FCC Test Report (WLAN)

Report No.:	RF150107E06F-1
FCC ID:	PPD-QCNFA344AH
Test Model:	QCNFA344A
Received Date:	June 24, 2015
Test Date:	July 02 to 06, 2015
Issued Date:	July 10, 2015
Applicant:	Qualcomm Atheros, Inc.
Address:	1700 Technology Drive, San Jose, CA 95110
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (1):	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF150107E06F-1	Original release.	July 10, 2015

1 Certificate of Conformity

Product:	802.11a/b/g/n/ac + BT 4.1 M.2 2230 Type Card
Brand:	Qualcomm Atheros
Test Model:	QCNFA344A
Sample Status:	R&D SAMPLE
Applicant:	Qualcomm Atheros, Inc.
Test Date:	July 02 to 06, 2015
Standard:	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:** July 10, 2015
Lori Chung / Specialist

Approved by : _____ , **Date:** July 10, 2015
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 -15.35dB at 2.01118MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -4.2dB at 17265.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
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	Antenna connector is IPEX not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.72 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 (U-NII-3)

Product	802.11a/b/g/n/ac + BT 4.1 M.2 2230 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA344A
Status of EUT	R&D SAMPLE
Power Supply Rating	3.3Vdc form host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n : up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5.745 ~ 5.825GHz
Number of Channel	5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	802.11a: 78.354mW 802.11ac (VHT20): 77.116mW 802.11ac (VHT40): 63.63mW 802.11ac (VHT80): 13.641mW
Antenna Type	See item 3.2
Antenna Connector	See item 3.2
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC Class II change. The difference compared with the Report No.: RF150107E06B-1 design is as the following:

   ◆ Upgrade the versions of the standard to section 15.407 under new rule

2. According to above conditions, all test items of U-NII-3 band test item need to be performed. And all data was verified to meet the requirements.
3. There are Bluetooth technology and WLAN technology used for the EUT.

4. The EUT incorporates a 2T2R function.

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

Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.3.1)

5. In original report , 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.

6. WLAN/BT coexistence mode:

- 2x2 WLAN + BT:
  - 5GHz 802.11a/an (or 11ac) transmit concurrent with BT.
  - 2.4GHz: timely shared coexistence.

7. In original report, the emission (conducted & radiated emission) of the simultaneous operation (WiFi <5GHz> & Bluetooth) have been evaluated and no non-compliance found. The detail combinations of transmitters / frequencies / modes as below table

Mode	Available Channel	Tested Channel	Modulation Technology
5 GHz (802.11a) + Bluetooth (GFSK)	149 to 165	157	OFDM
	0 to 78	39	FHSS

8. 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:

Transmitter Circuit	Brand	Model	Ant. 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	3.00	Band 1&2: 2.56	1.15	Band 1&2: 1.70	IPEX	300
					Band 3: 4.76		Band 3: 1.74		
					Band 4: 4.76		Band 4: 1.79		
Chain (1)	WNC	81-EBJ15.005	PIFA	3.62	Band 1&2: 3.08	1.15	Band 1&2: 1.70	IPEX	300
					Band 3: 3.31		Band 3: 1.74		
					Band 4: 2.42		Band 4: 1.79		

Note: 1. Above antenna gains of antenna are Total (H+V).

For Testing, we select the highest gain on each frequency band for calculation and testing
The detail information as below:

Transmitter Circuit	Brand	Model	Ant. 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)+(1)	WNC	81-EBJ15.005	PIFA	3.62	Band 1&2: 3.08	1.15	Band 1&2: 1.70	IPEX	300
					Band 3: 4.76		Band 3: 1.74		
					Band 4: 4.76		Band 4: 1.79		

3.3 Description of Test Modes

FOR 5745 ~ 5825MHz:

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

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

2 channels are provided for 802.11ac (VHT40), 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
	UE≥1G	UE<1G	PLC	APCM	
-	√	√	√	√	-

Where **UE≥1G:** Unwanted Emission above 1GHz **UE<1G:** Unwanted Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Unwanted 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	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

Unwanted 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	5745-5825	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	5745-5825	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	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

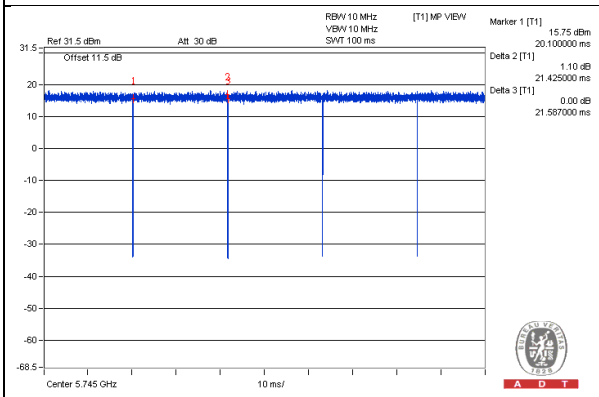
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
UE≥1G	24deg. C, 69%RH	120Vac, 60Hz	Tim Ho
UE<1G	21deg. C, 70%RH	120Vac, 60Hz	Tim Ho
PLC	25deg. C, 65%RH	120Vac, 60Hz	Jyunchun Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

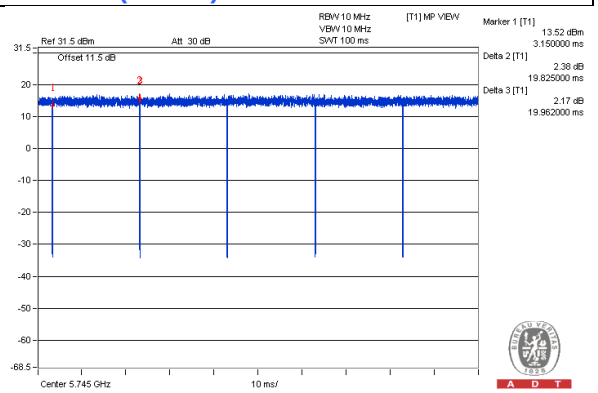
3.4 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.
802.11a: Duty cycle = 21.425 ms/21.587 ms = 0.992
802.11ac (VHT20): Duty cycle = 19.825 ms/19.962 ms = 0.993
802.11ac (VHT40): Duty cycle = 9.594 ms/9.731 ms = 0.986
802.11ac (VHT80): Duty cycle = 4.417 ms/4.519 ms = 0.977, Duty factor = 10 * log(1/0.977) = 0.10

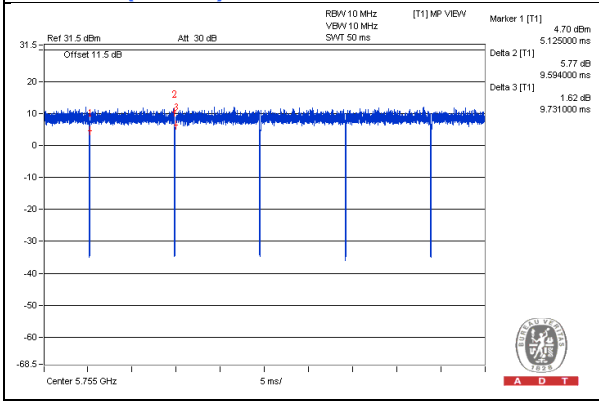
802.11a



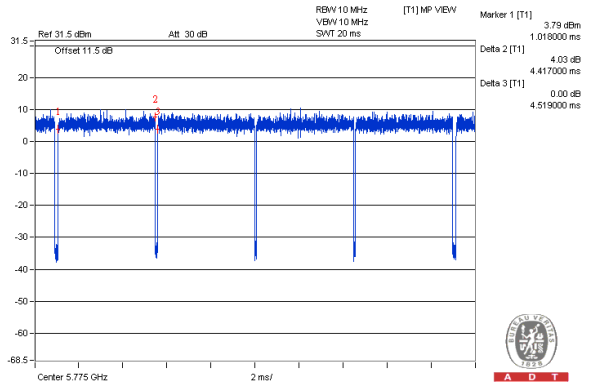
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



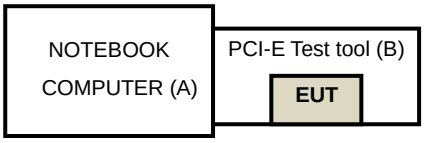
3.5 Description of Support Units

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	E5430	HYV4VY1	FCC DoC	Provided by Lab
B	PCI-E Test tool	Qualcomm Atheros	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 Standard

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 Procedure New Rules v01
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10- 2013

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

4 Test Types and Results

4.1 Transmit Power Measurment

4.1.1 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 ≦ 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 D01 Multiple Transmitter Output v02r01 Method of conducted output power measurement on IEEE 802.11 devices,

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

4.1.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

4.1.3 Test Instruments

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016

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 : July 02, 2015

4.1.4 Test Procedures

FOR AVERAGE POWER MEASUREMENT

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.

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 EUT Operating Conditions

The software (QRCT Version: 3.0.33.0) provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.1.7 Test Results

POWER OUTPUT

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	13.95	13.36	46.508	16.68	28.23	Pass
157	5785	15.88	15.98	78.354	18.94	28.23	Pass
165	5825	15.08	15.10	64.57	18.10	28.23	Pass

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	12.76	12.21	35.514	15.50	28.23	Pass
157	5785	15.76	15.96	77.116	18.87	28.23	Pass
165	5825	14.81	14.87	60.959	17.85	28.23	Pass

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	9.96	9.32	18.459	12.66	28.23	Pass
159	5795	15.13	14.92	63.63	18.04	28.23	Pass

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
155	5775	8.60	8.06	13.641	11.35	28.23	Pass

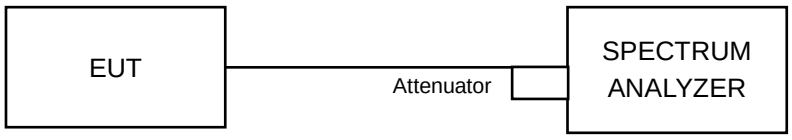
NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

4.2 Peak Power Spectral Density Measurement

4.2.1 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

4.2.2 Test Setup



4.2.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2015	May 07, 2016

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 : July 02, 2015

4.2.4 Test Procedures

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 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 = 10log(500 kHz/300kHz)
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

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Conditions

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

4.2.7 Test Results

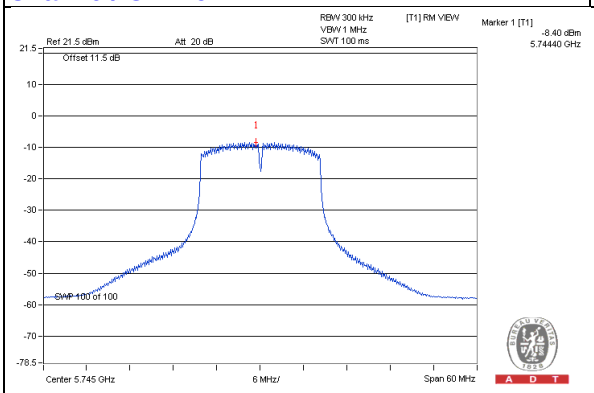
For U-NII-3:

802.11a

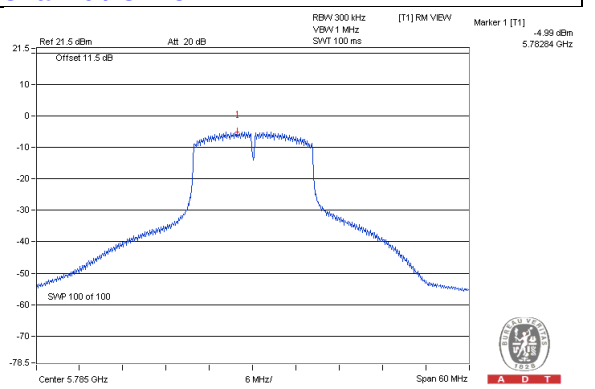
TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	-8.40	-6.18	3.01	-3.17	28.23	Pass
	157	5785	-4.99	-2.77	3.01	0.24	28.23	Pass
	165	5825	-7.13	-4.91	3.01	-1.90	28.23	Pass
1	149	5745	-9.15	-6.93	3.01	-3.92	28.23	Pass
	157	5785	-5.31	-3.09	3.01	-0.08	28.23	Pass
	165	5825	-6.96	-4.74	3.01	-1.73	28.23	Pass

NOTE: 1. 5725~5850MHz: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

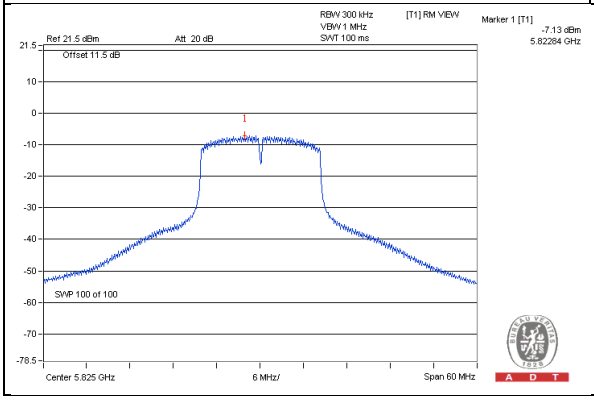
Chain 0 / CH149



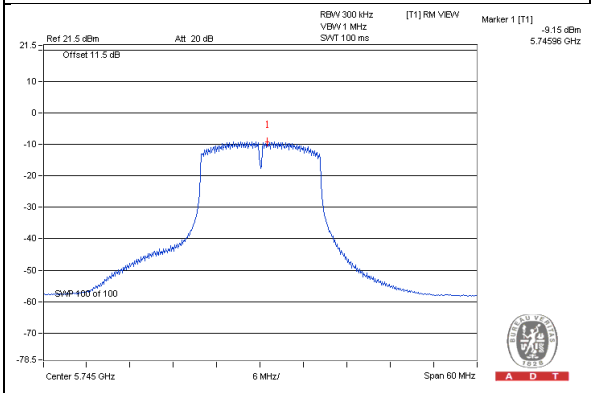
Chain 0 / CH157



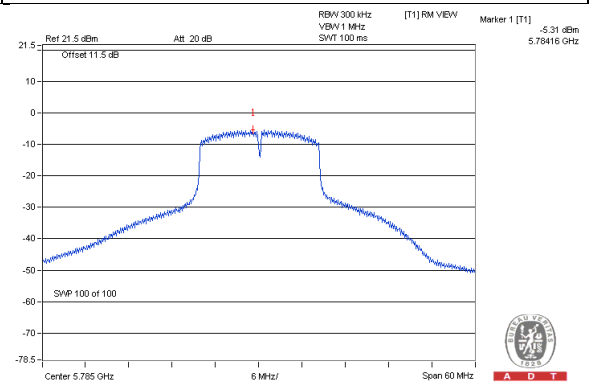
Chain 0 / CH165



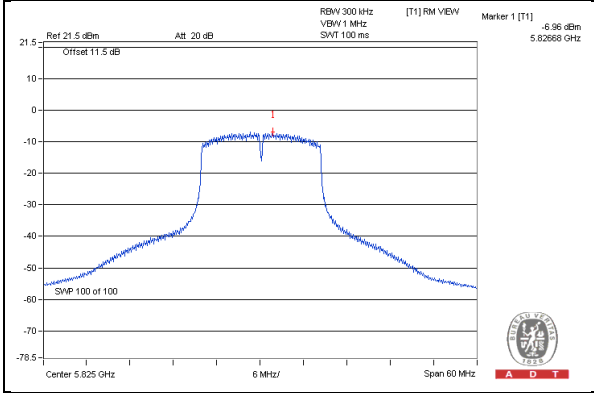
Chain 1 / CH149



Chain 1 / CH157



Chain 1 / CH165

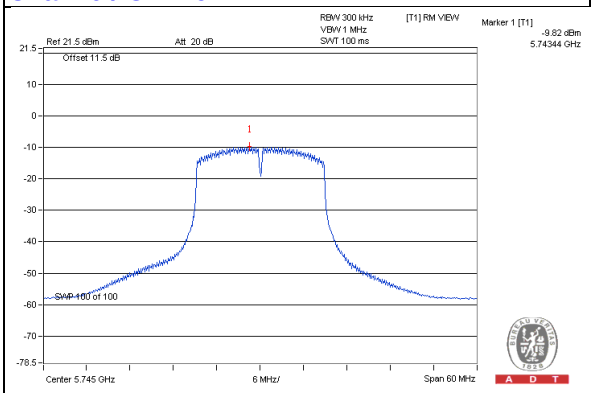


802.11ac (VHT20)

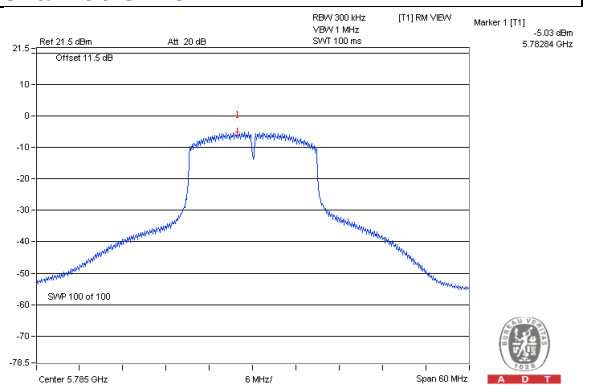
TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	-9.82	-7.60	3.01	-4.59	28.23	Pass
	157	5785	-5.03	-2.81	3.01	0.20	28.23	Pass
	165	5825	-7.48	-5.26	3.01	-2.25	28.23	Pass
1	149	5745	-10.71	-8.49	3.01	-5.48	28.23	Pass
	157	5785	-5.57	-3.35	3.01	-0.34	28.23	Pass
	165	5825	-7.32	-5.10	3.01	-2.09	28.23	Pass

NOTE: 1. 5725~5850MHz: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

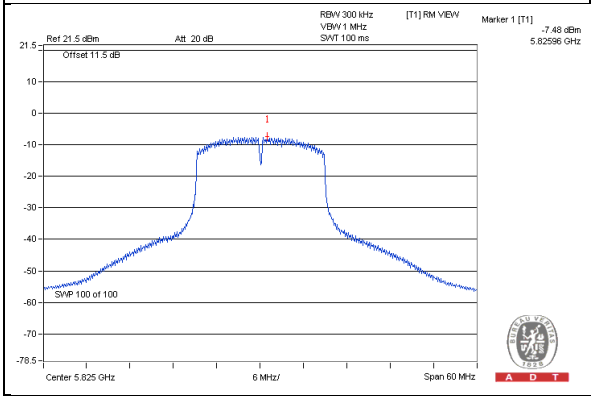
Chain 0 / CH149



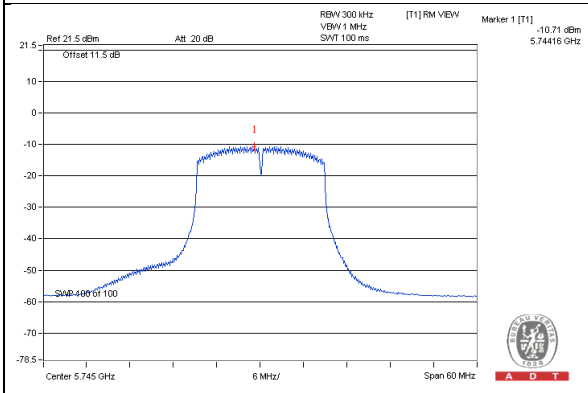
Chain 0 / CH157



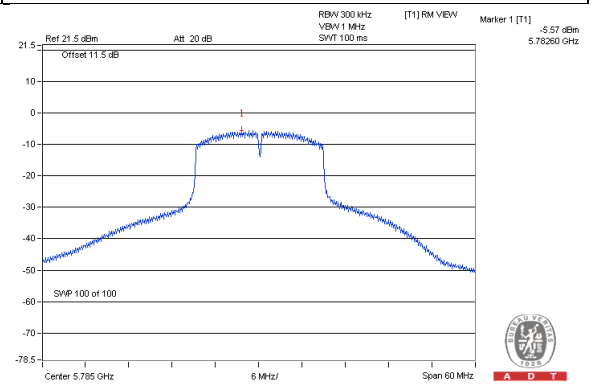
Chain 0 / CH165



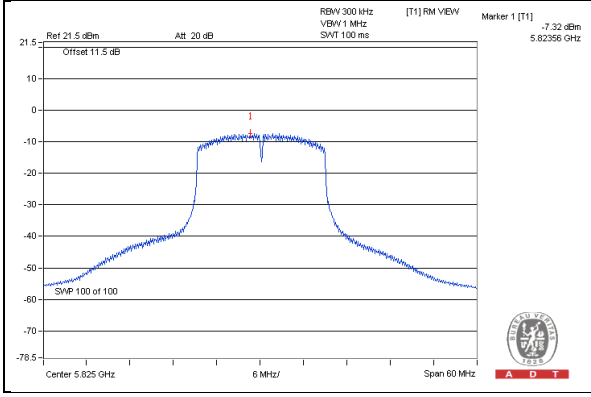
Chain 1 / CH149



Chain 1 / CH157



Chain 1 / CH165

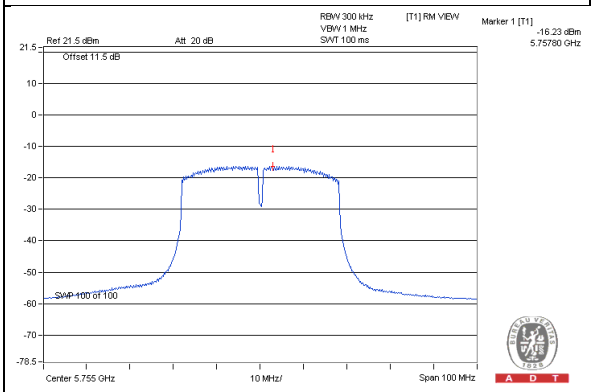


802.11ac (VHT40)

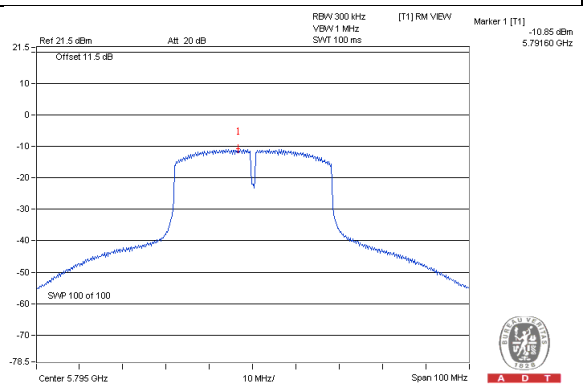
TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	151	5755	-16.23	-14.01	3.01	-11.00	28.23	Pass
	159	5795	-10.85	-8.63	3.01	-5.62	28.23	Pass
1	151	5755	-16.99	-14.77	3.01	-11.76	28.23	Pass
	159	5795	-11.58	-9.36	3.01	-6.35	28.23	Pass

NOTE: 1. 5725~5850MHz: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

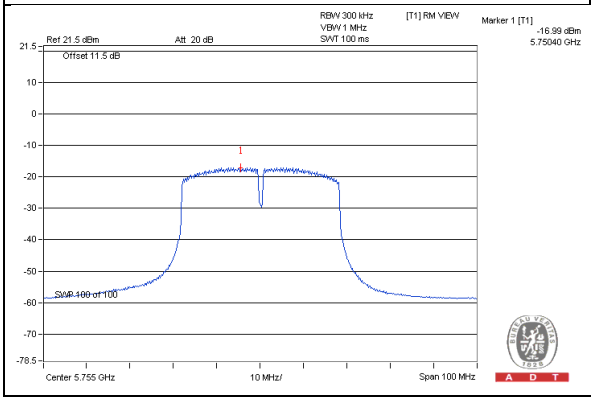
Chain 0 / CH151



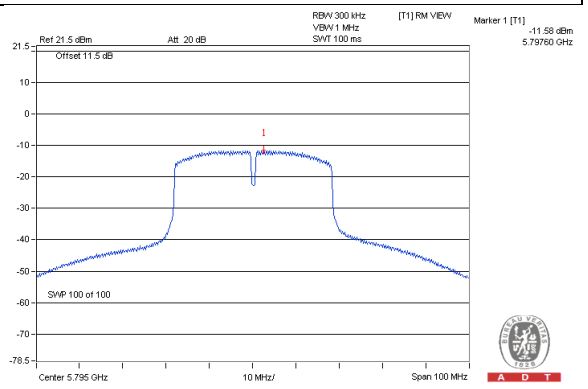
Chain 0 / CH159



Chain 1 / CH151



Chain 1 / CH159



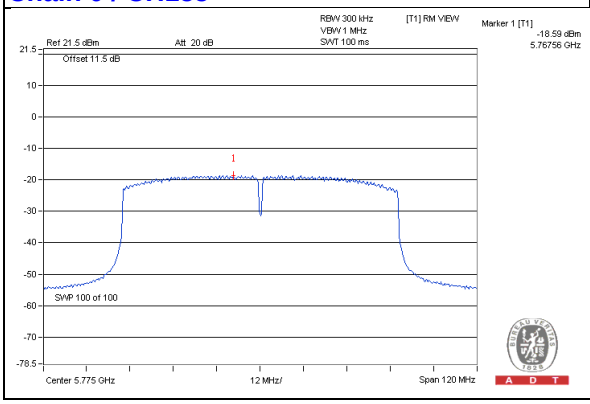
802.11ac (VHT80)

TX chain	Chan.	Chan. Freq. (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	155	5775	-18.59	-16.37	3.01	0.10	-13.26	28.23	Pass
1	155	5775	-19.55	-17.33	3.01	0.10	-14.22	28.23	Pass

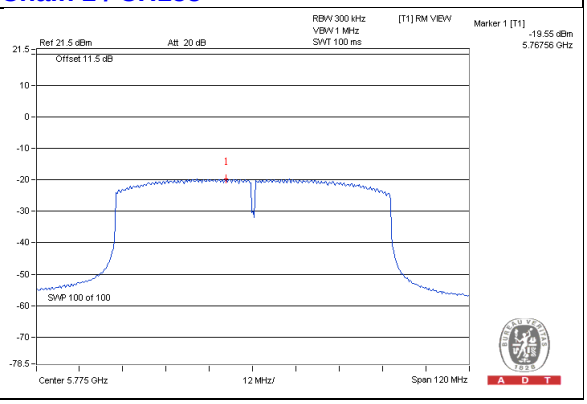
NOTE: 1. 5725~5850MHz: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dB, so the power density limit shall be reduced to 30-(7.77-6) = 28.23dBm.

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

Chain 0 / CH155



Chain 1 / CH155

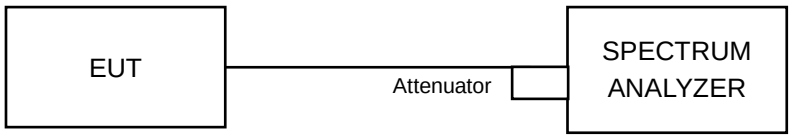


4.3 6dB Bandwidth Measurment

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2015	May 07, 2016

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 : July 02, 2015

4.3.4 Test Procedures

MEASUREMENT PROCEDURE REF

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

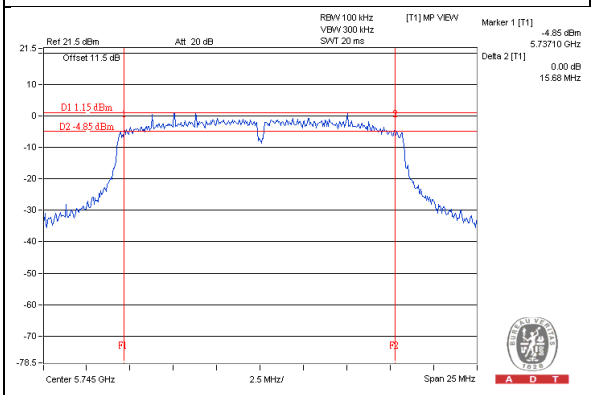
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

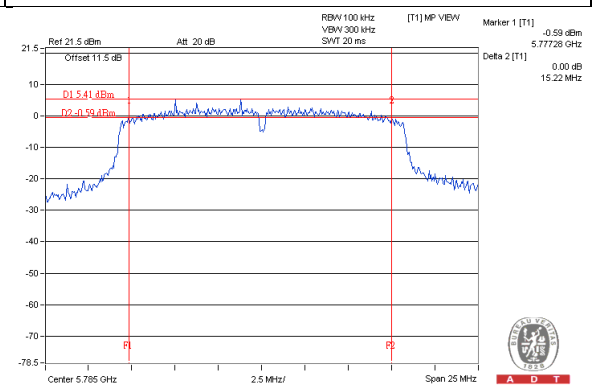
802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.68	16.29	0.5	Pass
157	5785	15.22	15.13	0.5	Pass
165	5825	15.31	15.13	0.5	Pass

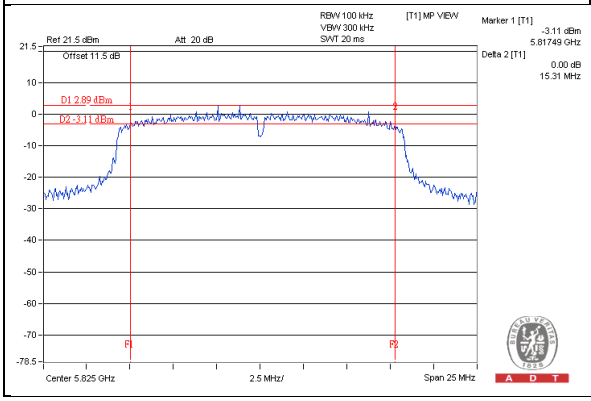
Chain 0 / CH149



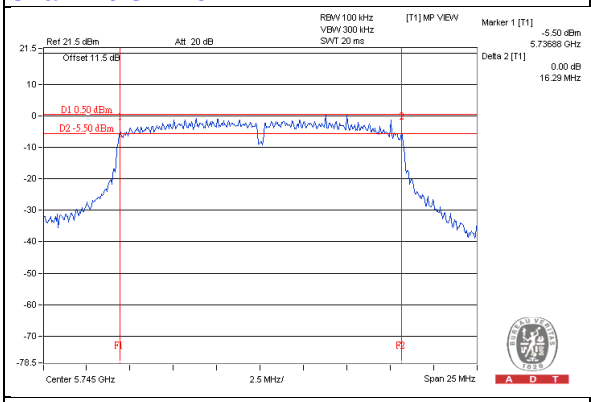
Chain 0 / CH157



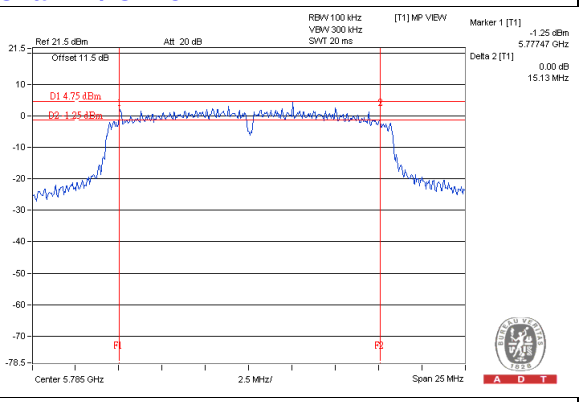
Chain 0 / CH165



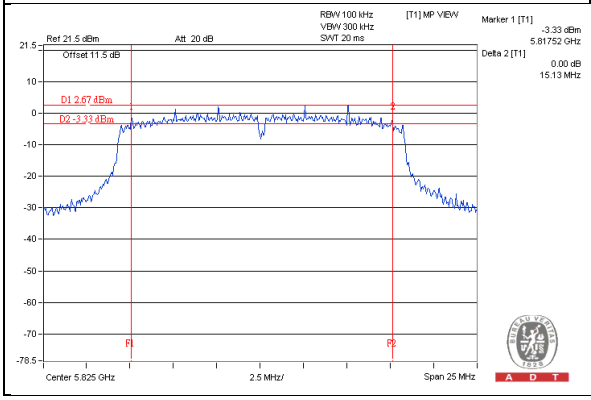
Chain 1 / CH149



Chain 1 / CH157



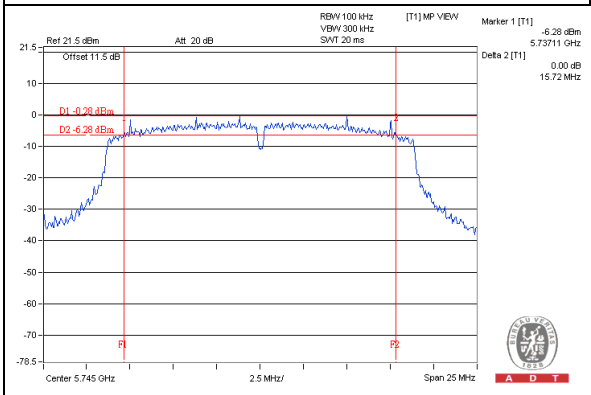
Chain 1 / CH165



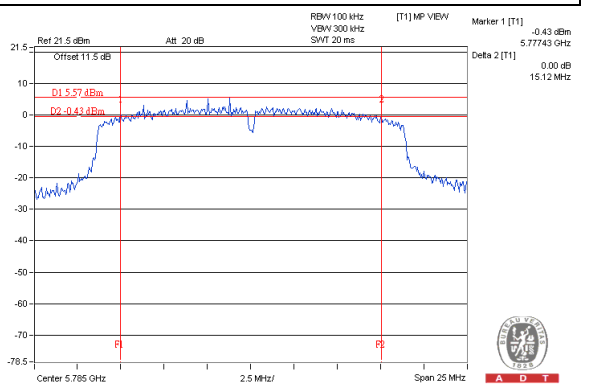
802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.72	16.99	0.5	Pass
157	5785	15.12	15.65	0.5	Pass
165	5825	15.11	14.46	0.5	Pass

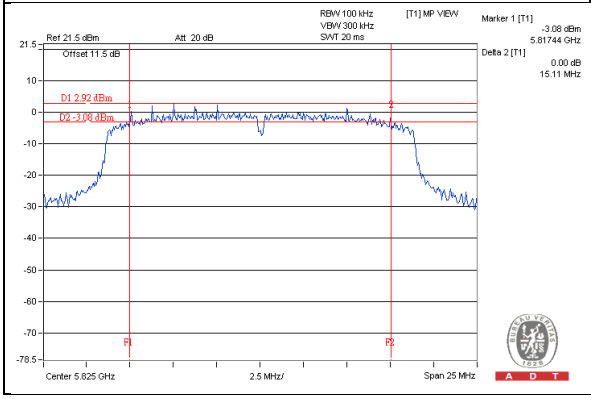
Chain 0 / CH149



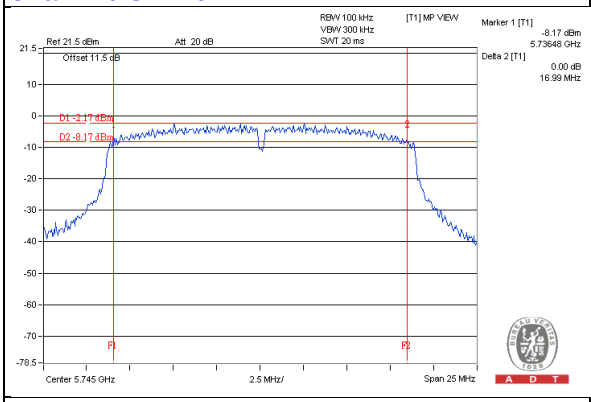
Chain 0 / CH157



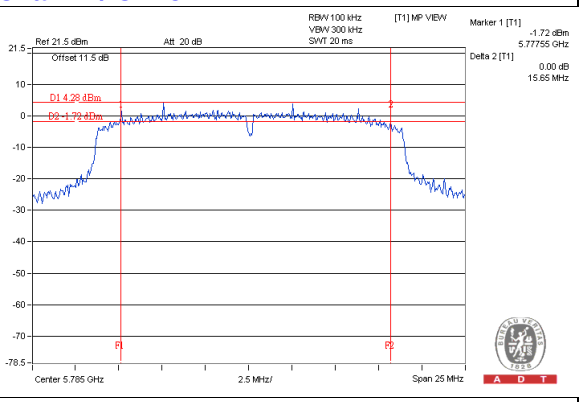
Chain 0 / CH165



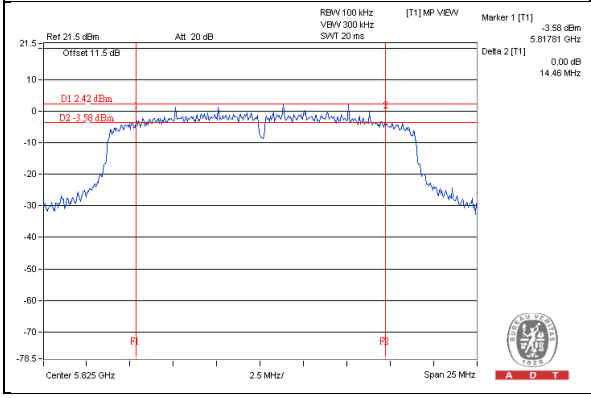
Chain 1 / CH149



Chain 1 / CH157



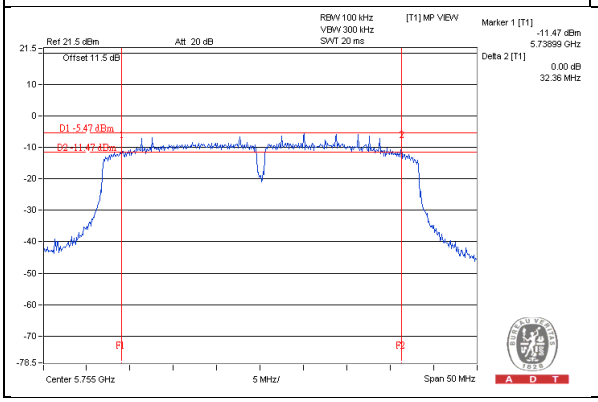
Chain 1 / CH165



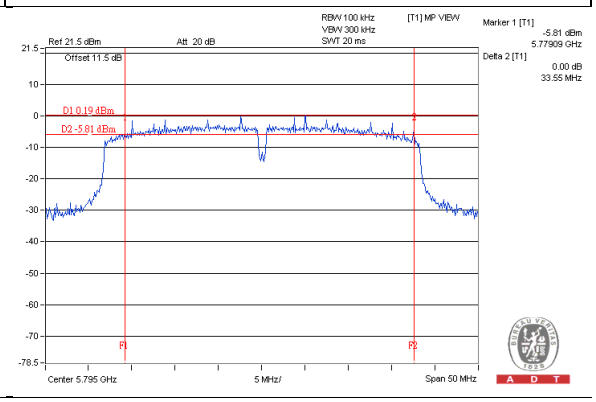
802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	32.36	35.18	0.5	Pass
159	5795	33.55	35.19	0.5	Pass

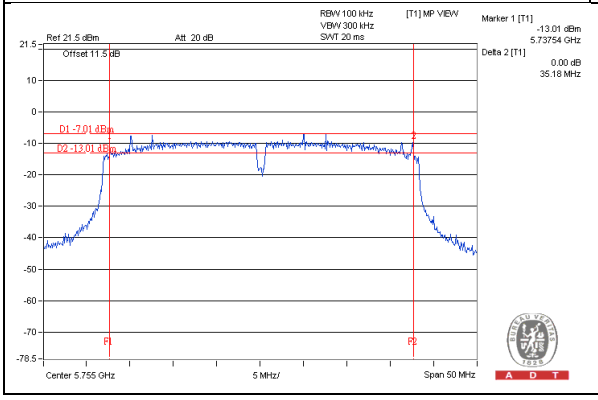
Chain 0 / CH151



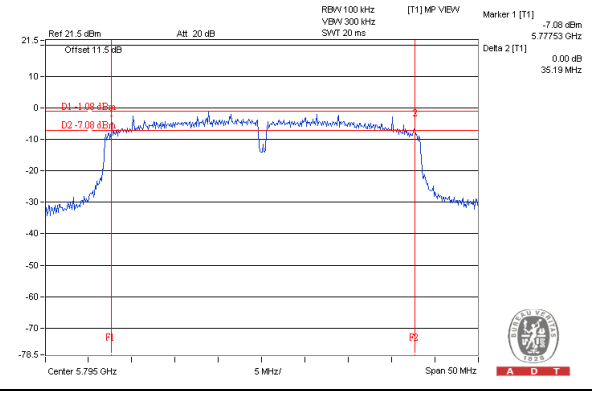
Chain 0 / CH159



Chain 1 / CH151



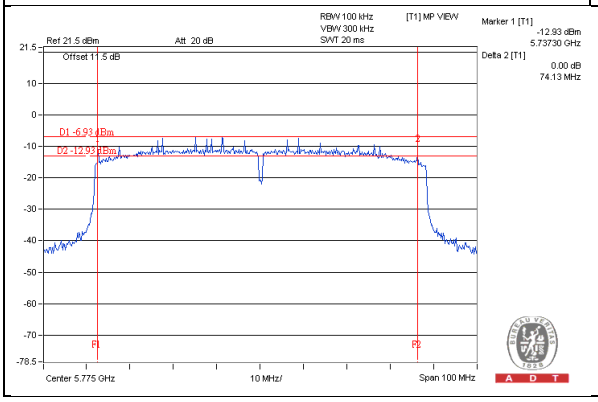
Chain 1 / CH159



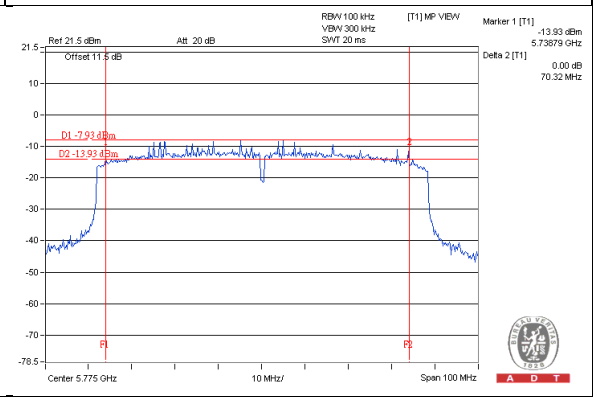
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	74.13	70.32	0.5	Pass

Chain 0 / CH155



Chain 1 / CH155



4.4 Unwanted Emission (Radiated Versus Conducted)

4.4.1 Limits of Unwanted Emission 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:

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	**LIMIT**	
789033 D02 General UNII Test Procedure New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
APPLICABLE TO	**EIRP LIMIT**	**EQUIVALENT FIELD STRENGTH AT 3m**
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/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(dBμV/m) *1 PK:78.2 (dBμV/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:

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

4.4.2 Test Instruments

For above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 21, 2014	July 20, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 23, 2015	June 22, 2016
RF Cable	NA	131205 131216 131217 SNMY23684/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	June 26, 2015	June 25, 2016
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 test was performed in 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The VCCI Site Registration No. is G-137.
5. The CANADA Site Registration No. is IC 7450H-2.
6. Tested Date: July 06, 2015

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 09, 2015	Feb. 08, 2016
RF Cable	8D-FB	CHHCAB-001-1 CHHCAB-001-2	Oct. 05, 2014	Oct. 04, 2015
	RF-141	CHHCAB-004	Oct. 05, 2014	Oct. 04, 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 test was performed in 966 Chamber No. H.
3. The FCC Site Registration No. is 797305.
4. The CANADA Site Registration No. is IC 7450H-3.
5. Tested Date: July 06, 2015

4.4.3 Test Procedure

Following FCC KDB 789033 D02 General UNII Test Procedures:
Radiated versus Conducted Measurements.
The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.
The following steps was performed:

a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.

b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT

c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater

d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)

e. For all of Radiation emission test

e-1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

e-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

e-3. 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.

e-4. 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-5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

e-6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

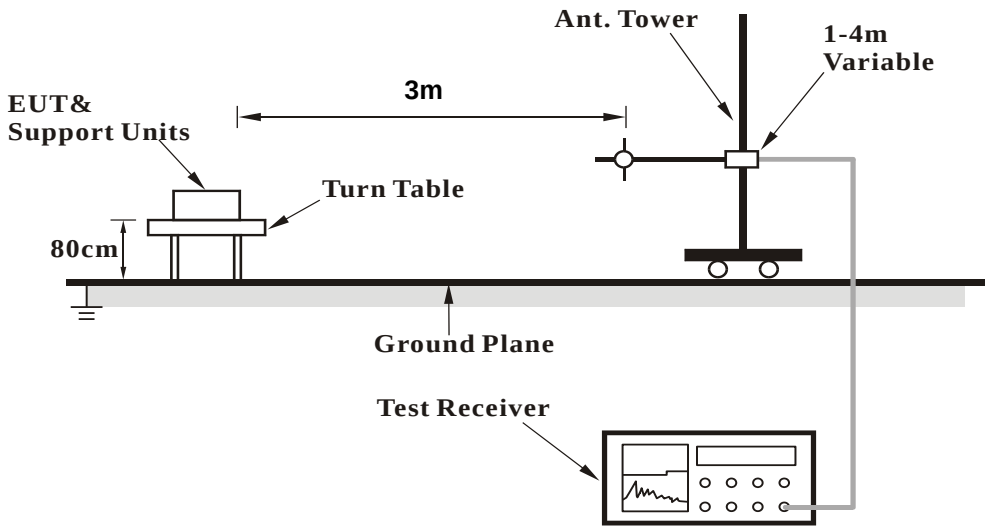
4.4.4 Deviation from Test Standard

No deviation.

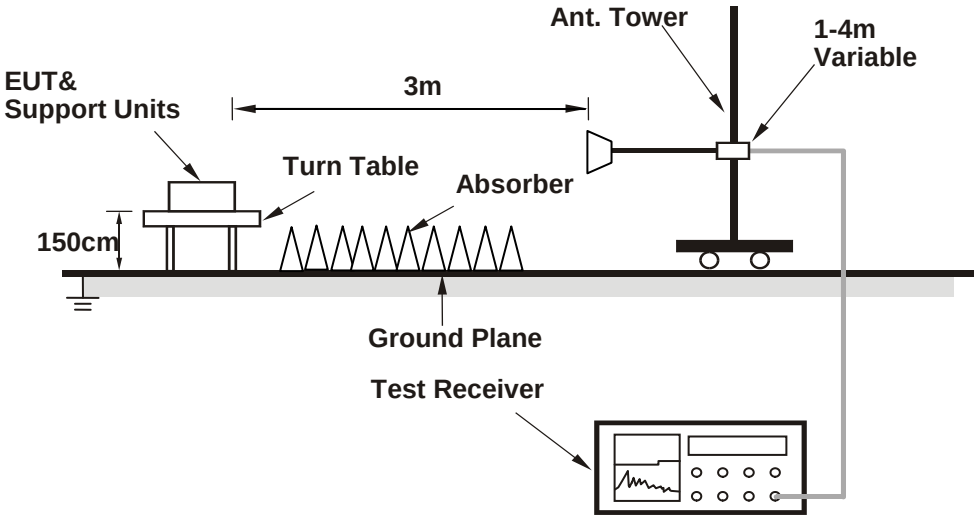
4.4.5 Test Setup

For radiated configuration:

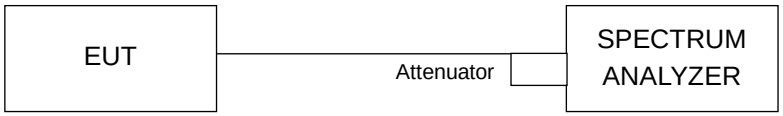
<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For conducted configuration:



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

4.4.6 EUT Operating Condition

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 “QRCT Version: 3.0.33.0” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.4.7 Test Results (Radiated Measurement)

Radiated versus Conducted Measurement	
☐ Conducted measurement	☒ Radiated measurement
For Radiated measurement: The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) For Conducted measurement: The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Radiated test was done with 50ohm terminator on antenna port

Above 1GHz Data：

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	11490.00	56.3 PK	74.0	-17.7	1.01 H	184	41.44	14.86
2	11490.00	42.5 AV	54.0	-11.5	1.01 H	184	27.64	14.86
3	#17235.00	61.3 PK	74.0	-12.7	1.12 H	98	38.07	23.23
4	#17235.00	47.9 AV	54.0	-6.1	1.12 H	98	24.67	23.23
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	11490.00	55.0 PK	74.0	-19.0	1.02 V	141	40.14	14.86
2	11490.00	42.1 AV	54.0	-11.9	1.02 V	141	27.24	14.86
3	#17235.00	61.3 PK	74.0	-12.7	1.10 V	207	38.07	23.23
4	#17235.00	49.0 AV	54.0	-5.0	1.10 V	207	25.77	23.23

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. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	56.9 PK	74.0	-17.1	1.03 H	191	41.70	15.20
2	11570.00	43.0 AV	54.0	-11.0	1.03 H	191	27.80	15.20
3	#17355.00	61.1 PK	74.0	-12.9	1.07 H	88	37.54	23.56
4	#17355.00	47.9 AV	54.0	-6.1	1.07 H	88	24.34	23.56
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	11570.00	54.7 PK	74.0	-19.3	1.09 V	130	39.50	15.20
2	11570.00	41.6 AV	54.0	-12.4	1.09 V	130	26.40	15.20
3	#17355.00	61.8 PK	74.0	-12.2	1.12 V	196	38.24	23.56
4	#17355.00	49.7 AV	54.0	-4.3	1.12 V	196	26.14	23.56

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. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	56.9 PK	74.0	-17.1	1.03 H	193	41.50	15.40
2	11650.00	42.7 AV	54.0	-11.3	1.03 H	193	27.30	15.40
3	#17475.00	60.7 PK	74.0	-13.3	1.17 H	93	36.61	24.09
4	#17475.00	47.2 AV	54.0	-6.8	1.17 H	93	23.11	24.09
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	11650.00	55.4 PK	74.0	-18.6	1.12 V	137	40.00	15.40
2	11650.00	42.1 AV	54.0	-11.9	1.12 V	137	26.70	15.40
3	#17475.00	61.7 PK	74.0	-12.3	1.13 V	194	37.61	24.09
4	#17475.00	49.4 AV	54.0	-4.6	1.13 V	194	25.31	24.09

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. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	56.1 PK	74.0	-17.9	1.07 H	188	41.24	14.86
2	11490.00	42.2 AV	54.0	-11.8	1.07 H	188	27.34	14.86
3	#17235.00	60.7 PK	74.0	-13.3	1.13 H	98	37.47	23.23
4	#17235.00	47.4 AV	54.0	-6.6	1.13 H	98	24.17	23.23
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	11490.00	55.1 PK	74.0	-18.9	1.05 V	145	40.24	14.86
2	11490.00	42.0 AV	54.0	-12.0	1.05 V	145	27.14	14.86
3	#17235.00	61.6 PK	74.0	-12.4	1.21 V	209	38.37	23.23
4	#17235.00	49.6 AV	54.0	-4.4	1.21 V	209	26.37	23.23

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. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	56.6 PK	74.0	-17.4	1.08 H	178	41.40	15.20
2	11570.00	42.9 AV	54.0	-11.1	1.08 H	178	27.70	15.20
3	#17355.00	61.6 PK	74.0	-12.4	1.15 H	99	38.04	23.56
4	#17355.00	47.9 AV	54.0	-6.1	1.15 H	99	24.34	23.56
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	11570.00	55.2 PK	74.0	-18.8	1.12 V	133	40.00	15.20
2	11570.00	42.0 AV	54.0	-12.0	1.12 V	133	26.80	15.20
3	#17355.00	61.9 PK	74.0	-12.1	1.13 V	213	38.34	23.56
4	#17355.00	49.5 AV	54.0	-4.5	1.13 V	213	25.94	23.56

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. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	57.2 PK	74.0	-16.8	1.00 H	181	41.80	15.40
2	11650.00	43.1 AV	54.0	-10.9	1.00 H	181	27.70	15.40
3	#17475.00	61.2 PK	74.0	-12.8	1.07 H	75	37.11	24.09
4	#17475.00	47.4 AV	54.0	-6.6	1.07 H	75	23.31	24.09
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	11650.00	55.5 PK	74.0	-18.5	1.08 V	128	40.10	15.40
2	11650.00	42.1 AV	54.0	-11.9	1.08 V	128	26.70	15.40
3	#17475.00	62.0 PK	74.0	-12.0	1.11 V	202	37.91	24.09
4	#17475.00	49.7 AV	54.0	-4.3	1.11 V	202	25.61	24.09

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. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	56.6 PK	74.0	-17.4	1.07 H	189	41.75	14.85
2	11510.00	42.9 AV	54.0	-11.1	1.07 H	189	28.05	14.85
3	#17265.00	60.8 PK	74.0	-13.2	1.16 H	99	37.57	23.23
4	#17265.00	47.1 AV	54.0	-6.9	1.16 H	99	23.87	23.23
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	11510.00	55.6 PK	74.0	-18.4	1.16 V	115	40.75	14.85
2	11510.00	42.2 AV	54.0	-11.8	1.16 V	115	27.35	14.85
3	#17265.00	62.5 PK	74.0	-11.5	1.17 V	205	39.27	23.23
4	**#17265.00**	**49.8 AV**	**54.0**	**-4.2**	**1.17 V**	**205**	**26.57**	**23.23**

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. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	56.6 PK	74.0	-17.4	1.02 H	194	41.29	15.31
2	11590.00	42.6 AV	54.0	-11.4	1.02 H	194	27.29	15.31
3	#17385.00	61.1 PK	74.0	-12.9	1.12 H	84	37.34	23.76
4	#17385.00	47.6 AV	54.0	-6.4	1.12 H	84	23.84	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	11590.00	55.2 PK	74.0	-18.8	1.07 V	132	39.89	15.31
2	11590.00	42.1 AV	54.0	-11.9	1.07 V	132	26.79	15.31
3	#17385.00	61.8 PK	74.0	-12.2	1.16 V	202	38.04	23.76
4	#17385.00	49.5 AV	54.0	-4.5	1.16 V	202	25.74	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. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11550.00	56.2 PK	74.0	-17.8	1.04 H	202	41.11	15.09
2	11550.00	42.4 AV	54.0	-11.6	1.04 H	202	27.31	15.09
3	#17325.00	61.4 PK	74.0	-12.6	1.15 H	73	38.02	23.38
4	#17325.00	47.9 AV	54.0	-6.1	1.15 H	73	24.52	23.38
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	11550.00	55.4 PK	74.0	-18.6	1.05 V	123	40.31	15.09
2	11550.00	41.9 AV	54.0	-12.1	1.05 V	123	26.81	15.09
3	#17325.00	62.1 PK	74.0	-11.9	1.13 V	204	38.72	23.38
4	#17325.00	49.7 AV	54.0	-4.3	1.13 V	204	26.32	23.38

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. " # ": 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	166.25	35.9 QP	43.5	-7.6	1.05 H	129	49.18	-13.24
2	240.25	40.4 QP	46.0	-5.6	1.00 H	54	54.46	-14.06
3	252.69	35.2 QP	46.0	-10.8	1.20 H	16	48.99	-13.83
4	257.11	34.1 QP	46.0	-11.9	1.00 H	27	47.77	-13.71
5	335.77	36.2 QP	46.0	-9.8	1.00 H	103	47.02	-10.80
6	608.55	36.1 QP	46.0	-9.9	1.32 H	72	40.64	-4.57
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	134.45	22.2 QP	43.5	-21.4	1.59 V	122	35.89	-13.74
2	166.21	32.1 QP	43.5	-11.4	1.19 V	143	45.36	-13.24
3	240.26	30.5 QP	46.0	-15.5	1.15 V	107	44.52	-14.06
4	335.26	31.2 QP	46.0	-14.8	1.51 V	113	41.98	-10.80
5	608.57	28.4 QP	46.0	-17.7	1.52 V	63	32.92	-4.57
6	611.25	27.2 QP	46.0	-18.8	1.05 V	52	31.71	-4.51

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

4.4.8 **Test Results (Conducted Measurement)**

Radiated versus Conducted Measurement	
☒ Conducted measurement	☐ Radiated measurement

For Radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation)

For Conducted measurement:

The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).

Conducted Measurement Factor
a. The composite gain will be used when signal support the correlated signal. (Composite gain = 4.76dBi + 10log(2) = 7.77dBi)
b. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.
c. For the band edge the gain for the specific band may have been used.
d. In restricted bands below 1000 MHz, add upper bound on ground plane reflection: For f = 30 – 1000 MHz, add 4.7 dB.
Note: The conducted emission test was considered some factor to compute test result.

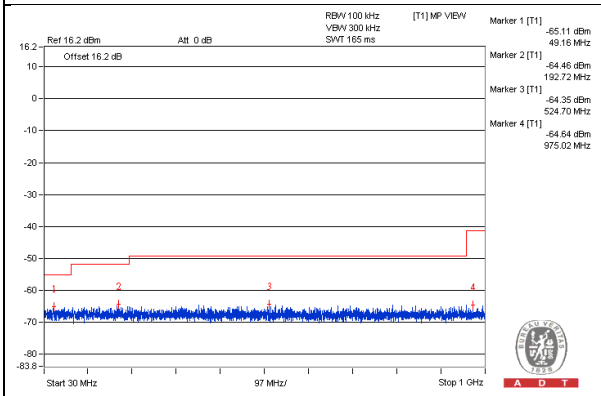
Above 1GHz Data
802.11a - Channel 149

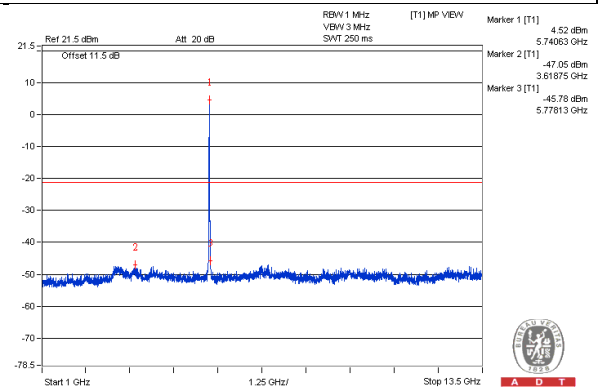
Conducted spurious emission table

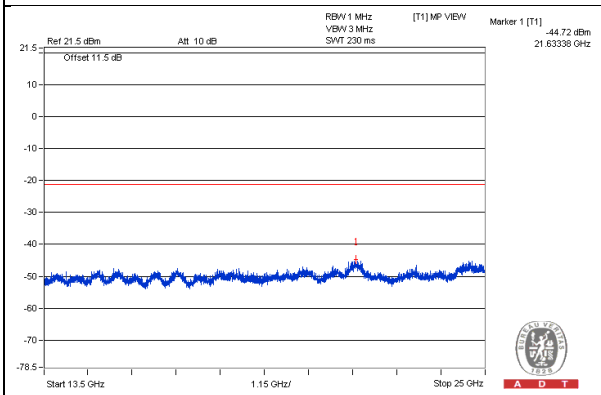
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3828.125 PK	55.7	74	-18.3	-50.85	-49.88	7.77	-39.56
2	3828.125 AV	44.37	54	-9.63	-66.34	-59.47	7.77	-50.89
3	7671.875 PK	55.8	74	-18.2	-49.96	-50.54	7.77	-39.46
4	7659.375 AV	34.85	54	-19.15	-71.32	-71.06	7.77	-60.41
5	11496.875 PK	56.89	74	-17.11	-50.68	-48.02	7.77	-38.37
6	11493.75 AV	41.81	54	-12.19	-70.44	-61.77	7.77	-53.45
7	17237.5 PK	53.49	74	-20.51	-53.9	-51.53	7.77	-41.77
8	17228.875 AV	41.93	54	-12.07	-64.08	-64.14	7.77	-53.33

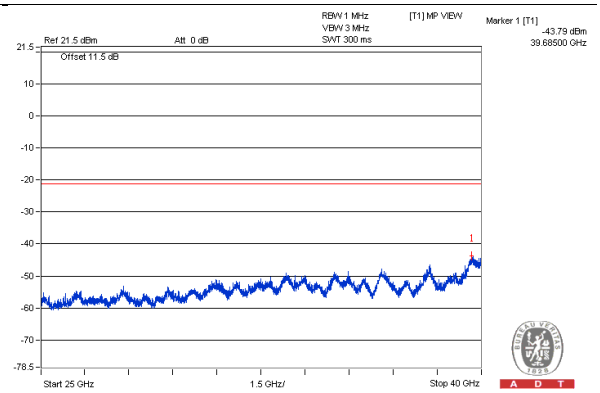
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

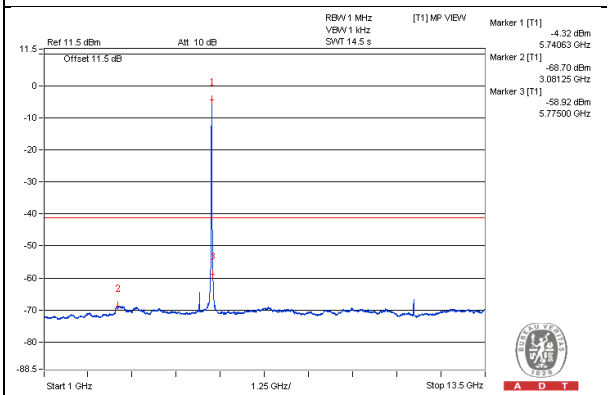
Chain 0

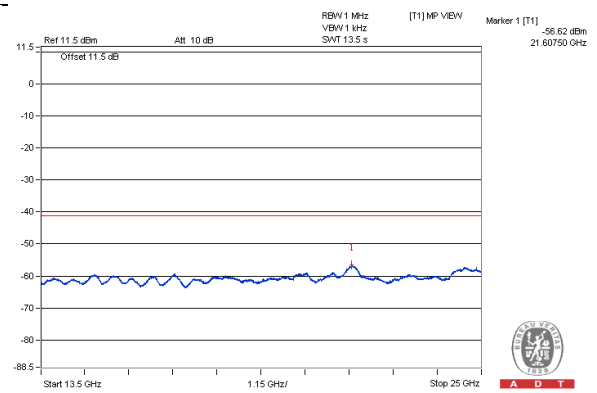

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.11 dBm
49.16 MHz
Marker 2 [T1]
-64.46 dBm
192.72 MHz
Marker 3 [T1]
-64.35 dBm
524.70 MHz
Marker 4 [T1]
-64.64 dBm
975.02 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

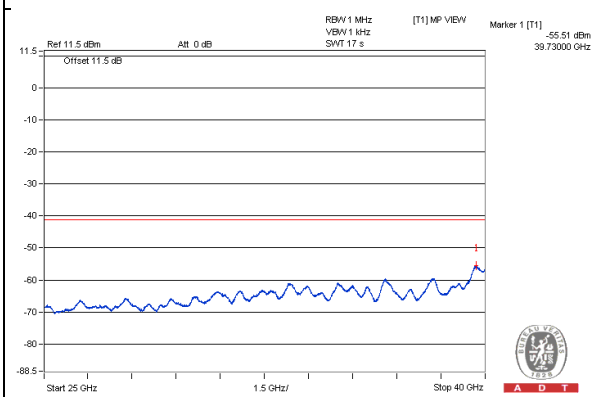

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
4.52 dBm
5.74063 GHz
Marker 2 [T1]
-47.05 dBm
3.61875 GHz
Marker 3 [T1]
-45.78 dBm
5.77813 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.72 dBm
21.63338 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

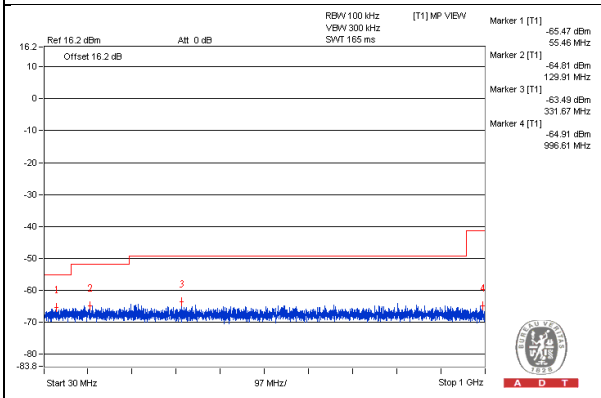

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.79 dBm
39.68500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

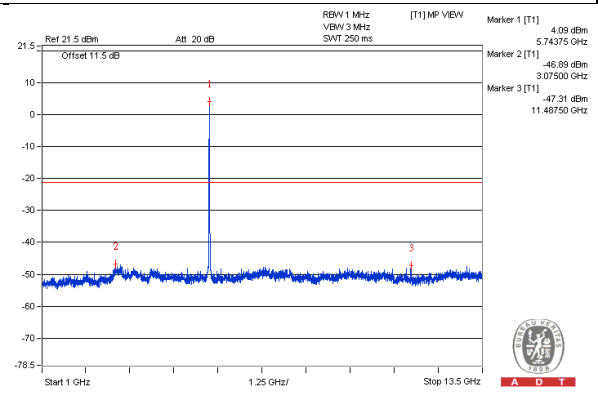

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-4.32 dBm
5.74063 GHz
Marker 2 [T1]
-68.70 dBm
3.08125 GHz
Marker 3 [T1]
-58.92 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

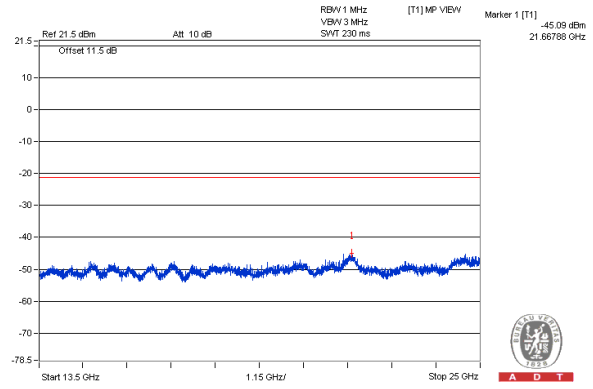

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.62 dBm
21.60750 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

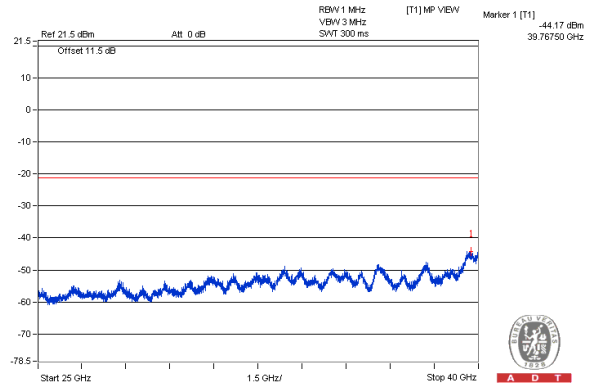

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.51 dBm
39.73000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

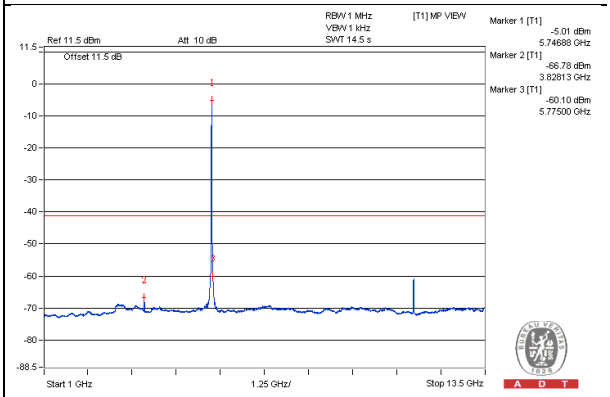
Chain 1

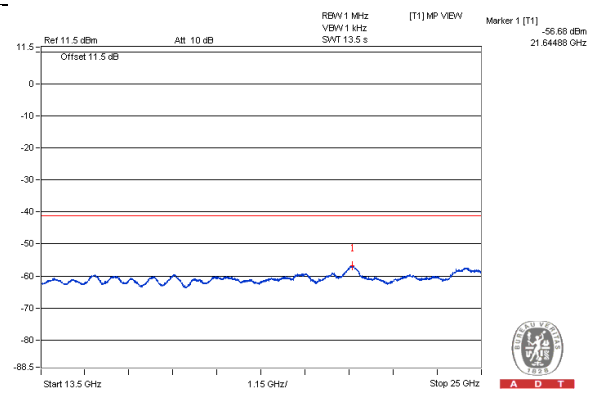

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.47 dBm
55.46 MHz
Marker 2 [T1]
-64.81 dBm
129.91 MHz
Marker 3 [T1]
-63.49 dBm
331.67 MHz
Marker 4 [T1]
-64.91 dBm
996.61 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

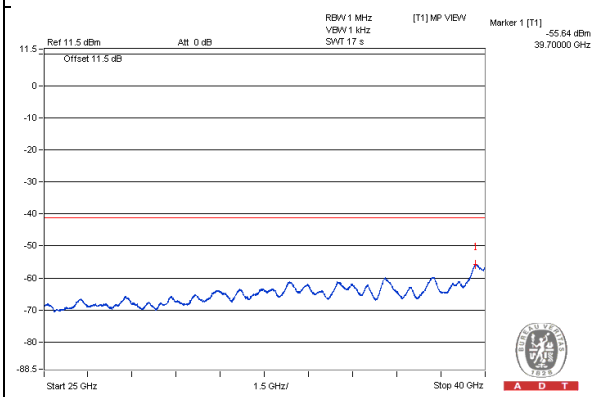

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
4.09 dBm
5.74375 GHz
Marker 2 [T1]
-46.89 dBm
3.07500 GHz
Marker 3 [T1]
-47.31 dBm
11.48750 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-45.09 dBm
21.66788 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-44.17 dBm
39.76750 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-5.01 dBm
5.74688 GHz
Marker 2 [T1]
-66.78 dBm
3.82813 GHz
Marker 3 [T1]
-60.10 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.68 dBm
21.64488 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

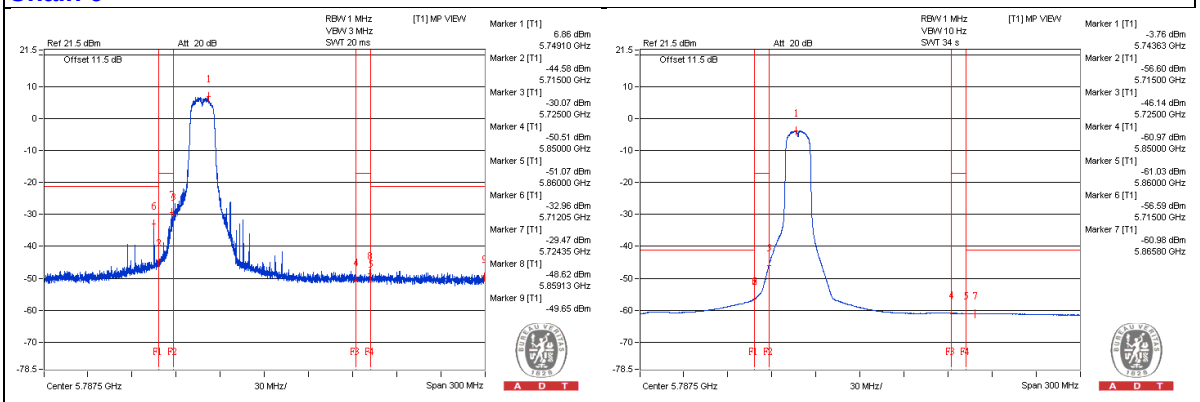

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.64 dBm
39.70000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

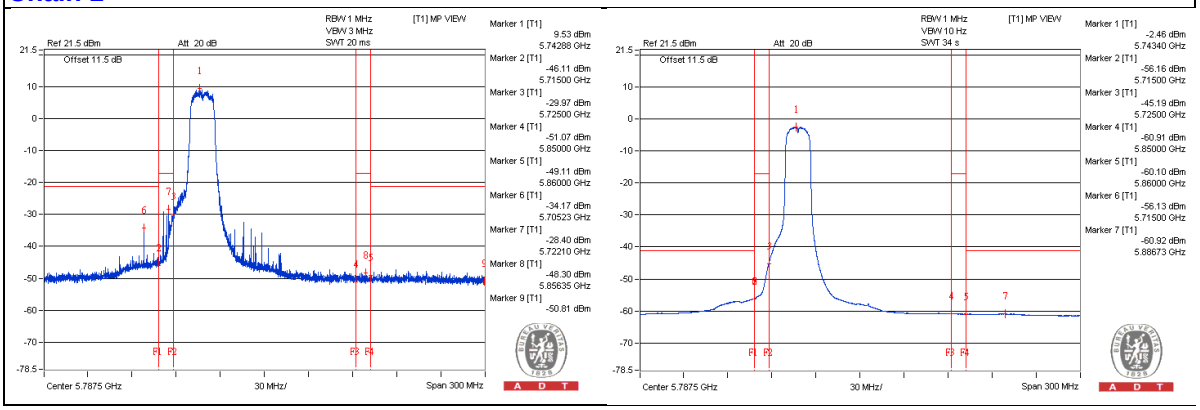
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5712.05 PK	70.3	74	-3.7	-32.96	-45.67	7.77	-24.96
2	5714 AV	49.47	54	-4.53	-56.89	-56.28	7.77	-45.79
3	5724.35 PK	76.13	78.2	-2.07	-29.47	-30.39	7.77	-19.13
4	5855.675 PK	57.02	78.2	-21.18	-48.71	-49.35	7.77	-38.24
5	5862.2 PK	56.95	74	-17.05	-50.51	-48.02	7.77	-38.31
6	5862.425 AV	45.07	54	-8.93	-61.02	-60.93	7.77	-50.19

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



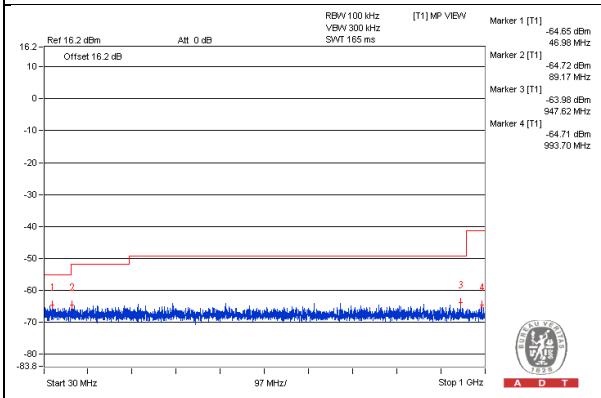
802.11a - Channel 157

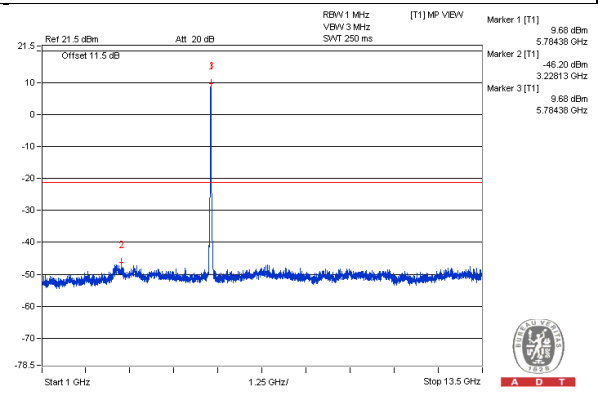
Conducted spurious emission table

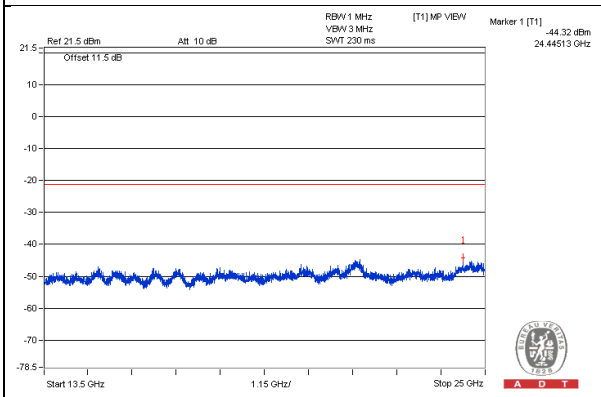
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3856.25 PK	55.76	74	-18.24	-49.98	-50.61	7.77	-39.5
2	3856.25 AV	44.16	54	-9.84	-65.26	-60	7.77	-51.1
3	7712.5 PK	56.56	74	-17.44	-48.47	-50.8	7.77	-38.7
4	7731.25 AV	35.19	54	-18.81	-70.95	-70.76	7.77	-60.07
5	11571.875 PK	55.95	74	-18.05	-51.85	-48.84	7.77	-39.31
6	11571.875 AV	41.66	54	-12.34	-70.08	-62	7.77	-53.6
7	17372.625 PK	54.02	74	-19.98	-51.31	-52.86	7.77	-41.24
8	17364 AV	42.77	54	-11.23	-63.39	-63.16	7.77	-52.49

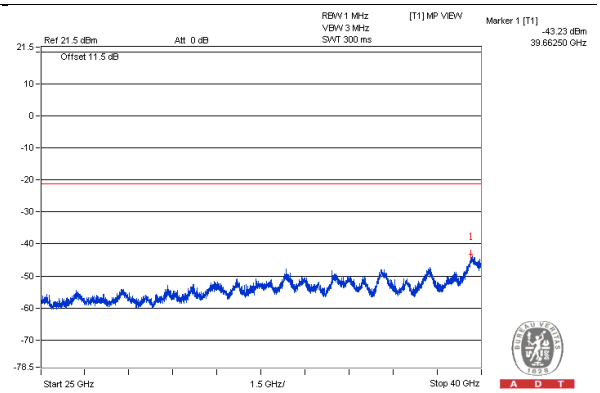
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

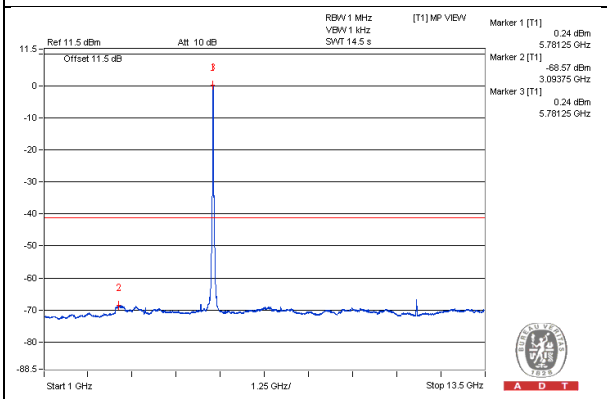
Chain 0

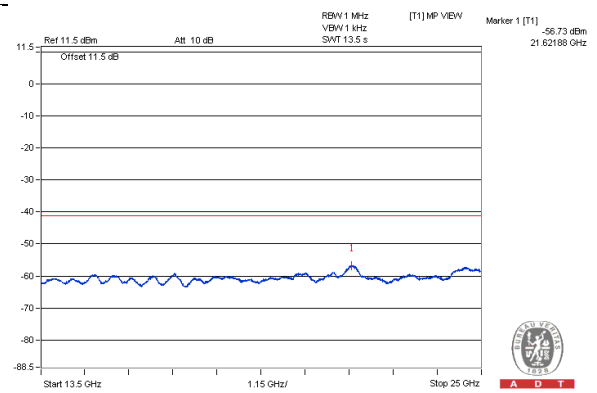

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-64.65 dBm
46.98 MHz
Marker 2 [T1]
-64.72 dBm
89.17 MHz
Marker 3 [T1]
-63.98 dBm
947.62 MHz
Marker 4 [T1]
-64.71 dBm
993.70 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

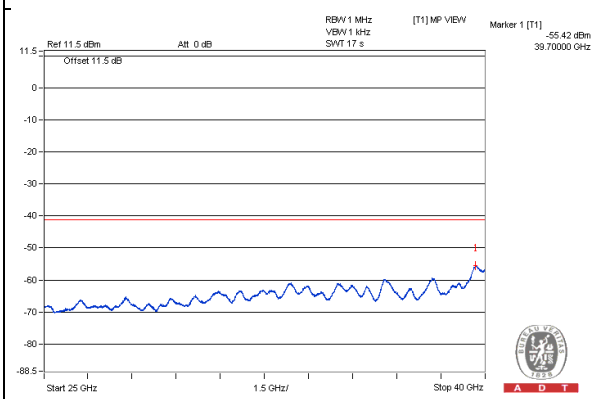

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
9.68 dBm
5.78438 GHz
Marker 2 [T1]
-46.20 dBm
3.22813 GHz
Marker 3 [T1]
9.68 dBm
5.78438 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.32 dBm
24.44513 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

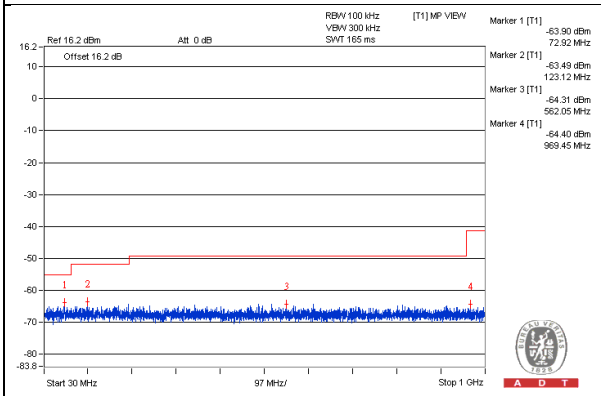

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.23 dBm
39.66250 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

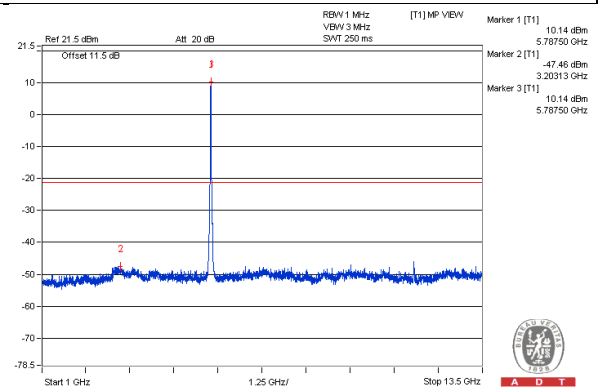

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
0.24 dBm
5.78125 GHz
Marker 2 [T1]
-68.57 dBm
3.09375 GHz
Marker 3 [T1]
0.24 dBm
5.78125 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

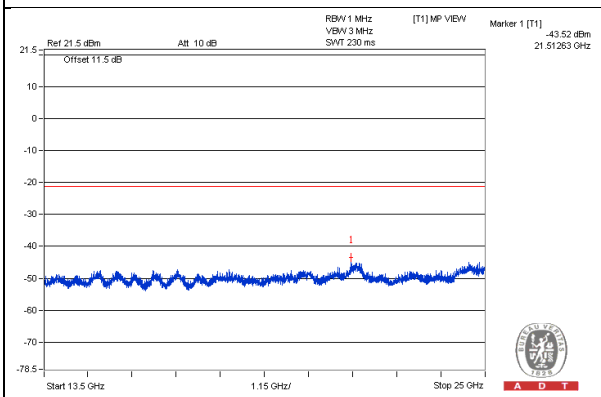

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.73 dBm
21.62188 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

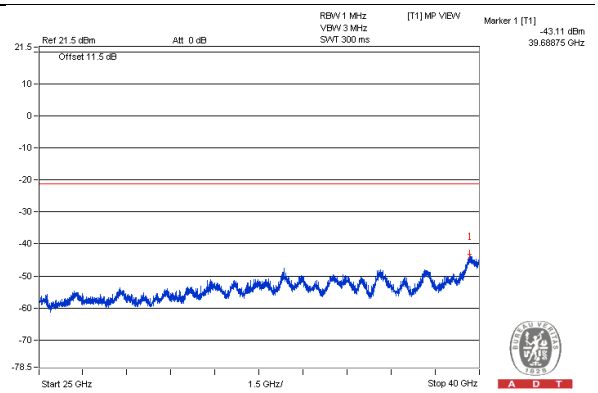

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.42 dBm
39.70000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

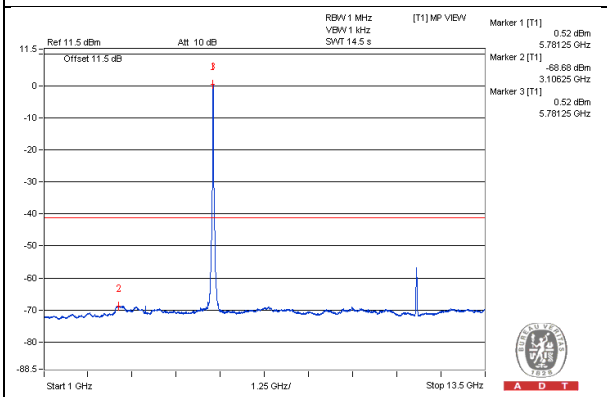
Chain 1

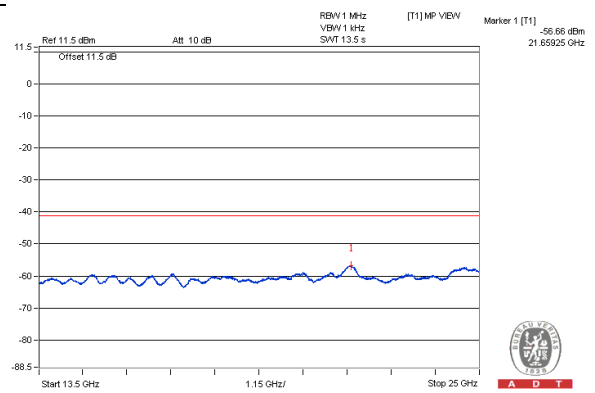

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-53.90 dBm
72.92 MHz
Marker 2 [T1]
-63.49 dBm
123.12 MHz
Marker 3 [T1]
-64.31 dBm
562.05 MHz
Marker 4 [T1]
-64.40 dBm
969.45 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

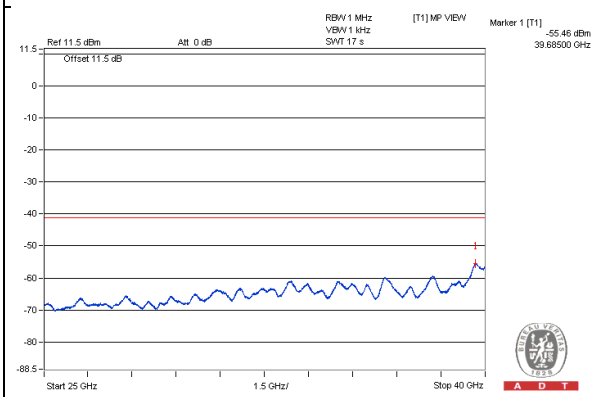

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
10.14 dBm
5.78750 GHz
Marker 2 [T1]
-47.46 dBm
3.20313 GHz
Marker 3 [T1]
10.14 dBm
5.78750 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-43.52 dBm
21.51263 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.11 dBm
39.68875 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
0.52 dBm
5.78125 GHz
Marker 2 [T1]
-68.68 dBm
3.10625 GHz
Marker 3 [T1]
0.52 dBm
5.78125 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

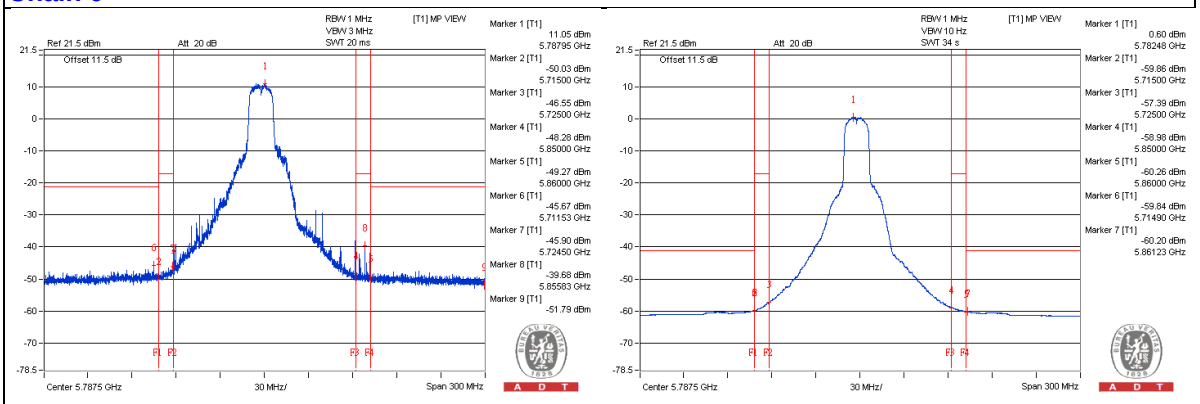

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.66 dBm
21.65925 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.46 dBm
39.68500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

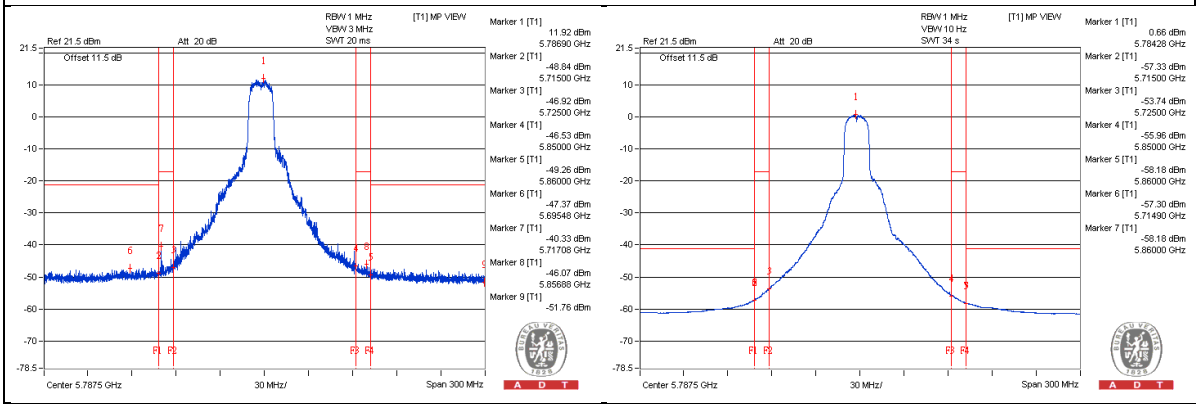
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5712.425 PK	57.71	74	-16.29	-49.07	-47.7	7.77	-37.55
2	5715.65 AV	47.97	54	-6.03	-59.78	-56.85	7.77	-47.29
3	5717.075 PK	63.33	78.2	-14.87	-48.36	-40.33	7.77	-31.93
4	5855.825 PK	63.99	78.2	-14.21	-39.68	-47.65	7.77	-31.27
5	5859.425 PK	61.88	74	-12.12	-41.89	-49.18	7.77	-33.38
6	5859.05 AV	47.05	54	-6.95	-60.2	-58.05	7.77	-48.21

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



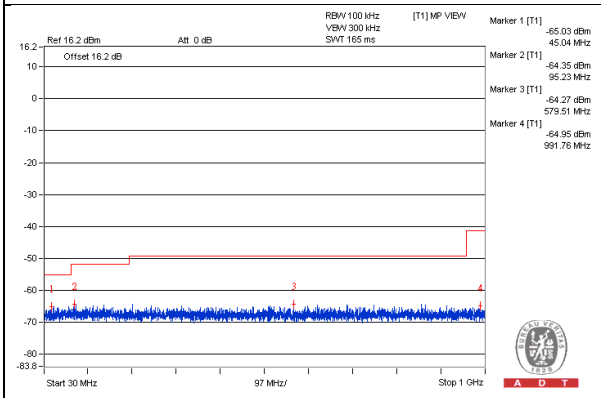
802.11a - Channel 165

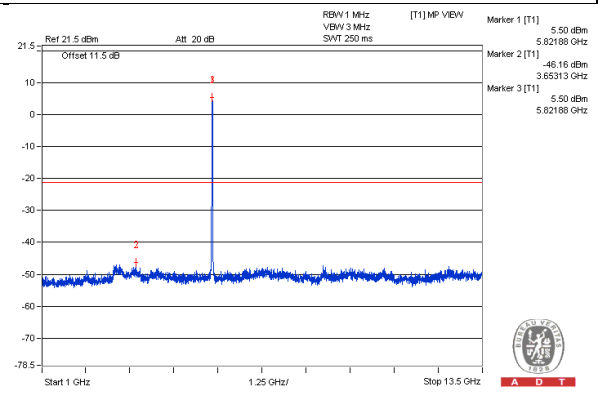
Conducted spurious emission table

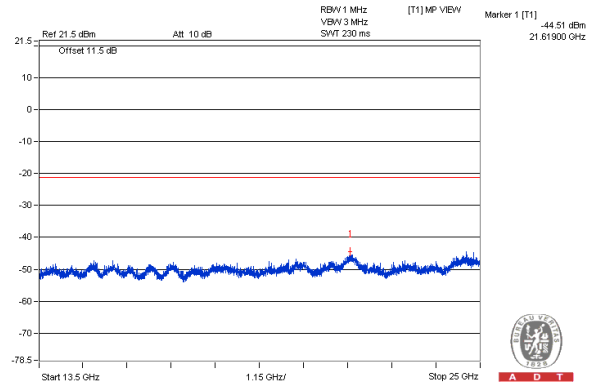
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3884.375 PK	55.73	74	-18.27	-50.22	-50.41	7.77	-39.53
2	3881.25 AV	46.03	54	-7.97	-64.07	-57.95	7.77	-49.23
3	7765.625 PK	56.06	74	-17.94	-49.88	-50.08	7.77	-39.2
4	7765.625 AV	35.29	54	-18.71	-70.46	-71.07	7.77	-59.97
5	11650 PK	55.88	74	-18.12	-51.72	-49.02	7.77	-39.38
6	11650 AV	40.25	54	-13.75	-71.28	-63.44	7.77	-55.01
7	17476.125 PK	56.04	74	-17.96	-50.46	-49.59	7.77	-39.22
8	17484.75 AV	44.28	54	-9.72	-61.9	-61.62	7.77	-50.98

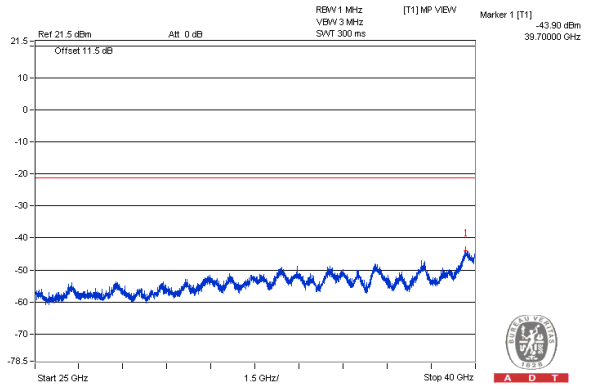
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

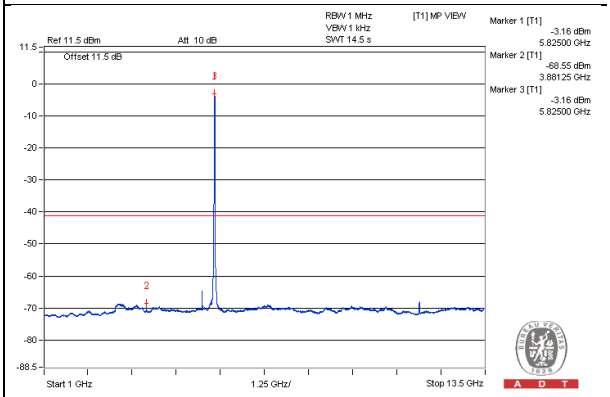
Chain 0

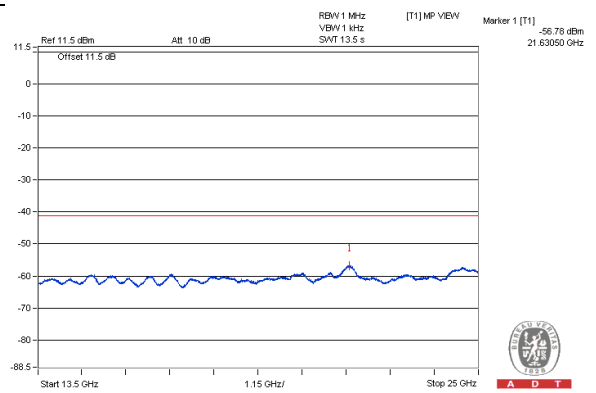

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.03 dBm
45.04 MHz
Marker 2 [T1]
-64.35 dBm
95.23 MHz
Marker 3 [T1]
-64.27 dBm
579.51 MHz
Marker 4 [T1]
-64.95 dBm
991.76 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

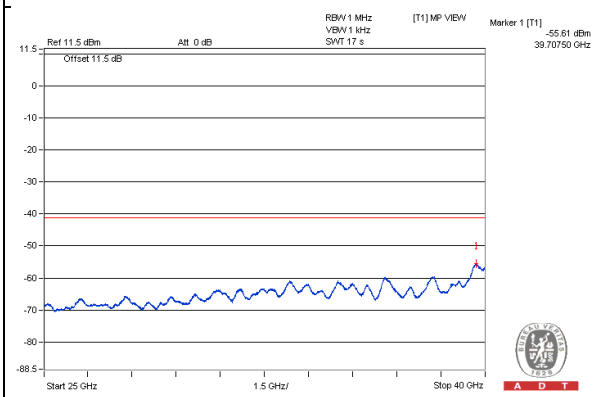

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
5.50 dBm
5.82188 GHz
Marker 2 [T1]
-46.16 dBm
3.65313 GHz
Marker 3 [T1]
5.50 dBm
5.82188 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.51 dBm
21.61900 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

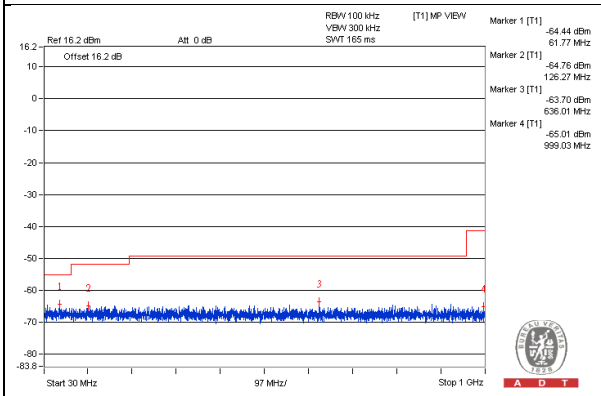

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.90 dBm
39.70000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

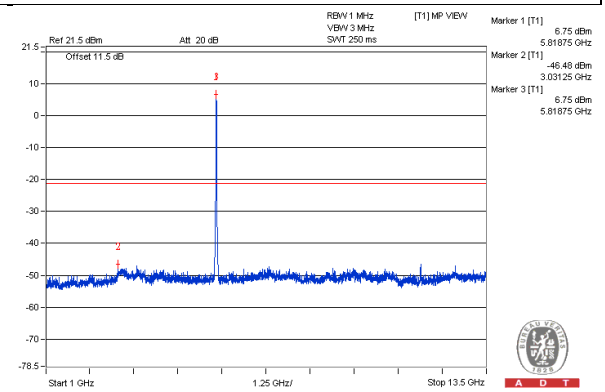

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-3.16 dBm
5.82500 GHz
Marker 2 [T1]
-68.55 dBm
3.88125 GHz
Marker 3 [T1]
-3.16 dBm
5.82500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

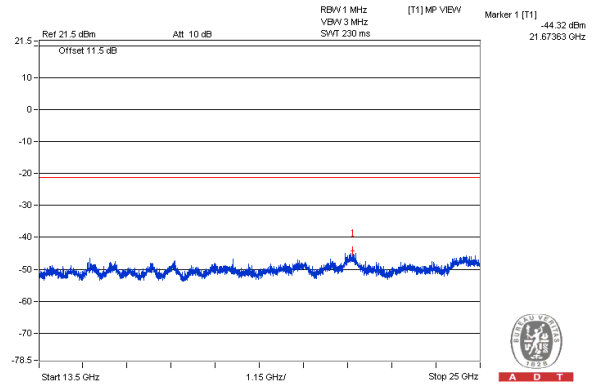

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.78 dBm
21.63050 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

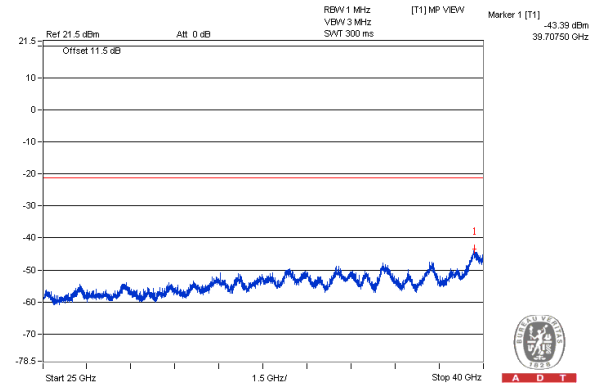

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.61 dBm
39.70750 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

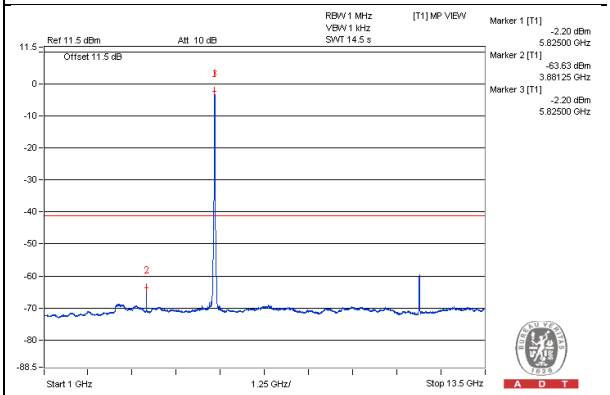
Chain 1

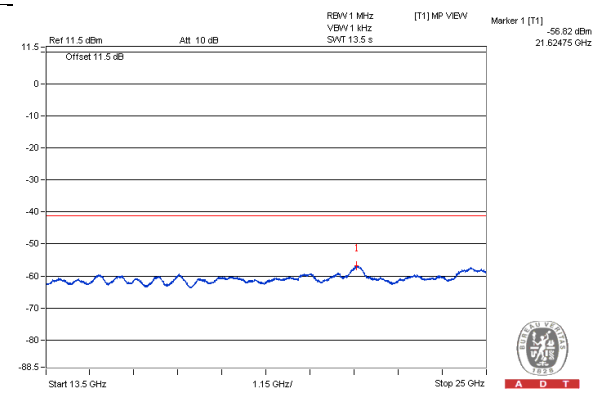

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-54.44 dBm
61.77 MHz
Marker 2 [T1]
-64.76 dBm
126.27 MHz
Marker 3 [T1]
-63.70 dBm
636.01 MHz
Marker 4 [T1]
-65.01 dBm
999.03 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

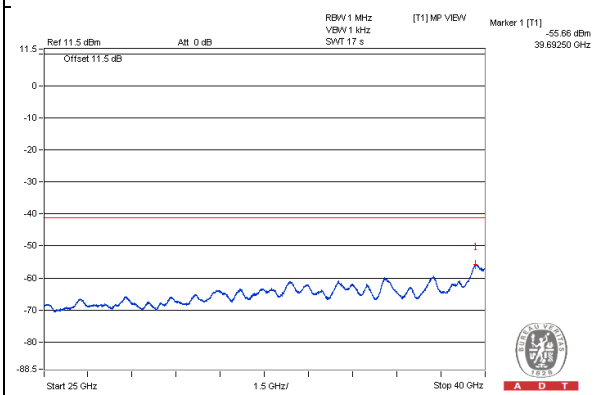

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
6.75 dBm
5.81875 GHz
Marker 2 [T1]
-46.48 dBm
3.03125 GHz
Marker 3 [T1]
6.75 dBm
5.81875 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.32 dBm
21.67363 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.39 dBm
39.70750 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-2.20 dBm
5.82500 GHz
Marker 2 [T1]
-63.63 dBm
3.88125 GHz
Marker 3 [T1]
-2.20 dBm
5.82500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.82 dBm
21.62475 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

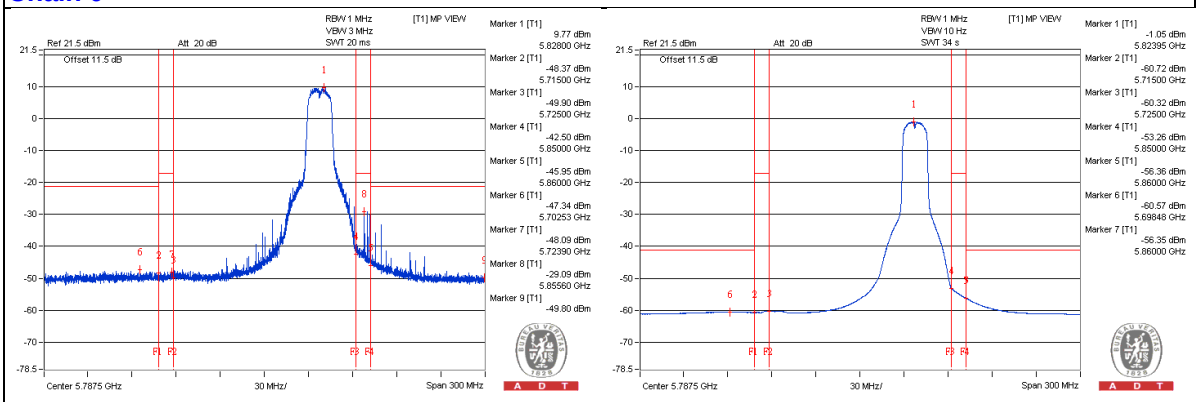

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.66 dBm
39.69250 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

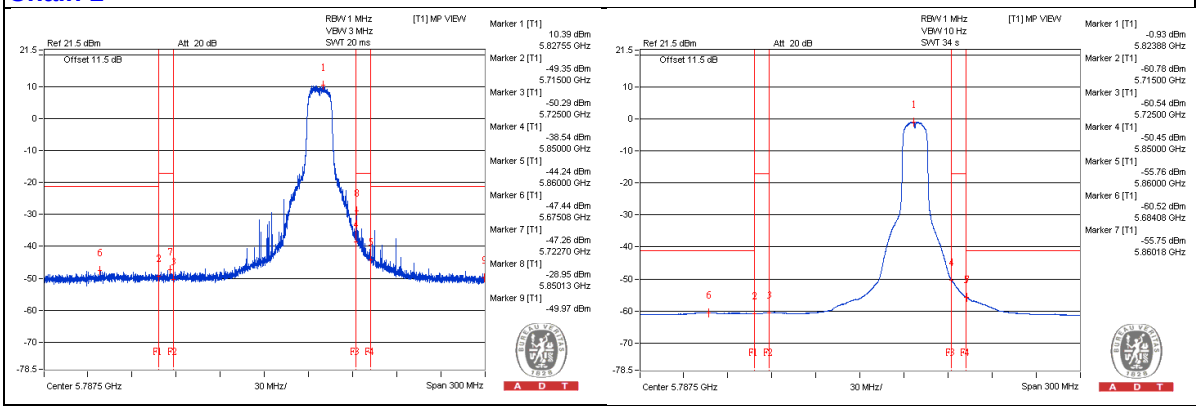
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5684.075 PK	57.56	74	-16.44	-48.44	-48.52	7.77	-37.7
2	5684.075 AV	45.43	54	-8.57	-60.7	-60.52	7.77	-49.83
3	5721.5 PK	58.16	78.2	-20.04	-48.16	-47.62	7.77	-37.1
4	5850.125 PK	74.35	78.2	-3.85	-40.87	-28.95	7.77	-20.91
5	5866.925 PK	70.11	74	-3.89	-33.12	-46.38	7.77	-25.15
6	5865.125 AV	48.84	54	-5.16	-57.56	-56.87	7.77	-46.42

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



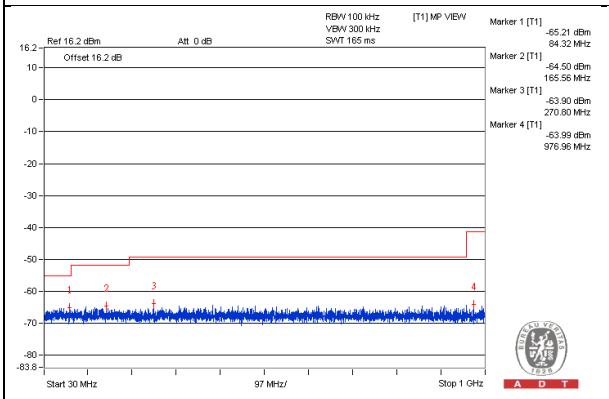
802.11ac (VHT20) - Channel 149

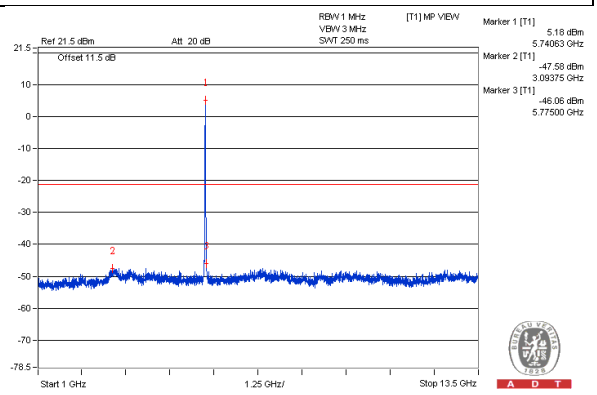
Conducted spurious emission table

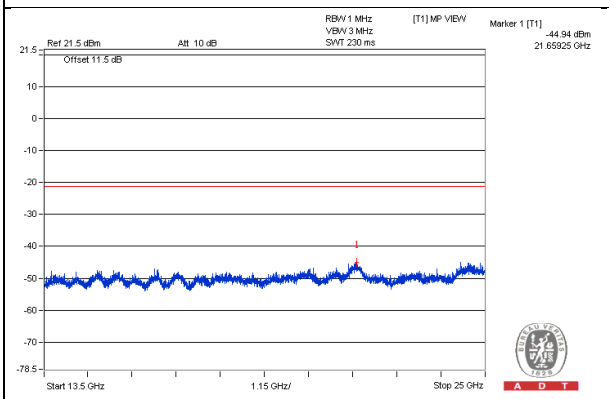
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3815.625 PK	55.58	74	-18.42	-49.83	-51.19	7.77	-39.68
2	3828.125 AV	44.31	54	-9.69	-66.85	-59.45	7.77	-50.95
3	7668.75 PK	55.98	74	-18.02	-51.09	-49.23	7.77	-39.28
4	7678.125 AV	34.84	54	-19.16	-71.12	-71.28	7.77	-60.42
5	11487.5 PK	56.66	74	-17.34	-49.01	-49.79	7.77	-38.6
6	11493.75 AV	40.51	54	-13.49	-70.24	-63.32	7.77	-54.75
7	17226 PK	53.32	74	-20.68	-53.76	-51.89	7.77	-41.94
8	17228.875 AV	41.92	54	-12.08	-64.02	-64.22	7.77	-53.34

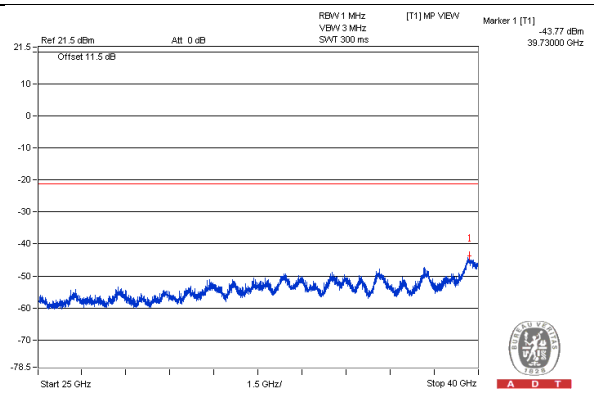
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

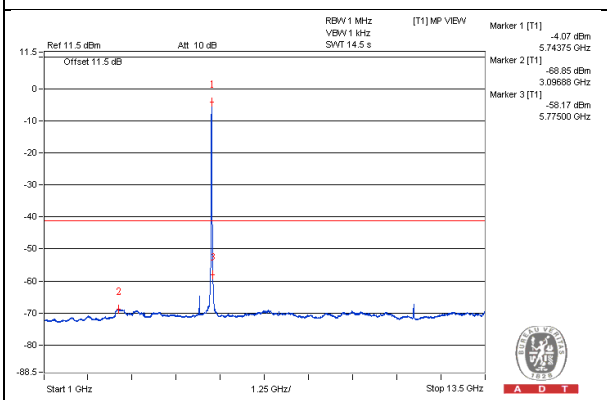
Chain 0

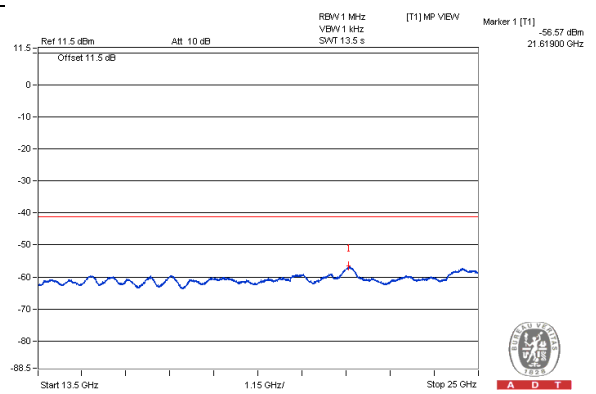

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.21 dBm
84.32 MHz
Marker 2 [T1]
-64.50 dBm
165.56 MHz
Marker 3 [T1]
-63.90 dBm
270.80 MHz
Marker 4 [T1]
-63.99 dBm
976.96 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

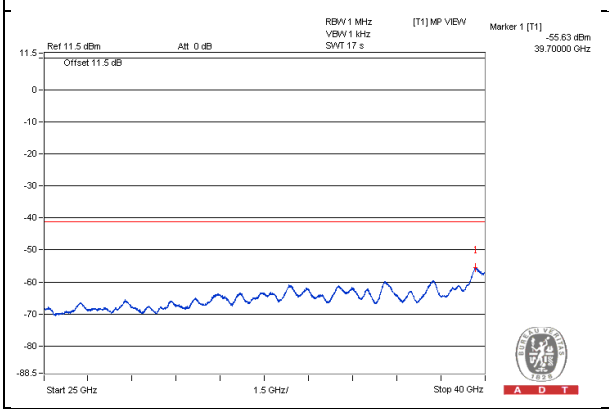

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
5.18 dBm
5.74063 GHz
Marker 2 [T1]
-47.58 dBm
3.09375 GHz
Marker 3 [T1]
-46.06 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.94 dBm
21.65925 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.77 dBm
39.73000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-4.07 dBm
5.74375 GHz
Marker 2 [T1]
-68.85 dBm
3.09688 GHz
Marker 3 [T1]
-58.17 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.57 dBm
21.61900 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.63 dBm
39.70000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Chain 1

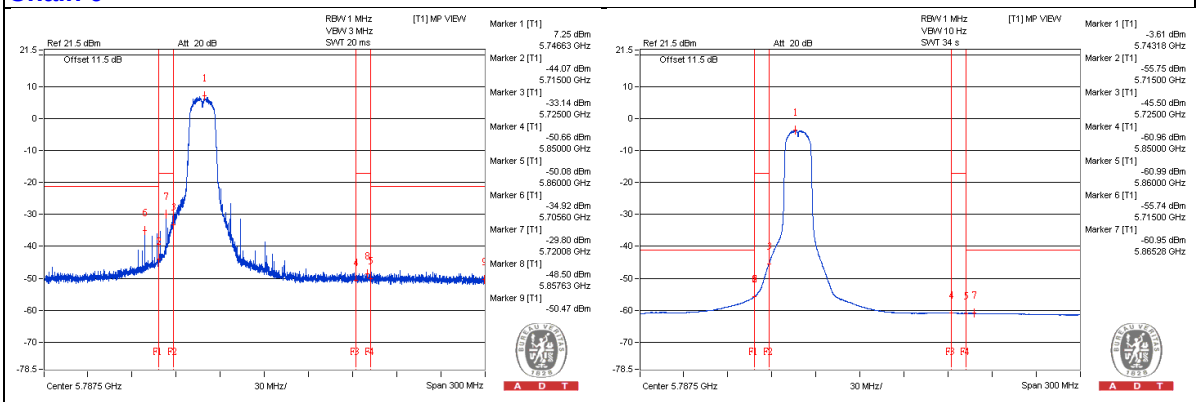

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1] -65.06 dBm 33.15 MHz
Marker 2 [T1] -65.20 dBm 124.82 MHz
Marker 3 [T1] -63.94 dBm 824.92 MHz
Marker 4 [T1] -65.30 dBm 987.88 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz
RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1] 5.53 dBm 5.74375 GHz
Marker 2 [T1] -46.78 dBm 3.04063 GHz
Marker 3 [T1] -45.90 dBm 5.77813 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz
RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1] -44.49 dBm 21.63050 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz
RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1] -44.08 dBm 39.72625 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz
RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1] -3.37 dBm 5.74375 GHz
Marker 2 [T1] -67.53 dBm 3.82813 GHz
Marker 3 [T1] -58.26 dBm 5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz
RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1] -56.67 dBm 21.63625 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz
RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1] -55.51 dBm 39.68500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

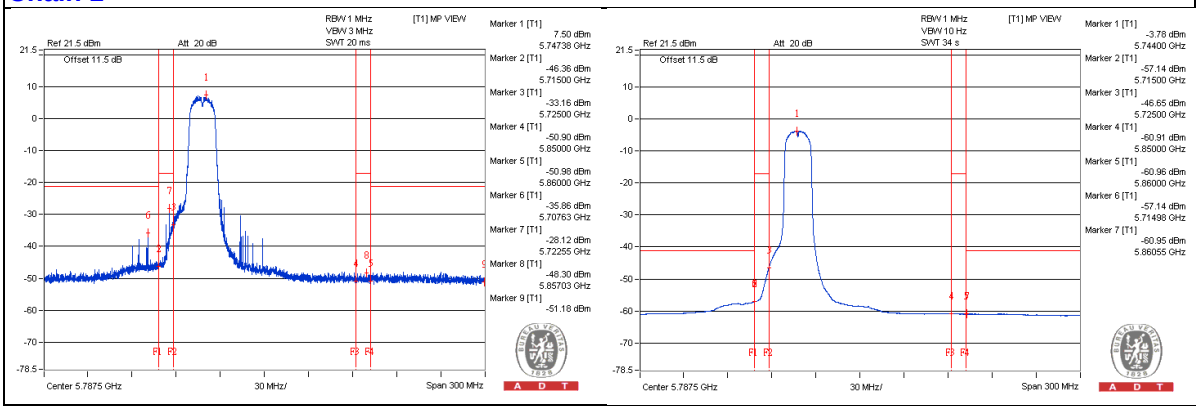
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5713.925 PK	67.2	74	-6.8	-36.17	-47.01	7.77	-28.06
2	5715.95 AV	49.84	54	-4.16	-55.44	-57.12	7.77	-45.42
3	5722.55 PK	75.62	78.2	-2.58	-35.62	-28.12	7.77	-19.64
4	5857.1 PK	57.18	78.2	-21.02	-48.61	-49.12	7.77	-38.08
5	5861.975 PK	57.16	74	-16.84	-48.51	-49.28	7.77	-38.1
6	5860.475 AV	45.09	54	-8.91	-60.96	-60.95	7.77	-50.17

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



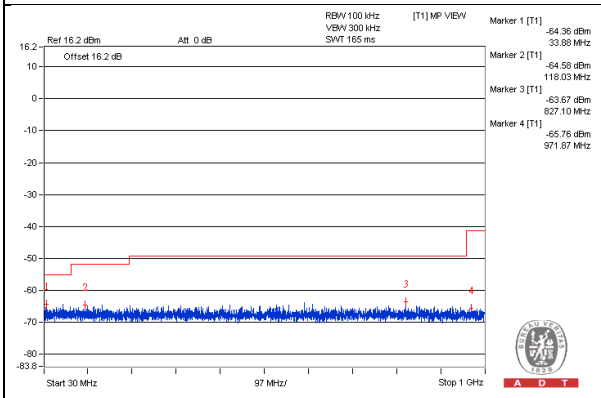
802.11ac (VHT20) - Channel 157

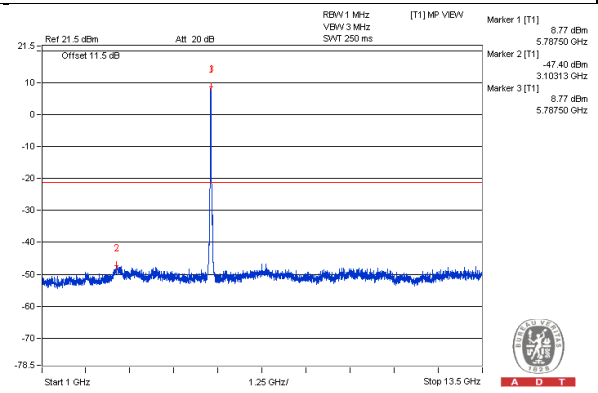
Conducted spurious emission table

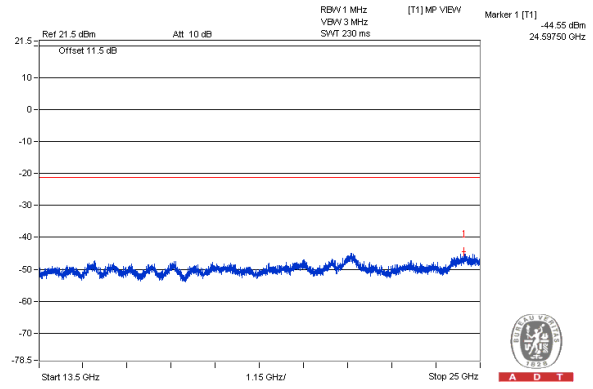
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3837.5 PK	55.47	74	-18.53	-50.12	-51.07	7.77	-39.79
2	3856.25 AV	44.12	54	-9.88	-65.97	-59.86	7.77	-51.14
3	7715.625 PK	55.84	74	-18.16	-50.94	-49.56	7.77	-39.42
4	7725 AV	35.29	54	-18.71	-70.79	-70.72	7.77	-59.97
5	11575 PK	55.1	74	-18.9	-52.68	-49.7	7.77	-40.16
6	11575 AV	40.3	54	-13.7	-70.52	-63.52	7.77	-54.96
7	17355.375 PK	53.81	74	-20.19	-50.99	-53.98	7.77	-41.45
8	17372.625 AV	42.74	54	-11.26	-63.26	-63.34	7.77	-52.52

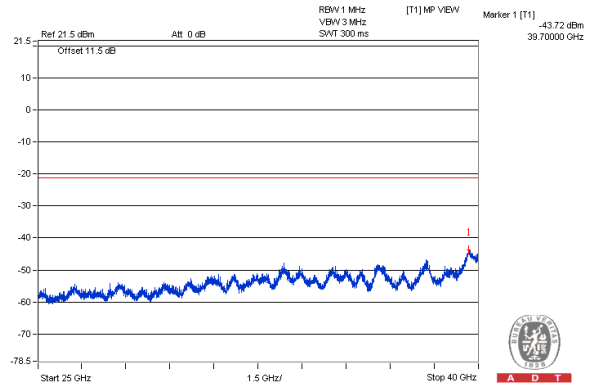
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

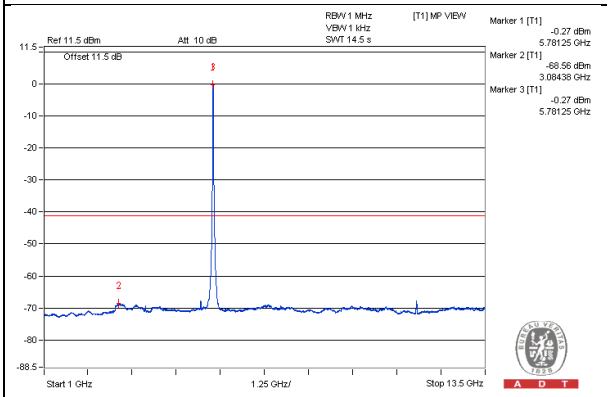
Chain 0

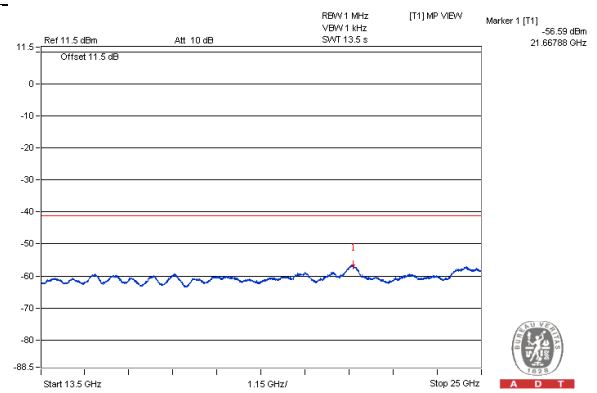

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-64.36 dBm
33.88 MHz
Marker 2 [T1]
-64.58 dBm
118.03 MHz
Marker 3 [T1]
-63.67 dBm
827.10 MHz
Marker 4 [T1]
-65.76 dBm
971.87 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

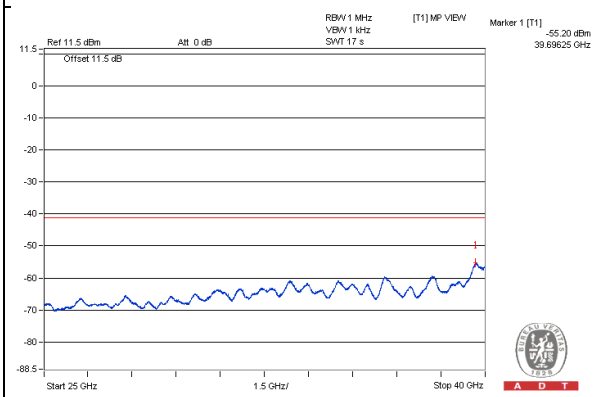

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
8.77 dBm
5.78750 GHz
Marker 2 [T1]
-47.40 dBm
3.10313 GHz
Marker 3 [T1]
8.77 dBm
5.78750 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.55 dBm
24.59750 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

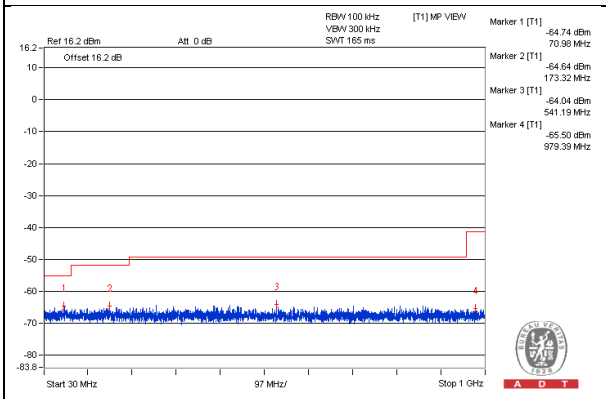

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.72 dBm
39.70000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

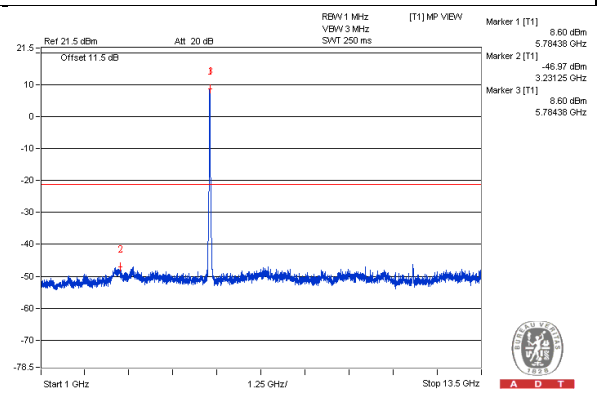

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-0.27 dBm
5.78125 GHz
Marker 2 [T1]
-68.56 dBm
3.08438 GHz
Marker 3 [T1]
-0.27 dBm
5.78125 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

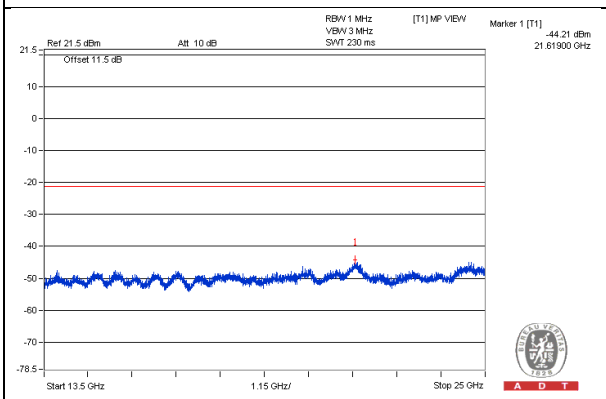

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.59 dBm
21.66788 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

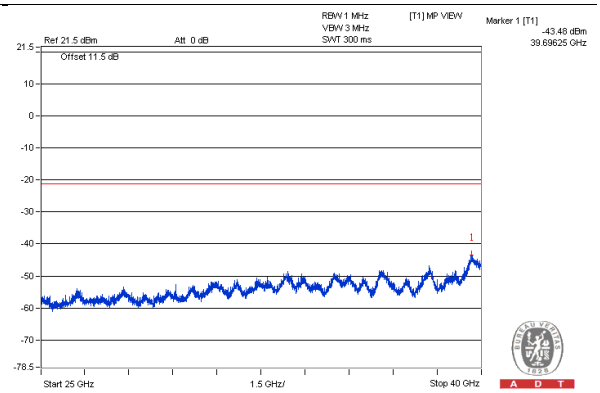

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.20 dBm
39.69625 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

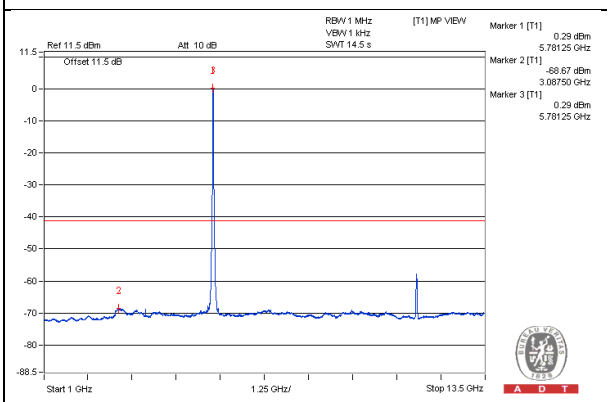
Chain 1

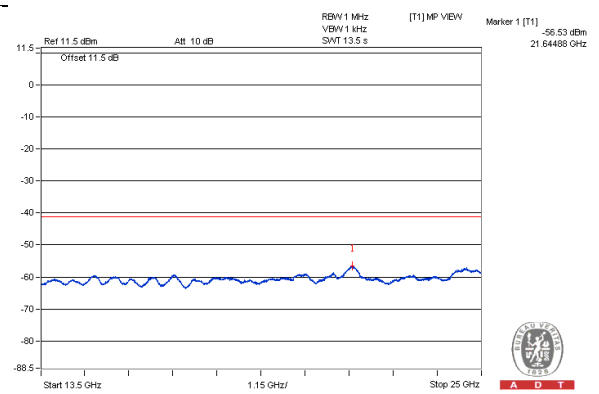

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-54.74 dBm
70.98 MHz
Marker 2 [T1]
-64.64 dBm
173.32 MHz
Marker 3 [T1]
-64.04 dBm
541.19 MHz
Marker 4 [T1]
-65.50 dBm
979.39 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

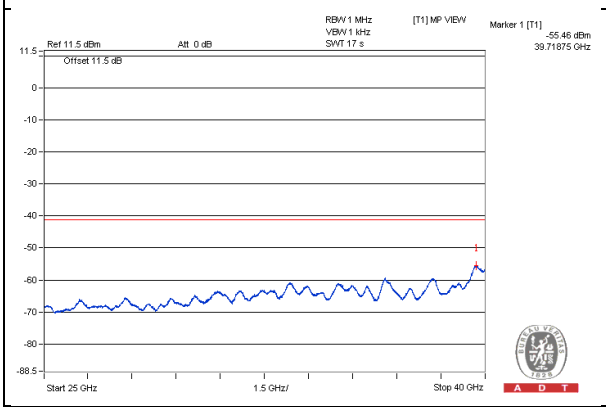

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
8.60 dBm
5.78438 GHz
Marker 2 [T1]
-46.97 dBm
3.23125 GHz
Marker 3 [T1]
8.60 dBm
5.78438 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.21 dBm
21.61900 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.48 dBm
39.69625 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
0.29 dBm
5.78125 GHz
Marker 2 [T1]
-68.67 dBm
3.08750 GHz
Marker 3 [T1]
0.29 dBm
5.78125 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

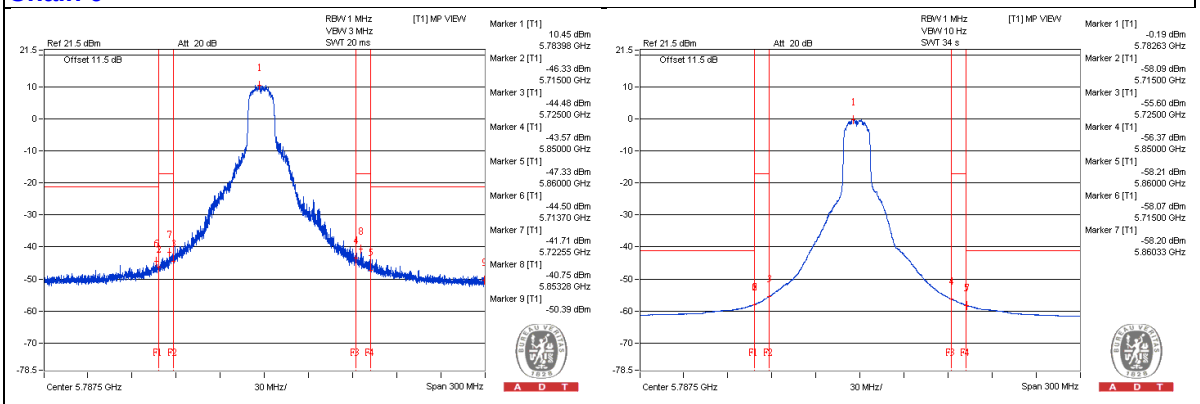

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.53 dBm
21.64488 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.46 dBm
39.71875 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

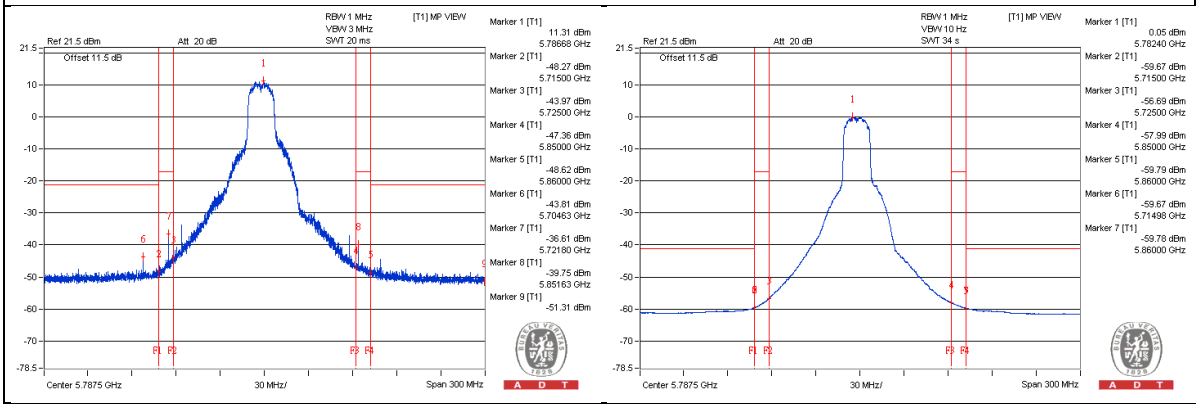
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5715.2 PK	60.73	74	-13.27	-43.67	-47.98	7.77	-34.53
2	5715.875 AV	47.49	54	-6.51	-57.81	-59.44	7.77	-47.77
3	5721.8 PK	66.96	78.2	-11.24	-45.36	-36.61	7.77	-28.3
4	5851.625 PK	64.63	78.2	-13.57	-44.15	-39.75	7.77	-30.63
5	5860.7 PK	59.9	74	-14.1	-44.08	-50.21	7.77	-35.36
6	5860.025 AV	47.11	54	-6.89	-58.21	-59.79	7.77	-48.15

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



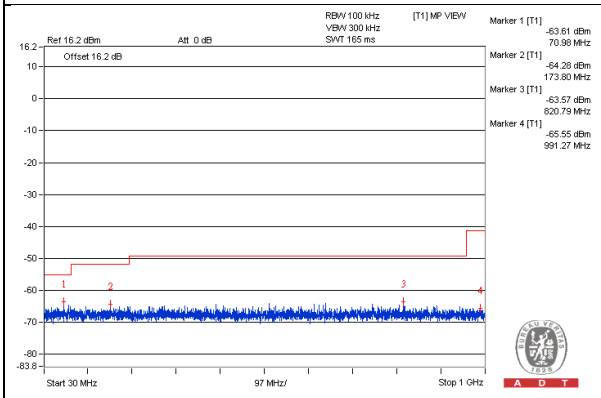
802.11ac (VHT20) - Channel 165

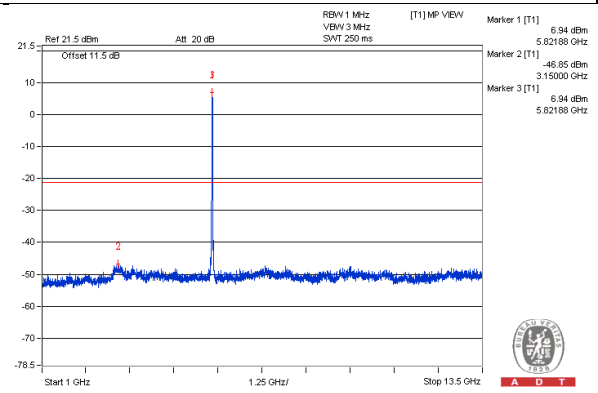
Conducted spurious emission table

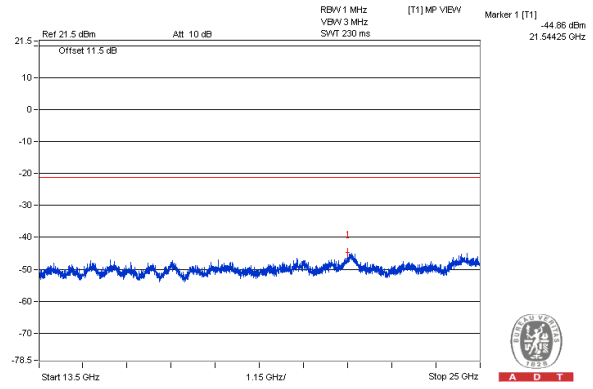
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3884.375 PK	56.71	74	-17.29	-50.07	-48.69	7.77	-38.55
2	3881.25 AV	46.17	54	-7.83	-63.73	-57.86	7.77	-49.09
3	7765.625 PK	56.42	74	-17.58	-48.58	-50.99	7.77	-38.84
4	7756.25 AV	35.18	54	-18.82	-70.87	-70.85	7.77	-60.08
5	11643.75 PK	54.86	74	-19.14	-50.96	-51.41	7.77	-40.4
6	11650 AV	39.2	54	-14.8	-71.18	-64.71	7.77	-56.06
7	17470.375 PK	55.65	74	-18.35	-51.29	-49.65	7.77	-39.61
8	17479 AV	44.22	54	-9.78	-61.75	-61.89	7.77	-51.04

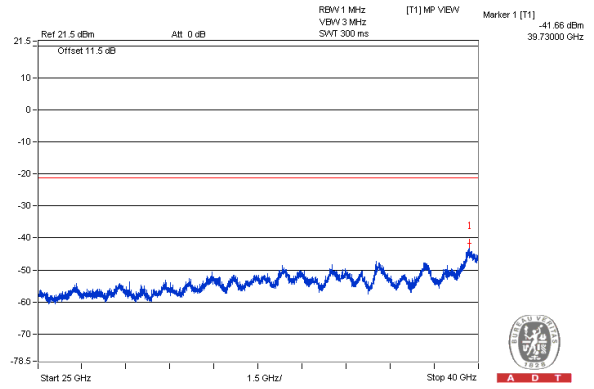
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

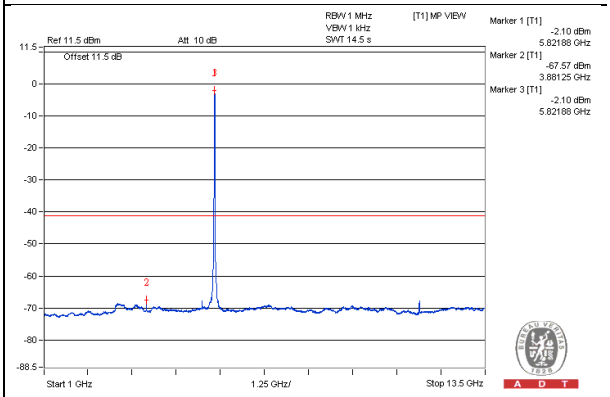
Chain 0

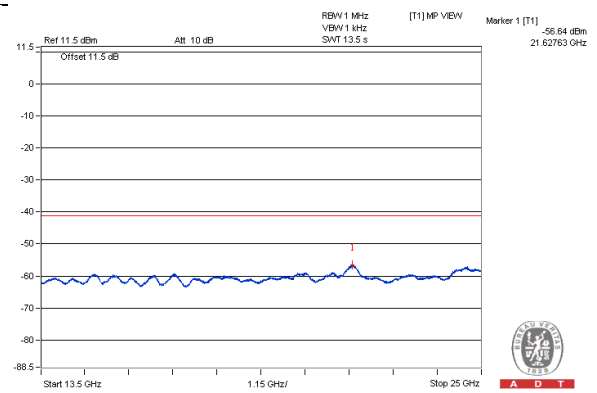

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-63.61 dBm
70.98 MHz
Marker 2 [T1]
-64.28 dBm
173.80 MHz
Marker 3 [T1]
-63.57 dBm
820.79 MHz
Marker 4 [T1]
-65.55 dBm
991.27 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

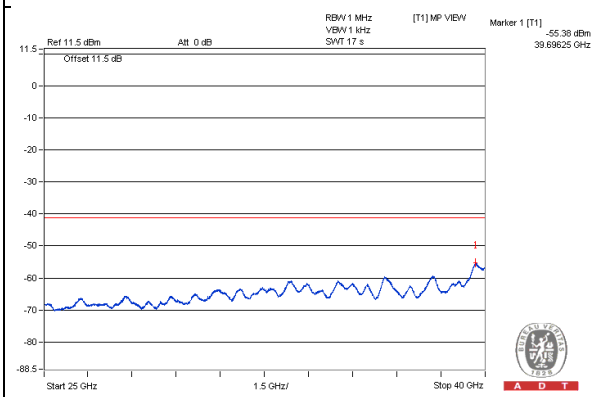

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
6.94 dBm
5.82188 GHz
Marker 2 [T1]
-46.85 dBm
3.15000 GHz
Marker 3 [T1]
6.94 dBm
5.82188 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.86 dBm
21.54425 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

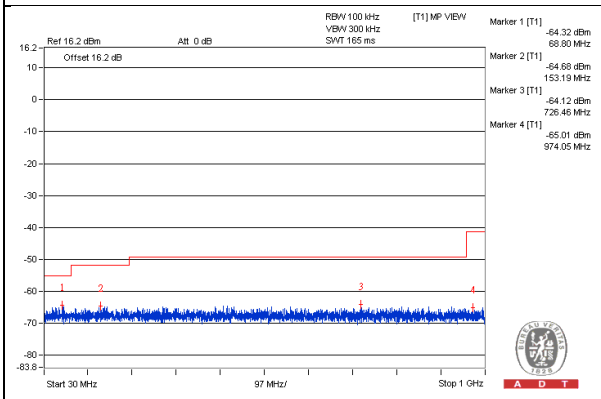

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-41.66 dBm
39.73000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

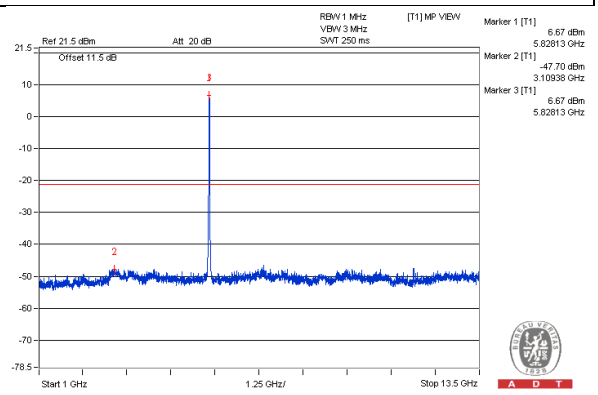

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-2.10 dBm
5.82188 GHz
Marker 2 [T1]
-67.57 dBm
3.88125 GHz
Marker 3 [T1]
-2.10 dBm
5.82188 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

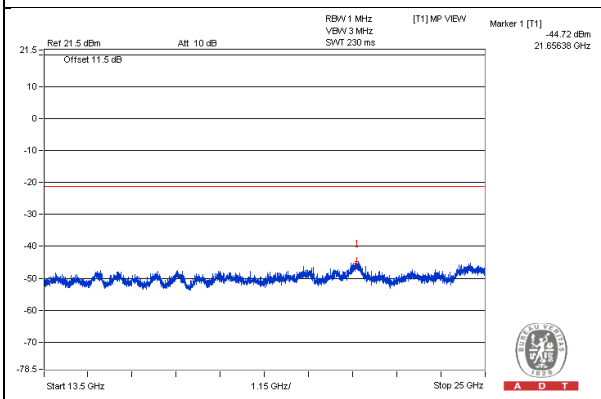

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.64 dBm
21.62763 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

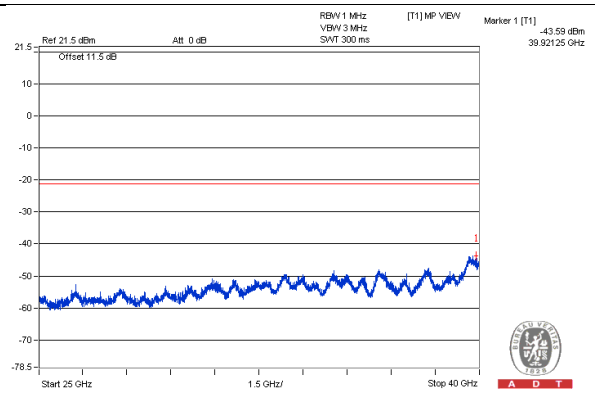

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.38 dBm
39.69625 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

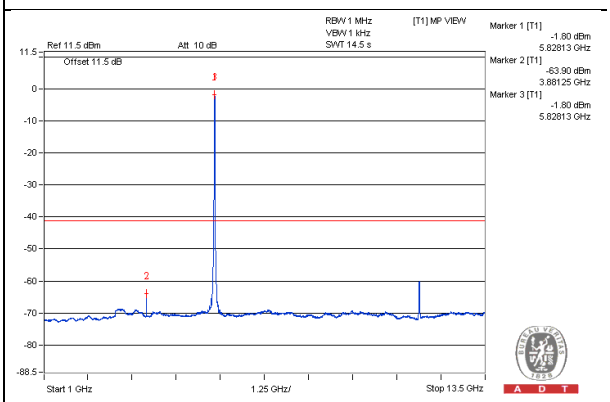
Chain 1

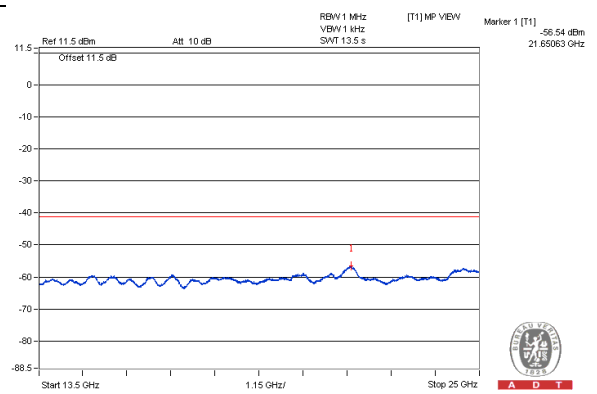

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-64.32 dBm
68.80 MHz
Marker 2 [T1]
-64.68 dBm
153.19 MHz
Marker 3 [T1]
-64.12 dBm
726.46 MHz
Marker 4 [T1]
-65.01 dBm
974.05 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

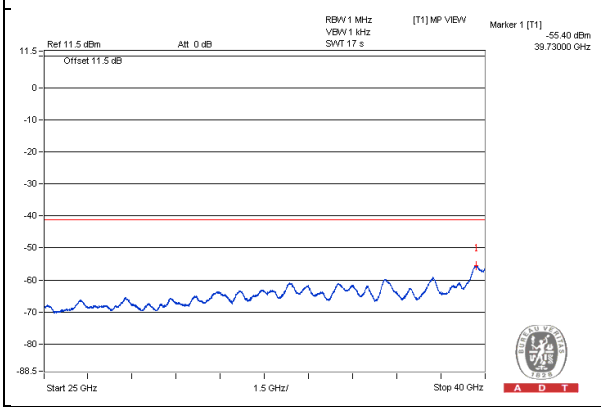

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
6.67 dBm
5.82813 GHz
Marker 2 [T1]
-47.70 dBm
3.10938 GHz
Marker 3 [T1]
6.67 dBm
5.82813 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.72 dBm
21.65638 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.59 dBm
39.92125 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-1.80 dBm
5.82813 GHz
Marker 2 [T1]
-63.90 dBm
3.88125 GHz
Marker 3 [T1]
-1.80 dBm
5.82813 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.54 dBm
21.65063 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

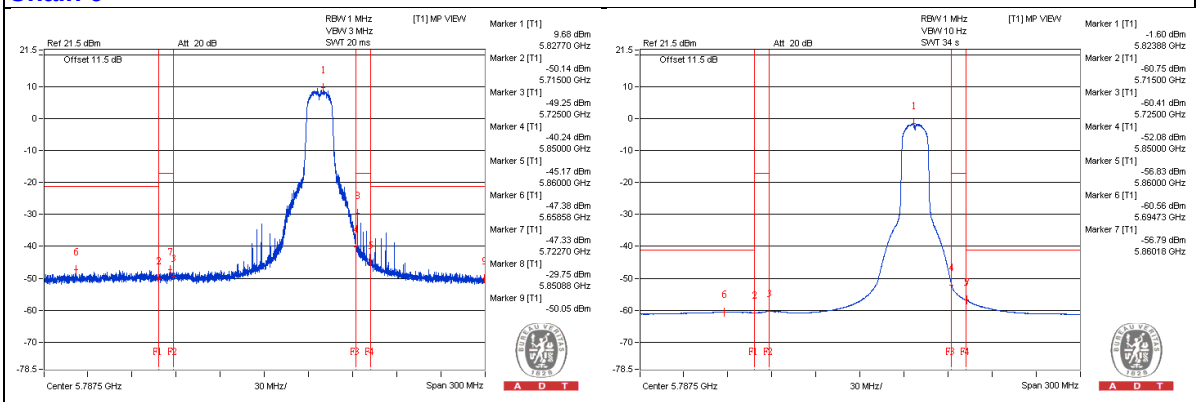

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.40 dBm
39.73000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

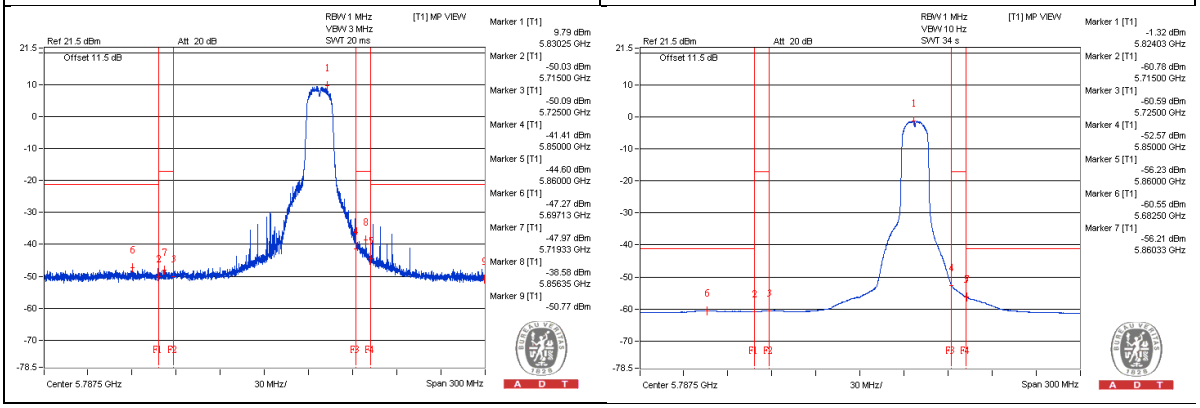
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5696.45 PK	57.05	74	-16.95	-49.64	-48.42	7.77	-38.21
2	5694.725 AV	45.4	54	-8.6	-60.56	-60.73	7.77	-49.86
3	5719.325 PK	57.78	78.2	-20.42	-48.57	-47.97	7.77	-37.48
4	5850.875 PK	73.53	78.2	-4.67	-29.75	-42.01	7.77	-21.73
5	5861.3 PK	69.44	74	-4.56	-45.71	-33.87	7.77	-25.82
6	5860.175 AV	49.53	54	-4.47	-56.79	-56.25	7.77	-45.73

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



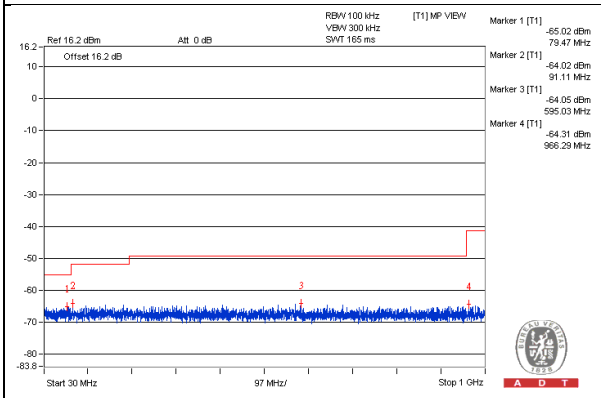
802.11ac (VHT40) - Channel 151

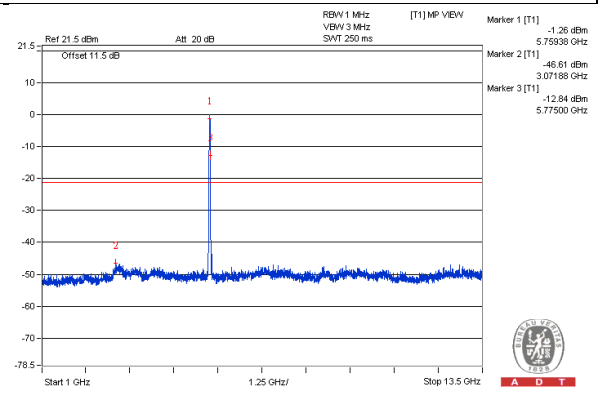
Conducted spurious emission table

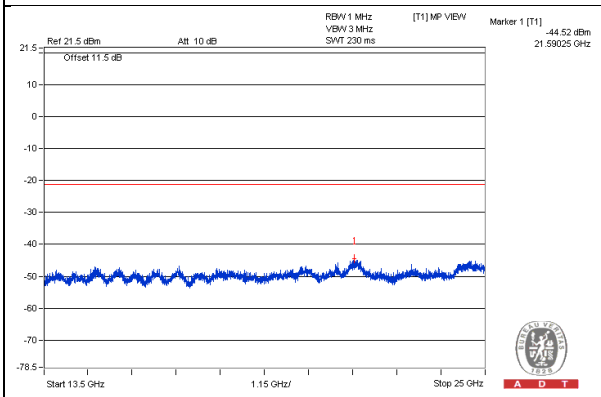
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3837.5 PK	55.6	74	-18.4	-51.48	-49.6	7.77	-39.66
2	3834.375 AV	45.25	54	-8.75	-66.09	-58.47	7.77	-50.01
3	7665.625 PK	56.14	74	-17.86	-49.25	-50.67	7.77	-39.12
4	7665.625 AV	34.97	54	-19.03	-71.32	-70.83	7.77	-60.29
5	11521.875 PK	54.87	74	-19.13	-52.83	-49.98	7.77	-40.39
6	11506.25 AV	37.01	54	-16.99	-71.34	-67.53	7.77	-58.25
7	17257.625 PK	52.6	74	-21.4	-53.29	-53.6	7.77	-42.66
8	17246.125 AV	41.74	54	-12.26	-64.34	-64.27	7.77	-53.52

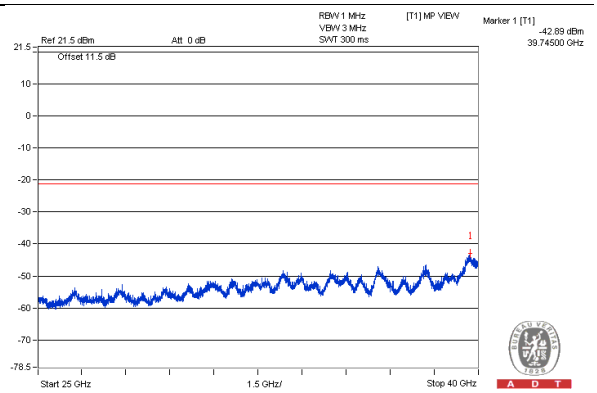
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

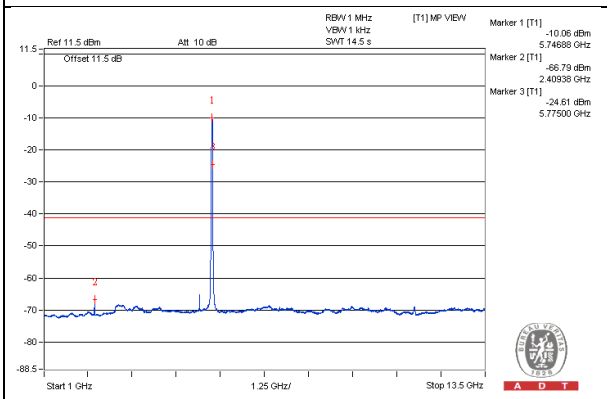
Chain 0

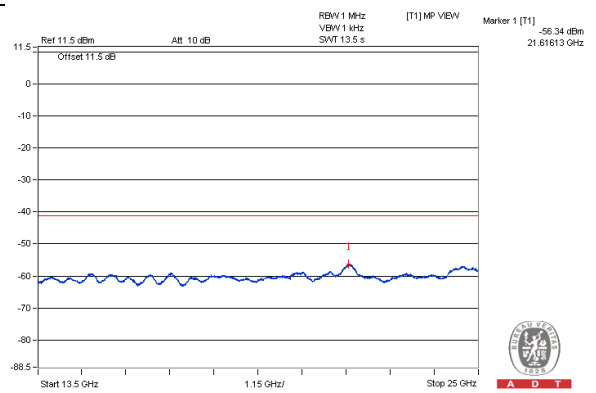

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.02 dBm
79.47 MHz
Marker 2 [T1]
-64.02 dBm
91.11 MHz
Marker 3 [T1]
-64.05 dBm
595.03 MHz
Marker 4 [T1]
-64.31 dBm
966.29 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

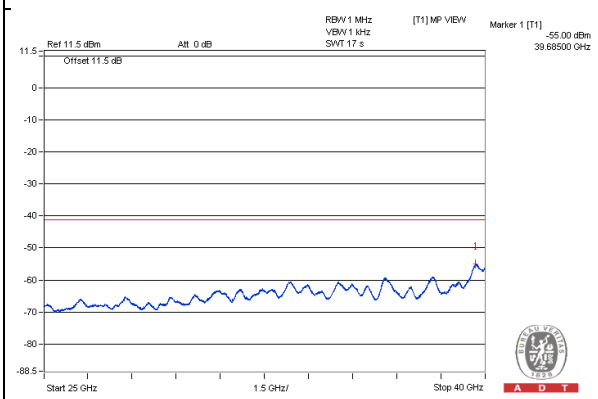

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
-1.26 dBm
5.75938 GHz
Marker 2 [T1]
-46.61 dBm
3.07188 GHz
Marker 3 [T1]
-12.84 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.52 dBm
21.59025 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

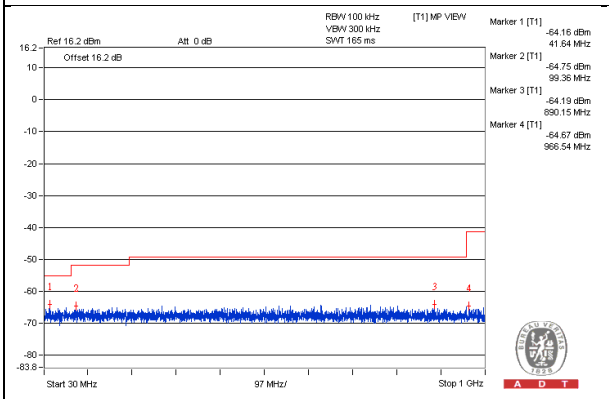

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-42.89 dBm
39.74500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

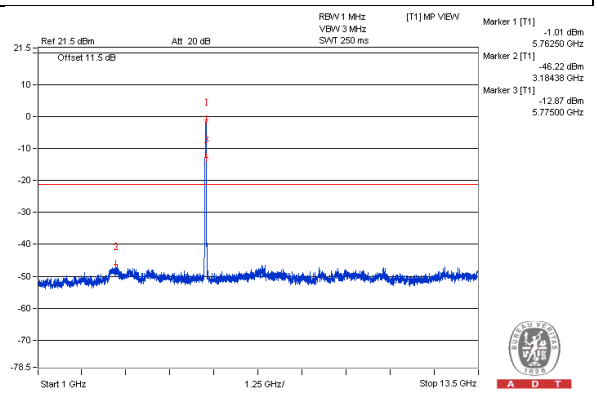

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-10.06 dBm
5.74688 GHz
Marker 2 [T1]
-66.79 dBm
2.40938 GHz
Marker 3 [T1]
-24.61 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

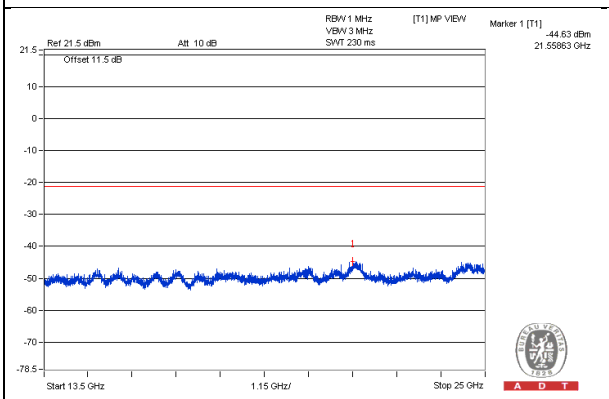

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.34 dBm
21.61613 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

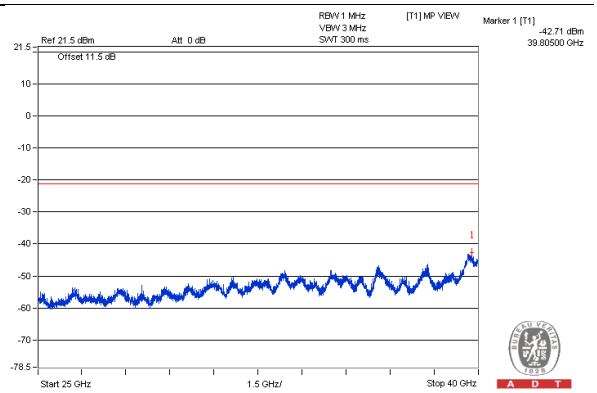

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.00 dBm
39.68500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

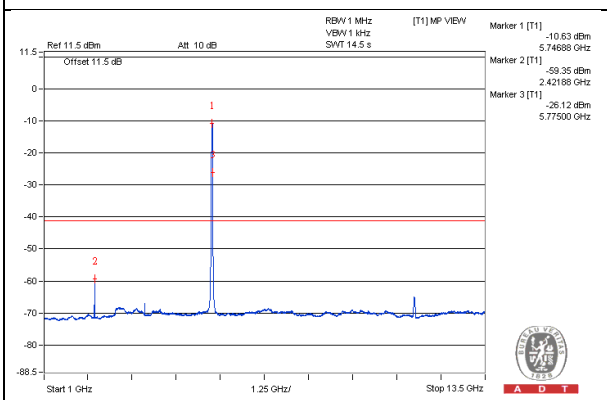
Chain 1

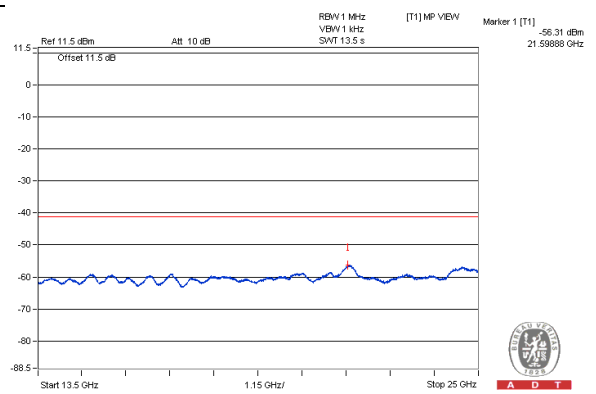

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-54.16 dBm
41.64 MHz
Marker 2 [T1]
-64.75 dBm
99.36 MHz
Marker 3 [T1]
-64.19 dBm
890.15 MHz
Marker 4 [T1]
-64.67 dBm
966.54 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

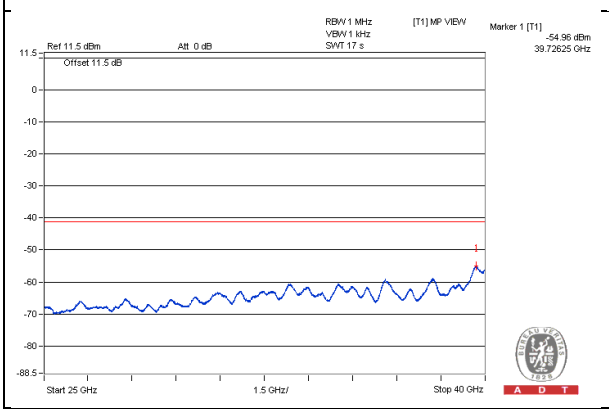

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
-1.01 dBm
5.76250 GHz
Marker 2 [T1]
-46.22 dBm
3.18438 GHz
Marker 3 [T1]
-12.87 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.63 dBm
21.55863 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-42.71 dBm
39.80500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-10.63 dBm
5.74688 GHz
Marker 2 [T1]
-59.35 dBm
2.42188 GHz
Marker 3 [T1]
-26.12 dBm
5.77500 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.31 dBm
21.59688 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

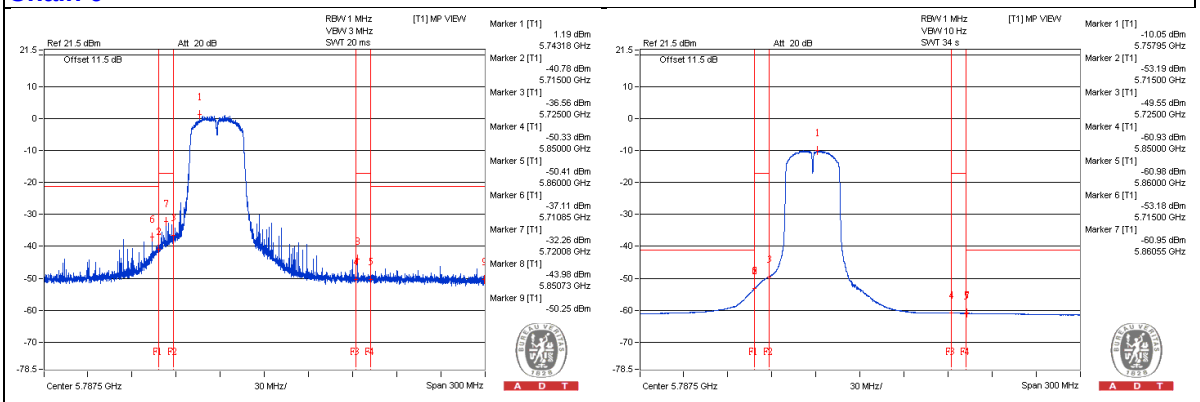

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-54.96 dBm
39.72625 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

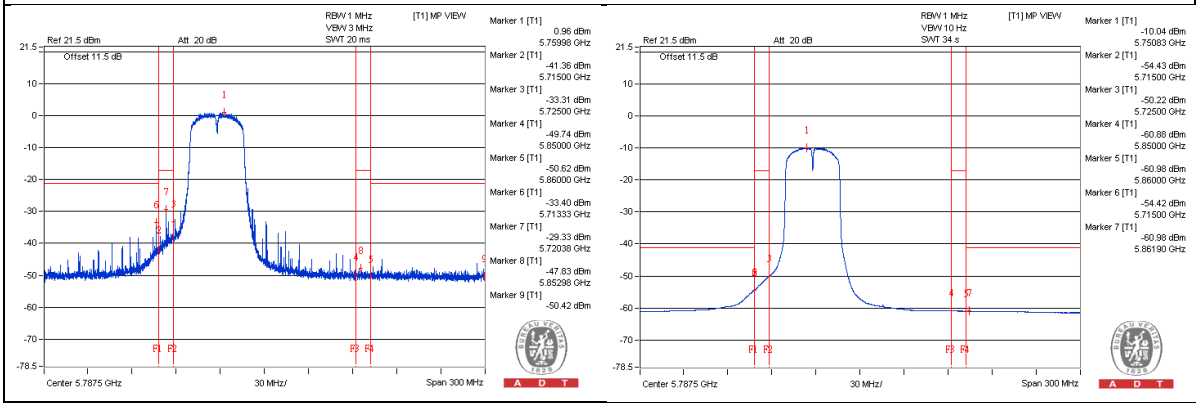
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5713.325 PK	70.15	74	-3.85	-42.33	-33.4	7.77	-25.11
2	5714.975 AV	52.27	54	-1.73	-53.19	-54.43	7.77	-42.99
3	5720.375 PK	74.27	78.2	-3.93	-37.89	-29.33	7.77	-20.99
4	5850.725 PK	59.78	78.2	-18.42	-43.98	-51.37	7.77	-35.48
5	5861.75 PK	57.75	74	-16.25	-49.67	-47.24	7.77	-37.51
6	5860.475 AV	45.07	54	-8.93	-60.95	-61	7.77	-50.19

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



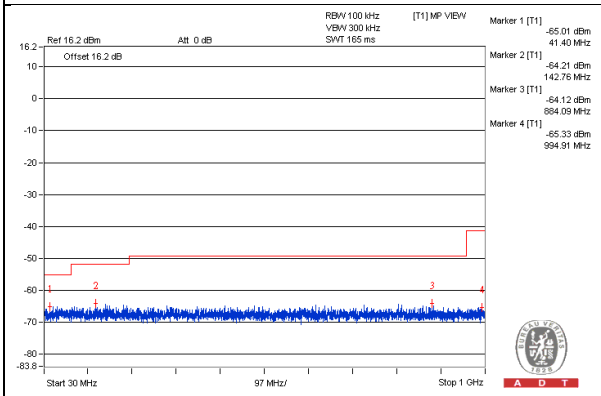
802.11ac (VHT40) - Channel 159

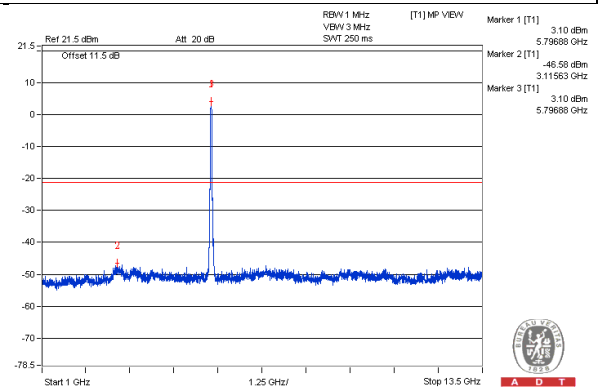
Conducted spurious emission table

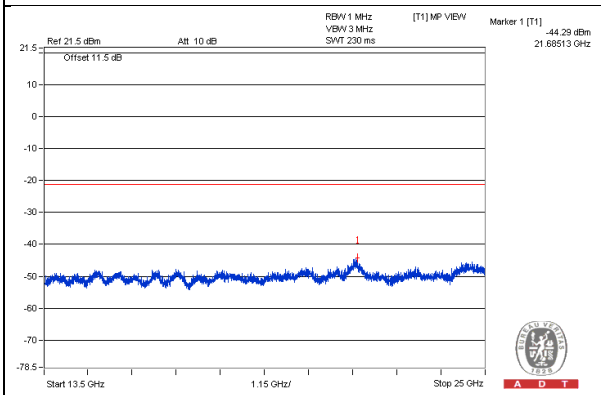
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3862.5 PK	56.11	74	-17.89	-50.57	-49.37	7.77	-39.15
2	3862.5 AV	46.79	54	-7.21	-64.01	-57.04	7.77	-48.47
3	7712.5 PK	56.06	74	-17.94	-49.57	-50.44	7.77	-39.2
4	7740.625 AV	35.23	54	-18.77	-71.05	-70.59	7.77	-60.03
5	11584.375 PK	54.84	74	-19.16	-51.32	-51.08	7.77	-40.42
6	11596.875 AV	38.1	54	-15.9	-71.35	-66.06	7.77	-57.16

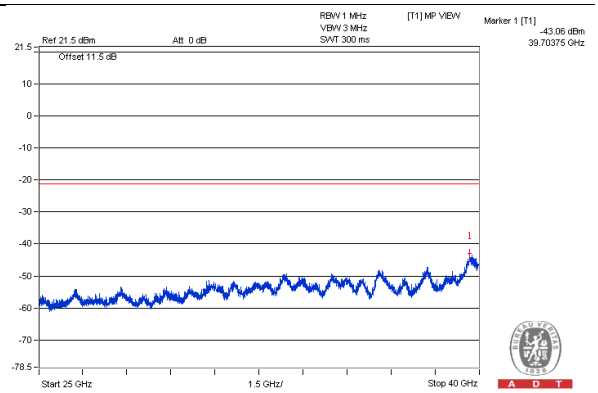
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

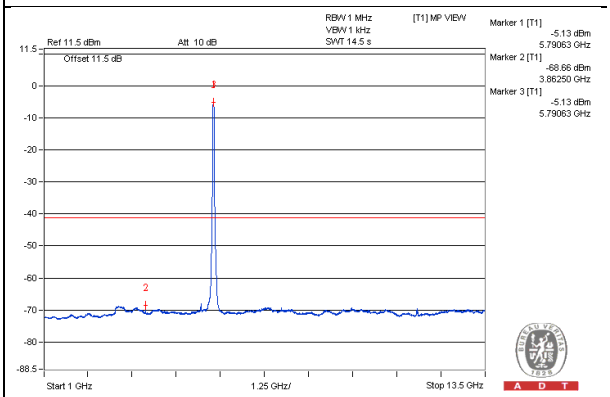
Chain 0

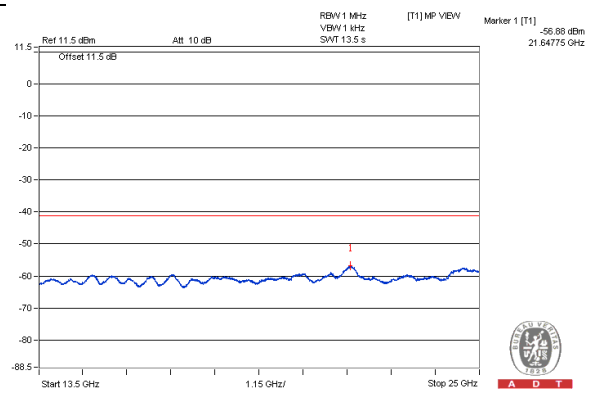

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.01 dBm
41.40 MHz
Marker 2 [T1]
-64.21 dBm
142.76 MHz
Marker 3 [T1]
-64.12 dBm
884.09 MHz
Marker 4 [T1]
-65.33 dBm
994.91 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

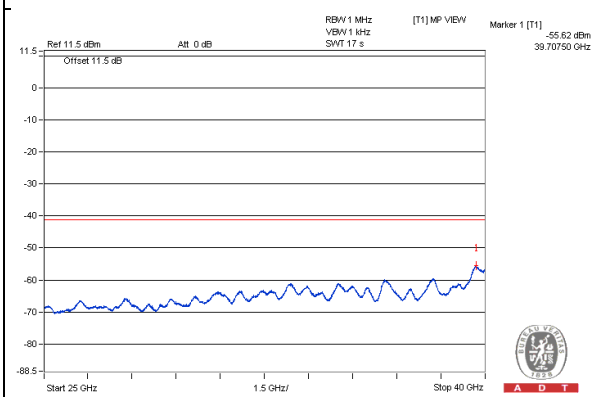

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
3.10 dBm
5.79688 GHz
Marker 2 [T1]
-46.58 dBm
3.11563 GHz
Marker 3 [T1]
3.10 dBm
5.79688 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.29 dBm
21.68513 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

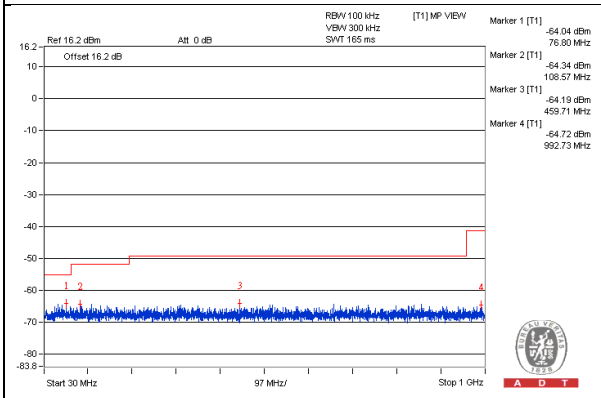

RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.06 dBm
39.70375 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

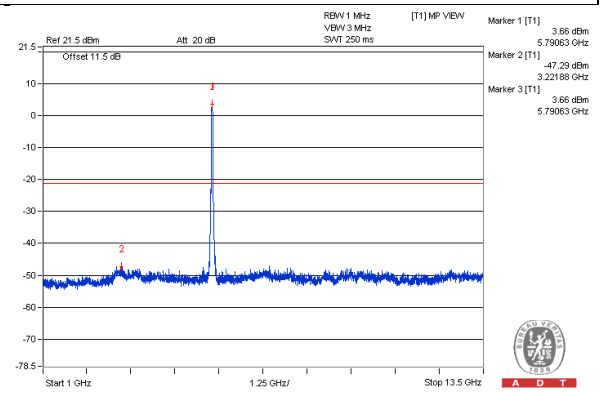

RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-5.13 dBm
5.79063 GHz
Marker 2 [T1]
-68.86 dBm
3.86250 GHz
Marker 3 [T1]
-5.13 dBm
5.79063 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz

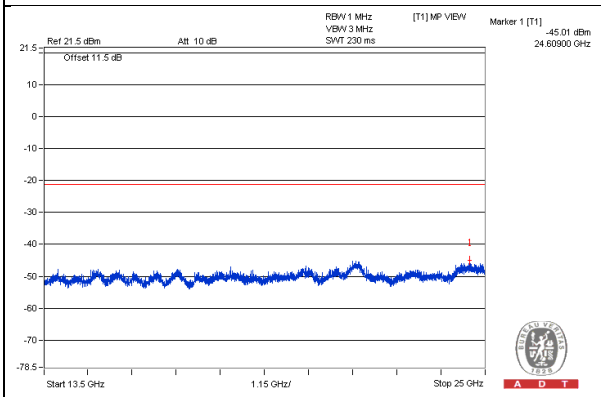

RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.88 dBm
21.64775 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

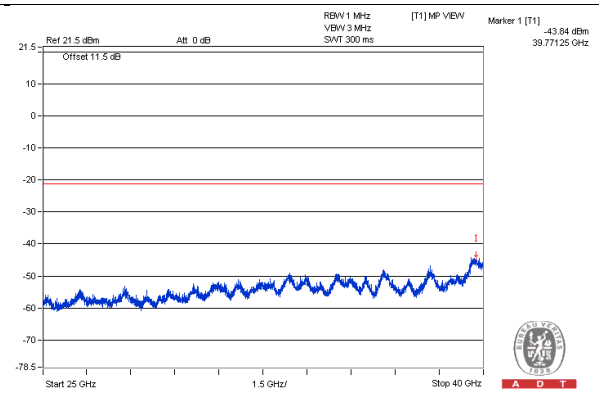

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.62 dBm
39.70750 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

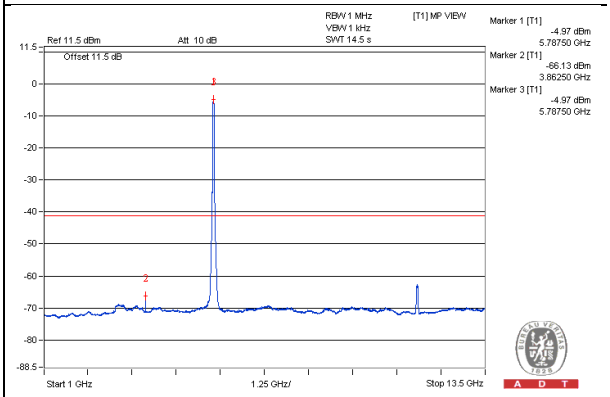
Chain 1

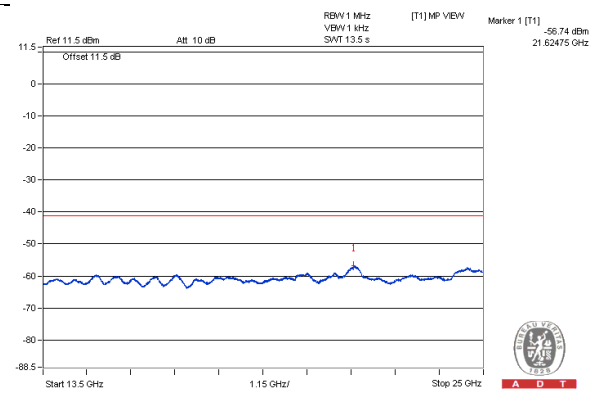

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-64.04 dBm
76.80 MHz
Marker 2 [T1]
-64.34 dBm
108.57 MHz
Marker 3 [T1]
-64.19 dBm
459.71 MHz
Marker 4 [T1]
-64.72 dBm
992.73 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

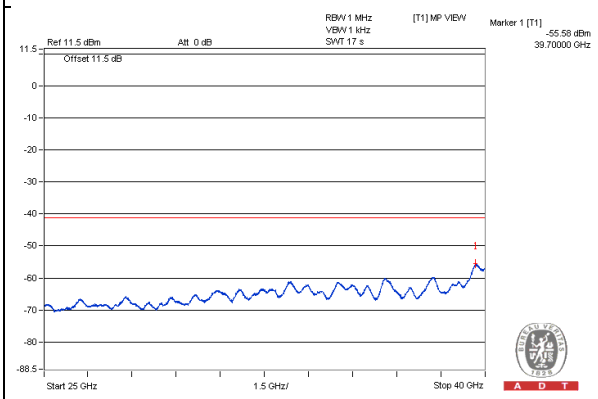

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
3.66 dBm
5.79063 GHz
Marker 2 [T1]
-47.29 dBm
3.22188 GHz
Marker 3 [T1]
3.66 dBm
5.79063 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-45.01 dBm
24.60900 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.84 dBm
39.77125 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-4.97 dBm
5.76750 GHz
Marker 2 [T1]
-66.13 dBm
3.86250 GHz
Marker 3 [T1]
-4.97 dBm
5.76750 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.74 dBm
21.62475 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz

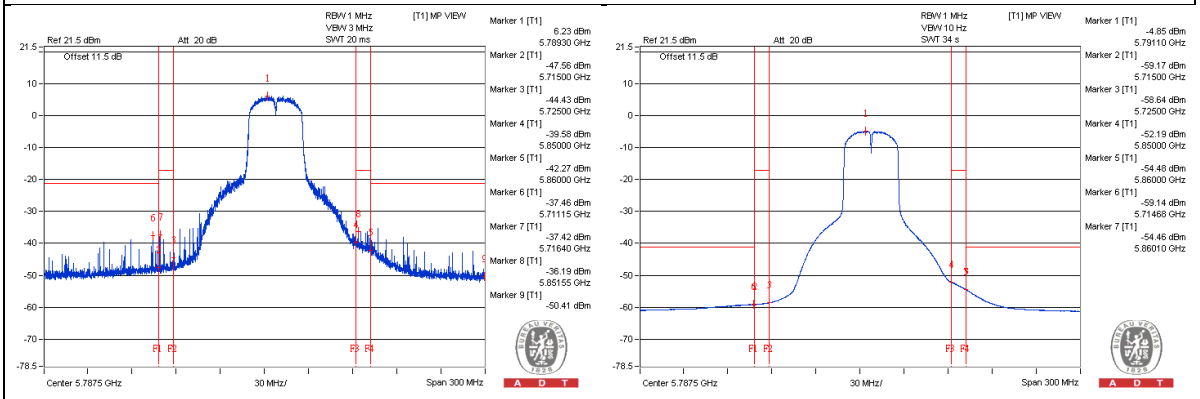

RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.58 dBm
39.70000 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

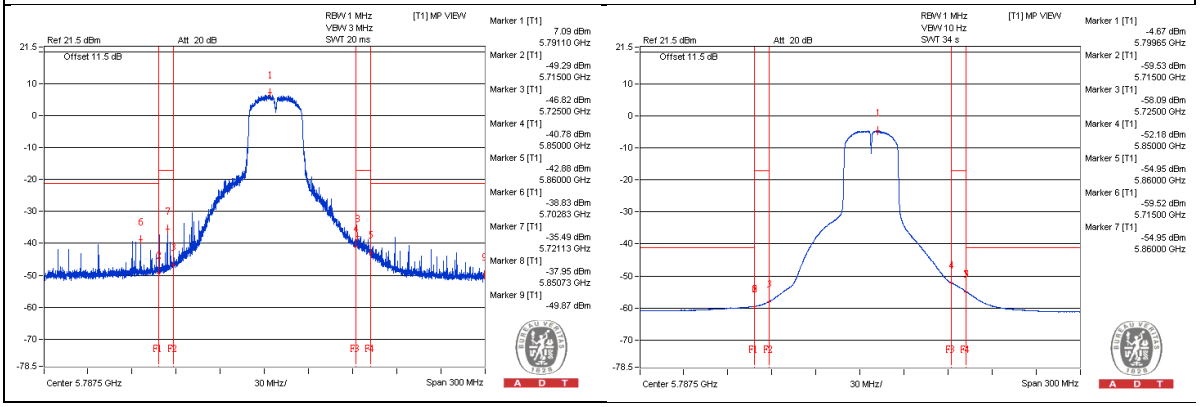
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5715.5 PK	66.08	74	-7.92	-47.67	-37.33	7.77	-29.18
2	5715.575 AV	46.76	54	-7.24	-59.11	-59.45	7.77	-48.5
3	5721.125 PK	67.76	78.2	-10.44	-48.34	-35.49	7.77	-27.5
4	5851.55 PK	67.99	78.2	-10.21	-36.19	-41.38	7.77	-27.27
5	5860.85 PK	65.34	74	-8.66	-39.55	-42.28	7.77	-29.92
6	5860.025 AV	51.33	54	-2.67	-54.48	-54.95	7.77	-43.93

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



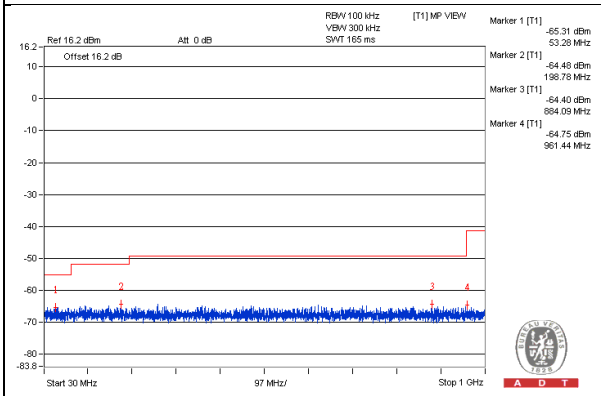
802.11ac (VHT80) - Channel 155

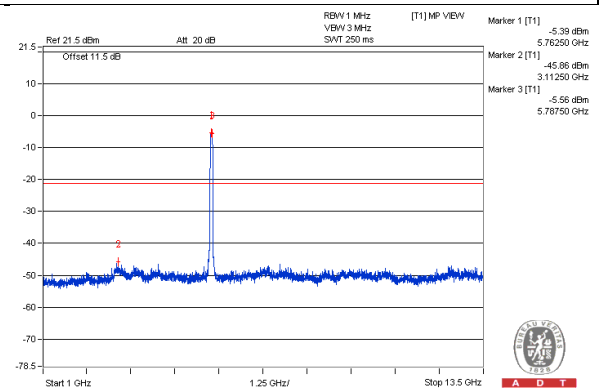
Conducted spurious emission table

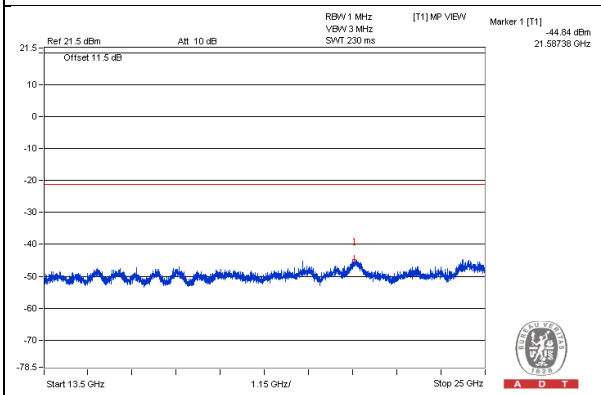
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3850 PK	55.53	74	-18.47	-51.06	-50.03	7.77	-39.73
2	3850 AV	45.77	54	-8.23	-66.4	-57.82	7.77	-49.49
3	7703.125 PK	56.51	74	-17.49	-49.33	-49.73	7.77	-38.75
4	7700 AV	35.17	54	-18.83	-70.96	-70.78	7.77	-60.09
5	11562.5 PK	54.27	74	-19.73	-51.86	-51.68	7.77	-40.99
6	11562.5 AV	34.97	54	-19.03	-72.51	-69.99	7.77	-60.29
7	17315.125 PK	53.91	74	-20.09	-52.76	-51.58	7.77	-41.35
8	17341 AV	42.1	54	-11.9	-63.87	-64.02	7.77	-53.16

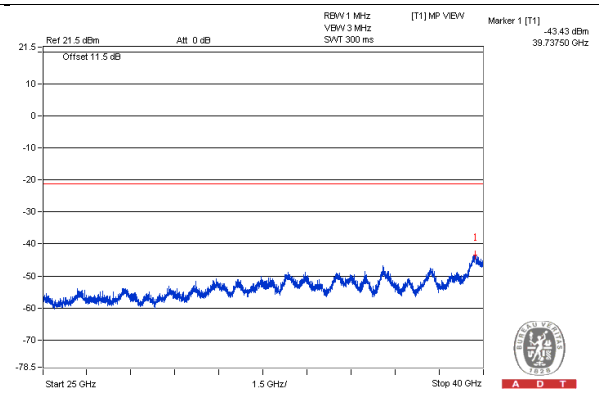
Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

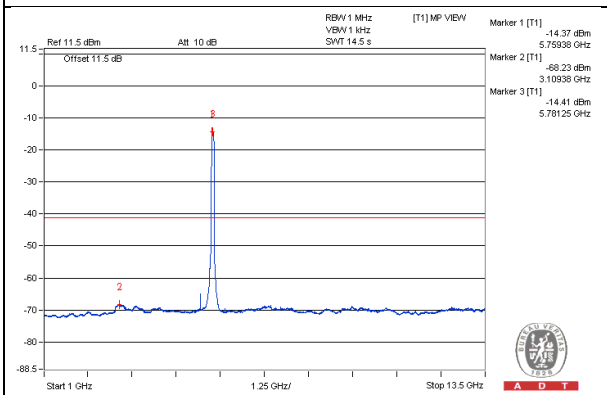
Chain 0

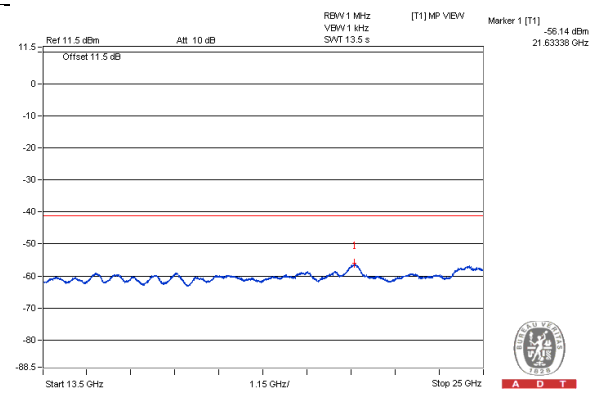

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1]
-65.31 dBm
53.28 MHz
Marker 2 [T1]
-64.48 dBm
198.78 MHz
Marker 3 [T1]
-64.40 dBm
884.09 MHz
Marker 4 [T1]
-64.75 dBm
961.44 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz

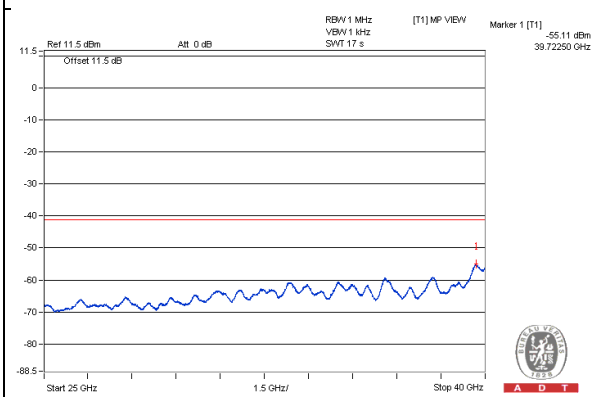

RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1]
-5.39 dBm
5.76250 GHz
Marker 2 [T1]
-45.86 dBm
3.11250 GHz
Marker 3 [T1]
-5.56 dBm
5.78750 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-44.84 dBm
21.58738 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-43.43 dBm
39.73750 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz


RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-14.37 dBm
5.75938 GHz
Marker 2 [T1]
-68.23 dBm
3.10938 GHz
Marker 3 [T1]
-14.41 dBm
5.78125 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz


RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1]
-56.14 dBm
21.63338 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1]
-55.11 dBm
39.72250 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Chain 1

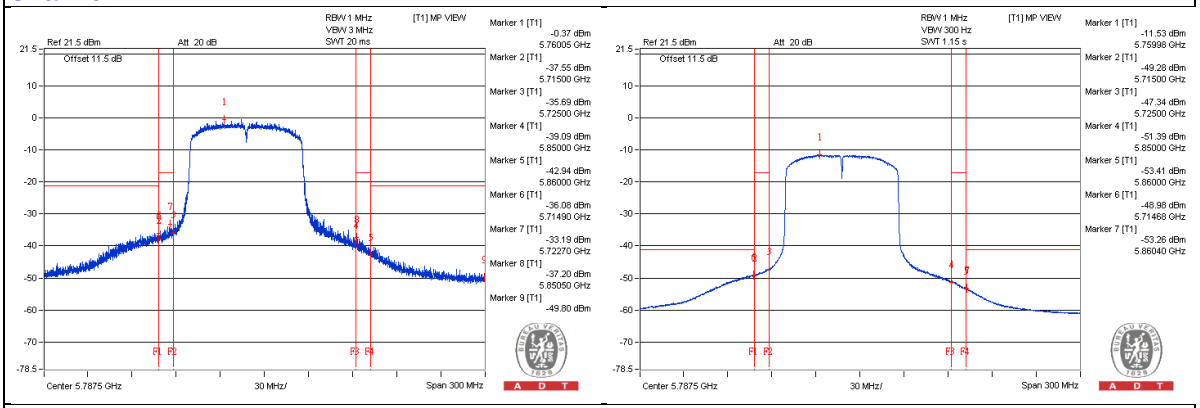

RBW 100 kHz
VBW 300 kHz
SWT 165 ms
[T1] MP VIEW
Ref 16.2 dBm
Att 0 dB
Offset 16.2 dB
Marker 1 [T1] -65.18 dBm 73.17 MHz
Marker 2 [T1] -63.70 dBm 139.37 MHz
Marker 3 [T1] -63.80 dBm 897.42 MHz
Marker 4 [T1] -63.85 dBm 985.69 MHz
Start 30 MHz
97 MHz/
Stop 1 GHz
RBW 1 MHz
VBW 3 MHz
SWT 250 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 20 dB
Offset 11.5 dB
Marker 1 [T1] -5.16 dBm 5.75938 GHz
Marker 2 [T1] -46.03 dBm 3.12188 GHz
Marker 3 [T1] -5.89 dBm 5.79063 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz
RBW 1 MHz
VBW 3 MHz
SWT 230 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1] -44.55 dBm 24.58888 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz
RBW 1 MHz
VBW 3 MHz
SWT 300 ms
[T1] MP VIEW
Ref 21.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1] -42.82 dBm 39.71500 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz
RBW 1 MHz
VBW 1 kHz
SWT 14.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1] -14.54 dBm 5.75938 GHz
Marker 2 [T1] -66.33 dBm 3.85000 GHz
Marker 3 [T1] -14.70 dBm 5.78125 GHz
Start 1 GHz
1.25 GHz/
Stop 13.5 GHz
RBW 1 MHz
VBW 1 kHz
SWT 13.5 s
[T1] MP VIEW
Ref 11.5 dBm
Att 10 dB
Offset 11.5 dB
Marker 1 [T1] -56.22 dBm 21.65350 GHz
Start 13.5 GHz
1.15 GHz/
Stop 25 GHz
RBW 1 MHz
VBW 1 kHz
SWT 17 s
[T1] MP VIEW
Ref 11.5 dBm
Att 0 dB
Offset 11.5 dB
Marker 1 [T1] -54.99 dBm 39.70375 GHz
Start 25 GHz
1.5 GHz/
Stop 40 GHz

Bandedge table

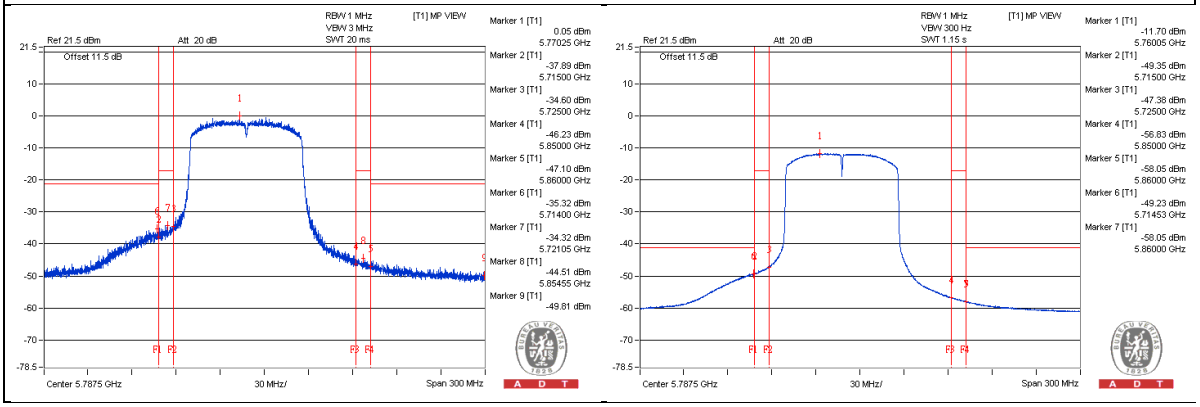
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	5713.775 PK	66.27	68.2	-1.93	-40.11	-39.46	7.77	-28.99
2	5724.875 PK	67.88	78.2	-10.32	-37.6	-38.81	7.77	-27.38
3	5851.4 PK	60.9	78.2	-17.3	-43.27	-48.51	7.77	-34.36
4	5867.225 PK	58.93	68.2	-9.27	-45.99	-48.63	7.77	-36.33

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1



Below 1GHz Data

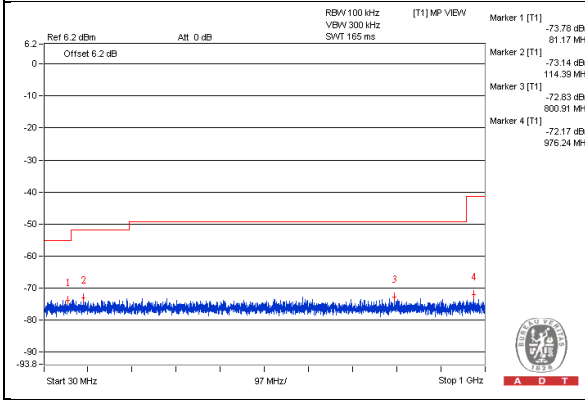
802.11a - Channel 157

Conducted spurious emission table

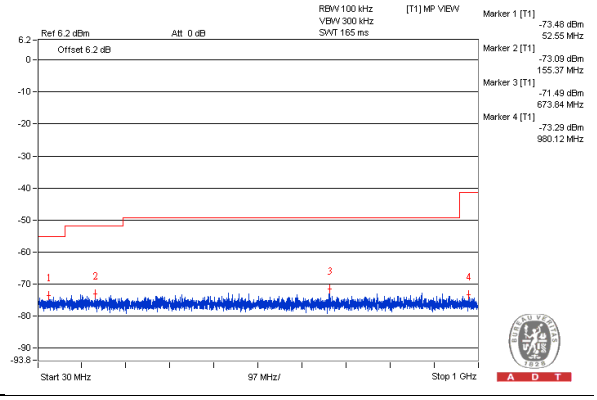
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	81.1675	31.92	40	-8.08	-73.78	-74.49	7.77	-63.34
2	155.3725	32.21	43.5	-11.29	-74.73	-73.09	7.77	-63.05
3	332.3975	31.74	46	-14.26	-75.17	-73.58	7.77	-63.52
4	449.2825	31.98	46	-14.02	-75.71	-72.87	7.77	-63.28
5	673.8375	32.6	46	-13.4	-77.07	-71.49	7.77	-62.66
6	877.78	32.41	46	-13.59	-74.55	-72.87	7.77	-62.85

Note :
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.

Chain 0



Chain 1

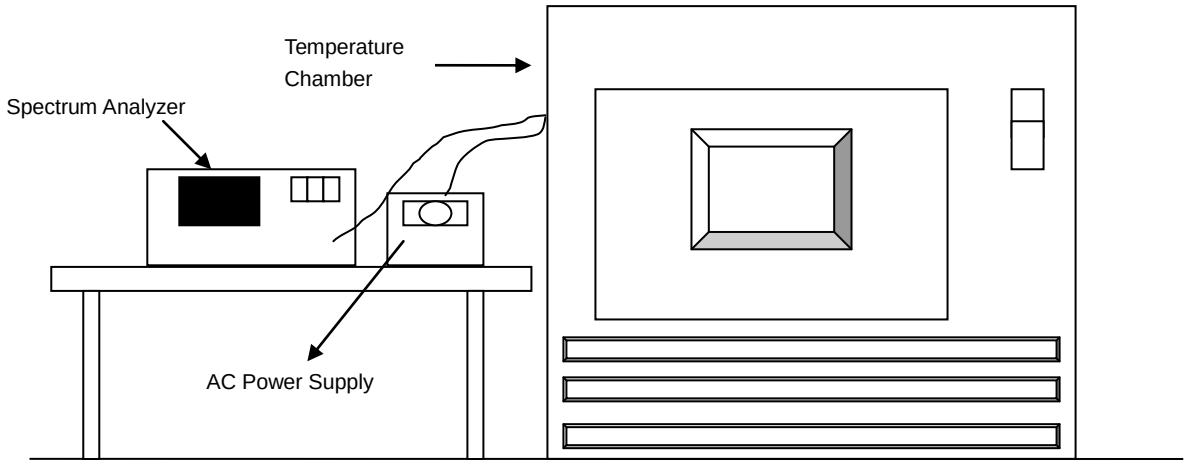


4.5 Frequency Stability Measurement

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, 2015	May 07, 2016
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-SP-AR	MAA0812-008	Jan. 12, 2015	Jan. 11, 2016

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 : July 02, 2015

4.5.4 Test Procedures

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 Conditions

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

4.5.7 Test Results

Frequemcy Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5744.995	-0.00009	5744.9916	-0.00015	5744.9922	-0.00014	5744.9942	-0.00010
40	120	5745.0101	0.00018	5745.0098	0.00017	5745.0152	0.00026	5745.0137	0.00024
30	120	5745.0302	0.00053	5745.0302	0.00053	5745.029	0.00050	5745.0262	0.00046
20	120	5745.0075	0.00013	5745.0056	0.00010	5745.0052	0.00009	5745.0042	0.00007
10	120	5745.0114	0.00020	5745.0088	0.00015	5745.0103	0.00018	5745.0113	0.00020
0	120	5744.9753	-0.00043	5744.9794	-0.00036	5744.9798	-0.00035	5744.9806	-0.00034
-10	120	5745.0084	0.00015	5745.0055	0.00010	5745.0036	0.00006	5745.0071	0.00012
-20	120	5744.9919	-0.00014	5744.9937	-0.00011	5744.9918	-0.00014	5744.9951	-0.00009
-30	120	5745.0179	0.00031	5745.0176	0.00031	5745.0179	0.00031	5745.0174	0.00030

Frequemcy Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5745.0064	0.00011	5745.0061	0.00011	5745.0045	0.00008	5745.0038	0.00007
	120	5745.0075	0.00013	5745.0056	0.00010	5745.0052	0.00009	5745.0042	0.00007
	102	5745.0069	0.00012	5745.0053	0.00009	5745.0058	0.00010	5745.0038	0.00007

4.6 Conducted Emission Measurement

4.6.1 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.

4.6.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	100375	May 06, 2015	May 05, 2016
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	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 BVADT	BVADT_Cond_ V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 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: July 06, 2015

4.6.3 Test Procedure

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

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

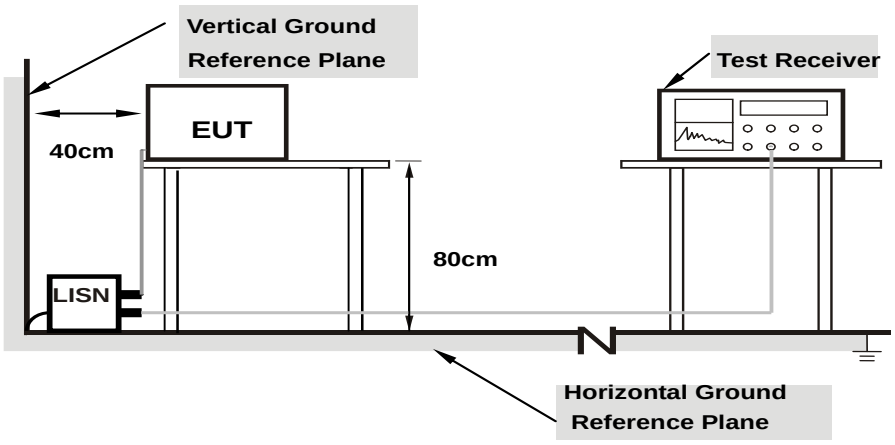
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.6.4 Deviation from Test Standard

No deviation.

4.6.5 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).

4.6.6 EUT Operating Condition

Same as 4.1.6.

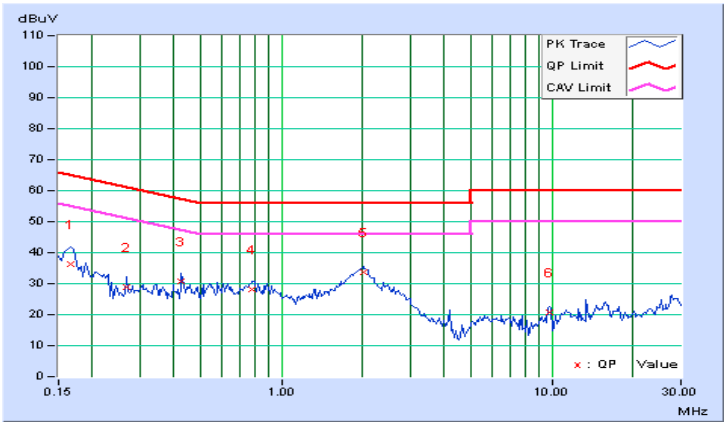
4.6.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16550	0.08	36.20	25.43	36.28	25.51	65.18	55.18	-28.90	-29.67
2	0.26753	0.09	28.76	21.11	28.85	21.20	61.19	51.19	-32.34	-29.99
3	0.42681	0.10	30.48	25.63	30.58	25.73	57.31	47.31	-26.73	-21.58
4	0.77891	0.12	27.93	22.57	28.05	22.69	56.00	46.00	-27.95	-23.31
5	**2.01118**	**0.17**	**33.58**	**30.48**	**33.75**	**30.65**	**56.00**	**46.00**	**-22.25**	**-15.35**
6	9.77338	0.44	20.26	10.60	20.70	11.04	60.00	50.00	-39.30	-38.96

REMARKS:

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

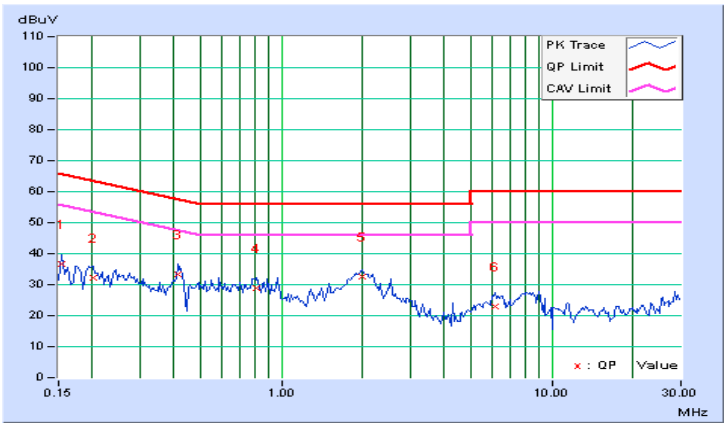


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15403	0.08	36.51	26.39	36.59	26.47	65.78	55.78	-29.19	-29.31
2	0.20078	0.08	32.15	26.73	32.23	26.81	63.58	53.58	-31.35	-26.77
3	0.41562	0.10	33.33	30.38	33.43	30.48	57.54	47.54	-24.10	-17.05
4	0.81154	0.12	28.69	21.77	28.81	21.89	56.00	46.00	-27.19	-24.11
5	2.00000	0.17	32.26	29.11	32.43	29.28	56.00	46.00	-23.57	-16.72
6	6.16689	0.31	22.53	18.93	22.84	19.24	60.00	50.00	-37.16	-30.76

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.



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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