

TEST REPORT



Applicant	Netgear Incorporated
Address	350 East Plumeria Drive ,San Jose, California 95134,United States

Manufacturer or Supplier	Netgear Incorporated
Address	350 East Plumeria Drive ,San Jose, California 95134,United States
Product	Add-on DST Adapter
Brand Name	NETGEAR
Model	DST6501
Additional Model & Model Difference	PLW1000, PLW1010
Date of tests	Aug. 01, 2015 ~ Aug. 12, 2015

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 Blue Zheng Project Engineer / EMC Department	Approved by Chris Chen Assistant Manager / EMC Department
	
Date: Aug. 14, 2015	

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Test Report No.: RF150720N035-2

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF150720N035-2	Original release	Aug.14, 2015



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	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.74dB
	30MHz ~ 1GMHz	3.55dB
	1GHz ~ 18GHz	4.84dB
	18GHz ~ 40GHz	4.84dB

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	Add-on DST Adapter
MODEL NO.	DST6501
Additional Model & Model Difference	PLW1000, PLW1010
FCC ID	PY315200311
NOMINAL VOLTAGE	AC 120V/60Hz
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b/g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 150Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40)
AVERAGE POWER	WLAN: 22.65dBm (Maximum Average Power)
ANTENNA TYPE	Dipole antenna with 2.0dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

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

MODULATION MODE	FUNCTION
802.11b	1TX/1RX
802.11g	1TX/1RX
802.11n (20MHz)	1TX/1RX
802.11n (40MHz)	1TX/1RX

2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Please refer to the EUT photo document (Reference No.: 150720N035) for detailed product photo.
5. Additional models PLW1010, PLW1000 are identical with with the test model DST6501 except the appearance, push button(WPS), screen printing and model number for marketing purpose.



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	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.2.1 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	√	√	√	√	Powered by AC120V with WIFI function

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
-	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)	AXIS
A	802.11b	1 to 11	1, 6, 11	CCK	DBPSK	1.0	X

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



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)
B	802.11b	1 to 11	1, 11	CCK	DBPSK	1.0
B	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
B	802.11n HT20	1 to 11	1, 11	OFDM	BPSK	6.5
B	802.11n HT40	3 to 9	3, 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)
B	802.11b	1 to 11	1, 6, 11	CCK	DBPSK	1.0
B	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
B	802.11n HT20	1 to 11	1,6, 11	OFDM	BPSK	6.5
B	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	26deg. C, 67%RH	AC 120V 60Hz	Sen He
RE≥1G	26deg. C, 67%RH	AC 120V 60Hz	Sen He
PLC	20deg. C, 56%RH	AC 120V 60Hz	Blue Zheng
APCM	20deg. C, 55%RH	AC 120V 60Hz	Blue Zheng



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**
- 558074 D01 DTS Meas Guidance v03r01**
- ANSI C63.10-2009**

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(DoC). 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	Notebook	DELL	E6420	9H12FS1	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m



4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	100962	Mar. 05,15	Mar. 04,16
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	April 25,15	April 24,16
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	April 25,15	April 24,16
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.



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) were not recorded.

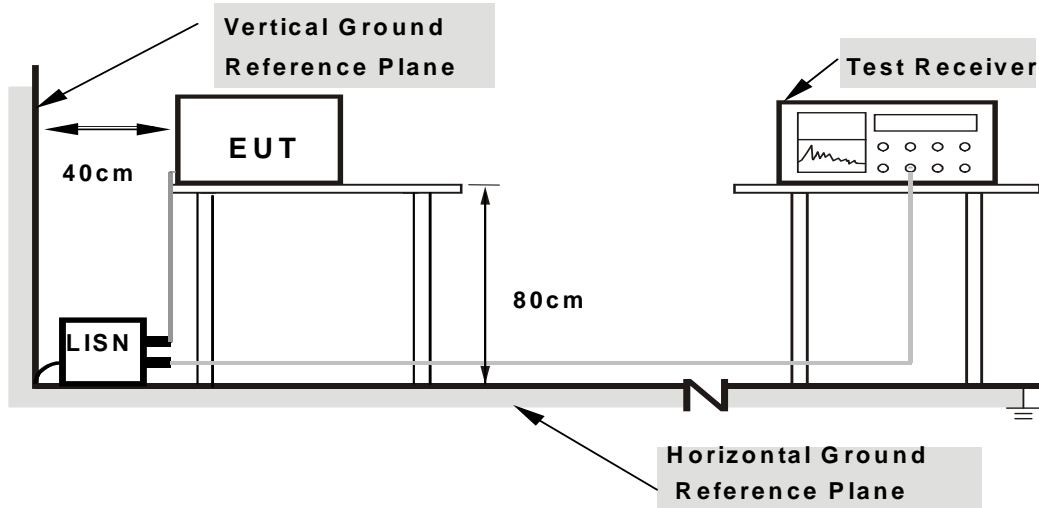
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

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

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



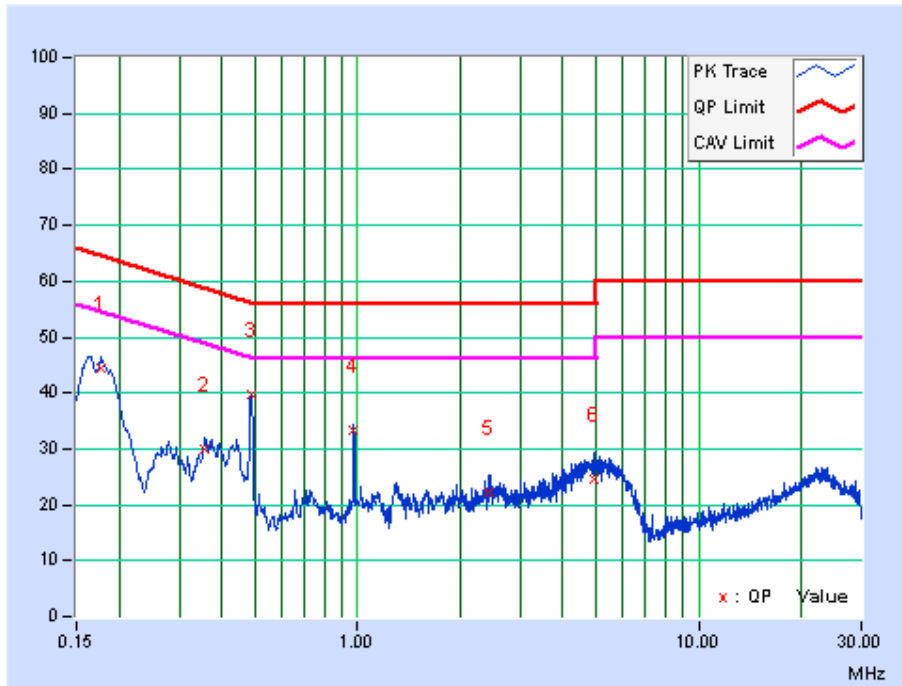
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

PHASE	Line	6dB BANDWIDTH	9kHz
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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	0.17744	9.76	34.67	26.95	44.43	36.71	64.60	54.60	-20.17	-17.89
2	0.35764	9.82	20.04	14.76	29.86	24.58	58.78	48.78	-28.92	-24.20
3	0.48678	9.81	29.82	28.94	39.63	38.75	56.22	46.22	-16.59	-7.47
4	0.97501	9.80	23.48	22.53	33.28	32.33	56.00	46.00	-22.72	-13.67
5	2.43735	9.81	12.44	9.32	22.25	19.13	56.00	46.00	-33.75	-26.87
6	4.92411	9.90	14.64	8.34	24.54	18.24	56.00	46.00	-31.46	-27.76

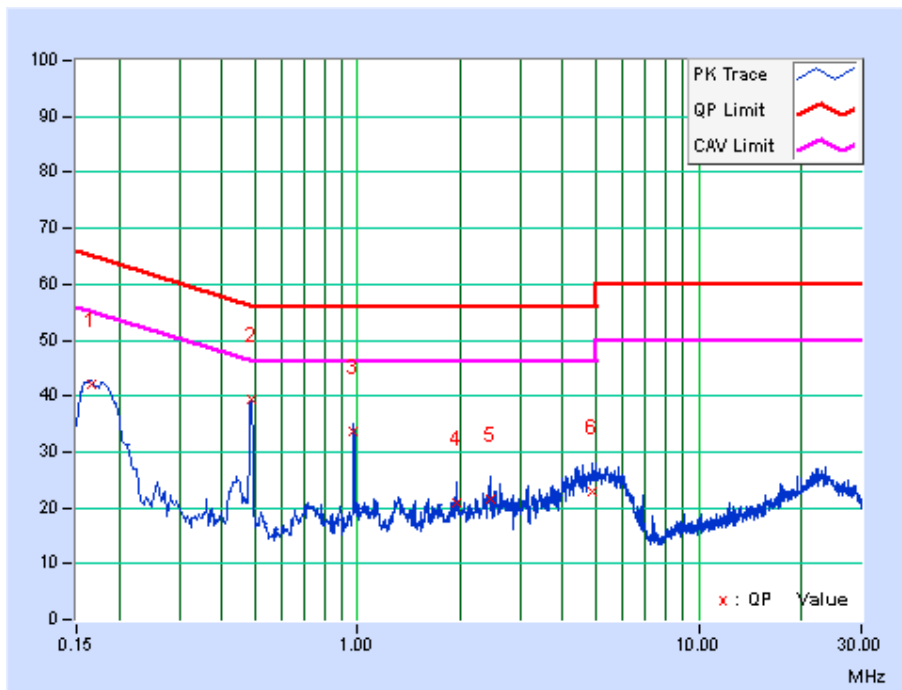
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



PHASE	Neutral	6dB BANDWIDTH	9kHz
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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	0.16526	9.50	32.50	28.57	42.00	38.07	65.20	55.20	-23.19	-17.12
2	0.48678	9.51	29.79	29.03	39.30	38.54	56.22	46.22	-16.92	-7.68
3	0.97501	9.52	24.20	23.37	33.72	32.89	56.00	46.00	-22.28	-13.11
4	1.95251	9.52	11.43	9.46	20.95	18.98	56.00	46.00	-35.05	-27.02
5	2.44126	9.53	12.14	8.49	21.67	18.02	56.00	46.00	-34.33	-27.98
6	4.87719	9.61	13.25	6.03	22.86	15.64	56.00	46.00	-33.14	-30.36

- 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	ESR7	101494	Apr 27,15	Apr 26,16
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Apr 23,15	Apr 22,16
Bilog Antenna	Teseq	CBL 6111D	30643	Jul. 16, 15	Jul. 15, 16
Horn Antenna	ETS-Lindgren	3117	00062558	May 30,14	May 29,16
Amplifier (9kHz-1GHz)	SONOMA	310D	186955	Mar. 04,15	Mar. 03, 16
Pre-Amplifier (0.5~18GHz)	SCHWARZBECK	BBV 9718	9718-266	Mar 26,14	Mar 25,16
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Mar 26,14	Mar 25,16
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	April. 19,14	April. 18,16
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
Horn Antenna (15GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	Jan. 21,14	Jan. 20,17
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 20,14	Nov. 19,15

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 494399.

4.2.3 TEST PROCEDURES

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

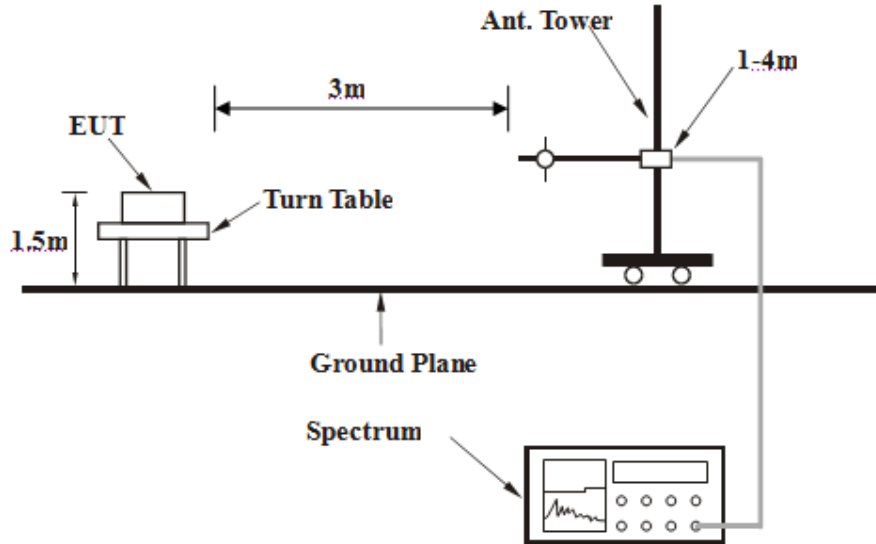
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.



4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

- Set the EUT under full load condition and placed them 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:

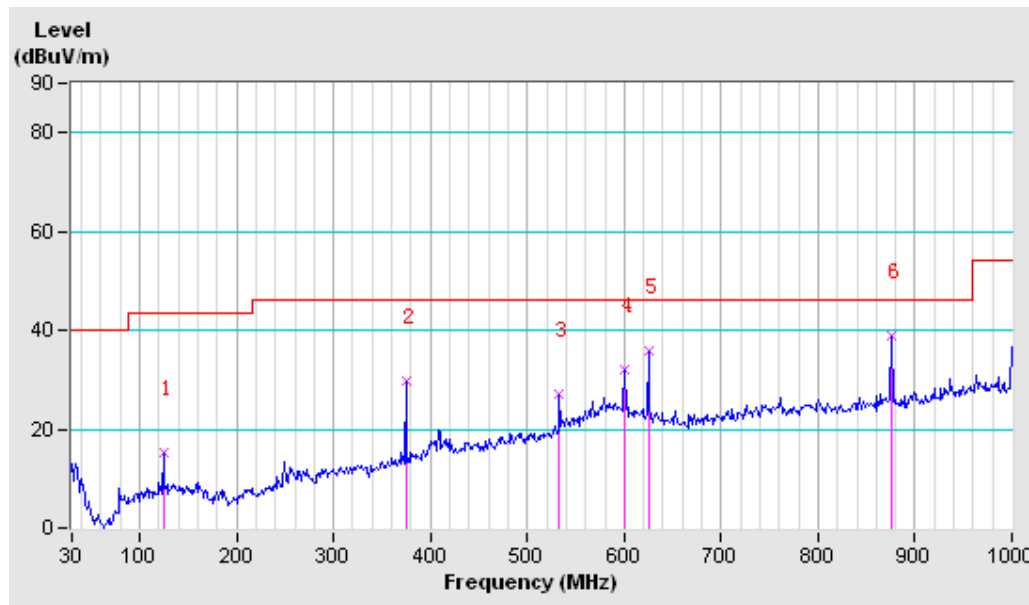
802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	124.19	15.18	43.50	-28.32	100	0	33.71	-18.53
2	374.42	29.78	46.00	-16.22	100	0	42.59	-12.81
3	533.28	27.02	46.00	-18.98	100	0	34.58	-7.56
4	600.75	32.11	46.00	-13.89	100	0	38.41	-6.30
5	624.65	35.69	46.00	-10.31	100	0	41.25	-5.56
6	874.88	38.89	46.00	-7.11	100	0	40.07	-1.18

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.



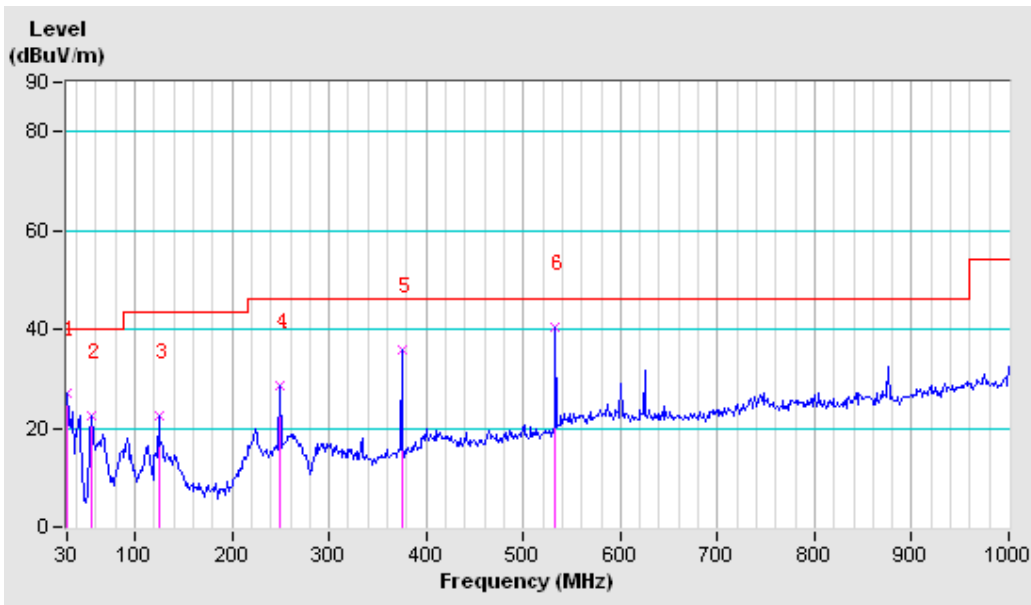


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	27.18	40.00	-12.82	100	0	39.73	-12.55
2	55.30	22.51	40.00	-17.49	100	0	46.64	-24.13
3	124.19	22.33	43.50	-21.17	100	0	40.86	-18.53
4	249.30	28.67	46.00	-17.33	100	0	45.61	-16.94
5	374.42	35.68	46.00	-10.32	100	0	48.49	-12.81
6	533.28	40.32	46.00	-5.68	100	0	47.88	-7.56

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 other emission levels were very low 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	56.7 PK	74.0	-17.3	1.26 H	274	56.30	0.39
2	2390.00	47.8 AV	54.0	-6.2	1.26 H	274	47.43	0.39
3	#2400.00	63.1 PK	78.1	-15.0	1.26 H	274	62.73	0.41
4	#2400.00	55.0 AV	71.3	-16.3	1.26 H	274	54.60	0.41
5	*2412.00	108.1 PK			1.26 H	274	107.66	0.44
6	*2412.00	101.3 AV			1.26 H	274	100.82	0.44
7	4824.00	62.8 PK	74.0	-11.2	1.00 H	236	56.25	6.59
8	4824.00	46.9 AV	54.0	-7.1	1.00 H	236	40.32	6.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.2 PK	74.0	-12.8	2.15 V	188	60.81	0.39
2	2390.00	53.3 AV	54.0	-0.7	2.15 V	188	52.91	0.39
3	#2400.00	73.9 PK	85.0	-11.1	2.15 V	188	73.49	0.41
4	#2400.00	67.2 AV	78.8	-11.6	2.15 V	188	66.79	0.41
5	*2412.00	115.0 PK			2.15 V	188	114.57	0.44
6	*2412.00	108.8 AV			2.15 V	188	108.36	0.44
7	4824.00	62.5 PK	74.0	-11.5	1.00 V	162	55.95	6.59
8	4824.00	46.1 AV	54.0	-7.9	1.00 V	162	39.54	6.59

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



CHANNEL	TX Channel 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	111.5 PK			1.41 H	136	110.99	0.51
2	*2437.00	105.2 AV			1.41 H	136	104.72	0.51
3	4874.00	62.5 PK	74.0	-11.5	1.00 H	65	55.81	6.73
4	4874.00	46.6 AV	54.0	-7.4	1.00 H	65	39.90	6.73
5	7311.00	63.1 PK	74.0	-10.9	1.00 H	201	52.34	10.80
6	7311.00	47.6 AV	54.0	-6.4	1.00 H	201	36.82	10.80

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	115.2 PK			1.29 V	269	114.69	0.51
2	*2437.00	109.7 AV			1.29 V	269	109.23	0.51
3	4874.00	63.1 PK	74.0	-10.9	1.00 V	234	56.37	6.73
4	4874.00	46.8 AV	54.0	-7.2	1.00 V	234	40.07	6.73
5	7311.00	63.0 PK	74.0	-11.0	1.00 V	74	52.22	10.80
6	7311.00	47.2 AV	54.0	-6.8	1.00 V	74	36.36	10.80

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 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	111.2 PK			1.13 H	315	110.67	0.56
2	*2462.00	104.2 AV			1.13 H	315	103.67	0.56
3	2483.50	61.7 PK	74.0	-12.3	1.13 H	315	61.09	0.61
4	2483.50	50.9 AV	54.0	-3.1	1.13 H	315	50.31	0.61
5	4924.00	62.5 PK	74.0	-11.5	1.00 H	206	55.59	6.88
6	4924.00	46.9 AV	54.0	-7.1	1.00 H	206	40.03	6.88
7	7386.00	63.1 PK	74.0	-10.9	1.00 H	214	52.34	10.80
8	7386.00	47.1 AV	54.0	-6.9	1.00 H	214	36.26	10.80
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	116.9 PK			1.47 V	291	116.32	0.56
2	*2462.00	110.1 AV			1.47 V	291	109.52	0.56
3	2483.50	63.3 PK	74.0	-10.7	1.47 V	291	62.69	0.61
4	2483.50	53.4 AV	54.0	-0.6	1.47 V	291	52.80	0.61
5	4924.00	62.0 PK	74.0	-12.0	1.00 V	242	55.14	6.88
6	4924.00	46.7 AV	54.0	-7.3	1.00 V	242	39.81	6.88
7	7386.00	63.3 PK	74.0	-10.7	1.00 V	114	52.47	10.80
8	7386.00	47.1 AV	54.0	-7.0	1.00 V	114	36.25	10.80

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.



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	71.9 PK	74.0	-2.1	1.35 H	175	71.51	0.39
2	2390.00	53.0 AV	54.0	-1.0	1.35 H	175	52.65	0.39
3	#2400.00	81.1 PK	81.9	-0.8	1.35 H	175	80.69	0.41
4	#2400.00	61.0 AV	67.2	-6.2	1.35 H	175	60.59	0.41
5	*2412.00	111.9 PK			1.35 H	175	109.46	0.44
6	*2412.00	97.2 AV			1.35 H	175	96.76	0.44
7	4824.00	61.2 PK	74.0	-12.8	1.00 H	162	54.63	6.59
8	4824.00	46.7 AV	54.0	-7.3	1.00 H	162	40.08	6.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.1 PK	74.0	-0.9	1.43 V	261	72.71	0.39
2	2390.00	53.1 AV	54.0	-0.9	1.43 V	261	52.72	0.39
3	#2400.00	80.9 PK	82.2	-1.3	1.43 V	261	83.49	0.41
4	#2400.00	61.7 AV	67.6	-5.9	1.43 V	261	61.29	0.41
5	*2412.00	112.2 PK			1.43 V	261	110.80	0.44
6	*2412.00	97.6 AV			1.43 V	261	97.16	0.44
7	4824.00	62.2 PK	74.0	-11.8	1.00 V	318	55.61	6.59
8	4824.00	47.0 AV	54.0	-7.0	1.00 V	318	40.38	6.59

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



CHANNEL	TX Channel 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	112.0 PK			1.01 H	312	111.45	0.51
2	*2437.00	99.2 AV			1.01 H	312	98.65	0.51
3	4874.00	62.0 PK	74.0	-12.0	1.00 H	67	55.28	6.73
4	4874.00	46.9 AV	54.0	-7.2	1.00 H	67	40.12	6.73
5	7311.00	63.0 PK	74.0	-11.0	1.00 H	138	52.21	10.80
6	7311.00	47.1 AV	54.0	-6.9	1.00 H	138	36.32	10.80
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	117.1 PK			1.30 V	289	116.59	0.51
2	*2437.00	102.6 AV			1.30 V	289	102.06	0.51
3	4874.00	62.7 PK	74.0	-11.3	1.00 V	231	56.01	6.73
4	4874.00	47.0 AV	54.0	-7.1	1.00 V	231	40.22	6.73
5	7311.00	63.3 PK	74.0	-10.8	1.00 V	326	52.45	10.80
6	7311.00	47.2 AV	54.0	-6.8	1.00 V	326	36.42	10.80

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 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	107.1 PK			1.47 H	311	106.57	0.56
2	*2462.00	92.6 AV			1.47 H	311	92.08	0.56
3	2483.50	68.3 PK	74.0	-5.7	1.47 H	311	67.71	0.61
4	2483.50	49.0 AV	54.0	-5.0	1.47 H	311	48.41	0.61
5	4924.00	63.1 PK	74.0	-10.9	1.01 H	174	56.22	6.88
6	4924.00	46.9 AV	54.0	-7.1	1.01 H	174	39.99	6.88
7	7386.00	63.4 PK	74.0	-10.6	1.00 H	102	52.61	10.80
8	7386.00	47.3 AV	54.0	-6.7	1.00 H	102	36.46	10.80
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	111.3 PK			1.30 V	298	110.76	0.56
2	*2462.00	97.1 AV			1.30 V	298	96.50	0.56
3	2483.50	73.4 PK	74.0	-0.6	1.30 V	298	72.79	0.61
4	2483.50	52.5 AV	54.0	-1.5	1.30 V	298	51.89	0.61
5	4924.00	62.8 PK	74.0	-11.2	1.00 V	144	55.96	6.88
6	4924.00	47.0 AV	54.0	-7.0	1.00 V	144	40.08	6.88
7	7386.00	63.0 PK	74.0	-11.0	1.00 V	327	52.21	10.80
8	7386.00	47.3 AV	54.0	-6.7	1.00 V	327	36.46	10.80

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.



802.11n (20MHz)

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	66.3 PK	74.0	-7.7	1.03 H	326	65.93	0.39
2	2390.00	48.2 AV	54.0	-5.8	1.03 H	326	47.82	0.39
3	#2400.00	70.8 PK	75.2	-4.4	1.03 H	326	70.39	0.41
4	#2400.00	52.3 AV	59.8	-7.5	1.03 H	326	51.89	0.41
5	*2412.00	105.2 PK			1.03 H	326	104.76	0.44
6	*2412.00	89.8 AV			1.03 H	326	89.33	0.44
7	4824.00	62.0 PK	74.0	-12.1	1.01 H	311	55.36	6.59
8	4824.00	46.0 AV	54.0	-8.0	1.01 H	311	39.40	6.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.3 PK	74.0	-0.7	1.12 V	168	72.91	0.39
2	2390.00	52.0 AV	54.0	-2.0	1.12 V	168	51.59	0.39
3	#2400.00	80.1 PK	81.1	-1.0	1.12 V	168	79.71	0.41
4	#2400.00	60.2 AV	66.7	-6.5	1.12 V	168	59.79	0.41
5	*2412.00	111.1 PK			1.12 V	168	110.65	0.44
6	*2412.00	96.7 AV			1.12 V	168	96.26	0.44
7	4824.00	62.5 PK	74.0	-11.5	1.01 V	274	55.91	6.59
8	4824.00	46.7 AV	54.0	-7.3	1.01 V	274	40.11	6.59

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



CHANNEL	TX Channel 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	112.3 PK			1.66 H	203	111.80	0.51
2	*2437.00	105.5 AV			1.66 H	203	104.97	0.51
3	4874.00	63.1 PK	74.0	-10.9	1.00 H	88	56.37	6.73
4	4874.00	47.3 AV	54.0	-6.7	1.00 H	88	40.59	6.73
5	7311.00	63.3 PK	74.0	-10.7	1.00 H	142	52.53	10.80
6	7311.00	47.9 AV	54.0	-6.1	1.00 H	142	37.13	10.80

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	114.9 PK			1.35 V	274	114.36	0.51
2	*2437.00	109.9 AV			1.35 V	274	109.40	0.51
3	4874.00	64.0 PK	74.0	-10.0	1.01 V	31	57.27	6.73
4	4874.00	47.0 AV	54.0	-7.0	1.01 V	31	40.30	6.73
5	7311.00	63.8 PK	74.0	-10.2	1.00 V	152	53.02	10.80
6	7311.00	47.6 AV	54.0	-6.4	1.00 V	152	36.82	10.80

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 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	105.6 PK			1.04 H	332	105.04	0.56
2	*2462.00	91.2 AV			1.04 H	332	90.64	0.56
3	2483.50	60.7 PK	74.0	-13.3	1.04 H	332	60.13	0.61
4	2483.50	43.8 AV	54.0	-10.2	1.04 H	332	43.17	0.61
5	4924.00	62.3 PK	74.0	-11.7	1.00 H	234	55.44	6.88
6	4924.00	46.0 AV	54.0	-8.0	1.00 H	234	39.13	6.88
7	7386.00	63.2 PK	74.0	-10.8	1.00 H	169	52.40	10.80
8	7386.00	47.1 AV	54.0	-6.9	1.00 H	169	36.30	10.80

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	110.9 PK			1.69 V	338	110.33	0.56
2	*2462.00	97.3 AV			1.69 V	338	96.76	0.56
3	2483.50	73.5 PK	74.0	-0.5	1.69 V	338	72.93	0.61
4	2483.50	47.9 AV	54.0	-6.1	1.69 V	338	47.33	0.61
5	4924.00	62.8 PK	74.0	-11.2	1.00 V	102	55.93	6.88
6	4924.00	46.7 AV	54.0	-7.3	1.00 V	102	39.79	6.88
7	7386.00	63.0 PK	74.0	-11.0	1.00 V	211	52.21	10.80
8	7386.00	47.0 AV	54.0	-7.0	1.00 V	211	36.20	10.80

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.



802.11n (40MHz)

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	66.4 PK	74.0	-7.6	1.41 H	302	66.01	0.39
2	2390.00	47.0 AV	54.0	-7.0	1.41 H	302	46.63	0.39
3	#2400.00	68.6 PK	74.2	-5.6	1.41 H	302	68.23	0.41
4	#2400.00	49.3 AV	57.7	-8.4	1.41 H	302	48.87	0.41
5	*2422.00	104.2 PK			1.41 H	302	103.73	0.47
6	*2422.00	87.7 AV			1.41 H	302	87.22	0.47
7	4844.00	62.2 PK	74.0	-11.8	1.00 H	125	55.55	6.65
8	4844.00	46.1 AV	54.0	-7.9	1.00 H	125	39.45	6.65

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	73.6 PK	74.0	-0.4	1.11 V	156	73.23	0.39
2	2390.00	51.7 AV	54.0	-2.3	1.11 V	156	51.31	0.39
3	#2400.00	75.6 PK	79.4	-3.8	1.11 V	156	75.19	0.41
4	#2400.00	54.5 AV	63.1	-8.6	1.11 V	156	54.09	0.41
5	*2422.00	109.4 PK			1.11 V	156	108.93	0.47
6	*2422.00	93.1 AV			1.11 V	156	92.63	0.47
7	4844.00	62.4 PK	74.0	-11.6	1.00 V	264	55.76	6.65
8	4844.00	46.0 AV	54.0	-8.0	1.00 V	264	39.32	6.65

REMARKS:

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



CHANNEL	TX Channel 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	112.3 PK			1.30 H	179	111.79	0.51
2	*2437.00	105.6 AV			1.30 H	179	105.12	0.51
3	4874.00	62.4 PK	74.0	-11.6	1.01 H	87	55.64	6.73
4	4874.00	46.7 AV	54.0	-7.3	1.01 H	87	40.01	6.73
5	7311.00	63.5 PK	74.0	-10.5	1.00 H	255	52.69	10.80
6	7311.00	47.7 AV	54.0	-6.3	1.00 H	255	36.94	10.80

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	114.4 PK			1.07 V	236	113.85	0.51
2	*2437.00	109.9 AV			1.07 V	236	109.38	0.51
3	4874.00	64.2 PK	74.0	-9.8	1.00 V	201	57.50	6.73
4	4874.00	47.1 AV	54.0	-6.9	1.00 V	201	40.38	6.73
5	7311.00	63.5 PK	74.0	-10.5	1.00 V	94	52.70	10.80
6	7311.00	47.4 AV	54.0	-6.6	1.00 V	94	36.64	10.80

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	102.3 PK			1.09 H	302	101.77	0.53
2	*2452.00	86.2 AV			1.09 H	302	85.68	0.53
3	2483.50	64.2 PK	74.0	-9.8	1.09 H	302	63.59	0.61
4	2483.50	40.0 AV	54.0	-14.0	1.09 H	302	39.40	0.61
5	4904.00	62.4 PK	74.0	-11.6	1.00 H	225	55.59	6.82
6	4904.00	46.2 AV	54.0	-7.8	1.00 H	225	39.41	6.82
7	7356.00	63.0 PK	74.0	-11.0	1.00 H	196	52.19	10.80
8	7356.00	47.1 AV	54.0	-7.0	1.00 H	196	36.25	10.80
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	107.9 PK			2.05 V	204	107.37	0.53
2	*2452.00	91.2 AV			2.05 V	204	90.67	0.53
3	2483.50	73.1 PK	74.0	-0.9	2.05 V	204	72.49	0.61
4	2483.50	49.2 AV	54.0	-4.8	2.05 V	204	48.62	0.61
5	4904.00	62.3 PK	74.0	-11.7	1.00 V	233	55.48	6.82
6	4904.00	46.1 AV	54.0	-7.9	1.00 V	233	39.32	6.82
7	7356.00	63.3 PK	74.0	-10.7	1.02 V	145	52.52	10.80
8	7356.00	47.2 AV	54.0	-6.9	1.02 V	145	36.35	10.80

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.
Spectrum Analyzer (10Hz–40GHz)	Rohde&Schwarz	FSV40	101003	Apr. 07,15	Apr. 06,16
Power Sensor	Keysight	U2021XA	MY55060016	Feb. 18,15	Feb. 17,16
Power Sensor	Keysight	U2021XA	MY55060018	Feb. 18,15	Feb. 17,16
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 27,14	Oct. 26,15
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.04,14	Sep. 03,15
Oscilloscope	Agilent	DSO9254A	MY51260160	Oct. 17, 14	Oct. 16, 15
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 05,14	Nov. 04,15

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

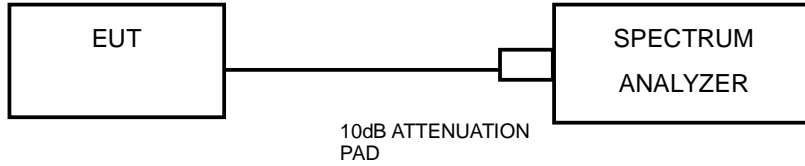
1. Set resolution bandwidth (RBW) = 100KHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that 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.



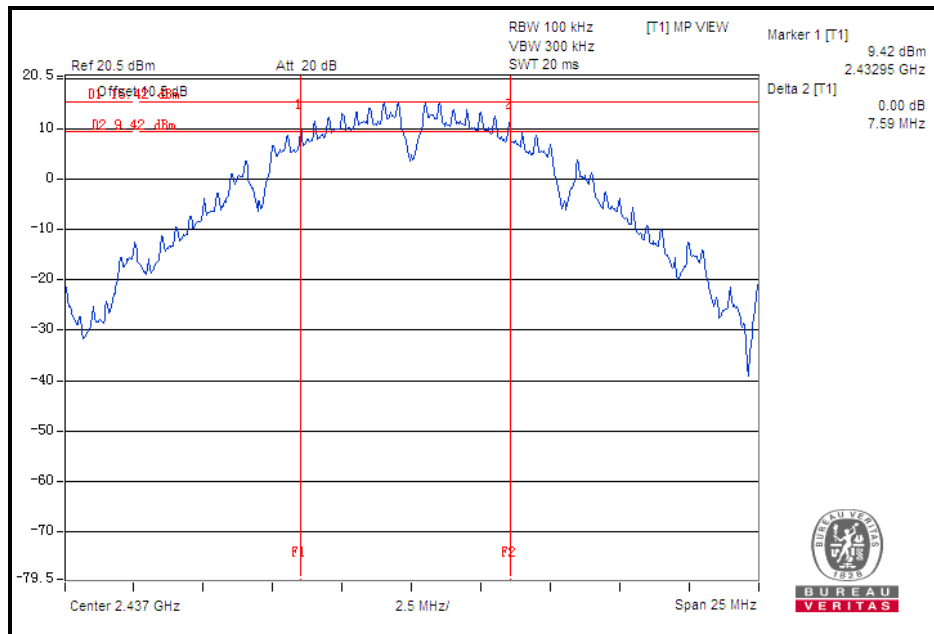
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4.3.7 TEST RESULTS

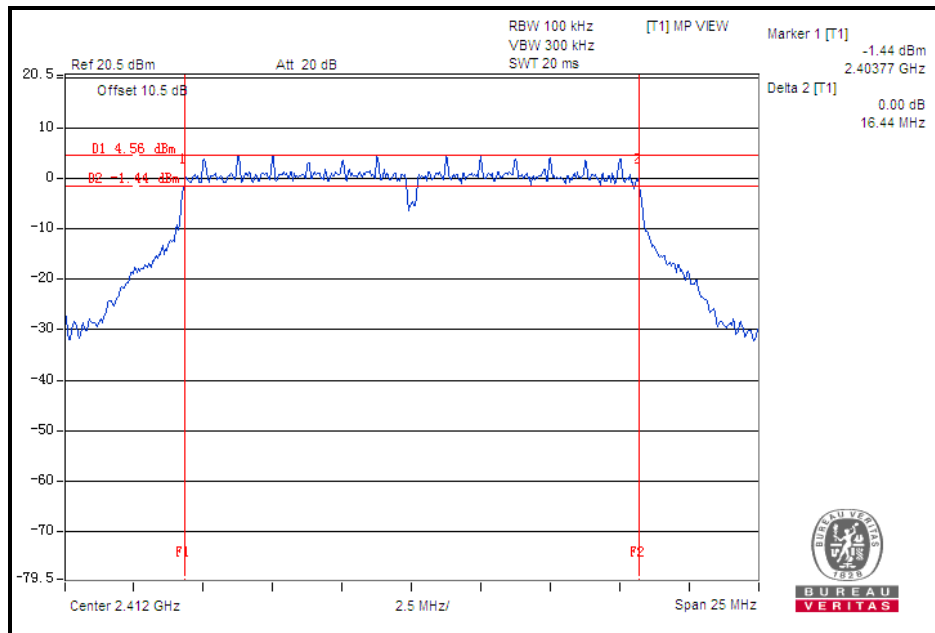
802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	7.11	0.5	PASS
6	2437	7.59	0.5	PASS
11	2462	7.10	0.5	PASS



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.44	0.5	PASS
6	2437	16.38	0.5	PASS
11	2462	15.50	0.5	PASS



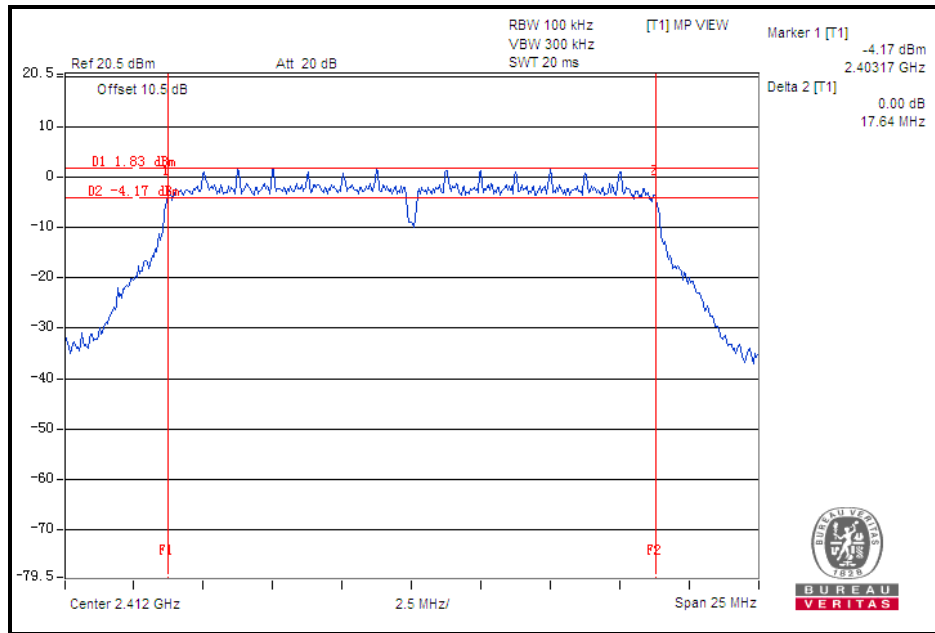


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802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.64	0.5	PASS
6	2437	17.61	0.5	PASS
11	2462	16.16	0.5	PASS



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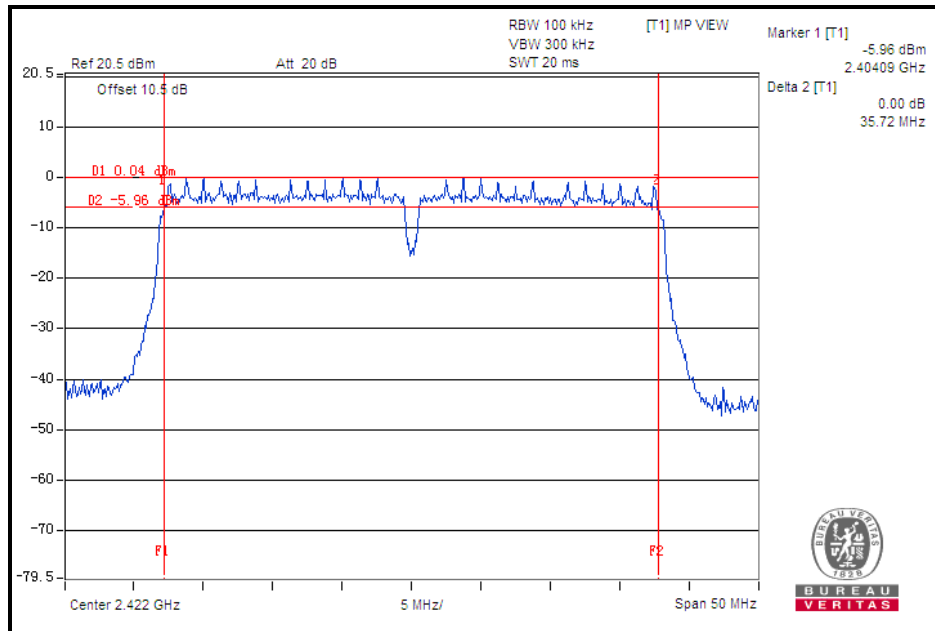
No. 34, Chenwulu Section, Guantai Rd., Houjie
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802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.72	0.5	PASS
6	2437	35.51	0.5	PASS
9	2452	35.53	0.5	PASS



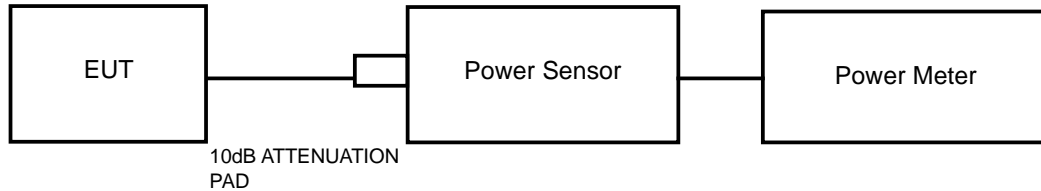


4.4 CONDUCTED OUTPUT POWER

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.
Spectrum Analyzer (10Hz–40GHz)	Rohde&Schwarz	FSV40	101003	Apr. 07,15	Apr. 06,16
Power Sensor	Keysight	U2021XA	MY55060016	Feb. 18,15	Feb. 17,16
Power Sensor	Keysight	U2021XA	MY55060018	Feb. 18,15	Feb. 17,16
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 27,14	Oct. 26,15
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.04,14	Sep. 03,15
Oscilloscope	Agilent	DSO9254A	MY51260160	Oct. 17, 14	Oct. 16, 15
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 05,14	Nov. 04,15

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.

4.4.4 TEST PROCEDURES

A Average power sensor was used on the output port of the EUT. A Average power meter was used to read the response of the power sensor with Average detector. Record the Average 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.



4.4.7.2 AVERAGE OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	19.08
6	2437	22.65
11	2462	17.83

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	16.32
6	2437	20.27
11	2462	12.49

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	12.72
6	2437	20.12
11	2462	12.16



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802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
3	2422	13.94
6	2437	20.54
9	2452	10.96

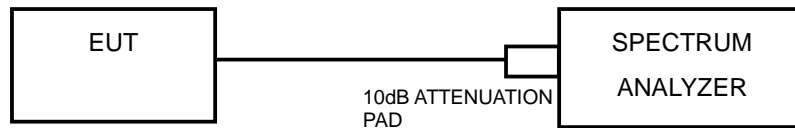


4.5 POWER SPECTRAL DENSITY MEASUREMENT

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 at least 1.5 times the OBW.
- c) Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set VBW $\geq 3 \times \text{RBW}$.
- e) Detector = power averaging (RMS) or sample detector (when RMS not available).
- f) Ensure that the number of measurement points in the sweep $\geq 2 \times \text{span}/\text{RBW}$.
- g) Sweep time = auto couple.
- h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
- i) Use the peak marker function to determine the maximum amplitude level.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.



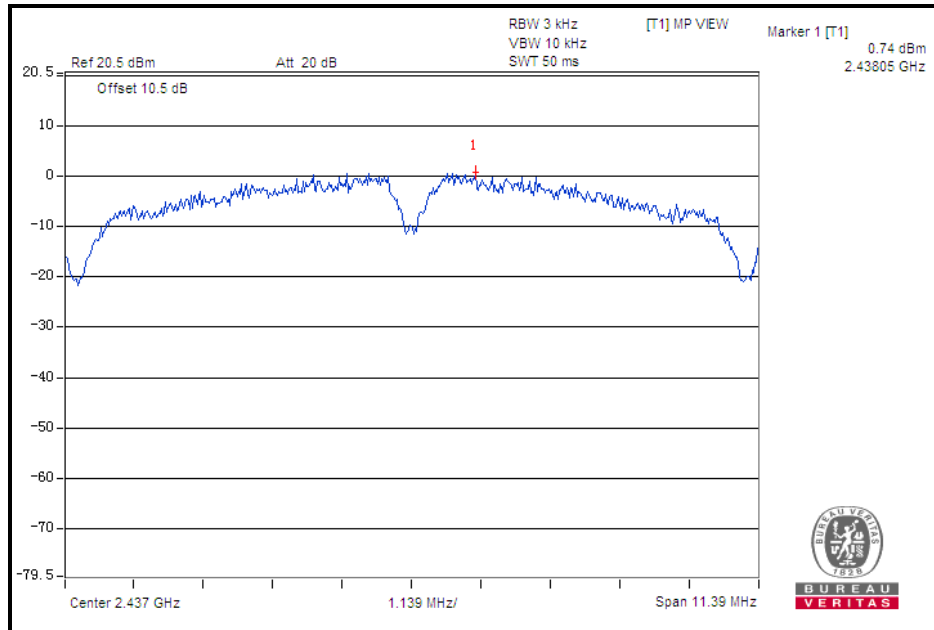
4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6

4.5.7 TEST RESULTS

802.11b

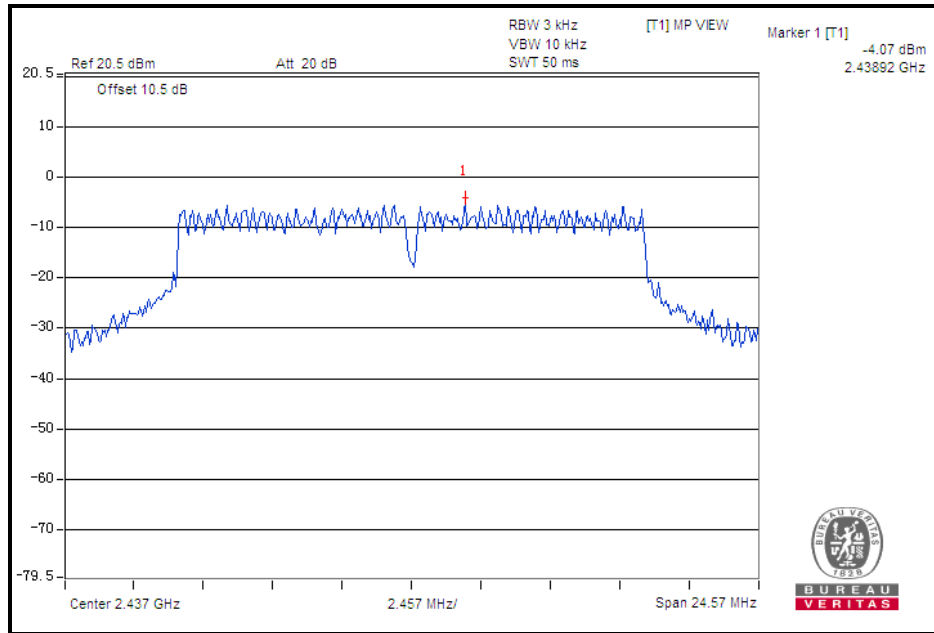
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-0.61	8	PASS
6	2437	0.74	8	PASS
11	2462	-3.30	8	PASS





802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-9.94	8	PASS
6	2437	-4.07	8	PASS
11	2462	-11.54	8	PASS

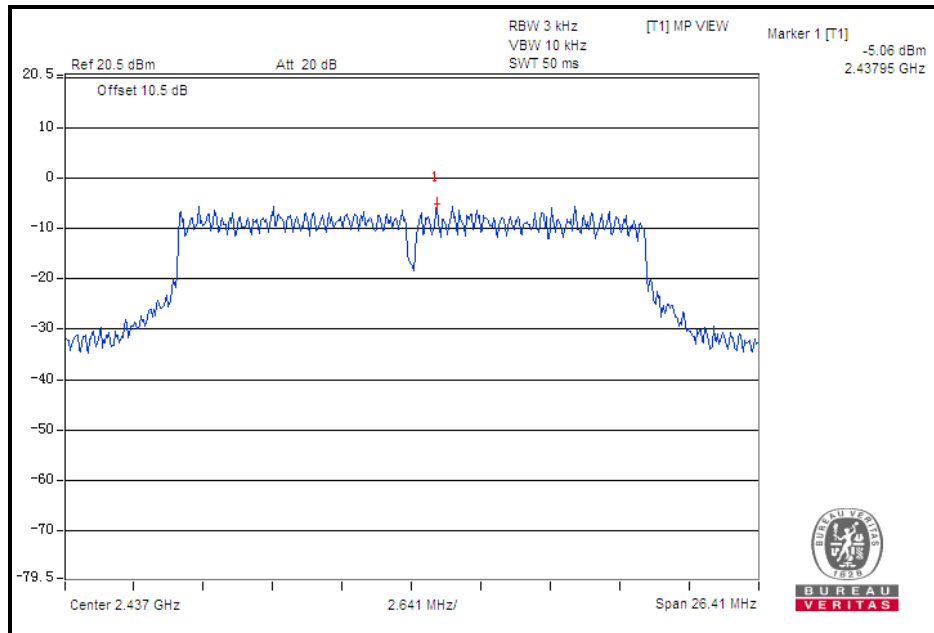




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802.11n (20MHz)

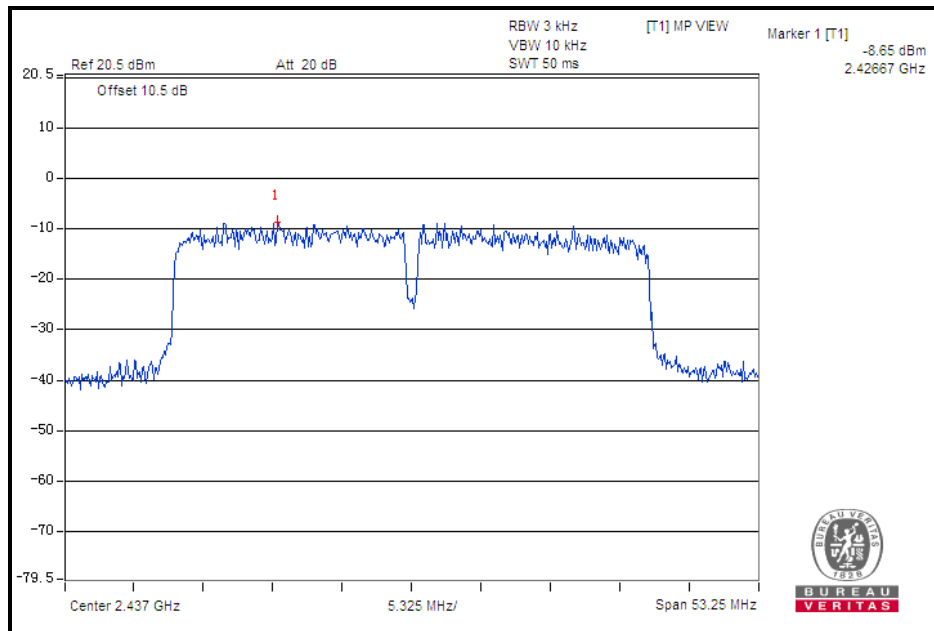
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-12.33	8	PASS
6	2437	-5.06	8	PASS
11	2462	-10.80	8	PASS





802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-14.89	8	PASS
6	2437	-8.65	8	PASS
9	2452	-18.12	8	PASS



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 4.3.2 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.



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

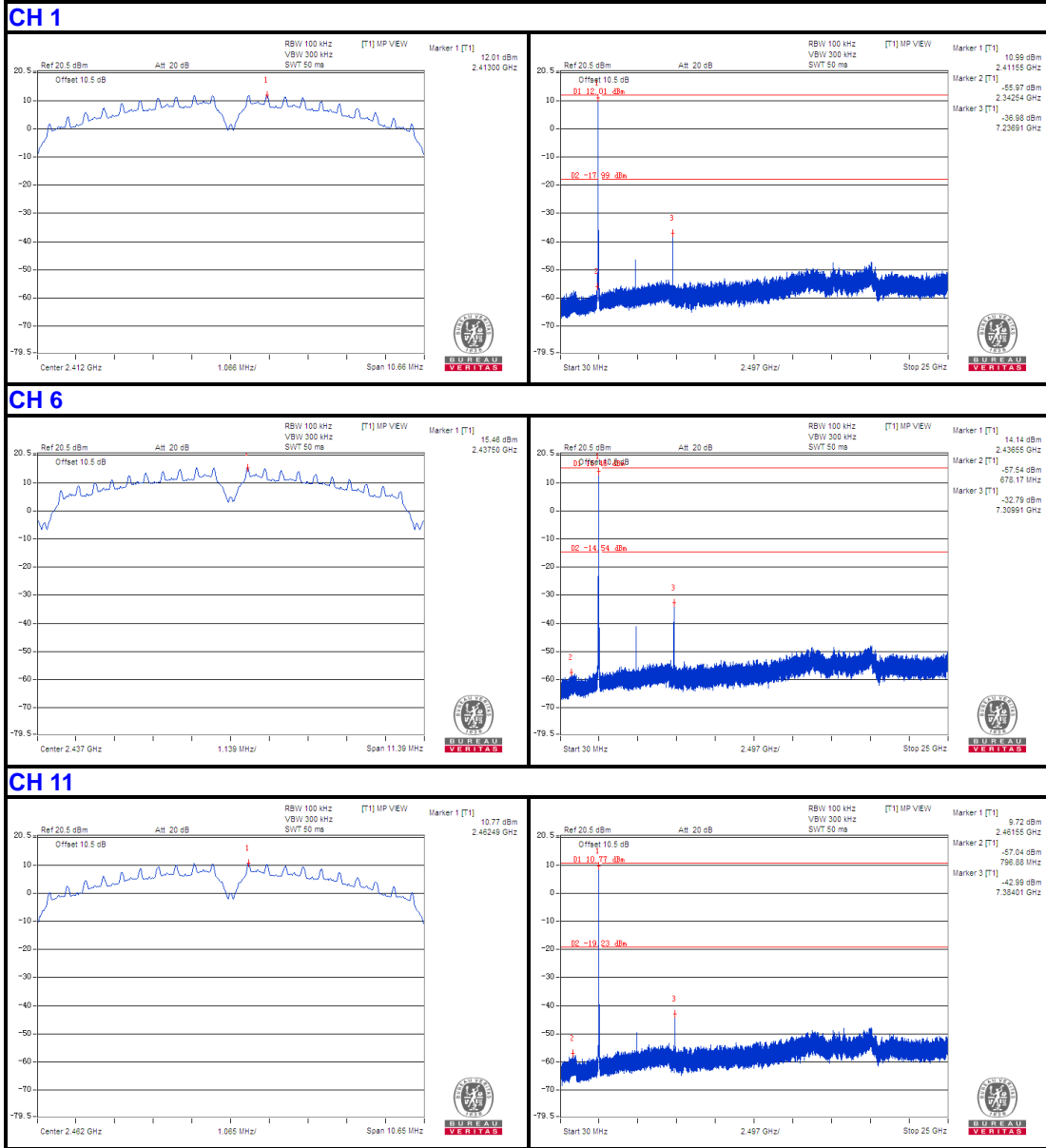


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4.6.7 TEST RESULTS

802.11b

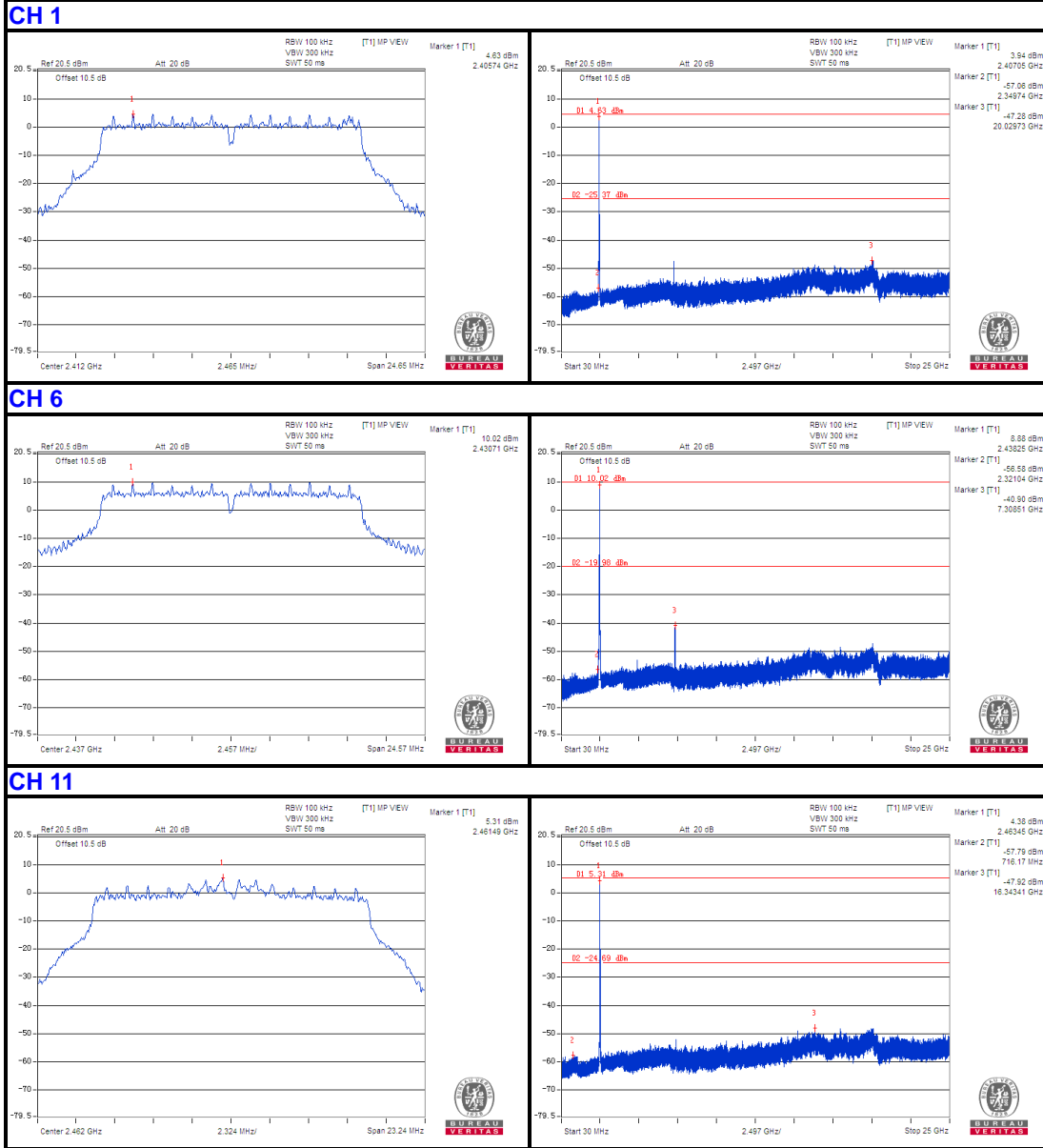




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802.11g



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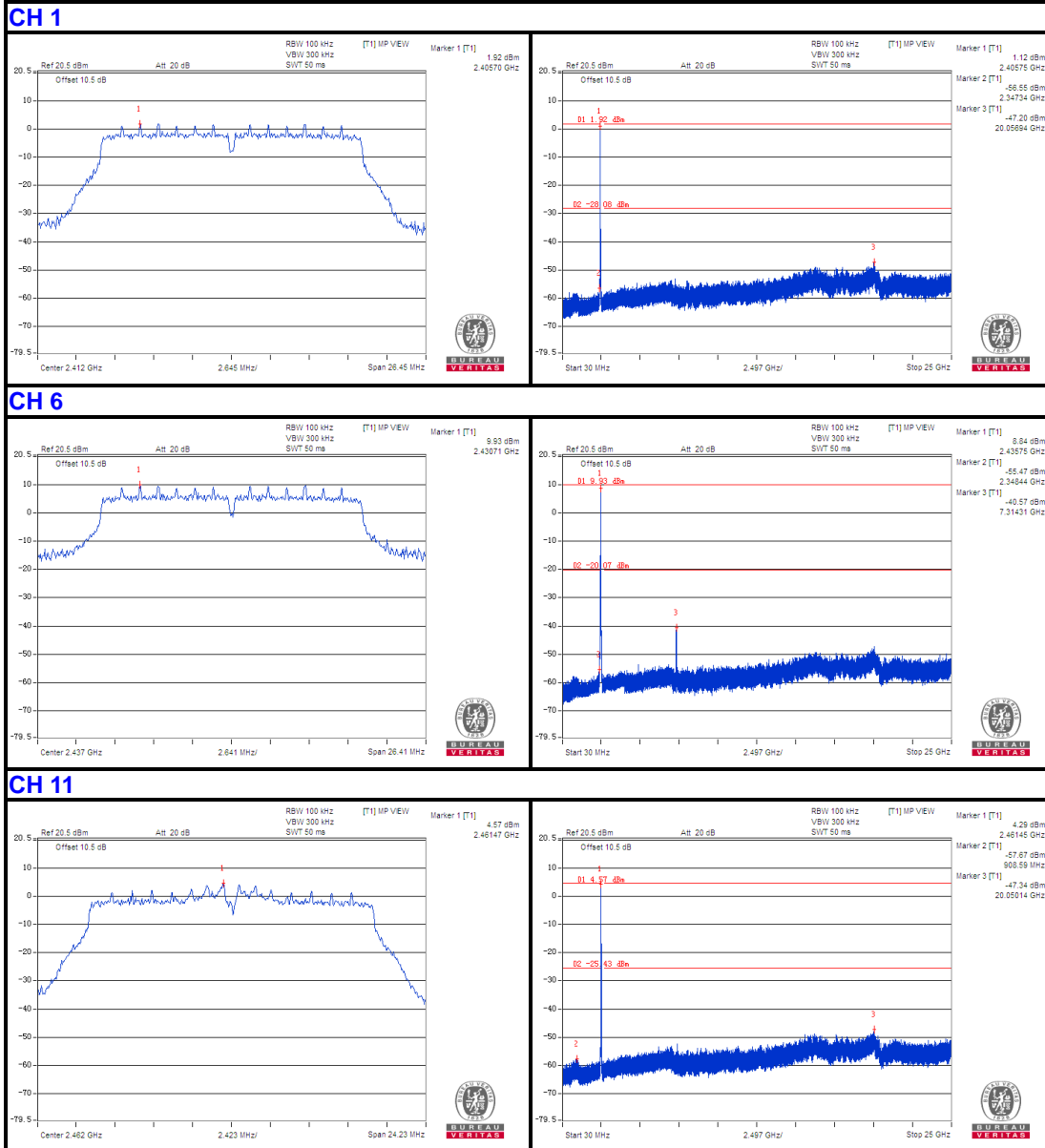
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802.11n (20MHz)



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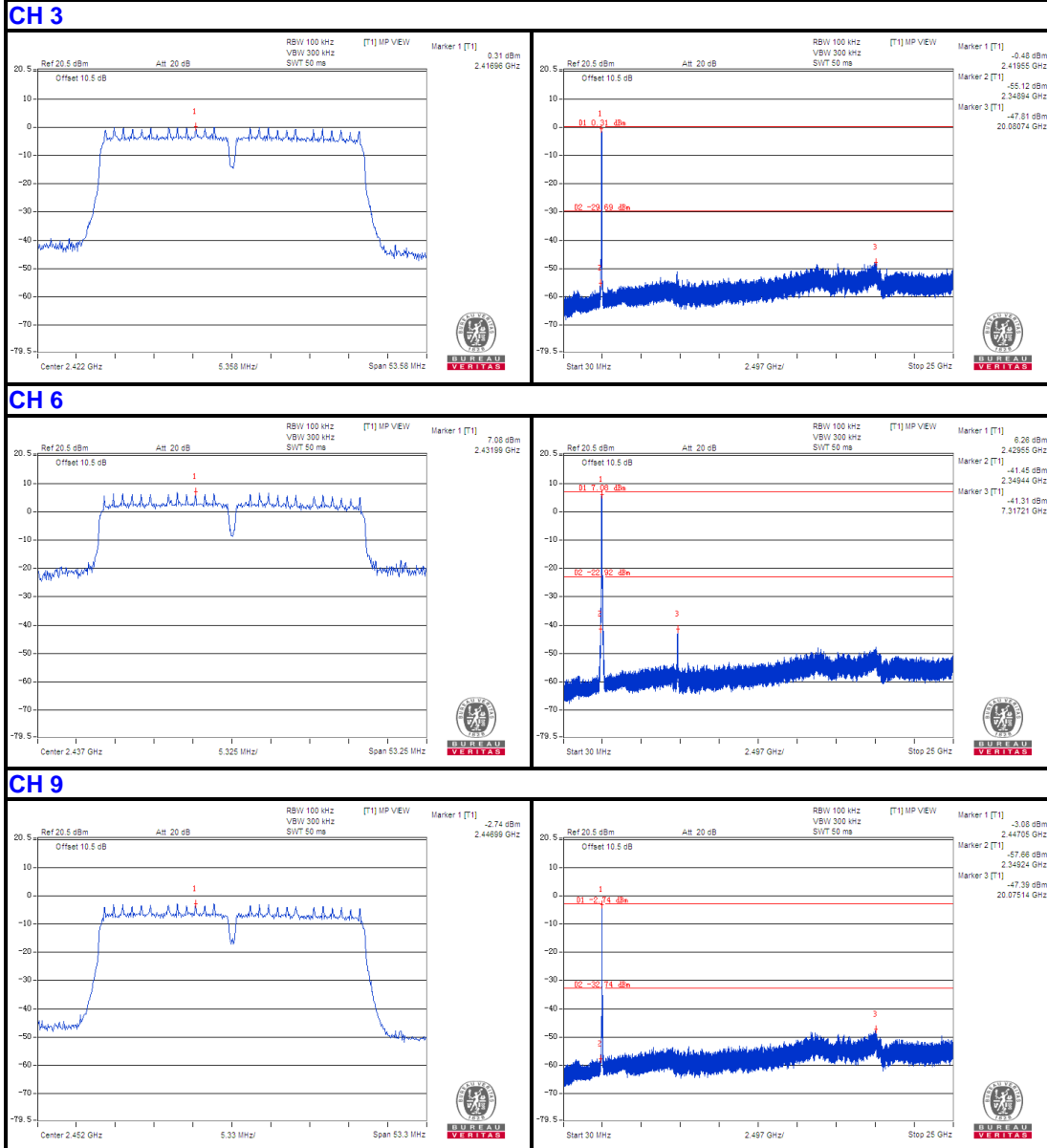
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802.11n (40MHz)



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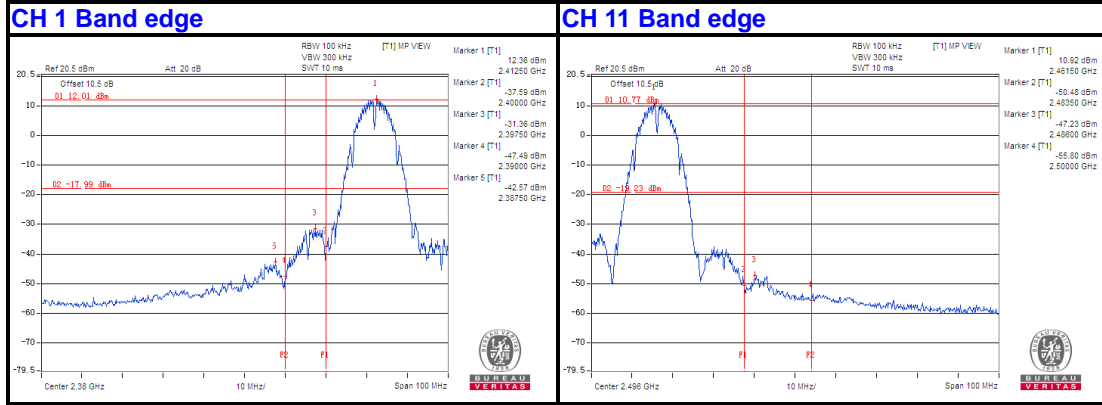
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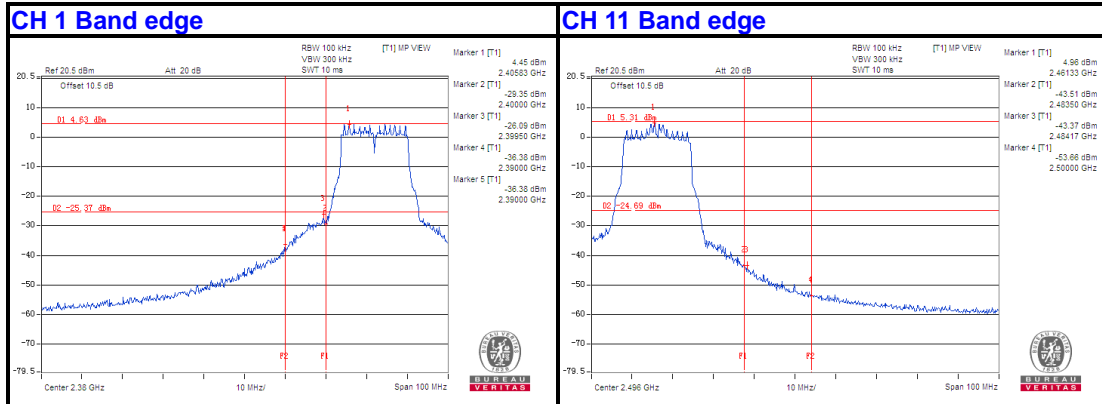
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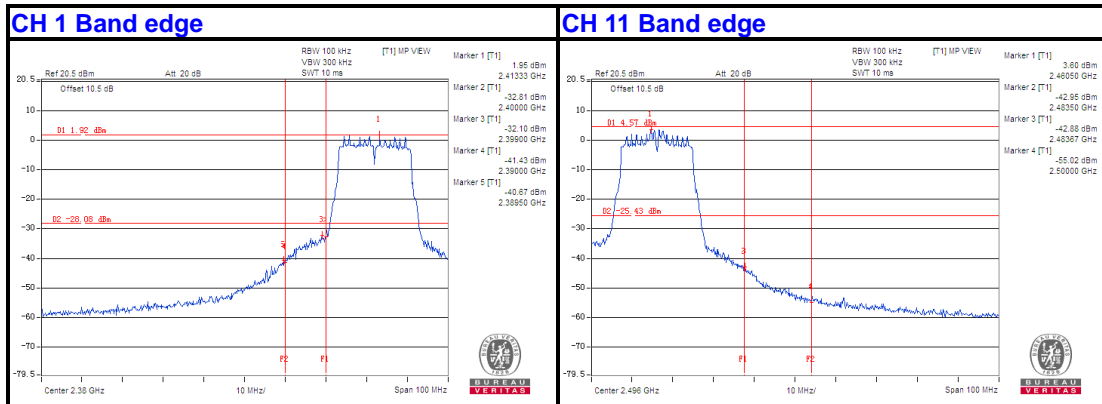
802.11b



802.11g



802.11n (20MHz)



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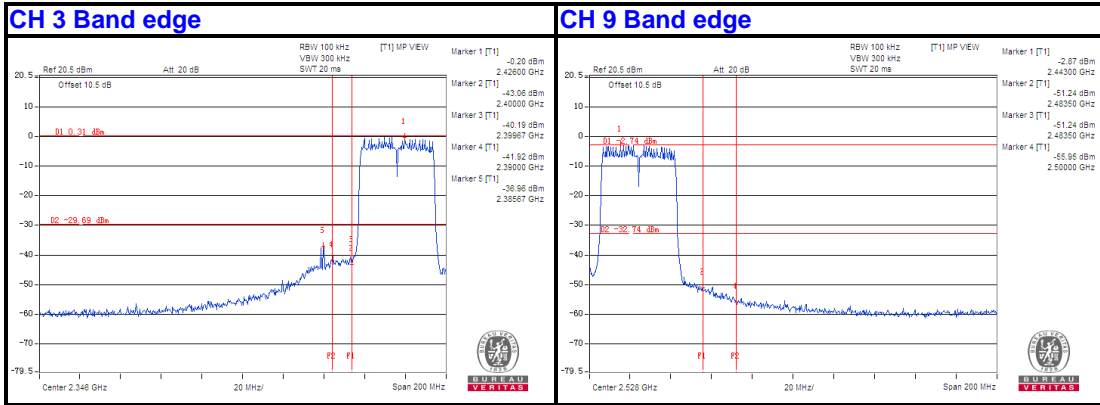
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802.11n (40MHz)



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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.

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