

TEST REPORT

Applicant	TP-Link Technologies Co., Ltd.
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Manufacturer or Supplier	TP-Link Technologies Co., Ltd.
Address	Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Product Name	AC1200 Wireless Dual Band Gigabit Router
Brand Name	tp-link
Model	Archer C5
Additional Model & Model Difference	Archer C1210; TSP EC220-G5U; See item 2.1
Date of tests	Oct. 25, 2017 ~ Nov. 27, 2017

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 Harry Li
Project Engineer/ EMC Department

Approved by Glyn He
Supervisor / EMC Department




Date: Dec. 11, 2017

This report is 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. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, 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. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification



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**BUREAU
VERITAS**

Test Report No.: RF171025N006-2

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF171025N006-2	Original release.	Dec. 11, 2017



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	No antenna connector is used

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	2.16dB
	30MHz ~ 1GMHz	3.83dB
	1GHz ~ 18GHz	4.66dB
	18GHz ~ 40GHz	4.67dB

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	AC1200 Wireless Dual Band Gigabit Router
MODEL NO.	Archer C5
ADDITIONAL MODEL	Archer C1210; TSP EC220-G5U
DEVIATION AMONG MODELS	Model name only
FCC ID	TE7C5SPV4
POWER SUPPLY	DC 12V From Adapter
MODULATION TYPE	OFDM: 256QAM, 64QAM, 16QAM, QPSK, BPSK
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 150Mbps 802.11ac up to 433Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	See 2.2 section
CONDUCTED OUTPUT POWER	23.58 dBm for 5150 ~ 5250MHz (Maximum AVG Power) 25.36 dBm for 5725 ~ 5850MHz (Maximum AVG Power)
ANTENNA TYPE	5180 ~ 5240MHz: Dipole antenna with 5dBi gain 5745 ~ 5825MHz: Dipole antenna with 5dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

1. The EUT incorporates a MIMO function. Physically, the EUT provides two transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11a	2TX/2RX
802.11ac 80MHz	2TX/2RX
802.11ac (20MHz), 802.11n (20MHz)	2TX/2RX
802.11ac (40MHz), 802.11n (40MHz)	2TX/2RX

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.: 171025N006) for detailed product photo.
5. The additional model: Archer C1210; and TSP EC220-G5U only difference the model name of Archer C5.
6. The EUT can be powered by adapter as list as attach:

ADAPTER	
BRAND:	AMIGO
MODEL:	AMS159A-1201000FU
INPUT:	AC 100-240V, 50/60Hz
OUTPUT:	DC 12V, 1A
DC LINE:	Unshielded, Non-detachable, 1.5m



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	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11ac (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 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≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	5G Wifi MIMO mode (Antenna 0+1)
B	√	√	-	-	5G Wifi SISO mode (Antenna 0)
C	√	√	-	-	5G Wifi SISO mode (Antenna 1)
D	√	√	-	-	2.4G+5G Wifi MIMO mode (Antenna 0+1)

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

NOTE: "-" means no effect.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5150-5250	36 to 48	36, 40, 48	OFDM	BPSK	6.0
A	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
A	802.11ac 80MHz		42	42	OFDM	BPSK	V0
A	802.11a	5725-5850	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
A	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0
A	802.11ac 80MHz		155	155	OFDM	BPSK	V0

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)
A	802.11a	5150-5250 5725-5850	36 to 48 140 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)
A	802.11a	5180-5240 5725-5850	36 to 48 149 to 165	36	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)
A	802.11a	5150-5250	36 to 48	36, 40, 48	OFDM	BPSK	6.0
A	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
A	802.11ac 80MHz		42	42	OFDM	BPSK	V0
A	802.11a	5725-5850	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
A	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0
A	802.11ac 80MHz		155	155	OFDM	BPSK	V0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	25deg. C, 51%RH	DC 12V From Adapter	Eric Fang
RE≥1G	25deg. C, 51%RH	DC 12V From Adapter	Eric Fang
PLC	20deg. C, 56%RH	DC 12V From Adapter	Hardy
APCM	20deg. C, 55%RH	DC 12V From Adapter	Harry Li



BUREAU VERITAS

Test Report No.: RF171025N006-2

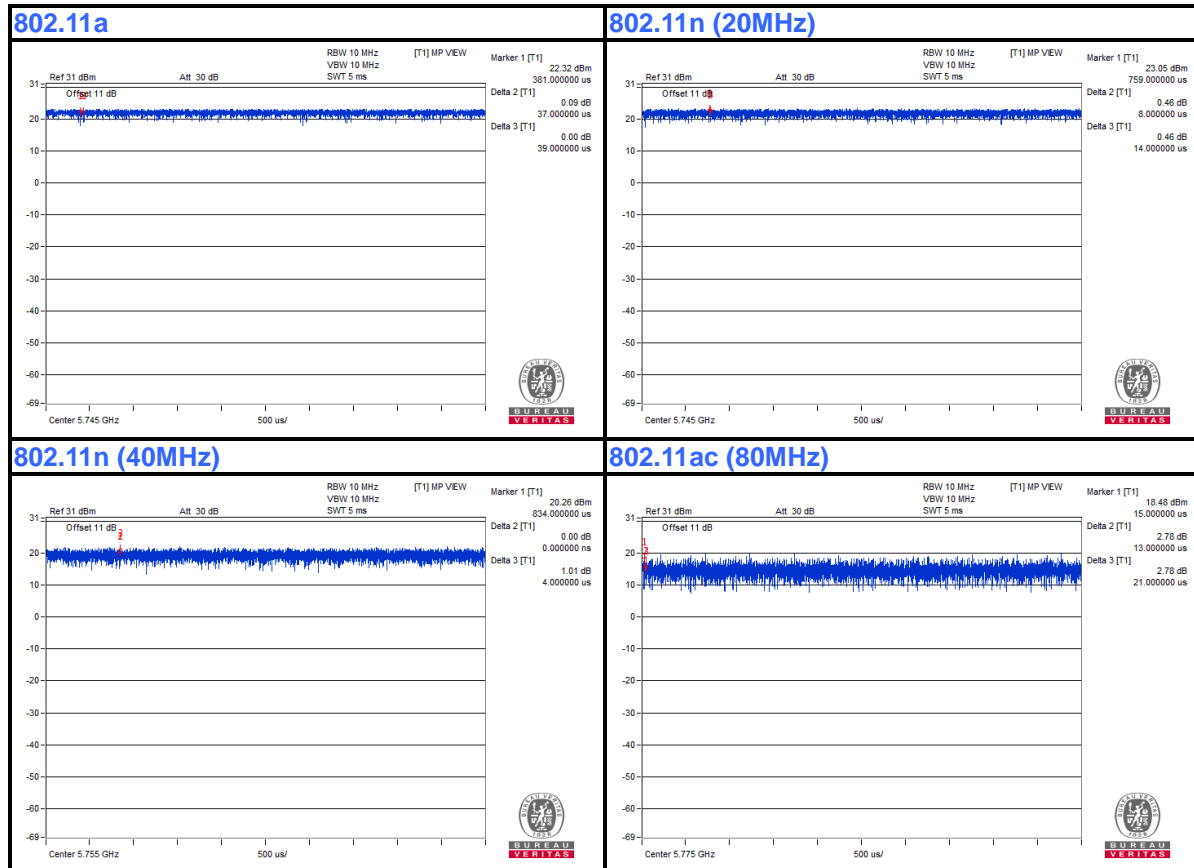
2.3 DUTY CYCLE OF TEST SIGNAL

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	N/A	N/A	N/A	N/A	N/A

NO.	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 v01r04

ANSI C63.10-2013

KDB 662911 D01 Multiple Transmitter Output v02r01

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 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 v01r04	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:

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

**3.1.3 TEST INSTRUMENTS**

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Mar. 12,17	Mar. 11,18
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	Nov. 04,17	Nov. 03,18
Bilog Antenna (30MHz~1GHz)	Teseq	CBL 6111D	30643	Jul. 14, 17	Jul. 13, 18
Loop antenna (9KHz ~30MHz)	Daze	ZN30900A	0708	Mar. 12,17	Mar. 11,18
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	May 18,17	May 17,18
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Aug. 08, 17	Aug. 07, 18
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Mar. 12,17	Mar. 11,18
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
Horn Antenna (18GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170242	Mar. 15,17	Mar. 14,18
Amplifier (9kHz-1GHz)	SONOMA	310D	186955	Mar. 04,17	Mar. 03, 18
Broadband Preamplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	Mar. 09,17	Mar. 08,18
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 04,17	Nov. 03,18
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A

NOTE:

1. The test was performed in 966 Chamber.
2. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. 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.

NOTE:

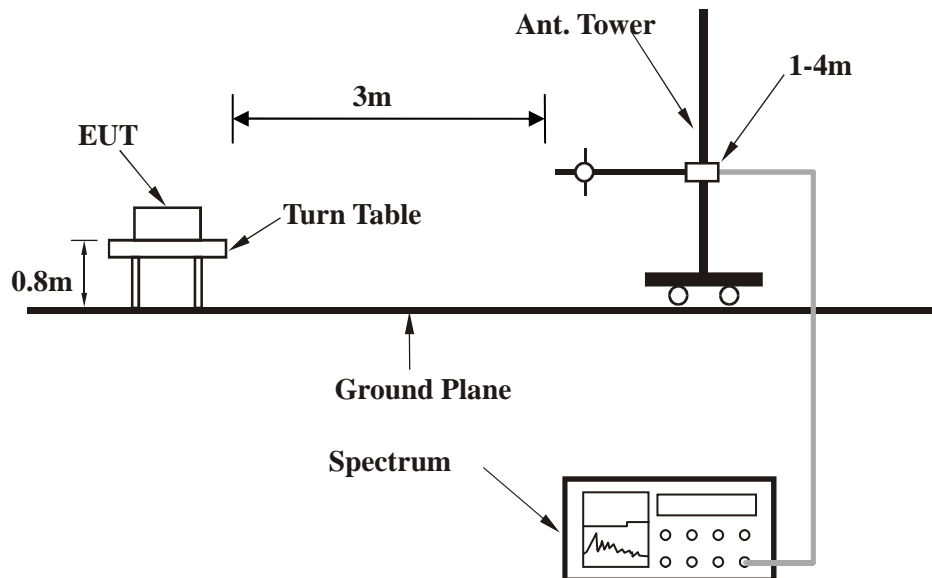
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution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

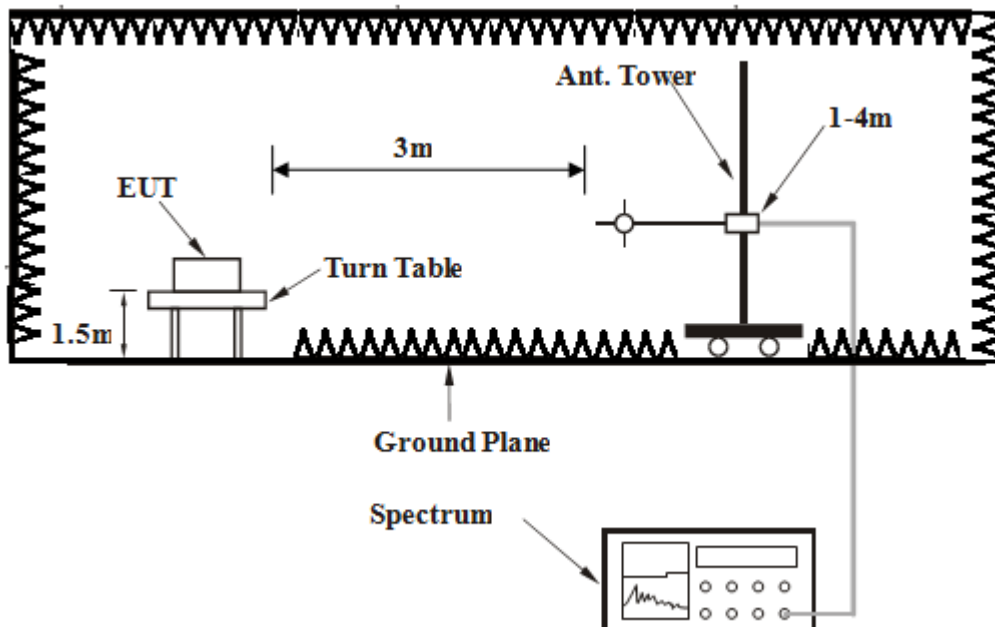
3.1.6 TEST SETUP

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).



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 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

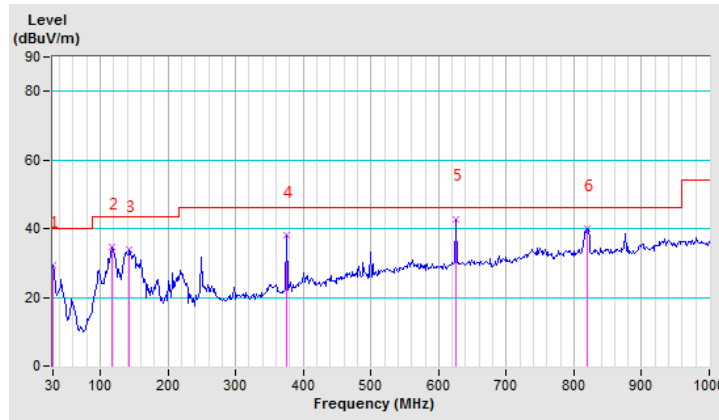
802.11a TX

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	29.26 QP	40.00	-10.74	2.00 H	104	35.63	-6.37
2	117.05	34.69 QP	43.50	-8.81	2.00 H	317	46.73	-12.04
3	143.48	33.98 QP	43.50	-9.52	2.00 H	295	45.75	-11.77
4	375.10	38.19 QP	46.00	-7.81	2.00 H	43	44.31	-6.12
5	625.37	42.87 QP	46.00	-3.13	2.00 H	185	40.72	2.15
6	819.68	40.05 QP	46.00	-5.95	2.00 H	83	35.73	4.32

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.



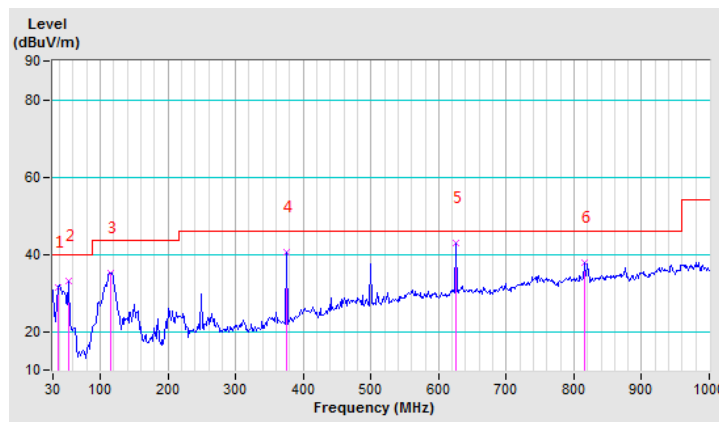


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	37.77	31.41 QP	40.00	-8.59	2.00 V	229	41.86	-10.45
2	53.32	33.02 QP	40.00	-6.98	2.00 V	304	51.16	-18.14
3	115.50	35.21 QP	43.50	-8.29	2.00 V	263	47.44	-12.23
4	375.10	40.57 QP	46.00	-5.43	2.00 V	172	46.69	-6.12
5	625.37	42.94 QP	46.00	-3.06	2.00 V	155	40.79	2.15
6	816.57	37.79 QP	46.00	-8.21	2.00 V	263	33.22	4.57

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.





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	5150.00	62.4 PK	74.0	-11.6	2.82 H	212	19.8	42.6
2	5150.00	49.3 AV	54.0	-4.7	2.82 H	212	6.7	42.6
3	*5180.00	98.8 PK			2.01 H	144	56.1	42.7
4	*5180.00	88.0 AV			2.01 H	144	45.4	42.7
	#10360.00	55.2 PK	74.0	-18.8	1.78 H	45	38.5	16.7
	#10360.00	42.2 AV	54.0	-11.8	1.78 H	45	25.5	16.7
	15540.00	56.8 PK	74.0	-17.2	1.24 H	256	32.9	23.9
	15540.00	47.9 AV	54.0	-6.1	1.24 H	256	24.0	23.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.0 PK	74.0	-9.0	1.00 V	200	22.4	42.6
2	5150.00	53.1 AV	54.0	-0.9	1.00 V	200	10.5	42.6
3	*5180.00	112.5 PK			1.00 V	208	69.9	42.7
4	*5180.00	102.7 AV			1.00 V	208	60.0	42.7
5	#10360.00	50.8 PK	74.0	-23.2	1.00 V	201	34.1	16.7
6	#10360.00	40.3 AV	54.0	-13.8	1.00 V	201	23.6	16.7
7	15540.00	58.3 PK	74.0	-15.7	1.00 V	210	34.3	23.9
8	15540.00	47.2 AV	54.0	-6.8	1.00 V	210	23.2	23.9

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.0 PK	74.0	-11.0	1.00 H	91	20.4	42.6
2	5150.00	49.4 AV	54.0	-4.6	1.00 H	91	6.8	42.6
3	*5200.00	100.5 PK			2.01 H	144	57.8	42.7
4	*5200.00	90.4 AV			2.01 H	144	47.7	42.7
5	#10400.00	54.5 PK	74.0	-19.5	2.78 H	78	37.6	16.9
6	#10400.00	43.5 AV	54.0	-10.6	2.78 H	78	26.5	16.9
7	15600.00	58.4 PK	74.0	-15.6	1.47 H	231	34.3	24.1
8	15600.00	47.1 AV	54.0	-6.9	1.47 H	231	23.0	24.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.3 PK	74.0	-9.7	1.00 V	207	21.7	42.6
2	5150.00	52.7 AV	54.0	-1.3	1.00 V	207	10.1	42.6
3	*5200.00	113.6 PK			1.00 V	204	70.9	42.7
4	*5200.00	104.0 AV			1.00 V	204	61.3	42.7
5	#10400.00	57.6 PK	74.0	-16.4	1.47 V	249	40.7	16.9
6	#10400.00	47.1 AV	54.0	-7.0	1.47 V	249	30.1	16.9
7	15600.00	51.2 PK	74.0	-22.8	2.31 V	317	27.1	24.1
8	15600.00	40.1 AV	54.0	-13.9	2.31 V	317	16.0	24.1

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.9 PK	74.0	-12.1	1.00 H	224	19.3	42.6
2	5150.00	49.2 AV	54.0	-4.8	1.00 H	224	6.6	42.6
3	*5240.00	97.9 PK			1.00 H	224	55.1	42.7
4	*5240.00	87.3 AV			1.00 H	224	44.6	42.7
5	5350.00	63.1 PK	74.0	-11.0	1.22 H	90	20.2	42.9
6	5350.00	49.9 AV	54.0	-4.1	1.22 H	90	7.0	42.9
7	#10480.00	54.3 PK	74.0	-19.7	2.78 H	243	37.0	17.3
8	#10480.00	42.4 AV	54.0	-11.6	2.78 H	243	25.1	17.3
9	15720.00	57.9 PK	74.0	-16.1	1.73 H	168	33.5	24.5
10	15720.00	47.3 AV	54.0	-6.7	1.73 H	168	22.8	24.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.5 PK	74.0	-9.5	1.00 V	204	21.9	42.6
2	5150.00	53.5 AV	54.0	-0.5	1.00 V	204	10.9	42.6
3	*5240.00	113.2 PK			1.00 V	314	70.5	42.7
4	*5240.00	104.5 AV			1.00 V	314	61.8	42.7
5	5350.00	65.9 PK	74.0	-8.1	1.00 V	119	23.0	42.9
6	5350.00	52.1 AV	54.0	-1.9	1.00 V	119	9.2	42.9
7	#10480.00	51.2 PK	74.0	-22.8	1.67 V	34	33.9	17.3
8	#10480.00	40.5 AV	54.0	-13.5	1.67 V	34	23.2	17.3
9	15720.00	58.0 PK	74.0	-16.0	2.27 V	79	33.5	24.5
10	15720.00	47.3 AV	54.0	-6.8	2.27 V	79	22.8	24.5

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 4 (5725-5850MHz):

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	#5650.00	63.3 PK	68.2	-4.9	1.00 H	241	19.9	43.4
2	#5700.00	62.8 PK	105.2	-42.4	1.00 H	241	19.3	43.5
3	#5720.00	63.1 PK	110.8	-47.7	1.00 H	241	19.5	43.6
4	#5725.00	66.7 PK	122.2	-55.6	1.00 H	241	23.1	43.6
5	*5745.00	98.5 PK			1.00 H	241	54.9	43.6
6	*5745.00	88.1 AV			1.00 H	241	44.5	43.6
7	11490.00	55.2 PK	74.0	-18.8	1.00 H	37	36.8	18.4
8	11490.00	43.7 AV	54.0	-10.3	1.00 H	37	25.3	18.4
9	#17235.00	60.2 PK	74.0	-13.8	2.47 H	334	33.3	26.9
10	#17235.00	46.3 AV	54.0	-7.7	2.47 H	334	19.4	26.9
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	#5624.00	67.9 PK	68.2	-0.3	1.46 V	141	24.5	43.4
2	#5650.00	63.9 PK	68.2	-4.3	1.46 V	140	20.5	43.4
3	#5700.00	64.4 PK	105.2	-40.8	1.46 V	140	20.9	43.5
4	#5720.00	69.2 PK	110.8	-41.6	1.46 V	140	25.7	43.6
5	#5725.00	79.7 PK	122.2	-42.5	1.45 V	140	36.2	43.6
6	*5745.00	113.7 PK			1.46 V	140	70.1	43.6
7	*5745.00	103.2 AV			1.46 V	140	59.6	43.6
8	11490.00	51.0 PK	74.0	-23.0	1.24 V	345	32.6	18.4
9	11490.00	40.4 AV	54.0	-13.7	1.24 V	345	22.0	18.4
10	#17235.00	56.8 PK	74.0	-17.2	1.75 V	248	29.9	26.9
11	#17235.00	44.0 AV	54.0	-10.0	1.75 V	248	17.1	26.9

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	63.3 PK	68.2	-5.0	2.65 H	241	19.8	43.4
2	#5700.00	63.9 PK	105.2	-41.3	2.65 H	241	20.4	43.5
3	#5720.00	63.2 PK	110.8	-47.6	2.65 H	241	19.7	43.6
4	#5725.00	64.3 PK	122.2	-57.9	2.65 H	241	20.7	43.6
5	*5785.00	105.9 PK			2.65 H	241	62.2	43.7
6	*5785.00	96.3 AV			2.65 H	241	52.7	43.7
7	#5850.00	63.5 PK	122.2	-58.8	2.65 H	241	19.6	43.8
8	#5855.00	64.0 PK	110.8	-46.8	2.65 H	241	20.2	43.8
9	#5875.00	64.5 PK	105.2	-40.7	2.65 H	241	20.6	43.9
10	#5925.00	64.3 PK	68.2	-3.9	2.65 H	241	20.3	44.0
11	11570.00	68.4 PK	74.0	-5.6	1.00 H	332	49.9	18.5
12	11570.00	53.0 AV	54.0	-1.0	1.00 H	332	34.5	18.5
13	#17355.00	65.4 PK	74.0	-8.6	1.00 H	349	38.6	26.7
14	#17355.00	51.4 AV	54.0	-2.6	1.00 H	349	24.6	26.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	63.1 PK	68.2	-5.1	1.61 V	140	19.7	43.4
2	#5700.00	68.5 PK	105.2	-36.7	1.61 V	142	25.0	43.5
3	#5720.00	64.7 PK	110.8	-46.1	1.61 V	142	21.2	43.6
4	#5725.00	63.8 PK	122.2	-58.4	1.61 V	140	20.3	43.6
5	*5785.00	117.1 PK			1.61 V	140	73.4	43.7
6	*5785.00	107.3 AV			1.61 V	140	63.6	43.7
7	#5850.00	64.3 PK	122.2	-57.9	1.61 V	142	20.5	43.8
8	#5855.00	63.9 PK	110.8	-47.0	1.61 V	142	20.0	43.8
9	#5875.00	63.9 PK	105.2	-41.3	1.61 V	141	20.1	43.9
10	#5925.00	64.7 PK	68.2	-3.5	1.61 V	140	20.7	44.0
11	11570.00	59.1 PK	74.0	-14.9	1.00 V	325	40.7	18.5
12	11570.00	44.5 AV	54.0	-9.5	1.00 V	325	26.0	18.5
13	#17355.00	64.2 PK	74.0	-9.8	1.12 V	344	37.5	26.7
14	#17355.00	49.5 AV	54.0	-4.5	1.12 V	344	22.8	26.7

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	63.0 PK	68.2	-5.2	1.00 H	240	19.6	43.4
2	#5700.00	62.7 PK	105.2	-42.6	1.00 H	240	19.1	43.5
3	#5720.00	62.4 PK	110.8	-48.4	1.00 H	240	18.9	43.6
4	#5725.00	64.1 PK	122.2	-58.1	1.00 H	240	20.5	43.6
5	*5825.00	100.0 PK			1.00 H	240	56.2	43.8
6	*5825.00	89.8 AV			1.00 H	240	46.1	43.8
7	#5850.00	67.4 PK	122.2	-54.9	1.00 H	241	23.5	43.8
8	#5855.00	64.6 PK	110.8	-46.2	1.00 H	245	20.8	43.8
9	#5875.00	63.1 PK	105.2	-42.1	1.00 H	241	19.2	43.9
10	#5925.00	64.1 PK	68.2	-4.1	1.20 H	240	20.2	44.0
11	11650.00	65.3 PK	74.0	-8.8	1.00 H	337	46.7	18.6
12	11650.00	46.9 AV	54.0	-7.1	1.00 H	337	28.3	18.6
13	#17475.00	67.1 PK	74.0	-6.9	1.00 H	329	40.5	26.6
14	#17475.00	53.1 AV	54.0	-0.9	1.00 H	329	26.6	26.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	61.7 PK	68.2	-6.5	1.21 V	145	18.3	43.4
2	#5700.00	67.7 PK	105.2	-37.5	1.31 V	145	24.2	43.5
3	#5720.00	63.6 PK	110.8	-47.2	1.31 V	145	20.1	43.6
4	#5725.00	63.0 PK	122.2	-59.2	1.31 V	145	19.4	43.6
5	*5825.00	115.6 PK			1.31 V	145	71.9	43.8
6	*5825.00	105.6 AV			1.31 V	145	61.9	43.8
7	#5850.00	80.3 PK	122.2	-41.9	1.31 V	140	36.5	43.8
8	#5855.00	76.2 PK	110.8	-34.6	1.31 V	145	32.4	43.8
9	#5875.00	65.6 PK	105.2	-39.6	1.31 V	145	21.8	43.9
10	#5925.00	64.2 PK	68.2	-4.0	1.31 V	146	20.2	44.0
11	11650.00	49.7 PK	74.0	-24.3	1.55 V	350	31.1	18.6
12	11650.00	40.0 AV	54.0	-14.1	1.55 V	350	21.4	18.6
13	#17475.00	62.9 PK	74.0	-11.1	1.50 V	344	36.3	26.6
14	#17475.00	47.9 AV	54.0	-6.1	1.50 V	344	21.4	26.6

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 1 (5150-5250MHz):

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	5150.00	62.6 PK	74.0	-11.4	2.81 H	212	20.0	42.6
2	5150.00	49.5 AV	54.0	-4.5	2.81 H	212	6.9	42.6
3	*5180.00	98.5 PK			2.81 H	212	55.8	42.7
4	*5180.00	87.0 AV			2.81 H	212	44.4	42.7
5	#10360.00	54.3 PK	74.0	-19.7	1.43 H	167	37.6	16.7
6	#10360.00	42.3 AV	54.0	-11.7	1.43 H	167	25.6	16.7
7	15540.00	59.3 PK	74.0	-14.7	2.63 H	67	35.3	23.9
8	15540.00	47.2 AV	54.0	-6.8	2.63 H	67	23.3	23.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.0 PK	74.0	-8.0	1.00 V	199	23.4	42.6
2	5150.00	53.1 AV	54.0	-0.9	1.00 V	199	10.5	42.6
3	*5180.00	112.3 PK			1.00 V	211	69.7	42.7
4	*5180.00	102.0 AV			1.00 V	211	59.4	42.7
5	#10360.00	51.8 PK	74.0	-22.2	1.45 V	283	35.2	16.7
6	#10360.00	40.0 AV	54.0	-14.0	1.45 V	283	23.3	16.7
7	15540.00	58.6 PK	74.0	-15.4	1.73 V	317	34.7	23.9
8	15540.00	47.2 AV	54.0	-6.8	1.73 V	317	23.3	23.9

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.3 PK	74.0	-10.7	1.00 H	98	20.7	42.6
2	5150.00	49.2 AV	54.0	-4.8	1.00 H	98	6.6	42.6
3	*5200.00	98.3 PK			1.00 H	98	55.6	42.7
4	*5200.00	87.5 AV			1.00 H	98	44.8	42.7
5	#10400.00	57.4 PK	74.0	-16.6	2.38 H	271	40.5	16.9
6	#10400.00	44.7 AV	54.0	-9.3	2.38 H	271	27.8	16.9
7	15600.00	57.2 PK	74.0	-16.8	1.81 H	242	33.1	24.1
8	15600.00	47.1 AV	54.0	-6.9	1.81 H	242	23.0	24.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.6 PK	74.0	-9.4	1.00 V	120	22.0	42.6
2	5150.00	53.1 AV	54.0	-0.9	1.00 V	120	10.5	42.6
3	*5200.00	114.4 PK			1.55 V	47	71.7	42.7
4	*5200.00	103.7 AV			1.55 V	47	61.0	42.7
5	#10400.00	51.7 PK	74.0	-22.3	2.73 V	154	34.8	16.9
6	#10400.00	40.8 AV	54.0	-13.2	2.73 V	154	23.9	16.9
7	15600.00	58.6 PK	74.0	-15.4	2.59 V	149	34.5	24.1
8	15600.00	47.1 AV	54.0	-6.9	2.59 V	149	23.0	24.1

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.1 PK	74.0	-10.9	1.20 H	32	20.5	42.6
2	5150.00	49.2 AV	54.0	-4.8	1.20 H	32	6.6	42.6
3	*5240.00	99.7 PK			1.25 H	137	57.0	42.7
4	*5240.00	87.7 AV			1.25 H	137	44.9	42.7
5	5350.00	63.9 PK	74.0	-10.1	1.66 H	46	21.0	42.9
6	5350.00	49.8 AV	54.0	-4.2	1.66 H	46	6.9	42.9
7	#10480.00	57.3 PK	74.0	-16.7	1.61 H	47	40.0	17.3
8	#10480.00	44.6 AV	54.0	-9.4	1.61 H	47	27.3	17.3
9	15720.00	58.6 PK	74.0	-15.5	1.72 H	104	34.1	24.5
10	15720.00	47.3 AV	54.0	-6.8	1.72 H	104	22.8	24.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.6 PK	74.0	-8.4	1.00 V	330	23.0	42.6
2	5150.00	53.2 AV	54.0	-0.8	1.00 V	330	10.6	42.6
3	*5240.00	114.6 PK			1.19 V	344	71.9	42.7
4	*5240.00	103.7 AV			1.19 V	344	61.0	42.7
5	5350.00	65.2 PK	74.0	-8.9	1.10 V	120	22.3	42.9
6	5350.00	52.1 AV	54.0	-1.9	1.10 V	120	9.2	42.9
7	#10480.00	52.5 PK	74.0	-21.5	1.67 V	217	35.2	17.3
8	#10480.00	40.6 AV	54.0	-13.4	1.67 V	217	23.3	17.3
9	15720.00	57.5 PK	74.0	-16.5	1.39 V	248	33.0	24.5
10	15720.00	47.3 AV	54.0	-6.7	1.39 V	248	22.8	24.5

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 4 (5725-5850MHz):

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	#5650.00	61.5 PK	68.2	-6.7	1.00 H	239	18.1	43.4
2	#5700.00	62.5 PK	105.2	-42.7	1.00 H	239	19.0	43.5
3	#5720.00	65.4 PK	110.8	-45.4	1.00 H	239	21.9	43.6
4	#5725.00	73.7 PK	122.2	-48.6	1.00 H	239	30.1	43.6
5	*5745.00	98.5 PK			1.00 H	239	54.9	43.6
6	*5745.00	88.1 AV			1.00 H	239	44.5	43.6
7	#5850.00	63.3 PK	122.2	-58.9	1.00 H	240	19.5	43.8
8	#5855.00	64.2 PK	110.8	-46.6	1.00 H	240	20.4	43.8
9	#5875.00	64.5 PK	105.2	-40.7	1.00 H	241	20.6	43.9
10	#5925.00	64.2 PK	68.2	-4.0	1.00 H	241	20.2	44.0
11	11490.00	65.8 PK	74.0	-8.2	1.00 H	39	47.5	18.4
12	11490.00	50.0 AV	54.0	-4.0	1.00 H	39	31.6	18.4
13	#17235.00	62.0 PK	74.0	-12.0	1.00 H	352	35.1	26.9
14	#17235.00	48.0 AV	54.0	-6.0	1.00 H	352	21.1	26.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	63.0 PK	68.2	-5.2	1.00 V	144	19.6	43.4
2	#5700.00	64.0 PK	105.2	-41.3	1.00 V	144	20.4	43.5
3	#5720.00	77.0 PK	110.8	-33.8	1.00 V	144	33.4	43.6
4	#5725.00	86.9 PK	122.2	-35.4	1.00 V	144	43.3	43.6
5	*5745.00	112.7 PK			1.00 V	144	69.1	43.6
6	*5745.00	101.7 AV			1.00 V	144	58.1	43.6
7	#5850.00	63.1 PK	122.2	-59.1	1.00 V	144	19.3	43.8
8	#5855.00	63.6 PK	110.8	-47.2	1.00 V	144	19.8	43.8
9	#5875.00	63.9 PK	105.2	-41.3	1.00 V	145	20.0	43.9
10	#5925.00	63.5 PK	68.2	-4.7	1.00 V	145	19.6	44.0
11	11490.00	58.2 PK	74.0	-15.8	1.00 V	335	39.8	18.4
12	11490.00	43.0 AV	54.0	-11.0	1.00 V	335	24.6	18.4
13	#17235.00	61.5 PK	74.0	-12.6	1.00 V	341	34.6	26.9
14	#17235.00	46.8 AV	54.0	-7.3	1.00 V	341	19.9	26.9

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	62.4 PK	68.2	-5.8	1.00 H	211	19.0	43.4
2	#5700.00	62.2 PK	105.2	-43.0	1.00 H	211	18.7	43.5
3	#5720.00	62.0 PK	110.8	-48.8	1.00 H	211	18.5	43.6
4	#5725.00	62.0 PK	122.2	-60.2	1.00 H	211	18.4	43.6
5	*5785.00	97.9 PK			1.00 H	211	54.2	43.7
6	*5785.00	88.0 AV			1.00 H	211	44.3	43.7
7	#5850.00	63.8 PK	122.2	-58.4	1.00 H	210	20.0	43.8
8	#5855.00	63.2 PK	110.8	-47.6	1.00 H	211	19.4	43.8
9	#5875.00	63.6 PK	105.2	-41.6	1.00 H	210	19.8	43.9
10	#5925.00	64.1 PK	68.2	-4.1	1.00 H	215	20.1	44.0
11	11570.00	66.5 PK	74.0	-7.5	1.00 H	39	48.1	18.5
12	11570.00	49.4 AV	54.0	-4.7	1.00 H	39	30.9	18.5
13	#17355.00	68.2 PK	74.0	-5.8	1.30 H	320	41.5	26.7
14	#17355.00	52.9 AV	54.0	-1.2	1.30 H	320	26.1	26.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	61.6 PK	68.2	-6.6	1.45 V	30	18.2	43.4
2	#5700.00	65.2 PK	105.2	-40.0	1.00 V	30	21.7	43.5
3	#5720.00	62.5 PK	110.8	-48.3	1.45 V	30	18.9	43.6
4	#5725.00	63.6 PK	122.2	-58.6	1.45 V	30	20.0	43.6
5	*5785.00	112.2 PK			1.45 V	30	68.5	43.7
6	*5785.00	101.5 AV			1.45 V	30	57.9	43.7
7	#5850.00	63.2 PK	122.2	-59.1	1.45 V	30	19.3	43.8
8	#5855.00	64.3 PK	110.8	-46.5	1.00 V	30	20.5	43.8
9	#5875.00	65.0 PK	105.2	-40.2	1.00 V	31	21.1	43.9
10	#5925.00	64.2 PK	68.2	-4.0	1.00 V	33	20.3	44.0
11	11570.00	58.5 PK	74.0	-15.5	1.20 V	324	40.1	18.5
12	11570.00	42.6 AV	54.0	-11.4	1.20 V	324	24.1	18.5
13	#17355.00	56.7 PK	74.0	-17.3	1.00 V	214	30.0	26.7
14	#17355.00	44.9 AV	54.0	-9.2	1.00 V	214	18.1	26.7

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	62.8 PK	68.2	-5.4	1.00 H	230	19.4	43.4
2	#5700.00	63.0 PK	105.2	-42.2	1.00 H	230	19.5	43.5
3	#5720.00	62.4 PK	110.8	-48.4	1.00 H	230	18.9	43.6
4	#5725.00	62.6 PK	122.2	-59.6	1.00 H	233	19.1	43.6
5	*5825.00	97.5 PK			1.00 H	230	53.8	43.8
6	*5825.00	87.9 AV			1.00 H	230	44.1	43.8
7	#5850.00	63.6 PK	122.2	-58.6	1.00 H	233	19.8	43.8
8	#5855.00	63.3 PK	110.8	-47.5	1.00 H	231	19.4	43.8
9	#5875.00	63.9 PK	105.2	-41.3	1.00 H	230	20.1	43.9
10	#5925.00	64.2 PK	68.2	-4.0	1.00 H	234	20.2	44.0
11	11650.00	69.1 PK	74.0	-4.9	1.00 H	337	50.6	18.6
12	11650.00	50.0 AV	54.0	-4.0	1.00 H	337	31.4	18.6
13	#17475.00	65.8 PK	74.0	-8.2	1.50 H	50	39.3	26.6
14	#17475.00	50.0 AV	54.0	-4.0	1.50 H	50	23.4	26.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	62.0 PK	68.2	-6.2	1.41 V	147	18.6	43.4
2	#5700.00	65.4 PK	105.2	-39.8	1.00 V	147	21.9	43.5
3	#5720.00	63.3 PK	110.8	-47.5	1.41 V	147	19.7	43.6
4	#5725.00	62.8 PK	122.2	-59.4	1.41 V	147	19.3	43.6
5	*5825.00	113.0 PK			1.41 V	147	69.2	43.8
6	*5825.00	101.6 AV			1.41 V	147	57.8	43.8
7	#5850.00	74.7 PK	122.2	-47.5	1.41 V	147	30.9	43.8
8	#5855.00	68.0 PK	110.8	-42.9	1.41 V	147	24.1	43.8
9	#5875.00	65.4 PK	105.2	-39.8	1.41 V	147	21.5	43.9
10	#5925.00	64.3 PK	68.2	-3.9	1.41 V	148	20.4	44.0
11	11650.00	53.6 PK	74.0	-20.4	2.01 V	355	35.0	18.6
12	11650.00	42.6 AV	54.0	-11.4	2.01 V	355	24.0	18.6
13	#17475.00	63.6 PK	74.0	-10.4	2.01 V	344	37.0	26.6
14	#17475.00	47.6 AV	54.0	-6.4	2.01 V	344	21.0	26.6

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 1(5150-5250):

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	5150.00	62.5 PK	74.0	-11.5	1.04 H	210	19.9	42.6
2	5150.00	49.2 AV	54.0	-4.8	1.04 H	210	6.6	42.6
3	*5190.00	94.1 PK			1.04 H	210	51.5	42.7
4	*5190.00	82.5 AV			1.04 H	210	39.8	42.7
5	#10380.00	55.7 PK	74.0	-18.3	1.74 H	107	38.9	16.8
6	#10380.00	43.4 AV	54.0	-10.6	1.74 H	107	26.6	16.8
7	15570.00	59.3 PK	74.0	-14.7	2.13 H	94	35.3	24.0
8	15570.00	47.4 AV	54.0	-6.6	2.13 H	94	23.4	24.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	70.5 PK	74.0	-3.5	1.00 V	320	27.9	42.6
2	5150.00	53.4 AV	54.0	-0.7	1.00 V	320	10.7	42.6
3	*5190.00	110.6 PK			1.30 V	29	68.0	42.7
4	*5190.00	99.4 AV			1.30 V	29	56.7	42.7
5	#10380.00	50.5 PK	74.0	-23.6	2.43 V	124	33.7	16.8
6	#10380.00	40.7 AV	54.0	-13.3	2.43 V	124	23.9	16.8
7	15570.00	58.1 PK	74.0	-15.9	1.26 V	149	34.1	24.0
8	15570.00	47.5 AV	54.0	-6.5	1.26 V	149	23.5	24.0

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 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	5150.00	61.5 PK	74.0	-12.5	2.01 H	114	18.9	42.6
2	5150.00	49.3 AV	54.0	-4.7	2.01 H	114	6.7	42.6
3	*5230.00	97.3 PK			1.07 H	114	54.6	42.7
4	*5230.00	85.2 AV			1.07 H	114	42.4	42.7
5	5350.00	63.4 PK	74.0	-10.7	1.07 H	114	20.5	42.9
6	5350.00	49.6 AV	54.0	-4.4	1.07 H	114	6.7	42.9
7	#10460.00	55.2 PK	74.0	-18.8	1.52 H	248	38.0	17.2
8	#10460.00	43.0 AV	54.0	-11.0	1.52 H	248	25.7	17.2
9	15690.00	57.9 PK	74.0	-16.1	1.28 H	223	33.5	24.4
10	15690.00	47.4 AV	54.0	-6.6	1.28 H	223	23.1	24.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	1.00 V	190	22.1	42.6
2	5150.00	53.5 AV	54.0	-0.5	1.00 V	190	10.9	42.6
3	*5230.00	110.6 PK			1.00 V	216	67.9	42.7
4	*5230.00	100.1 AV			1.00 V	216	57.4	42.7
5	5350.00	63.8 PK	74.0	-10.2	1.00 V	196	20.9	42.9
6	5350.00	51.1 AV	54.0	-2.9	1.00 V	196	8.2	42.9
7	#10460.00	51.3 PK	74.0	-22.7	2.91 V	275	34.1	17.2
8	#10460.00	40.7 AV	54.0	-13.3	2.91 V	275	23.5	17.2
9	15690.00	58.1 PK	74.0	-15.9	2.67 V	322	33.7	24.4
10	15690.00	47.4 AV	54.0	-6.6	2.67 V	322	23.0	24.4

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 4(5725-5850):

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	#5650.00	62.4 PK	68.2	-5.8	1.00 H	291	19.0	43.4
2	#5700.00	62.4 PK	105.2	-42.8	1.10 H	290	18.9	43.5
3	#5720.00	71.2 PK	110.8	-39.6	1.00 H	290	27.7	43.6
4	#5725.00	72.7 PK	122.2	-49.5	1.00 H	291	29.2	43.6
5	*5755.00	94.6 PK			1.00 H	291	51.0	43.6
6	*5755.00	84.0 AV			1.00 H	291	40.4	43.6
7	#5850.00	62.9 PK	122.2	-59.3	1.00 H	291	19.1	43.8
8	#5855.00	64.2 PK	110.8	-46.6	1.00 H	290	20.4	43.8
9	#5875.00	63.3 PK	105.2	-41.9	1.00 H	292	19.5	43.9
10	#5925.00	63.9 PK	68.2	-4.3	1.00 H	293	20.0	44.0
11	11510.00	61.7 PK	74.0	-12.3	1.20 H	343	43.3	18.4
12	11510.00	46.9 AV	54.0	-7.1	1.20 H	343	28.5	18.4
13	#17265.00	60.8 PK	74.0	-13.2	1.02 H	330	33.9	26.9
14	#17265.00	47.6 AV	54.0	-6.4	1.02 H	330	20.7	26.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	64.1 PK	68.2	-4.1	1.55 V	135	20.7	43.4
2	#5700.00	71.7 PK	105.2	-33.5	1.55 V	135	28.2	43.5
3	#5720.00	86.0 PK	110.8	-24.8	1.55 V	136	42.5	43.6
4	#5725.00	87.4 PK	122.2	-34.8	1.55 V	145	43.8	43.6
5	*5755.00	111.0 PK			1.00 V	135	67.4	43.6
6	*5755.00	98.9 AV			1.00 V	135	55.2	43.6
7	#5850.00	64.1 PK	122.2	-58.1	1.55 V	135	20.3	43.8
8	#5855.00	62.9 PK	110.8	-47.9	1.55 V	136	19.1	43.8
9	#5875.00	64.3 PK	105.2	-41.0	1.55 V	136	20.4	43.9
10	#5925.00	64.3 PK	68.2	-3.9	1.55 V	141	20.3	44.0
11	11510.00	54.6 PK	74.0	-19.4	1.20 V	360	36.2	18.4
12	11510.00	40.4 AV	54.0	-13.6	1.20 V	360	22.0	18.4
13	#17265.00	57.9 PK	74.0	-16.1	1.02 V	214	31.0	26.9
14	#17265.00	44.1 AV	54.0	-9.9	1.02 V	214	17.2	26.9

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	61.9 PK	68.2	-6.3	1.00 H	240	18.5	43.4
2	#5700.00	62.4 PK	105.2	-42.8	1.00 H	240	18.9	43.5
3	#5720.00	62.9 PK	110.8	-47.9	1.00 H	241	19.3	43.6
4	#5725.00	62.6 PK	122.2	-59.6	1.00 H	240	19.1	43.6
5	*5795.00	95.1 PK			1.00 H	240	51.4	43.7
6	*5795.00	83.9 AV			1.00 H	240	40.2	43.7
7	#5850.00	63.9 PK	122.2	-58.3	1.00 H	241	20.1	43.8
8	#5855.00	63.3 PK	110.8	-47.6	1.00 H	241	19.4	43.8
9	#5875.00	63.9 PK	105.2	-41.3	1.00 H	240	20.1	43.9
10	#5925.00	63.6 PK	68.2	-4.6	1.00 H	244	19.7	44.0
11	11590.00	62.2 PK	74.0	-11.8	2.01 H	40	43.8	18.5
12	11590.00	47.9 AV	54.0	-6.1	2.01 H	40	29.4	18.5
13	#17385.00	61.5 PK	74.0	-12.6	1.20 H	340	34.8	26.7
14	#17385.00	47.6 AV	54.0	-6.4	1.20 H	340	20.9	26.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	62.4 PK	68.2	-5.8	1.61 V	111	19.0	43.4
2	#5700.00	64.4 PK	105.2	-40.8	1.61 V	111	20.9	43.5
3	#5720.00	65.6 PK	110.8	-45.2	1.00 V	111	22.0	43.6
4	#5725.00	66.4 PK	122.2	-55.8	1.61 V	114	22.8	43.6
5	*5795.00	111.3 PK			1.61 V	111	67.6	43.7
6	*5795.00	99.9 AV			1.61 V	111	56.2	43.7
7	#5850.00	72.4 PK	122.2	-49.8	1.61 V	112	28.6	43.8
8	#5855.00	68.4 PK	110.8	-42.4	1.59 V	111	24.6	43.8
9	#5875.00	64.3 PK	105.2	-40.9	1.60 V	112	20.5	43.9
10	#5925.00	64.3 PK	68.2	-3.9	1.61 V	114	20.4	44.0
11	11590.00	53.8 PK	74.0	-20.2	1.00 V	325	35.3	18.5
12	11590.00	39.9 AV	54.0	-14.1	1.00 V	325	21.4	18.5
13	#17385.00	61.0 PK	74.0	-13.0	1.20 V	344	34.3	26.7
14	#17385.00	47.2 AV	54.0	-6.8	1.20 V	344	20.6	26.7

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 1(5150-5250):

802.11ac BW80

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.6 PK	74.0	-11.4	1.00 H	198	20.0	42.6
2	5150.00	49.4 AV	54.0	-4.6	1.00 H	198	6.8	42.6
3	*5210.00	88.4 PK			1.00 H	196	45.7	42.7
4	*5210.00	77.2 AV			1.00 H	196	34.5	42.7
5	5350.00	63.1 PK	74.0	-10.9	1.00 H	196	20.2	42.9
6	5350.00	49.5 AV	54.0	-4.5	1.00 H	196	6.6	42.9
7	#10420.00	53.1 PK	74.0	-20.9	1.46 H	172	36.1	17.0
8	#10420.00	41.7 AV	54.0	-12.3	1.46 H	172	24.7	17.0
9	15630.00	58.7 PK	74.0	-15.3	2.07 H	162	34.5	24.2
10	15630.00	47.4 AV	54.0	-6.6	2.07 H	162	23.2	24.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	1.00 V	201	23.3	42.6
2	5150.00	53.5 AV	54.0	-0.5	1.00 V	201	10.9	42.6
3	*5210.00	105.6 PK			1.00 V	196	62.9	42.7
4	*5210.00	94.5 AV			1.00 V	196	51.8	42.7
5	#10420.00	51.3 PK	74.0	-22.7	1.54 V	94	34.3	17.0
6	#10420.00	40.5 AV	54.0	-13.5	1.54 V	94	23.5	17.0
7	15630.00	57.8 PK	74.0	-16.2	2.47 V	143	33.6	24.2
8	15630.00	47.5 AV	54.0	-6.5	2.47 V	143	23.3	24.2

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



Band 4(5725-5850):

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	#5650.00	62.8 PK	68.2	-5.4	2.65 H	210	19.4	43.4
2	#5700.00	68.1 PK	105.2	-37.1	2.65 H	210	24.6	43.5
3	#5720.00	77.3 PK	110.8	-33.5	2.65 H	210	33.7	43.6
4	#5725.00	76.1 PK	122.2	-46.1	2.65 H	240	32.5	43.6
5	#5755.00	98.9 PK	152.2	-53.3	2.65 H	210	55.3	43.6
6	#5755.00	87.3 AV	54.0	33.3	2.65 H	210	43.7	43.6
7	#5850.00	70.8 PK	122.2	-51.4	2.65 H	210	27.0	43.8
8	#5855.00	70.0 PK	110.8	-40.9	2.65 H	210	26.1	43.8
9	#5875.00	64.6 PK	105.2	-40.6	2.65 H	211	20.7	43.9
10	#5925.00	64.3 PK	68.2	-3.9	1.00 H	211	20.3	44.0
11	11550.00	59.2 PK	74.0	-14.8	1.00 H	42	40.8	18.4
12	11550.00	43.0 AV	54.0	-11.0	1.00 H	42	24.5	18.4
13	#17325.00	62.1 PK	74.0	-11.9	1.00 H	320	35.4	26.8
14	#17325.00	47.3 AV	54.0	-6.8	1.00 H	320	20.5	26.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
1	#5650.00	67.3 PK	68.2	-0.9	1.66 V	142	23.9	43.4
2	#5700.00	82.3 PK	105.2	-23.0	1.66 V	142	38.7	43.5
3	#5720.00	90.2 PK	110.8	-20.6	1.66 V	145	46.7	43.6
4	#5725.00	88.7 PK	122.2	-33.5	1.66 V	142	45.1	43.6
5	*5775.00	110.2 PK			1.51 V	142	66.5	43.7
6	*5775.00	98.2 AV			1.51 V	142	54.6	43.7
7	#5850.00	81.5 PK	122.2	-40.7	1.00 V	142	37.7	43.8
8	#5855.00	78.8 PK	110.8	-32.1	1.66 V	154	34.9	43.8
9	#5875.00	69.7 PK	105.2	-35.5	1.66 V	142	25.8	43.9
10	#5925.00	65.1 PK	68.2	-3.1	1.66 V	142	21.1	44.0
11	11550.00	52.3 PK	74.0	-21.7	1.00 V	327	33.8	18.4
12	11550.00	37.7 AV	54.0	-16.3	1.00 V	327	19.3	18.4
13	#17325.00	57.0 PK	74.0	-17.0	1.00 V	322	30.2	26.8
14	#17325.00	45.0 AV	54.0	-9.0	1.00 V	322	18.2	26.8

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 other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



3.2 CONDUCTED EMISSION MEASUREMENT

3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBµV)	
	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.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Apr. 05,17	Apr. 04,18
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 06,17	Mar. 05,18
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Apr. 05,17	Apr. 04,18
Voltage probe	SCHWARZBEC K	TK 9421	TK 9421-176	Jan. 04,17	Jan. 03,18
Test software	ADT	ADT_Cond_V7.3.7	N/A	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

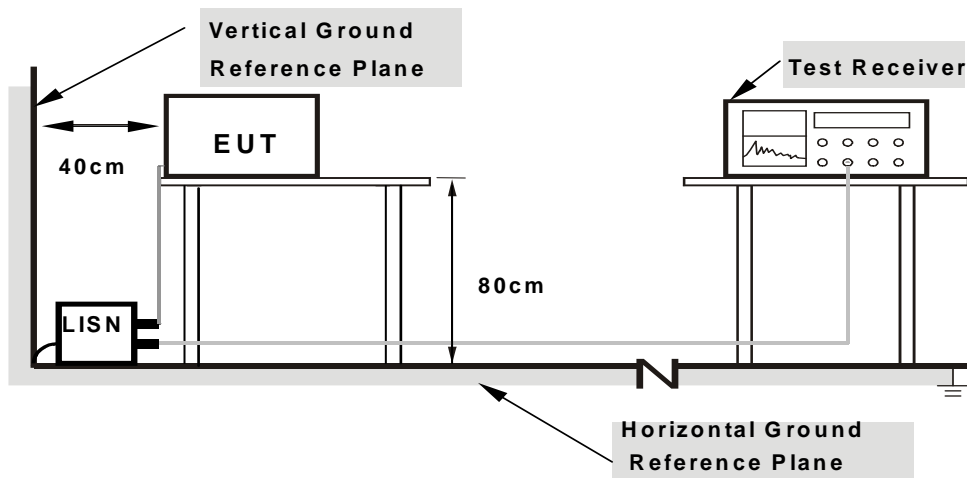
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) 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



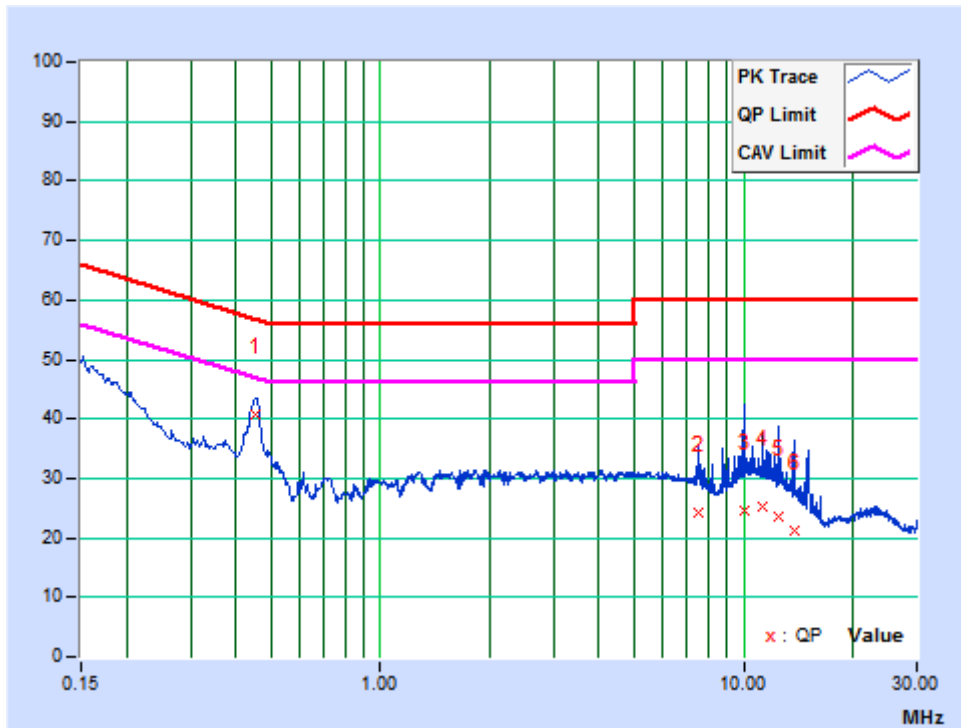
3.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: 802.11a

PHASE	Line	6dB BANDWIDTH	9kHz
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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	0.45065	10.23	30.43	24.70	40.66	34.93	56.86	46.86	-16.20	-11.93
2	7.49625	10.22	13.97	6.80	24.19	17.02	60.00	50.00	-35.81	-32.98
3	9.99600	10.24	14.38	6.42	24.62	16.66	60.00	50.00	-35.38	-33.34
4	11.25825	10.24	14.89	7.70	25.13	17.94	60.00	50.00	-34.87	-32.06
5	12.50250	10.25	13.29	6.35	23.54	16.60	60.00	50.00	-36.46	-33.40
6	13.74225	10.25	10.91	4.22	21.16	14.47	60.00	50.00	-38.84	-35.53

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

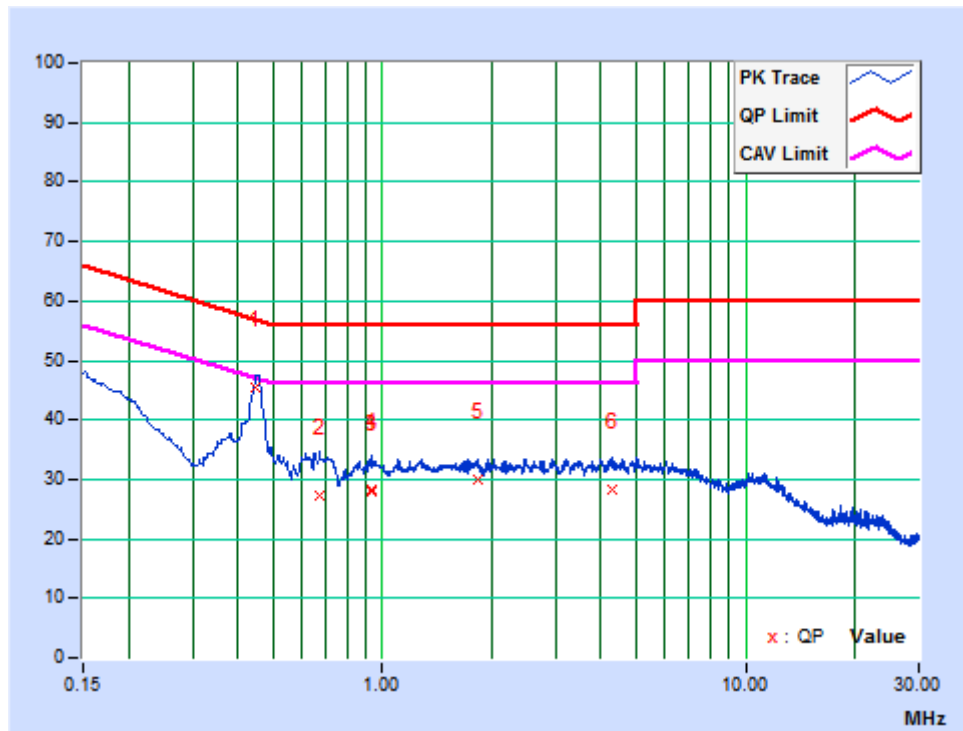




PHASE	Neutral	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.44947	10.03	35.33	31.69	45.36	41.72	56.88	46.88	-11.53	-5.17
2	0.66975	10.02	17.21	13.52	27.23	23.54	56.00	46.00	-28.77	-22.46
3	0.93750	10.02	18.06	14.68	28.08	24.70	56.00	46.00	-27.92	-21.30
4	0.93750	10.02	18.20	14.69	28.22	24.71	56.00	46.00	-27.78	-21.29
5	1.82635	10.01	19.87	15.47	29.88	25.48	56.00	46.00	-26.12	-20.52
6	4.28100	10.02	18.22	13.85	28.24	23.87	56.00	46.00	-27.76	-22.13

- 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.





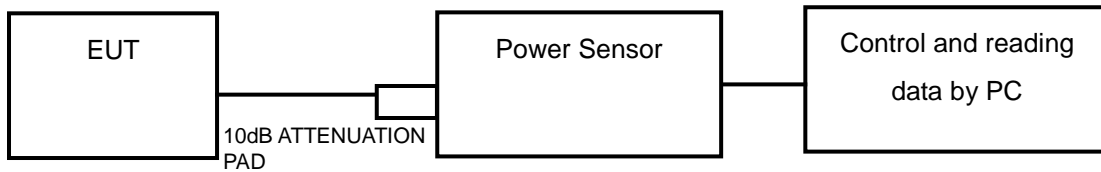
3.3 TRANSMIT POWER MEASUREMENT

3.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

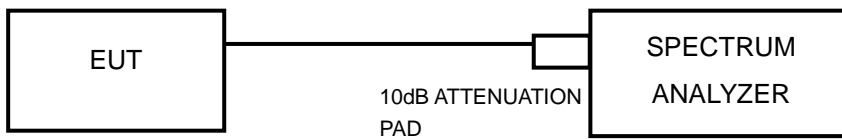
Operation Band	EUT Category		LIMIT
U-NII-1	-	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	-	Fixed point-to-point Access Point	1 Watt (30 dBm)
	√	Indoor Access Point	1 Watt (30 dBm)
	-	Mobile and Portable client 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.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	May 19,17	May 18,18
Power Sensor	Keysight	U2021XA	MY55060018	May 19,17	May 18,18
Test Software	Keysight	Power Analyzer 3.9	Power Analyzer 3.9	N/A	N/A
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 13, 17	Oct.12, 18
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.05,17	Sep. 04,18
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 04,17	Nov. 03,18
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 04,17	Nov. 03,18
Signal Generator	Agilent	N5183A	MY50140980	Nov. 04,17	Nov. 03,18
Agile Signal Generator	Agilent	8645A	Agilent	Aug.08, 17	Aug.07, 18
Spectrum Analyzer	Keysight	N9020A	MY55400499	Apr. 10,17	Apr. 09,18
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Dec.05, 16	Dec. 04, 17
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A	N/A
DC Source	Keysight	E3642A	MY56146098	N/A	N/A

NOTE:

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, GRGT/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

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	18.62	18.83	72.778	76.384	149.162	21.74	27.99	PASS
40	5200	20.04	20.47	100.925	111.429	212.354	23.27	27.99	PASS
48	5240	18.51	18.94	70.958	78.343	149.301	21.74	27.99	PASS
149	5745	20.64	20.15	115.878	103.514	219.392	23.41	27.99	PASS
157	5785	22.51	22.19	178.238	165.577	343.815	25.36	27.99	PASS
165	5825	20.67	20.08	116.681	101.859	218.54	23.40	27.99	PASS

NOTE:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit should be changed to 30-[5dBi + 10log(2)-6]=27.99.

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	18.43	18.64	69.663	73.114	142.777	21.55	27.99	PASS
40	5200	20.51	20.63	112.46	115.611	228.071	23.58	27.99	PASS
48	5240	18.31	18.59	67.764	72.277	140.041	21.46	27.99	PASS
149	5745	20.43	20.25	110.408	105.925	216.333	23.35	27.99	PASS
157	5785	22.39	22.18	173.38	165.196	338.576	25.30	27.99	PASS
165	5825	20.47	20.26	111.429	106.17	217.599	23.38	27.99	PASS

NOTE:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit should be changed to 30-[5dBi + 10log(2)-6]=27.99.



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	18.02	18.71	63.387	74.302	137.689	21.39	27.99	PASS
46	5230	18.16	18.30	65.464	67.608	133.072	21.24	27.99	PASS
151	5755	20.24	20.35	105.682	108.393	214.075	23.31	27.99	PASS
159	5795	20.31	20.48	107.399	111.686	219.085	23.41	27.99	PASS

NOTE:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 30dBm should be changed to 30-[5dBi + 10log(2)-6]=27.99.

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	19.72	20.04	93.756	100.925	194.681	22.89	27.99	PASS
155	5775	20.26	20.39	106.17	109.396	215.566	23.34	27.99	PASS

NOTE:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 30dBm should be changed to 30-[5dBi + 10log(2)-6]=27.99.



26dB BANDWIDTH for 5150-5250MHz:

802.11a

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
36	5180	25.76	24.82	PASS
40	5200	33.50	33.36	PASS
48	5240	27.75	27.78	PASS

802.11n (20MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
36	5180	21.28	21.25	PASS
40	5200	38.25	37.96	PASS
48	5240	29.33	27.78	PASS

802.11n (40MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
38	5190	43.60	42.21	PASS
46	5230	48.21	48.22	PASS

802.11ac (80MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
42	5210	107.55	113.79	PASS



6dB BANDWIDTH for 5725-5850MHz

802.11a

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
149	5745	16.06	16.07	PASS
157	5785	15.83	16.10	PASS
165	5825	15.53	15.86	PASS

802.11n (20M)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
149	5745	17.01	17.17	PASS
157	5785	16.95	16.90	PASS
165	5825	16.74	17.04	PASS

802.11n (40M)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
151	5755	35.34	35.33	PASS
159	5795	35.33	35.32	PASS

802.11ac (80MHz)

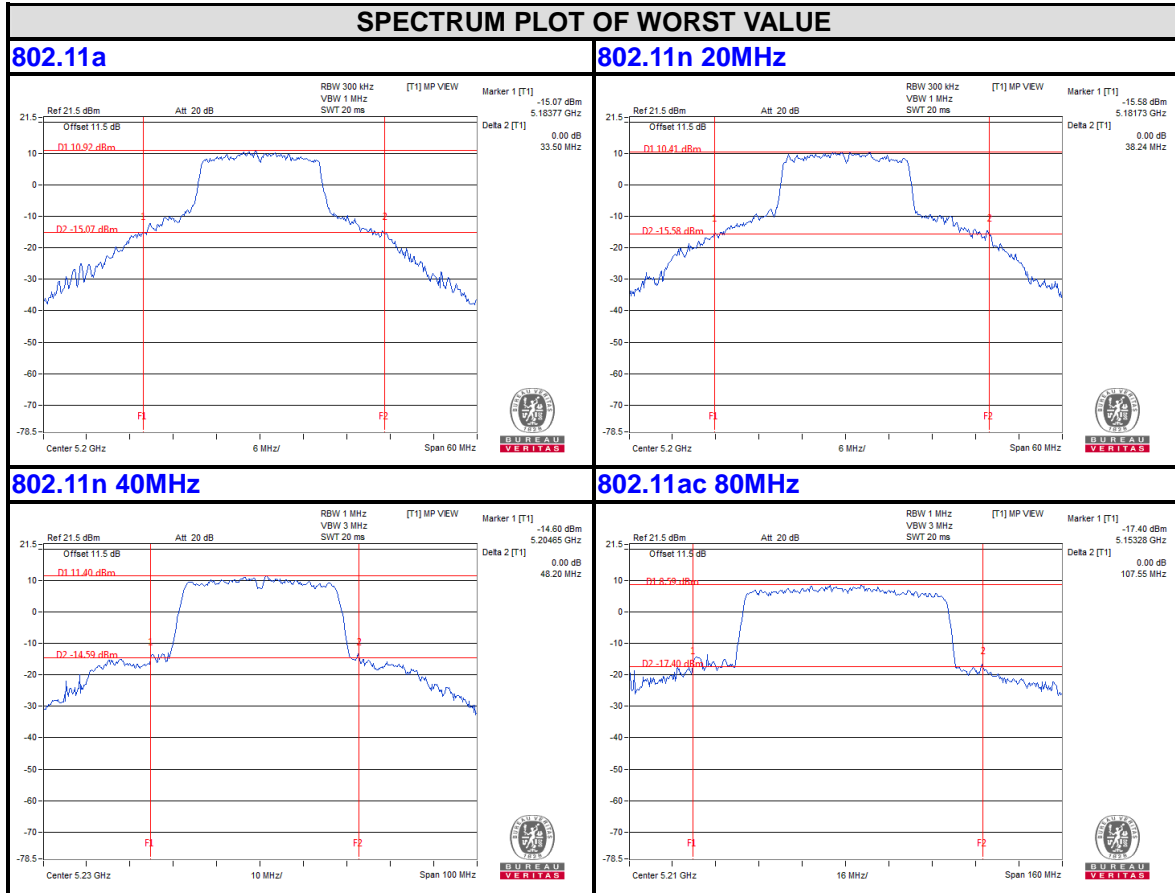
Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)		PASS /FAIL
		Chain 0	Chain 1	
155	5775	75.27	75.27	PASS



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26dB bandwidth Test Plot
For 5150-5250MHz worst plot
Chain 0



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Dongguan Branch

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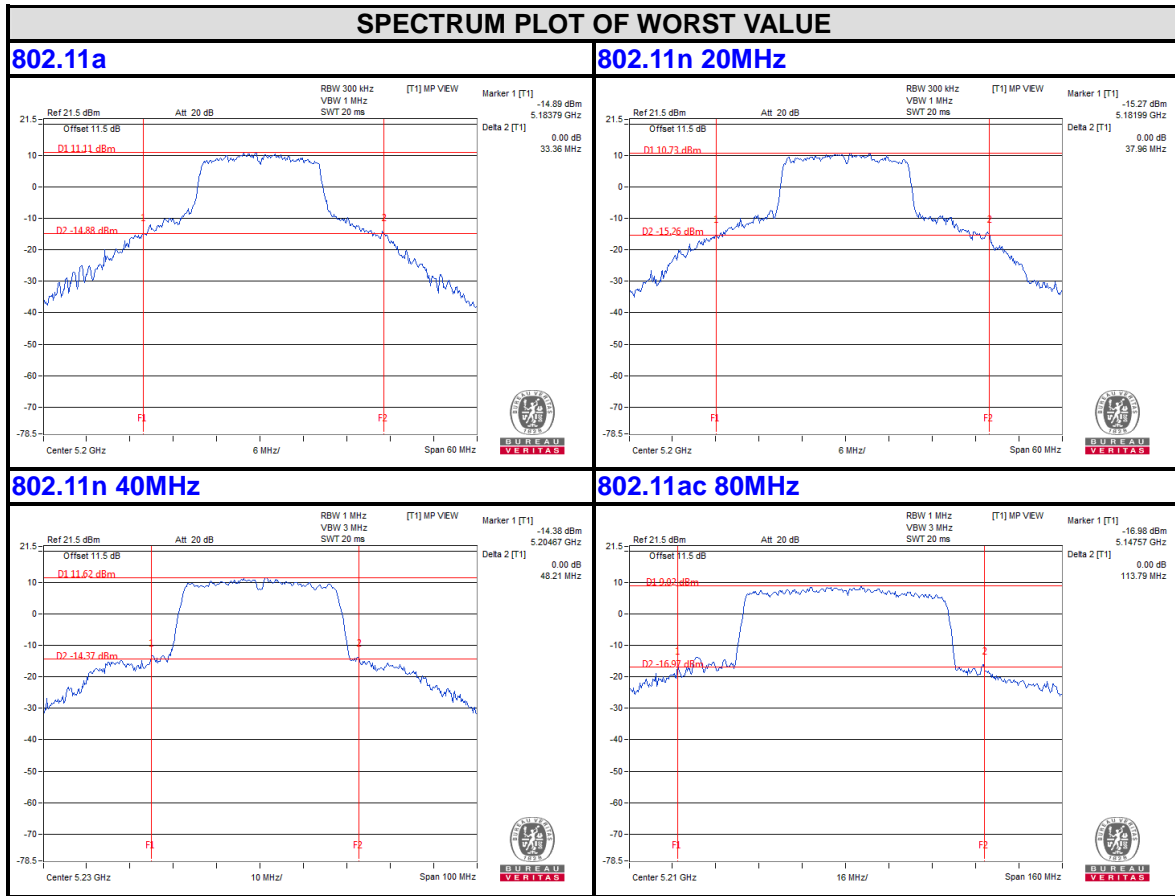
Tel: +86 769 8593 5656
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Email: customerservice.dg@cn.bureauveritas.com



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Chain 1

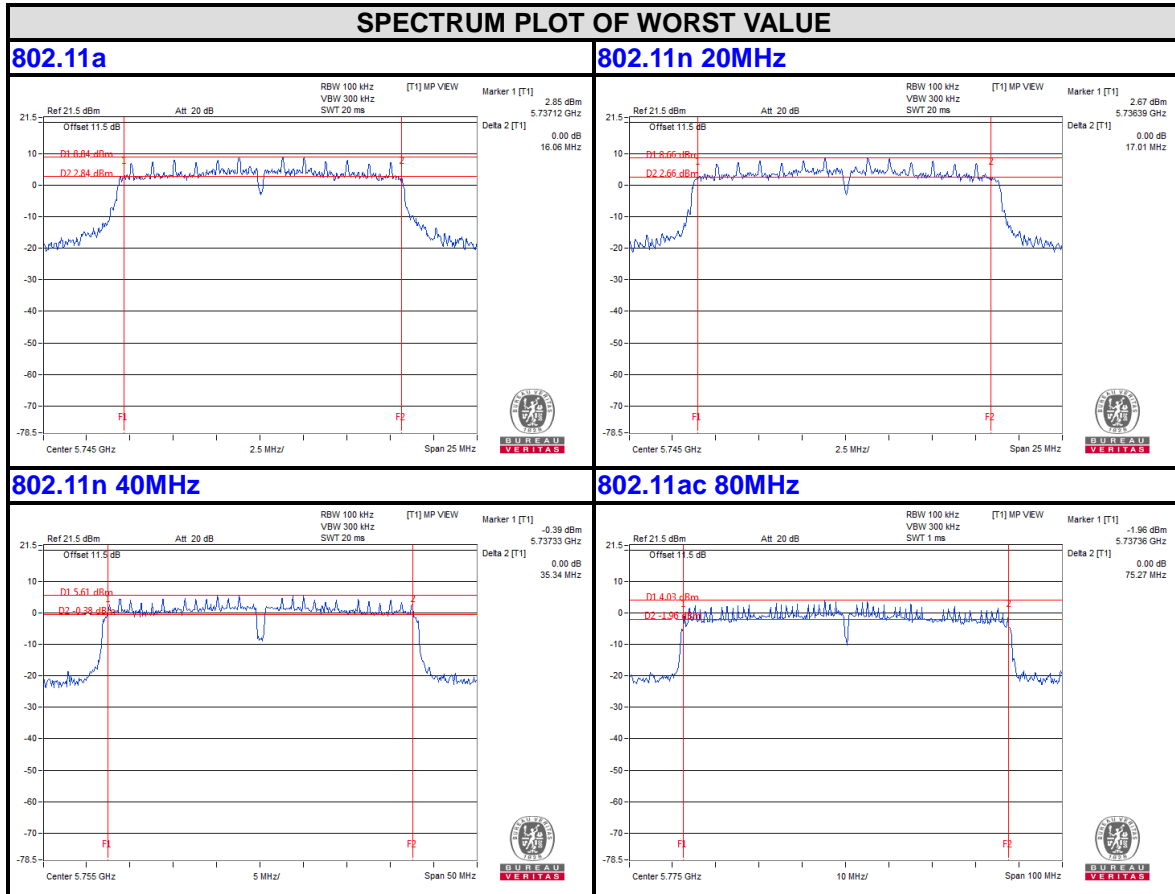




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Test Report No.: RF171025N006-2

6dB BANDWIDTH For 5725-5850MHz Chain 0



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

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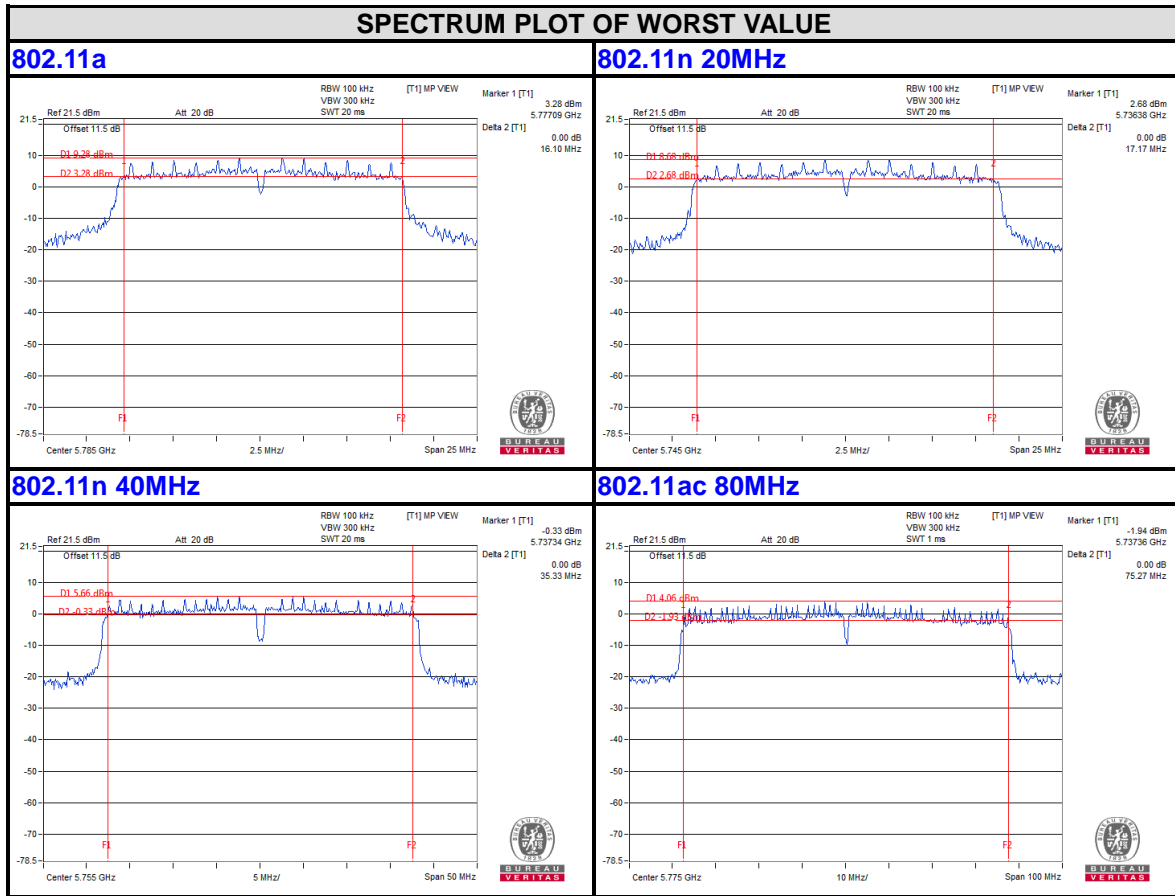
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Test Report No.: RF171025N006-2

Chain 1



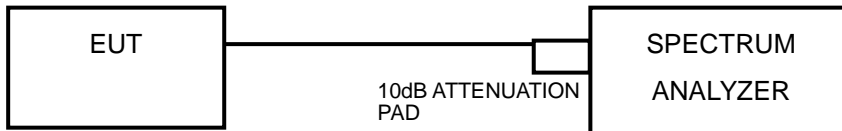


3.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

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 $10 \log (1/\text{duty cycle})$

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

802.11a

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		Total power density (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
36	5180	4.42	4.06	2.7669	2.5468	5.3137	7.25	14.99	PASS
40	5200	6.86	7.06	4.8529	5.0816	9.9345	9.97	14.99	PASS
48	5240	4.36	4.61	2.7290	2.8907	5.6197	7.50	14.99	PASS
Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		MAX. Limit (dBm/500k)	PASS / FAIL		
		Chain 0	Chain 1	Chain 0	Chain 1				
149	5745	-1.07	-1.08	1.15	1.14	27.99	PASS		
157	5785	-0.59	-0.65	1.63	1.57	27.99	PASS		
165	5825	-0.90	-0.91	1.32	1.31	27.99	PASS		

NOTE:

For 5150-5250MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 17dBm should be changed to 17-[5dBi + 10log(2)-6]=14.99.

For 5725-5850MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 30dBm should be changed to 30-[5dBi + 10log(2)-6]=27.99.



802.11n (20MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		Total power density (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
36	5180	3.53	3.76	2.2542	2.3768	4.6310	6.66	14.99	PASS
40	5200	6.47	6.69	4.4361	4.6666	9.1027	9.59	14.99	PASS
48	5240	3.49	3.72	2.2336	2.3550	4.5886	6.62	14.99	PASS
Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		MAX. Limit (dBm/500k)	PASS / FAIL		
		Chain 0	Chain 1	Chain 0	Chain 1				
149	5745	-1.63	-1.64	0.59	0.58	27.99	PASS		
157	5785	-1.14	-1.11	1.08	1.11	27.99	PASS		
165	5825	-1.46	-1.46	0.76	0.76	27.99	PASS		

NOTE:

For 5150-5250MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 17dBm should be changed to 17-[5dBi + 10log(2)-6]=14.99.

For 5725-5850MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 30dBm should be changed to 30-[5dBi + 10log(2)-6]=27.99.



802.11n (40MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		Total power density (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
38	5190	0.31	0.46	1.0740	1.1117	2.2464	3.51	14.99	PASS
46	5230	0.48	0.76	1.1169	1.1912	2.3721	3.75	14.99	PASS
Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		MAX. Limit (dBm/500k)	PASS / FAIL		
		Chain 0	Chain 1	Chain 0	Chain 1				
151	5755	-5.44	-5.42	-3.22	-3.20	27.99	PASS		
159	5795	-4.94	-5.00	-2.72	-2.78	27.99	PASS		

NOTE:

For 5150-5250MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 17dBm should be changed to 17-[5dBi + 10log(2)-6]=14.99.

For 5725-5850MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 30dBm should be changed to 30-[5dBi + 10log(2)-6]=27.99.

802.11ac (80MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		Total power density (mW)		Total power density		MAX. Limit (dBm)	PASS / FAIL
		Chain 0	Chain 1	Chain 0	Chain 1	mW	dBm		
42	5210	-2.22	-1.91	0.5998	0.6442	1.3164	1.19	14.99	PASS
Channel Number	Frequency (MHz)	RF Power Level in 300kHz BW (dBm)		RF Power Level in 500kHz BW (dBm)		MAX. Limit (dBm/500k)	PASS / FAIL		
		Chain 0	Chain 1	Chain 0	Chain 1				
155	5775	-7.87	-7.90	-5.65	-5.68	27.99	PASS		

NOTE:

For 5150-5250MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 17dBm should be changed to 17-[5dBi + 10log(2)-6]=14.99.

For 5725-5850MHz:

Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power limit 30dBm should be changed to 30-[5dBi + 10log(2)-6]=27.99.

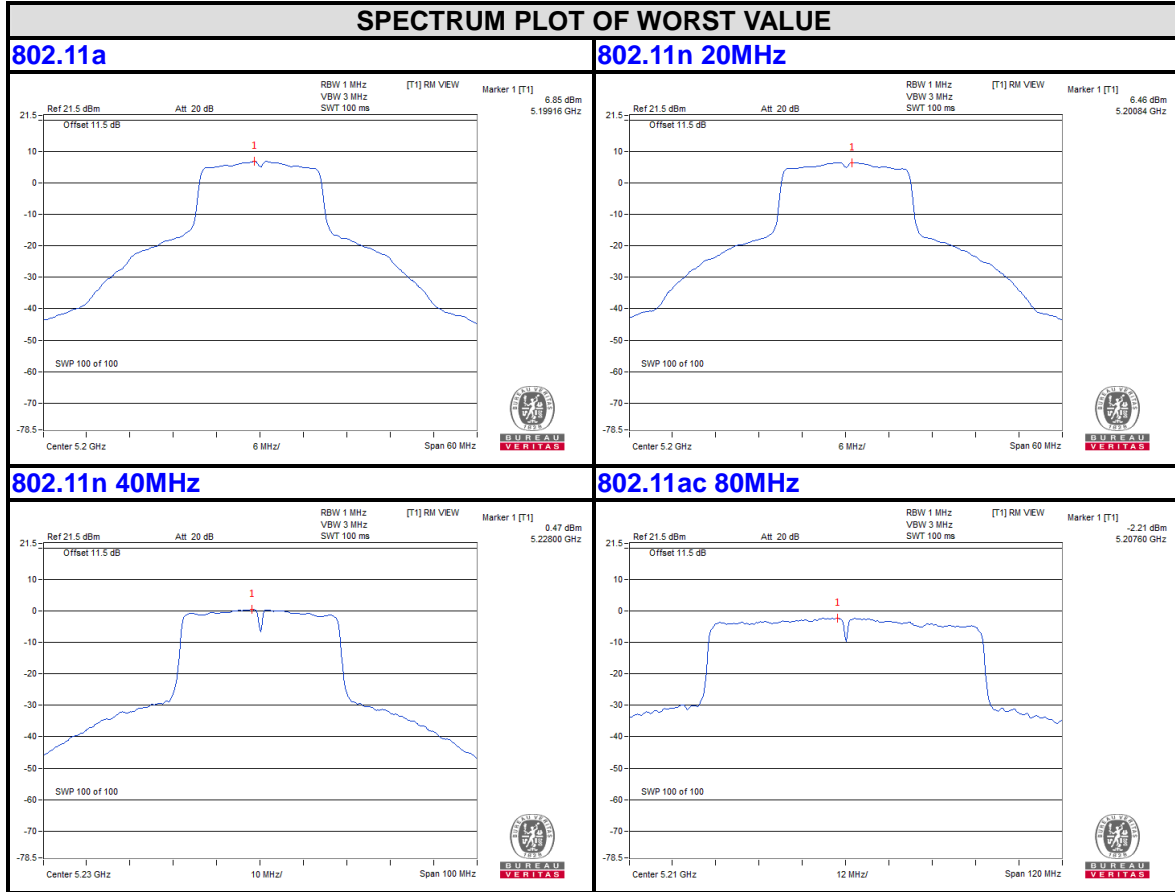


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Test Report No.: RF171025N006-2

PSD Test Plot

BAND 1
5150-5250MHz
Chain 0

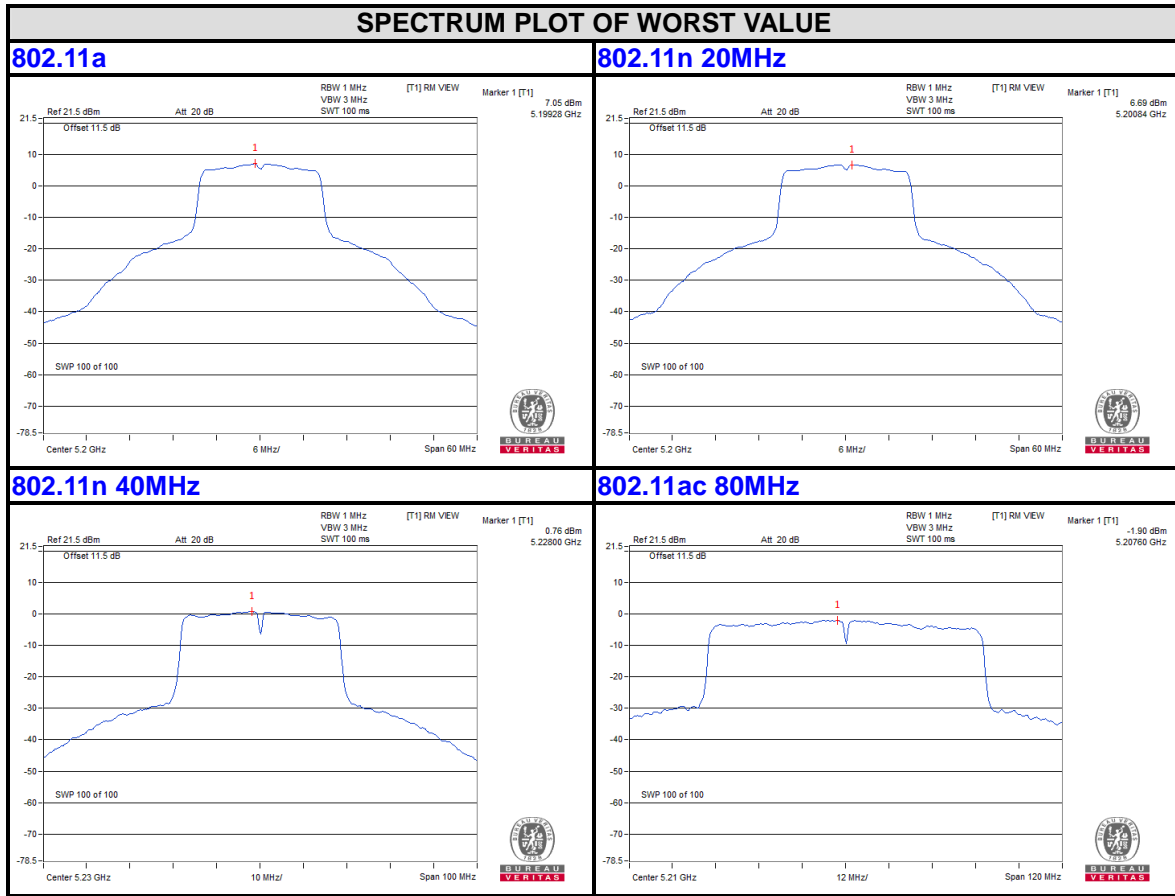




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Test Report No.: RF171025N006-2

Chain 1

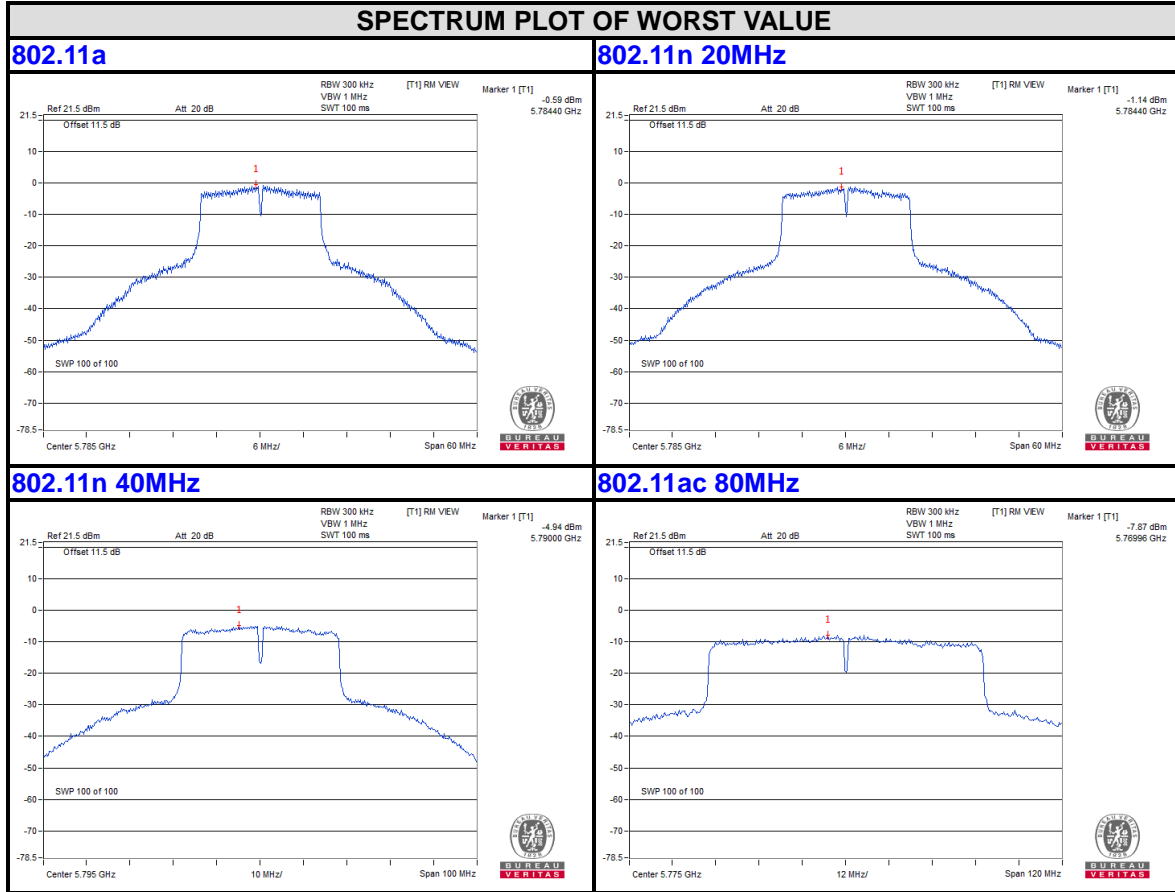




BUREAU VERITAS

Test Report No.: RF171025N006-2

BAND4
5725-5850MHz
Chain 0

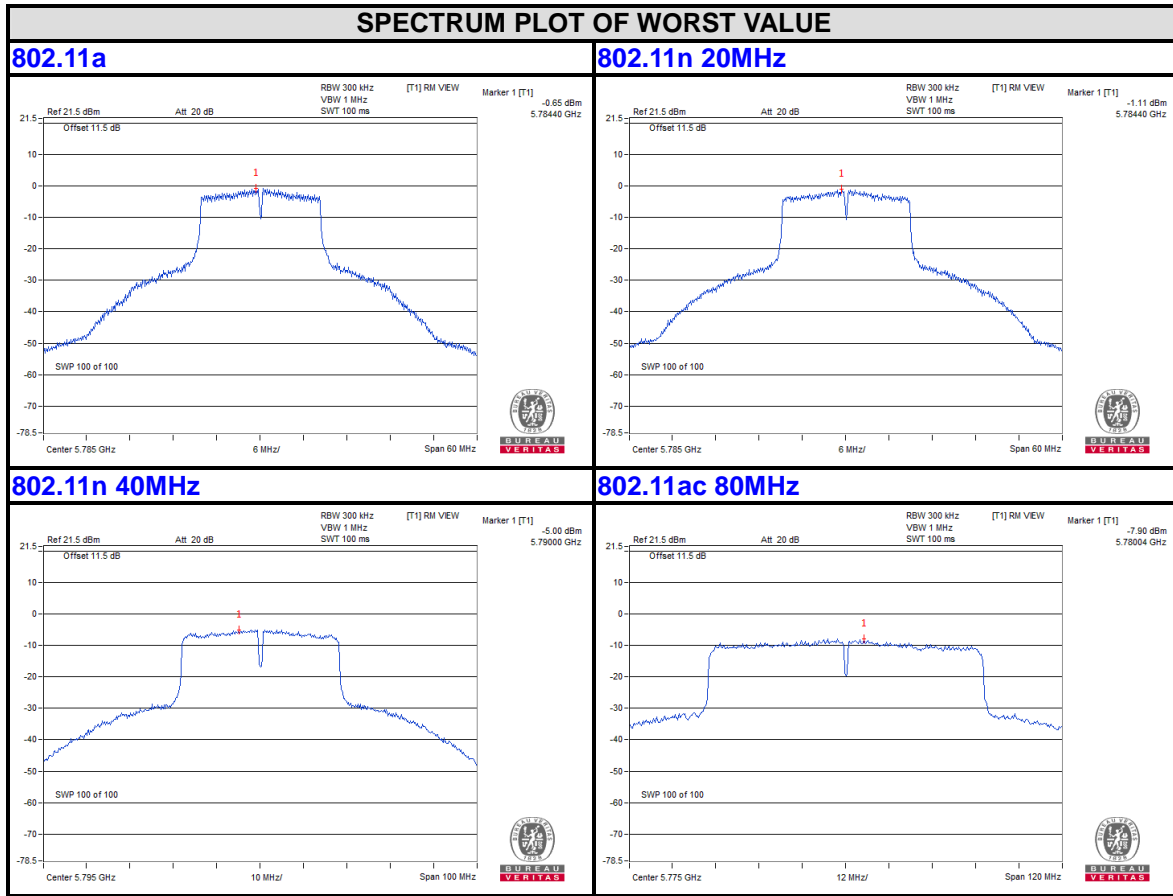




BUREAU VERITAS

Test Report No.: RF171025N006-2

Chain 1

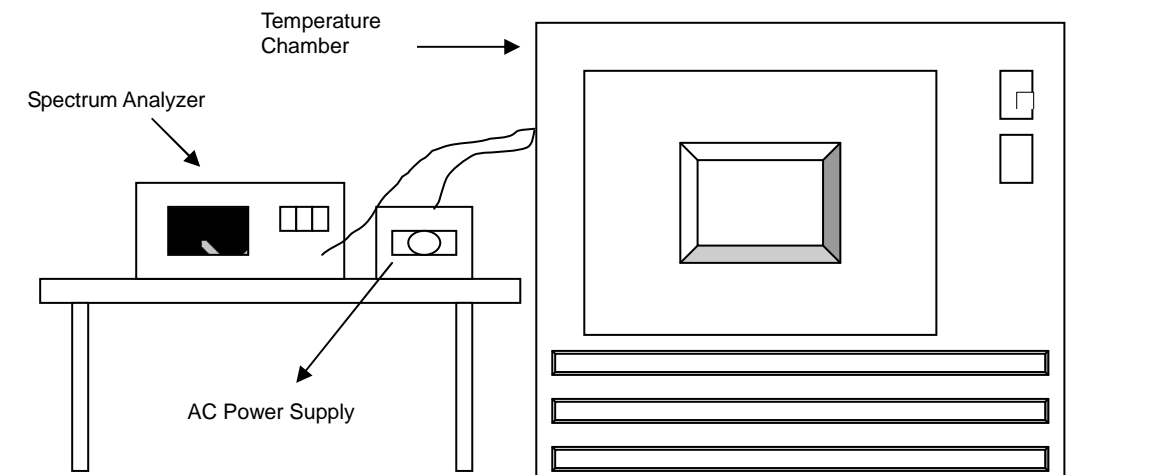


3.5 FREQUENCY STABILITY

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	5179.9988	-0.00002	5179.9972	-0.00005	5179.9992	-0.00002	5179.9997	-0.00001
40	120	5180.0131	0.00025	5180.0151	0.00029	5180.0164	0.00032	5180.0161	0.00031
30	120	5180.0251	0.00048	5180.0234	0.00045	5180.0229	0.00044	5180.0216	0.00042
20	120	5179.9751	-0.00048	5179.9746	-0.00049	5179.9739	-0.00050	5179.9746	-0.00049
10	120	5180.0047	0.00009	5180.0059	0.00011	5180.0025	0.00005	5180.0055	0.00011
0	120	5179.9793	-0.00040	5179.9791	-0.00040	5179.9789	-0.00041	5179.9768	-0.00045
-10	120	5179.9953	-0.00009	5179.9909	-0.00018	5179.9953	-0.00009	5179.9938	-0.00012
-20	120	5179.9834	-0.00032	5179.9879	-0.00023	5179.9861	-0.00027	5179.9849	-0.00029
-30	120	5180.0077	0.00015	5180.0042	0.00008	5180.0045	0.00009	5180.0072	0.00014

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	5179.9743	-0.00050	5179.9743	-0.00050	5179.9748	-0.00049	5179.9749	-0.00048
	120	5179.9751	-0.00048	5179.9746	-0.00049	5179.9739	-0.00050	5179.9746	-0.00049
	102	5179.9744	-0.00049	5179.9746	-0.00049	5179.9734	-0.00051	5179.9752	-0.00048



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4. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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Test Report No.: RF171025N006-2

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---