



Test Report No.: RF170725N035-2



TEST REPORT

Applicant	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

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	AC750 Wi-Fi Range Extender
Brand Name	tp-link
Model	RE205
Additional Model & Model Difference	N/A
Date of tests	Aug. 01, 2017 ~ Sep. 07, 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: Sep. 28, 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



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.....	8
2.3 DUTY CYCLE OF TEST SIGNAL	10
2.4 DESCRIPTION OF SUPPORT UNITS	11
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS	11
3. TEST TYPES AND RESULTS.....	12
3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	12
3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	12
3.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	13
3.1.3 TEST INSTRUMENTS.....	14
3.1.4 TEST PROCEDURES	15
3.1.5 DEVIATION FROM TEST STANDARD	15
3.1.6 TEST SETUP	16
3.1.7 EUT OPERATING CONDITION	17
3.1.8 TEST RESULTS	18
3.2 CONDUCTED EMISSION MEASUREMENT	38
3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	38
3.2.2 TEST INSTRUMENTS.....	38
3.2.3 TEST PROCEDURES	39
3.2.4 DEVIATION FROM TEST STANDARD	39
3.2.5 TEST SETUP	39
3.2.6 EUT OPERATING CONDITIONS	39
3.2.7 TEST RESULTS	40
3.3 TRANSMIT POWER MEASUREMENT	42



**BUREAU
VERITAS**

Test Report No.: RF170725N035-2

3.3.1	LIMITS OF TRANSMIT POWER MEASUREMENT	42
3.3.2	TEST SETUP	42
3.3.3	TEST INSTRUMENTS.....	43
3.3.4	TEST PROCEDURE.....	43
3.3.5	DEVIATION FROM TEST STANDARD	44
3.3.6	EUT OPERATING CONDITIONS	44
3.3.7	TEST RESULTS	45
3.4	PEAK POWER SPECTRAL DENSITY MEASUREMENT	51
3.4.1	LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	51
3.4.2	TEST SETUP	51
3.4.3	TEST INSTRUMENTS.....	51
3.4.4	TEST PROCEDURES	51
3.4.5	DEVIATION FROM TEST STANDARD	52
3.4.6	EUT OPERATING CONDITIONS	52
3.4.7	TEST RESULTS	53
3.5	FREQUENCY STABILITY	57
3.5.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	57
3.5.2	TEST SETUP	57
3.5.3	TEST INSTRUMENTS.....	57
3.5.4	TEST PROCEDURE.....	58
3.5.5	DEVIATION FROM TEST STANDARD	58
3.5.6	EUT OPERATING CONDITION	58
3.5.7	TEST RESULTS	59
4.	PHOTOGRAPHS OF THE TEST CONFIGURATION	65
5.	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	66



Test Report No.: RF170725N035-2

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF170725N035-2	Original release.	Sep. 28, 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	AC750 Wi-Fi Range Extender
MODEL NO.	RE205
FCC ID	TE7RE205
POWER SUPPLY	AC 100-240V 50/60Hz 0.3A
MODULATION TYPE	OFDM: 256QAM, 64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	DSSS, 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	Refer to 2.2 section
CONDUCTED OUTPUT POWER	20.21 dBm for 5150 ~ 5250MHz (Maximum AVG Power) 21.74 dBm for 5725 ~ 5850MHz (Maximum AVG Power)
ANTENNA TYPE	5180 ~ 5240MHz: Dipole antenna with 3dBi gain 5745 ~ 5825MHz: Dipole antenna with 3dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

1. The EUT incorporates a SISO function. Physically, the EUT provides 1 completed transmitter and 1 receiver.

MODULATION MODE	TX FUNCTION
802.11a	1TX/1RX
802.11ac 80MHz	1TX/1RX
802. 11n 20MHz	1TX/1RX
802. 11n 40MHz	1TX/1RX

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.: 170725N035) 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	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	--	--



BUREAU VERITAS

Test Report No.: RF170725N035-2

2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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)
-	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	V0
-	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	MCS0
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0
-	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)
-	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)
-	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)
-	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	V0
-	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	MCS0
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0
-	802.11ac 80MHz		155	155	OFDM	BPSK	V0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	25deg. C, 51%RH	AC 120V 60Hz	Eric Fang
RE≥1G	25deg. C, 51%RH	AC 120V 60Hz	Eric Fang
PLC	20deg. C, 56%RH	AC 120V 60Hz	Yang
APCM	20deg. C, 55%RH	AC 120V 60Hz	Harry Li



BUREAU VERITAS

Test Report No.: RF170725N035-2

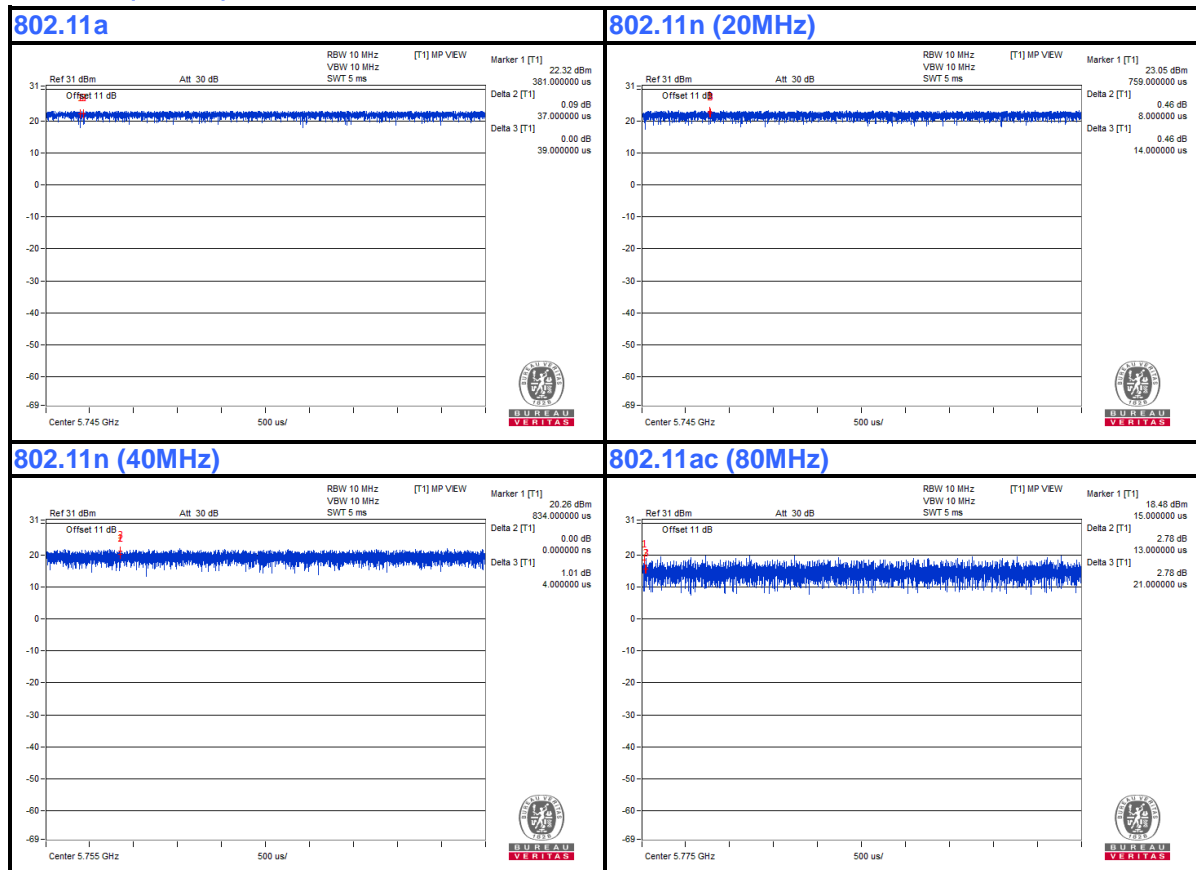
2.3 DUTY CYCLE OF TEST SIGNAL

802.11a: 100%

802.11n (20MHz): 100%

802.11n (40MHz): 100%

802.11ac (80MHz): 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

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:

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



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. 04,16	Nov. 03,17
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. 04,16	Nov. 03,17
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Aug. 08,17	Aug. 07,18

NOTE:

1. The test was performed in 966 Chamber.
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. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 749762.



Test Report No.: RF170725N035-2

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:

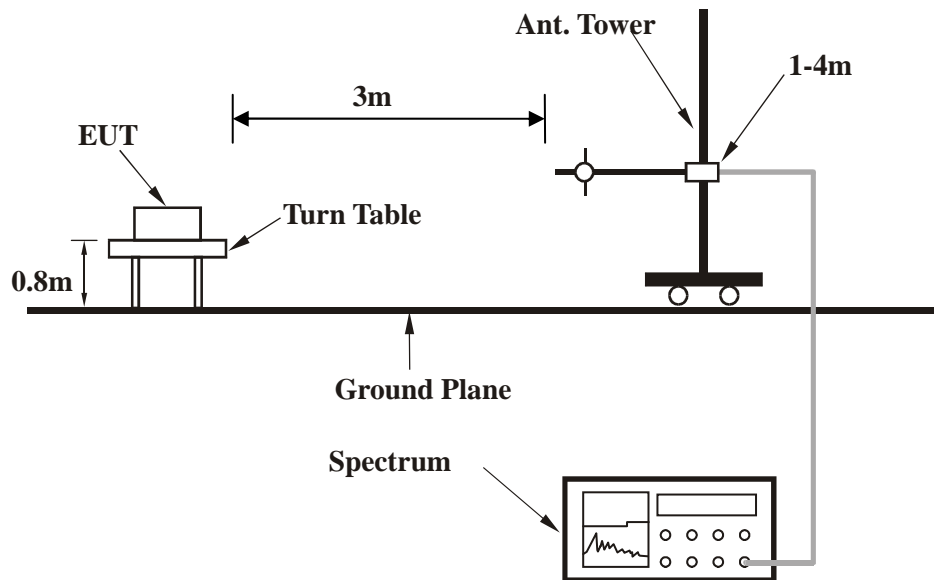
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution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

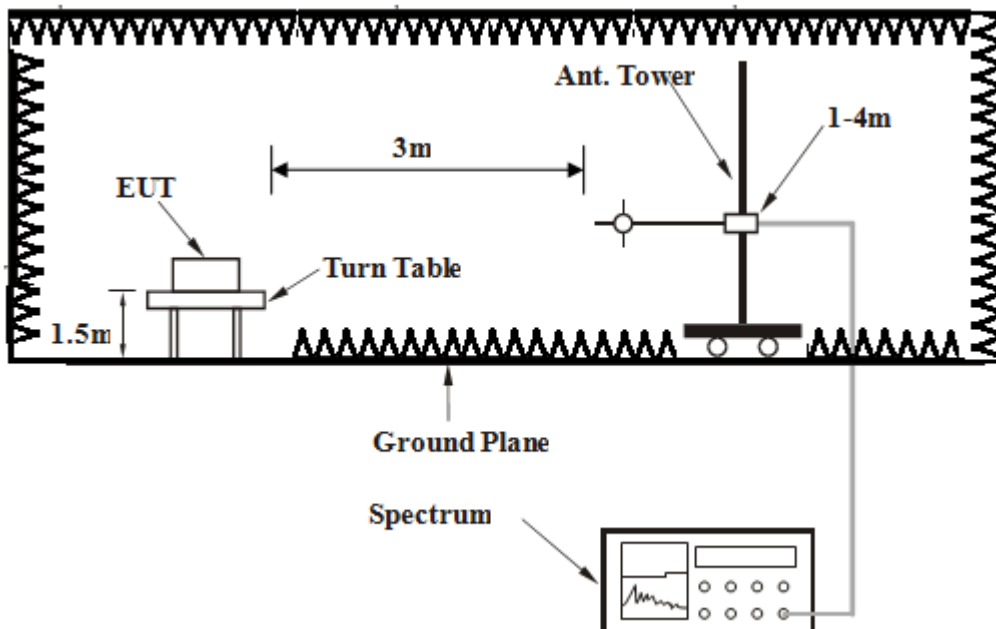
3.1.6 TEST SETUP

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).



Test Report No.: RF170725N035-2

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

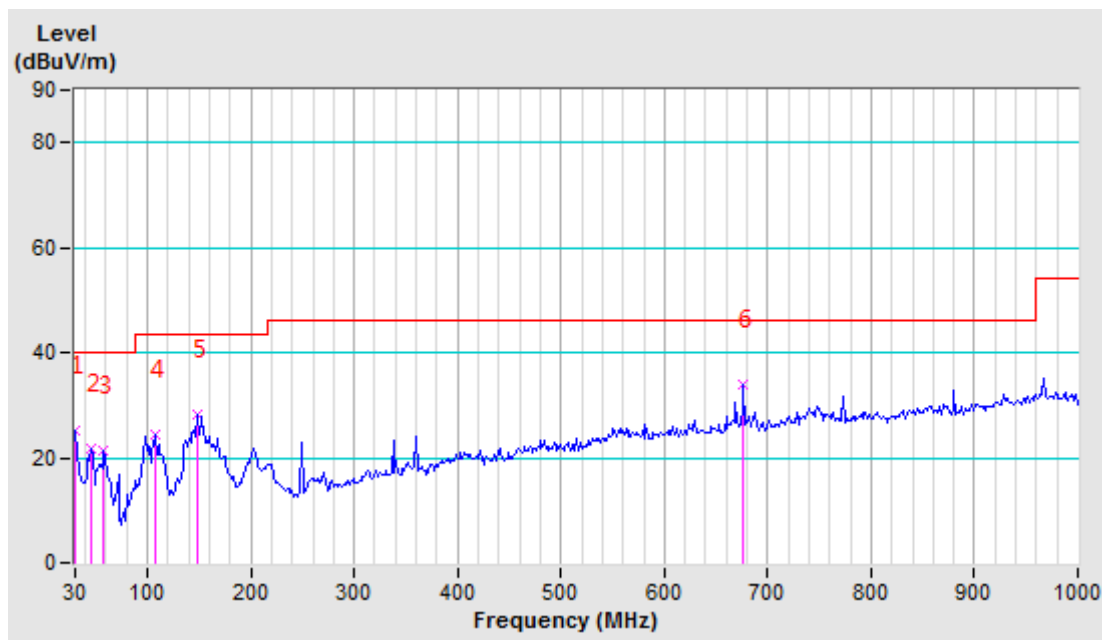
802.11a TX

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	25.02 QP	40.00	-14.98	2.00 H	12	36.29	-11.27
2	45.54	21.58 QP	40.00	-18.42	2.00 H	0	41.26	-19.68
3	57.98	21.28 QP	40.00	-18.72	2.00 H	211	45.66	-24.38
4	107.72	24.31 QP	43.50	-19.19	2.00 H	23	42.46	-18.15
5	148.14	28.20 QP	43.50	-15.30	2.00 H	134	44.84	-16.64
6	676.67	33.79 QP	46.00	-12.21	2.00 H	48	36.80	-3.01

REMARKS:

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

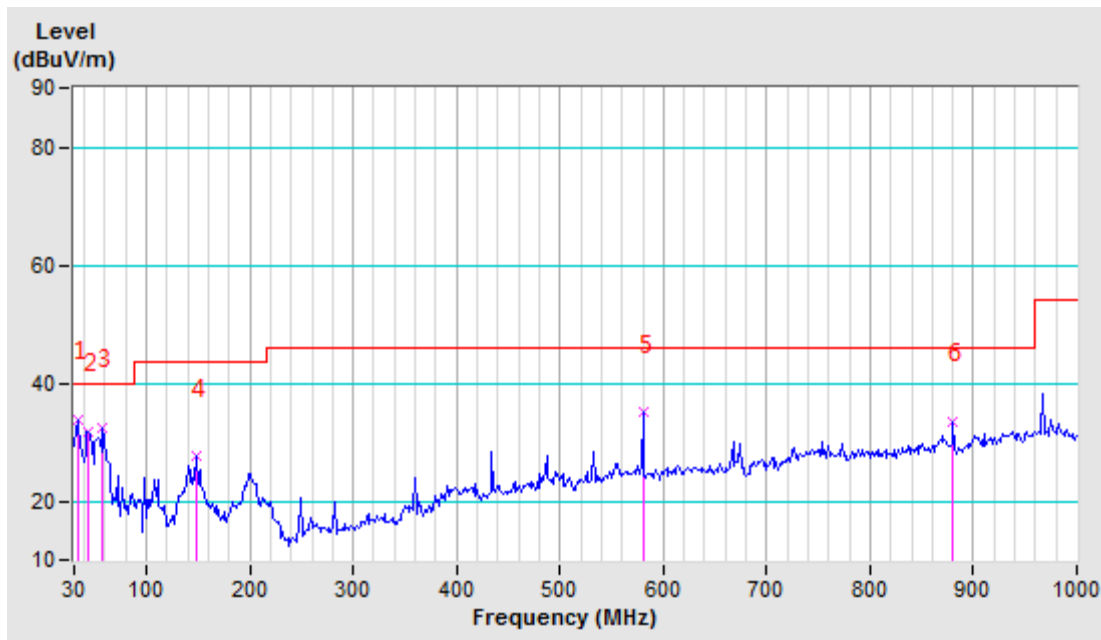


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	33.11	33.78 QP	40.00	-6.22	1.00 V	117	46.68	-12.90
2	43.99	31.76 QP	40.00	-8.24	1.00 V	242	50.53	-18.77
3	57.98	32.51 QP	40.00	-7.49	1.00 V	183	56.89	-24.38
4	148.14	27.49 QP	43.50	-16.01	1.00 V	159	44.13	-16.64
5	580.29	34.97 QP	46.00	-11.03	2.00 V	194	39.13	-4.16
6	880.30	33.34 QP	46.00	-12.66	2.00 V	302	32.48	0.86

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.





BUREAU VERITAS

Test Report No.: RF170725N035-2

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	61.87 PK	74.00	-12.13	2.35 H	173	19.26	42.61
2	5150.00	48.88 AV	54.00	-5.12	2.35 H	173	6.27	42.61
3	*5180.00	101.24 PK			2.35 H	173	58.59	42.65
4	*5180.00	91.19 AV			2.35 H	173	48.54	42.65
5	#10360.00	56.02 PK	74.00	-17.98	1.00 H	201	39.33	16.69
6	#10360.00	43.01 AV	54.00	-10.99	1.00 H	201	26.32	16.69
7	15540.00	62.01 PK	74.00	-11.99	1.00 H	10	38.08	23.93
8	15540.00	47.79 AV	54.00	-6.21	1.00 H	10	23.86	23.93

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	66.48 PK	74.00	-7.52	1.55 V	322	23.87	42.61
2	5150.00	51.98 AV	54.00	-2.02	1.55 V	322	9.37	42.61
3	*5180.00	107.69 PK			1.55 V	95	65.04	42.65
4	*5180.00	98.16 AV			1.55 V	95	55.51	42.65
5	#10360.00	57.01 PK	74.00	-16.99	1.00 V	306	40.32	16.69
6	#10360.00	43.25 AV	54.00	-10.75	1.00 V	306	26.56	16.69
7	15540.00	66.88 PK	74.00	-7.12	1.00 V	15	42.95	23.93
8	15540.00	52.85 AV	54.00	-1.15	1.00 V	15	28.92	23.93

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.



Test Report No.: RF170725N035-2

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	62.00 PK	74.00	-12.00	3.25 H	258	19.39	42.61
2	5150.00	49.00 AV	54.00	-5.00	3.25 H	258	6.39	42.61
3	*5200.00	103.27 PK			3.58 H	258	60.59	42.68
4	*5200.00	93.16 AV			3.58 H	258	50.48	42.68
5	#10400.00	54.01 PK	74.00	-19.99	2.66 H	300	37.10	16.91
6	#10400.00	43.56 AV	54.00	-10.44	2.66 H	300	26.65	16.91
7	15600.00	62.25 PK	74.00	-11.75	1.54 H	205	38.14	24.11
8	15600.00	47.01 AV	54.00	-6.99	1.54 H	205	22.90	24.11
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.40 PK	74.00	-11.60	1.00 V	323	19.79	42.61
2	5150.00	48.99 AV	54.00	-5.01	1.00 V	323	6.38	42.61
3	*5200.00	108.27 PK			2.61 V	16	65.59	42.68
4	*5200.00	97.86 AV			2.61 V	16	55.18	42.68
5	#10400.00	57.15 PK	74.00	-16.85	2.21 V	166	40.24	16.91
6	#10400.00	44.05 AV	54.00	-9.95	2.21 V	166	27.14	16.91
7	15600.00	65.31 PK	74.00	-8.69	2.15 V	18	41.20	24.11
8	15600.00	50.97 AV	54.00	-3.03	2.15 V	18	26.86	24.11

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.: RF170725N035-2

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	62.01 PK	74.00	-11.99	2.50 H	287	19.40	42.61
2	5150.00	49.18 AV	54.00	-4.82	2.50 H	287	6.57	42.61
3	*5240.00	103.65 PK			2.50 H	256	60.91	42.74
4	*5240.00	93.51 AV			2.50 H	256	50.77	42.74
5	5350.00	63.55 PK	74.00	-10.45	1.55 H	230	20.65	42.90
6	5350.00	49.75 AV	54.00	-4.25	1.55 H	230	6.85	42.90
7	#10480.00	47.48 PK	74.00	-26.52	1.00 H	360	30.15	17.33
8	#10480.00	36.01 AV	54.00	-17.99	1.00 H	360	18.68	17.33
9	15720.00	61.32 PK	74.00	-12.68	2.05 H	199	36.85	24.47
10	15720.00	49.05 AV	54.00	-4.95	2.05 H	199	24.58	24.47

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.15 PK	74.00	-11.85	1.00 V	197	19.54	42.61
2	5150.00	49.50 AV	54.00	-4.50	1.00 V	197	6.89	42.61
3	*5240.00	106.88 PK			1.55 V	98	64.14	42.74
4	*5240.00	96.10 AV			1.55 V	98	53.36	42.74
5	5350.00	63.65 PK	74.00	-10.35	1.55 V	355	20.75	42.90
6	5350.00	49.79 AV	54.00	-4.21	1.55 V	355	6.89	42.90
7	#10480.00	48.89 PK	74.00	-25.11	1.00 V	205	31.56	17.33
8	#10480.00	37.25 AV	54.00	-16.75	1.00 V	205	19.92	17.33
9	15720.00	63.45 PK	74.00	-10.55	1.20 V	201	38.98	24.47
10	15720.00	49.89 AV	54.00	-4.11	1.20 V	201	25.42	24.47

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	5150.00	62.20 PK	74.00	-11.80	3.85 H	257	19.59	42.61
2	5150.00	50.39 AV	54.00	-3.61	3.85 H	257	7.78	42.61
3	*5180.00	103.24 PK			3.85 H	257	60.59	42.65
4	*5180.00	92.91 AV			3.85 H	257	50.26	42.65
5	#10360.00	55.26 PK	74.00	-18.74	2.00 H	302	38.57	16.69
6	#10360.00	44.26 AV	54.00	-9.74	2.00 H	302	27.57	16.69
7	15540.00	63.44 PK	74.00	-10.56	1.66 H	331	39.51	23.93
8	15540.00	47.89 AV	54.00	-6.11	1.66 H	331	23.96	23.93
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	63.62 PK	74.00	-10.38	1.88 V	332	21.01	42.61
2	5150.00	51.00 AV	54.00	-3.00	1.88 V	332	8.39	42.61
3	*5180.00	108.24 PK			2.34 V	95	65.59	42.65
4	*5180.00	98.20 AV			2.34 V	95	55.55	42.65
5	#10360.00	56.89 PK	74.00	-17.11	1.44 V	50	40.20	16.69
6	#10360.00	43.77 AV	54.00	-10.23	1.44 V	50	27.08	16.69
7	15540.00	68.59 PK	74.00	-5.41	1.22 V	17	44.66	23.93
8	15540.00	52.10 AV	54.00	-1.90	1.22 V	17	28.17	23.93

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.: RF170725N035-2

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	62.27 PK	74.00	-11.73	1.06 H	160	19.66	42.61
2	5150.00	49.20 AV	54.00	-4.80	1.06 H	160	6.59	42.61
3	*5200.00	99.56 PK			1.06 H	160	56.88	42.68
4	*5200.00	88.83 AV			1.06 H	160	46.15	42.68
5	#10400.00	48.69 PK	74.00	-25.31	1.66 H	200	31.78	16.91
6	#10400.00	36.09 AV	54.00	-17.91	1.66 H	200	19.18	16.91
7	15600.00	59.25 PK	74.00	-14.75	1.00 H	205	35.14	24.11
8	15600.00	45.92 AV	54.00	-8.08	1.00 H	205	21.81	24.11
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	63.06 PK	74.00	-10.94	1.22 V	355	20.45	42.61
2	5150.00	49.51 AV	54.00	-4.49	1.22 V	355	6.90	42.61
3	*5200.00	106.27 PK			2.05 V	124	63.59	42.68
4	*5200.00	97.27 AV			2.05 V	124	54.59	42.68
5	#10400.00	48.86 PK	74.00	-25.14	1.66 V	90	31.95	16.91
6	#10400.00	35.95 AV	54.00	-18.05	1.66 V	90	19.04	16.91
7	15600.00	61.89 PK	74.00	-12.11	1.55 V	5	37.78	24.11
8	15600.00	47.59 AV	54.00	-6.41	1.55 V	5	23.48	24.11

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.: RF170725N035-2

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	61.34 PK	74.00	-12.66	1.55 H	130	18.73	42.61
2	5150.00	48.93 AV	54.00	-5.07	1.55 H	130	6.32	42.61
3	*5240.00	99.85 PK			1.55 H	129	57.11	42.74
4	*5240.00	90.97 AV			1.55 H	129	48.23	42.74
5	5350.00	62.89 PK	74.00	-11.11	1.55 H	129	19.99	42.90
6	5350.00	49.48 AV	54.00	-4.52	1.55 H	129	6.58	42.90
7	#10480.00	45.59 PK	74.00	-28.41	1.55 H	90	28.26	17.33
8	#10480.00	33.69 AV	54.00	-20.31	1.55 H	90	16.36	17.33
9	15720.00	58.88 PK	74.00	-15.12	1.55 H	91	34.41	24.47
10	15720.00	43.56 AV	54.00	-10.44	1.55 H	91	19.09	24.47

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	61.63 PK	74.00	-12.37	2.05 V	206	19.02	42.61
2	5150.00	49.60 AV	54.00	-4.40	2.05 V	206	6.99	42.61
3	*5240.00	109.32 PK			2.55 V	216	66.58	42.74
4	*5240.00	99.00 AV			2.55 V	216	56.26	42.74
5	5350.00	63.46 PK	74.00	-10.54	1.99 V	58	20.56	42.90
6	5350.00	50.68 AV	54.00	-3.32	1.99 V	58	7.78	42.90
7	#10480.00	45.25 PK	74.00	-28.75	1.00 V	206	27.92	17.33
8	#10480.00	34.22 AV	54.00	-19.78	1.00 V	206	16.89	17.33
9	15720.00	60.88 PK	74.00	-13.12	1.55 V	10	36.41	24.47
10	15720.00	43.85 AV	54.00	-10.15	1.55 V	10	19.38	24.47

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	5150.00	64.62 PK	74.00	-9.38	3.68 H	262	22.01	42.61
2	5150.00	51.20 AV	54.00	-2.80	3.68 H	262	8.59	42.61
3	*5190.00	97.46 PK			3.68 H	262	54.79	42.67
4	*5190.00	87.64 AV			3.68 H	262	44.97	42.67
5	#10380.00	52.46 PK	74.00	-21.54	1.55 H	30	35.66	16.80
6	#10380.00	42.96 AV	54.00	-11.04	1.55 H	30	26.16	16.80
7	15570.00	60.52 PK	74.00	-13.48	1.55 H	62	36.50	24.02
8	15570.00	48.41 AV	54.00	-5.59	1.55 H	62	24.39	24.02

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.60 PK	74.00	-4.40	2.26 V	16	26.99	42.61
2	5150.00	52.84 AV	54.00	-1.16	2.26 V	16	10.23	42.61
3	*5190.00	102.36 PK			2.22 V	20	59.69	42.67
4	*5190.00	91.61 AV			2.22 V	20	48.94	42.67
5	#10380.00	55.69 PK	74.00	-18.31	1.00 V	225	38.89	16.80
6	#10380.00	43.59 AV	54.00	-10.41	1.00 V	225	26.79	16.80
7	15570.00	64.59 PK	74.00	-9.41	2.55 V	16	40.57	24.02
8	15570.00	51.14 AV	54.00	-2.86	2.55 V	16	27.12	24.02

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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.: RF170725N035-2

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	62.10 PK	74.00	-11.90	3.55 H	268	19.49	42.61
2	5150.00	48.96 AV	54.00	-5.04	3.55 H	268	6.35	42.61
3	*5230.00	102.42 PK			3.53 H	268	59.69	42.73
4	*5230.00	91.35 AV			3.53 H	268	48.62	42.73
5	5350.00	62.79 PK	74.00	-11.21	2.88 H	270	19.89	42.90
6	5350.00	49.79 AV	54.00	-4.21	2.88 H	270	6.89	42.90
7	#10460.00	47.58 PK	74.00	-26.42	1.66 H	51	30.35	17.23
8	#10460.00	33.26 AV	54.00	-20.74	1.66 H	51	16.03	17.23
9	15690.00	55.49 PK	74.00	-18.51	1.88 H	84	31.11	24.38
10	15690.00	44.48 AV	54.00	-9.52	1.88 H	84	20.10	24.38

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.20 PK	74.00	-11.80	1.00 V	208	19.59	42.61
2	5150.00	49.50 AV	54.00	-4.50	1.00 V	208	6.89	42.61
3	*5230.00	105.84 PK			1.88 V	190	63.11	42.73
4	*5230.00	95.49 AV			1.88 V	190	52.76	42.73
5	5350.00	63.46 PK	74.00	-10.54	1.00 V	210	20.56	42.90
6	5350.00	50.04 AV	54.00	-3.96	1.00 V	210	7.14	42.90
7	#10460.00	46.36 PK	74.00	-27.64	1.55 V	90	29.13	17.23
8	#10460.00	33.65 AV	54.00	-20.35	1.55 V	90	16.42	17.23
9	15690.00	56.95 PK	74.00	-17.05	1.22 V	211	32.57	24.38
10	15690.00	45.89 AV	54.00	-8.11	1.22 V	211	21.51	24.38

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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.: RF170725N035-2

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	5150.00	61.56 PK	74.00	-12.44	1.00 H	170	18.95	42.61
2	5150.00	48.97 AV	54.00	-5.03	1.00 H	170	6.36	42.61
3	*5210.00	88.58 PK			1.00 H	170	45.88	42.70
4	*5210.00	78.09 AV			1.00 H	170	35.39	42.70
5	#10420.00	45.88 PK	74.00	-28.12	1.55 H	20	28.87	17.01
6	#10420.00	34.26 AV	54.00	-19.74	1.55 H	20	17.25	17.01
7	15630.00	55.69 PK	74.00	-18.31	1.00 H	54	31.49	24.20
8	15630.00	42.25 AV	54.00	-11.75	1.00 H	54	18.05	24.20
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	5150.00	66.86 PK	74.00	-7.14	2.10 V	100	24.25	42.61
2	5150.00	52.50 AV	54.00	-1.50	2.10 V	17	9.89	42.61
3	*5210.00	96.59 PK			1.00 V	95	53.89	42.70
4	*5210.00	86.35 AV			1.00 V	95	43.65	42.70
5	#10420.00	54.56 PK	74.00	-19.44	1.00 V	208	37.55	17.01
6	#10420.00	42.89 AV	54.00	-11.11	1.00 V	208	25.88	17.01
7	15630.00	55.56 PK	74.00	-18.44	1.66 V	84	31.36	24.20
8	15630.00	42.44 AV	54.00	-11.56	1.66 V	84	18.24	24.20

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.



Test Report No.: RF170725N035-2

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	#5650.00	64.00 PK	68.20	-4.20	1.00 H	94	20.59	43.41
2	#5700.00	64.77 PK	105.20	-40.43	1.00 H	94	21.26	43.51
3	#5720.00	75.67 PK	110.80	-35.13	1.00 H	94	32.12	43.55
4	#5725.00	84.83 PK	122.20	-37.37	1.00 H	94	41.27	43.56
5	*5745.00	104.75 PK			1.25 H	94	61.15	43.60
6	*5745.00	94.05 AV			1.25 H	94	50.45	43.60
7	11490.00	63.12 PK	74.00	-10.88	1.88 H	299	44.73	18.39
8	11490.00	48.08 AV	54.00	-5.92	1.88 H	299	29.69	18.39
9	#17235.00	67.59 PK	74.00	-6.41	2.93 H	360	40.69	26.90
10	#17235.00	52.22 AV	54.00	-1.78	2.93 H	360	25.32	26.90
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	#5650.00	63.59 PK	68.20	-4.61	3.97 V	219	20.18	43.41
2	#5700.00	68.75 PK	105.20	-36.45	3.97 V	219	25.24	43.51
3	#5720.00	82.63 PK	110.80	-28.17	3.97 V	219	39.08	43.55
4	#5725.00	90.72 PK	122.20	-31.48	3.97 V	219	47.16	43.56
5	*5745.00	111.61 PK			1.02 V	134	68.01	43.60
6	*5745.00	101.09 AV			1.02 V	134	57.49	43.60
7	11490.00	62.14 PK	74.00	-11.86	1.22 V	351	43.75	18.39
8	11490.00	49.01 AV	54.00	-4.99	1.22 V	351	30.62	18.39
9	#17235.00	65.66 PK	74.00	-8.34	2.30 V	199	38.76	26.90
10	#17235.00	52.39 AV	54.00	-1.61	2.30 V	199	25.49	26.90

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.: RF170725N035-2

CHANNEL		TX Channel 157			DETECTOR FUNCTION		Peak (PK)	
FREQUENCY RANGE		1GHz ~ 40GHz			DETECTOR FUNCTION		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	62.69 PK	68.20	-5.51	1.88 H	167	19.28	43.41
2	#5700.00	62.79 PK	105.20	-42.41	1.88 H	167	19.28	43.51
3	#5720.00	63.26 PK	110.80	-47.54	1.88 H	170	19.71	43.55
4	#5725.00	62.93 PK	122.20	-59.27	1.88 H	167	19.37	43.56
5	*5785.00	102.64 PK			1.88 H	167	58.96	43.68
6	*5785.00	91.84 AV			1.88 H	167	48.16	43.68
7	#5850.00	63.95 PK	122.20	-58.25	1.88 H	167	20.14	43.81
8	#5855.00	64.03 PK	110.80	-46.77	1.88 H	169	20.21	43.82
9	#5875.00	64.03 PK	105.20	-41.17	1.87 H	165	20.17	43.86
10	#5925.00	64.94 PK	68.20	-3.26	1.68 H	167	20.99	43.95
11	11570.00	57.04 PK	74.00	-16.96	1.55 H	80	38.58	18.46
12	11570.00	45.12 AV	54.00	-8.88	1.55 H	80	26.66	18.46
13	#17355.00	60.02 PK	74.00	-13.98	1.55 H	352	33.28	26.74
14	#17355.00	47.55 AV	54.00	-6.45	1.55 H	352	20.81	26.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	62.66 PK	68.20	-5.54	2.18 V	325	19.25	43.41
2	#5700.00	63.77 PK	105.20	-41.43	2.18 V	325	20.26	43.51
3	#5720.00	65.78 PK	110.80	-45.02	2.18 V	322	22.23	43.55
4	#5725.00	66.31 PK	122.20	-55.89	4.00 V	326	22.75	43.56
5	*5785.00	113.01 PK			2.18 V	325	69.33	43.68
6	*5785.00	102.20 AV			2.18 V	325	58.52	43.68
7	#5850.00	64.40 PK	122.20	-57.80	2.18 V	325	20.59	43.81
8	#5855.00	64.08 PK	110.80	-46.72	2.18 V	325	20.26	43.82
9	#5875.00	65.06 PK	105.20	-40.14	2.18 V	325	21.20	43.86
10	#5925.00	64.33 PK	68.20	-3.87	1.00 V	306	20.38	43.95
11	11570.00	55.01 PK	74.00	-18.99	1.00 V	208	36.55	18.46
12	11570.00	44.09 AV	54.00	-9.91	1.00 V	208	25.63	18.46
13	#17355.00	60.25 PK	74.00	-13.75	1.55 V	205	33.51	26.74
14	#17355.00	48.54 AV	54.00	-5.46	1.55 V	205	21.80	26.74

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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. " # ": The radiated frequency is out of the restricted band.

Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 34, Chenwulu Section, Guantai Rd., Houjie
Town, Dongguan City,
Guangdong 523942, China

Tel: +86 769 8593 5656
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU
VERITAS

Test Report No.: RF170725N035-2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	105.34 PK			3.78 H	266	61.58	43.76
2	*5825.00	95.01 AV			3.78 H	266	51.25	43.76
3	#5850.00	78.89 PK	122.20	-43.31	3.78 H	266	35.08	43.81
4	#5855.00	77.31 PK	110.80	-33.49	3.78 H	265	33.49	43.82
5	#5875.00	64.53 PK	105.20	-40.67	1.00 H	264	20.67	43.86
6	#5925.00	64.53 PK	68.20	-3.67	3.78 H	268	20.58	43.95
7	11650.00	51.23 PK	74.00	-22.77	1.22 H	208	32.68	18.55
8	11650.00	39.46 AV	54.00	-14.54	1.22 H	208	20.91	18.55
9	#17475.00	58.26 PK	74.00	-15.74	1.88 H	86	31.69	26.57
10	#17475.00	45.56 AV	54.00	-8.44	1.88 H	86	18.99	26.57

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	112.35 PK			1.56 V	211	68.59	43.76
2	*5825.00	101.98 AV			1.56 V	211	58.22	43.76
3	#5850.00	85.88 PK	122.20	-36.32	1.56 V	211	42.07	43.81
4	#5855.00	83.93 PK	110.80	-26.87	1.56 V	211	40.11	43.82
5	#5875.00	65.06 PK	105.20	-40.14	1.56 V	210	21.20	43.86
6	#5925.00	64.64 PK	68.20	-3.56	1.56 V	212	20.69	43.95
7	11650.00	54.21 PK	74.00	-19.79	1.00 V	202	35.66	18.55
8	11650.00	43.56 AV	54.00	-10.44	1.00 V	202	25.01	18.55
9	#17475.00	59.11 PK	74.00	-14.89	1.55 V	225	32.54	26.57
10	#17475.00	46.78 AV	54.00	-7.22	1.55 V	225	20.21	26.57

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



BUREAU
VERITAS

Test Report No.: RF170725N035-2

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	#5650.00	62.53 PK	68.20	-5.67	1.98 H	92	19.12	43.41
2	#5700.00	66.66 PK	105.20	-38.54	1.98 H	99	23.15	43.51
3	#5720.00	81.14 PK	110.80	-29.66	2.00 H	90	37.59	43.55
4	#5725.00	86.15 PK	122.20	-36.05	2.00 H	98	42.59	43.56
5	*5745.00	104.91 PK			1.98 H	92	61.31	43.60
6	*5745.00	94.44 AV			1.98 H	92	50.84	43.60
7	11490.00	47.21 PK	74.00	-26.79	1.00 H	208	28.82	18.39
8	11490.00	35.62 AV	54.00	-18.38	1.00 H	208	17.23	18.39
9	#17235.00	58.45 PK	74.00	-15.55	2.14 H	266	31.55	26.90
10	#17235.00	44.31 AV	54.00	-9.69	2.14 H	266	17.41	26.90

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	#5650.00	62.56 PK	68.20	-5.64	1.00 V	208	19.15	43.41
2	#5700.00	69.63 PK	105.20	-35.57	1.00 V	208	26.12	43.51
3	#5720.00	85.61 PK	110.80	-25.19	1.00 V	210	42.06	43.55
4	#5725.00	90.44 PK	122.20	-31.76	1.00 V	209	46.88	43.56
5	*5745.00	109.38 PK			1.55 V	208	65.78	43.60
6	*5745.00	100.19 AV			1.55 V	208	56.59	43.60
7	11490.00	48.55 PK	74.00	-25.45	1.55 V	80	30.16	18.39
8	11490.00	35.65 AV	54.00	-18.35	1.55 V	80	17.26	18.39
9	#17235.00	57.58 PK	74.00	-16.42	1.00 V	205	30.68	26.90
10	#17235.00	45.26 AV	54.00	-8.74	1.00 V	205	18.36	26.90

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.: RF170725N035-2

CHANNEL		TX Channel 157			DETECTOR FUNCTION		Peak (PK)	
FREQUENCY RANGE		1GHz ~ 40GHz			DETECTOR FUNCTION		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	61.62 PK	68.20	-6.58	1.38 H	87	18.21	43.41
2	#5700.00	62.76 PK	105.20	-42.44	1.37 H	87	19.25	43.51
3	#5720.00	63.30 PK	110.80	-47.50	1.38 H	87	19.75	43.55
4	#5725.00	62.82 PK	122.20	-59.38	1.38 H	87	19.26	43.56
5	*5785.00	103.48 PK			1.38 H	87	59.80	43.68
6	*5785.00	93.26 AV			1.38 H	87	49.58	43.68
7	#5850.00	63.29 PK	122.20	-58.91	1.38 H	88	19.48	43.81
8	#5855.00	64.15 PK	110.80	-46.65	1.38 H	87	20.33	43.82
9	#5875.00	63.84 PK	105.20	-41.36	1.38 H	87	19.98	43.86
10	#5925.00	63.83 PK	68.20	-4.37	1.87 H	89	19.88	43.95
11	11570.00	55.26 PK	74.00	-18.74	1.77 H	208	36.80	18.46
12	11570.00	40.98 AV	54.00	-13.02	1.77 H	208	22.52	18.46
13	#17355.00	60.12 PK	74.00	-13.88	2.55 H	19	33.38	26.74
14	#17355.00	46.12 AV	54.00	-7.88	2.55 H	19	19.38	26.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	62.66 PK	68.20	-5.54	2.15 V	205	19.25	43.41
2	#5700.00	62.90 PK	105.20	-42.30	2.15 V	205	19.39	43.51
3	#5720.00	63.53 PK	110.80	-47.27	2.15 V	205	19.98	43.55
4	#5725.00	64.45 PK	122.20	-57.75	2.15 V	204	20.89	43.56
5	*5785.00	109.64 PK			2.15 V	205	65.96	43.68
6	*5785.00	99.20 AV			2.15 V	205	55.52	43.68
7	#5850.00	63.79 PK	122.20	-58.41	2.15 V	205	19.98	43.81
8	#5855.00	64.80 PK	110.80	-46.00	2.15 V	204	20.98	43.82
9	#5875.00	64.45 PK	105.20	-40.75	2.15 V	205	20.59	43.86
10	#5925.00	63.91 PK	68.20	-4.29	2.15 V	206	19.96	43.95
11	11570.00	53.69 PK	74.00	-20.31	1.55 V	306	35.23	18.46
12	11570.00	42.25 AV	54.00	-11.75	1.55 V	306	23.79	18.46
13	#17355.00	60.21 PK	74.00	-13.79	1.66 V	244	33.47	26.74
14	#17355.00	48.69 AV	54.00	-5.31	1.66 V	244	21.95	26.74

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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, " # ": The radiated frequency is out of the restricted band.

Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 34, Chenwulu Section, Guantai Rd., Houjie
Town, Dongguan City,
Guangdong 523942, China

Tel: +86 769 8593 5656
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



BUREAU VERITAS

Test Report No.: RF170725N035-2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	103.88 PK			1.54 H	57	60.12	43.76
2	*5825.00	93.77 AV			1.54 H	57	50.01	43.76
3	#5850.00	78.69 PK	122.20	-43.51	1.54 H	57	34.88	43.81
4	#5855.00	73.79 PK	110.80	-37.01	1.54 H	57	29.97	43.82
5	#5875.00	63.75 PK	105.20	-41.45	1.54 H	58	19.89	43.86
6	#5925.00	64.18 PK	68.20	-4.02	1.54 H	58	20.23	43.95
7	11650.00	56.32 PK	74.00	-17.68	1.01 H	225	37.77	18.55
8	11650.00	40.25 AV	54.00	-13.75	1.01 H	225	21.70	18.55
9	#17475.00	59.26 PK	74.00	-14.74	1.77 H	90	32.69	26.57
10	#17475.00	45.69 AV	54.00	-8.31	1.77 H	90	19.12	26.57

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.65 PK			1.96 V	324	67.89	43.76
2	*5825.00	101.14 AV			1.96 V	324	57.38	43.76
3	#5850.00	85.09 PK	122.20	-37.11	1.96 V	324	41.28	43.81
4	#5855.00	80.61 PK	110.80	-30.19	1.96 V	324	36.79	43.82
5	#5875.00	68.02 PK	105.20	-37.18	1.96 V	325	24.16	43.86
6	#5925.00	65.07 PK	68.20	-3.13	1.96 V	322	21.12	43.95
7	11650.00	54.59 PK	74.00	-19.41	2.88 V	84	36.04	18.55
8	11650.00	40.25 AV	54.00	-13.75	2.88 V	84	21.70	18.55
9	#17475.00	58.49 PK	74.00	-15.51	1.55 V	208	31.92	26.57
10	#17475.00	45.25 AV	54.00	-8.75	1.55 V	208	18.68	26.57

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	#5650.00	61.81 PK	68.20	-6.39	1.11 H	91	18.40	43.41
2	#5700.00	72.80 PK	105.20	-32.40	1.16 H	91	29.29	43.51
3	#5720.00	83.41 PK	110.80	-27.39	1.16 H	90	39.86	43.55
4	#5725.00	85.52 PK	122.20	-36.68	1.16 H	91	41.96	43.56
5	*5755.00	102.51 PK			1.16 H	91	58.89	43.62
6	*5755.00	91.47 AV			1.16 H	91	47.85	43.62
7	11510.00	47.00 PK	74.00	-27.00	1.66 H	208	28.61	18.39
8	11510.00	35.69 AV	54.00	-18.31	1.66 H	208	17.30	18.39
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	63.80 PK	68.20	-4.40	1.00 V	309	20.39	43.41
2	#5700.00	77.87 PK	105.20	-27.33	1.00 V	209	34.36	43.51
3	#5720.00	87.76 PK	110.80	-23.04	1.00 V	209	44.21	43.55
4	#5725.00	89.84 PK	122.20	-32.36	1.00 V	208	46.28	43.56
5	*5755.00	106.21 PK			1.00 V	309	62.59	43.62
6	*5755.00	95.51 AV			1.00 V	309	51.89	43.62
7	11510.00	48.59 PK	74.00	-25.41	1.55 V	60	30.20	18.39
8	11510.00	35.66 AV	54.00	-18.34	1.55 V	60	17.27	18.39

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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.: RF170725N035-2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	102.16 PK			1.19 H	54	58.46	43.70
2	*5795.00	91.11 AV			1.19 H	54	47.41	43.70
3	#5850.00	72.86 PK	122.20	-49.34	1.19 H	54	29.05	43.81
4	#5855.00	70.37 PK	110.80	-40.43	1.19 H	54	26.55	43.82
5	#5875.00	65.31 PK	105.20	-39.89	1.19 H	54	21.45	43.86
6	#5925.00	64.10 PK	68.20	-4.10	1.19 H	56	20.15	43.95
7	11590.00	56.25 PK	74.00	-17.75	1.77 H	84	37.77	18.48
8	11590.00	44.95 AV	54.00	-9.05	1.77 H	84	26.47	18.48
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	*5795.00	108.29 PK			2.14 V	207	64.59	43.70
2	*5795.00	96.93 AV			2.14 V	207	53.23	43.70
3	#5850.00	78.36 PK	122.20	-43.84	2.14 V	207	34.55	43.81
4	#5855.00	76.51 PK	110.80	-34.29	2.14 V	207	32.69	43.82
5	#5875.00	71.34 PK	105.20	-33.86	2.14 V	208	27.48	43.86
6	#5925.00	64.40 PK	68.20	-3.80	2.14 V	205	20.45	43.95
7	11590.00	58.66 PK	74.00	-15.34	1.99 V	94	40.18	18.48
8	11590.00	44.01 AV	54.00	-9.99	1.99 V	94	25.53	18.48

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.



Test Report No.: RF170725N035-2

BUREAU VERITAS

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	#5650.00	62.57 PK	68.20	-5.63	3.97 H	267	19.16	43.41
2	#5700.00	73.42 PK	105.20	-31.78	3.97 H	267	29.91	43.51
3	#5720.00	75.68 PK	110.80	-35.12	3.97 H	267	32.13	43.55
4	#5725.00	76.92 PK	122.20	-45.28	3.97 H	267	33.36	43.56
5	*5775.00	96.30 PK			2.08 H	266	52.64	43.66
6	*5775.00	85.03 AV			2.08 H	266	41.37	43.66
7	#5850.00	74.13 PK	122.20	-48.07	3.97 H	267	30.32	43.81
8	#5855.00	71.60 PK	110.80	-39.20	3.97 H	287	27.78	43.82
9	#5875.00	76.42 PK	105.20	-28.78	3.97 H	267	32.56	43.86
10	#5925.00	65.15 PK	68.20	-3.05	3.97 H	267	21.20	43.95
11	11550.00	54.69 PK	74.00	-19.31	1.22 H	205	36.26	18.43
12	11550.00	45.12 AV	54.00	-8.88	1.22 H	205	26.69	18.43
13	#17325.00	64.15 PK	74.00	-9.85	2.21 H	187	37.38	26.77
14	#17325.00	48.25 AV	54.00	-5.75	2.21 H	187	21.48	26.77

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	#5650.00	67.04 PK	68.20	-1.16	1.55 V	328	23.63	43.41
2	#5700.00	80.66 PK	105.20	-24.54	1.55 V	328	37.15	43.51
3	#5720.00	86.26 PK	110.80	-24.54	1.55 V	328	42.71	43.55
4	#5725.00	87.15 PK	122.20	-35.05	1.55 V	328	43.59	43.56
5	*5775.00	103.05 PK			1.65 V	328	59.39	43.66
6	*5775.00	92.73 AV			1.65 V	328	49.07	43.66
7	#5850.00	80.25 PK	122.20	-41.95	1.55 V	328	36.44	43.81
8	#5855.00	80.54 PK	110.80	-30.26	1.55 V	328	36.72	43.82
9	#5875.00	74.55 PK	105.20	-30.65	1.55 V	328	30.69	43.86
10	#5925.00	64.94 PK	68.20	-3.26	1.55 V	328	20.99	43.95
11	11550.00	60.69 PK	74.00	-13.31	2.14 V	108	42.26	18.43
12	11550.00	46.33 AV	54.00	-7.67	2.14 V	108	27.90	18.43
13	#17325.00	60.48 PK	74.00	-13.52	1.55 V	355	33.71	26.77
14	#17325.00	48.65 AV	54.00	-5.35	1.55 V	355	21.88	26.77

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

Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 34, Chenwulu Section, Guantai Rd., Houjie
Town, Dongguan City,
Guangdong 523942, China

Tel: +86 769 8593 5656
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com

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.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101588	Jan. 22,17	Jan. 21,18
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 04,17	Mar. 03,18
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Apr. 05,17	Apr. 04,18
Voltage probe	SCHWARZBEC K	TK 9421	TK 9421-176	Jan. 08,17	Jan. 07,18
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

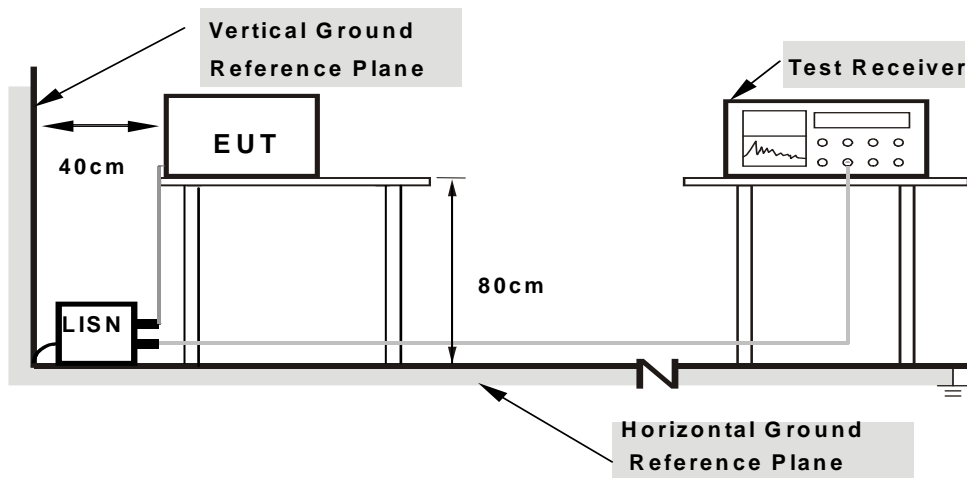
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

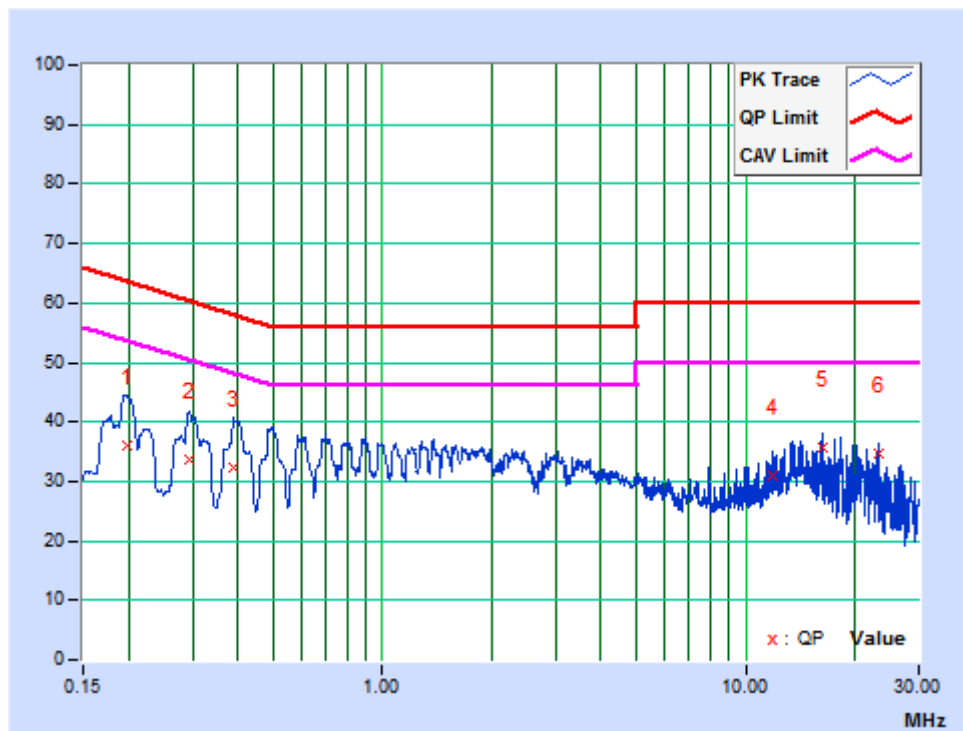
3.2.7 TEST RESULTS

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	0.19725	9.84	26.29	14.21	36.13	24.05	63.73	53.73	-27.60	-29.68
2	0.29304	9.67	23.92	11.66	33.59	21.33	60.44	50.44	-26.84	-29.10
3	0.38871	9.88	22.39	11.77	32.27	21.65	58.09	48.09	-25.82	-26.44
4	11.89275	9.95	21.06	16.75	31.01	26.70	60.00	50.00	-28.99	-23.30
5	16.22850	9.96	25.59	22.41	35.55	32.37	60.00	50.00	-24.45	-17.63
6	23.12925	10.01	24.64	21.84	34.65	31.85	60.00	50.00	-25.35	-18.15

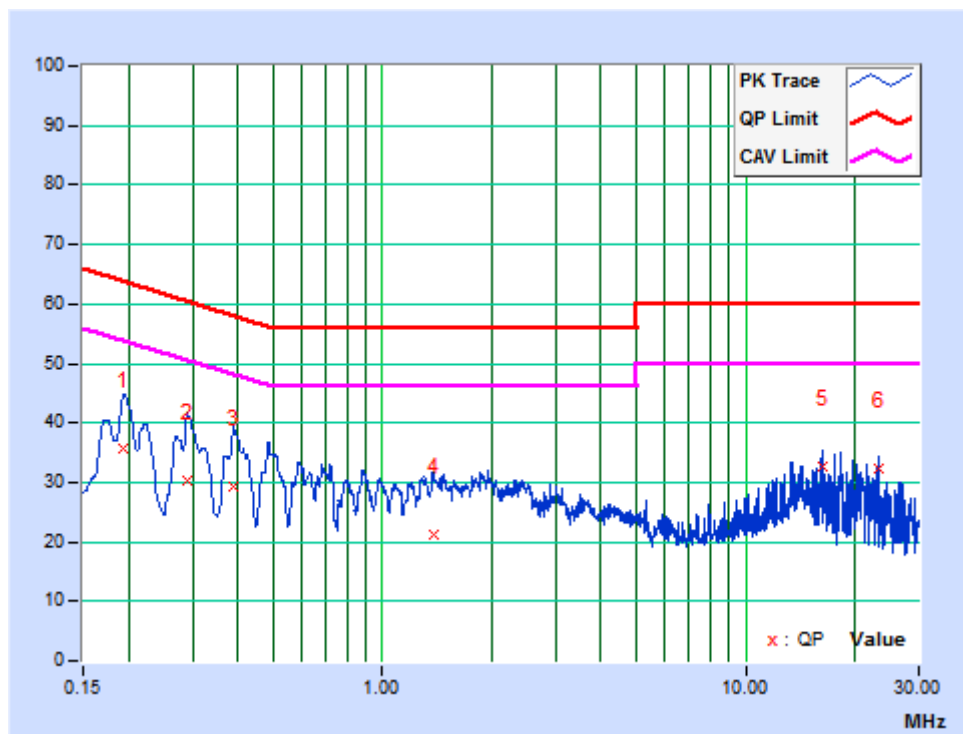
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Factor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



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

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	0.19462	9.71	25.95	7.02	35.66	16.73	63.84	53.84	-28.18	-37.11
2	0.29073	9.76	20.56	3.74	30.32	13.50	60.50	50.50	-30.18	-37.00
3	0.38850	9.80	19.45	3.52	29.25	13.32	58.10	48.10	-28.85	-34.78
4	1.38050	9.82	11.27	-1.23	21.09	8.59	56.00	46.00	-34.91	-37.41
5	16.22850	9.89	22.80	20.20	32.69	30.09	60.00	50.00	-27.31	-19.91
6	23.12925	9.72	22.49	20.21	32.21	29.93	60.00	50.00	-27.79	-20.07

- 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.



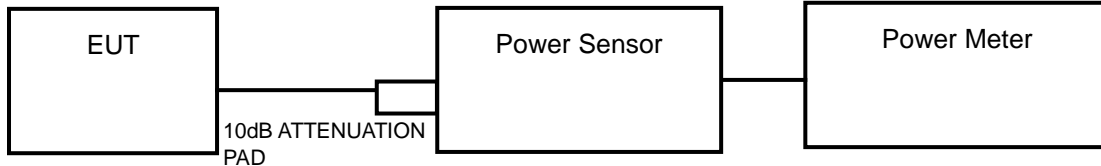
3.3 TRANSMIT POWER MEASUREMENT

3.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

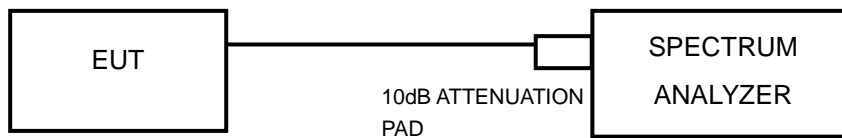
Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client 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
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 13, 16	Oct.12, 17
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.05,16	Sep. 04,17
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 04,16	Nov. 03,17
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 04,16	Nov. 03,17
Signal Generator	Agilent	N5183A	MY50140980	Nov. 04,16	Nov. 03,17
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
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Aug.08, 17	Aug.07, 18
Attenuator	MINI	BW-S10W2+	S130129FGE2	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%.



Test Report No.: RF170725N035-2

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.



BUREAU
VERITAS

Test Report No.: RF170725N035-2

3.3.7 TEST RESULTS

OUTPUT POWER:

802.11a

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)	LIMIT (dBm)	PASS /FAIL
36	5180	20.09	24.00	PASS
40	5200	20.14	24.00	PASS
48	5240	20.07	24.00	PASS
149	5745	21.64	30.00	PASS
157	5785	21.70	30.00	PASS
165	5825	21.61	30.00	PASS

802.11n (20MHz)

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)	LIMIT (dBm)	PASS /FAIL
36	5180	20.12	24.00	PASS
40	5200	20.21	24.00	PASS
149	5745	20.06	30.00	PASS
157	5785	21.74	30.00	PASS
165	5825	21.62	30.00	PASS



Test Report No.: RF170725N035-2

802.11n (40MHz)

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)	LIMIT (dBm)	PASS /FAIL
38	5190	15.53	24.00	PASS
46	5230	18.67	24.00	PASS
151	5755	19.81	30.00	PASS
159	5795	19.76	30.00	PASS

802.11ac (80MHz)

Channel Number	FREQ. (MHz)	AVG. CONDUCTED POWER (dBm)	LIMIT (dBm)	PASS /FAIL
42	5210	14.81	24.00	PASS
155	5775	19.32	30.00	PASS

26dB BANDWIDTH for 5150-5250MHz:

802.11a

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)	PASS /FAIL
36	5180	35.51	PASS
40	5200	33.30	PASS
48	5240	33.91	PASS

802.11n (20MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)	PASS /FAIL
36	5180	33.97	PASS
40	5200	33.25	PASS
48	5240	32.29	PASS

802.11n (40MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)	PASS /FAIL
38	5190	44.39	PASS
46	5230	44.38	PASS

802.11ac (80MHz)

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)	PASS /FAIL
42	5210	105.68	PASS

6dB BANDWIDTH for 5725-5850MHz

802.11a

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)	PASS /FAIL
149	5745	16.47	PASS
157	5785	16.50	PASS
165	5825	16.51	PASS

802.11n (20M)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)	PASS /FAIL
149	5745	17.75	PASS
157	5785	17.73	PASS
165	5825	17.72	PASS

802.11n (40M)

Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)	PASS /FAIL
151	5755	36.57	PASS
159	5795	36.54	PASS

802.11ac (80MHz)

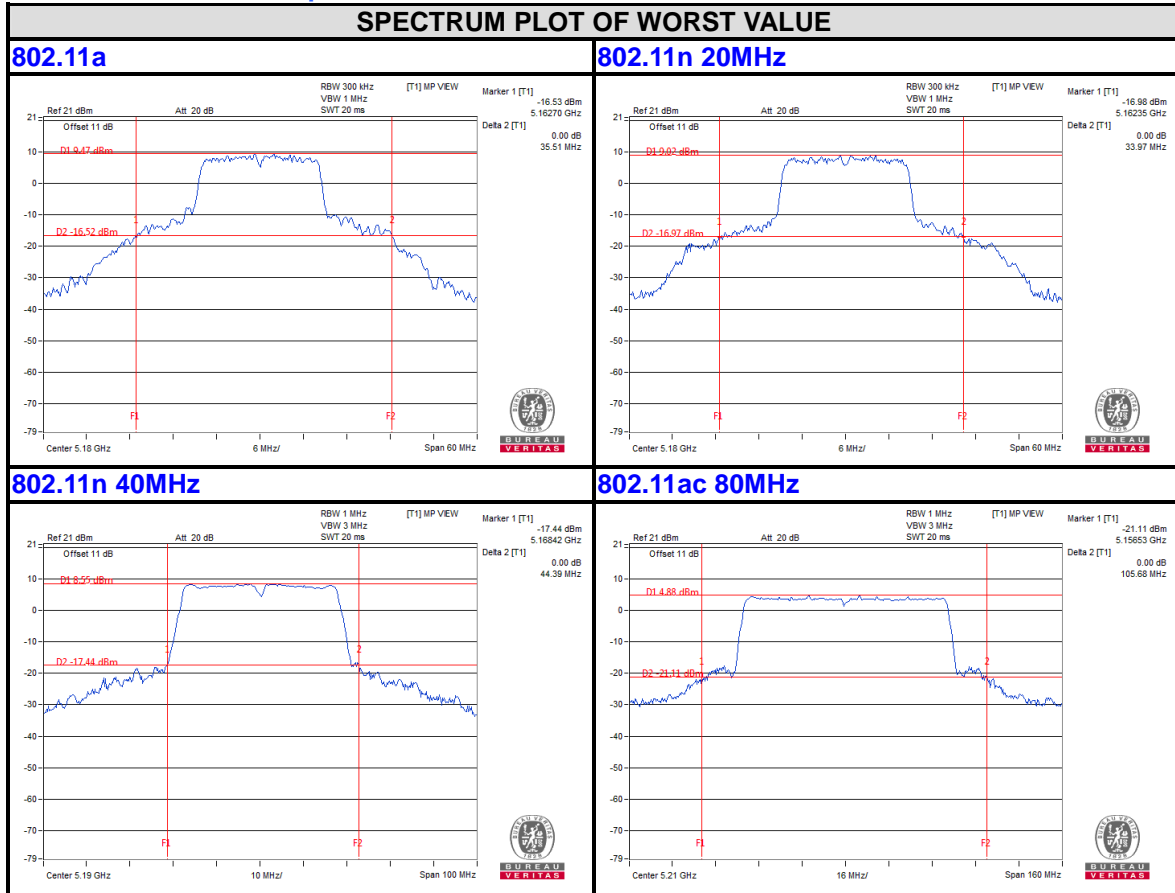
Channel Number	Freq. (MHz)	6dB DOWN BANDWIDTH (MHz)	PASS /FAIL
155	5775	76.66	PASS



BUREAU VERITAS

Test Report No.: RF170725N035-2

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



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

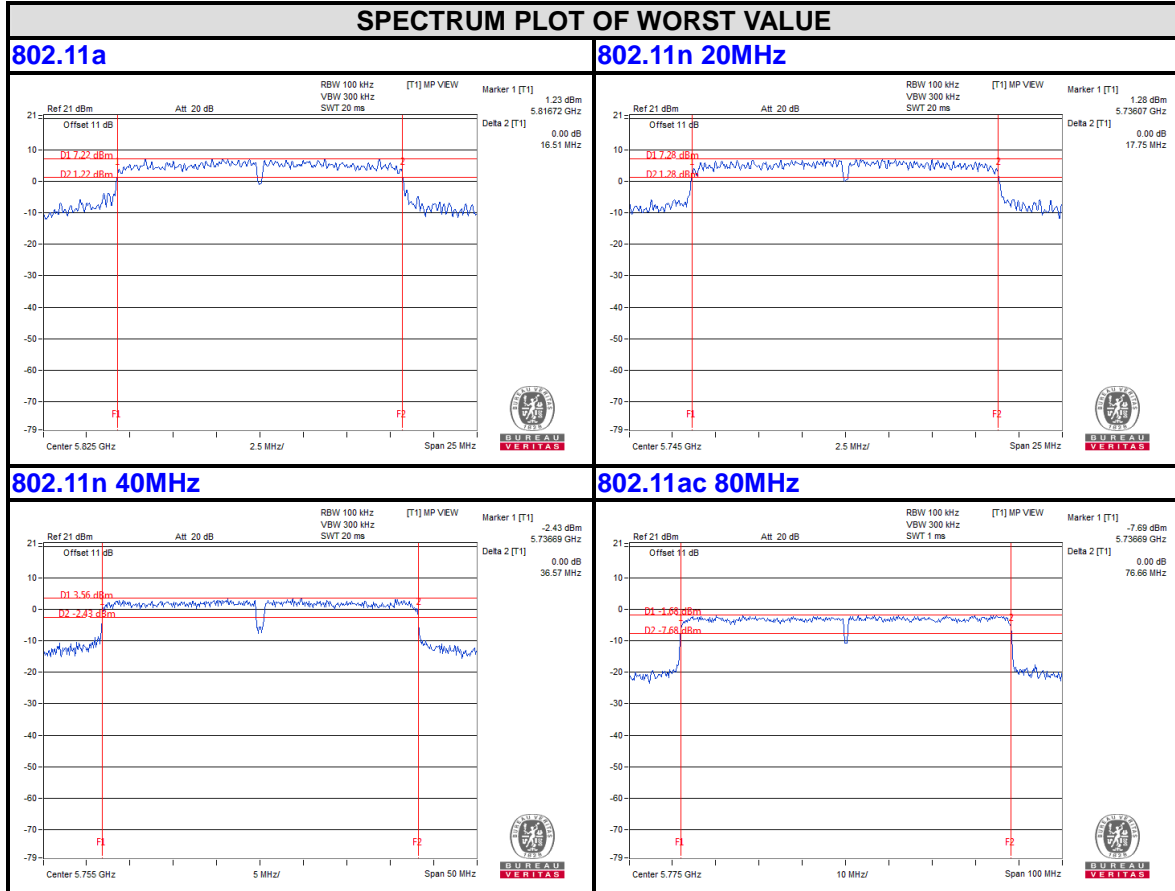
No. 34, Chenwulu Section, Guantai Rd., Houjie
Town, Dongguan City,
Guangdong 523942, China

Tel: +86 769 8593 5656
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com



Test Report No.: RF170725N035-2

6dB BANDWIDTH For 5725-5850MHz



Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

No. 34, Chenwulu Section, Guantai Rd., Houjie
Town, Dongguan City,
Guangdong 523942, China

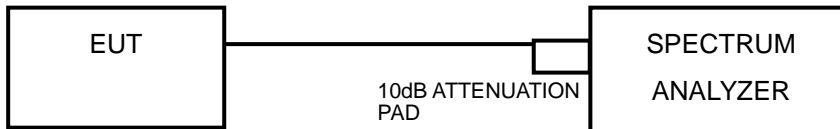
Tel: +86 769 8593 5656
Fax: +86 769 8593 1080
Email: customerservice.dg@cn.bureauveritas.com

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)



Test Report No.: RF170725N035-2

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)		MAX. Limit (dBm)	PASS / FAIL
36	5180	5.43		11.00	PASS
40	5200	5.01		11.00	PASS
48	5240	5.48		11.00	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
149	5745	0.07	2.29	30.00	PASS
157	5785	0.12	2.34	30.00	PASS
165	5825	-0.09	2.13	30.00	PASS

802.11n (20MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		MAX. Limit (dBm)	PASS / FAIL
36	5180	4.83		11.00	PASS
40	5200	4.57		11.00	PASS
48	5240	4.42		11.00	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
149	5745	-0.41	1.81	30.00	PASS
157	5785	-0.39	1.83	30.00	PASS
165	5825	-0.46	1.76	30.00	PASS



Test Report No.: RF170725N035-2

802.11n (40MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		MAX. Limit (dBm)	PASS / FAIL
38	5190	-1.33		11.00	PASS
46	5230	1.92		11.00	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
151	5755	-4.60	-2.38	30.00	PASS
159	5795	-4.61	-2.39	30.00	PASS

802.11ac (80MHz)

Channel Number	Frequency (MHz)	RF Power Level in 1MHz BW (dBm)		MAX. Limit (dBm)	PASS / FAIL
42	5210	-5.32		11.00	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
155	5775	-9.90	-7.68	30.00	PASS

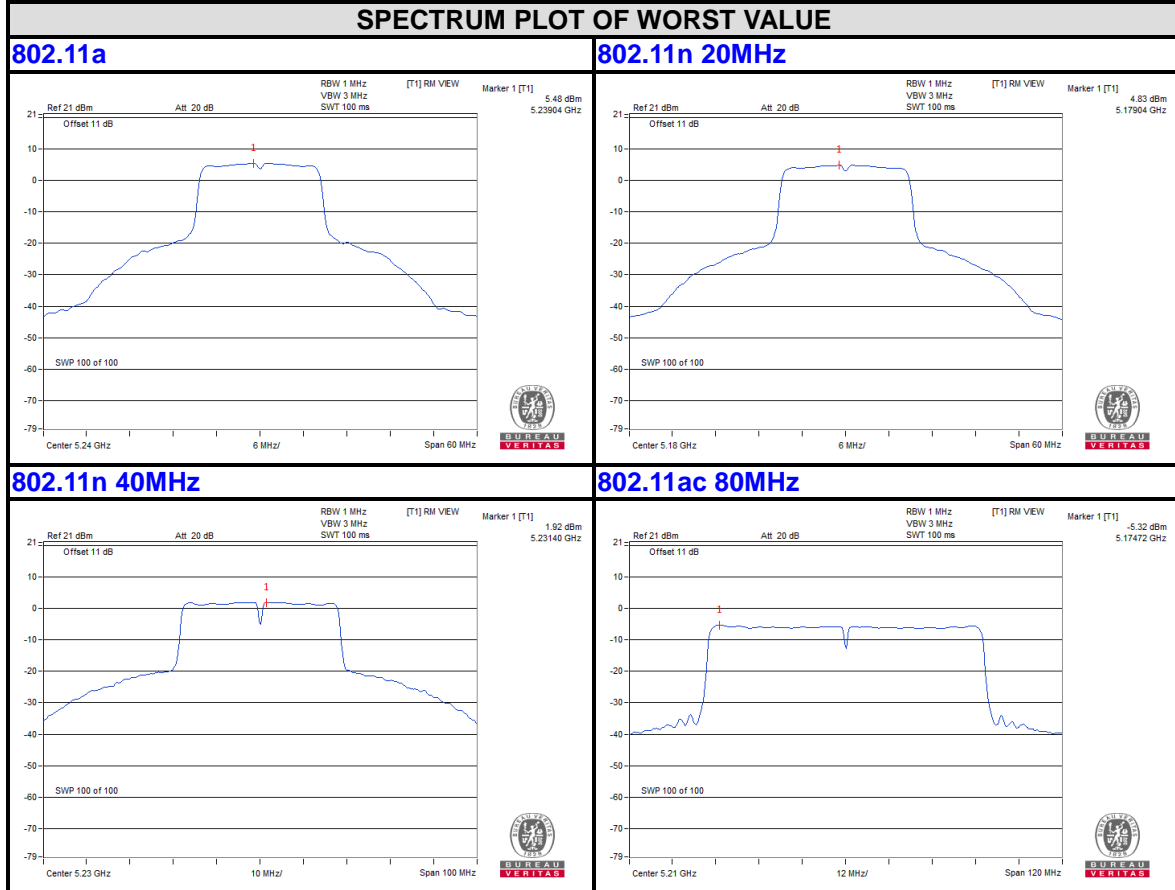


BUREAU VERITAS

Test Report No.: RF170725N035-2

PSD Test Plot

BAND 1
5150-5250MHz

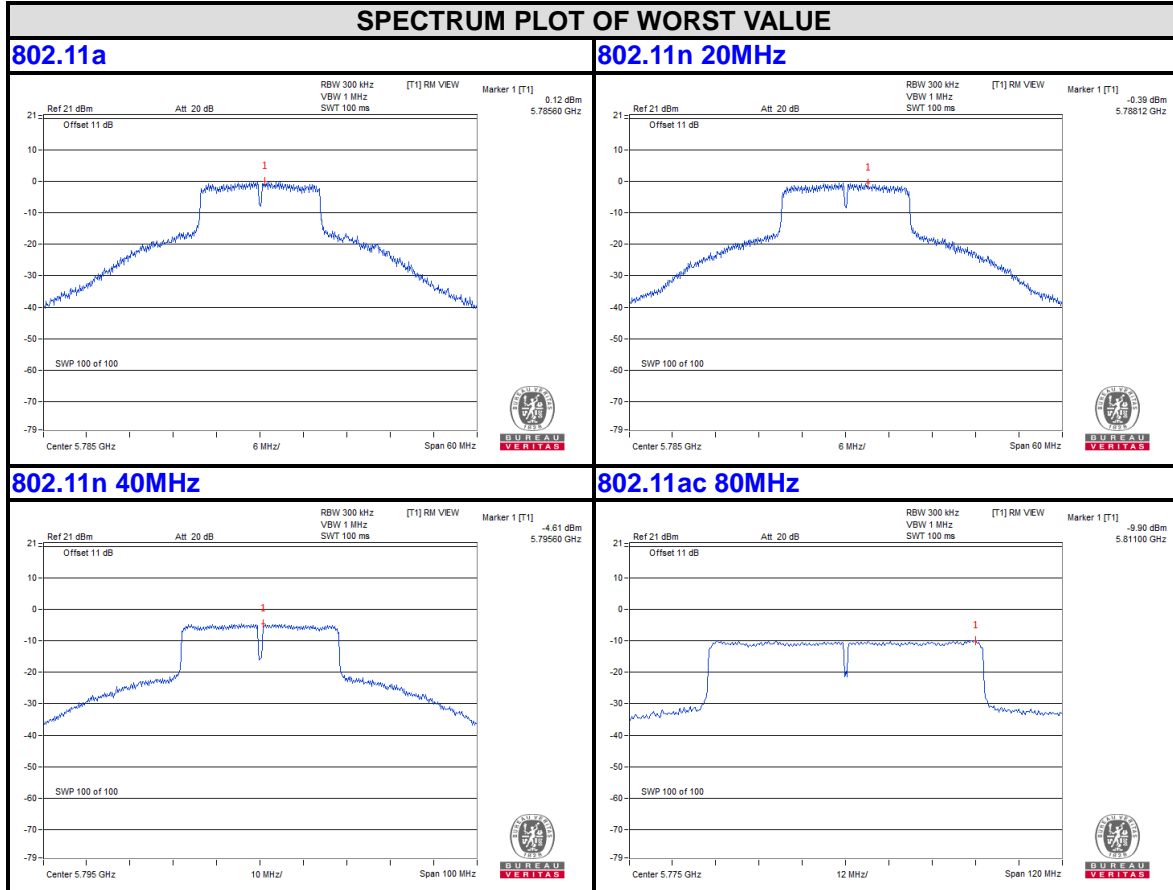




BUREAU VERITAS

Test Report No.: RF170725N035-2

BAND4
5725-5850MHz

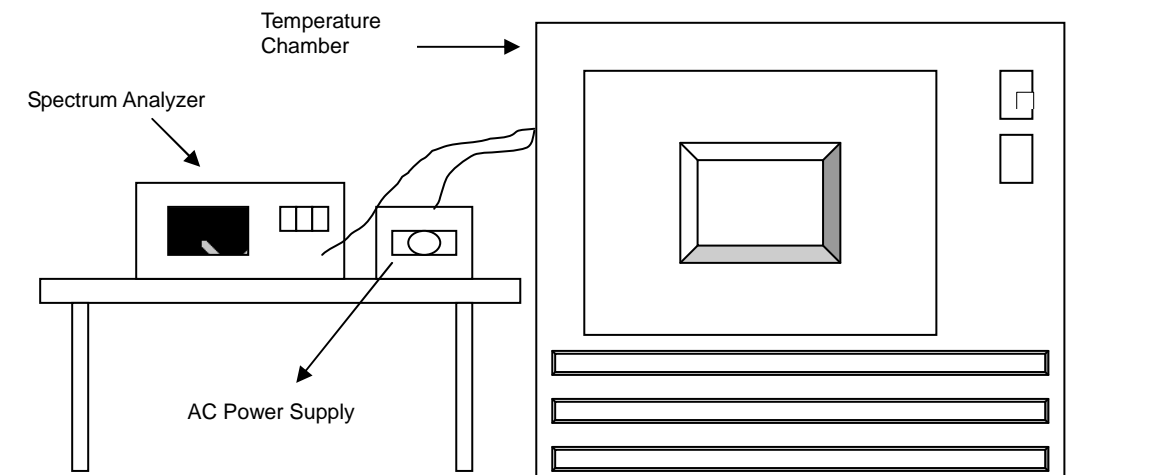


3.5 FREQUENCY STABILITY

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.



Test Report No.: RF170725N035-2

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.



**BUREAU
VERITAS**

Test Report No.: RF170725N035-2

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	5179.9814	-0.00036	5179.9841	-0.00031	5179.9841	-0.00031	5179.9844	-0.00030
40	120	5179.9975	-0.00005	5179.9951	-0.00009	5179.9931	-0.00013	5179.9952	-0.00009
30	120	5180.0112	0.00022	5180.0148	0.00029	5180.0115	0.00022	5180.0151	0.00029
20	120	5180.0122	0.00024	5180.0112	0.00022	5180.0137	0.00026	5180.0103	0.00020
10	120	5179.996	-0.00008	5179.9981	-0.00004	5179.9976	-0.00005	5179.9961	-0.00008
0	120	5180.025	0.00048	5180.0221	0.00043	5180.0238	0.00046	5180.0241	0.00047
-10	120	5179.9923	-0.00015	5179.9937	-0.00012	5179.994	-0.00012	5179.996	-0.00008
-20	120	5180.0042	0.00008	5180.0018	0.00003	5180.0014	0.00003	5180.0013	0.00003
-30	120	5180.0183	0.00035	5180.0201	0.00039	5180.0202	0.00039	5180.0175	0.00034

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	5180.0114	0.00022	5180.0103	0.00020	5180.0141	0.00027	5180.0104	0.00020
	120	5180.0122	0.00024	5180.0112	0.00022	5180.0137	0.00026	5180.0103	0.00020
	102	5180.0119	0.00023	5180.0111	0.00021	5180.0147	0.00028	5180.0093	0.00018



BUREAU VERITAS

Test Report No.: RF170725N035-2

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5745MHz									
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	5744.9960	-0.0000007	5744.9944	-0.0000010	5744.9956	-0.0000008	5744.9932	-0.0000012
40	120	5744.9932	-0.0000012	5744.9941	-0.0000010	5744.9912	-0.0000015	5744.9926	-0.0000013
30	120	5745.0087	0.0000015	5745.0118	0.0000021	5745.0078	0.0000014	5745.0077	0.0000013
20	120	5745.0241	0.0000042	5745.0252	0.0000044	5745.0245	0.0000043	5745.0236	0.0000041
10	120	5744.9815	-0.0000032	5744.9825	-0.0000030	5744.9813	-0.0000033	5744.9856	-0.0000025
0	120	5745.0019	0.0000003	5745.0043	0.0000007	5745.0012	0.0000002	5745.0011	0.0000002
-10	120	5744.9858	-0.0000025	5744.989	-0.0000019	5744.9876	-0.0000022	5744.9861	-0.0000024
-20	120	5744.9963	-0.0000006	5744.9948	-0.0000009	5744.9967	-0.0000006	5744.9982	-0.0000003
-30	120	5744.9799	-0.0000035	5744.976	-0.0000042	5744.9759	-0.0000042	5744.9767	-0.0000041

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5745MHz									
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	5745.0250	0.0000044	5745.0244	0.0000042	5745.024	0.0000042	5745.0239	0.0000042
	120	5745.0241	0.0000042	5745.0252	0.0000044	5745.0245	0.0000043	5745.0236	0.0000041
	102	5745.0237	0.0000041	5745.0245	0.0000043	5745.0255	0.0000044	5745.0233	0.0000041



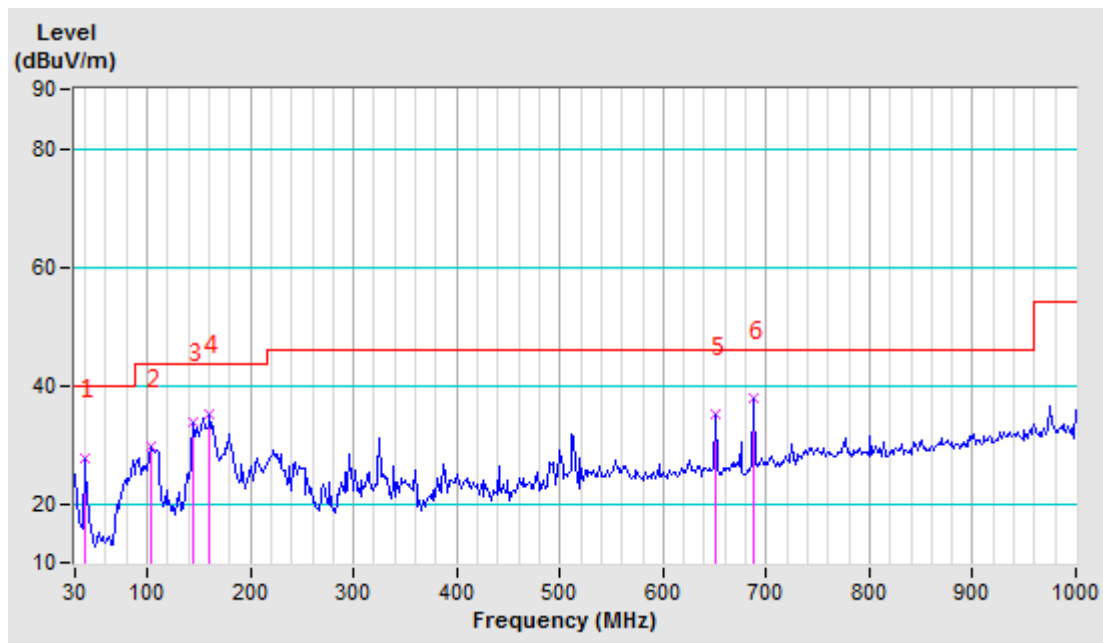
Below 1GHz test data for 5G and 2.4G transmit simultaneously:

CHANNEL TX	Channel 36 (5G 11a) Channel 1(2.4G 11b)	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	39.33	27.73 QP	40.00	-12.27	200	171	43.63	-15.90
2	103.06	29.51 QP	43.50	-13.99	200	324	47.81	-18.30
3	145.03	33.69 QP	43.50	-9.81	200	203	50.62	-16.93
4	160.58	35.11 QP	43.50	-8.39	200	326	52.36	-17.25
5	650.24	34.95 QP	46.00	-11.05	100	114	37.90	-2.95
6	687.55	37.71 QP	46.00	-8.29	100	208	40.31	-2.60

REMARKS:

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

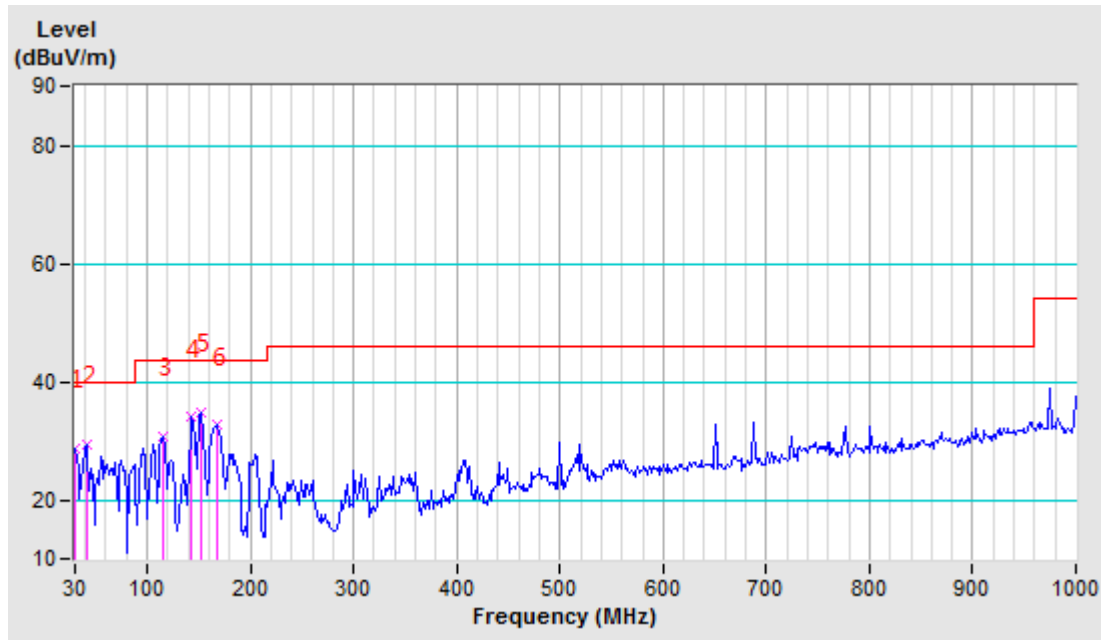


CHANNEL TX	Channel 36 (5G 11a) Channel 1(2.4G 11b)	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	30.00	28.63	40.00 QP	-11.37	100	162	-11.27	39.90
2	40.88	29.34	40.00 QP	-10.66	100	204	-16.76	46.10
3	115.50	30.82	43.50 QP	-12.68	100	283	-17.10	47.92
4	143.48	33.91	43.50 QP	-9.59	100	17	-17.07	50.98
5	152.80	34.76	43.50 QP	-8.74	100	350	-16.68	51.44
6	168.35	32.55	43.50 QP	-10.95	100	157	-18.19	50.74

REMARKS:

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





Test Report No.: RF170725N035-2

Above 1GHz test data for 5G and 2.4G transmit simultaneously:

CHANNEL TX FOR WORST CASE MODE	Channel 36 (5G 11a) Channel 9 (2.4G 11n40)	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	*2452.00	99.53 PK		99.53	2.90 H	295	61.34	38.19
2	*2452.00	89.21 AV		89.21	2.90 H	295	51.02	38.19
3	2483.50	63.01 PK	74.00	-10.99	2.90 H	295	24.73	38.28
4	2483.50	47.32 AV	54.00	-6.68	2.90 H	295	9.04	38.28
5	4904.00	52.71 PK	74.00	-21.29	1.50 H	14	46.61	6.10
6	4904.00	41.17 AV	54.00	-12.83	1.50 H	14	35.07	6.10
7	7356.00	58.86 PK	74.00	-15.14	1.70 H	151	46.03	12.83
8	7356.00	45.39 AV	54.00	-8.61	1.70 H	151	32.56	12.83
9	5150.00	61.25 PK	74.00	-12.75	2.09 H	273	18.64	42.61
10	5150.00	48.95 AV	54.00	-5.05	2.09 H	273	6.34	42.61
11	*5180.00	101.58 PK			2.09 H	273	58.93	42.65
12	*5180.00	89.86 AV			2.09 H	273	47.21	42.65
13	#10360.00	56.96 PK	74.00	-17.04	2.00 H	350	40.27	16.69
14	#10360.00	44.31 AV	54.00	-9.69	2.00 H	350	27.62	16.69
15	15540.00	60.39 PK	74.00	-13.61	1.20 H	250	36.46	23.93
16	15540.00	46.95 AV	54.00	-7.05	1.20 H	250	23.02	23.93

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.: RF170725N035-2

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	*2452.00	105.23 PK		105.23	1.50 V	21	67.04	38.19
2	*2452.00	95.62 AV		95.62	1.50 V	21	57.43	38.19
3	2483.50	70.30 PK	74.00	-3.70	1.10 V	180	32.02	38.28
4	2483.50	52.32 AV	54.00	-1.68	1.10 V	180	14.04	38.28
5	4904.00	52.92 PK	74.00	-21.08	1.50 V	202	46.82	6.10
6	4904.00	41.11 AV	54.00	-12.89	1.50 V	202	35.01	6.10
7	7356.00	57.17 PK	74.00	-16.83	1.10 V	351	44.34	12.83
8	7356.00	45.41 AV	54.00	-8.59	1.10 V	351	32.58	12.83
9	5150.00	65.25 PK	74.00	-8.75	1.00 V	40	22.64	42.61
10	5150.00	50.26 AV	54.00	-3.74	1.00 V	40	7.65	42.61
11	*5180.00	108.26 PK			1.00 V	40	65.61	42.65
12	*5180.00	98.74 AV			1.00 V	40	56.09	42.65
13	#10360.00	57.29 PK	74.00	-16.71	1.00 V	107	40.6	16.69
14	#10360.00	45.53 AV	54.00	-8.47	1.00 V	107	28.84	16.69
15	15540.00	66.67 PK	74.00	-7.33	1.00 V	250	42.74	23.93
16	15540.00	51.25 AV	54.00	-2.75	1.00 V	250	27.32	23.93

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.



Test Report No.: RF170725N035-2

4. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: RF170725N035-2

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---