

TEST REPORT

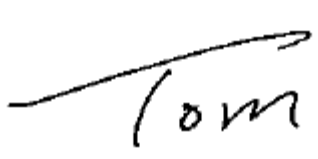
Applicant	Anhui Huami Healthcare Co., Ltd.
Address	A1204, Building A4, National Animation Industry Base, No.800 Wangjiang West Road, Hefei City, Anhui Province, China

Manufacturer or Supplier	Anhui Huami Healthcare Co., Ltd.
Address	A1204, Building A4, National Animation Industry Base, No.800 Wangjiang West Road, Hefei City, Anhui Province, China
Product	Amazfit smart scale
Brand Name	Amazfit
Model	A2003
Additional Model & Model Difference	N/A
Date of tests	Apr. 01, 2020 ~ Jun. 24, 2020

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

☒ **FCC Part 15, Subpart C, Section 15.247**

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

Tested by Tom Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Jul. 31, 2020

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**BUREAU
VERITAS**

Test Report No.: RF200401N021-2

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200401N021-2	Original release	Jul. 31, 2020



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	N/A	Powered by Battery
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used

2 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
Radiated emissions	9KHz ~ 30MHz	2.16dB
	30MHz ~ 1GMHz	3.60dB
	1GHz ~ 18GHz	4.82dB
	18GHz ~ 40GHz	5.00dB

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



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Amazfit smart scale
MODEL NO.	A2003
ADDITIONAL NO.	N/A
FCC ID	2AWQ5A2003
NOMINAL VOLTAGE	DC 6V(1.5V*AAA*4) from Battery
MODULATION TECHNOLOGY	DSSS, OFDM
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20)
PEAK OUTPUT POWER	85.704mW (Max. Measured)
ANTENNA TYPE	FPC Antenna, with 3.7dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

1. The EUT provides completed transmitters and receivers:

MODULATION MODE	FUNCTION
802.11b	1TX/1RX
802.11g	1TX/1RX
802.11n (HT20)	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.: 200401N021) for detailed product photo.



3.2 DESCRIPTION OF TEST MODES

11 channels are provided for 802.11b, 802.11g and 802.11n(HT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		



3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

Please see section 5 photographs of the test configuration for reference.

3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.

The worst case was found when positioned on X axis for radiated emission. Following test modes were selected for the final test, and the final worst case is marked in boldface and recorded in the report:

EUT CONFIGURE MODE	APPLICABLE TO				MODE
	RE<1G	RE≥1G	PLC	APCM	
-	√	√	-	√	Powered by Fully Battery with WIFI Link

Where **RE<1G**: Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

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, XYZ axis 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0

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, XYZ axis 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5

**BANDEDGE MEASUREMENT:**

- ☒ 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
-	802.11n HT20	1 to 11	1, 11	OFDM	BPSK	6.5

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 53%RH	DC 6V from Fully Battery	Daniel
RE≥1G	23deg. C, 53%RH	DC 6V from Fully Battery	Daniel
PLC	N/A	N/A	N/A
APCM	20deg. C, 55%RH	DC 6V from Fully Battery	Daniel



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C, Section 15.247

KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10-2013

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

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together without any other necessary accessories or support units.



4 TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

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. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Mar. 18,20	Mar. 17,21
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	May 14, 20	May 13, 21
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	May 28,20	May 27,21
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Mar. 15,20	Mar. 14,21
Bilog Antenna (20MHz -2GHz)	Teseq	CBL 6111D	30643	May 30,20	May 29,21
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	May 30,20	May 29,21
Horn Antenna (18GHz -40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	May 10, 20	May 09, 21
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 23,20	May 22,21
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
Broadband Preamplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	May 09,20	May 08,21
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Mar. 04,20	Mar. 03,21
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	May 20,20	May 19,21

NOTES:

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.

4.1.3 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. For below 1GHz was used bilog antenna, and above 1GHz was used horn 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. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
- g. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

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.
5. The testing of the EUT was performed on all 3 orthogonal axes, the worst-case test configuration was reported on the file test setup photo.

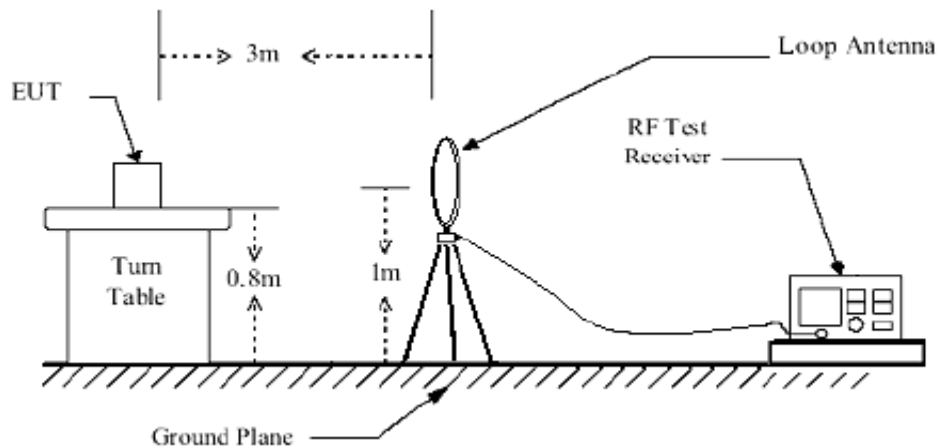


4.1.4 DEVIATION FROM TEST STANDARD

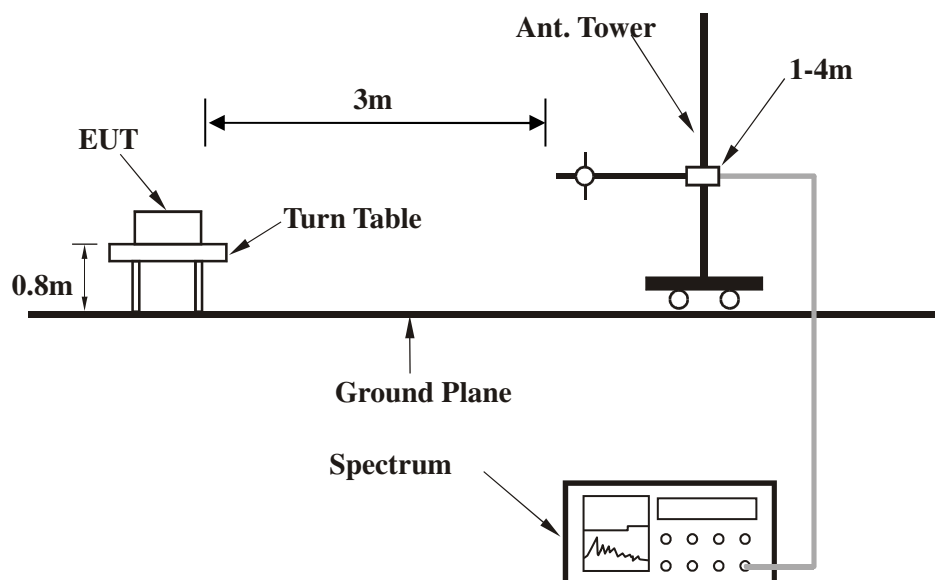
No deviation.

4.1.5 TEST SETUP

Below 30MHz test setup



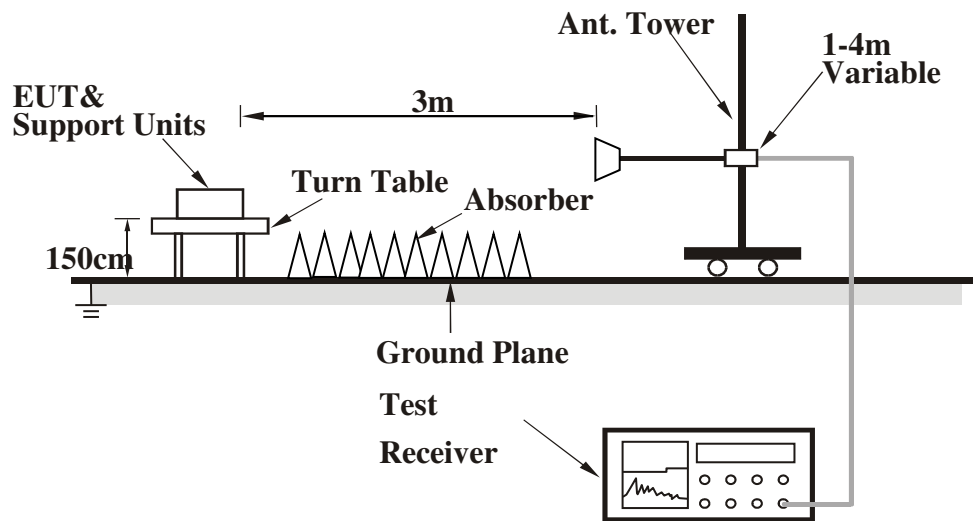
Below 1GHz test setup



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).

4.1.6 EUT OPERATING CONDITIONS

- Placed the EUT on a testing table.
- Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.



4.1.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

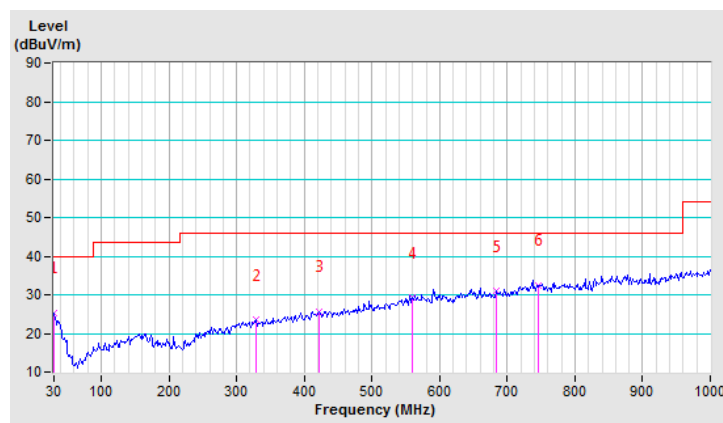
802.11b

CHANNEL	TX Channel 1	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 (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	25.26 QP	40.00	-14.74	1.50 H	235	37.40	-12.14
2	328.46	23.42 QP	46.00	-22.58	1.50 H	98	36.90	-13.48
3	421.73	25.60 QP	46.00	-20.40	1.50 H	114	36.60	-11.00
4	560.08	29.23 QP	46.00	-16.77	1.50 H	216	36.69	-7.46
5	682.88	30.91 QP	46.00	-15.09	1.50 H	59	36.62	-5.71
6	745.06	32.29 QP	46.00	-13.71	1.50 H	301	35.88	-3.59

REMARKS:

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



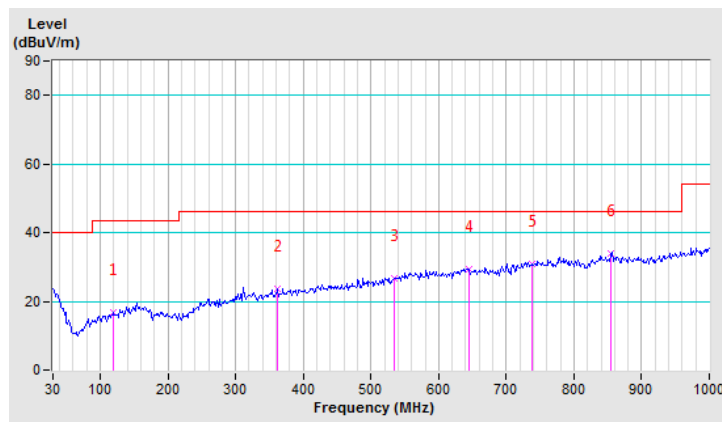


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

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	120.16	16.86 QP	43.50	-26.64	1.50 V	152	36.67	-19.81
2	362.66	23.52 QP	46.00	-22.48	1.50 V	325	35.85	-12.33
3	533.65	26.76 QP	46.00	-19.24	1.50 V	251	35.16	-8.40
4	645.58	29.51 QP	46.00	-16.49	1.50 V	85	35.32	-5.81
5	738.85	30.78 QP	46.00	-15.22	1.50 V	112	34.43	-3.65
6	855.43	33.95 QP	46.00	-12.05	1.50 V	164	36.22	-2.27

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 greater than 20dB margin.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.





ABOVE 1GHz DATA

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	50.48 PK	74.00	-23.52	1.00 H	152	46.33	4.15
2	2390.00	38.40 AV	54.00	-15.60	1.00 H	152	34.25	4.15
3	*2412.00	97.14 PK			1.00 H	152	92.91	4.23
4	*2412.00	93.60 AV			1.00 H	152	89.37	4.23
5	4824.00	55.40 PK	74.00	-18.60	1.00 H	158	47.83	7.57
6	4824.00	48.19 AV	54.00	-5.81	1.00 H	158	40.62	7.57
7	#7236.00	57.11 PK	74.00	-16.89	1.00 H	133	44.72	12.39
8	#7236.00	41.10 AV	54.00	-12.90	1.00 H	133	28.71	12.39
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	2390.00	43.07 PK	74.00	-30.93	1.00 V	105	38.92	4.15
2	2390.00	41.50 AV	54.00	-12.50	1.00 V	105	37.35	4.15
3	*2412.00	88.81 PK			1.00 V	105	84.58	4.23
4	*2412.00	84.90 AV			1.00 V	105	80.67	4.23
5	4824.00	57.32 PK	74.00	-16.68	1.00 V	155	49.75	7.57
6	4824.00	50.95 AV	54.00	-3.05	1.00 V	155	43.38	7.57
7	#7236.00	57.90 PK	74.00	-16.10	1.00 V	117	45.51	12.39
8	#7236.00	44.16 AV	54.00	-9.84	1.00 V	117	31.77	12.39

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 greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	98.76 PK			1.00 H	233	94.42	4.34
2	*2437.00	94.57 AV			1.00 H	233	90.23	4.34
3	4874.00	52.04 PK	74.00	-21.96	1.00 H	132	44.38	7.66
4	4874.00	43.90 AV	54.00	-10.10	1.00 H	132	36.24	7.66
5	7311.00	55.80 PK	74.00	-18.20	1.00 H	182	43.32	12.48
6	7311.00	43.60 AV	54.00	-10.40	1.00 H	182	31.12	12.48
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	*2437.00	90.58 PK			1.00 V	155	86.24	4.34
2	*2437.00	86.37 AV			1.00 V	155	82.03	4.34
3	4874.00	53.70 PK	74.00	-20.30	1.00 V	150	46.04	7.66
4	4874.00	44.62 AV	54.00	-9.38	1.00 V	150	36.96	7.66
5	7311.00	57.50 PK	74.00	-16.50	1.00 V	138	45.02	12.48
6	7311.00	44.10 AV	54.00	-9.90	1.00 V	138	31.62	12.48

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 greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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VERITAS**

Test Report No.: RF200401N021-2

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	102.38 PK			1.00 H	237	97.93	4.45
2	*2462.00	98.51 AV			1.00 H	237	94.06	4.45
3	2483.50	49.76 PK	74.00	-24.24	1.00 H	237	45.22	4.54
4	2483.50	37.00 AV	54.00	-17.00	1.00 H	237	32.46	4.54
5	4924.00	55.40 PK	74.00	-18.60	1.00 H	188	47.63	7.77
6	4924.00	46.90 AV	54.00	-7.10	1.00 H	188	39.13	7.77
7	7386.00	56.80 PK	74.00	-17.20	1.00 H	178	44.24	12.56
8	7386.00	42.70 AV	54.00	-11.30	1.00 H	178	30.14	12.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	94.28 PK			1.00 V	119	89.83	4.45
2	*2462.00	90.04 AV			1.00 V	119	85.59	4.45
3	2483.50	46.28 PK	74.00	-27.72	1.00 V	119	41.74	4.54
4	2483.50	35.60 AV	54.00	-18.40	1.00 V	119	31.06	4.54
5	4924.00	58.24 PK	74.00	-15.76	1.00 V	158	50.47	7.77
6	4924.00	51.89 AV	54.00	-2.11	1.00 V	158	44.12	7.77
7	7386.00	57.30 PK	74.00	-16.70	1.00 V	258	44.74	12.56
8	7386.00	44.80 AV	54.00	-9.20	1.00 V	258	32.24	12.56

REMARKS:

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



802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	50.58 PK	74.00	-23.42	1.00 H	35	46.43	4.15
2	2390.00	40.12 AV	54.00	-13.88	1.00 H	35	35.97	4.15
3	*2412.00	100.80 PK			1.00 H	35	96.57	4.23
4	*2412.00	88.40 AV			1.00 H	35	84.17	4.23
5	4824.00	53.20 PK	74.00	-20.80	1.00 H	158	45.63	7.57
6	4824.00	41.60 AV	54.00	-12.40	1.00 H	158	34.03	7.57
7	#7236.00	55.18 PK	74.00	-18.82	1.00 H	128	42.79	12.39
8	#7236.00	42.40 AV	54.00	-11.60	1.00 H	128	30.01	12.39
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	2390.00	54.02 PK	74.00	-19.98	1.00 V	109	49.87	4.15
2	2390.00	42.46 AV	54.00	-11.54	1.00 V	109	38.31	4.15
3	*2412.00	95.29 PK			1.00 V	109	91.06	4.23
4	*2412.00	82.78 AV			1.00 V	109	78.55	4.23
5	4824.00	55.18 PK	74.00	-18.82	1.00 V	100	47.61	7.57
6	4824.00	42.90 AV	54.00	-11.10	1.00 V	100	35.33	7.57
7	#7236.00	54.18 PK	74.00	-19.82	1.00 V	177	41.79	12.39
8	#7236.00	44.97 AV	54.00	-9.03	1.00 V	177	32.58	12.39

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 greater than 20dB margin.
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.: RF200401N021-2

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	100.93 PK			1.00 H	36	96.59	4.34
2	*2437.00	89.46 AV			1.00 H	36	85.12	4.34
3	4874.00	52.06 PK	74.00	-21.94	1.00 H	198	44.40	7.66
4	4874.00	39.14 AV	54.00	-14.86	1.00 H	198	31.48	7.66
5	7311.00	54.00 PK	74.00	-20.00	1.00 H	162	41.52	12.48
6	7311.00	41.20 AV	54.00	-12.80	1.00 H	162	28.72	12.48
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	*2437.00	98.05 PK			1.00 V	123	93.71	4.34
2	*2437.00	85.70 AV			1.00 V	123	81.36	4.34
3	4874.00	55.16 PK	74.00	-18.84	1.00 V	182	47.50	7.66
4	4874.00	41.00 AV	54.00	-13.00	1.00 V	182	33.34	7.66
5	7311.00	53.90 PK	74.00	-20.10	1.00 V	148	41.42	12.48
6	7311.00	42.50 AV	54.00	-11.50	1.00 V	148	30.02	12.48

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 greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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Test Report No.: RF200401N021-2

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	101.33 PK			1.00 H	262	96.88	4.45
2	*2462.00	89.91 AV			1.00 H	262	85.46	4.45
3	2483.50	52.06 PK	74.00	-21.94	1.00 H	262	47.52	4.54
4	2483.50	40.37 AV	54.00	-13.63	1.00 H	262	35.83	4.54
5	4924.00	51.04 PK	74.00	-22.96	1.00 H	112	43.27	7.77
6	4924.00	38.41 AV	54.00	-15.59	1.00 H	112	30.64	7.77
7	7386.00	54.02 PK	74.00	-19.98	1.00 H	158	41.46	12.56
8	7386.00	41.08 AV	54.00	-12.92	1.00 H	158	28.52	12.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	97.16 PK			1.00 V	195	92.71	4.45
2	*2462.00	85.28 AV			1.00 V	195	80.83	4.45
3	2483.50	49.50 PK	74.00	-24.50	1.00 V	195	44.96	4.54
4	2483.50	37.60 AV	54.00	-16.40	1.00 V	195	33.06	4.54
5	4924.00	54.65 PK	74.00	-19.35	1.00 V	158	46.88	7.77
6	4924.00	40.47 AV	54.00	-13.53	1.00 V	158	32.70	7.77
7	7386.00	53.81 PK	74.00	-20.19	1.00 V	187	41.25	12.56
8	7386.00	43.79 AV	54.00	-10.21	1.00 V	187	31.23	12.56

REMARKS:

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



802.11n HT20

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2390.00	49.89 PK	74.00	-24.11	1.00 H	219	45.74	4.15
2	2390.00	37.65 AV	54.00	-16.35	1.00 H	219	33.50	4.15
3	*2412.00	101.34 PK			1.00 H	219	97.11	4.23
4	*2412.00	89.96 AV			1.00 H	219	85.73	4.23
5	4824.00	52.14 PK	74.00	-21.86	1.00 H	175	44.57	7.57
6	4824.00	40.30 AV	54.00	-13.70	1.00 H	175	32.73	7.57
7	#7236.00	55.36 PK	74.00	-18.64	1.00 H	158	42.97	12.39
8	#7236.00	41.00 AV	54.00	-13.00	1.00 H	158	28.61	12.39
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	2390.00	47.90 PK	74.00	-26.10	1.00 V	242	43.75	4.15
2	2390.00	35.56 AV	54.00	-18.44	1.00 V	242	31.41	4.15
3	*2412.00	94.04 PK			1.00 V	242	89.81	4.23
4	*2412.00	82.84 AV			1.00 V	242	78.61	4.23
5	4824.00	53.46 PK	74.00	-20.54	1.00 V	161	45.89	7.57
6	4824.00	41.10 AV	54.00	-12.90	1.00 V	161	33.53	7.57
7	#7236.00	54.02 PK	74.00	-19.98	1.00 V	117	41.63	12.39
8	#7236.00	42.50 AV	54.00	-11.50	1.00 V	117	30.11	12.39

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 greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2437.00	102.57 PK			1.00 H	216	98.23	4.34
2	*2437.00	90.10 AV			1.00 H	216	85.76	4.34
3	4874.00	51.08 PK	74.00	-22.92	1.00 H	133	43.42	7.66
4	4874.00	39.14 AV	54.00	-14.86	1.00 H	133	31.48	7.66
5	7311.00	53.46 PK	74.00	-20.54	1.00 H	221	40.98	12.48
6	7311.00	40.50 AV	54.00	-13.50	1.00 H	221	28.02	12.48
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	*2437.00	94.52 PK			1.00 V	125	90.18	4.34
2	*2437.00	82.70 AV			1.00 V	125	78.36	4.34
3	4874.00	53.90 PK	74.00	-20.10	1.00 V	281	46.24	7.66
4	4874.00	40.60 AV	54.00	-13.40	1.00 V	281	32.94	7.66
5	7311.00	54.18 PK	74.00	-19.82	1.00 V	158	41.70	12.48
6	7311.00	43.59 AV	54.00	-10.41	1.00 V	158	31.11	12.48

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 greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	*2462.00	100.06 PK			1.00 H	40	95.61	4.45
2	*2462.00	87.90 AV			1.00 H	40	83.45	4.45
3	2483.50	52.69 PK	74.00	-21.31	1.00 H	40	48.15	4.54
4	2483.50	38.10 AV	54.00	-15.90	1.00 H	40	33.56	4.54
5	4924.00	51.60 PK	74.00	-22.40	1.00 H	182	43.83	7.77
6	4924.00	39.60 AV	54.00	-14.40	1.00 H	182	31.83	7.77
7	7386.00	55.10 PK	74.00	-18.90	1.00 H	158	42.54	12.56
8	7386.00	42.20 AV	54.00	-11.80	1.00 H	158	29.64	12.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	94.10 PK			1.00 V	198	89.65	4.45
2	*2462.00	82.61 AV			1.00 V	198	78.16	4.45
3	2483.50	48.20 PK	74.00	-25.80	1.00 V	198	43.66	4.54
4	2483.50	36.63 AV	54.00	-17.37	1.00 V	198	32.09	4.54
5	4924.00	53.07 PK	74.00	-20.93	1.00 V	158	45.30	7.77
6	4924.00	39.90 AV	54.00	-14.10	1.00 V	158	32.13	7.77
7	7386.00	53.46 PK	74.00	-20.54	1.00 V	112	40.90	12.56
8	7386.00	42.80 AV	54.00	-11.20	1.00 V	112	30.24	12.56

REMARKS:

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



4.2 6dB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	May 22,20	May 21,21
Power Sensor	Keysight	U2021XA	MY55060018	May 22,20	May 21,21
Power Meter	Anritsu	ML2495A	1139001	Mar. 12,20	Mar. 11,21
Power Sensor	Anritsu	MA2411B	1531155	Mar. 12,20	Mar. 11,21
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 17, 19	Oct.16, 20
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Nov.15,19	Nov. 14,20
Oscilloscope	Agilent	DSO9254A	MY51260160	Sep. 18,19	Sep. 17,20
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Mar. 13,20	Mar. 12,21
Signal Generator	Agilent	N5183A	MY50140980	Sep. 19,19	Sep. 18,20
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Sep. 12,19	Sep. 11,20
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	May 20,20	May 19,21
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.

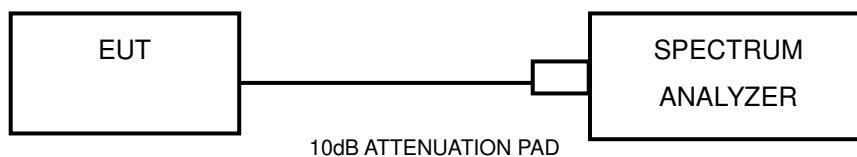
4.2.3 TEST PROCEDURE

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



4.2.6 EUT OPERATING CONDITIONS

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



4.2.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.11	0.5	PASS
6	2437	8.12	0.5	PASS
11	2462	8.12	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.33	0.5	PASS
6	2437	16.31	0.5	PASS
11	2462	16.32	0.5	PASS

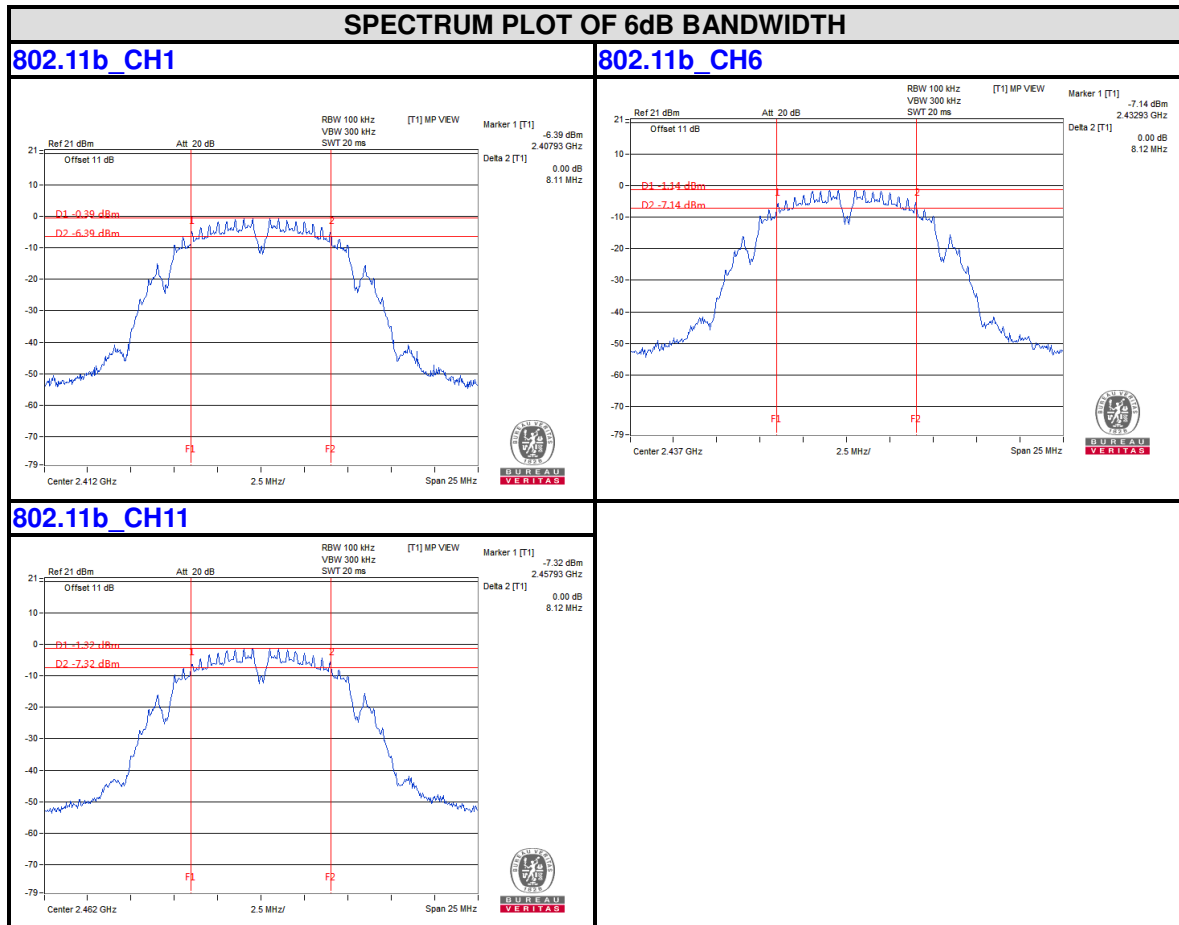
802.11n 20MHz

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.38	0.5	PASS
6	2437	16.61	0.5	PASS
11	2462	16.61	0.5	PASS



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Test Report No.: RF200401N021-2



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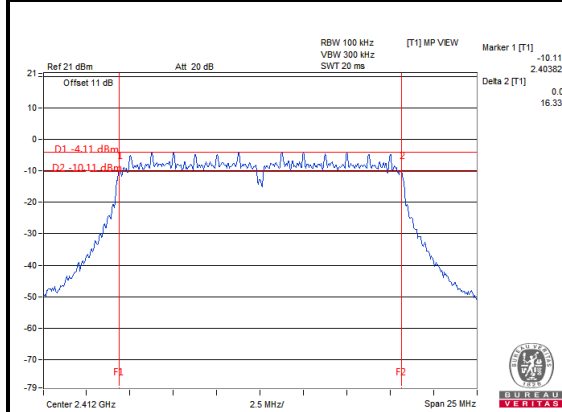


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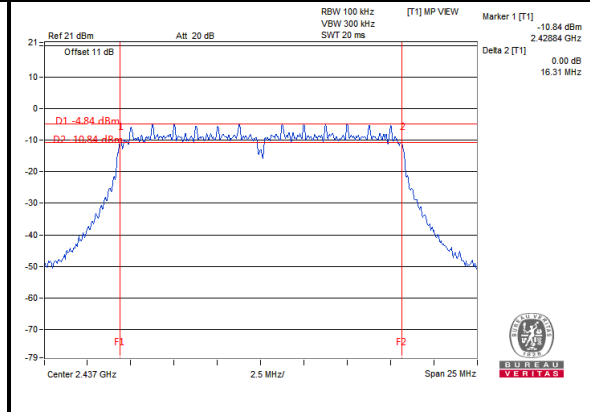
Test Report No.: RF200401N021-2

SPECTRUM PLOT OF 6dB BANDWIDTH

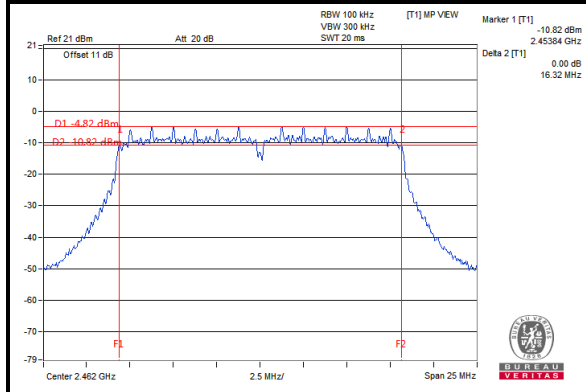
802.11g_CH1



802.11g_CH6



802.11g_CH11



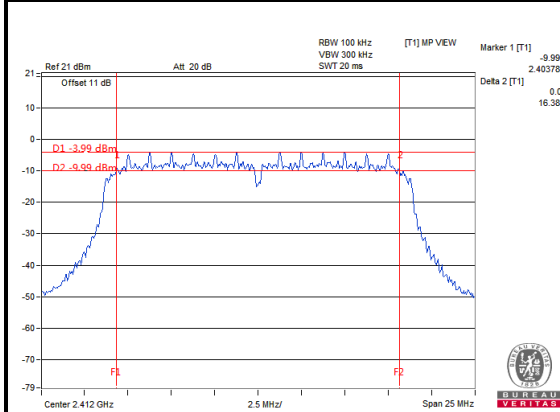


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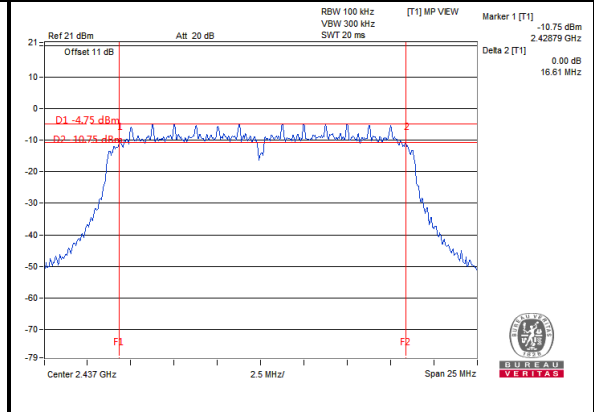
Test Report No.: RF200401N021-2

SPECTRUM PLOT OF 6dB BANDWIDTH

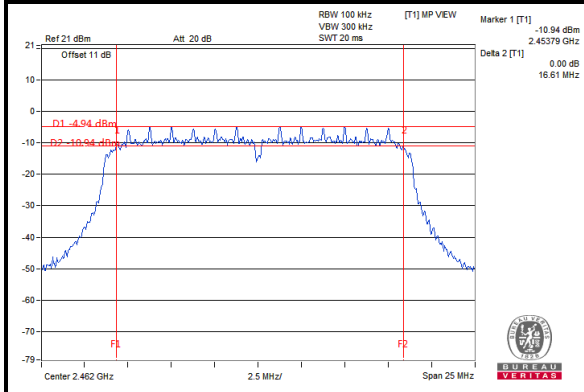
802.11n HT20_CH1



802.11n HT20_CH6



802.11n HT20_CH11



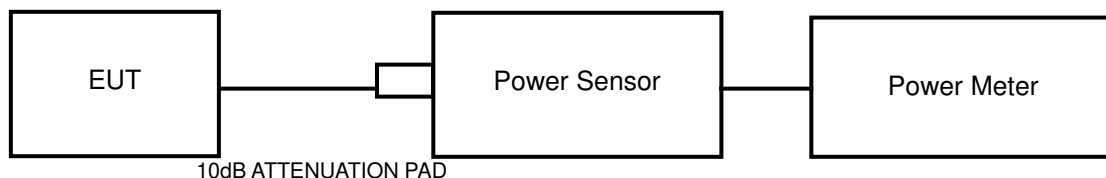


4.3 CONDUCTED OUTPUT POWER

4.3.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm).

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	May 22,20	May 21,21
Power Sensor	Keysight	U2021XA	MY55060018	May 22,20	May 21,21
Power Meter	Anritsu	ML2495A	1139001	Mar. 12,20	Mar. 11,21
Power Sensor	Anritsu	MA2411B	1531155	Mar. 12,20	Mar. 11,21
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 17, 19	Oct.16, 20
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Nov.15,19	Nov. 14,20
Oscilloscope	Agilent	DSO9254A	MY51260160	Sep. 18,19	Sep. 17,20
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Mar. 13,20	Mar. 12,21
Signal Generator	Agilent	N5183A	MY50140980	Sep. 19,19	Sep. 18,20
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Sep. 12,19	Sep. 11,20
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	May 20,20	May 19,21
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A	N/A
DC Source	Keysight	E3642A	MY56146098	N/A	N/A

NOTES:

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

4.3.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor and set the detector to PEAK. Record the power level.

An average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor and set the detector to AVERAGE. Record the power level.

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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



4.3.7 TEST RESULTS

MAXIMUM PEAK OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	15.08	32.211	1	PASS
6	2437	14.78	30.061	1	PASS
11	2462	14.35	27.227	1	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	19.33	85.704	1	PASS
6	2437	18.97	78.886	1	PASS
11	2462	18.67	73.621	1	PASS

802.11n HT20

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	19.15	82.224	1	PASS
6	2437	18.96	78.705	1	PASS
11	2462	18.53	71.285	1	PASS

**AVERAGE OUTPUT POWER (FOR REFERENCE)**

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	12.58	18.113
6	2437	11.69	14.757
11	2462	11.46	13.996

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	11.45	13.964
6	2437	11.24	13.305
11	2462	10.80	12.023

802.11n HT20

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	11.30	13.490
6	2437	10.93	12.388
11	2462	10.63	11.561

4.4 POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.3.3 to get information of above instrument.

4.4.4 TEST PROCEDURE

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set span to 1.5 times the DTS bandwidth.
- c) Set RBW to: 3KHz
- d) Set VBW $\geq 3 \times$ RBW.
- e) Detector = peak
- f) Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
- g) Sweep time = auto couple.
- h) Use the peak marker function to determine the maximum amplitude level.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.



4.4.6 EUT OPERATING CONDITION

Same as item 4.3.6.

4.4.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-15.40	8.00	PASS
6	2437	-16.11	8.00	PASS
11	2462	-16.42	8.00	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-18.37	8.00	PASS
6	2437	-18.50	8.00	PASS
11	2462	-18.54	8.00	PASS

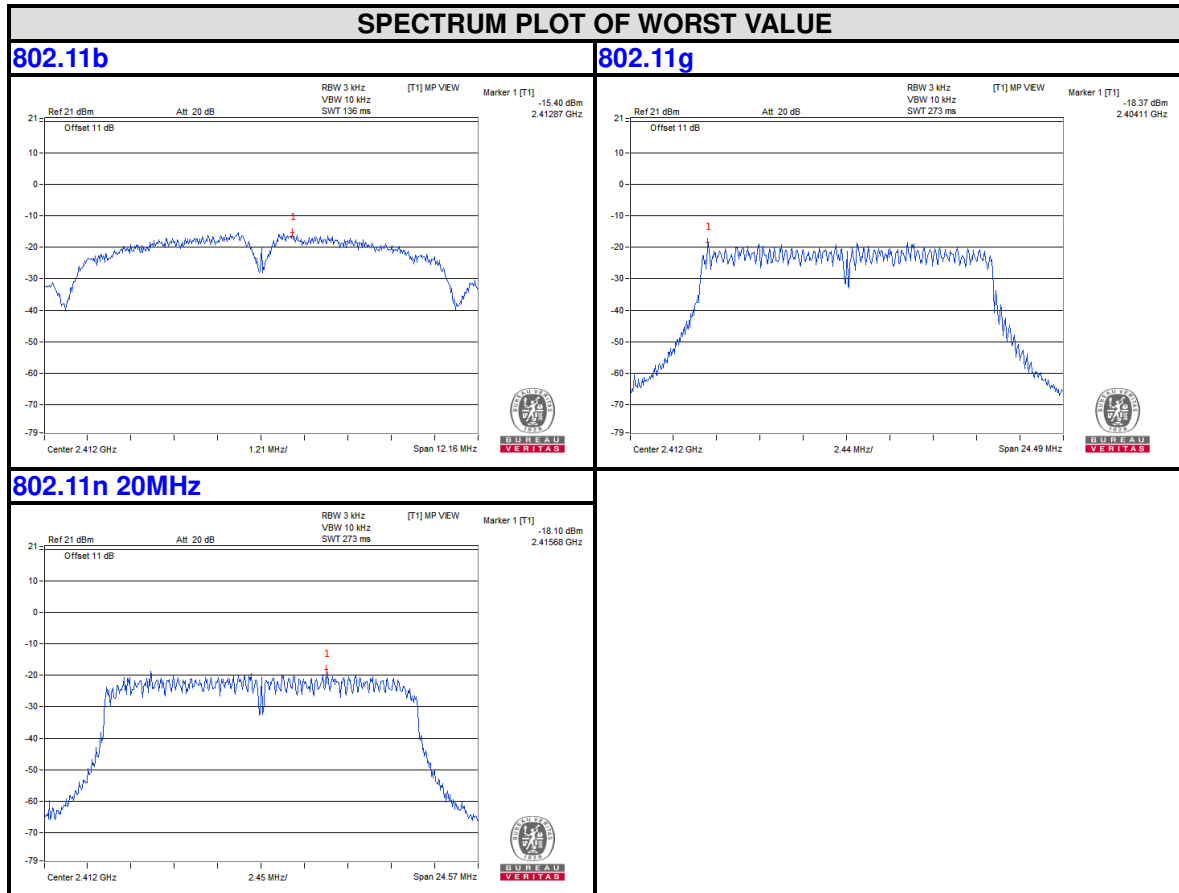
802.11n HT20

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-18.10	8.00	PASS
6	2437	-18.93	8.00	PASS
11	2462	-19.02	8.00	PASS



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4.5 OUT OF BAND EMISSION MEASUREMENT

4.5.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.3.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

Measurement Procedure - Reference Level

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.



Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6



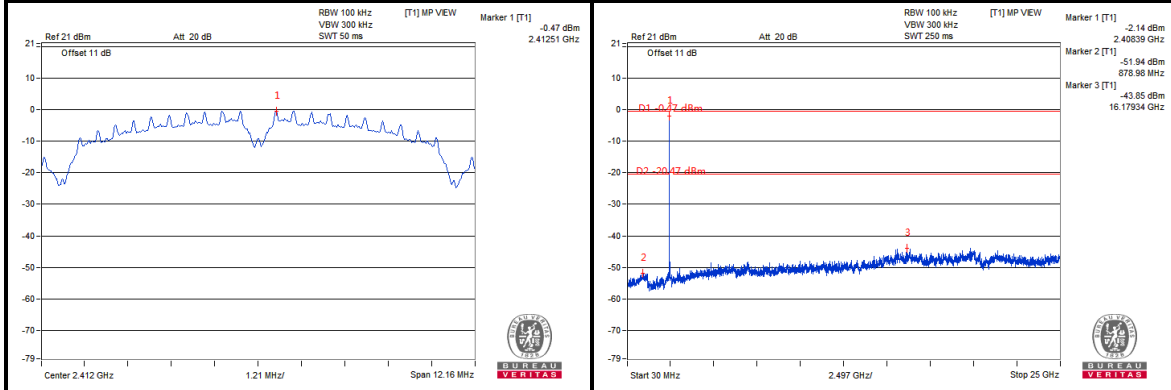
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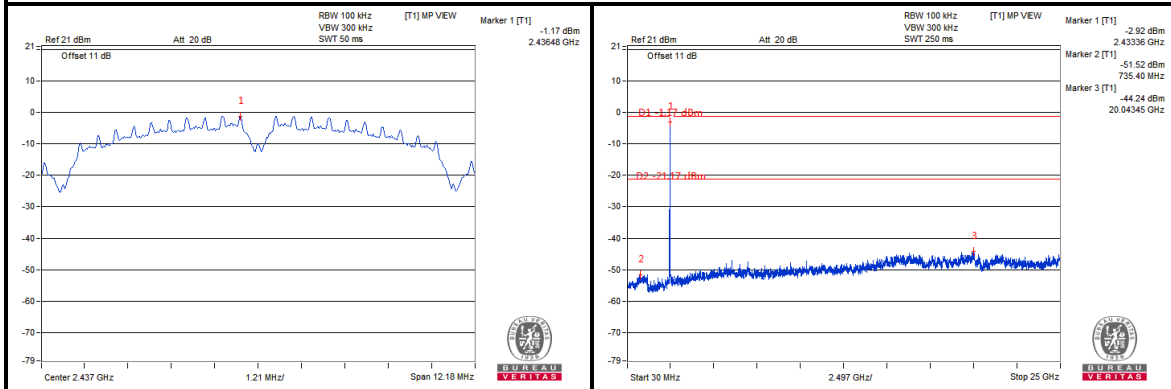
4.5.7 TEST RESULTS

802.11b

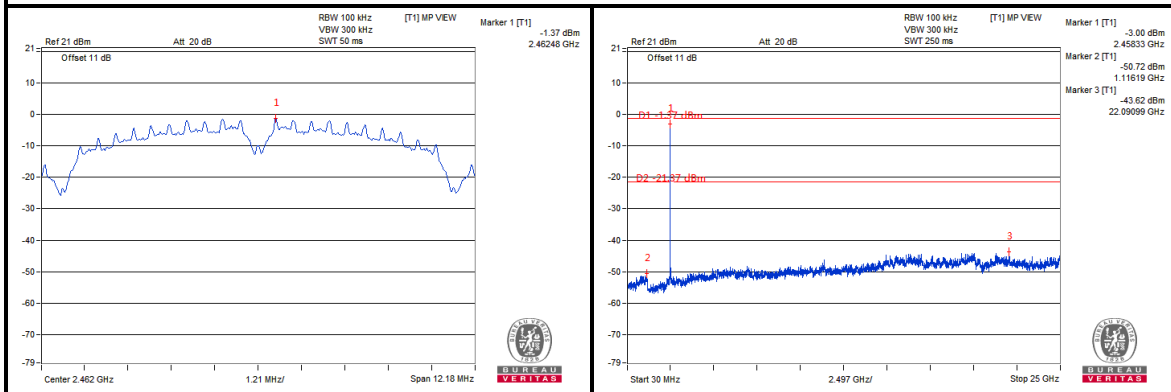
CH 1



CH 6



CH 11



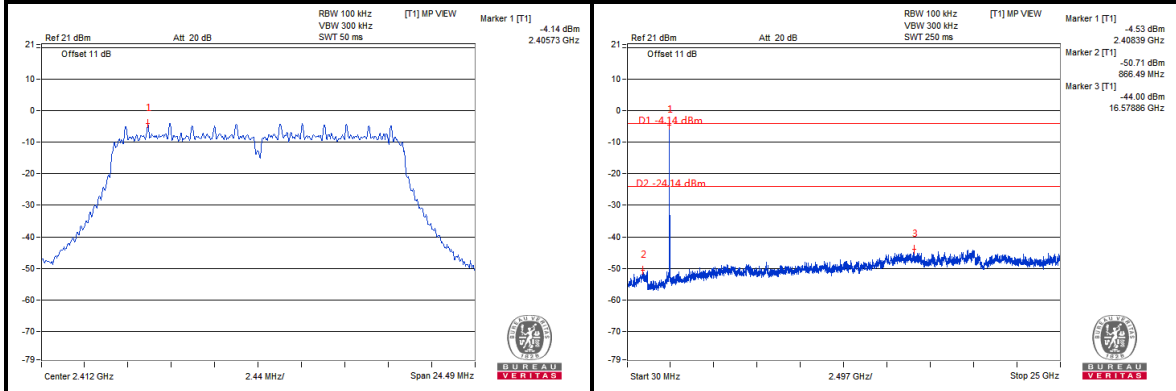


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VERITAS

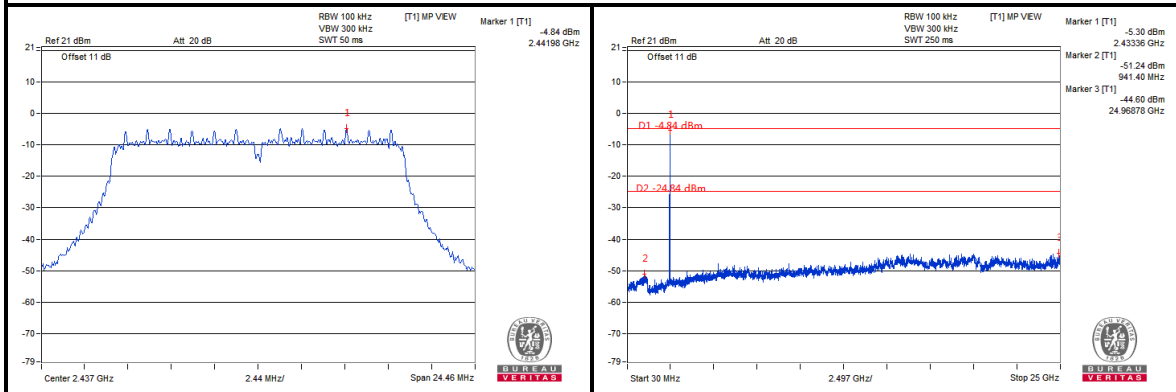
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802.11g

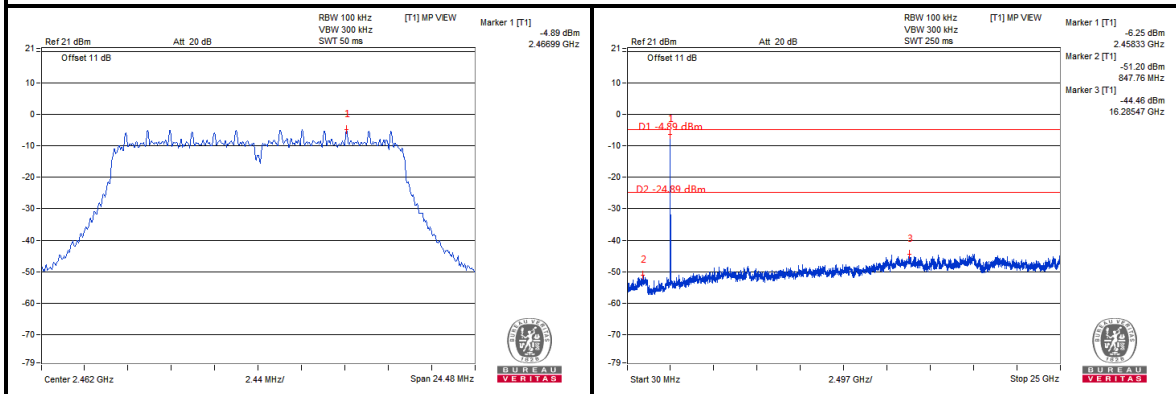
CH 1



CH 6



CH 11



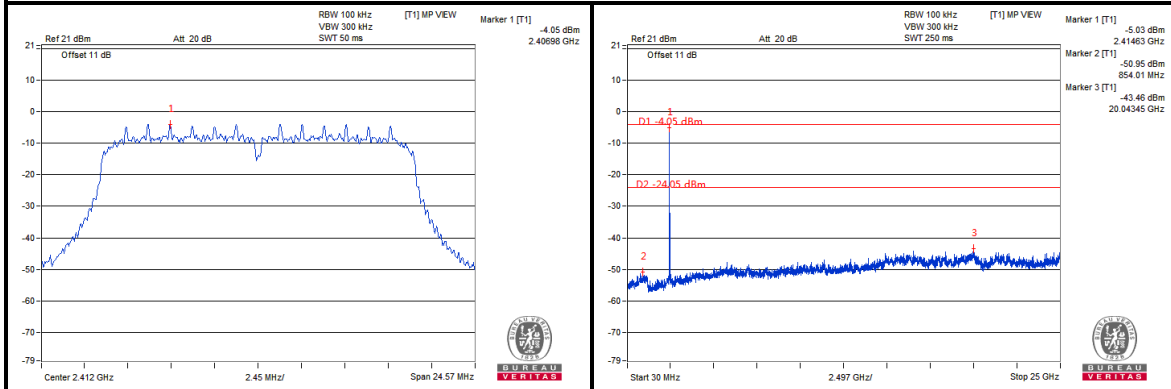


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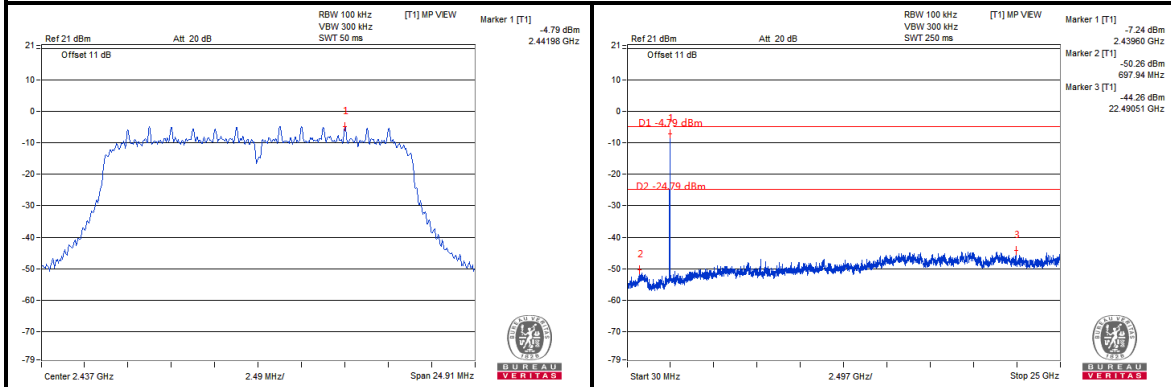
Test Report No.: RF200401N021-2

802.11n HT20

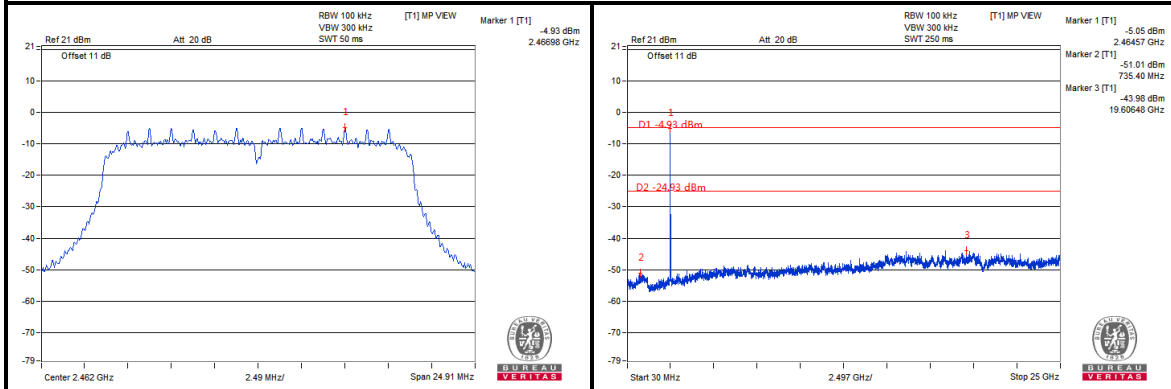
CH 1



CH 6



CH 11

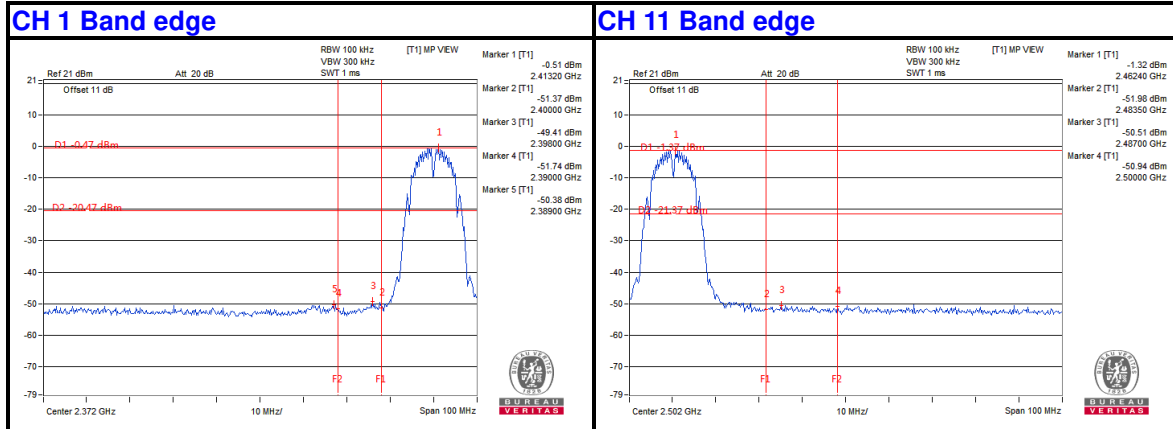




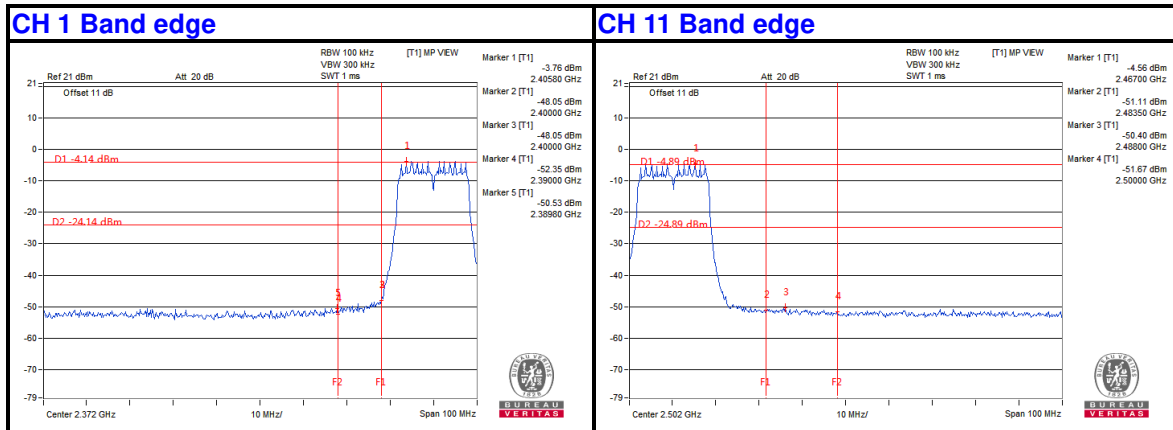
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VERITAS

Test Report No.: RF200401N021-2

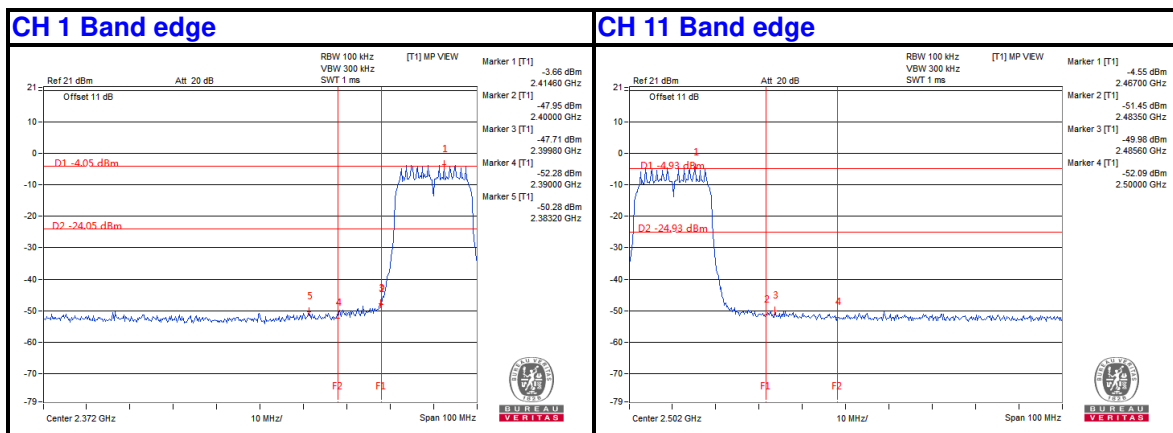
802.11b



802.11g



802.11n HT20





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5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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6 APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---