



Test Report No.: RF180606N077-3



TEST REPORT

Applicant	Panasonic Corporation of North America
Address	Two Riverfront Plaza, 9th Floor, Newark, New Jersey 07102-5490, United States

Manufacturer or Supplier	Panasonic Corporation
Address	1-15 Matsuo-cho, Kadoma City, Osaka 571-8504, Japan
Product	Wireless Speaker System
Brand Name	Technics
Model	SC-C50
Additional Model & Model Difference	N/A
Date of tests	Jun. 06, 2018 ~ Jul. 20, 2018

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 Andy Zhu
Project Engineer / EMC Department

Approved by Glyn He
Supervisor / EMC Department

Date: Jul. 27, 2018

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



TABLE OF CONTENTS

RELEASE CONTROL RECORD	4
1 SUMMARY OF TEST RESULTS	5
2 MEASUREMENT UNCERTAINTY	5
3 GENERAL INFORMATION	6
3.1 GENERAL DESCRIPTION OF EUT	6
3.2 DESCRIPTION OF TEST MODES	7
3.2.1 CONFIGURATION OF SYSTEM UNDER TEST	8
3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	8
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS	10
3.4 DESCRIPTION OF SUPPORT UNITS	10
4 TEST TYPES AND RESULTS	11
4.1. CONDUCTED EMISSION MEASUREMENT	11
4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	11
4.1.2 TEST INSTRUMENTS	11
4.1.3 TEST PROCEDURES	12
4.1.4 DEVIATION FROM TEST STANDARD	12
4.1.5 TEST SETUP	13
4.1.6 EUT OPERATING CONDITIONS	13
4.1.7 TEST RESULTS	14
4.2. RADIATED EMISSION MEASUREMENT	16
4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	16
4.2.2 TEST INSTRUMENTS	17
4.2.3 TEST PROCEDURES	18
4.2.4 DEVIATION FROM TEST STANDARD	19
4.2.5 TEST SETUP	19
4.2.6 EUT OPERATING CONDITIONS	20
4.2.7 TEST RESULTS	21
4.3 6dB BANDWIDTH MEASUREMENT	35
4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT	35
4.3.2 TEST INSTRUMENTS	35
4.3.3 TEST PROCEDURE	35
4.3.4 DEVIATION FROM TEST STANDARD	36
4.3.5 TEST SETUP	36
4.3.6 EUT OPERATING CONDITIONS	36
4.3.7 TEST RESULTS	37



Test Report No.: RF180606N077-3

4.4	CONDUCTED OUTPUT POWER.....	41
4.4.1	LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT.....	41
4.4.2	TEST SETUP.....	41
4.4.3	TEST INSTRUMENTS	41
4.4.4	TEST PROCEDURES.....	42
4.4.5	DEVIATION FROM TEST STANDARD.....	42
4.4.6	EUT OPERATING CONDITIONS	42
4.4.7	TEST RESULTS.....	43
4.5	POWER SPECTRAL DENSITY MEASUREMENT	46
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	46
4.5.2	TEST SETUP.....	46
4.5.3	TEST INSTRUMENTS	46
4.5.4	TEST PROCEDURE	46
4.5.5	DEVIATION FROM TEST STANDARD.....	46
4.5.6	EUT OPERATING CONDITION.....	47
4.5.7	TEST RESULTS.....	47
4.6	OUT OF BAND EMISSION MEASUREMENT	51
4.6.1	LIMITS OF OUT OF BAND EMISSION MEASUREMENT.....	51
4.6.2	TEST SETUP.....	51
4.6.3	TEST INSTRUMENTS	51
4.6.4	TEST PROCEDURE	51
4.6.5	DEVIATION FROM TEST STANDARD.....	52
4.6.6	EUT OPERATING CONDITION.....	52
4.6.7	TEST RESULTS.....	53
5	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	64
6	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	65



Test Report No.: RF180606N077-3

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF180606N077-3	Original release	Jul. 27, 2018

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	PASS	Meet the requirement of limit.
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
Conducted emissions	9kHz~30MHz	2.70dB
Radiated emissions	9KHz ~ 30MHz	2.90dB
	30MHz ~ 1GMHz	3.83dB
	1GHz ~ 18GHz	4.93dB
	18GHz ~ 40GHz	4.80dB

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



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless Speaker System
MODEL NO.	SC-C50
ADDITIONAL NO.	N/A
FCC ID	ACJ-SC-C50
NOMINAL VOLTAGE	AC 120V 60Hz
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40)
PEAK OUTPUT POWER	319.039mW(Maximum)
ANTENNA TYPE	PCB Antenna, with 0.01dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	AC Line: Unshielded, Detachable 1.5m

NOTE:

1. The EUT have MIMO function, provides 2 completed transmitters and 2 receivers.

MODULATION MODE	FUNCTION
802.11b	2TX/2RX
802.11g	2TX/2RX
802.11n (HT20)	2TX/2RX
802.11n (HT40)	2TX/2RX

2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Please refer to the EUT photo document (Reference No.: 180606N077) 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		

7 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422 MHz	8	2447 MHz
4	2427 MHz	9	2452 MHz
5	2432 MHz		
6	2437 MHz		
7	2442 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	
A	√	√	√	√	AC 120V/60Hz

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

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	TESTED CONDITION
A	WIFI (2.4G) Link

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)
A	802.11b	1 to 11	1	DSSS	DBPSK	1.0

For the test results, only the worst case was shown in test report.

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)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 53%RH	AC 120V/60Hz	Eric Fang
RE≥1G	23deg. C, 53%RH	AC 120V/60Hz	Eric Fang
PLC	20deg. C, 56%RH	AC 120V/60Hz	Sen He
APCM	20deg. C, 55%RH	AC 120V/60Hz	Hardy



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 DTS Meas Guidance v04

KDB 662911 D01 v02r01

ANSI C63.10-2013

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

NOTE: It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B(sDoC). The test report has been issued separately.

3.4 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.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

4 TEST TYPES AND RESULTS

4.1. CONDUCTED EMISSION MEASUREMENT

4.1.1 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.

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Mar. 21,18	Mar. 20,19
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 03,18	Mar. 02,19
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Apr. 11,18	Apr. 10,19
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Jan. 17,18	Jan. 16,19
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.



Test Report No.: RF180606N077-3

4.1.3 TEST PROCEDURES

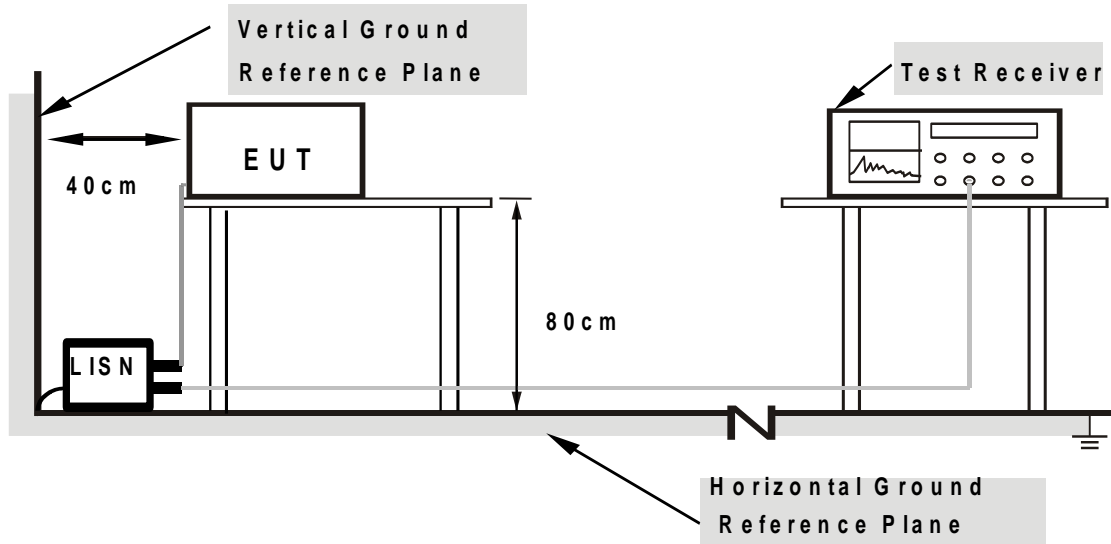
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



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

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

4.1.6 EUT OPERATING CONDITIONS

- Turned on the power and connected of all equipment.
- EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

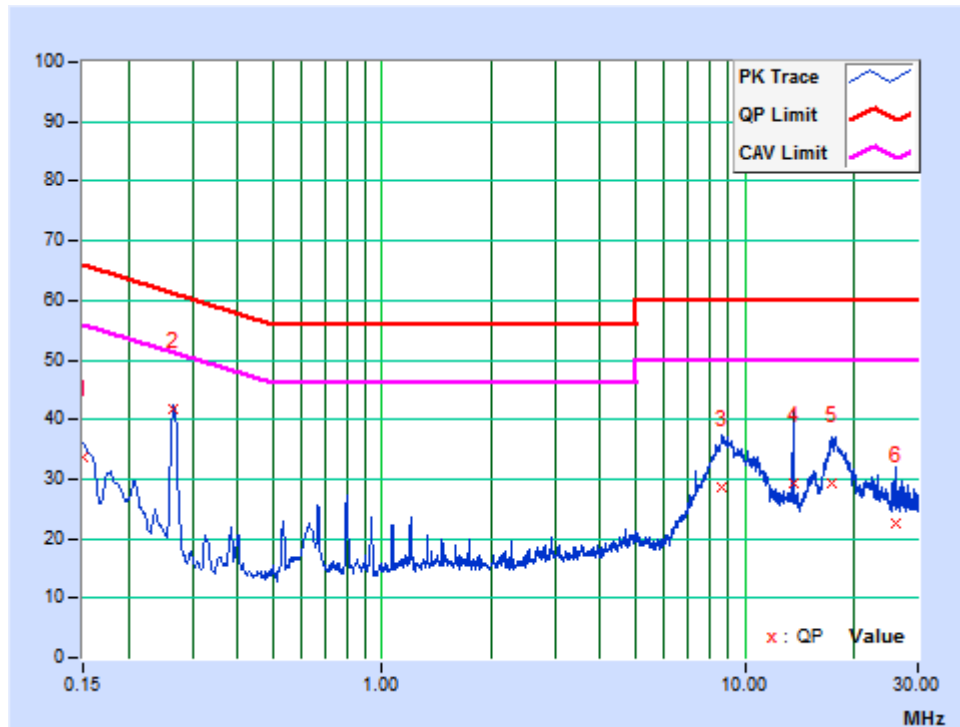
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: WIFI

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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.90	23.74	16.75	33.64	26.65	66.00	56.00	-32.36	-29.35
2	0.26647	9.72	31.91	31.78	41.63	41.50	61.23	51.23	-19.60	-9.73
3	8.67300	10.33	18.22	15.01	28.55	25.34	60.00	50.00	-31.45	-24.66
4	13.56000	10.07	19.25	3.89	29.32	13.96	60.00	50.00	-30.68	-36.04
5	17.34000	10.15	19.12	11.09	29.27	21.24	60.00	50.00	-30.73	-28.76
6	26.01375	10.26	12.23	4.81	22.49	15.07	60.00	50.00	-37.51	-34.93

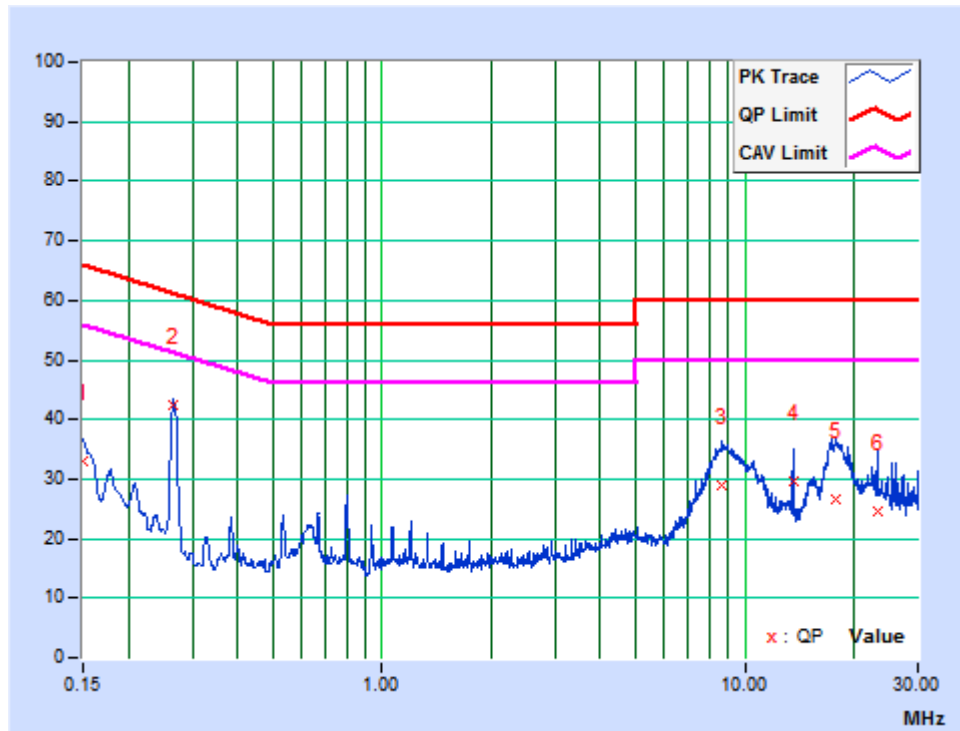
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.63	23.22	16.56	32.85	26.19	66.00	56.00	-33.15	-29.81
2	0.26718	10.20	32.35	32.08	42.55	42.28	61.21	51.21	-18.66	-8.93
3	8.61450	9.87	19.14	13.59	29.01	23.46	60.00	50.00	-30.99	-26.54
4	13.56000	9.96	19.60	2.10	29.56	12.06	60.00	50.00	-30.44	-37.94
5	17.76750	10.13	16.45	7.26	26.58	17.39	60.00	50.00	-33.42	-32.61
6	23.12700	10.22	14.44	9.87	24.66	20.09	60.00	50.00	-35.34	-29.91

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



4.2. RADIATED EMISSION MEASUREMENT

4.2.1 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.



4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Mar. 21,18	Mar. 20,19
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	Nov. 04,17	Nov. 03,18
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	May 31,18	May 30,19
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Apr. 18,18	Apr. 18,19
Bilog Antenna (20MHz -2GHz)	Teseq	CBL 6111D	30643	Jul. 28, 17	Jul. 27, 18
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	Jun. 02,18	Jun. 01,19
Horn Antenna (18GHz -40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170242	May 05,18	May 04,19
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Feb. 10,18	Feb. 09,19
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
Broadband Pre-amplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	Apr. 18,18	Apr. 18,19
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 08,17	Nov. 07,18
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A

NOTE:

1. The test was performed in 966 Chamber.
2. The calibration interval of the above test instruments 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.

4.2.3 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.

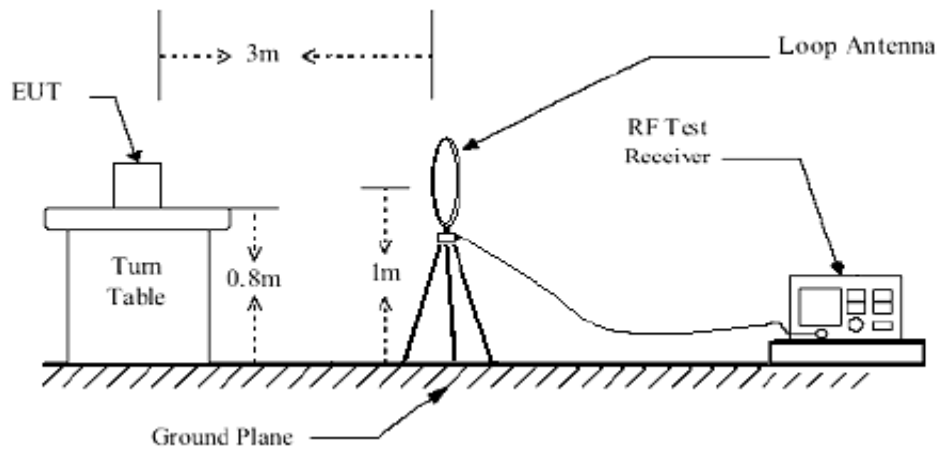


4.2.4 DEVIATION FROM TEST STANDARD

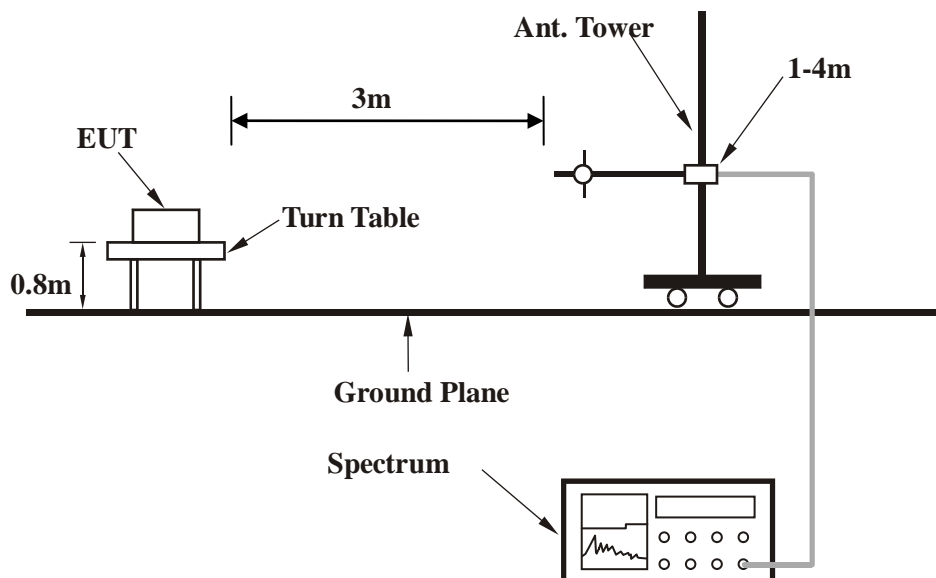
No deviation.

4.2.5 TEST SETUP

Below 30MHz test setup

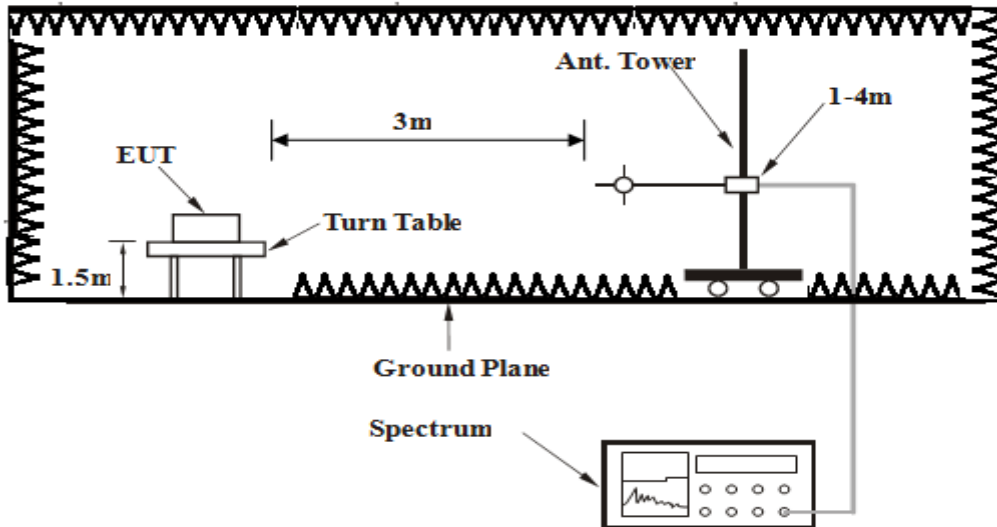


Below 1GHz test setup



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).

4.2.6 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.

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

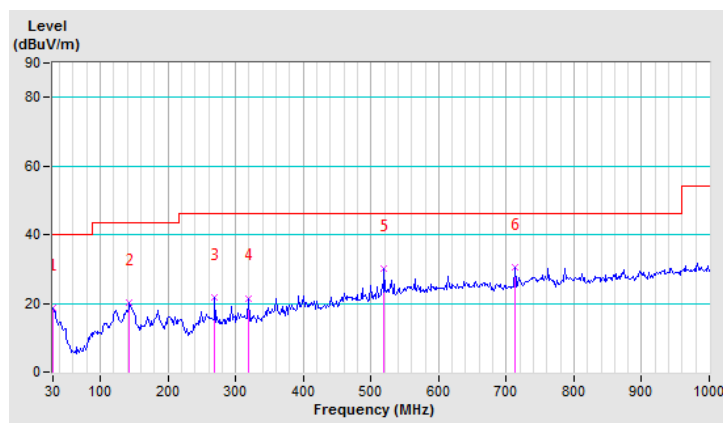
802.11b

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	18.57 QP	40.00	-21.43	1.00 H	235	29.70	-11.13
2	143.48	20.03 QP	43.50	-23.47	1.00 H	98	36.81	-16.78
3	269.39	21.84 QP	46.00	-24.16	1.00 H	114	35.52	-13.68
4	319.13	21.51 QP	46.00	-24.49	1.00 H	216	34.64	-13.13
5	519.66	30.09 QP	46.00	-15.91	1.00 H	59	35.98	-5.89
6	712.42	30.35 QP	46.00	-15.65	1.00 H	301	33.19	-2.84

REMARKS:

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

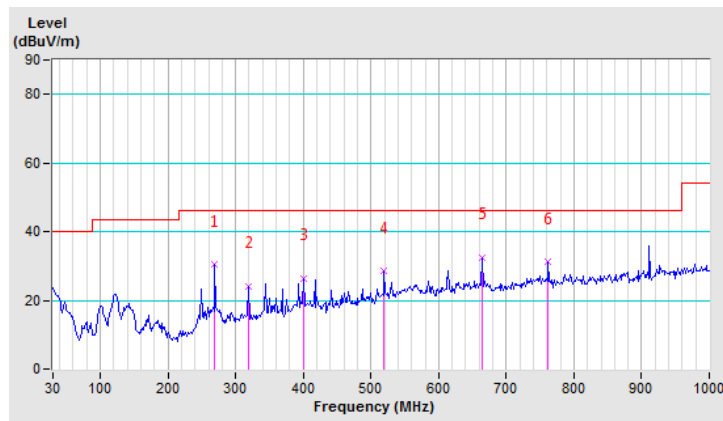


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

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	269.39	30.64 QP	46.00	-15.36	1.00 V	246	44.32	-13.68
2	319.13	24.21 QP	46.00	-21.79	1.00 V	205	37.34	-13.13
3	399.97	26.48 QP	46.00	-19.52	1.00 V	228	35.00	-8.52
4	519.66	28.64 QP	46.00	-17.36	1.00 V	265	34.53	-5.89
5	664.23	32.58 QP	46.00	-13.42	1.00 V	148	35.62	-3.04
6	762.16	31.11 QP	46.00	-14.89	1.00 V	117	32.51	-1.40

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.



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	55.95 PK	74.00	-18.05	1.50 H	140	53.10	2.85
2	2390.00	50.28 AV	54.00	-3.72	1.50 H	140	47.43	2.85
3	*2412.00	106.98 PK			1.25 H	1	104.06	2.92
4	*2412.00	103.69 AV			1.25 H	1	100.77	2.92
5	4824.00	56.98 PK	74.00	-17.02	1.25 H	147	50.64	6.34
6	4824.00	53.68 AV	54.00	-0.32	1.25 H	147	47.34	6.34
7	7236.00	52.36 PK	74.00	-21.64	1.45 H	120	43.07	9.29
8	7236.00	38.98 AV	54.00	-15.02	1.45 H	120	29.69	9.29
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	49.68 PK	74.00	-24.32	1.47 V	120	46.83	2.85
2	2390.00	42.58 AV	54.00	-11.42	1.47 V	120	39.73	2.85
3	*2412.00	108.95 PK			1.25 V	145	106.03	2.92
4	*2412.00	104.58 AV			1.25 V	145	101.66	2.92
5	4824.00	55.95 PK	74.00	-18.05	1.45 V	247	49.61	6.34
6	4824.00	52.85 AV	54.00	-1.15	1.45 V	247	46.51	6.34
7	7236.00	51.36 PK	74.00	-22.64	1.45 V	247	42.07	9.29
8	7236.00	39.58 AV	54.00	-14.42	1.45 V	247	30.29	9.29

REMARKS:

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

CHANNEL	TX Channel 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	107.55 PK			1.25 H	147	104.54	3.01
2	*2437.00	102.97 AV			1.25 H	147	99.96	3.01
3	4874.00	54.57 PK	74.00	-19.43	1.69 H	230	48.20	6.37
4	4874.00	42.59 AV	54.00	-11.41	1.69 H	230	36.22	6.37
5	7311.00	51.26 PK	74.00	-22.74	1.45 H	120	42.00	9.26
6	7311.00	39.48 AV	54.00	-14.52	1.45 H	120	30.22	9.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.58 PK			1.25 V	148	107.57	3.01
2	*2437.00	106.04 AV			1.25 V	148	103.03	3.01
3	4874.00	53.26 PK	74.00	-20.74	1.25 V	147	46.89	6.37
4	4874.00	49.68 AV	54.00	-4.32	1.25 V	147	43.31	6.37
5	7311.00	52.24 PK	74.00	-21.76	1.40 V	145	42.98	9.26
6	7311.00	38.49 AV	54.00	-15.51	1.40 V	145	29.23	9.26

REMARKS:

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

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	105.58 PK			1.50 H	140	102.49	3.09
2	*2462.00	102.29 AV			1.50 H	140	99.20	3.09
3	2483.50	51.26 PK	74.00	-22.74	1.45 H	147	48.10	3.16
4	2483.50	42.26 AV	54.00	-11.74	1.45 H	147	39.10	3.16
5	4924.00	53.24 PK	74.00	-20.76	1.69 H	277	46.83	6.41
6	4924.00	43.02 AV	54.00	-10.98	1.69 H	277	36.61	6.41
7	7386.00	52.27 PK	74.00	-21.73	1.45 H	169	43.05	9.22
8	7386.00	41.02 AV	54.00	-12.98	1.45 H	169	31.80	9.22
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	109.69 PK			1.45 V	120	106.60	3.09
2	*2462.00	105.75 AV			1.45 V	120	102.66	3.09
3	2483.50	54.58 PK	74.00	-19.42	1.25 V	147	51.42	3.16
4	2483.50	50.95 AV	54.00	-3.05	1.25 V	147	47.79	3.16
5	4924.00	54.26 PK	74.00	-19.74	1.40 V	150	47.85	6.41
6	4924.00	46.98 AV	54.00	-7.02	1.40 V	150	40.57	6.41
7	7386.00	52.25 PK	74.00	-21.75	1.47 V	199	43.03	9.22
8	7386.00	42.36 AV	54.00	-11.64	1.47 V	199	33.14	9.22

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.

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	66.69 PK	74.00	-7.31	1.40 H	154	63.84	2.85
2	2390.00	46.77 AV	54.00	-7.23	1.40 H	154	43.92	2.85
3	*2412.00	106.68 PK			1.40 H	150	103.76	2.92
4	*2412.00	98.27 AV			1.40 H	150	95.35	2.92
5	4824.00	54.25 PK	74.00	-19.75	1.47 H	132	47.91	6.34
6	4824.00	41.69 AV	54.00	-12.31	1.47 H	132	35.35	6.34
7	7236.00	54.58 PK	74.00	-19.42	1.00 H	125	45.29	9.29
8	7236.00	42.18 AV	54.00	-11.82	1.00 H	125	32.89	9.29
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	70.70 PK	74.00	-3.30	1.20 V	140	67.85	2.85
2	2390.00	53.80 AV	54.00	-0.20	1.20 V	140	50.95	2.85
3	*2412.00	109.68 PK			1.40 V	150	106.76	2.92
4	*2412.00	100.47 AV			1.40 V	150	97.55	2.92
5	4824.00	57.58 PK	74.00	-16.42	1.58 V	146	51.24	6.34
6	4824.00	46.68 AV	54.00	-7.32	1.58 V	146	40.34	6.34
7	7236.00	57.58 PK	74.00	-16.42	1.20 V	144	48.29	9.29
8	7236.00	43.77 AV	54.00	-10.23	1.20 V	144	34.48	9.29

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.



Test Report No.: RF180606N077-3

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	105.85 PK			1.45 H	168	102.84	3.01
2	*2437.00	97.07 AV			1.45 H	168	94.06	3.01
3	4874.00	54.56 PK	74.00	-19.44	1.69 H	247	48.19	6.37
4	4874.00	41.16 AV	54.00	-12.84	1.69 H	247	34.79	6.37
5	7311.00	52.02 PK	74.00	-21.98	1.69 H	247	42.76	9.26
6	7311.00	41.03 AV	54.00	-12.97	1.69 H	247	31.77	9.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.87 PK			1.58 V	147	107.86	3.01
2	*2437.00	99.41 AV			1.58 V	147	96.40	3.01
3	4874.00	56.58 PK	74.00	-17.42	1.47 V	158	50.21	6.37
4	4874.00	42.88 AV	54.00	-11.12	1.47 V	158	36.51	6.37
5	7311.00	57.57 PK	74.00	-16.43	1.60 V	25	48.31	9.26
6	7311.00	41.36 AV	54.00	-12.64	1.60 V	25	32.10	9.26

REMARKS:

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

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	104.88 PK			1.25 H	125	101.79	3.09
2	*2462.00	94.58 AV			1.25 H	125	91.49	3.09
3	2483.50	61.58 PK	74.00	-12.42	1.40 H	120	58.42	3.16
4	2483.50	46.69 AV	54.00	-7.31	1.40 H	120	43.53	3.16
5	4924.00	54.23 PK	74.00	-19.77	1.98 H	54	47.82	6.41
6	4924.00	43.26 AV	54.00	-10.74	1.98 H	54	36.85	6.41
7	7386.00	52.12 PK	74.00	-21.88	1.20 H	145	42.90	9.22
8	7386.00	40.17 AV	54.00	-13.83	1.20 H	145	30.95	9.22
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	105.88 PK			1.00 V	120	102.79	3.09
2	*2462.00	97.85 AV			1.00 V	120	94.76	3.09
3	2483.50	71.85 PK	74.00	-2.15	1.44 V	158	68.69	3.16
4	2483.50	51.02 AV	54.00	-2.98	1.44 V	158	47.86	3.16
5	4924.00	55.58 PK	74.00	-18.42	1.62 V	140	49.17	6.41
6	4924.00	42.16 AV	54.00	-11.84	1.62 V	140	35.75	6.41
7	7386.00	54.26 PK	74.00	-19.74	1.40 V	180	45.04	9.22
8	7386.00	43.29 AV	54.00	-10.71	1.40 V	180	34.07	9.22

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.

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	58.88 PK	74.00	-15.12	1.20 H	144	56.03	2.85
2	2390.00	43.26 AV	54.00	-10.74	1.20 H	144	40.41	2.85
3	*2412.00	104.88 PK			1.40 H	158	101.96	2.92
4	*2412.00	95.68 AV			1.40 H	158	92.76	2.92
5	4824.00	49.68 PK	74.00	-24.32	1.45 H	14	43.34	6.34
6	4824.00	38.79 AV	54.00	-15.21	1.45 H	14	32.45	6.34
7	7236.00	52.24 PK	74.00	-21.76	1.30 H	210	42.95	9.29
8	7236.00	41.12 AV	54.00	-12.88	1.30 H	210	31.83	9.29
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	64.58 PK	74.00	-9.42	1.47 V	110	61.73	2.85
2	2390.00	51.88 AV	54.00	-2.12	1.47 V	110	49.03	2.85
3	*2412.00	105.59 PK			1.45 V	120	102.67	2.92
4	*2412.00	98.53 AV			1.45 V	120	95.61	2.92
5	4824.00	51.02 PK	74.00	-22.98	1.58 V	144	44.68	6.34
6	4824.00	39.58 AV	54.00	-14.42	1.58 V	144	33.24	6.34
7	7236.00	51.58 PK	74.00	-22.42	1.60 V	254	42.29	9.29
8	7236.00	41.30 AV	54.00	-12.70	1.60 V	254	32.01	9.29

REMARKS:

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

CHANNEL	TX Channel 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	106.14 PK			1.50 H	148	103.13	3.01
2	*2437.00	96.69 AV			1.50 H	148	93.68	3.01
3	4874.00	54.25 PK	74.00	-19.75	1.60 H	287	47.88	6.37
4	4874.00	41.03 AV	54.00	-12.97	1.60 H	287	34.66	6.37
5	7311.00	52.21 PK	74.00	-21.79	1.47 H	140	42.95	9.26
6	7311.00	39.88 AV	54.00	-14.12	1.47 H	140	30.62	9.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.18 PK			1.25 V	120	108.17	3.01
2	*2437.00	101.83 AV			1.25 V	120	98.82	3.01
3	4874.00	55.58 PK	74.00	-18.42	1.60 V	250	49.21	6.37
4	4874.00	43.26 AV	54.00	-10.74	1.60 V	250	36.89	6.37
5	7311.00	55.25 PK	74.00	-18.75	1.47 V	187	45.99	9.26
6	7311.00	43.26 AV	54.00	-10.74	1.47 V	187	34.00	9.26

REMARKS:

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

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	102.58 PK			1.50 H	187	99.49	3.09
2	*2462.00	93.86 AV			1.50 H	187	90.77	3.09
3	2483.50	63.21 PK	74.00	-10.79	1.60 H	147	60.05	3.16
4	2483.50	46.58 AV	54.00	-7.42	1.60 H	147	43.42	3.16
5	4924.00	53.21 PK	74.00	-20.79	1.40 H	104	46.80	6.41
6	4924.00	42.19 AV	54.00	-11.81	1.40 H	104	35.78	6.41
7	7386.00	52.28 PK	74.00	-21.72	1.02 H	144	43.06	9.22
8	7386.00	43.29 AV	54.00	-10.71	1.02 H	144	34.07	9.22
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	107.25 PK			1.40 V	158	104.16	3.09
2	*2462.00	97.99 AV			1.40 V	158	94.90	3.09
3	2483.50	72.98 PK	74.00	-1.02	1.45 V	147	69.82	3.16
4	2483.50	52.68 AV	54.00	-1.32	1.45 V	147	49.52	3.16
5	4924.00	55.54 PK	74.00	-18.46	1.50 V	140	49.13	6.41
6	4924.00	41.26 AV	54.00	-12.74	1.50 V	140	34.85	6.41
7	7386.00	51.59 PK	74.00	-22.41	1.40 V	199	42.37	9.22
8	7386.00	40.17 AV	54.00	-13.83	1.40 V	199	30.95	9.22

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.

802.11n HT40

CHANNEL	TX Channel 3	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	68.59 PK	74.00	-5.41	1.40 H	102	65.74	2.85
2	2390.00	52.64 AV	54.00	-1.36	1.40 H	102	49.79	2.85
3	*2422.00	102.84 PK			1.00 H	102	99.88	2.96
4	*2422.00	92.56 AV			1.00 H	102	89.60	2.96
5	4844.00	53.26 PK	74.00	-20.74	1.45 H	120	46.90	6.36
6	4844.00	39.89 AV	54.00	-14.11	1.45 H	120	33.53	6.36
7	7266.00	52.24 PK	74.00	-21.76	1.47 H	110	42.96	9.28
8	7266.00	41.01 AV	54.00	-12.99	1.47 H	110	31.73	9.28
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	71.25 PK	74.00	-2.75	1.55 V	120	68.40	2.85
2	2390.00	53.32 AV	54.00	-0.68	1.55 V	120	50.47	2.85
3	*2422.00	104.88 PK			1.12 V	145	101.92	2.96
4	*2422.00	94.55 AV			1.12 V	145	91.59	2.96
5	4844.00	50.49 PK	74.00	-23.51	1.40 V	111	44.13	6.36
6	4844.00	39.14 AV	54.00	-14.86	1.40 V	111	32.78	6.36
7	7266.00	51.25 PK	74.00	-22.75	1.40 V	102	41.97	9.28
8	7266.00	39.54 AV	54.00	-14.46	1.40 V	102	30.26	9.28

REMARKS:

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

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	104.25 PK			1.50 H	147	101.24	3.01
2	*2437.00	93.63 AV			1.50 H	147	90.62	3.01
3	4874.00	55.24 PK	74.00	-18.76	1.45 H	147	48.87	6.37
4	4874.00	36.58 AV	54.00	-17.42	1.45 H	147	30.21	6.37
5	7311.00	54.21 PK	74.00	-19.79	1.69 H	258	44.95	9.26
6	7311.00	41.16 AV	54.00	-12.84	1.69 H	258	31.90	9.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.85 PK			1.50 V	120	103.84	3.01
2	*2437.00	97.88 AV			1.50 V	120	94.87	3.01
3	4874.00	52.26 PK	74.00	-21.74	1.02 V	120	45.89	6.37
4	4874.00	39.58 AV	54.00	-14.42	1.02 V	120	33.21	6.37
5	7311.00	55.68 PK	74.00	-18.32	1.40 V	102	46.42	9.26
6	7311.00	42.18 AV	54.00	-11.82	1.40 V	102	32.92	9.26

REMARKS:

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

CHANNEL	TX Channel 9	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	*2452.00	96.95 PK			1.25 H	147	93.90	3.05
2	*2452.00	89.37 AV			1.25 H	147	86.32	3.05
3	2483.50	59.69 PK	74.00	-14.31	1.20 H	104	56.53	3.16
4	2483.50	45.17 AV	54.00	-8.83	1.20 H	104	42.01	3.16
5	4904.00	54.78 PK	74.00	-19.22	1.60 H	298	48.38	6.40
6	4904.00	43.16 AV	54.00	-10.84	1.60 H	298	36.76	6.40
7	7356.00	54.20 PK	74.00	-19.80	1.02 H	111	44.97	9.23
8	7356.00	41.79 AV	54.00	-12.21	1.02 H	111	32.56	9.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	102.58 PK			1.25 V	147	99.53	3.05
2	*2452.00	93.59 AV			1.25 V	147	90.54	3.05
3	2483.50	71.24 PK	74.00	-2.76	1.25 V	147	68.08	3.16
4	2483.50	53.87 AV	54.00	-0.13	1.25 V	147	50.71	3.16
5	4804.00	54.57 PK	74.00	-19.43	1.20 V	144	48.24	6.33
6	4804.00	43.69 AV	54.00	-10.31	1.20 V	144	37.36	6.33
7	7356.00	53.28 PK	74.00	-20.72	1.69 V	287	44.05	9.23
8	7356.00	41.79 AV	54.00	-12.21	1.69 V	287	32.56	9.23

REMARKS:

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

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	May 19,18	May 18,19
Power Sensor	Keysight	U2021XA	MY55060018	May 19,18	May 18,19
Power Meter	Anritsu	ML2495A	1139001	Apr. 13,18	Apr. 13,19
Power Sensor	Anritsu	MA2411B	1531155	Apr. 13,18	Apr. 13,19
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 21, 17	Oct. 20, 18
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.05,17	Sep. 04,18
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 08,17	Nov. 07,18
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 04,17	Nov. 03,18
Signal Generator	Agilent	N5183A	MY50140980	Jan. 02,18	Jan. 01,19
Agile Signal Generator	Agilent	8645A	Agilent	Sep.01, 17	Aug.31, 18
Spectrum Analyzer	Keysight	N9020A	MY55400499	Mar. 21,18	Mar. 20,19
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Jan. 02,18	Jan. 01,19
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.

4.3.3 TEST PROCEDURE

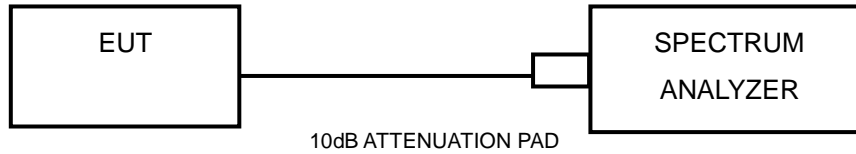
1. Set resolution bandwidth (RBW) = 100KHz
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower)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



4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	10.09	10.11	0.5	PASS
6	2437	10.10	10.08	0.5	PASS
11	2462	10.08	10.09	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.40	16.40	0.5	PASS
6	2437	16.40	16.43	0.5	PASS
11	2462	16.39	16.39	0.5	PASS

802.11n HT20

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.10	17.34	0.5	PASS
6	2437	17.59	17.59	0.5	PASS
11	2462	17.59	17.36	0.5	PASS

802.11n HT40

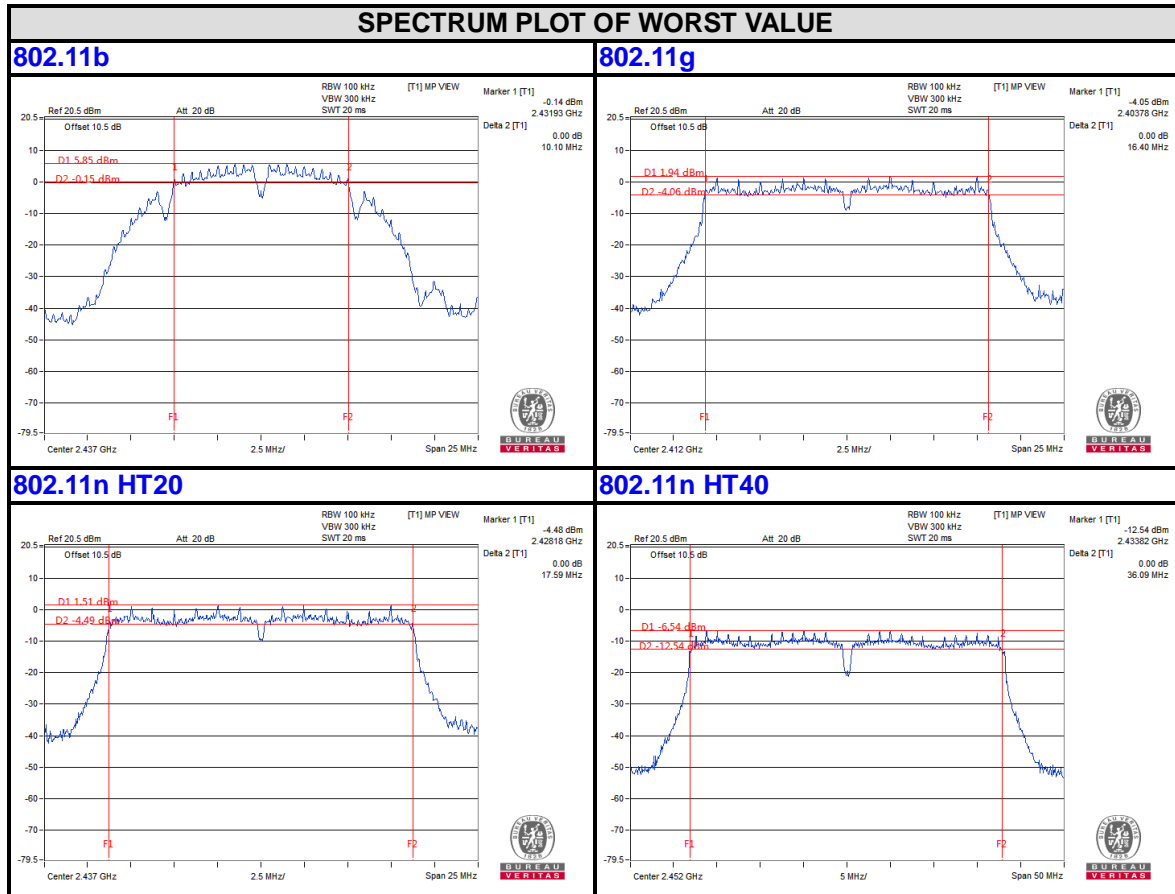
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	35.58	35.82	0.5	PASS
6	2437	35.43	35.72	0.5	PASS
9	2452	36.09	35.56	0.5	PASS



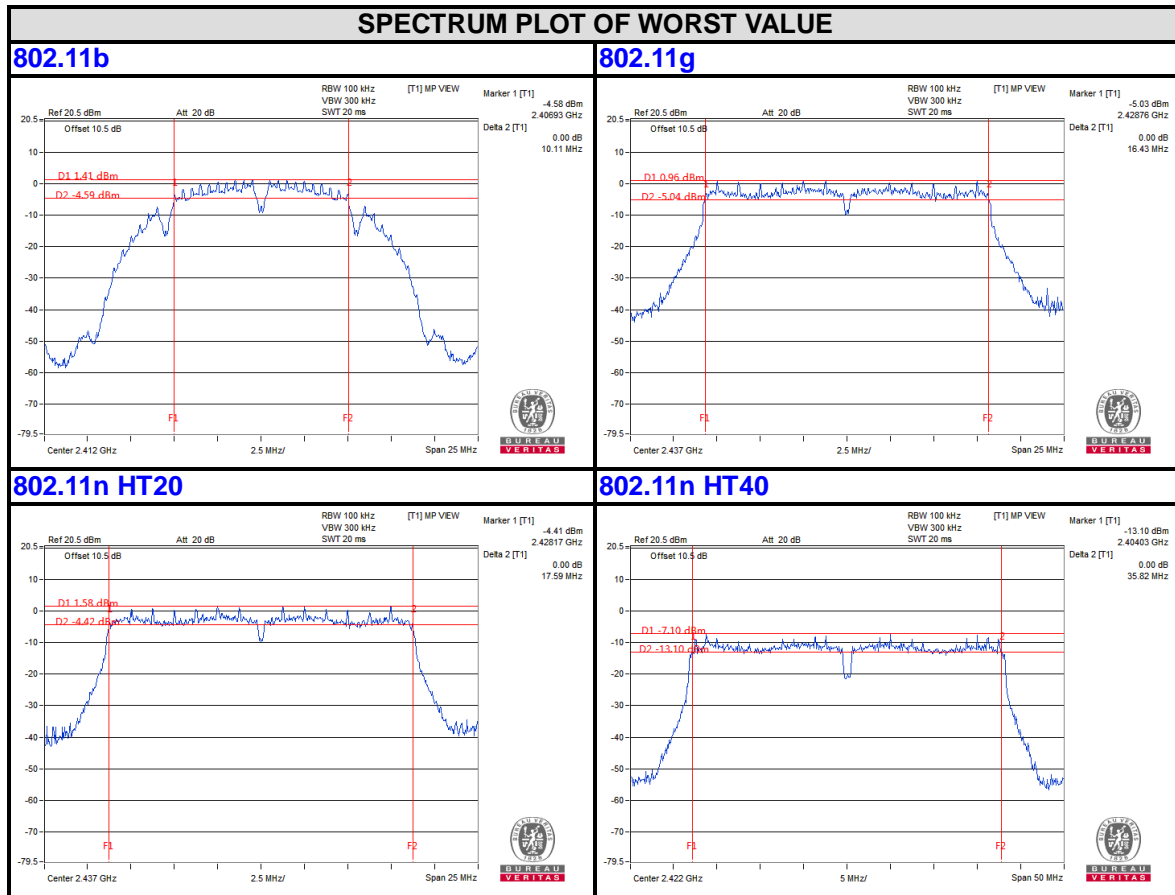
BUREAU VERITAS

Test Report No.: RF180606N077-3

Chain 0



Chain 1

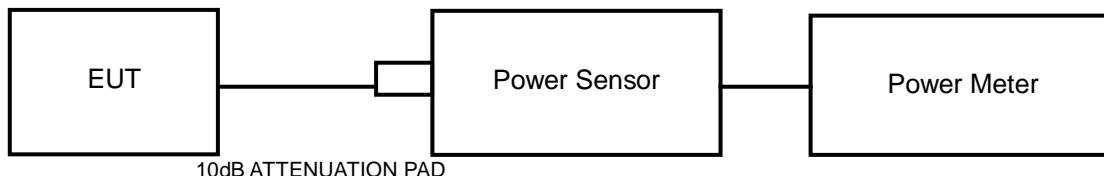


4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	May 19,18	May 18,19
Power Sensor	Keysight	U2021XA	MY55060018	May 19,18	May 18,19
Power Meter	Anritsu	ML2495A	1139001	Apr. 13,18	Apr. 13,19
Power Sensor	Anritsu	MA2411B	1531155	Apr. 13,18	Apr. 13,19
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 21, 17	Oct.20, 18
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.05,17	Sep. 04,18
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 08,17	Nov. 07,18
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 04,17	Nov. 03,18
Signal Generator	Agilent	N5183A	MY50140980	Jan. 02,18	Jan. 01,19
Agile Signal Generator	Agilent	8645A	Agilent	Sep.01, 17	Aug.31, 18
Spectrum Analyzer	Keysight	N9020A	MY55400499	Mar. 21,18	Mar. 20,19
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Jan. 02,18	Jan. 01,19
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Aug.10, 17	Aug.09, 18
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.



Test Report No.: RF180606N077-3

4.4.4 TEST PROCEDURES

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

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

4.4.7 TEST RESULTS

MAXIMUM PEAK OUTPUT POWER

802.11b

CHAN.	FREQ (MHz)	PEAK POWER (dBm)		PEAK POWER (mW)		TOTAL POWER (mW)	PEAK POWER LIMIT (W)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1			
1	2412	14.76	14.82	29.923	30.339	60.262	1	PASS
6	2437	19.05	19.13	80.353	81.846	162.199	1	PASS
11	2462	18.16	18.15	65.464	65.313	130.777	1	PASS

802.11g

CHAN.	FREQ (MHz)	PEAK POWER (dBm)		PEAK POWER (mW)		TOTAL POWER (mW)	PEAK POWER LIMIT (W)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1			
1	2412	21.86	22.19	153.462	165.577	319.039	1	PASS
6	2437	21.97	22.03	157.398	159.588	316.986	1	PASS
11	2462	20.13	20.35	103.039	108.393	211.432	1	PASS

802.11n HT20

CHAN.	FREQ (MHz)	PEAK POWER (dBm)		PEAK POWER (mW)		TOTAL POWER (mW)	PEAK POWER LIMIT (W)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1			
1	2412	20.33	20.48	107.895	111.686	219.581	1	PASS
6	2437	21.19	21.51	131.522	141.579	273.101	1	PASS
11	2462	18.46	18.52	70.146	71.121	141.267	1	PASS

802.11n HT40

CHAN.	FREQ (MHz)	PEAK POWER (dBm)		PEAK POWER (mW)		TOTAL POWER (mW)	PEAK POWER LIMIT (W)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1			
3	2422	16.08	16.47	40.551	44.361	84.912	1	PASS
6	2437	21.14	21.36	130.017	136.773	266.79	1	PASS
9	2452	17.12	17.03	51.523	50.466	101.989	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

CHAN.	FREQ (MHz)	AVERAGE POWER (dBm)		AVG. POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
1	2412	11.75	11.91	14.962	15.524	30.486	14.84
6	2437	15.49	15.81	35.4	38.107	73.507	18.66
11	2462	15.03	15.18	31.842	32.961	64.803	18.12

802.11g

CHAN.	FREQ (MHz)	AVERAGE POWER (dBm)		AVG. POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
1	2412	13.21	13.51	20.941	22.439	43.38	16.37
6	2437	13.08	13.24	20.324	21.086	41.41	16.17
11	2462	11.05	11.17	12.735	13.092	25.827	14.12

802.11n HT20

CHAN.	FREQ (MHz)	AVERAGE POWER (dBm)		AVG. POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
1	2412	11.02	11.24	12.647	13.305	25.952	14.14
6	2437	13.05	13.36	20.184	21.677	41.861	16.22
11	2462	9.25	9.28	8.414	8.472	16.886	12.28

802.11n HT40

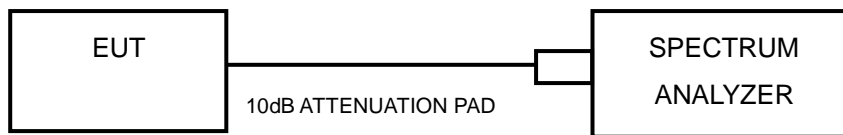
CHAN.	FREQ (MHz)	AVERAGE POWER (dBm)		AVG. POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
3	2422	7.93	8.38	6.209	6.887	13.096	11.17
6	2437	12.25	12.24	16.788	16.749	33.537	15.26
9	2452	8.01	8.03	6.324	6.353	12.677	11.03

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

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

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.3.2 to get information of above instrument.

4.5.4 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.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6.

4.5.7 TEST RESULTS

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	TOTAL PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-13.24	3.01	-10.23	8.00	PASS
	6	2437	-8.85	3.01	-5.84	8.00	PASS
	11	2462	-8.71	3.01	-5.70	8.00	PASS
1	1	2412	-13.22	3.01	-10.21	8.00	PASS
	6	2437	-8.46	3.01	-5.45	8.00	PASS
	11	2462	-8.92	3.01	-5.91	8.00	PASS

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	TOTAL PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-12.96	3.01	-9.95	8.00	PASS
	6	2437	-12.74	3.01	-9.73	8.00	PASS
	11	2462	-15.31	3.01	-12.30	8.00	PASS
1	1	2412	-12.80	3.01	-9.79	8.00	PASS
	6	2437	-13.11	3.01	-10.10	8.00	PASS
	11	2462	-15.49	3.01	-12.48	8.00	PASS

802.11n HT20

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	TOTAL PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-16.36	3.01	-13.35	8.00	PASS
	6	2437	-12.97	3.01	-9.96	8.00	PASS
	11	2462	-17.02	3.01	-14.01	8.00	PASS
1	1	2412	-15.03	3.01	-12.02	8.00	PASS
	6	2437	-12.59	3.01	-9.58	8.00	PASS
	11	2462	-16.56	3.01	-13.55	8.00	PASS



Test Report No.: RF180606N077-3

802.11n HT40

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	TOTAL PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-21.71	3.01	-18.70	8.00	PASS
	6	2437	-16.74	3.01	-13.73	8.00	PASS
	9	2452	-19.74	3.01	-16.73	8.00	PASS
1	3	2422	-21.74	3.01	-18.73	8.00	PASS
	6	2437	-15.92	3.01	-12.91	8.00	PASS
	9	2452	-20.49	3.01	-17.48	8.00	PASS



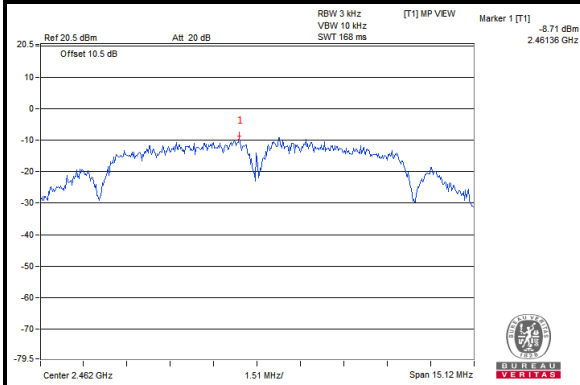
BUREAU VERITAS

Test Report No.: RF180606N077-3

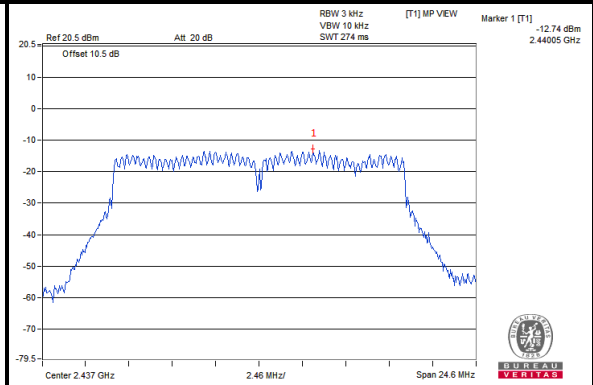
Chain 0

SPECTRUM PLOT OF WORST VALUE

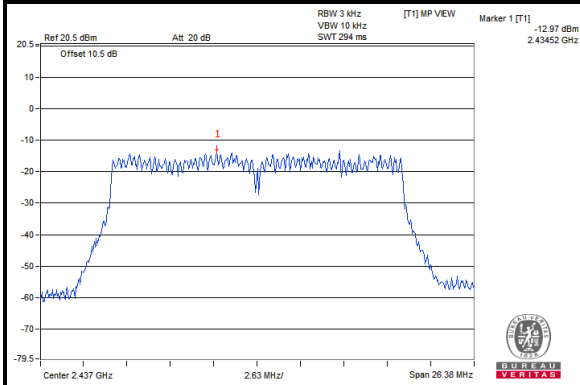
802.11b



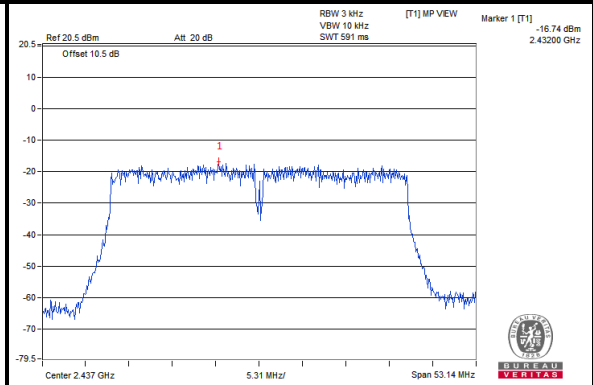
802.11g



802.11n HT20



802.11n HT40

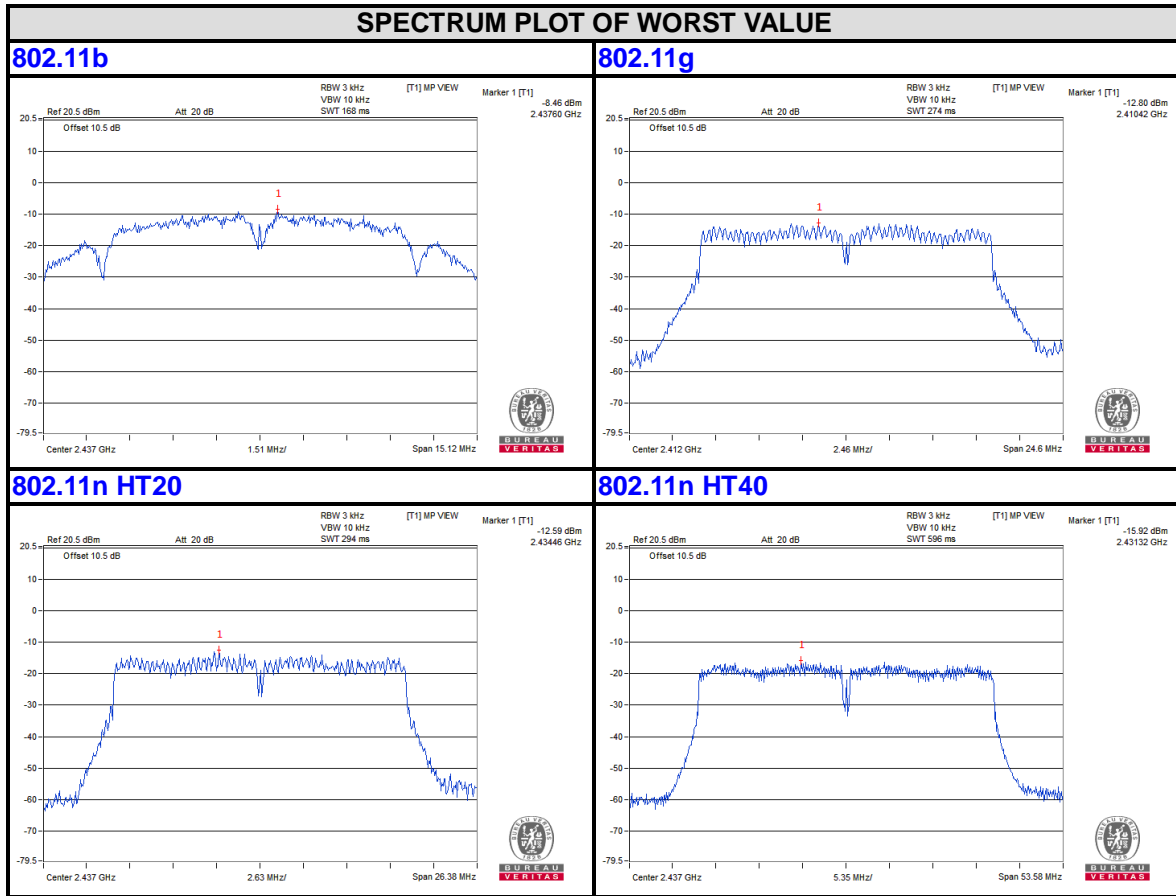




BUREAU VERITAS

Test Report No.: RF180606N077-3

Chain 1



4.6 OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.3.3 to get information of above instrument.

4.6.4 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.



Test Report No.: RF180606N077-3

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.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

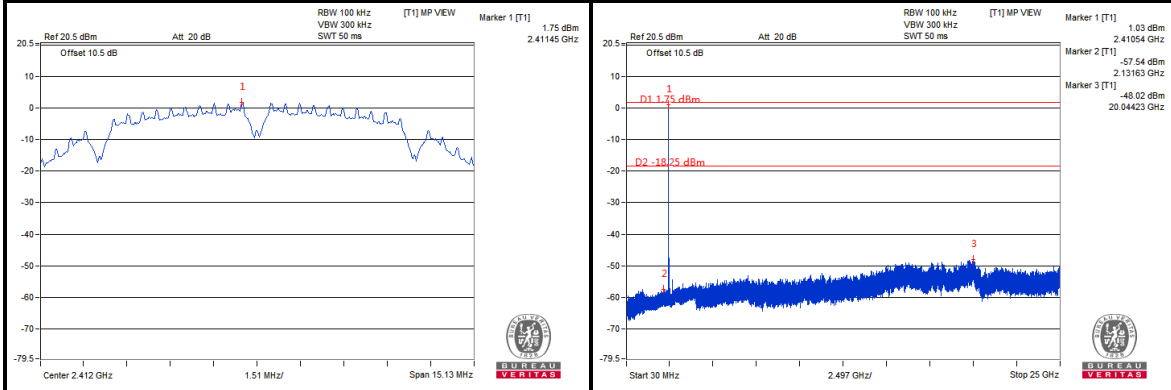
Same as item 4.3.6

4.6.7 TEST RESULTS

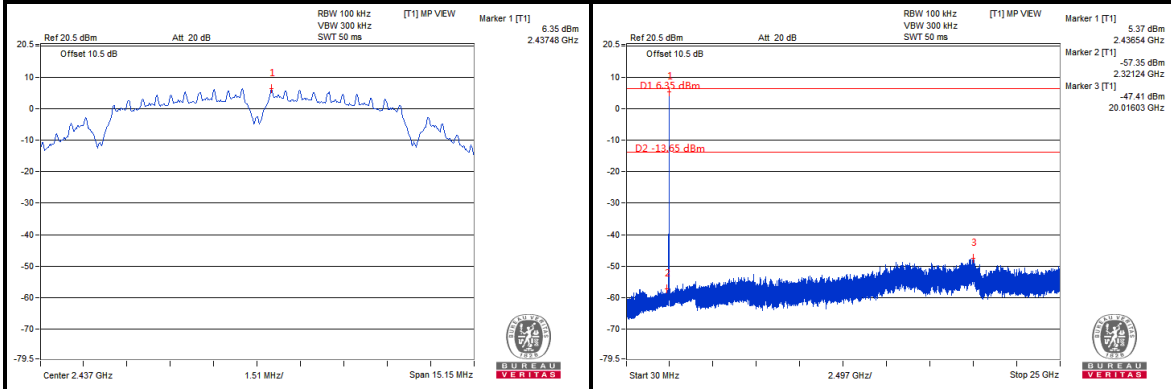
802.11b

Chain 0

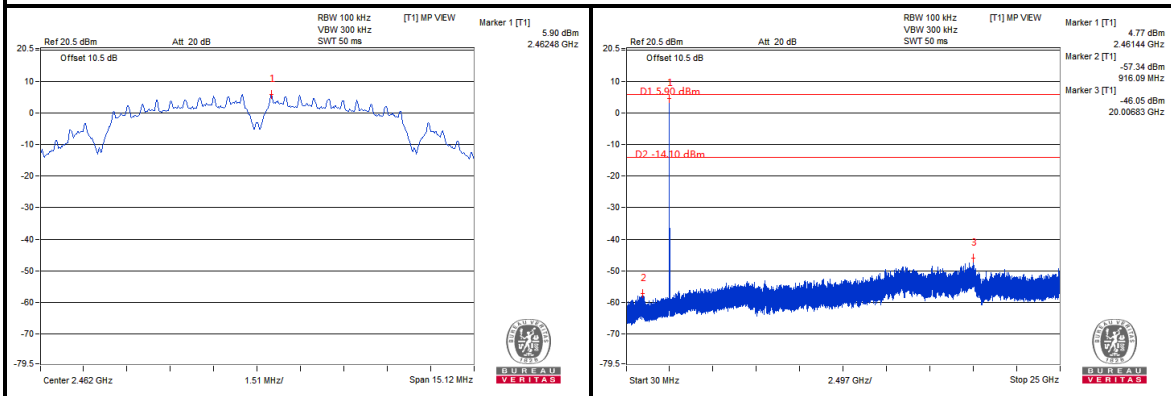
CH 1



CH 6

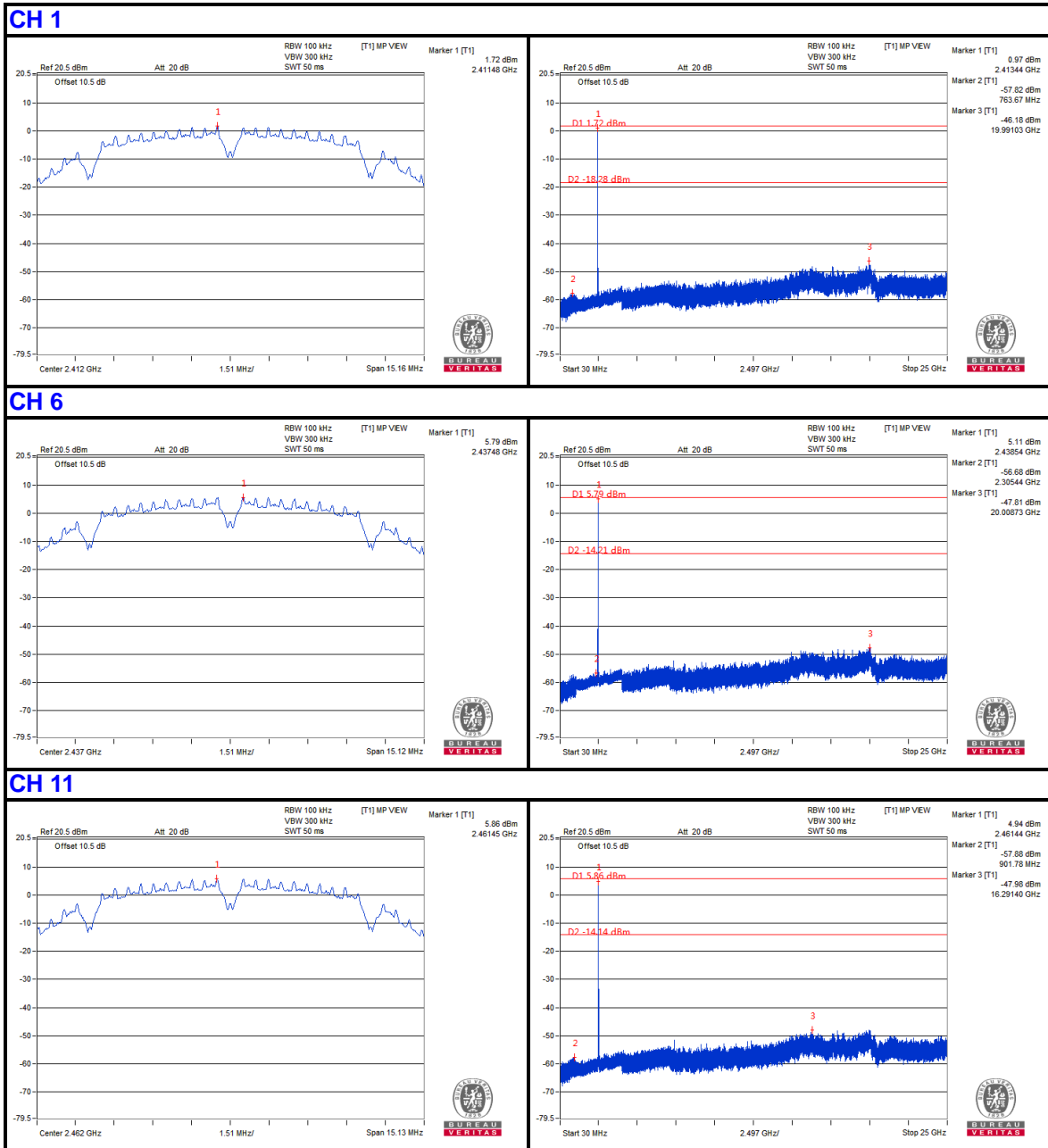


CH 11





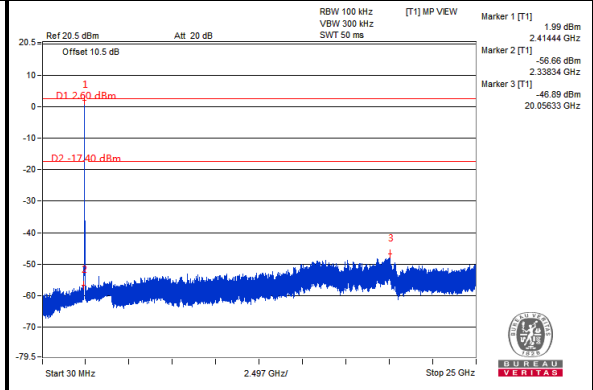
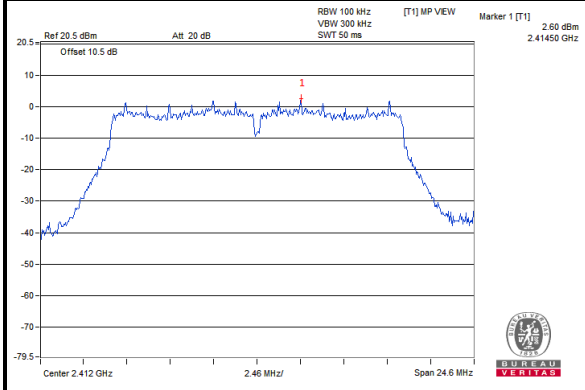
Chain 1



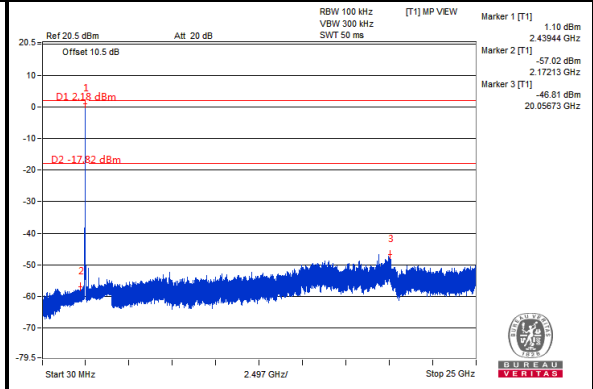
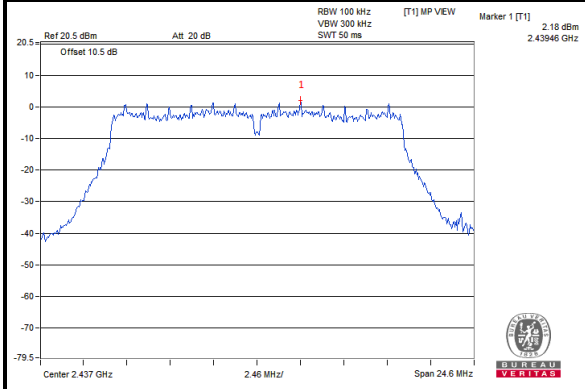


802.11g
Chain 0

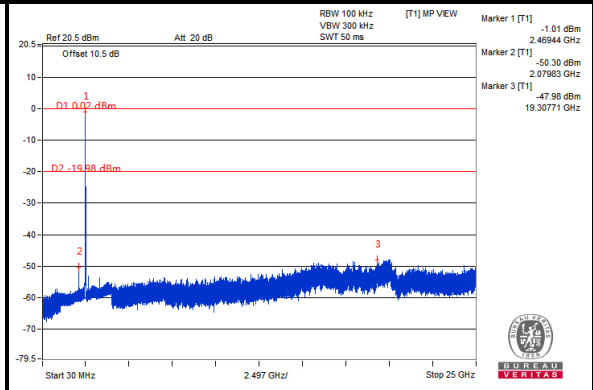
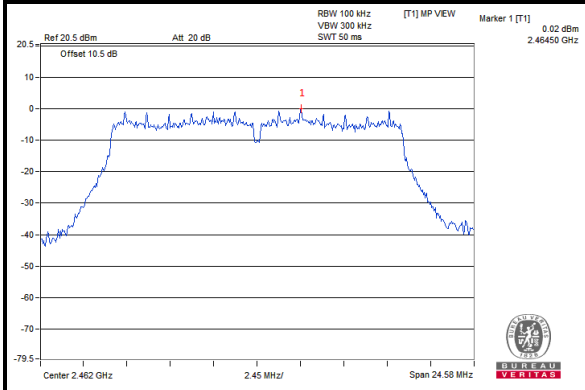
CH 1



CH 6



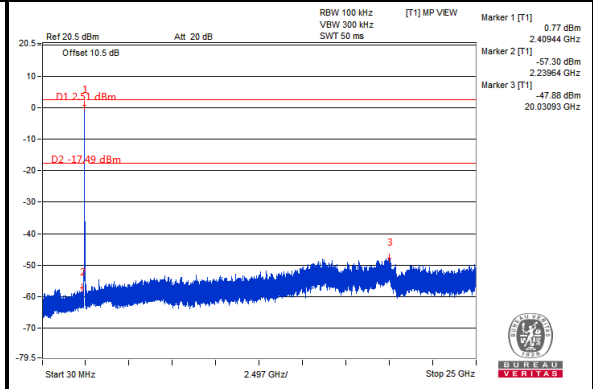
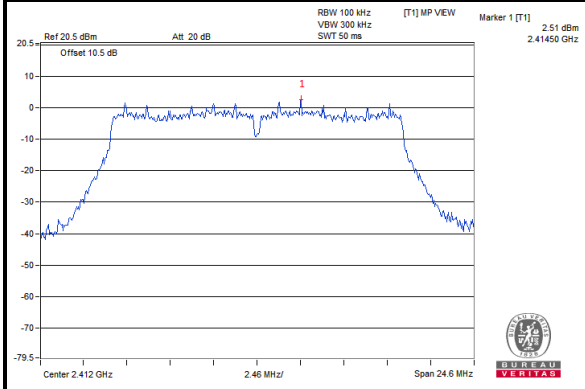
CH 11



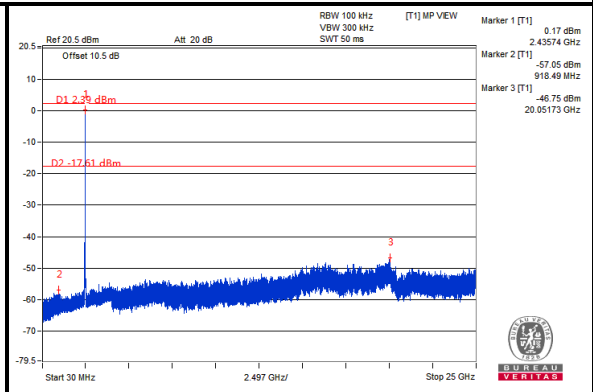
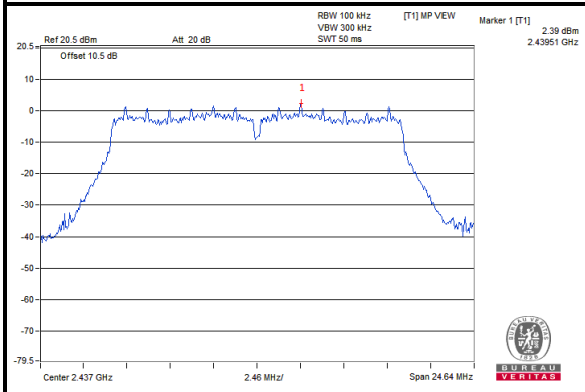


Chain 1

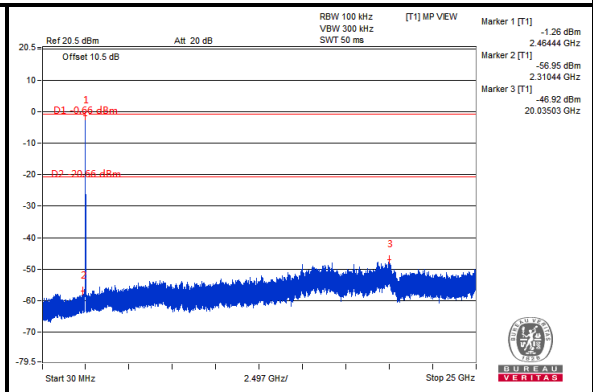
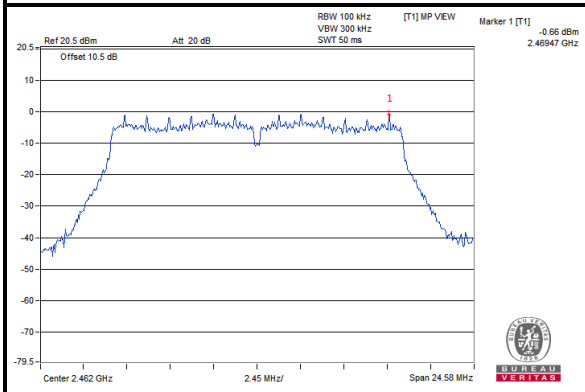
CH 1



CH 6



CH 11



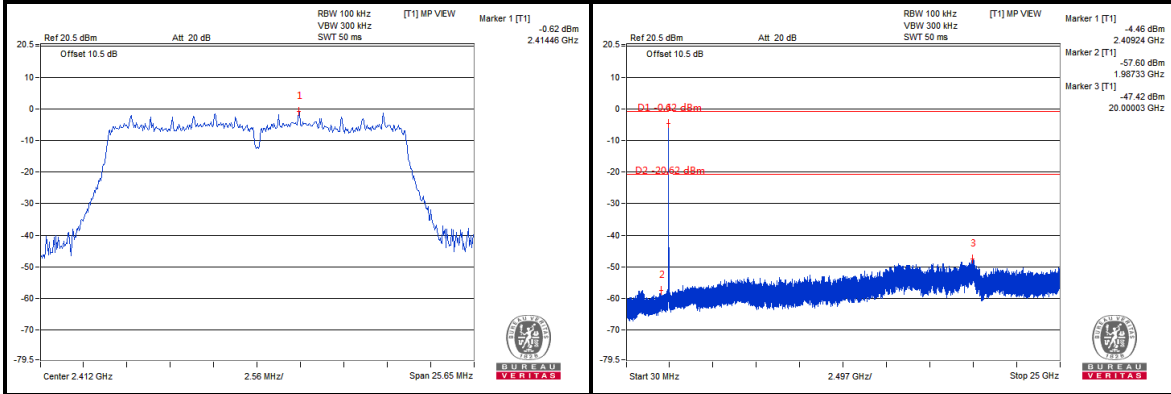


Test Report No.: RF180606N077-3

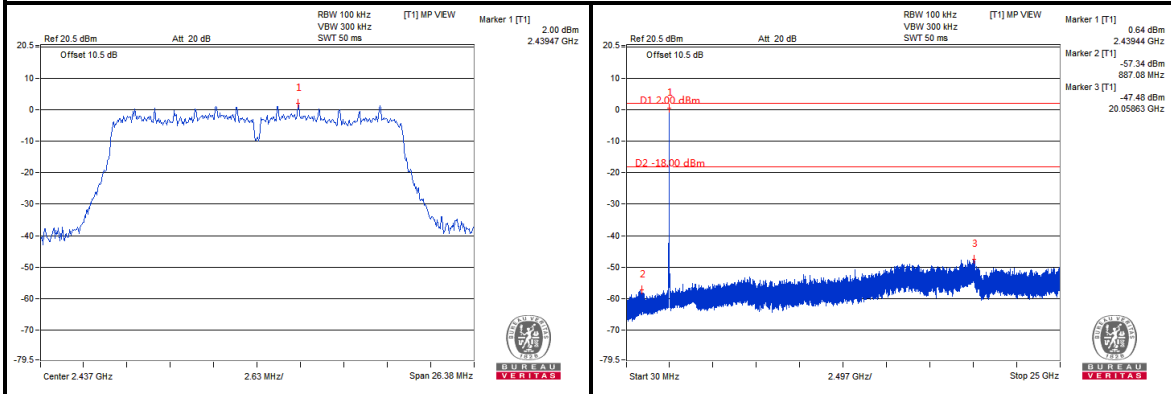
802.11n HT20

Chain 0

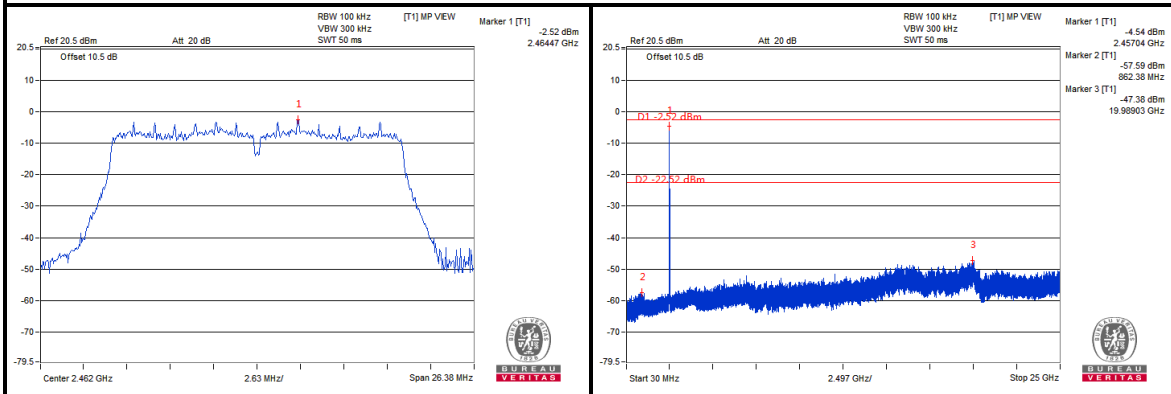
CH 1



CH 6



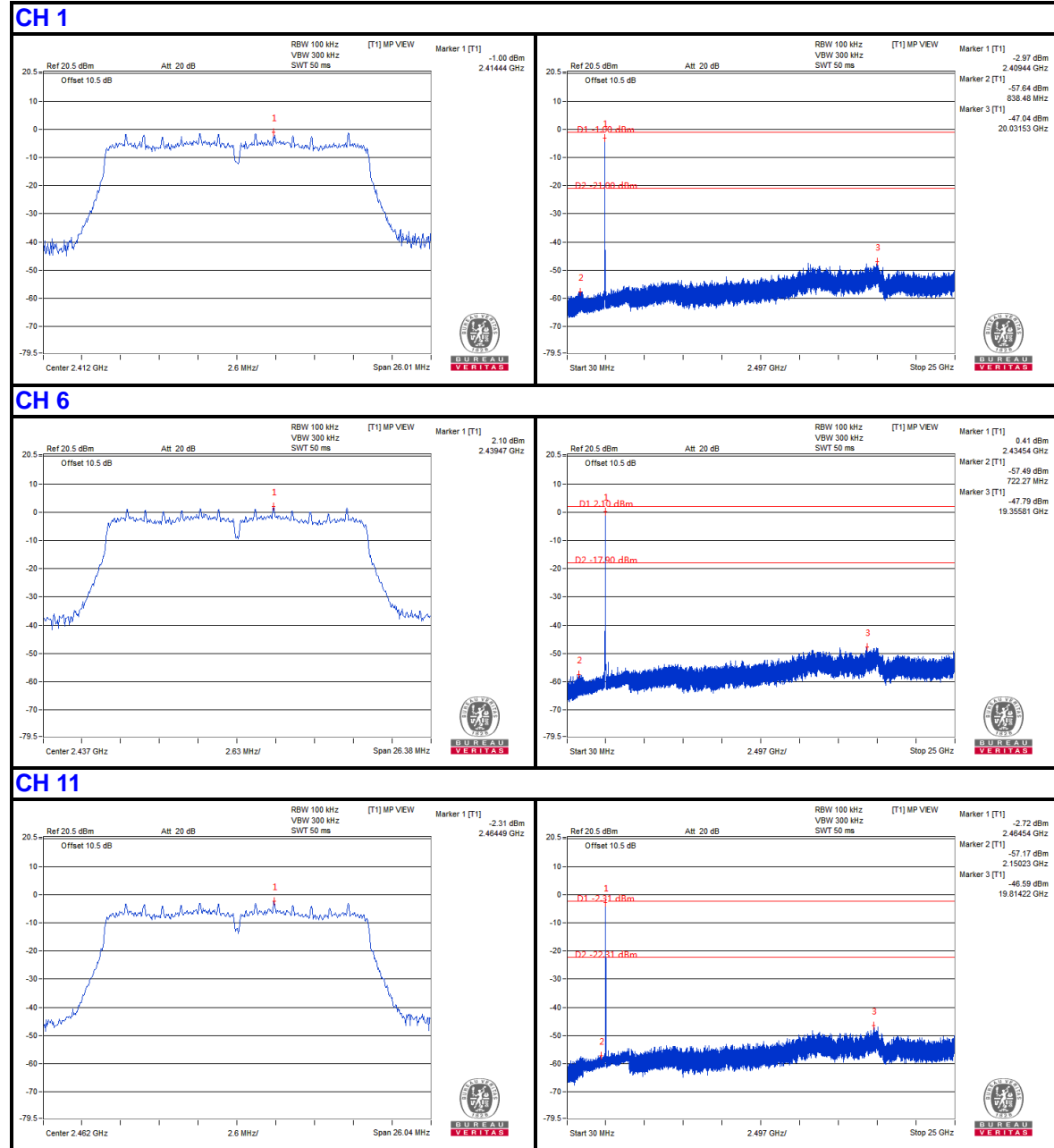
CH 11





Test Report No.: RF180606N077-3

Chain 1

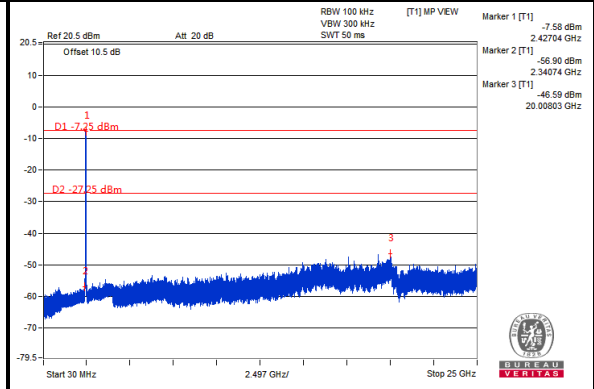
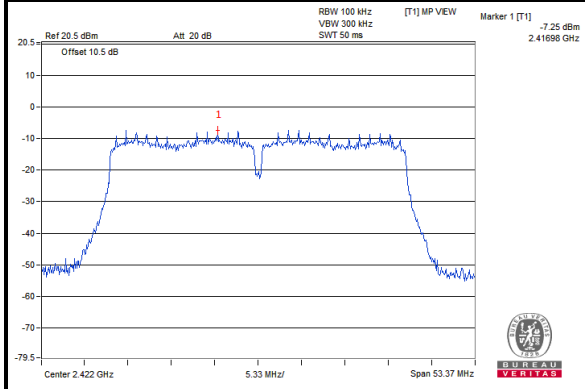




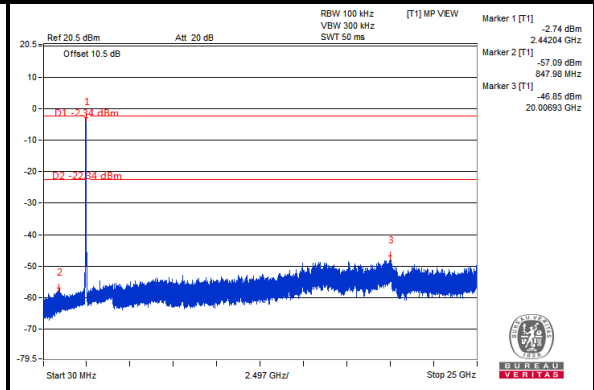
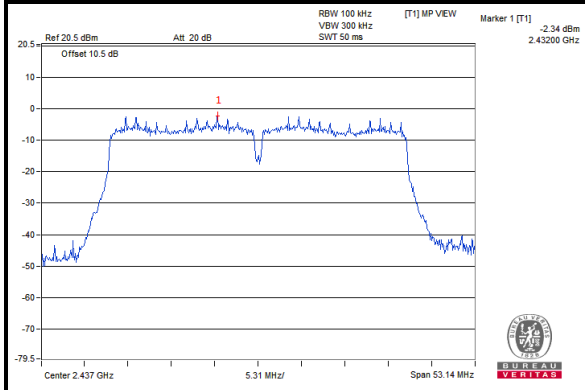
Test Report No.: RF180606N077-3

802.11n HT40
Chain 0

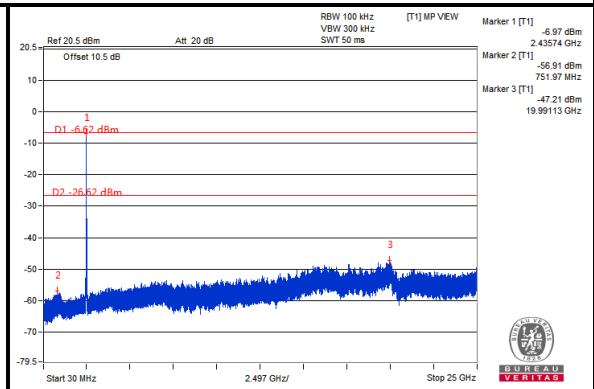
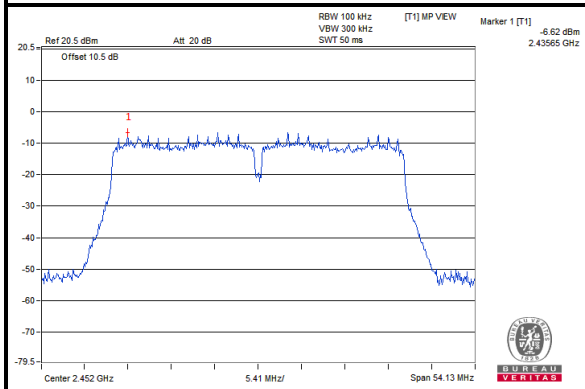
CH 3



CH 6

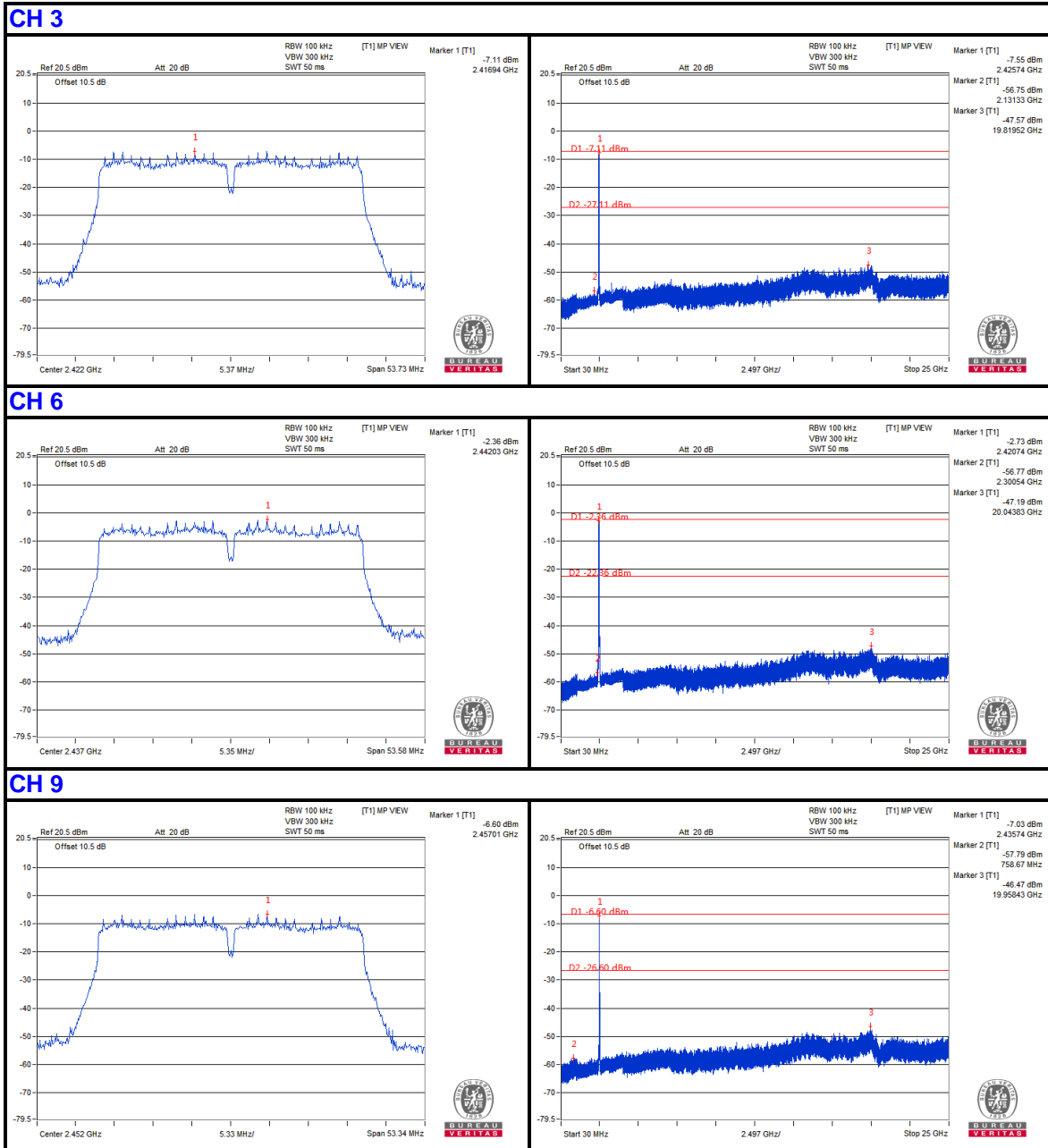


CH 9



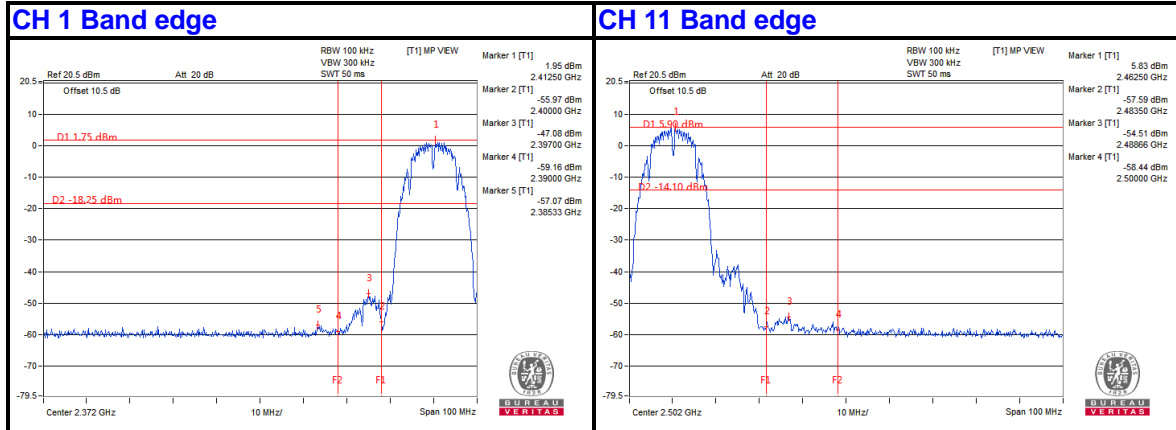


Chain 1

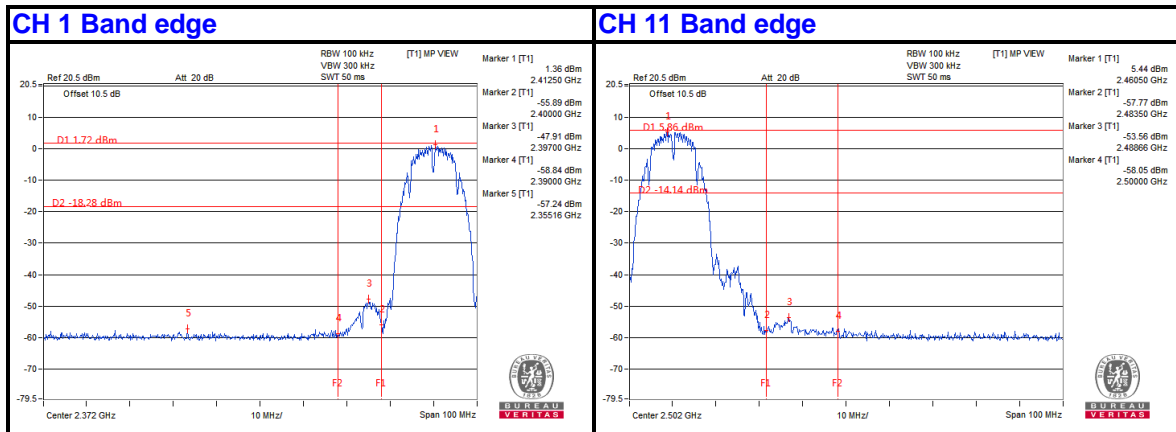




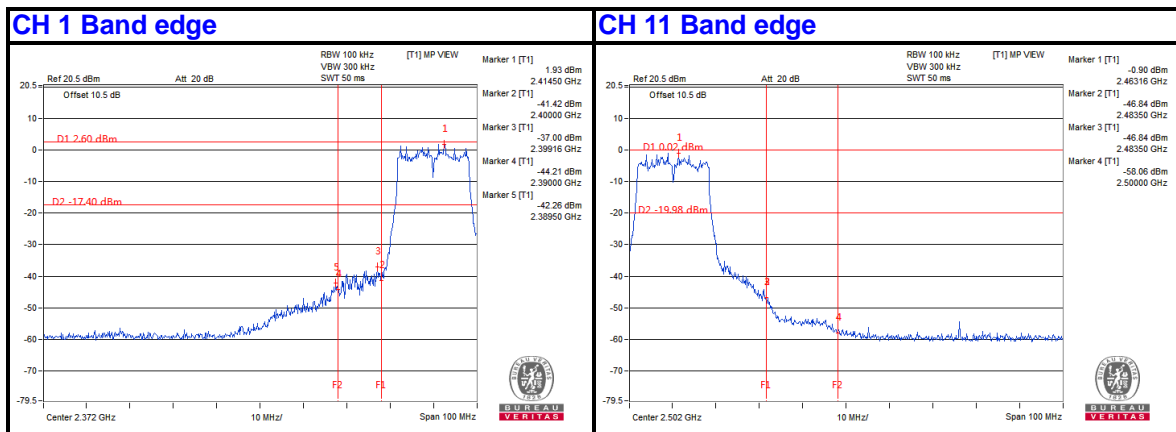
802.11b
Chain 0



Chain 1



802.11g
Chain 0

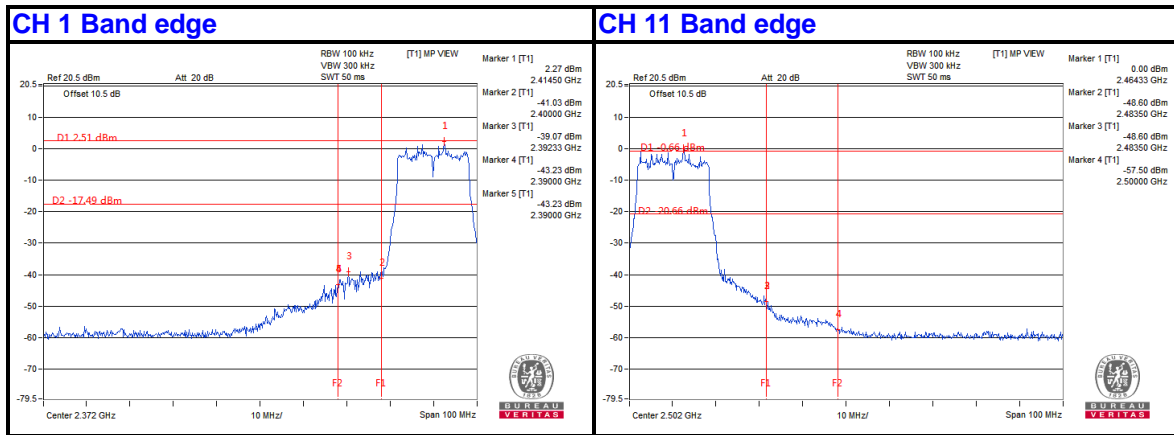




BUREAU VERITAS

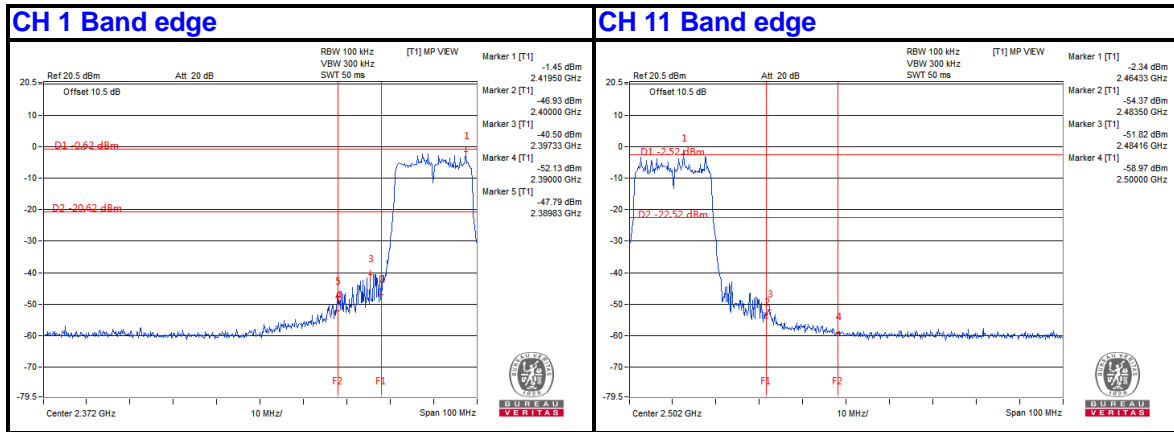
Test Report No.: RF180606N077-3

Chain 1

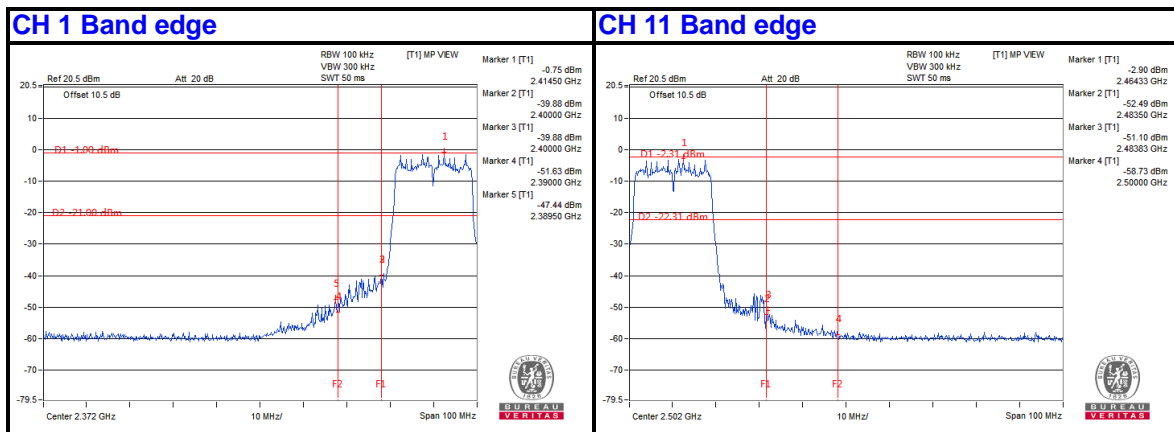


802.11n HT20

Chain 0

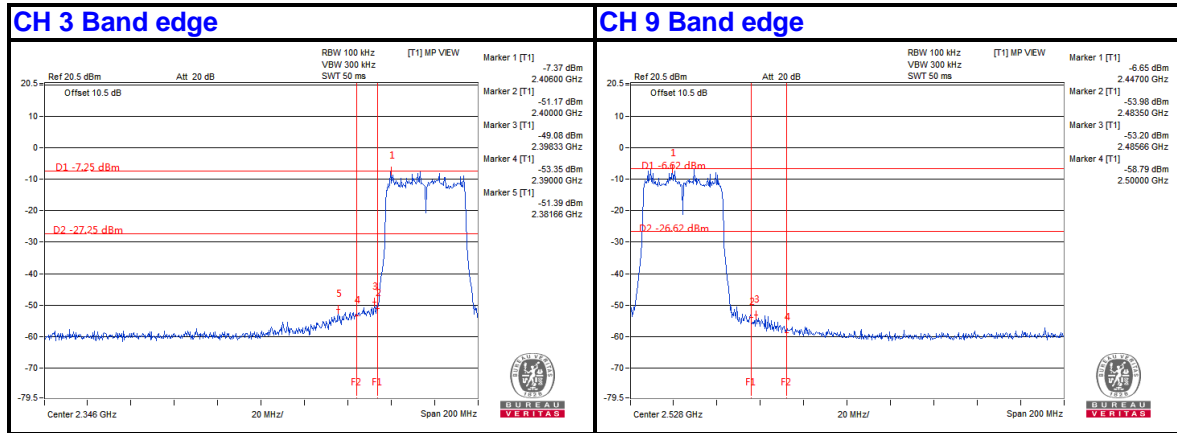


Chain 1

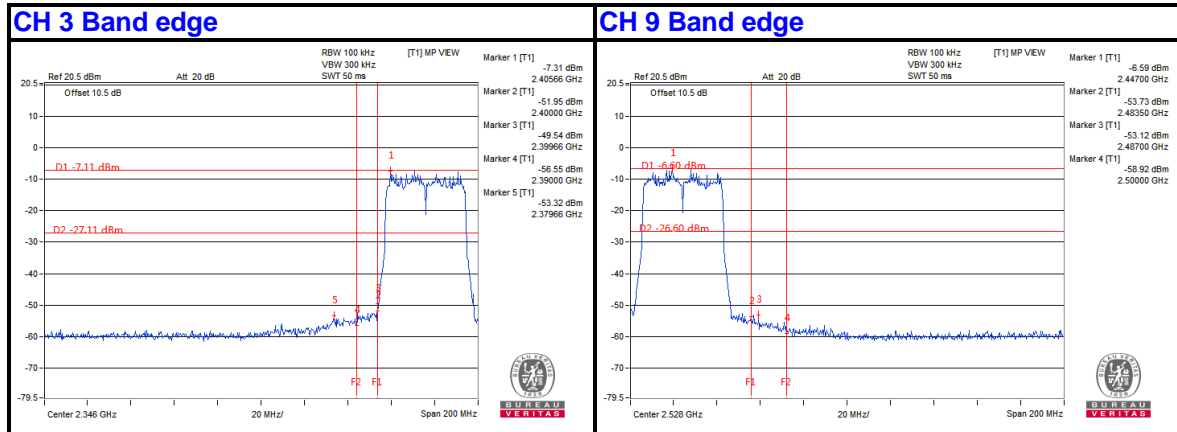




802.11n HT40
Chain 0



Chain 1





Test Report No.: RF180606N077-3

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: RF180606N077-3

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---