FCC TEST REPORT (15.247)

REPORT NO.:	RF140402E02C R1
MODEL NO.:	ECWO4320, ECWO4320-C, ECWO4320-L, ECWO4324, ECWO4324-C, ECWO4324-L
FCC ID:	YZKECWO4320
RECEIVED:	Apr. 08, 2014
TESTED:	Apr. 08 to May 09, 2014
ISSUED:	May 29, 2014

APPLICANT:	Edgecore Networks Corporation.
ADDRESS:	No.1, Creation Rd. III, Hsinchu Science Park, Hsinchu 30077, 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.

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140402E02C	Original release	May 14, 2014
RF140402E02C R1	Modified the product name.	May 29, 2014

1. CERTIFICATION

PRODUCT:	802.11ac Outdoor 5GHz Access Point
BRAND NAME:	Edge-corE
MODEL NO.:	ECWO4320, ECWO4320-C, ECWO4320-L, ECWO4324, ECWO4324-C, ECWO4324-L
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Edgecore Networks Corporation.
TESTED:	Apr. 08 to May 09, 2014
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)** ANSI C63.10-2009

The above equipment (Model: ECWO4320, ECWO4324) have 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 : Phoenix Huang , **DATE:** May 29, 2014
(Phoenix Huang, Specialist)

APPROVED BY : , **DATE:** May 29, 2014
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -12.51dB at 0.15193MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 11650.00MHz & 11490.00MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is RP-SMA or MMCX not a standard connector.

NOTE: The EUT was operating in 5.15~5.25GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.725~5.850GHz. For the 5.15~5.25GHz 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:

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

Measurement	Value
Conducted emissions	2.86 dB
Radiated emissions (30MHz-1GHz)	5.37 dB
Radiated emissions (1GHz -6GHz)	3.72 dB
Radiated emissions (6GHz -18GHz)	4.00 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11ac Outdoor 5GHz Access Point
MODEL NO.	ECWO4320, ECWO4320-C, ECWO4320-L, ECWO4324, ECWO4324-C, ECWO4324-L
POWER SUPPLY	DC 24V from POE
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
OPERATING FREQUENCY	**For 15.407** 5.18 ~ 5.24GHz
	For 15.247 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 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
MAXIMUM OUTPUT POWER	Please see NOTE
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	POE x1

Note:

1. The EUT is a 5GHz WLAN device.

2. The EUT has six model names, which are identical to each other in all aspects except for the followings:

Product Name	Brand Name	Model Name	Different
802.11ac Outdoor 5GHz Access Point	Edge-corE	ECWO4320	1. Internal antenna 2. Software: Fat 3. for different marketing
	Edge-corE	ECWO4320-C	1. Internal antenna 2. Software: Fit 3. for different marketing
	Edge-corE	ECWO4320-L	1. Internal antenna 2. Software: Fit 3. for different marketing
	Edge-corE	ECWO4324	1. External antenna 2. Software: Fat 3. for different marketing
	Edge-corE	ECWO4324-C	1. External antenna 2. Software: Fit 3. for different marketing
	Edge-corE	ECWO4324-L	1. External antenna 2. Software: Fit 3. for different marketing

From the above models, models: **ECWO4320, ECWO4324** were selected as representative model for the test and its data was recorded in this report.

3. The EUT must be supplied with a POE as following table:

Brand	Model No.	Spec.
NA	NU24-F240100-I2	Input: 100-240V, 0.7A, 50/60Hz Output: 24V, 1A

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

External antenna								
Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi) < excluding cable loss>	Inside EUT		Outside EUT		Frequency range (MHz to MHz)
				Cable Loss (dB)	Cable Length (mm)	Cable Loss (dB)	Cable Length (mm)	
Chain (0)	Dipole	RP-SMA	2.7	1.2	250	2.9	500	5150~5850
Chain (1)	Dipole	RP-SMA	2.7	1.2	250	2.9	500	5150~5850

Internal antenna				
Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi)	Frequency range (MHz to MHz)
Chain (0)	Patch Array	MMCX	8	5150~5850
Chain (1)	Patch Array	MMCX	8	5150~5850

※For 802.11a mode will fix transmission on Chain (0)

5. The maximum output power(mW) table as below table:

15.247 (5GHz) – with External antenna			
1Tx		2Tx	
802.11a	253.513	**802.11a**	-
802.11ac (VHT20)	253.513	**802.11ac (VHT20)**	244.946
802.11ac (VHT40)	251.768	**802.11ac (VHT40)**	200.708
802.11ac (VHT80)	153.109	**802.11ac (VHT80)**	192.573
15.247 (5GHz) – with Internal antenna			
1Tx		2Tx	
802.11a	138.995	**802.11a**	-
802.11ac (VHT20)	211.349	**802.11ac (VHT20)**	217.548
802.11ac (VHT40)	208.449	**802.11ac (VHT40)**	200.708
802.11ac (VHT80)	153.109	**802.11ac (VHT80)**	192.573
15.407 (5GHz) – with External antenna			
1Tx		2Tx	
802.11a	46.026	**802.11a**	-
802.11ac (VHT20)	45.082	**802.11ac (VHT20)**	45.450
802.11ac (VHT40)	49.091	**802.11ac (VHT40)**	49.095
802.11ac (VHT80)	49.091	**802.11ac (VHT80)**	46.776
15.407 (5GHz) – with Internal antenna			
1Tx		2Tx	
802.11a	10.423	**802.11a**	-
802.11ac (VHT20)	10.351	**802.11ac (VHT20)**	10.175
802.11ac (VHT40)	10.447	**802.11ac (VHT40)**	11.048
802.11ac (VHT80)	10.889	**802.11ac (VHT80)**	10.896

6. The EUT incorporates a MIMO function without beamforming.

MODULATION MODE	Tx/Rx FUNCTION
802.11a	1Tx/2Rx
802.11n (HT20)	1Tx/2Rx or 2Tx/2Rx
802.11n (HT40)	1Tx/2Rx or 2Tx/2Rx
802.11ac (VHT20)	1Tx/2Rx or 2Tx/2Rx
802.11ac (VHT40)	1Tx/2Rx or 2Tx/2Rx
802.11ac (VHT80)	1Tx/2Rx or 2Tx/2Rx

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)

7. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
8. When the EUT operating in 802.11ac, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 9.
9. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 5725 ~ 5850MHz band:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

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

CHANNEL	FREQUENCY
151	5755 MHz
159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
155	5775 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO					DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	OB	
1	√	√	√	√	√	with External antenna
2	-	√	√	√	√	with Internal antenna

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

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

OB: Conducted Out-Band Emission Measurement

NOTE: 1. "-"means no effect.

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)
802.11ac (VHT20), 2Tx	149 to 165	157	OFDM	BPSK	13

RADIATED EMISSION TEST (BELOW 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11ac (VHT20), 2Tx	149 to 165	157	OFDM	BPSK	13

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20), 1Tx	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40), 1Tx	151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80), 1Tx	155	155	OFDM	BPSK	29.3
802.11ac (VHT20), 2Tx	149 to 165	149, 157, 165	OFDM	BPSK	13
802.11ac (VHT40), 2Tx	151 to 159	151, 159	OFDM	BPSK	27
802.11ac (VHT80), 2Tx	155	155	OFDM	BPSK	58.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20), 1Tx	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40), 1Tx	151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80), 1Tx	155	155	OFDM	BPSK	29.3
802.11ac (VHT20), 2Tx	149 to 165	149, 157, 165	OFDM	BPSK	13
802.11ac (VHT40), 2Tx	151 to 159	151, 159	OFDM	BPSK	27
802.11ac (VHT80), 2Tx	155	155	OFDM	BPSK	58.5

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20), 1Tx	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40), 1Tx	151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80), 1Tx	155	155	OFDM	BPSK	29.3
802.11ac (VHT20), 2Tx	149 to 165	149, 157, 165	OFDM	BPSK	13
802.11ac (VHT40), 2Tx	151 to 159	151, 159	OFDM	BPSK	27
802.11ac (VHT80), 2Tx	155	155	OFDM	BPSK	58.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	25deg. 75C,%RH	120Vac, 60Hz	Ping Liu
RE<1G	21deg. C, 66%RH	120Vac, 60Hz	Robert Cheng
RE≥1G	24deg. C, 73%RH	120Vac, 60Hz	Andy Ho
	23deg. C, 66%RH	120Vac, 60Hz	Andy Ho
	24deg. C, 73%RH	120Vac, 60Hz	Tim Ho
	23deg. C, 66%RH	120Vac, 60Hz	Tim Ho
	23deg. C, 66%RH	120Vac, 60Hz	Nelson Teng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng
OB	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C(15.247)

558074 D01 DTS Meas Guidance v03r01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

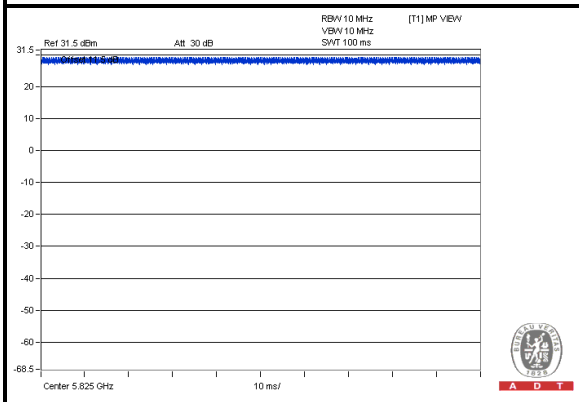
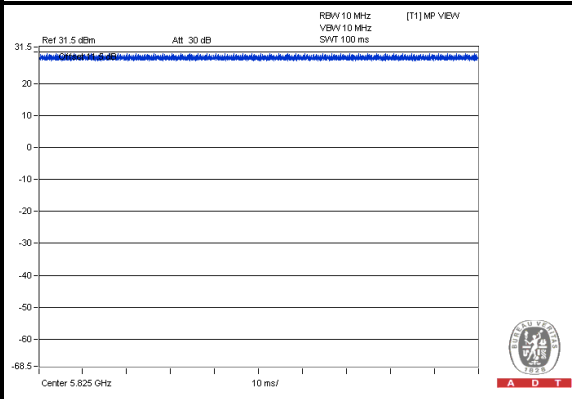
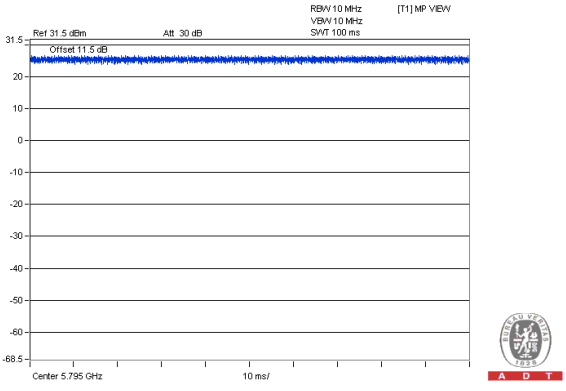
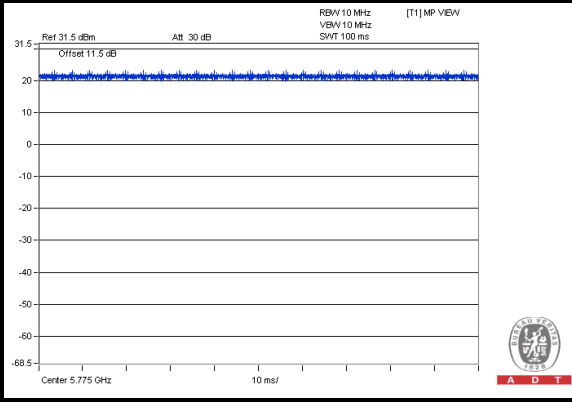
All test items have been performed and recorded as per the above standards.

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.

3.4 DUTY CYCLE OF TEST SIGNAL

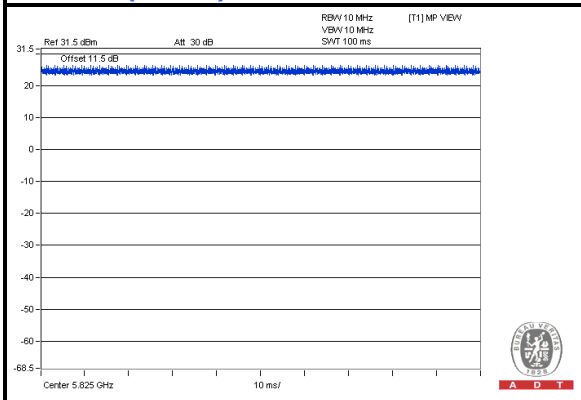
Duty cycle of test signal is 100 %, duty factor is not required.

For 1Tx

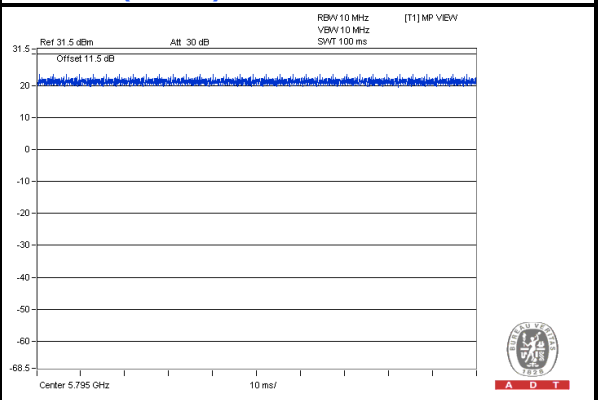
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	**802.11ac (VHT80)**
	

For 2Tx

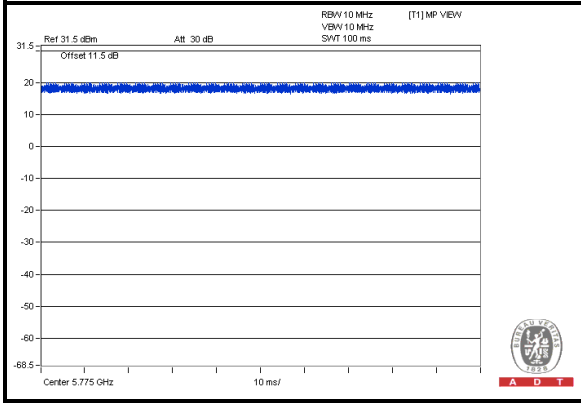
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.5 DESCRIPTION OF SUPPORT UNITS

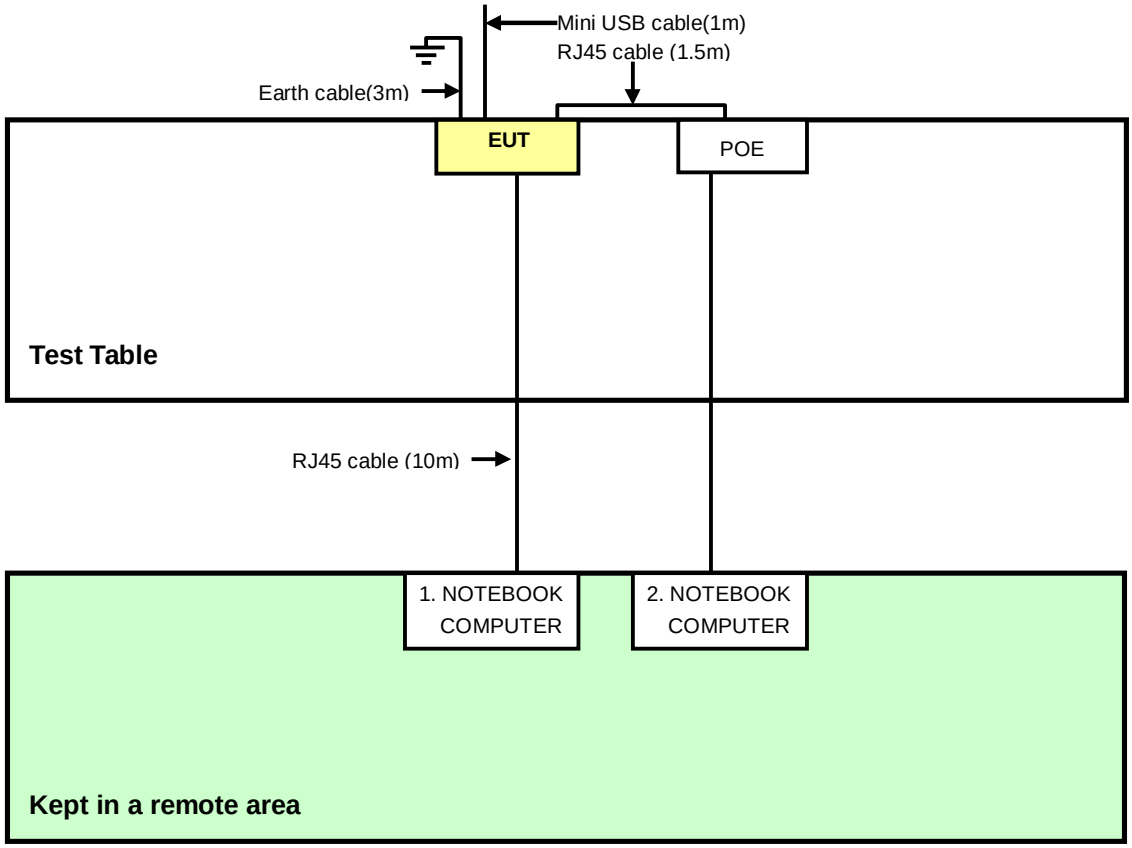
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	GSLB32S	NA
2	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	NA

No.	Signal cable description
1	UTP cable(10m)
2	UTP cable(10m)

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 05, 2013	Sep. 04, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 06, 2013	June 05, 2014
RF Cable (JYEBAO)	5DFB	CONCAB-003	Mar. 07, 2014	Mar. 06, 2015
50 ohms Terminator	50	EMC-03	Sep. 24, 2013	Sep. 23, 2014
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: Apr. 17, 2014

4.1.3 TEST PROCEDURES

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

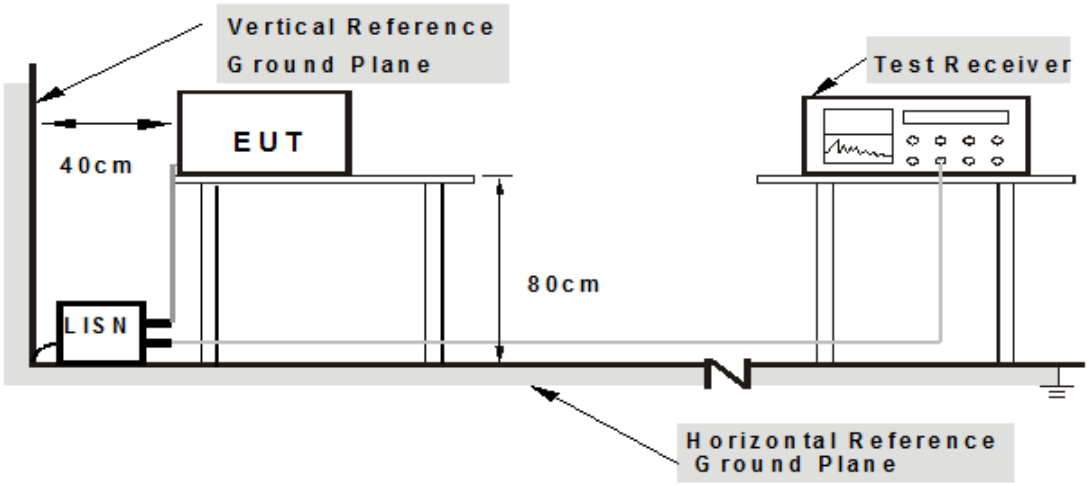
NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

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

4.1.6 EUT OPERATING CONDITIONS

1. Placed the EUT on testing table.
2. Prepared computer system (support units 1 ~ 2) to act as communication partner.
3. The communication partner ran test program “MP_TEST.exe[Ver 1.3.8.0]” to enable EUT under transmission/receiving condition continuously.

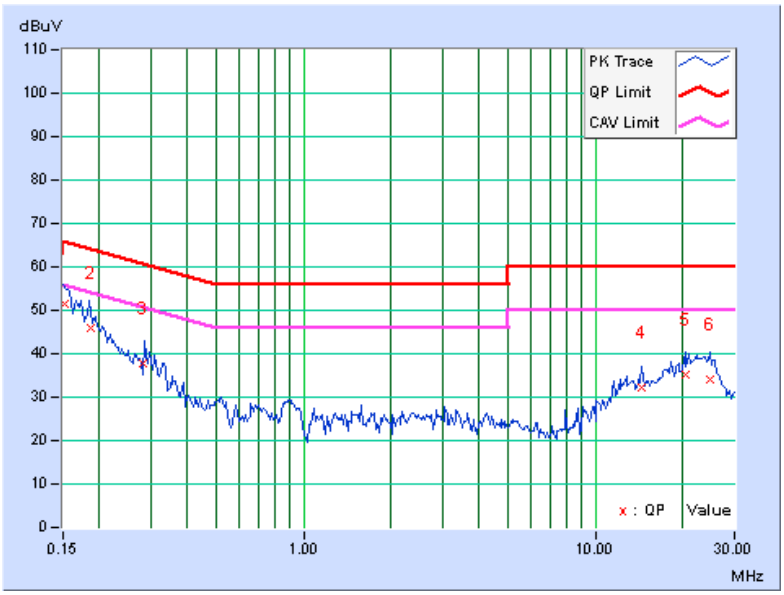
4.1.7 TEST RESULTS

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

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15187	0.06	51.36	35.98	51.42	36.04	65.90	55.90	-14.48	-19.86
2	0.18615	0.06	45.87	30.79	45.93	30.85	64.21	54.21	-18.28	-23.36
3	0.28276	0.06	37.64	28.14	37.70	28.20	60.73	50.73	-23.03	-22.53
4	14.48934	0.52	31.73	25.58	32.25	26.10	60.00	50.00	-27.75	-23.90
5	20.32130	0.67	34.47	30.27	35.14	30.94	60.00	50.00	-24.86	-19.06
6	24.86823	0.81	33.29	29.38	34.10	30.19	60.00	50.00	-25.90	-19.81

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

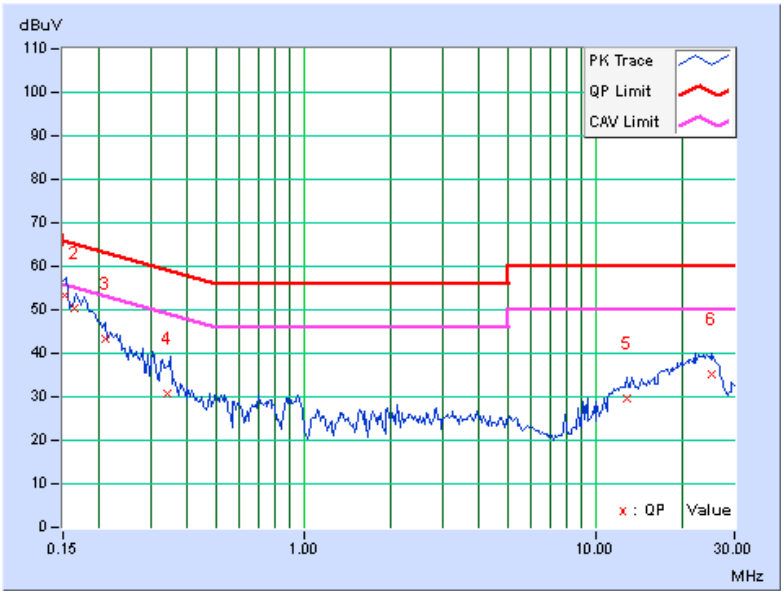


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15193**	**0.07**	**53.31**	**38.54**	**53.38**	**38.61**	**65.89**	**55.89**	**-12.51**	**-17.28**
2	0.16365	0.07	50.14	35.34	50.21	35.41	65.28	55.28	-15.07	-19.87
3	0.20958	0.06	43.20	28.69	43.26	28.75	63.22	53.22	-19.96	-24.47
4	0.34229	0.07	30.84	19.12	30.91	19.19	59.15	49.15	-28.24	-29.96
5	12.76359	0.46	29.19	24.29	29.65	24.75	60.00	50.00	-30.35	-25.25
6	25.16604	0.80	34.41	29.35	35.21	30.15	60.00	50.00	-24.79	-19.85

REMARKS:

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



4.2 RADIATED AND BANDEDGE EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED AND BANDEDGE EMISSION 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.

4.2.2 TEST INSTRUMENTS

For Below 1GHz test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21,2014	Jan. 20,2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. 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: May 09, 2014

For Above 1GHz test

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Apr. 16, 2014

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

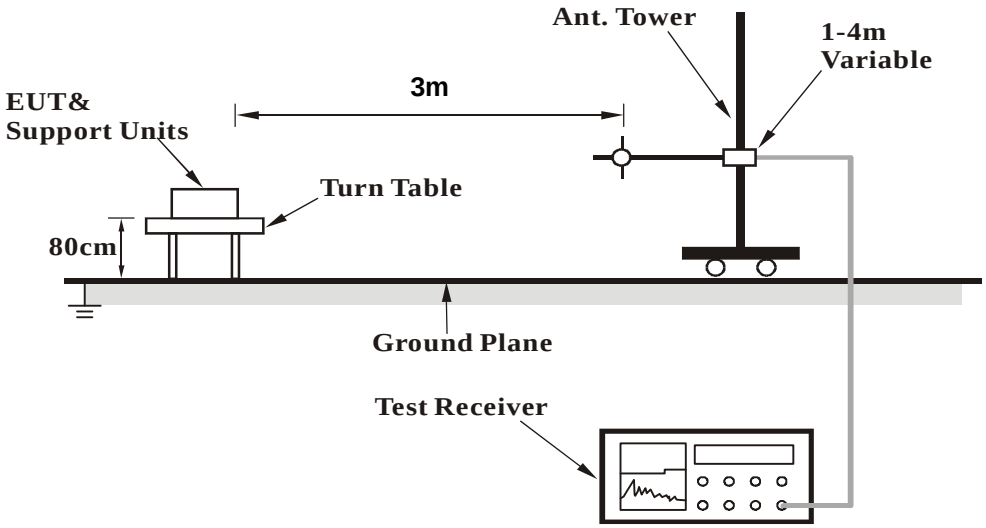
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.2.4 DEVIATION FROM TEST STANDARD

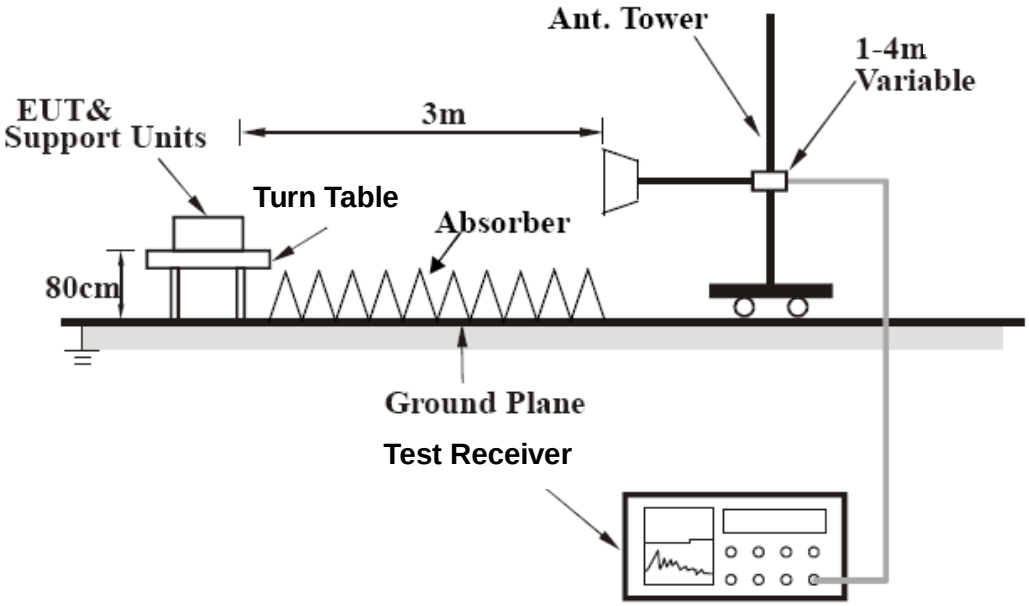
No deviation

4.2.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.2.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

4.2.7 TEST RESULTS (MODE 1)

BELOW 1GHz WORST-CASE DATA

802.11ac (VHT20), 2Tx

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	86.62	31.5 QP	40.0	-8.5	1.75 H	133	50.57	-19.03
2	97.34	36.2 QP	43.5	-7.3	1.45 H	99	54.59	-18.38
3	125.26	39.5 QP	43.5	-4.1	1.64 H	236	54.36	-14.91
4	148.47	35.4 QP	43.5	-8.1	1.44 H	304	48.56	-13.15
5	249.96	40.5 QP	46.0	-5.5	1.66 H	69	54.84	-14.32
6	362.63	39.5 QP	46.0	-6.5	1.22 H	98	50.18	-10.72
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	38.46	35.9 QP	40.0	-4.1	1.65 V	112	49.76	-13.89
2	43.20	35.0 QP	40.0	-5.0	1.77 V	99	48.52	-13.54
3	66.45	33.9 QP	40.0	-6.2	1.47 V	99	48.82	-14.97
4	80.35	36.0 QP	40.0	-4.0	1.37 V	78	54.26	-18.25
5	124.44	40.2 QP	43.5	-3.3	1.54 V	87	55.14	-14.93
6	440.11	38.0 QP	46.0	-8.0	1.74 V	35	46.45	-8.44

REMARKS:

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

ABOVE 1GHz DATA

802.11a, 1Tx

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	103.1 PK			1.68 H	22	98.20	4.90
2	*5745.00	94.4 AV			1.68 H	22	89.50	4.90
3	11490.00	57.0 PK	74.0	-17.0	1.10 H	17	46.40	10.60
4	11490.00	45.9 AV	54.0	-8.1	1.10 H	17	35.30	10.60
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	108.9 PK			1.25 V	254	104.00	4.90
2	*5745.00	100.5 AV			1.25 V	254	95.60	4.90
3	11490.00	59.6 PK	74.0	-14.4	1.00 V	5	49.00	10.60
4	11490.00	48.2 AV	54.0	-5.8	1.00 V	5	37.60	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	102.8 PK			1.71 H	17	97.90	4.90
2	*5785.00	93.9 AV			1.71 H	17	89.00	4.90
3	11570.00	57.4 PK	74.0	-16.6	1.04 H	26	46.70	10.70
4	11570.00	46.3 AV	54.0	-7.7	1.04 H	26	35.60	10.70
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	107.8 PK			1.12 V	248	102.90	4.90
2	*5785.00	99.7 AV			1.12 V	248	94.80	4.90
3	11570.00	59.7 PK	74.0	-14.3	1.03 V	14	49.00	10.70
4	11570.00	48.4 AV	54.0	-5.6	1.03 V	14	37.70	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	103.1 PK			1.71 H	28	98.00	5.10
2	*5825.00	95.4 AV			1.71 H	28	90.30	5.10
3	11650.00	56.9 PK	74.0	-17.1	1.00 H	26	46.30	10.60
4	11650.00	45.6 AV	54.0	-8.4	1.00 H	26	35.00	10.60
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	108.6 PK			1.10 V	250	103.50	5.10
2	*5825.00	101.6 AV			1.10 V	250	96.50	5.10
3	11650.00	60.1 PK	74.0	-13.9	1.00 V	6	49.50	10.60
4	11650.00	48.4 AV	54.0	-5.6	1.00 V	6	37.80	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT20), 1Tx

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	103.5 PK			1.64 H	32	98.60	4.90
2	*5745.00	94.7 AV			1.64 H	32	89.80	4.90
3	11490.00	56.0 PK	74.0	-18.0	1.00 H	24	45.40	10.60
4	11490.00	44.6 AV	54.0	-9.4	1.00 H	24	34.00	10.60
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	108.8 PK			1.31 V	233	103.90	4.90
2	*5745.00	100.4 AV			1.31 V	233	95.50	4.90
3	11490.00	60.6 PK	74.0	-13.4	1.00 V	20	50.00	10.60
4	11490.00	48.8 AV	54.0	-5.2	1.00 V	20	38.20	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	103.2 PK			1.62 H	33	98.30	4.90
2	*5785.00	94.3 AV			1.62 H	33	89.40	4.90
3	11570.00	56.2 PK	74.0	-17.8	1.02 H	16	45.50	10.70
4	11570.00	44.8 AV	54.0	-9.2	1.02 H	16	34.10	10.70
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	107.3 PK			1.03 V	258	102.40	4.90
2	*5785.00	99.5 AV			1.03 V	258	94.60	4.90
3	11570.00	59.5 PK	74.0	-14.5	1.07 V	25	48.80	10.70
4	11570.00	48.0 AV	54.0	-6.0	1.07 V	25	37.30	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	103.2 PK			1.70 H	28	98.10	5.10
2	*5825.00	95.3 AV			1.70 H	28	90.20	5.10
3	11650.00	56.2 PK	74.0	-17.8	1.02 H	21	45.60	10.60
4	11650.00	44.8 AV	54.0	-9.2	1.02 H	21	34.20	10.60
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	108.5 PK			1.00 V	225	103.40	5.10
2	*5825.00	101.2 AV			1.00 V	225	96.10	5.10
3	11650.00	60.3 PK	74.0	-13.7	1.02 V	24	49.70	10.60
4	11650.00	48.3 AV	54.0	-5.7	1.02 V	24	37.70	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT40), 1Tx

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	100.4 PK			1.65 H	16	95.50	4.90
2	*5755.00	91.5 AV			1.65 H	16	86.60	4.90
3	11510.00	55.9 PK	74.0	-18.1	1.00 H	19	45.20	10.70
4	11510.00	44.7 AV	54.0	-9.3	1.00 H	19	34.00	10.70
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	105.7 PK			1.00 V	223	100.80	4.90
2	*5755.00	97.3 AV			1.00 V	223	92.40	4.90
3	11510.00	59.0 PK	74.0	-15.0	1.13 V	21	48.30	10.70
4	11510.00	47.7 AV	54.0	-6.3	1.13 V	21	37.00	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	99.5 PK			1.60 H	27	94.70	4.80
2	*5795.00	90.7 AV			1.60 H	27	85.90	4.80
3	11590.00	55.7 PK	74.0	-18.3	1.04 H	18	45.00	10.70
4	11590.00	44.3 AV	54.0	-9.7	1.04 H	18	33.60	10.70
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	105.3 PK			1.02 V	227	100.50	4.80
2	*5795.00	97.0 AV			1.02 V	227	92.20	4.80
3	11590.00	59.2 PK	74.0	-14.8	1.10 V	17	48.50	10.70
4	11590.00	47.7 AV	54.0	-6.3	1.10 V	17	37.00	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT80), 1Tx

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	98.6 PK			1.54 H	2	93.70	4.90
2	*5775.00	89.6 AV			1.54 H	2	84.70	4.90
3	11550.00	55.2 PK	74.0	-18.8	1.04 H	13	44.50	10.70
4	11550.00	43.9 AV	54.0	-10.1	1.04 H	13	33.20	10.70
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	103.2 PK			1.24 V	249	98.30	4.90
2	*5775.00	95.7 AV			1.24 V	249	90.80	4.90
3	11550.00	59.6 PK	74.0	-14.4	1.15 V	22	48.90	10.70
4	11550.00	48.1 AV	54.0	-5.9	1.15 V	22	37.40	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT20), 2Tx

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	99.9 PK			1.60 H	30	95.00	4.90
2	*5745.00	90.6 AV			1.60 H	30	85.70	4.90
3	11490.00	55.6 PK	74.0	-18.4	1.00 H	254	45.00	10.60
4	11490.00	42.1 AV	54.0	-11.9	1.00 H	254	31.50	10.60
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	107.2 PK			1.00 V	348	102.30	4.90
2	*5745.00	98.2 AV			1.00 V	348	93.30	4.90
3	11490.00	56.4 PK	74.0	-17.6	1.58 V	87	45.80	10.60
4	11490.00	45.5 AV	54.0	-8.5	1.58 V	87	34.90	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	100.1 PK			1.56 H	26	95.20	4.90
2	*5785.00	90.4 AV			1.56 H	26	85.50	4.90
3	11570.00	55.6 PK	74.0	-18.4	1.00 H	250	44.90	10.70
4	11570.00	42.0 AV	54.0	-12.0	1.00 H	250	31.30	10.70
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	107.2 PK			1.06 V	342	102.30	4.90
2	*5785.00	98.1 AV			1.06 V	342	93.20	4.90
3	11570.00	56.7 PK	74.0	-17.3	1.61 V	84	46.00	10.70
4	11570.00	45.6 AV	54.0	-8.4	1.61 V	84	34.90	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	*5825.00	100.2 PK			1.58 H	40	95.10	5.10
2	*5825.00	91.0 AV			1.58 H	40	85.90	5.10
3	11650.00	55.2 PK	74.0	-18.8	1.05 H	261	44.60	10.60
4	11650.00	41.6 AV	54.0	-12.4	1.05 H	261	31.00	10.60
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	107.5 PK			1.06 V	356	102.40	5.10
2	*5825.00	98.5 AV			1.06 V	356	93.40	5.10
3	11650.00	56.7 PK	74.0	-17.3	1.61 V	95	46.10	10.60
4	11650.00	45.7 AV	54.0	-8.3	1.61 V	95	35.10	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT40), 2Tx

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	96.8 PK			1.58 H	50	91.90	4.90
2	*5755.00	87.7 AV			1.58 H	50	82.80	4.90
3	11510.00	54.8 PK	74.0	-19.2	1.09 H	247	44.10	10.70
4	11510.00	41.4 AV	54.0	-12.6	1.09 H	247	30.70	10.70
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	104.3 PK			1.00 V	348	99.40	4.90
2	*5755.00	95.3 AV			1.00 V	348	90.40	4.90
3	11510.00	57.0 PK	74.0	-17.0	1.56 V	103	46.30	10.70
4	11510.00	45.9 AV	54.0	-8.1	1.56 V	103	35.20	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	97.3 PK			1.64 H	40	92.50	4.80
2	*5795.00	88.2 AV			1.64 H	40	83.40	4.80
3	11590.00	54.2 PK	74.0	-19.8	1.11 H	248	43.50	10.70
4	11590.00	41.1 AV	54.0	-12.9	1.11 H	248	30.40	10.70
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	104.7 PK			1.03 V	345	99.90	4.80
2	*5795.00	95.7 AV			1.03 V	345	90.90	4.80
3	11590.00	56.6 PK	74.0	-17.4	1.61 V	100	45.90	10.70
4	11590.00	45.8 AV	54.0	-8.2	1.61 V	100	35.10	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT80), 2Tx

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	98.7 PK			1.61 H	43	93.80	4.90
2	*5775.00	88.6 AV			1.61 H	43	83.70	4.90
3	11550.00	53.8 PK	74.0	-20.2	1.11 H	233	43.10	10.70
4	11550.00	40.6 AV	54.0	-13.4	1.11 H	233	29.90	10.70
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	103.3 PK			1.00 V	345	98.40	4.90
2	*5775.00	96.1 AV			1.00 V	345	91.20	4.90
3	11550.00	56.3 PK	74.0	-17.7	1.64 V	99	45.60	10.70
4	11550.00	45.5 AV	54.0	-8.5	1.64 V	99	34.80	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

4.2.8 TEST RESULTS (MODE 2)

BELOW 1GHz WORST-CASE DATA

802.11ac (VHT20), 2Tx

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	86.82	32.0 QP	40.0	-8.0	1.75 H	99	51.01	-19.04
2	97.11	36.2 QP	43.5	-7.3	1.45 H	133	54.65	-18.41
3	125.12	39.8 QP	43.5	-3.7	1.46 H	196	54.68	-14.92
4	148.36	35.5 QP	43.5	-8.0	1.64 H	165	48.61	-13.15
5	249.96	40.8 QP	46.0	-5.2	1.24 H	100	55.14	-14.32
6	362.62	39.5 QP	46.0	-6.5	1.69 H	98	50.26	-10.72
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	38.66	36.2 QP	40.0	-3.8	1.35 V	69	50.12	-13.88
2	43.43	35.1 QP	40.0	-4.9	1.32 V	88	48.62	-13.51
3	66.50	34.2 QP	40.0	-5.8	1.75 V	99	49.20	-14.99
4	80.36	36.0 QP	40.0	-4.0	1.00 V	69	54.27	-18.26
5	124.47	40.2 QP	43.5	-3.3	1.64 V	69	55.14	-14.93
6	440.10	38.2 QP	46.0	-7.8	1.44 V	77	46.65	-8.44

REMARKS:

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

ABOVE 1GHz DATA

802.11a, 1Tx

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	109.8 PK			1.16 H	182	104.90	4.90
2	*5745.00	101.0 AV			1.16 H	182	96.10	4.90
3	11490.00	67.4 PK	74.0	-6.6	1.05 H	192	56.80	10.60
4	**11490.00**	**53.5 AV**	**54.0**	**-0.5**	**1.05 H**	**192**	**42.90**	**10.60**
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			1.31 V	184	114.40	4.90
2	*5745.00	110.5 AV			1.31 V	184	105.60	4.90
3	11490.00	65.2 PK	74.0	-8.8	1.13 V	191	54.60	10.60
4	11490.00	51.7 AV	54.0	-2.3	1.13 V	191	41.10	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	110.1 PK			1.34 H	186	105.20	4.90
2	*5785.00	101.4 AV			1.34 H	186	96.50	4.90
3	11570.00	65.1 PK	74.0	-8.9	1.14 H	212	54.40	10.70
4	11570.00	53.3 AV	54.0	-0.7	1.14 H	212	42.60	10.70
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	119.8 PK			1.29 V	183	114.90	4.90
2	*5785.00	111.5 AV			1.29 V	183	106.60	4.90
3	11570.00	49.7 PK	74.0	-24.3	1.22 V	161	39.00	10.70
4	11570.00	49.5 AV	54.0	-4.5	1.22 V	161	38.80	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.8 PK	74.0	-22.2	1.12 H	199	47.20	4.60
2	5460.00	39.2 AV	54.0	-14.8	1.12 H	199	34.60	4.60
3	*5825.00	110.7 PK			1.12 H	199	105.60	5.10
4	*5825.00	102.1 AV			1.12 H	199	97.00	5.10
5	11650.00	66.6 PK	74.0	-7.4	1.00 H	207	56.00	10.60
6	**11650.00**	**53.5 AV**	**54.0**	**-0.5**	**1.00 H**	**207**	**42.90**	**10.60**
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	5460.00	54.4 PK	74.0	-19.6	1.28 V	180	49.80	4.60
2	5460.00	42.1 AV	54.0	-11.9	1.28 V	180	37.50	4.60
3	*5825.00	119.1 PK			1.28 V	180	114.00	5.10
4	*5825.00	110.9 AV			1.28 V	180	105.80	5.10
5	11650.00	49.6 PK	74.0	-24.4	1.22 V	161	39.00	10.60
6	11650.00	49.6 AV	54.0	-4.4	1.22 V	161	39.00	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT20), 1Tx

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	111.0 PK			1.29 H	350	106.10	4.90
2	*5745.00	101.6 AV			1.29 H	350	96.70	4.90
3	11490.00	59.8 PK	74.0	-14.2	1.17 H	1	49.20	10.60
4	11490.00	46.6 AV	54.0	-7.4	1.17 H	1	36.00	10.60
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	119.8 PK			1.24 V	16	114.90	4.90
2	*5745.00	110.5 AV			1.24 V	16	105.60	4.90
3	11490.00	59.5 PK	74.0	-14.5	1.00 V	4	48.90	10.60
4	11490.00	45.7 AV	54.0	-8.3	1.00 V	4	35.10	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	110.6 PK			1.23 H	353	105.70	4.90
2	*5785.00	101.2 AV			1.23 H	353	96.30	4.90
3	11570.00	59.9 PK	74.0	-14.1	1.21 H	3	49.20	10.70
4	11570.00	47.0 AV	54.0	-7.0	1.21 H	3	36.30	10.70
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	120.0 PK			1.22 V	16	115.10	4.90
2	*5785.00	110.5 AV			1.22 V	16	105.60	4.90
3	11570.00	59.3 PK	74.0	-14.7	1.03 V	8	48.60	10.70
4	11570.00	45.6 AV	54.0	-8.4	1.03 V	8	34.90	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	109.6 PK			1.26 H	347	104.50	5.10
2	*5825.00	100.6 AV			1.26 H	347	95.50	5.10
3	11650.00	62.5 PK	74.0	-11.5	1.14 H	0	51.90	10.60
4	11650.00	49.4 AV	54.0	-4.6	1.14 H	0	38.80	10.60
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	120.2 PK			1.22 V	17	115.10	5.10
2	*5825.00	111.2 AV			1.22 V	17	106.10	5.10
3	11650.00	58.8 PK	74.0	-15.2	1.03 V	17	48.20	10.60
4	11650.00	44.8 AV	54.0	-9.2	1.03 V	17	34.20	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT40), 1Tx

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	107.2 PK			1.17 H	341	102.30	4.90
2	*5755.00	97.2 AV			1.17 H	341	92.30	4.90
3	11510.00	62.8 PK	74.0	-11.2	1.12 H	12	52.10	10.70
4	11510.00	49.9 AV	54.0	-4.1	1.12 H	12	39.20	10.70
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	117.5 PK			1.24 V	11	112.60	4.90
2	*5755.00	107.5 AV			1.24 V	11	102.60	4.90
3	11510.00	58.7 PK	74.0	-15.3	1.00 V	3	48.00	10.70
4	11510.00	45.2 AV	54.0	-8.8	1.00 V	3	34.50	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 159	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	*5795.00	107.6 PK			1.15 H	355	102.80	4.80
2	*5795.00	98.1 AV			1.15 H	355	93.30	4.80
3	11590.00	63.4 PK	74.0	-10.6	1.08 H	4	52.70	10.70
4	11590.00	50.4 AV	54.0	-3.6	1.08 H	4	39.70	10.70
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	117.3 PK			1.22 V	14	112.50	4.80
2	*5795.00	108.0 AV			1.22 V	14	103.20	4.80
3	11590.00	58.7 PK	74.0	-15.3	1.00 V	16	48.00	10.70
4	11590.00	45.3 AV	54.0	-8.7	1.00 V	16	34.60	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT80), 1Tx

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	105.3 PK			1.15 H	347	100.40	4.90
2	*5775.00	96.2 AV			1.15 H	347	91.30	4.90
3	11550.00	63.4 PK	74.0	-10.6	1.02 H	12	52.70	10.70
4	11550.00	50.6 AV	54.0	-3.4	1.02 H	12	39.90	10.70
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	115.5 PK			1.23 V	8	110.60	4.90
2	*5775.00	106.1 AV			1.23 V	8	101.20	4.90
3	11550.00	58.6 PK	74.0	-15.4	1.00 V	14	47.90	10.70
4	11550.00	45.5 AV	54.0	-8.5	1.00 V	14	34.80	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT20), 2Tx

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	117.0 PK			1.10 H	190	112.10	4.90
2	*5745.00	106.2 AV			1.10 H	190	101.30	4.90
3	11490.00	57.2 PK	74.0	-16.8	1.38 H	191	46.60	10.60
4	11490.00	44.5 AV	54.0	-9.5	1.38 H	191	33.90	10.60
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	118.8 PK			1.12 V	185	113.90	4.90
2	*5745.00	109.6 AV			1.12 V	185	104.70	4.90
3	11490.00	57.7 PK	74.0	-16.3	1.52 V	162	47.10	10.60
4	11490.00	44.2 AV	54.0	-9.8	1.52 V	162	33.60	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	117.2 PK			1.08 H	189	112.30	4.90
2	*5785.00	106.8 AV			1.08 H	189	101.90	4.90
3	11570.00	60.6 PK	74.0	-13.4	1.25 H	174	49.90	10.70
4	11570.00	47.6 AV	54.0	-6.4	1.25 H	174	36.90	10.70
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	117.9 PK			1.30 V	198	113.00	4.90
2	*5785.00	109.5 AV			1.30 V	198	104.60	4.90
3	11570.00	61.4 PK	74.0	-12.6	1.64 V	174	50.70	10.70
4	11570.00	48.8 AV	54.0	-5.2	1.64 V	174	38.10	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	117.2 PK			1.08 H	189	112.10	5.10
2	*5825.00	106.5 AV			1.08 H	189	101.40	5.10
3	11650.00	62.6 PK	74.0	-11.4	1.19 H	173	52.00	10.60
4	11650.00	48.5 AV	54.0	-5.5	1.19 H	173	37.90	10.60
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	118.4 PK			1.28 V	197	113.30	5.10
2	*5825.00	109.1 AV			1.28 V	197	104.00	5.10
3	11650.00	62.9 PK	74.0	-11.1	1.53 V	172	52.30	10.60
4	11650.00	50.0 AV	54.0	-4.0	1.53 V	172	39.40	10.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT40), 2Tx

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	116.4 PK			1.03 H	196	111.50	4.90
2	*5755.00	105.3 AV			1.03 H	196	100.40	4.90
3	11510.00	62.4 PK	74.0	-11.6	1.20 H	173	51.70	10.70
4	11510.00	48.1 AV	54.0	-5.9	1.20 H	173	37.40	10.70
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	117.0 PK			1.03 V	188	112.10	4.90
2	*5755.00	108.6 AV			1.03 V	188	103.70	4.90
3	11510.00	62.2 PK	74.0	-11.8	1.48 V	176	51.50	10.70
4	11510.00	49.6 AV	54.0	-4.4	1.48 V	176	38.90	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	117.0 PK			1.02 H	177	112.20	4.80
2	*5795.00	106.2 AV			1.02 H	177	101.40	4.80
3	11590.00	61.8 PK	74.0	-12.2	1.20 H	157	51.10	10.70
4	11590.00	47.6 AV	54.0	-6.4	1.20 H	157	36.90	10.70
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	117.2 PK			1.05 V	189	112.40	4.80
2	*5795.00	109.3 AV			1.05 V	189	104.50	4.80
3	11590.00	62.7 PK	74.0	-11.3	1.54 V	163	52.00	10.70
4	11590.00	49.7 AV	54.0	-4.3	1.54 V	163	39.00	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11ac (VHT80), 2Tx

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	115.4 PK			1.05 H	182	110.50	4.90
2	*5775.00	103.1 AV			1.05 H	182	98.20	4.90
3	11550.00	60.8 PK	74.0	-13.2	1.19 H	161	50.10	10.70
4	11550.00	46.9 AV	54.0	-7.1	1.19 H	161	36.20	10.70
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	115.0 PK			1.04 V	183	110.10	4.90
2	*5775.00	106.2 AV			1.04 V	183	101.30	4.90
3	11550.00	63.3 PK	74.0	-10.7	1.48 V	167	52.60	10.70
4	11550.00	50.4 AV	54.0	-3.6	1.48 V	167	39.70	10.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Apr. 08, 2014

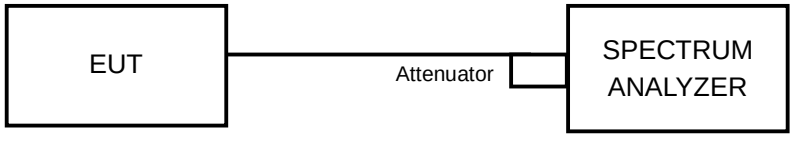
4.3.3 TEST PROCEDURE

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS (MODE 1)

802.11a, 1Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.59	0.5	PASS
157	5785	16.62	0.5	PASS
165	5825	16.59	0.5	PASS

802.11ac (VHT20), 1Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.75	0.5	PASS
157	5785	17.80	0.5	PASS
165	5825	17.77	0.5	PASS

802.11ac (VHT40), 1Tx

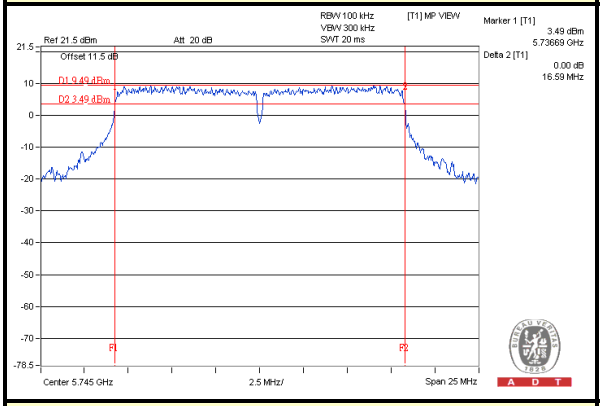
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.59	0.5	PASS
159	5795	36.60	0.5	PASS

802.11ac (VHT80), 1Tx

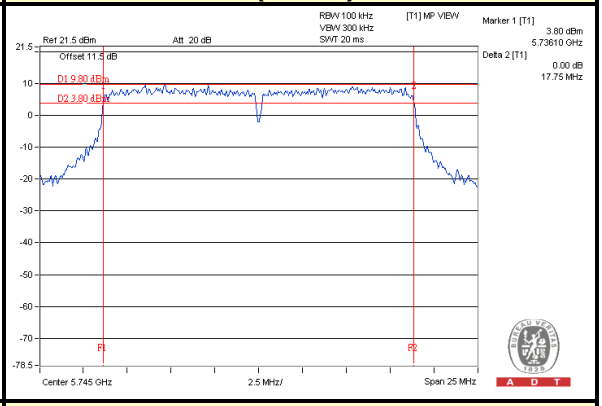
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	76.66	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

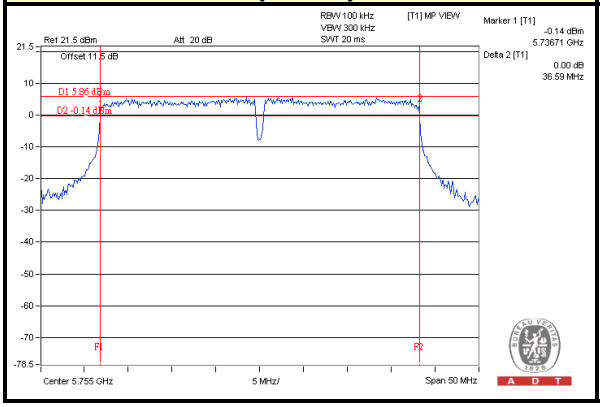
802.11a : CH149



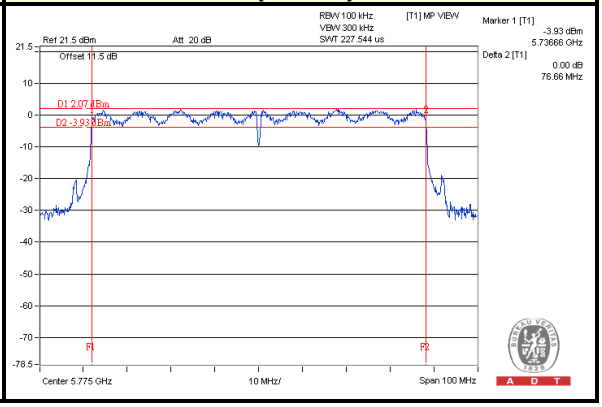
802.11ac (VHT20) : CH149



802.11ac (VHT40) : CH151



802.11ac (VHT80) : CH155



802.11ac (VHT20), 2Tx

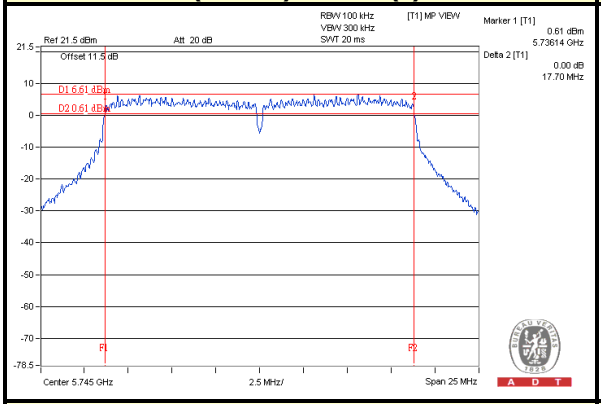
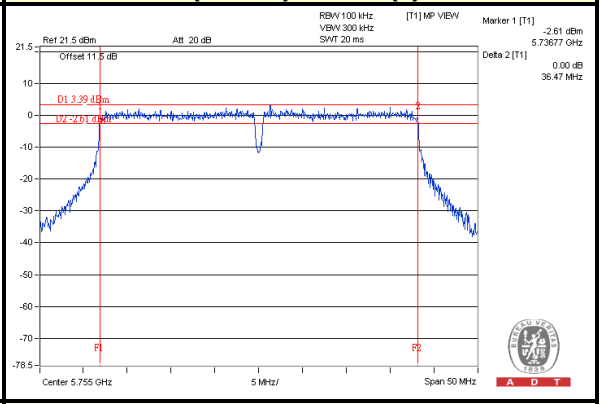
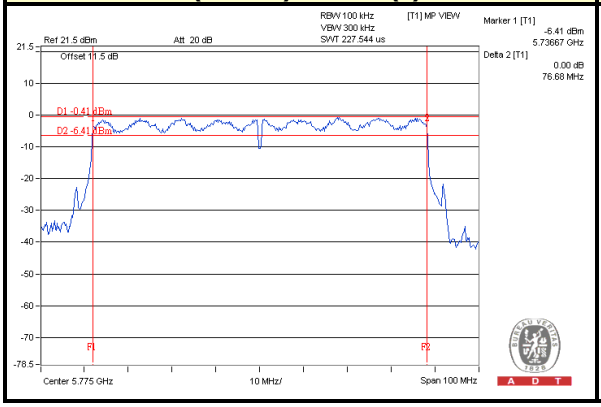
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.76	17.70	0.5	PASS
157	5785	17.81	17.73	0.5	PASS
165	5825	17.74	17.75	0.5	PASS

802.11ac (VHT40), 2Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.47	36.48	0.5	PASS
159	5795	36.63	36.53	0.5	PASS

802.11ac (VHT80), 2Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
155	5775	76.68	76.70	0.5	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11ac (VHT20) / Chain(1) : CH149	**802.11ac (VHT40) / Chain(0) : CH151**
	
802.11ac (VHT80) / Chain(0) : CH155	
	

4.3.8 TEST RESULTS (MODE 2)

802.11a, 1Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.59	0.5	PASS
157	5785	16.61	0.5	PASS
165	5825	16.60	0.5	PASS

802.11ac (VHT20), 1Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.81	0.5	PASS
157	5785	17.82	0.5	PASS
165	5825	17.76	0.5	PASS

802.11ac (VHT40), 1Tx

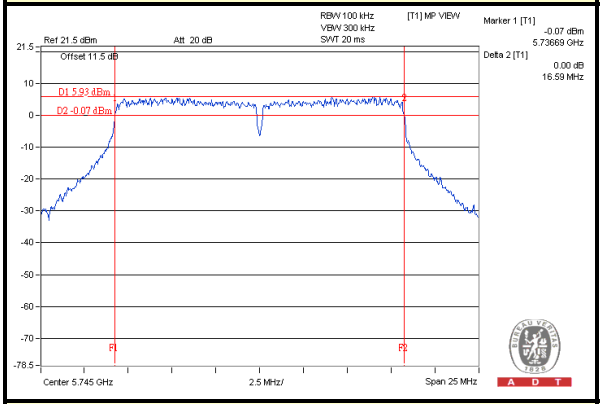
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.55	0.5	PASS
159	5795	36.59	0.5	PASS

802.11ac (VHT80), 1Tx

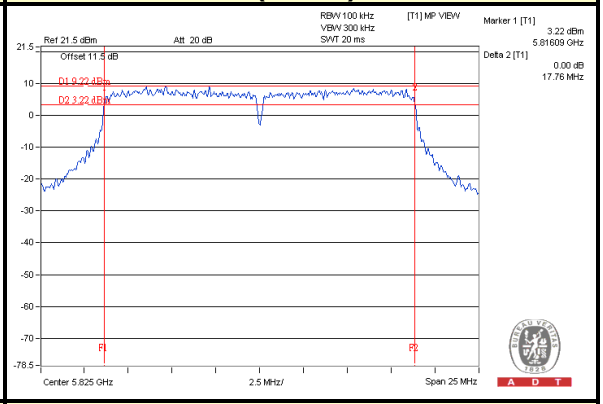
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	76.66	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

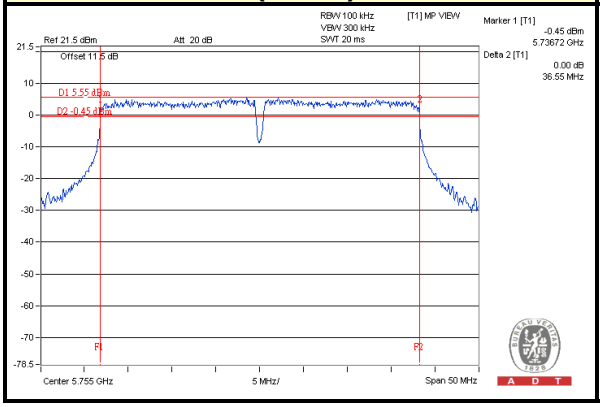
802.11a : CH149



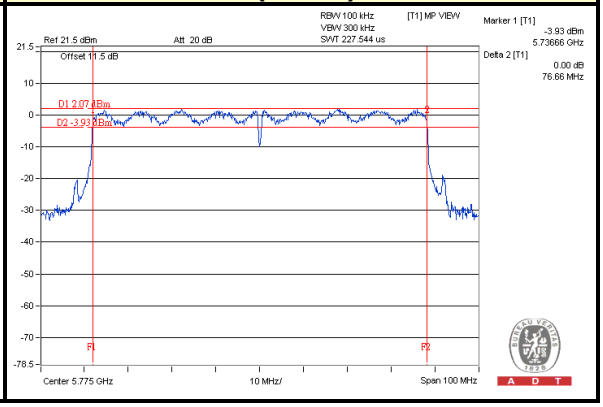
802.11ac (VHT20) : CH165



802.11ac (VHT40) : CH151



802.11ac (VHT80) : CH155



802.11ac (VHT20), 2Tx

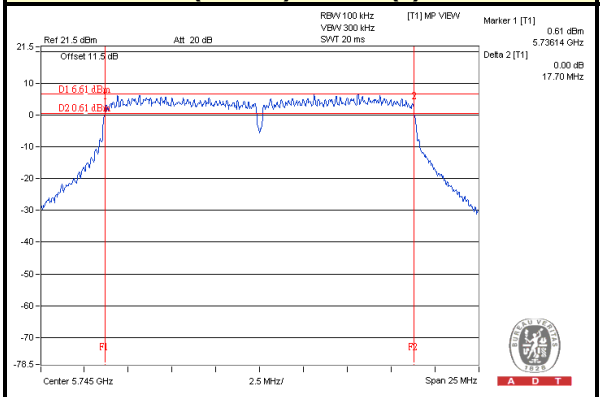
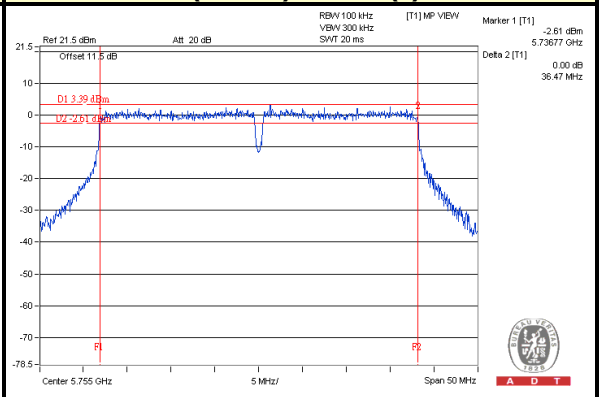
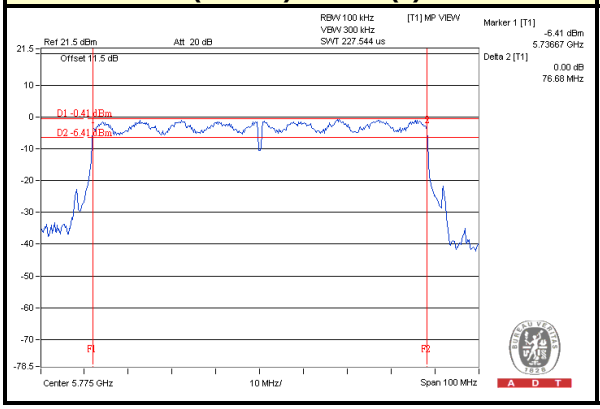
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.76	17.70	0.5	PASS
157	5785	17.81	17.73	0.5	PASS
165	5825	17.74	17.75	0.5	PASS

802.11ac (VHT40), 2Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.47	36.48	0.5	PASS
159	5795	36.63	36.53	0.5	PASS

802.11ac (VHT80), 2Tx

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
155	5775	76.68	76.70	0.5	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11ac (VHT20) / Chain(1) : CH149	802.11ac (VHT40) / Chain(0) : CH151
	
802.11ac (VHT80) / Chain(0) : CH155	
	

4.4 CONDUCTED OUTPUT POWER MEASUREMENT

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz band: 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 INSTRUMENTS

For Mode 1:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	1014008	Apr. 23, 2013	Apr. 22, 2014
Power sensor Anritsu	MA2411B	0917122	Apr. 23, 2013	Apr. 22, 2014

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Apr. 08, 2014

For Mode 2:

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : May 09, 2014

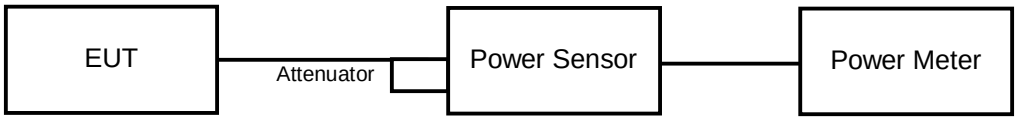
4.4.3 TEST PROCEDURES

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.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS (MODE 1)

802.11a, 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	240.436	23.81	30	PASS
157	5785	249.459	23.97	30	PASS
165	5825	253.513	24.04	30	PASS

802.11ac (VHT20), 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	243.220	23.86	30	PASS
157	5785	250.611	23.99	30	PASS
165	5825	253.513	24.04	30	PASS

802.11ac (VHT40), 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	249.459	23.97	30	PASS
159	5795	251.768	24.01	30	PASS

802.11ac (VHT80), 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	153.109	21.85	30	PASS

802.11ac (VHT20), 2Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	20.12	20.39	212.198	23.27	30	PASS
157	5785	20.94	20.82	244.946	23.89	30	PASS
165	5825	20.54	20.62	228.585	23.59	30	PASS

802.11ac (VHT40), 2Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	19.26	20.01	184.564	22.66	30	PASS
159	5795	19.96	20.07	200.708	23.03	30	PASS

802.11ac (VHT80), 2Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
155	5775	19.76	19.91	192.573	22.85	30	PASS

4.4.8 TEST RESULTS (MODE 2)

802.11a, 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	109.901	20.41	28	PASS
157	5785	120.781	20.82	28	PASS
165	5825	138.995	21.43	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

802.11ac (VHT20), 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	203.704	23.09	28	PASS
157	5785	209.894	23.22	28	PASS
165	5825	211.349	23.25	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

802.11ac (VHT40), 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	208.449	23.19	28	PASS
159	5795	204.644	23.11	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

802.11ac (VHT80), 1Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	153.109	21.85	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

802.11ac (VHT20), 2Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	20.12	20.39	212.198	23.27	28	PASS
157	5785	20.41	20.32	217.548	23.38	28	PASS
165	5825	20.01	20.08	202.090	23.06	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

802.11ac (VHT40), 2Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	19.26	20.01	184.564	22.66	28	PASS
159	5795	19.96	20.07	200.708	23.03	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

802.11ac (VHT80), 2Tx

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
155	5775	19.76	19.91	192.573	22.85	28	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 30-(8-6) = 28dBm.

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Apr. 08, 2014

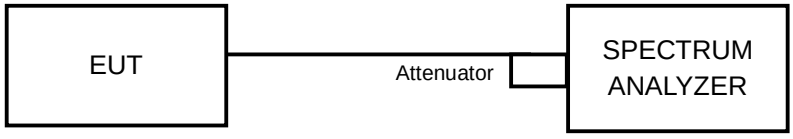
4.5.3 TEST PROCEDURE

1. Set the RBW = 10 kHz, VBW =30 kHz, Detector = power averaging (RMS).
2. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW
3. Sweep time = auto couple,
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS (MODE 1)

802.11a, 1Tx

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-6.15	8	PASS
157	5785	-6.18	8	PASS
165	5825	-6.16	8	PASS

802.11ac (VHT20), 1Tx

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-6.61	8	PASS
157	5785	-6.39	8	PASS
165	5825	-5.92	8	PASS

802.11ac (VHT40), 1Tx

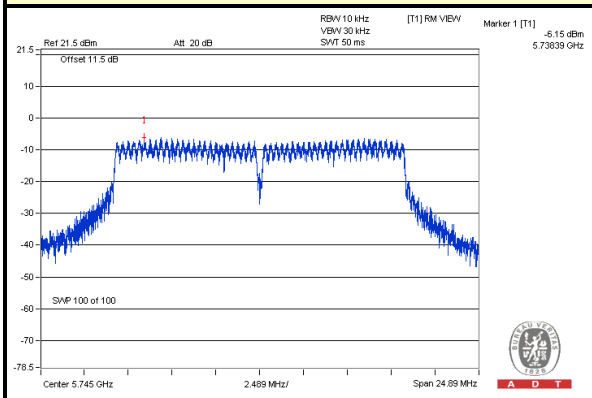
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
151	5755	-9.31	8	PASS
159	5795	-9.17	8	PASS

802.11ac (VHT80), 1Tx

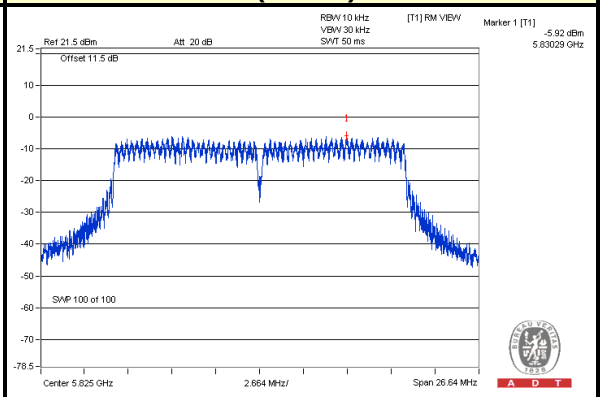
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
155	5775	-13.23	8	PASS

SPECTRUM PLOT OF WORST VALUE

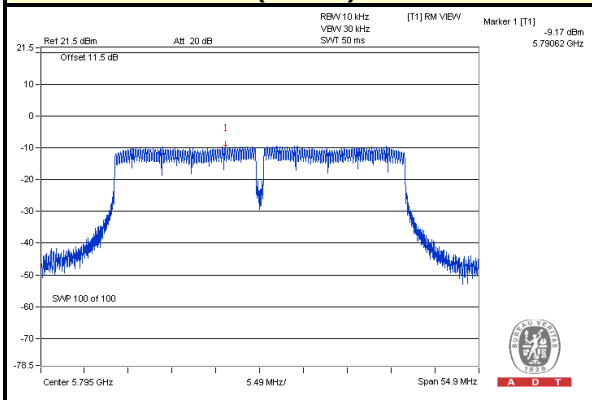
802.11a : CH149



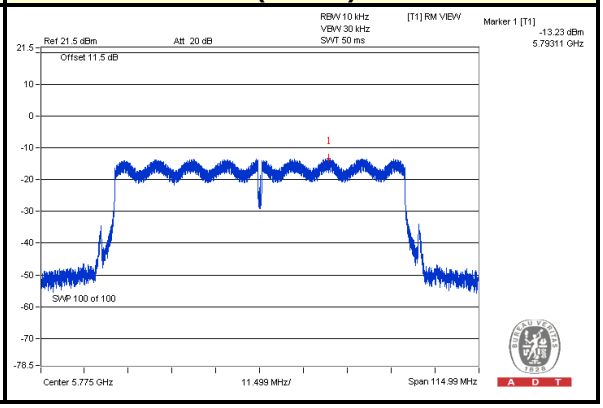
802.11ac (VHT20) : CH165



802.11ac (VHT40) : CH159



802.11ac (VHT80) : CH155



802.11ac (VHT20), 2Tx

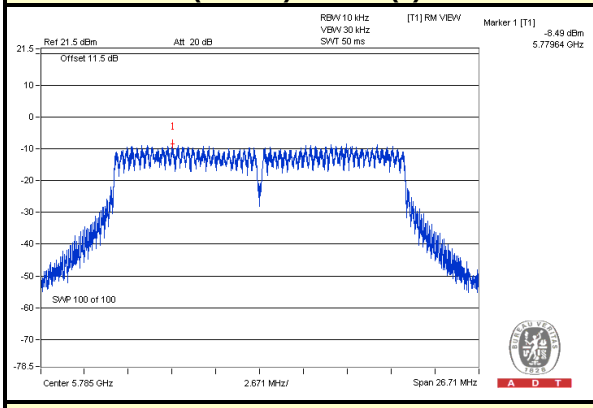
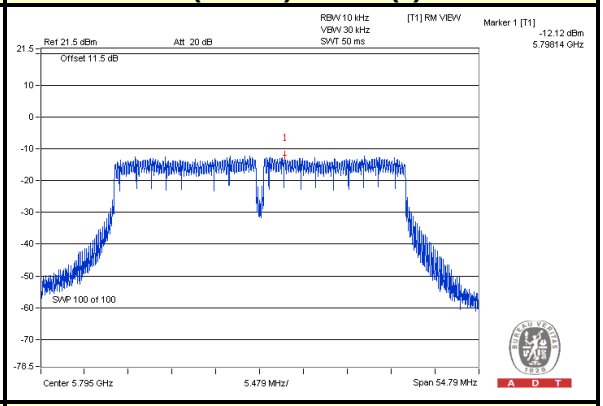
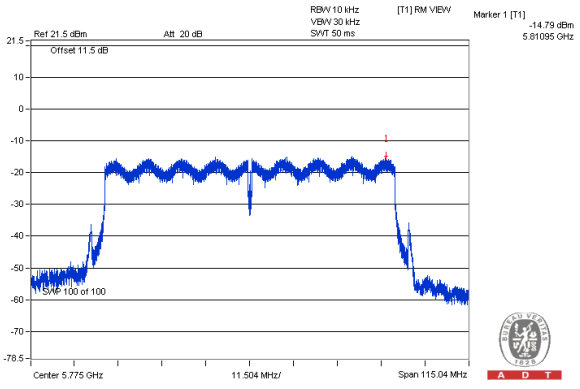
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	149	5745	-10.13	3.01	-7.12	8	PASS
	157	5785	-8.49	3.01	-5.48	8	PASS
	165	5825	-9.95	3.01	-6.94	8	PASS
1	149	5745	-10.99	3.01	-7.98	8	PASS
	157	5785	-9.88	3.01	-6.87	8	PASS
	165	5825	-9.85	3.01	-6.84	8	PASS

802.11ac (VHT40), 2Tx

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	151	5755	-12.74	3.01	-9.73	8	PASS
	159	5795	-12.37	3.01	-9.36	8	PASS
1	151	5755	-12.43	3.01	-9.42	8	PASS
	159	5795	-12.12	3.01	-9.11	8	PASS

802.11ac (VHT80), 2Tx

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	155	5775	-15.66	3.01	-12.65	8	PASS
1	155	5775	-14.79	3.01	-11.78	8	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11ac (VHT20) / Chain(0) : CH157	**802.11ac (VHT40) / Chain(1) : CH159**
	
802.11ac (VHT80) / Chain(1) : CH155	
	

4.5.8 TEST RESULTS (MODE 2)

802.11a, 1Tx

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-9.94	6	PASS
157	5785	-9.25	6	PASS
165	5825	-8.45	6	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

802.11ac (VHT20), 1Tx

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-7.20	6	PASS
157	5785	-6.87	6	PASS
165	5825	-6.94	6	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

802.11ac (VHT40), 1Tx

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
151	5755	-9.72	6	PASS
159	5795	-9.59	6	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

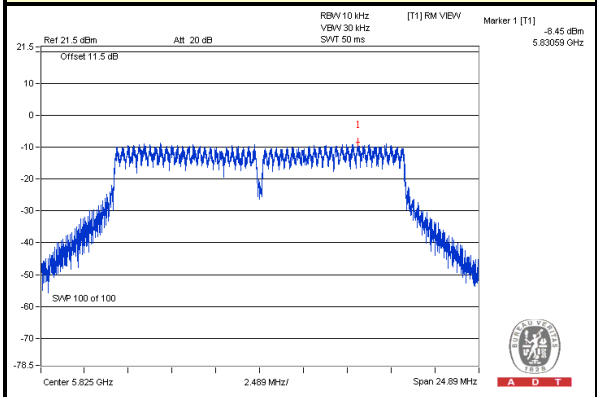
802.11ac (VHT80), 1Tx

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
155	5775	-13.23	6	PASS

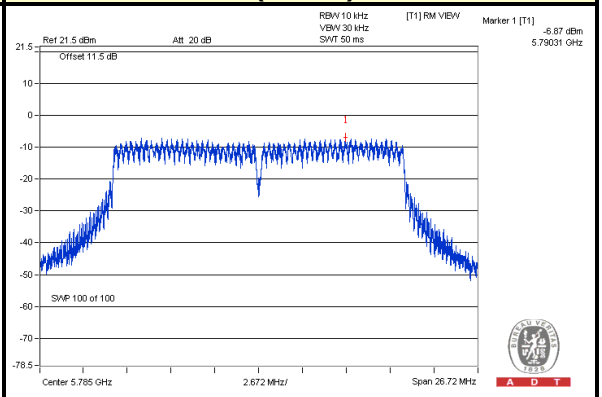
Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

SPECTRUM PLOT OF WORST VALUE

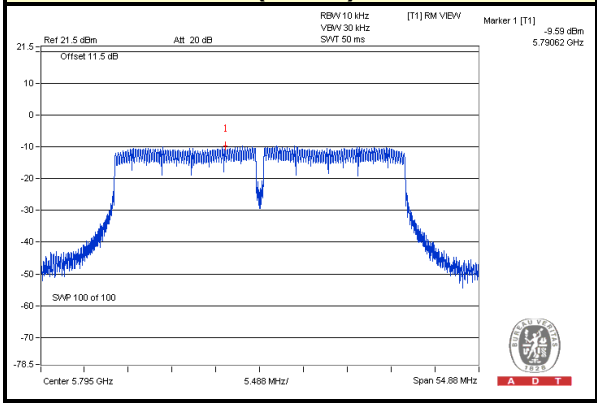
802.11a : CH165



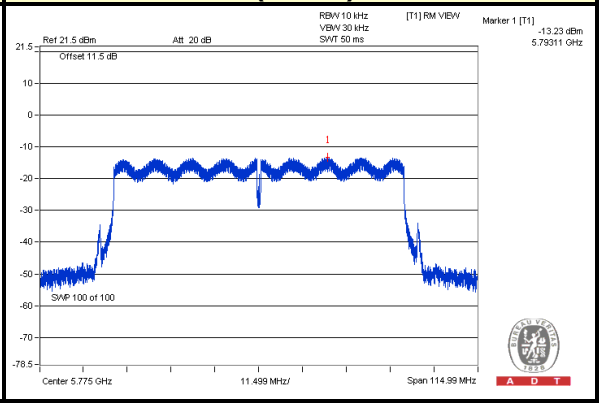
802.11ac (VHT20) : CH157



802.11ac (VHT40) : CH159



802.11ac (VHT80) : CH155



802.11ac (VHT20), 2Tx

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	149	5745	-10.13	3.01	-7.12	6	PASS
	157	5785	-8.49	3.01	-5.48	6	PASS
	165	5825	-9.95	3.01	-6.94	6	PASS
1	149	5745	-10.99	3.01	-7.98	6	PASS
	157	5785	-9.88	3.01	-6.87	6	PASS
	165	5825	-9.85	3.01	-6.84	6	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

802.11ac (VHT40), 2Tx

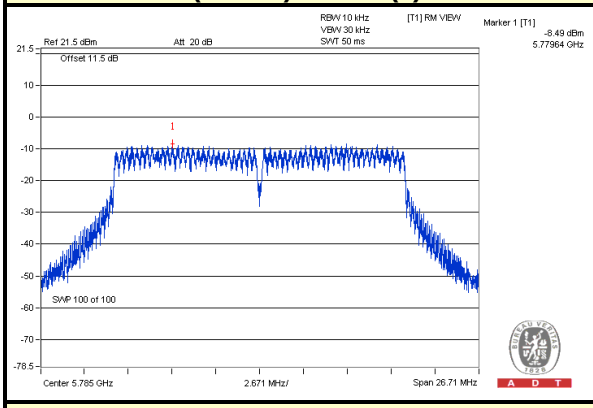
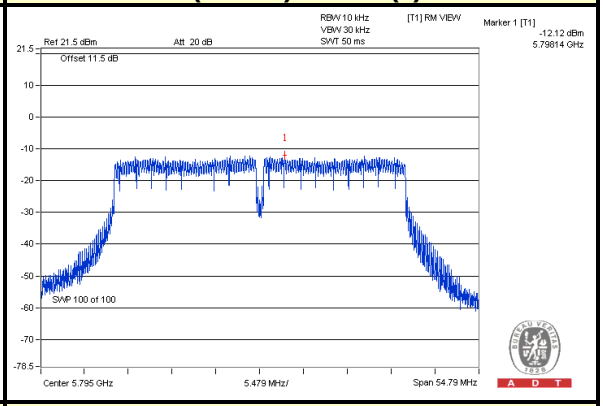
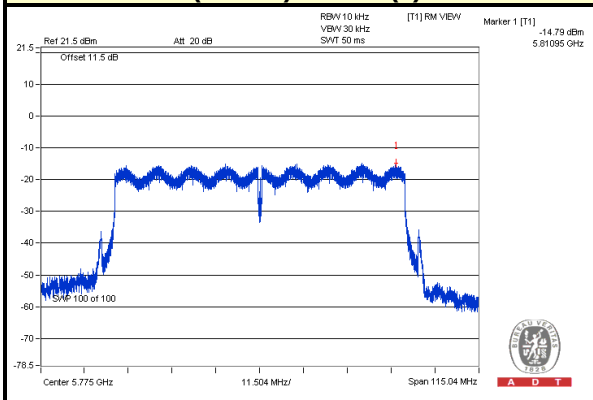
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	151	5755	-12.74	3.01	-9.73	6	PASS
	159	5795	-12.37	3.01	-9.36	6	PASS
1	151	5755	-12.43	3.01	-9.42	6	PASS
	159	5795	-12.12	3.01	-9.11	6	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

802.11ac (VHT80), 2Tx

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	155	5775	-15.66	3.01	-12.65	6	PASS
1	155	5775	-14.79	3.01	-11.78	6	PASS

Note: The directional gain is 8dBi > 6dBi, therefore the limit needs to reduce, so the power density limit shall be reduced to 8-(8-6) = 6dBm.

SPECTRUM PLOT OF WORST VALUE	
802.11ac (VHT20) / Chain(0) : CH157	**802.11ac (VHT40) / Chain(1) : CH159**
	
802.11ac (VHT80) / Chain(1) : CH155	
	

4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Apr. 08, 2014

4.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

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

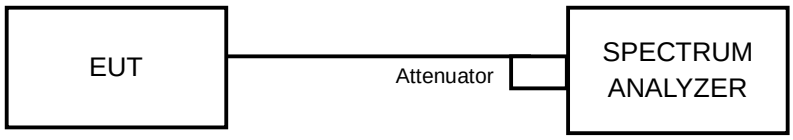
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

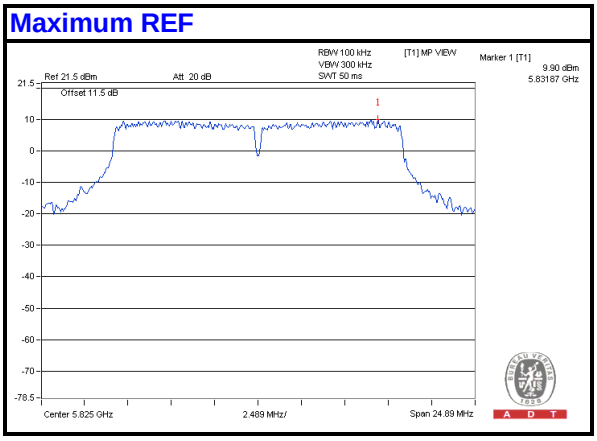
Same as Item 4.3.6

4.6.7 TEST RESULTS (MODE 1)

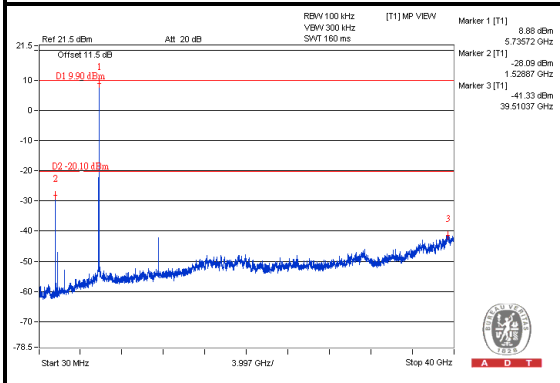
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

802.11a, 1Tx:

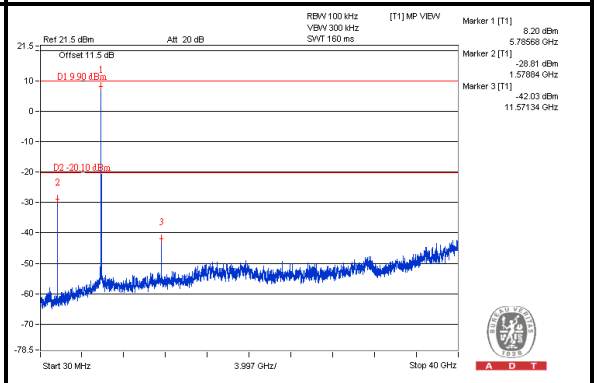
Maximum REF



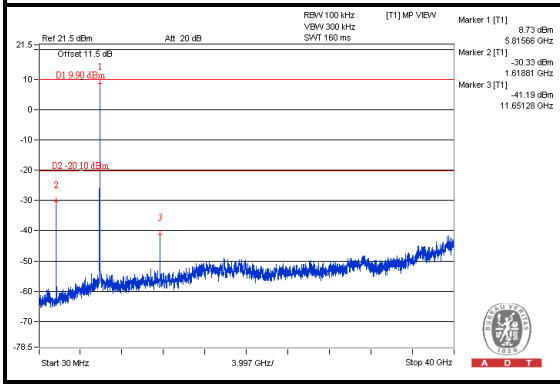
CH 149



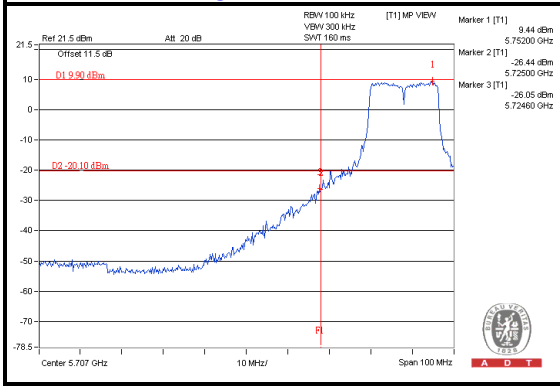
CH 157



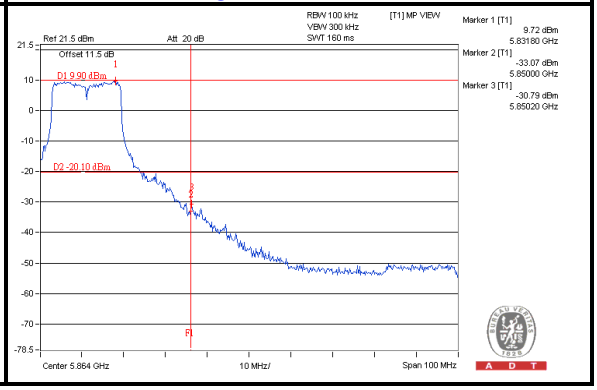
CH 165



CH 149 Band edge

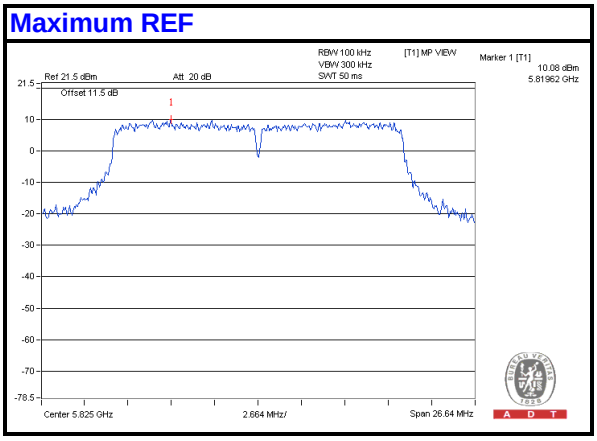


CH 165 Band edge

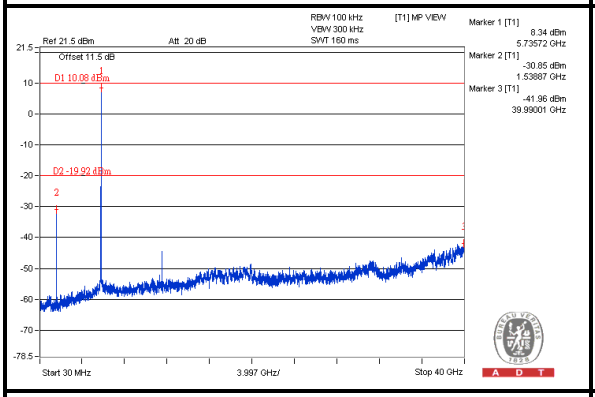


802.11ac (VHT20), 1Tx:

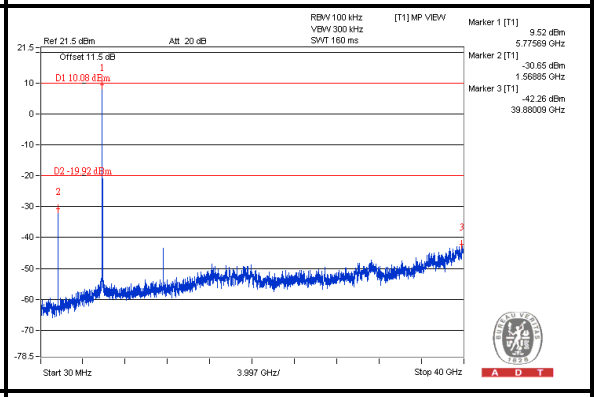
Maximum REF



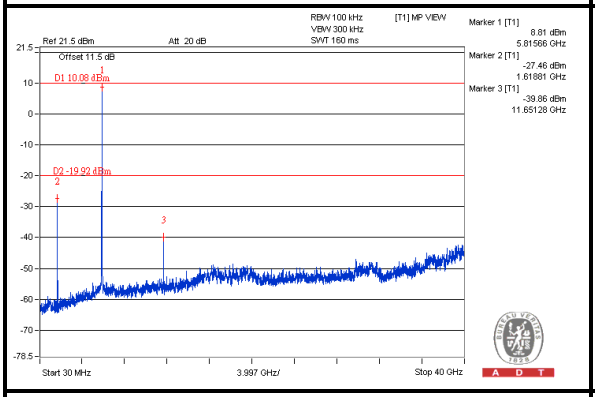
CH 149



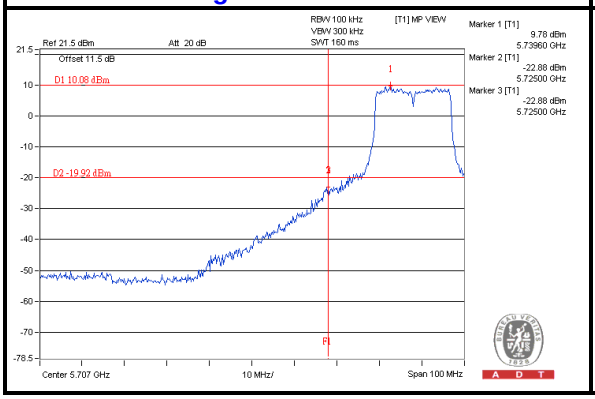
CH 157



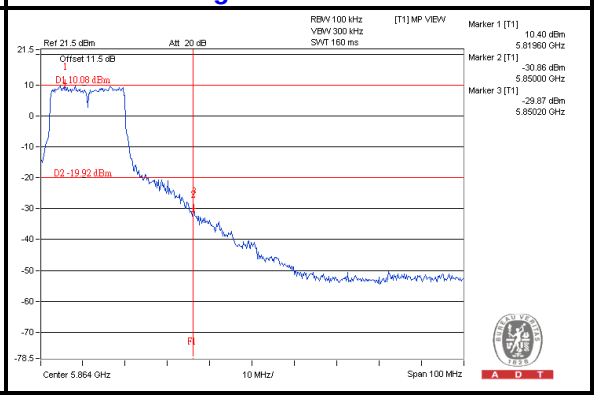
CH 165



CH 149 Band edge

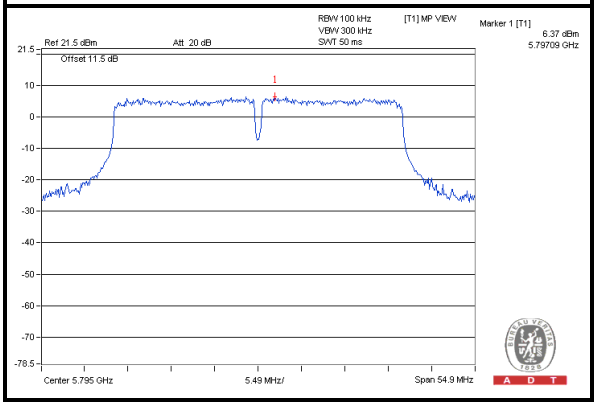


CH 165 Band edge

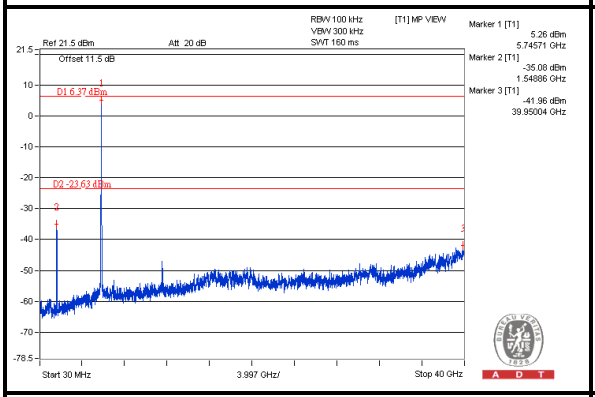


802.11ac (VHT40), 1Tx:

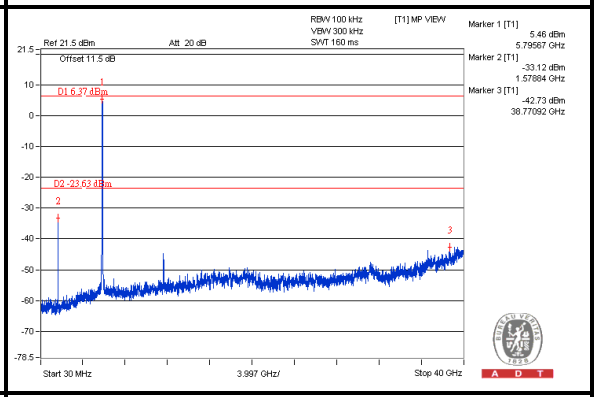
Maximum REF



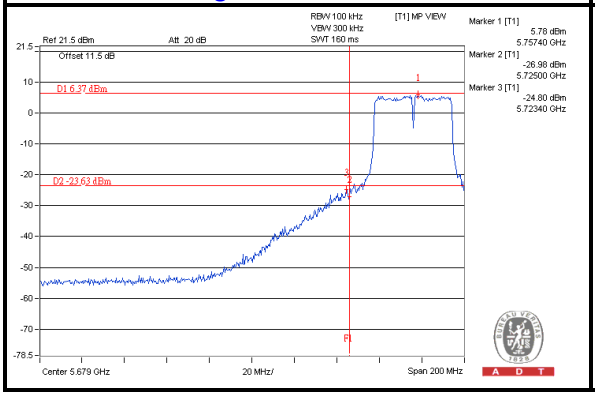
CH 151



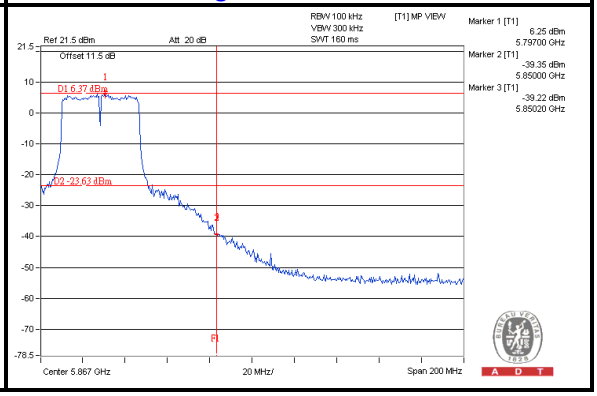
CH 159



CH 151 Band edge

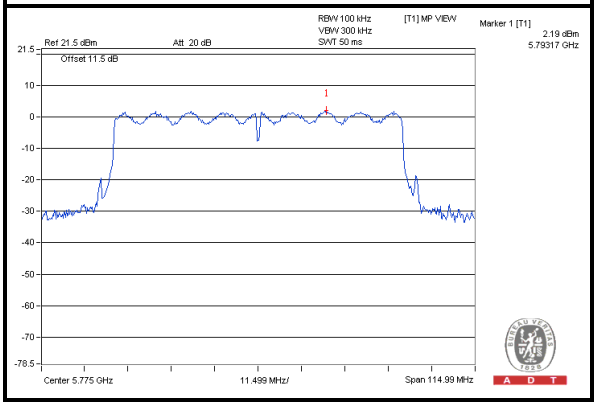


CH 159 Band edge

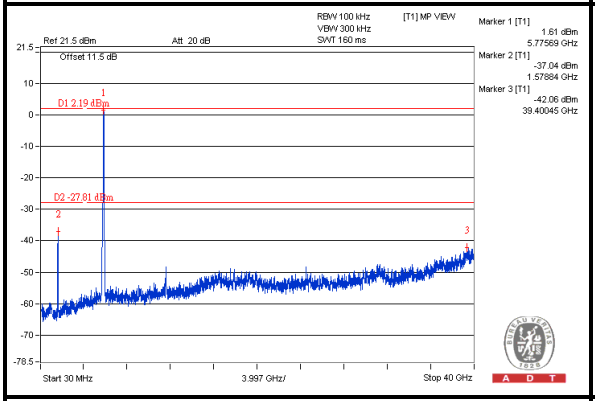


802.11ac (VHT80), 1Tx:

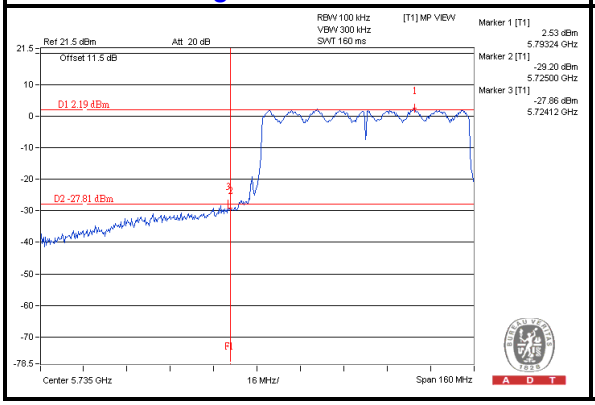
Maximum REF



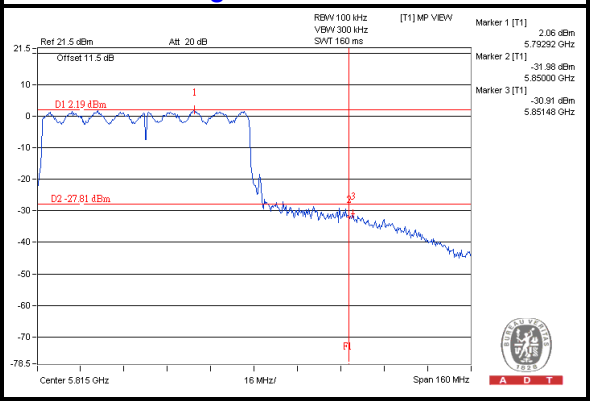
CH 155



CH 155 Band edge

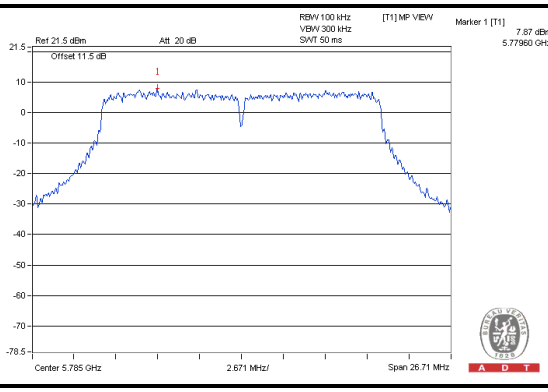


CH 155 Band edge



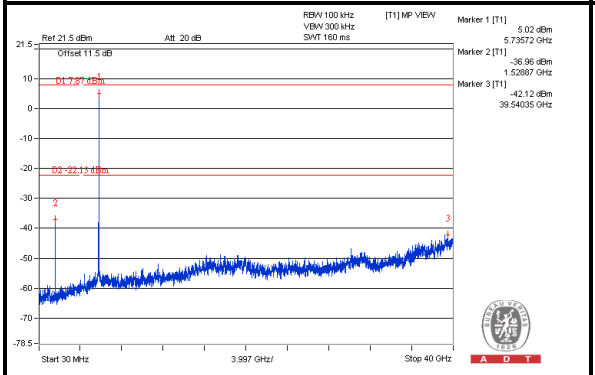
802.11ac (VHT20), 2Tx:

Maximum REF

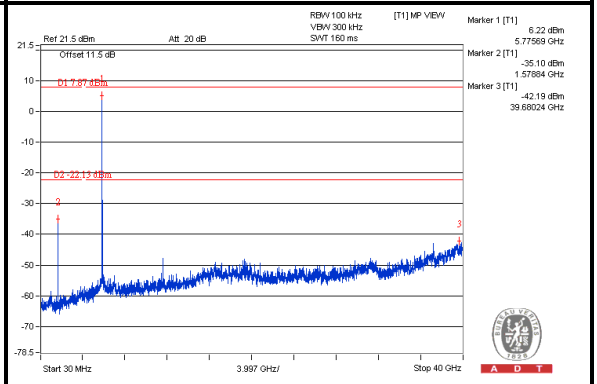


Chain 0

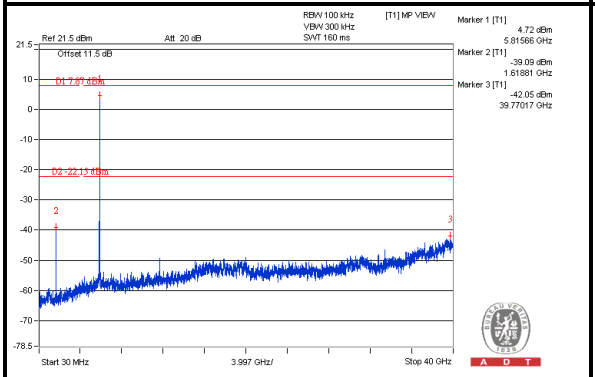
CH 149



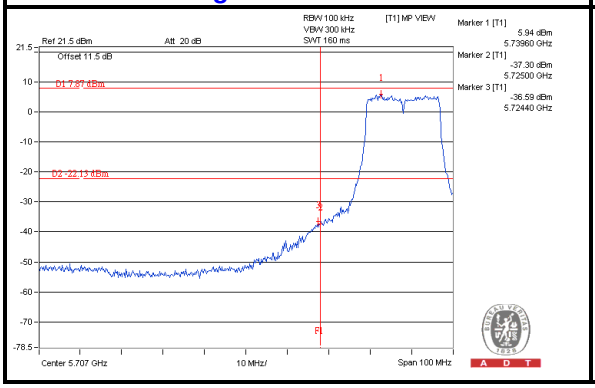
CH 157



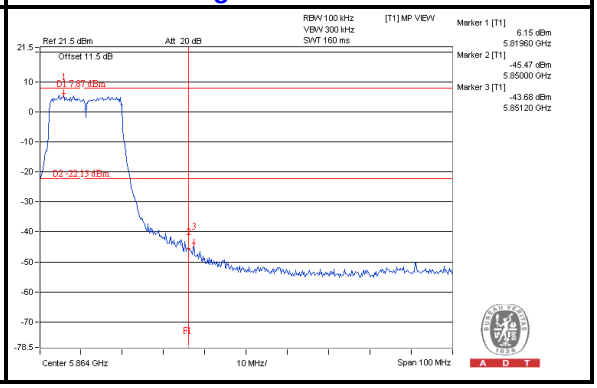
CH 165



CH 149 Band edge

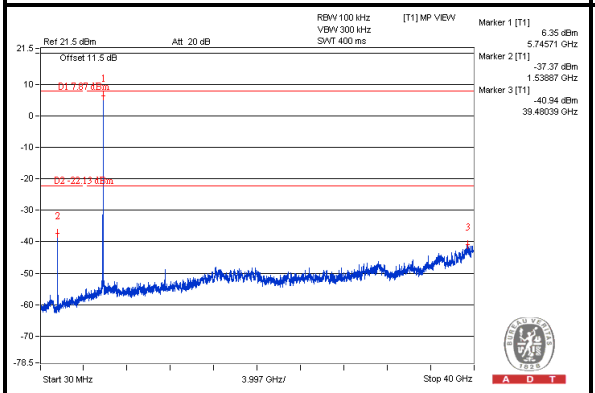


CH 165 Band edge

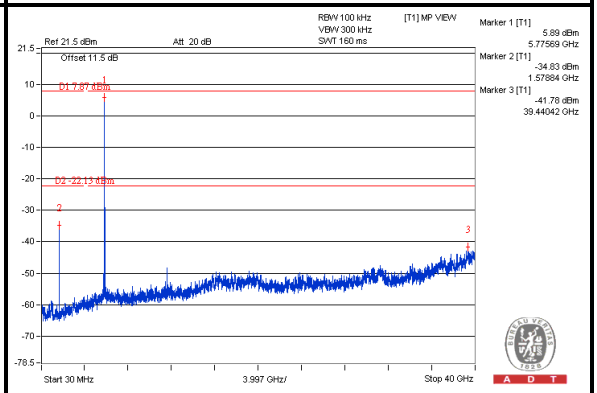


Chain 1

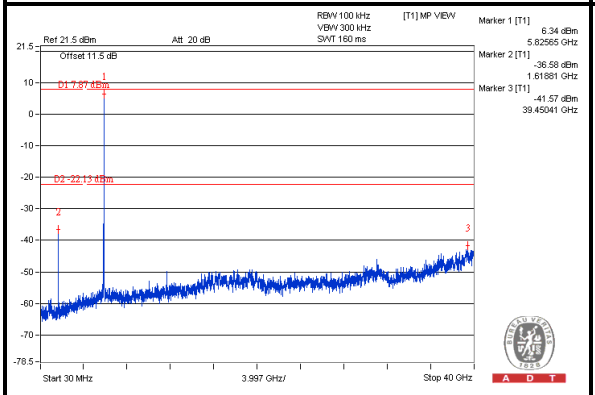
CH 149



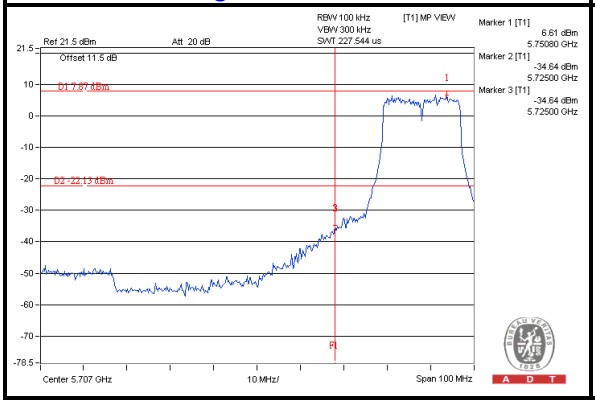
CH 157



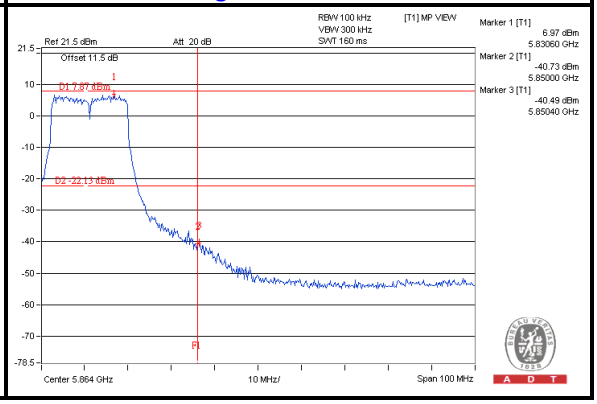
CH 165



CH 149 Band edge

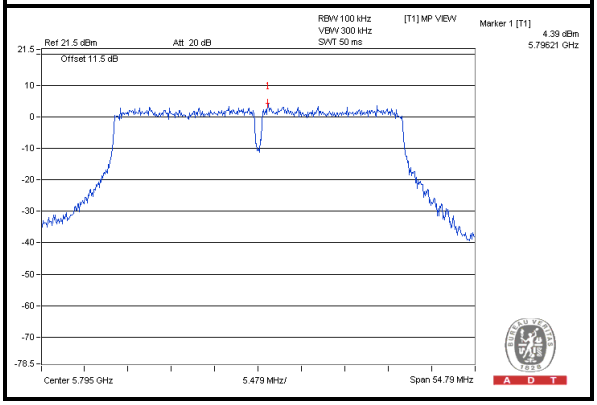


CH 165 Band edge



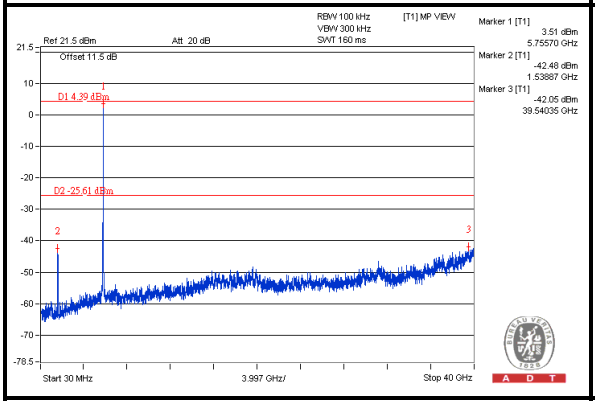
802.11ac (VHT40), 2Tx:

Maximum REF

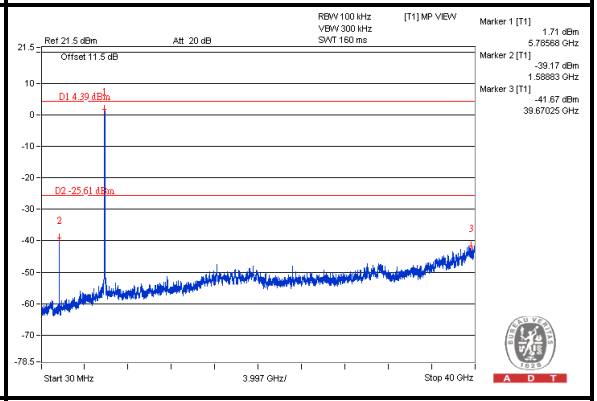


Chain 0

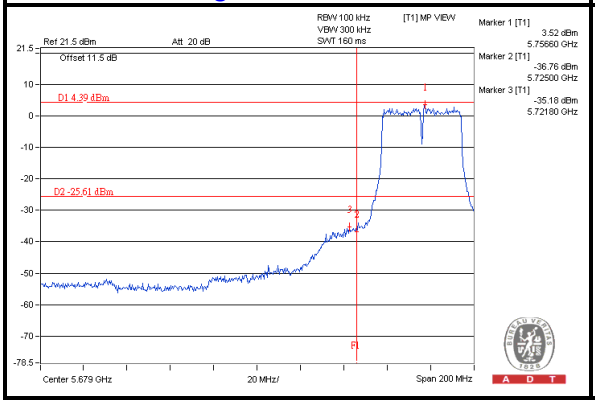
CH 151



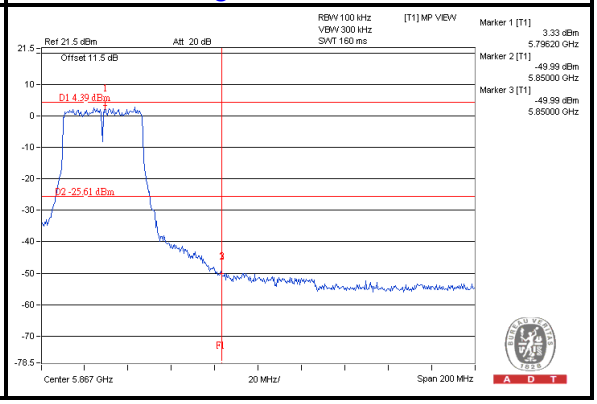
CH 159



CH 151 Band edge

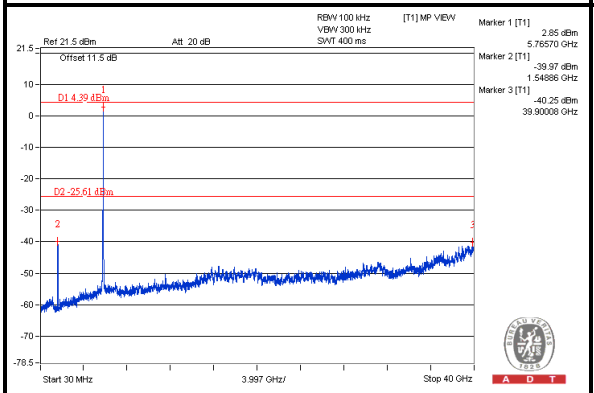


CH 159 Band edge

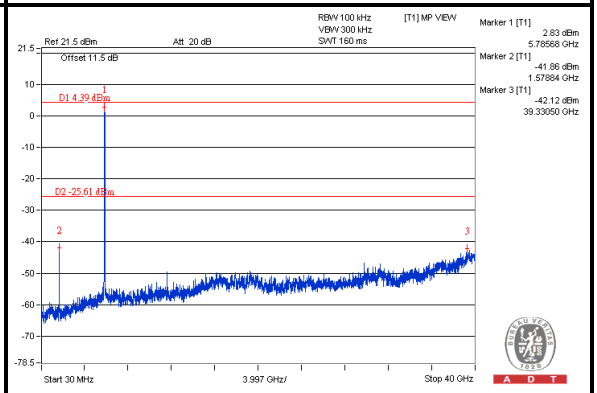


Chain 1

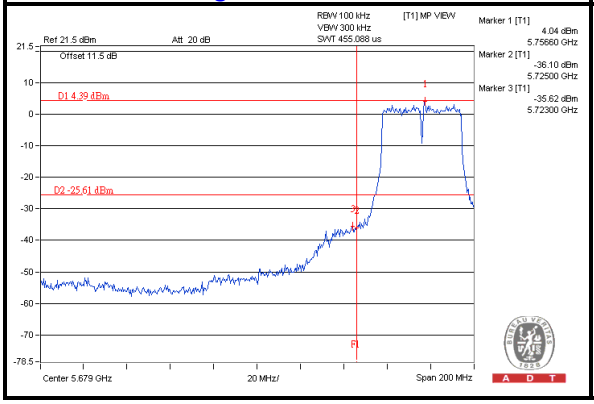
CH 151



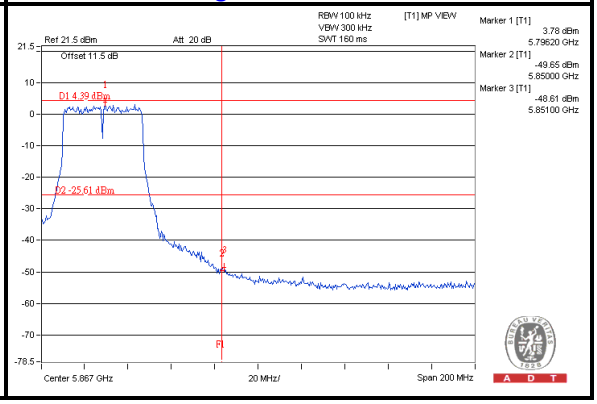
CH 159



CH 151 Band edge

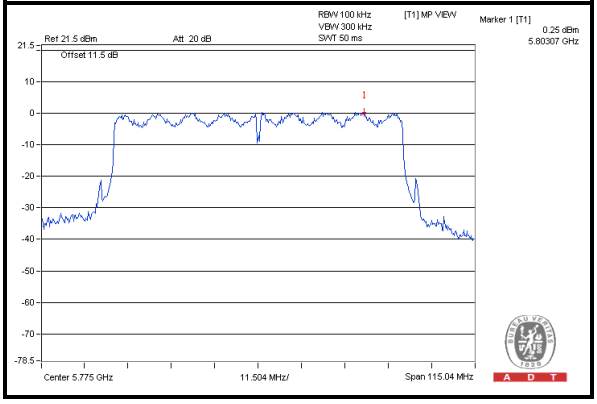


CH 159 Band edge



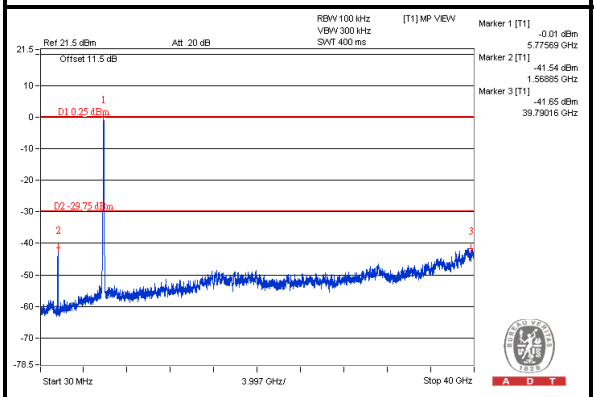
802.11ac (VHT80), 2Tx:

Maximum REF

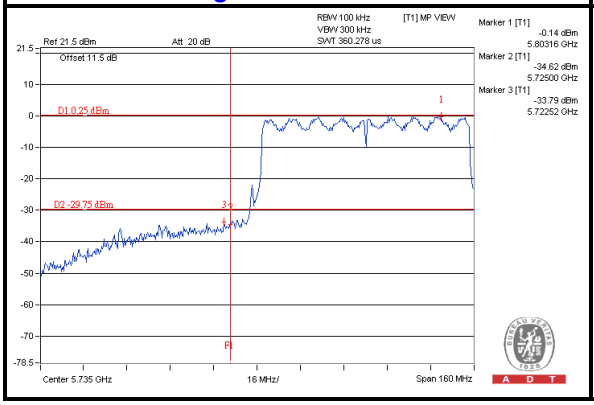


Chain 0

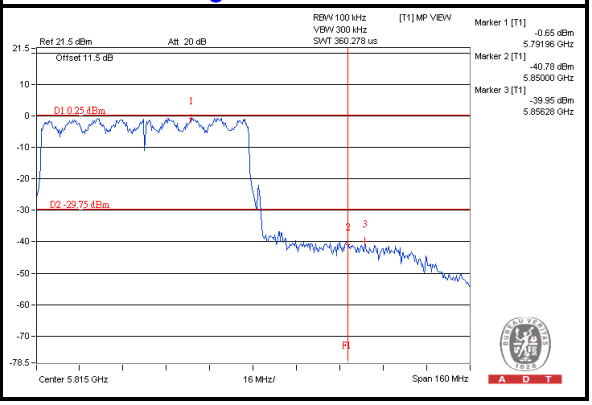
CH 155



CH 155 Band edge

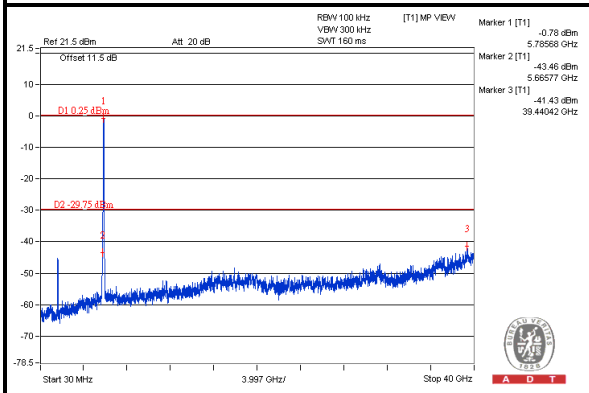


CH 155 Band edge

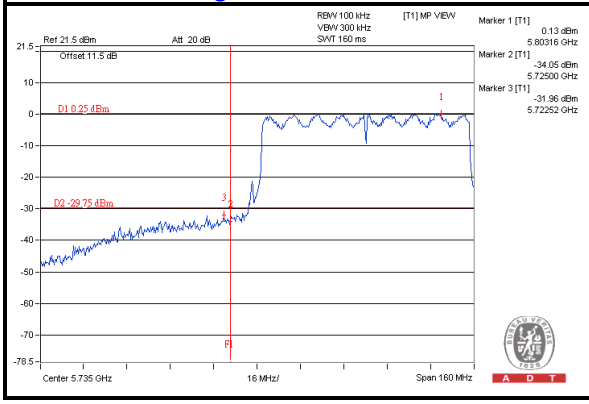


Chain 1

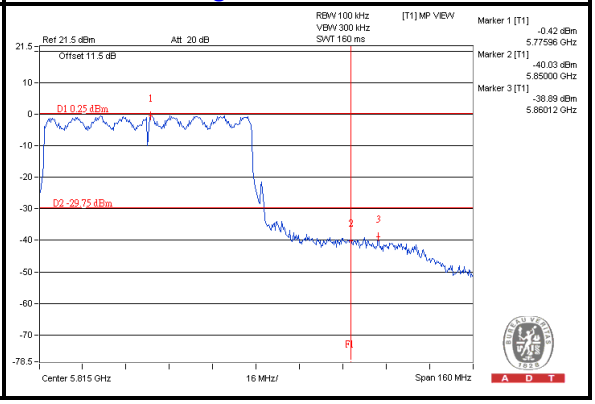
CH 155



CH 155 Band edge



CH 155 Band edge

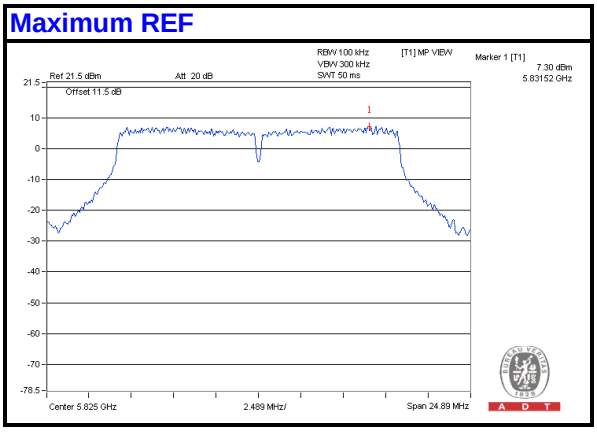


4.6.8 TEST RESULTS (MODE 2)

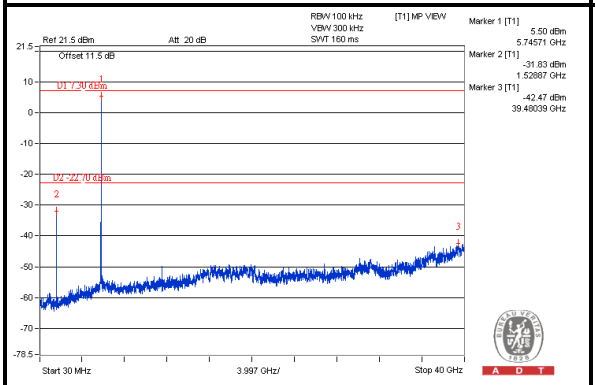
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

802.11a, 1Tx:

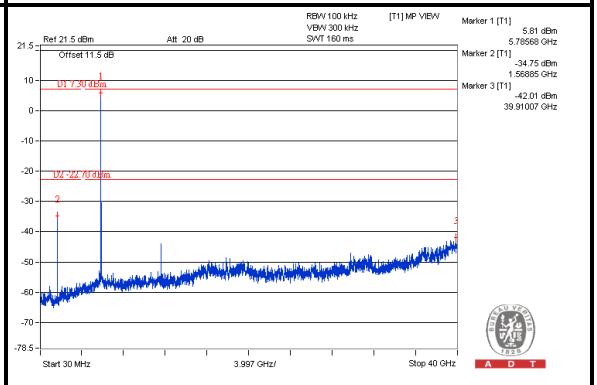
Maximum REF



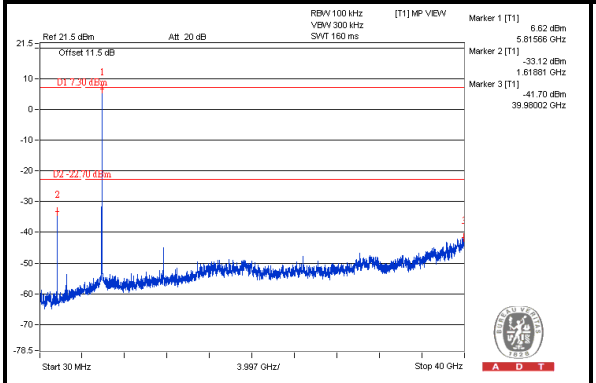
CH 149



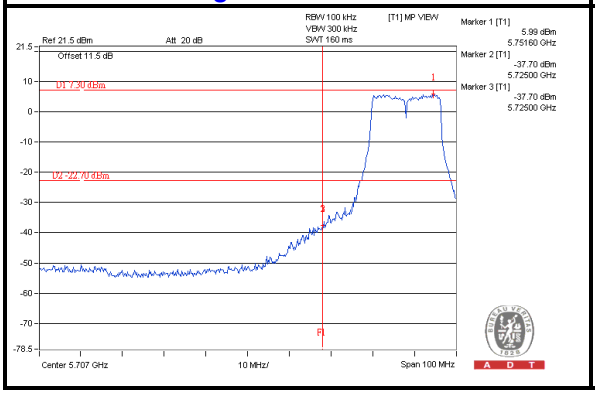
CH 157



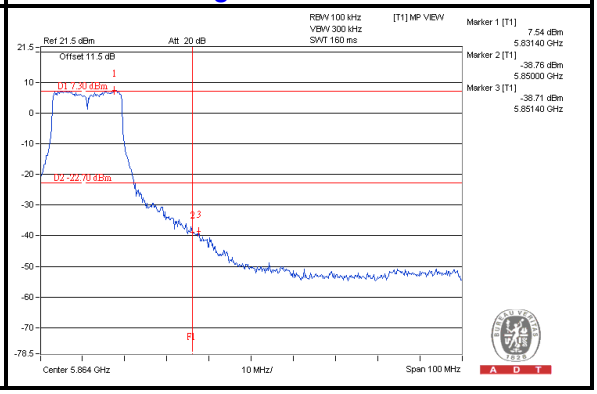
CH 165



CH 149 Band edge

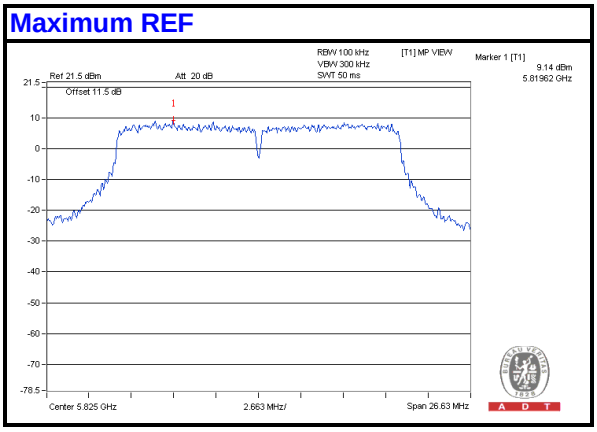


CH 165 Band edge

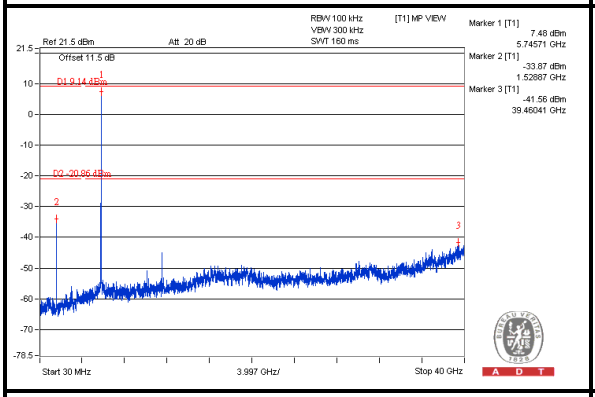


802.11ac (VHT20), 1Tx:

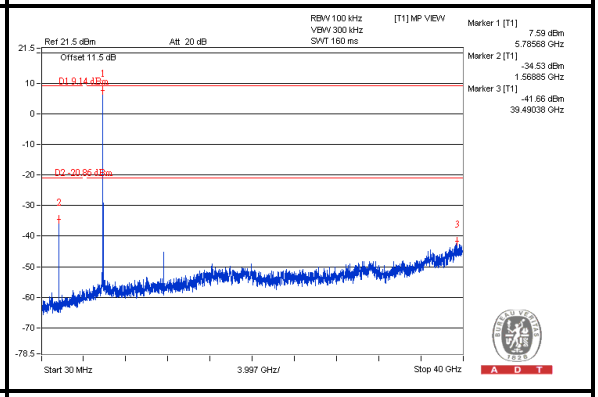
Maximum REF



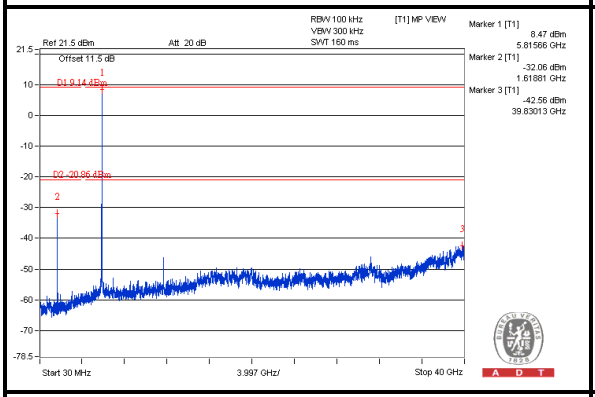
CH 149



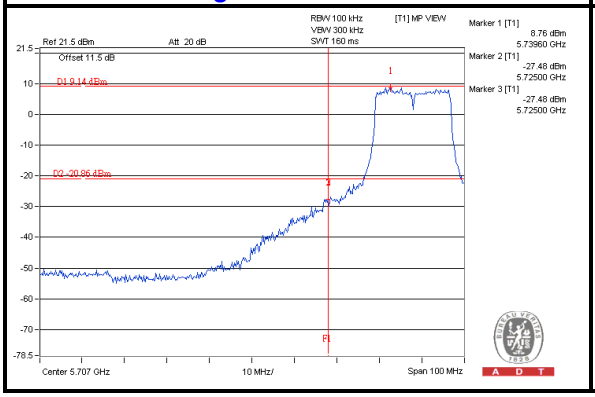
CH 157



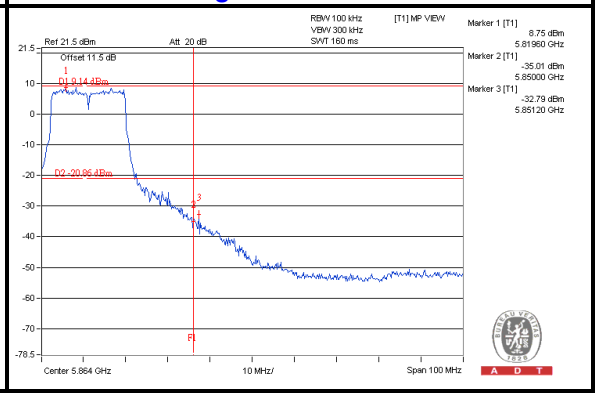
CH 165



CH 149 Band edge

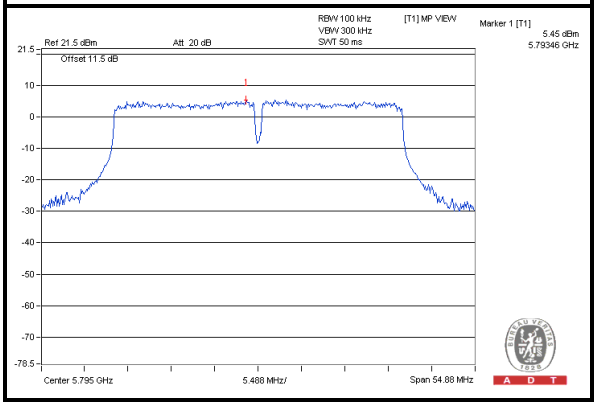


CH 165 Band edge

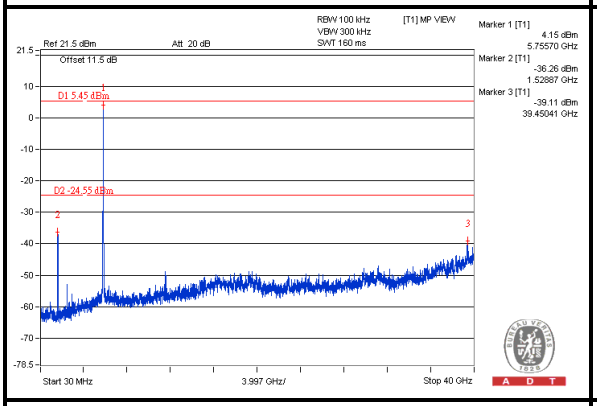


802.11ac (VHT40), 1Tx:

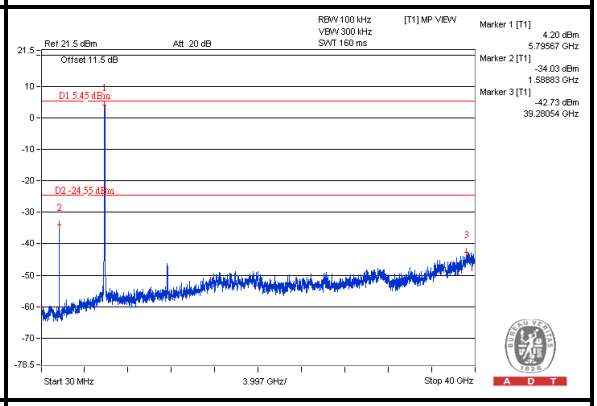
Maximum REF



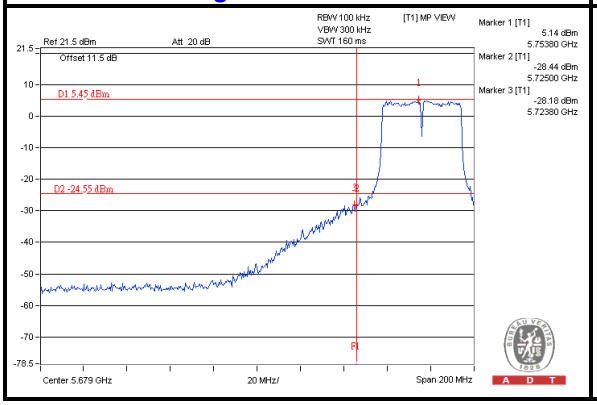
CH 151



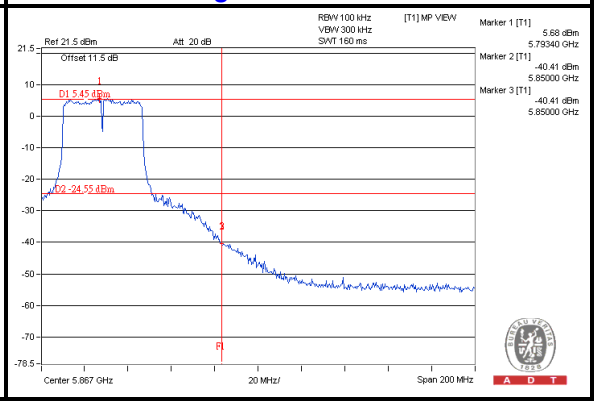
CH 159



CH 151 Band edge

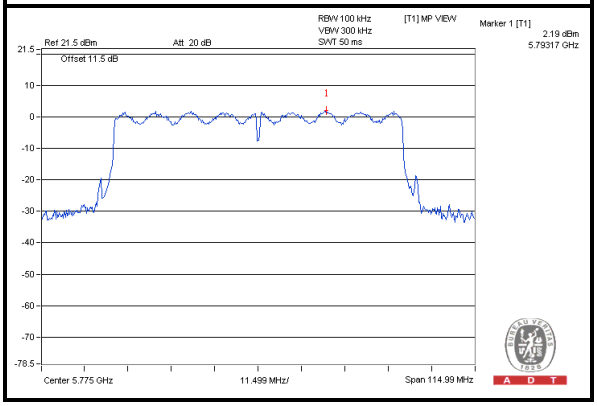


CH 159 Band edge

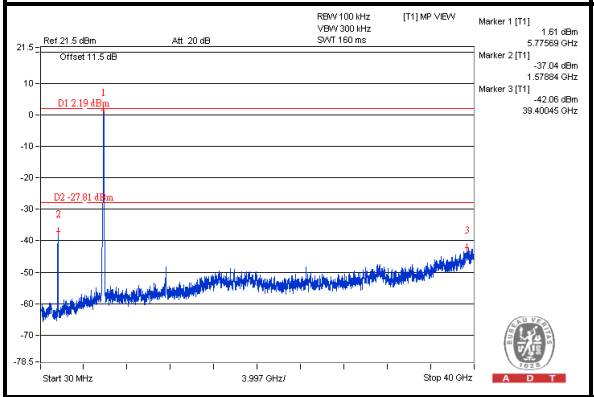


802.11ac (VHT80), 1Tx:

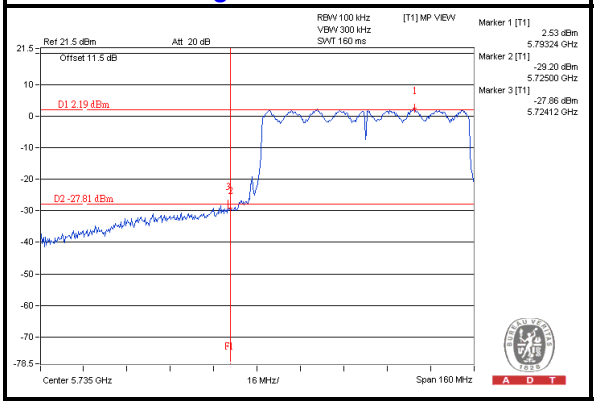
Maximum REF



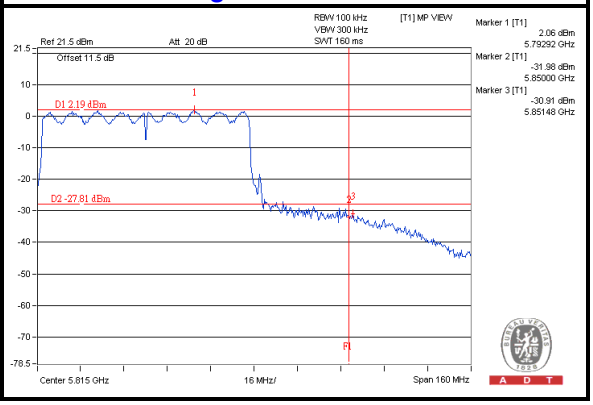
CH 155



CH 155 Band edge

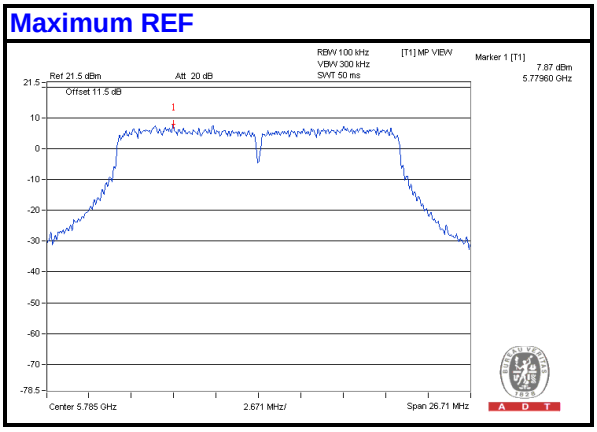


CH 155 Band edge



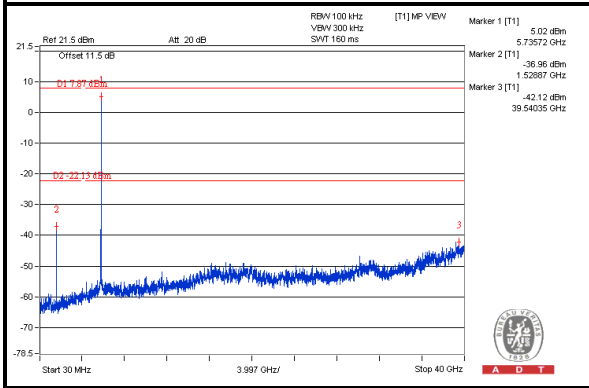
802.11ac (VHT20), 2Tx:

Maximum REF

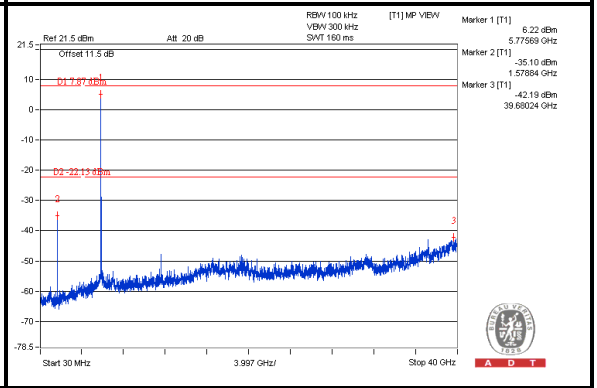


Chain 0

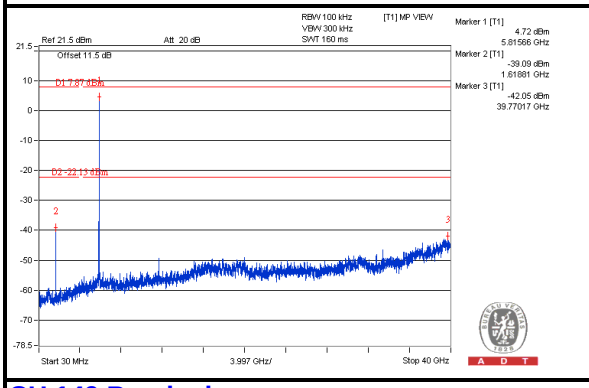
CH 149



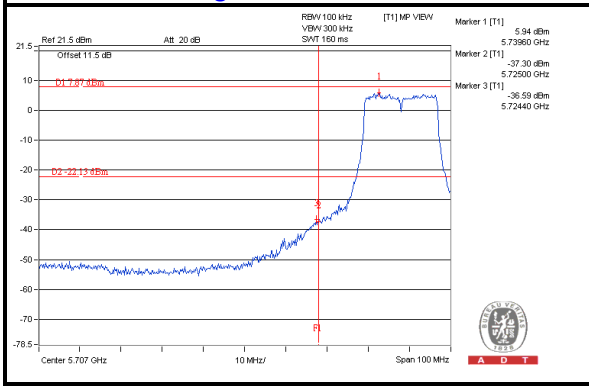
CH 157



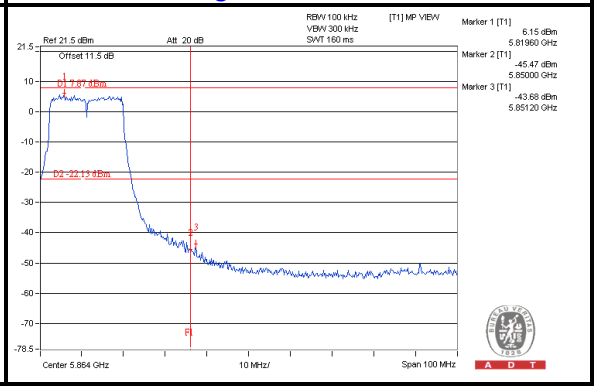
CH 165



CH 149 Band edge

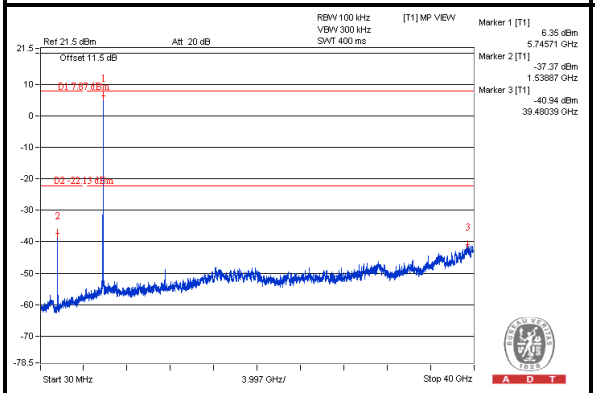


CH 165 Band edge

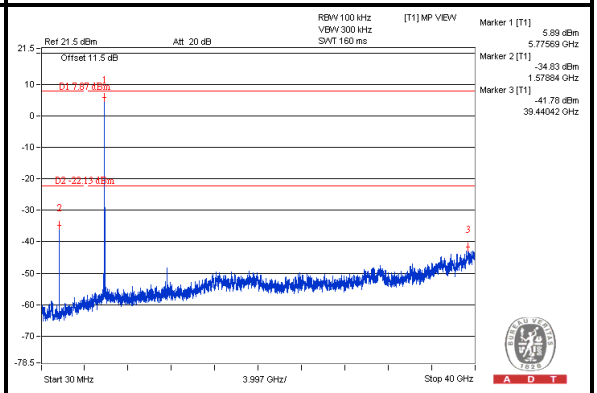


Chain 1

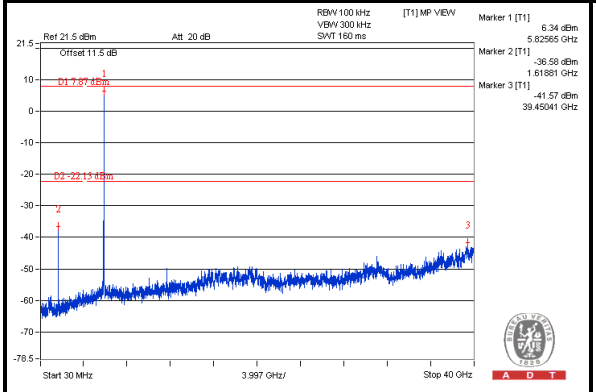
CH 149



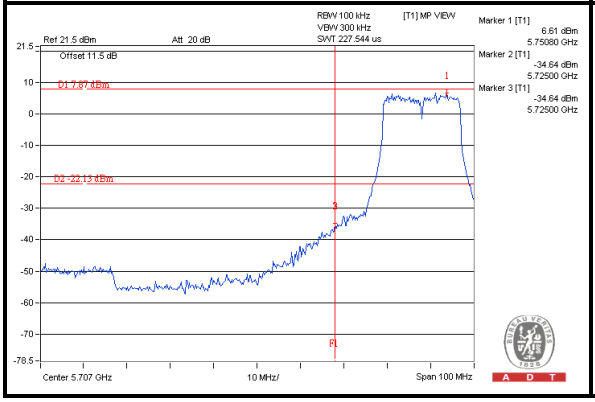
CH 157



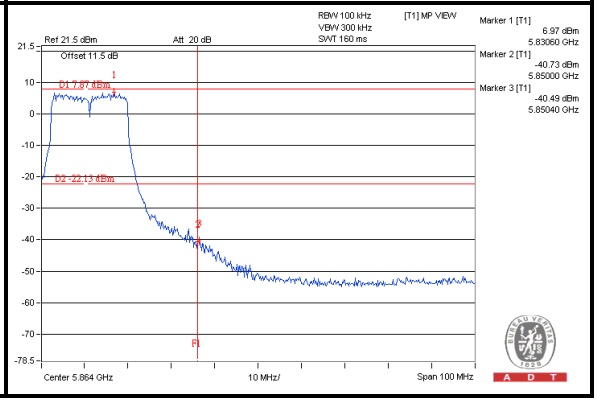
CH 165



CH 149 Band edge

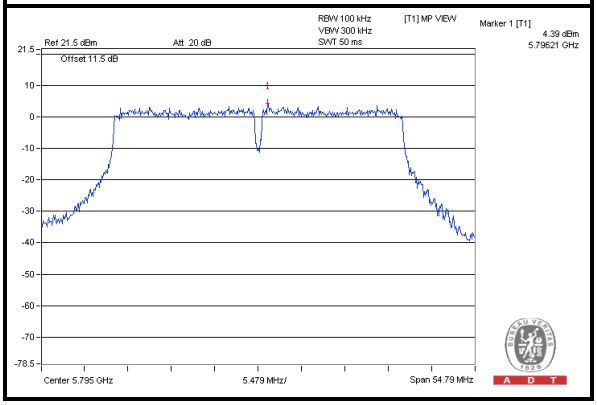


CH 165 Band edge



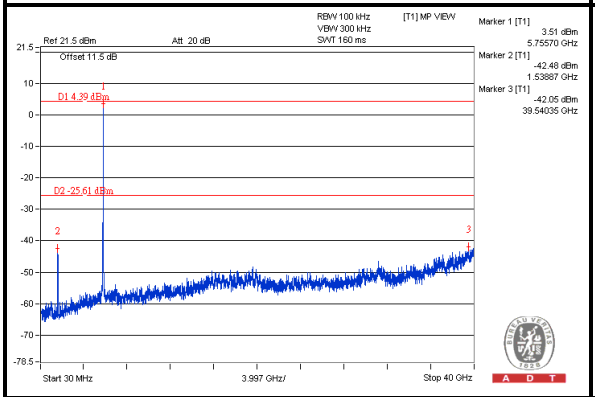
802.11ac (VHT40), 2Tx:

Maximum REF

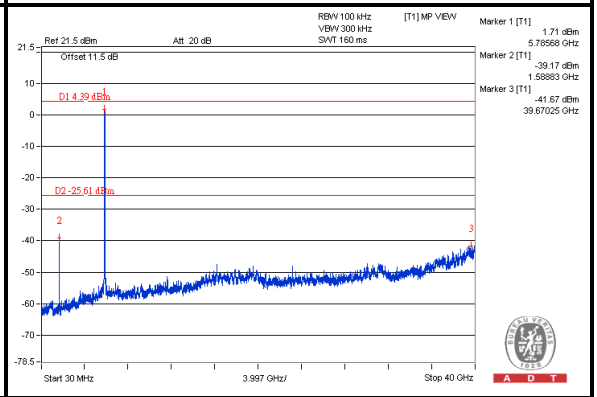


Chain 0

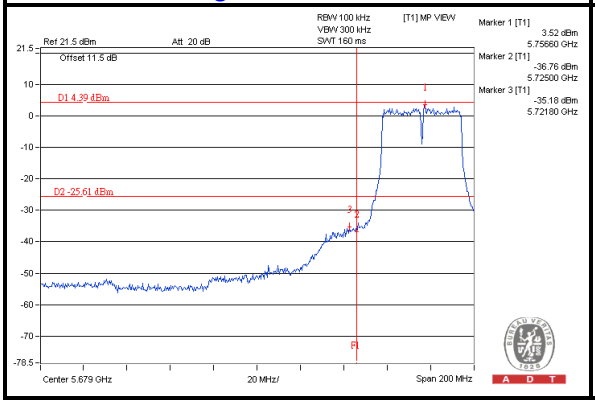
CH 151



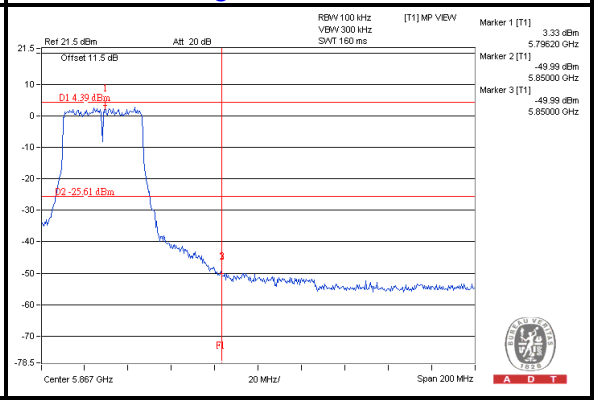
CH 159



CH 151 Band edge

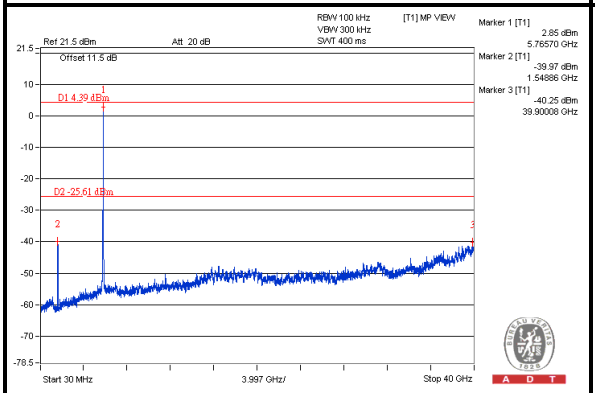


CH 159 Band edge

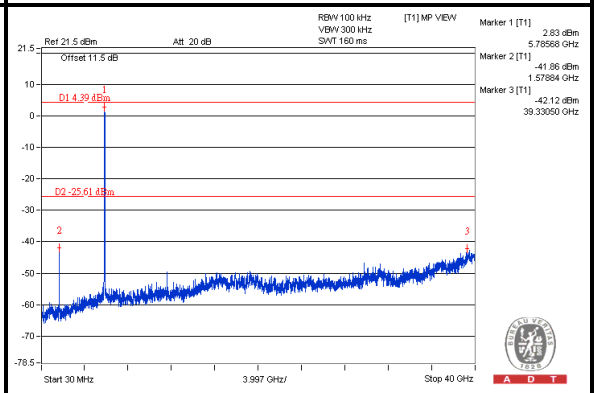


Chain 1

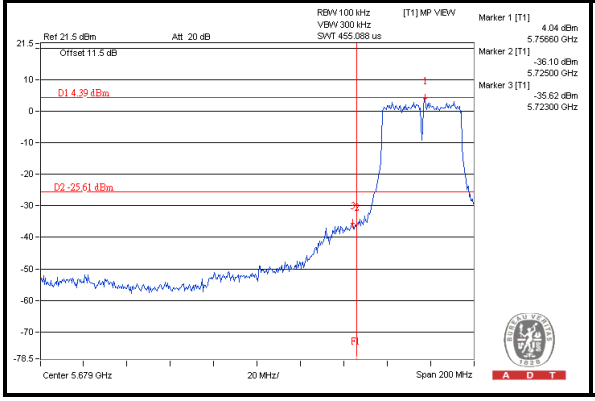
CH 151



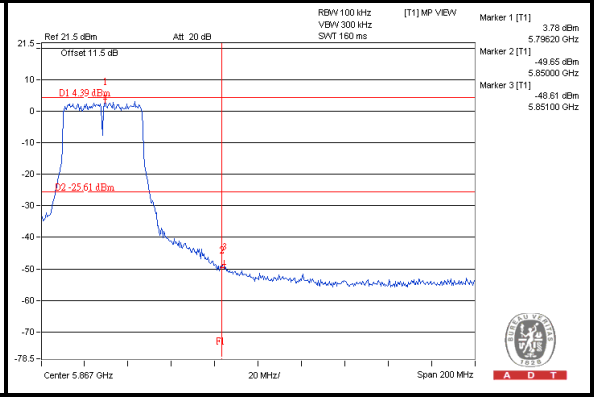
CH 159



CH 151 Band edge

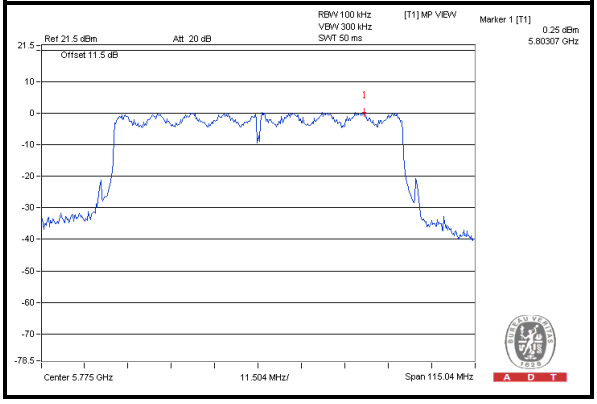


CH 159 Band edge



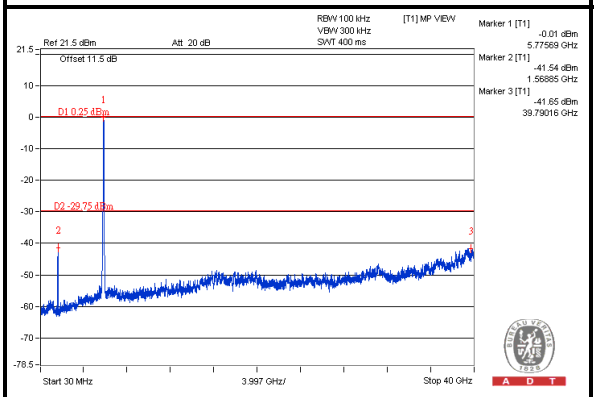
802.11ac (VHT80), 2Tx:

Maximum REF

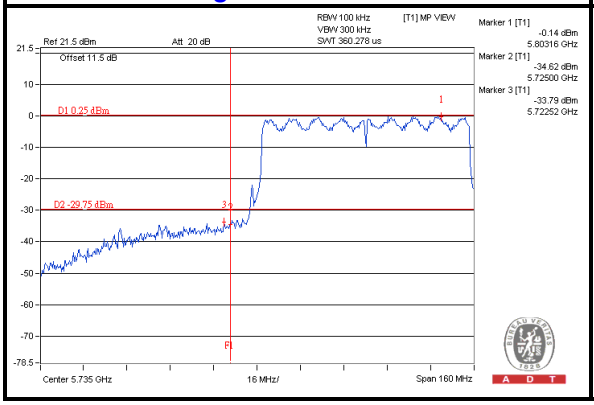


Chain 0

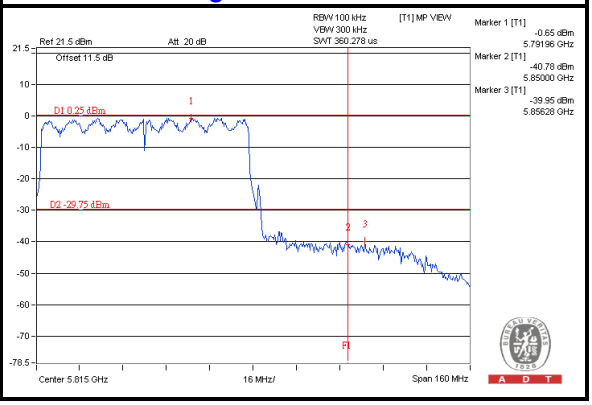
CH 155



CH 155 Band edge

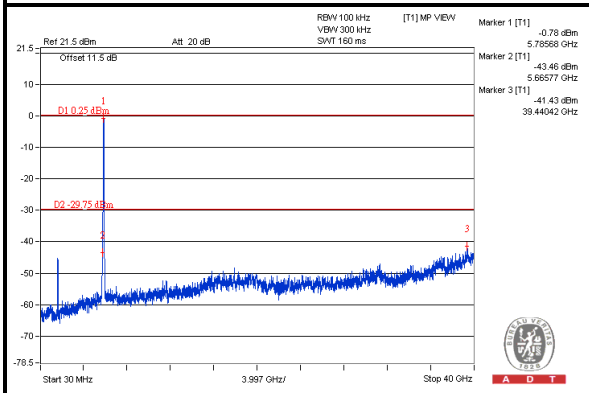


CH 155 Band edge

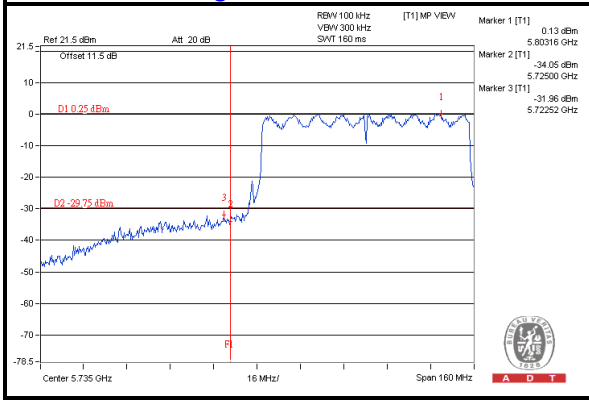


Chain 1

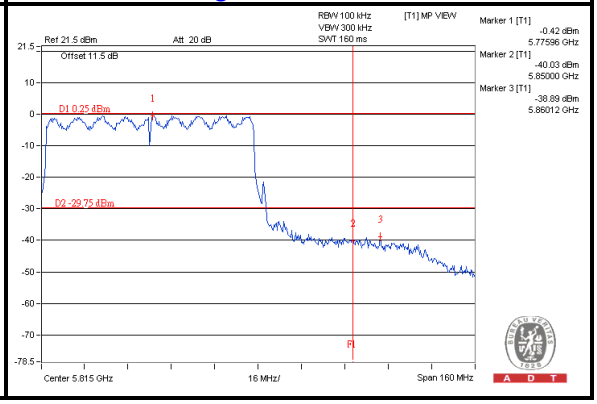
CH 155



CH 155 Band edge



CH 155 Band edge



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

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

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

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