

BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4



TEST REPORT

Applicant	DEI Sales Inc., dba Polk Audio
Address	5541 Fermi Court Carlsbad CA 92008 United States Of America

Manufacturer or Supplier	DEI Sales Inc., dba Polk Audio
Address	5541 Fermi Court Carlsbad CA 92008 United States Of America
Product Name	Sound Bar
Brand Name	Polk
Model	POLK REACT
Additional Model & Model Difference	N/A
Date of tests	Jul. 22, 2020 ~ Sep. 16, 2020

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart E, Section 15.407**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Nov. 11, 2020

This report is governed by, and incorporates by reference, CPS Conditions of Service as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



TABLE OF CONTENTS

RELEASE CONTROL RECORD	4
1. SUMMARY OF TEST RESULTS.....	5
1.1 MEASUREMENT UNCERTAINTY	5
2. GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT.....	6
2.2 DESCRIPTION OF TEST MODES.....	7
2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	10
2.3 DUTY CYCLE OF TEST SIGNAL	12
2.4 DESCRIPTION OF SUPPORT UNITS.....	13
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS.....	13
3. TEST TYPES AND RESULTS.....	14
3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	14
3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	14
3.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	15
3.1.3 TEST INSTRUMENTS.....	16
3.1.4 TEST PROCEDURES	17
3.1.5 DEVIATION FROM TEST STANDARD	17
3.1.6 TEST SETUP.....	18
3.1.7 EUT OPERATING CONDITION	19
3.1.8 TEST RESULTS	20
3.2 CONDUCTED EMISSION MEASUREMENT	83
3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	85
3.2.2 TEST INSTRUMENTS.....	85
3.2.3 TEST PROCEDURES	86
3.2.4 DEVIATION FROM TEST STANDARD	86
3.2.5 TEST SETUP.....	86
3.2.6 EUT OPERATING CONDITIONS	86
3.2.7 TEST RESULTS	87
3.3 TRANSMIT POWER MEASUREMENT	89



3.3.1	LIMITS OF TRANSMIT POWER MEASUREMENT	89
3.3.2	TEST SETUP	89
3.3.3	TEST INSTRUMENTS	90
3.3.4	TEST PROCEDURE	90
3.3.5	DEVIATION FROM TEST STANDARD	91
3.3.6	EUT OPERATING CONDITIONS	91
3.3.7	TEST RESULTS	92
3.4	PEAK POWER SPECTRAL DENSITY MEASUREMENT	112
3.4.1	LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	112
3.4.2	TEST SETUP	112
3.4.3	TEST INSTRUMENTS	112
3.4.4	TEST PROCEDURES	112
3.4.5	DEVIATION FROM TEST STANDARD	113
3.4.6	EUT OPERATING CONDITIONS	113
3.4.7	TEST RESULTS	114
3.5	FREQUENCY STABILITY	126
3.5.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	126
3.5.2	TEST SETUP	126
3.5.3	TEST INSTRUMENTS	126
3.5.4	TEST PROCEDURE	127
3.5.5	DEVIATION FROM TEST STANDARD	127
3.5.6	EUT OPERATING CONDITION	127
3.5.7	TEST RESULTS	128
4.	PHOTOGRAPHS OF THE TEST CONFIGURATION	132
5.	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	133



Test Report No.: RF2007WDG0018-4

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2007WDG0018-4	Original release.	Nov. 11, 2020



1. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407 UNDER NEW RULE)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit.
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(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is i-pex not a standard connector.

1.1 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	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.70dB
Radiated emissions	9KHz ~ 30MHz	2.90dB
	30MHz ~ 1GMHz	3.83dB
	1GHz ~ 18GHz	4.93dB
	18GHz ~ 40GHz	4.80dB

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



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT NAME	Sound Bar
MODEL NO.	POLK REACT
FCC ID	WLQREACT
POWER SUPPLY	AC 100-240V 50/60Hz
MODULATION TYPE	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps 802.11ac : up to 866.7Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz 5500 ~ 5700MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 channels for 802.11a, 802.11n, 11ac (20MHz) 2 channels for 802.11n, 11ac (40MHz): 1 channel for 802.11ac 80MHz 5260 ~ 5320MHz: 4 channels for 802.11a, 802.11n (20MHz) 2 channels for 802.11n, 11ac (40MHz) 1 channel for 802.11ac (80MHz) 5500 ~ 5700MHz: 11 channels for 802.11a, 802.11n (20MHz) 5 channels for 802.11n (40MHz) 2 channel for 802.11ac (80MHz) 5745 ~ 5825MHz: 5 channels for 802.11a, 802.11n, 11ac (20MHz) 2 channels for 802.11n, 11ac (40MHz) 1 channel for 802.11ac (80MHz)
CONDUCTED OUTPUT POWER	12.19mW for 5180 ~ 5240MHz (Maximum AVG Power) 14.223mW for 5260 ~ 5320MHz (Maximum AVG Power) 14.791mW for 5500 ~ 5700MHz (Maximum AVG Power) 14.521mW for 5745 ~ 5825MHz (Maximum AVG Power)
ANTENNA TYPE	5180 ~ 5240MHz: Chain 0: FPCB antenna with 3.31dBi gain Chain 1: FPCB antenna with 2.69dBi gain 5260 ~ 5320MHz: Chain 0: FPCB antenna with 3.11dBi gain Chain 1: FPCB antenna with 3.00dBi gain 5500 ~ 5700MHz: Chain 0: FPCB antenna with 3.38dBi gain Chain 1: FPCB antenna with 3.43dBi gain 5745 ~ 5825MHz: Chain 0: FPCB antenna with 3.42dBi gain Chain 1: FPCB antenna with 3.29dBi gain
I/O PORTS	Refer to user's manual



CABLE SUPPLIED	AC Line: Unshielded, Detachable, 170cm HDMI Line: Shielded, Detachable, 200cm, with two cores Optical Line: Unshielded, Detachable, 200cm
-----------------------	---

NOTES:

1. The working status of the two antennas is as follows.

MODULATION MODE	TX FUNCTION
802.11a	2 Chains(SISO)
802.11n (HT20), 802.11ac (VHT20)	2 Chains(MIMO)
802.11n (HT40), 802.11ac (VHT40)	2 Chains(MIMO)
802.11ac (VHT80)	2 Chains(MIMO)

*The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case for final test were chosen 802.11n (HT20/HT40) and record in the report.

* 802.11a provided a SISO function, the radiated emission above 1GHz and conducted emission test items are carried out on the maximum power "chain 0" antenna.

2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Please refer to the EUT photo document (Reference No.: 2007WDG0018) for detailed product photo.



2.2 DESCRIPTION OF TEST MODES

FOR 5150 ~ 5250MHz

4 channels are provided for 802.11a, 802.11ac 20MHz, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	40	5200 MHz
44	5220 MHz	48	5240 MHz

2 channels are provided for 802.11a c 40MHz, 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	5210MHz	--	--

FOR 5250 ~ 5350MHz

4 channels are provided for 802.11a, 802.11a c 20MHz, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz

2 channels are provided for 802.11a c 40MHz, 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
58	5290MHz	--	--

**FOR 5470 ~ 5725MHz**

11 channels are provided for 802.11a, 802.11a c 20MHz, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	104	5520 MHz
108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz
124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz
140	5700 MHz	--	--

5 channels are provided for 802.11ac 40MHz, 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz
134	5670 MHz	--	--

2 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530MHz	122	5610MHz

FOR 5725 ~ 5850MHz

5 channels are provided for 802.11a, 802.11ac 20MHz, 802.11n (20MHz):

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

2 channels are provided for 802.11ac 40MHz, 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
155	5775MHz	--	--



2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	Powered by AC 120V with wifi (5G) link

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz**RE<1G**: Radiated Emission below 1GHz**PLC**: Power Line Conducted Emission**APCM**: Antenna Port Conducted Measurement**NOTE:**1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.**NOTE**: “-” means no effect.**RADIATED EMISSION TEST (ABOVE 1GHz):**

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5150-5250	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac 80MHz		42	42	OFDM	BPSK	29.3
-	802.11a	5250-5350	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11ac 80MHz		58	58	OFDM	BPSK	29.3
-	802.11a	5470-5725	100 to 140	100, 112, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 112, 140	OFDM	BPSK	6.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	802.11ac 80MHz		106	106	OFDM	BPSK	29.3
-	802.11a	5725-5850	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac 80MHz		155	155	OFDM	BPSK	29.3

RADIATED EMISSION TEST (BELOW 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5150-5250 5470-5725 5725-5850	36 to 48 100 to 140 149 to 165	36	OFDM	BPSK	6.0

**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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5150-5250 5470-5725 5725-5850	36 to 48 100 to 140 149 to 165	-	OFDM	BPSK	6.0

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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5150-5250	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac 80MHz		42	42	OFDM	BPSK	29.3
-	802.11a	5250-5350	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11ac 80MHz		58	58	OFDM	BPSK	29.3
-	802.11a	5470-5725	100 to 140	100, 112, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 112, 140	OFDM	BPSK	6.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	802.11ac 80MHz		106	106	OFDM	BPSK	29.3
-	802.11a	5725-5850	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac 80MHz		155	155	OFDM	BPSK	29.3

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	24deg. C, 55%RH	AC 120V/60Hz	Hu
RE≥1G	24deg. C, 55%RH	AC 120V/60Hz	Hu
PLC	20deg. C, 56%RH	AC 120V/60Hz	Ming Bai
APCM	20deg. C, 55%RH	AC 120V/60Hz	Daniel



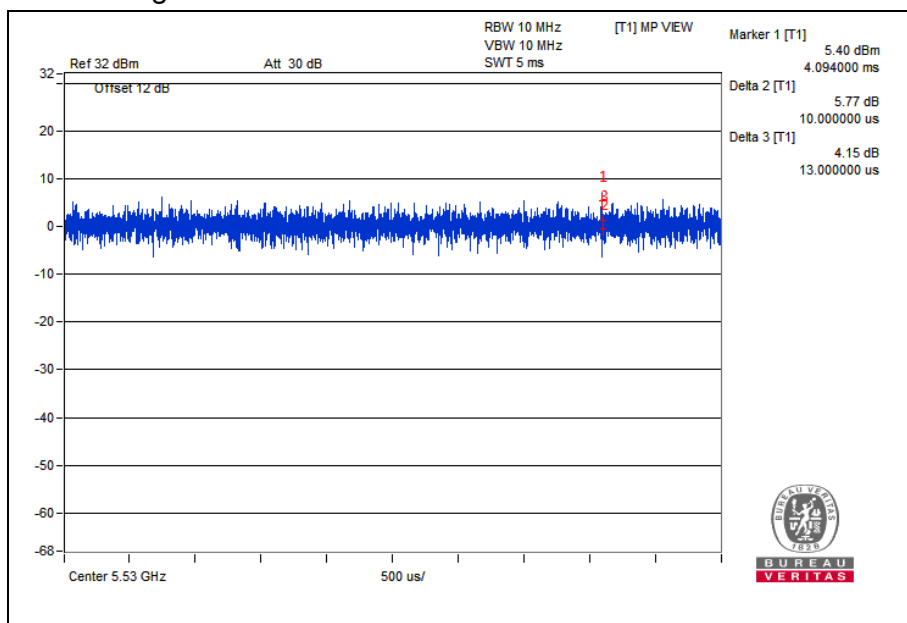
**BUREAU
VERITAS**

Test Report No.: RF2007WDG0018-4

2.3 DUTY CYCLE OF TEST SIGNAL

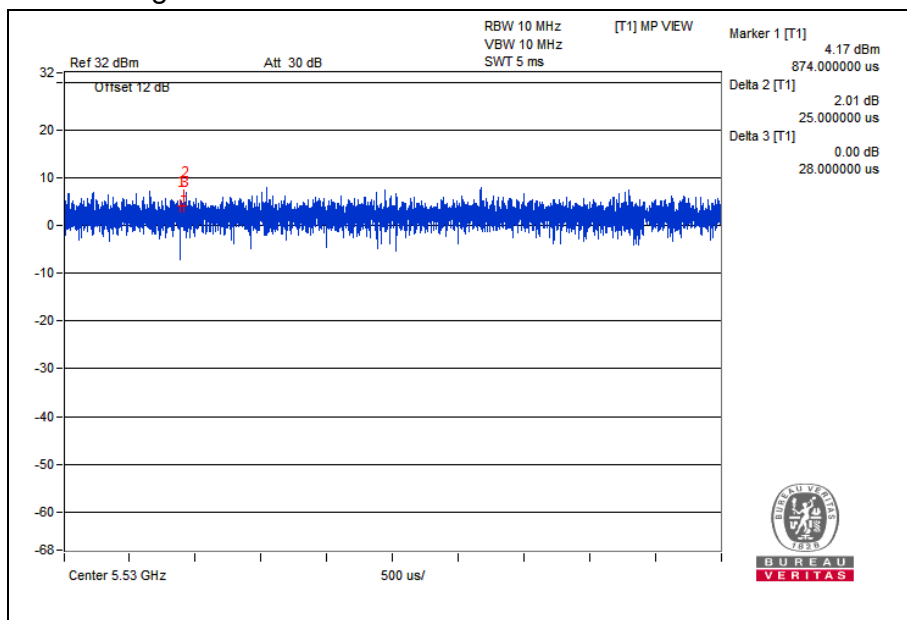
Chain 0:

Duty cycle of test signal is 100 %



Chain 1:

Duty cycle of test signal is 100 %





2.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Subwoofer	Polk	N/A	N/A	N/A
2	iPhone 6s	Apple	ML7F2CH/A	C6KQKXLAGRY8	N/A
3	Dummy Load	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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



3. TEST TYPES AND RESULTS

3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTES:

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 30dB under any condition of modulation.



3.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01r03	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)	Note	Note

NOTE: For transmitters operating in the 5.725-5.85 GHz band:

Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the alternative limit.

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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



3.1.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Mar. 17,21
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	May 13, 21
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,21
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Mar. 14,21
Bilog Antenna (20MHz -2GHz)	Teseq	CBL 6111D	30643	May 29,21
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	May 29,21
Horn Antenna (18GHz -40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	May 09, 21
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 22,21
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
Broadband Preamplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	May 08,21
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Mar. 03,21
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A

NOTES:

1. The calibration interval of the above test instruments are 12, 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
3. The FCC Site Registration No. is 749762.



3.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 1.5 meters(above 1GHz) and 0.8 meters(below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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.

NOTES:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (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.

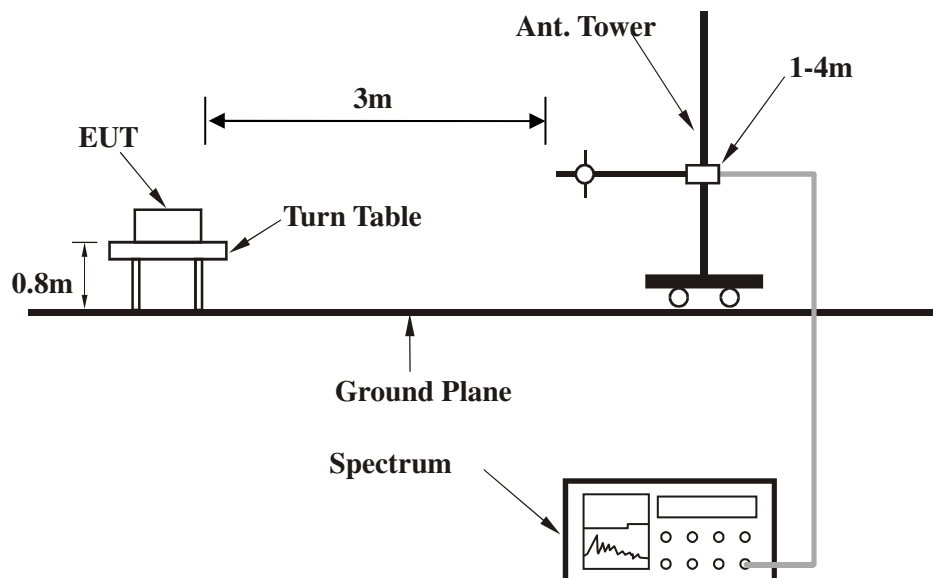
3.1.5 DEVIATION FROM TEST STANDARD

No deviation.



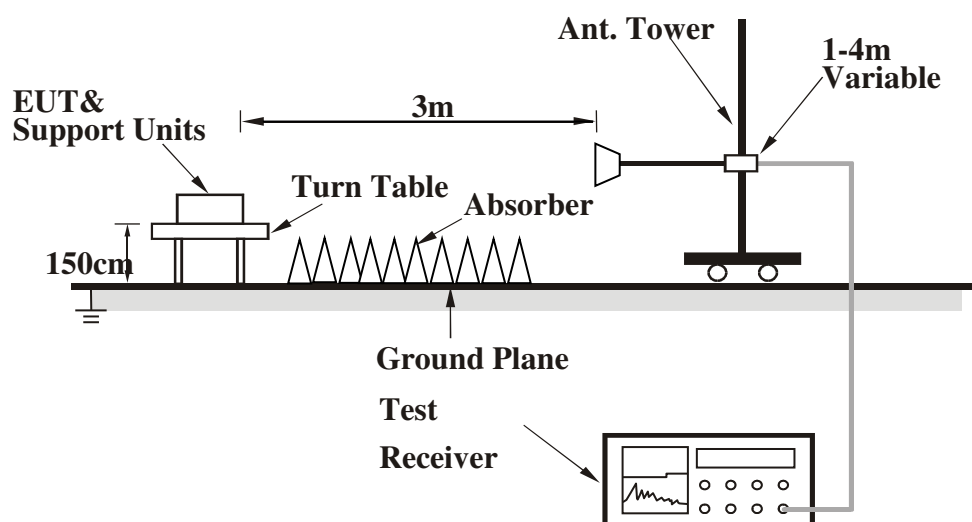
3.1.6 TEST SETUP

Below 1GHz test setup



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

Above 1GHz test setup



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



Test Report No.: RF2007WDG0018-4

3.1.7 EUT OPERATING CONDITION

- a. Set the EUT under full load condition and placed them on a testing table.
- b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the EUT in full functions.



3.1.8 FTEST RESULTS

BELOW 1GHz WORST-CASE DATA

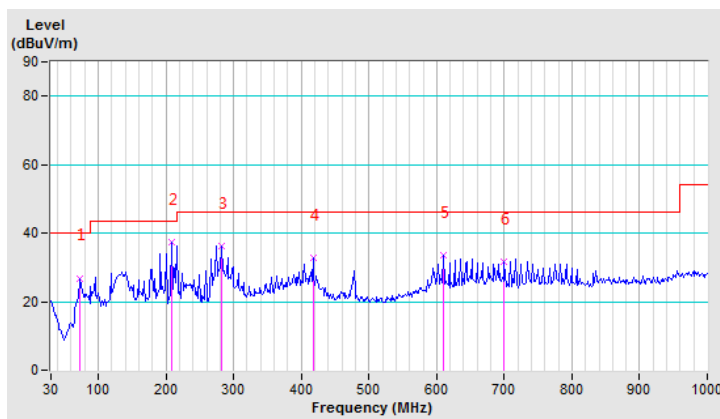
802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	73.53	26.85 QP	40.00	-13.15	1.00 H	152	50.64	-23.79
2	208.77	37.22 QP	43.50	-6.28	1.00 H	303	56.77	-19.55
3	281.83	36.23 QP	46.00	-9.77	1.00 H	179	51.51	-15.28
4	417.07	32.94 QP	46.00	-13.06	1.00 H	204	44.04	-11.10
5	609.82	33.66 QP	46.00	-12.34	1.00 H	82	40.40	-6.74
6	699.98	31.61 QP	46.00	-14.39	1.00 H	77	37.16	-5.55

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.



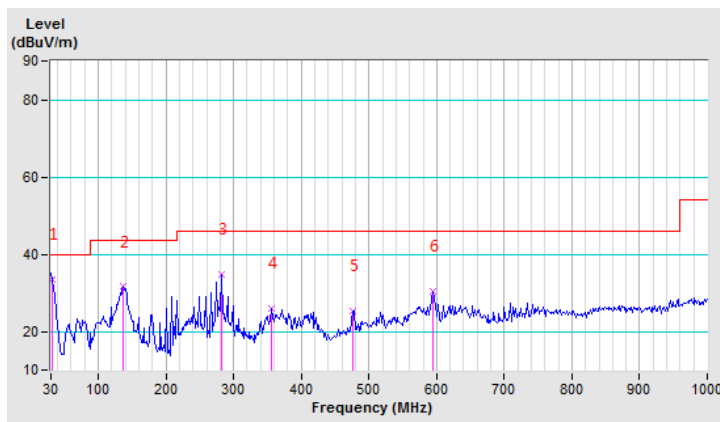


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	31.55	33.55 QP	40.00	-6.45	1.00 V	191	46.27	-12.72
2	137.26	31.61 QP	43.50	-11.89	1.00 V	179	50.28	-18.67
3	281.83	34.84 QP	46.00	-11.16	1.00 V	202	50.12	-15.28
4	356.44	25.95 QP	46.00	-20.05	1.00 V	166	38.49	-12.54
5	476.14	25.33 QP	46.00	-20.67	1.00 V	143	35.44	-10.11
6	594.28	30.36 QP	46.00	-15.64	1.00 V	155	37.20	-6.84

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.





Test Report No.: RF2007WDG0018-4

Band 1 (5150-5250MHz):

ABOVE 1GHz DATA

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5147.00	53.68 PK	74.00	-20.32	1.08 H	24	44.89	8.79
2	5147.00	39.28 AV	54.00	-14.72	1.08 H	24	30.49	8.79
3	5150.00	51.92 PK	74.00	-22.08	1.08 H	24	43.12	8.80
4	5150.00	39.52 AV	54.00	-14.48	1.08 H	24	30.72	8.80
5	*5180.00	105.01 PK			1.08 H	24	96.19	8.82
6	*5180.00	90.51 AV			1.08 H	24	81.69	8.82
7	#10360.00	59.79 PK	68.20	-8.41	1.00 H	0	41.98	17.81
8	15540.00	62.84 PK	74.00	-11.16	1.00 H	0	38.75	24.09
9	15540.00	46.87 AV	54.00	-7.13	1.00 H	0	22.78	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	5132.00	51.59 PK	74.00	-22.41	1.00 V	73	42.81	8.78
2	5132.00	37.82 AV	54.00	-16.18	1.00 V	73	29.04	8.78
3	5150.00	48.58 PK	74.00	-25.42	1.00 V	73	39.78	8.80
4	5150.00	38.01 AV	54.00	-15.99	1.00 V	73	29.21	8.80
5	*5180.00	101.01 PK			1.00 V	73	92.19	8.82
6	*5180.00	87.15 AV			1.00 V	73	78.33	8.82
7	#10360.00	60.00 PK	68.20	-8.20	1.00 V	0	42.19	17.81
8	15540.00	63.41 PK	74.00	-10.59	1.00 V	0	39.32	24.09
9	15540.00	47.36 AV	54.00	-6.64	1.00 V	0	23.27	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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com

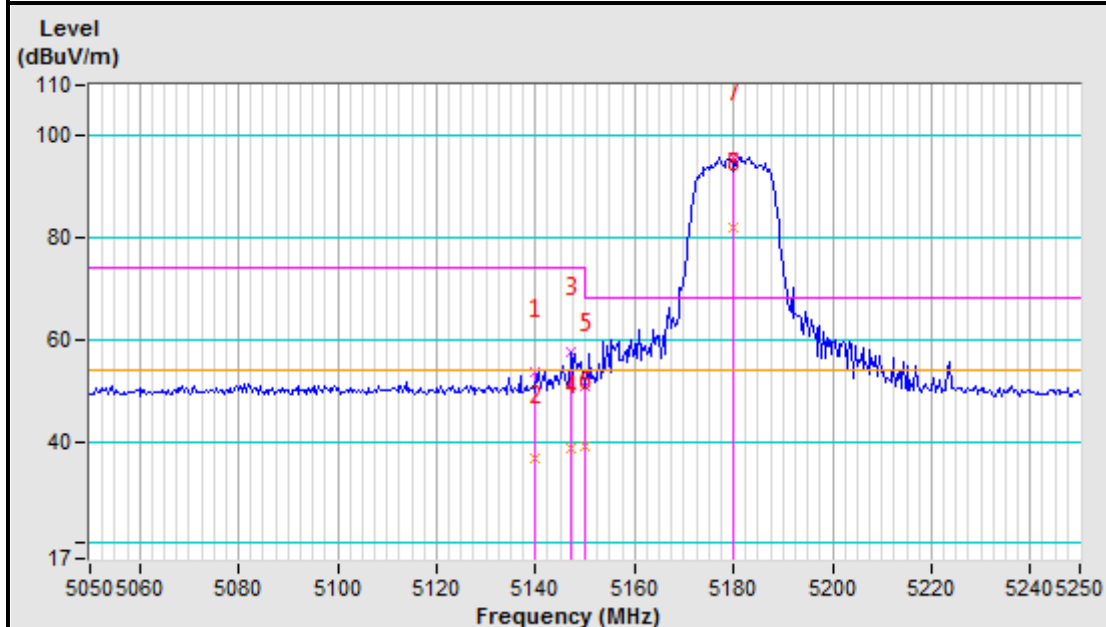


BUREAU
VERITAS

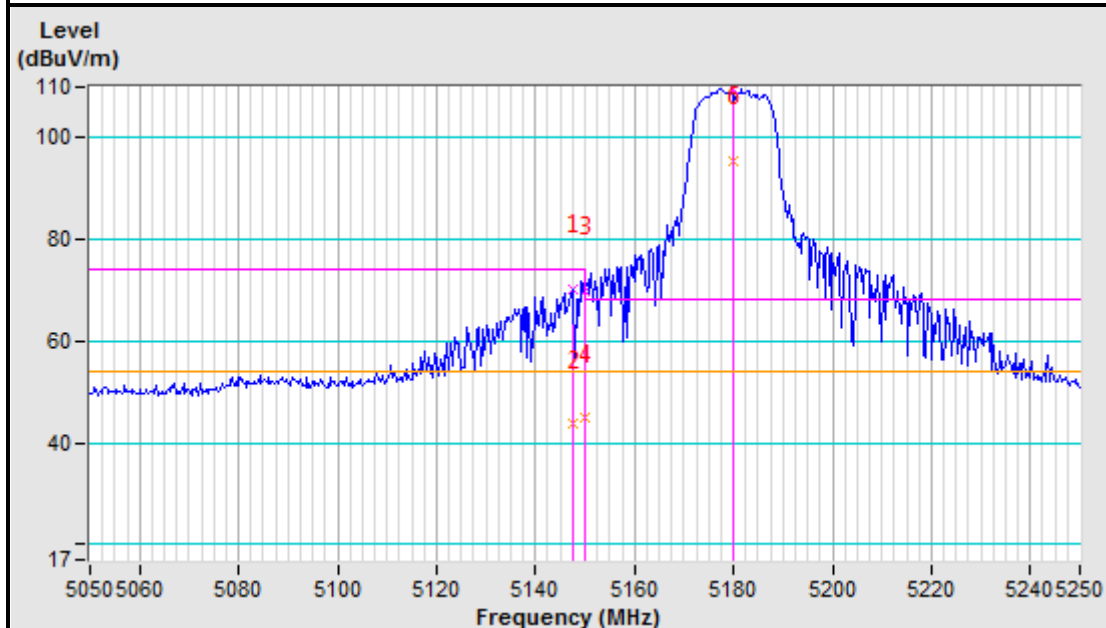
Test Report No.: RF2007WDG0018-4

Band edge Plot

5180MHz Horizontal



5180MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5148.00	53.51 PK	74.00	-20.49	1.07 H	3	44.71	8.80
2	5148.00	40.17 AV	54.00	-13.83	1.07 H	3	31.37	8.80
3	5150.00	51.06 PK	74.00	-22.94	1.07 H	3	42.26	8.80
4	5150.00	38.74 AV	54.00	-15.26	1.07 H	3	29.94	8.80
5	*5200.00	105.94 PK			1.07 H	3	97.09	8.85
6	*5200.00	94.67 AV			1.07 H	3	85.82	8.85
7	#10400.00	59.13 PK	68.20	-9.07	1.00 H	0	41.13	18.00
8	15600.00	66.78 PK	74.00	-7.22	1.00 H	0	42.57	24.21
9	15600.00	48.74 AV	54.00	-5.26	1.00 H	0	24.53	24.21
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5145.00	52.37 PK	74.00	-21.63	1.05 V	177	43.58	8.79
2	5145.00	39.17 AV	54.00	-14.83	1.05 V	177	30.38	8.79
3	5150.00	52.37 PK	74.00	-21.63	1.05 V	177	43.57	8.80
4	5150.00	38.64 AV	54.00	-15.36	1.05 V	177	29.84	8.80
5	*5200.00	102.52 PK			1.05 V	177	93.67	8.85
6	*5200.00	89.41 AV			1.05 V	177	80.56	8.85
7	#10400.00	60.21 PK	68.20	-7.99	1.00 V	0	42.21	18.00
8	15600.00	64.37 PK	74.00	-9.63	1.00 V	0	40.16	24.21
9	15600.00	45.25 AV	54.00	-8.75	1.00 V	0	21.04	24.21

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. " # " : The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5142.00	51.34 PK	74.00	-22.66	1.22 H	52	42.55	8.79
2	5142.00	40.32 AV	54.00	-13.68	1.22 H	52	31.53	8.79
3	5150.00	50.79 PK	74.00	-23.21	1.22 H	52	41.99	8.80
4	5150.00	38.97 AV	54.00	-15.03	1.22 H	52	30.17	8.80
5	*5240.00	105.73 PK			1.22 H	52	96.85	8.88
6	*5240.00	94.25 AV			1.22 H	52	85.37	8.88
7	5350.00	50.23 PK	74.00	-23.77	1.22 H	52	41.25	8.98
8	5350.00	38.45 AV	54.00	-15.55	1.22 H	52	29.47	8.98
9	5390.00	52.22 PK	74.00	-21.78	1.22 H	52	43.20	9.02
10	5390.00	40.13 AV	54.00	-13.87	1.22 H	52	31.11	9.02
11	#10480.00	59.10 PK	68.20	-9.10	1.00 H	0	40.73	18.37
12	15720.00	65.52 PK	74.00	-8.48	1.00 H	0	41.09	24.43
13	15720.00	50.17 AV	54.00	-3.83	1.00 H	0	25.74	24.43
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	5122.00	50.37 PK	74.00	-23.63	1.44 V	95	41.59	8.78
2	5122.00	39.36 AV	54.00	-14.64	1.44 V	95	30.58	8.78
3	5150.00	51.26 PK	74.00	-22.74	1.44 V	95	42.46	8.80
4	5150.00	39.64 AV	54.00	-14.36	1.44 V	95	30.84	8.80
5	*5240.00	102.37 PK			1.44 V	95	93.49	8.88
6	*5240.00	94.33 AV			1.44 V	95	85.45	8.88
7	5350.00	51.37 PK	74.00	-22.63	1.44 V	95	42.39	8.98
8	5350.00	39.84 AV	54.00	-14.16	1.44 V	95	30.86	8.98
9	5425.00	50.35 PK	74.00	-23.65	1.44 V	95	41.30	9.05
10	5425.00	39.67 AV	54.00	-14.33	1.44 V	95	30.62	9.05
11	#10480.00	62.37 PK	68.20	-5.83	1.00 V	0	44.00	18.37
12	15720.00	67.64 PK	74.00	-6.36	1.00 V	0	43.21	24.43
13	15720.00	49.31 AV	54.00	-4.69	1.00 V	0	24.88	24.43

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



802.11n (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5146.00	50.49 PK	74.00	-23.51	1.08 H	0	41.70	8.79
2	5146.00	38.67 AV	54.00	-15.33	1.08 H	0	29.88	8.79
3	5150.00	51.14 PK	74.00	-22.86	1.08 H	0	42.34	8.80
4	5150.00	38.28 AV	54.00	-15.72	1.08 H	0	29.48	8.80
5	*5180.00	101.23 PK			1.08 H	0	92.41	8.82
6	*5180.00	87.27 AV			1.08 H	0	78.45	8.82
7	#10360.00	59.02 PK	68.20	-9.18	1.00 H	0	41.21	17.81
8	15540.00	66.66 PK	74.00	-7.34	1.00 H	0	42.57	24.09
9	15540.00	49.21 AV	54.00	-4.79	1.00 H	0	25.12	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	5132.00	52.01 PK	74.00	-21.99	1.13 V	25	43.23	8.78
2	5132.00	40.11 AV	54.00	-13.89	1.13 V	25	31.33	8.78
3	5150.00	49.43 PK	74.00	-24.57	1.13 V	25	40.63	8.80
4	5150.00	38.74 AV	54.00	-15.26	1.13 V	25	29.94	8.80
5	*5180.00	94.67 PK			1.13 V	25	85.85	8.82
6	*5180.00	80.67 AV			1.13 V	25	71.85	8.82
7	#10360.00	59.08 PK	68.20	-9.12	1.00 V	0	41.27	17.81
8	15540.00	62.37 PK	74.00	-11.63	1.00 V	0	38.28	24.09
9	15540.00	48.37 AV	54.00	-5.63	1.00 V	0	24.28	24.09

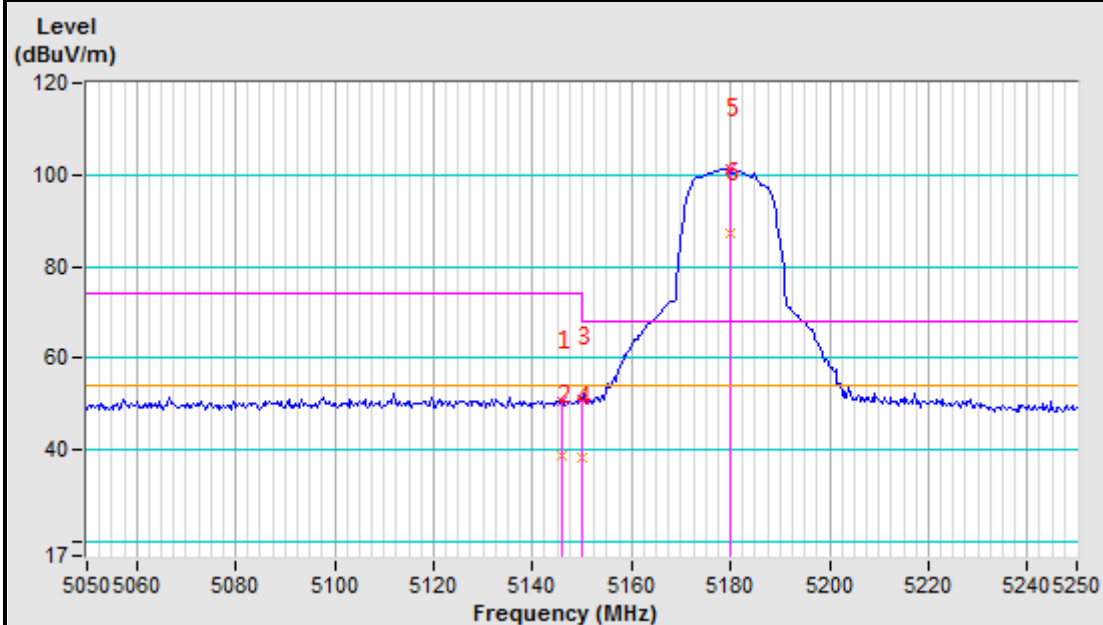
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

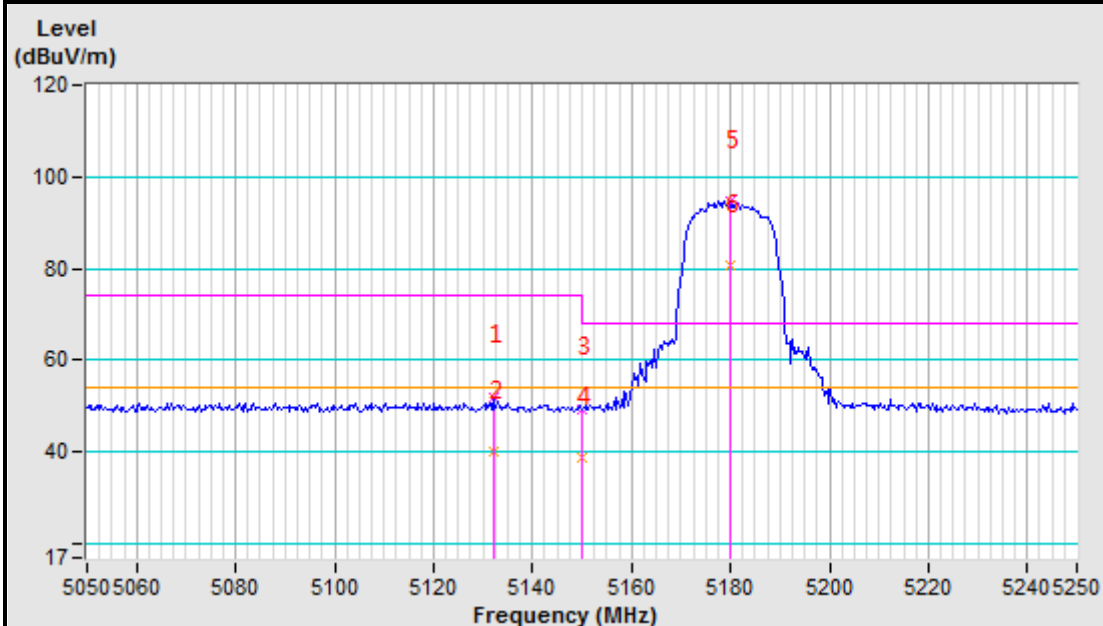


Band edge Plot

5180MHz Horizontal



5180MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5142.00	52.37 PK	74.00	-21.63	1.33 H	52	43.58	8.79
2	5142.00	38.91 AV	54.00	-15.09	1.33 H	52	30.12	8.79
3	5150.00	50.82 PK	74.00	-23.18	1.33 H	52	42.02	8.80
4	5150.00	39.87 AV	54.00	-14.13	1.33 H	52	31.07	8.80
5	*5200.00	101.07 PK			1.33 H	52	92.22	8.85
6	*5200.00	95.17 AV			1.33 H	52	86.32	8.85
7	#10400.00	60.08 PK	68.20	-8.12	1.00 H	0	42.08	18.00
8	15600.00	65.27 PK	74.00	-8.73	1.00 H	0	41.06	24.21
9	15600.00	49.37 AV	54.00	-4.63	1.00 H	0	25.16	24.21
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5142.00	50.37 PK	74.00	-23.63	1.28 V	144	41.58	8.79
2	5142.00	39.77 AV	54.00	-14.23	1.28 V	144	30.98	8.79
3	5150.00	49.22 PK	74.00	-24.78	1.28 V	144	40.42	8.80
4	5150.00	38.71 AV	54.00	-15.29	1.28 V	144	29.91	8.80
5	*5200.00	95.84 PK			1.28 V	144	86.99	8.85
6	*5200.00	80.97 AV			1.28 V	144	72.12	8.85
7	#10400.00	59.74 PK	68.20	-8.46	1.00 V	0	41.74	18.00
8	15600.00	66.37 PK	74.00	-7.63	1.00 V	0	42.16	24.21
9	15600.00	49.67 AV	54.00	-4.33	1.00 V	0	25.46	24.21

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5142.00	51.13 PK	74.00	-22.87	1.33 H	0	42.34	8.79
2	5142.00	40.34 AV	54.00	-13.66	1.33 H	0	31.55	8.79
3	5150.00	50.04 PK	74.00	-23.96	1.33 H	0	41.24	8.80
4	5150.00	39.17 AV	54.00	-14.83	1.33 H	0	30.37	8.80
5	*5240.00	99.73 PK			1.33 H	0	90.85	8.88
6	*5240.00	84.13 AV			1.33 H	0	75.25	8.88
7	5350.00	51.19 PK	74.00	-22.81	1.33 H	0	42.21	8.98
8	5350.00	39.17 AV	54.00	-14.83	1.33 H	0	30.19	8.98
9	5374.00	51.37 PK	74.00	-22.63	1.33 H	0	42.36	9.01
10	5374.00	39.88 AV	54.00	-14.12	1.33 H	0	30.87	9.01
11	#10480.00	59.02 PK	68.20	-9.18	1.00 H	0	40.65	18.37
12	15720.00	65.83 PK	74.00	-8.17	1.00 H	0	41.40	24.43
13	15720.00	49.84 AV	54.00	-4.16	1.00 H	0	25.41	24.43
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	5146.00	51.40 PK	74.00	-22.60	1.20 V	18	42.61	8.79
2	5146.00	40.22 AV	54.00	-13.78	1.20 V	18	31.43	8.79
3	5150.00	50.39 PK	74.00	-23.61	1.20 V	18	41.59	8.80
4	5150.00	39.67 AV	54.00	-14.33	1.20 V	18	30.87	8.80
5	*5240.00	94.45 PK			1.20 V	18	85.57	8.88
6	*5240.00	82.64 AV			1.20 V	18	73.76	8.88
7	5350.00	51.56 PK	74.00	-22.44	1.20 V	18	42.58	8.98
8	5350.00	39.77 AV	54.00	-14.23	1.20 V	18	30.79	8.98
9	5355.00	52.72 PK	74.00	-21.28	1.20 V	18	43.73	8.99
10	5355.00	41.11 AV	54.00	-12.89	1.20 V	18	32.12	8.99
11	#10480.00	59.58 PK	68.20	-8.62	1.00 V	0	41.21	18.37
12	15720.00	65.73 PK	74.00	-8.27	1.00 V	0	41.30	24.43
13	15720.00	49.27 AV	54.00	-4.73	1.00 V	0	24.84	24.43

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



802.11n (40MHz)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5134.00	50.01 PK	74.00	-23.99	1.08 H	0	41.23	8.78
2	5134.00	37.67 AV	54.00	-16.33	1.08 H	0	28.89	8.78
3	5150.00	54.94 PK	74.00	-19.06	1.08 H	0	46.14	8.80
4	5150.00	38.78 AV	54.00	-15.22	1.08 H	0	29.98	8.80
5	*5190.00	96.20 PK			1.08 H	0	87.37	8.83
6	*5190.00	79.65 AV			1.08 H	0	70.82	8.83
7	#10380.00	60.18 PK	68.20	-8.02	1.00 H	0	42.27	17.91
8	15570.00	66.44 PK	74.00	-7.56	1.00 H	0	42.29	24.15
9	15570.00	49.37 AV	54.00	-4.63	1.00 H	0	25.22	24.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	51.37 PK	74.00	-22.63	1.12 V	5	42.60	8.77
2	5120.00	38.97 AV	54.00	-15.03	1.12 V	5	30.20	8.77
3	5150.00	49.76 PK	74.00	-24.24	1.12 V	5	40.96	8.80
4	5150.00	38.55 AV	54.00	-15.45	1.12 V	5	29.75	8.80
5	*5190.00	89.34 PK			1.12 V	5	80.51	8.83
6	*5190.00	77.91 AV			1.12 V	5	69.08	8.83
7	#10380.00	60.55 PK	68.20	-7.65	1.00 V	0	42.64	17.91
8	15570.00	64.11 PK	74.00	-9.89	1.00 V	0	39.96	24.15
9	15570.00	48.52 AV	54.00	-5.48	1.00 V	0	24.37	24.15

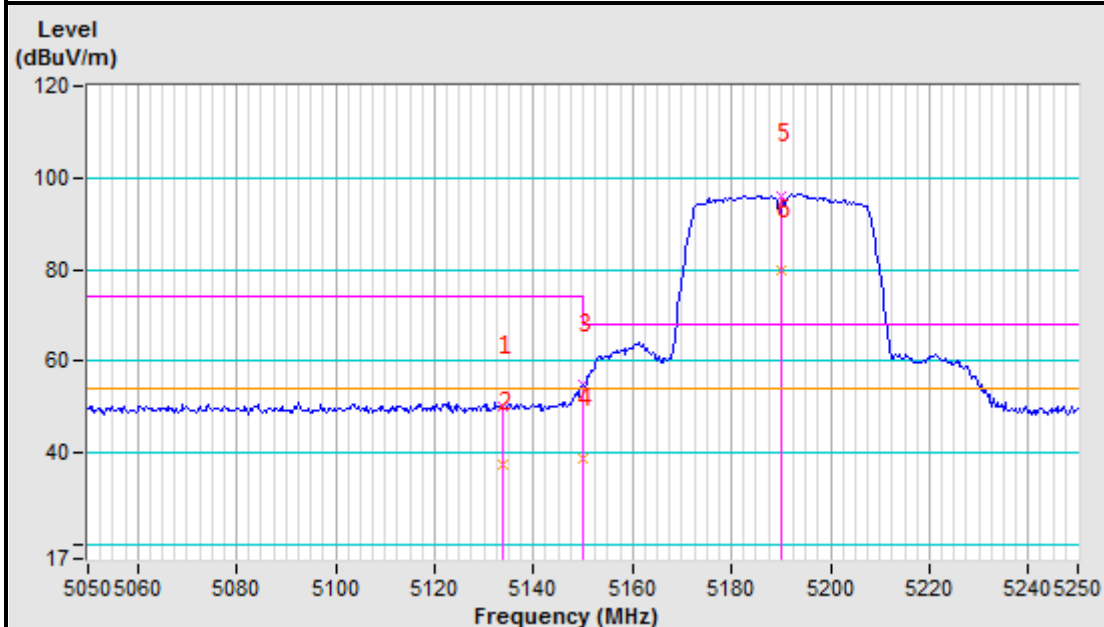
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

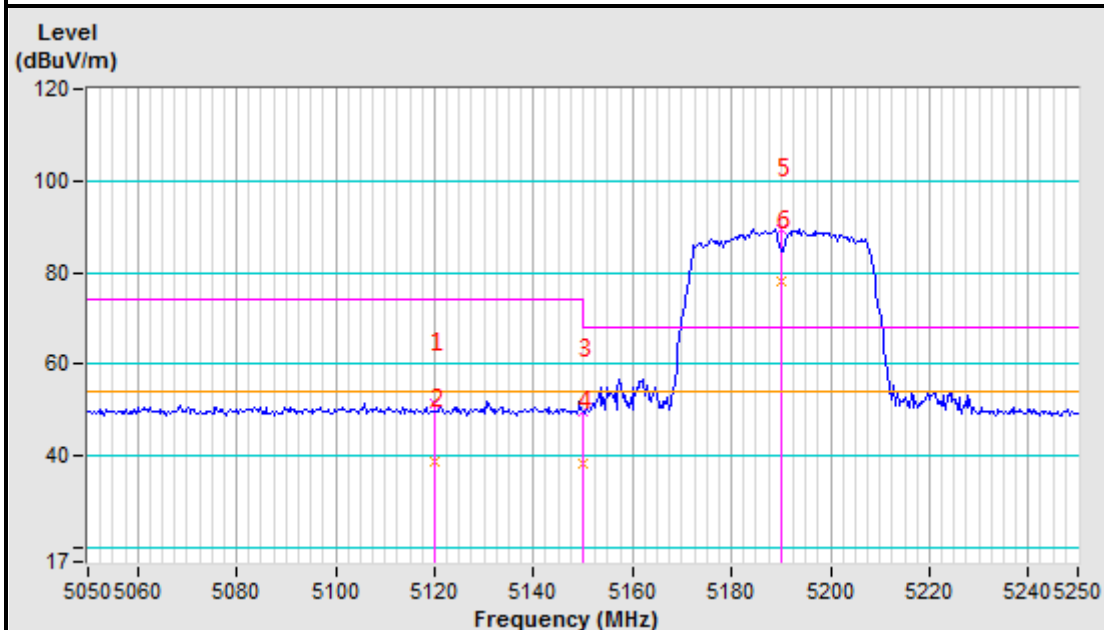


Band edge Plot

5190MHz Horizontal



5190MHz Vertical





CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5142.00	50.22 PK	74.00	-23.78	1.00 H	0	41.43	8.79
2	5142.00	39.54 AV	54.00	-14.46	1.00 H	0	30.75	8.79
3	5150.00	49.75 PK	74.00	-24.25	1.00 H	0	40.95	8.80
4	5150.00	38.14 AV	54.00	-15.86	1.00 H	0	29.34	8.80
5	*5230.00	98.31 PK			1.00 H	0	89.44	8.87
6	*5230.00	87.64 AV			1.00 H	0	78.77	8.87
7	#10460.00	59.74 PK	68.20	-8.46	1.00 H	0	41.46	18.28
8	15690.00	65.84 PK	74.00	-8.16	1.00 H	0	41.47	24.37
9	15690.00	49.71 AV	54.00	-4.29	1.00 H	0	25.34	24.37
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	5125.00	52.37 PK	74.00	-21.63	1.11 V	255	43.60	8.77
2	5125.00	39.74 AV	54.00	-14.26	1.11 V	255	30.97	8.77
3	5150.00	50.38 PK	74.00	-23.62	1.11 V	255	41.58	8.80
4	5150.00	39.71 AV	54.00	-14.29	1.11 V	255	30.91	8.80
5	*5230.00	89.15 PK			1.11 V	255	80.28	8.87
6	*5230.00	78.45 AV			1.11 V	255	69.58	8.87
7	#10460.00	59.74 PK	68.20	-8.46	1.00 V	0	41.46	18.28
8	15690.00	65.97 PK	74.00	-8.03	1.00 V	0	41.60	24.37
9	15690.00	49.64 AV	54.00	-4.36	1.00 V	0	25.27	24.37

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



802.11ac (80MHz)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5149.00	54.15 PK	74.00	-19.85	1.00 H	2	45.35	8.80
2	5149.00	40.27 AV	54.00	-13.73	1.00 H	2	31.47	8.80
3	5150.00	52.16 PK	74.00	-21.84	1.00 H	2	43.36	8.80
4	5150.00	39.66 AV	54.00	-14.34	1.00 H	2	30.86	8.80
5	*5210.00	94.74 PK			1.00 H	2	85.89	8.85
6	*5210.00	88.67 AV			1.00 H	2	79.82	8.85
7	#10420.00	59.11 PK	68.20	-9.09	1.00 H	0	41.02	18.09
8	15630.00	64.58 PK	74.00	-9.42	1.00 H	0	40.32	24.26
9	15630.00	47.91 AV	54.00	-6.09	1.00 H	0	23.65	24.26
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	5077.00	51.27 PK	74.00	-22.73	1.13 V	216	42.54	8.73
2	5077.00	39.67 AV	54.00	-14.33	1.13 V	216	30.94	8.73
3	5150.00	50.73 PK	74.00	-23.27	1.13 V	216	41.93	8.80
4	5150.00	40.57 AV	54.00	-13.43	1.13 V	216	31.77	8.80
5	*5210.00	88.48 PK			1.13 V	216	79.63	8.85
6	*5210.00	79.67 AV			1.13 V	216	70.82	8.85
7	#10420.00	58.93 PK	68.20	-9.27	1.00 V	0	40.84	18.09
8	15630.00	65.45 PK	74.00	-8.55	1.00 V	0	41.19	24.26
9	15630.00	49.55 AV	54.00	-4.45	1.00 V	0	25.29	24.26

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

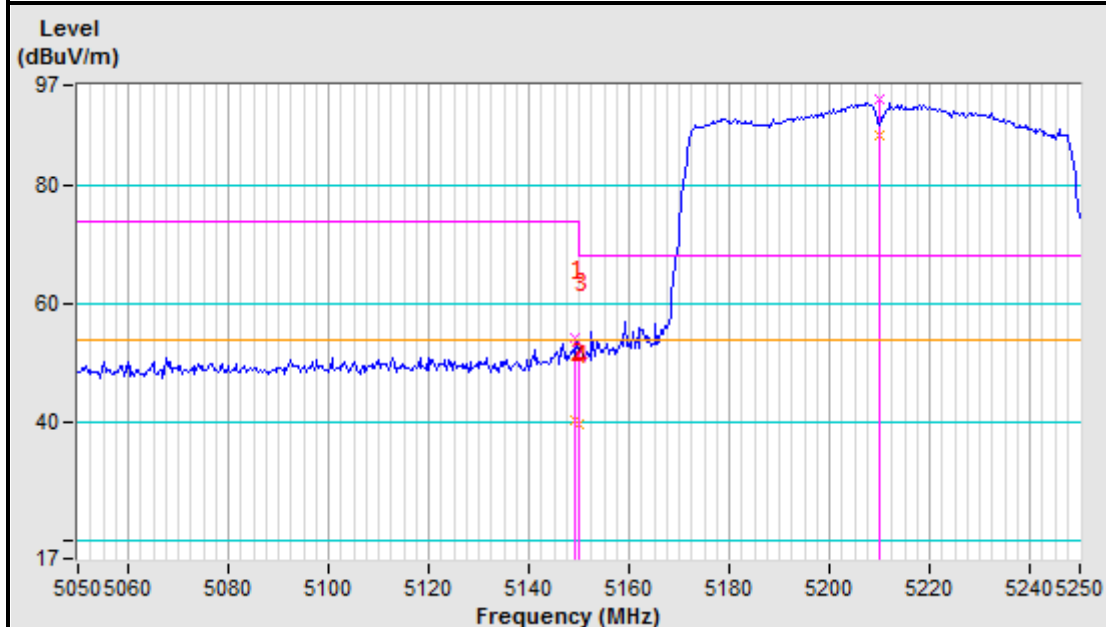


BUREAU
VERITAS

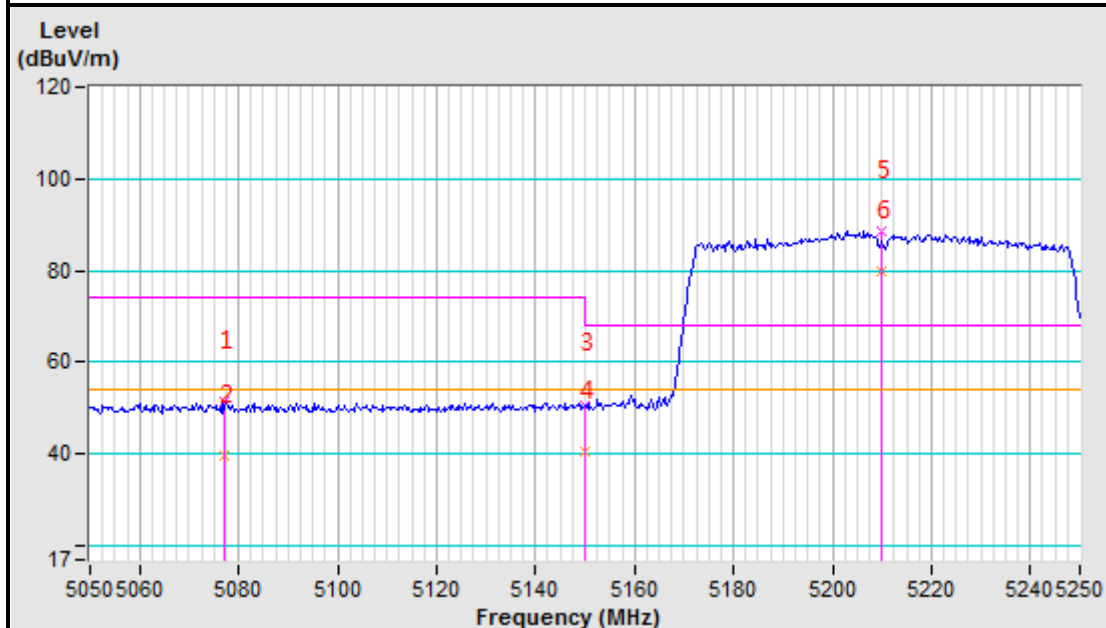
Test Report No.: RF2007WDG0018-4

Band edge Plot

5210MHz Horizontal



5210MHz Vertical





Band 2 (5250-5350MHz):802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5134.00	52.29 PK	74.00	-21.71	1.22 H	148	43.51	8.78
2	5134.00	39.17 AV	54.00	-14.83	1.22 H	148	30.39	8.78
3	5150.00	50.08 PK	74.00	-23.92	1.22 H	148	41.28	8.80
4	5150.00	39.34 AV	54.00	-14.66	1.22 H	148	30.54	8.80
5	#5260.00	104.01 PK			1.22 H	148	95.11	8.90
6	#5260.00	95.67 AV			1.22 H	148	86.77	8.90
7	5350.00	51.31 PK	74.00	-22.69	1.22 H	148	42.33	8.98
8	5350.00	38.57 AV	54.00	-15.43	1.22 H	148	29.59	8.98
9	5420.00	52.37 PK	74.00	-21.63	1.22 H	148	43.33	9.04
10	5420.00	39.67 AV	54.00	-14.33	1.22 H	148	30.63	9.04
11	#10520.00	59.84 PK	68.20	-8.36	1.00 H	0	41.32	18.52
12	15720.00	66.12 PK	74.00	-7.88	1.00 H	0	41.69	24.43
13	15720.00	49.64 AV	54.00	-4.36	1.00 H	0	25.21	24.43
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	5124.00	50.37 PK	74.00	-23.63	1.09 V	57	41.60	8.77
2	5124.00	40.25 AV	54.00	-13.75	1.09 V	57	31.48	8.77
3	5150.00	51.27 PK	74.00	-22.73	1.09 V	57	42.47	8.80
4	5150.00	38.66 AV	54.00	-15.34	1.09 V	57	29.86	8.80
5	#5260.00	101.52 PK			1.09 V	57	92.62	8.90
6	#5260.00	90.67 AV			1.09 V	57	81.77	8.90
7	5350.00	51.67 PK	74.00	-22.33	1.09 V	57	42.69	8.98
8	5350.00	38.51 AV	54.00	-15.49	1.09 V	57	29.53	8.98
9	5382.00	52.39 PK	74.00	-21.61	1.09 V	57	43.38	9.01
10	5382.00	39.64 AV	54.00	-14.36	1.09 V	57	30.63	9.01
11	#10520.00	59.67 PK	68.20	-8.53	1.00 V	0	41.15	18.52
12	15780.00	66.25 PK	74.00	-7.75	1.00 V	0	41.72	24.53
13	15780.00	49.25 AV	54.00	-4.75	1.00 V	0	24.72	24.53

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.15 PK			1.01 H	146	96.22	8.93
2	*5300.00	96.22 AV			1.01 H	146	87.29	8.93
3	5350.00	51.70 PK	74.00	-22.30	1.01 H	146	42.72	8.98
4	5350.00	39.78 AV	54.00	-14.22	1.01 H	146	30.80	8.98
5	5401.00	52.37 PK	74.00	-21.63	1.01 H	146	43.34	9.03
6	5401.00	40.17 AV	54.00	-13.83	1.01 H	146	31.14	9.03
7	10600.00	59.39 PK	74.00	-14.61	1.00 H	0	40.68	18.71
8	10600.00	45.24 AV	54.00	-8.76	1.00 H	0	26.53	18.71
9	15900.00	65.17 PK	74.00	-8.83	1.00 H	0	40.42	24.75
10	15900.00	50.21 AV	54.00	-3.79	1.00 H	0	25.46	24.75
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	2300.00	98.51 PK			1.01 V	16	95.42	3.09
2	2300.00	86.52 AV			1.01 V	16	83.43	3.09
3	2350.00	52.37 PK	74.00	-21.63	1.01 V	16	49.03	3.34
4	2350.00	39.16 AV	54.00	-14.84	1.01 V	16	35.82	3.34
5	2385.00	51.15 PK	74.00	-22.85	1.01 V	16	47.64	3.51
6	2385.00	39.05 AV	54.00	-14.95	1.01 V	16	35.54	3.51
7	10600.00	59.67 PK	74.00	-14.33	1.00 V	0	40.96	18.71
8	10600.00	43.67 AV	54.00	-10.33	1.00 V	0	24.96	18.71
9	15900.00	65.28 PK	74.00	-8.72	1.00 V	0	40.53	24.75
10	15900.00	49.27 AV	54.00	-4.73	1.00 V	0	24.52	24.75

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.07 PK			1.07 H	150	97.11	8.96
2	*5320.00	91.74 AV			1.07 H	150	82.78	8.96
3	5350.00	53.28 PK	74.00	-20.72	1.07 H	150	44.30	8.98
4	5350.00	40.37 AV	54.00	-13.63	1.07 H	150	31.39	8.98
5	5375.00	54.85 PK	74.00	-19.15	1.07 H	150	45.84	9.01
6	5375.00	39.88 AV	54.00	-14.12	1.07 H	150	30.87	9.01
7	10640.00	58.52 PK	74.00	-15.48	1.00 H	0	39.71	18.81
8	10640.00	42.37 AV	54.00	-11.63	1.00 H	0	23.56	18.81
9	15960.00	65.72 PK	74.00	-8.28	1.00 H	0	40.85	24.87
10	15960.00	50.12 AV	54.00	-3.88	1.00 H	0	25.25	24.87
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	97.68 PK			1.02 V	148	88.72	8.96
2	*5320.00	86.37 AV			1.02 V	148	77.41	8.96
3	5350.00	50.09 PK	74.00	-23.91	1.02 V	148	41.11	8.98
4	5350.00	39.11 AV	54.00	-14.89	1.02 V	148	30.13	8.98
5	5395.00	52.47 PK	74.00	-21.53	1.02 V	148	43.45	9.02
6	5395.00	39.25 AV	54.00	-14.75	1.02 V	148	30.23	9.02
7	10640.00	59.38 PK	74.00	-14.62	1.00 V	0	40.57	18.81
8	10640.00	43.91 AV	54.00	-10.09	1.00 V	0	25.10	18.81
9	15960.00	66.43 PK	74.00	-7.57	1.00 V	0	41.56	24.87
10	15960.00	49.68 AV	54.00	-4.32	1.00 V	0	24.81	24.87

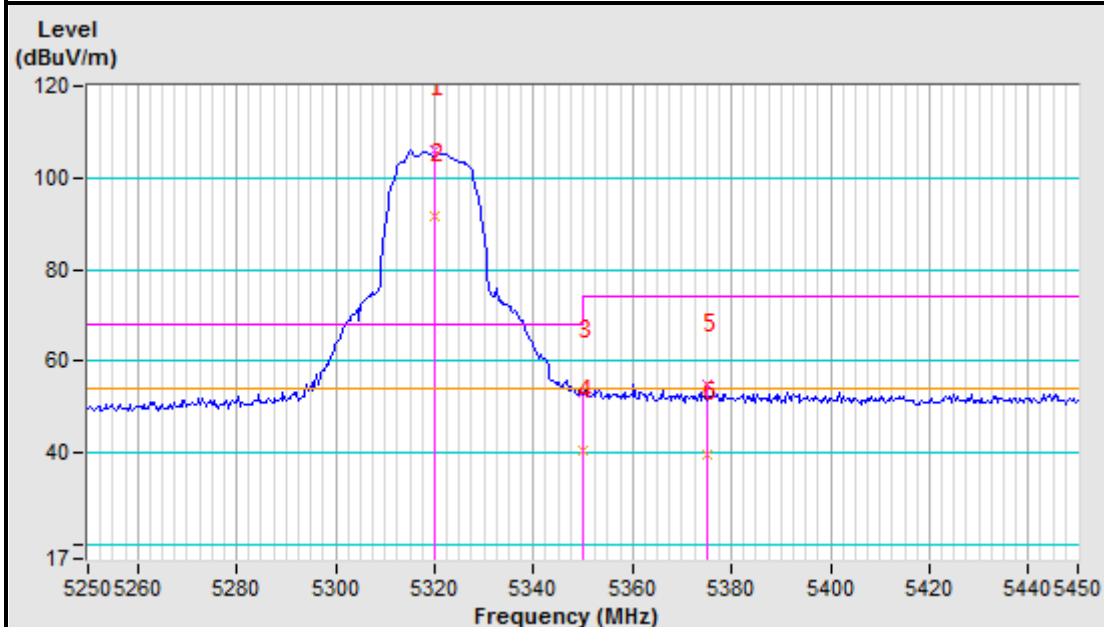
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

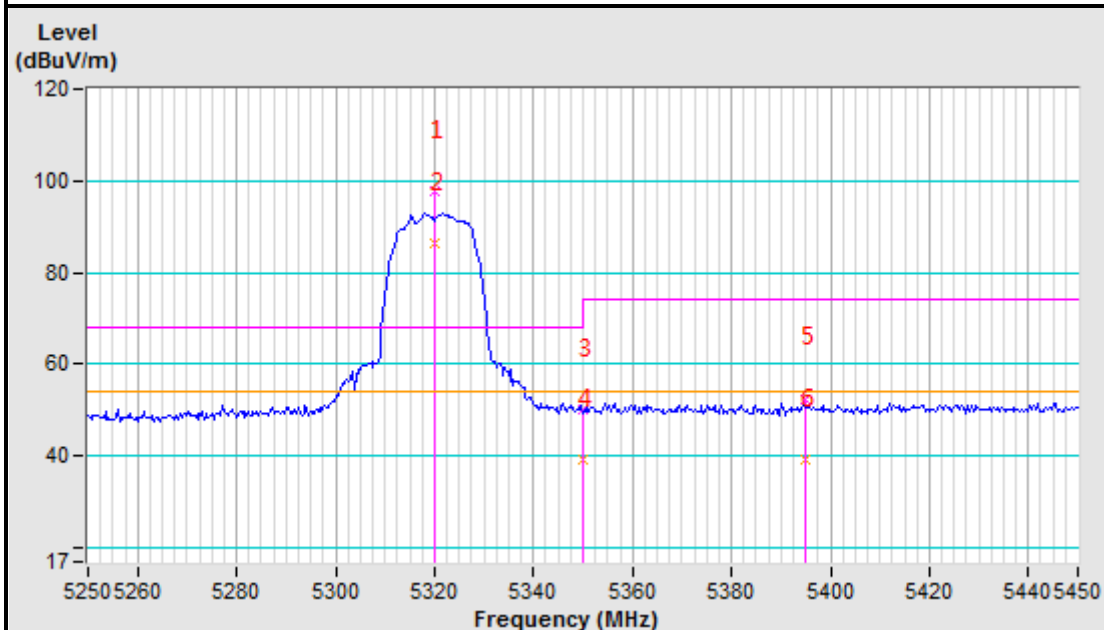


Band edge Plot

5320MHz Horizontal



5320MHz Vertical





802.11n (20MHz)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5125.00	51.32 PK	74.00	-22.68	1.00 H	141	42.55	8.77
2	5125.00	40.21 AV	54.00	-13.79	1.00 H	141	31.44	8.77
3	5150.00	49.28 PK	74.00	-24.72	1.00 H	141	40.48	8.80
4	5150.00	38.17 AV	54.00	-15.83	1.00 H	141	29.37	8.80
5	*5260.00	98.88 PK			1.00 H	141	89.98	8.90
6	*5260.00	84.18 AV			1.00 H	141	75.28	8.90
7	5350.00	50.38 PK	74.00	-23.62	1.00 H	141	41.40	8.98
8	5350.00	39.21 AV	54.00	-14.79	1.00 H	141	30.23	8.98
9	5410.25	52.14 PK	74.00	-21.86	1.00 H	141	43.10	9.04
10	5410.25	39.57 AV	54.00	-14.43	1.00 H	141	30.53	9.04
11	#10520.00	59.67 PK	68.20	-8.53	1.00 H	0	41.15	18.52
12	15780.00	65.37 PK	74.00	-8.63	1.00 H	0	40.84	24.53
13	15780.00	49.37 AV	54.00	-4.63	1.00 H	0	24.84	24.53
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	5124.00	50.37 PK	74.00	-23.63	1.02 V	145	41.60	8.77
2	5124.00	39.67 AV	54.00	-14.33	1.02 V	145	30.90	8.77
3	5150.00	49.52 PK	74.00	-24.48	1.02 V	145	40.72	8.80
4	5150.00	38.74 AV	54.00	-15.26	1.02 V	145	29.94	8.80
5	*5260.00	92.57 PK			1.02 V	145	83.67	8.90
6	*5260.00	81.37 AV			1.02 V	145	72.47	8.90
7	5350.00	51.38 PK	74.00	-22.62	1.02 V	145	42.40	8.98
8	5350.00	40.17 AV	54.00	-13.83	1.02 V	145	31.19	8.98
9	5390.00	52.17 PK	74.00	-21.83	1.00 V	0	43.15	9.02
10	5390.00	40.18 AV	54.00	-13.82	1.00 V	0	31.16	9.02
11	#10520.00	59.67 PK	68.20	-8.53	1.00 V	0	41.15	18.52
12	15780.00	64.36 PK	74.00	-9.64	1.00 V	0	39.83	24.53
13	15780.00	48.67 AV	54.00	-5.33	1.00 V	0	24.14	24.53

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	101.24 PK			1.00 H	147	92.31	8.93
2	*5300.00	92.67 AV			1.00 H	147	83.74	8.93
3	5350.00	51.35 PK	74.00	-22.65	1.00 H	147	42.37	8.98
4	5350.00	40.24 AV	54.00	-13.76	1.00 H	147	31.26	8.98
5	5394.00	53.20 PK	74.00	-20.80	1.00 H	147	44.18	9.02
6	5394.00	39.44 AV	54.00	-14.56	1.00 H	147	30.42	9.02
7	10600.00	59.31 PK	74.00	-14.69	1.00 H	0	40.60	18.71
8	10600.00	42.33 AV	54.00	-11.67	1.00 H	0	23.62	18.71
9	15900.00	66.37 PK	74.00	-7.63	1.00 H	0	41.62	24.75
10	15900.00	49.37 AV	54.00	-4.63	1.00 H	0	24.62	24.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	96.52 PK			1.03 V	25	87.59	8.93
2	*5300.00	82.37 AV			1.03 V	25	73.44	8.93
3	5350.00	52.34 PK	74.00	-21.66	1.02 V	25	43.36	8.98
4	5350.00	39.08 AV	54.00	-14.92	1.02 V	25	30.10	8.98
5	5362.00	51.33 PK	74.00	-22.67	1.02 V	25	42.33	9.00
6	5362.00	38.66 AV	54.00	-15.34	1.02 V	25	29.66	9.00
7	10600.00	59.08 PK	74.00	-14.92	1.00 V	0	40.37	18.71
8	10600.00	43.22 AV	54.00	-10.78	1.00 V	0	24.51	18.71
9	15900.00	65.98 PK	74.00	-8.02	1.00 V	0	41.23	24.75
10	15900.00	48.09 AV	54.00	-5.91	1.00 V	0	23.34	24.75

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	100.52 PK			1.00 H	150	91.56	8.96
2	*5320.00	91.20 AV			1.00 H	150	82.24	8.96
3	5350.00	50.87 PK	74.00	-23.13	1.00 H	150	41.89	8.98
4	5350.00	40.37 AV	54.00	-13.63	1.00 H	150	31.39	8.98
5	5382.00	51.27 PK	74.00	-22.73	1.00 H	150	42.26	9.01
6	5382.00	36.70 AV	54.00	-17.30	1.00 H	150	27.69	9.01
7	10640.00	59.49 PK	74.00	-14.51	1.00 H	0	40.68	18.81
8	10640.00	42.17 AV	54.00	-11.83	1.00 H	0	23.36	18.81
9	15960.00	65.86 PK	74.00	-8.14	1.00 H	0	40.99	24.87
10	15960.00	49.64 AV	54.00	-4.36	1.00 H	0	24.77	24.87
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	95.64 PK			1.17 V	45	86.68	8.96
2	*5320.00	85.40 AV			1.17 V	45	76.44	8.96
3	5350.00	52.31 PK	74.00	-21.69	1.17 V	45	43.33	8.98
4	5350.00	38.34 AV	54.00	-15.66	1.17 V	45	29.36	8.98
5	5394.00	51.20 PK	74.00	-22.80	1.17 V	45	42.18	9.02
6	5394.00	39.66 AV	54.00	-14.34	1.17 V	45	30.64	9.02
7	10640.00	59.25 PK	74.00	-14.75	1.00 V	0	40.44	18.81
8	10640.00	42.18 AV	54.00	-11.82	1.00 V	0	23.37	18.81
9	15960.00	65.37 PK	74.00	-8.63	1.00 V	0	40.50	24.87
10	15960.00	50.17 AV	54.00	-3.83	1.00 V	0	25.30	24.87

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

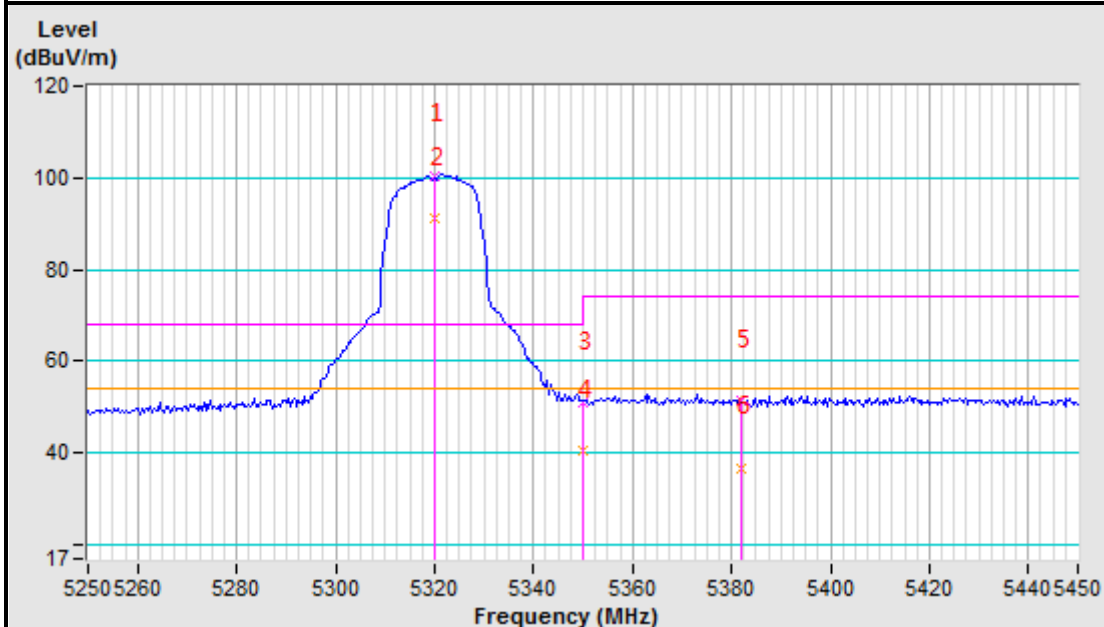


BUREAU
VERITAS

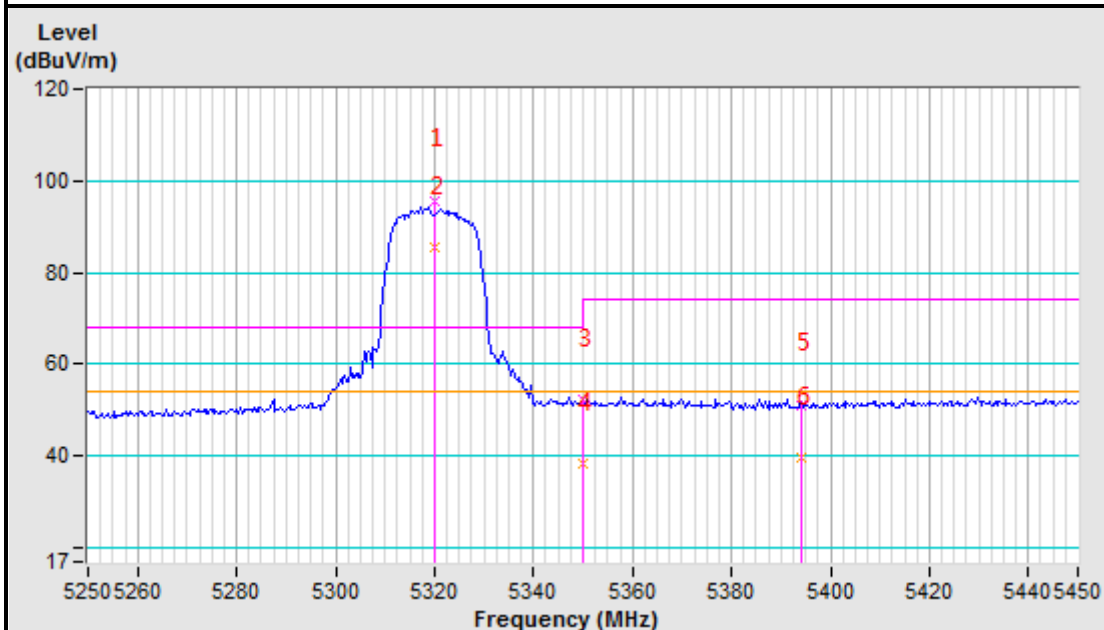
Test Report No.: RF2007WDG0018-4

Band edge Plot

5320MHz Horizontal



5320MHz Vertical





802.11n (40MHz)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	96.99 PK			1.00 H	0	88.08	8.91
2	*5270.00	84.67 AV			1.00 H	0	75.76	8.91
3	5350.00	50.22 PK	74.00	-23.78	1.00 H	0	41.24	8.98
4	5350.00	39.58 AV	54.00	-14.42	1.00 H	0	30.60	8.98
5	5384.00	52.19 PK	74.00	-21.81	1.00 H	0	43.18	9.01
6	5384.00	39.48 AV	54.00	-14.52	1.00 H	0	30.47	9.01
7	#10540.00	59.67 PK	68.20	-8.53	1.00 H	0	41.10	18.57
8	15810.00	65.74 PK	74.00	-8.26	1.00 H	0	41.15	24.59
9	15810.00	49.24 AV	54.00	-4.76	1.00 H	0	24.65	24.59
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	93.10 PK			1.20 V	144	84.19	8.91
2	*5270.00	79.69 AV			1.20 V	144	70.78	8.91
3	5350.00	50.33 PK	74.00	-23.67	1.20 V	144	41.35	8.98
4	5350.00	39.04 AV	54.00	-14.96	1.20 V	144	30.06	8.98
5	5386.00	50.69 PK	74.00	-23.31	1.20 V	144	41.68	9.01
6	5386.00	39.88 AV	54.00	-14.12	1.20 V	144	30.87	9.01
7	#10540.00	59.69 PK	68.20	-8.51	1.00 V	0	41.12	18.57
8	15810.00	66.33 PK	74.00	-7.67	1.00 V	0	41.74	24.59
9	15810.00	49.51 AV	54.00	-4.49	1.00 V	0	24.92	24.59

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	97.56 PK			1.00 H	148	88.61	8.95
2	*5310.00	80.74 AV			1.00 H	148	71.79	8.95
3	5350.00	54.98 PK	74.00	-19.02	1.00 H	148	46.00	8.98
4	5350.00	40.12 AV	54.00	-13.88	1.00 H	148	31.14	8.98
5	5361.00	52.41 PK	74.00	-21.59	1.00 H	148	43.42	8.99
6	5361.00	39.54 AV	54.00	-14.46	1.00 H	148	30.55	8.99
7	10620.00	61.56 PK	74.00	-12.44	1.00 H	0	42.80	18.76
8	10620.00	42.17 AV	54.00	-11.83	1.00 H	0	23.41	18.76
9	15930.00	66.81 PK	74.00	-7.19	1.00 H	0	42.00	24.81
10	15930.00	49.25 AV	54.00	-4.75	1.00 H	0	24.44	24.81
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	91.09 PK			1.17 V	140	82.14	8.95
2	*5310.00	79.64 AV			1.17 V	140	70.69	8.95
3	5350.00	50.45 PK	74.00	-23.55	1.17 V	140	41.47	8.98
4	5350.00	39.47 AV	54.00	-14.53	1.17 V	140	30.49	8.98
5	5406.00	51.80 PK	74.00	-22.20	1.17 V	140	42.77	9.03
6	5406.00	39.31 AV	54.00	-14.69	1.17 V	140	30.28	9.03
7	10620.00	59.45 PK	74.00	-14.55	1.00 V	0	40.69	18.76
8	10620.00	42.69 AV	54.00	-11.31	1.00 V	0	23.93	18.76
9	15930.00	66.03 PK	74.00	-7.97	1.00 V	0	41.22	24.81
10	15930.00	49.25 AV	54.00	-4.75	1.00 V	0	24.44	24.81

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

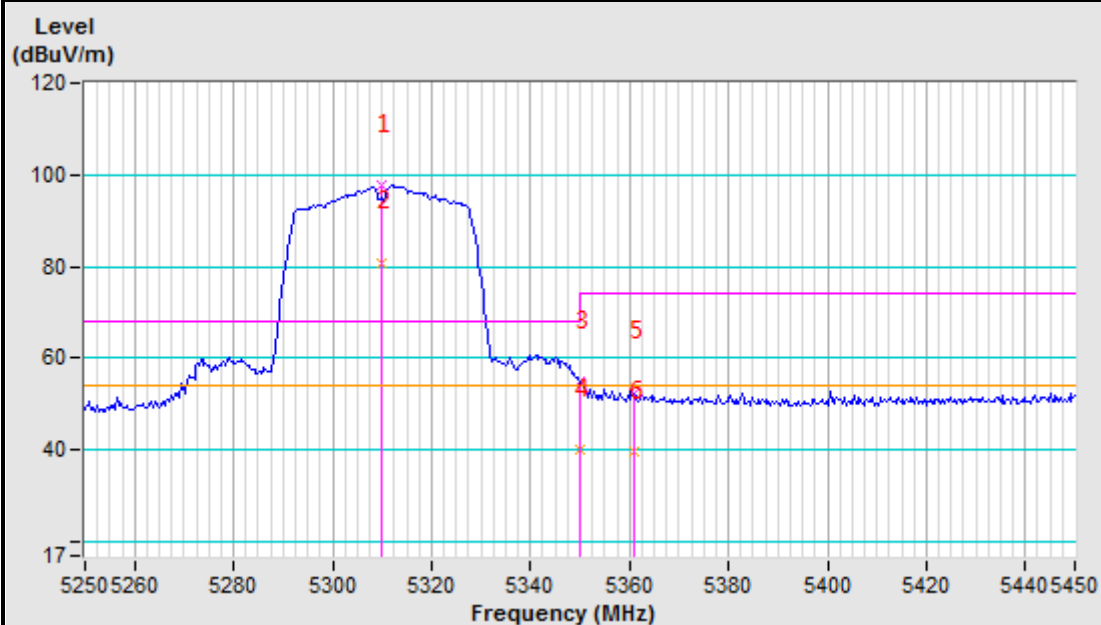


BUREAU
VERITAS

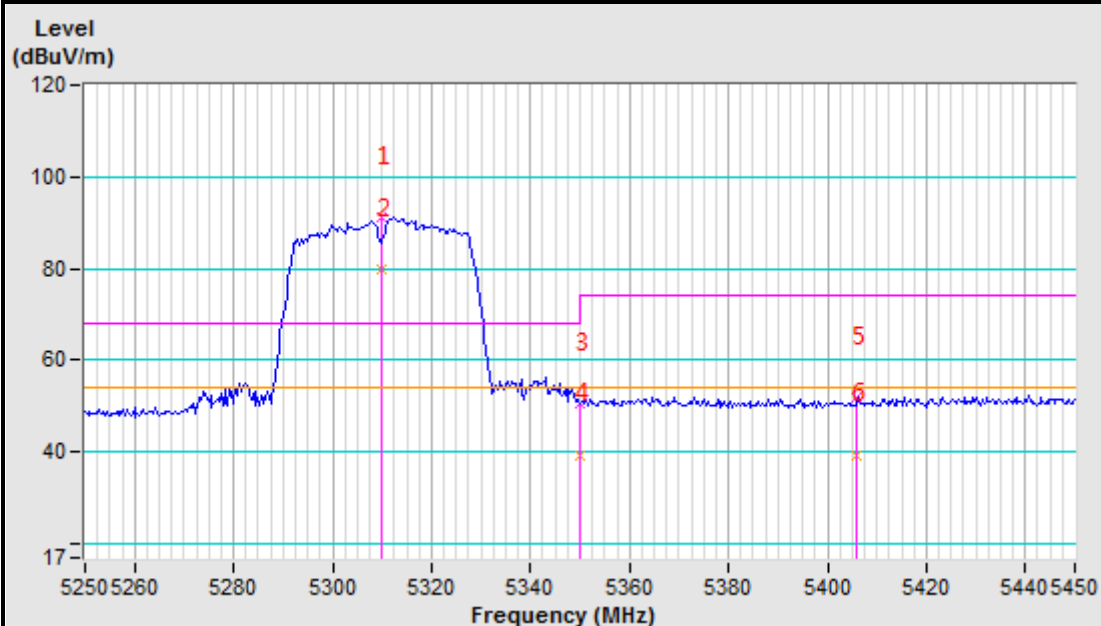
Test Report No.: RF2007WDG0018-4

Band edge Plot

5310MHz Horizontal



5310MHz Vertical





802.11ac 80MHz

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	94.23 PK			1.00 H	145	85.30	8.93
2	*5290.00	83.45 AV			1.00 H	145	74.52	8.93
3	5350.00	56.96 PK	74.00	-17.04	1.00 H	145	47.98	8.98
4	5350.00	42.36 AV	54.00	-11.64	1.00 H	145	33.38	8.98
5	5378.00	53.72 PK	74.00	-20.28	1.00 H	145	44.72	9.00
6	5378.00	40.18 AV	54.00	-13.82	1.00 H	145	31.18	9.00
7	#10580.00	59.53 PK	68.20	-8.67	1.00 H	0	40.87	18.66
8	15870.00	65.27 PK	74.00	-8.73	1.00 H	0	40.57	24.70
9	15870.00	50.58 AV	54.00	-3.42	1.00 H	0	25.88	24.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	87.33 PK			1.17 V	255	78.40	8.93
2	*5290.00	78.67 AV			1.17 V	255	69.74	8.93
3	5350.00	51.01 PK	74.00	-22.99	1.17 V	255	42.03	8.98
4	5350.00	40.19 AV	54.00	-13.81	1.17 V	255	31.21	8.98
5	5376.00	52.09 PK	74.00	-21.91	1.17 V	255	43.08	9.01
6	5376.00	41.33 AV	54.00	-12.67	1.17 V	255	32.32	9.01
7	#10580.00	58.78 PK	68.20	-9.42	1.00 V	0	40.12	18.66
8	15870.00	65.32 PK	74.00	-8.68	1.00 V	0	40.62	24.70
9	15870.00	49.58 AV	54.00	-4.42	1.00 V	0	24.88	24.70

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

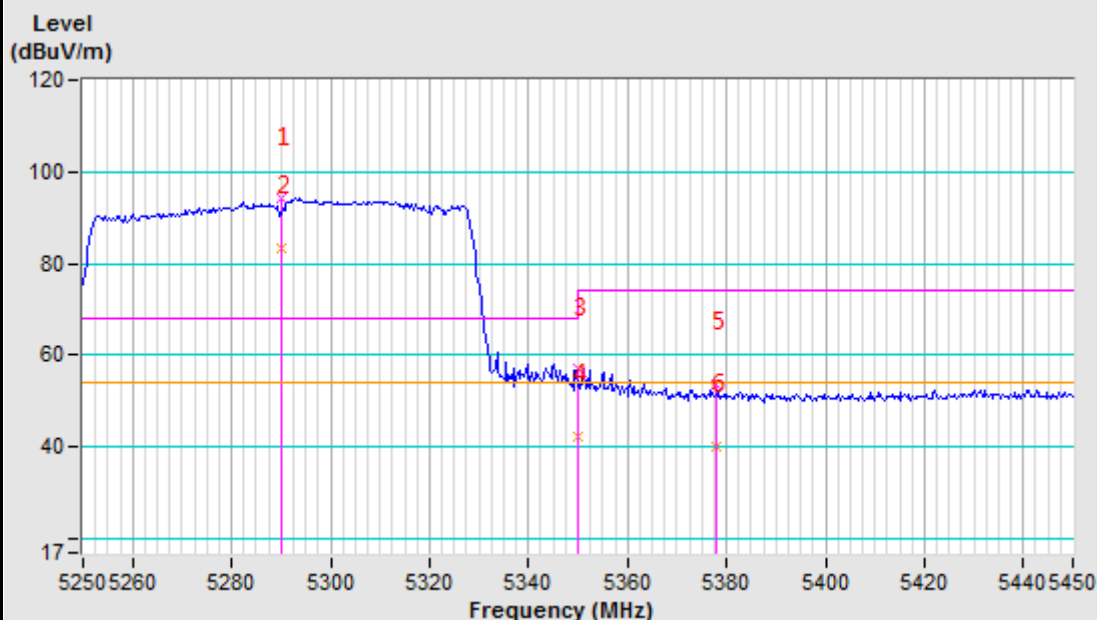


BUREAU
VERITAS

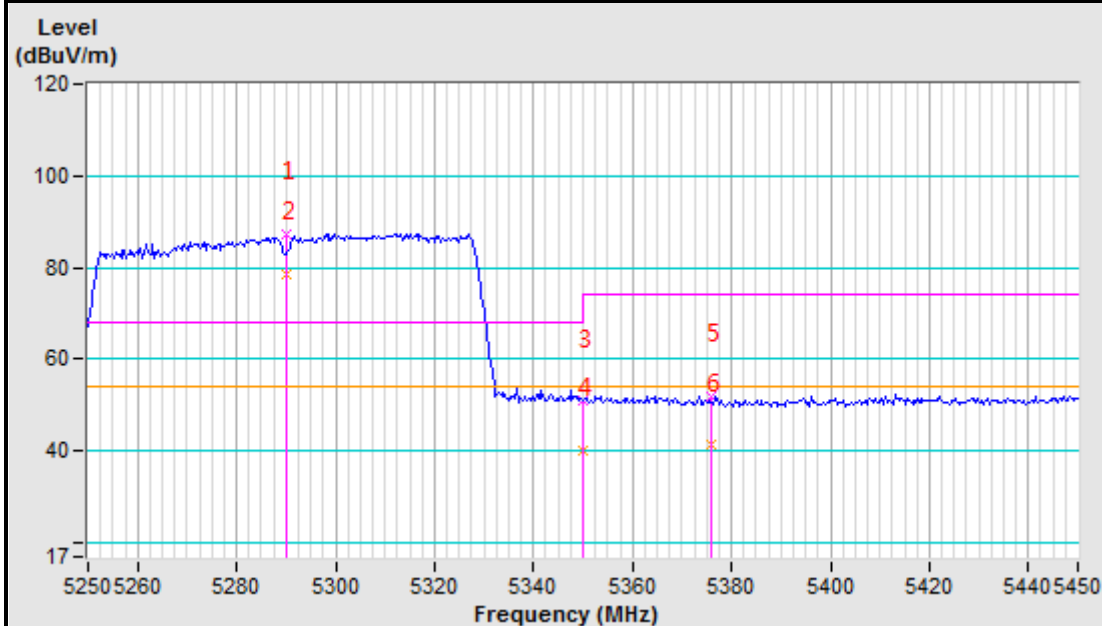
Test Report No.: RF2007WDG0018-4

Band edge Plot

5290MHz Horizontal



5290MHz Vertical





Band 3 (5470-5725MHz):

ABOVE 1GHz DATA

802.11a

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5454.00	54.22 PK	74.00	-19.78	1.00 H	149	45.14	9.08
2	#5470.00	53.01 PK	68.20	-15.19	1.00 H	149	43.92	9.09
3	*5500.00	104.32 PK			1.00 H	149	95.20	9.12
4	*5500.00	90.88 AV			1.00 H	149	81.76	9.12
5	11000.00	57.29 PK	74.00	-16.71	1.00 H	0	37.61	19.68
6	11000.00	42.23 AV	54.00	-11.77	1.00 H	0	22.55	19.68
7	#16500.00	62.13 PK	68.20	-6.07	1.00 H	0	36.70	25.43
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	#5461.00	53.11 PK	68.20	-15.09	1.22 V	130	44.02	9.09
2	#5470.00	52.13 PK	68.20	-16.07	1.22 V	130	43.04	9.09
3	*5500.00	97.36 PK			1.22 V	130	88.24	9.12
4	*5500.00	85.28 AV			1.22 V	130	76.16	9.12
5	11000.00	61.12 PK	74.00	-12.88	1.00 V	0	41.44	19.68
6	11000.00	42.91 AV	54.00	-11.09	1.00 V	0	23.23	19.68
7	#16500.00	62.74 PK	68.20	-5.46	1.00 V	0	37.31	25.43

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

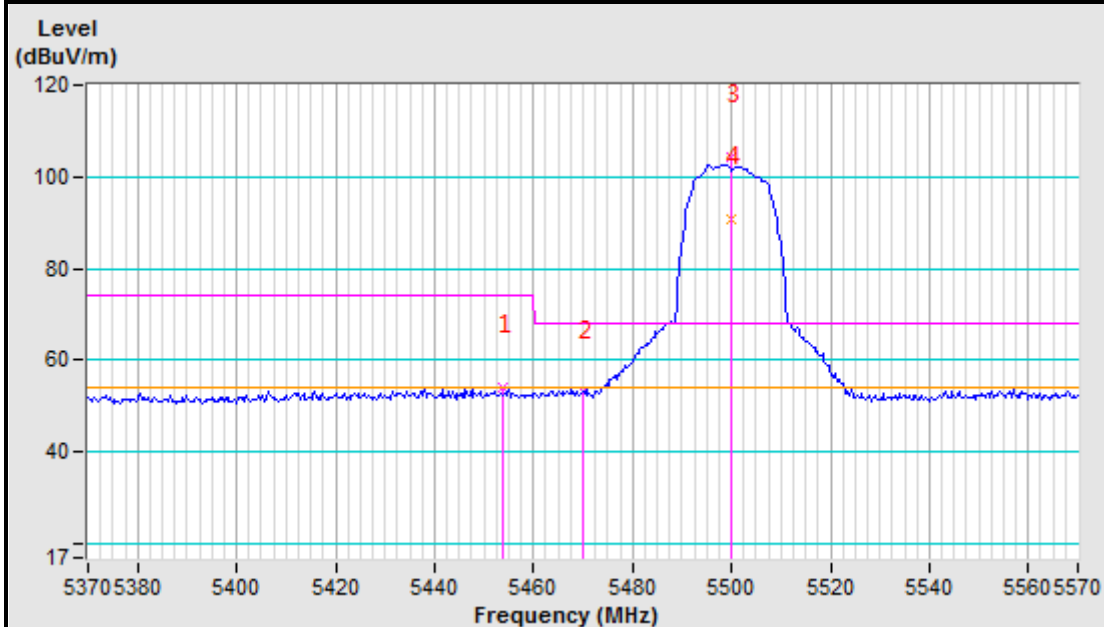


BUREAU
VERITAS

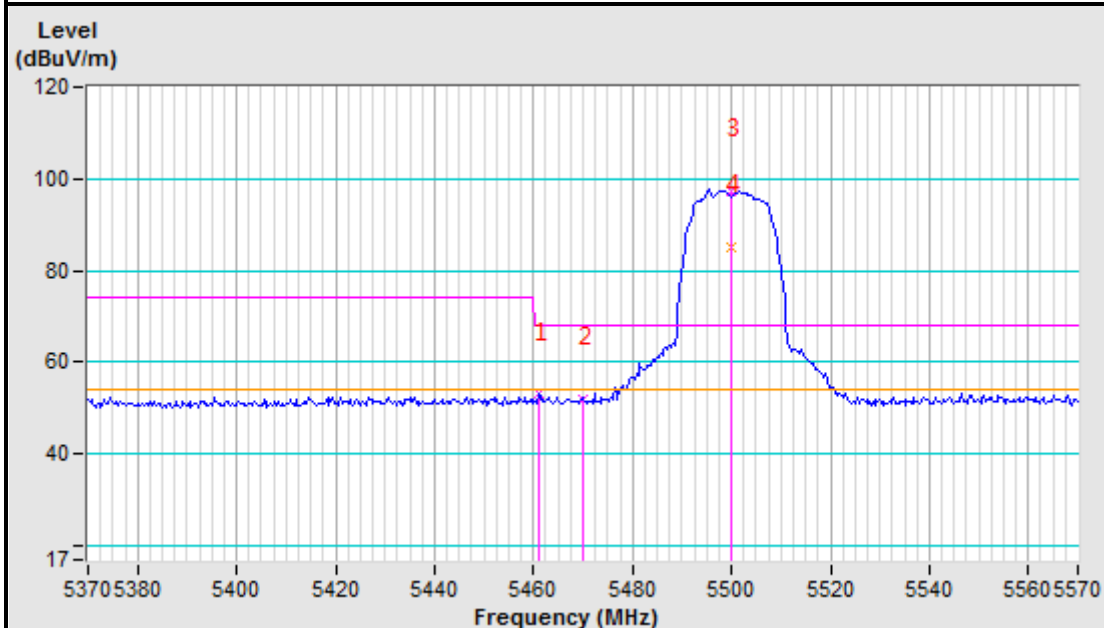
Test Report No.: RF2007WDG0018-4

Band edge Plot

5500MHz Horizontal



5500MHz Vertical





CHANNEL	TX Channel 112	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	52.37 PK	68.20	-15.83	1.05 H	7	43.28	9.09
2	*5580.00	102.09 PK			1.05 H	7	92.67	9.42
3	*5580.00	93.45 AV			1.05 H	7	84.03	9.42
4	11160.00	59.79 PK	74.00	-14.21	1.00 H	0	39.84	19.95
5	11160.00	45.21 AV	54.00	-8.79	1.00 H	0	25.26	19.95
6	#16740.00	63.17 PK	68.20	-5.03	1.00 H	0	36.97	26.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	50.43 PK	68.20	-17.77	1.08 V	155	41.34	9.09
2	*5580.00	97.34 PK			1.08 V	155	87.92	9.42
3	*5580.00	85.68 AV			1.08 V	155	76.26	9.42
4	11160.00	60.14 PK	74.00	-13.86	1.00 V	0	40.19	19.95
5	11160.00	46.53 AV	54.00	-7.47	1.00 V	0	26.58	19.95
6	#16740.00	62.17 PK	68.20	-6.03	1.00 V	0	35.97	26.20

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.75 PK			1.18 H	353	94.88	9.87
2	*5700.00	95.64 AV			1.18 H	353	85.77	9.87
3	#5725.00	52.03 PK	68.20	-16.17	1.18 H	353	42.07	9.96
4	#5828.00	52.60 PK	68.20	-15.60	1.18 H	353	42.26	10.34
5	11400.00	61.30 PK	74.00	-12.70	1.00 H	0	40.95	20.35
6	11400.00	45.91 AV	54.00	-8.09	1.00 H	0	25.56	20.35
7	#17100.00	62.52 PK	68.20	-5.68	1.00 H	0	35.38	27.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	96.33 PK			1.02 V	124	86.46	9.87
2	*5700.00	84.51 AV			1.02 V	124	74.64	9.87
3	#5725.00	50.97 PK	68.20	-17.23	1.02 V	124	41.01	9.96
4	#5797.00	53.06 PK	68.20	-15.14	1.02 V	124	42.83	10.23
5	11400.00	60.90 PK	74.00	-13.10	1.00 V	0	40.55	20.35
6	11400.00	45.29 AV	54.00	-8.71	1.00 V	0	24.94	20.35
7	#17100.00	61.37 PK	68.20	-6.83	1.00 V	0	34.23	27.14

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

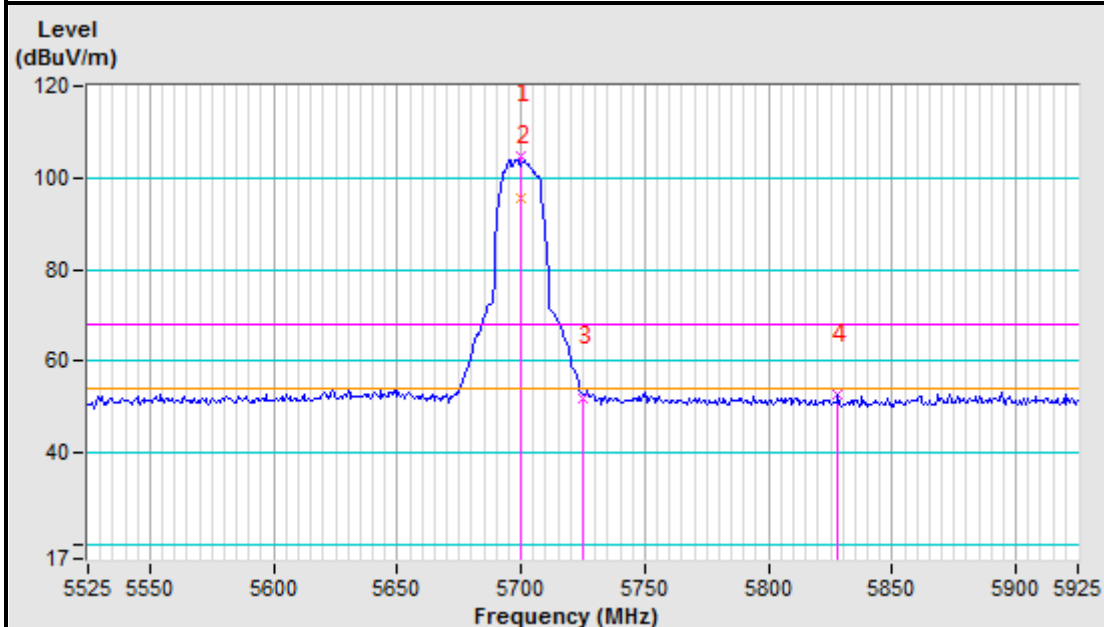


BUREAU
VERITAS

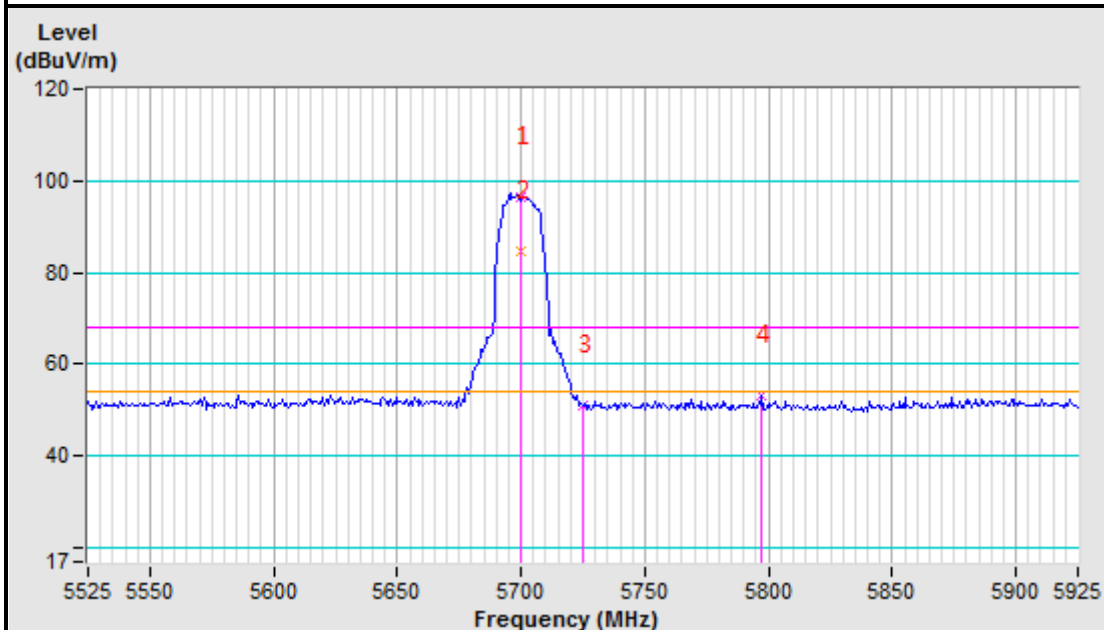
Test Report No.: RF2007WDG0018-4

Band edge Plot

5700MHz Horizontal



5700MHz Vertical





802.11n (20MHz)

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5464.00	51.87 PK	68.20	-16.33	1.08 H	149	42.78	9.09
2	#5470.00	50.69 PK	68.20	-17.51	1.08 H	149	41.60	9.09
3	*5500.00	98.10 PK			1.08 H	149	88.98	9.12
4	*5500.00	87.27 AV			1.08 H	149	78.15	9.12
5	11100.00	60.60 PK	74.00	-13.40	1.00 H	0	40.76	19.84
6	11100.00	45.24 AV	54.00	-8.76	1.00 H	0	25.40	19.84
7	#16500.00	61.25 PK	68.20	-6.95	1.00 H	0	35.82	25.43
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	#5465.00	51.61 PK	68.20	-16.59	1.20 V	120	42.52	9.09
2	#5470.00	50.65 PK	68.20	-17.55	1.20 V	120	41.56	9.09
3	*5500.00	91.05 PK			1.20 V	120	81.93	9.12
4	*5500.00	78.17 AV			1.20 V	120	69.05	9.12
5	11000.00	59.67 PK	74.00	-14.33	1.00 V	0	39.99	19.68
6	11000.00	45.21 AV	54.00	-8.79	1.00 V	0	25.53	19.68
7	#16500.00	62.18 PK	68.20	-6.02	1.00 V	0	36.75	25.43

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

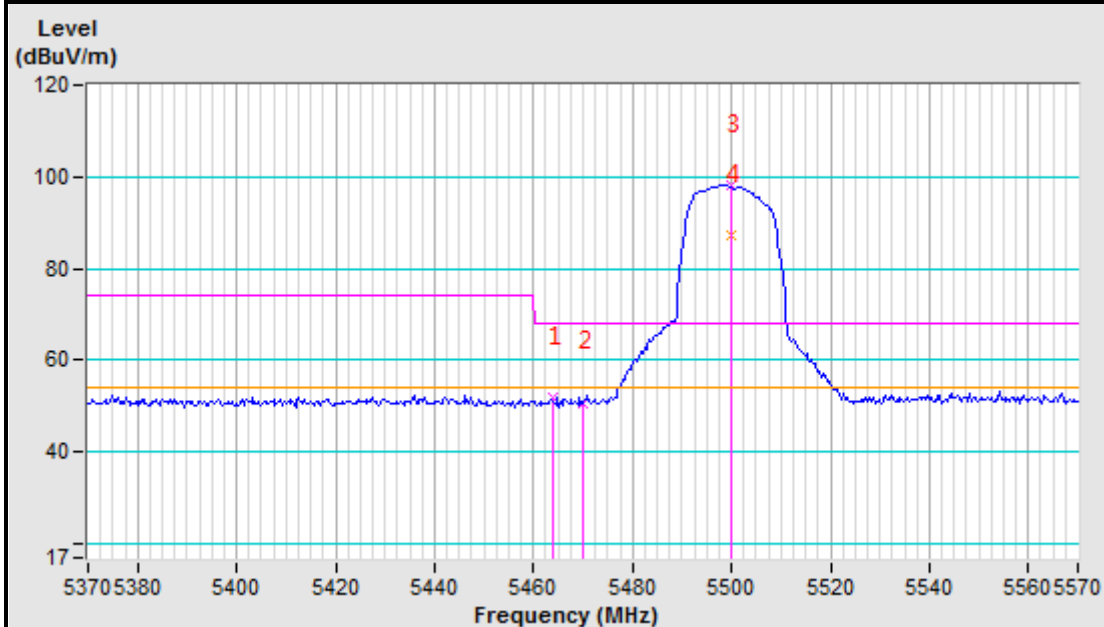


BUREAU
VERITAS

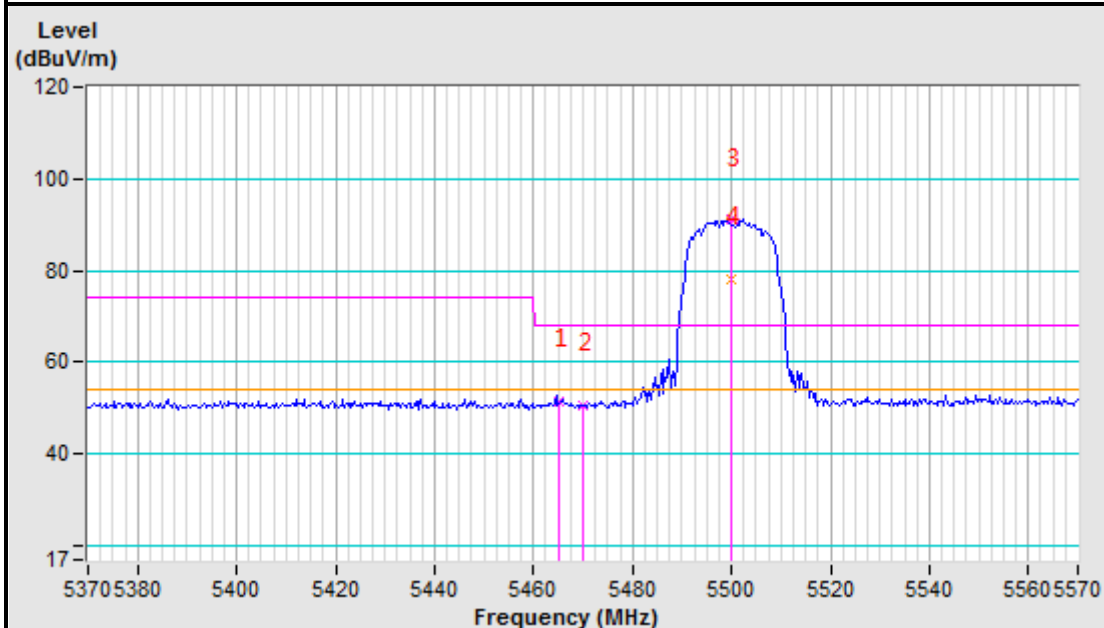
Test Report No.: RF2007WDG0018-4

Band edge Plot

5500MHz Horizontal



5500MHz Vertical





CHANNEL	TX Channel 112	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	52.31 PK	68.20	-15.89	1.00 H	144	43.22	9.09
2	*5580.00	98.64 PK			1.00 H	7	89.22	9.42
3	*5580.00	85.74 AV			1.00 H	7	76.32	9.42
4	11160.00	59.28 PK	74.00	-14.72	1.00 H	0	39.33	19.95
5	11160.00	43.27 AV	54.00	-10.73	1.00 H	0	23.32	19.95
6	#16740.00	62.17 PK	68.20	-6.03	1.00 H	0	35.97	26.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	51.36 PK	68.20	-16.84	1.07 V	52	42.27	9.09
2	*5580.00	93.34 PK			1.07 V	52	83.92	9.42
3	*5580.00	81.22 AV			1.07 V	52	71.80	9.42
4	11160.00	59.67 PK	74.00	-14.33	1.00 V	0	39.72	19.95
5	11160.00	43.67 AV	54.00	-10.33	1.00 V	0	23.72	19.95
6	#16740.00	61.58 PK	68.20	-6.62	1.00 V	0	35.38	26.20

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	98.47 PK			1.00 H	160	88.60	9.87
2	*5700.00	86.27 AV			1.00 H	160	76.40	9.87
3	#5725.00	50.05 PK	68.20	-18.15	1.00 H	160	40.09	9.96
4	#5731.00	52.38 PK	68.20	-15.82	1.00 H	160	42.40	9.98
5	11400.00	61.12 PK	74.00	-12.88	1.00 H	0	40.77	20.35
6	11400.00	43.91 AV	54.00	-10.09	1.00 H	0	23.56	20.35
7	#17100.00	62.55 PK	68.20	-5.65	1.00 H	0	35.41	27.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	93.29 PK			1.54 V	126	83.42	9.87
2	*5700.00	84.37 AV			1.54 V	126	74.50	9.87
3	#5725.00	50.10 PK	68.20	-18.10	1.54 V	126	40.14	9.96
4	#5875.00	52.24 PK	68.20	-15.96	1.54 V	126	41.72	10.52
5	11400.00	59.98 PK	74.00	-14.02	1.00 V	0	39.63	20.35
6	11400.00	42.37 AV	54.00	-11.63	1.00 V	0	22.02	20.35
7	#17100.00	61.37 PK	68.20	-6.83	1.00 V	0	34.23	27.14

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

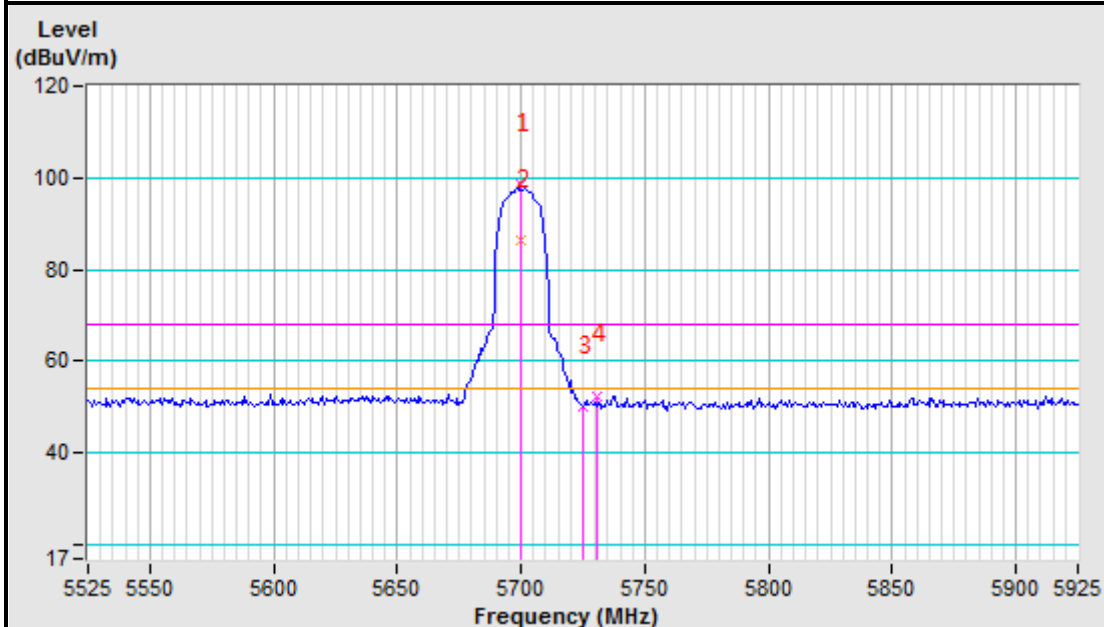


BUREAU
VERITAS

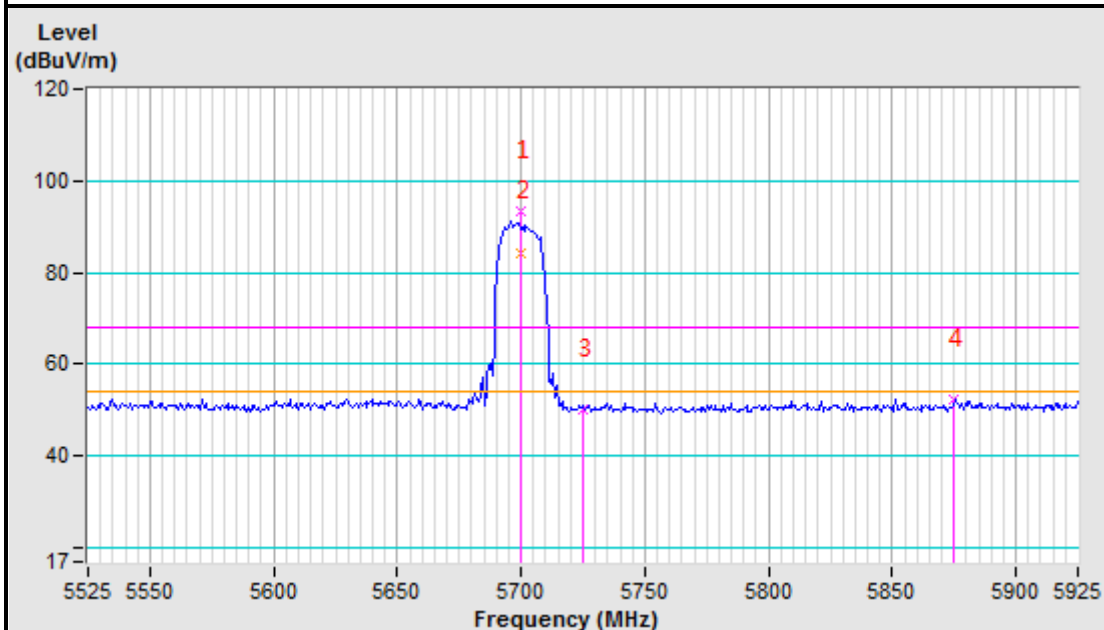
Test Report No.: RF2007WDG0018-4

Band edge Plot

5700MHz Horizontal



5700MHz Vertical





802.11n (40MHz)

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5416.00	51.55 PK	74.00	-22.45	1.00 H	357	42.51	9.04
2	#5470.00	53.38 PK	68.20	-14.82	1.00 H	357	44.29	9.09
3	*5510.00	96.97 PK			1.00 H	357	87.81	9.16
4	*5510.00	84.55 AV			1.00 H	357	75.39	9.16
5	11020.00	60.10 PK	74.00	-13.90	1.00 H	0	40.39	19.71
6	11020.00	45.37 AV	54.00	-8.63	1.00 H	0	25.66	19.71
7	#16530.00	61.24 PK	68.20	-6.96	1.00 H	0	35.71	25.53
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	5445.00	51.76 PK	74.00	-22.24	1.82 V	7	42.69	9.07
2	#5470.00	50.57 PK	68.20	-17.63	1.80 V	7	41.48	9.09
3	*5510.00	87.40 PK			1.82 V	7	78.24	9.16
4	*5510.00	79.64 AV			1.82 V	7	70.48	9.16
5	11020.00	59.19 PK	74.00	-14.81	1.00 V	0	39.48	19.71
6	11020.00	43.25 AV	54.00	-10.75	1.00 V	0	23.54	19.71
7	#16530.00	61.28 PK	68.20	-6.92	1.00 V	0	35.75	25.53

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

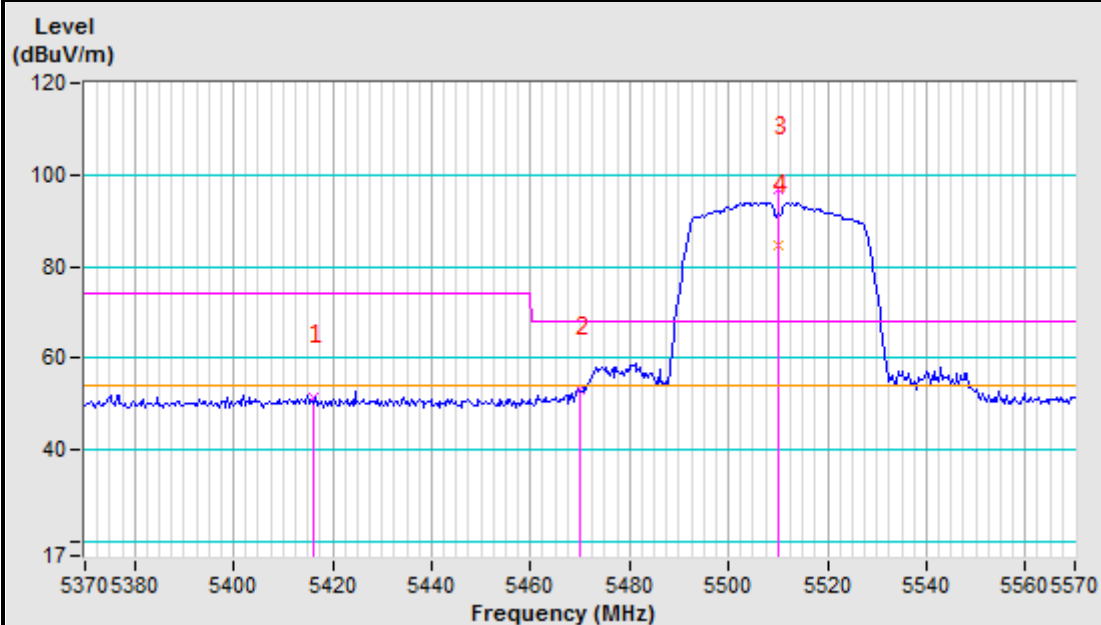


BUREAU
VERITAS

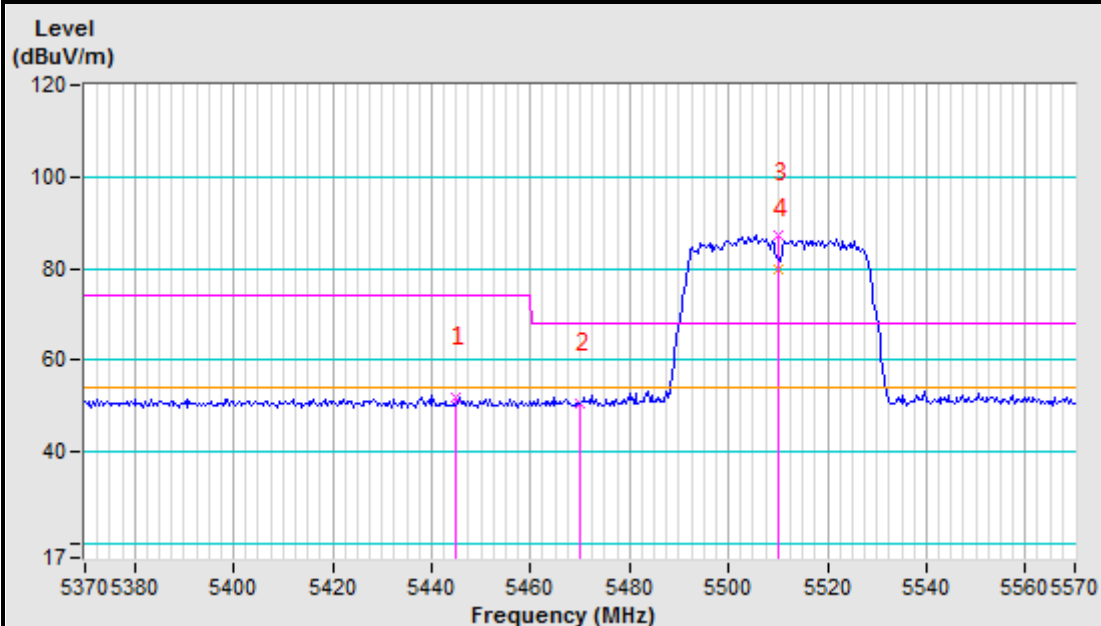
Test Report No.: RF2007WDG0018-4

Band edge Plot

5510MHz Horizontal



5510MHz Vertical





CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	51.19 PK	68.20	-17.01	1.00 H	8	42.10	9.09
2	*5550.00	95.32 PK			1.00 H	8	86.01	9.31
3	*5550.00	84.81 AV			1.00 H	8	75.50	9.31
4	11100.00	59.67 PK	74.00	-14.33	1.00 H	0	39.83	19.84
5	11100.00	44.61 AV	54.00	-9.39	1.00 H	0	24.77	19.84
6	#16650.00	62.33 PK	68.20	-5.87	1.00 H	0	36.42	25.91
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	52.37 PK	68.20	-15.83	1.01 V	144	43.28	9.09
2	#5500.00	88.14 PK	68.20	19.94	1.01 V	144	79.02	9.12
3	#5500.00	77.36 AV			1.01 V	144	68.24	9.12
4	11100.00	59.37 PK	74.00	-14.63	1.00 V	0	39.53	19.84
5	11100.00	43.28 AV	54.00	-10.72	1.00 V	0	23.44	19.84
6	#16650.00	61.28 PK	68.20	-6.92	1.00 V	0	35.37	25.91

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	95.62 PK			1.00 H	156	85.87	9.75
2	*5670.00	83.57 AV			1.00 H	156	73.82	9.75
3	#5725.00	50.30 PK	68.20	-17.90	1.00 H	156	40.34	9.96
4	#5790.00	51.77 PK	68.20	-16.43	1.00 H	156	41.57	10.20
5	11340.00	61.30 PK	74.00	-12.70	1.00 H	0	41.06	20.24
6	11340.00	45.38 AV	54.00	-8.62	1.00 H	0	25.14	20.24
7	#17010.00	61.37 PK	68.20	-6.83	1.00 H	0	34.34	27.03
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	89.38 PK			1.94 V	7	79.63	9.75
2	*5670.00	79.51 AV			1.94 V	7	69.76	9.75
3	#5725.00	50.34 PK	68.20	-17.86	1.94 V	7	40.38	9.96
4	#5833.00	52.37 PK	68.20	-15.83	1.94 V	7	42.01	10.36
5	11340.00	59.37 PK	74.00	-14.63	1.00 V	0	39.13	20.24
6	11340.00	44.11 AV	54.00	-9.89	1.00 V	0	23.87	20.24
7	#17010.00	62.62 PK	68.20	-5.58	1.00 V	0	35.59	27.03

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

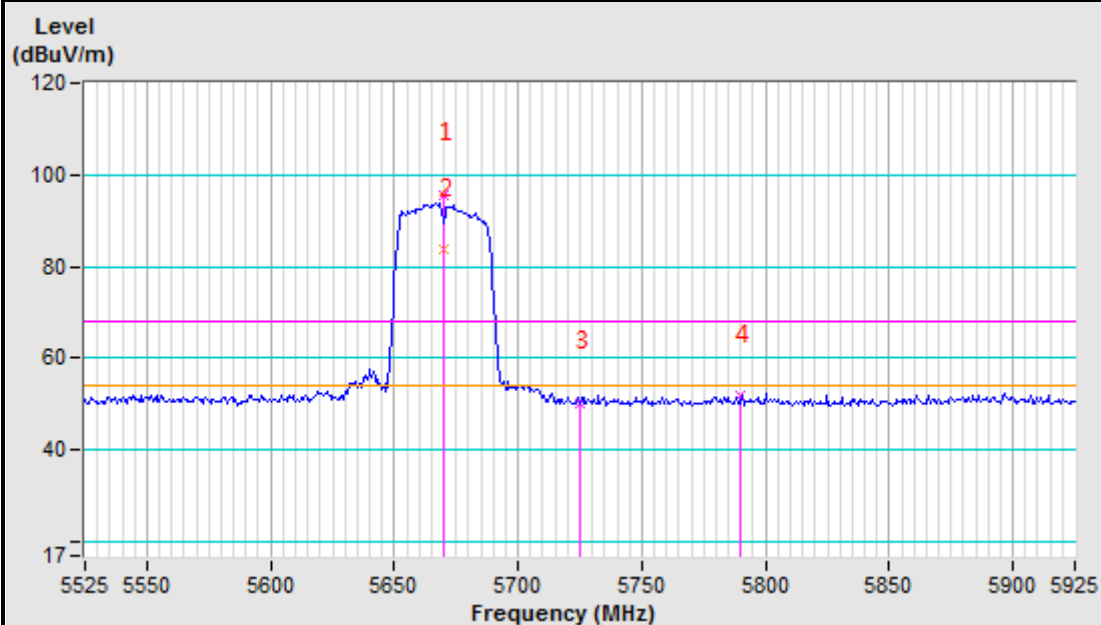


BUREAU
VERITAS

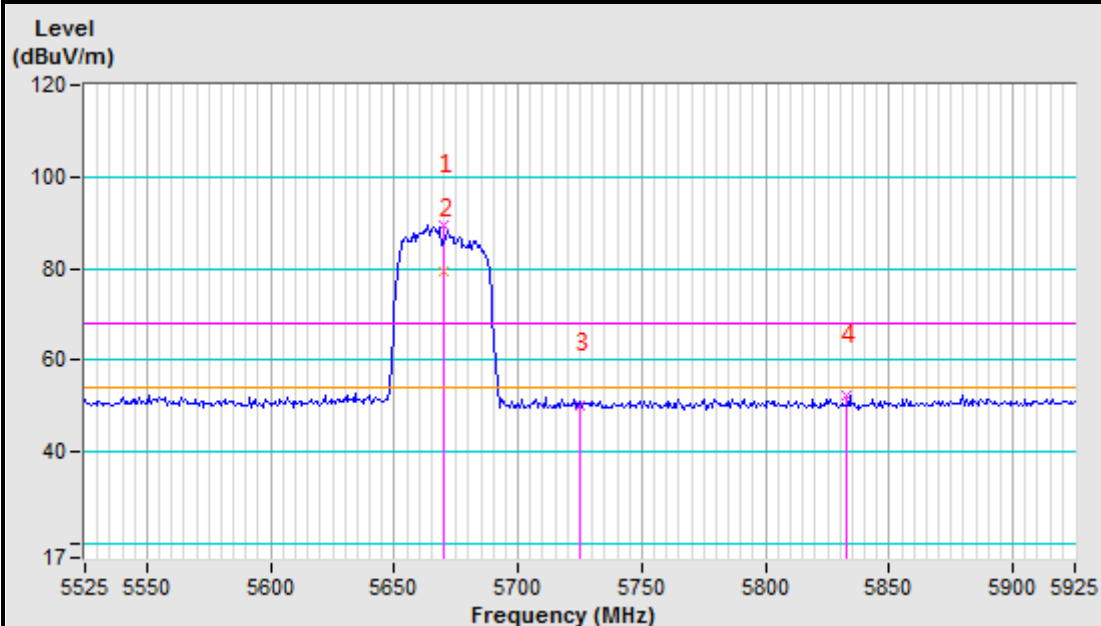
Test Report No.: RF2007WDG0018-4

Band edge Plot

5670MHz Horizontal



5670MHz Vertical





802.11ac 80MHz

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5466.00	52.90 PK	68.20	-15.30	1.00 H	351	43.81	9.09
2	#5470.00	51.65 PK	68.20	-16.55	1.00 H	351	42.56	9.09
3	*5530.00	93.97 PK			1.00 H	351	84.74	9.23
4	*5530.00	81.17 AV			1.00 H	351	71.94	9.23
5	11060.00	61.25 PK	74.00	-12.75	1.00 H	0	41.47	19.78
6	11060.00	44.37 AV	54.00	-9.63	1.00 H	0	24.59	19.78
7	#16590.00	62.17 PK	68.20	-6.03	1.00 H	0	36.45	25.72
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5430.00	51.58 PK	74.00	-22.42	1.09 V	25	42.52	9.06
2	#5470.00	50.37 PK	68.20	-17.83	1.09 V	25	41.28	9.09
3	*5530.00	86.97 PK			1.09 V	25	77.74	9.23
4	*5530.00	76.14 AV			1.09 V	25	66.91	9.23
5	11060.00	60.45 PK	74.00	-13.55	1.00 V	0	40.67	19.78
6	11060.00	43.91 AV	54.00	-10.09	1.00 V	0	24.13	19.78
7	#16590.00	61.91 PK	68.20	-6.29	1.00 V	0	36.19	25.72

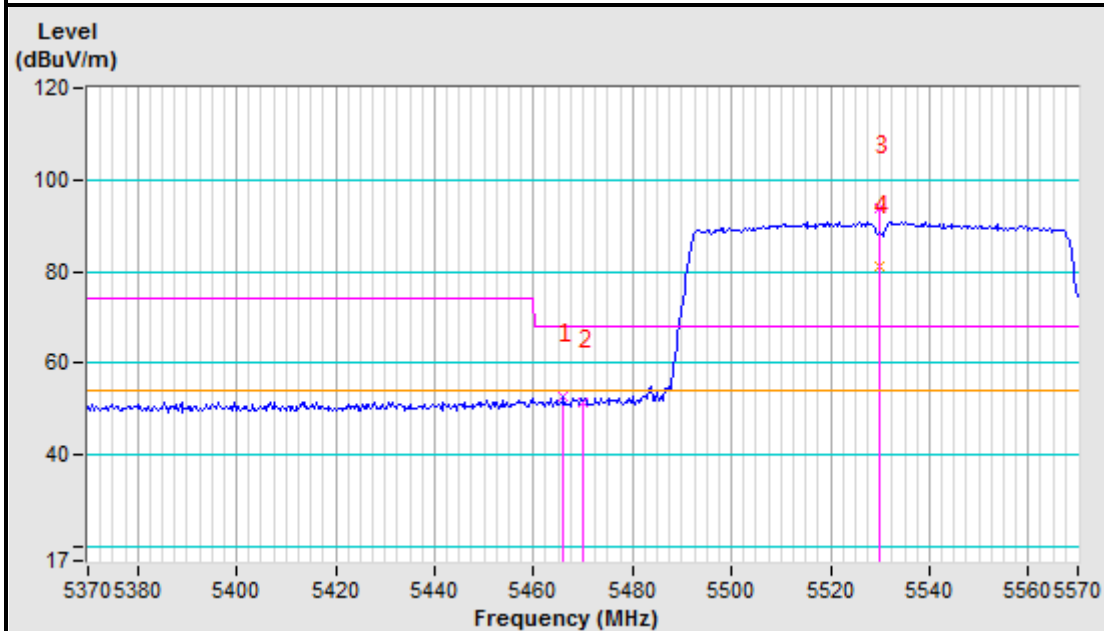
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

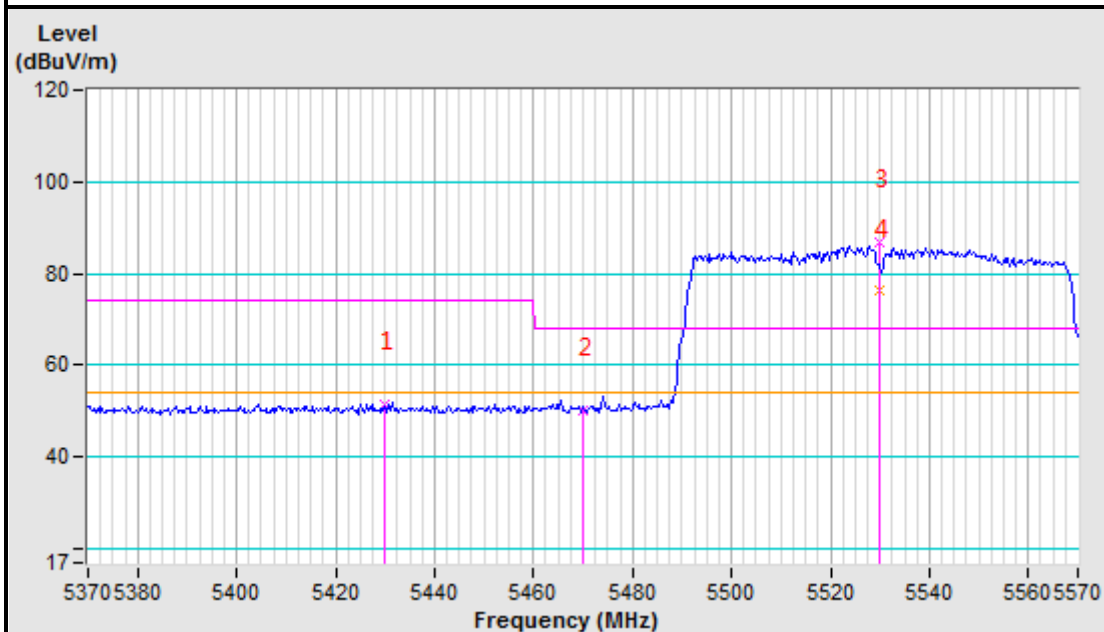


Band edge Plot

5530MHz Horizontal



5530MHz Vertical





CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	93.02 PK			1.60 H	351	83.49	9.53
2	*5610.00	81.22 AV			1.60 H	351	71.69	9.53
3	#5725.00	50.11 PK	68.20	-18.09	1.60 H	351	40.15	9.96
4	#5811.00	49.22 PK	68.20	-18.98	1.60 H	351	38.95	10.27
5	11220.00	59.67 PK	74.00	-14.33	1.00 H	0	39.62	20.05
6	11220.00	44.29 AV	54.00	-9.71	1.00 H	0	24.24	20.05
7	#16830.00	61.67 PK	68.20	-6.53	1.00 H	0	35.19	26.48
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	85.74 PK			1.99 V	20	76.21	9.53
2	*5610.00	75.37 AV			1.99 V	20	65.84	9.53
3	#5725.00	50.79 PK	68.20	-17.41	1.99 V	20	40.83	9.96
4	#5782.00	52.43 PK	68.20	-15.77	1.99 V	20	42.26	10.17
5	11220.00	51.78 PK	74.00	-22.22	1.00 V	0	31.73	20.05
6	11220.00	43.37 AV	54.00	-10.63	1.00 V	0	23.32	20.05
7	#16830.00	61.37 PK	68.20	-6.83	1.00 V	0	34.89	26.48

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

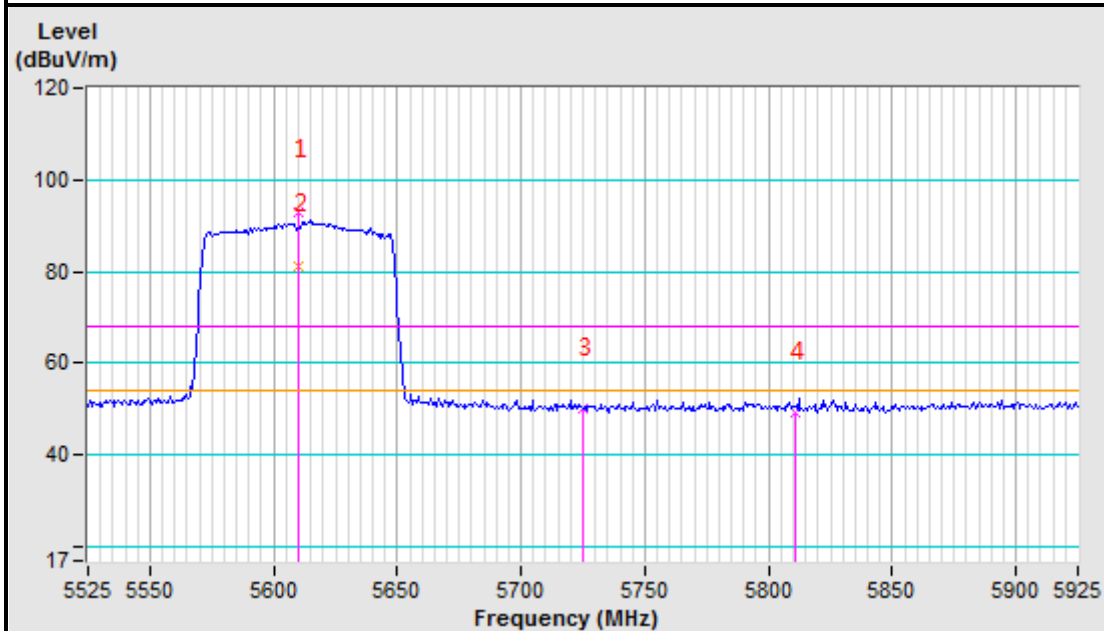


BUREAU
VERITAS

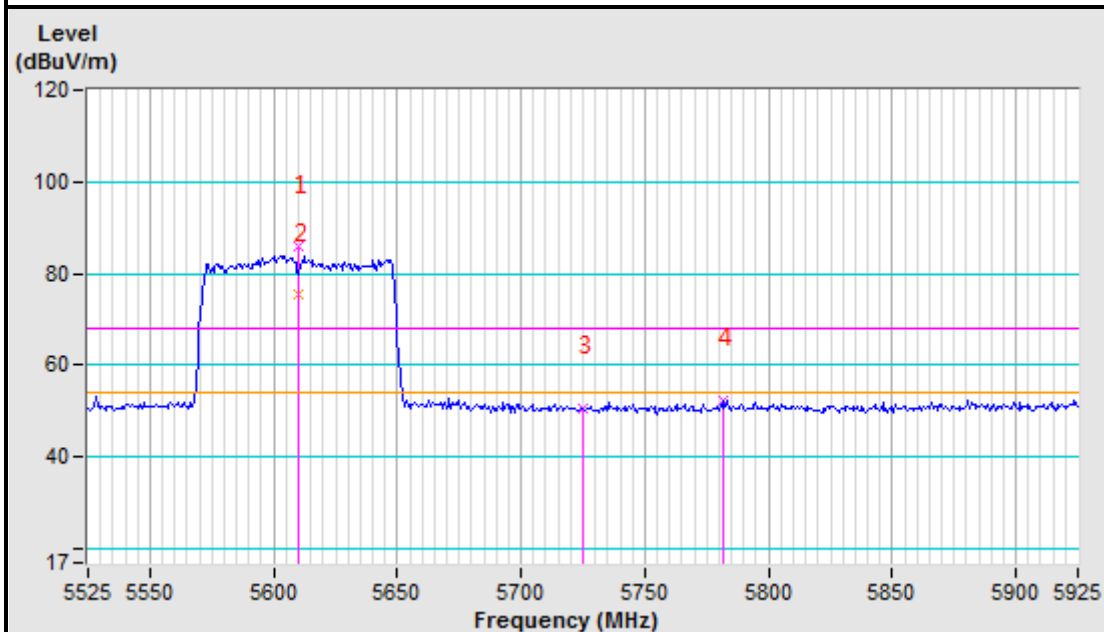
Test Report No.: RF2007WDG0018-4

Band edge Plot

5610MHz Horizontal



5610MHz Vertical





Band 4 (5725-5850MHz):

ABOVE 1GHz DATA

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5610.58	52.26 PK	68.20	-15.94	1.00 H	354	42.72	9.54
2	#5640.02	53.17 PK	68.20	-15.03	1.00 H	354	43.53	9.64
3	#5725.00	58.47 PK	122.20	-63.73	1.00 H	354	48.51	9.96
4	*5745.00	105.06 PK			1.25 H	45	95.03	10.03
5	*5745.00	93.11 AV			1.25 H	45	83.08	10.03
6	11490.00	59.55 PK	74.00	-14.45	1.00 H	0	39.06	20.49
7	11490.00	45.61 AV	54.00	-8.39	1.00 H	0	25.12	20.49
8	#17235.00	61.44 PK	68.20	-6.76	1.00 H	0	34.13	27.31
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5686.00	51.96 PK	94.87	-42.91	1.00 V	159	42.15	9.81
2	#5725.00	55.34 PK	122.20	-66.86	1.00 V	159	45.38	9.96
3	*5745.00	96.18 PK			1.04 V	357	86.15	10.03
4	*5745.00	86.33 AV			1.04 V	357	76.30	10.03
5	#5995.00	54.39 PK	68.20	-13.81	1.00 V	159	43.43	10.96
6	11490.00	60.24 PK	74.00	-13.76	1.00 V	0	39.75	20.49
7	11490.00	43.66 AV	54.00	-10.34	1.00 V	0	23.17	20.49
8	#17235.00	61.97 PK	68.20	-6.23	1.00 V	0	34.66	27.31

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

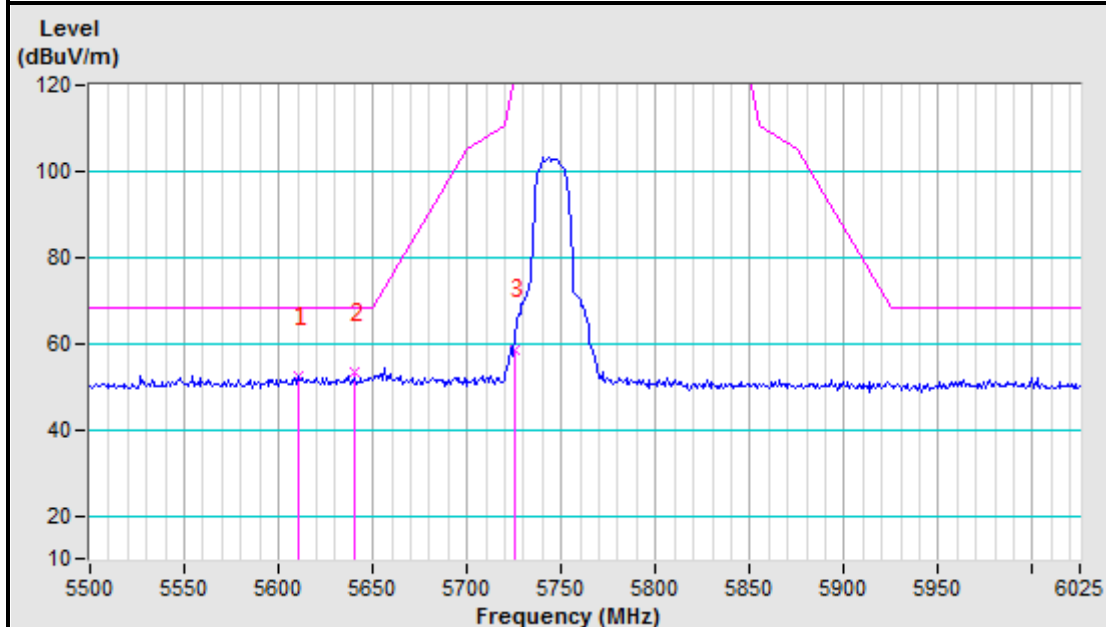


BUREAU
VERITAS

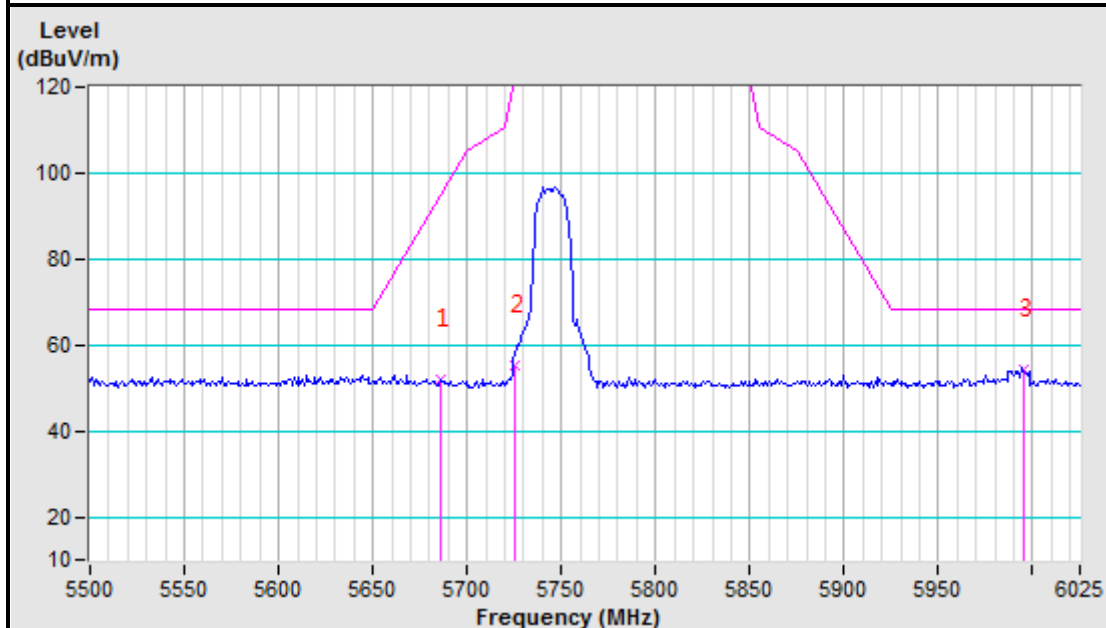
Test Report No.: RF2007WDG0018-4

Band edge Plot

5745MHz Horizontal



5745MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5666.59	53.52 PK	80.51	-26.99	1.12 H	10	43.78	9.74
2	*5785.00	104.06 PK			1.54 H	57	93.88	10.18
3	*5785.00	93.64 AV			1.54 H	57	83.46	10.18
4	#5902.33	51.83 PK	84.94	-33.11	1.12 H	10	41.21	10.62
5	#5971.32	52.59 PK	68.20	-15.61	1.12 H	10	41.71	10.88
6	11570.00	60.51 PK	74.00	-13.49	1.00 H	0	39.85	20.66
7	11570.00	43.94 AV	54.00	-10.06	1.00 H	0	23.28	20.66
8	#17355.00	61.97 PK	68.20	-6.23	1.00 H	0	34.51	27.46
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	#5646.39	52.60 PK	68.20	-15.60	1.34 V	0	42.93	9.67
2	*5785.00	97.55 PK			1.00 V	15	87.37	10.18
3	*5785.00	86.37 AV			1.00 V	15	76.19	10.18
4	#5915.62	52.38 PK	75.11	-22.73	1.34 V	0	41.72	10.66
5	#5987.14	52.81 PK	68.20	-15.39	1.34 V	0	41.87	10.94
6	11570.00	59.71 PK	74.00	-14.29	1.00 V	0	39.05	20.66
7	11570.00	45.91 AV	54.00	-8.09	1.00 V	0	25.25	20.66
8	#17355.00	62.84 PK	68.20	-5.36	1.00 V	0	35.38	27.46

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

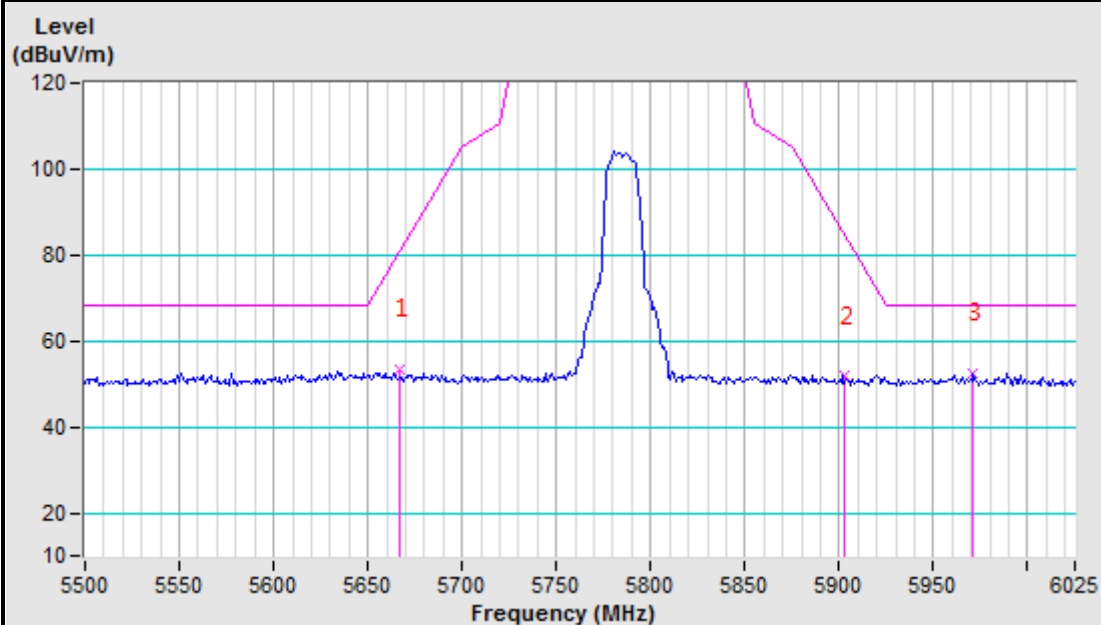


BUREAU
VERITAS

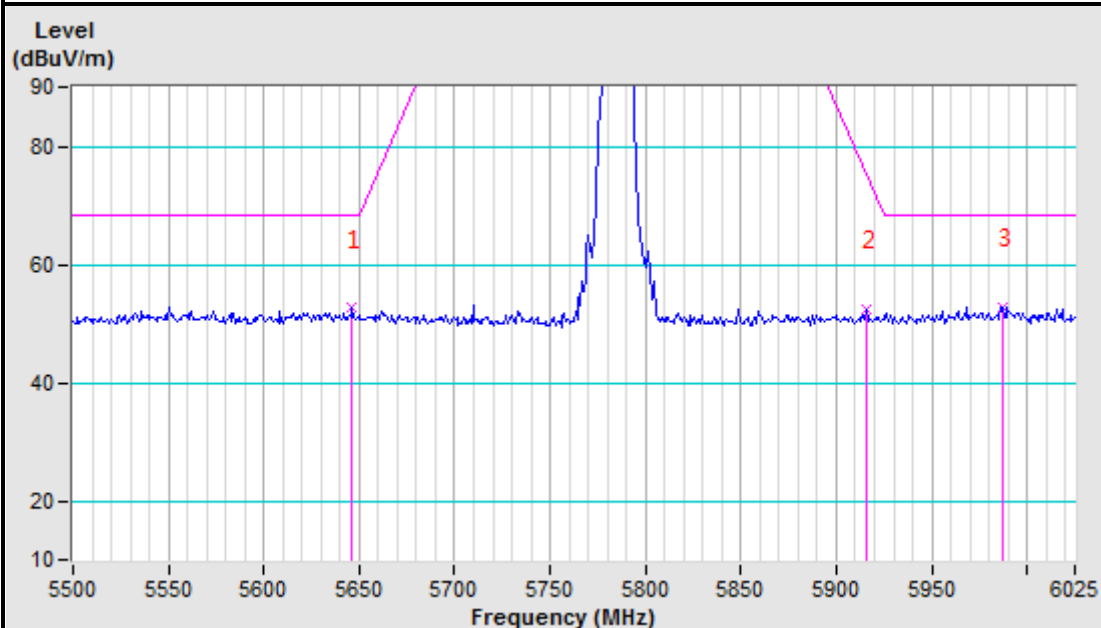
Test Report No.: RF2007WDG0018-4

Band edge Plot

5785MHz Horizontal



5785MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.09	51.86 PK	68.20	-16.34	1.00 H	341	42.25	9.61
2	*5825.00	102.35 PK			1.00 H	147	92.02	10.33
3	*5825.00	91.34 AV			1.00 H	147	81.01	10.33
4	#5850.00	51.82 PK	122.20	-70.38	1.00 H	341	41.40	10.42
5	#5934.98	53.03 PK	68.20	-15.17	1.00 H	341	42.29	10.74
6	11650.00	58.67 PK	74.00	-15.33	1.00 H	0	37.83	20.84
7	11650.00	43.18 AV	54.00	-10.82	1.00 H	0	22.34	20.84
8	#17475.00	62.37 PK	68.20	-5.83	1.00 H	0	34.76	27.61
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	#5663.22	52.18 PK	78.01	-25.83	1.35 V	121	42.45	9.73
2	#5720.43	51.65 PK	111.78	-60.13	1.35 V	121	41.71	9.94
3	*5825.00	96.98 PK			1.54 V	35	86.65	10.33
4	*5825.00	89.36 AV			1.54 V	35	79.03	10.33
5	#5990.50	55.21 PK	68.20	-12.99	1.35 V	121	44.26	10.95
6	11650.00	59.84 PK	74.00	-14.16	1.00 V	0	39.00	20.84
7	11650.00	42.85 AV	54.00	-11.15	1.00 V	0	22.01	20.84
8	#17475.00	63.61 PK	68.20	-4.59	1.00 V	0	36.00	27.61

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

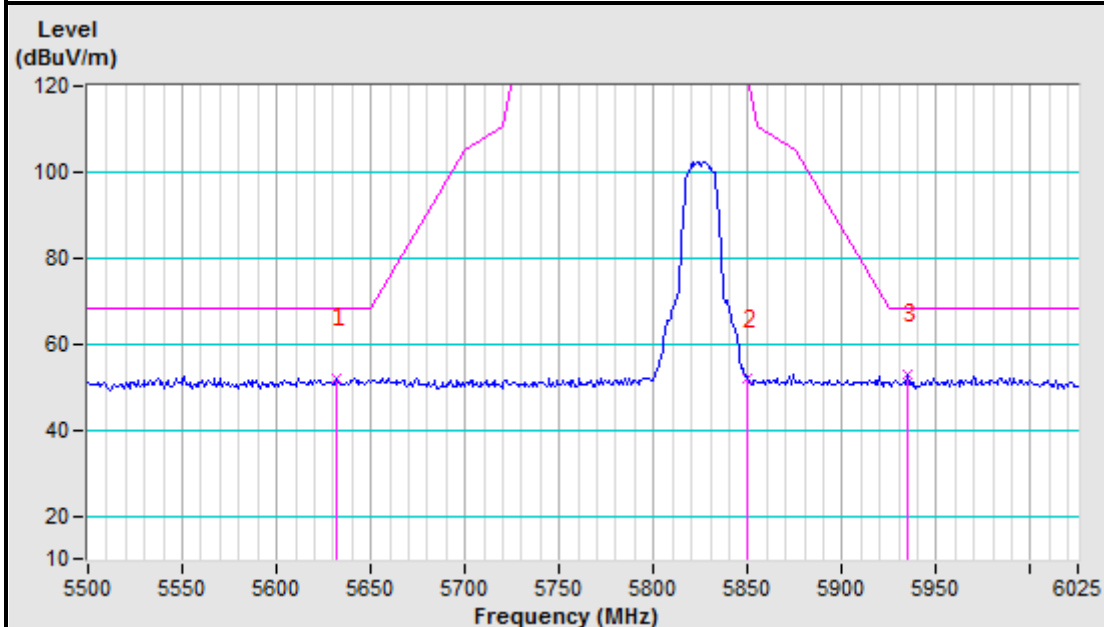


BUREAU
VERITAS

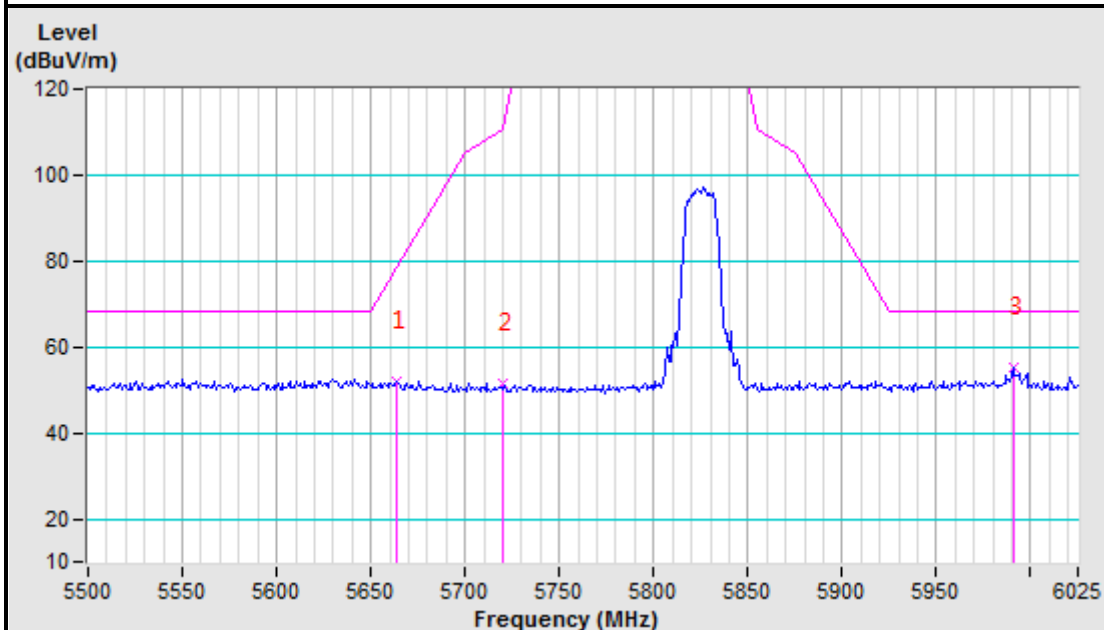
Test Report No.: RF2007WDG0018-4

Band edge Plot

5825MHz Horizontal



5825MHz Vertical





802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5557.57	52.48 PK	68.20	-15.72	1.00 H	158	43.14	9.34
2	#5725.00	57.77 PK	122.20	-64.43	1.00 H	158	47.81	9.96
3	*5745.00	91.24 PK			1.02 H	121	81.21	10.03
4	*5745.00	81.37 AV			1.02 H	121	71.34	10.03
5	#5898.32	52.56 PK	87.91	-35.35	1.00 H	158	41.96	10.60
6	11490.00	59.37 PK	74.00	-14.63	1.00 H	0	38.88	20.49
7	11490.00	43.17 AV	54.00	-10.83	1.00 H	0	22.68	20.49
8	#17235.00	62.35 PK	68.20	-5.85	1.00 H	0	35.04	27.31
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	50.03 PK	122.20	-72.17	1.92 V	0	40.07	9.96
2	*5745.00	98.15 PK			1.01 V	357	88.12	10.03
3	*5745.00	85.67 AV			1.01 V	357	75.64	10.03
4	#5949.64	52.50 PK	68.20	-15.70	1.92 V	0	41.71	10.79
5	#5987.50	55.54 PK	68.20	-12.66	1.92 V	0	44.60	10.94
6	11490.00	59.67 PK	74.00	-14.33	1.00 V	0	39.18	20.49
7	11490.00	45.11 AV	54.00	-8.89	1.00 V	0	24.62	20.49
8	#17235.00	61.91 PK	68.20	-6.29	1.00 V	0	34.60	27.31

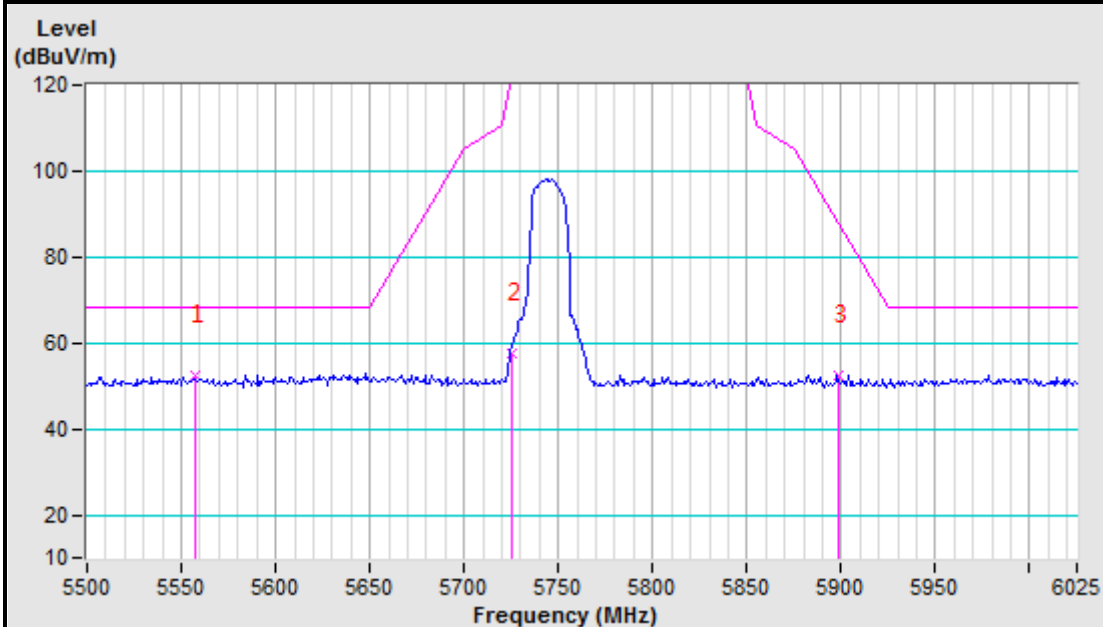
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

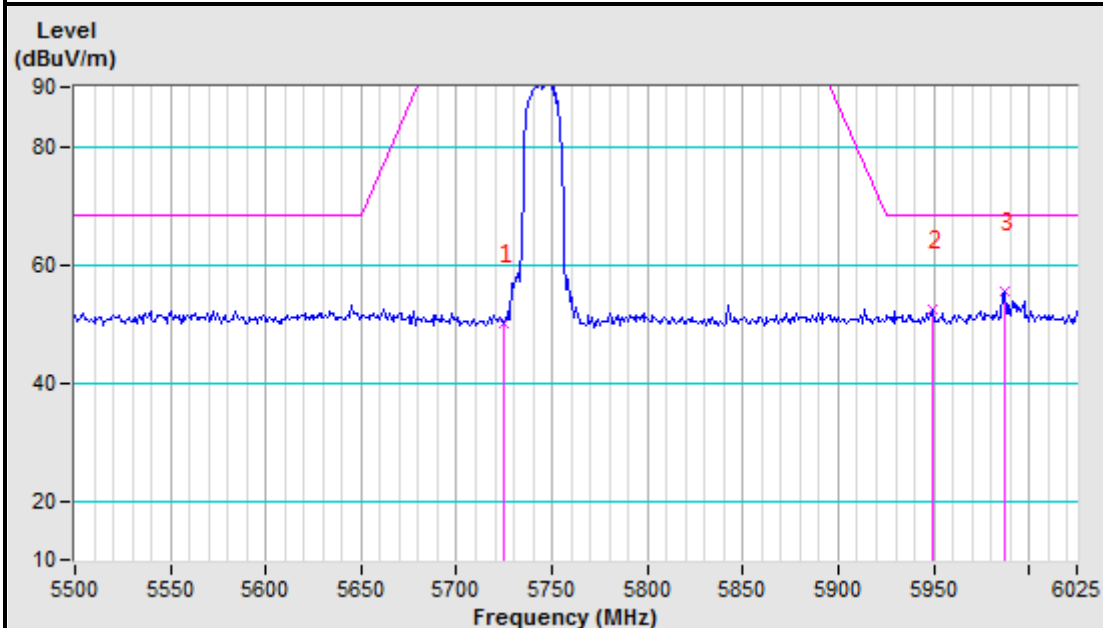


Band edge Plot

5745MHz Horizontal



5745MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5668.27	51.80 PK	81.76	-29.96	1.00 H	353	42.06	9.74
2	#5696.88	52.18 PK	102.90	-50.72	1.00 H	353	42.33	9.85
3	*5785.00	98.83 PK			1.00 H	55	88.65	10.18
4	*5785.00	84.91 AV			1.00 H	55	74.73	10.18
5	#5966.11	51.34 PK	68.20	-16.86	1.00 H	353	40.49	10.85
6	11570.00	59.65 PK	74.00	-14.35	1.00 H	0	38.99	20.66
7	11570.00	44.25 AV	54.00	-9.75	1.00 H	0	23.59	20.66
8	#17355.00	60.64 PK	68.20	-7.56	1.00 H	0	33.18	27.46
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	#5680.05	52.43 PK	90.48	-38.05	1.34 V	119	42.64	9.79
2	*5785.00	92.90 PK			1.51 V	352	82.72	10.18
3	*5785.00	81.61 AV			1.51 V	352	71.43	10.18
4	#5929.09	52.27 PK	68.20	-15.93	1.34 V	119	41.55	10.72
5	#5993.03	54.11 PK	68.20	-14.09	1.34 V	119	43.16	10.95
6	11570.00	60.34 PK	74.00	-13.66	1.00 V	0	39.68	20.66
7	11570.00	42.37 AV	54.00	-11.63	1.00 V	0	21.71	20.66
8	#17355.00	62.25 PK	68.20	-5.95	1.00 V	0	34.79	27.46

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

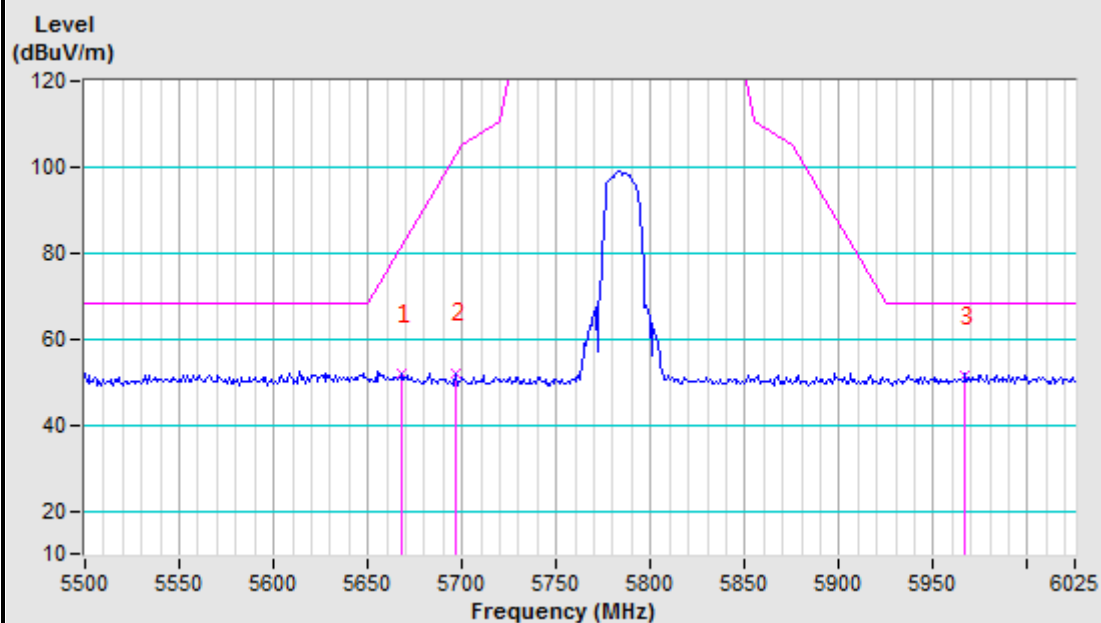


BUREAU
VERITAS

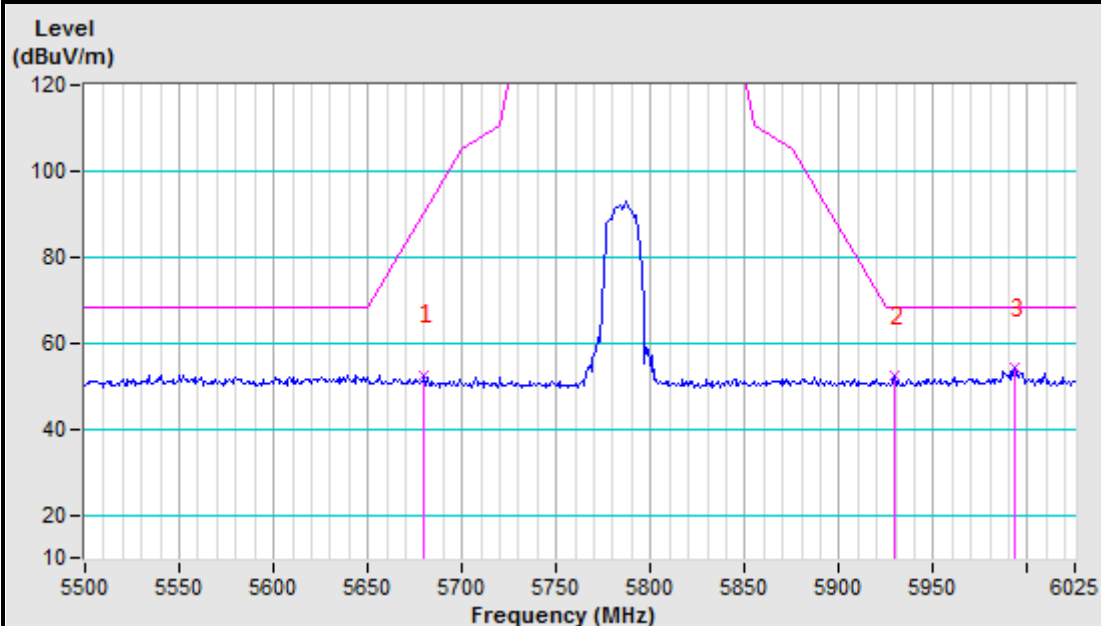
Test Report No.: RF2007WDG0018-4

Band edge Plot

5785MHz Horizontal



5785MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5575.72	53.75 PK	68.20	-14.45	1.00 H	154	44.34	9.41
2	*5825.00	98.43 PK			1.25 H	344	88.10	10.33
3	*5825.00	84.74 AV			1.25 H	344	74.41	10.33
4	#5850.00	50.68 PK	122.20	-71.52	1.00 H	154	40.26	10.42
5	#6003.12	52.82 PK	68.20	-15.38	1.00 H	154	41.82	11.00
6	11650.00	60.40 PK	74.00	-13.60	1.00 H	0	39.56	20.84
7	11650.00	44.67 AV	54.00	-9.33	1.00 H	0	23.83	20.84
8	#17475.00	62.57 PK	68.20	-5.63	1.00 H	0	34.96	27.61
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	#5591.71	52.50 PK	68.20	-15.70	1.36 V	0	43.04	9.46
2	*5825.00	93.76 PK			1.44 V	25	83.43	10.33
3	*5825.00	81.67 AV			1.44 V	25	71.34	10.33
4	#5963.58	53.76 PK	68.20	-14.44	1.36 V	0	42.91	10.85
5	#5988.82	54.41 PK	68.20	-13.79	1.36 V	0	43.47	10.94
6	11650.00	59.67 PK	74.00	-14.33	1.00 V	0	38.83	20.84
7	11650.00	43.67 AV	54.00	-10.33	1.00 V	0	22.83	20.84
8	#17475.00	61.69 PK	68.20	-6.51	1.00 V	0	34.08	27.61

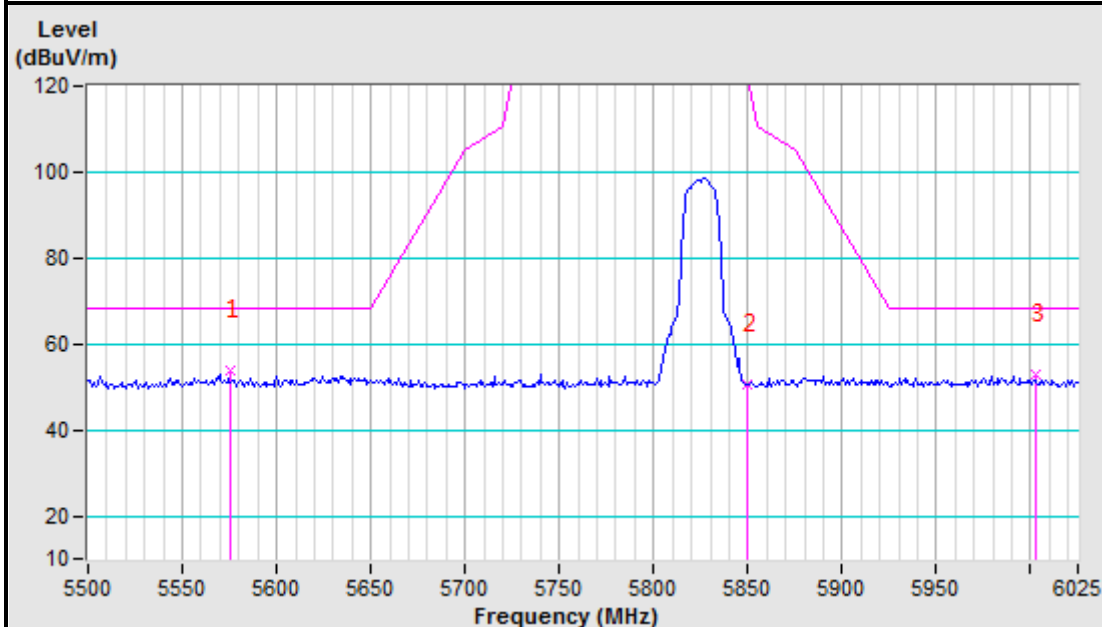
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

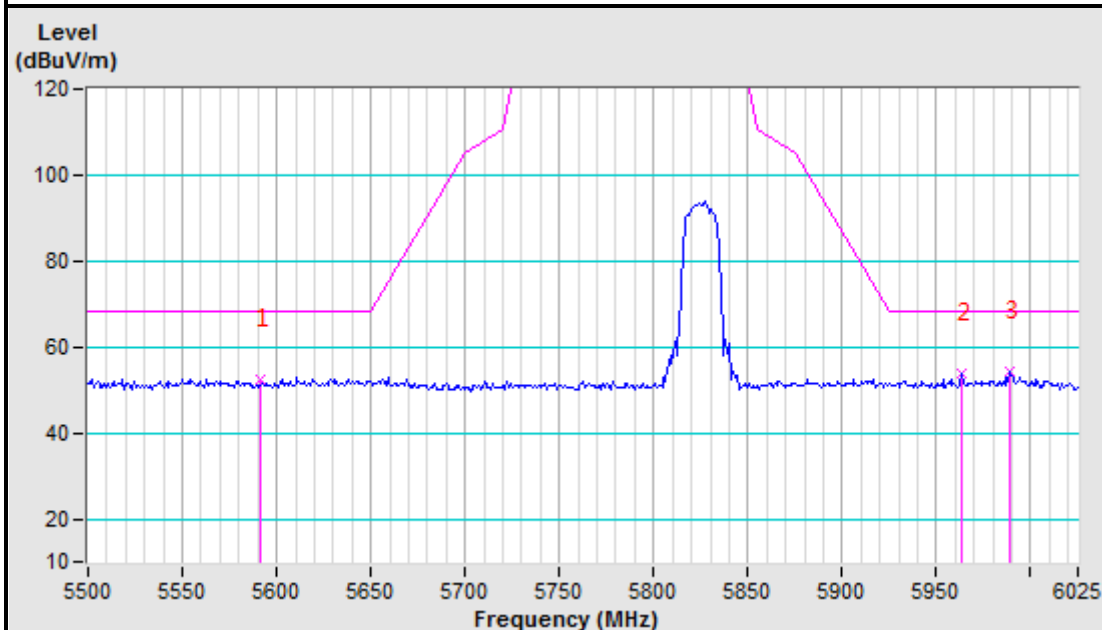


Band edge Plot

5825MHz Horizontal



5825MHz Vertical





802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.26	53.24 PK	68.20	-14.96	1.00 H	354	43.70	9.54
2	#5725.00	58.40 PK	122.20	-63.80	1.00 H	354	48.44	9.96
3	*5755.00	94.07 PK			1.11 H	351	84.00	10.07
4	*5755.00	81.15 AV			1.11 H	351	71.08	10.07
5	#5952.16	52.04 PK	68.20	-16.16	1.00 H	354	41.23	10.81
6	11510.00	59.67 PK	74.00	-14.33	1.00 H	0	39.14	20.53
7	11510.00	42.37 AV	54.00	-11.63	1.00 H	0	21.84	20.53
8	#17265.00	61.94 PK	68.20	-6.26	1.00 H	0	34.59	27.35
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	#5644.23	53.28 PK	68.20	-14.92	1.90 V	0	43.63	9.65
2	#5725.00	51.40 PK	122.20	-70.80	1.90 V	0	41.44	9.96
3	*5755.00	88.56 PK			1.17 V	351	78.49	10.07
4	*5755.00	79.77 AV			1.17 V	351	69.70	10.07
5	#5994.23	54.23 PK	68.20	-13.97	1.90 V	0	43.27	10.96
6	11510.00	59.64 PK	74.00	-14.36	1.00 V	0	39.11	20.53
7	11510.00	44.97 AV	54.00	-9.03	1.00 V	0	24.44	20.53
8	#17265.00	62.33 PK	68.20	-5.87	1.00 V	0	34.98	27.35

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

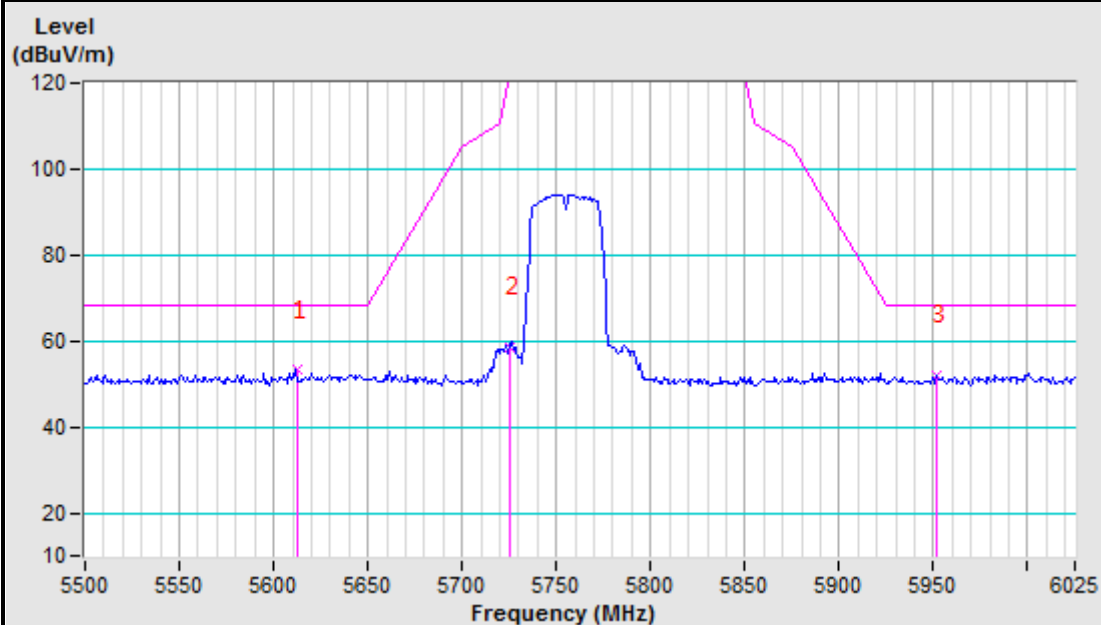


BUREAU
VERITAS

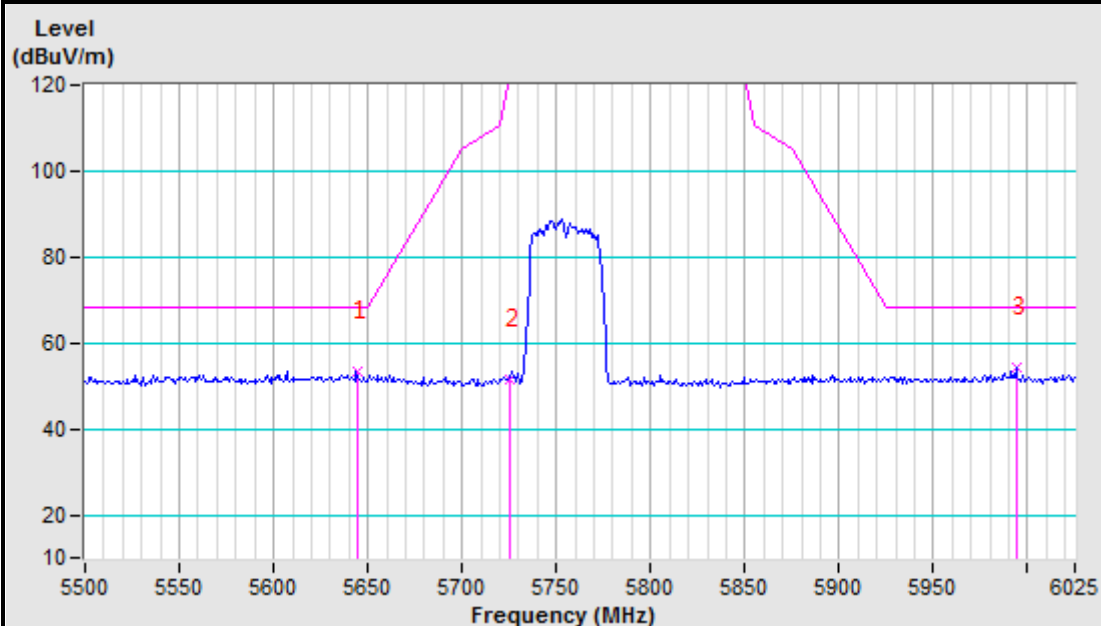
Test Report No.: RF2007WDG0018-4

Band edge Plot

5755MHz Horizontal



5755MHz Vertical





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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.31	52.64 PK	68.20	-15.56	1.00 H	0	43.07	9.57
2	*5795.00	94.99 PK			1.02 H	357	84.77	10.22
3	*5795.00	80.55 AV			1.02 H	357	70.33	10.22
4	#5850.00	51.04 PK	122.20	-71.16	1.00 H	0	40.62	10.42
5	#5900.48	53.02 PK	86.31	-33.29	1.00 H	0	42.41	10.61
6	11590.00	59.64 PK	74.00	-14.36	1.00 H	0	38.93	20.71
7	11590.00	43.31 AV	54.00	-10.69	1.00 H	0	22.60	20.71
8	#17385.00	61.57 PK	68.20	-6.63	1.00 H	0	34.07	27.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	88.92 PK			1.08 V	303	78.70	10.22
2	*5795.00	79.34 AV			1.08 V	303	69.12	10.22
3	#5850.00	50.80 PK	122.20	-71.40	1.25 V	144	40.38	10.42
4	#5910.58	53.54 PK	78.84	-25.30	1.25 V	144	42.89	10.65
5	#5988.82	55.16 PK	68.20	-13.04	1.25 V	144	44.22	10.94
6	15590.00	60.32 PK	74.00	-13.68	1.00 V	0	36.13	24.19
7	15590.00	45.29 AV	54.00	-8.71	1.00 V	0	21.10	24.19
8	#17385.00	62.33 PK	68.20	-5.87	1.00 V	0	34.83	27.50

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

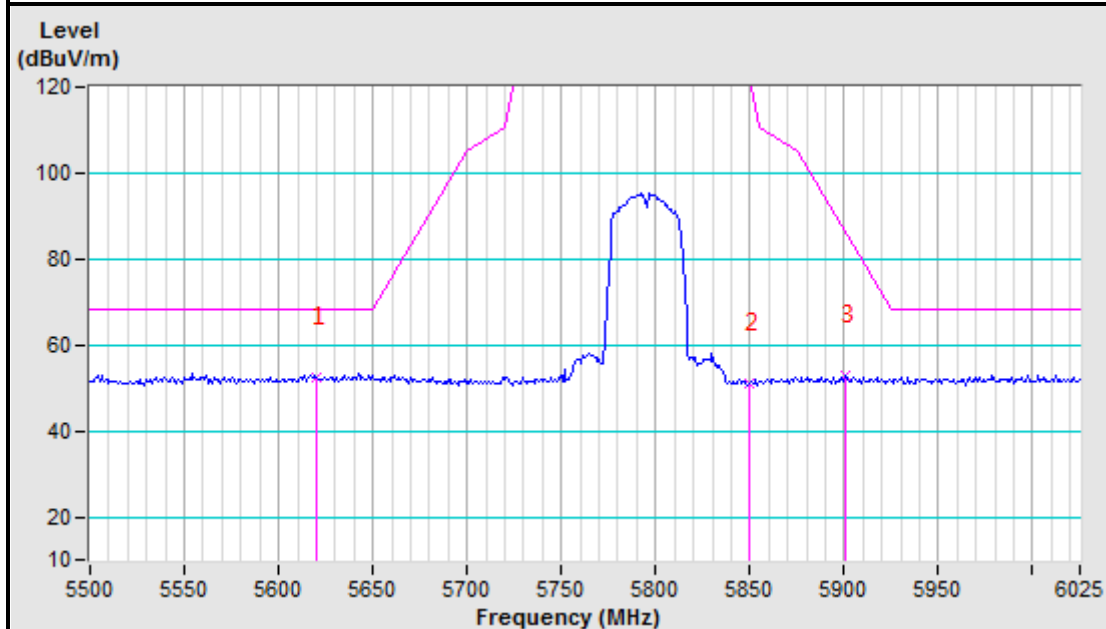


BUREAU
VERITAS

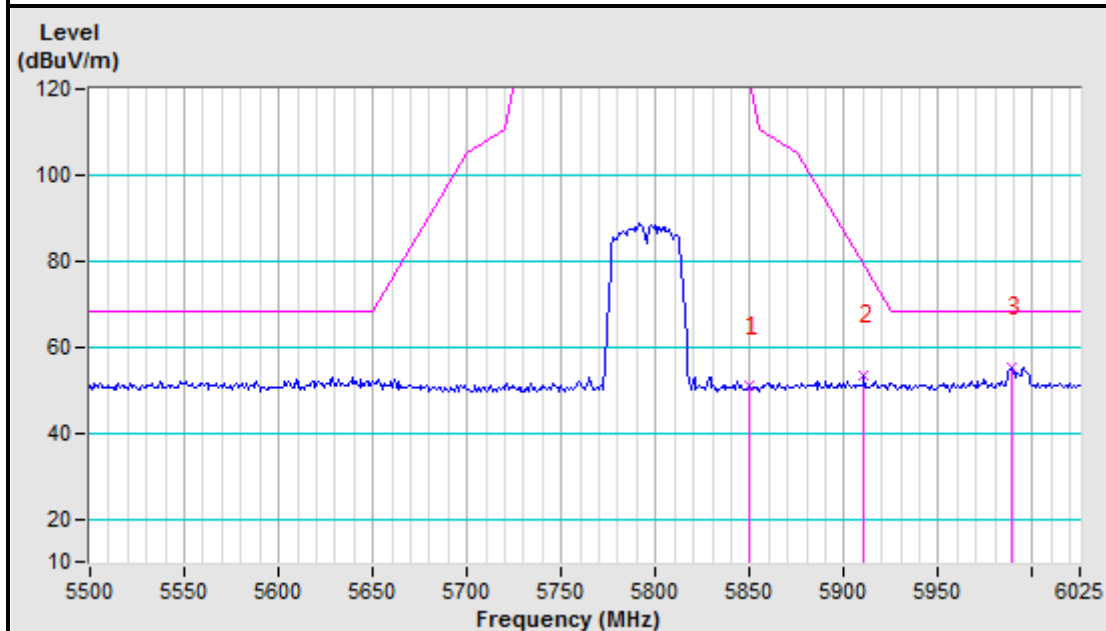
Test Report No.: RF2007WDG0018-4

Band edge Plot

5795MHz Horizontal



5795MHz Vertical





BUREAU VERITAS Test Report No.: RF2007WDG0018-4

802.11ac 80MHz

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5720.43	55.30 PK	111.79	-56.49	1.00 H	354	45.36	9.94
2	#5725.00	52.18 PK	122.20	-70.02	1.00 H	354	42.22	9.96
3	*5775.00	86.10 PK			1.01 H	135	75.96	10.14
4	*5775.00	76.14 AV			1.01 H	135	66.00	10.14
5	#5850.00	50.57 PK	122.20	-71.63	1.00 H	354	40.15	10.42
6	11550.00	59.37 PK	74.00	-14.63	1.00 H	0	38.75	20.62
7	11550.00	45.37 AV	54.00	-8.63	1.00 H	0	24.75	20.62
8	#17325.00	62.37 PK	68.20	-5.83	1.00 H	0	34.94	27.43
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	#5725.00	51.27 PK	122.20	-70.93	1.34 V	155	41.31	9.96
2	*5775.00	86.10 PK			1.01 V	135	75.96	10.14
3	*5775.00	76.14 AV			1.01 V	135	66.00	10.14
4	#5850.00	50.60 PK	122.20	-71.60	1.34 V	155	40.18	10.42
5	#5989.66	54.10 PK	68.20	-14.10	1.34 V	155	43.16	10.94
6	11550.00	59.37 PK	74.00	-14.63	1.00 V	0	38.75	20.62
7	11550.00	45.37 AV	54.00	-8.63	1.00 V	0	24.75	20.62
8	#17325.00	62.37 PK	68.20	-5.83	1.00 V	0	34.94	27.43

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).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

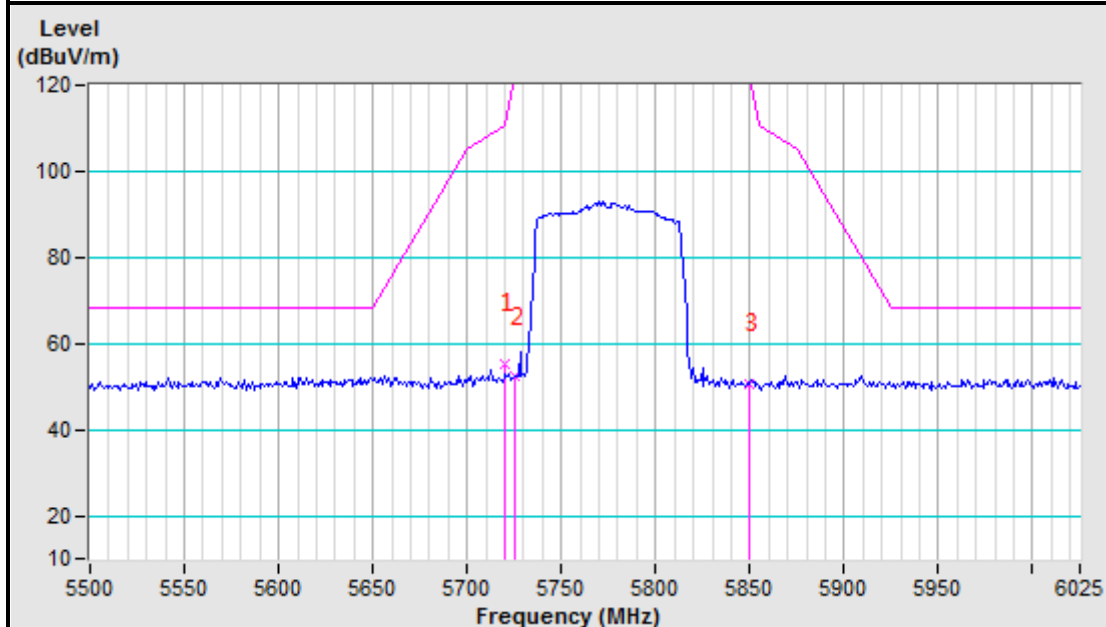


BUREAU
VERITAS

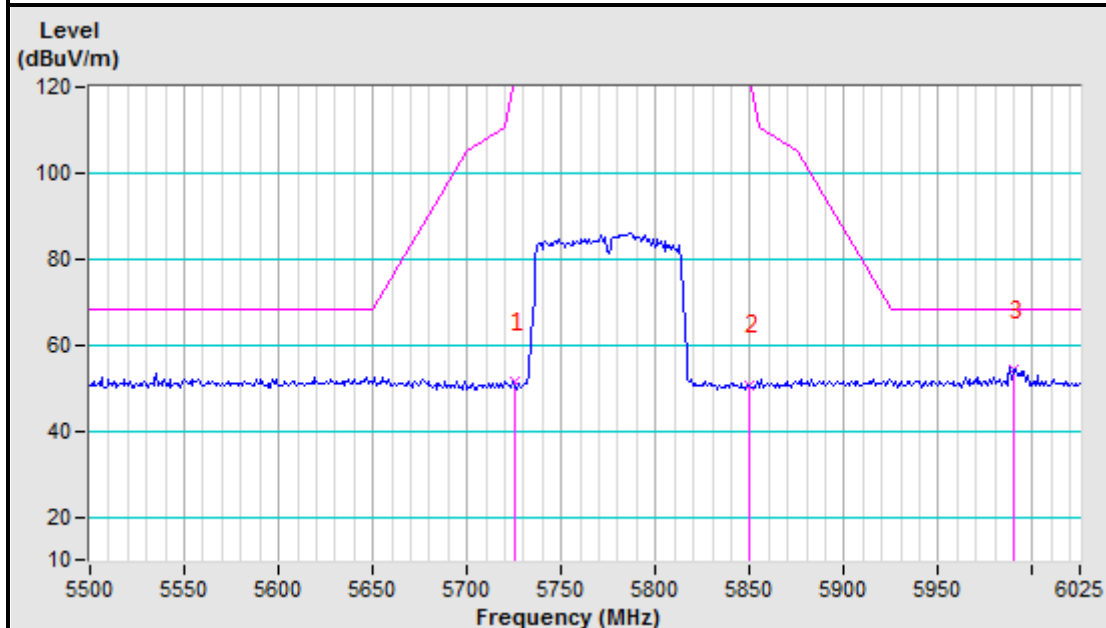
Test Report No.: RF2007WDG0018-4

Band edge Plot

5795MHz Horizontal



5795MHz Vertical





3.2 CONDUCTED EMISSION MEASUREMENT

3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Mar. 17,21
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 17,21
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Mar. 17,21
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Sep. 23,20
Test software	ADT	ADT_Conc_V7.3 .7	N/A	N/A

NOTE:

1. The test was performed in shielded room 553.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.



3.2.3 TEST PROCEDURES

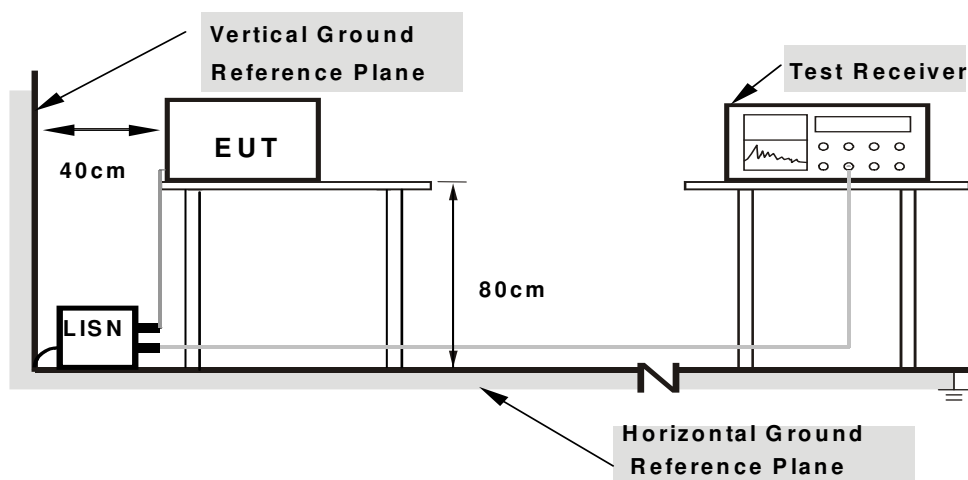
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

3.2.4 DEVIATION FROM TEST STANDARD

No deviation.

3.2.5 TEST SETUP



- Note:** 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

3.2.6 EUT OPERATING CONDITIONS

Same as 3.1.6



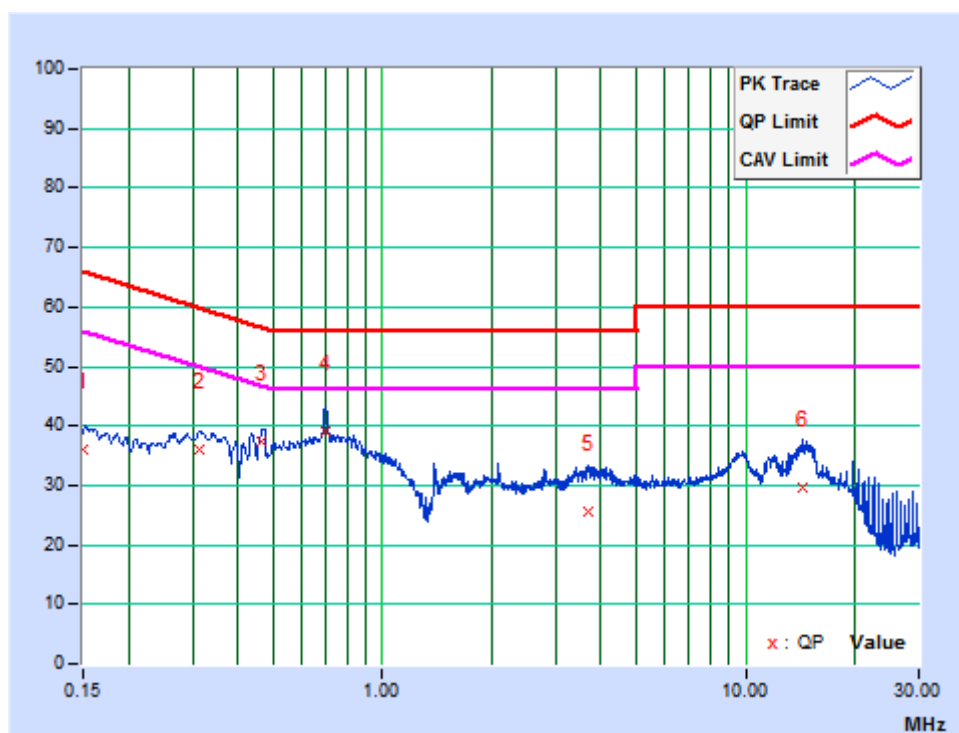
3.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: 802.11a

PHASE	Line	6dB BANDWIDTH	9kHz
-------	------	---------------	------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.79	26.25	20.32	36.04	30.11	66.00	56.00	-29.96	-25.89
2	0.31222	9.78	26.28	20.87	36.06	30.65	59.91	49.91	-23.85	-19.26
3	0.46516	9.79	27.50	23.99	37.29	33.78	56.60	46.60	-19.31	-12.82
4	0.69486	9.81	29.29	24.94	39.10	34.75	56.00	46.00	-16.90	-11.25
5	3.70275	9.85	15.86	8.12	25.71	17.97	56.00	46.00	-30.29	-28.03
6	14.42625	10.14	19.38	12.48	29.52	22.62	60.00	50.00	-30.48	-27.38

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





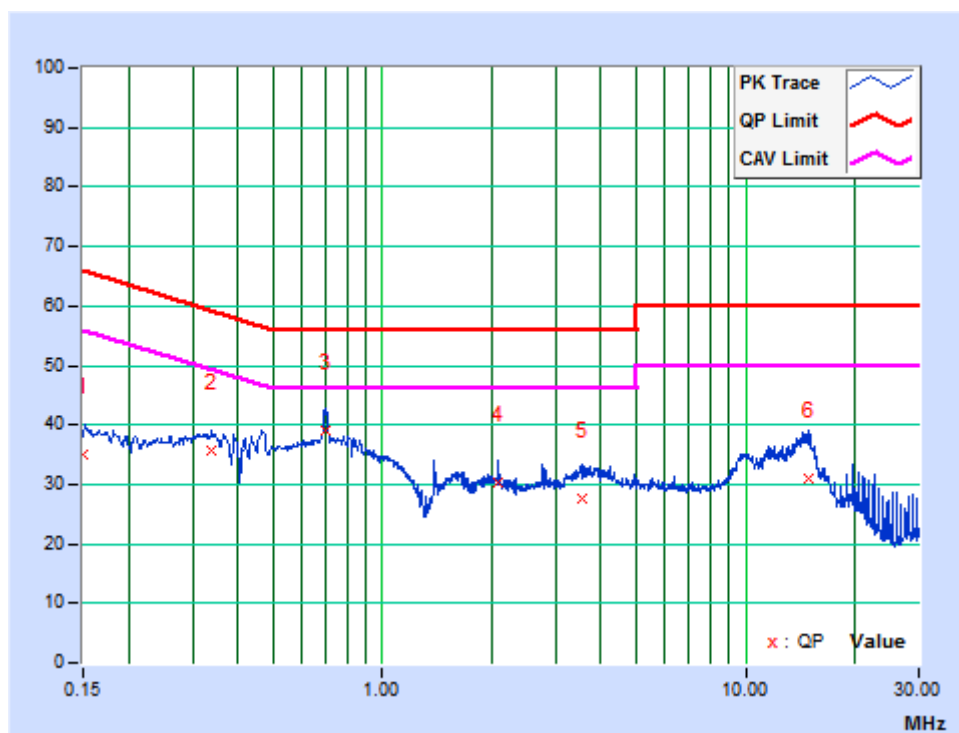
**BUREAU
VERITAS**

Test Report No.: RF2007WDG0018-4

PHASE	Neutral	6dB BANDWIDTH	9kHz
--------------	---------	----------------------	------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.72	25.29	19.42	35.01	29.14	66.00	56.00	-30.99	-26.86
2	0.33885	9.73	26.02	17.94	35.75	27.67	59.23	49.23	-23.48	-21.56
3	0.69450	9.75	29.37	24.30	39.12	34.05	56.00	46.00	-16.88	-11.95
4	2.07861	9.79	20.66	16.32	30.45	26.11	56.00	46.00	-25.55	-19.89
5	3.57000	9.80	17.70	8.57	27.50	18.37	56.00	46.00	-28.50	-27.63
6	14.92350	10.16	20.93	13.65	31.09	23.81	60.00	50.00	-28.91	-26.19

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.





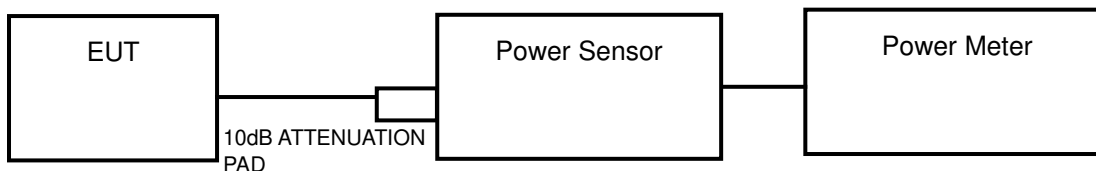
3.3 TRANSMIT POWER MEASUREMENT

3.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

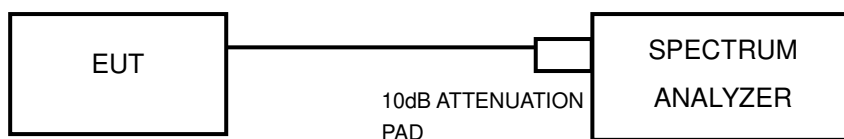
Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client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

NOTE: 1. Where B is the 26dB emission bandwidth in MHz.

3.3.2 TEST SETUP



FOR 6/26dB BANDWIDTH





3.3.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	N/A
Power Sensor	Keysight	U2021XA	MY55060018	Jun. 03,21
Power Meter	Anritsu	ML2495A	1139001	Mar. 17,21
Power Sensor	Anritsu	MA2411B	1531155	Mar. 17,21
Digital Multimeter	FLUKE	15B	A1220010DG	N/A
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Oct. 30,20
Oscilloscope	Agilent	DSO9254A	MY51260160	Sep. 17,20
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Mar. 17,21
Signal Generator	Agilent	N5183A	MY50140980	Sep. 18,20
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Sep. 11,21
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
DC Source	Keysight	E3642A	MY56146098	N/A

NOTES:

1. The test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GREGT/CHINA and NIM/CHINA.

3.3.4 TEST PROCEDURE

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.

FOR 26dB BANDWIDTH

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



FOR 6dB BANDWIDTH

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

3.3.5 DEVIATION FROM TEST STANDARD

No deviation.

3.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



3.3.7 TEST RESULTS

OUTPUT POWER:

802.11a

Chain 0

CHANNEL NUMBER	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)	AVG. CONDUCTED POWER (mW)	LIMIT (dBm)	PASS /FAIL
36	5180	10.53	11.298	24.00	PASS
40	5200	10.62	11.535	24.00	PASS
48	5240	10.86	12.190	24.00	PASS
52	5260	11.05	12.735	24.00	PASS
60	5300	11.36	13.677	24.00	PASS
64	5320	11.53	14.223	24.00	PASS
100	5500	10.34	10.814	24.00	PASS
116	5580	9.98	9.954	24.00	PASS
140	5700	11.70	14.791	24.00	PASS
149	5745	11.22	13.243	30.00	PASS
157	5785	11.51	14.158	30.00	PASS
165	5825	11.62	14.521	30.00	PASS

For Band 2~Band 3: Limit = 11dBm+10log(26 BW)=11+10log(20.09)=24.03dBm > 24dBm

20.09MHz Calculated results correspond to the worst limiting results.

**Chain 1**

CHANNEL NUMBER	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)	AVG. CONDUCTED POWER (mW)	LIMIT (dBm)	PASS /FAIL
36	5180	9.98	9.954	24.00	PASS
40	5200	10.05	10.116	24.00	PASS
48	5240	10.50	11.220	24.00	PASS
52	5260	10.25	10.593	24.00	PASS
60	5300	10.43	11.041	24.00	PASS
64	5320	10.59	11.455	24.00	PASS
100	5500	10.54	11.324	24.00	PASS
116	5580	9.36	8.630	24.00	PASS
140	5700	10.03	10.069	24.00	PASS
149	5745	9.09	8.110	30.00	PASS
157	5785	8.73	7.464	30.00	PASS
165	5825	9.54	8.995	30.00	PASS

For Band 2~Band 3: Limit = 11dBm+10log(26 BW)=11+10log(20.08)=24.03dBm > 24dBm

20.08MHz Calculated results correspond to the worst limiting results.



802.11n (20MHz)

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)		AVG. CONDUCTED POWER (mW)		Total Max. power output		LIMIT (dBm)	PASS /FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
36	5180	6.26	6.45	4.227	4.416	8.643	9.37	23.68	PASS
40	5200	6.31	6.58	4.276	4.55	8.826	9.46	23.68	PASS
48	5240	6.54	6.69	4.508	4.667	9.175	9.63	23.68	PASS
52	5260	6.79	6.80	4.775	4.786	9.561	9.81	23.88	PASS
60	5300	7.07	7.11	5.093	5.14	10.233	10.10	23.88	PASS
64	5320	7.18	7.09	5.224	5.117	10.341	10.15	23.88	PASS
100	5500	6.06	7.17	4.036	5.212	9.248	9.66	23.56	PASS
120	5600	5.88	7.13	3.873	5.164	9.037	9.56	23.56	PASS
140	5700	6.96	6.93	4.966	4.932	9.898	9.96	23.56	PASS
149	5745	6.33	6.14	4.295	4.111	8.406	9.25	29.57	PASS
157	5785	6.77	6.24	4.753	4.207	8.96	9.52	29.57	PASS
165	5825	7.16	5.85	5.2	3.846	9.046	9.56	29.57	PASS

For Band 2~Band 3: Limit = 11dBm+10log(26 BW)=11+10log(20.09)=24.03dBm > 24dBm

20.09MHz Calculated results correspond to the worst limiting results.

Notes:

For U-NII-1

1. Directional gain= 3.31 + 10*log(2) =6.32dBi, more than 6dBi, so the power limit need to reduce 0.32dBi.

For U-NII-2A

2. Directional gain= 3.11 + 10*log(2) =6.12dBi, more than 6dBi, so the power limit need to reduce 0.12dBi.

For U-NII-2C

3. Directional gain= 3.43 + 10*log(2) =6.44dBi, more than 6dBi, so the power limit need to reduce 0.44dBi.

For U-NII-3

4. Directional gain= 3.42 + 10*log(2) =6.43dBi, more than 6dBi, so the power limit need to reduce 0.43dBi.



802.11n (40MHz)

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)		AVG. CONDUCTED POWER (mW)		Total Max. power output		LIMIT (dBm)	PASS /FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
38	5190	5.48	5.39	3.532	3.459	6.991	8.45	23.68	PASS
46	5230	5.73	5.37	3.741	3.443	7.184	8.56	23.68	PASS
54	5270	6.01	5.62	3.99	3.648	7.638	8.83	23.88	PASS
62	5310	6.48	5.66	4.446	3.681	8.127	9.10	23.88	PASS
102	5510	5.23	5.78	3.334	3.784	7.118	8.52	23.56	PASS
118	5590	4.98	5.66	3.148	3.681	6.829	8.34	23.56	PASS
134	5670	5.49	5.39	3.54	3.459	6.999	8.45	23.56	PASS
151	5755	6.78	4.96	4.764	3.133	7.897	8.97	29.57	PASS
159	5795	7.02	5.61	5.035	3.639	8.674	9.38	29.57	PASS

For Band 2~Band 3: Limit = $11\text{dBm} + 10\log(26\text{ BW}) = 11 + 10\log(41.35) = 27.16\text{dBm} > 24\text{dBm}$

41.35MHz Calculated results correspond to the worst limiting results.

Notes:

For U-NII-1

1. Directional gain = $3.31 + 10 \cdot \log(2) = 6.32\text{dBi}$, more than 6dBi, so the power limit need to reduce 0.32dBi.

For U-NII-2A

2. Directional gain = $3.11 + 10 \cdot \log(2) = 6.12\text{dBi}$, more than 6dBi, so the power limit need to reduce 0.12dBi.

For U-NII-2C

3. Directional gain = $3.43 + 10 \cdot \log(2) = 6.44\text{dBi}$, more than 6dBi, so the power limit need to reduce 0.44dBi.

For U-NII-3

4. Directional gain = $3.42 + 10 \cdot \log(2) = 6.43\text{dBi}$, more than 6dBi, so the power limit need to reduce 0.43dBi.



802.11ac (80MHz)

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)		AVG. CONDUCTED POWER (mW)		Total Max. power output		LIMIT (dBm)	PASS /FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
42	5210	5.83	5.12	3.828	3.251	7.079	8.50	23.68	PASS
58	5290	6.49	5.54	4.457	3.581	8.038	9.05	23.88	PASS
106	5530	5.23	5.77	3.334	3.776	7.11	8.52	23.56	PASS
122	5610	5.04	5.68	3.192	3.698	6.89	8.38	23.56	PASS
155	5775	6.90	5.29	4.898	3.381	8.279	9.18	29.57	PASS

For Band 2~Band 3: Limit = 11dBm+10log(26 BW)=11+10log(81.63)=30.12dBm > 24dBm

81.63MHz Calculated results correspond to the worst limiting results.

Notes:

For U-NII-1

1. Directional gain= 3.31 + 10*log(2) =6.32dBi, more than 6dBi, so the power limit need to reduce 0.32dBi.

For U-NII-2A

2. Directional gain= 3.11 + 10*log(2) =6.12dBi, more than 6dBi, so the power limit need to reduce 0.12dBi.

For U-NII-2C

3. Directional gain= 3.43 + 10*log(2) =6.44dBi, more than 6dBi, so the power limit need to reduce 0.44dBi.

For U-NII-3

4. Directional gain= 3.42 + 10*log(2) =6.43dBi, more than 6dBi, so the power limit need to reduce 0.43dBi.

**26dB BANDWIDTH:****802.11a**

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
36	5180	20.16	20.11	PASS
40	5200	20.16	20.17	PASS
48	5240	20.18	20.18	PASS
52	5260	20.23	20.08	PASS
60	5300	20.26	20.16	PASS
64	5320	20.17	20.03	PASS
100	5500	20.16	20.12	PASS
132	5660	20.09	20.17	PASS
140	5700	20.28	20.23	PASS

802.11n (20MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
36	5180	20.48	20.15	PASS
40	5200	20.45	20.12	PASS
48	5240	20.47	20.11	PASS
52	5260	20.47	20.12	PASS
60	5300	20.50	20.13	PASS
64	5320	20.46	20.11	PASS
100	5500	20.54	20.11	PASS
132	5660	20.53	20.09	PASS
140	5700	20.50	20.11	PASS

**802.11n (40MHz)**

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
38	5190	41.60	41.49	PASS
46	5230	41.54	41.32	PASS
54	5270	41.58	41.42	PASS
62	5310	41.58	41.35	PASS
102	5510	41.77	41.47	PASS
110	5550	41.59	41.47	PASS
134	5670	41.56	41.48	PASS

802.11ac (80MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
42	5210	81.93	81.20	PASS
58	5290	81.72	81.97	PASS
106	5530	82.15	81.63	PASS
122	5610	82.07	82.04	PASS

**6dB BANDWIDTH For 5725-5850MHz****802.11a**

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
149	5745	15.18	15.16	PASS
157	5785	15.19	15.18	PASS
165	5825	15.17	15.16	PASS

802.11n (20M)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
149	5745	15.18	16.36	PASS
157	5785	15.19	16.37	PASS
165	5825	15.19	16.36	PASS

802.11n (40M)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
151	5755	35.31	35.33	PASS
159	5795	35.31	35.48	PASS

802.11ac (80MHz)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
155	5775	76.81	76.82	PASS

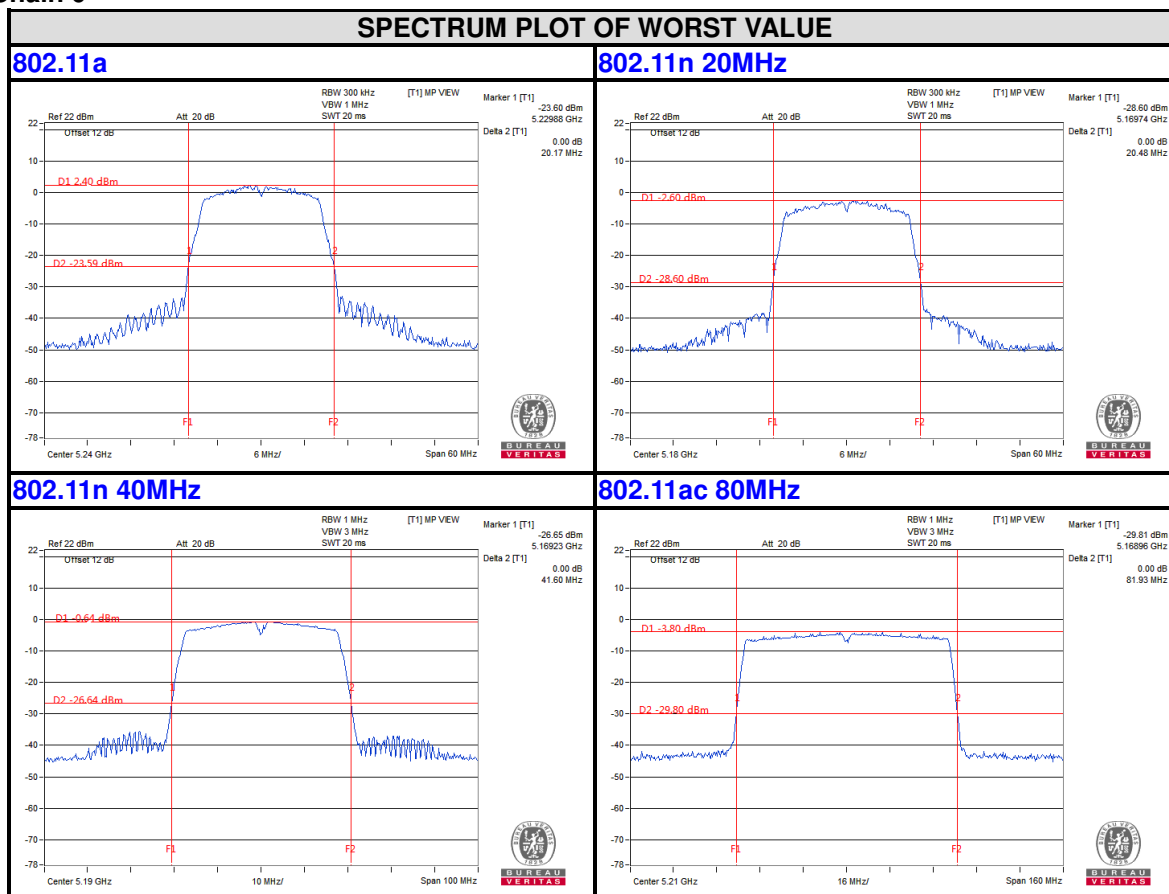


BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

26dB bandwidth Test Plot
For 5150-5250MHz worst plot

Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

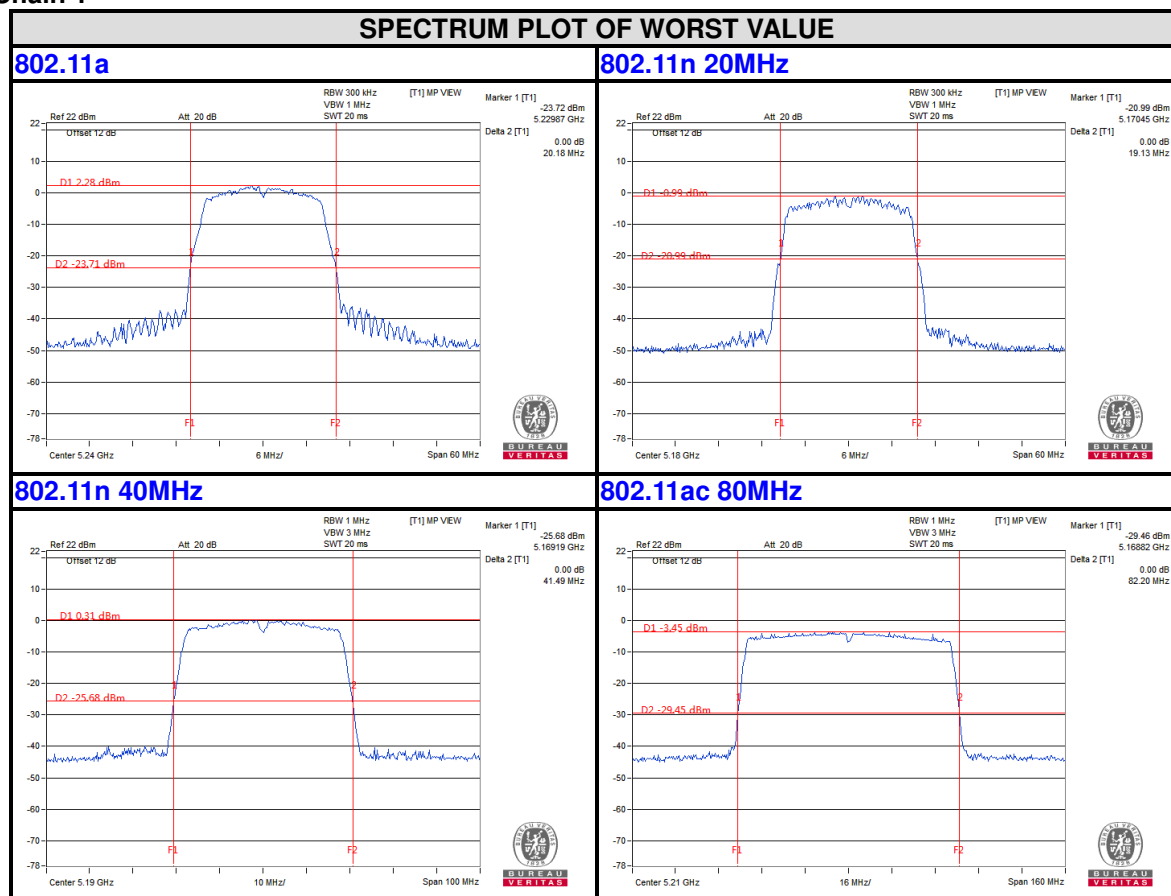
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1





BUREAU
VERITAS

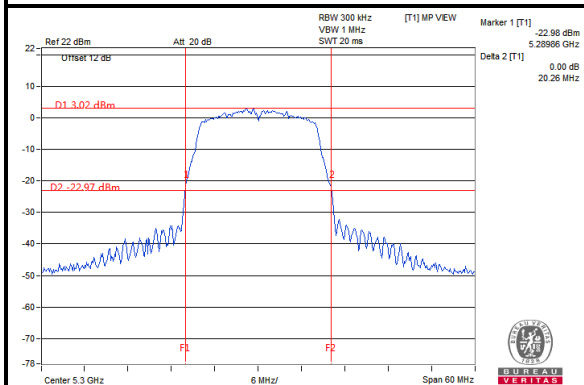
Test Report No.: RF2007WDG0018-4

For 5250-5350MHz

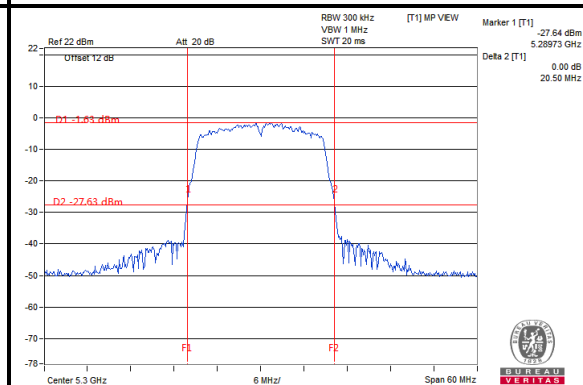
Chain 0

SPECTRUM PLOT OF WORST VALUE

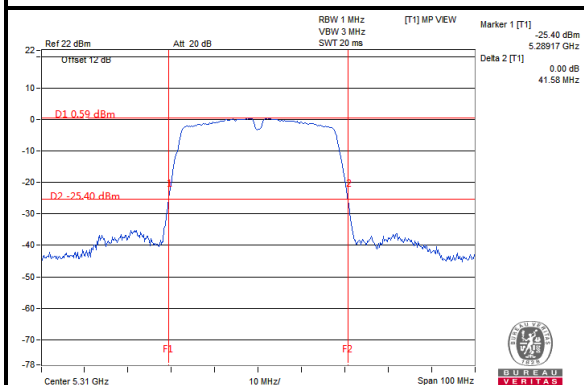
802.11a



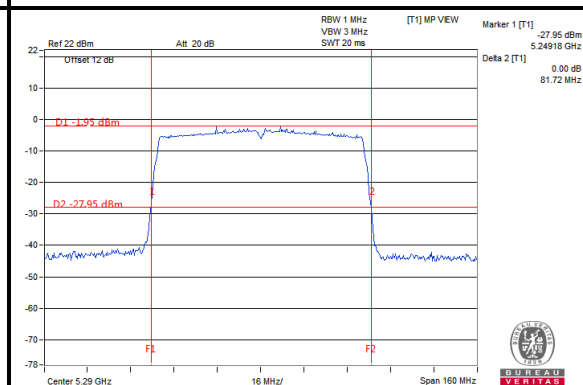
802.11n 20MHz



802.11n 40MHz



802.11ac 80MHz



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

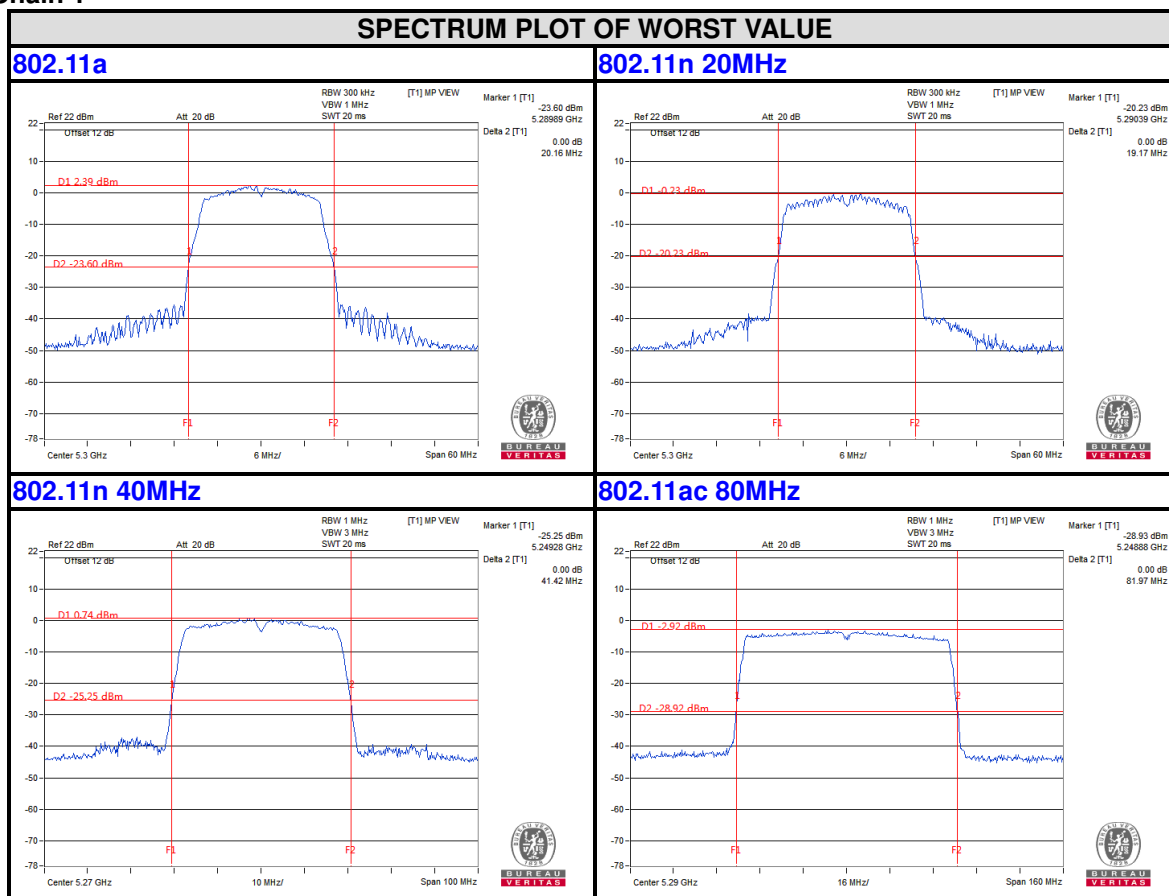
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

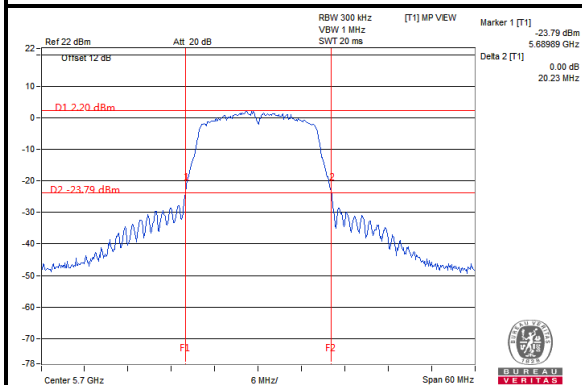
Test Report No.: RF2007WDG0018-4

For 5470-5725MHz

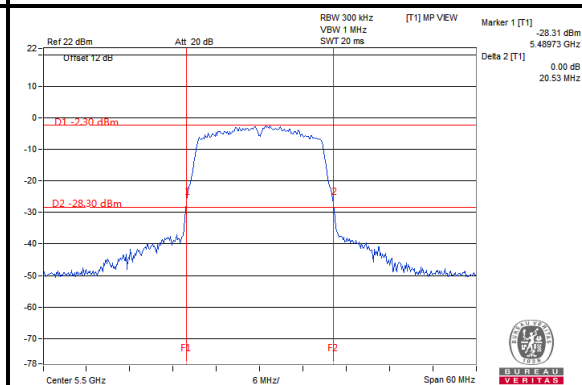
Chain 0

SPECTRUM PLOT OF WORST VALUE

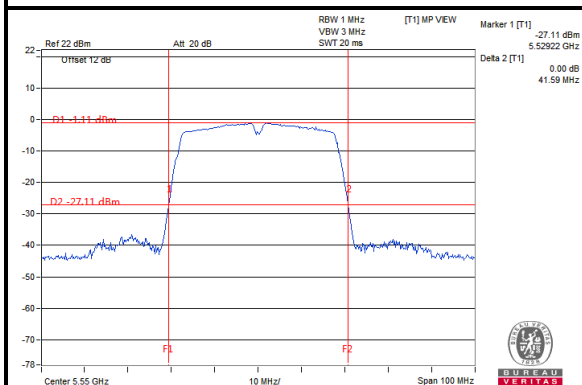
802.11a



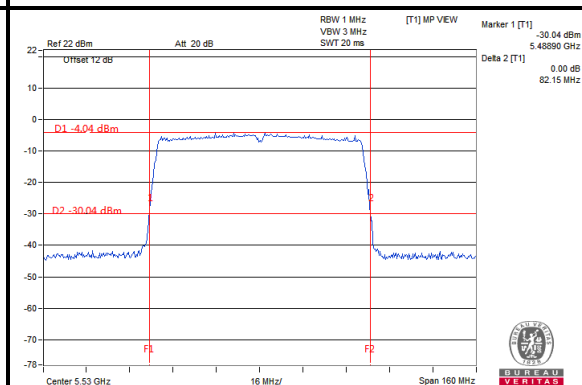
802.11n 20MHz



802.11n 40MHz



802.11ac 80MHz



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



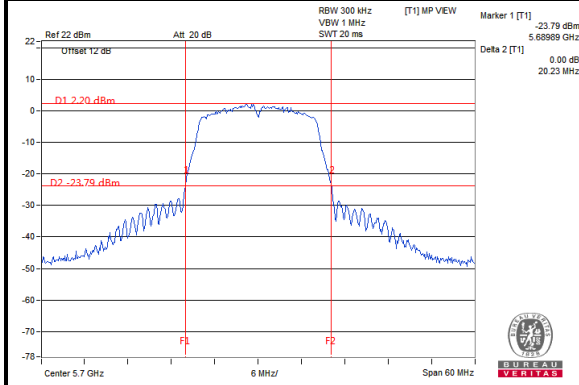
BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

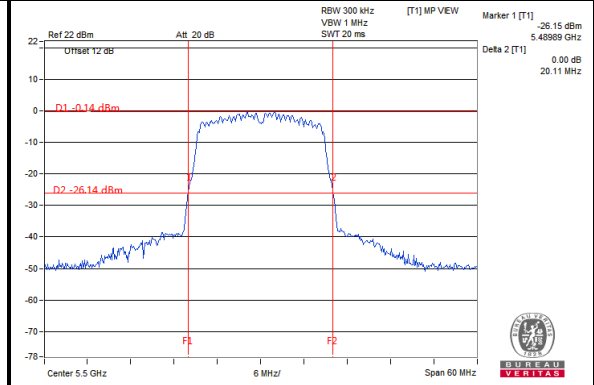
Chain 1

SPECTRUM PLOT OF WORST VALUE

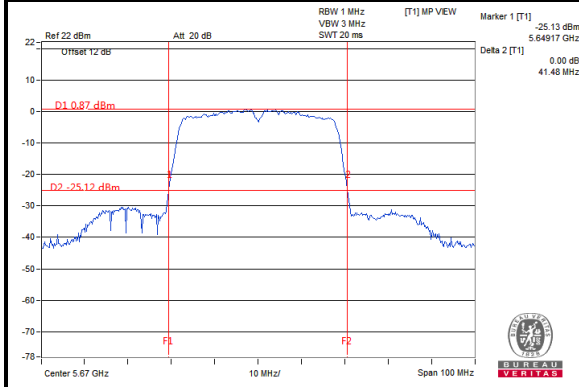
802.11a



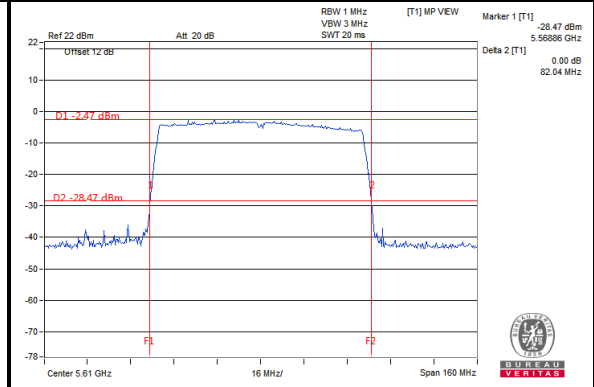
802.11n 20MHz



802.11n 40MHz



802.11ac 80MHz



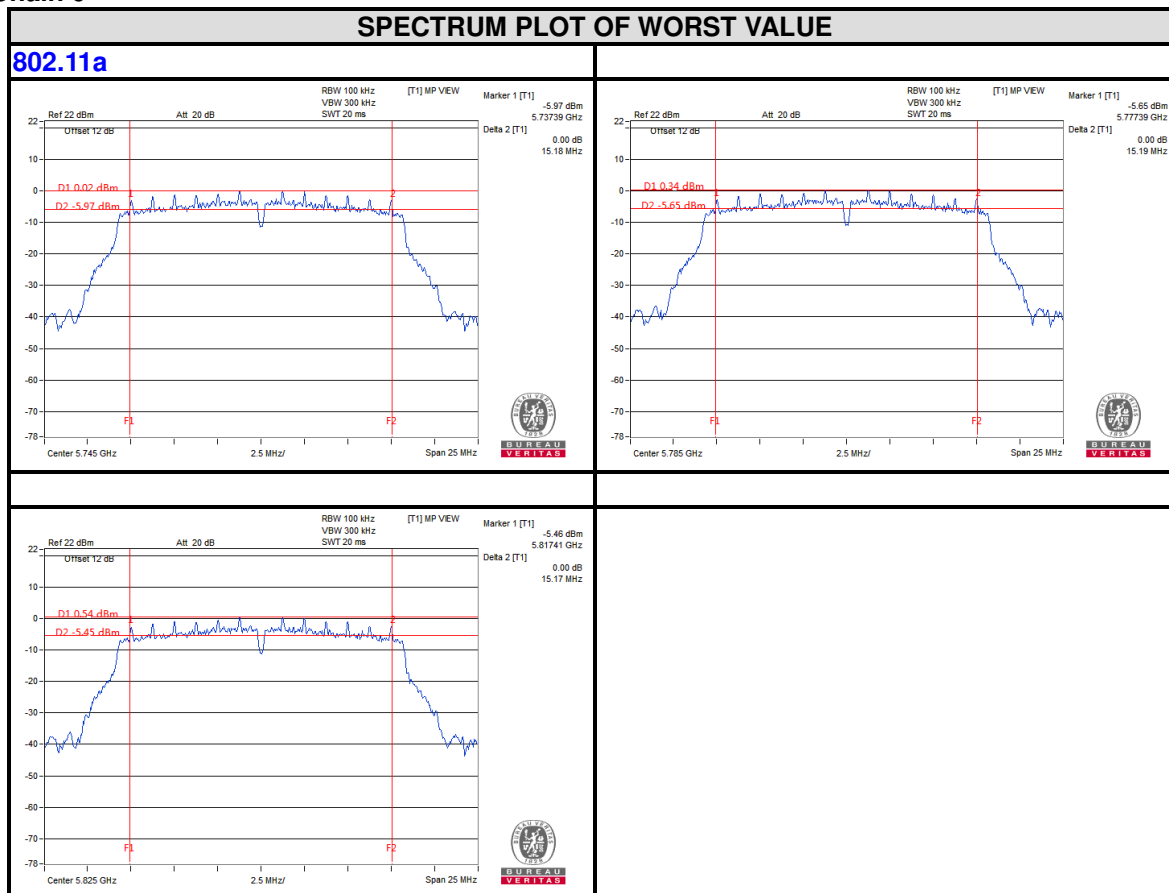


BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

6dB BANDWIDTH For 5725-5850MHz

Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



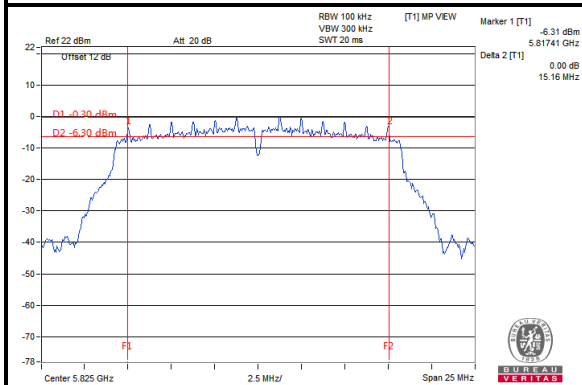
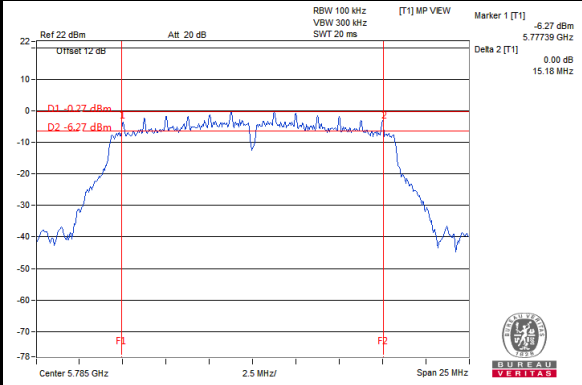
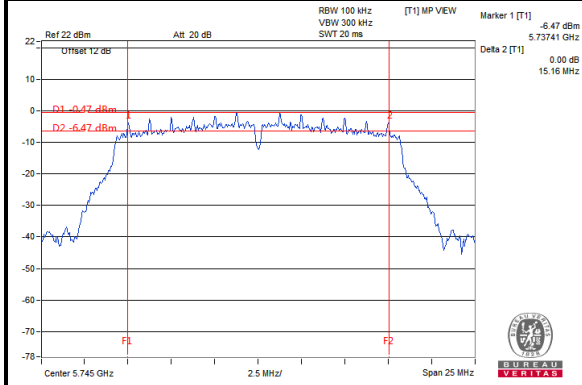
BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1

SPECTRUM PLOT OF WORST VALUE

802.11a

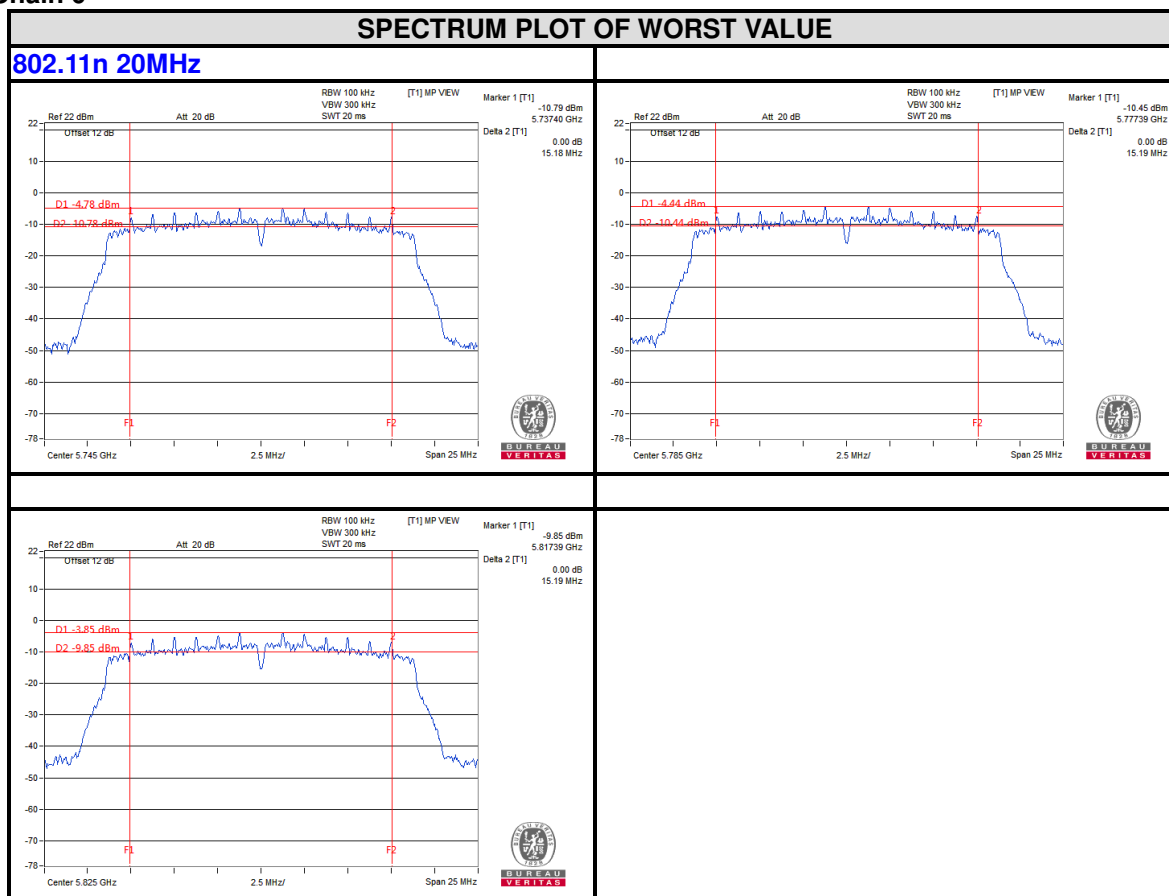




BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

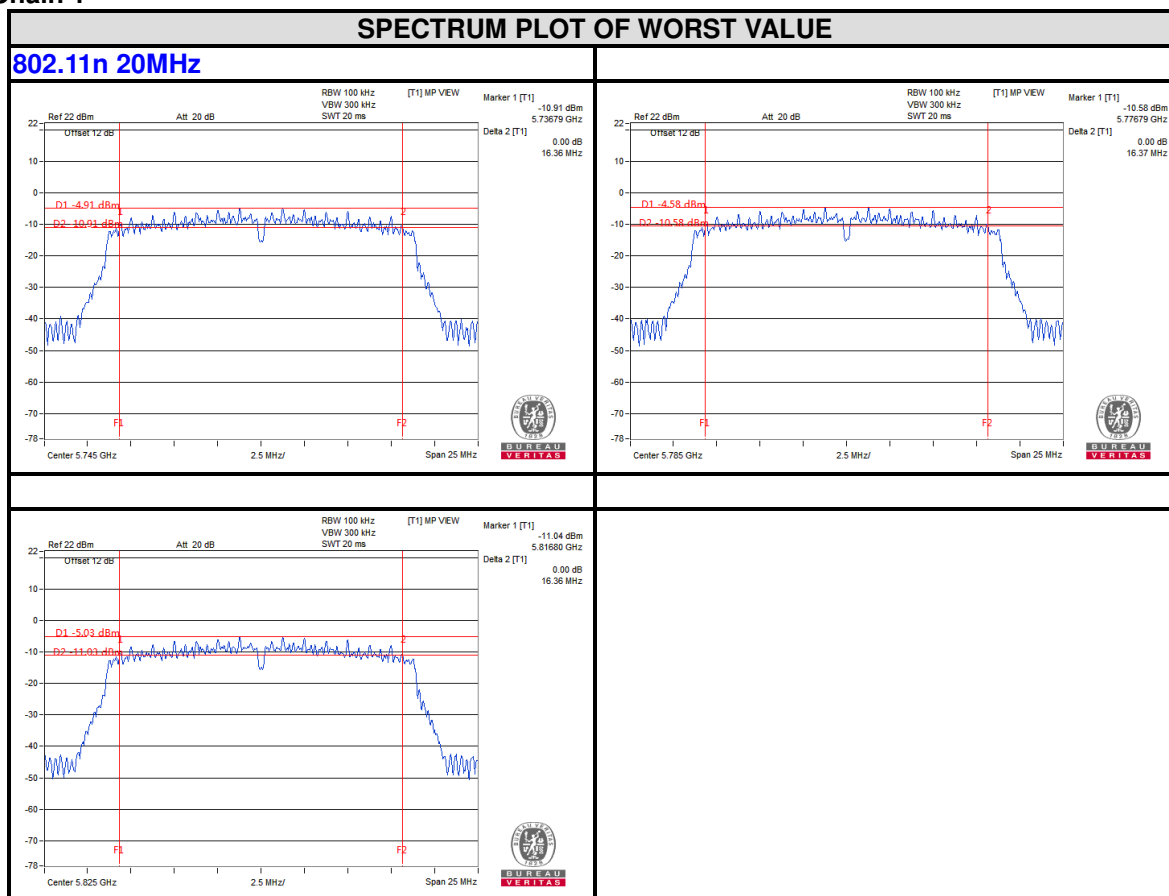
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

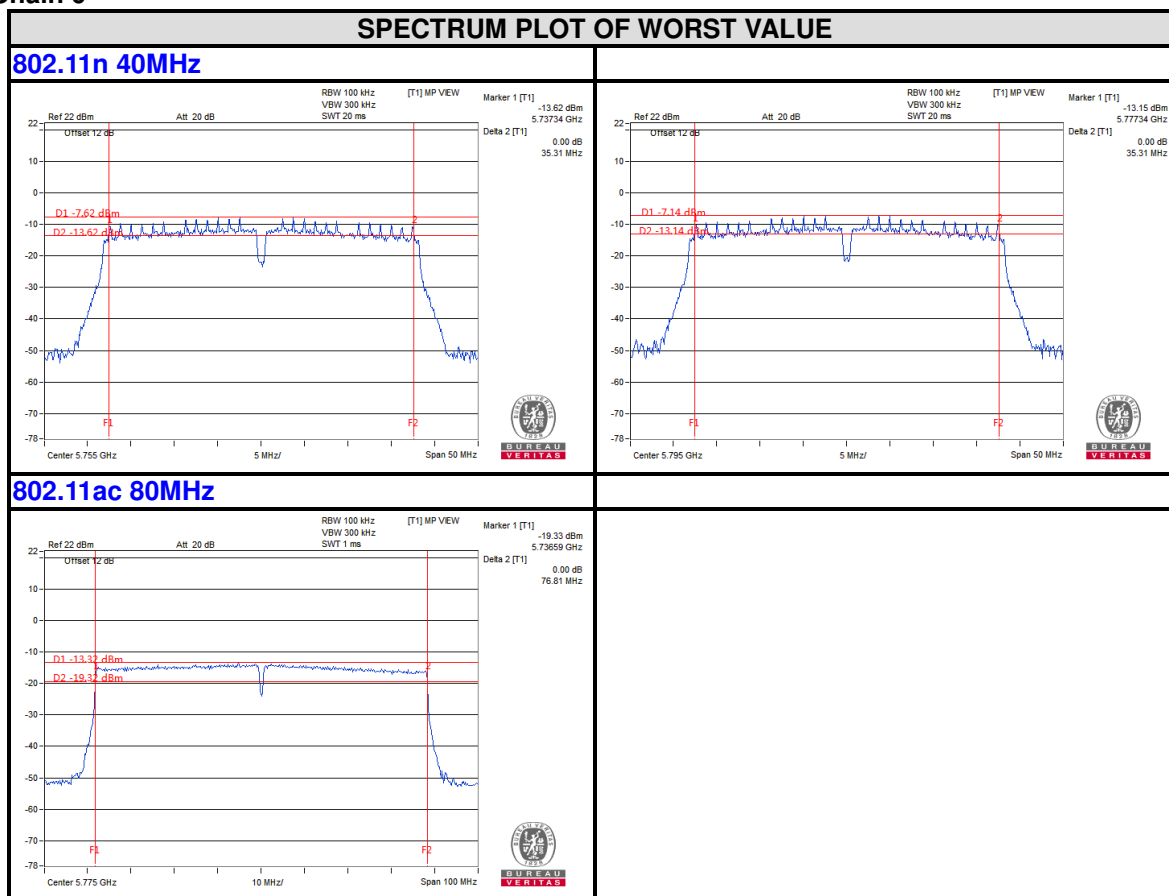
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



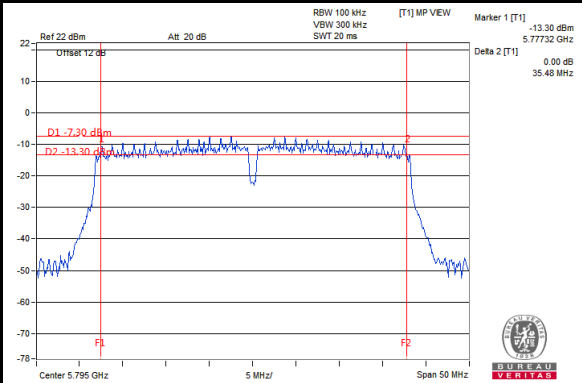
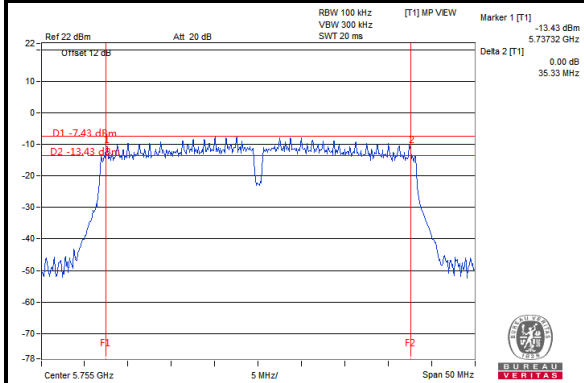
BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

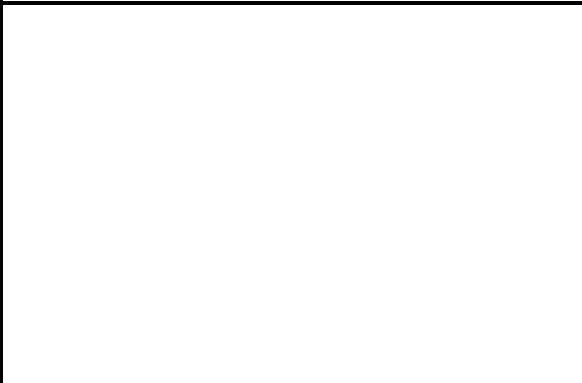
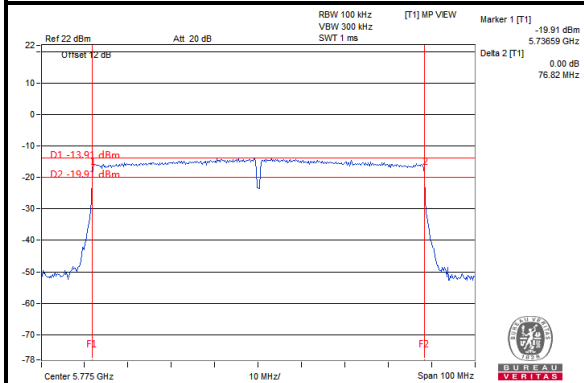
Chain 1

SPECTRUM PLOT OF WORST VALUE

802.11n 40MHz



802.11ac 80MHz



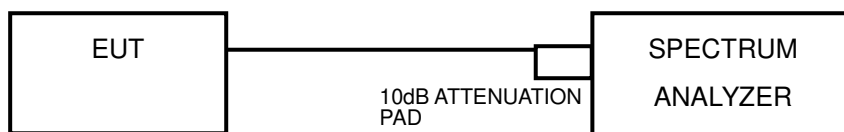


3.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

3.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.

3.4.4 TEST PROCEDURES

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

Using method SA-2

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



For U-NII-3 band:

Using method SA-2

- 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) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value and add 10 log (1/duty cycle)

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

Same as 3.3.6



3.4.7 TEST RESULTS

For U-NII-1, U-NII-2A & U-NII-2C, For U-NII-3:
802.11a

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		RF Power Level in 1MHz BW (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
36	5180	-1.95	-2.36	0.6383	0.5808	/	/	11.00	PASS
40	5200	-1.67	-2.06	0.6808	0.6223	/	/	11.00	PASS
48	5240	-1.63	-1.84	0.6871	0.6546	/	/	11.00	PASS
52	5260	-1.34	-1.82	0.7345	0.6577	/	/	11.00	PASS
60	5300	-1.00	-1.62	0.7943	0.6887	/	/	11.00	PASS
64	5320	-0.77	-1.63	0.8375	0.6871	/	/	11.00	PASS
100	5500	-1.93	-1.70	0.6412	0.6761	/	/	11.00	PASS
120	5600	-2.39	-1.48	0.5768	0.7112	/	/	11.00	PASS
140	5700	-0.45	-1.73	0.9016	0.6714	/	/	11.00	PASS

Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		Total PSD (dBm/500kHz)	MAX. Limit (dBm/500k)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1			
149	5745	-9.80	-10.33	-7.58	-8.11	/	30.00	PASS
157	5785	-9.71	-10.29	-7.49	-8.07	/	30.00	PASS
165	5825	-9.43	-10.31	-7.21	-8.09	/	30.00	PASS

Note: Refer to section 2.3 for duty cycle spectrum plot.



802.11n (20MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		RF Power Level in 1MHz BW (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
36	5180	-6.49	-6.40	0.2244	0.2291	0.4535	-3.43	10.68	PASS
40	5200	-6.38	-6.29	0.2301	0.2350	0.4651	-3.32	10.68	PASS
48	5240	-6.29	-5.77	0.2350	0.2649	0.4999	-3.01	10.68	PASS
52	5260	-5.86	-5.93	0.2594	0.2553	0.5147	-2.88	10.88	PASS
60	5300	-5.60	-5.79	0.2754	0.2636	0.5390	-2.68	10.88	PASS
64	5320	-5.36	-5.81	0.2911	0.2624	0.5535	-2.57	10.88	PASS
100	5500	-6.59	-5.81	0.2193	0.2624	0.4817	-3.17	10.56	PASS
120	5600	-6.98	-5.54	0.2004	0.2793	0.4797	-3.19	10.56	PASS
140	5700	-5.64	-5.97	0.2729	0.2529	0.5258	-2.79	10.56	PASS

Notes: Refer to section 2.3 for duty cycle spectrum plot.

For U-NII-1

1. Directional gain= $3.31 + 10 \cdot \log(2) = 6.32\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.32dBi.

For U-NII-2A

2. Directional gain= $3.11 + 10 \cdot \log(2) = 6.12\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.12dBi.

For U-NII-2C

3. Directional gain= $3.43 + 10 \cdot \log(2) = 6.44\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.44dBi.

Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		Total PSD (dBm/500kHz)		MAX. Limit (dBm/500k)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
149	5745	-15.15	-14.23	-12.93	-12.01	0.1139	-9.44	29.57	PASS
157	5785	-14.67	-14.12	-12.45	-11.90	0.1215	-9.16	29.57	PASS
165	5825	-14.16	-14.43	-11.94	-12.21	0.1241	-9.06	29.57	PASS

Note: Refer to section 2.3 for duty cycle spectrum plot.

For U-NII-3

1. Directional gain= $3.42 + 10 \cdot \log(2) = 6.43\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.43dBi.



802.11n (40MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		RF Power Level in 1MHz BW (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
38	5190	-11.03	-10.95	0.0789	0.0804	0.1593	-7.98	10.68	PASS
46	5230	-10.75	-10.60	0.0841	0.0871	0.1712	-7.66	10.68	PASS
54	5270	-10.48	-10.41	0.0895	0.0910	0.1805	-7.44	10.88	PASS
62	5310	-10.17	-10.50	0.0962	0.0891	0.1853	-7.32	10.88	PASS
102	5510	-11.21	-10.41	0.0757	0.0910	0.1667	-7.78	10.56	PASS
118	5590	-11.51	-10.29	0.0706	0.0935	0.1641	-7.85	10.56	PASS
134	5670	-11.04	-10.50	0.0787	0.0891	0.1678	-7.75	10.56	PASS

Notes: Refer to section 2.3 for duty cycle spectrum plot.

For U-NII-1

1. Directional gain= $3.31 + 10 \cdot \log(2) = 6.32\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.32dBi.

For U-NII-2A

2. Directional gain= $3.11 + 10 \cdot \log(2) = 6.12\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.12dBi.

For U-NII-2C

3. Directional gain= $3.43 + 10 \cdot \log(2) = 6.44\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.44dBi.

Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		Total PSD (dBm/500kHz)		MAX. Limit (dBm/500k)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
151	5755	-19.06	-18.94	-16.84	-16.72	0.0420	-13.77	29.57	PASS
159	5795	-18.65	-18.57	-16.43	-16.35	0.0459	-13.38	29.57	PASS

Note: Refer to section 2.3 for duty cycle spectrum plot.

For U-NII-3

1. Directional gain= $3.42 + 10 \cdot \log(2) = 6.43\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.43dBi.



802.11ac (80MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		RF Power Level in 1MHz BW (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
42	5210	-14.23	-13.74	0.0378	0.0423	0.0801	-10.96	10.68	PASS
58	5290	-13.21	-13.38	0.0478	0.0459	0.0937	-10.28	10.88	PASS
106	5530	-14.62	-13.09	0.0345	0.0491	0.0836	-10.78	10.56	PASS
122	5610	-14.88	-13.02	0.0325	0.0499	0.0824	-10.84	10.56	PASS

Notes: Refer to section 2.3 for duty cycle spectrum plot.

For U-NII-1

1. Directional gain= $3.31 + 10 \cdot \log(2) = 6.32\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.32dBi.

For U-NII-2A

2. Directional gain= $3.11 + 10 \cdot \log(2) = 6.12\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.12dBi.

For U-NII-2C

3. Directional gain= $3.43 + 10 \cdot \log(2) = 6.44\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.44dBi.

Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		Total PSD (dBm/500kHz)		MAX. Limit (dBm/500k)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1		
155	5775	-22.15	-22.32	-19.93	-20.10	0.0199	-17.00	29.57	PASS

Note: Refer to section 2.3 for duty cycle spectrum plot.

For U-NII-3

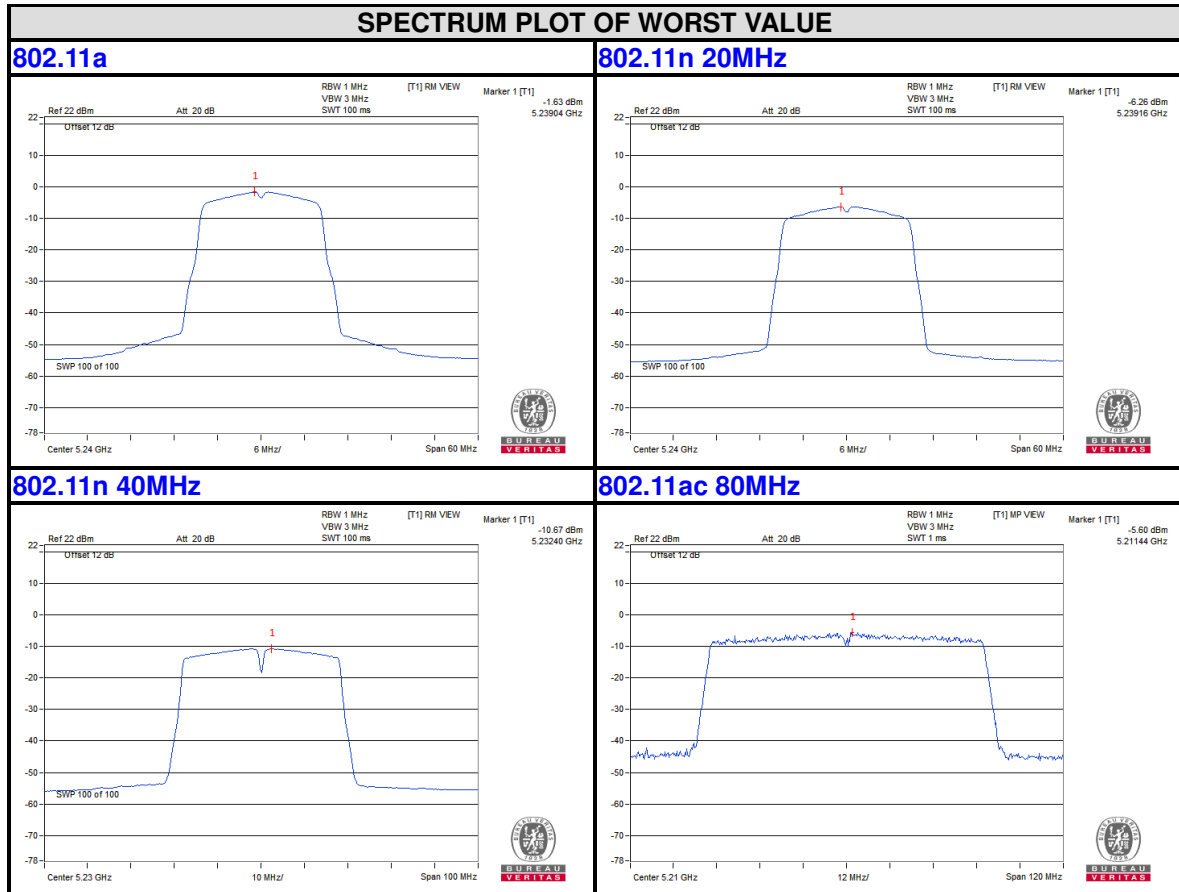
1. Directional gain= $3.42 + 10 \cdot \log(2) = 6.43\text{dBi}$, more than 6dBi, so the power density limit need to reduce 0.43dBi.



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

PSD Test Plot
BAND 1
5150-5250MHz
Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

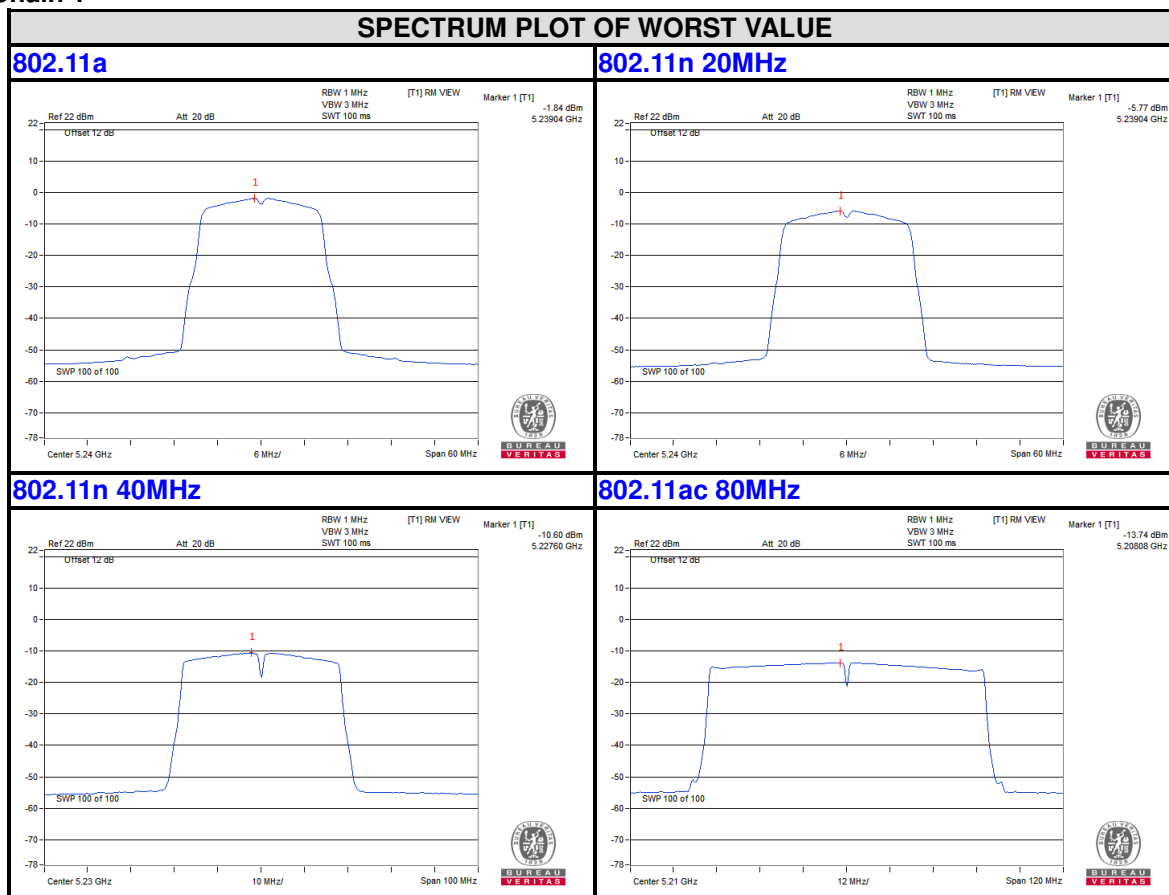
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

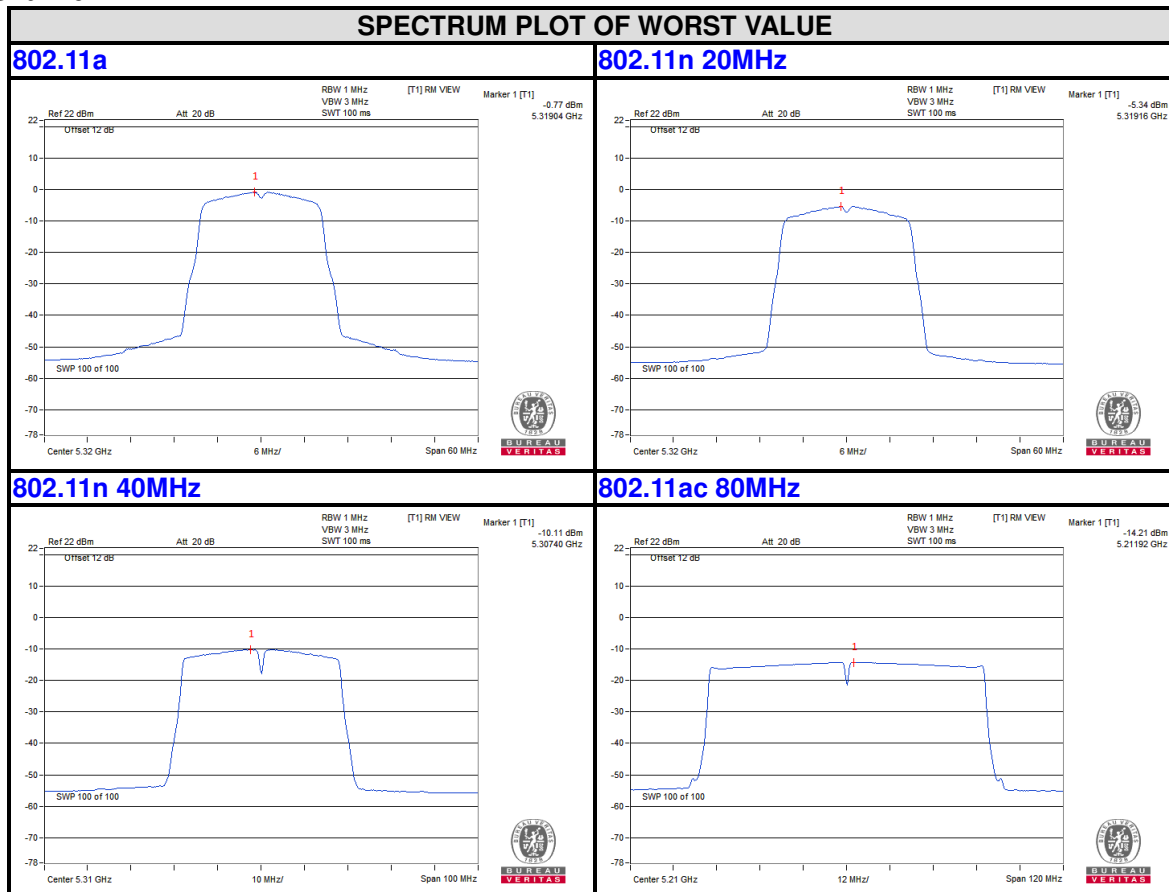
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

BAND 2
5250-5350MHz
Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

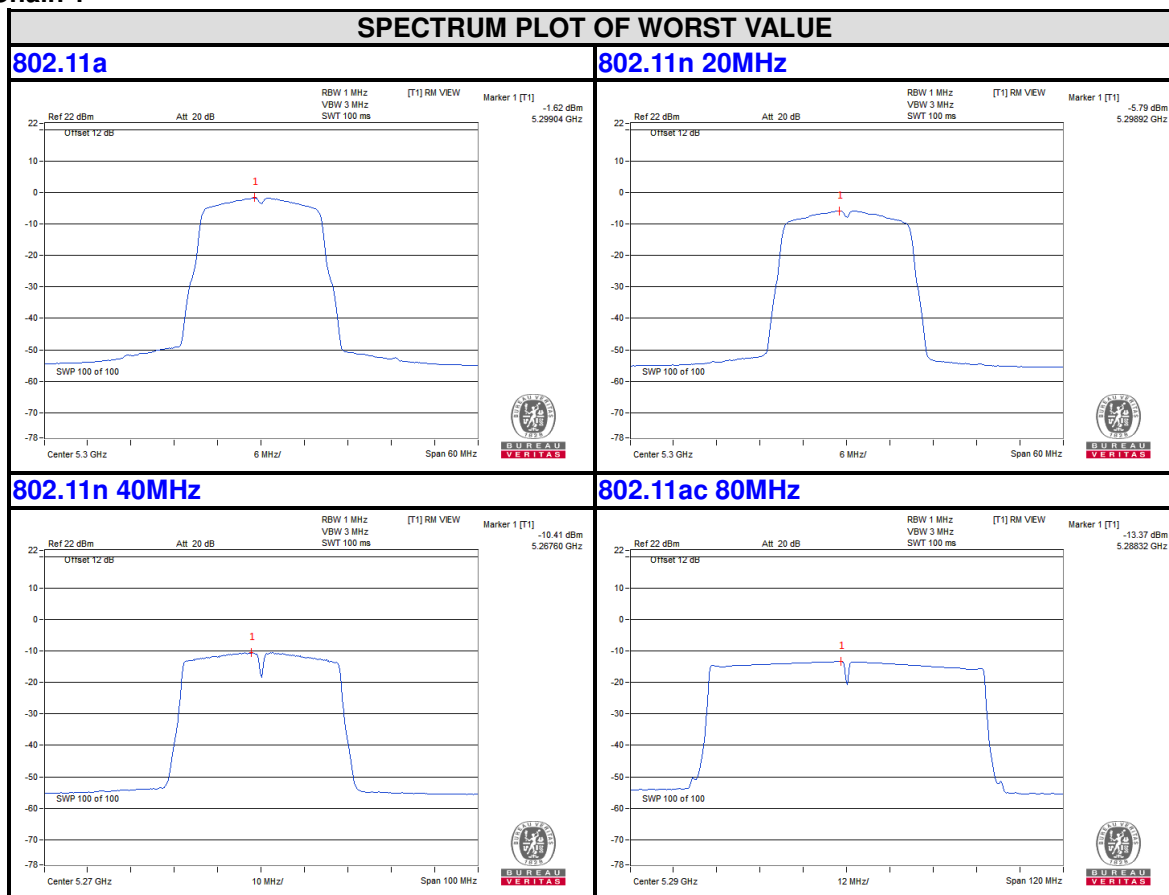
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

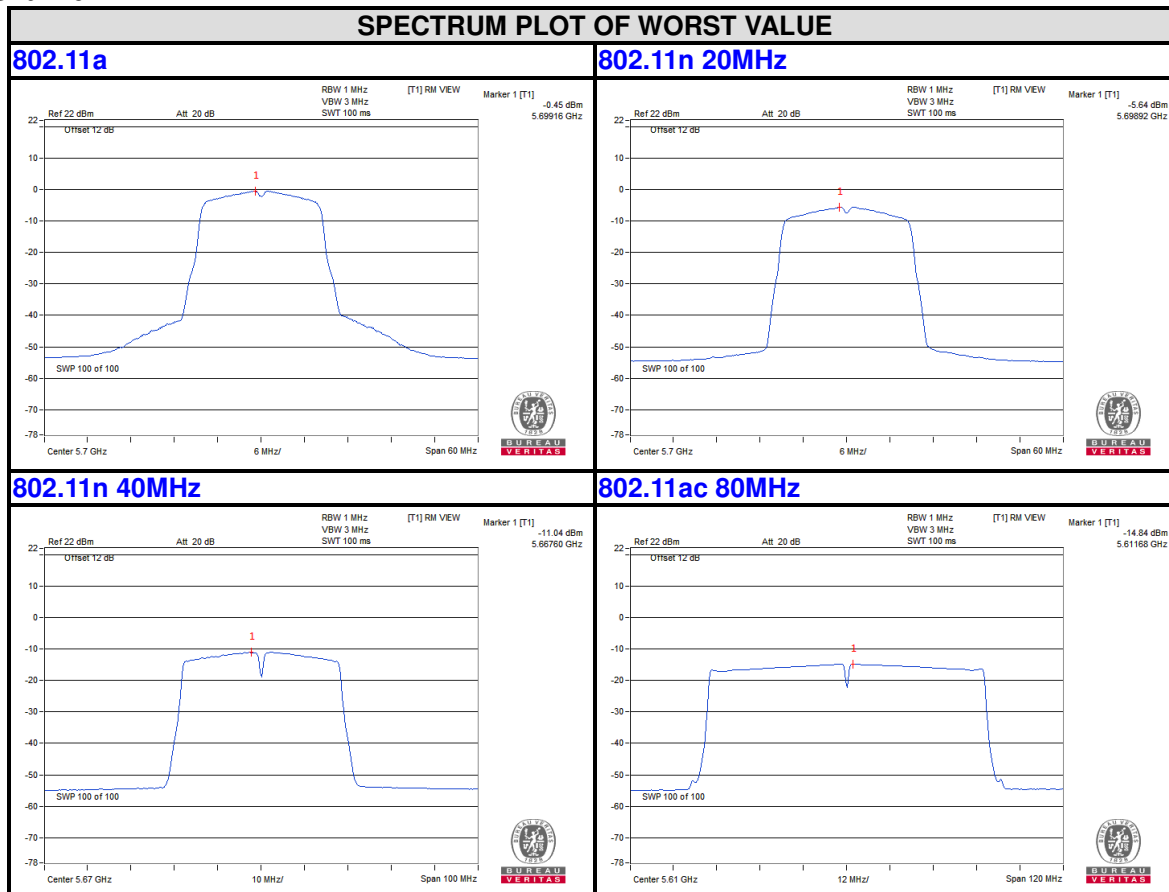
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

BAND 3
5470-5725MHz
Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

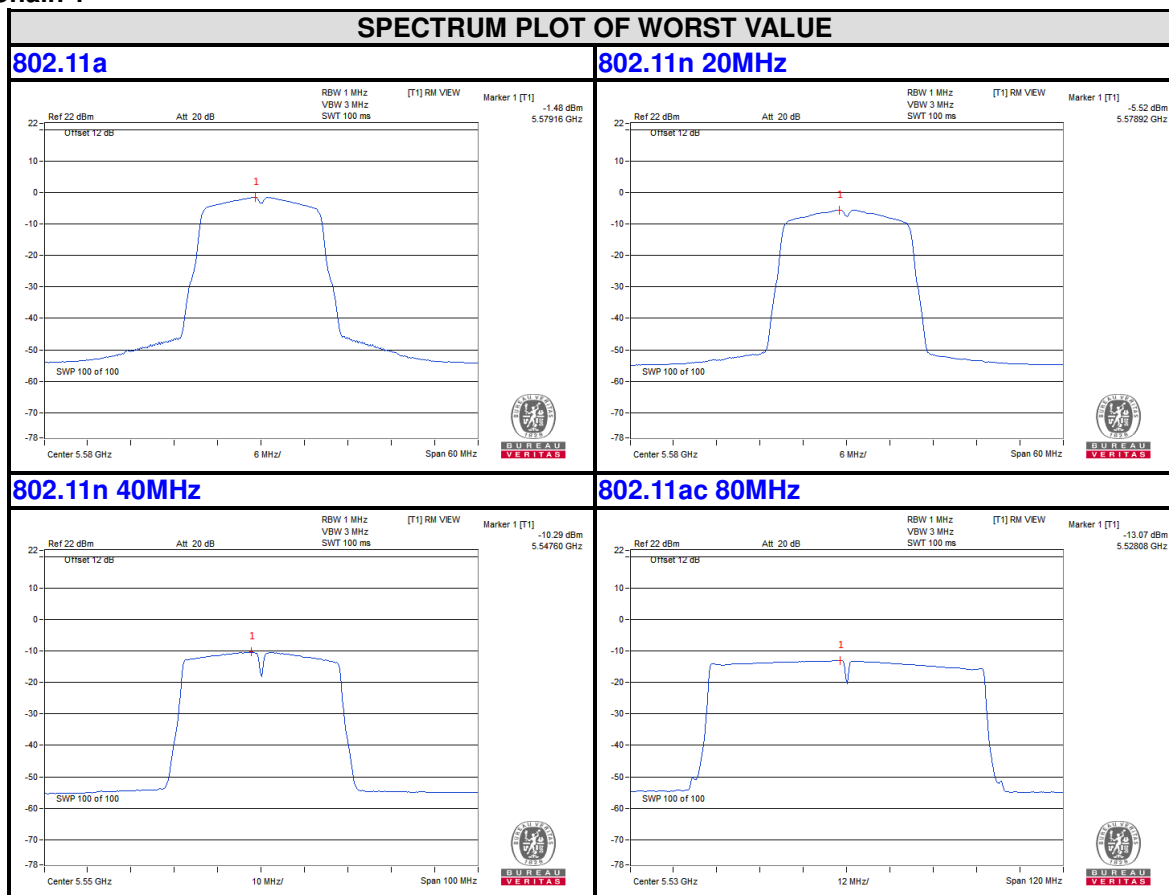
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com

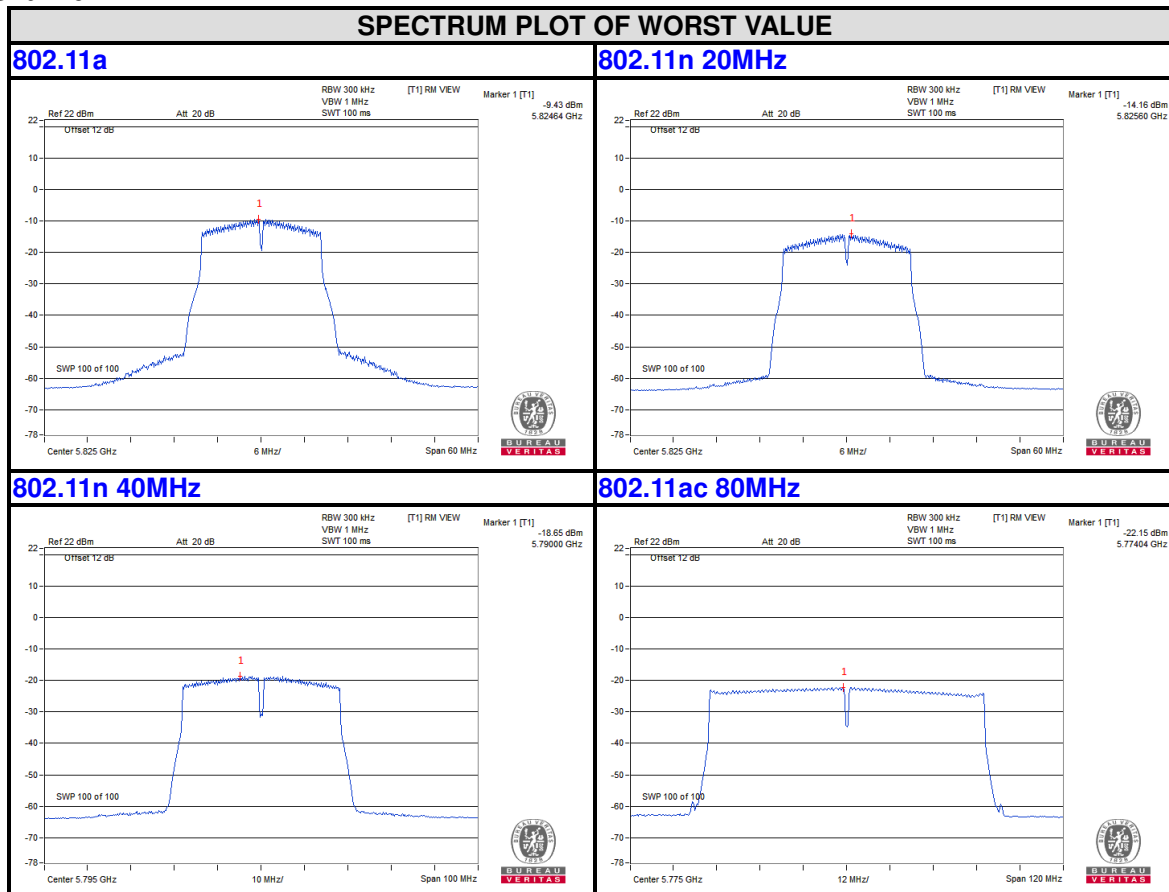


BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

BAND4
5725-5850MHz

Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

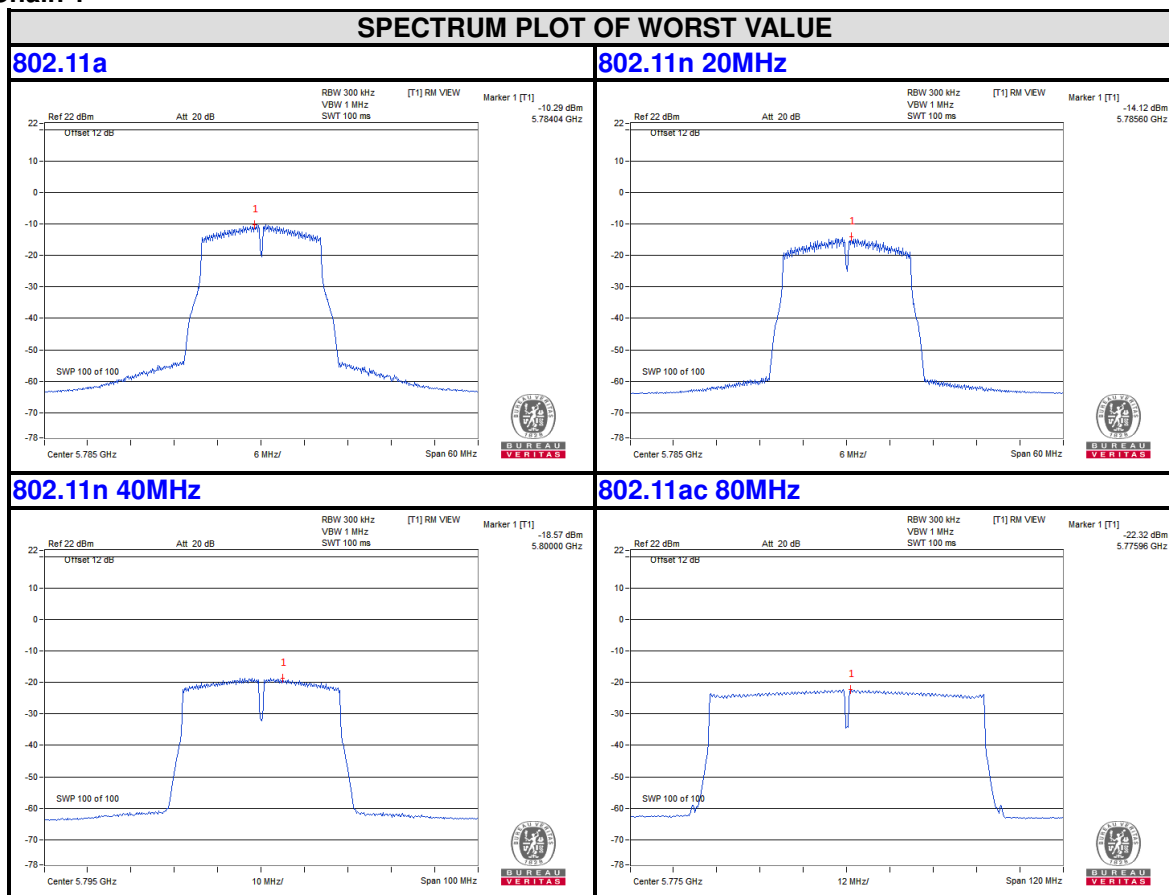
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Chain 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com

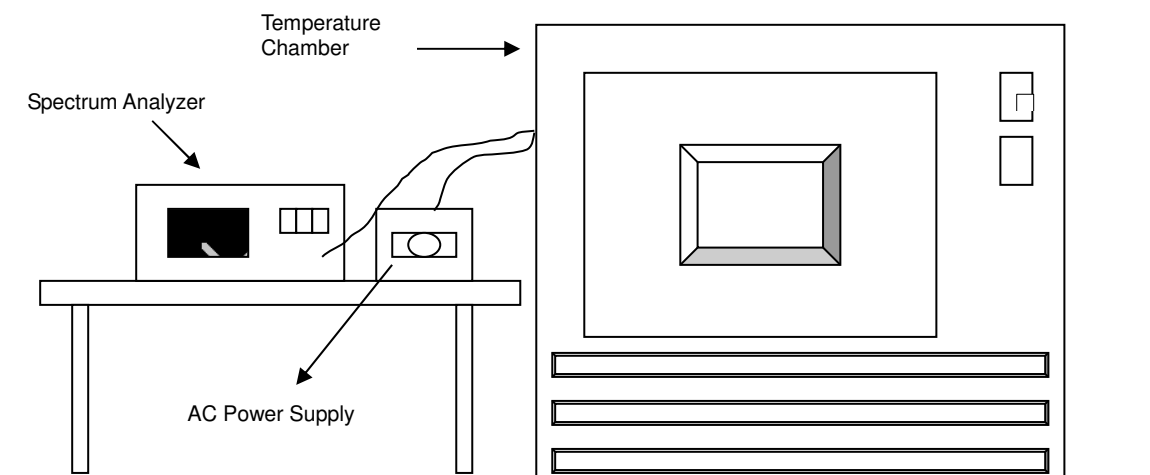


3.5 FREQUENCY STABILITY

3.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.



3.5.4 TEST PROCEDURE

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

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITION

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



3.5.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	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	5179.9785	-0.00042	5179.974	-0.00050	5179.9768	-0.00045	5179.9784	-0.00042
40	120	5179.9786	-0.00041	5179.9787	-0.00041	5179.9791	-0.00040	5179.9759	-0.00047
30	120	5179.9846	-0.00030	5179.9884	-0.00022	5179.9867	-0.00026	5179.9849	-0.00029
20	120	5180.0071	0.00014	5180.0065	0.00013	5180.0069	0.00013	5180.0065	0.00013
10	120	5179.9801	-0.00038	5179.9838	-0.00031	5179.9801	-0.00038	5179.9826	-0.00034
0	120	5179.9785	-0.00042	5179.9776	-0.00043	5179.9777	-0.00043	5179.9794	-0.00040
-10	120	5180.0057	0.00011	5180.0045	0.00009	5180.0044	0.00008	5180.0068	0.00013
-20	120	5179.9993	-0.00001	5179.9998	0.00000	5180.0005	0.00001	5179.9992	-0.00002
-30	120	5180.0021	0.00004	5180.0035	0.00007	5180.0018	0.00003	5180.0037	0.00007

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	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	5180.0073	0.00014	5180.0066	0.00013	5180.0068	0.00013	5180.0065	0.00013
	120	5180.0071	0.00014	5180.0065	0.00013	5180.0069	0.00013	5180.0065	0.00013
	102	5180.0072	0.00014	5180.0075	0.00014	5180.0076	0.00015	5180.0066	0.00013



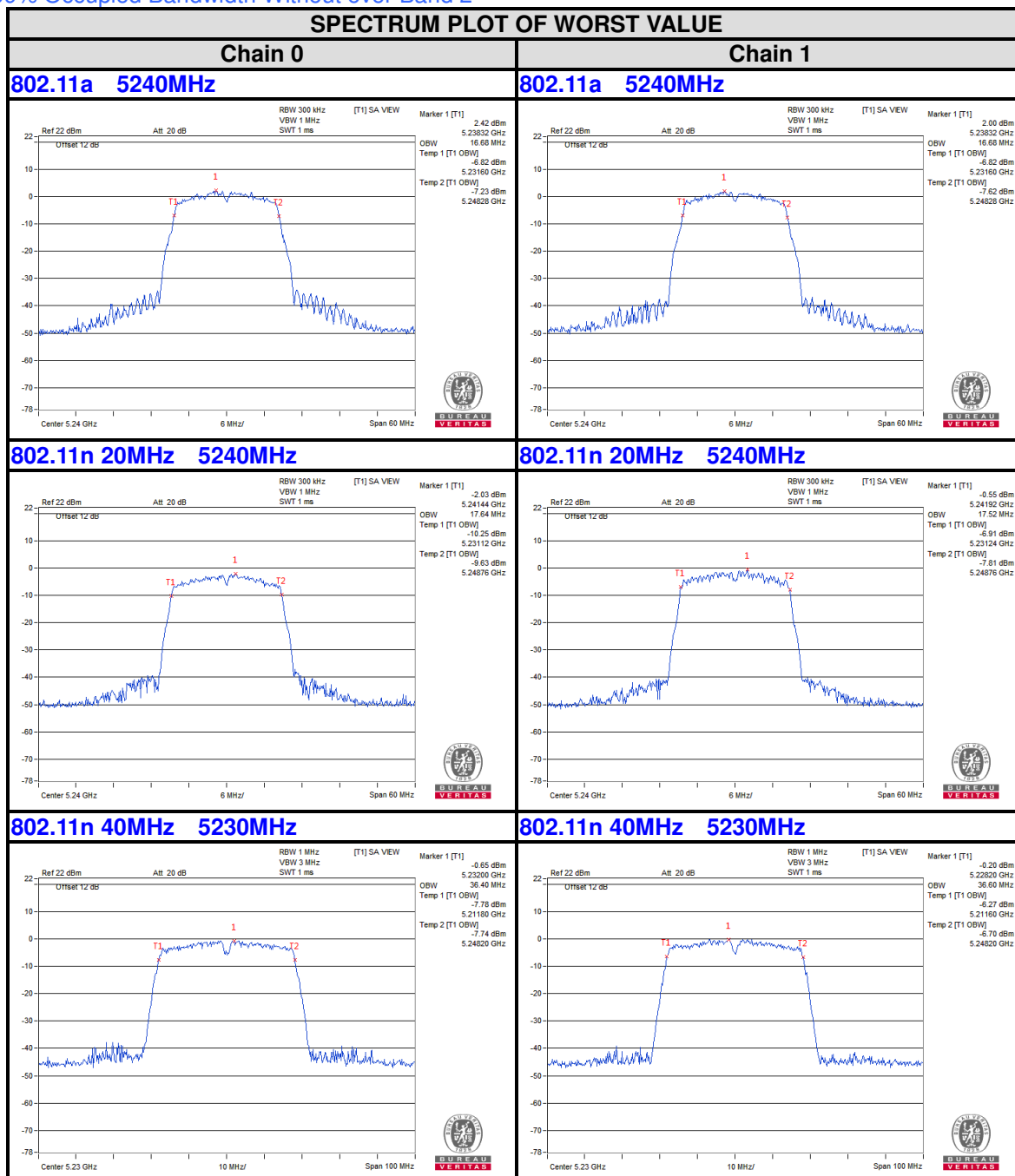
BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

Band 1

5150-5250MHz

99% Occupied Bandwidth Without over Band 2



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

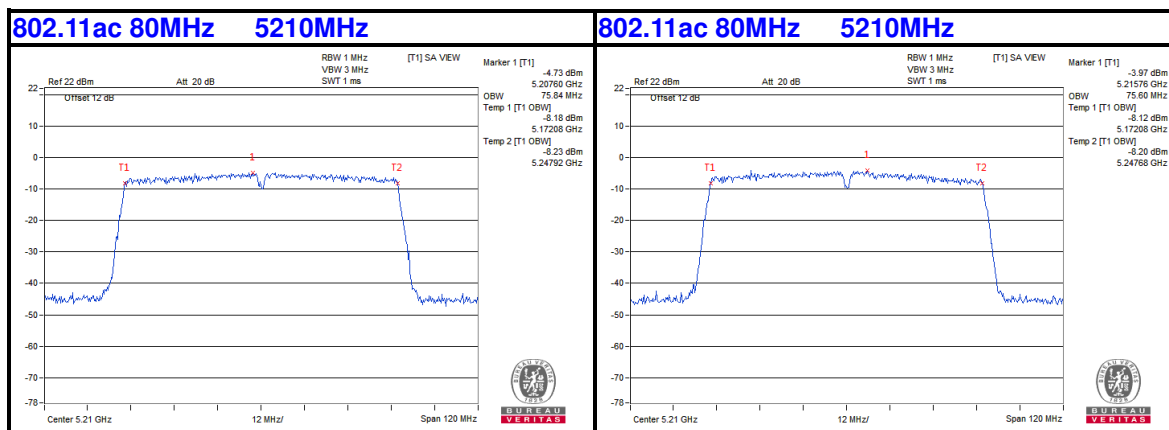
No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com

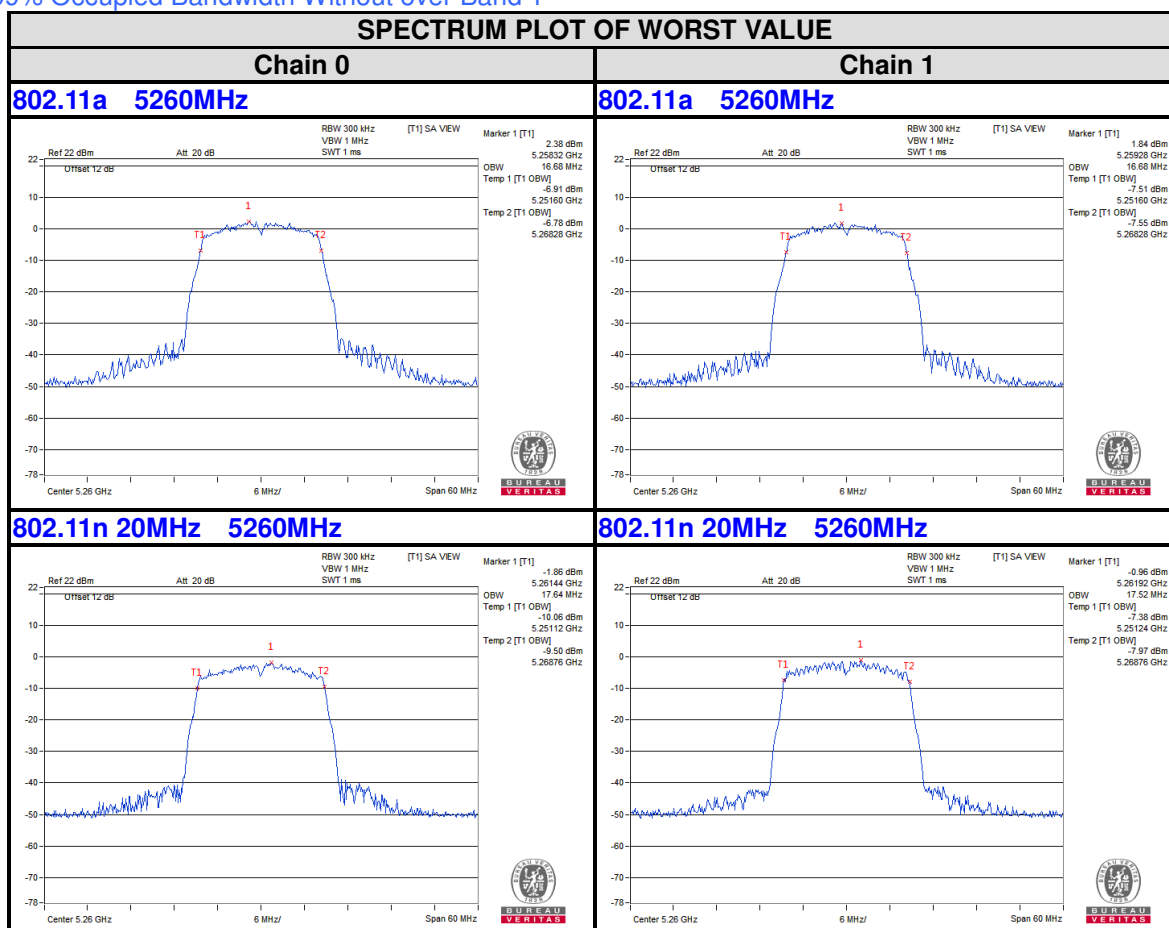


BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4



Band 2
5250-5350MHz
99% Occupied Bandwidth Without over Band 1



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

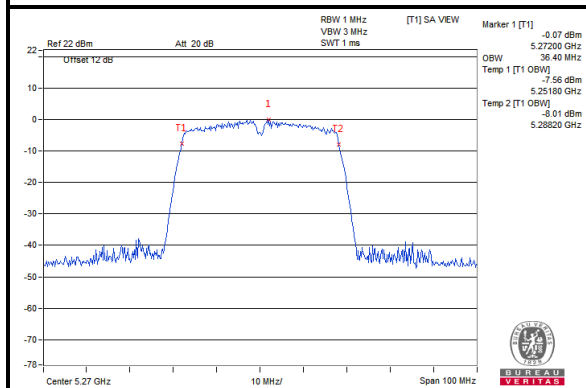
Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



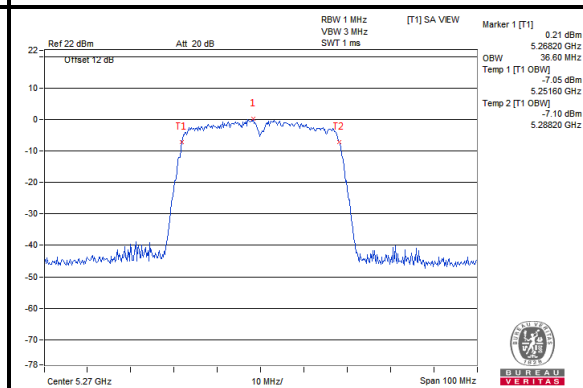
BUREAU
VERITAS

Test Report No.: RF2007WDG0018-4

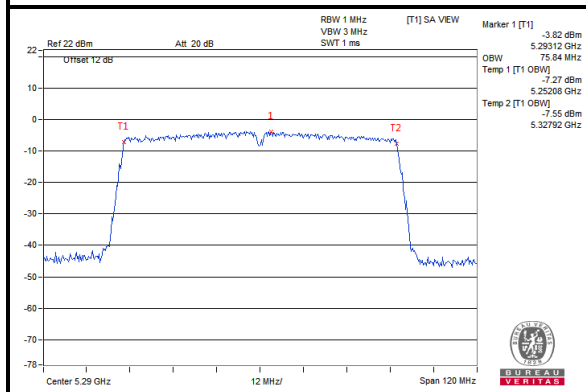
802.11n 40MHz 5270MHz



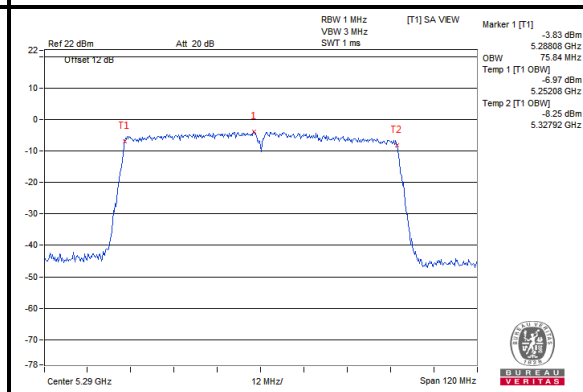
802.11n 40MHz 5270MHz



802.11ac 80MHz 5290MHz



802.11ac 80MHz 5290MHz



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie
Town, Dongguan City, Guangdong Province.
523942. People's Republic of China.

Tel: +86 769 8998 2098
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



Test Report No.: RF2007WDG0018-4

4. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: RF2007WDG0018-4

5. APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

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

---END---