



TEST REPORT

Applicant	Battenfeld Acquisition Company Inc. & Subsidiary
Address	2501 LeMone Industrial Blvd. Columbia MO. 65201, USA

Manufacturer or Supplier	Maihai Technology Development Co., Ltd.
Address	No. 8, JinYu First Street, KangHu Street, TangXia Town, DongGuan City,523716, GuangDong Province, China
Product	Ballistic Precision LR Target Camera System
Brand Name	N/A
Model	156726
Additional Model & Model Difference	N/A
Date of tests	Dec. 02, 2015 ~ Dec. 15, 2015

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

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

Tested by Blue Zheng	Approved by Chris Chen
Project Engineer / EMC Department	Assistant Manager / EMC Department
Blue	Morris

Date: Dec. 15, 2015

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF151022N049	Original release	Dec. 15, 2015

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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	Unique 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	
	9KHz ~ 30MHz	2.74dB	
Radiated emissions	30MHz ~ 1GMHz	3.55dB	
Nadiated emissions	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	Ballistic Precision LR Target Camera System	
MODEL NO.	156726	
FCC ID	2AF3W-156726	
NOMINAL VOLTAGE	DC 11.1V From Li-ion Battery,	
NOWINAL VOLTAGE	Or DC 12.6V From Adapter	
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)	
OPERATING FREQUENCY	2422-2452MHz for 11n(HT40)	
PEAK POWER	WLAN: 17.49dBm (Maximum peak Power)	
ANTENNA TYPE	PCB Antenna, 12dBi Gain	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	Camera Power and COM line, Shielded, Non-detachable, 1.58m	

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.: 151022N049) for detailed product photo.
- 5. The EUT was powered by the following adapters:

ADAPTER		
BRAND:	N/A	
MODEL:	P12-126080 US	
INPUT:	AC 100-240V, 50/60Hz, 0.3A	
OUTPUT:	DC 12.6V, 0.8A	
CABLE:	Unshielded, Non-detachable, 1.54m	

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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		

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3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

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

3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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

EUT CONFIGURE		APPLIC	ABLE TO		MODE
MODE	RE<1G	RE≥1G	PLC	APCM	ODE
Α	√	V	√	-	Powered by adapter with WIFI function
В	-	-	-	√	Powered by battery 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

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

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 + Adapter

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
А	802.11b	1 to 11	1	OFDM	BPSK	6.0	Х



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
А	802.11b	1 to 11	1, 6, 11	ССК	DBPSK	1.0	Х
А	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Х
А	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5	Х
А	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5	Х

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

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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)
В	802.11b	1 to 11	1, 6, 11	CCK	DBPSK	1.0
В	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
В	802.11n HT20	1 to 11	1,6, 11	OFDM	BPSK	6.5
В	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	25deg. C, 55%RH	DC 12.6V from Adapter	Sen He	
RE≥1G	25deg. C, 55%RH	DC 12.6V from Adapter	Sen He	
PLC	20deg. C, 56%RH	DC 12.6V from Adapter	Blue Zheng	
APCM	20dea. C. 55%RH	DC 11.1V From Battery	Blue Zheng	

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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 v03r03 ANSI C63.10-2013

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

NOTE: It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B(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

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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	Apr. 25,15	Apr. 24,16
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Apr. 25,15	Apr. 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.

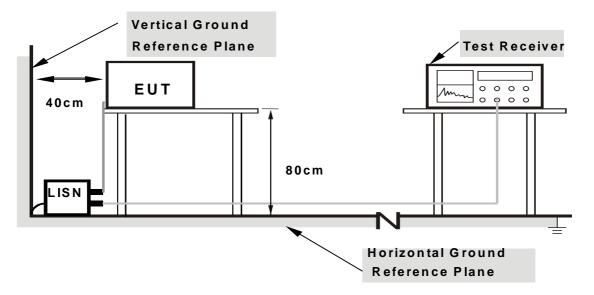
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

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.

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4.1.7 TEST RESULTS

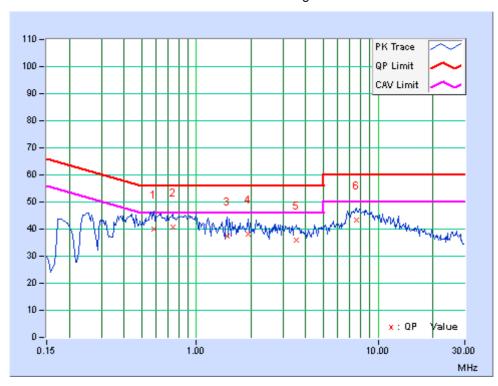
CONDUCTED WORST-CASE DATA: WIFI LINK

PHASE	Line	6dB BANDWIDTH	9kHz

No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]			n Level (uV)]	Lir [dB (rgin B)
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.58359	9.92	29.94	18.62	39.86	28.54	56.00	46.00	-16.14	-17.46
2	0.73984	9.94	30.98	20.74	40.92	30.68	56.00	46.00	-15.08	-15.32
3	1.46875	9.97	27.50	16.92	37.47	26.89	56.00	46.00	-18.53	-19.11
4	1.92578	9.98	28.12	17.38	38.10	27.36	56.00	46.00	-17.90	-18.64
5	3.55859	10.03	25.96	16.10	35.99	26.13	56.00	46.00	-20.01	-19.87
6	7.58594	10.13	33.04	23.70	43.17	33.83	60.00	50.00	-16.83	-16.17

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.



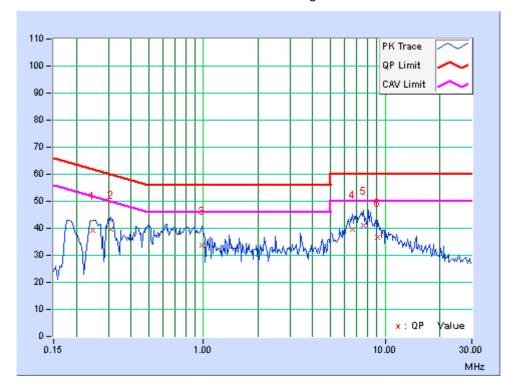
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No	Freq. [MHz]	Corr. Factor	actor [dB (uV)]			on Level (uV)]	Lir [dB (nit (uV)]	Maı (d	rgin B)
		(dB)	Q.P.	Q.P. AV.		AV.	Q.P.	AV.	Q.P.	AV.
1	0.24766	9.51	29.92	18.32	39.43	27.83	61.84	51.84	-22.40	-24.00
2	0.31016	9.52	30.00	14.24	39.52	23.76	59.97	49.97	-20.45	-26.21
3	0.97813	9.63	24.20	11.36	33.83	20.99	56.00	46.00	-22.17	-25.01
4	6.61719	9.78	29.90	18.46	39.68	28.24	60.00	50.00	-20.32	-21.76
5	7.58984	9.81	31.22	20.00	41.03	29.81	60.00	50.00	-18.97	-20.19
6	9.13672	9.86	26.64	15.60	36.50	25.46	60.00	50.00	-23.50	-24.54

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.



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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.

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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&Schwar z	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
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Aug. 08, 14	Aug. 07, 16
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	NSEMC003	Apr. 19,14	Apr. 18,16
Test Software	ADT	ADT_Radiated _V7.6.15.9.2	N/A	N/A	N/A
Horn Antenna (15GHz-40GHz)	SCHWARZBEC K	BBHA 9170	BBHA9170147	Jan. 21,14	Jan. 20,17
Amplifier (9kHz-1GHz)	SONOMA	310D	186955	Mar. 04,15	Mar. 03, 16
Pre-Amplifier(1-18G)	HP	8449B	3008A00409	Apr. 25,15	Apr. 24,16
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 20,15	Nov. 19,16
Test Software	ADT	ADT_Radiated _V7.6.15.9.2	N/A	N/A	N/A
BLUETOOTH TESTER	Rohde&Schwar z	CBT32	100811	Sep. 01,15	Aug. 31,16

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.

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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:

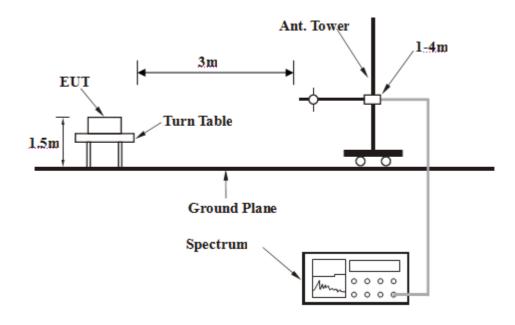
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
- 3. The resolution 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.
- 5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file Test Setup Photo.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.



4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

- a. Set the EUT under full load condition and placed them on a testing table.
- b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the EUT in full functions.

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4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

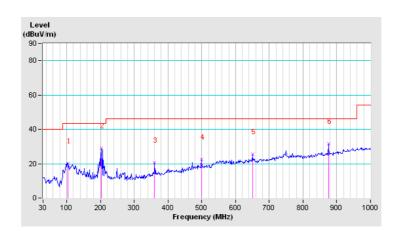
802.11b

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

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M											
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)				
1	104.51	20.26	43.50	-23.24	100	0	39.92	-19.66				
2	202.91	29.09	43.50	-14.41	100	0	49.81	-20.72				
3	360.36	20.49	46.00	-25.51	100	0	33.57	-13.08				
4	499.54	22.52	46.00	-23.48	100	0	30.88	-8.36				
5	649.96	25.63	46.00	-20.37	100	0	31.01	-5.38				
6	874.88	31.75	46.00	-14.25	100	0	32.73	-0.98				

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.



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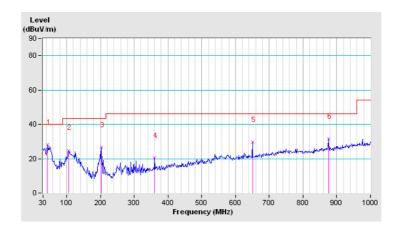


CHANNEL	Channel 1	DETECTOR	Ougai Pagis (OD)
FREQUENCY RANGE	30MHz ~ 1GHz	FUNCTION	Quasi-Peak (QP)

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M											
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)				
1	42.65	28.18	40.00	-11.82	100	0	46.70	-18.52				
2	105.91	24.96	43.50	-18.54	100	0	44.48	-19.52				
3	202.91	26.58	43.50	-16.92	100	0	47.30	-20.72				
4	360.36	20.47	46.00	-25.53	100	0	33.55	-13.08				
5	649.96	29.80	46.00	-16.20	100	0	35.18	-5.38				
6	874.88	31.65	46.00	-14.35	100	0	32.63	-0.98				

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.



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ABOVE 1GHz DATA

802.11b

CHANNEL	TX Channel 1	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M											
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)				
1	2390.00	59.1 PK	74.0	-14.9	1.60 H	181	58.70	0.40				
2	2390.00	51.3 AV	54.0	-2.7	1.60 H	181	50.90	0.40				
3	*2412.00	110.3 PK			1.60 H	181	109.90	0.40				
4	*2412.00	106.1 AV			1.60 H	181	105.70	0.40				
5	4824.00	55.8 PK	74.0	-18.2	1.38 H	39	49.30	6.50				
6	4824.00	53.5 AV	54.0	-0.5	1.38 H	39	47.00	6.50				
7	#7236.00	50.2 PK	90.3	-40.1	1.08 H	23	39.40	10.80				
8	#7236.00	38.7 AV	86.1	-47.4	1.08 H	23	27.90	10.80				
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 3 M	-				
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)				
1	2390.00	50.6 PK	74.0	-23.4	1.98 V	273	50.20	0.40				
2	2390.00	36.7 AV	54.0	-17.3	1.98 V	273	36.30	0.40				
3	*2412.00	91.2 PK			1.98 V	273	90.80	0.40				
4	*2412.00	86.2 AV			1.98 V	273	85.80	0.40				
5	4824.00	55.1 PK	74.0	-18.9	2.14 V	39	48.60	6.50				
6	4824.00	52.3 AV	54.0	-1.7	2.14 V	39	45.80	6.50				
7	#7236.00	50.5 PK	71.2	-20.7	1.12 V	105	39.70	10.80				
8	#7236.00	37.2 AV	66.2	-29.0	1.12 V	105	26.40	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.
- 6. " # ": The radiated frequency is out of the restricted band.

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CHANNEL	TX Channel 6	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

		ANTENNA I	POLARITY &	& TEST DIS	TANCE: HO	RIZONTAL	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	111.2 PK			1.42 H	179	110.70	0.50
2	*2437.00	106.3 AV			1.42 H	179	105.80	0.50
3	4874.00	56.3 PK	74.0	-17.7	1.45 H	38	49.60	6.70
4	4874.00	53.2 AV	54.0	-0.8	1.45 H	38	46.50	6.70
5	7311.00	51.1 PK	74.0	-22.9	1.62 H	322	40.30	10.80
6	7311.00	38.1 AV	54.0	-15.9	1.62 H	322	27.30	10.80
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 3 M	-
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	94.3 PK			1.25 V	161	93.80	0.50
2	*2437.00	89.5 AV			1.25 V	161	89.00	0.50
3	4874.00	56.2 PK	74.0	-17.8	1.95 V	340	49.50	6.70
4	4874.00	53.1 AV	54.0	-0.9	1.95 V	340	46.40	6.70
5	7311.00	50.5 PK	74.0	-23.5	1.66 V	20	39.70	10.80
6	7311.00	38.0 AV	54.0	-16.0	1.66 V	20	27.20	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.

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CHANNEL	TX Channel 11	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

		ANTENNA	POLARITY &	& TEST DIS	TANCE: HO	RIZONTAL	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	112.3 PK			1.24 H	312	111.70	0.60
2	*2462.00	107.6 AV			1.24 H	312	107.00	0.60
3	2483.50	62.3 PK	74.0	-11.7	1.17 H	300	61.70	0.60
4	2483.50	53.5 AV	54.0	-0.5	1.17 H	300	52.90	0.60
5	4924.00	53.7 PK	74.0	-20.3	1.02 H	36	46.80	6.90
6	4924.00	50.7 AV	54.0	-3.3	1.02 H	36	43.80	6.90
7	7386.00	50.6 PK	74.0	-23.4	1.04 H	54	39.80	10.80
8	7386.00	36.2 AV	54.0	-17.8	1.04 H	54	25.40	10.80
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	96.6 PK			1.24 V	174	96.00	0.60
2	*2462.00	91.2 AV			1.24 V	174	90.60	0.60
3	2483.50	51.6 PK	74.0	-22.4	1.27 V	181	51.00	0.60
4	2483.50	40.3 AV	54.0	-13.7	1.27 V	181	39.70	0.60
5	4924.00	53.7 PK	74.0	-20.3	1.02 V	216	46.80	6.90
6	4924.00	50.7 AV	54.0	-3.3	1.02 V	216	43.80	6.90
7	7386.00	50.6 PK	74.0	-23.4	1.00 V	74	39.80	10.80
8	7386.00	36.2 AV	54.0	-17.8	1.00 V	74	25.40	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.

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802.11g

CHANNEL	TX Channel 1	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

		ANTENNA	POLARITY &	& TEST DIS	TANCE: HO	RIZONTAL	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	1.13 H	190	71.50	0.40
2	2390.00	52.5 AV	54.0	-1.5	1.13 H	190	52.10	0.40
3	*2412.00	112.2 PK			1.42 H	179	111.80	0.40
4	*2412.00	94.6 AV			1.42 H	179	94.20	0.40
5	4824.00	59.3 PK	74.0	-14.7	1.58 H	47	52.80	6.50
6	4824.00	44.8 AV	54.0	-9.2	1.58 H	47	38.30	6.50
7	#7236.00	57.2 PK	92.2	-35.0	1.55 H	160	46.40	10.80
8	#7236.00	43.2 AV	74.6	-31.4	1.55 H	160	32.40	10.80
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	62.1 PK	74.0	-11.9	1.20 V	209	61.70	0.40
2	2390.00	47.1 AV	54.0	-6.9	1.20 V	209	46.70	0.40
3	*2412.00	98.4 PK			1.21 V	201	98.00	0.40
4	*2412.00	82.6 AV			1.21 V	201	82.20	0.40
5	4824.00	59.7 PK	74.0	-14.3	1.32 V	149	53.20	6.50
6	4824.00	43.0 AV	54.0	-11.0	1.32 V	149	36.50	6.50
7	#7236.00	57.0 PK	78.4	-21.4	1.05 V	84	46.20	10.80
8	#7236.00	43.7 AV	62.6	-18.9	1.05 V	84	32.90	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.
- 6. " # ": The radiated frequency is out of the restricted band.

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CHANNEL	TX Channel 6	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

		ANTENNA	POLARITY &	& TEST DIS	TANCE: HO	RIZONTAL	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	118.0 PK			1.08 H	177	117.50	0.50
2	*2437.00	100.2 AV			1.08 H	177	99.70	0.50
3	4874.00	63.6 PK	74.0	-10.4	1.02 H	35	56.90	6.70
4	4874.00	52.1 AV	54.0	-1.9	1.02 H	35	45.40	6.70
5	7311.00	59.3 PK	74.0	-14.7	1.42 H	187	48.50	10.80
6	7311.00	45.9 AV	54.0	-8.1	1.42 H	187	35.10	10.80
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 3 M	
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.5 PK			1.01 V	205	104.00	0.50
2	*2437.00	86.4 AV			1.01 V	205	85.90	0.50
3	4874.00	62.5 PK	74.0	-11.5	1.20 V	324	55.80	6.70
4	4874.00	52.0 AV	54.0	-2.0	1.20 V	324	45.30	6.70
5	7311.00	58.3 PK	74.0	-15.7	1.56 V	11	47.50	10.80
6	7311.00	44.8 AV	54.0	-9.2	1.56 V	11	34.00	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.

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CHANNEL	TX Channel 11	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

		ANTENNA	POLARITY &	& TEST DIS	TANCE: HO	RIZONTAL	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	118.9 PK			1.15 H	230	118.30	0.60
2	*2462.00	100.8 AV			1.15 H	230	100.20	0.60
3	2483.50	71.8 PK	74.0	-2.2	1.15 H	230	71.20	0.60
4	2483.50	53.2 AV	54.0	-0.8	1.15 H	230	52.60	0.60
5	4924.00	61.9 PK	74.0	-12.1	2.03 H	343	55.00	6.90
6	4924.00	45.0 AV	54.0	-9.0	2.03 H	343	38.10	6.90
7	7386.00	55.9 PK	74.0	-18.1	2.01 H	29	45.10	10.80
8	7386.00	40.1 AV	54.0	-13.9	2.01 H	29	29.30	10.80
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	105.8 PK			1.11 V	171	105.20	0.60
2	*2462.00	89.5 AV			1.11 V	171	88.90	0.60
3	2483.50	68.7 PK	74.0	-5.3	1.11 V	171	68.10	0.60
4	2483.50	51.9 AV	54.0	-2.1	1.11 V	171	51.30	0.60
5	4924.00	61.8 PK	74.0	-12.2	1.11 V	331	54.90	6.90
6	4924.00	45.7 AV	54.0	-8.3	1.11 V	331	38.80	6.90
7	7386.00	60.0 PK	74.0	-14.0	1.68 V	24	49.20	10.80
8	7386.00	43.1 AV	54.0	-10.9	1.68 V	24	32.30	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.

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Report Version 1



802.11n (20MHz)

CHANNEL	TX Channel 1	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

		ANTENNA	POLARITY &	& TEST DIS	TANCE: HO	RIZONTAL	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	1.45 H	190	73.20	0.40
2	2390.00	52.4 AV	54.0	-1.6	1.45 H	190	52.00	0.40
3	*2412.00	111.3 PK			1.43 H	187	110.90	0.40
4	*2412.00	92.4 AV			1.43 H	187	92.00	0.40
5	4824.00	60.3 PK	74.0	-13.7	1.84 H	274	53.80	6.50
6	4824.00	44.5 AV	54.0	-9.5	1.84 H	274	38.00	6.50
7	#7236.00	56.2 PK	91.3	-35.1	1.22 H	1	45.40	10.80
8	#7236.00	42.3 AV	72.4	-30.1	1.22 H	1	31.50	10.80
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	67.4 PK	74.0	-6.6	1.43 V	255	67.00	0.40
2	2390.00	46.6 AV	54.0	-7.4	1.43 V	255	46.20	0.40
3	*2412.00	97.3 PK			1.03 V	200	96.90	0.40
4	*2412.00	81.1 AV			1.03 V	200	80.70	0.40
5	4824.00	58.7 PK	74.0	-15.3	1.64 V	25	52.20	6.50
6	4824.00	43.4 AV	54.0	-10.6	1.64 V	25	36.90	6.50
7	#7236.00	55.9 PK	77.3	-21.4	1.44 V	57	45.10	10.80
8	#7236.00	41.4 AV	61.1	-19.7	1.44 V	57	30.60	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.
- 6. " # ": The radiated frequency is out of the restricted band.

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CHANNEL	TX Channel 6	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2437.00	118.3 PK			1.10 H	174	117.80	0.50		
2	*2437.00	100.6 AV			1.10 H	174	100.10	0.50		
3	4874.00	62.8 PK	74.0	-11.2	1.02 H	36	56.10	6.70		
4	4874.00	51.5 AV	54.0	-2.5	1.02 H	36	44.80	6.70		
5	7311.00	58.4 PK	74.0	-15.6	1.23 H	284	47.60	10.80		
6	7311.00	46.0 AV	54.0	-8.0	1.23 H	284	35.20	10.80		
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 3 M	-		
NO.	FREQ. EMISSION LIMIT				ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2437.00	105.7 PK			1.33 V	198	105.20	0.50		
2	*2437.00	92.5 AV			1.33 V	198	92.00	0.50		
3	4874.00	62.5 PK	74.0	-11.5	1.36 V	259	55.80	6.70		
4	4874.00	49.6 AV	54.0	-4.4	1.36 V	259	42.90	6.70		
5	7311.00	57.9 PK	74.0	-16.1	1.49 V	24	47.10	10.80		
6	7311.00	45.4 AV	54.0	-8.6	1.49 V	24	34.60	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.

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CHANNEL	TX Channel 11	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2462.00	109.3 PK			1.07 H	181	108.70	0.60		
2	*2462.00	90.9 AV			1.07 H	181	90.30	0.60		
3	2483.50	73.7 PK	74.0	-0.3	1.06 H	179	73.10	0.60		
4	2483.50	51.8 AV	54.0	-2.2	1.06 H	179	51.20	0.60		
5	4924.00	55.4 PK	74.0	-18.6	1.55 H	87	48.50	6.90		
6	4924.00	41.7 AV	54.0	-12.3	1.55 H	87	34.80	6.90		
7	7386.00	54.3 PK	74.0	-19.7	1.06 H	225	43.50	10.80		
8	7386.00	40.2 AV	54.0	-13.8	1.06 H	225	29.40	10.80		
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 3 M	-		
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2462.00	97.1 PK			1.17 V	201	96.50	0.60		
2	*2462.00	80.2 AV			1.17 V	201	79.60	0.60		
3	2483.50	67.2 PK	74.0	-6.8	1.84 V	247	66.60	0.60		
4	2483.50	46.4 AV	54.0	-7.6	1.84 V	247	45.80	0.60		
5	4924.00	54.9 PK	74.0	-19.1	1.88 V	44	48.00	6.90		
6	4924.00	42.9 AV	54.0	-11.1	1.88 V	44	36.00	6.90		
7	7386.00	53.7 PK	74.0	-20.3	1.64 V	258	42.90	10.80		
8	7386.00	40.1 AV	54.0	-13.9	1.64 V	258	29.30	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.

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802.11n (40MHz)

CHANNEL	TX Channel 3	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	2390.00	72.4 PK	74.0	-1.6	1.27 H	181	72.00	0.40		
2	2390.00	50.7 AV	54.0	-3.3	1.27 H	181	50.30	0.40		
3	*2422.00	105.8 PK			1.09 H	186	105.30	0.50		
4	*2422.00	94.5 AV			1.09 H	186	94.00	0.50		
5	4844.00	56.4 PK	74.0	-17.6	1.47 H	57	49.70	6.70		
6	4844.00	43.6 AV	54.0	-10.4	1.47 H	57	36.90	6.70		
7	7266.00	54.2 PK	74.0	-19.8	1.97 H	47	43.40	10.80		
8	7266.00	41.9 AV	54.0	-12.1	1.97 H	47	31.10	10.80		
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	69.6 PK	74.0	-4.4	1.25 V	7	69.20	0.40		
2	2390.00	48.3 AV	54.0	-5.7	1.25 V	7	47.90	0.40		
3	*2422.00	92.7 PK			1.00 V	200	92.20	0.50		
4	*2422.00	82.3 AV			1.00 V	200	81.80	0.50		
5	4844.00	56.7 PK	74.0	-17.3	1.27 V	226	50.00	6.70		
6	4844.00	42.2 AV	54.0	-11.8	1.27 V	226	35.50	6.70		
7	7266.00	53.2 PK	74.0	-20.8	1.68 V	41	42.40	10.80		
8	7266.00	40.9 AV	54.0	-13.1	1.68 V	41	30.10	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.

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CHANNEL	TX Channel 6	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2437.00	117.0 PK			1.57 H	185	116.50	0.50		
2	*2437.00	104.2 AV			1.57 H	185	103.70	0.50		
3	4874.00	59.3 PK	74.0	-14.7	1.05 H	36	52.60	6.70		
4	4874.00	47.2 AV	54.0	-6.8	1.05 H	36	40.50	6.70		
5	7311.00	58.9 PK	74.0	-15.1	1.57 H	158	48.10	10.80		
6	7311.00	46.9 AV	54.0	-7.1	1.57 H	158	36.10	10.80		
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 3 M			
NO.	FREQ. EMISSION LIMIT			MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2437.00	104.1 PK			1.01 V	186	103.60	0.50		
2	*2437.00	92.9 AV			1.01 V	186	92.40	0.50		
3	4874.00	62.6 PK	74.0	-11.4	1.38 V	320	55.90	6.70		
4	4874.00	50.6 AV	54.0	-3.4	1.38 V	320	43.90	6.70		
5	7311.00	57.4 PK	74.0	-16.6	1.99 V	57	46.60	10.80		
6	7311.00	46.1 AV	54.0	-7.9	1.99 V	57	35.30	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.

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CHANNEL	TX Channel 9	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2452.00	113.6 PK			1.24 H	182	113.00	0.60		
2	*2452.00	102.9 AV			1.24 H	182	102.30	0.60		
3	2483.50	72.1 PK	74.0	-1.9	1.17 H	108	71.50	0.60		
4	2483.50	50.4 AV	54.0	-3.6	1.17 H	108	49.80	0.60		
5	4904.00	58.4 PK	74.0	-15.6	1.03 H	212	51.50	6.90		
6	4904.00	46.4 AV	54.0	-7.6	1.03 H	212	39.50	6.90		
7	7356.00	55.4 PK	74.0	-18.6	1.87 H	23	44.60	10.80		
8	7356.00	43.3 AV	54.0	-10.7	1.87 H	23	32.50	10.80		
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	101.5 PK			1.05 V	199	100.90	0.60		
2	*2452.00	90.4 AV			1.05 V	199	89.80	0.60		
3	2483.50	69.5 PK	74.0	-4.5	1.01 V	183	68.90	0.60		
4	2483.50	49.0 AV	54.0	-5.0	1.01 V	183	48.40	0.60		
5	4904.00	58.5 PK	74.0	-15.5	1.44 V	221	51.60	6.90		
6	4904.00	45.2 AV	54.0	-8.8	1.44 V	221	38.30	6.90		
7	7356.00	54.3 PK	74.0	-19.7	1.33 V	47	43.50	10.80		
8	7356.00	42.7 AV	54.0	-11.3	1.33 V	47	31.90	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.

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4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	Feb. 18,15	Feb. 17,16
Power Sensor	Keysight	U2021XA	MY55060018	Feb. 18,15	Feb. 17,16
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 12, 15	Oct.11, 16
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.07,15	Sep. 06,16
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 28,15	Nov. 27,16
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 05,15	Nov. 04,16
Signal Generator	Agilent	N5183A	MY50140980	Nov. 05,15	Nov. 04,16
ESG Vector Signal	Anilout	E44000	NAV/40070505	A 00 45	A = = 04 40
Generator	Agilent	E4438C	MY49072505	Apr. 22, 15	Apr. 21, 16
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Sep. 01,15	Aug. 31,16

NOTE:

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

4.3.3 TEST PROCEDURE

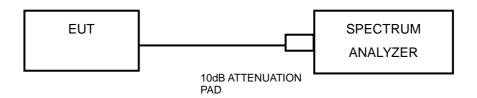
- 1. Set resolution bandwidth (RBW) = 100KHz
- 2. Set the video bandwidth (VBW) \geq 3 x RBW, Detector = Peak.
- 3. Trace mode = max hold.
- 4. Sweep = auto couple.
- 5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and 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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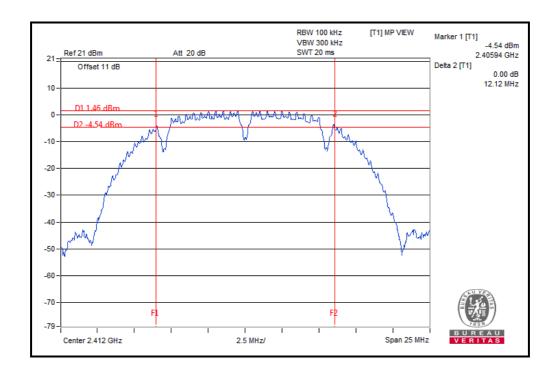
ng 523942, China Email: <a href="mailto:customerservice.dg@cn.bureauveritas.customerservice.dg@cn.bure



4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.12	0.5	PASS
6	2437	12.10	0.5	PASS
11	2462	12.12	0.5	PASS



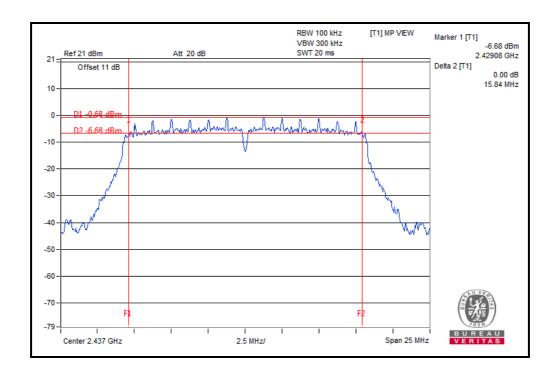
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802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.74	0.5	PASS
6	2437	15.84	0.5	PASS
11	2462	15.82	0.5	PASS



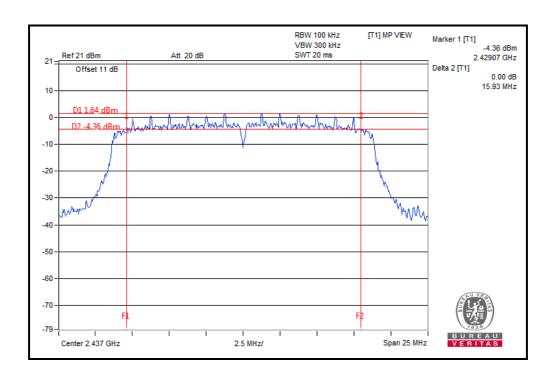
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802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.78	0.5	PASS
6	2437	15.93	0.5	PASS
11	2462	15.84	0.5	PASS

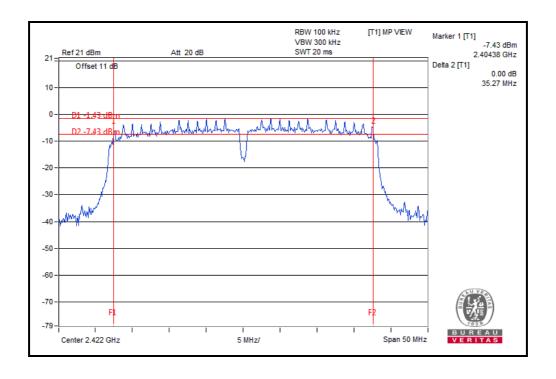


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802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.27	0.5	PASS
6	2437	35.17	0.5	PASS
9	2452	35.22	0.5	PASS



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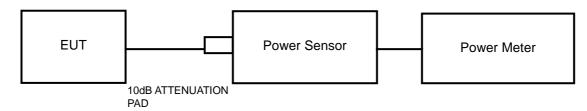


4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Sensor	Keysight	U2021XA	MY55060016	Feb. 18,15	Feb. 17,16
Power Sensor	Keysight	U2021XA	MY55060018	Feb. 18,15	Feb. 17,16
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 12, 15	Oct.11, 16
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.07,15	Sep. 06,16
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 28,15	Nov. 27,16
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 05,15	Nov. 04,16
Signal Generator	Agilent	N5183A	MY50140980	Nov. 05,15	Nov. 04,16
ESG Vector Signal	Agilont	E4420C	MX/40070505	Amr. 00. 45	A== 04 4C
Generator	Agilent	E4438C	MY49072505	Apr. 22, 15	Apr. 21, 16
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Sep. 01,15	Aug. 31,16

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.

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4.4.4 TEST PROCEDURES

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

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

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4.4.7 TEST RESULTS

4.4.7.1 MAXIMUM PEAK OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	14.89	30.832	1	PASS
6	2437	15.23	33.343	1	PASS
11	2462	14.82	30.339	1	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	14.16	26.062	1	PASS
6	2437	14.46	27.925	1	PASS
11	2462	14.42	27.669	1	PASS

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802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	17.20	52.481	1	PASS
6	2437	17.49	56.105	1	PASS
11	2462	17.35	54.325	1	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
3	2422	17.03	50.466	1	PASS
6	2437	17.08	51.050	1	PASS
9	2452	17.05	50.699	1	PASS

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4.4.7.2 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	5.18
6	2437	4.78
11	2462	4.56

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	3.84
6	2437	4.17
11	2462	4.02

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802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
1	2412	9.02
6	2437	9.08
11	2462	9.12

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)
3	2422	8.80
6	2437	8.98
9	2452	8.96

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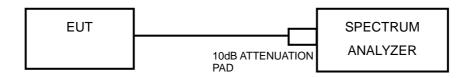


4.5 POWER SPECTRAL DENSITY MEASUREMENT

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 kHz
- d) Set VBW ≥3 x RBW.
- e) Detector = peak.
- g) Sweep time = auto couple.
- h) Use the peak marker function to determine the maximum amplitude level.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.



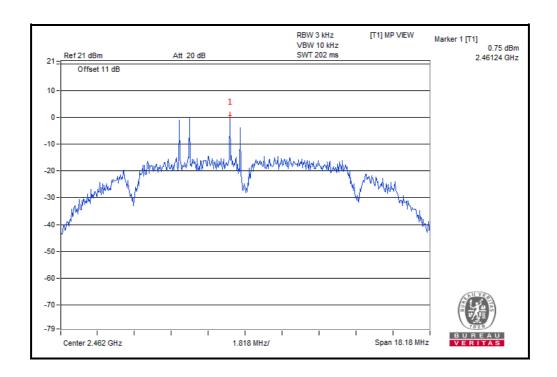
4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6

4.5.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-6.69	8	PASS
6	2437	0.02	8	PASS
11	2462	0.75	8	PASS



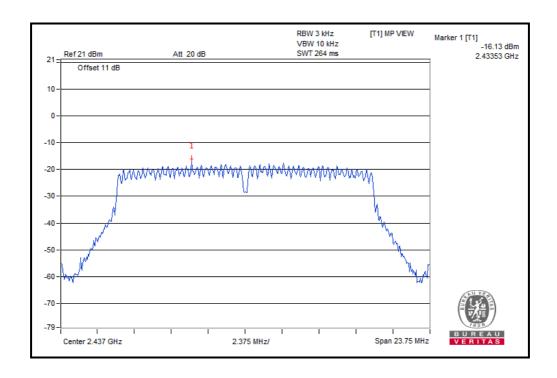
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802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-18.31	8	PASS
6	2437	-16.13	8	PASS
11	2462	-16.83	8	PASS



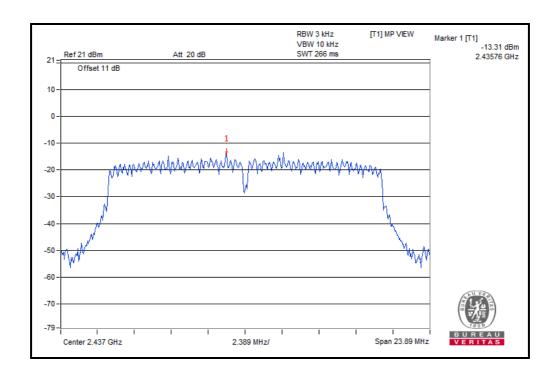
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802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-13.78	8	PASS
6	2437	-13.31	8	PASS
11	2462	-14.66	8	PASS

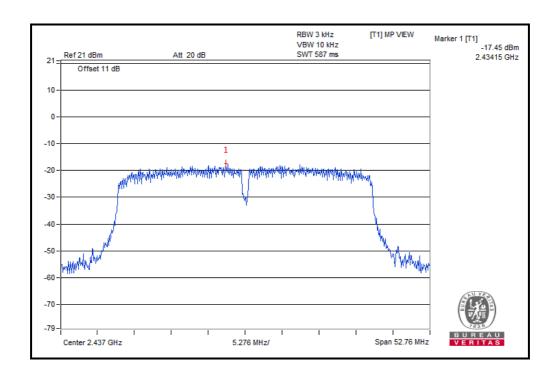


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802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-18.08	8	PASS
6	2437	-17.45	8	PASS
9	2452	-17.63	8	PASS



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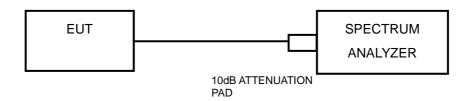


4.6 OUT OF BAND EMISSION MEASUREMENT

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 ≥ 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 ≥ 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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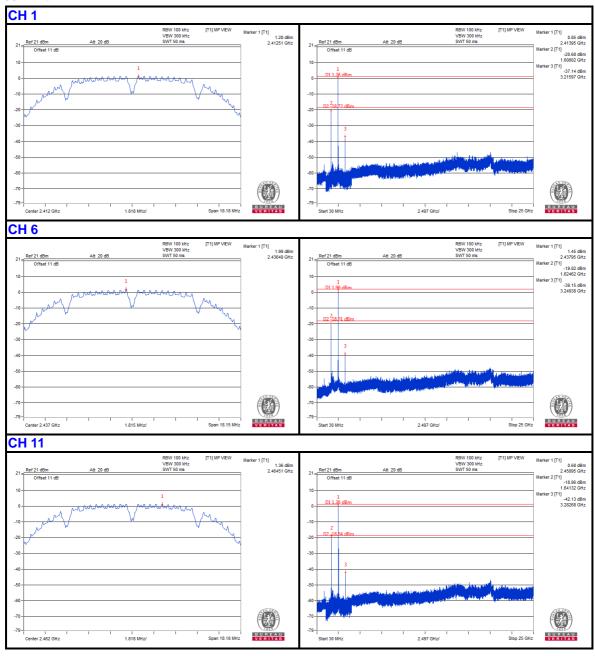
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4.6.7 TEST RESULTS

802.11b

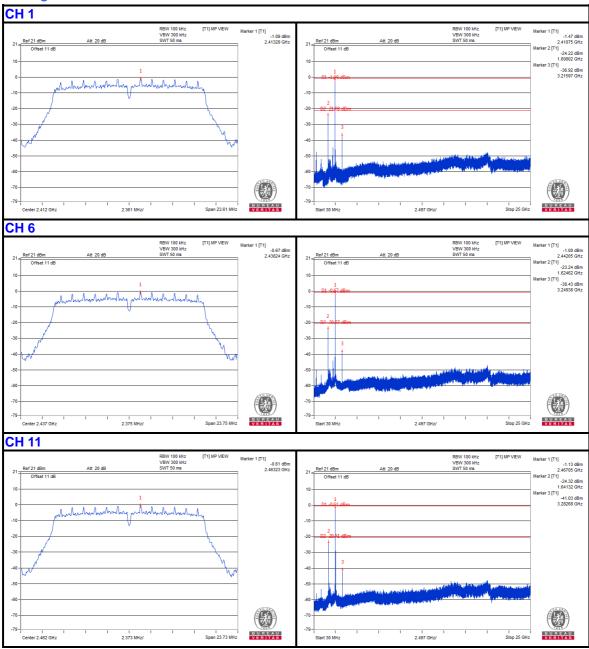


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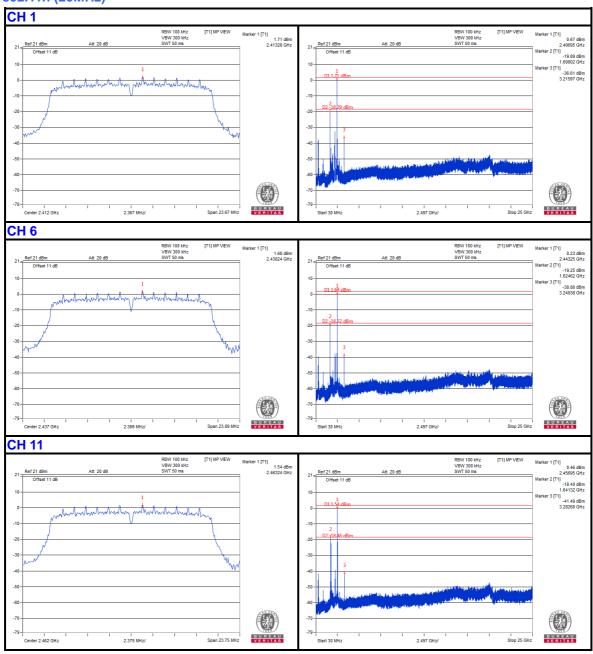
802.11g



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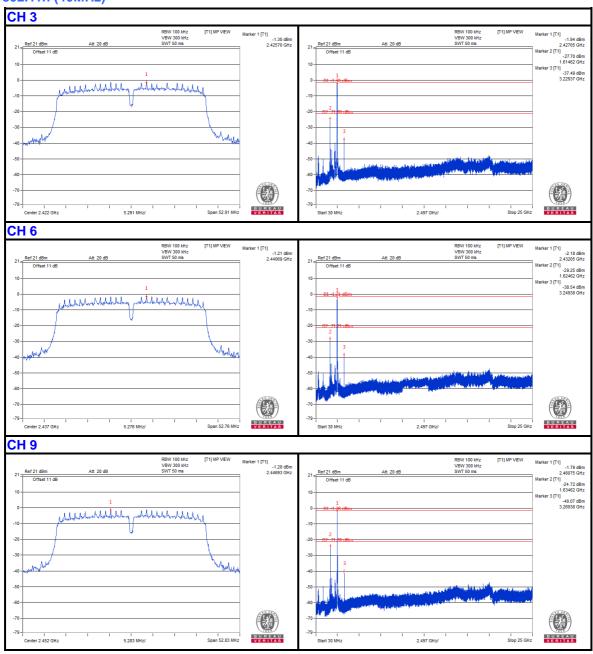
802.11n (20MHz)



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802.11n (40MHz)

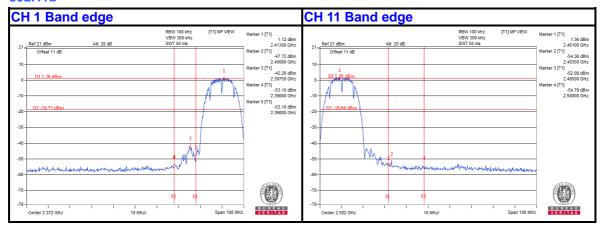


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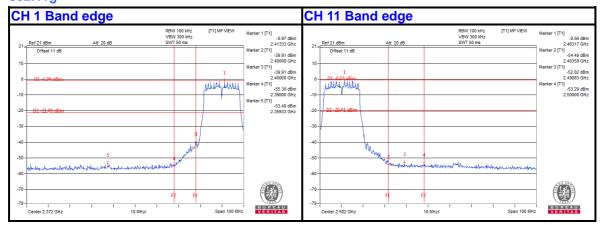
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802.11b



802.11g



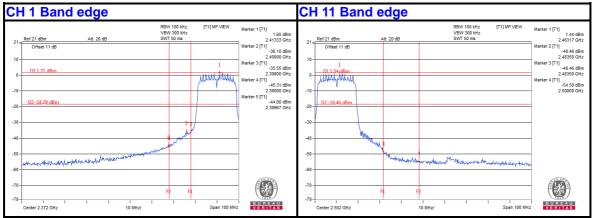
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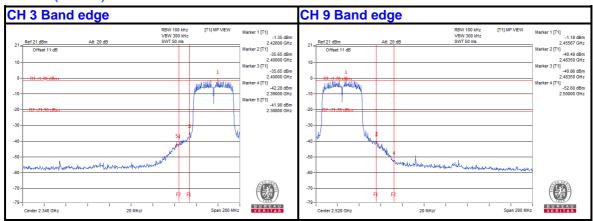
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802.11n (20MHz)



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

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

---END---

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