



Test Report No.: RF140725N051



TEST REPORT

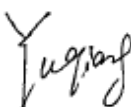

Applicant	HON HAI PRECISION IND. Co., LTD.
Address	No. 2, Zihyou St., Tucheng City, Taipei Hsien 23680 Taiwan

Manufacturer or Supplier	HON HAI PRECISION IND. Co., LTD.
Address	No. 2, Zihyou St., Tucheng City, Taipei Hsien 23680 Taiwan
Product	Square HD
Brand Name	NABI
Model	21003
Additional Model & Model Difference	N/A
Date of tests	Jul. 25 ~ Aug. 06, 2014

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

FCC Part 15, Subpart C, Section 15.247(2012-10)

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

Tested by Yuqiang Yin Project Engineer / EMC Department	Approved by Glyn He Supervisor / EMC Department
	
	Date: Aug. 29, 2014

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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.....	11
3.4 DESCRIPTION OF SUPPORT UNITS.....	11
4 TEST TYPES AND RESULTS.....	12
4.1 RADIATED EMISSION MEASUREMENT	12
4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT	12
4.1.2 TEST INSTRUMENTS.....	13
4.1.3 TEST PROCEDURES	14
4.1.4 DEVIATION FROM TEST STANDARD	14
4.1.5 TEST SETUP	15
4.1.6 EUT OPERATING CONDITIONS	15
4.1.7 TEST RESULTS	16
4.2 6dB BANDWIDTH MEASUREMENT	27
4.2.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT	27
4.2.2 TEST INSTRUMENTS.....	27
4.2.3 TEST PROCEDURE	27
4.2.4 DEVIATION FROM TEST STANDARD	27
4.2.5 TEST SETUP.....	28
4.2.6 EUT OPERATING CONDITIONS	28
4.2.7 TEST RESULTS	29
4.3 CONDUCTED OUTPUT POWER	32
4.3.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT	32
4.3.2 TEST SETUP.....	32
4.3.3 TEST INSTRUMENTS.....	32
4.3.4 TEST PROCEDURES	32
4.3.5 DEVIATION FROM TEST STANDARD	32



4.3.6	EUT OPERATING CONDITIONS	33
4.3.7	TEST RESULTS	33
4.3.7.1	MAXIMUM PEAK OUTPUT POWER	33
4.3.7.2	AVERAGE OUTPUT POWER (FOR REFERENCE)	34
4.4	POWER SPECTRAL DENSITY MEASUREMENT	35
4.4.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	35
4.4.2	TEST SETUP	35
4.4.3	TEST INSTRUMENTS.....	35
4.4.4	TEST PROCEDURE	35
4.4.5	DEVIATION FROM TEST STANDARD	35
4.4.6	EUT OPERATING CONDITION	35
4.4.7	TEST RESULTS	36
4.5	OUT OF BAND EMISSION MEASUREMENT	39
4.5.1	LIMITS OF OUT OF BAND EMISSION MEASUREMENT	39
4.5.2	TEST SETUP	39
4.5.3	TEST INSTRUMENTS.....	39
4.5.4	TEST PROCEDURE	39
4.5.5	DEVIATION FROM TEST STANDARD	40
4.5.6	EUT OPERATING CONDITION	40
4.5.7	TEST RESULTS	41
5	PHOTOGRAPHS OF THE TEST CONFIGURATION	44
6	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	45



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Test Report No.: RF140725N051

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140725N051	Original release	Aug. 29, 2014



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

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

2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
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	Square HD
MODEL NO.	21003
FCC ID	YE5-NABIF001
NOMINAL VOLTAGE	DC 3.7V from Li-ion battery
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)
PEAK POWER	19.98dBm (Measured Max.)
ANTENNA TYPE	PIFA Antenna; 2.97 dBi gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB Cable: Shielded, Detachable, 0.5m with one core

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. This EUT in WIFI mode only powered from battery 3.7V.
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.:140725N051) for detailed product photo.



3.2 DESCRIPTION OF TEST MODES

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

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



3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

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

3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

The worst case was found when positioned on Y 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 Battery with WIFI link

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

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11g	1 to 11	1	OFDM	BPSK	6.0	Y

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	Y
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Y
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5	Y

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)
A	802.11b	1 to 11	1, 11	CCK	DBPSK	1.0
A	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
A	802.11n HT20	1 to 11	1, 11	OFDM	BPSK	6.5

ANTENNA PORT CONDUCTED MEASUREMENT:

This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	CCK	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



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Test Report No.: RF140725N051

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	25deg. C, 55%RH	DC 3.7V by Battery	Blue Chen
RE≥1G	25deg. C, 55%RH	DC 3.7V by Battery	Blue Chen
PLC	N/A	N/A	N/A
APCM	25deg. C, 60%RH	DC 3.7V by Battery	Yuqiang Yin



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(2012-10)

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	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 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	E4446A	MY46180622	Apr. 29,14	Apr. 28,15
Spectrum Analyzer (10Hz~40GHz)	Rohde&Schwarz	FSV40	101003	Apr. 09,14	Apr. 08,15
Signal Generator (250KHz~6.0GHz)	Agilent	E4438C	MY49072505	Mar. 14, 14	Mar. 13, 15
Signal Analyzer	Rohde&Schwarz	FSV7	102331	Nov. 25,13	Nov. 24,14
EMI Test Receiver	Rohde&Schwarz	ESVS10	841431/004	May 17,14	May 16,15
Loop antenna (9kHz~30MHz)	Daze	ZN30900A	0708	Dec. 05,13	Dec. 05,14
Bilog Antenna (20MHz~2GHz)	Teseq	CBL 6111D	30643	Jul. 27, 13	Jul. 26, 14
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	Oct. 18, 12	Oct. 17, 14
Horn Antenna (15GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170242	Feb. 13,14	Feb. 12,15
Signal Amplifier	Agilent	8447D	2944A10488	Jun. 25,14	Jun. 24,15
Pre-Amplifier (100MHz-26.5GHz)	Agilent	8449B	3008A00409	May 13,14	May 12,15
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 04,13	Nov. 03,14
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 30, 13	Oct. 29, 14
Peak and Avg Power Sensor	Anritsu	MA2411B	1126068	Feb. 21,14	Feb. 20,15
Power Meter	Anritsu	ML2495A	1139001	Feb. 21,14	Feb. 20,15
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Apr. 19,14	Apr. 18,15
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep. 17,13	Sep. 16,14
Test Software	ADT	ADT_Radiated _V7.6.15.9.2	N/A	N/A	N/A

NOTE:

1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 966 Chamber.
3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 502831.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 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:

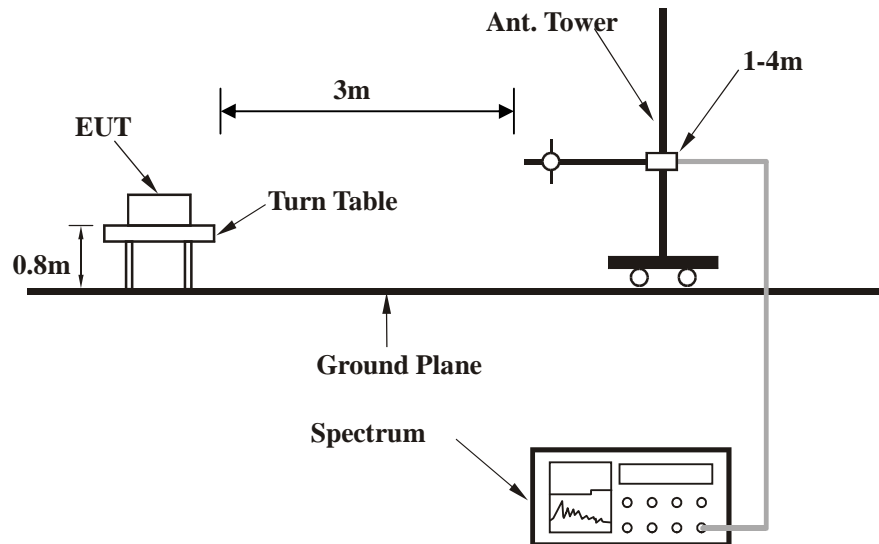
- 1.The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
- 2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
- 3.The resolution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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation



4.1.5 TEST SETUP



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

4.1.6 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.



4.1.7 TEST RESULTS

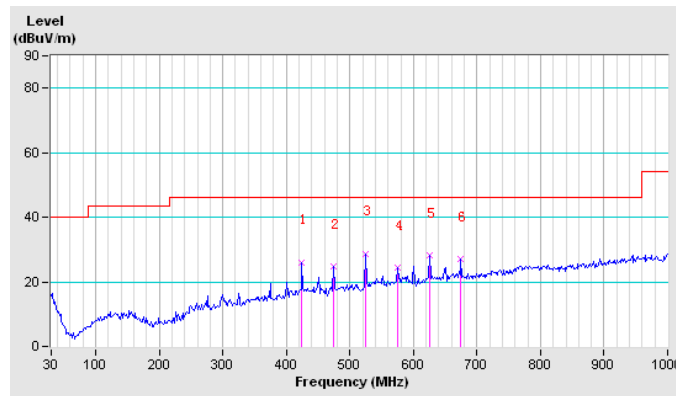
BELOW 1GHz WORST-CASE DATA: 802.11g- CH1

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	424.47	26.1 QP	46.0	-19.9	1.00 H	182	5.66	20.44
2	474.58	24.7 QP	46.0	-21.3	1.00 H	171	3.33	21.35
3	524.70	28.8 QP	46.0	-17.2	1.00 H	160	6.82	21.95
4	574.82	24.5 QP	46.0	-21.5	1.00 H	122	0.97	23.56
5	624.93	28.2 QP	46.0	-17.8	1.00 H	148	3.74	24.44
6	675.05	27.0 QP	46.0	-19.0	1.00 H	135	2.04	24.95

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.



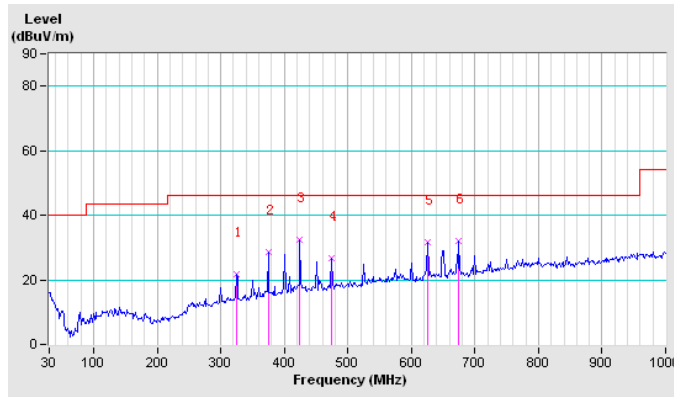


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	324.23	21.6 QP	46.0	-24.4	1.00 V	0	4.54	17.10
2	374.35	28.5 QP	46.0	-17.6	1.00 V	359	9.82	18.63
3	424.47	32.4 QP	46.0	-13.7	1.00 V	355	11.91	20.44
4	474.58	26.6 QP	46.0	-19.4	1.00 V	360	5.25	21.35
5	624.93	31.8 QP	46.0	-14.2	1.00 V	342	7.33	24.44
6	675.05	31.9 QP	46.0	-14.1	1.00 V	328	6.95	24.95

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	51.8 PK	74.0	-22.3	2.37 H	55	15.78	35.97
2	2390.00	39.2 AV	54.0	-14.8	2.37 H	55	3.19	35.97
3	#2400.00	57.5 PK	79.6	-22.1	2.37 H	55	21.52	35.98
4	#2400.00	49.4 AV	75.6	-26.2	2.37 H	55	13.42	35.98
5	*2412.00	99.6 PK			2.37 H	55	63.60	36.00
6	*2412.00	95.6 AV			2.37 H	55	59.60	36.00
7	4824.00	49.5 PK	74.0	-24.5	1.07 H	254	10.14	39.36
8	4824.00	43.4 AV	54.0	-10.6	1.07 H	254	4.05	39.36

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	52.2 PK	74.0	-21.8	2.19 V	85	16.27	35.97
2	2390.00	39.5 AV	54.0	-14.5	2.19 V	85	3.50	35.97
3	#2400.00	57.0 PK	76.9	-19.8	2.19 V	85	21.06	35.98
4	#2400.00	49.8 AV	73.9	-24.1	2.19 V	85	13.77	35.98
5	*2412.00	96.9 PK			2.19 V	85	60.87	36.00
6	*2412.00	93.9 AV			2.19 V	85	57.86	36.00
7	4824.00	52.3 PK	74.0	-21.7	1.78 V	242	12.93	39.36
8	4824.00	47.6 AV	54.0	-6.4	1.78 V	242	8.27	39.36

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	100.2 PK			2.42 H	52	64.17	36.03
2	*2437.00	93.3 AV			2.42 H	52	57.27	36.03
3	4874.00	44.9 PK	74.0	-29.1	1.00 H	360	5.53	39.37
4	4874.00	29.4 AV	54.0	-24.6	1.00 H	360	-9.97	39.37
5	7311.00	48.2 PK	74.0	-25.8	1.00 H	360	5.44	42.76
6	7311.00	33.7 AV	54.0	-20.3	1.00 H	360	-9.06	42.76

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	101.9 PK			1.00 V	100	65.87	36.03
2	*2437.00	94.3 AV			1.00 V	100	58.27	36.03
3	4874.00	44.3 PK	74.0	-29.7	1.00 V	0	4.93	39.37
4	4874.00	31.2 AV	54.0	-22.8	1.00 V	0	-8.17	39.37
5	7311.00	47.9 PK	74.0	-26.1	1.00 V	360	5.14	42.76
6	7311.00	33.6 AV	54.0	-20.4	1.00 V	360	-9.16	42.76

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	98.0 PK			1.31 H	81	61.94	36.06
2	*2462.00	94.3 AV			1.31 H	81	58.24	36.06
3	2483.50	48.7 PK	74.0	-25.3	1.31 H	81	12.61	36.09
4	2483.50	37.0 AV	54.0	-17.0	1.31 H	81	0.91	36.09
5	4924.00	50.9 PK	74.0	-23.1	1.36 H	267	11.52	39.38
6	4924.00	45.6 AV	54.0	-8.4	1.36 H	267	6.22	39.38
7	7386.00	48.9 PK	74.0	-25.1	1.00 H	0	6.20	42.70
8	7386.00	33.8 AV	54.0	-20.2	1.00 H	0	-8.90	42.70
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	101.0 PK			1.03 V	177	64.94	36.06
2	*2462.00	94.8 AV			1.03 V	177	58.69	36.06
3	2483.50	50.0 PK	74.0	-24.0	1.03 V	177	13.91	36.09
4	2483.50	37.1 AV	54.0	-16.9	1.03 V	177	1.01	36.09
5	4924.00	51.5 PK	74.0	-22.5	1.00 V	193	12.12	39.38
6	4924.00	45.6 AV	54.0	-8.4	1.00 V	193	6.22	39.38
7	7386.00	49.3 PK	74.0	-24.7	1.00 V	0	6.60	42.70
8	7386.00	34.3 AV	54.0	-19.7	1.00 V	0	-8.40	42.70

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	60.4 PK	74.0	-13.6	2.38 H	53	24.43	35.97
2	2390.00	43.2 AV	54.0	-10.8	2.38 H	53	7.23	35.97
3	#2400.00	67.4 PK	79.5	-12.1	2.38 H	53	31.42	35.98
4	#2400.00	46.3 AV	66.5	-20.2	2.38 H	53	10.32	35.98
5	*2412.00	99.5 PK			2.38 H	53	63.50	36.00
6	*2412.00	86.5 AV			2.38 H	53	50.50	36.00
7	4824.00	45.2 PK	74.0	-28.8	1.00 H	0	5.84	39.36
8	4824.00	31.5 AV	54.0	-22.5	1.00 H	0	-7.86	39.36

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	61.8 PK	74.0	-12.2	1.93 V	98	25.83	35.97
2	2390.00	43.7 AV	54.0	-10.3	1.93 V	98	7.73	35.97
3	#2400.00	68.6 PK	81.7	-13.1	1.93 V	98	32.62	35.98
4	#2400.00	49.1 AV	68.3	-19.2	1.93 V	98	13.14	35.98
5	*2412.00	101.7 PK			1.93 V	98	65.70	36.00
6	*2412.00	88.3 AV			1.93 V	98	52.30	36.00
7	4824.00	46.2 PK	74.0	-27.8	1.00 V	360	6.84	39.36
8	4824.00	31.7 AV	54.0	-22.3	1.00 V	360	-7.66	39.36

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	100.8 PK			1.29 H	57	64.76	36.03
2	*2437.00	87.9 AV			1.29 H	57	51.87	36.03
3	4874.00	44.7 PK	74.0	-29.3	1.00 H	0	5.33	39.37
4	4874.00	30.9 AV	54.0	-23.1	1.00 H	0	-8.47	39.37
5	7311.00	48.3 PK	74.0	-25.7	1.00 H	0	5.54	42.76
6	7311.00	34.3 AV	54.0	-19.7	1.00 H	0	-8.46	42.76

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	101.1 PK			1.00 V	130	65.07	36.03
2	*2437.00	88.5 AV			1.00 V	130	52.47	36.03
3	4874.00	44.4 PK	74.0	-29.6	1.00 V	360	5.03	39.37
4	4874.00	30.8 AV	54.0	-23.2	1.00 V	360	-8.57	39.37
5	7311.00	48.1 PK	74.0	-25.9	1.00 V	360	5.34	42.76
6	7311.00	34.2 AV	54.0	-19.8	1.00 V	360	-8.56	42.76

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	100.3 PK			1.31 H	82	64.21	36.06
2	*2462.00	87.3 AV			1.31 H	82	51.24	36.06
3	2483.50	56.2 PK	74.0	-17.8	1.31 H	82	20.11	36.09
4	2483.50	41.1 AV	54.0	-12.9	1.31 H	82	5.01	36.09
5	4924.00	44.3 PK	74.0	-29.7	1.00 H	0	4.92	39.38
6	4924.00	30.1 AV	54.0	-23.9	1.00 H	0	-9.28	39.38
7	7386.00	48.5 PK	74.0	-25.5	1.00 H	360	5.80	42.70
8	7386.00	33.7 AV	54.0	-20.3	1.00 H	360	-9.00	42.70

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	100.9 PK			1.04 V	179	64.84	36.06
2	*2462.00	88.0 AV			1.04 V	179	51.94	36.06
3	2483.50	55.1 PK	74.0	-18.9	1.04 V	179	19.01	36.09
4	2483.50	42.7 AV	54.0	-11.3	1.04 V	179	6.61	36.09
5	4924.00	47.5 PK	74.0	-26.5	1.00 V	188	8.12	39.38
6	4924.00	31.1 AV	54.0	-22.9	1.00 V	188	-8.28	39.38
7	7386.00	48.4 PK	74.0	-25.6	1.00 V	360	5.70	42.70
8	7386.00	34.6 AV	54.0	-19.4	1.00 V	360	-8.10	42.70

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	55.9 PK	74.0	-18.1	2.36 H	223	19.93	35.97
2	2390.00	39.9 AV	54.0	-14.1	2.36 H	223	3.93	35.97
3	#2400.00	64.9 PK	77.2	-12.3	2.36 H	223	28.92	35.98
4	#2400.00	42.7 AV	64.9	-22.2	2.36 H	223	6.72	35.98
5	*2412.00	97.2 PK			2.36 H	223	61.20	36.00
6	*2412.00	84.9 AV			2.36 H	223	48.90	36.00
7	4824.00	45.0 PK	74.0	-29.0	1.07 H	260	5.64	39.36
8	4824.00	30.7 AV	54.0	-23.3	1.07 H	260	-8.66	39.36

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	58.2 PK	74.0	-15.8	2.23 V	93	22.23	35.97
2	2390.00	41.4 AV	54.0	-12.6	2.23 V	93	5.43	35.97
3	#2400.00	66.3 PK	77.5	-11.2	2.23 V	93	30.32	35.98
4	#2400.00	44.1 AV	64.9	-20.8	2.23 V	93	8.12	35.98
5	*2412.00	97.5 PK			2.23 V	93	61.50	36.00
6	*2412.00	84.9 AV			2.23 V	93	48.90	36.00
7	4824.00	45.2 PK	74.0	-28.8	1.00 V	360	5.84	39.36
8	4824.00	30.7 AV	54.0	-23.3	1.00 V	360	-8.66	39.36

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	98.9 PK			2.32 H	55	62.87	36.03
2	*2437.00	87.0 AV			2.32 H	55	50.97	36.03
3	4874.00	42.3 PK	74.0	-31.7	1.00 H	0	2.93	39.37
4	4874.00	29.7 AV	54.0	-24.3	1.00 H	0	-9.67	39.37
5	7311.00	48.5 PK	74.0	-25.5	1.00 H	0	5.74	42.76
6	7311.00	34.1 AV	54.0	-19.9	1.00 H	0	-8.66	42.76

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	99.5 PK			1.00 V	100	63.47	36.03
2	*2437.00	87.5 AV			1.00 V	100	51.47	36.03
3	4874.00	44.2 PK	74.0	-29.8	1.00 V	360	4.83	39.37
4	4874.00	29.5 AV	54.0	-24.5	1.00 V	360	-9.87	39.37
5	7311.00	48.9 PK	74.0	-25.1	1.00 V	360	6.14	42.76
6	7311.00	34.2 AV	54.0	-19.8	1.00 V	360	-8.56	42.76

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	98.8 PK			1.31 H	82	62.74	36.06
2	*2462.00	86.5 AV			1.31 H	82	50.44	36.06
3	2483.50	56.8 PK	74.0	-17.2	1.31 H	82	20.71	36.09
4	2483.50	41.1 AV	54.0	-12.9	1.31 H	82	5.01	36.09
5	4924.00	45.4 PK	74.0	-28.6	1.00 H	0	6.02	39.38
6	4924.00	29.9 AV	54.0	-24.1	1.00 H	0	-9.48	39.38
7	7386.00	48.2 PK	74.0	-25.8	1.00 H	0	5.50	42.70
8	7386.00	33.6 AV	54.0	-20.4	1.00 H	0	-9.10	42.70
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	100.8 PK			1.00 V	154	64.74	36.06
2	*2462.00	94.5 AV			1.00 V	154	58.44	36.06
3	2483.50	49.5 PK	74.0	-24.5	1.00 V	154	13.41	36.09
4	2483.50	36.8 AV	54.0	-17.2	1.00 V	154	0.71	36.09
5	4924.00	44.1 PK	74.0	-29.9	1.00 V	360	4.72	39.38
6	4924.00	30.4 AV	54.0	-23.6	1.00 V	360	-8.98	39.38
7	7386.00	47.7 PK	74.0	-26.3	1.00 V	360	5.00	42.70
8	7386.00	34.2 AV	54.0	-19.8	1.00 V	360	-8.50	42.70

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.



4.2 6dB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer (10Hz–40GHz)	Rohde&Schwarz	FSV40	101003	Apr. 09,14	Apr. 08,15
Power Meter	Anritsu	ML2495A	1139001	Feb. 21,14	Feb. 20,15
Power Sensor	Anritsu	MA2411B	1126068	Feb. 21,14	Feb. 20,15
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 30,13	Oct. 29,14
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep. 17,13	Sep. 16,14
Oscilloscope	Agilent	DSO9254A	MY51260160	Oct. 17, 13	Oct. 16, 14
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 25,13	Nov. 24,14

NOTE:

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

4.2.3 TEST PROCEDURE

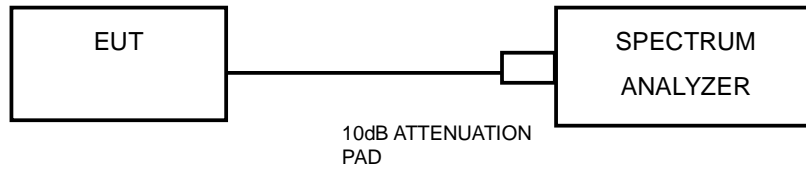
1. Set resolution bandwidth (RBW) = 100KHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.



4.2.5 TEST SETUP



4.2.6 EUT OPERATING CONDITIONS

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



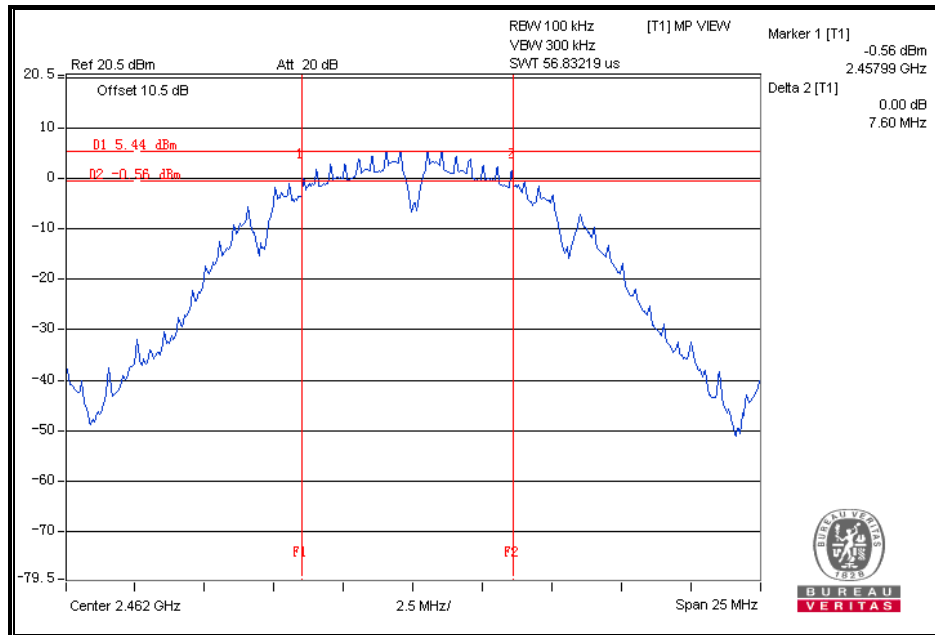
**BUREAU
VERITAS**

Test Report No.: RF140725N051

4.2.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	7.09	0.5	PASS
6	2437	7.58	0.5	PASS
11	2462	7.60	0.5	PASS



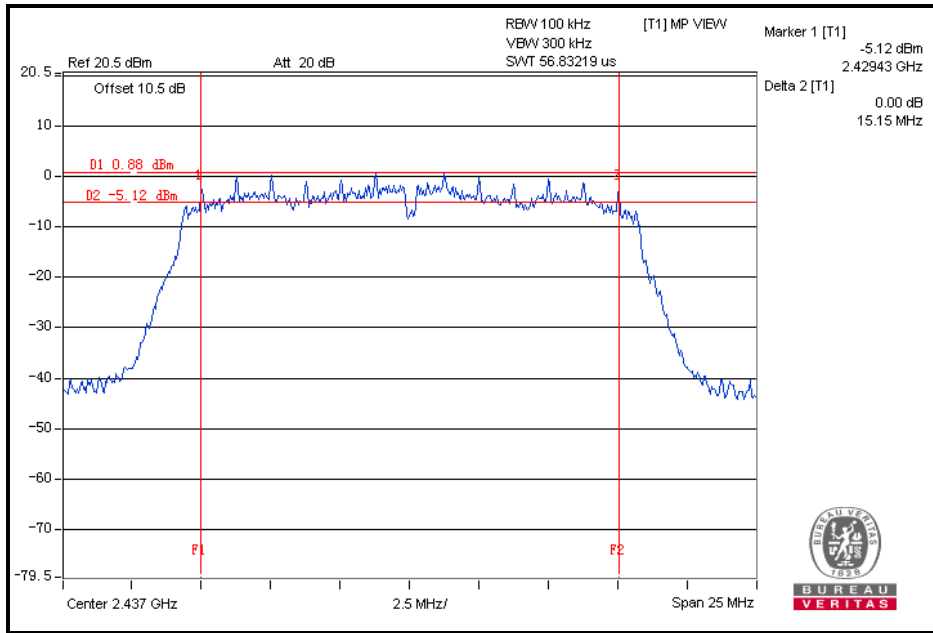


BUREAU VERITAS

Test Report No.: RF140725N051

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.15	0.5	PASS
6	2437	15.15	0.5	PASS
11	2462	15.09	0.5	PASS



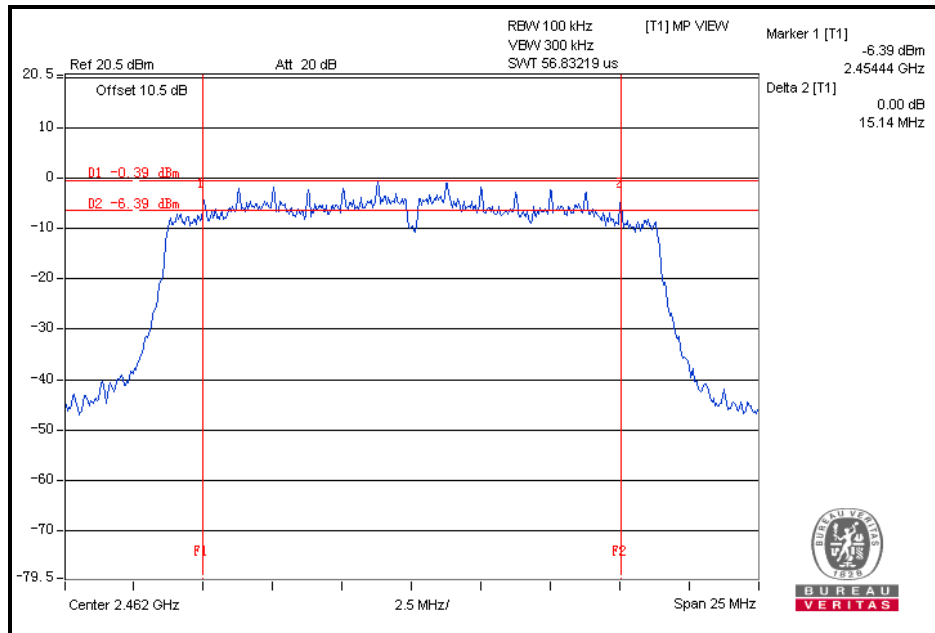


**BUREAU
VERITAS**

Test Report No.: RF140725N051

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.14	0.5	PASS
6	2437	15.13	0.5	PASS
11	2462	15.14	0.5	PASS



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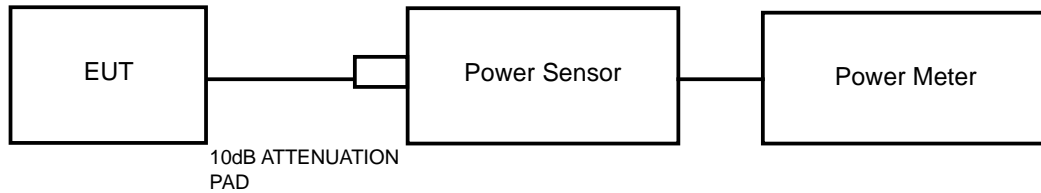


4.3 CONDUCTED OUTPUT POWER

4.3.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer (9KHz–40GHz)	Agilent	E4446A	MY46180622	Apr. 29,14	Apr. 28,15
Spectrum Analyzer (10Hz–40GHz)	Rohde&Schwarz	FSV40	101003	Apr. 09,14	Apr. 08,15
Power Meter	Anritsu	ML2495A	1139001	Feb. 21,14	Feb. 20,15
Power Sensor	Anritsu	MA2411B	1126068	Feb. 21,14	Feb. 20,15
Digital Multimeter	FLUKE	15B	A1220010D G	Oct. 30, 13	Oct. 29, 14

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in Oven room.

4.3.4 TEST PROCEDURES

A 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.

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

4.3.7.1 MAXIMUM PEAK OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	16.36	30.00	PASS
6	2437	16.70	30.00	PASS
11	2462	16.98	30.00	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	19.21	30.00	PASS
6	2437	19.62	30.00	PASS
11	2462	19.98	30.00	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	17.78	30.00	PASS
6	2437	17.95	30.00	PASS
11	2462	18.28	30.00	PASS



4.3.7.2 AVERAGE OUTPUT POWER (FOR REFERENCE)

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

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	13.24
6	2437	13.67
11	2462	13.83

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	10.69
6	2437	11.04
11	2462	11.45

802.11n (20MHz)

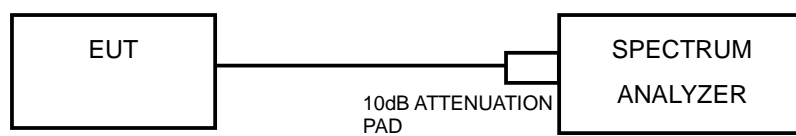
CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	9.18
6	2437	9.45
11	2462	9.79

4.4 POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.3.3 to get information of above instrument.

4.4.4 TEST PROCEDURE

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 100 kHz, VBW $\geq 3 \times$ RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITION

Same as item 4.3.6



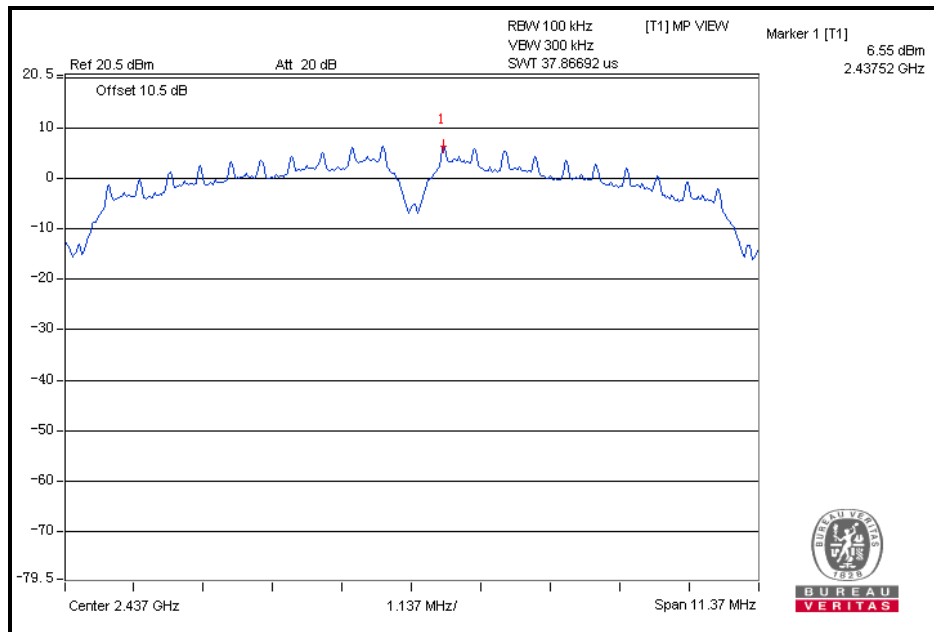
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4.4.7 TEST RESULTS

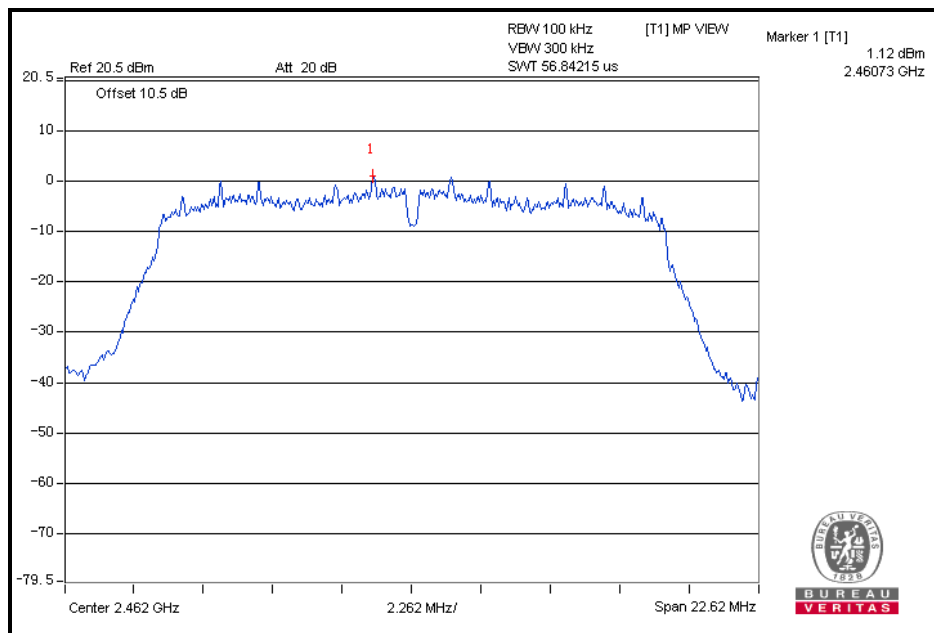
802.11b

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	6.50	8.00	PASS
6	2437	6.55	8.00	PASS
11	2462	6.19	8.00	PASS



802.11g

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	0.81	8.00	PASS
6	2437	1.08	8.00	PASS
11	2462	1.12	8.00	PASS

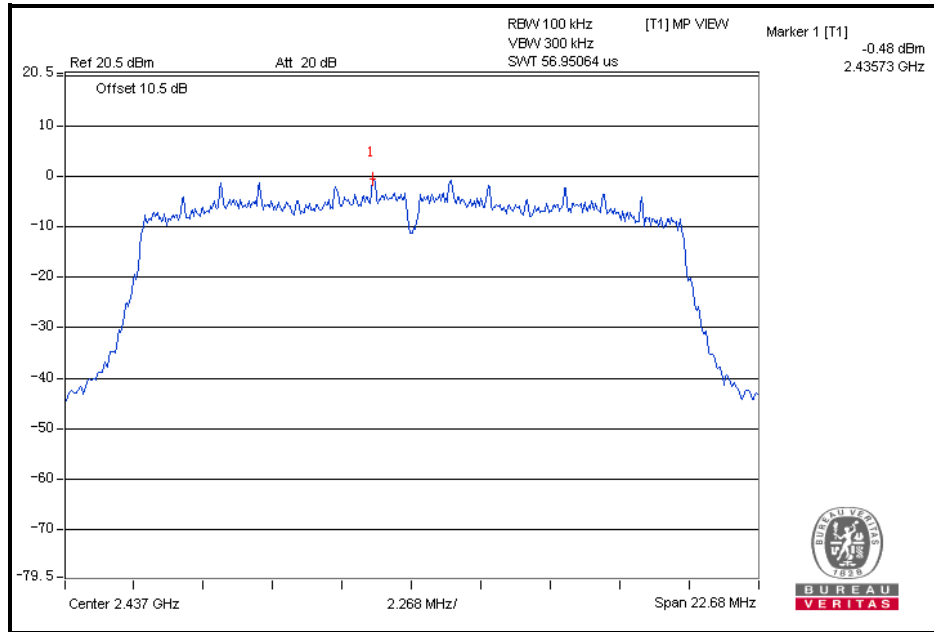




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802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-0.89	8.00	PASS
6	2437	-0.48	8.00	PASS
11	2462	-0.59	8.00	PASS



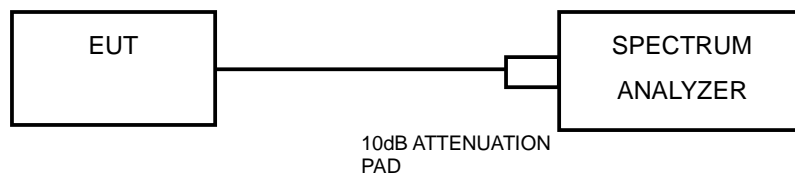


4.5 OUT OF BAND EMISSION MEASUREMENT

4.5.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.3.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

Measurement Procedure - Reference Level

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



Measurement Procedure –Unwanted Emission Level

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6

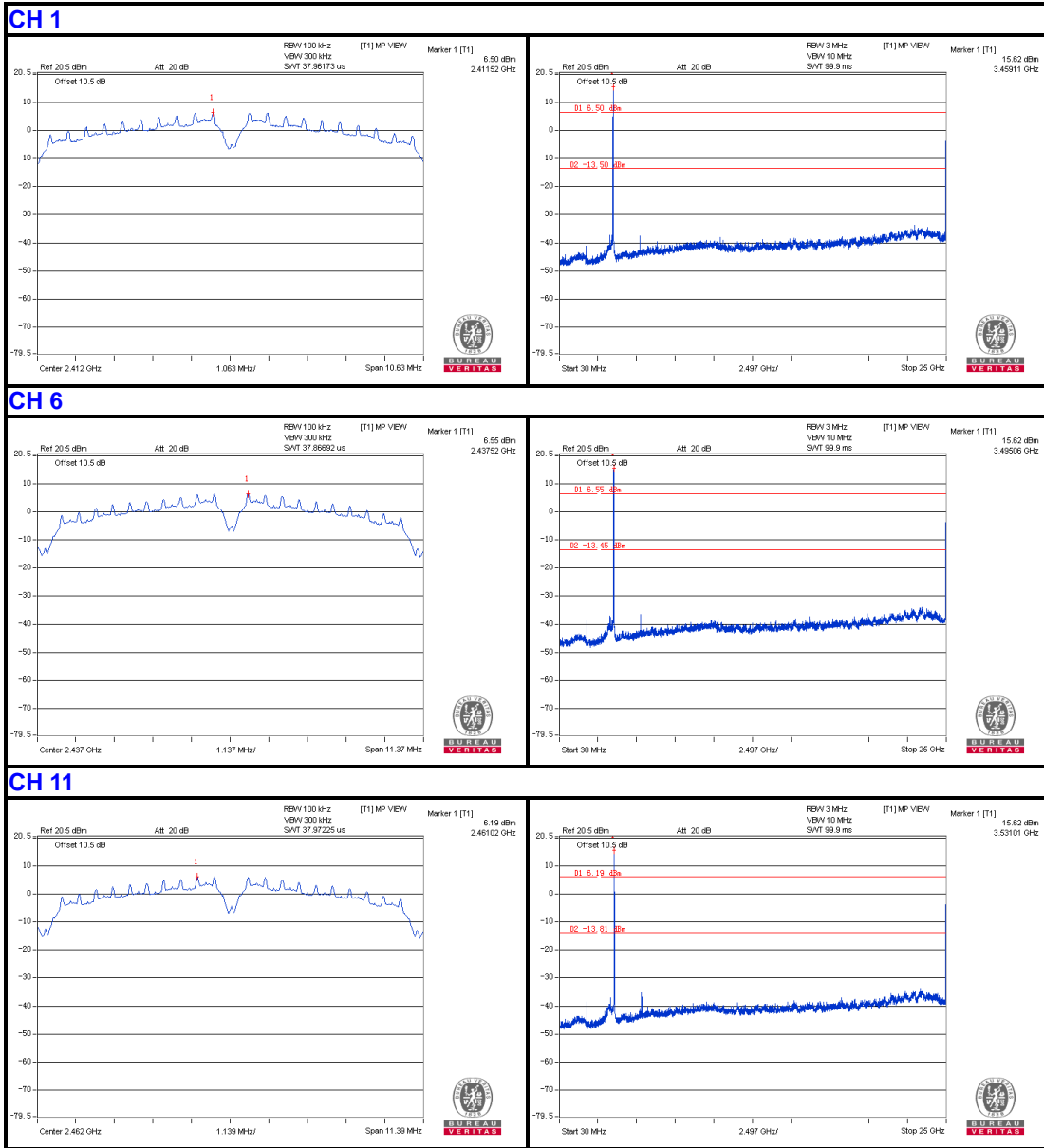


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4.5.7 TEST RESULTS

802.11b



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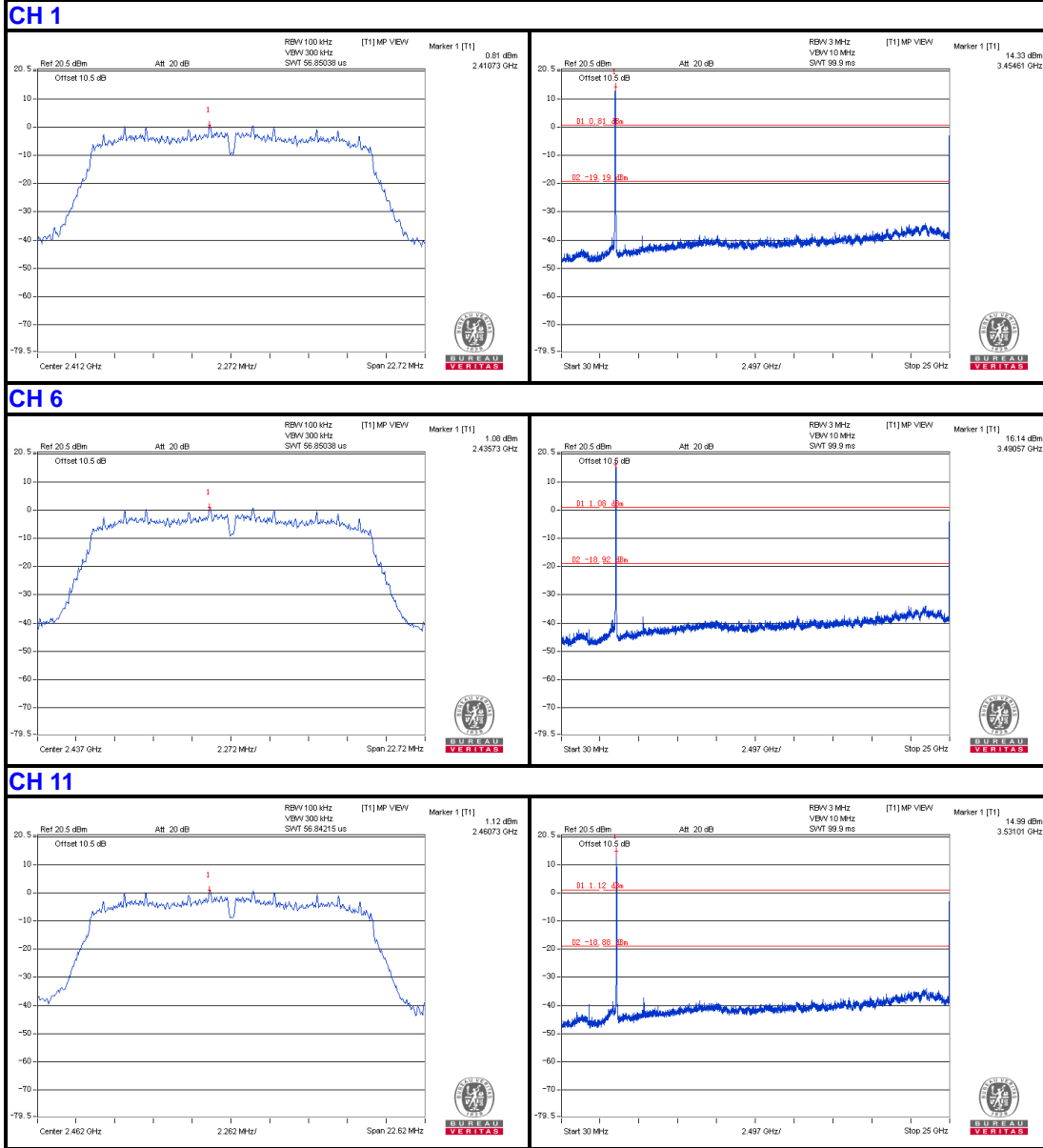
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802.11g



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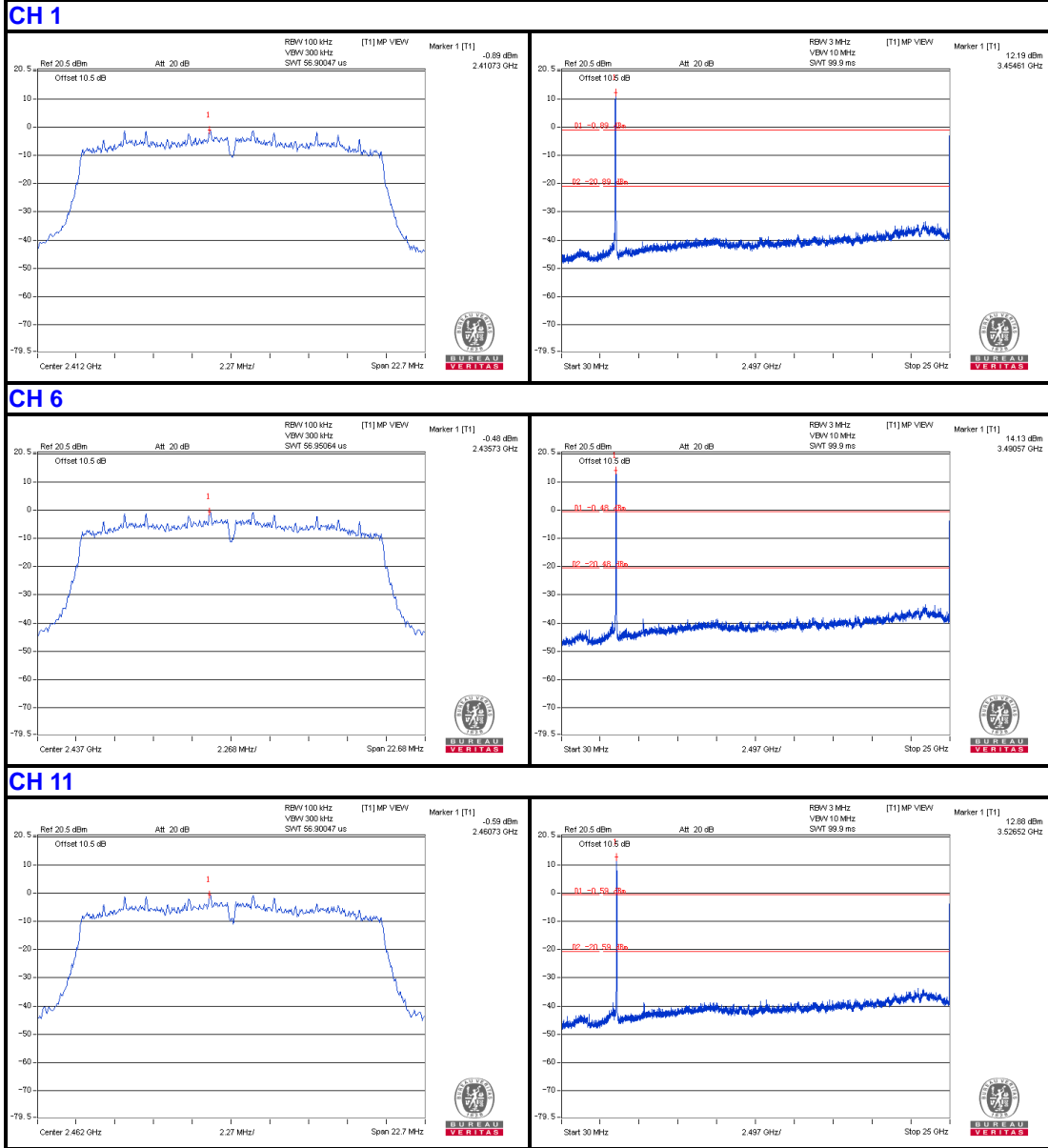
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802.11n (20MHz)



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5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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

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

---END---