8	1.00 H	360	54.54	-5.34
7	4924.00	50.6 PK	74.0	-23.4	1.02 H	78	48.32	2.28
8	4924.00	44.0 AV	54.0	-10.0	1.02 H	78	41.72	2.28
9	7386.00	55.6 PK	74.0	-18.4	1.04 H	83	46.29	9.31
10	7386.00	43.0 AV	54.0	-11.0	1.04 H	83	33.69	9.31
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	114.0 PK			1.02 V	90	119.47	-5.47
2	*2462.00	111.6 AV			1.02 V	90	117.07	-5.47
3	4924.00	50.2 PK	74.0	-23.8	1.18 V	210	47.92	2.28
4	4924.00	42.0 AV	54.0	-12.0	1.18 V	210	39.72	2.28
5	7386.00	55.6 PK	74.0	-18.4	1.03 V	222	46.29	9.31
6	7386.00	43.4 AV	54.0	-10.6	1.03 V	222	34.09	9.31

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	73.2 PK	74.0	-0.8	1.05 H	2	79.05	-5.85
2	2390.00	52.6 AV	54.0	-1.4	1.05 H	2	58.45	-5.85
3	*2412.00	112.2 PK			1.05 H	2	117.95	-5.75
4	*2412.00	101.6 AV			1.05 H	2	107.35	-5.75
5	4824.00	49.8 PK	74.0	-24.2	1.00 H	67	47.88	1.92
6	4824.00	43.5 AV	54.0	-10.5	1.00 H	67	41.58	1.92
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	73.7 PK	74.0	-0.3	1.82 V	340	79.55	-5.85
2	2390.00	53.0 AV	54.0	-1.0	1.82 V	340	58.85	-5.85
3	*2412.00	113.4 PK			1.82 V	340	119.15	-5.75
4	*2412.00	102.2 AV			1.82 V	340	107.95	-5.75
5	4824.00	49.7 PK	74.0	-24.3	1.20 V	211	47.78	1.92
6	4824.00	41.2 AV	54.0	-12.8	1.20 V	211	39.28	1.92

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2220.00	66.6 PK	74.0	-7.4	1.25 H	360	72.94	-6.34
2	2220.00	53.4 AV	54.0	-0.6	1.25 H	360	59.74	-6.34
3	*2437.00	111.5 PK			1.19 H	356	117.11	-5.61
4	*2437.00	101.7 AV			1.19 H	356	107.31	-5.61
5	4874.00	50.5 PK	74.0	-23.5	1.04 H	70	48.41	2.09
6	4874.00	43.9 AV	54.0	-10.1	1.04 H	70	41.81	2.09
7	7311.00	55.6 PK	74.0	-18.4	1.09 H	82	46.39	9.21
8	7311.00	43.1 AV	54.0	-10.9	1.09 H	82	33.89	9.21
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	2220.00	64.9 PK	74.0	-9.1	1.92 V	330	71.24	-6.34
2	2220.00	53.8 AV	54.0	-0.2	1.92 V	330	60.14	-6.34
3	*2437.00	114.2 PK			1.85 V	330	119.81	-5.61
4	*2437.00	104.2 AV			1.85 V	330	109.81	-5.61
5	4874.00	50.0 PK	74.0	-24.0	1.20 V	218	47.91	2.09
6	4874.00	41.7 AV	54.0	-12.3	1.20 V	218	39.61	2.09
7	7311.00	55.6 PK	74.0	-18.4	1.00 V	218	46.39	9.21
8	7311.00	43.2 AV	54.0	-10.8	1.00 V	218	33.99	9.21

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	112.7 PK			1.06 H	4	118.17	-5.47
2	*2462.00	102.5 AV			1.06 H	4	107.97	-5.47
3	2483.50	73.2 PK	74.0	-0.8	1.06 H	4	78.54	-5.34
4	2483.50	51.5 AV	54.0	-2.5	1.06 H	4	56.84	-5.34
5	4924.00	50.5 PK	74.0	-23.5	1.00 H	70	48.22	2.28
6	4924.00	43.9 AV	54.0	-10.1	1.00 H	70	41.62	2.28
7	7386.00	55.8 PK	74.0	-18.2	1.08 H	74	46.49	9.31
8	7386.00	43.3 AV	54.0	-10.7	1.08 H	74	33.99	9.31
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	113.8 PK			1.82 V	300	119.27	-5.47
2	*2462.00	103.6 AV			1.82 V	300	109.07	-5.47
3	2483.50	73.6 PK	74.0	-0.4	1.82 V	300	78.94	-5.34
4	2483.50	52.2 AV	54.0	-1.8	1.82 V	300	57.54	-5.34
5	4924.00	50.1 PK	74.0	-23.9	1.13 V	213	47.82	2.28
6	4924.00	41.8 AV	54.0	-12.2	1.13 V	213	39.52	2.28
7	7386.00	54.9 PK	74.0	-19.1	1.09 V	210	45.59	9.31
8	7386.00	42.9 AV	54.0	-11.1	1.09 V	210	33.59	9.31

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	73.3 PK	74.0	-0.7	1.08 H	3	79.15	-5.85
2	2390.00	52.2 AV	54.0	-1.8	1.08 H	3	58.05	-5.85
3	*2412.00	111.8 PK			1.08 H	3	117.55	-5.75
4	*2412.00	101.1 AV			1.08 H	3	106.85	-5.75
5	4824.00	50.2 PK	74.0	-23.8	1.02 H	57	48.28	1.92
6	4824.00	44.0 AV	54.0	-10.0	1.02 H	57	42.08	1.92
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	73.8 PK	74.0	-0.2	1.80 V	360	79.65	-5.85
2	2390.00	53.2 AV	54.0	-0.8	1.80 V	360	59.05	-5.85
3	*2412.00	113.4 PK			1.80 V	360	119.15	-5.75
4	*2412.00	102.6 AV			1.80 V	360	108.35	-5.75
5	4824.00	50.0 PK	74.0	-24.0	1.26 V	221	48.08	1.92
6	4824.00	41.3 AV	54.0	-12.7	1.26 V	221	39.38	1.92

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2220.00	66.4 PK	74.0	-7.6	1.19 H	356	72.74	-6.34
2	2220.00	53.3 AV	54.0	-0.7	1.19 H	356	59.64	-6.34
3	*2437.00	112.2 PK			1.15 H	360	117.81	-5.61
4	*2437.00	102.2 AV			1.15 H	360	107.81	-5.61
5	4874.00	50.1 PK	74.0	-23.9	1.02 H	78	48.01	2.09
6	4874.00	43.4 AV	54.0	-10.6	1.02 H	78	41.31	2.09
7	7311.00	55.8 PK	74.0	-18.2	1.13 H	70	46.59	9.21
8	7311.00	43.3 AV	54.0	-10.7	1.13 H	70	34.09	9.21
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	2220.00	64.2 PK	74.0	-9.8	1.94 V	330	70.54	-6.34
2	2220.00	53.4 AV	54.0	-0.6	1.94 V	330	59.74	-6.34
3	*2437.00	114.2 PK			1.82 V	340	119.81	-5.61
4	*2437.00	104.2 AV			1.82 V	340	109.81	-5.61
5	4874.00	50.0 PK	74.0	-24.0	1.22 V	228	47.91	2.09
6	4874.00	41.9 AV	54.0	-12.1	1.22 V	228	39.81	2.09
7	7311.00	55.9 PK	74.0	-18.1	1.02 V	211	46.69	9.21
8	7311.00	43.2 AV	54.0	-10.8	1.02 V	211	33.99	9.21

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	110.8 PK			1.19 H	336	116.27	-5.47
2	*2462.00	99.4 AV			1.19 H	336	104.87	-5.47
3	2483.50	73.3 PK	74.0	-0.7	1.19 H	336	78.64	-5.34
4	2483.50	50.6 AV	54.0	-3.4	1.19 H	336	55.94	-5.34
5	4924.00	50.5 PK	74.0	-23.5	1.00 H	76	48.22	2.28
6	4924.00	44.1 AV	54.0	-9.9	1.00 H	76	41.82	2.28
7	7386.00	55.8 PK	74.0	-18.2	1.11 H	61	46.49	9.31
8	7386.00	43.3 AV	54.0	-10.7	1.11 H	61	33.99	9.31
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	111.3 PK			1.19 V	64	116.77	-5.47
2	*2462.00	101.1 AV			1.19 V	64	106.57	-5.47
3	2483.50	73.6 PK	74.0	-0.4	1.19 V	64	78.94	-5.34
4	2483.50	48.9 AV	54.0	-5.1	1.19 V	64	54.24	-5.34
5	4924.00	50.3 PK	74.0	-23.7	1.09 V	229	48.02	2.28
6	4924.00	41.9 AV	54.0	-12.1	1.09 V	229	39.62	2.28
7	7386.00	55.1 PK	74.0	-18.9	1.09 V	208	45.79	9.31
8	7386.00	43.0 AV	54.0	-11.0	1.09 V	208	33.69	9.31

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	63.6 PK	74.0	-10.4	1.46 H	113	69.45	-5.85
2	2390.00	49.1 AV	54.0	-4.9	1.46 H	113	54.95	-5.85
3	*2422.00	103.1 PK			1.46 H	113	108.79	-5.69
4	*2422.00	91.7 AV			1.46 H	113	97.39	-5.69
5	4844.00	50.3 PK	74.0	-23.7	1.02 H	71	48.32	1.98
6	4844.00	44.1 AV	54.0	-9.9	1.02 H	71	42.12	1.98
7	7266.00	55.4 PK	74.0	-18.6	1.05 H	54	46.23	9.17
8	7266.00	43.0 AV	54.0	-11.0	1.05 H	54	33.83	9.17
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	69.9 PK	74.0	-4.1	1.07 V	72	75.75	-5.85
2	2390.00	53.6 AV	54.0	-0.4	1.07 V	72	59.45	-5.85
3	*2422.00	106.3 PK			1.07 V	72	111.99	-5.69
4	*2422.00	95.5 AV			1.07 V	72	101.19	-5.69
5	4844.00	49.9 PK	74.0	-24.1	1.13 V	244	47.92	1.98
6	4844.00	41.6 AV	54.0	-12.4	1.13 V	244	39.62	1.98
7	7266.00	55.2 PK	74.0	-18.8	1.12 V	206	46.03	9.17
8	7266.00	43.4 AV	54.0	-10.6	1.12 V	206	34.23	9.17

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	69.2 PK	74.0	-4.8	1.42 H	101	75.05	-5.85
2	2390.00	53.2 AV	54.0	-0.8	1.42 H	101	59.05	-5.85
3	*2437.00	108.8 PK			1.42 H	101	114.41	-5.61
4	*2437.00	98.5 AV			1.42 H	101	104.11	-5.61
5	4874.00	50.2 PK	74.0	-23.8	1.02 H	45	48.11	2.09
6	4874.00	44.0 AV	54.0	-10.0	1.02 H	45	41.91	2.09
7	7311.00	55.8 PK	74.0	-18.2	1.10 H	38	46.59	9.21
8	7311.00	43.1 AV	54.0	-10.9	1.10 H	38	33.89	9.21
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	70.2 PK	74.0	-3.8	1.07 V	70	76.05	-5.85
2	2390.00	53.8 AV	54.0	-0.2	1.07 V	70	59.65	-5.85
3	*2437.00	111.8 PK			1.07 V	70	117.41	-5.61
4	*2437.00	101.3 AV			1.07 V	70	106.91	-5.61
5	4874.00	49.1 PK	74.0	-24.9	1.10 V	235	47.01	2.09
6	4874.00	41.0 AV	54.0	-13.0	1.10 V	235	38.91	2.09
7	7311.00	55.3 PK	74.0	-18.7	1.15 V	212	46.09	9.21
8	7311.00	43.4 AV	54.0	-10.6	1.15 V	212	34.19	9.21

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	107.3 PK			1.40 H	100	112.82	-5.52
2	*2452.00	97.0 AV			1.40 H	100	102.52	-5.52
3	2483.50	71.4 PK	74.0	-2.6	1.40 H	100	76.74	-5.34
4	2483.50	51.4 AV	54.0	-2.6	1.40 H	100	56.74	-5.34
5	4904.00	50.7 PK	74.0	-23.3	1.05 H	37	48.50	2.20
6	4904.00	44.4 AV	54.0	-9.6	1.05 H	37	42.20	2.20
7	7356.00	55.7 PK	74.0	-18.3	1.09 H	47	46.43	9.27
8	7356.00	42.7 AV	54.0	-11.3	1.09 H	47	33.43	9.27
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	110.3 PK			1.07 V	70	115.82	-5.52
2	*2452.00	99.8 AV			1.07 V	70	105.32	-5.52
3	2483.50	73.6 PK	74.0	-0.4	1.07 V	70	78.94	-5.34
4	2483.50	53.2 AV	54.0	-0.8	1.07 V	70	58.54	-5.34
5	4904.00	48.3 PK	74.0	-25.7	1.00 V	206	46.10	2.20
6	4904.00	40.1 AV	54.0	-13.9	1.00 V	206	37.90	2.20
7	7356.00	55.4 PK	74.0	-18.6	1.14 V	200	46.13	9.27
8	7356.00	43.6 AV	54.0	-10.4	1.14 V	200	34.33	9.27

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.

Below 1GHz Data:

802.11b

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	76.12	29.9 QP	40.0	-10.2	2.00 H	289	46.51	-16.66
2	111.53	32.4 QP	43.5	-11.1	1.50 H	287	48.15	-15.78
3	172.54	35.2 QP	43.5	-8.3	1.50 H	104	48.90	-13.66
4	212.65	31.8 QP	43.5	-11.8	1.50 H	360	47.84	-16.09
5	275.41	34.8 QP	46.0	-11.2	1.00 H	88	47.61	-12.83
6	361.59	29.4 QP	46.0	-16.6	1.50 H	1	39.76	-10.34
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	30.34	34.4 QP	40.0	-5.6	1.00 V	94	49.26	-14.88
2	37.52	37.0 QP	40.0	-3.0	1.00 V	301	50.98	-14.00
3	76.46	31.9 QP	40.0	-8.1	1.00 V	1	48.67	-16.81
4	119.68	37.0 QP	43.5	-6.5	1.00 V	21	52.17	-15.19
5	214.16	35.2 QP	43.5	-8.3	1.50 V	360	51.27	-16.05
6	817.35	35.3 QP	46.0	-10.7	1.00 V	89	36.52	-1.18

REMARKS:

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

4.1.8 Test Results (Mode 2)

Below 1GHz Data:

802.11b

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	76.56	32.3 QP	40.0	-7.7	2.00 H	324	49.18	-16.85
2	109.64	32.9 QP	43.5	-10.6	1.50 H	310	48.90	-16.02
3	148.10	27.0 QP	43.5	-16.5	1.50 H	294	39.80	-12.77
4	273.13	29.0 QP	46.0	-17.1	1.00 H	82	41.91	-12.96
5	351.85	26.9 QP	46.0	-19.1	1.00 H	275	37.60	-10.66
6	940.15	35.1 QP	46.0	-10.9	1.50 H	312	34.04	1.04
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	30.05	32.0 QP	40.0	-8.0	1.50 V	58	46.92	-14.88
2	76.66	35.4 QP	40.0	-4.6	1.00 V	314	52.33	-16.89
3	116.72	35.1 QP	43.5	-8.4	1.50 V	1	50.58	-15.49
4	148.15	28.1 QP	43.5	-15.4	1.00 V	64	40.84	-12.77
5	804.01	36.1 QP	46.0	-9.9	1.50 V	1	37.49	-1.42
6	956.98	33.6 QP	46.0	-12.4	2.00 V	99	32.44	1.16

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	847124/029	Oct. 22, 2014	Oct. 21, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 15, 2014	Sep. 14, 2015
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015
RF Cable (JYEBAO)	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
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: Apr. 27 to May 08, 2015

4.2.3 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. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

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

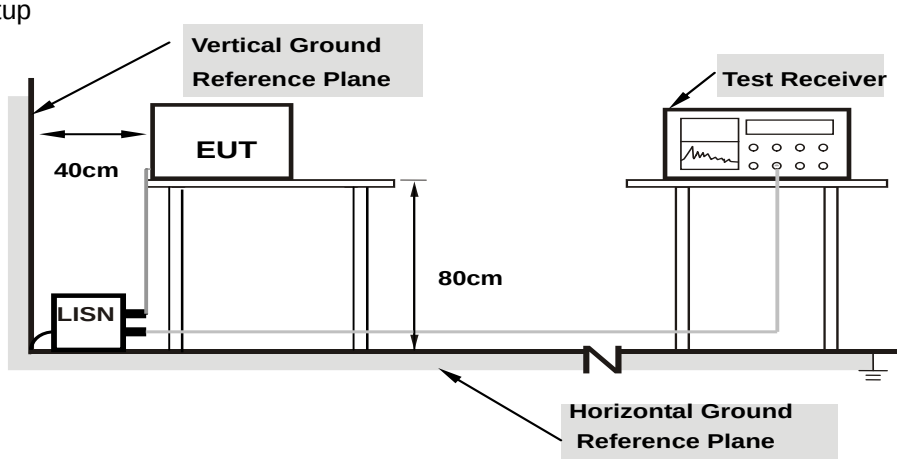
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

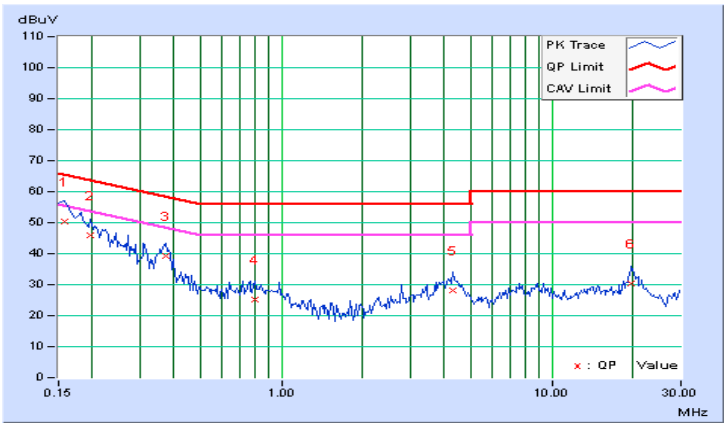
4.2.7 Test Results (Mode 1)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.08	50.31	41.08	50.39	41.16	65.58	55.58	-15.19	-14.42
2	0.19687	0.09	45.92	38.33	46.01	38.42	63.74	53.74	-17.73	-15.32
3	0.37266	0.10	39.25	32.52	39.35	32.62	58.44	48.44	-19.09	-15.82
4	0.79844	0.12	25.11	18.47	25.23	18.59	56.00	46.00	-30.77	-27.41
5	4.31641	0.23	28.01	19.49	28.24	19.72	56.00	46.00	-27.76	-26.28
6	19.70703	0.69	29.75	23.50	30.44	24.19	60.00	50.00	-29.56	-25.81

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.

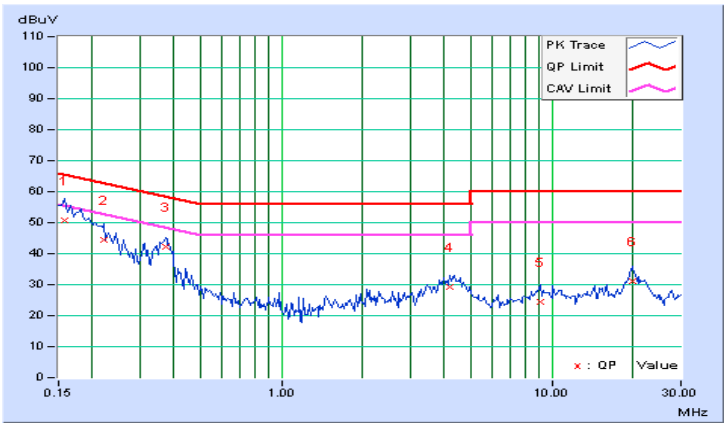


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.08	50.59	41.06	50.67	41.14	65.58	55.58	-14.91	-14.44
2	0.22031	0.08	44.28	36.26	44.36	36.34	62.81	52.81	-18.45	-16.47
3	0.37266	0.10	42.11	35.86	42.21	35.96	58.44	48.44	-16.23	-12.48
4	4.18750	0.24	29.01	19.96	29.25	20.20	56.00	46.00	-26.75	-25.80
5	9.03125	0.42	23.88	18.28	24.30	18.70	60.00	50.00	-35.70	-31.30
6	19.96875	0.74	30.43	24.85	31.17	25.59	60.00	50.00	-28.83	-24.41

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.



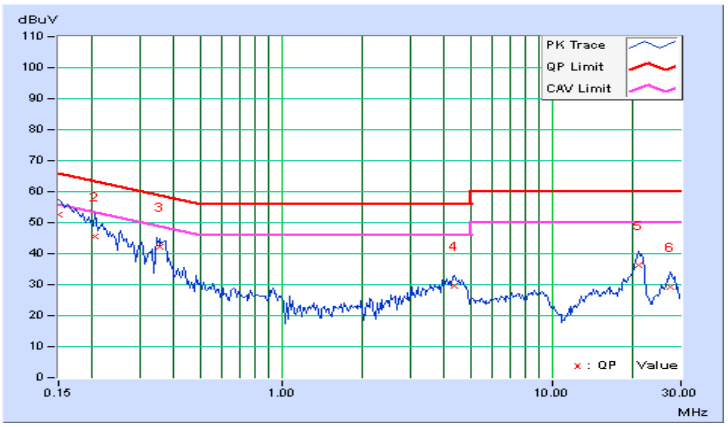
4.2.8 Test Results (Mode 2)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.08	52.57	43.12	52.65	43.20	66.00	56.00	-13.35	-12.80
2	0.20469	0.09	45.39	37.63	45.48	37.72	63.42	53.42	-17.94	-15.70
3	0.35313	0.10	42.07	36.86	42.17	36.96	58.89	48.89	-16.72	-11.93
4	4.37891	0.23	29.29	19.88	29.52	20.11	56.00	46.00	-26.48	-25.89
5	20.96875	0.72	35.41	28.07	36.13	28.79	60.00	50.00	-23.87	-21.21
6	27.53906	0.87	28.46	21.25	29.33	22.12	60.00	50.00	-30.67	-27.88

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.

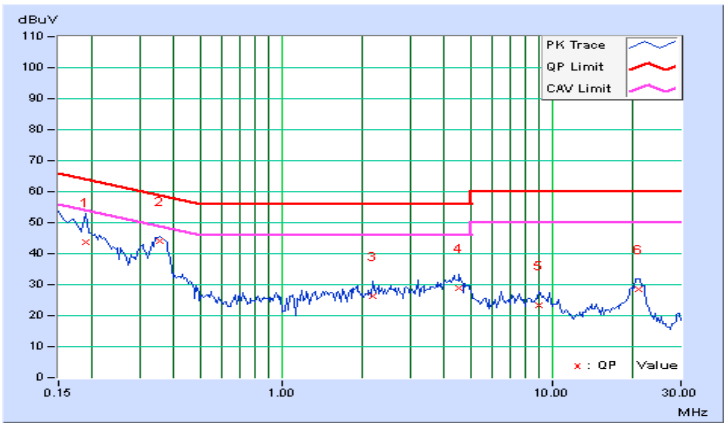


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	0.08	43.52	34.53	43.60	34.61	64.08	54.08	-20.48	-19.47
2	0.35313	0.10	43.90	38.64	44.00	38.74	58.89	48.89	-14.89	-10.15
3	2.17578	0.18	26.28	19.99	26.46	20.17	56.00	46.00	-29.54	-25.83
4	4.52344	0.25	28.55	20.37	28.80	20.62	56.00	46.00	-27.20	-25.38
5	8.97266	0.42	22.96	16.91	23.38	17.33	60.00	50.00	-36.62	-32.67
6	20.84375	0.76	27.90	20.80	28.66	21.56	60.00	50.00	-31.34	-28.44

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.



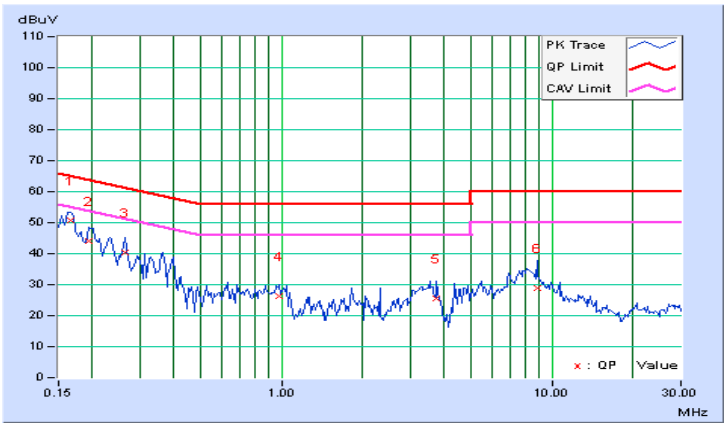
4.2.9 Test Results (Mode 3)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.08	50.51	44.21	50.59	44.29	65.18	55.18	-14.58	-10.88
2	0.19297	0.09	44.01	35.48	44.10	35.57	63.91	53.91	-19.81	-18.34
3	0.26328	0.09	40.38	35.06	40.47	35.15	61.33	51.33	-20.85	-16.17
4	0.98594	0.13	26.23	21.98	26.36	22.11	56.00	46.00	-29.64	-23.89
5	3.75391	0.21	25.19	17.96	25.40	18.17	56.00	46.00	-30.60	-27.83
6	8.83594	0.41	28.42	24.05	28.83	24.46	60.00	50.00	-31.17	-25.54

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.

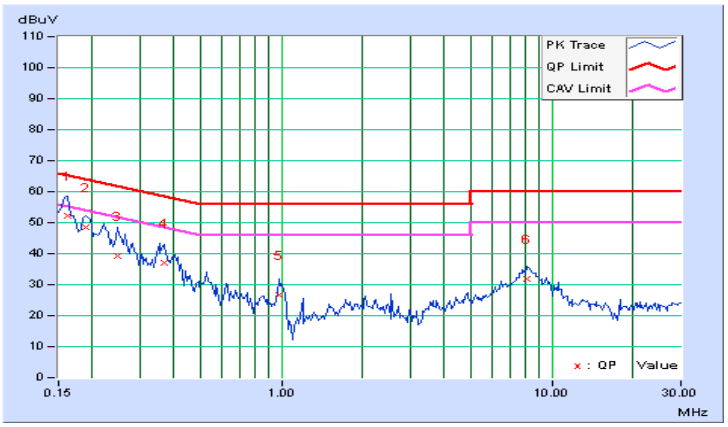


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.08	52.20	44.54	52.28	44.62	65.38	55.38	-13.10	-10.76
2	0.18906	0.08	48.60	41.80	48.68	41.88	64.08	54.08	-15.40	-12.20
3	0.24766	0.08	39.00	29.71	39.08	29.79	61.84	51.84	-22.75	-22.04
4	0.36875	0.10	37.02	31.94	37.12	32.04	58.53	48.53	-21.41	-16.49
5	0.98594	0.13	26.63	21.67	26.76	21.80	56.00	46.00	-29.24	-24.20
6	8.11719	0.39	31.36	27.02	31.75	27.41	60.00	50.00	-28.25	-22.59

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.



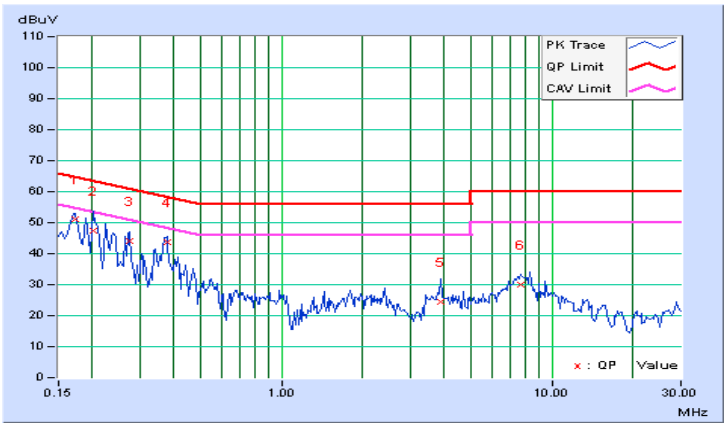
4.2.10 Test Results (Mode 4)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	0.08	51.05	43.99	51.13	44.07	64.79	54.79	-13.66	-10.72
2	0.20078	0.09	47.21	38.63	47.30	38.72	63.58	53.58	-16.28	-14.86
3	0.27500	0.09	43.88	38.70	43.97	38.79	60.97	50.97	-16.99	-12.17
4	0.37656	0.10	43.46	40.42	43.56	40.52	58.35	48.35	-14.80	-7.84
5	3.88672	0.22	24.16	18.40	24.38	18.62	56.00	46.00	-31.62	-27.38
6	7.69922	0.36	29.68	24.99	30.04	25.35	60.00	50.00	-29.96	-24.65

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.

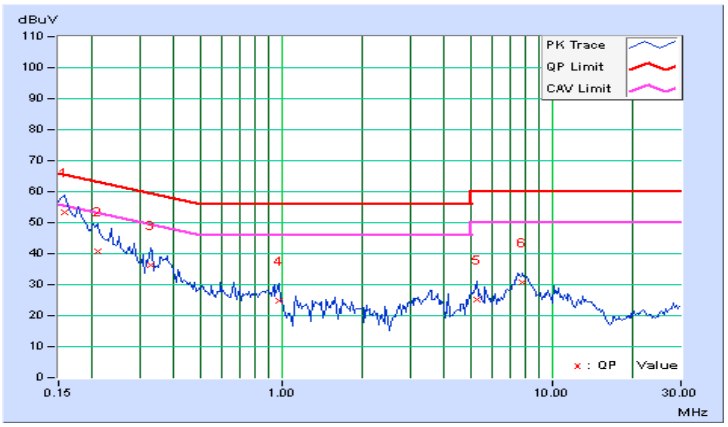


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.08	53.09	44.78	53.17	44.86	65.58	55.58	-12.41	-10.72
2	0.20859	0.08	40.76	30.71	40.84	30.79	63.26	53.26	-22.42	-22.47
3	0.32969	0.09	36.34	27.03	36.43	27.12	59.46	49.46	-23.03	-22.34
4	0.97813	0.13	24.54	18.00	24.67	18.13	56.00	46.00	-31.33	-27.87
5	5.27734	0.28	24.92	16.55	25.20	16.83	60.00	50.00	-34.80	-33.17
6	7.79688	0.38	30.27	25.45	30.65	25.83	60.00	50.00	-29.35	-24.17

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.

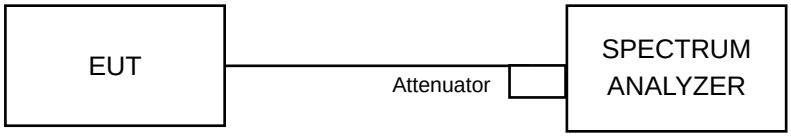


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

4.3.5 Deviation fromTest Standard

No deviation.

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 Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	8.14	8.12	8.55	0.5	Pass
6	2437	8.12	8.12	8.11	0.5	Pass
11	2462	8.14	8.11	8.14	0.5	Pass

802.11g

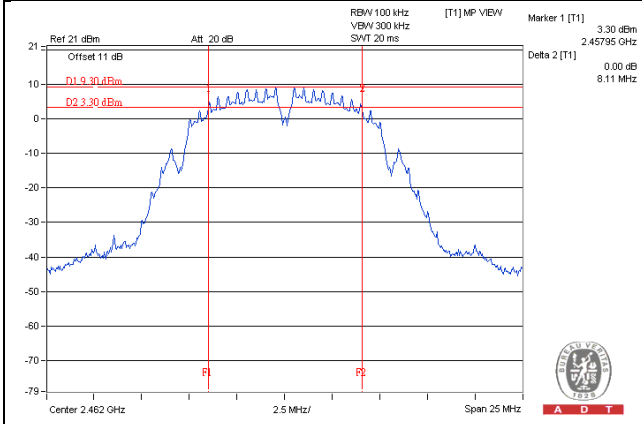
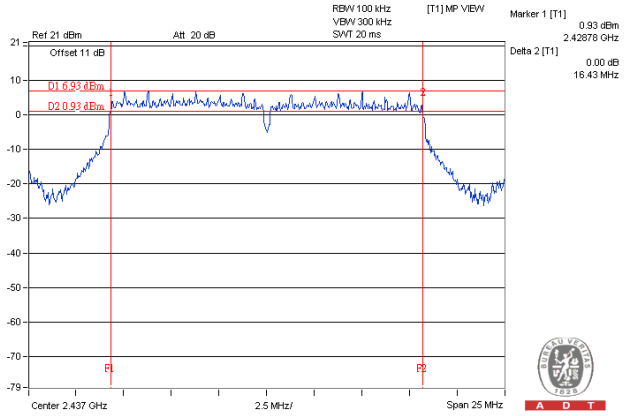
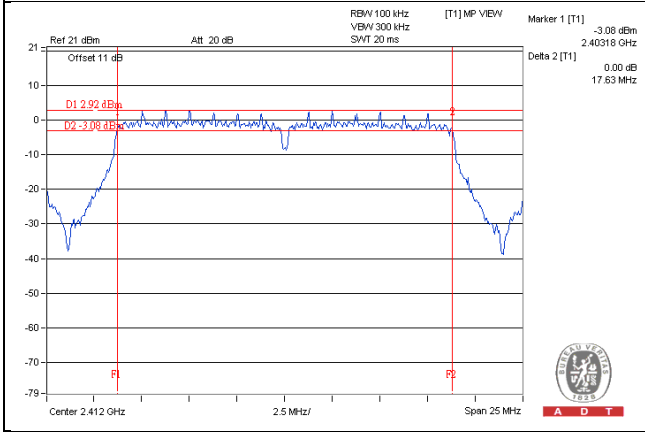
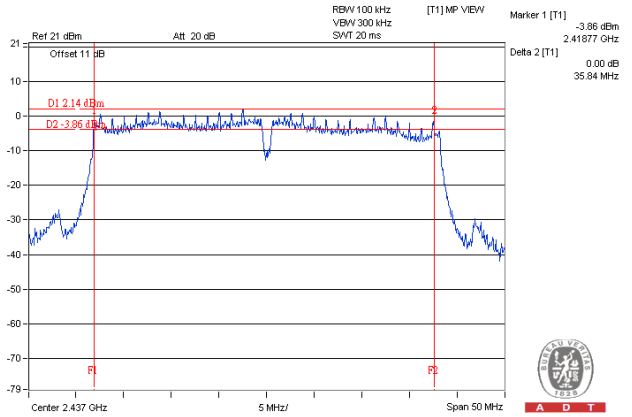
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	16.46	16.45	16.47	0.5	Pass
6	2437	16.45	16.46	16.43	0.5	Pass
11	2462	16.47	16.48	16.46	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	17.63	17.69	17.66	0.5	Pass
6	2437	17.63	17.66	17.65	0.5	Pass
11	2462	17.66	17.68	17.66	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
3	2422	36.17	36.45	35.90	0.5	Pass
6	2437	35.89	35.90	35.84	0.5	Pass
9	2452	35.93	36.46	35.90	0.5	Pass

Spectrum Plot of Worst Value	
802.11b – Chain 1: CH 11	**802.11g – Chain 2: CH 6**
	
802.11n (HT20) – Chain 0: CH 1	**802.11n (HT40) – Chain 2: CH 6**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

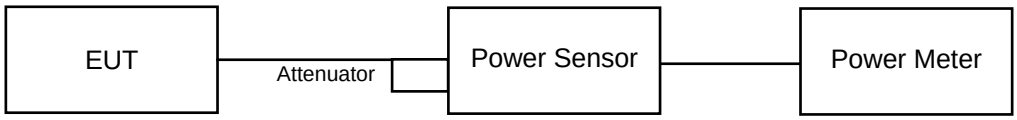
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	19.50	19.35	19.30	260.338	24.16	30	Pass
6	2437	19.03	18.49	18.58	222.726	23.48	30	Pass
11	2462	17.96	17.60	17.69	178.81	22.52	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	13.85	13.70	13.92	72.368	18.60	30	Pass
6	2437	18.83	18.72	18.60	223.301	23.49	30	Pass
11	2462	14.88	14.38	14.53	86.556	19.37	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	14.86	14.38	14.80	88.236	19.46	30	Pass
6	2437	19.41	19.11	19.23	252.52	24.02	30	Pass
11	2462	15.07	14.95	15.12	95.907	19.82	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	11.32	10.03	11.52	37.812	15.78	30	Pass
6	2437	16.07	16.50	16.51	129.897	21.14	30	Pass
9	2452	14.92	14.23	14.72	87.179	19.40	30	Pass

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 Setup

4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For 802.11b, 802.11g & 802.11n (HT20) test:

a) Set instrument center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the OBW.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz. .
d) Set VBW ≥3 x RBW.
e) Detector = power averaging (RMS) or sample detector (when RMS not available).
f) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g) Sweep time = auto couple.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Use the peak marker function to determine the maximum amplitude level.

For 802.11n (HT40) test:

a) Measure the duty cycle (x).
b) Set instrument center frequency to DTS channel center frequency.
c) Set span to at least 1.5 times the OBW.
d) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz..
e) Set VBW ≥3 x RBW.
f) Detector = power averaging (RMS) or sample detector (when RMS not available).
g) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h) Sweep time = auto couple.
i) Do not use sweep triggering. Allow sweep to “free run”.
j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
k) Use the peak marker function to determine the maximum amplitude level.
l) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-8.60	4.77	-3.83	6.73	Pass
	6	2437	-9.28	4.77	-4.51	6.73	Pass
	11	2462	-10.31	4.77	-5.54	6.73	Pass
1	1	2412	-9.30	4.77	-4.53	6.73	Pass
	6	2437	-9.75	4.77	-4.98	6.73	Pass
	11	2462	-10.15	4.77	-5.38	6.73	Pass
2	1	2412	-9.46	4.77	-4.69	6.73	Pass
	6	2437	-9.45	4.77	-4.68	6.73	Pass
	11	2462	-10.04	4.77	-5.27	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-16.89	4.77	-12.12	6.73	Pass
	6	2437	-11.52	4.77	-6.75	6.73	Pass
	11	2462	-15.72	4.77	-10.95	6.73	Pass
1	1	2412	-17.19	4.77	-12.42	6.73	Pass
	6	2437	-11.93	4.77	-7.16	6.73	Pass
	11	2462	-16.30	4.77	-11.53	6.73	Pass
2	1	2412	-17.04	4.77	-12.27	6.73	Pass
	6	2437	-12.13	4.77	-7.36	6.73	Pass
	11	2462	-15.34	4.77	-10.57	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-15.88	4.77	-11.11	6.73	Pass
	6	2437	-11.44	4.77	-6.67	6.73	Pass
	11	2462	-15.48	4.77	-10.71	6.73	Pass
1	1	2412	-16.17	4.77	-11.40	6.73	Pass
	6	2437	-11.39	4.77	-6.62	6.73	Pass
	11	2462	-15.64	4.77	-10.87	6.73	Pass
2	1	2412	-16.19	4.77	-11.42	6.73	Pass
	6	2437	-12.32	4.77	-7.55	6.73	Pass
	11	2462	-14.86	4.77	-10.09	6.73	Pass

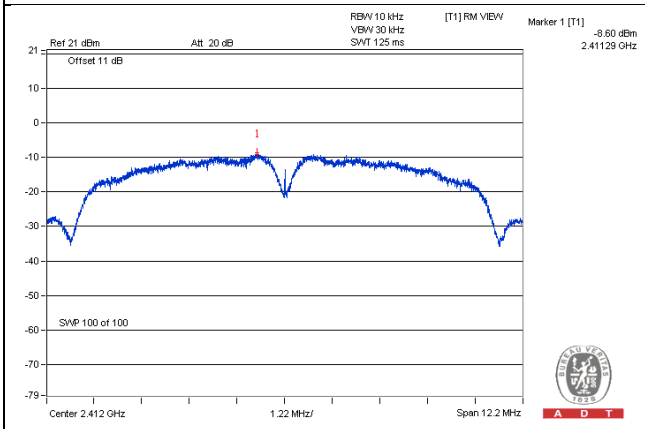
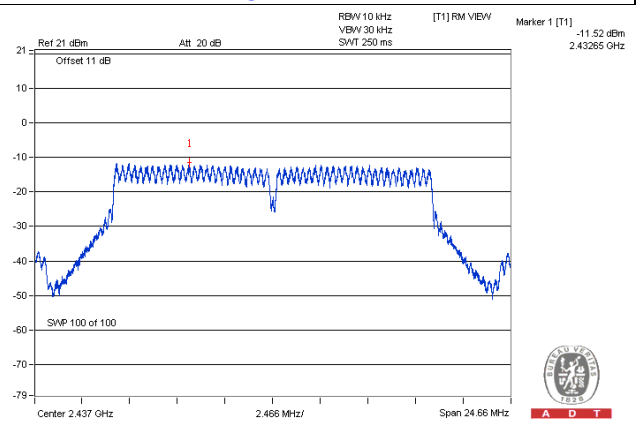
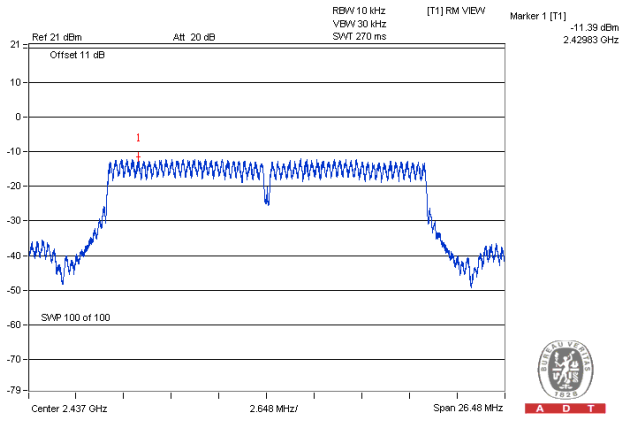
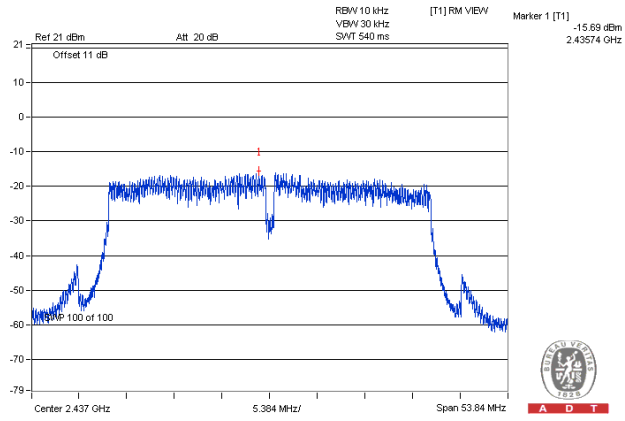
Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm)	10 log (N=3) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-21.72	4.77	0.09	-16.86	6.73	Pass
	6	2437	-15.69	4.77	0.09	-10.83	6.73	Pass
	9	2452	-17.44	4.77	0.09	-12.58	6.73	Pass
1	3	2422	-21.82	4.77	0.09	-16.96	6.73	Pass
	6	2437	-16.51	4.77	0.09	-11.65	6.73	Pass
	9	2452	-17.83	4.77	0.09	-12.97	6.73	Pass
2	3	2422	-19.61	4.77	0.09	-14.75	6.73	Pass
	6	2437	-16.24	4.77	0.09	-11.38	6.73	Pass
	9	2452	-16.59	4.77	0.09	-11.73	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

2. Refer to section 3.3 for duty cycle spectrum plot.

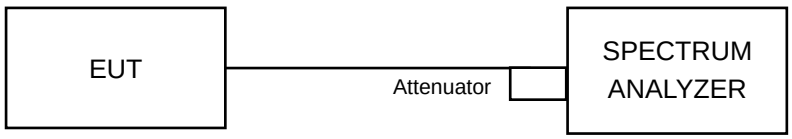
Spectrum Plot of Worst Value	
802.11b – Chain 0: CH 1	**802.11g – Chain 0: CH 6**
	
802.11n (HT20) – Chain 1: CH 6	**802.11n (HT40) – Chain 0: CH 6**
	

4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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 OOBE

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.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

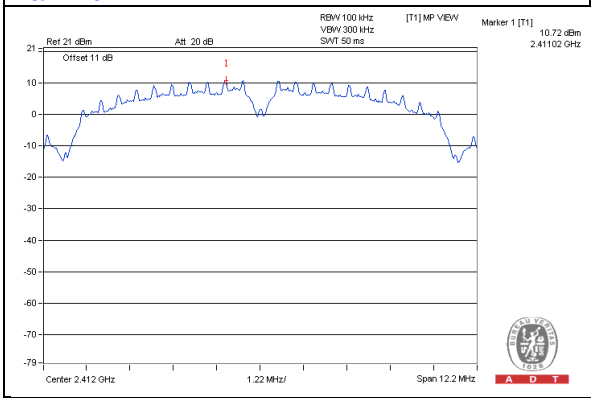
Same as Item 4.3.6

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 30dB offset below D1. It shows compliance with the requirement.

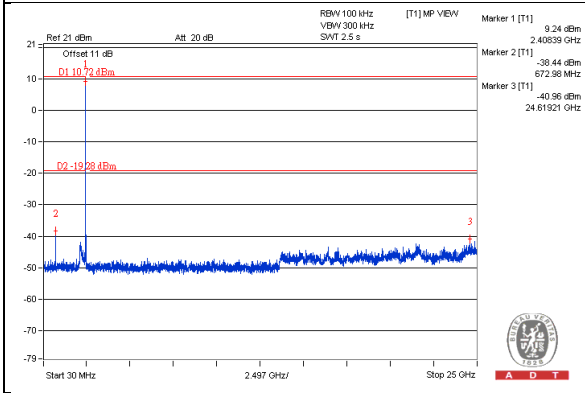
802.11b

Maximum REF

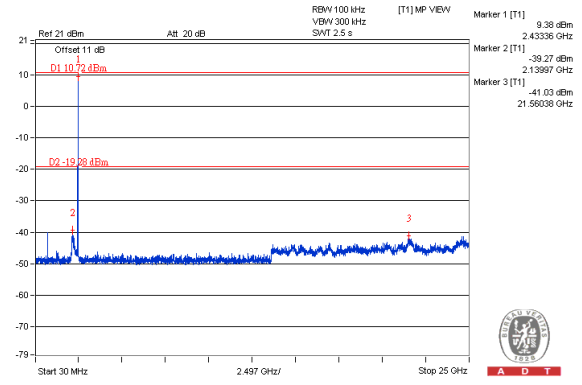


Chain 0

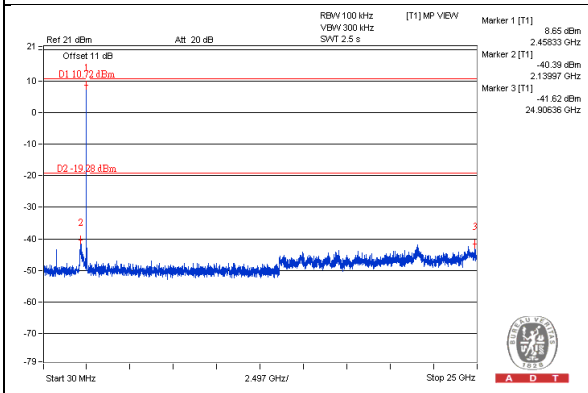
CH 1



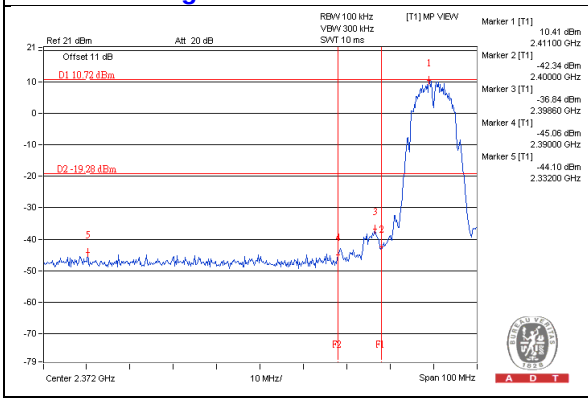
CH 6



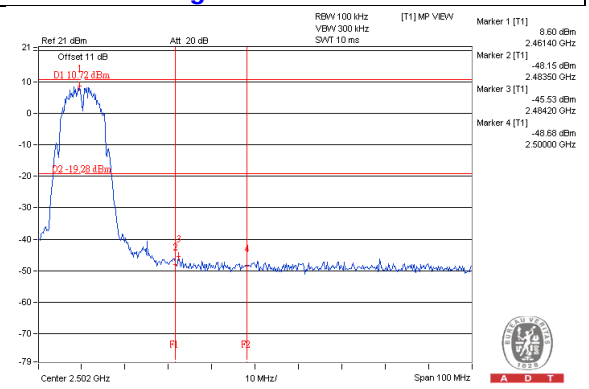
CH 11



CH 1 Band edge

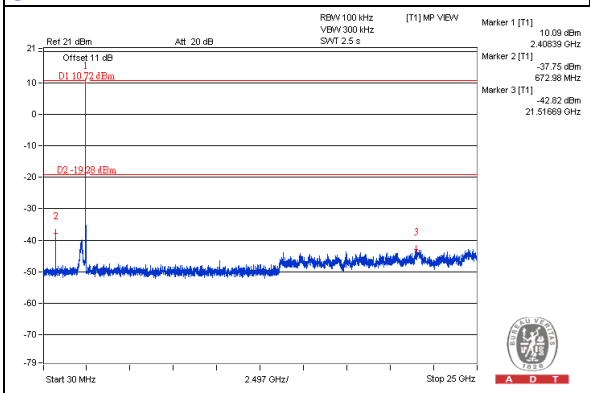


CH 11 Band edge

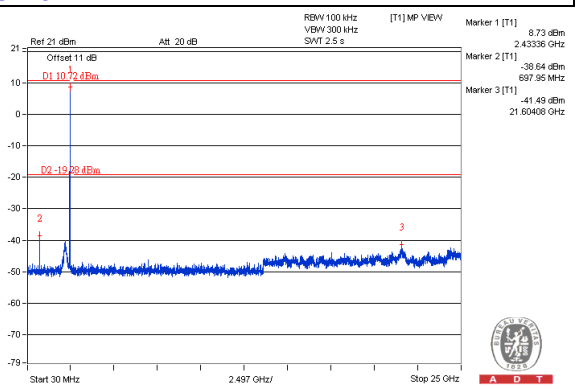


Chain 1

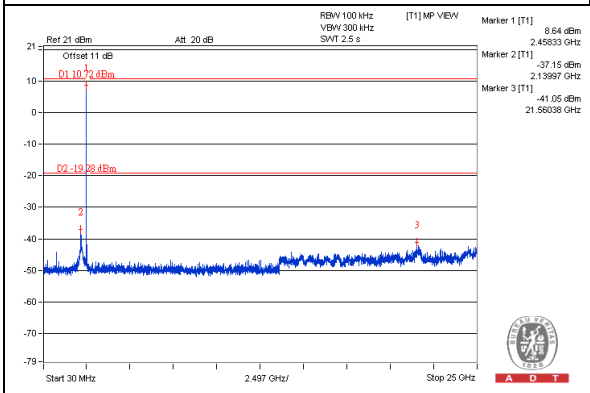
CH 1



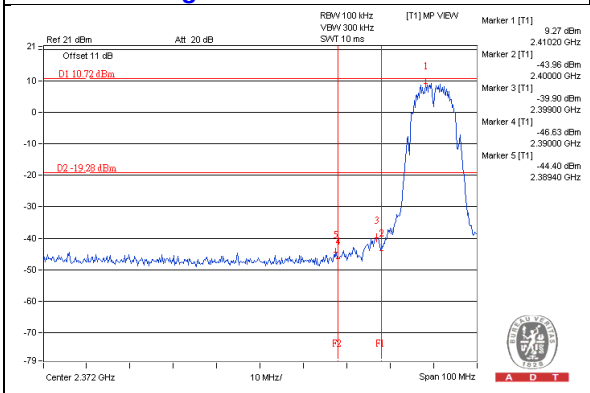
CH 6



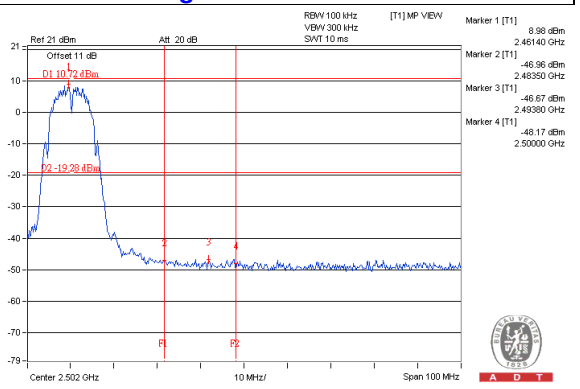
CH 11



CH 1 Band edge

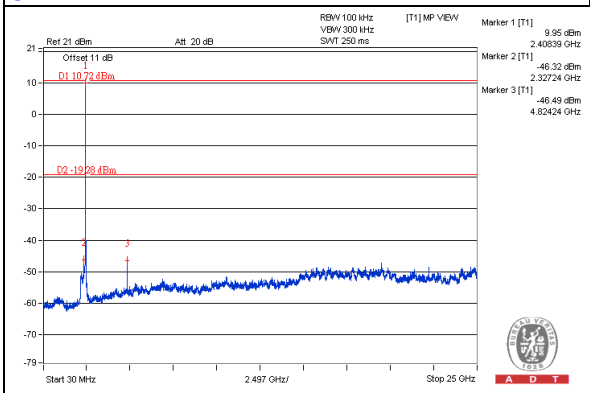


CH 11 Band edge

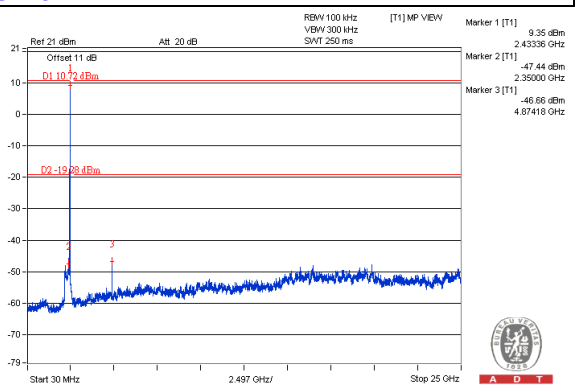


Chain 2

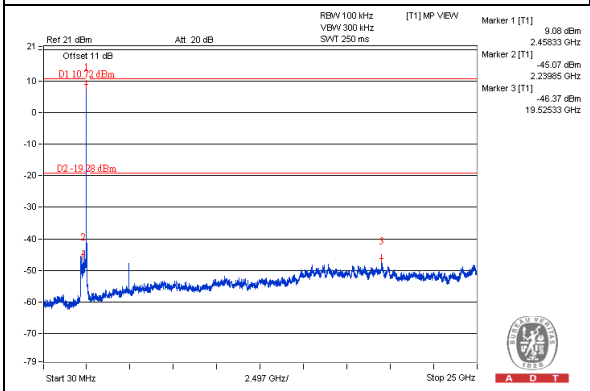
CH 1



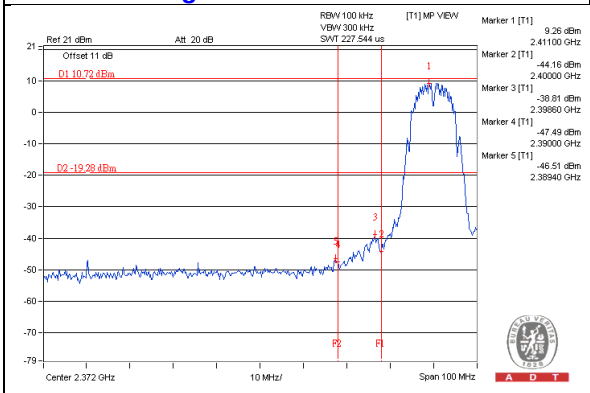
CH 6



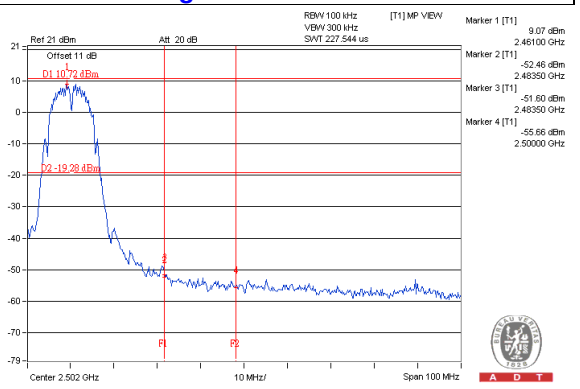
CH 11



CH 1 Band edge

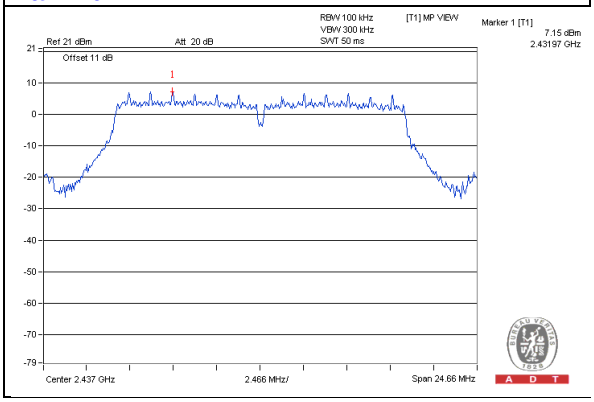


CH 11 Band edge



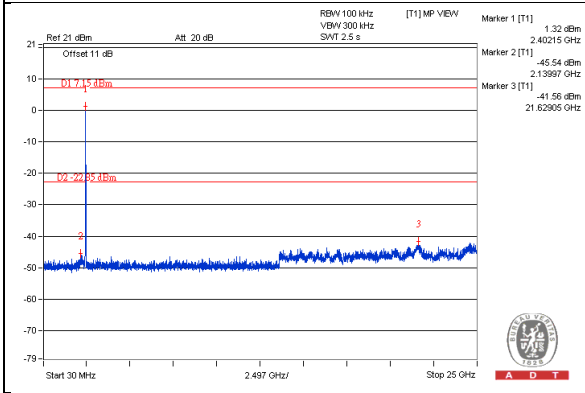
802.11g

Maximum REF

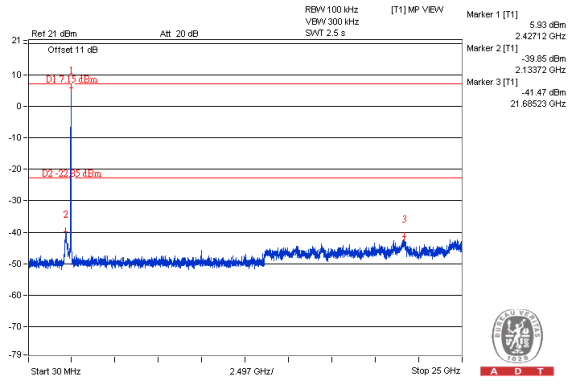


Chain 0

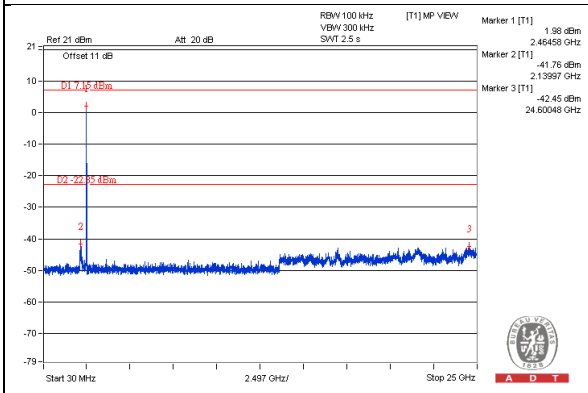
CH 1



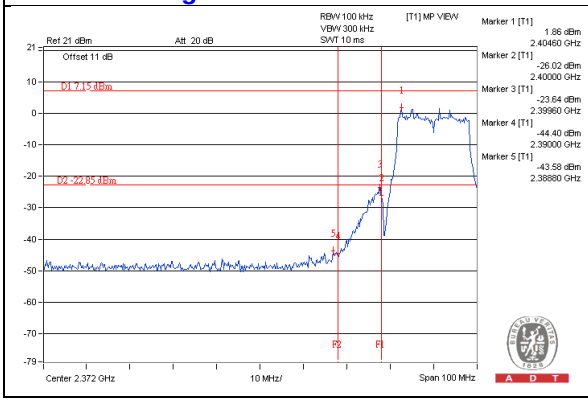
CH 6



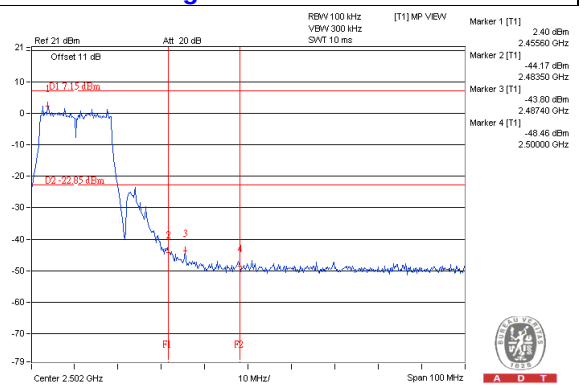
CH 11



CH 1 Band edge

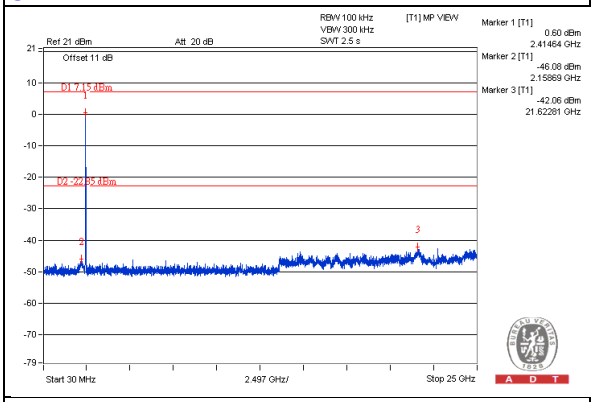


CH 11 Band edge

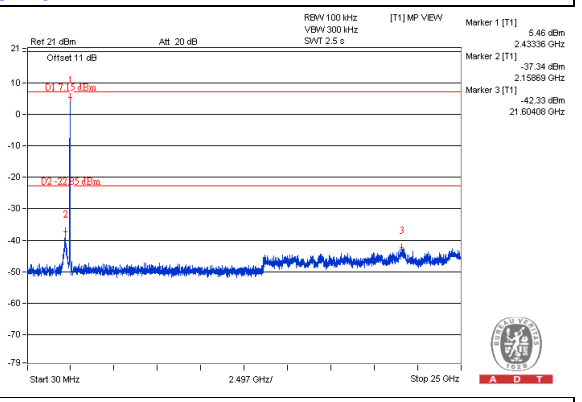


Chain 1

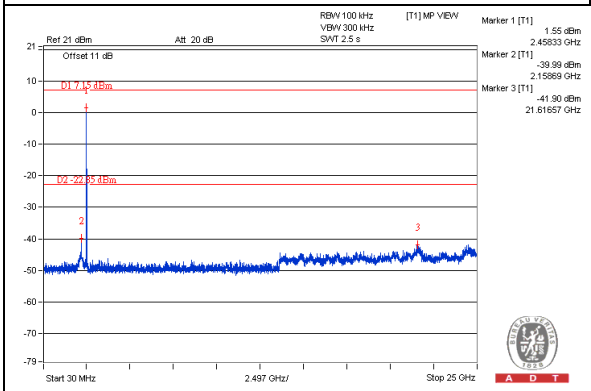
CH 1



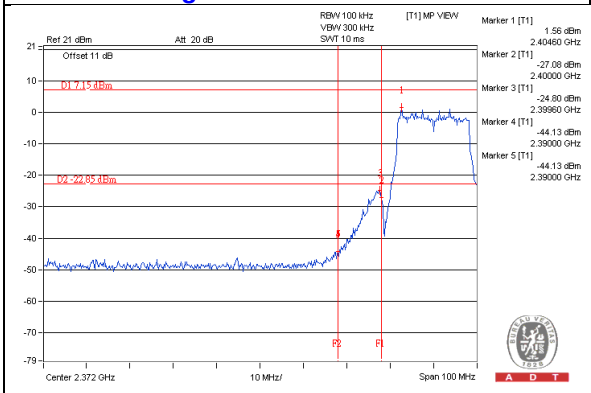
CH 6



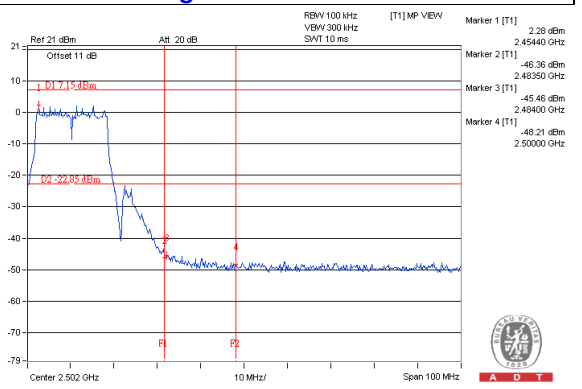
CH 11



CH 1 Band edge

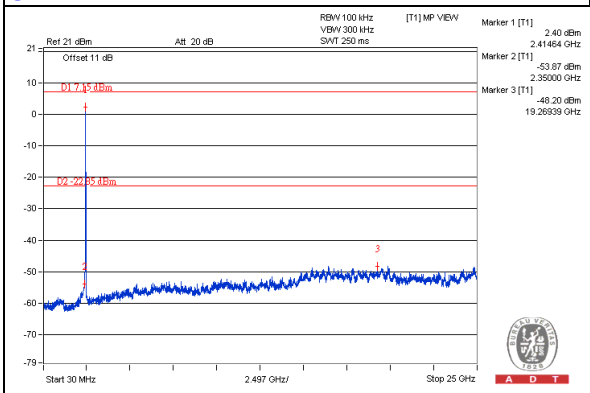


CH 11 Band edge

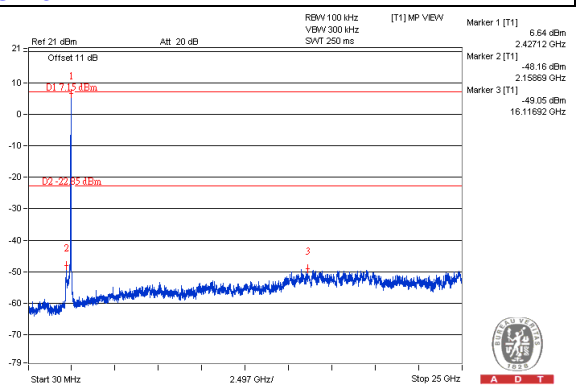


Chain 2

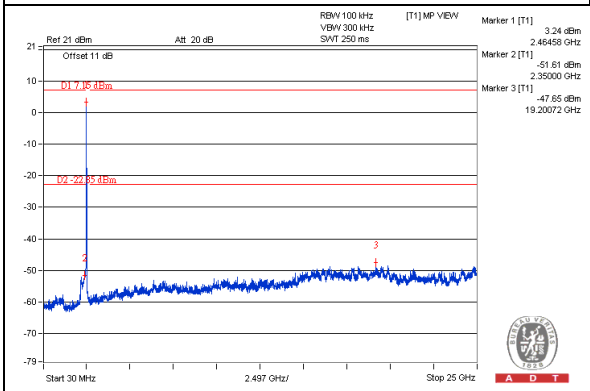
CH 1



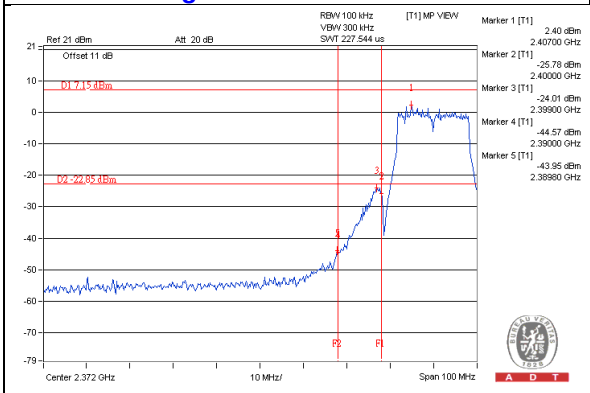
CH 6



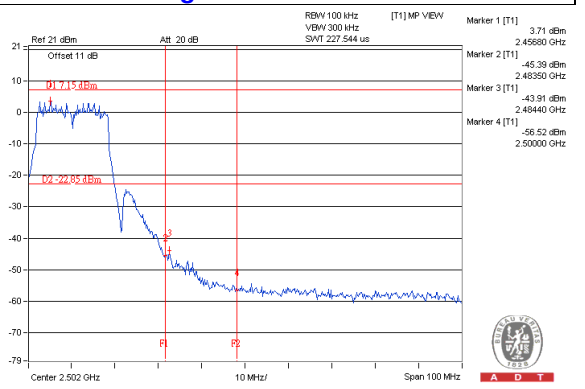
CH 11



CH 1 Band edge

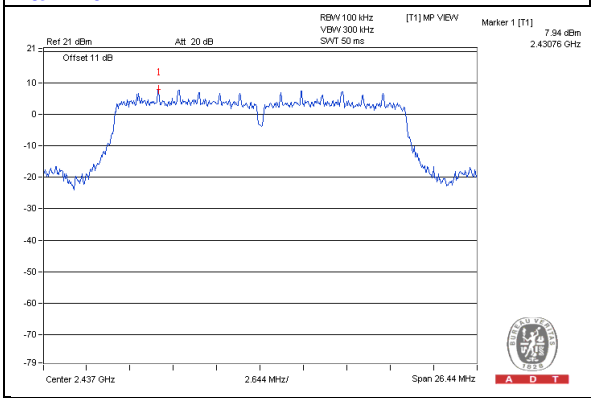


CH 11 Band edge



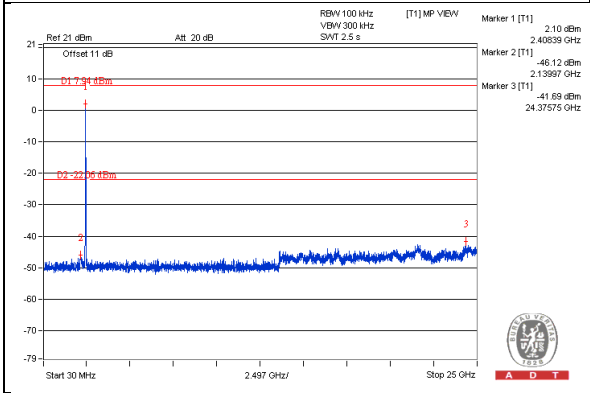
802.11n (HT20)

Maximum REF

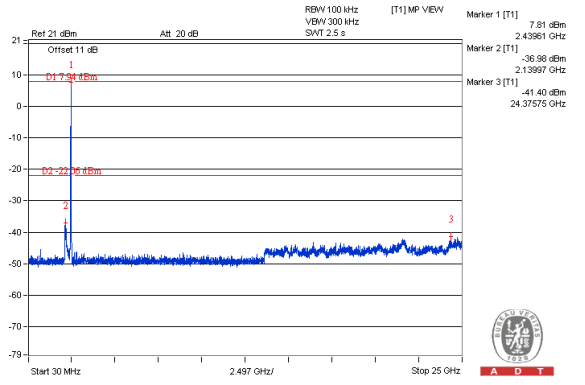


Chain 0

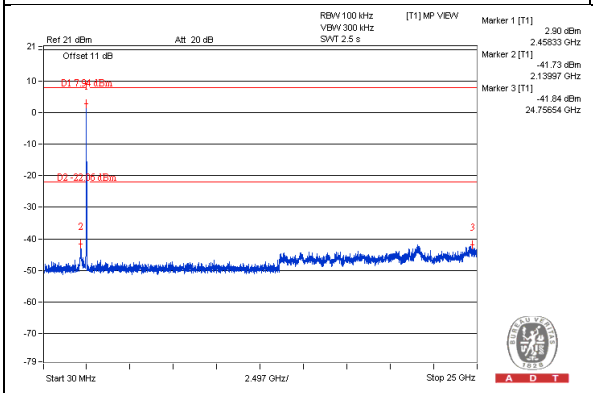
CH 1



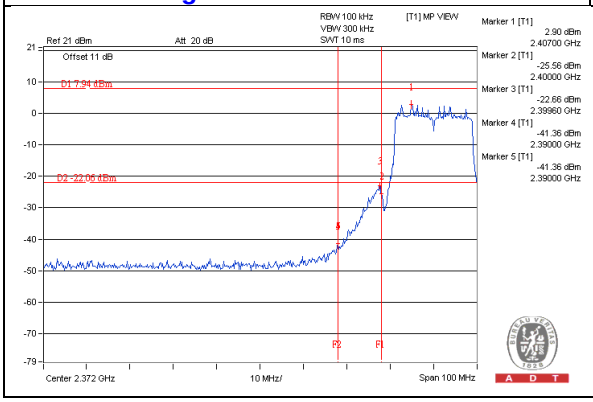
CH 6



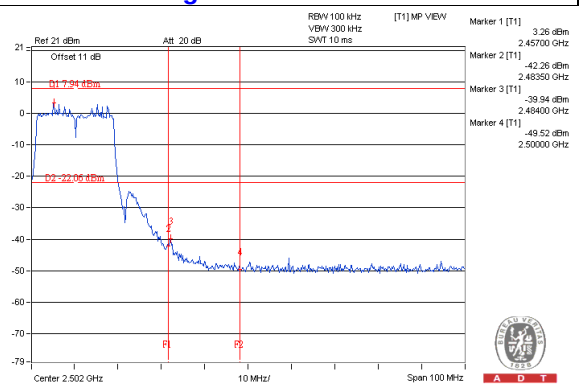
CH 11



CH 1 Band edge

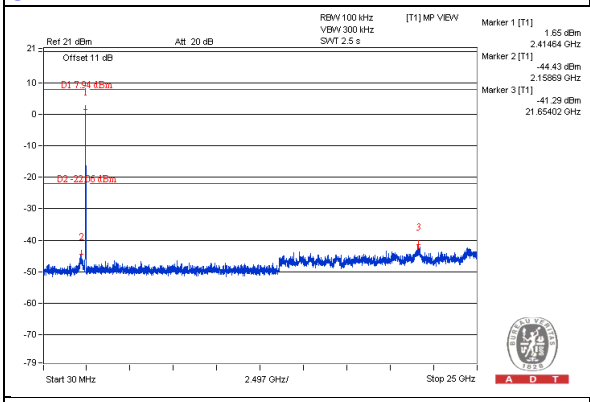


CH 11 Band edge

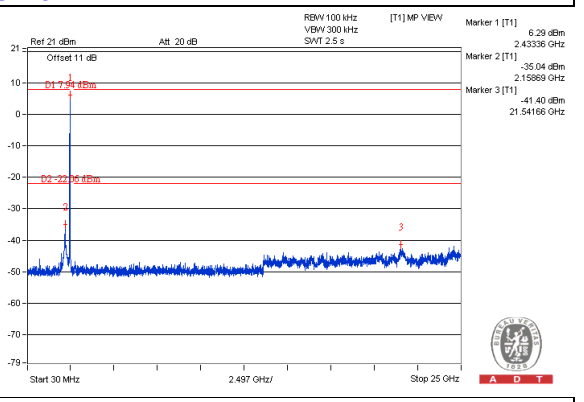


Chain 1

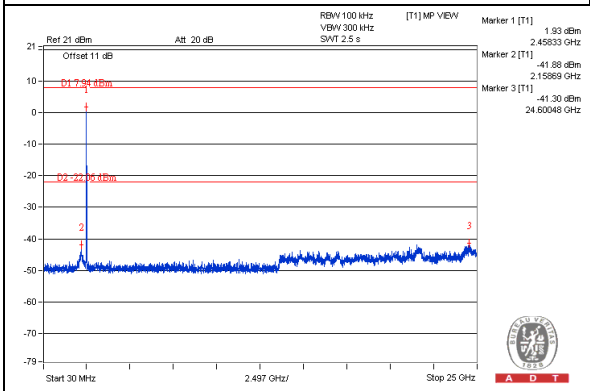
CH 1



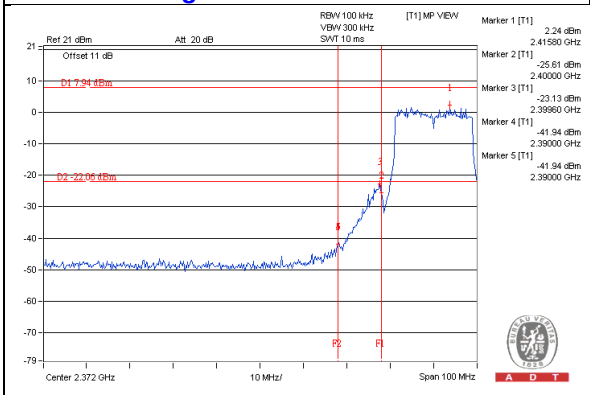
CH 6



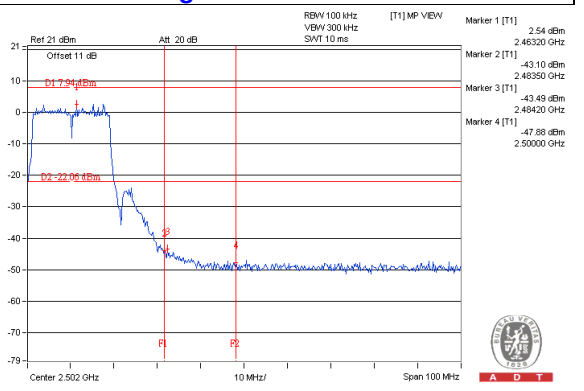
CH 11



CH 1 Band edge

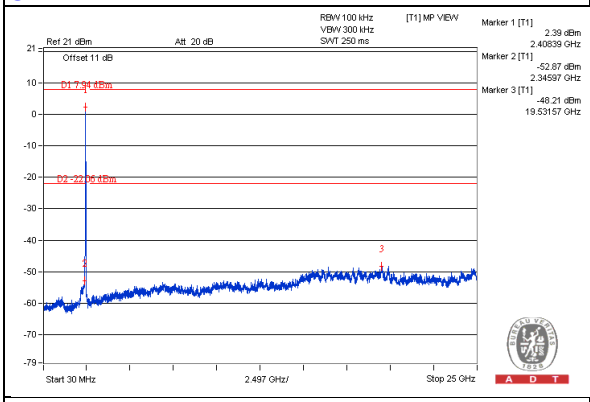


CH 11 Band edge

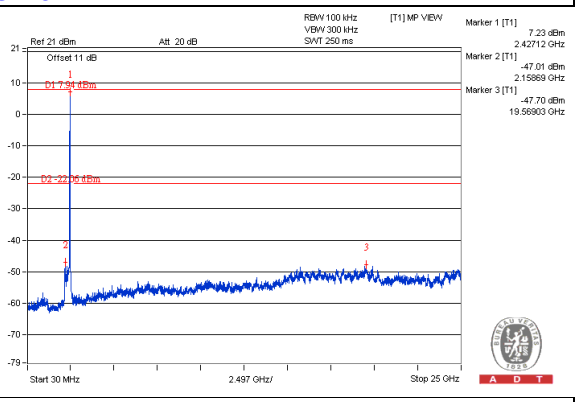


Chain 2

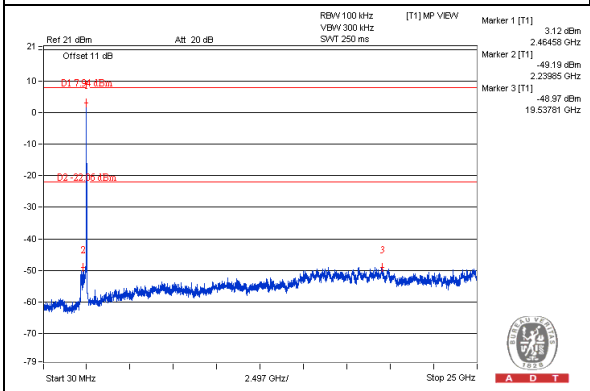
CH 1



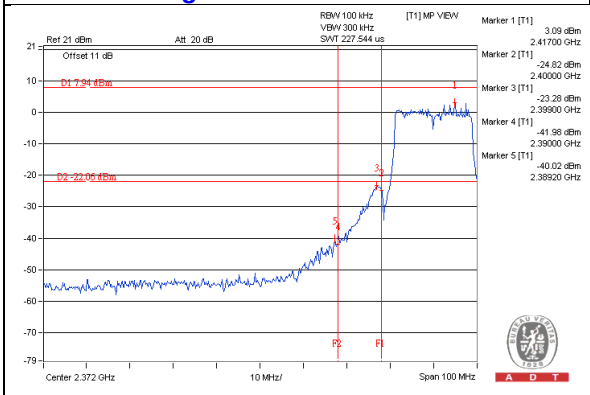
CH 6



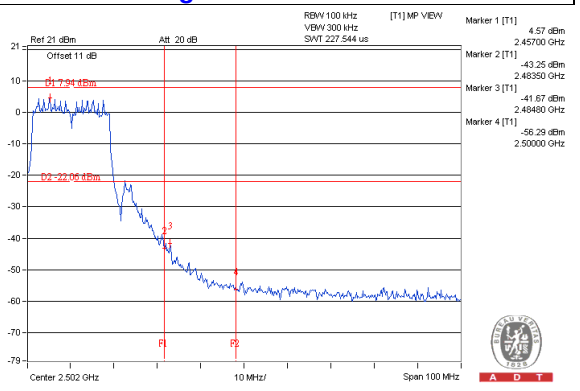
CH 11



CH 1 Band edge

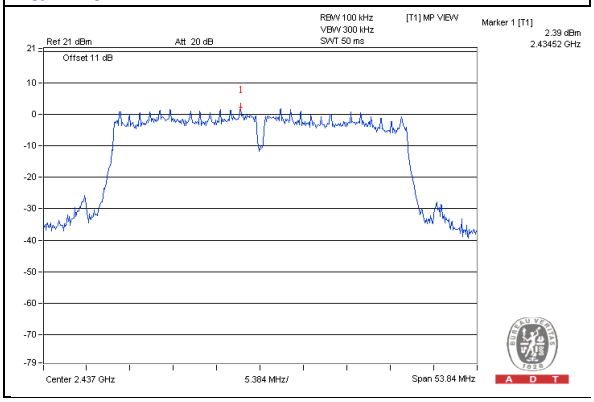


CH 11 Band edge



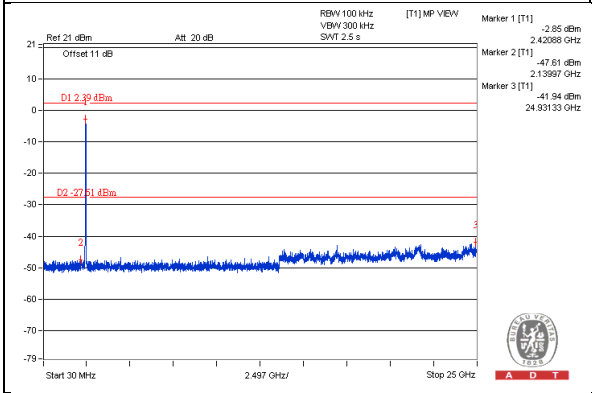
802.11n (HT40)

Maximum REF

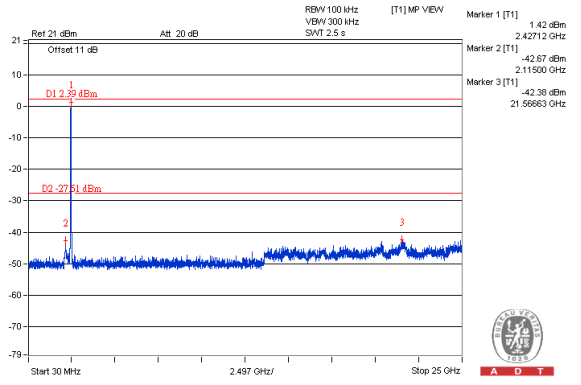


Chain 0

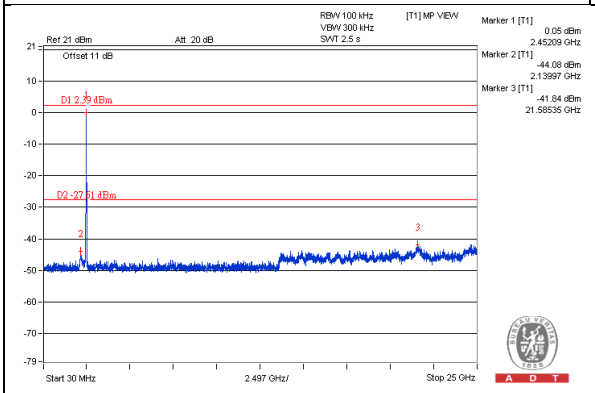
CH 3



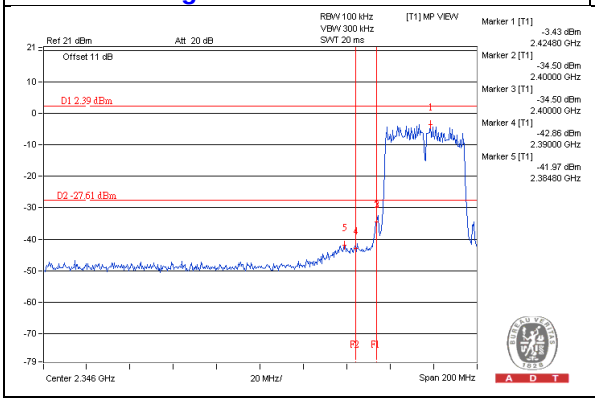
CH 6



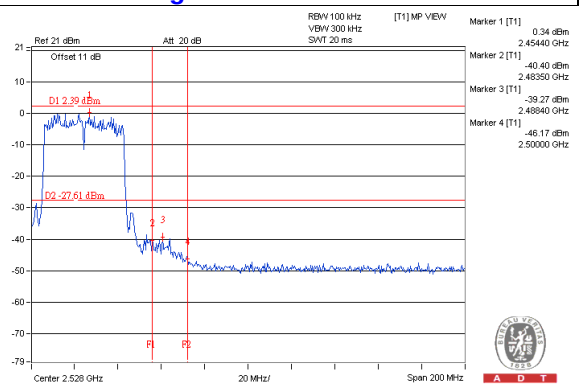
CH 9



CH 3 Band edge

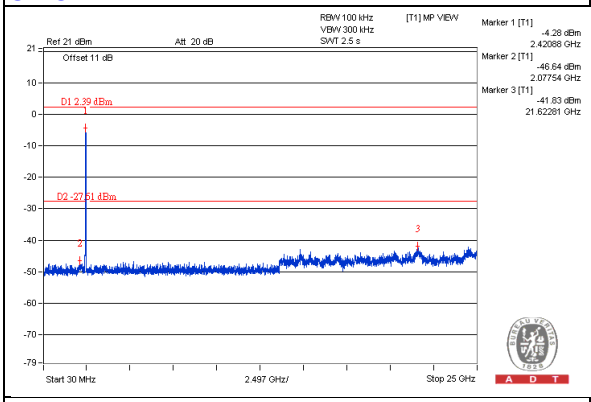


CH 9 Band edge

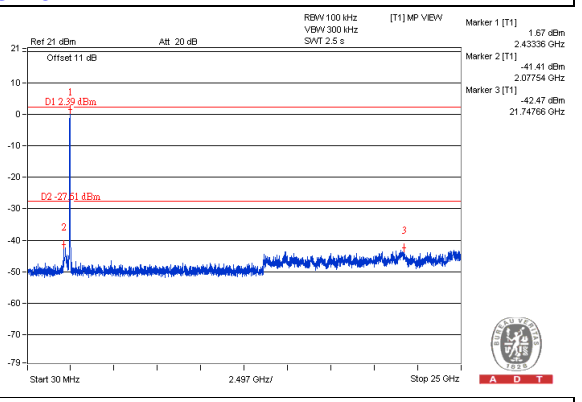


Chain 1

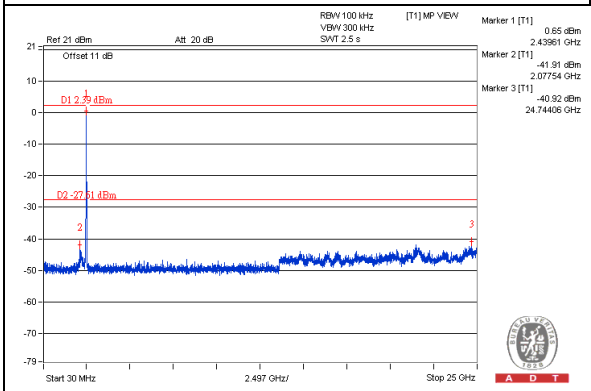
CH 3



CH 6



CH 9



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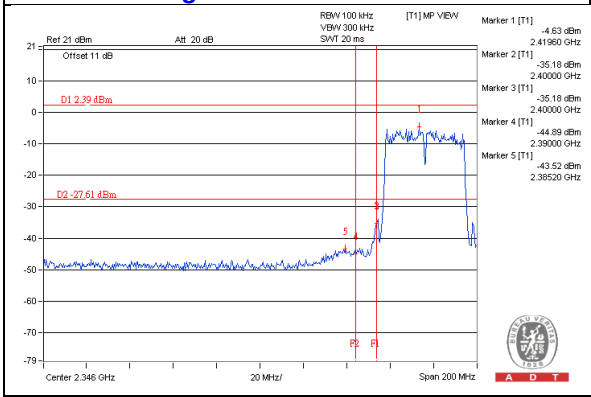
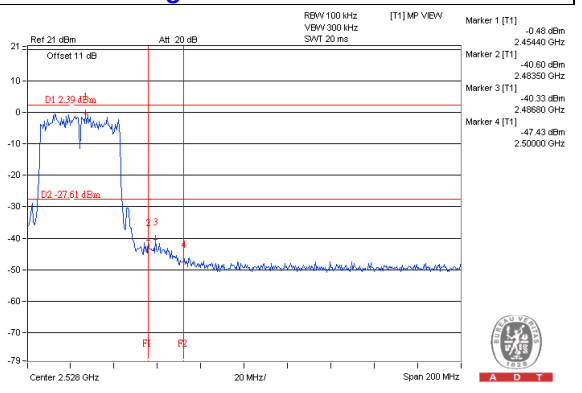
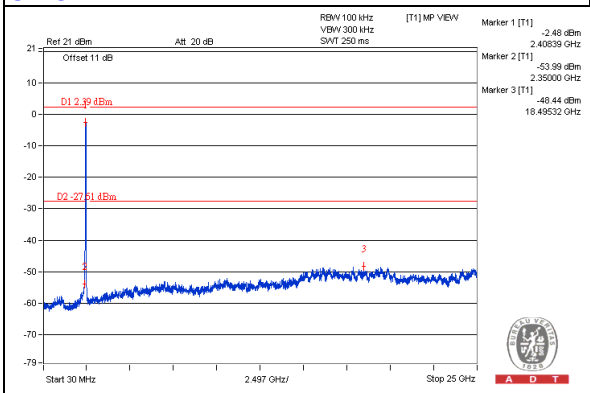


CH 9 Band edge

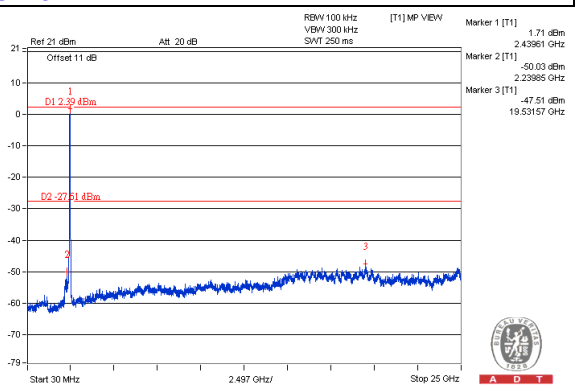


Chain 2

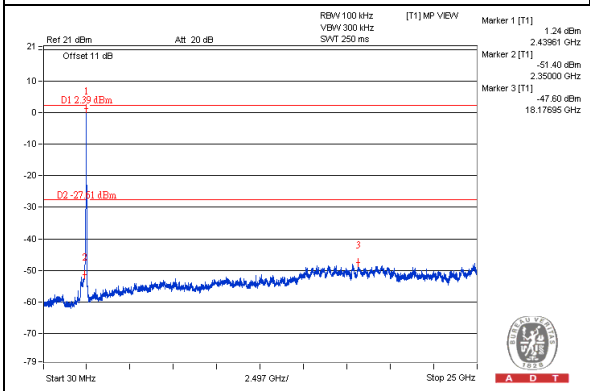
CH 3



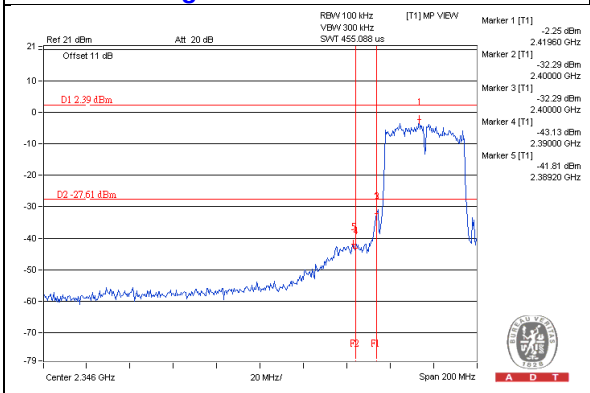
CH 6



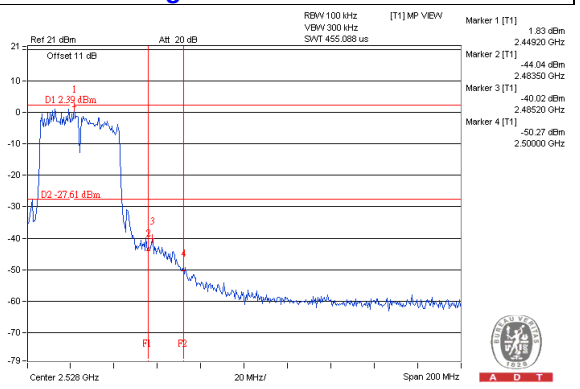
CH 9



CH 3 Band edge



CH 9 Band edge



5 Test Types and Results (For 5GHz Band)

5.1 Radiated Emission and Bandedge Measurement

5.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB 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).

For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

5.1.2 Test Instruments

Same as item 4.1.2.

5.1.3 Test Procedures

Same as item 4.1.3.

5.1.4 Deviation from Test Standard

No deviation.

5.1.5 Test Setup

Same as item 4.1.5.

5.1.6 Eut Operating Conditions

Same as item 4.1.6.

5.1.7 Test Results (Mode 1)

Above 1GHz Data:

802.11a

CHANNEL	TX Channel 149	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	*5745.00	115.4 PK			1.36 H	318	110.86	4.54
2	*5745.00	107.3 AV			1.36 H	318	102.76	4.54
3	11490.00	58.7 PK	74.0	-15.3	1.00 H	213	48.71	9.99
4	11490.00	46.9 AV	54.0	-7.1	1.00 H	213	36.91	9.99
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	*5745.00	119.3 PK			1.35 V	193	114.76	4.54
2	*5745.00	110.4 AV			1.35 V	193	105.86	4.54
3	11490.00	61.4 PK	74.0	-12.6	1.06 V	260	51.41	9.99
4	11490.00	49.0 AV	54.0	-5.0	1.06 V	260	39.01	9.99

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 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	117.8 PK			1.36 H	323	113.22	4.58
2	*5785.00	109.0 AV			1.36 H	323	104.42	4.58
3	11570.00	58.9 PK	74.0	-15.1	1.01 H	225	48.94	9.96
4	11570.00	46.9 AV	54.0	-7.1	1.01 H	225	36.94	9.96
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	*5785.00	121.6 PK			1.40 V	184	117.02	4.58
2	*5785.00	112.1 AV			1.40 V	184	107.52	4.58
3	11570.00	61.3 PK	74.0	-12.7	1.04 V	259	51.34	9.96
4	11570.00	49.3 AV	54.0	-4.7	1.04 V	259	39.34	9.96

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 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	118.4 PK			1.33 H	312	113.74	4.66
2	*5825.00	109.2 AV			1.33 H	312	104.54	4.66
3	11650.00	58.2 PK	74.0	-15.8	1.00 H	223	48.37	9.83
4	11650.00	46.6 AV	54.0	-7.4	1.00 H	223	36.77	9.83
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	*5825.00	120.9 PK			1.33 V	163	116.24	4.66
2	*5825.00	111.4 AV			1.33 V	163	106.74	4.66
3	11650.00	60.4 PK	74.0	-13.6	1.02 V	255	50.57	9.83
4	11650.00	48.4 AV	54.0	-5.6	1.02 V	255	38.57	9.83

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.

802.11ac (VHT20)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	113.4 PK			1.38 H	322	108.86	4.54
2	*5745.00	105.4 AV			1.38 H	322	100.86	4.54
3	11490.00	56.4 PK	74.0	-17.6	1.02 H	217	46.41	9.99
4	11490.00	46.6 AV	54.0	-7.4	1.02 H	217	36.61	9.99
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	*5745.00	117.7 PK			1.22 V	152	113.16	4.54
2	*5745.00	108.3 AV			1.22 V	152	103.76	4.54
3	11490.00	57.4 PK	74.0	-16.6	1.00 V	249	47.41	9.99
4	11490.00	46.6 AV	54.0	-7.4	1.00 V	249	36.61	9.99

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 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	118.5 PK			1.37 H	311	113.92	4.58
2	*5785.00	109.2 AV			1.37 H	311	104.62	4.58
3	11570.00	58.1 PK	74.0	-15.9	1.02 H	220	48.14	9.96
4	11570.00	46.3 AV	54.0	-7.7	1.02 H	220	36.34	9.96
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	*5785.00	120.9 PK			1.35 V	176	116.32	4.58
2	*5785.00	111.6 AV			1.35 V	176	107.02	4.58
3	11570.00	60.6 PK	74.0	-13.4	1.02 V	258	50.64	9.96
4	11570.00	48.9 AV	54.0	-5.1	1.02 V	258	38.94	9.96

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 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	117.9 PK			1.30 H	291	113.24	4.66
2	*5825.00	108.9 AV			1.30 H	291	104.24	4.66
3	11650.00	58.5 PK	74.0	-15.5	1.10 H	218	48.67	9.83
4	11650.00	46.9 AV	54.0	-7.1	1.10 H	218	37.07	9.83
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	*5825.00	120.7 PK			1.31 V	171	116.04	4.66
2	*5825.00	111.3 AV			1.31 V	171	106.64	4.66
3	11650.00	60.4 PK	74.0	-13.6	1.06 V	250	50.57	9.83
4	11650.00	48.5 AV	54.0	-5.5	1.06 V	250	38.67	9.83

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.

802.11ac (VHT40)

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	113.0 PK			1.33 H	327	108.45	4.55
2	*5755.00	105.0 AV			1.33 H	327	100.45	4.55
3	11510.00	56.8 PK	74.0	-17.2	1.05 H	228	46.80	10.00
4	11510.00	45.8 AV	54.0	-8.2	1.05 H	228	35.80	10.00
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	*5755.00	115.4 PK			1.17 V	142	110.85	4.55
2	*5755.00	106.4 AV			1.17 V	142	101.85	4.55
3	11510.00	56.3 PK	74.0	-17.7	1.00 V	245	46.30	10.00
4	11510.00	45.4 AV	54.0	-8.6	1.00 V	245	35.40	10.00

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 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	116.9 PK			1.34 H	292	112.30	4.60
2	*5795.00	108.5 AV			1.34 H	292	103.90	4.60
3	11590.00	58.5 PK	74.0	-15.5	1.00 H	208	48.56	9.94
4	11590.00	47.1 AV	54.0	-6.9	1.00 H	208	37.16	9.94
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	*5795.00	119.9 PK			1.30 V	168	115.30	4.60
2	*5795.00	110.9 AV			1.30 V	168	106.30	4.60
3	11590.00	60.4 PK	74.0	-13.6	1.02 V	238	50.46	9.94
4	11590.00	48.5 AV	54.0	-5.5	1.02 V	238	38.56	9.94

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.

802.11ac (VHT80)

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5775.00	112.4 PK			1.29 H	342	107.83	4.57
2	*5775.00	104.2 AV			1.29 H	342	99.63	4.57
3	11550.00	55.3 PK	74.0	-18.7	1.02 H	237	45.33	9.97
4	11550.00	44.3 AV	54.0	-9.7	1.02 H	237	34.33	9.97
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	*5775.00	114.3 PK			1.14 V	124	109.73	4.57
2	*5775.00	105.4 AV			1.14 V	124	100.83	4.57
3	11550.00	55.4 PK	74.0	-18.6	1.00 V	235	45.43	9.97
4	11550.00	43.4 AV	54.0	-10.6	1.00 V	235	33.43	9.97

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.

Below 1GHz Data:

802.11a

CHANNEL	TX Channel 157	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	76.12	29.8 QP	40.0	-10.2	1.42 H	210	46.48	-16.66
2	111.50	32.4 QP	43.5	-11.1	1.00 H	242	48.18	-15.78
3	145.88	30.9 QP	43.5	-12.6	1.00 H	310	43.86	-12.94
4	172.50	35.0 QP	43.5	-8.5	1.33 H	110	48.67	-13.65
5	212.63	31.7 QP	43.5	-11.8	1.10 H	300	47.79	-16.09
6	275.17	34.8 QP	46.0	-11.2	1.00 H	100	47.64	-12.84
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	30.32	34.3 QP	40.0	-5.7	1.00 V	100	49.19	-14.88
2	37.51	36.9 QP	40.0	-3.1	1.40 V	360	50.88	-14.00
3	76.42	31.8 QP	40.0	-8.2	1.10 V	10	48.59	-16.79
4	119.61	36.9 QP	43.5	-6.6	1.00 V	111	52.09	-15.19
5	214.13	35.3 QP	43.5	-8.2	1.10 V	340	51.37	-16.05
6	817.34	35.3 QP	46.0	-10.7	1.00 V	100	36.49	-1.18

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

5.1.8 Test Results (Mode 2)

Below 1GHz Data:

802.11a

CHANNEL	TX Channel 157	**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	76.38	32.2 QP	40.0	-7.8	2.00 H	308	48.94	-16.77
2	109.49	32.8 QP	43.5	-10.7	1.50 H	299	48.80	-16.04
3	148.17	27.1 QP	43.5	-16.4	1.50 H	281	39.85	-12.77
4	273.15	28.8 QP	46.0	-17.2	1.00 H	72	41.78	-12.96
5	351.68	26.8 QP	46.0	-19.2	1.00 H	263	37.49	-10.67
6	940.09	35.1 QP	46.0	-10.9	1.50 H	303	34.04	1.04
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	30.14	32.1 QP	40.0	-7.9	1.50 V	86	46.95	-14.88
2	76.75	35.3 QP	40.0	-4.7	1.00 V	311	52.22	-16.93
3	116.56	35.1 QP	43.5	-8.4	1.50 V	36	50.62	-15.53
4	148.25	28.1 QP	43.5	-15.4	1.00 V	85	40.89	-12.78
5	804.19	36.1 QP	46.0	-9.9	1.50 V	32	37.55	-1.42
6	957.14	33.3 QP	46.0	-12.7	2.00 V	126	32.16	1.16

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

5.2 Conducted Emission Measurement

5.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.2.2 Test Instruments

Same as item 4.2.2.

5.2.3 Test Procedures

Same as item 4.2.3.

5.2.4 Deviation from Test Standard

No deviation.

5.2.5 Test Setup

Same as item 4.2.5.

5.2.6 EUT Operating Conditions

Same as item 4.1.6.

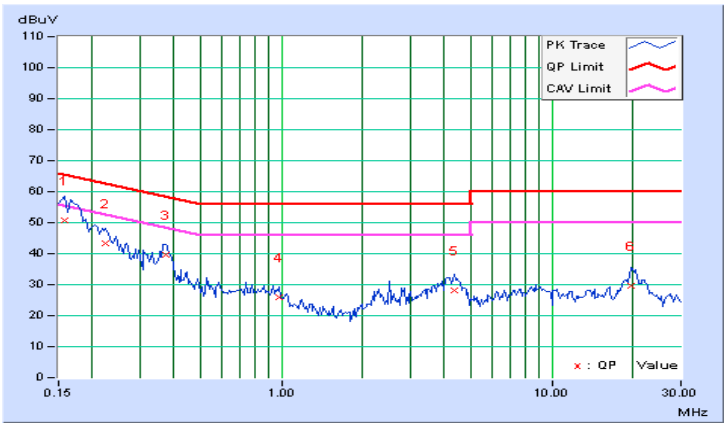
5.2.7 Test Results (Mode 1)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.08	50.53	41.34	50.61	41.42	65.58	55.58	-14.97	-14.16
2	0.22422	0.09	43.24	34.83	43.33	34.92	62.66	52.66	-19.33	-17.74
3	0.37266	0.10	39.42	32.59	39.52	32.69	58.44	48.44	-18.92	-15.75
4	0.98594	0.13	25.87	20.96	26.00	21.09	56.00	46.00	-30.00	-24.91
5	4.36328	0.23	27.99	19.34	28.22	19.57	56.00	46.00	-27.78	-26.43
6	19.60938	0.69	29.05	22.97	29.74	23.66	60.00	50.00	-30.26	-26.34

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.

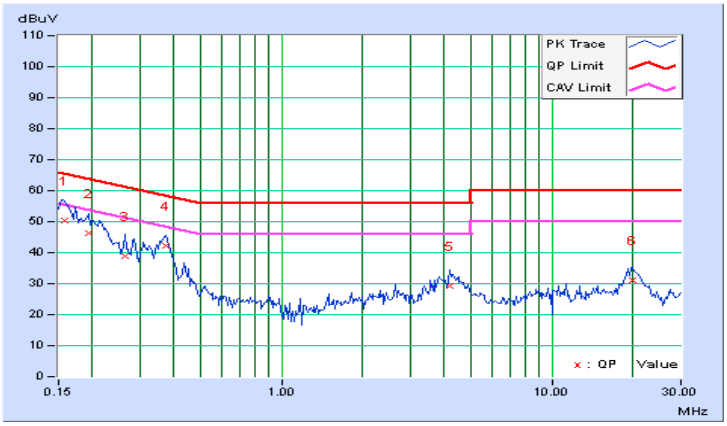


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.08	50.41	41.22	50.49	41.30	65.58	55.58	-15.09	-14.28
2	0.19297	0.08	46.09	38.14	46.17	38.22	63.91	53.91	-17.74	-15.69
3	0.26328	0.09	38.75	30.39	38.84	30.48	61.33	51.33	-22.49	-20.85
4	0.37266	0.10	42.17	36.57	42.27	36.67	58.44	48.44	-16.17	-11.77
5	4.17969	0.24	28.91	19.92	29.15	20.16	56.00	46.00	-26.85	-25.84
6	19.92188	0.74	30.23	25.29	30.97	26.03	60.00	50.00	-29.03	-23.97

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.



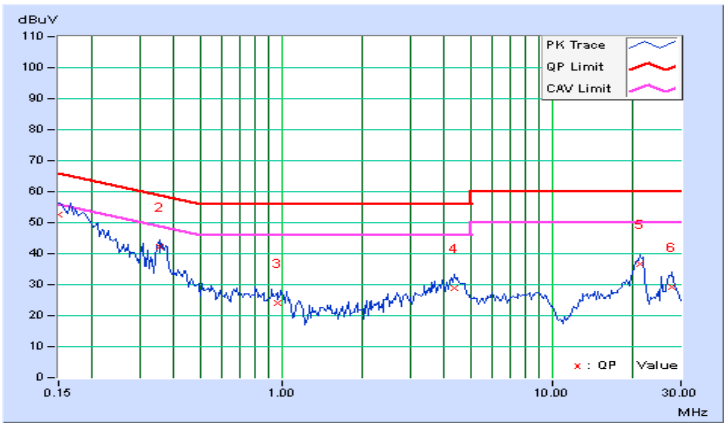
5.2.8 Test Results (Mode 2)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.08	52.57	43.28	52.65	43.36	66.00	56.00	-13.35	-12.64
2	0.35313	0.10	42.03	36.68	42.13	36.78	58.89	48.89	-16.76	-12.11
3	0.96250	0.13	23.79	19.26	23.92	19.39	56.00	46.00	-32.08	-26.61
4	4.35938	0.23	28.70	19.40	28.93	19.63	56.00	46.00	-27.07	-26.37
5	21.23828	0.73	36.09	28.70	36.82	29.43	60.00	50.00	-23.18	-20.57
6	27.86719	0.87	28.37	21.42	29.24	22.29	60.00	50.00	-30.76	-27.71

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.

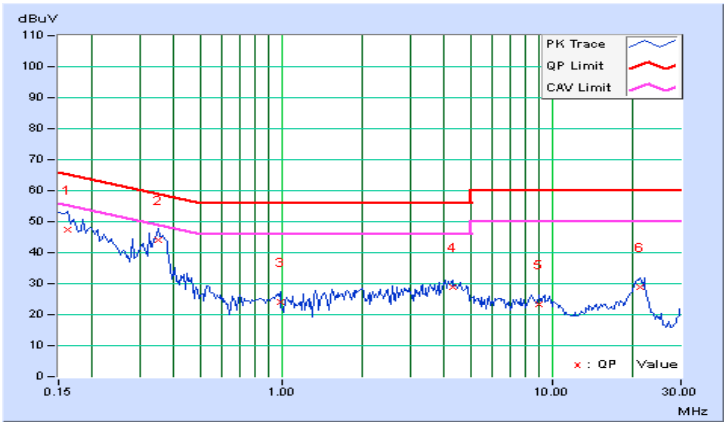


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.08	47.31	36.56	47.39	36.64	65.38	55.38	-17.99	-18.74
2	0.34922	0.09	43.96	40.78	44.05	40.87	58.98	48.98	-14.93	-8.11
3	0.99375	0.13	23.99	15.06	24.12	15.19	56.00	46.00	-31.88	-30.81
4	4.27734	0.24	28.77	20.75	29.01	20.99	56.00	46.00	-26.99	-25.01
5	8.90625	0.42	22.75	16.87	23.17	17.29	60.00	50.00	-36.83	-32.71
6	21.17969	0.77	28.01	21.26	28.78	22.03	60.00	50.00	-31.22	-27.97

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.



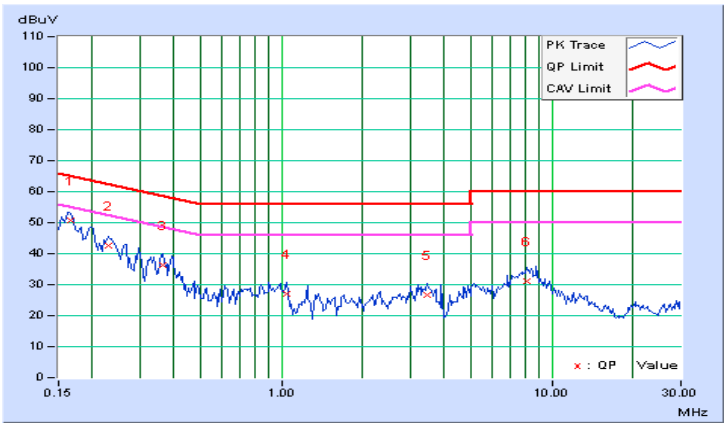
5.2.9 Test Results (Mode 3)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.08	50.59	44.32	50.67	44.40	65.18	55.18	-14.50	-10.77
2	0.22812	0.09	42.55	36.79	42.64	36.88	62.52	52.52	-19.88	-15.64
3	0.36484	0.10	36.27	31.00	36.37	31.10	58.62	48.62	-22.25	-17.52
4	1.03906	0.13	26.85	21.69	26.98	21.82	56.00	46.00	-29.02	-24.18
5	3.45703	0.21	26.41	21.15	26.62	21.36	56.00	46.00	-29.38	-24.64
6	8.12891	0.38	30.61	26.29	30.99	26.67	60.00	50.00	-29.01	-23.33

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.

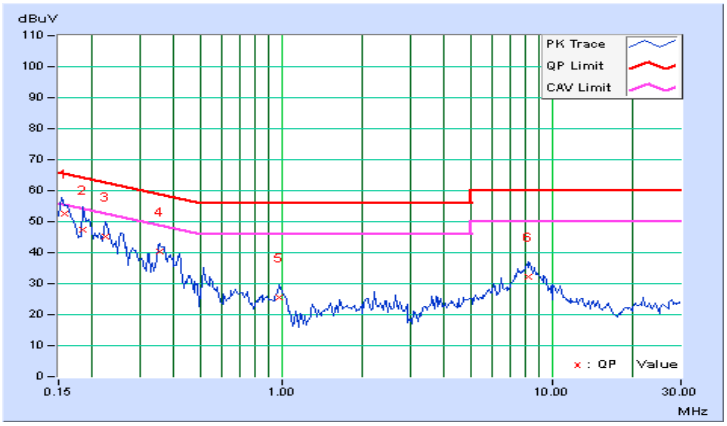


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15739	0.08	52.44	45.18	52.52	45.26	65.60	55.60	-13.08	-10.34
2	0.18516	0.08	47.44	32.51	47.52	32.59	64.25	54.25	-16.73	-21.66
3	0.22422	0.08	45.20	38.97	45.28	39.05	62.66	52.66	-17.38	-13.61
4	0.35313	0.10	40.45	36.87	40.55	36.97	58.89	48.89	-18.34	-11.92
5	0.98594	0.13	25.32	20.36	25.45	20.49	56.00	46.00	-30.55	-25.51
6	8.18750	0.39	31.73	27.23	32.12	27.62	60.00	50.00	-27.88	-22.38

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.



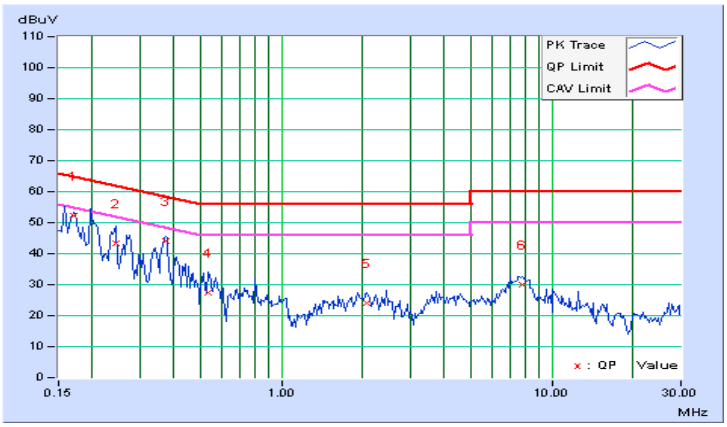
5.2.10 Test Results (Mode 4)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17012	0.08	52.22	45.49	52.30	45.57	64.95	54.95	-12.65	-9.38
2	0.24375	0.09	43.11	33.78	43.20	33.87	61.97	51.97	-18.77	-18.10
3	**0.37266**	**0.10**	**43.95**	**41.03**	**44.05**	**41.13**	**58.44**	**48.44**	**-14.39**	**-7.31**
4	0.53672	0.11	27.34	18.11	27.45	18.22	56.00	46.00	-28.55	-27.78
5	2.07031	0.17	23.77	18.95	23.94	19.12	56.00	46.00	-32.06	-26.88
6	7.75391	0.36	29.51	24.90	29.87	25.26	60.00	50.00	-30.13	-24.74

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.

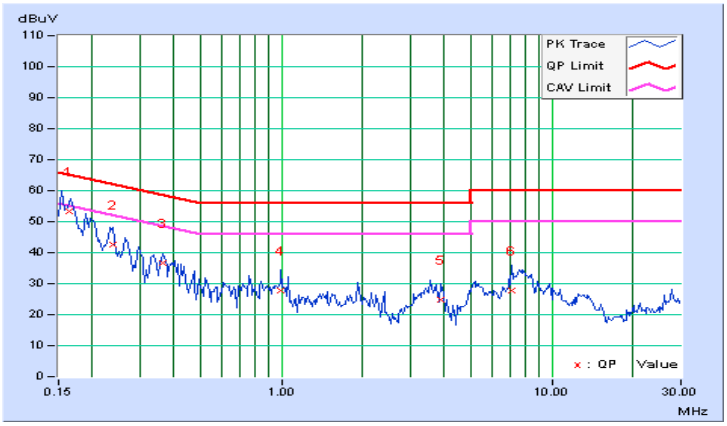


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16408	0.08	53.11	46.38	53.19	46.46	65.25	55.25	-12.06	-8.79
2	0.23984	0.08	42.58	31.18	42.66	31.26	62.10	52.10	-19.44	-20.84
3	0.36484	0.10	36.44	33.83	36.54	33.93	58.62	48.62	-22.08	-14.69
4	0.99766	0.13	27.75	22.75	27.88	22.88	56.00	46.00	-28.12	-23.12
5	3.86328	0.23	24.63	17.41	24.86	17.64	56.00	46.00	-31.14	-28.36
6	7.12500	0.35	27.45	22.30	27.80	22.65	60.00	50.00	-32.20	-27.35

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.



5.3 6dB Bandwidth Measurement

5.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 Test Setup

Same as item 4.3.2.

5.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

5.3.4 Test Procedure

Same as item 4.3.4.

5.3.5 Deviation fromTest Standard

No deviation.

5.3.6 EUT Operating Conditions

Same as item 4.3.6.

5.3.7 Test Result

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
149	5745	16.33	16.36	16.37	0.5	Pass
157	5785	16.33	16.37	16.39	0.5	Pass
165	5825	16.37	16.34	15.80	0.5	Pass

802.11ac (VHT20)

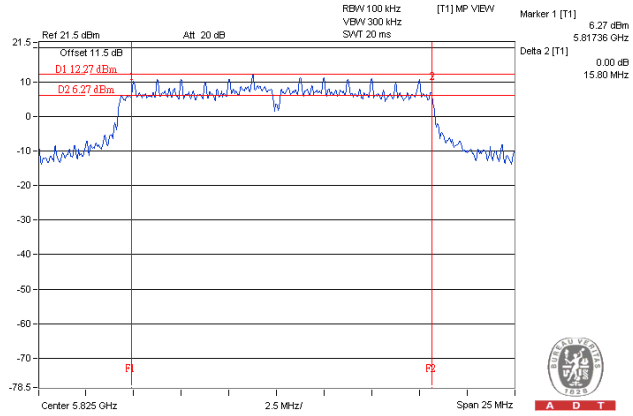
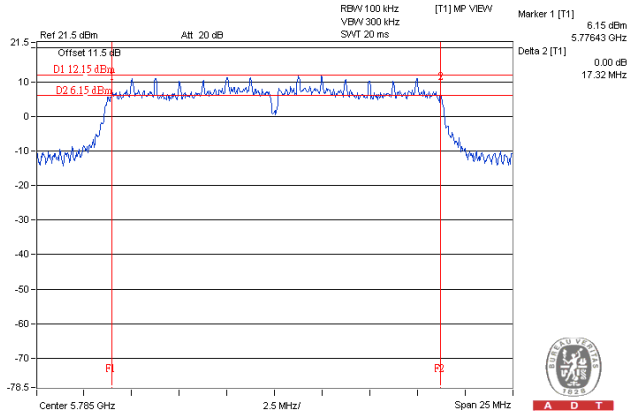
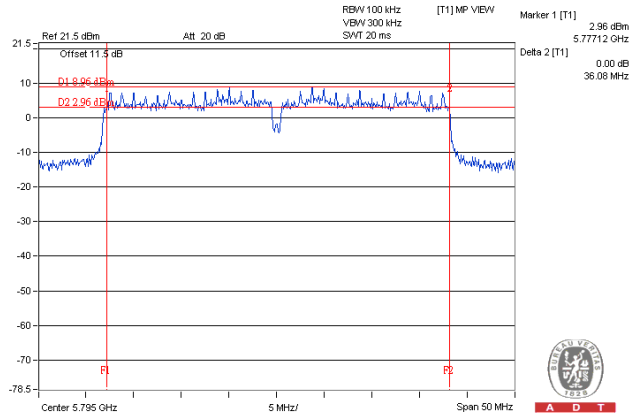
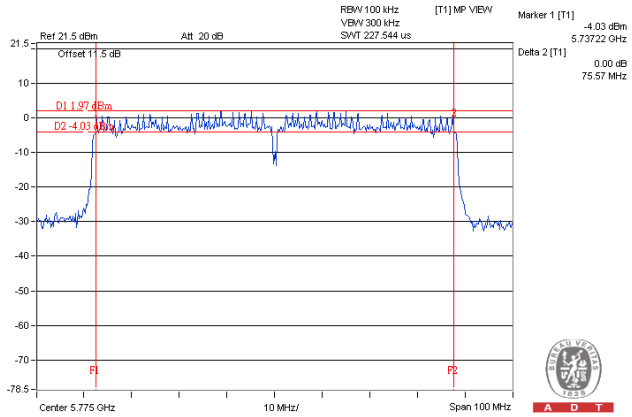
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			6dB Bandwidth (MHz)	6dB Bandwidth (MHz)
		Chain 0	Chain 1	Chain 2		
149	5745	17.35	17.68	17.63	0.5	Pass
157	5785	17.32	17.61	17.61	0.5	Pass
165	5825	17.59	17.61	17.58	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			6dB Bandwidth (MHz)	6dB Bandwidth (MHz)
		Chain 0	Chain 1	Chain 2		
151	5755	36.44	36.46	36.39	0.5	Pass
159	5795	36.44	36.43	36.08	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
155	5775	75.57	75.93	75.57	0.5	Pass

Spectrum Plot of Worst Value	
802.11a – Chain 2: CH 165	**802.11ac (VHT20) – Chain 0: CH 157**
	
802.11ac (VHT40) – Chain 2: CH 159	**802.11ac (VHT80) – Chain 2: CH 155**
	

5.4 Conducted Output Power

5.4.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 5725 –5850 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v02r01 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

5.4.2 Test Setup

Same as Item 4.5.2.

5.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

5.4.4 Test Procedures

Same as Item 4.5.4.

5.4.5 Deviation from Test Standard

No deviation.

5.4.6 EUT Operating Conditions

Same as Item 4.5.6.

5.4.7 Test Results

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
149	5745	22.44	21.17	21.23	439.045	26.43	30	Pass
157	5785	23.36	22.05	21.63	522.641	27.18	30	Pass
165	5825	23.26	22.06	21.21	504.66	27.03	30	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
149	5745	20.00	19.50	21.38	326.529	25.14	30	Pass
157	5785	23.23	22.22	21.38	514.507	27.11	30	Pass
165	5825	23.22	22.01	21.44	508.065	27.06	30	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
151	5755	18.94	18.17	18.39	212.982	23.28	30	Pass
159	5795	23.37	22.29	21.26	520.364	27.16	30	Pass

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
155	5775	18.18	18.17	18.05	195.207	22.90	30	Pass

5.5 Power Spectral Density Measurement

5.5.1 Limits OF Power Spectral Density Measurement

Same as item 4.6.1.

5.5.2 Test Setup

Same as item 4.6.2.

5.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

5.5.4 Test Procedure

For 802.11a & 802.11ac (VHT20) test:

a) Set instrument center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the OBW.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz. .
d) Set VBW ≥3 x RBW.
e) Detector = power averaging (RMS) or sample detector (when RMS not available).
f) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g) Sweep time = auto couple.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Use the peak marker function to determine the maximum amplitude level.

For 802.11ac (VHT40) & 802.11ac (VHT80) test:

a) Measure the duty cycle (x).
b) Set instrument center frequency to DTS channel center frequency.
c) Set span to at least 1.5 times the OBW.
d) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz..
e) Set VBW ≥3 x RBW.
f) Detector = power averaging (RMS) or sample detector (when RMS not available).
g) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h) Sweep time = auto couple.
i) Do not use sweep triggering. Allow sweep to “free run”.
j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
k) Use the peak marker function to determine the maximum amplitude level.
l) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

5.5.5 Deviation from Test Standard

No deviation.

5.5.6 EUT Operating Condition

Same as Item 4.3.6

5.5.7 Test Results

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	149	5745	-7.22	4.77	-2.45	6.73	Pass
	157	5785	-7.36	4.77	-2.59	6.73	Pass
	165	5825	-7.41	4.77	-2.64	6.73	Pass
1	149	5745	-6.42	4.77	-1.65	6.73	Pass
	157	5785	-6.82	4.77	-2.05	6.73	Pass
	165	5825	-5.87	4.77	-1.10	6.73	Pass
2	149	5745	-6.47	4.77	-1.70	6.73	Pass
	157	5785	-6.42	4.77	-1.65	6.73	Pass
	165	5825	-6.66	4.77	-1.89	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	149	5745	-10.37	4.77	-5.60	6.73	Pass
	157	5785	-8.44	4.77	-3.67	6.73	Pass
	165	5825	-9.13	4.77	-4.36	6.73	Pass
1	149	5745	-9.27	4.77	-4.50	6.73	Pass
	157	5785	-8.29	4.77	-3.52	6.73	Pass
	165	5825	-7.08	4.77	-2.31	6.73	Pass
2	149	5745	-9.23	4.77	-4.46	6.73	Pass
	157	5785	-8.09	4.77	-3.32	6.73	Pass
	165	5825	-8.54	4.77	-3.77	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm)	10 log (N=3) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass /Fail
0	151	5755	-13.52	4.77	0.12	-8.63	6.73	Pass
	159	5795	-10.36	4.77	0.12	-5.47	6.73	Pass
1	151	5755	-11.95	4.77	0.12	-7.06	6.73	Pass
	159	5795	-10.17	4.77	0.12	-5.28	6.73	Pass
2	151	5755	-12.83	4.77	0.12	-7.94	6.73	Pass
	159	5795	-9.71	4.77	0.12	-4.82	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

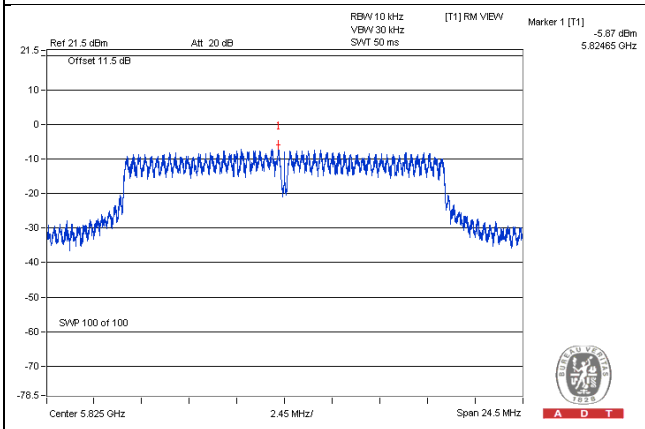
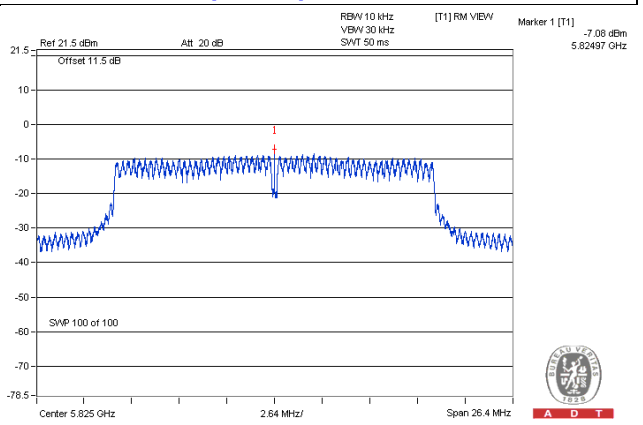
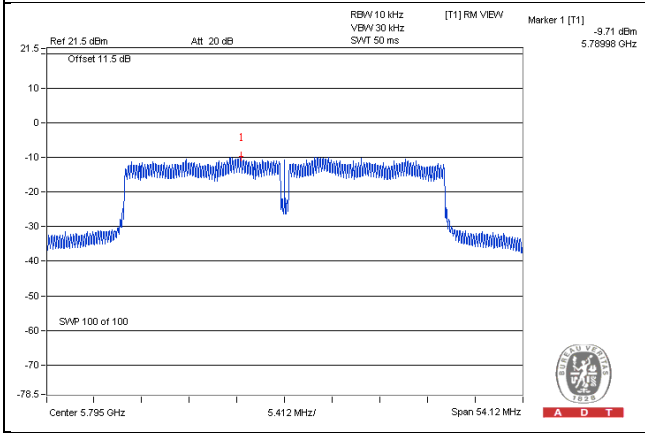
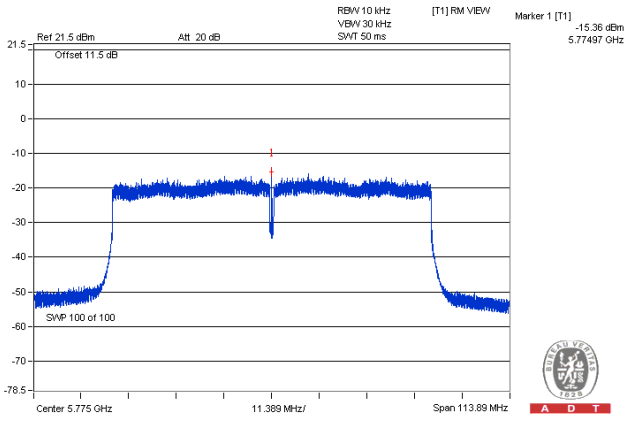
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm)	10 log (N=3) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass /Fail
0	155	5775	-16.75	4.77	0.18	-11.80	6.73	Pass
1	155	5775	-15.36	4.77	0.18	-10.41	6.73	Pass
2	155	5775	-16.23	4.77	0.18	-11.28	6.73	Pass

Note: 1. Directional gain = 2.5dBi + 10log(3) = 7.27dBi > 6dBi , so the power density limit shall be reduced to 8-(7.27-6) = 6.73dBm.

2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a – Chain 1: CH 165	**802.11ac (VHT20) – Chain 1: CH 165**
	
802.11ac (VHT40) – Chain 2: CH 159	**802.11ac (VHT80) – Chain 1: CH 155**
	

5.6 Conducted Out of Band Emission Measurement

5.6.1 Limits of Conducted Out of Band Emission Measurement

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

5.6.2 Test Setup

Same as Item 4.7.2

5.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

5.6.4 Test Procedure

Same as Item 4.7.4

5.6.5 Deviation from Test Standard

No deviation.

5.6.6 EUT Operating Condition

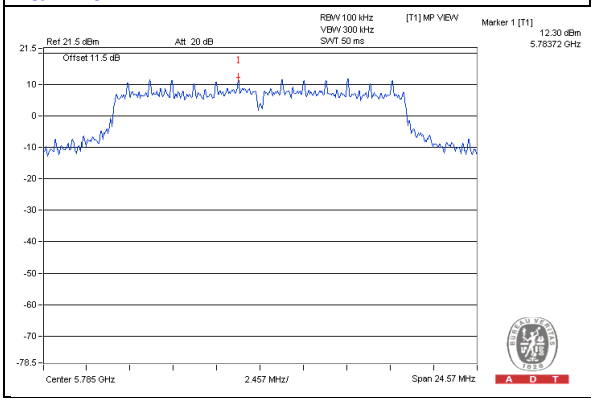
Same as Item 4.3.6

5.6.7 Test Results

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

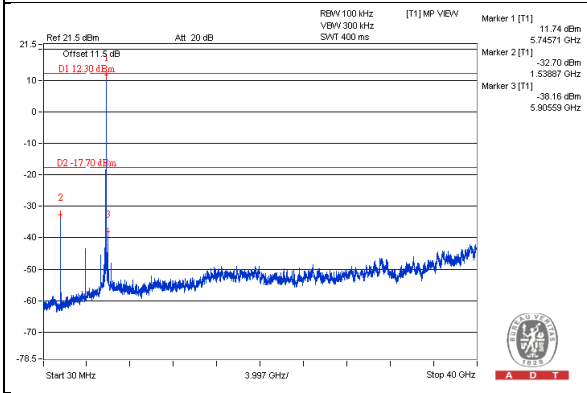
802.11a

Maximum REF

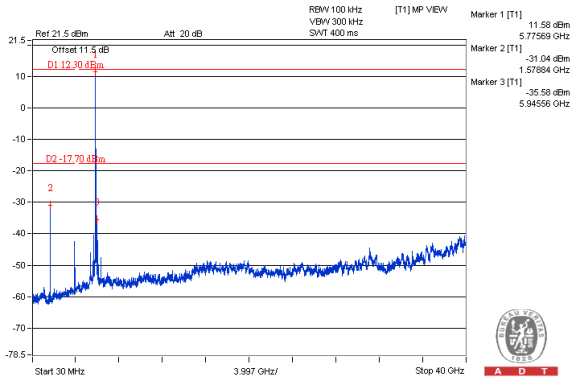


Chain 0

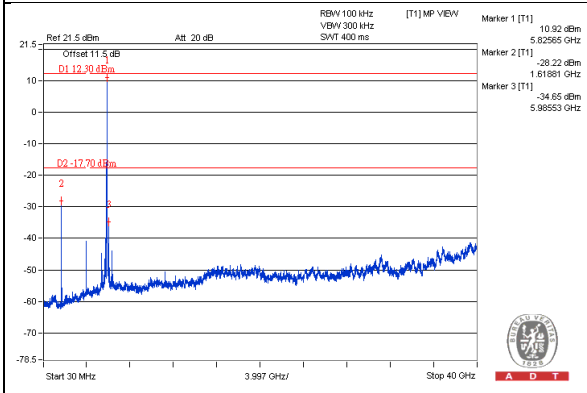
CH 149



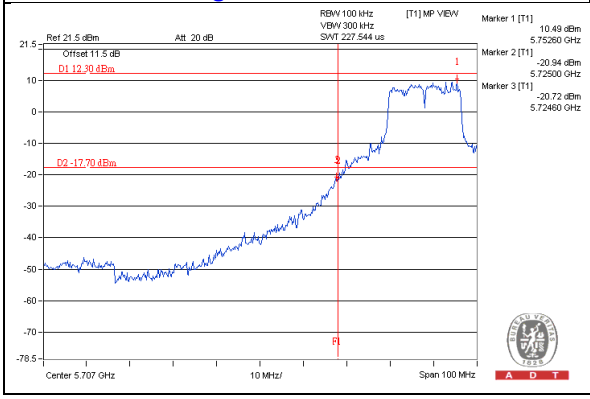
CH 157



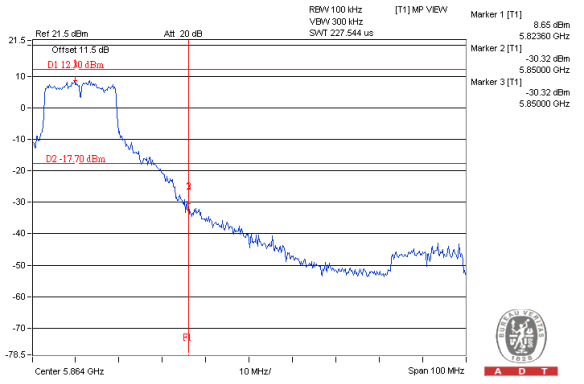
CH 165



CH 149 Band edge

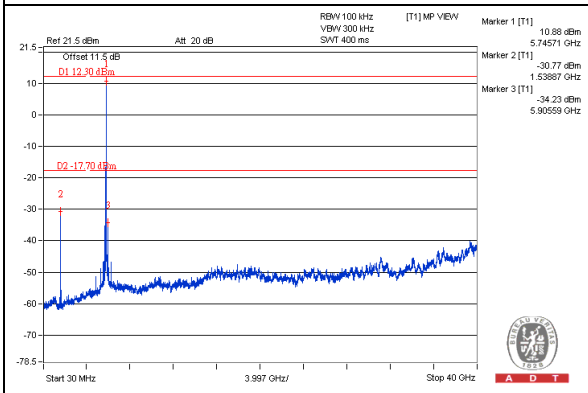


CH 165 Band edge

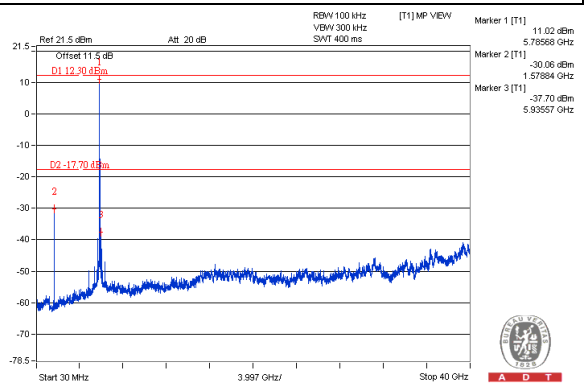


Chain 1

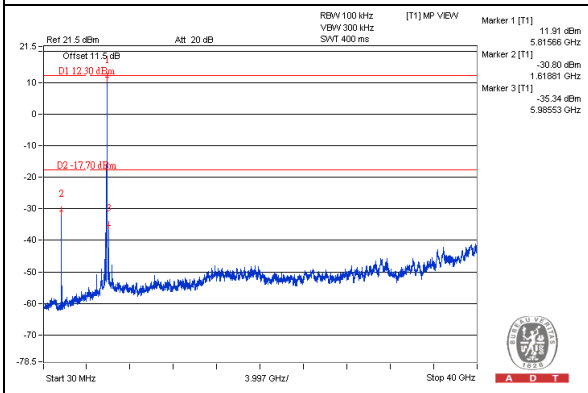
CH 149



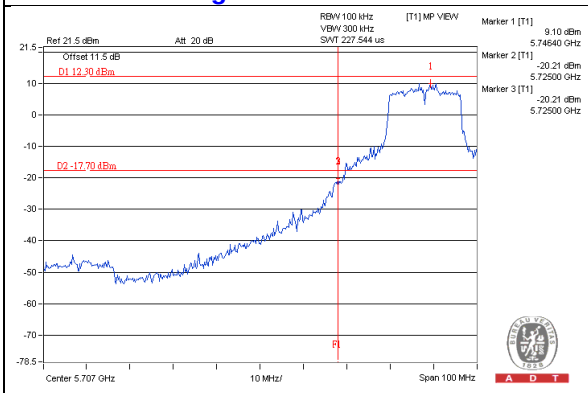
CH 157



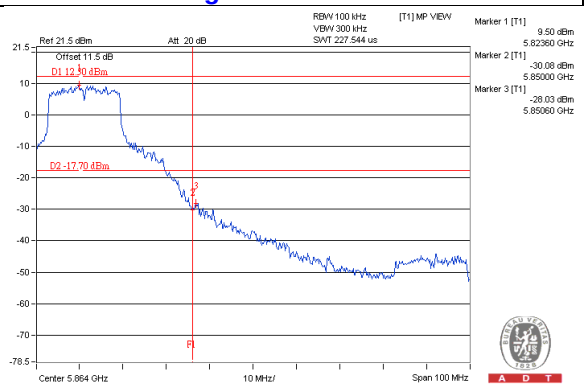
CH 165



CH 149 Band edge

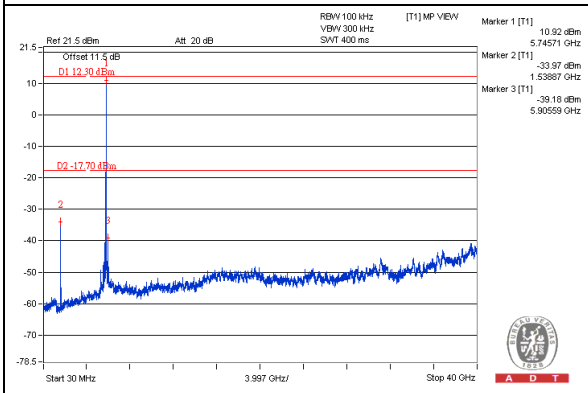


CH 165 Band edge

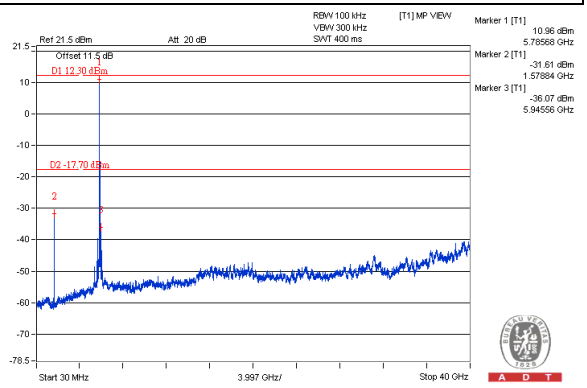


Chain 2

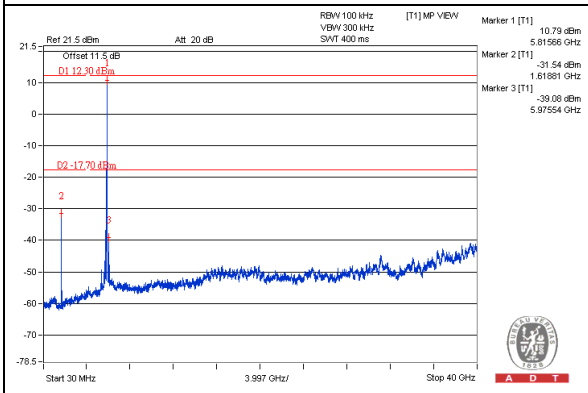
CH 149



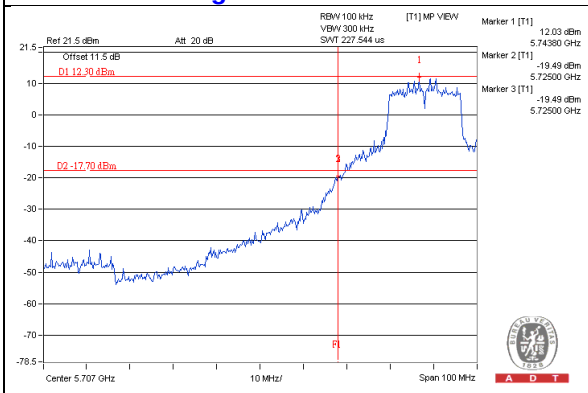
CH 157



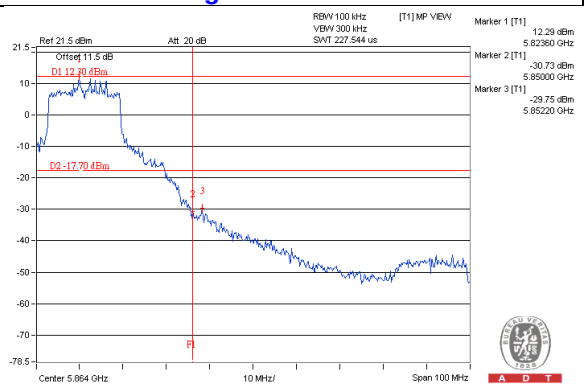
CH 165



CH 149 Band edge

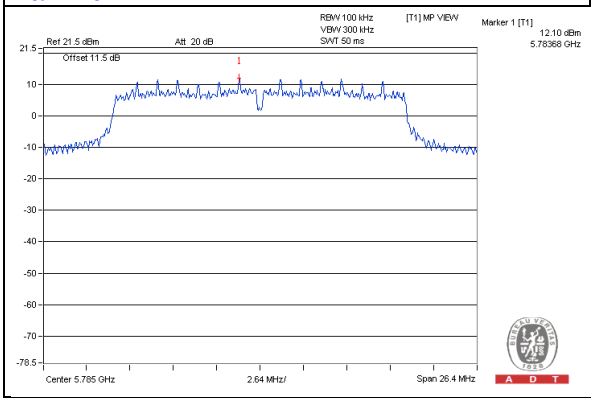


CH 165 Band edge



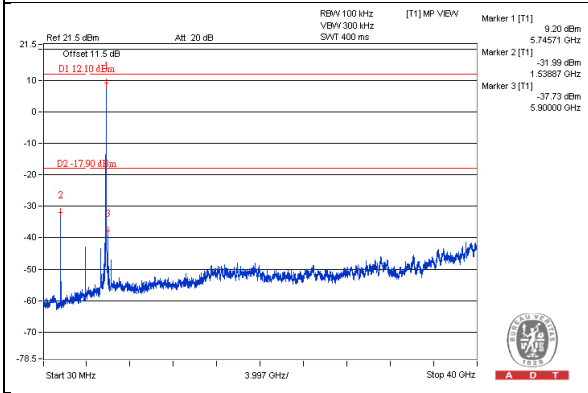
802.11ac (VHT20)

Maximum REF

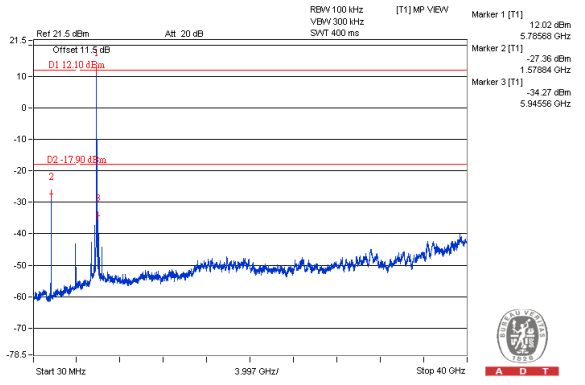


Chain 0

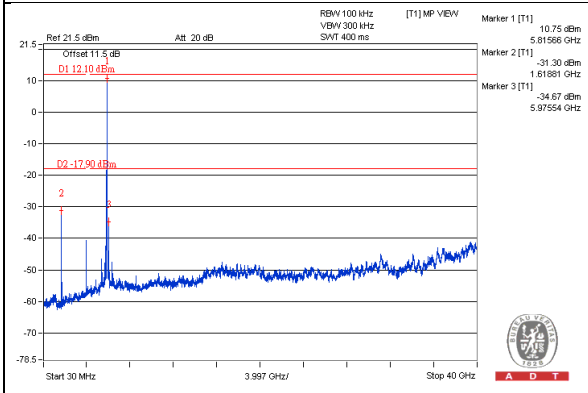
CH 149



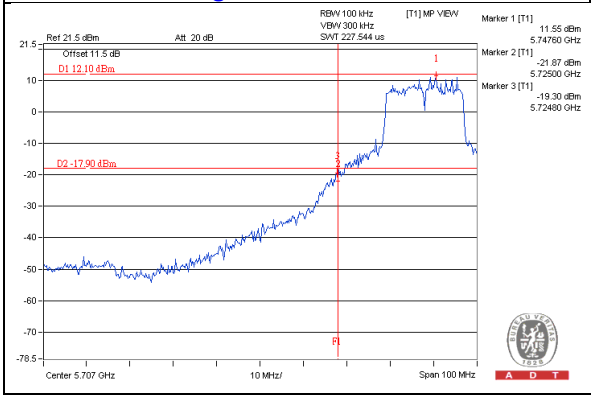
CH 157



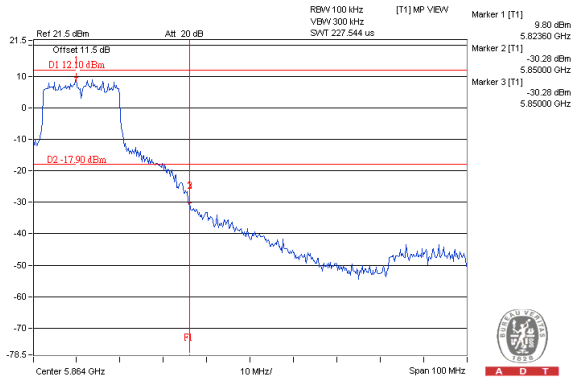
CH 165



CH 149 Band edge

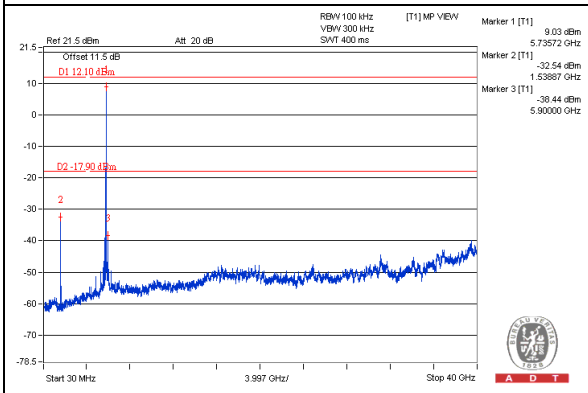


CH 165 Band edge

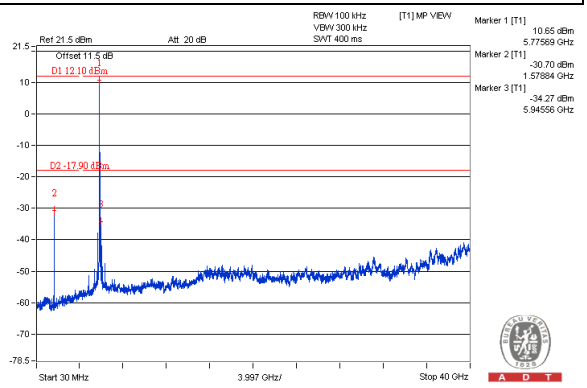


Chain 1

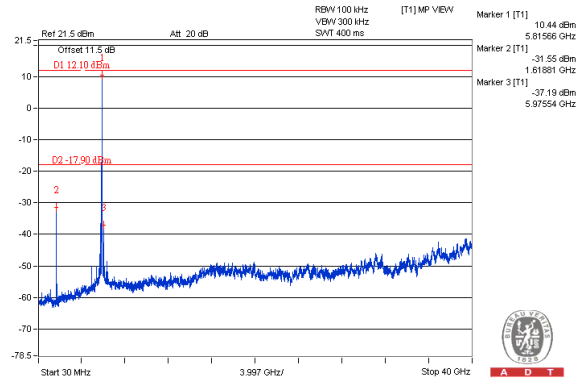
CH 149



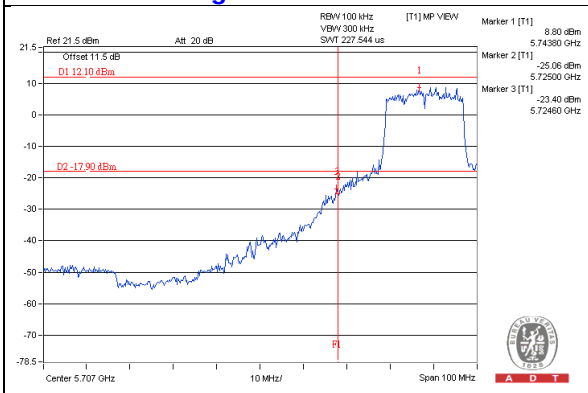
CH 157



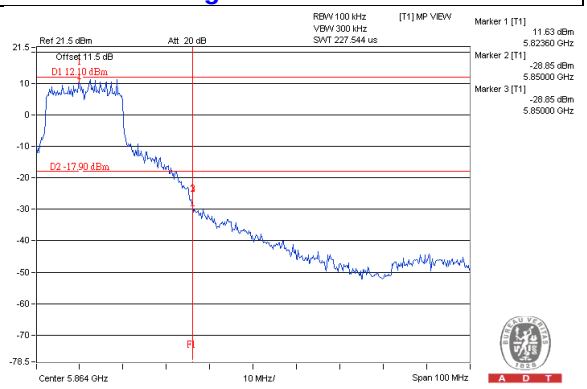
CH 165



CH 149 Band edge

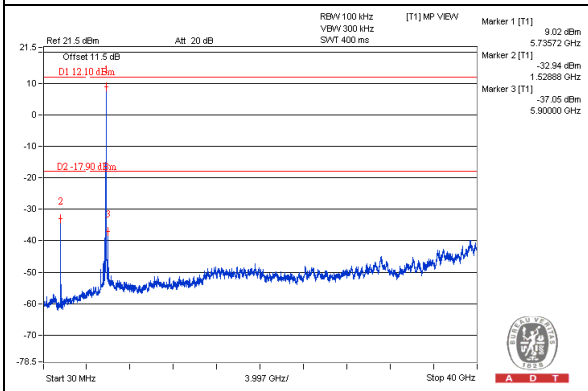


CH 165 Band edge

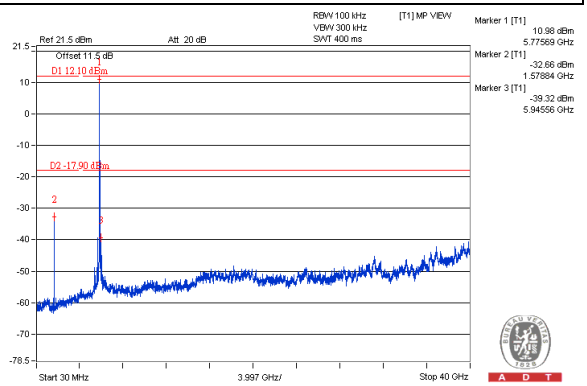


Chain 2

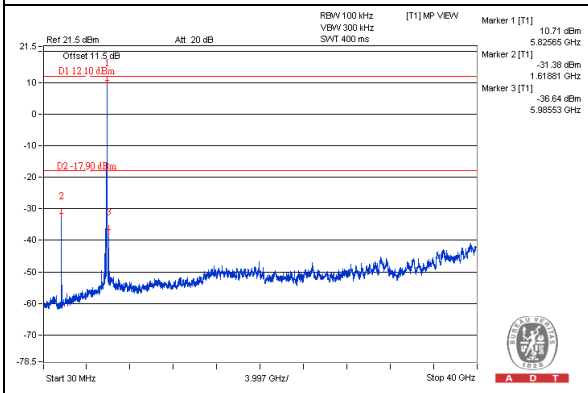
CH 149



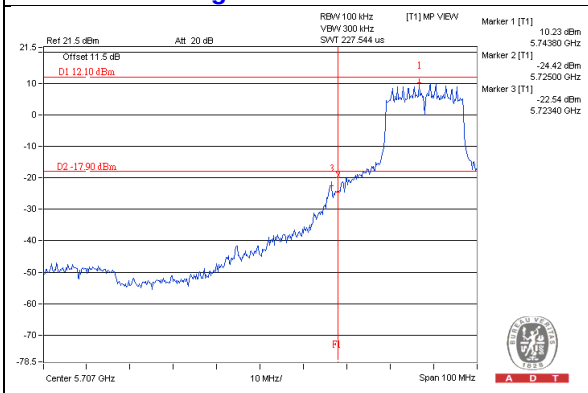
CH 157



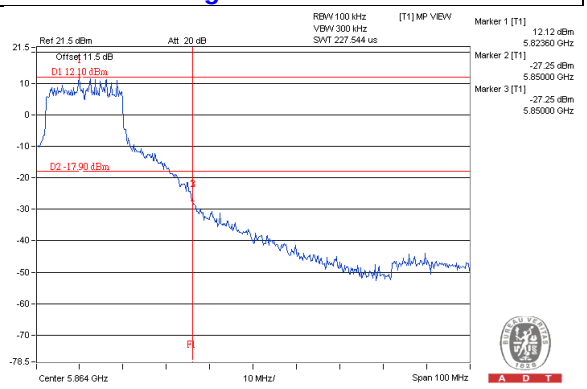
CH 165



CH 149 Band edge

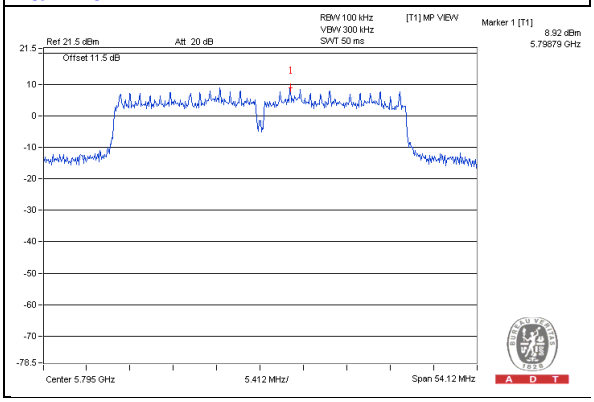


CH 165 Band edge



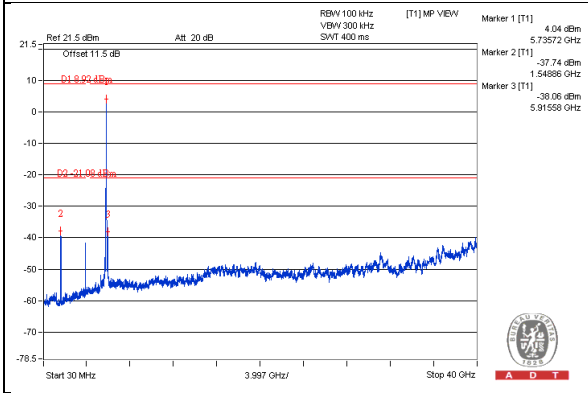
802.11ac (VHT40)

Maximum REF

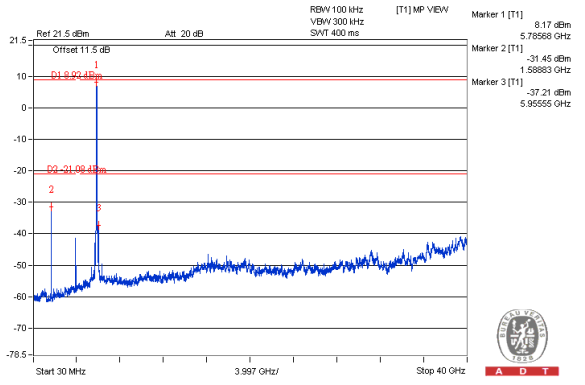


Chain 0

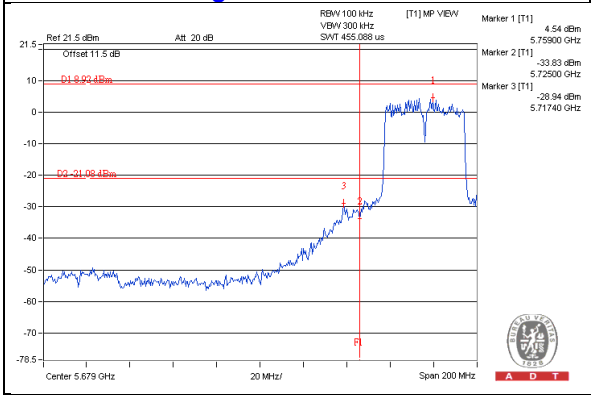
CH 151



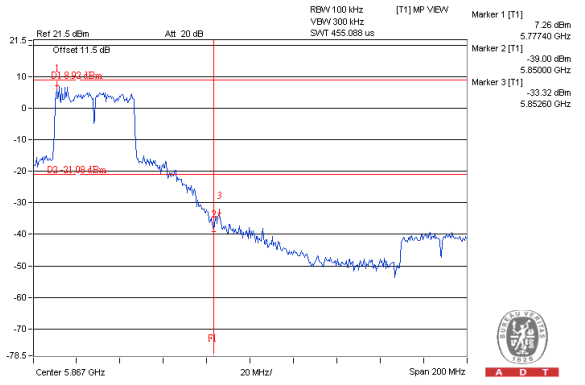
CH 159



CH 151 Band edge

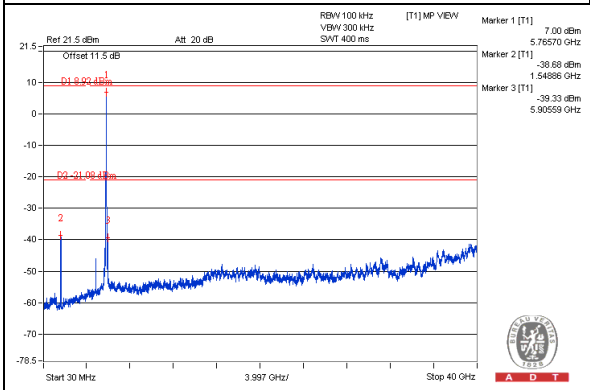


CH 159 Band edge

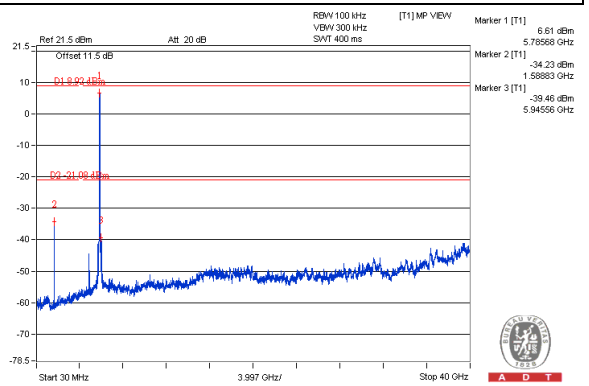


Chain 1

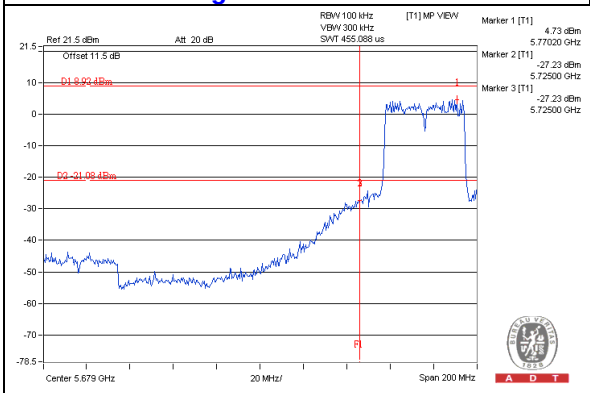
CH 151



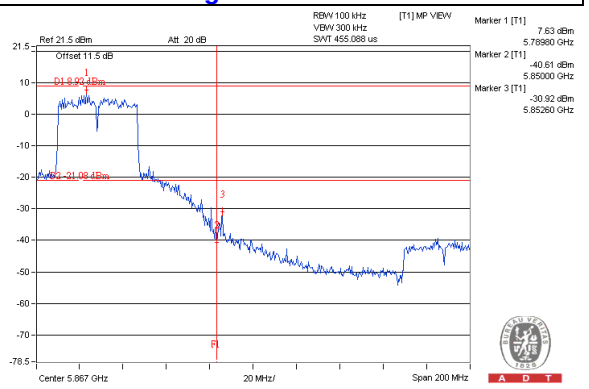
CH 159



CH 151 Band edge

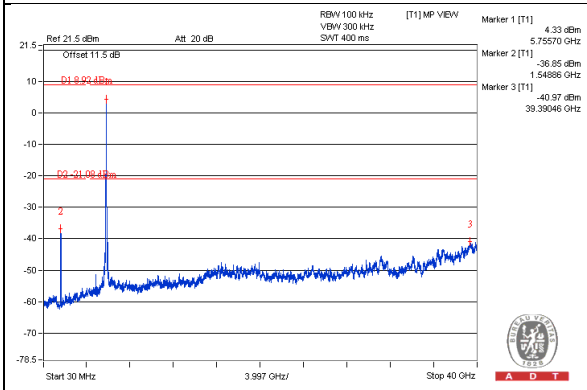


CH 159 Band edge

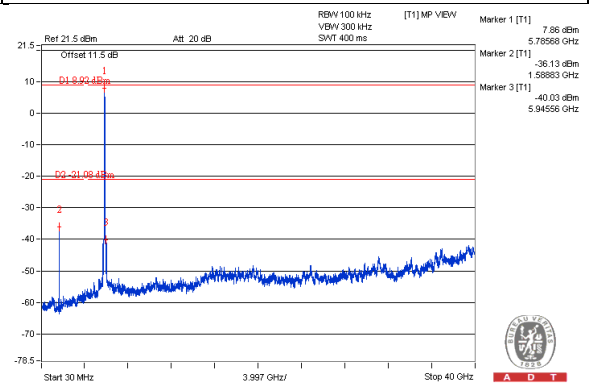


Chain 2

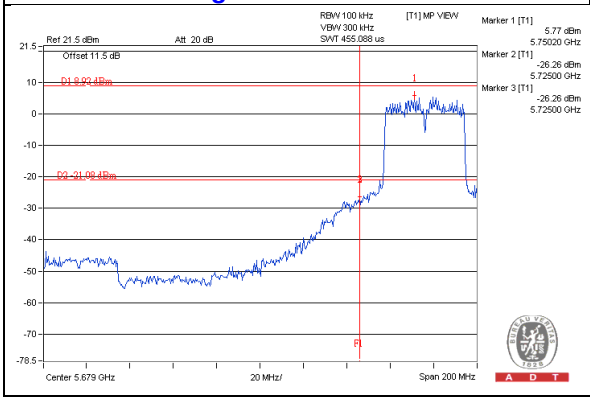
CH 151



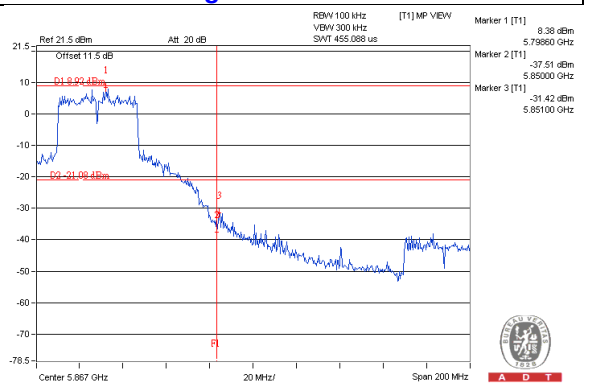
CH 159



CH 151 Band edge

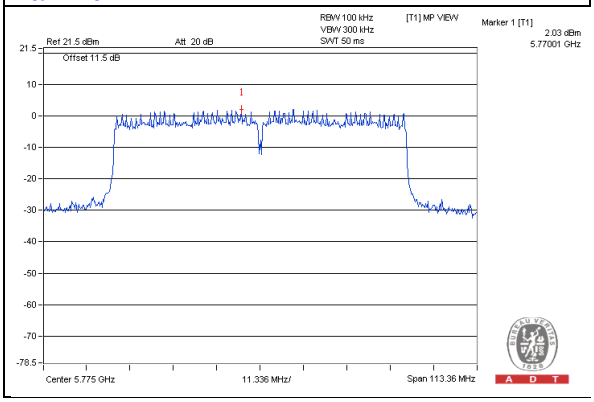


CH 159 Band edge



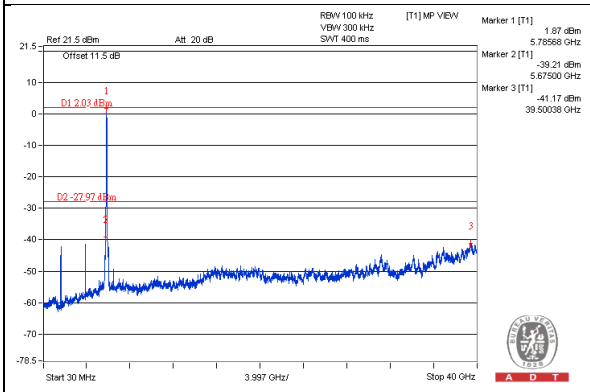
802.11ac (VHT80)

Maximum REF

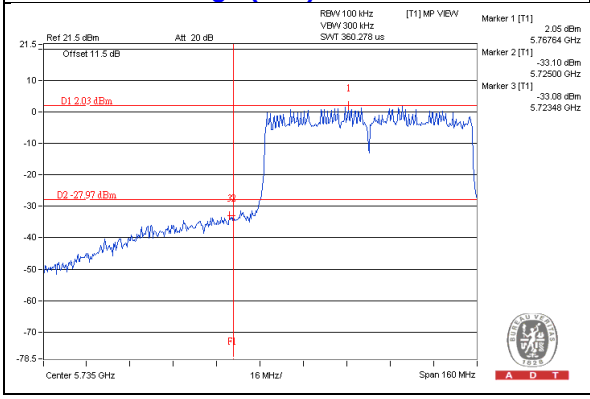


Chain 0

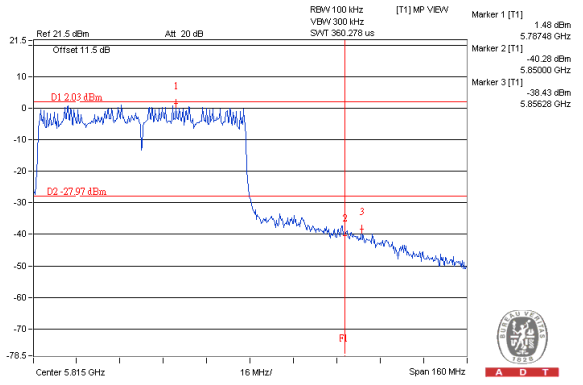
CH 155



CH 155 Band edge (Left)

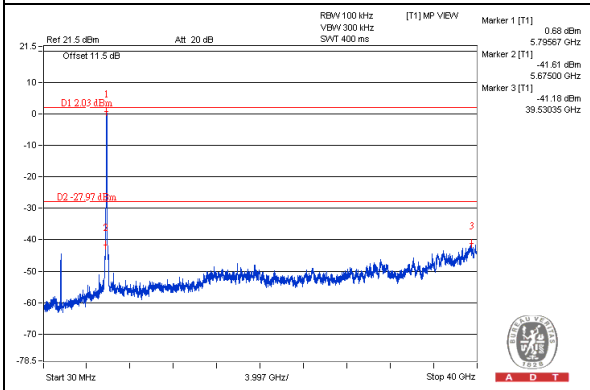


CH 155 Band edge (Right)

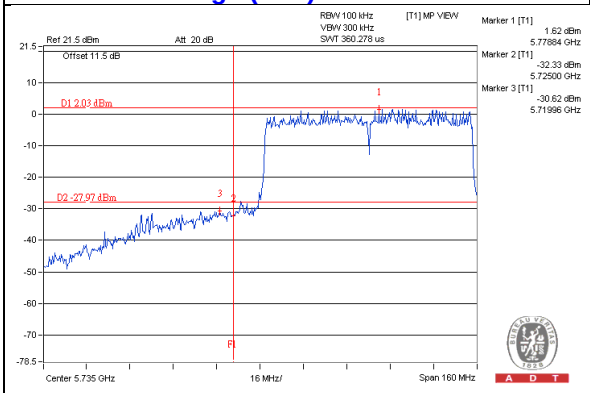


Chain 1

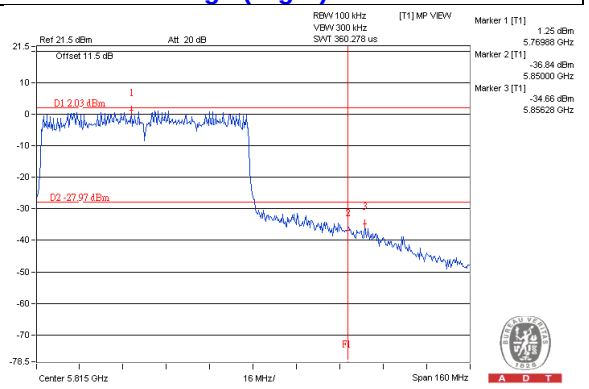
CH 155



CH 155 Band edge (Left)

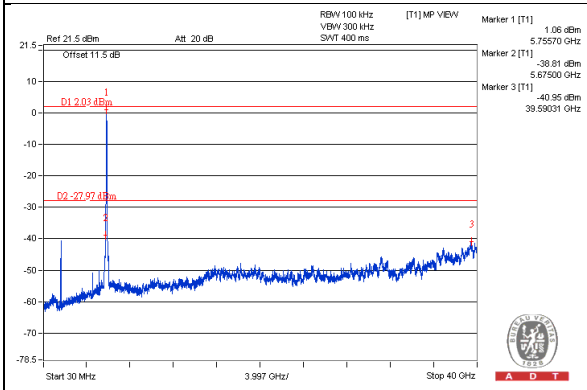


CH 155 Band edge (Right)

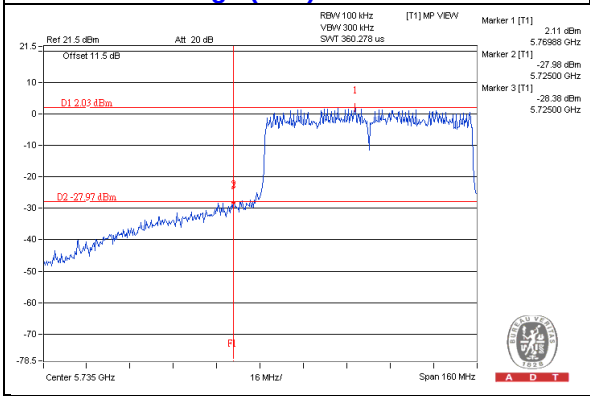


Chain 2

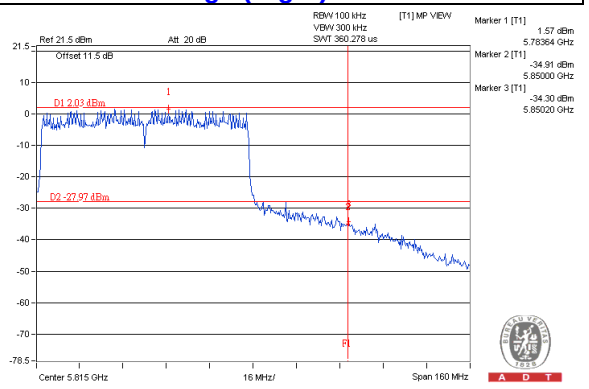
CH 155



CH 155 Band edge (Left)



CH 155 Band edge (Right)



6 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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

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