

FCC Test Report (WLAN)

Report No.: RF140808E04S-1

FCC ID: RYK-261ACNBT

Test Model: WNSQ-261ACN(BT)

Series Model: WPEQ-261ACN(BT)

Received Date: Aug. 08, 2014

Test Date: Oct. 07, 2014 ; May 08 to 13, 2015

Issued Date: Sep. 18, 2017

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Release Control Record

Issue No.	Description	Date Issued
RF140808E04S-1	Original release.	Sep. 18, 2017

1 Certificate of Conformity

Product: 802.11ac/b/g/n Wi-Fi+BT Module

Brand: Sparklan

Test Model: WNSQ-261ACN(BT)

Series Model: WPEQ-261ACN(BT)

Sample Status: R&D SAMPLE

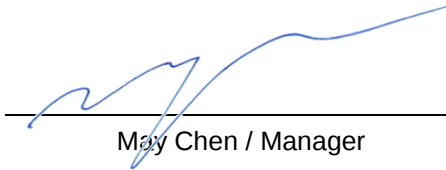
Applicant: SparkLAN Communications, Inc.

Test Date: Oct. 07, 2014 ; May 08 to 13, 2015

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

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

Prepared by :  , **Date:** Sep. 18, 2017
Claire Kuan / Specialist

Approved by :  , **Date:** Sep. 18, 2017
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407 Under New Rule)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -8.8dB at 0.18906MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.2dB at 5715.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

- NOTE:** 1. For WLAN: The EUT was operating in 2.4 ~ 2.4835GHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz. For the 2.4 ~ 2.4835GHz RF parameters was recorded in another test report.
2. This report is prepared for supplementary report. (Only AC Power Conducted Emission, Radiated Emissions and Band Edge and Max Average Transmit Power Measurement were presented in this test report).

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.37 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.72 dB
	6GHz ~ 18GHz	4.00 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	802.11ac/b/g/n Wi-Fi+BT Module
Brand	Sparklan
Test Model	WNSQ-261ACN(BT)
Series Model	WPEQ-261ACN(BT)
Status of EUT	R&D SAMPLE
Power Supply Rating	3.3Vdc form host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n : up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.5~5.72GHz, 5.745 ~ 5.825GHz For 15.247 2.412 ~ 2.472GHz
Number of Channel	For 15.407 25 for 802.11a, 802.11n (HT20), VHT20 12 for 802.11n (HT40), VHT40 6 for 802.11ac (VHT80) For 15.247 13 for 802.11b/g, 802.11n (HT20), VHT20 9 for 802.11n (HT40), VHT40
Output Power	For 15.407 802.11a: 77.033mW 802.11ac (VHT20): 63.586mW 802.11ac (VHT40): 47.366mW 802.11ac (VHT80): 43.894mW For 15.247 802.11b: 241.545mW 802.11g: 460.432mW VHT20: 469.401mW VHT40: 204.747mW
Antenna Type	See item 3.2
Antenna Connector	See item 3.2
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. All models are listed as below.

Brand	Model	Difference
Sparklan	WNSQ-261ACN(BT)	LGA module
	WPEQ-261ACN(BT)	Half Mini PCIe Module

From the above models, model: WNSQ-261ACN(BT) was selected as representative model for the test and its data was recorded in this report.

2. There are Bluetooth technology and WLAN technology used for the EUT.
3. WLAN <5GHz> and Bluetooth technology can transmit at same time.
4. WNSQ-261ACN(BT), WPEQ-261ACN(BT) supports two digital interfaces (USB and UART) for Bluetooth digital end data communication. The Bluetooth RF end is exactly same in both implementations.

Variant No.	Interface
SKU #1	USB interface for BT
SKU #2	UART interface for BT
From the above Variants, SKU #1 was selected as representative model for the test and its data was recorded in this report.	

5. The EUT incorporates a 2T2R function with beamforming.

For 2.4G Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20) & 802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
VHT20	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
VHT40	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
For 5G Band			
802.11a	6 ~ 54Mbps	2TX	2RX
802.11n (HT20) & 802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
802.11ac (VHT40) & 802.11ac (VHT80)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX

6. The EUT was pre-tested under the following modes:

Test Mode	Data rate
Mode A	400ns GI
Mode B	800ns GI

From the above modes, the worst case was found in **Mode B**. Therefore only the test data of the mode was recorded in this report.

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

3.2 Description of Antenna

The antenna gain was declared by client; please refer to the following table:

Antenna set 1									
Transmitter Circuit	Brand	Model	Antenna Type	2.4GHz Gain with cable loss (dBi)	5GHz Gain with cable loss (dBi)	2.4GHz Cable Loss (dBi)	5G Cable Loss (dBi)	Connector Type	Cable Length (mm)
Chain (0)	WNC	81-EBJ15.005	PIFA	3.62	Band 1&2: 3.08 Band 3: 4.76 Band 4: 4.76	1.15	Band 1&2: 1.70 Band 3: 1.74 Band 4: 1.79	IPEX	300
Chain (1)	WNC	81-EBJ15.005	PIFA	3.62	Band 1&2: 3.08 Band 3: 4.76 Band 4: 4.76	1.15	Band 1&2: 1.70 Band 3: 1.74 Band 4: 1.79	IPEX	300
Antenna set 2									
Transmitter Circuit	Brand	Model	Antenna Type	2.4GHz Gain with cable loss (dBi)	5GHz Gain with cable loss (dBi)	Cable Loss (dBi)	Connector Type	Cable Length (mm)	
Chain (0)	Tongda	T-543-8201044-A (Ant 1)	PIFA	3.572	Band 1&2: 3.002 Band 3: 4.546 Band 4: 4.416	NA	IPEX	77	
Chain (1)	Tongda	T-543-8201044-A (Ant 2)	PIFA	3.325	Band 1&2: 2.942 Band 3: 4.622 Band 4: 4.586	NA	IPEX	71	

- Note: 1. Above antenna gains of antenna are Total (H+V).
2. All of antenna can be application for WLAN and Bluetooth.

3.3 Description of Test Modes

FOR 5180 ~ 5240MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

FOR 5500 ~ 5720MHz

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

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

6 channels are provided for 802.11ac (VHT40), 802.11ac (VHT40):

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

3 channels are provided for 802.11ac (VHT80):

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

Note : The listed channels in the DFS band (5250~5350MHz and 5470~5725MHz) are passive scan only.

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.3.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT's antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane.

Radiated Emission Test (Above 1GHz):

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5
802.11ac (VHT80)		42	42	OFDM	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5
802.11ac (VHT80)		58	58	OFDM	29.3
802.11a	5500-5720	100 to 144	100, 120, 140, 144	OFDM	6
802.11ac (VHT20)		100 to 144	100, 120, 140, 144	OFDM	6.5
802.11ac (VHT40)		102 to 142	102, 118, 134, 142	OFDM	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5
802.11ac (VHT80)		155	155	OFDM	29.3

Radiated Emission Test (Below 1GHz):

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11a	5180-5320, 5500-5720, 5745-5825	36 to 64, 100 to 144, 149 to 165	157	OFDM	6

Power Line Conducted Emission Test:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11a	5180-5320, 5500-5720, 5745-5825	36 to 62, 100 to 144, 149 to 165	157	OFDM	6

Antenna Port Conducted Measurement:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5
802.11ac (VHT80)		42	42	OFDM	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5
802.11ac (VHT80)		58	58	OFDM	29.3
802.11a	5500-5720	100 to 144	100, 120, 140, 144	OFDM	6
802.11ac (VHT20)		100 to 144	100, 120, 140, 144	OFDM	6.5
802.11ac (VHT40)		102 to 142	102, 118, 134, 142	OFDM	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5
802.11ac (VHT80)		155	155	OFDM	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5
802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
UE≥1G	22deg. C, 69%RH	120Vac, 60Hz	Gary Cheng
UE<1G	23deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
PLC	25deg. C, 70%RH	120Vac, 60Hz	Mike Hsieh
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.4 Duty Cycle of Test Signal

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

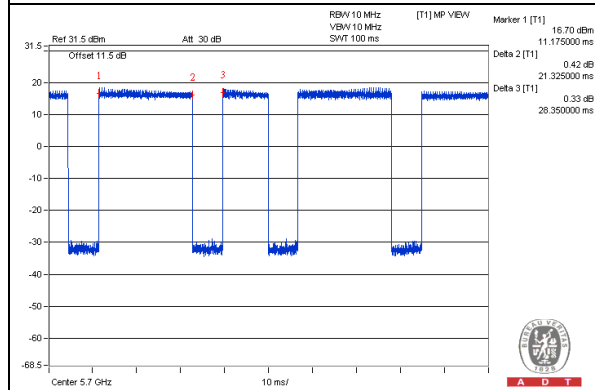
802.11a: Duty cycle = 21.325 ms/28.35 ms = 0.752, Duty factor = $10 * \log(1/0.752) = 1.24$

802.11ac (VHT20): Duty cycle = 19.75 ms/26.7 ms = 0.74, Duty factor = $10 * \log(1/0.74) = 1.31$

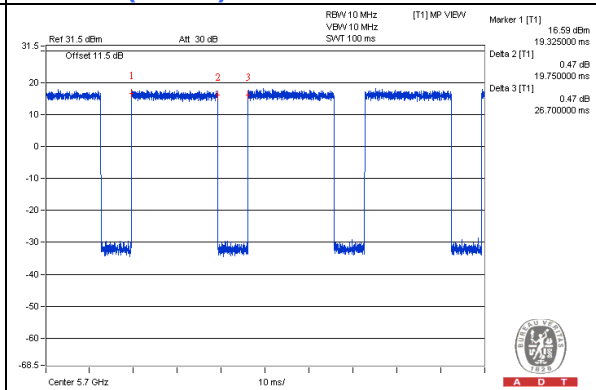
802.11ac (VHT40): Duty cycle = 9.501 ms/16.557 ms = 0.574, Duty factor = $10 * \log(1/0.574) = 2.41$

802.11ac (VHT80): Duty cycle = 4.361 ms/6.567 ms = 0.664, Duty factor = $10 * \log(1/0.664) = 1.8$

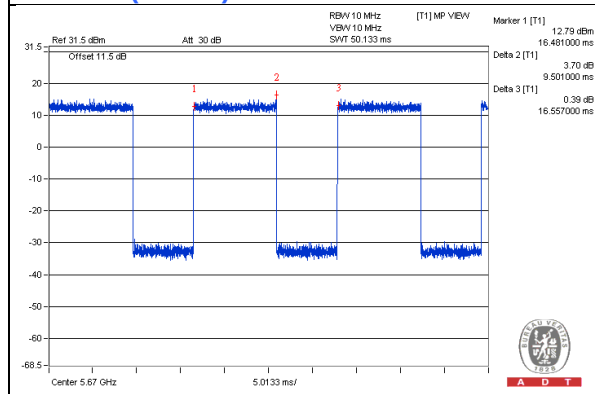
802.11a



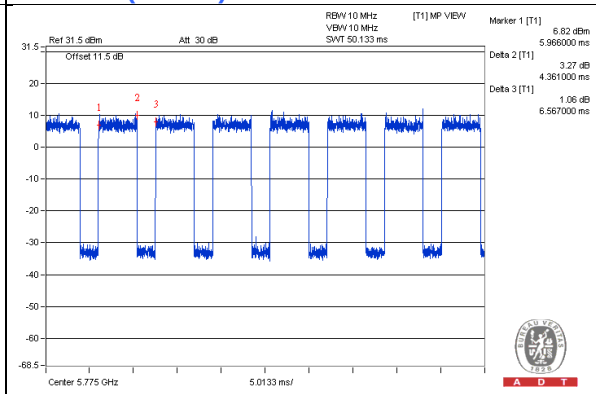
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



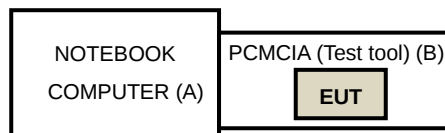
3.5 Description of Support Units

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	Remark
A	NOTEBOOK COMPUTER	DELL	E6420	H62T3R1	FCC DoC	Provided by Lab
B	PCMCIA (Test tool)	Sparklan	NA	NA	NA	Supplied by Client

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

3.5.1 Configuration of System under Test



3.6 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 E (15.407)

789033 D02 General UNII Test Procedures New Rules v01

662911 D01 Multiple Transmitter Output v02r01

644545 D03 Guidance for IEEE 802.11ac v01

ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of Unwanted Emission out of the Restricted Bands

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2 (dBuV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) ^{*1} PK:-17 (dBm/MHz) ^{*2}	PK:68.2 (dBuV/m) ^{*1} PK:78.2 (dBuV/m) ^{*2}

NOTE: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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

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

4.1.2 Test Instruments

For Above 1GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 06, 2015	Feb. 05, 2016
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Feb. 06, 2015	Feb. 05, 2016
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131213 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
- 5 The CANADA Site Registration No. is IC 7450H-3.
- 6 Tested Date: May 08, 2015

For Below 1GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 21, 2014	July 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 09, 2015	Feb. 08, 2016
RF Cable	NA	CHGCAB_001	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	131205 131216 131217 SNMY23684/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Antenna Tower & Turn Table CT	NA	NA	NA	NA

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 08, 2015

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

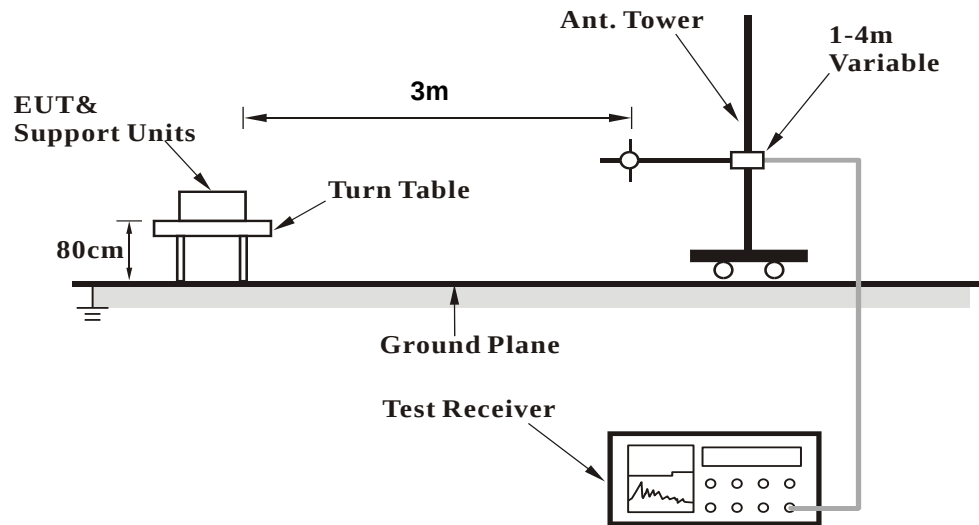
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
6. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

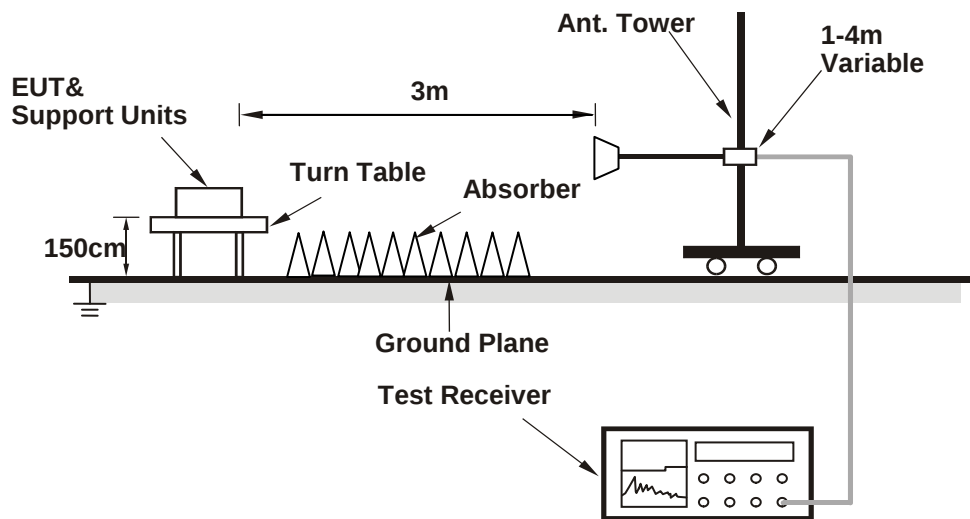
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program "QCRT Version3.0 29.0" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data

802.11a

CHANNEL	TX Channel 36	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	5150.00	61.3 PK	74.0	-12.7	1.52 H	97	54.83	6.47
2	5150.00	48.6 AV	54.0	-5.4	1.52 H	97	42.13	6.47
3	*5180.00	108.6 PK			1.52 H	97	101.95	6.65
4	*5180.00	98.9 AV			1.52 H	97	92.25	6.65
5	#10360.00	56.4 PK	74.0	-17.6	1.24 H	136	42.19	14.21
6	#10360.00	43.3 AV	54.0	-10.7	1.24 H	136	29.09	14.21
7	15540.00	62.4 PK	74.0	-11.6	1.38 H	114	43.64	18.76
8	15540.00	49.6 AV	54.0	-4.4	1.38 H	114	30.84	18.76
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	5150.00	62.5 PK	74.0	-11.5	1.41 V	163	56.03	6.47
2	5150.00	50.2 AV	54.0	-3.8	1.41 V	163	43.73	6.47
3	*5180.00	109.8 PK			1.41 V	162	103.15	6.65
4	*5180.00	99.9 AV			1.41 V	162	93.25	6.65
5	#10360.00	57.3 PK	74.0	-16.7	1.26 V	170	43.09	14.21
6	#10360.00	44.6 AV	54.0	-9.4	1.26 V	170	30.39	14.21
7	15540.00	63.4 PK	74.0	-10.6	1.39 V	248	44.64	18.76
8	15540.00	50.6 AV	54.0	-3.4	1.39 V	248	31.84	18.76

REMARKS:

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

CHANNEL	TX Channel 40	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	*5200.00	110.3 PK			1.52 H	98	103.53	6.77
2	*5200.00	100.1 AV			1.52 H	98	93.33	6.77
3	#10400.00	57.4 PK	74.0	-16.6	1.21 H	150	43.18	14.22
4	#10400.00	44.3 AV	54.0	-9.7	1.21 H	150	30.08	14.22
5	15600.00	63.9 PK	74.0	-10.1	1.38 H	122	45.56	18.34
6	15600.00	51.0 AV	54.0	-3.0	1.38 H	122	32.66	18.34
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	111.4 PK			1.37 V	162	104.63	6.77
2	*5200.00	101.3 AV			1.37 V	162	94.53	6.77
3	#10400.00	58.6 PK	74.0	-15.4	1.24 V	163	44.38	14.22
4	#10400.00	45.7 AV	54.0	-8.3	1.24 V	163	31.48	14.22
5	15600.00	64.6 PK	74.0	-9.4	1.38 V	245	46.26	18.34
6	15600.00	51.7 AV	54.0	-2.3	1.38 V	245	33.36	18.34

REMARKS:

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

CHANNEL	TX Channel 48	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	*5240.00	110.3 PK			1.57 H	95	103.48	6.82
2	*5240.00	99.9 AV			1.57 H	95	93.08	6.82
3	#10480.00	57.7 PK	74.0	-16.3	1.24 H	161	43.71	13.99
4	#10480.00	44.7 AV	54.0	-9.3	1.24 H	161	30.71	13.99
5	15720.00	64.0 PK	74.0	-10.0	1.38 H	116	44.97	19.03
6	15720.00	50.8 AV	54.0	-3.2	1.38 H	116	31.77	19.03
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	*5240.00	111.6 PK			1.40 V	174	104.78	6.82
2	*5240.00	101.4 AV			1.40 V	174	94.58	6.82
3	#10480.00	58.9 PK	74.0	-15.1	1.18 V	166	44.91	13.99
4	#10480.00	45.7 AV	54.0	-8.3	1.18 V	166	31.71	13.99
5	15720.00	64.3 PK	74.0	-9.7	1.38 V	235	45.27	19.03
6	15720.00	51.5 AV	54.0	-2.5	1.38 V	235	32.47	19.03

REMARKS:

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

CHANNEL	TX Channel 52	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	*5260.00	109.1 PK			1.57 H	85	102.25	6.85
2	*5260.00	98.2 AV			1.57 H	85	91.35	6.85
3	#10520.00	58.1 PK	74.0	-15.9	1.23 H	136	44.27	13.83
4	#10520.00	44.7 AV	54.0	-9.3	1.23 H	136	30.87	13.83
5	15780.00	63.6 PK	74.0	-10.4	1.41 H	114	44.24	19.36
6	15780.00	50.6 AV	54.0	-3.4	1.41 H	114	31.24	19.36
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	*5260.00	109.3 PK			1.35 V	163	102.45	6.85
2	*5260.00	100.2 AV			1.35 V	163	93.35	6.85
3	#10520.00	58.7 PK	74.0	-15.3	1.18 V	161	44.87	13.83
4	#10520.00	45.3 AV	54.0	-8.7	1.18 V	161	31.47	13.83
5	15780.00	64.3 PK	74.0	-9.7	1.40 V	237	44.94	19.36
6	15780.00	51.6 AV	54.0	-2.4	1.40 V	237	32.24	19.36

REMARKS:

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

CHANNEL	TX Channel 60	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	*5300.00	110.3 PK			1.51 H	109	103.40	6.90
2	*5300.00	100.1 AV			1.51 H	109	93.20	6.90
3	5350.00	54.9 PK	74.0	-19.1	1.51 H	109	47.86	7.04
4	5350.00	43.8 AV	54.0	-10.2	1.51 H	109	36.76	7.04
5	10600.00	57.3 PK	74.0	-16.7	1.17 H	144	43.86	13.44
6	10600.00	44.1 AV	54.0	-9.9	1.17 H	144	30.66	13.44
7	15900.00	64.3 PK	74.0	-9.7	1.33 H	122	45.29	19.01
8	15900.00	51.1 AV	54.0	-2.9	1.33 H	122	32.09	19.01
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.9 PK			1.35 V	162	104.00	6.90
2	*5300.00	100.7 AV			1.35 V	162	93.80	6.90
3	5350.00	55.3 PK	74.0	-18.7	1.35 V	162	48.26	7.04
4	5350.00	44.6 AV	54.0	-9.4	1.35 V	162	37.56	7.04
5	10600.00	58.8 PK	74.0	-15.2	1.21 V	169	45.36	13.44
6	10600.00	45.6 AV	54.0	-8.4	1.21 V	169	32.16	13.44
7	15900.00	63.9 PK	74.0	-10.1	1.39 V	232	44.89	19.01
8	15900.00	51.3 AV	54.0	-2.7	1.39 V	232	32.29	19.01

REMARKS:

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

CHANNEL	TX Channel 64	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	*5320.00	106.6 PK			1.48 H	98	99.63	6.97
2	*5320.00	96.8 AV			1.48 H	98	89.83	6.97
3	5350.00	55.2 PK	74.0	-18.8	1.48 H	98	48.16	7.04
4	5350.00	44.7 AV	54.0	-9.3	1.48 H	98	37.66	7.04
5	10640.00	56.1 PK	74.0	-17.9	1.30 H	131	42.43	13.67
6	10640.00	43.3 AV	54.0	-10.7	1.30 H	131	29.63	13.67
7	15960.00	62.1 PK	74.0	-11.9	1.38 H	112	43.26	18.84
8	15960.00	49.4 AV	54.0	-4.6	1.38 H	112	30.56	18.84
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.2 PK			1.33 V	162	100.23	6.97
2	*5320.00	98.0 AV			1.33 V	162	91.03	6.97
3	5350.00	56.1 PK	74.0	-17.9	1.33 V	162	49.06	7.04
4	5350.00	43.6 AV	54.0	-10.4	1.33 V	162	36.56	7.04
5	10640.00	57.1 PK	74.0	-16.9	1.25 V	170	43.43	13.67
6	10640.00	44.2 AV	54.0	-9.8	1.25 V	170	30.53	13.67
7	15960.00	63.7 PK	74.0	-10.3	1.33 V	233	44.86	18.84
8	15960.00	50.9 AV	54.0	-3.1	1.33 V	233	32.06	18.84

REMARKS:

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

CHANNEL	TX Channel 100	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	#5470.00	64.8 PK	74.0	-9.2	1.23 H	299	57.51	7.29
2	#5470.00	49.3 AV	54.0	-4.7	1.23 H	299	42.01	7.29
3	*5500.00	105.9 PK			1.23 H	299	98.57	7.33
4	*5500.00	96.9 AV			1.23 H	299	89.57	7.33
5	11000.00	56.4 PK	74.0	-17.6	1.28 H	136	42.17	14.23
6	11000.00	43.3 AV	54.0	-10.7	1.28 H	136	29.07	14.23
7	#16500.00	62.0 PK	74.0	-12.0	1.33 H	111	41.03	20.97
8	#16500.00	49.1 AV	54.0	-4.9	1.33 H	111	28.13	20.97
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	66.0 PK	74.0	-8.0	1.22 V	265	58.71	7.29
2	#5470.00	51.5 AV	54.0	-2.5	1.22 V	265	44.21	7.29
3	*5500.00	108.7 PK			1.22 V	265	101.37	7.33
4	*5500.00	99.3 AV			1.22 V	265	91.97	7.33
5	11000.00	57.5 PK	74.0	-16.5	1.32 V	161	43.27	14.23
6	11000.00	45.0 AV	54.0	-9.0	1.32 V	161	30.77	14.23
7	#16500.00	63.2 PK	74.0	-10.8	1.40 V	257	42.23	20.97
8	#16500.00	50.6 AV	54.0	-3.4	1.40 V	257	29.63	20.97

REMARKS:

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

CHANNEL	TX Channel 120	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	*5600.00	110.5 PK			1.46 H	103	103.37	7.13
2	*5600.00	100.5 AV			1.46 H	103	93.37	7.13
3	11200.00	57.4 PK	74.0	-16.6	1.15 H	159	42.93	14.47
4	11200.00	44.2 AV	54.0	-9.8	1.15 H	159	29.73	14.47
5	#16800.00	64.5 PK	74.0	-9.5	1.32 H	114	42.40	22.10
6	#16800.00	51.5 AV	54.0	-2.5	1.32 H	114	29.40	22.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	110.6 PK			1.16 V	254	103.47	7.13
2	*5600.00	101.1 AV			1.16 V	254	93.97	7.13
3	11200.00	58.7 PK	74.0	-15.3	1.19 V	141	44.23	14.47
4	11200.00	45.6 AV	54.0	-8.4	1.19 V	141	31.13	14.47
5	#16800.00	64.5 PK	74.0	-9.5	1.35 V	246	42.40	22.10
6	#16800.00	51.8 AV	54.0	-2.2	1.35 V	246	29.70	22.10

REMARKS:

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

CHANNEL	TX Channel 140	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	*5700.00	105.5 PK			1.17 H	304	98.11	7.39
2	*5700.00	96.4 AV			1.17 H	304	89.01	7.39
3	#5725.00	60.2 PK	74.0	-13.8	1.17 H	304	52.82	7.38
4	#5725.00	47.4 AV	54.0	-6.6	1.17 H	304	40.02	7.38
5	11400.00	56.2 PK	74.0	-17.8	1.22 H	133	41.34	14.86
6	11400.00	43.3 AV	54.0	-10.7	1.22 H	133	28.44	14.86
7	#17100.00	62.1 PK	74.0	-11.9	1.38 H	112	39.11	22.99
8	#17100.00	49.4 AV	54.0	-4.6	1.38 H	112	26.41	22.99
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	110.1 PK			1.20 V	252	102.71	7.39
2	*5700.00	100.6 AV			1.20 V	252	93.21	7.39
3	#5725.00	63.4 PK	74.0	-10.6	1.20 V	252	56.02	7.38
4	#5725.00	51.9 AV	54.0	-2.1	1.20 V	252	44.52	7.38
5	11400.00	57.7 PK	74.0	-16.3	1.34 V	150	42.84	14.86
6	11400.00	45.3 AV	54.0	-8.7	1.34 V	150	30.44	14.86
7	#17100.00	63.6 PK	74.0	-10.4	1.39 V	273	40.61	22.99
8	#17100.00	50.7 AV	54.0	-3.3	1.39 V	273	27.71	22.99

REMARKS:

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

CHANNEL	TX Channel 144	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	*5720.00	110.1 PK			1.46 H	112	102.71	7.39
2	*5720.00	100.1 AV			1.46 H	112	92.71	7.39
3	#5850.00	55.4 PK	74.0	-18.6	1.46 H	112	48.15	7.25
4	#5850.00	42.1 AV	54.0	-11.9	1.46 H	112	34.85	7.25
5	#5860.00	56.4 PK	74.0	-17.6	1.46 H	112	49.18	7.22
6	#5860.00	43.3 AV	54.0	-10.7	1.46 H	112	36.08	7.22
7	11440.00	57.4 PK	74.0	-16.6	1.15 H	152	42.68	14.72
8	11440.00	44.1 AV	54.0	-9.9	1.15 H	152	29.38	14.72
9	#17160.00	64.5 PK	74.0	-9.5	1.27 H	105	40.88	23.62
10	#17160.00	51.4 AV	54.0	-2.6	1.27 H	105	27.78	23.62

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	*5720.00	111.7 PK			1.21 V	253	104.31	7.39
2	*5720.00	102.2 AV			1.21 V	253	94.81	7.39
3	#5850.00	56.3 PK	74.0	-17.7	1.21 V	253	49.05	7.25
4	#5850.00	43.6 AV	54.0	-10.4	1.21 V	253	36.35	7.25
5	#5860.00	57.7 PK	74.0	-16.3	1.21 V	253	50.48	7.22
6	#5860.00	44.6 AV	54.0	-9.4	1.21 V	253	37.38	7.22
7	11440.00	58.9 PK	74.0	-15.1	1.17 V	138	44.18	14.72
8	11440.00	45.9 AV	54.0	-8.1	1.17 V	138	31.18	14.72
9	#17160.00	65.1 PK	74.0	-8.9	1.32 V	224	41.48	23.62
10	#17160.00	51.9 AV	54.0	-2.1	1.32 V	224	28.28	23.62

REMARKS:

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

CHANNEL	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	#5715.00	64.4 PK	74.0	-9.6	1.48 H	99	57.02	7.38
2	#5715.00	50.6 AV	54.0	-3.4	1.48 H	99	43.22	7.38
3	#5725.00	75.3 PK	78.2	-2.9	1.48 H	99	67.92	7.38
4	*5745.00	107.3 PK			1.48 H	99	99.92	7.38
5	*5745.00	99.2 AV			1.48 H	99	91.82	7.38
6	11490.00	56.4 PK	74.0	-17.6	1.23 H	126	41.88	14.52
7	11490.00	43.5 AV	54.0	-10.5	1.23 H	126	28.98	14.52
8	#17235.00	62.7 PK	74.0	-11.3	1.41 H	126	38.94	23.76
9	#17235.00	49.9 AV	54.0	-4.1	1.41 H	126	26.14	23.76

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	#5715.00	65.2 PK	74.0	-8.8	1.17 V	253	57.82	7.38
2	#5715.00	51.3 AV	54.0	-2.7	1.17 V	253	43.92	7.38
3	#5725.00	76.1 PK	78.2	-2.1	1.17 V	253	68.72	7.38
4	*5745.00	110.1 PK			1.17 V	253	102.72	7.38
5	*5745.00	100.6 AV			1.17 V	253	93.22	7.38
6	11490.00	59.3 PK	74.0	-14.7	1.23 V	168	44.78	14.52
7	11490.00	45.7 AV	54.0	-8.3	1.23 V	168	31.18	14.52
8	#17235.00	64.3 PK	74.0	-9.7	1.35 V	245	40.54	23.76
9	#17235.00	51.4 AV	54.0	-2.6	1.35 V	245	27.64	23.76

REMARKS:

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

CHANNEL	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			1.57 H	85	102.72	7.38
2	*5785.00	101.6 AV			1.57 H	85	94.22	7.38
3	11570.00	57.8 PK	74.0	-16.2	1.19 H	164	43.23	14.57
4	11570.00	44.5 AV	54.0	-9.5	1.19 H	164	29.93	14.57
5	#17355.00	63.9 PK	74.0	-10.1	1.37 H	123	39.84	24.06
6	#17355.00	50.8 AV	54.0	-3.2	1.37 H	123	26.74	24.06
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	111.9 PK			1.16 V	240	104.52	7.38
2	*5785.00	102.4 AV			1.16 V	240	95.02	7.38
3	11570.00	58.6 PK	74.0	-15.4	1.17 V	133	44.03	14.57
4	11570.00	45.4 AV	54.0	-8.6	1.17 V	133	30.83	14.57
5	#17355.00	65.0 PK	74.0	-9.0	1.29 V	232	40.94	24.06
6	#17355.00	52.1 AV	54.0	-1.9	1.29 V	232	28.04	24.06

REMARKS:

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

CHANNEL	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	110.3 PK			1.54 H	93	102.99	7.31
2	*5825.00	100.3 AV			1.54 H	93	92.99	7.31
3	#5850.00	70.3 PK	78.2	-7.9	1.54 H	93	63.05	7.25
4	#5860.00	62.1 PK	74.0	-11.9	1.54 H	93	54.88	7.22
5	#5860.00	49.6 AV	54.0	-4.4	1.54 H	93	42.38	7.22
6	11650.00	57.5 PK	74.0	-16.5	1.21 H	155	42.83	14.67
7	11650.00	44.4 AV	54.0	-9.6	1.21 H	155	29.73	14.67
8	#17475.00	64.1 PK	74.0	-9.9	1.35 H	112	40.08	24.02
9	#17475.00	50.8 AV	54.0	-3.2	1.35 H	112	26.78	24.02
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	111.1 PK			1.16 V	251	103.79	7.31
2	*5825.00	101.1 AV			1.16 V	251	93.79	7.31
3	#5850.00	71.7 PK	78.2	-6.5	1.16 V	251	64.45	7.25
4	#5860.00	63.9 PK	74.0	-10.1	1.16 V	251	56.68	7.22
5	#5860.00	50.9 AV	54.0	-3.1	1.16 V	251	43.68	7.22
6	11650.00	58.3 PK	74.0	-15.7	1.15 V	149	43.63	14.67
7	11650.00	44.9 AV	54.0	-9.1	1.15 V	149	30.23	14.67
8	#17475.00	64.5 PK	74.0	-9.5	1.28 V	227	40.48	24.02
9	#17475.00	51.7 AV	54.0	-2.3	1.28 V	227	27.68	24.02

REMARKS:

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

802.11ac (VHT20)

CHANNEL	TX Channel 36	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	5150.00	61.0 PK	74.0	-13.0	1.54 H	109	54.53	6.47
2	5150.00	48.4 AV	54.0	-5.6	1.54 H	109	41.93	6.47
3	*5180.00	108.9 PK			1.54 H	109	102.25	6.65
4	*5180.00	99.4 AV			1.54 H	109	92.75	6.65
5	#10360.00	56.3 PK	74.0	-17.7	1.23 H	137	42.09	14.21
6	#10360.00	43.1 AV	54.0	-10.9	1.23 H	137	28.89	14.21
7	15540.00	62.6 PK	74.0	-11.4	1.38 H	103	43.84	18.76
8	15540.00	49.8 AV	54.0	-4.2	1.38 H	103	31.04	18.76
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	5150.00	62.8 PK	74.0	-11.2	1.45 V	173	56.33	6.47
2	5150.00	50.3 AV	54.0	-3.7	1.45 V	173	43.83	6.47
3	*5180.00	109.5 PK			1.42 V	154	102.85	6.65
4	*5180.00	99.6 AV			1.42 V	154	92.95	6.65
5	#10360.00	57.2 PK	74.0	-16.8	1.29 V	158	42.99	14.21
6	#10360.00	44.7 AV	54.0	-9.3	1.29 V	158	30.49	14.21
7	15540.00	62.9 PK	74.0	-11.1	1.36 V	238	44.14	18.76
8	15540.00	50.2 AV	54.0	-3.8	1.36 V	238	31.44	18.76

REMARKS:

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

CHANNEL	TX Channel 40	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	*5200.00	110.5 PK			1.47 H	99	103.73	6.77
2	*5200.00	100.2 AV			1.47 H	99	93.43	6.77
3	#10400.00	58.0 PK	74.0	-16.0	1.16 H	142	43.78	14.22
4	#10400.00	44.8 AV	54.0	-9.2	1.16 H	142	30.58	14.22
5	15600.00	64.4 PK	74.0	-9.6	1.39 H	136	46.06	18.34
6	15600.00	51.5 AV	54.0	-2.5	1.39 H	136	33.16	18.34
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	111.3 PK			1.42 V	146	104.53	6.77
2	*5200.00	101.2 AV			1.42 V	146	94.43	6.77
3	#10400.00	58.3 PK	74.0	-15.7	1.19 V	155	44.08	14.22
4	#10400.00	45.4 AV	54.0	-8.6	1.19 V	155	31.18	14.22
5	15600.00	64.9 PK	74.0	-9.1	1.34 V	254	46.56	18.34
6	15600.00	52.1 AV	54.0	-1.9	1.34 V	254	33.76	18.34

REMARKS:

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

CHANNEL	TX Channel 48	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	*5240.00	109.4 PK			1.50 H	107	102.58	6.82
2	*5240.00	99.2 AV			1.50 H	107	92.38	6.82
3	#10480.00	57.7 PK	74.0	-16.3	1.25 H	165	43.71	13.99
4	#10480.00	44.5 AV	54.0	-9.5	1.25 H	165	30.51	13.99
5	15720.00	63.6 PK	74.0	-10.4	1.36 H	125	44.57	19.03
6	15720.00	50.6 AV	54.0	-3.4	1.36 H	125	31.57	19.03
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	*5240.00	110.8 PK			1.36 V	149	103.98	6.82
2	*5240.00	100.8 AV			1.36 V	149	93.98	6.82
3	#10480.00	58.6 PK	74.0	-15.4	1.18 V	161	44.61	13.99
4	#10480.00	45.7 AV	54.0	-8.3	1.18 V	161	31.71	13.99
5	15720.00	65.1 PK	74.0	-8.9	1.35 V	260	46.07	19.03
6	15720.00	52.3 AV	54.0	-1.7	1.35 V	260	33.27	19.03

REMARKS:

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

CHANNEL	TX Channel 52	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	*5260.00	109.2 PK			1.50 H	104	102.35	6.85
2	*5260.00	98.9 AV			1.50 H	104	92.05	6.85
3	#10520.00	57.5 PK	74.0	-16.5	1.25 H	150	43.67	13.83
4	#10520.00	44.0 AV	54.0	-10.0	1.25 H	150	30.17	13.83
5	15780.00	63.1 PK	74.0	-10.9	1.37 H	135	43.74	19.36
6	15780.00	50.2 AV	54.0	-3.8	1.37 H	135	30.84	19.36
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	*5260.00	110.6 PK			1.35 V	134	103.75	6.85
2	*5260.00	100.4 AV			1.35 V	134	93.55	6.85
3	#10520.00	58.5 PK	74.0	-15.5	1.18 V	160	44.67	13.83
4	#10520.00	45.7 AV	54.0	-8.3	1.18 V	160	31.87	13.83
5	15780.00	65.1 PK	74.0	-8.9	1.38 V	256	45.74	19.36
6	15780.00	52.4 AV	54.0	-1.6	1.38 V	256	33.04	19.36

REMARKS:

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

CHANNEL	TX Channel 60	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	*5300.00	109.2 PK			1.54 H	92	102.30	6.90
2	*5300.00	99.0 AV			1.54 H	92	92.10	6.90
3	10600.00	57.7 PK	74.0	-16.3	1.23 H	153	44.26	13.44
4	10600.00	44.5 AV	54.0	-9.5	1.23 H	153	31.06	13.44
5	15900.00	63.4 PK	74.0	-10.6	1.41 H	138	44.39	19.01
6	15900.00	50.4 AV	54.0	-3.6	1.41 H	138	31.39	19.01
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.5 PK			1.33 V	121	103.60	6.90
2	*5300.00	100.2 AV			1.33 V	121	93.30	6.90
3	10600.00	58.7 PK	74.0	-15.3	1.24 V	171	45.26	13.44
4	10600.00	45.8 AV	54.0	-8.2	1.24 V	171	32.36	13.44
5	15900.00	65.7 PK	74.0	-8.3	1.39 V	255	46.69	19.01
6	15900.00	52.9 AV	54.0	-1.1	1.39 V	255	33.89	19.01

REMARKS:

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

CHANNEL	TX Channel 64	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	*5320.00	107.4 PK			1.51 H	87	100.43	6.97
2	*5320.00	97.3 AV			1.51 H	87	90.33	6.97
3	5350.00	55.5 PK	74.0	-18.5	1.51 H	87	48.46	7.04
4	5350.00	44.8 AV	54.0	-9.2	1.51 H	87	37.76	7.04
5	10640.00	55.9 PK	74.0	-18.1	1.34 H	122	42.23	13.67
6	10640.00	43.1 AV	54.0	-10.9	1.34 H	122	29.43	13.67
7	15960.00	62.2 PK	74.0	-11.8	1.33 H	120	43.36	18.84
8	15960.00	49.5 AV	54.0	-4.5	1.33 H	120	30.66	18.84
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.8 PK			1.29 V	163	101.83	6.97
2	*5320.00	98.7 AV			1.29 V	163	91.73	6.97
3	5350.00	60.2 PK	74.0	-13.8	1.29 V	163	53.16	7.04
4	5350.00	48.7 AV	54.0	-5.3	1.29 V	163	41.66	7.04
5	10640.00	56.7 PK	74.0	-17.3	1.29 V	169	43.03	13.67
6	10640.00	44.2 AV	54.0	-9.8	1.29 V	169	30.53	13.67
7	15960.00	62.6 PK	74.0	-11.4	1.36 V	238	43.76	18.84
8	15960.00	50.1 AV	54.0	-3.9	1.36 V	238	31.26	18.84

REMARKS:

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

CHANNEL	TX Channel 100	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	#5470.00	64.4 PK	74.0	-9.6	1.25 H	304	57.11	7.29
2	#5470.00	49.2 AV	54.0	-4.8	1.25 H	304	41.91	7.29
3	*5500.00	105.3 PK			1.25 H	304	97.97	7.33
4	*5500.00	96.5 AV			1.25 H	304	89.17	7.33
5	11000.00	56.3 PK	74.0	-17.7	1.30 H	145	42.07	14.23
6	11000.00	43.2 AV	54.0	-10.8	1.30 H	145	28.97	14.23
7	#16500.00	62.2 PK	74.0	-11.8	1.30 H	112	41.23	20.97
8	#16500.00	49.5 AV	54.0	-4.5	1.30 H	112	28.53	20.97
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.7 PK	74.0	-8.3	1.17 V	266	58.41	7.29
2	#5470.00	51.2 AV	54.0	-2.8	1.17 V	266	43.91	7.29
3	*5500.00	109.0 PK			1.17 V	266	101.67	7.33
4	*5500.00	99.7 AV			1.17 V	266	92.37	7.33
5	11000.00	57.2 PK	74.0	-16.8	1.28 V	169	42.97	14.23
6	11000.00	44.8 AV	54.0	-9.2	1.28 V	169	30.57	14.23
7	#16500.00	62.7 PK	74.0	-11.3	1.31 V	236	41.73	20.97
8	#16500.00	50.1 AV	54.0	-3.9	1.31 V	236	29.13	20.97

REMARKS:

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

CHANNEL	TX Channel 120	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	*5600.00	108.8 PK			1.50 H	83	101.67	7.13
2	*5600.00	98.9 AV			1.50 H	83	91.77	7.13
3	11200.00	57.1 PK	74.0	-16.9	1.27 H	146	42.63	14.47
4	11200.00	44.2 AV	54.0	-9.8	1.27 H	146	29.73	14.47
5	#16800.00	63.0 PK	74.0	-11.0	1.44 H	143	40.90	22.10
6	#16800.00	49.9 AV	54.0	-4.1	1.44 H	143	27.80	22.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	110.2 PK			1.21 V	262	103.07	7.13
2	*5600.00	100.2 AV			1.21 V	262	93.07	7.13
3	11200.00	58.5 PK	74.0	-15.5	1.23 V	177	44.03	14.47
4	11200.00	45.6 AV	54.0	-8.4	1.23 V	177	31.13	14.47
5	#16800.00	65.7 PK	74.0	-8.3	1.42 V	249	43.60	22.10
6	#16800.00	52.4 AV	54.0	-1.6	1.42 V	249	30.30	22.10

REMARKS:

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

CHANNEL	TX Channel 140	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	*5700.00	105.5 PK			1.20 H	296	98.11	7.39
2	*5700.00	96.4 AV			1.20 H	296	89.01	7.39
3	#5725.00	61.2 PK	74.0	-12.8	1.20 H	296	53.82	7.38
4	#5725.00	50.1 AV	54.0	-3.9	1.20 H	296	42.72	7.38
5	11400.00	56.3 PK	74.0	-17.7	1.19 H	123	41.44	14.86
6	11400.00	43.2 AV	54.0	-10.8	1.19 H	123	28.34	14.86
7	#17100.00	61.8 PK	74.0	-12.2	1.33 H	108	38.81	22.99
8	#17100.00	49.3 AV	54.0	-4.7	1.33 H	108	26.31	22.99
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.8 PK			1.21 V	251	102.41	7.39
2	*5700.00	100.5 AV			1.21 V	251	93.11	7.39
3	#5725.00	65.1 PK	74.0	-8.9	1.21 V	251	57.72	7.38
4	#5725.00	51.3 AV	54.0	-2.7	1.21 V	251	43.92	7.38
5	11400.00	57.8 PK	74.0	-16.2	1.29 V	145	42.94	14.86
6	11400.00	45.6 AV	54.0	-8.4	1.29 V	145	30.74	14.86
7	#17100.00	64.0 PK	74.0	-10.0	1.35 V	260	41.01	22.99
8	#17100.00	51.1 AV	54.0	-2.9	1.35 V	260	28.11	22.99

REMARKS:

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

CHANNEL	TX Channel 144	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	*5720.00	110.0 PK			1.41 H	104	102.61	7.39
2	*5720.00	100.3 AV			1.41 H	104	92.91	7.39
3	#5850.00	55.0 PK	74.0	-19.0	1.41 H	104	47.75	7.25
4	#5850.00	42.0 AV	54.0	-12.0	1.41 H	104	34.75	7.25
5	#5860.00	56.7 PK	74.0	-17.3	1.41 H	104	49.48	7.22
6	#5860.00	43.5 AV	54.0	-10.5	1.41 H	104	36.28	7.22
7	11440.00	57.1 PK	74.0	-16.9	1.17 H	137	42.38	14.72
8	11440.00	43.8 AV	54.0	-10.2	1.17 H	137	29.08	14.72
9	#17160.00	64.7 PK	74.0	-9.3	1.22 H	106	41.08	23.62
10	#17160.00	51.6 AV	54.0	-2.4	1.22 H	106	27.98	23.62

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	*5720.00	111.2 PK			1.26 V	244	103.81	7.39
2	*5720.00	101.8 AV			1.26 V	244	94.41	7.39
3	#5850.00	56.1 PK	74.0	-17.9	1.22 V	240	48.85	7.25
4	#5850.00	43.4 AV	54.0	-10.6	1.22 V	240	36.15	7.25
5	#5860.00	57.6 PK	74.0	-16.4	1.16 V	240	50.38	7.22
6	#5860.00	44.8 AV	54.0	-9.2	1.16 V	240	37.58	7.22
7	11440.00	58.7 PK	74.0	-15.3	1.15 V	153	43.98	14.72
8	11440.00	45.6 AV	54.0	-8.4	1.15 V	153	30.88	14.72
9	#17160.00	65.1 PK	74.0	-8.9	1.37 V	234	41.48	23.62
10	#17160.00	52.0 AV	54.0	-2.0	1.37 V	234	28.38	23.62

REMARKS:

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

CHANNEL	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	#5715.00	63.7 PK	74.0	-10.3	1.46 H	110	56.32	7.38
2	#5715.00	50.1 AV	54.0	-3.9	1.46 H	110	42.72	7.38
3	#5725.00	75.4 PK	78.2	-2.8	1.46 H	110	68.02	7.38
4	*5745.00	107.0 PK			1.46 H	110	99.62	7.38
5	*5745.00	99.2 AV			1.46 H	110	91.82	7.38
6	11490.00	56.2 PK	74.0	-17.8	1.20 H	115	41.68	14.52
7	11490.00	43.1 AV	54.0	-10.9	1.20 H	115	28.58	14.52
8	#17235.00	62.5 PK	74.0	-11.5	1.41 H	128	38.74	23.76
9	#17235.00	49.8 AV	54.0	-4.2	1.41 H	128	26.04	23.76
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	#5715.00	64.7 PK	74.0	-9.3	1.20 V	244	57.32	7.38
2	#5715.00	50.9 AV	54.0	-3.1	1.20 V	244	43.52	7.38
3	#5725.00	76.0 PK	78.2	-2.2	1.20 V	244	68.62	7.38
4	*5745.00	110.1 PK			1.20 V	244	102.72	7.38
5	*5745.00	100.4 AV			1.20 V	244	93.02	7.38
6	11490.00	59.2 PK	74.0	-14.8	1.18 V	154	44.68	14.52
7	11490.00	45.8 AV	54.0	-8.2	1.18 V	154	31.28	14.52
8	#17235.00	64.8 PK	74.0	-9.2	1.34 V	239	41.04	23.76
9	#17235.00	51.7 AV	54.0	-2.3	1.34 V	239	27.94	23.76

REMARKS:

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

CHANNEL	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	110.3 PK			1.60 H	94	102.92	7.38
2	*5785.00	102.0 AV			1.60 H	94	94.62	7.38
3	11570.00	57.6 PK	74.0	-16.4	1.19 H	172	43.03	14.57
4	11570.00	44.4 AV	54.0	-9.6	1.19 H	172	29.83	14.57
5	#17355.00	64.2 PK	74.0	-9.8	1.41 H	126	40.14	24.06
6	#17355.00	51.2 AV	54.0	-2.8	1.41 H	126	27.14	24.06
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	111.0 PK			1.19 V	266	103.62	7.38
2	*5785.00	101.8 AV			1.19 V	266	94.42	7.38
3	11570.00	58.4 PK	74.0	-15.6	1.12 V	124	43.83	14.57
4	11570.00	45.5 AV	54.0	-8.5	1.12 V	124	30.93	14.57
5	#17355.00	65.1 PK	74.0	-8.9	1.31 V	235	41.04	24.06
6	#17355.00	51.9 AV	54.0	-2.1	1.31 V	235	27.84	24.06

REMARKS:

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

CHANNEL	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	110.2 PK			1.50 H	81	102.89	7.31
2	*5825.00	100.1 AV			1.50 H	81	92.79	7.31
3	#5850.00	70.6 PK	78.2	-7.6	1.53 H	101	63.35	7.25
4	#5860.00	62.5 PK	74.0	-11.5	1.56 H	83	55.28	7.22
5	#5860.00	49.9 AV	54.0	-4.1	1.56 H	83	42.68	7.22
6	11650.00	58.0 PK	74.0	-16.0	1.25 H	148	43.33	14.67
7	11650.00	44.7 AV	54.0	-9.3	1.25 H	148	30.03	14.67
8	#17475.00	64.5 PK	74.0	-9.5	1.36 H	104	40.48	24.02
9	#17475.00	51.0 AV	54.0	-3.0	1.36 H	104	26.98	24.02
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	110.9 PK			1.18 V	256	103.59	7.31
2	*5825.00	101.0 AV			1.18 V	256	93.69	7.31
3	#5850.00	71.7 PK	78.2	-6.5	1.11 V	265	64.45	7.25
4	#5860.00	64.3 PK	74.0	-9.7	1.12 V	244	57.08	7.22
5	#5860.00	51.1 AV	54.0	-2.9	1.12 V	244	43.88	7.22
6	11650.00	58.7 PK	74.0	-15.3	1.17 V	136	44.03	14.67
7	11650.00	45.5 AV	54.0	-8.5	1.17 V	136	30.83	14.67
8	#17475.00	64.9 PK	74.0	-9.1	1.37 V	237	40.88	24.02
9	#17475.00	51.9 AV	54.0	-2.1	1.37 V	237	27.88	24.02

REMARKS:

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

802.11ac (VHT40)

CHANNEL	TX Channel 38	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	5150.00	58.3 PK	74.0	-15.7	1.19 H	128	51.83	6.47
2	5150.00	48.2 AV	54.0	-5.8	1.19 H	128	41.73	6.47
3	*5190.00	104.1 PK			1.19 H	128	97.40	6.70
4	*5190.00	93.2 AV			1.19 H	128	86.50	6.70
5	#10380.00	54.4 PK	74.0	-19.6	1.14 H	123	40.19	14.21
6	#10380.00	40.6 AV	54.0	-13.4	1.14 H	123	26.39	14.21
7	15570.00	61.4 PK	74.0	-12.6	1.26 H	104	42.85	18.55
8	15570.00	49.3 AV	54.0	-4.7	1.26 H	104	30.75	18.55
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	5150.00	58.4 PK	74.0	-15.6	1.24 V	164	51.93	6.47
2	5150.00	48.8 AV	54.0	-5.2	1.24 V	164	42.33	6.47
3	*5190.00	104.5 PK			1.24 V	164	97.80	6.70
4	*5190.00	94.0 AV			1.24 V	164	87.30	6.70
5	#10380.00	55.4 PK	74.0	-18.6	1.20 V	147	41.19	14.21
6	#10380.00	42.4 AV	54.0	-11.6	1.20 V	147	28.19	14.21
7	15570.00	62.4 PK	74.0	-11.6	1.42 V	241	43.85	18.55
8	15570.00	49.6 AV	54.0	-4.4	1.42 V	241	31.05	18.55

REMARKS:

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

CHANNEL	TX Channel 46	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	*5230.00	105.4 PK			1.20 H	130	98.59	6.81
2	*5230.00	95.6 AV			1.20 H	130	88.79	6.81
3	#10380.00	55.2 PK	74.0	-18.8	1.11 H	116	40.99	14.21
4	#10380.00	41.3 AV	54.0	-12.7	1.11 H	116	27.09	14.21
5	15570.00	61.4 PK	74.0	-12.6	1.29 H	92	42.85	18.55
6	15570.00	49.6 AV	54.0	-4.4	1.29 H	92	31.05	18.55
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	*5230.00	106.8 PK			1.24 V	162	99.99	6.81
2	*5230.00	96.7 AV			1.24 V	162	89.89	6.81
3	#10460.00	57.4 PK	74.0	-16.6	1.18 V	154	43.35	14.05
4	#10460.00	44.3 AV	54.0	-9.7	1.18 V	154	30.25	14.05
5	15690.00	63.4 PK	74.0	-10.6	1.42 V	240	44.53	18.87
6	15690.00	50.6 AV	54.0	-3.4	1.42 V	240	31.73	18.87

REMARKS:

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

CHANNEL	TX Channel 54	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	*5270.00	104.9 PK			1.15 H	135	98.04	6.86
2	*5270.00	94.1 AV			1.15 H	135	87.24	6.86
3	#10540.00	55.3 PK	74.0	-18.7	1.12 H	102	41.57	13.73
4	#10540.00	41.4 AV	54.0	-12.6	1.12 H	102	27.67	13.73
5	15810.00	61.4 PK	74.0	-12.6	1.25 H	107	41.98	19.42
6	15810.00	49.8 AV	54.0	-4.2	1.25 H	107	30.38	19.42
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	*5270.00	105.4 PK			1.28 V	150	98.54	6.86
2	*5270.00	95.2 AV			1.28 V	150	88.34	6.86
3	#10540.00	57.4 PK	74.0	-16.6	1.21 V	165	43.67	13.73
4	#10540.00	44.2 AV	54.0	-9.8	1.21 V	165	30.47	13.73
5	15810.00	63.3 PK	74.0	-10.7	1.36 V	228	43.88	19.42
6	15810.00	50.6 AV	54.0	-3.4	1.36 V	228	31.18	19.42

REMARKS:

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

CHANNEL	TX Channel 62	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	*5310.00	101.9 PK			1.22 H	123	94.96	6.94
2	*5310.00	91.9 AV			1.22 H	123	84.96	6.94
3	5350.00	60.3 PK	74.0	-13.7	1.22 H	123	53.26	7.04
4	5350.00	49.3 AV	54.0	-4.7	1.22 H	123	42.26	7.04
5	10620.00	54.7 PK	74.0	-19.3	1.18 H	127	41.16	13.54
6	10620.00	41.0 AV	54.0	-13.0	1.18 H	127	27.46	13.54
7	15930.00	60.9 PK	74.0	-13.1	1.25 H	103	41.98	18.92
8	15930.00	49.0 AV	54.0	-5.0	1.25 H	103	30.08	18.92
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	102.5 PK			1.32 V	164	95.56	6.94
2	*5310.00	92.7 AV			1.32 V	164	85.76	6.94
3	5350.00	60.3 PK	74.0	-13.7	1.32 V	164	53.26	7.04
4	5350.00	48.4 AV	54.0	-5.6	1.32 V	164	41.36	7.04
5	10620.00	55.5 PK	74.0	-18.5	1.17 V	153	41.96	13.54
6	10620.00	42.3 AV	54.0	-11.7	1.17 V	153	28.76	13.54
7	15930.00	62.1 PK	74.0	-11.9	1.46 V	237	43.18	18.92
8	15930.00	49.3 AV	54.0	-4.7	1.46 V	237	30.38	18.92

REMARKS:

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

CHANNEL	TX Channel 102	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	#5470.00	64.3 PK	74.0	-9.7	1.22 H	300	57.01	7.29
2	#5470.00	48.6 AV	54.0	-5.4	1.22 H	300	41.31	7.29
3	*5510.00	100.5 PK			1.22 H	300	93.19	7.31
4	*5510.00	91.4 AV			1.22 H	300	84.09	7.31
5	11020.00	54.6 PK	74.0	-19.4	1.16 H	129	40.32	14.28
6	11020.00	41.0 AV	54.0	-13.0	1.16 H	129	26.72	14.28
7	#16530.00	60.8 PK	74.0	-13.2	1.31 H	94	39.57	21.23
8	#16530.00	48.9 AV	54.0	-5.1	1.31 H	94	27.67	21.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	67.9 PK	74.0	-6.1	1.25 V	266	60.61	7.29
2	#5470.00	49.6 AV	54.0	-4.4	1.25 V	266	42.31	7.29
3	*5510.00	102.7 PK			1.25 V	266	95.39	7.31
4	*5510.00	93.7 AV			1.25 V	266	86.39	7.31
5	11020.00	55.1 PK	74.0	-18.9	1.22 V	149	40.82	14.28
6	11020.00	42.0 AV	54.0	-12.0	1.22 V	149	27.72	14.28
7	#16530.00	62.2 PK	74.0	-11.8	1.48 V	243	40.97	21.23
8	#16530.00	49.5 AV	54.0	-4.5	1.48 V	243	28.27	21.23

REMARKS:

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

CHANNEL	TX Channel 118	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	*5590.00	105.3 PK			1.25 H	292	98.15	7.15
2	*5590.00	95.4 AV			1.25 H	292	88.25	7.15
3	11180.00	55.5 PK	74.0	-18.5	1.03 H	129	41.03	14.47
4	11180.00	41.5 AV	54.0	-12.5	1.03 H	129	27.03	14.47
5	#16770.00	61.7 PK	74.0	-12.3	1.30 H	86	39.67	22.03
6	#16770.00	50.2 AV	54.0	-3.8	1.30 H	86	28.17	22.03
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	*5590.00	106.6 PK			1.15 V	245	99.45	7.15
2	*5590.00	96.8 AV			1.15 V	245	89.65	7.15
3	11180.00	57.0 PK	74.0	-17.0	1.19 V	141	42.53	14.47
4	11180.00	44.0 AV	54.0	-10.0	1.19 V	141	29.53	14.47
5	#16770.00	63.1 PK	74.0	-10.9	1.36 V	255	41.07	22.03
6	#16770.00	50.3 AV	54.0	-3.7	1.36 V	255	28.27	22.03

REMARKS:

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

CHANNEL	TX Channel 134	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	*5670.00	106.4 PK			1.25 H	292	99.09	7.31
2	*5670.00	96.2 AV			1.25 H	292	88.89	7.31
3	#5725.00	60.3 PK	74.0	-13.7	1.25 H	292	52.92	7.38
4	#5725.00	47.3 AV	54.0	-6.7	1.25 H	292	39.92	7.38
5	11340.00	55.2 PK	74.0	-18.8	1.13 H	126	40.64	14.56
6	11340.00	41.1 AV	54.0	-12.9	1.13 H	126	26.54	14.56
7	#17010.00	61.6 PK	74.0	-12.4	1.30 H	79	38.21	23.39
8	#17010.00	50.0 AV	54.0	-4.0	1.30 H	79	26.61	23.39
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	*5670.00	107.1 PK			1.21 V	252	99.79	7.31
2	*5670.00	97.2 AV			1.21 V	252	89.89	7.31
3	#5725.00	61.6 PK	74.0	-12.4	1.21 V	252	54.22	7.38
4	#5725.00	48.7 AV	54.0	-5.3	1.21 V	252	41.32	7.38
5	11340.00	56.7 PK	74.0	-17.3	1.16 V	135	42.14	14.56
6	11340.00	43.9 AV	54.0	-10.1	1.16 V	135	29.34	14.56
7	#17010.00	63.3 PK	74.0	-10.7	1.41 V	256	39.91	23.39
8	#17010.00	50.5 AV	54.0	-3.5	1.41 V	256	27.11	23.39

REMARKS:

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

CHANNEL	TX Channel 142	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	*5710.00	106.9 PK			1.23 H	286	99.51	7.39
2	*5710.00	97.0 AV			1.23 H	286	89.61	7.39
3	#5850.00	56.4 PK	74.0	-17.6	1.23 H	286	49.15	7.25
4	#5850.00	43.2 AV	54.0	-10.8	1.23 H	286	35.95	7.25
5	#5860.00	56.4 PK	74.0	-17.6	1.23 H	286	49.18	7.22
6	#5860.00	43.2 AV	54.0	-10.8	1.23 H	286	35.98	7.22
7	11420.00	55.1 PK	74.0	-18.9	1.10 H	125	40.31	14.79
8	11420.00	41.2 AV	54.0	-12.8	1.10 H	125	26.41	14.79
9	#17130.00	61.2 PK	74.0	-12.8	1.35 H	67	37.89	23.31
10	#17130.00	49.6 AV	54.0	-4.4	1.35 H	67	26.29	23.31

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5710.00	107.3 PK			1.20 V	252	99.91	7.39
2	*5710.00	98.2 AV			1.20 V	252	90.81	7.39
3	#5850.00	57.3 PK	74.0	-16.7	1.20 V	252	50.05	7.25
4	#5850.00	44.3 AV	54.0	-9.7	1.20 V	252	37.05	7.25
5	#5860.00	57.1 PK	74.0	-16.9	1.20 V	252	49.88	7.22
6	#5860.00	44.5 AV	54.0	-9.5	1.20 V	252	37.28	7.22
7	11420.00	56.3 PK	74.0	-17.7	1.21 V	145	41.51	14.79
8	11420.00	43.7 AV	54.0	-10.3	1.21 V	145	28.91	14.79
9	#17130.00	63.2 PK	74.0	-10.8	1.40 V	252	39.89	23.31
10	#17130.00	50.2 AV	54.0	-3.8	1.40 V	252	26.89	23.31

REMARKS:

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

CHANNEL	TX Channel 151	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	#5715.00	67.3 PK	68.2	-0.9	1.50 H	73	59.92	7.38
2	#5725.00	71.3 PK	78.2	-6.9	1.50 H	73	63.92	7.38
3	*5755.00	103.3 PK			1.50 H	73	95.92	7.38
4	*5755.00	94.3 AV			1.50 H	73	86.92	7.38
5	11510.00	55.4 PK	74.0	-18.6	1.29 H	154	40.90	14.50
6	11510.00	42.3 AV	54.0	-11.7	1.29 H	154	27.80	14.50
7	#17265.00	61.3 PK	74.0	-12.7	1.41 H	120	37.78	23.52
8	#17265.00	48.6 AV	54.0	-5.4	1.41 H	120	25.08	23.52
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	#5715.00	68.0 PK	68.2	-0.2	1.22 V	258	60.62	7.38
2	#5725.00	72.2 PK	78.2	-6.0	1.22 V	258	64.82	7.38
3	*5755.00	104.9 PK			1.22 V	258	97.52	7.38
4	*5755.00	95.6 AV			1.22 V	258	88.22	7.38
5	11510.00	56.4 PK	74.0	-17.6	1.15 V	130	41.90	14.50
6	11510.00	43.2 AV	54.0	-10.8	1.15 V	130	28.70	14.50
7	#17265.00	62.4 PK	74.0	-11.6	1.30 V	250	38.88	23.52
8	#17265.00	49.6 AV	54.0	-4.4	1.30 V	250	26.08	23.52

REMARKS:

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

CHANNEL	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	105.4 PK			1.52 H	70	98.02	7.38
2	*5795.00	96.3 AV			1.52 H	70	88.92	7.38
3	#5850.00	62.1 PK	78.2	-16.1	1.52 H	70	54.85	7.25
4	#5860.00	58.4 PK	74.0	-15.6	1.52 H	70	51.18	7.22
5	#5860.00	47.6 AV	54.0	-6.4	1.52 H	70	40.38	7.22
6	11590.00	55.9 PK	74.0	-18.1	1.34 H	156	41.29	14.61
7	11590.00	42.8 AV	54.0	-11.2	1.34 H	156	28.19	14.61
8	#17385.00	61.6 PK	74.0	-12.4	1.43 H	131	37.11	24.49
9	#17385.00	49.4 AV	54.0	-4.6	1.43 H	131	24.91	24.49
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	106.3 PK			1.22 V	254	98.92	7.38
2	*5795.00	97.4 AV			1.22 V	254	90.02	7.38
3	#5850.00	63.8 PK	78.2	-14.4	1.22 V	254	56.55	7.25
4	#5860.00	59.5 PK	74.0	-14.5	1.22 V	254	52.28	7.22
5	#5860.00	48.1 AV	54.0	-5.9	1.22 V	254	40.88	7.22
6	11590.00	56.3 PK	74.0	-17.7	1.11 V	116	41.69	14.61
7	11590.00	43.1 AV	54.0	-10.9	1.11 V	116	28.49	14.61
8	#17385.00	62.7 PK	74.0	-11.3	1.30 V	250	38.21	24.49
9	#17385.00	49.9 AV	54.0	-4.1	1.30 V	250	25.41	24.49

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 42	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	5150.00	59.9 PK	74.0	-14.1	1.21 H	127	53.43	6.47
2	5150.00	46.5 AV	54.0	-7.5	1.21 H	127	40.03	6.47
3	*5210.00	99.5 PK			1.21 H	127	92.72	6.78
4	*5210.00	89.8 AV			1.21 H	127	83.02	6.78
5	#10420.00	53.7 PK	74.0	-20.3	1.20 H	129	39.55	14.15
6	#10420.00	39.6 AV	54.0	-14.4	1.20 H	129	25.45	14.15
7	15630.00	60.1 PK	74.0	-13.9	1.28 H	90	41.58	18.52
8	15630.00	48.3 AV	54.0	-5.7	1.28 H	90	29.78	18.52
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	5150.00	56.4 PK	74.0	-17.6	1.12 V	186	49.93	6.47
2	5150.00	46.0 AV	54.0	-8.0	1.12 V	186	39.53	6.47
3	*5210.00	99.6 PK			1.12 V	186	92.82	6.78
4	*5210.00	88.8 AV			1.12 V	186	82.02	6.78
5	#10420.00	54.3 PK	74.0	-19.7	1.22 V	166	40.15	14.15
6	#10420.00	41.3 AV	54.0	-12.7	1.22 V	166	27.15	14.15
7	15630.00	60.6 PK	74.0	-13.4	1.42 V	232	42.08	18.52
8	15630.00	48.4 AV	54.0	-5.6	1.42 V	232	29.88	18.52

REMARKS:

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

CHANNEL	TX Channel 58	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	*5290.00	97.7 PK			1.23 H	123	90.81	6.89
2	*5290.00	87.9 AV			1.23 H	123	81.01	6.89
3	5350.00	58.9 PK	74.0	-15.1	1.23 H	123	51.86	7.04
4	5350.00	46.4 AV	54.0	-7.6	1.23 H	123	39.36	7.04
5	#10580.00	53.4 PK	74.0	-20.6	1.14 H	116	39.87	13.53
6	#10580.00	39.2 AV	54.0	-14.8	1.14 H	116	25.67	13.53
7	15870.00	60.3 PK	74.0	-13.7	1.29 H	88	41.15	19.15
8	15870.00	48.6 AV	54.0	-5.4	1.29 H	88	29.45	19.15
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	*5290.00	98.3 PK			1.19 V	216	91.41	6.89
2	*5290.00	88.6 AV			1.19 V	216	81.71	6.89
3	5350.00	58.0 PK	74.0	-16.0	1.19 V	216	50.96	7.04
4	5350.00	46.4 AV	54.0	-7.6	1.19 V	216	39.36	7.04
5	#10580.00	54.3 PK	74.0	-19.7	1.20 V	171	40.77	13.53
6	#10580.00	41.2 AV	54.0	-12.8	1.20 V	171	27.67	13.53
7	15870.00	60.7 PK	74.0	-13.3	1.48 V	238	41.55	19.15
8	15870.00	48.7 AV	54.0	-5.3	1.48 V	238	29.55	19.15

REMARKS:

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

CHANNEL	TX Channel 106	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	#5470.00	61.4 PK	74.0	-12.6	1.21 H	139	54.11	7.29
2	#5470.00	48.3 AV	54.0	-5.7	1.21 H	139	41.01	7.29
3	*5530.00	98.3 PK			1.21 H	139	91.03	7.27
4	*5530.00	89.4 AV			1.21 H	139	82.13	7.27
5	11060.00	53.7 PK	74.0	-20.3	1.18 H	108	39.35	14.35
6	11060.00	39.4 AV	54.0	-14.6	1.18 H	108	25.05	14.35
7	#16590.00	60.6 PK	74.0	-13.4	1.27 H	89	38.86	21.74
8	#16590.00	49.0 AV	54.0	-5.0	1.27 H	89	27.26	21.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	62.3 PK	74.0	-11.7	1.22 V	265	55.01	7.29
2	#5470.00	49.5 AV	54.0	-4.5	1.22 V	265	42.21	7.29
3	*5530.00	99.8 PK			1.22 V	265	92.53	7.27
4	*5530.00	90.6 AV			1.22 V	265	83.33	7.27
5	11060.00	53.9 PK	74.0	-20.1	1.18 V	187	39.55	14.35
6	11060.00	40.9 AV	54.0	-13.1	1.18 V	187	26.55	14.35
7	#16590.00	61.1 PK	74.0	-12.9	1.53 V	232	39.36	21.74
8	#16590.00	49.0 AV	54.0	-5.0	1.53 V	232	27.26	21.74

REMARKS:

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

CHANNEL	TX Channel 122	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	*5610.00	102.1 PK			1.20 H	129	94.95	7.15
2	*5610.00	93.3 AV			1.20 H	129	86.15	7.15
3	#5725.00	58.3 PK	74.0	-15.7	1.20 H	129	50.92	7.38
4	#5725.00	47.2 AV	54.0	-6.8	1.20 H	129	39.82	7.38
5	11220.00	54.0 PK	74.0	-20.0	1.18 H	131	39.56	14.44
6	11220.00	39.6 AV	54.0	-14.4	1.18 H	131	25.16	14.44
7	#16830.00	60.5 PK	74.0	-13.5	1.31 H	75	38.32	22.18
8	#16830.00	48.6 AV	54.0	-5.4	1.31 H	75	26.42	22.18
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	*5610.00	103.6 PK			1.21 V	252	96.45	7.15
2	*5610.00	94.6 AV			1.21 V	252	87.45	7.15
3	#5725.00	60.4 PK	74.0	-13.6	1.21 V	252	53.02	7.38
4	#5725.00	48.8 AV	54.0	-5.2	1.21 V	252	41.42	7.38
5	11220.00	54.4 PK	74.0	-19.6	1.19 V	160	39.96	14.44
6	11220.00	41.0 AV	54.0	-13.0	1.19 V	160	26.56	14.44
7	#16830.00	60.3 PK	74.0	-13.7	1.46 V	245	38.12	22.18
8	#16830.00	48.5 AV	54.0	-5.5	1.46 V	245	26.32	22.18

REMARKS:

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

CHANNEL	TX Channel 138	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	*5690.00	104.0 PK			1.20 H	130	96.63	7.37
2	*5690.00	93.2 AV			1.20 H	130	85.83	7.37
3	#5850.00	55.4 PK	74.0	-18.6	1.20 H	130	48.15	7.25
4	#5850.00	43.2 AV	54.0	-10.8	1.20 H	130	35.95	7.25
5	#5860.00	56.2 PK	74.0	-17.8	1.20 H	130	48.98	7.22
6	#5860.00	42.9 AV	54.0	-11.1	1.20 H	130	35.68	7.22
7	11380.00	53.3 PK	74.0	-20.7	1.15 H	113	38.54	14.76
8	11380.00	39.1 AV	54.0	-14.9	1.15 H	113	24.34	14.76
9	#17070.00	60.0 PK	74.0	-14.0	1.29 H	85	36.87	23.13
10	#17070.00	48.6 AV	54.0	-5.4	1.29 H	85	25.47	23.13

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	*5690.00	105.1 PK			1.19 V	253	97.73	7.37
2	*5690.00	94.8 AV			1.19 V	253	87.43	7.37
3	#5850.00	56.7 PK	74.0	-17.3	1.19 V	253	49.45	7.25
4	#5850.00	44.3 AV	54.0	-9.7	1.19 V	253	37.05	7.25
5	#5860.00	57.5 PK	74.0	-16.5	1.19 V	253	50.28	7.22
6	#5860.00	44.6 AV	54.0	-9.4	1.19 V	253	37.38	7.22
7	11380.00	53.8 PK	74.0	-20.2	1.20 V	173	39.04	14.76
8	11380.00	40.8 AV	54.0	-13.2	1.20 V	173	26.04	14.76
9	#17070.00	60.2 PK	74.0	-13.8	1.47 V	223	37.07	23.13
10	#17070.00	48.2 AV	54.0	-5.8	1.47 V	223	25.07	23.13

REMARKS:

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

CHANNEL	TX Channel 155	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	#5715.00	66.5 PK	74.0	-7.5	1.50 H	72	59.12	7.38
2	#5715.00	50.3 AV	54.0	-3.7	1.50 H	72	42.92	7.38
3	#5725.00	68.2 PK	78.2	-10.0	1.50 H	72	60.82	7.38
4	*5775.00	101.4 PK			1.50 H	72	94.02	7.38
5	*5775.00	91.3 AV			1.50 H	72	83.92	7.38
6	#5850.00	58.9 PK	78.2	-19.3	1.50 H	72	51.65	7.25
7	#5860.00	57.2 PK	74.0	-16.8	1.50 H	72	49.98	7.22
8	#5860.00	45.6 AV	54.0	-8.4	1.50 H	72	38.38	7.22
9	11550.00	55.0 PK	74.0	-19.0	1.30 H	144	40.45	14.55
10	11550.00	41.9 AV	54.0	-12.1	1.30 H	144	27.35	14.55
11	#17325.00	61.9 PK	74.0	-12.1	1.41 H	124	38.28	23.62
12	#17325.00	49.1 AV	54.0	-4.9	1.41 H	124	25.48	23.62

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	#5715.00	67.8 PK	74.0	-6.2	1.22 V	250	60.42	7.38
2	#5715.00	51.8 AV	54.0	-2.2	1.22 V	250	44.42	7.38
3	#5725.00	69.9 PK	78.2	-8.3	1.22 V	250	62.52	7.38
4	*5775.00	102.2 PK			1.22 V	250	94.82	7.38
5	*5775.00	92.1 AV			1.22 V	250	84.72	7.38
6	#5850.00	60.6 PK	78.2	-17.6	1.22 V	250	53.35	7.25
7	#5860.00	59.1 PK	74.0	-14.9	1.22 V	250	51.88	7.22
8	#5860.00	47.1 AV	54.0	-6.9	1.22 V	250	39.88	7.22
9	11550.00	55.3 PK	74.0	-18.7	1.10 V	120	40.75	14.55
10	11550.00	42.4 AV	54.0	-11.6	1.10 V	120	27.85	14.55
11	#17325.00	61.4 PK	74.0	-12.6	1.28 V	244	37.78	23.62
12	#17325.00	49.0 AV	54.0	-5.0	1.28 V	244	25.38	23.62

REMARKS:

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

Below 1GHz Data

802.11a

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	215.28	39.5 QP	43.5	-4.1	1.45 H	66	55.32	-15.87
2	230.71	39.2 QP	46.0	-6.8	1.24 H	204	54.71	-15.47
3	287.72	39.3 QP	46.0	-6.7	1.24 H	304	51.76	-12.42
4	323.42	41.2 QP	46.0	-4.8	1.24 H	244	52.48	-11.24
5	431.74	36.5 QP	46.0	-9.5	1.45 H	304	44.76	-8.22
6	896.40	38.5 QP	46.0	-7.5	1.24 H	77	37.91	0.63
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	134.84	31.1 QP	43.5	-12.4	1.10 V	201	44.76	-13.64
2	215.99	38.8 QP	43.5	-4.7	1.42 V	164	54.62	-15.83
3	288.87	36.2 QP	46.0	-9.8	1.42 V	310	48.61	-12.40
4	322.91	41.6 QP	46.0	-4.4	1.24 V	245	52.88	-11.26
5	359.97	42.5 QP	46.0	-3.5	1.24 V	301	53.06	-10.55
6	430.75	39.6 QP	46.0	-6.4	1.57 V	69	47.85	-8.24

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	847124/029	Oct. 22, 2014	Oct. 21, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 15, 2014	Sep. 14, 2015
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015
RF Cable (JYEBAO)	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: May 08, 2015

4.2.3 Test Procedures

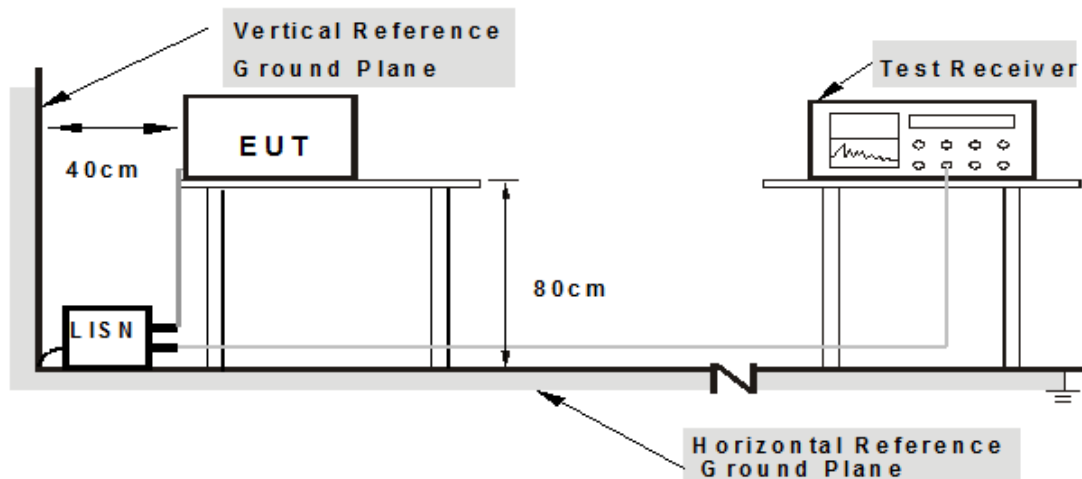
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.2.6.

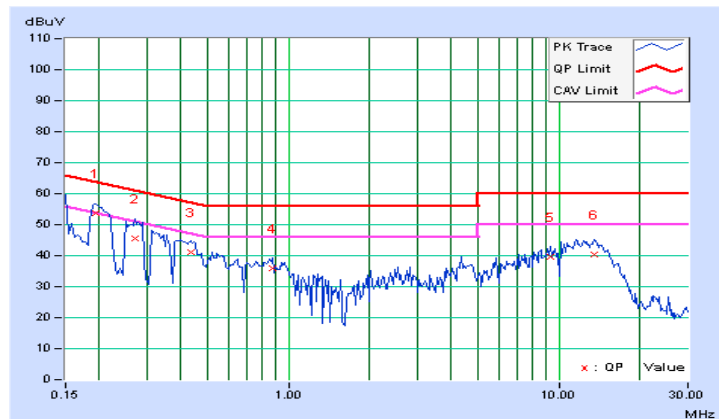
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19297	0.09	53.76	39.31	53.85	39.40	63.91	53.91	-10.06	-14.51
2	0.27109	0.09	45.45	31.57	45.54	31.66	61.08	51.08	-15.54	-19.42
3	0.43516	0.10	41.05	23.18	41.15	23.28	57.15	47.15	-16.00	-23.87
4	0.86875	0.12	35.70	17.94	35.82	18.06	56.00	46.00	-20.18	-27.94
5	9.34375	0.42	39.25	28.83	39.67	29.25	60.00	50.00	-20.33	-20.75
6	13.58984	0.54	39.74	30.70	40.28	31.24	60.00	50.00	-19.72	-18.76

REMARKS:

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

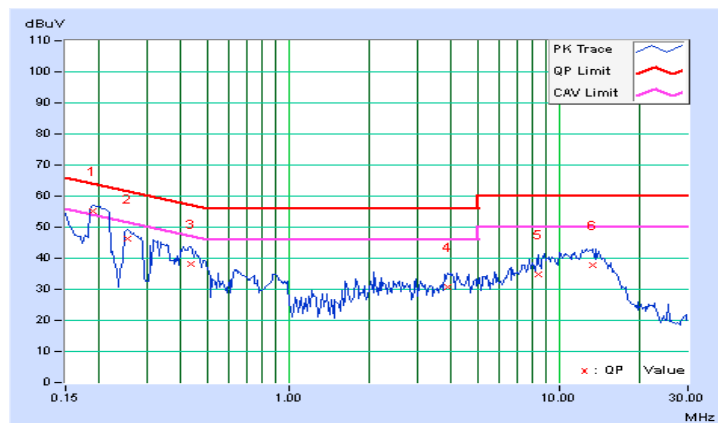


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	0.08	55.20	38.25	55.28	38.33	64.08	54.08	-8.80	-15.75
2	0.25547	0.09	46.16	31.99	46.25	32.08	61.58	51.58	-15.33	-19.50
3	0.43516	0.10	37.96	23.24	38.06	23.34	57.15	47.15	-19.09	-23.81
4	3.86719	0.23	30.52	21.32	30.75	21.55	56.00	46.00	-25.25	-24.45
5	8.41016	0.40	34.58	25.79	34.98	26.19	60.00	50.00	-25.02	-23.81
6	13.26563	0.55	37.20	29.31	37.75	29.86	60.00	50.00	-22.25	-20.14

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3		√	1 Watt (30 dBm)

Note: *B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

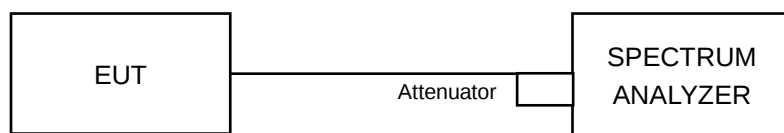
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

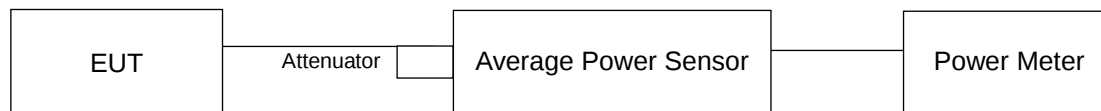
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

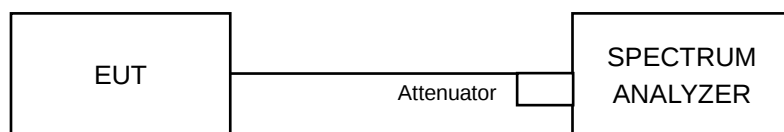
For channel straddling 5725MHz:



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5725MHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 05, 2014	July 04, 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 13, 2015

For other channels:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	0824006	May 22, 2014	May 21, 2015
Power sensor Anritsu	MA2411B	0738172	May 22, 2014	May 21, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : May 13, 2015

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 05, 2014	July 04, 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 13, 2015

4.3.4 Test Procedures

FOR AVERAGE POWER MEASUREMENT

For channel straddling 5725MHz:

Follow FCC KDB 789033 UNII test procedure:

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW = 1MHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Number of points in sweep $\geq 2 \text{ Span} / \text{RBW}$.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

For other channels:

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

FOR 26dB OCCUPIED BANDWIDTH

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software (QCRT Version 3.0 29.0) provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

802.11a

POWER OUTPUT

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.01	14.62	54.15	17.34	23.91	Pass
40	5200	15.09	16.20	73.972	18.69	23.91	Pass
48	5240	15.35	16.31	77.033	18.87	23.91	Pass
52	5260	15.18	15.92	72.045	18.58	23.80	Pass
60	5300	15.35	15.86	72.825	18.62	23.80	Pass
64	5320	13.35	13.73	45.232	16.55	23.66	Pass
100	5500	13.94	13.50	47.161	16.74	21.97	Pass
120	5600	14.92	15.48	66.364	18.22	22.15	Pass
140	5700	13.31	13.30	42.809	16.32	21.99	Pass
*144 (UNII-2c Band)	5720	11.59	11.60	38.398	15.84	20.81	Pass
*144 (UNII-3 Band)	5720	4.10	4.69	7.332	8.65	28.23	Pass
149	5745	13.88	13.62	47.448	16.76	28.23	Pass
157	5785	14.96	15.35	65.61	18.17	28.23	Pass
165	5825	14.96	15.02	63.102	18.00	28.23	Pass

* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	45.73	16.6

Note: The total power was calculated through formula and record the value for reference only.

Note:

- 5150~5250MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to $24 - (6.09 - 6) = 23.91\text{dBm}$.
- 5250~5350MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.09-6)".
- 5470~5725MHz: The directional gain is 7.77dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.77-6)".
- 5725~5850MHz: The directional gain is 7.77dBi > 6dBi, , therefore the limit needs to reduce, so the power limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
- For CH144: Total power (dBm)= Average power <Chain 0 +1>(dBm) + Duty Factor (1.24dB)

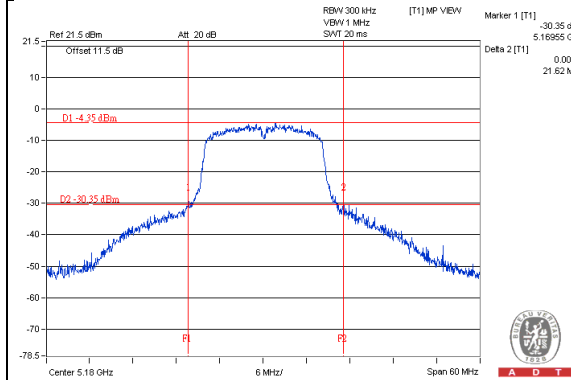
26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	21.62	20.07
40	5200	37.36	35.06
48	5240	33.73	23.95
52	5260	37.10	28.92
60	5300	36.61	22.43
64	5320	21.65	19.95
100	5500	20.89	19.14
120	5600	26.03	20.16
140	5700	19.66	19.10
144 (UNII-2c Band)	5720	19.28	16.57

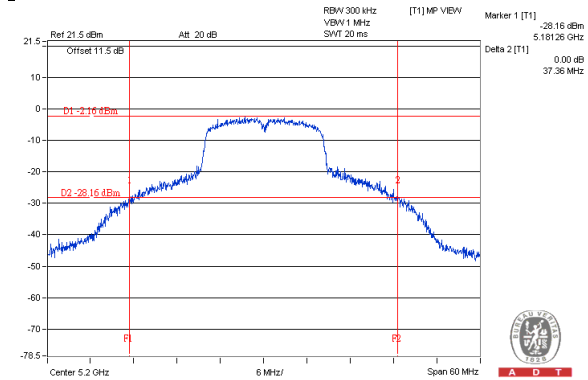
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	28.92	25.61 > 24
60	5300	22.43	24.5 > 24
64	5320	19.95	23.99 < 24
100	5500	19.14	23.81 < 24
120	5600	20.16	24.04 < 24
140	5700	19.10	23.81 < 24
144 (UNII-2c Band)	5720	16.57	23.19 < 24

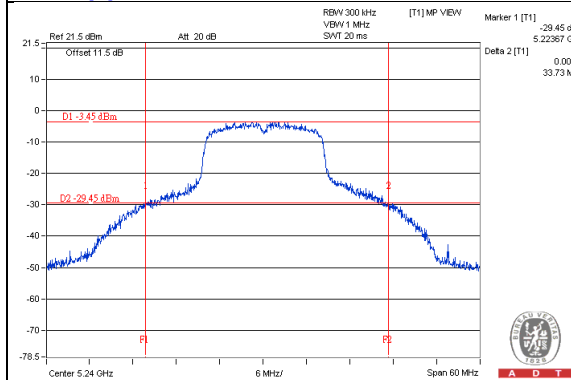
Chain(0) : CH36



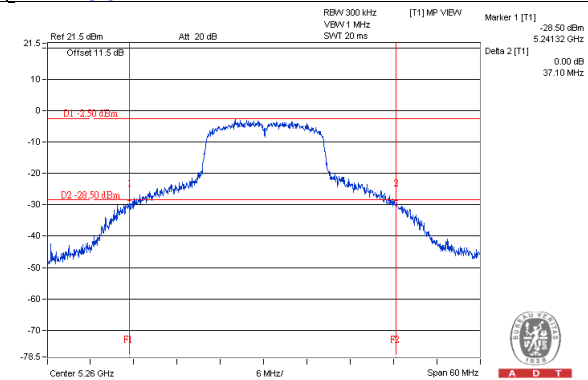
Chain(0) : CH40



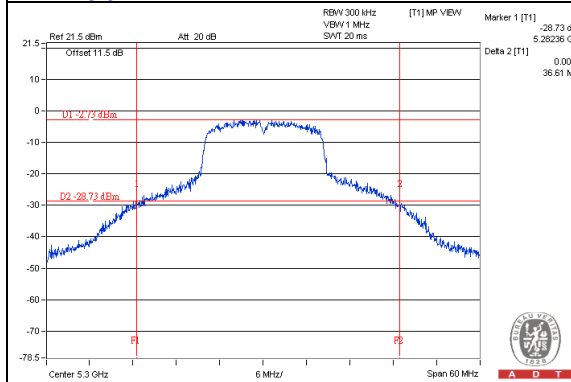
Chain(0) : CH48



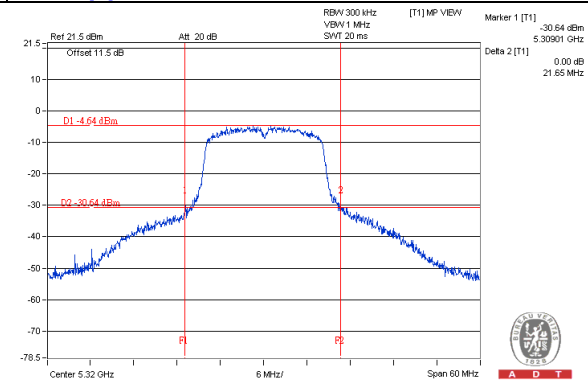
Chain(0) : CH52



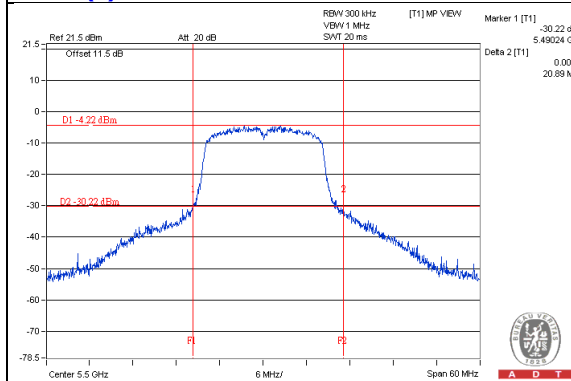
Chain(0) : CH60



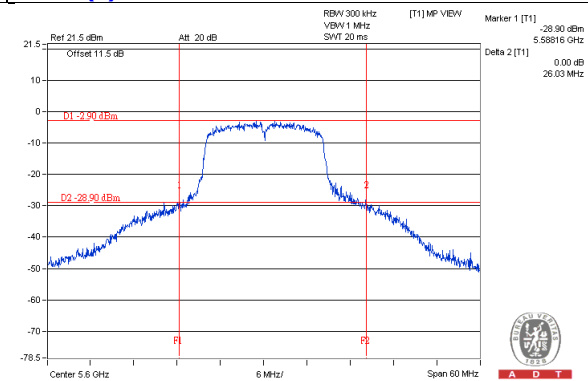
Chain(0) : CH64



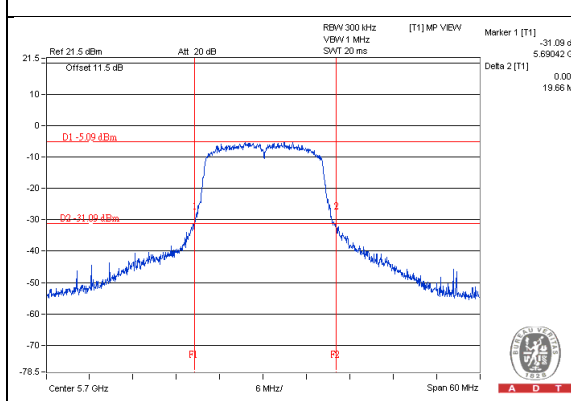
Chain(0) : CH100



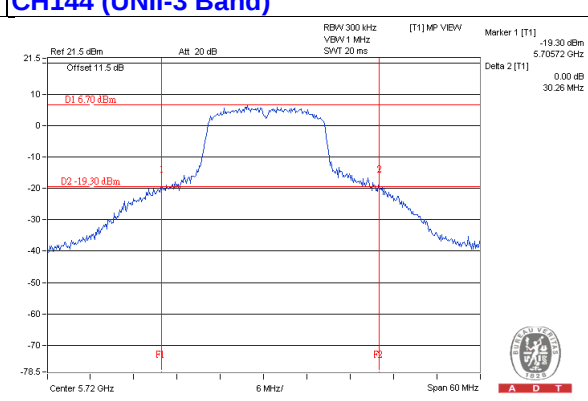
Chain(0) : CH120



Chain(0) : CH140



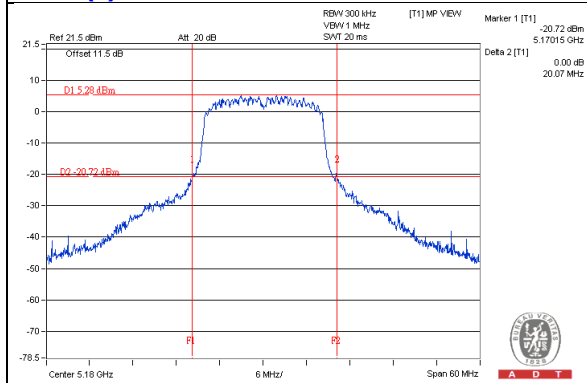
Chain(0) : CH144 (UNII-2c Band) / Chain(0) : CH144 (UNII-3 Band)



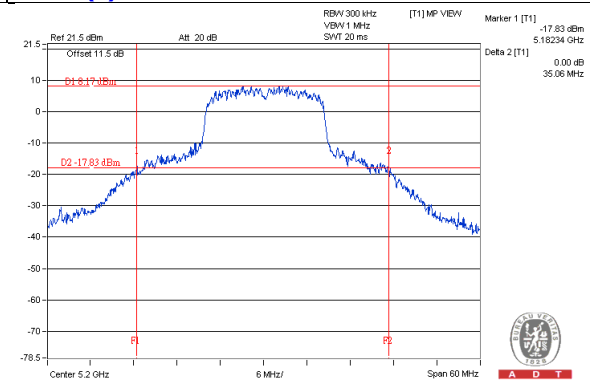
NOTE:

For CH144 (UNII-2c Band) = 5725MHz - Marker 1

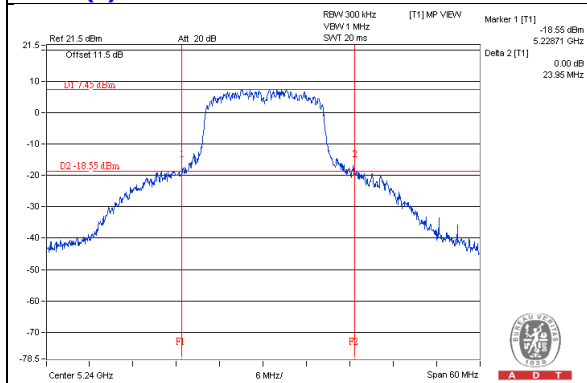
Chain(1) : CH36



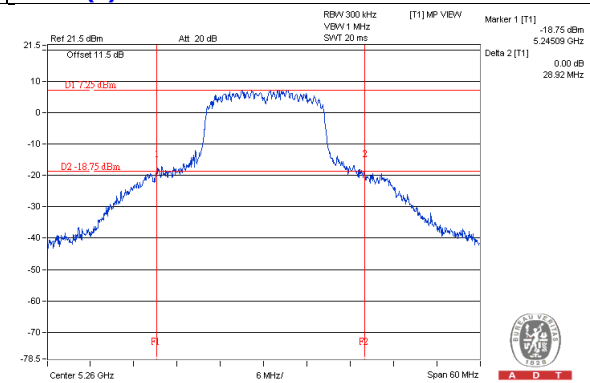
Chain(1) : CH40



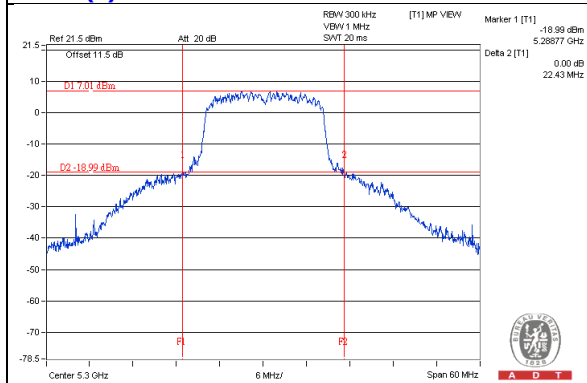
Chain(1) : CH48



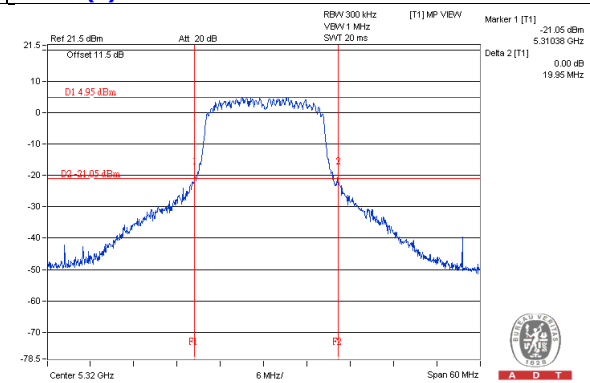
Chain(1) : CH52



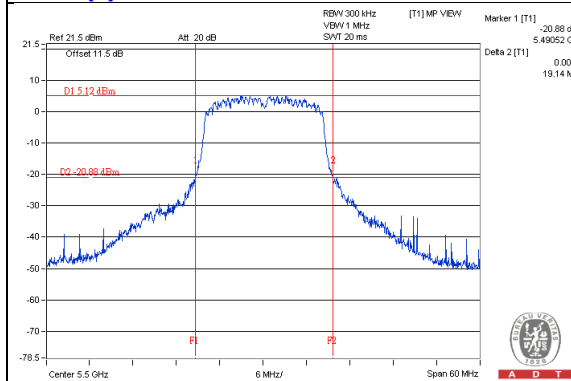
Chain(1) : CH60



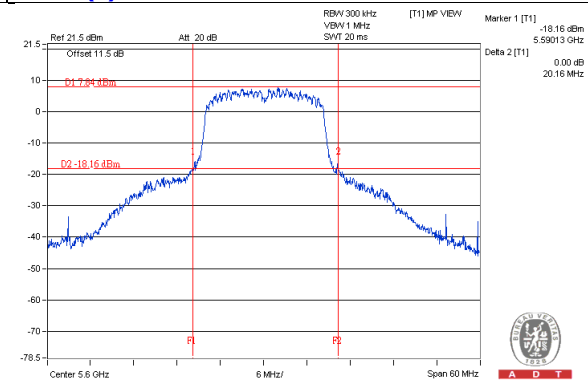
Chain(1) : CH64



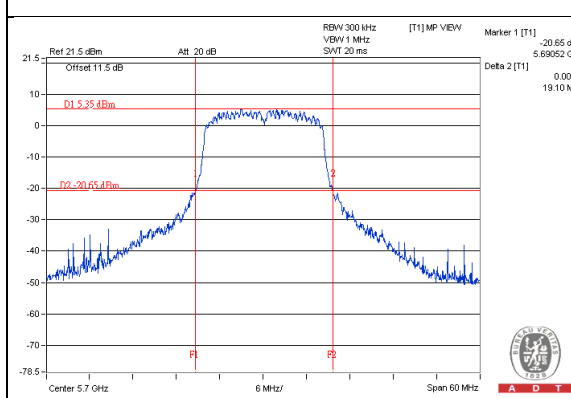
Chain(1) : CH100



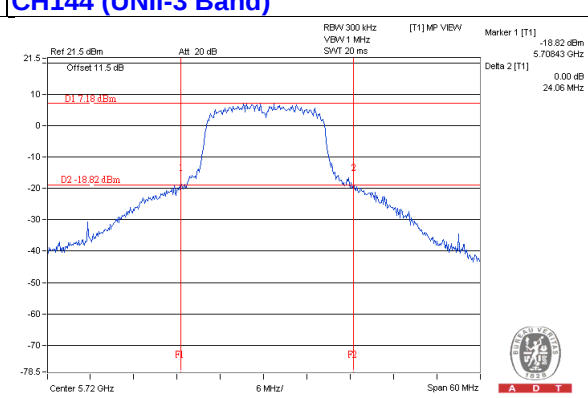
Chain(1) : CH120



Chain(1) : CH140



Chain(1) : CH144 (UNII-2c Band) / Chain(1) : CH144 (UNII-3 Band)



NOTE:

For CH144 (UNII-2c Band) = 5725MHz - Marker 1

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
144	5720	14.98	15.74	68.974	18.39

Note: The total power was calculated through formula and record the value for reference only.

802.11ac (VHT20)

POWER OUTPUT

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.01	14.35	52.404	17.19	23.91	Pass
40	5200	14.12	15.01	57.519	17.60	23.91	Pass
48	5240	14.15	15.75	63.586	18.03	23.91	Pass
52	5260	14.50	15.42	63.018	17.99	23.91	Pass
60	5300	14.25	14.62	55.58	17.45	23.91	Pass
64	5320	14.14	14.02	51.177	17.09	23.91	Pass
100	5500	13.85	13.01	44.265	16.46	22.23	Pass
120	5600	14.12	14.23	52.308	17.19	22.23	Pass
140	5700	13.09	13.01	40.369	16.06	22.23	Pass
*144 (UNII-2c Band)	5720	11.01	10.26	31.399	14.97	21.02	Pass
*144 (UNII-3 Band)	5720	4.18	3.20	6.361	8.04	28.23	Pass
149	5745	13.75	13.02	43.759	16.41	28.23	Pass
157	5785	14.12	14.05	51.233	17.10	28.23	Pass
165	5825	14.22	14.46	54.349	17.35	28.23	Pass

* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	37.76	15.77

Note: The total power was calculated through formula and record the value for reference only.

Note:

- 5150~5250MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to $24 - (6.09 - 6) = 23.91\text{dBm}$.
 - 5250~5350MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.09-6)".
 - 5470~5725MHz: The directional gain is 7.77dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.77-6)".
 - 5725~5850MHz: The directional gain is 7.77dBi > 6dBi, , therefore the limit needs to reduce, so the power limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
- For CH144: Total power (dBm)= Average power <Chain 0 +1>(dBm) + Duty Factor (1.31dB)

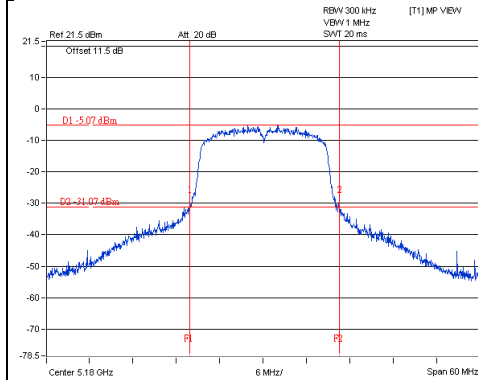
26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	20.78	20.67
40	5200	28.96	21.54
48	5240	36.99	22.48
52	5260	32.41	21.43
60	5300	32.34	21.27
64	5320	27.43	20.74
100	5500	20.91	20.21
120	5600	20.72	20.50
140	5700	20.51	20.25
144 (UNII-2c Band)	5720	15.78	15.12

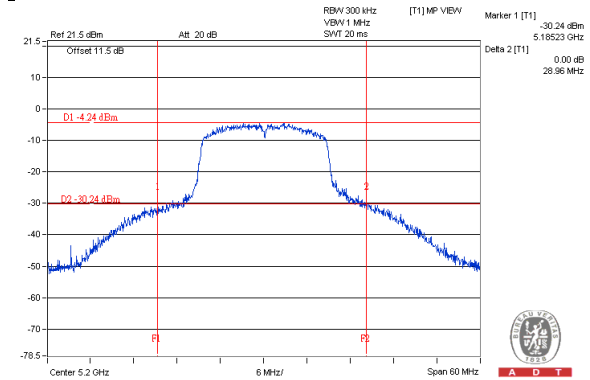
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.43	24.31 > 24
60	5300	21.27	24.27 > 24
64	5320	20.74	24.16 > 24
100	5500	20.21	24.05 > 24
120	5600	20.50	24.11 > 24
140	5700	20.25	24.06 > 24
144 (UNII-2c Band)	5720	15.12	22.79 < 24

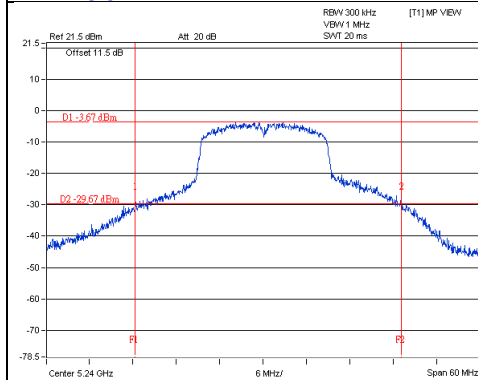
Chain(0) : CH36



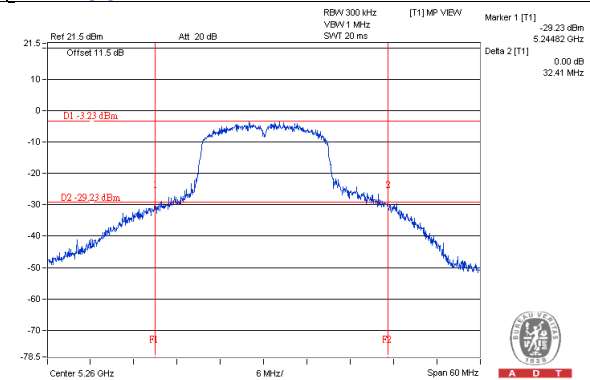
Chain(0) : CH40



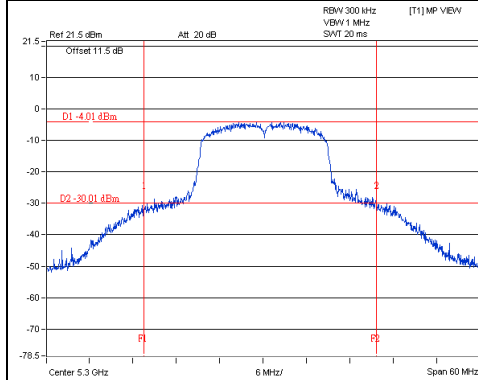
Chain(0) : CH48



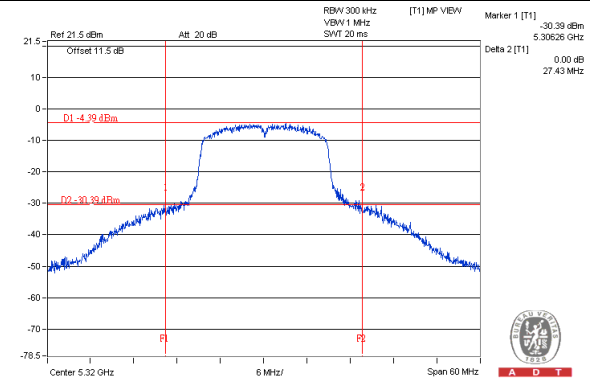
Chain(0) : CH52



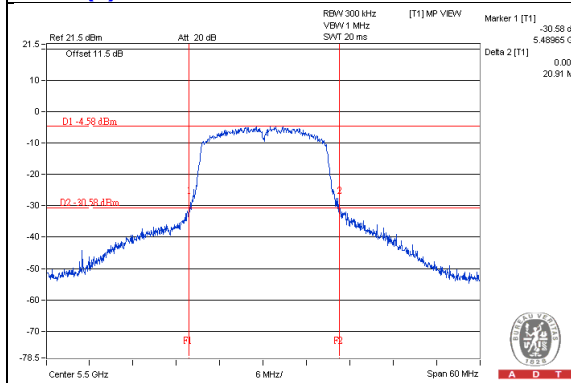
Chain(0) : CH60



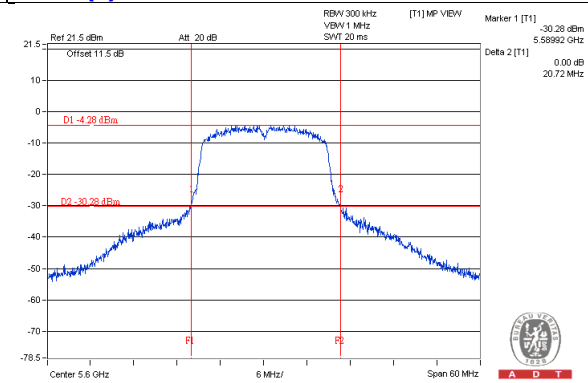
Chain(0) : CH64



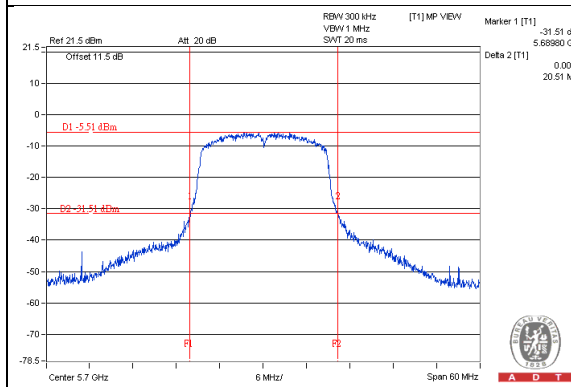
Chain(0) : CH100



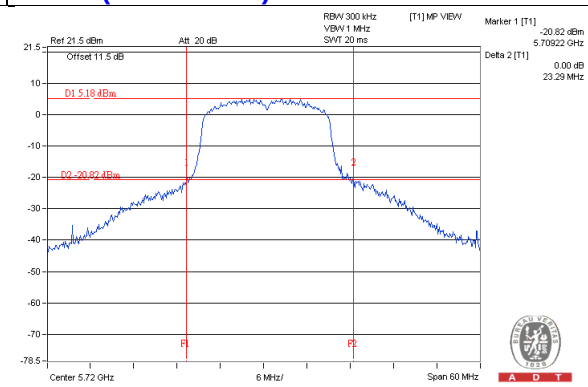
Chain(0) : CH120



Chain(0) : CH140



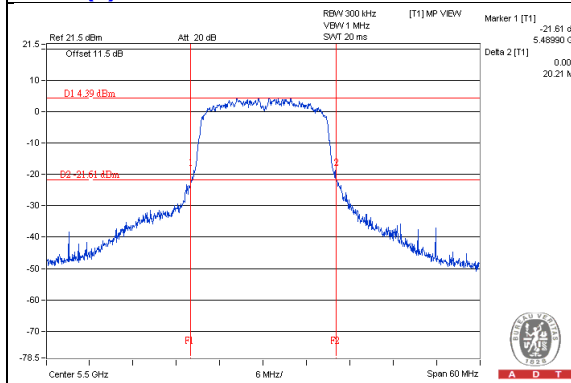
Chain(0) : CH144 (UNII-2c Band) / Chain(0) : CH144 (UNII-3 Band)



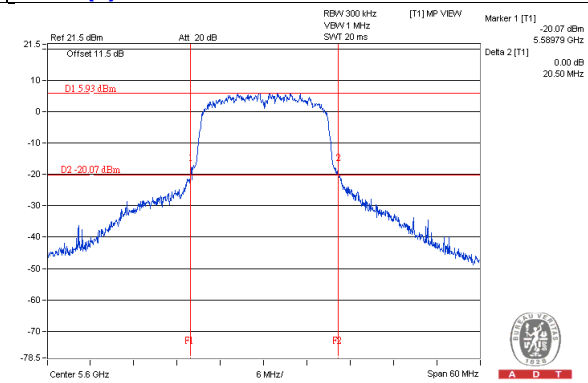
NOTE:

For CH144 (UNII-2c Band) = 5725MHz - Marker 1

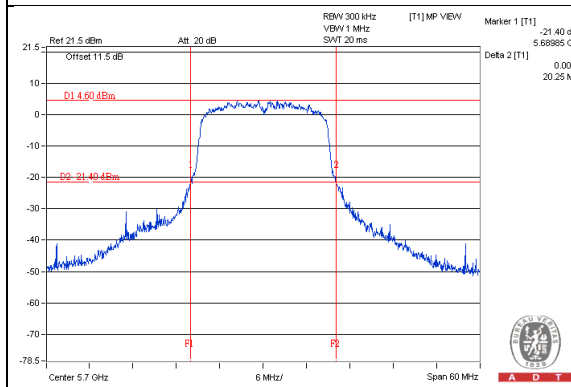
Chain(1) : CH100



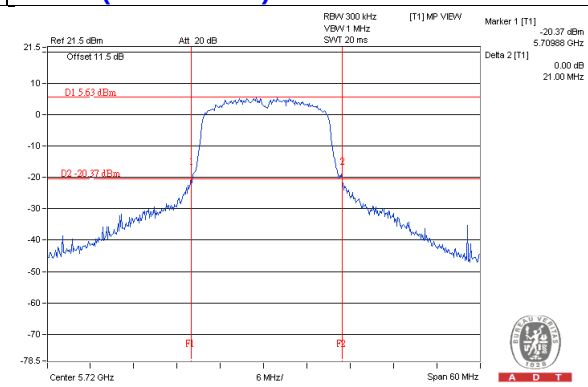
Chain(1) : CH120



Chain(1) : CH140



Chain(1) : CH144 (UNII-2c Band) / Chain(1) : CH144 (UNII-3 Band)



NOTE:

For CH144 (UNII-2c Band) = 5725MHz - Marker 1

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
144	5720	14.45	14.98	59.338	17.73

Note: The total power was calculated through formula and record the value for reference only.

802.11ac (VHT40)

POWER OUTPUT

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.06	10.21	20.634	13.15	23.91	Pass
46	5230	13.45	14.02	47.366	16.75	23.91	Pass
54	5270	13.56	13.55	45.345	16.57	23.91	Pass
62	5310	10.94	10.41	23.407	13.69	23.91	Pass
102	5510	11.20	10.82	25.261	14.02	22.23	Pass
118	5590	13.32	13.42	43.457	16.38	22.23	Pass
134	5670	13.47	14.00	47.352	16.75	22.23	Pass
*142 (UNII-2c Band)	5710	10.35	10.63	39.024	15.91	22.23	Pass
*142 (UNII-3 Band)	5710	-1.59	-1.85	2.3458	3.70	28.23	Pass
151	5755	11.72	11.45	28.823	14.60	28.23	Pass
159	5795	13.02	13.18	40.842	16.11	28.23	Pass

* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	41.3698	16.17

Note: The total power was calculated through formula and record the value for reference only.

Note:

- 5150~5250MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to $24 - (6.09 - 6) = 23.91\text{dBm}$.
 - 5250~5350MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.09-6)".
 - 5470~5725MHz: The directional gain is 7.77dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.77-6)".
 - 5725~5850MHz: The directional gain is 7.77dBi > 6dBi, , therefore the limit needs to reduce, so the power limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
- For CH142: Total power (dBm)= Average power <Chain 0 +1>(dBm) + Duty Factor (2.41dB)

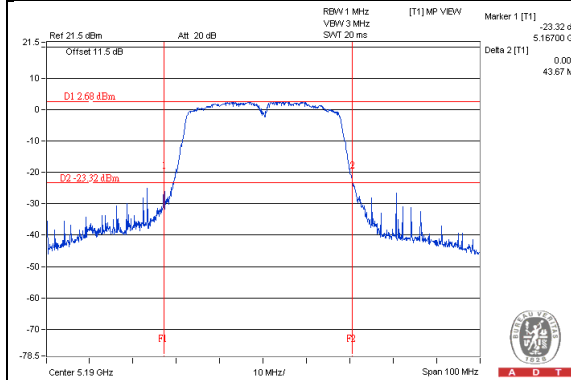
26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	43.67	48.20
46	5230	46.16	41.71
54	5270	56.07	41.65
62	5310	45.35	42.85
102	5510	41.50	41.58
118	5590	41.90	42.73
134	5670	44.17	42.27
142 (UNII-2c Band)	5710	36.27	35.78

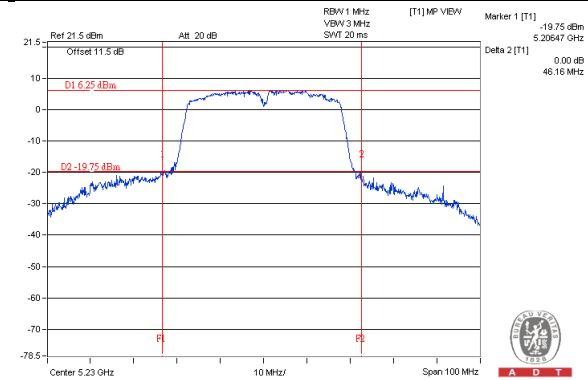
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.65	27.19 > 24
62	5310	42.85	27.31 > 24
102	5510	41.50	27.18 > 24
110	5550	41.90	27.22 > 24
134	5670	42.27	27.26 > 24
142 (UNII-2c Band)	5710	35.78	26.53 > 24

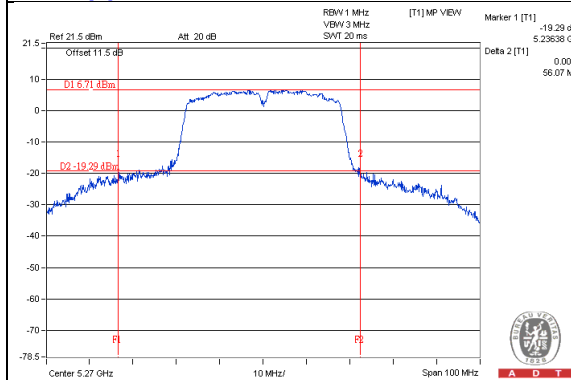
Chain(0) : CH38



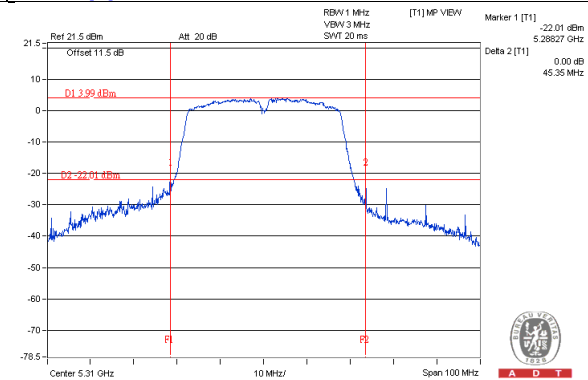
Chain(0) : CH46



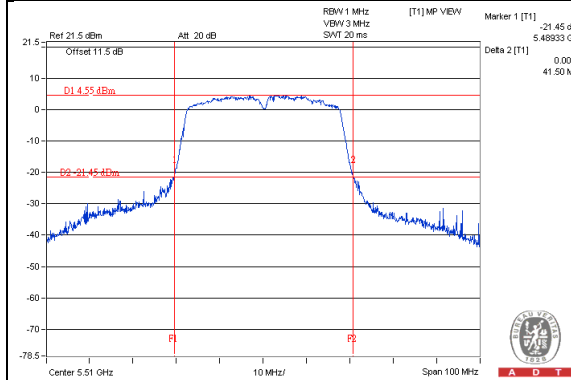
Chain(0) : CH54



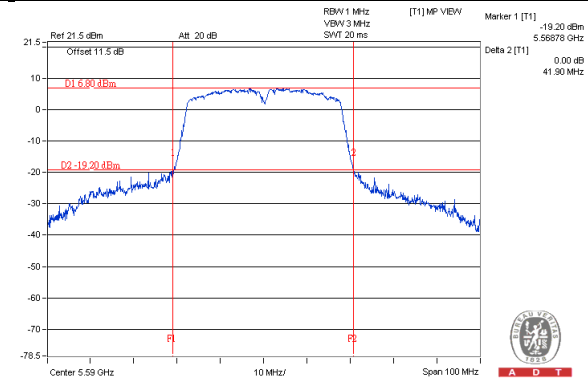
Chain(0) : CH62



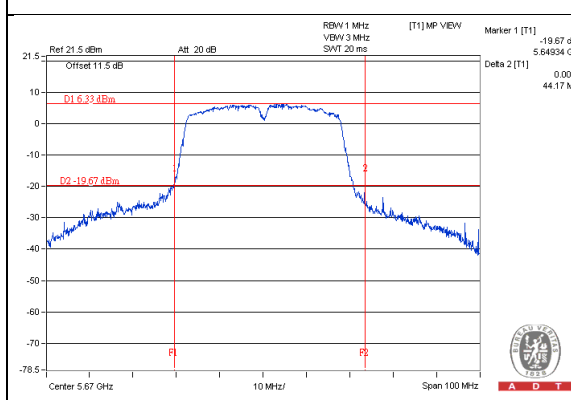
Chain(0) : CH102



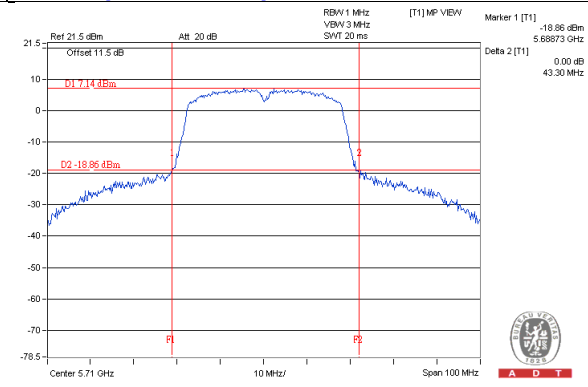
Chain(0) : CH118



Chain(0) : CH134



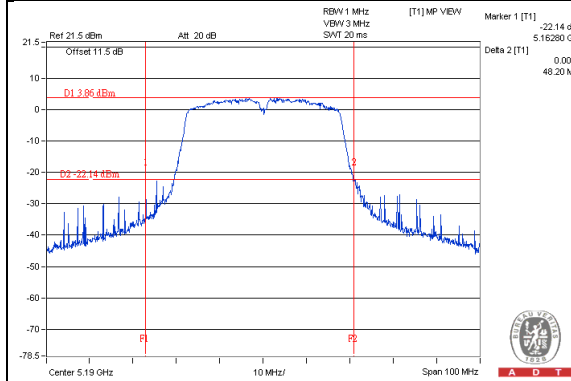
Chain(0) : CH142 (UNII-2c Band) / Chain(0) : CH142 (UNII-3 Band)



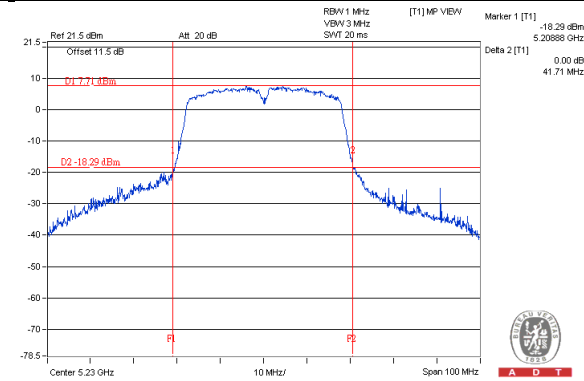
NOTE:

For CH142 (UNII-2c Band) = 5725MHz - Marker 1

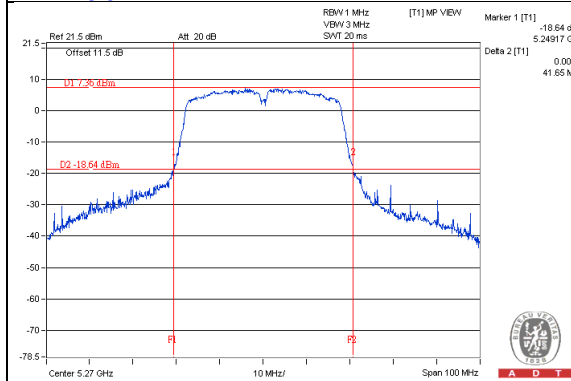
Chain(1) : CH38



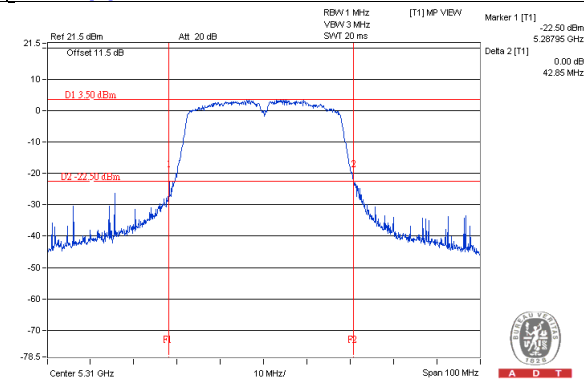
Chain(1) : CH46



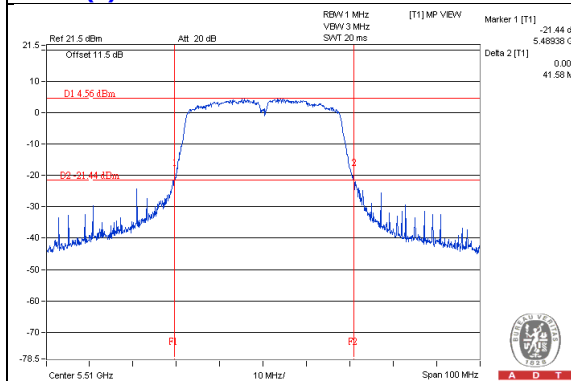
Chain(1) : CH54



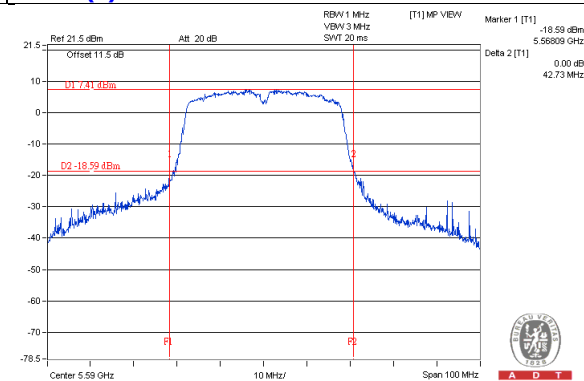
Chain(1) : CH62



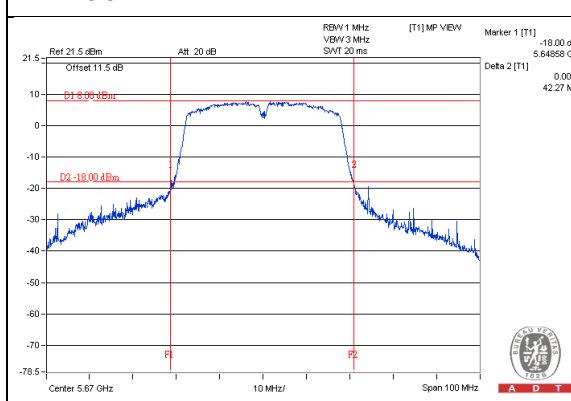
Chain(1) : CH102



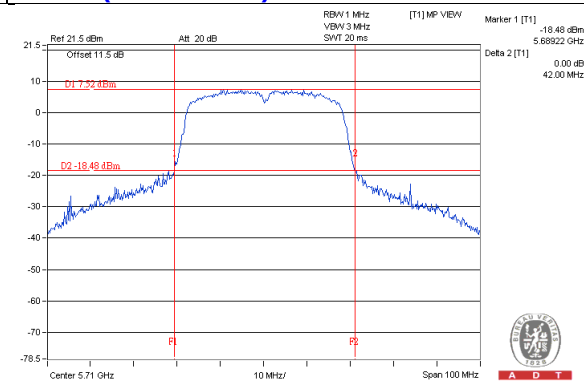
Chain(1) : CH118



Chain(1) : CH134



Chain(1) : CH142 (UNII-2c Band) / Chain(1) : CH142 (UNII-3 Band)



NOTE:

For CH142 (UNII-2c Band) = 5725MHz - Marker 1

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
142	5710	13.55	13.62	45.66	16.60

Note: The total power was calculated through formula and record the value for reference only.

802.11ac (VHT80)

POWER OUTPUT

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	9.35	9.76	18.072	12.57	23.91	Pass
58	5290	9.27	9.15	16.675	12.22	23.91	Pass
106	5530	10.44	10.15	21.417	13.31	22.23	Pass
122	5610	13.13	13.68	43.894	16.42	22.23	Pass
*138 (UNII-2c Band)	5690	10.10	10.13	30.929	14.90	22.23	Pass
*138 (UNII-3 Band)	5690	-6.57	-6.11	0.7006	-1.55	28.23	Pass
155	5775	10.62	10.54	22.859	13.59	28.23	Pass

* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	31.6296	15

Note: The total power was calculated through formula and record the value for reference only.

Note:

- 5150~5250MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to $24 - (6.09 - 6) = 23.91\text{dBm}$.
- 5250~5350MHz: The directional gain is 6.09dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.09-6)".
- 5470~5725MHz: The directional gain is 7.77dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.77-6)".
- 5725~5850MHz: The directional gain is 7.77dBi > 6dBi, , therefore the limit needs to reduce, so the power limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
- For CH138: Total power (dBm)= Average power <Chain 0 +1>(dBm) + Duty Factor (1.78dB)

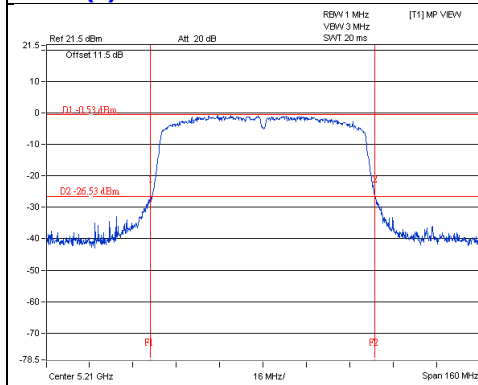
26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	83.21	82.64
58	5290	83.44	82.49
106	5530	82.20	82.85
122	5610	89.46	84.35
138 (UNII-2c Band)	5690	93.89	75.53

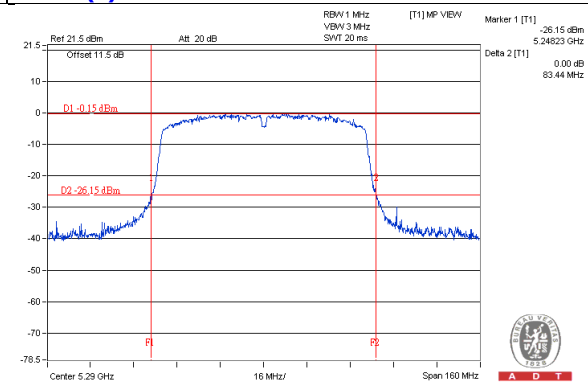
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.49	30.16 > 24
106	5530	82.20	30.14 > 24
122	5610	84.35	30.26 > 24
138 (UNII-2c Band)	5690	75.53	29.78 > 24

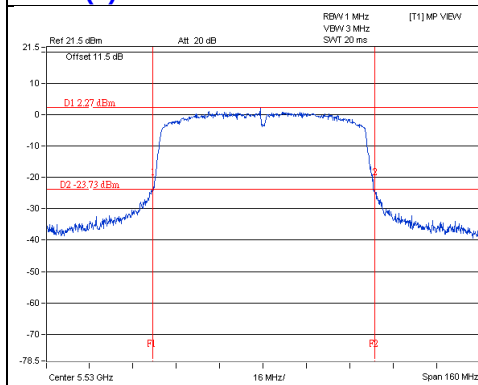
Chain(0) : CH42



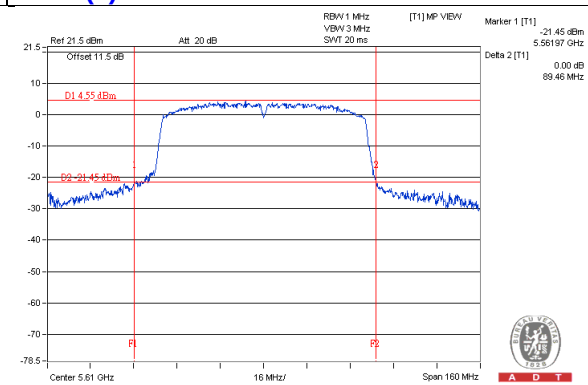
Chain(0) : CH58



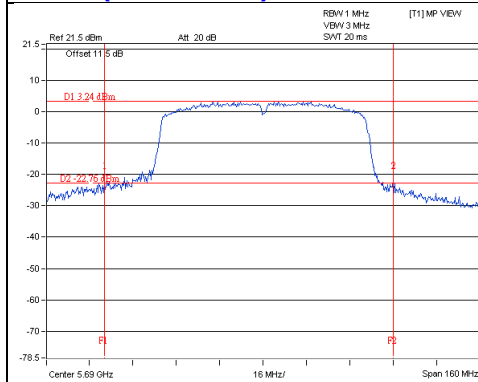
Chain(0) : CH106



Chain(0) : CH122



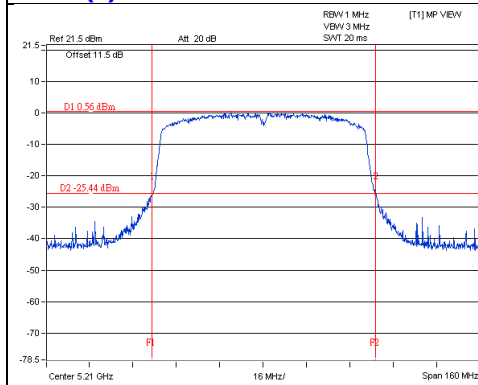
Chain(0) : CH138 (UNII-2c Band) / Chain(0) : CH138 (UNII-3 Band)



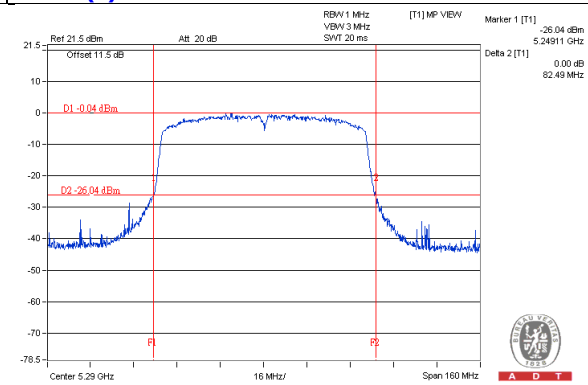
NOTE:

For CH138 (UNII-2c Band) = 5725MHz - Marker 1

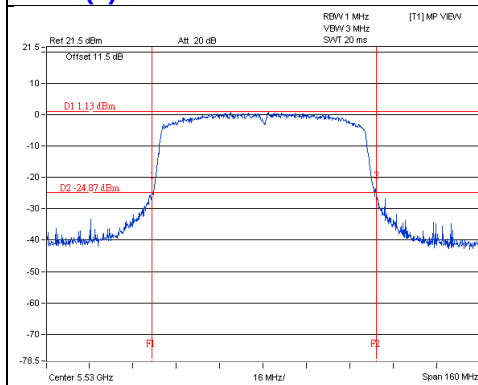
Chain(1) : CH42



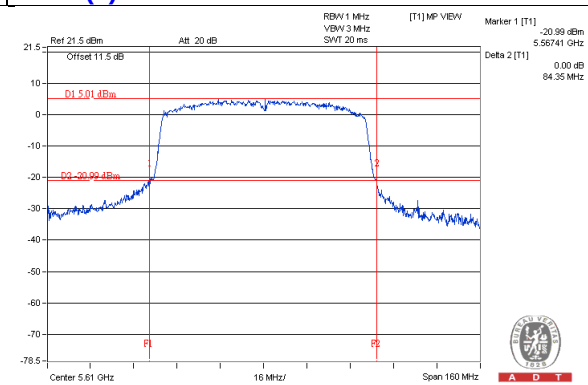
Chain(1) : CH58



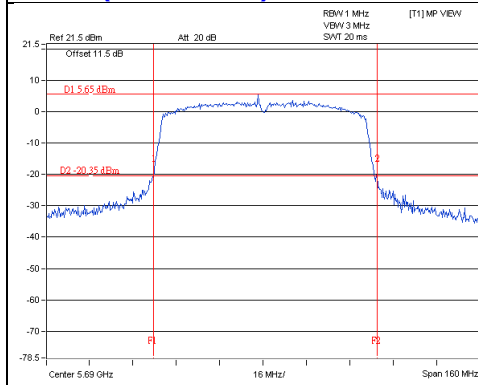
Chain(1) : CH106



Chain(1) : CH122



Chain(1) : CH138 (UNII-2c Band) / Chain(1) : CH138 (UNII-3 Band)



NOTE:

For CH138 (UNII-2c Band) = 5725MHz - Marker 1

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
138	5690	13.13	13.40	42.437	16.28

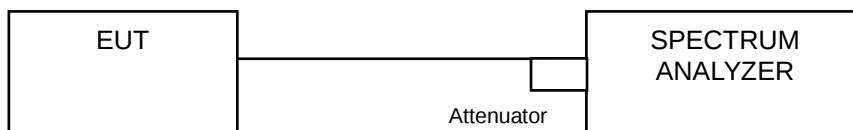
Note: The total power was calculated through formula and record the value for reference only.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
	√	Indoor Access Point	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A			11dBm/ MHz
U-NII-2C			11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 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 : Oct. 17, 2014

4.4.4 Test Procedure

For U-NII-1, U-NII-2A & U-NII-2C:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to "free run".
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and for duty cycle of test signal is < 98% add 10 log (1/duty cycle)

For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and for duty cycle of test signal is < 98% add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as Item 4.3.6.

4.4.7 Test Results

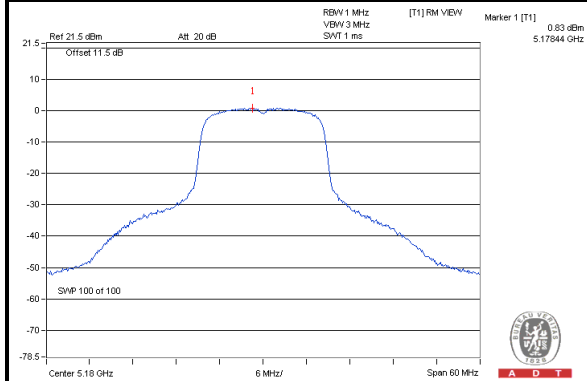
For U-NII-1, U-NII-2A & U-NII-2C:
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	0.67	1.08	1.24	5.13	10.91	PASS
40	5200	2.56	3.87	1.24	7.51	10.91	PASS
48	5240	2.05	3.26	1.24	6.95	10.91	PASS
52	5260	2.29	2.76	1.24	6.78	10.91	PASS
60	5300	2.52	2.65	1.24	6.83	10.91	PASS
64	5320	0.92	0.63	1.24	5.03	10.91	PASS
100	5500	1.32	1.14	1.24	5.48	9.23	PASS
120	5600	2.46	3.21	1.24	7.10	9.23	PASS
140	5700	0.90	1.45	1.24	5.43	9.23	PASS
144 (UNII-2c Band)	5720	1.04	1.47	1.24	5.51	9.23	PASS

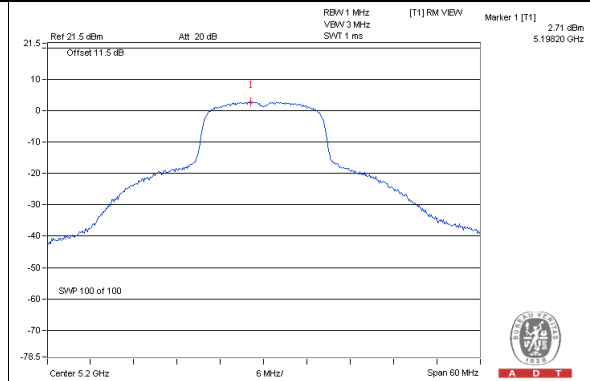
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5150~5250MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
3. 5250~5350MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
4. 5470~5725MHz: Directional gain = $4.76\text{dBi} + 10\log(2) = 7.77\text{dBi} > 6\text{dB}$, so the power density limit shall be reduced to $11 - (7.77 - 6) = 9.23\text{dBm}$.
5. Refer to section 3.4 for duty cycle spectrum plot.

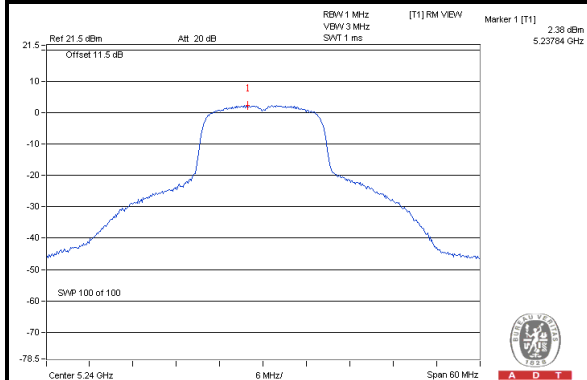
Chain(0) : CH36



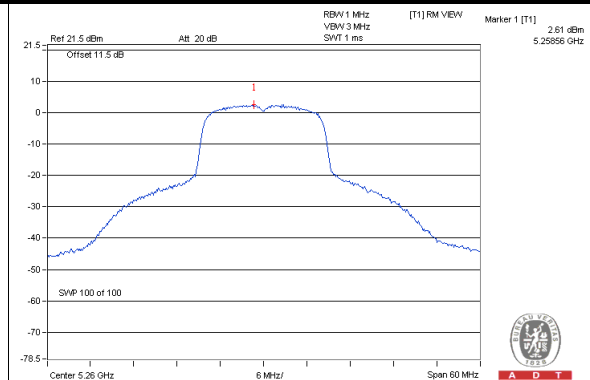
Chain(0) : CH40



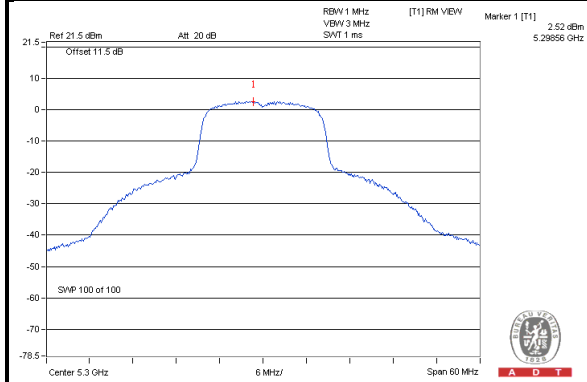
Chain(0) : CH48



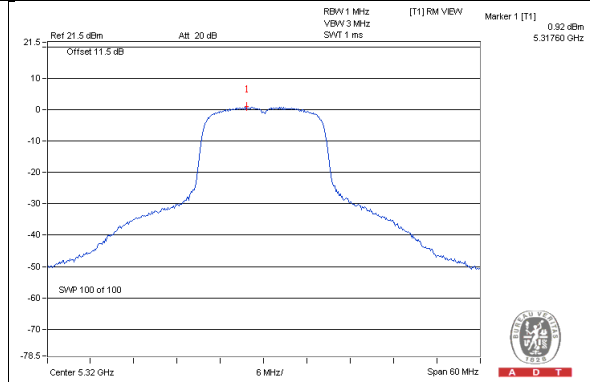
Chain(0) : CH52



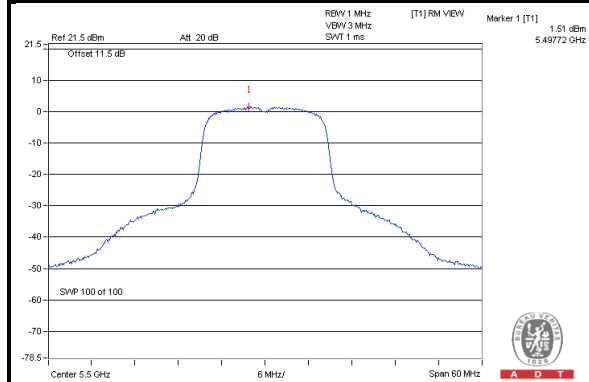
Chain(0) : CH60



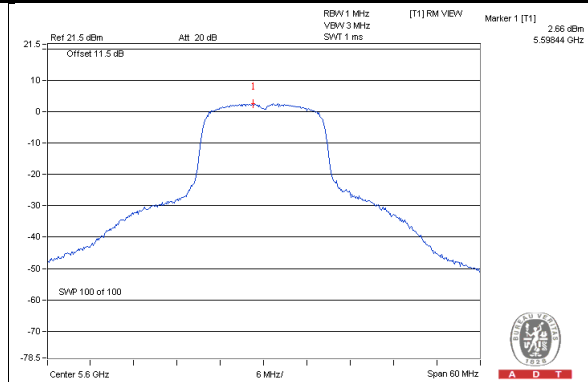
Chain(0) : CH64



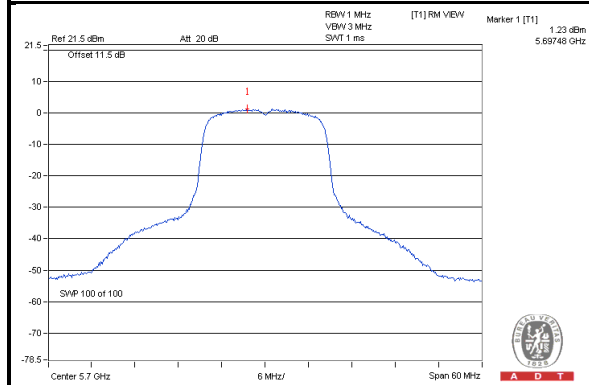
Chain(0) : CH100



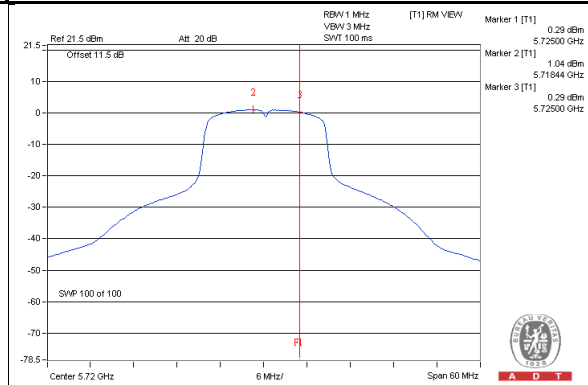
Chain(0) : CH120



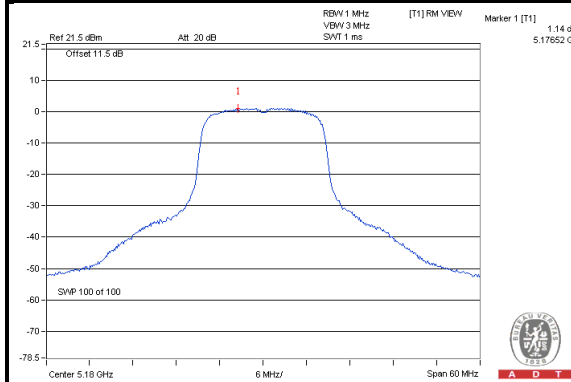
Chain(0) : CH140



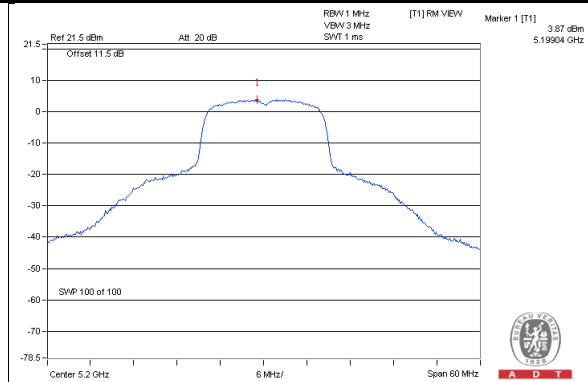
Chain(0) : CH144 (UNII-2c Band)



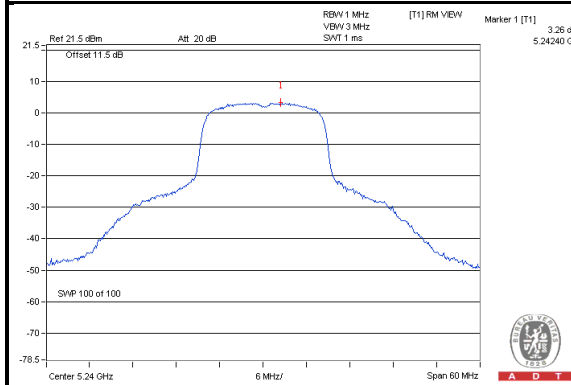
Chain(1) : CH36



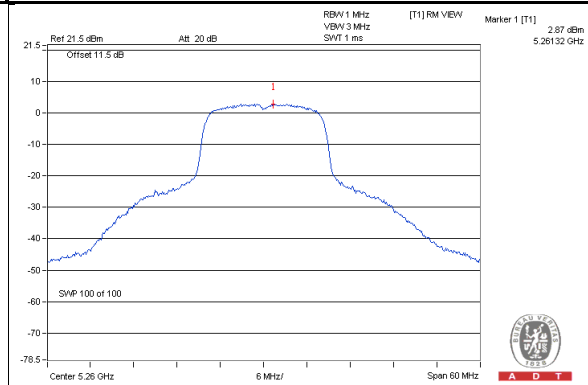
Chain(1) : CH40



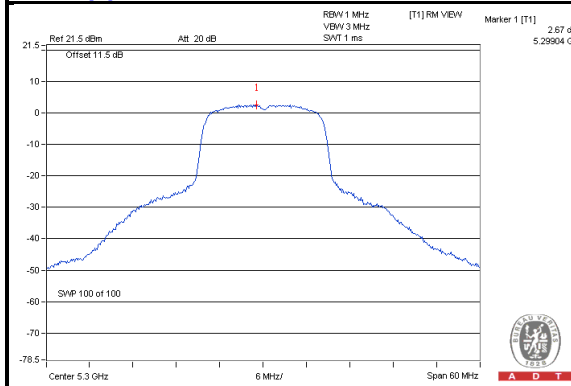
Chain(1) : CH48



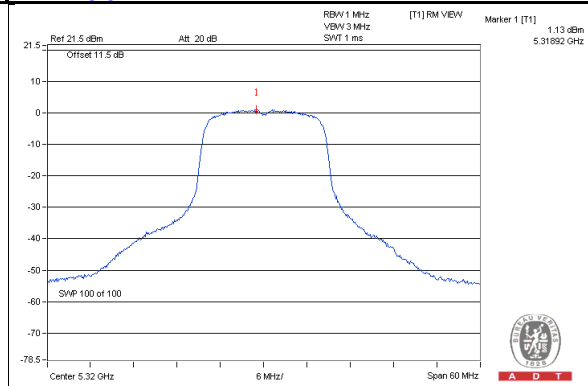
Chain(1) : CH52



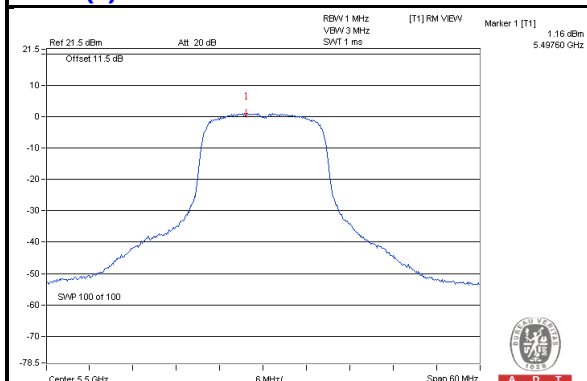
Chain(1) : CH60



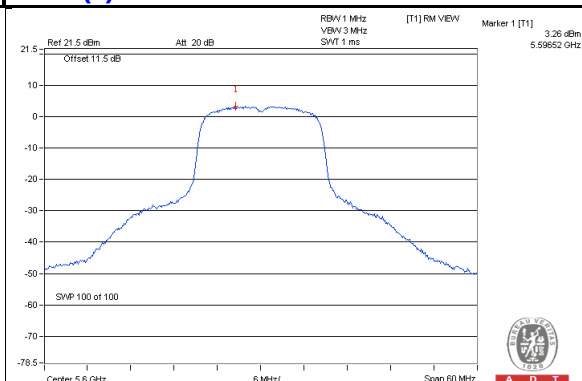
Chain(1) : CH64



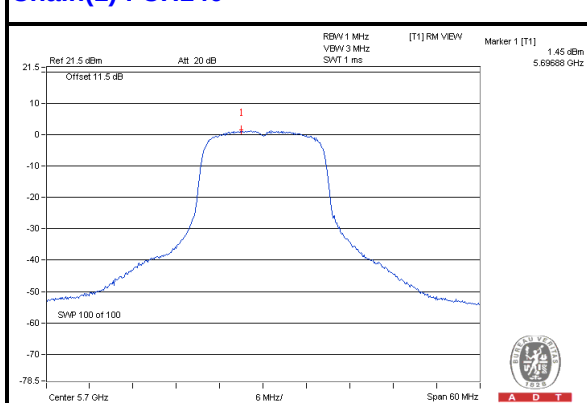
Chain(1) : CH100



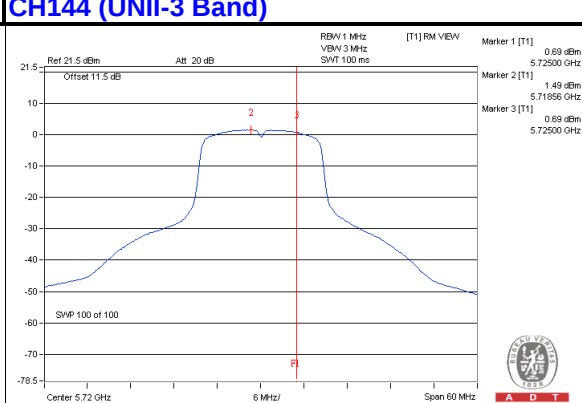
Chain(1) : CH120



Chain(1) : CH140



Chain(1) : CH144 (UNII-2c Band) / Chain(1) : CH144 (UNII-3 Band)



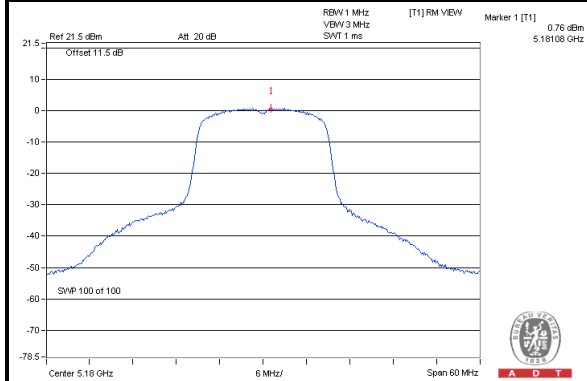
802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	0.55	0.96	1.31	5.08	10.91	PASS
40	5200	0.72	2.45	1.31	5.99	10.91	PASS
48	5240	1.89	2.98	1.31	6.79	10.91	PASS
52	5260	1.02	2.01	1.31	5.86	10.91	PASS
60	5300	1.68	1.45	1.31	5.88	10.91	PASS
64	5320	0.97	1.14	1.31	5.37	10.91	PASS
100	5500	0.72	0.43	1.31	4.90	9.23	PASS
120	5600	1.58	1.25	1.31	5.74	9.23	PASS
140	5700	0.74	0.54	1.31	4.96	9.23	PASS
144 (UNII-2c Band)	5720	0.03	0.25	1.31	4.46	9.23	PASS

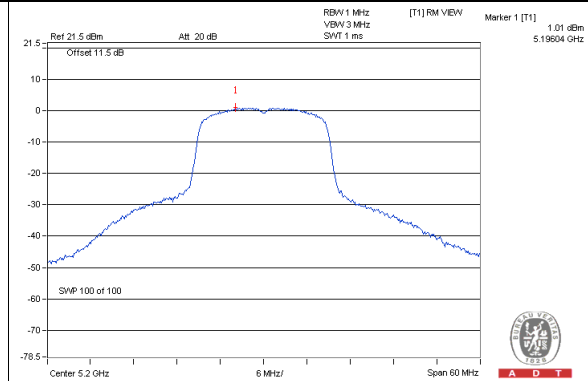
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5150~5250MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
3. 5250~5350MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
4. 5470~5725MHz: Directional gain = $4.76\text{dBi} + 10\log(2) = 7.77\text{dBi} > 6\text{dB}$, so the power density limit shall be reduced to $11 - (7.77 - 6) = 9.23\text{dBm}$.
5. Refer to section 3.4 for duty cycle spectrum plot.

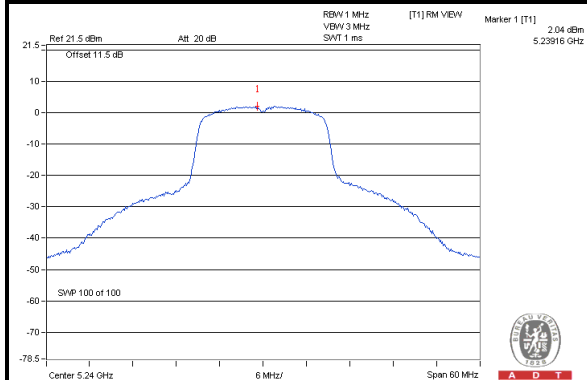
Chain(0) : CH36



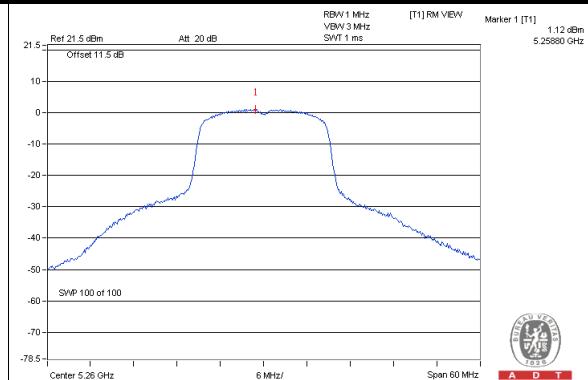
Chain(0) : CH40



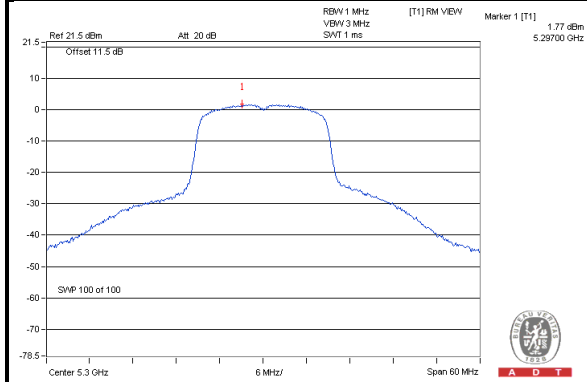
Chain(0) : CH48



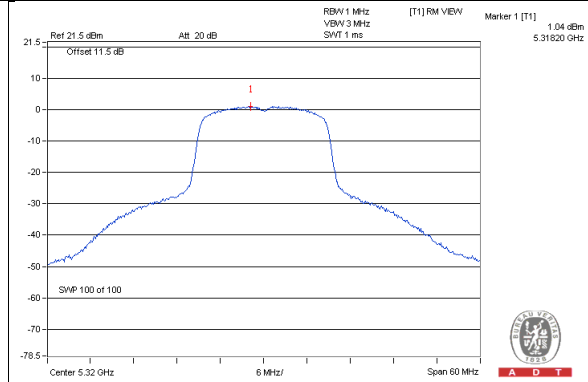
Chain(0) : CH52



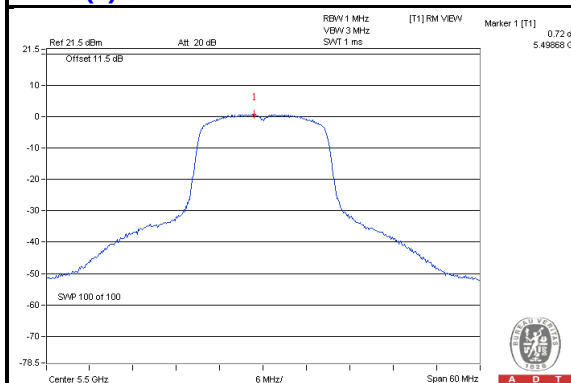
Chain(0) : CH60



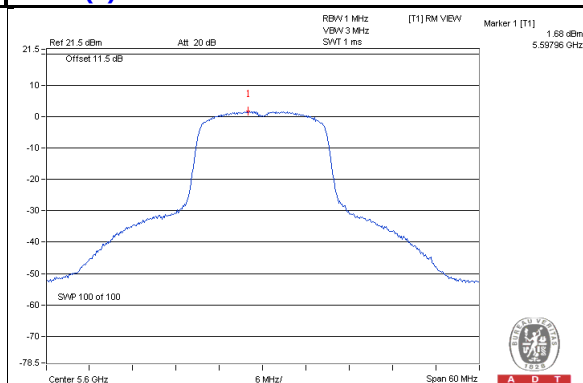
Chain(0) : CH64



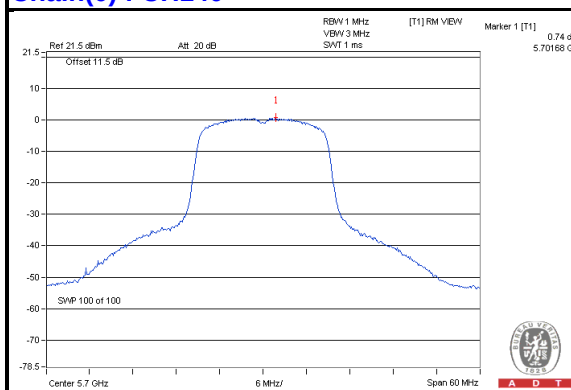
Chain(0) : CH100



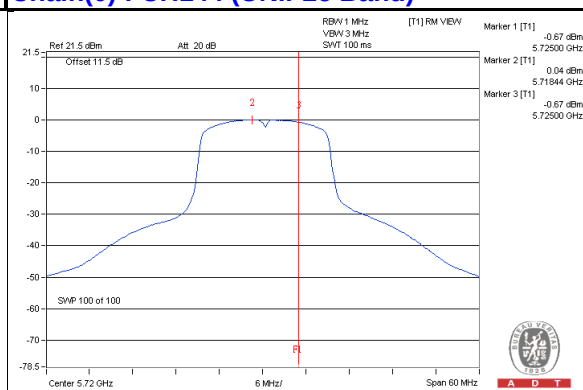
Chain(0) : CH120



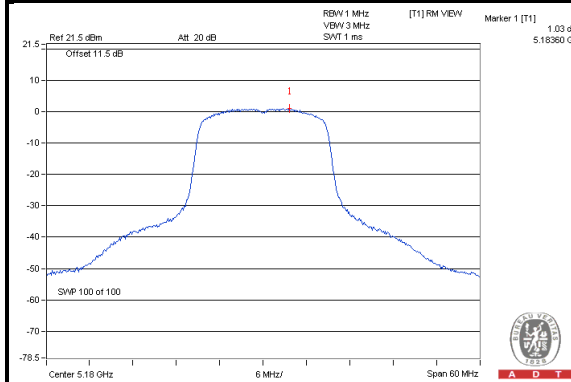
Chain(0) : CH140



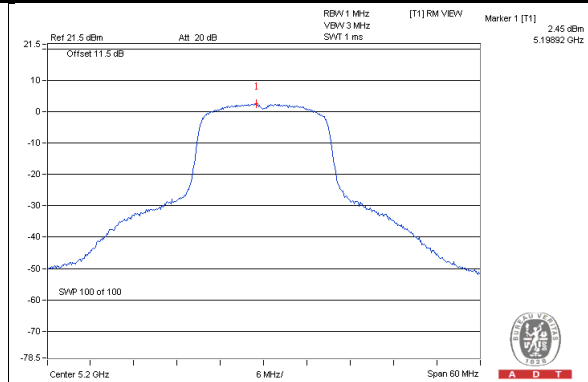
Chain(0) : CH144 (UNII-2c Band)



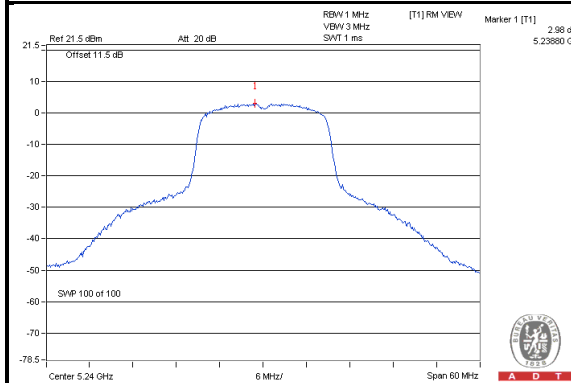
Chain(1) : CH36



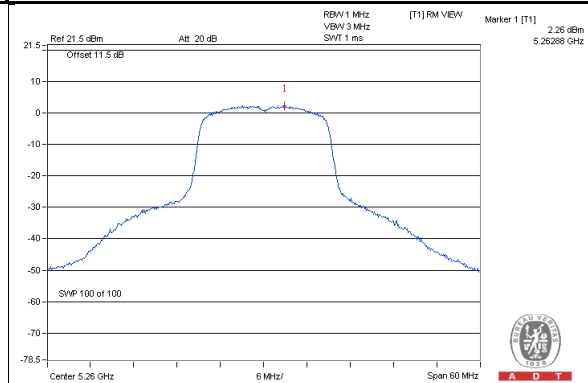
Chain(1) : CH40



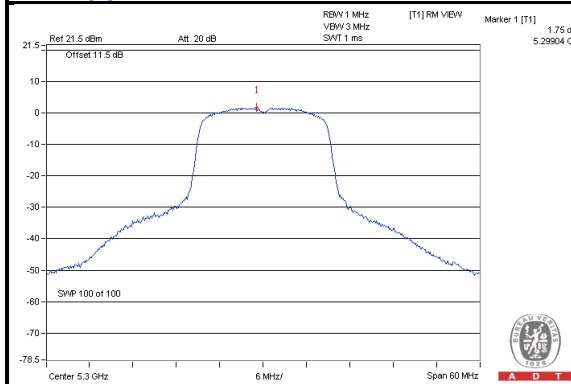
Chain(1) : CH48



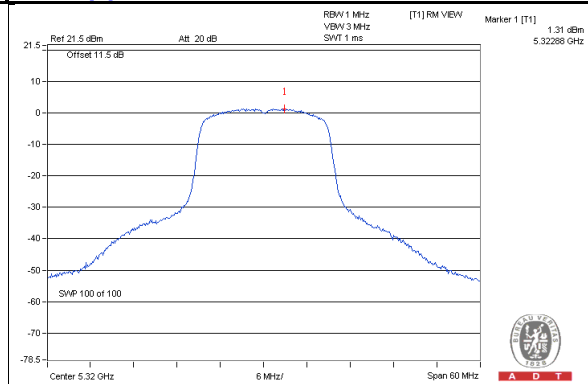
Chain(1) : CH52



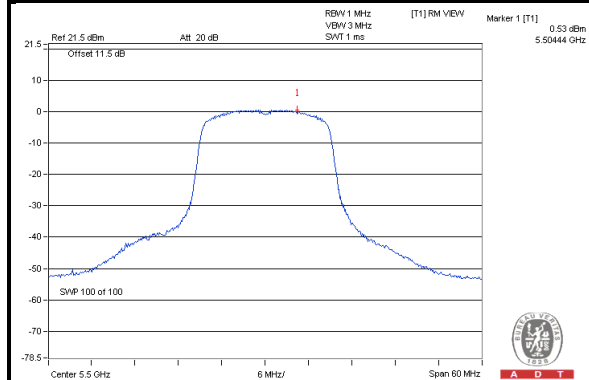
Chain(1) : CH60



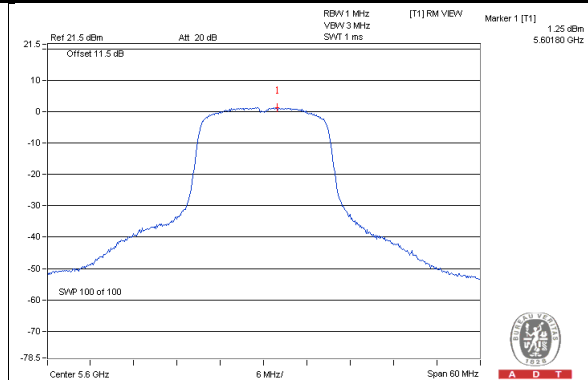
Chain(1) : CH64



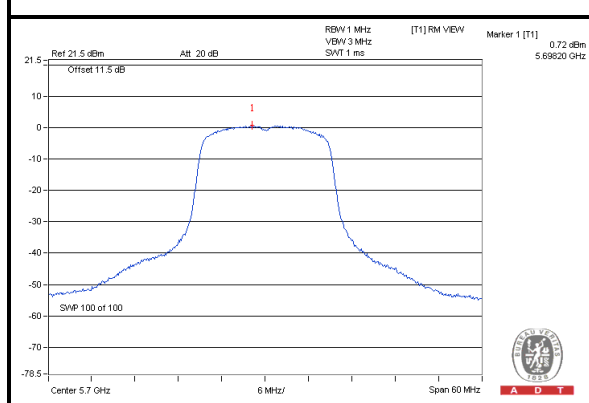
Chain(1) : CH100



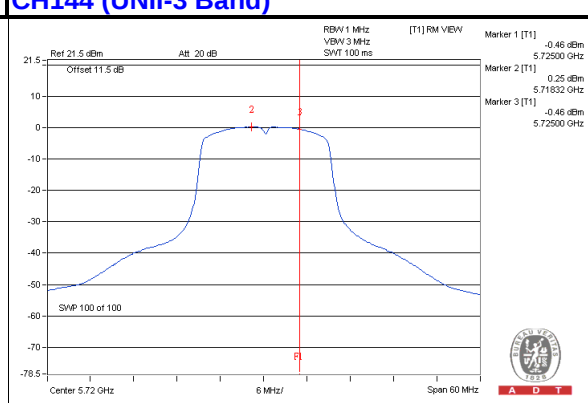
Chain(1) : CH120



Chain(1) : CH140



Chain(1) : CH144 (UNII-2c Band) / Chain(1) : CH144 (UNII-3 Band)

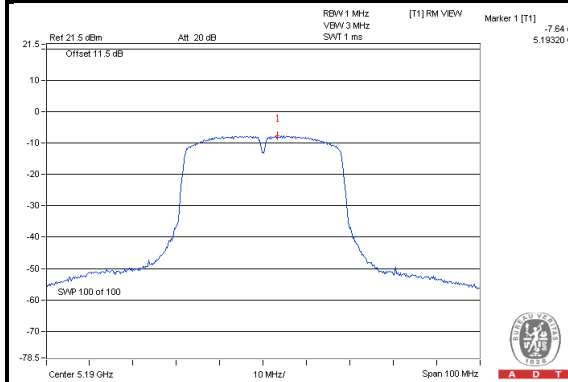


802.11ac (VHT40)

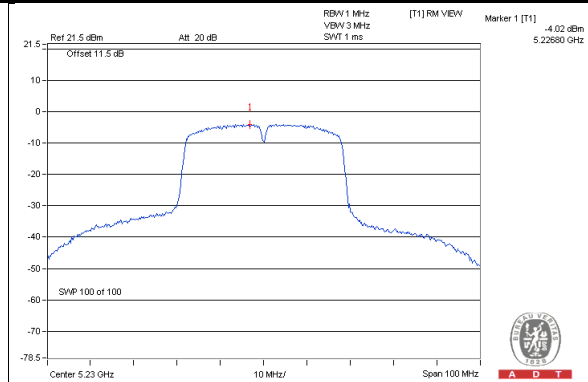
CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	-7.81	-7.14	2.41	-2.04	10.91	PASS
46	5230	-4.02	-3.23	2.41	1.81	10.91	PASS
54	5270	-3.89	-3.73	2.41	1.61	10.91	PASS
62	5310	-6.54	-7.26	2.41	-1.46	10.91	PASS
102	5510	-5.96	-6.60	2.41	-0.85	9.23	PASS
118	5590	-4.20	-3.56	2.41	1.55	9.23	PASS
134	5670	-4.39	-3.19	2.41	1.67	9.23	PASS
142 (UNII-2c Band)	5710	-3.96	-3.80	2.41	1.54	9.23	PASS

- NOTE:**
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
 2. 5150~5250MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
 3. 5250~5350MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
 4. 5470~5725MHz: Directional gain = $4.76\text{dBi} + 10\log(2) = 7.77\text{dBi} > 6\text{dB}$, so the power density limit shall be reduced to $11 - (7.77 - 6) = 9.23\text{dBm}$.
 5. Refer to section 3.4 for duty cycle spectrum plot.

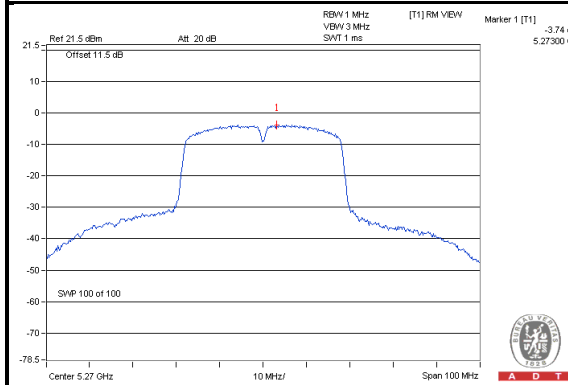
Chain(0) : CH38



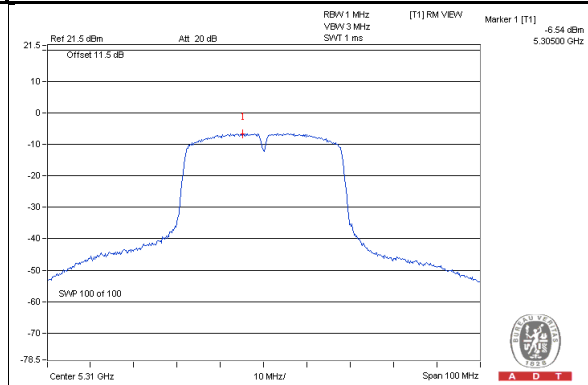
Chain(0) : CH46



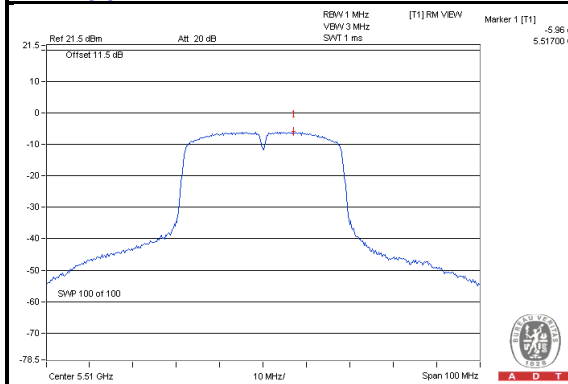
Chain(0) : CH54



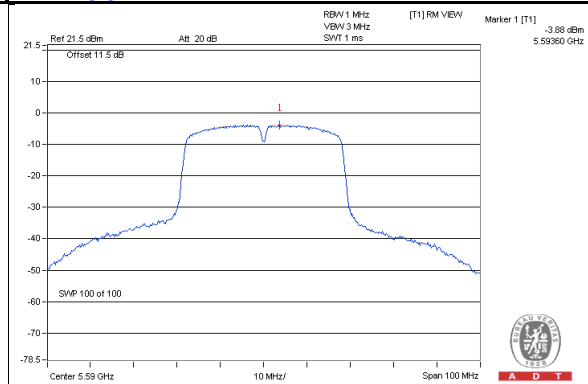
Chain(0) : CH62



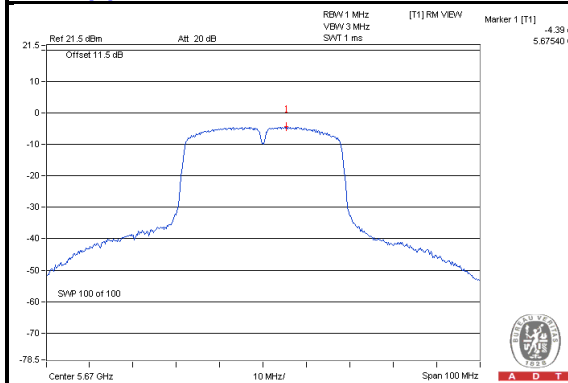
Chain(0) : CH102



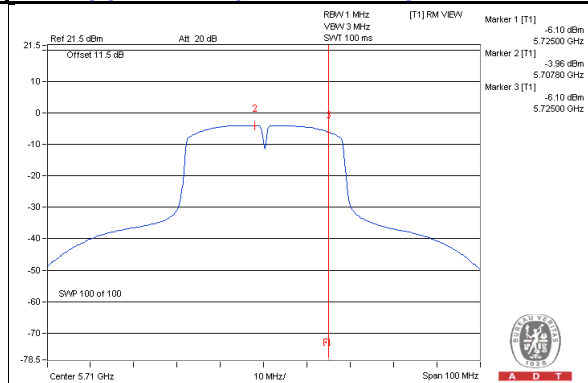
Chain(0) : CH118



Chain(0) : CH134

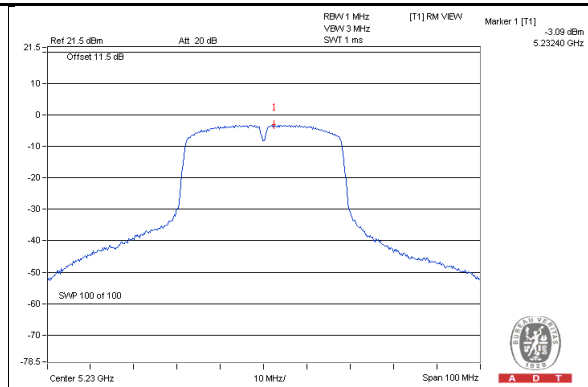
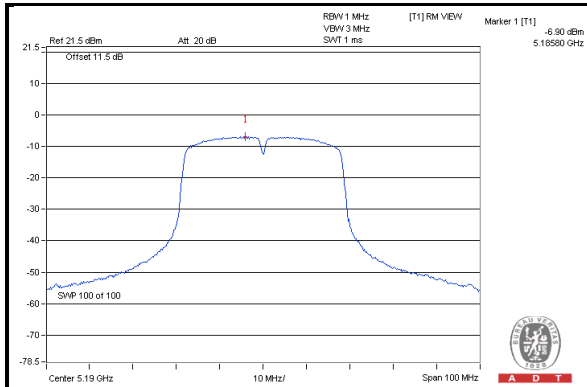


Chain(0) : CH142 (UNII-2c Band)



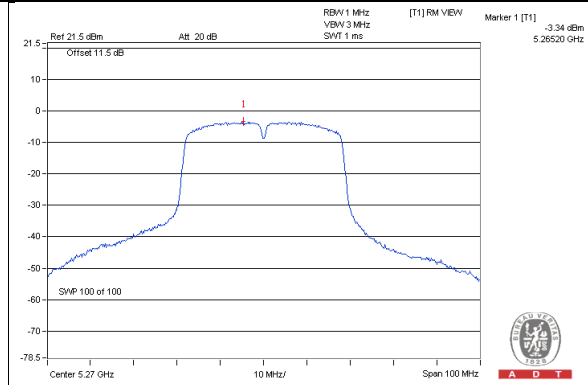
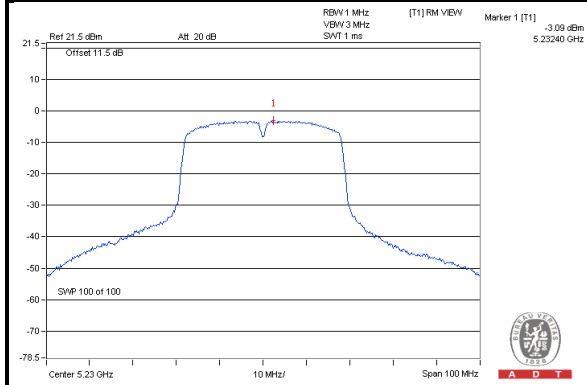
Chain(1) : CH38

Chain(1) : CH46



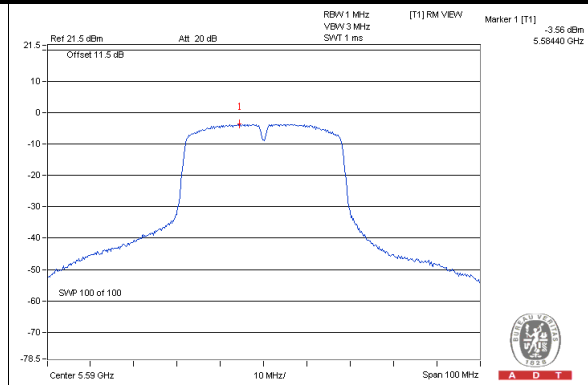
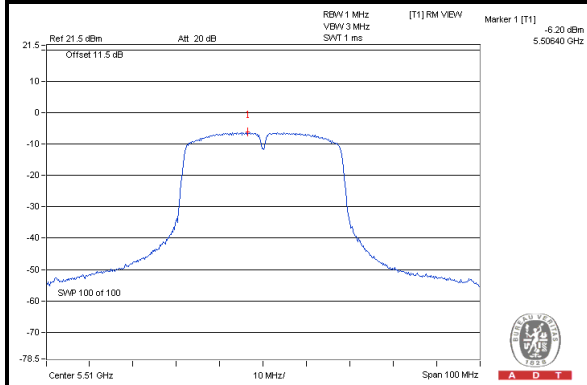
Chain(1) : CH54

Chain(1) : CH62



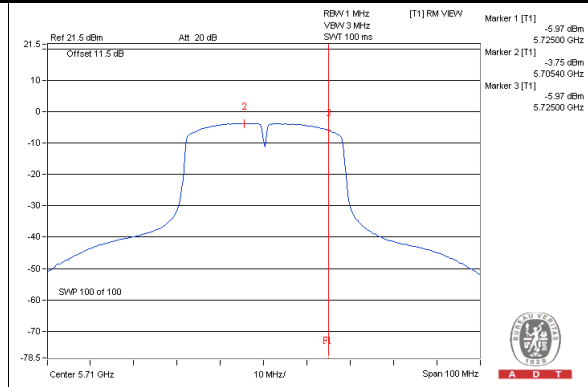
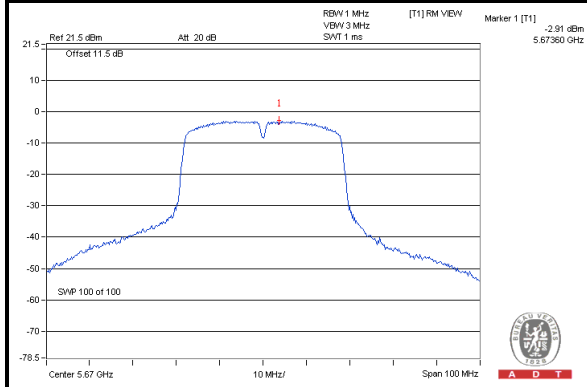
Chain(1) : CH102

Chain(1) : CH46



Chain(0) : CH134

Chain(0) : CH142 (UNII-2c Band)



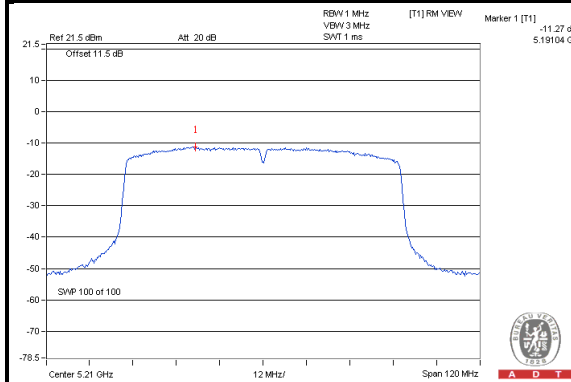
802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	-11.27	-11.10	1.78	-6.40	10.91	PASS
58	5290	-11.01	-11.34	1.78	-6.38	10.91	PASS
106	5530	-9.74	-10.85	1.78	-5.47	9.23	PASS
122	5610	-7.01	-6.71	1.78	-2.07	9.23	PASS
138 (UNII-2c Band)	5690	-7.90	-7.87	1.78	-3.10	9.23	PASS

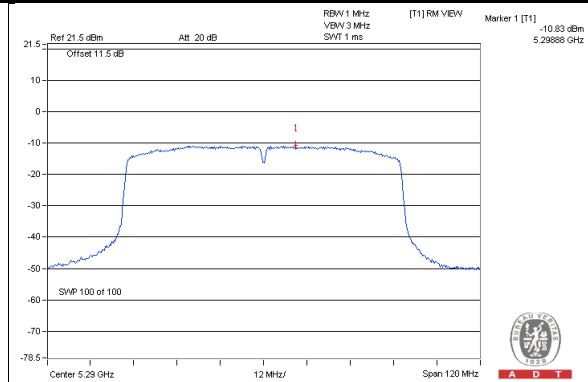
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5150~5250MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
3. 5250~5350MHz: Directional gain = $3.08\text{dBi} + 10\log(2) = 6.09\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.09 - 6) = 10.91\text{dBm}$.
4. 5470~5725MHz: Directional gain = $4.76\text{dBi} + 10\log(2) = 7.77\text{dBi} > 6\text{dB}$, so the power density limit shall be reduced to $11 - (7.77 - 6) = 9.23\text{dBm}$.
5. Refer to section 3.4 for duty cycle spectrum plot.

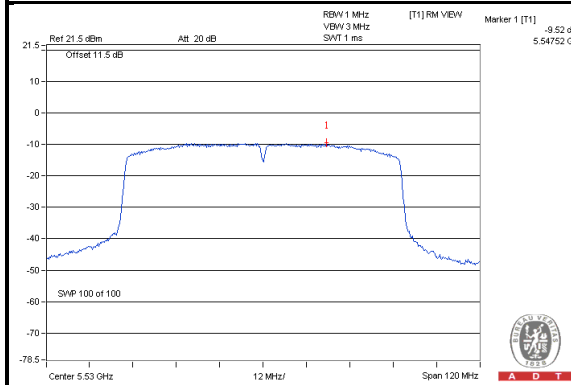
Chain(0) : CH42



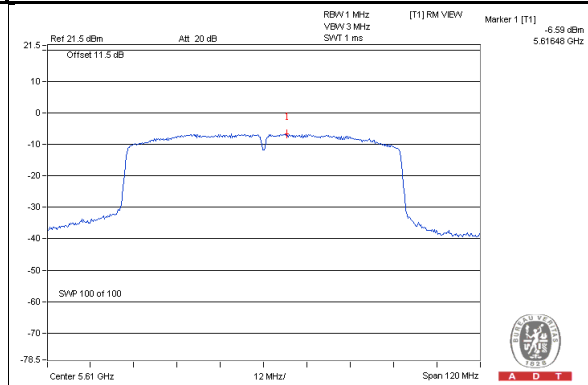
Chain(0) : CH58



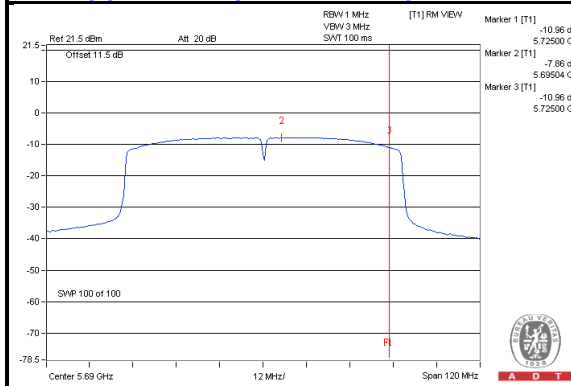
Chain(0) : CH106



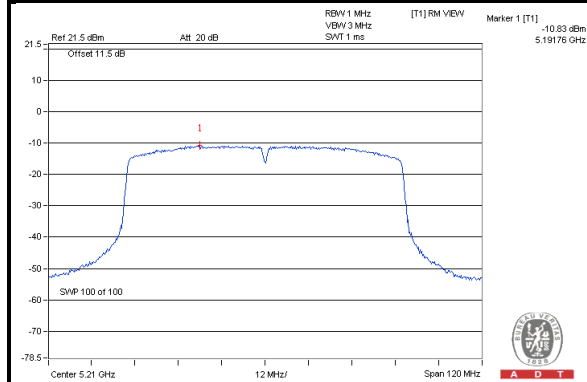
Chain(0) : CH122



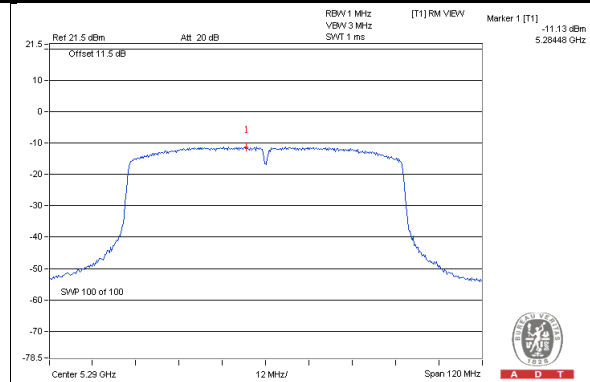
Chain(0) : CH138 (UNII-2c Band)



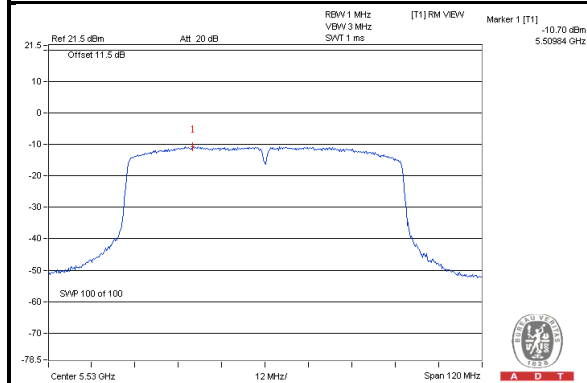
Chain(1) : CH42



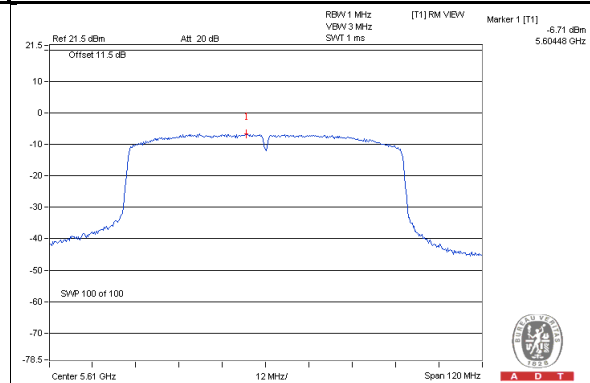
Chain(1) : CH58



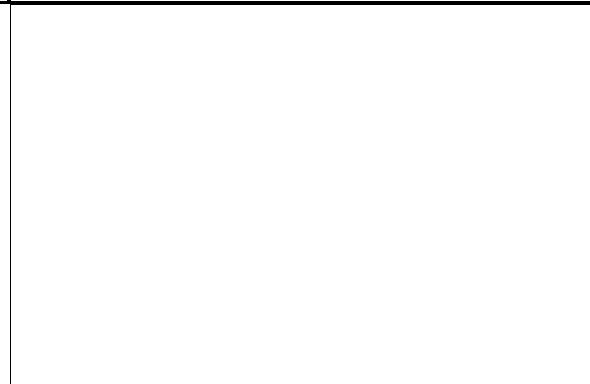
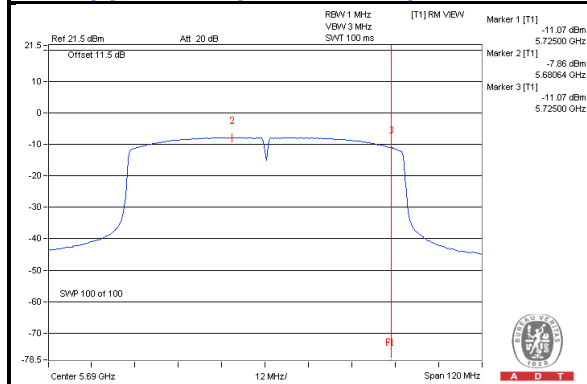
Chain(1) : CH106



Chain(1) : CH122



Chain(1) : CH138 (UNII-2c Band)



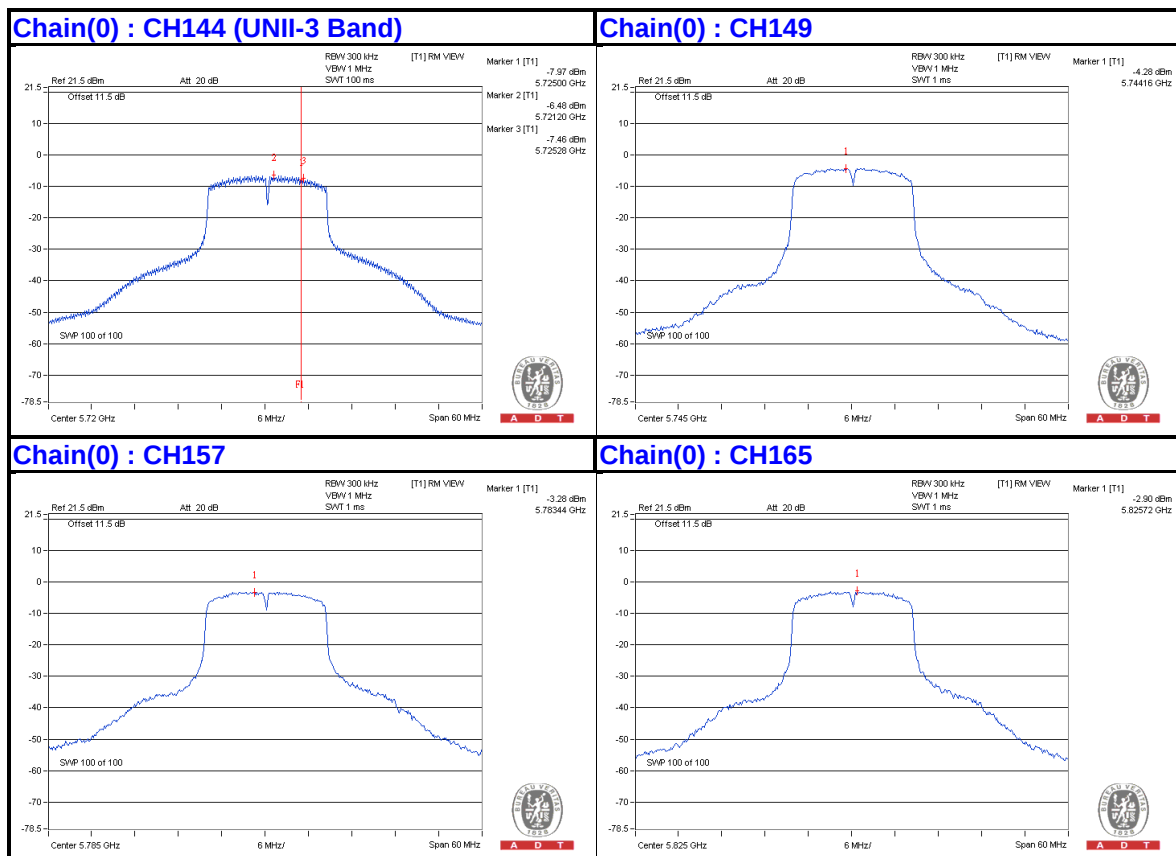
For U-NII-3:

802.11a

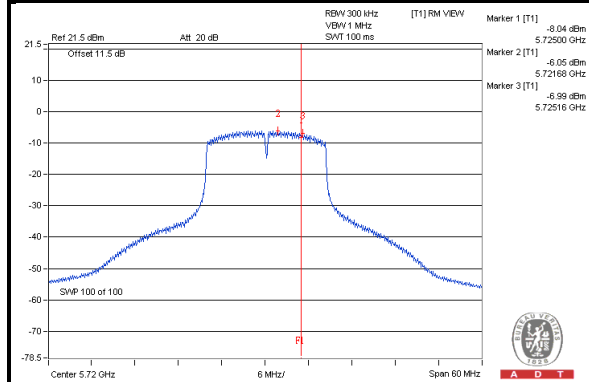
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR		10 log (N=2) dB	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
			(dBm/300kHz)	(dBm/500kHz)					
0	144 (UNII-3 Band)	5720	-7.97	-5.75	3.01	1.24	-1.50	28.23	PASS
	149	5745	-4.28	-2.06	3.01	1.24	2.19	28.23	PASS
	157	5785	-3.28	-1.06	3.01	1.24	3.19	28.23	PASS
	165	5825	-2.90	-0.68	3.01	1.24	3.57	28.23	PASS
1	144 (UNII-3 Band)	5720	-8.04	-5.82	3.01	1.24	-1.57	28.23	PASS
	149	5745	-4.19	-1.97	3.01	1.24	2.28	28.23	PASS
	157	5785	-2.72	-0.50	3.01	1.24	3.75	28.23	PASS
	165	5825	-2.73	-0.51	3.01	1.24	3.74	28.23	PASS

NOTE: 1. **5725~5825MHz:** Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

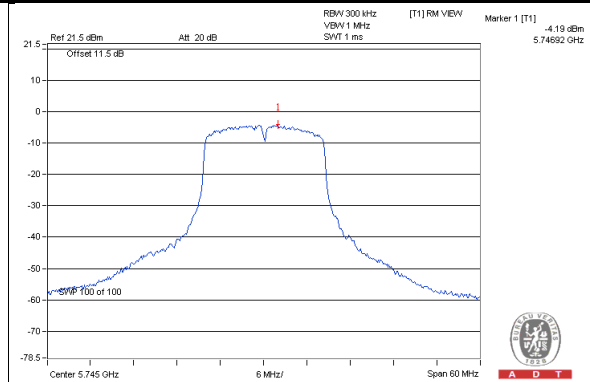
2. Refer to section 3.4 for duty cycle spectrum plot.



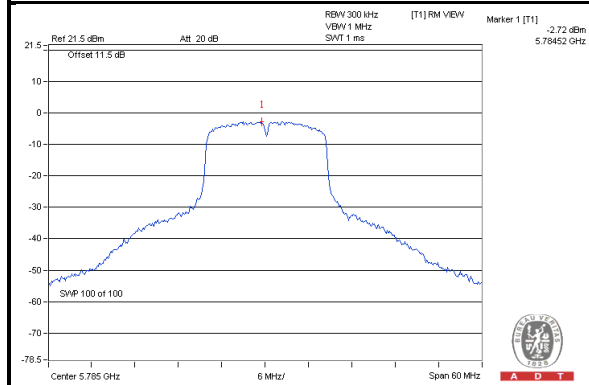
Chain(1) : CH144 (UNII-3 Band)



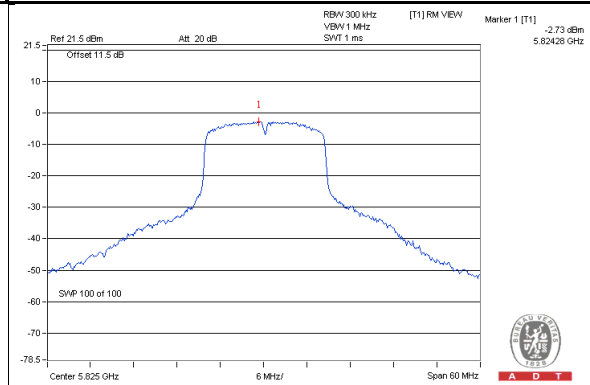
Chain(1) : CH149



Chain(1) : CH157



Chain(1) : CH165

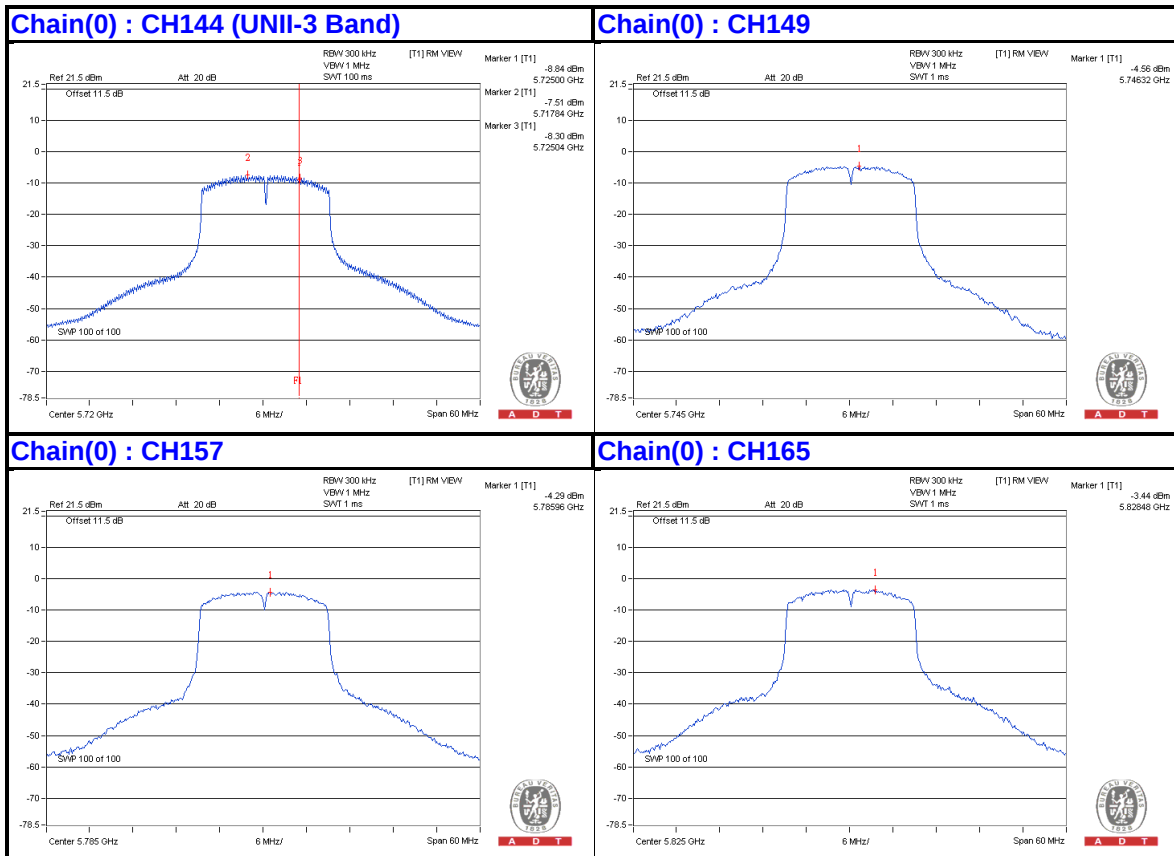


802.11ac (VHT20)

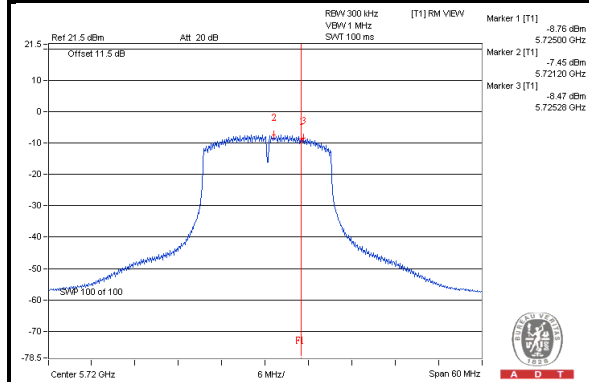
TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR		10 log (N=2) dB	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
			(dBm/300kHz)	(dBm/500kHz)					
0	144 (UNII-3 Band)	5720	-8.84	-6.62	3.01	1.31	-2.30	28.23	PASS
	149	5745	-4.56	-2.34	3.01	1.31	1.98	28.23	PASS
	157	5785	-4.29	-2.07	3.01	1.31	2.25	28.23	PASS
	165	5825	-3.44	-1.22	3.01	1.31	3.10	28.23	PASS
1	144 (UNII-3 Band)	5720	-8.76	-6.54	3.01	1.31	-2.22	28.23	PASS
	149	5745	-4.43	-2.21	3.01	1.31	2.11	28.23	PASS
	157	5785	-3.67	-1.45	3.01	1.31	2.87	28.23	PASS
	165	5825	-3.15	-0.93	3.01	1.31	3.39	28.23	PASS

NOTE: 1. **5725~5825MHz:** Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

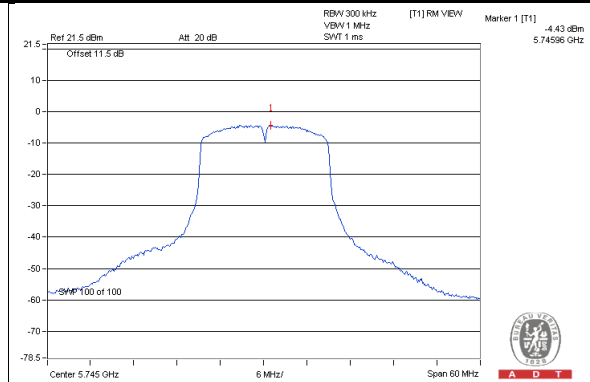
2. Refer to section 3.4 for duty cycle spectrum plot.



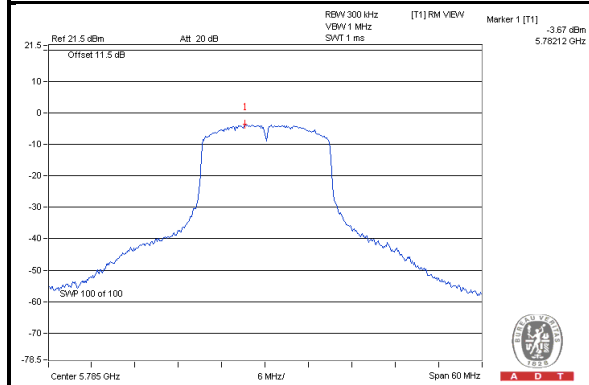
Chain(1) : CH144 (UNII-3 Band)



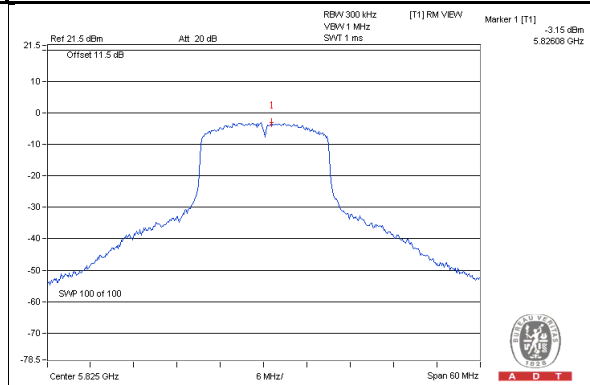
Chain(1) : CH149



Chain(1) : CH157



Chain(1) : CH165



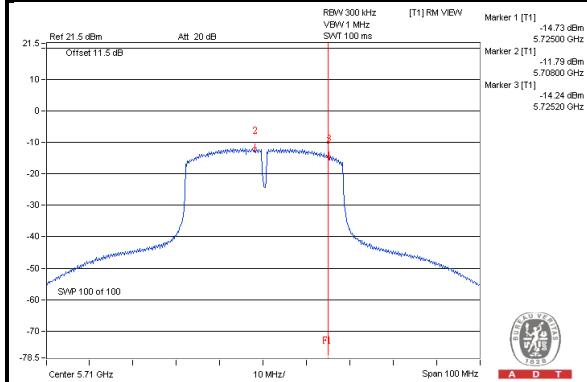
802.11ac (VHT40)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR		10 log (N=2) dB	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
			(dBm/300kHz)	(dBm/500kHz)					
0	142 (UNII-3 Band)	5710	-14.73	-12.51	3.01	2.41	-7.09	28.23	PASS
	151	5755	-10.65	-8.43	3.01	2.41	-3.01	28.23	PASS
	159	5795	-9.45	-7.23	3.01	2.41	-1.81	28.23	PASS
1	142 (UNII-3 Band)	5710	-14.66	-12.44	3.01	2.41	-7.02	28.23	PASS
	151	5755	-11.09	-8.87	3.01	2.41	-3.45	28.23	PASS
	159	5795	-9.34	-7.12	3.01	2.41	-1.70	28.23	PASS

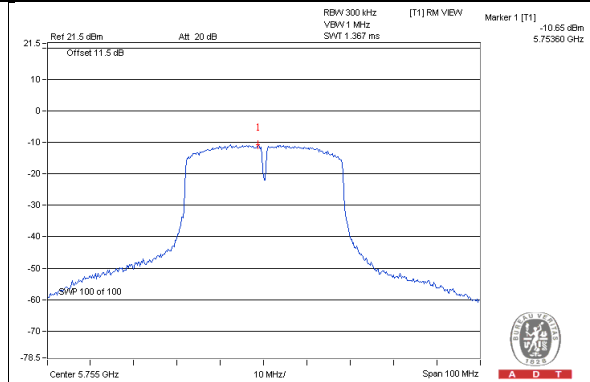
NOTE: 1. **5725~5825MHz:** Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

2. Refer to section 3.4 for duty cycle spectrum plot.

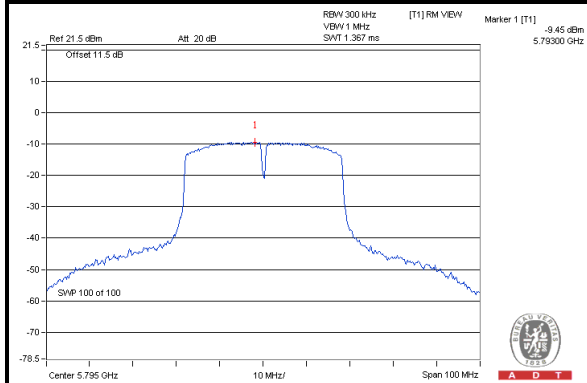
Chain(0) : CH142 (UNII-3 Band)



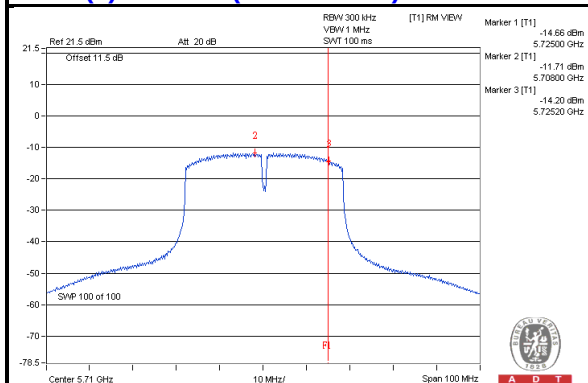
Chain(0) : CH151



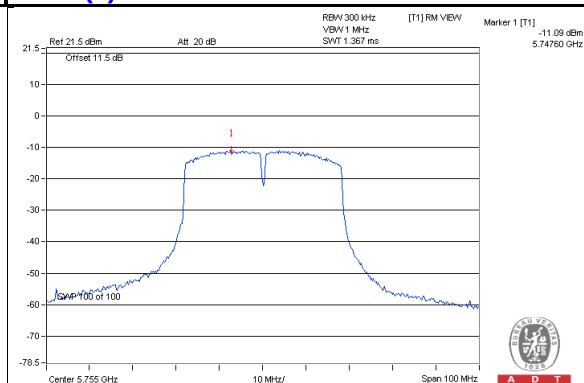
Chain(0) : CH159



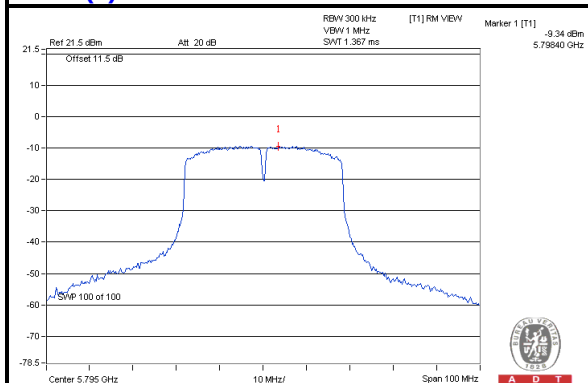
Chain(1) : CH142 (UNII-3 Band)



Chain(1) : CH151



Chain(1) : CH159



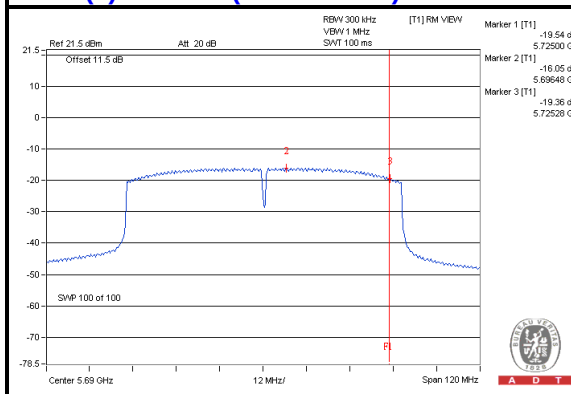
802.11ac (VHT80)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR		10 log (N=2) dB	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
			(dBm/300kHz)	(dBm/500kHz)					
0	138 (UNII-3 Band)	5690	-19.54	-17.32	3.01	1.78	-12.53	28.23	PASS
	155	5775	-15.18	-12.96	3.01	1.78	-8.17	28.23	PASS
1	138 (UNII-3 Band)	5690	-19.60	-17.38	3.01	1.78	-12.59	28.23	PASS
	155	5775	-14.47	-12.25	3.01	1.78	-7.46	28.23	PASS

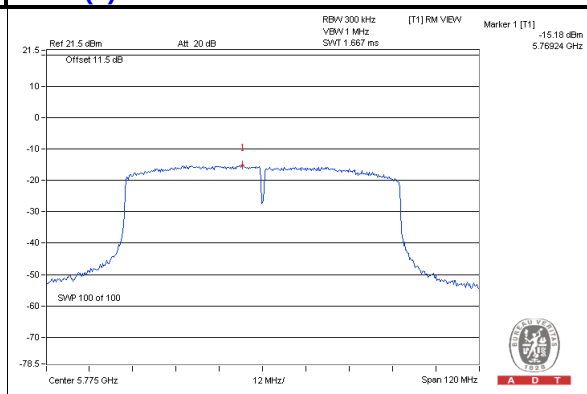
NOTE: 1. **5725~5825MHz:** Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

2. Refer to section 3.4 for duty cycle spectrum plot.

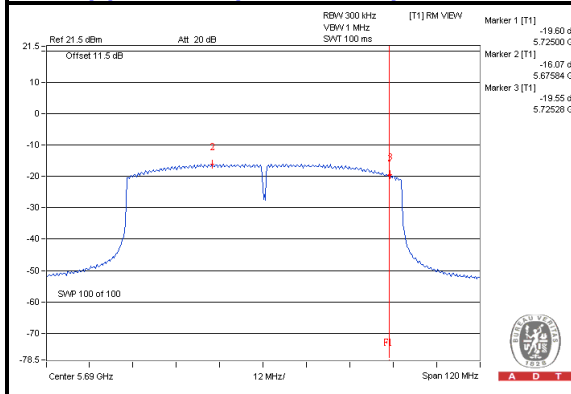
Chain(0) : CH138 (UNII-3 Band)



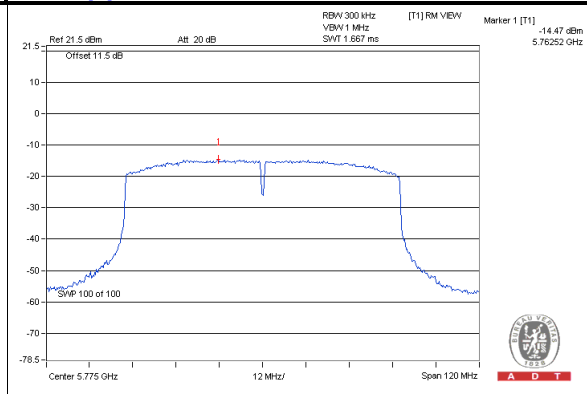
Chain(0) : CH155



Chain(1) : CH138 (UNII-3 Band)



Chain(1) : CH155

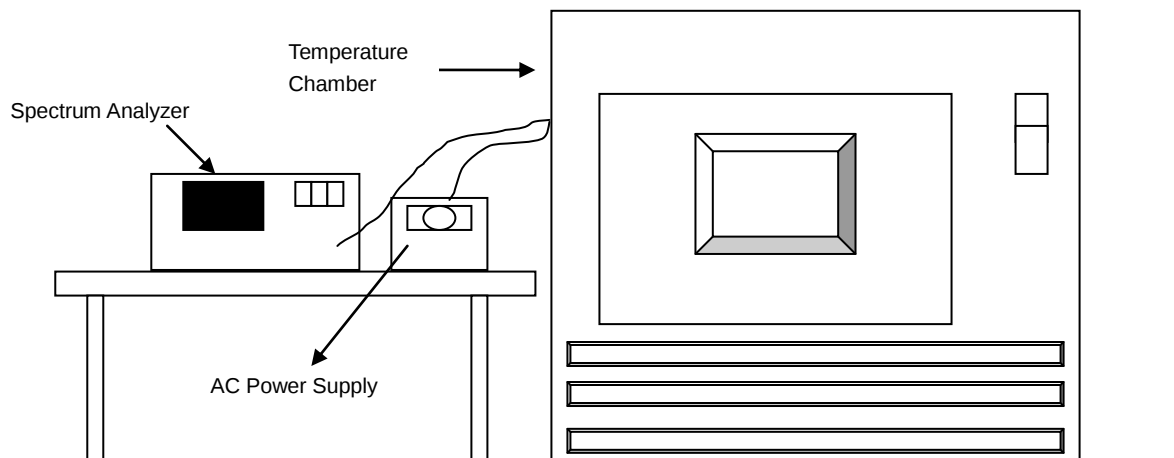


4.5 Frequency Stability Measurement

4.5.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.5.2 Test Setup



4.5.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100060	May 08, 2014	May 07, 2015
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-S P-AR	MAA0812-008	Jan. 13, 2014	Jan. 12, 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 : Oct. 17, 2014

4.5.4 Test Procedure

- a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.5.7 Test Results

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120	5320.0188	0.00035	5320.0191	0.00036	5320.0146	0.00027	5320.0154	0.00029
40	120	5320.0118	0.00022	5320.0148	0.00028	5320.0153	0.00029	5320.0115	0.00022
30	120	5320.0178	0.00033	5320.0192	0.00036	5320.0139	0.00026	5320.0184	0.00035
20	120	5319.9803	-0.00037	5319.982	-0.00034	5319.982	-0.00034	5319.9798	-0.00038
10	120	5320.0014	0.00003	5320.0019	0.00004	5319.9997	-0.00001	5320.001	0.00002
0	120	5319.9972	-0.00005	5319.9989	-0.00002	5320.0003	0.00001	5319.998	-0.00004
-10	120	5320.0147	0.00028	5320.0124	0.00023	5320.0151	0.00028	5320.0157	0.00030
-20	120	5319.9754	-0.00046	5319.977	-0.00043	5319.9753	-0.00046	5319.9782	-0.00041
-30	120	5319.9824	-0.00033	5319.9833	-0.00031	5319.9852	-0.00028	5319.9854	-0.00027

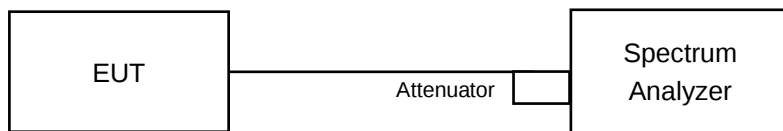
FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	138	5319.9803	-0.00037	5319.9826	-0.00033	5319.9815	-0.00035	5319.9798	-0.00038
	120	5319.9803	-0.00037	5319.982	-0.00034	5319.982	-0.00034	5319.9798	-0.00038
	102	5319.9813	-0.00035	5319.9818	-0.00034	5319.9826	-0.00033	5319.9789	-0.00040

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 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 : Oct. 17, 2014

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

- a. Set resolution bandwidth (RBW) = 100kHz
- b. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- c. Trace mode = max hold.
- d. Sweep = auto couple.
- e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.6.5 Deviation from Test Standard

No deviation.

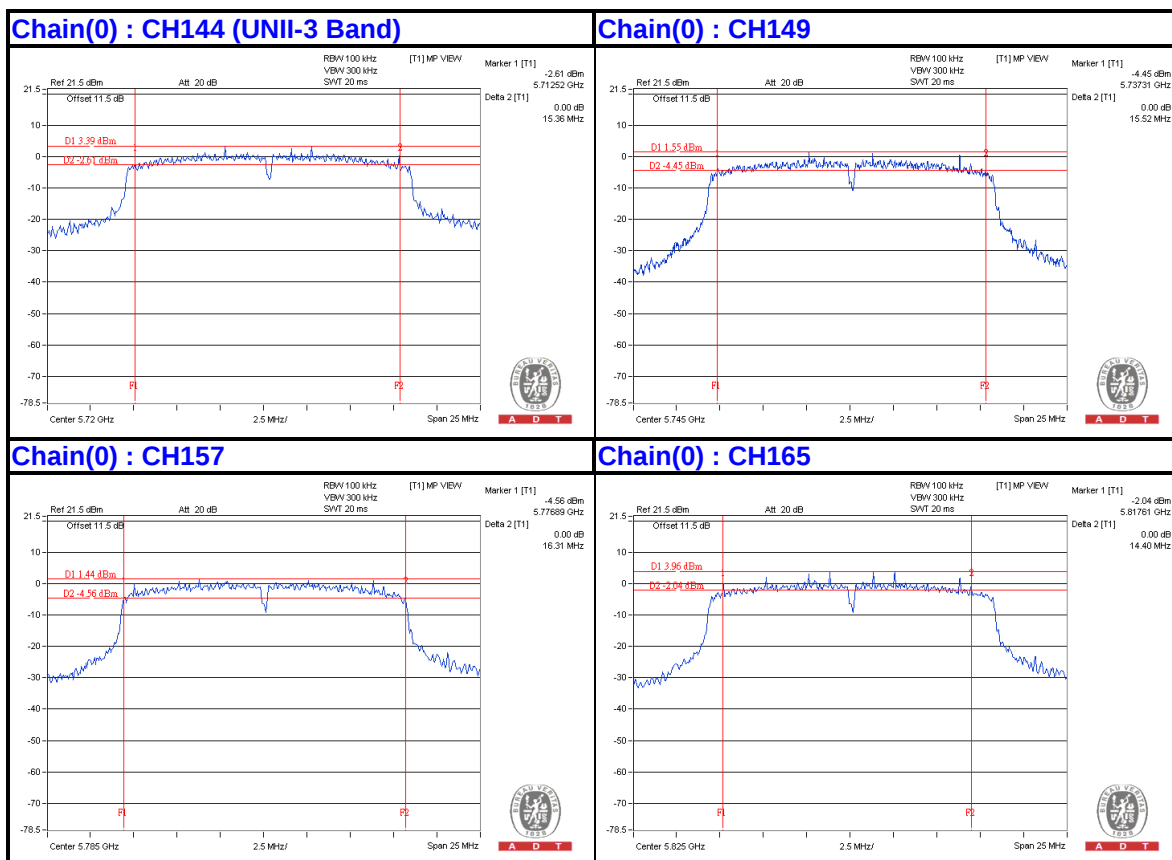
4.6.6 EUT Operating Condition

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

4.6.7 Test Results

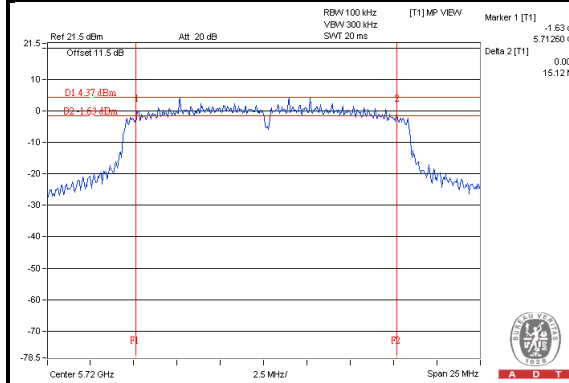
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
144 (UNII-3 Band)	5720	2.88	2.72	0.5	PASS
149	5745	15.52	15.29	0.5	PASS
157	5785	16.31	14.20	0.5	PASS
165	5825	14.40	14.40	0.5	PASS

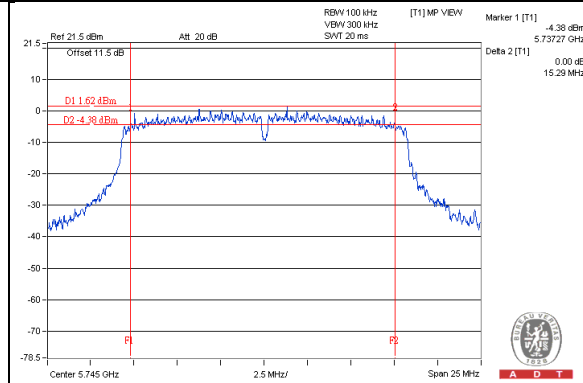


NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

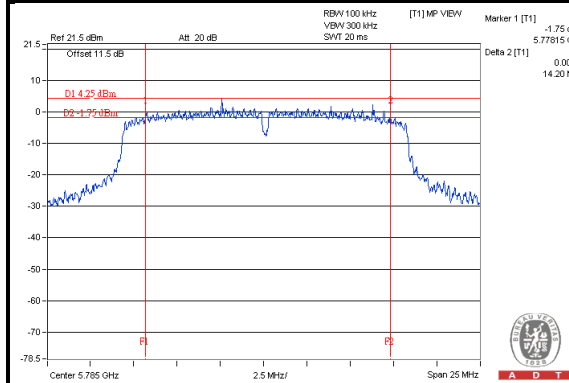
Chain(1) : CH144 (UNII-3 Band)



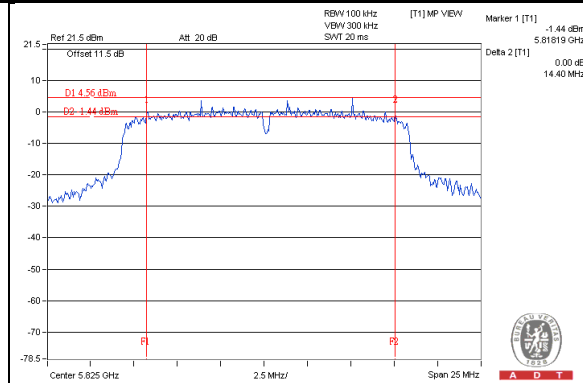
Chain(1) : CH149



Chain(1) : CH157



Chain(1) : CH165

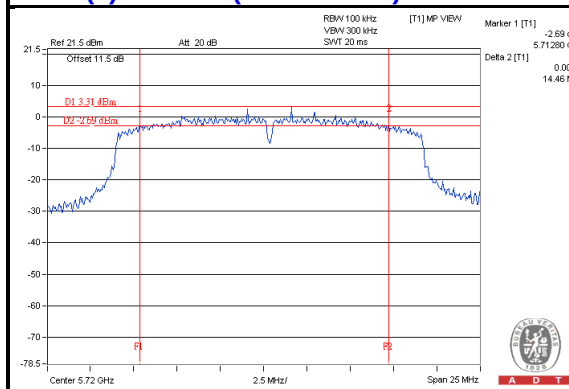


NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

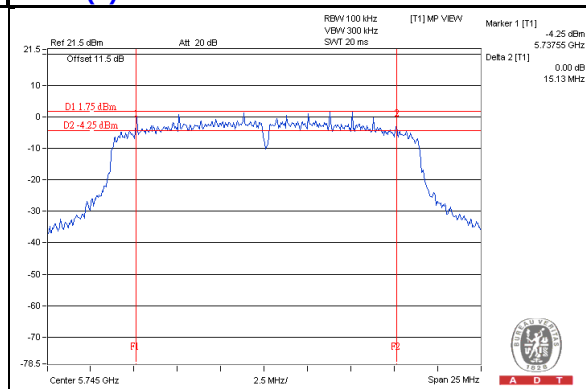
802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
144 (UNII-3 Band)	5720	2.26	2.85	0.5	PASS
149	5745	15.13	15.04	0.5	PASS
157	5785	15.13	15.45	0.5	PASS
165	5825	15.05	14.75	0.5	PASS

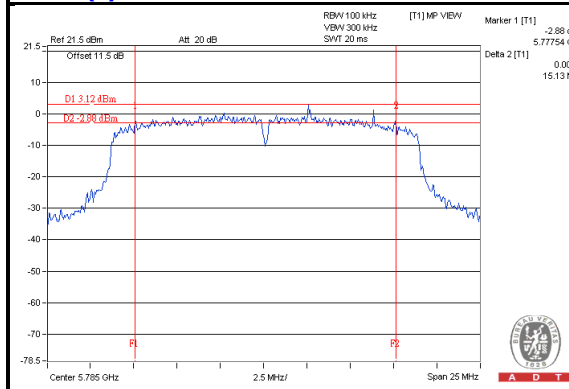
Chain(0) : CH144 (UNII-3 Band)



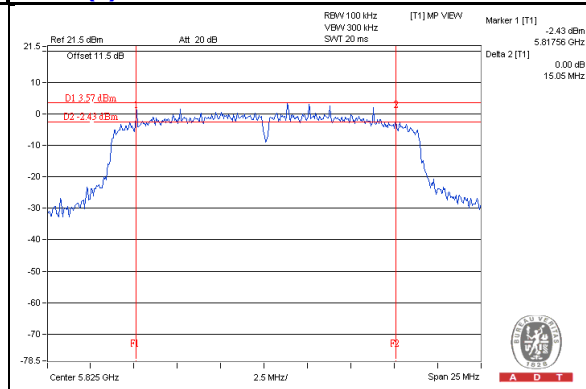
Chain(0) : CH149



Chain(0) : CH157

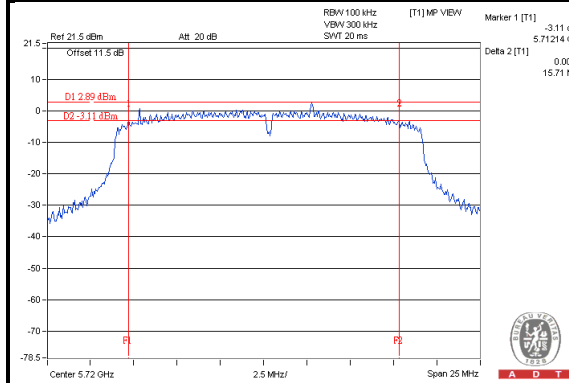


Chain(0) : CH165

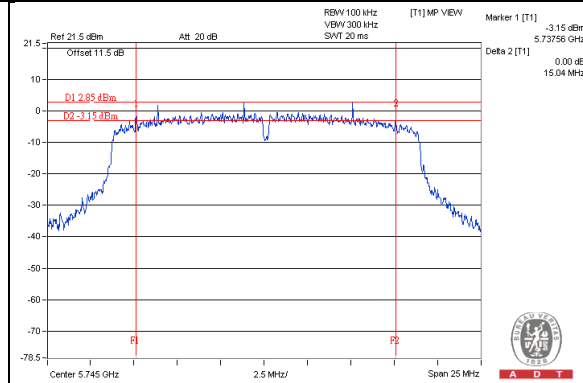


NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

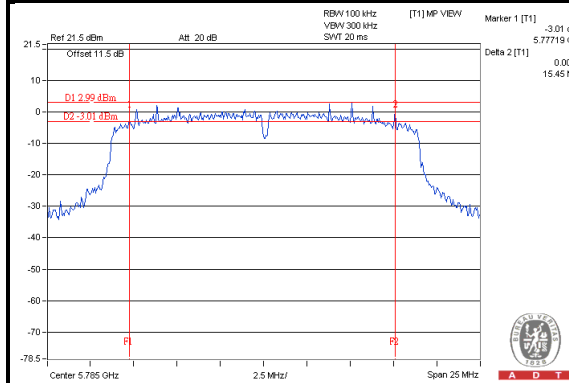
Chain(1) : CH144 (UNII-3 Band)



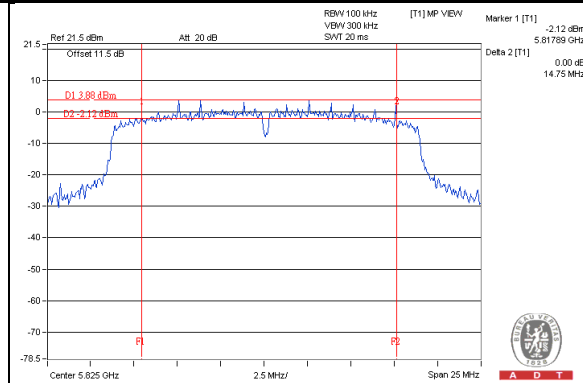
Chain(1) : CH149



Chain(1) : CH157



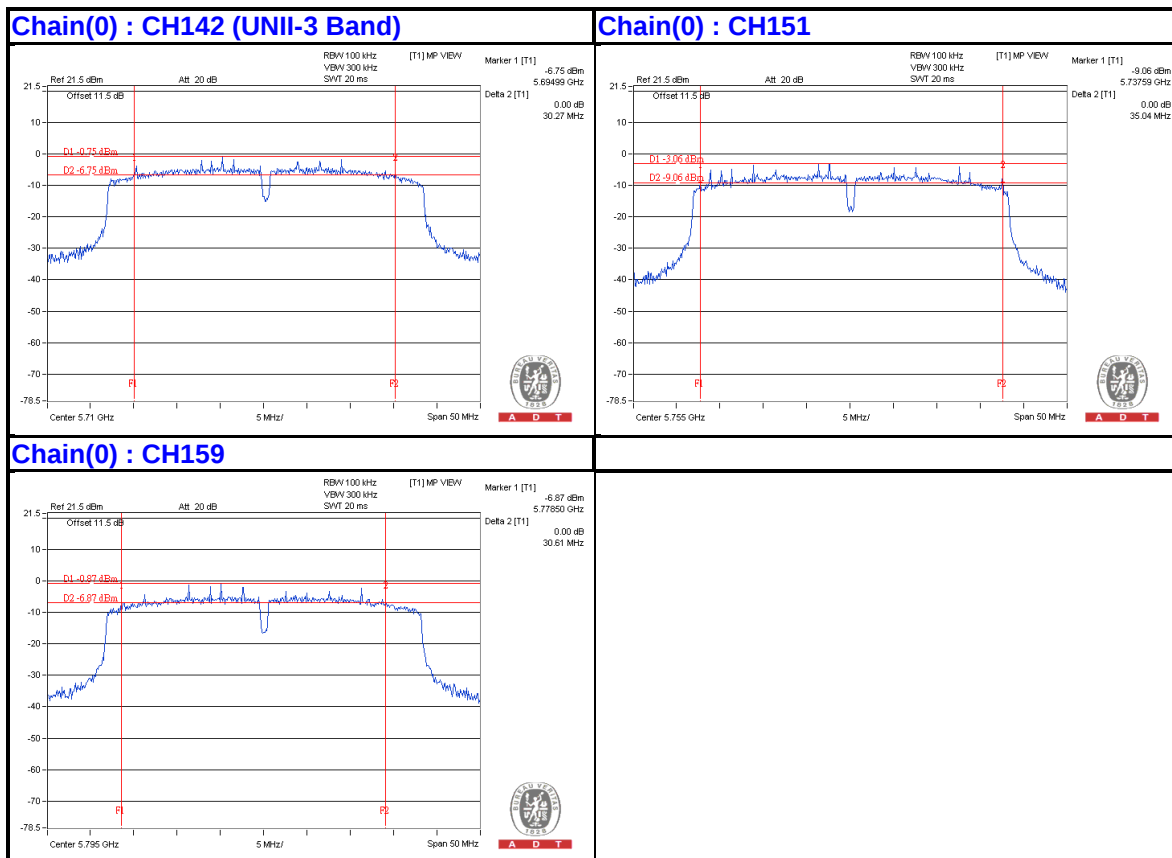
Chain(1) : CH165



NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

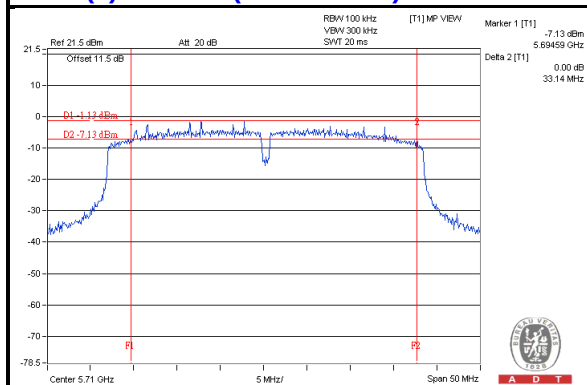
802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
142 (UNII-3 Band)	5710	0.26	2.73	0.5	PASS
151	5755	35.04	35.16	0.5	PASS
159	5795	30.61	33.83	0.5	PASS

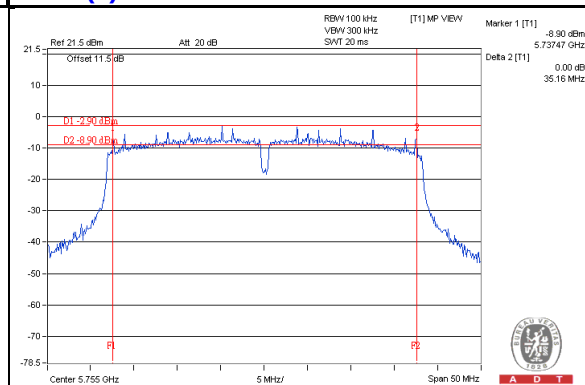


NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

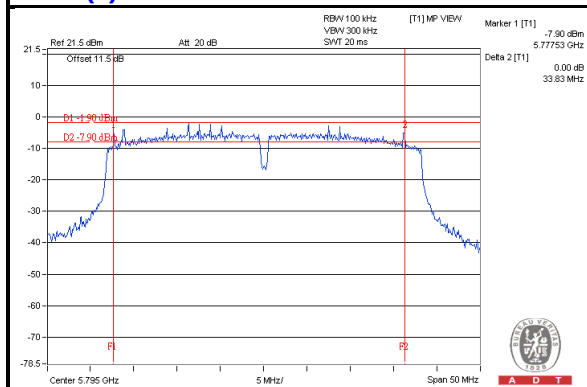
Chain(1) : CH142 (UNII-3 Band)



Chain(1) : CH151



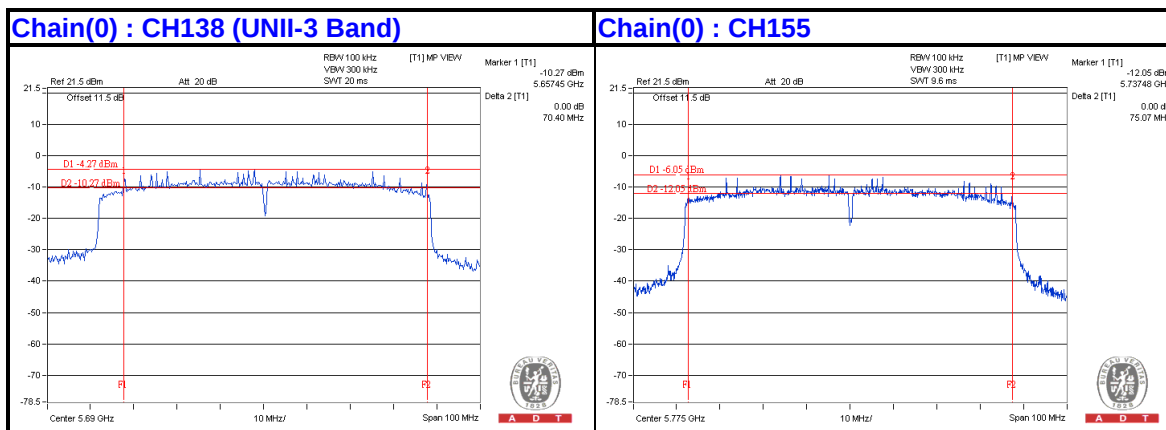
Chain(1) : CH159



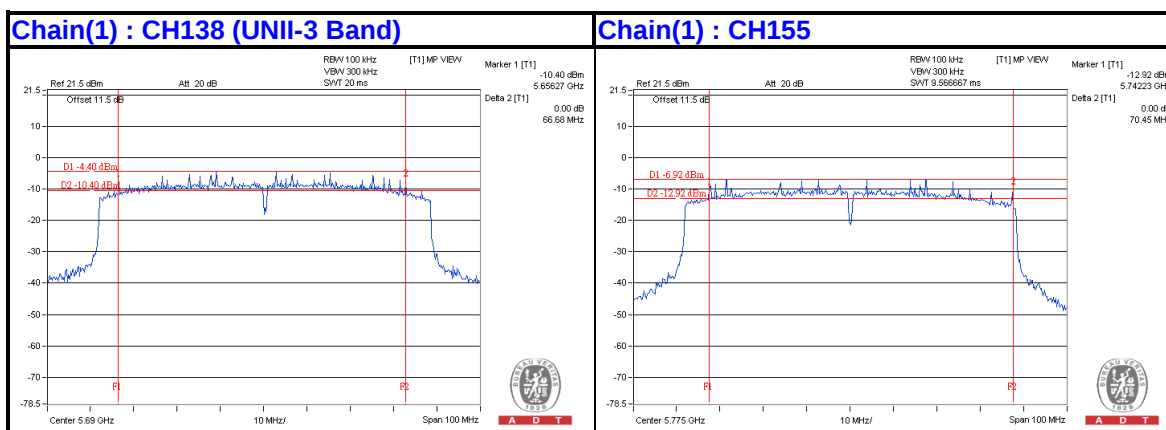
NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
138 (UNII-3 Band)	5690	2.85	0.00	0.5	PASS
155	5775	75.07	70.45	0.5	PASS



NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)



NOTE: For CH144 (UNII-3 Band) = Delta 2 - (5725 - Marker 1)

5 Pictures of Test Arrangements

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

6 Appendix – Information on the Testing Laboratories

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

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

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

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