

FCC TEST REPORT

(Part 15, Subpart C)

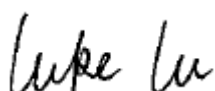
Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Hong Kong, China

Manufacturer or Supplier:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	4/F, No.3 Building, Software Park, Second Central Science-Tech Road, High-Tech industrial Park, Shenzhen, Guangdong, P.R.C.
Product:	Smart Mobile Payment Terminal
Brand Name:	PAX
Model Name:	A920Pro
FCC ID:	V5PA920PRO
Date of tests:	Mar. 25, 2020 ~ May. 12, 2020

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

- ☒ **FCC Part 15, Subpart C, Section 15.247**
- ☒ **ANSI C63.10-2013**

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

Prepared by Alex Chen Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
 Date: May. 12, 2020	 Date: May. 12, 2020

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Test Report No.: RF200324W001-2

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200324W001-2	Original release	May. 12, 2020



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	TEST LAB*
15.207	AC Power Conducted Emission	Compliance	A
15.205 15.209	Radiated Emissions	Compliance	B
15.247(d)	Out of band Emission Measurement	Compliance	A
15.247(a)(2)	6dB bandwidth	Compliance	A
15.247(b)	Conducted Output power	Compliance	A
15.247(e)	Power Spectral Density	Compliance	A
15.203	Antenna Requirement	Compliance	A

*Test Lab Information Reference

Lab A:

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

Lab Address:

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

The FCC Site Registration No. is 525120; The Designation No. is CN1171.

Lab B:

Bureau Veritas (Shenzhen) Consumer Products Service

Lab Address:

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108

The FCC Site Registration No. is 535293.



1.1 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	UNCERTAINTY
AC Power Conducted emissions	±2.70dB
Radiated emissions (30MHz~1GMHz)	±4.98dB
Radiated emissions (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Power Spectral Density	±0.85 dB

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



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smart Mobile Payment Terminal
BRAND NAME	PAX
MODEL NAME	A920Pro
NOMINAL VOLTAGE	DC 3.7V
MODULATION	DSSS, OFDM, GFSK
TRANSMISSION RATE	802.11b: 1 Mbps(Measured Worst) 802.11g: 6 Mbps(Measured Worst) 802.11n20: MCS0 (Measured Worst) 802.11n40: MCS0 (Measured Worst) BT_LE: 0.125 Mbps/ 0.5Mbps/1 Mbps/2 Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20)/n(HT40) 2402-2480MHz for BT-LE(GFSK)
MAX. OUTPUT POWER	WLAN: 115.08mW (Maximum) BT-LE: 2.36mW (Maximum)
ANTENNA TYPE	FPC Antenna with 0.8dBi gain
HW VERSION	N/A
SW VERSION	N/A
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

**NOTE:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one transmitters and one receivers

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX /1RX
802.11g	1TX /1RX
802.11n (20MHz)	1TX /1RX
802.11n (40MHz)	1TX /1RX
BT_LE(S8)	1TX /1RX
BT_LE(S2)	1TX /1RX
BT_LE(1MHz)	1TX /1RX
BT_LE(2MHz)	1TX /1RX

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

4. List of Accessory:

ACCESSORIES	BRAND	MODEL	MANUFACTURER	SPECIFICATION
AC Adapter	N/A	GLH50D2000HW	/	Input: 100-240V~50/60Hz 0.40A Output: 5.0V $\overline{\text{---}}$ 2000mA
Battery	VEKEN	YW-008	NingBo Veken Battery Co., Ltd.	Rating : 3.7V $\overline{\text{---}}$ 5150mAh 19.05Wh, Rechargeable Li-ion Battery



2.2 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):

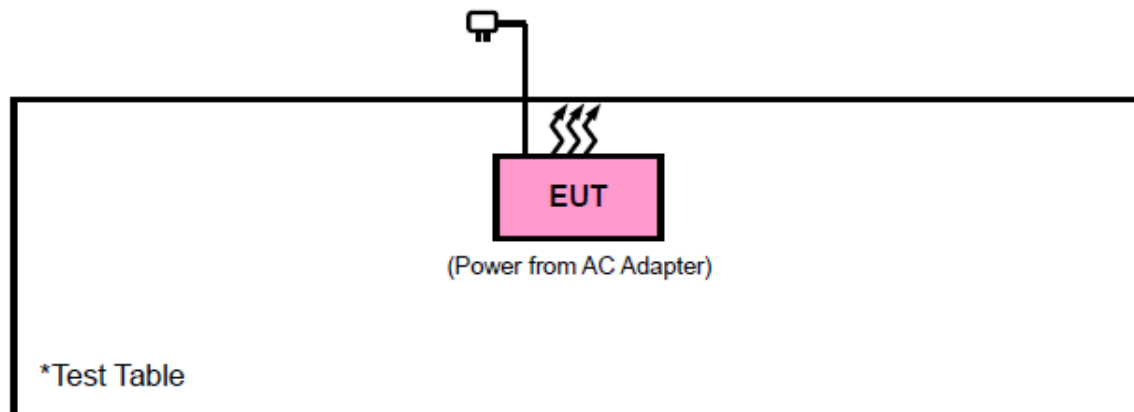
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

40 channels are provided for BT-LE (GFSK):

CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480



2.2.1 CONFIGURATION OF SYSTEM UNDER TEST



2.2.2 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	
-	√	√	√	√	-

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.

**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 and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11n HT40	3 to 9	3	OFDM	MCS0
BT-LE	0 to 39	39	GFSK	0.25
BT-LE	0 to 39	39	GFSK	0.5
BT-LE	0 to 39	39	GFSK	1
BT-LE	0 to 39	0	GFSK	2

**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 and antenna ports (if EUT with antenna diversity architecture).

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3, 6, 9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11n HT40	3 to 9	3, 6, 9	OFDM	MCS0

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3, 6, 9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

**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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	CCK	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3, 6, 9	OFDM	MCS0
BT-LE	0 to 39	0, 19, 39	GFSK	0.125&0.5&1&2

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 70%RH	DC 3.7V	Aaron Liang
RE≥1G	23deg. C, 70%RH	DC 3.7V	Aaron Liang
PLC	25deg. C, 52%RH	DC 3.7V	Chase Zhou
APCM	25deg. C, 60%RH	DC 3.7V	Harris Wang



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2.3 Duty Cycle of Test Signal

WIFI 2.4GHz

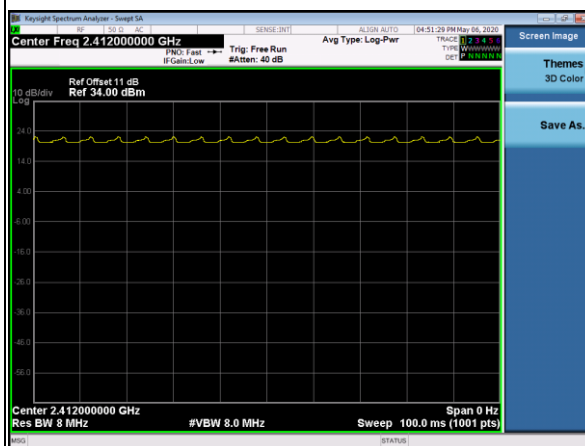
802.11b: Duty cycle = 100%, Duty factor shall not be considered

802.11g: Duty cycle = 100%, Duty factor shall not be considered

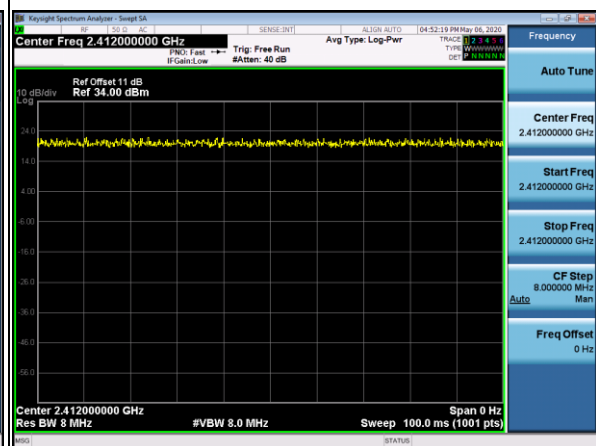
802.11n (HT20): Duty cycle = 100%, Duty factor shall not be considered

802.11n (HT40): Duty cycle = 100%, Duty factor shall not be considered

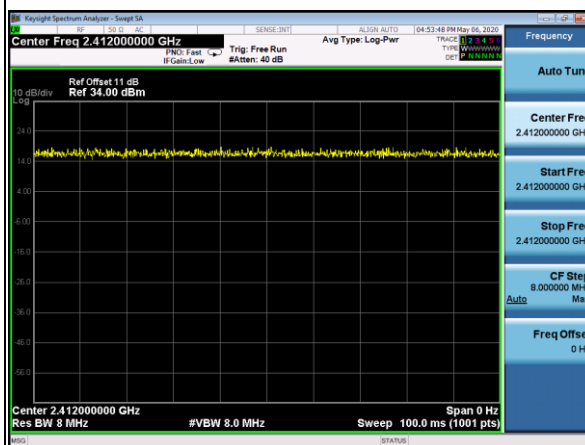
802.11b



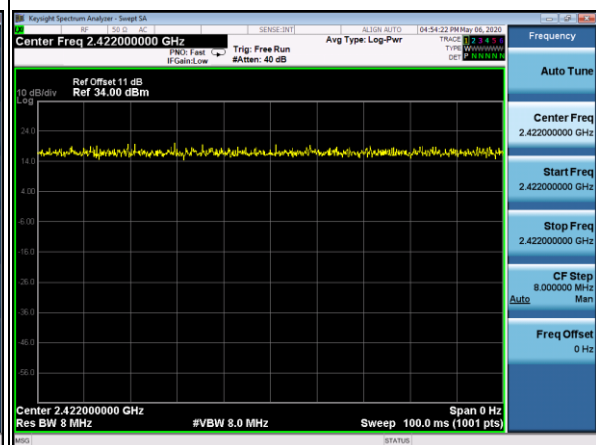
802.11g



802.11n (HT20)



802.11n (HT40)





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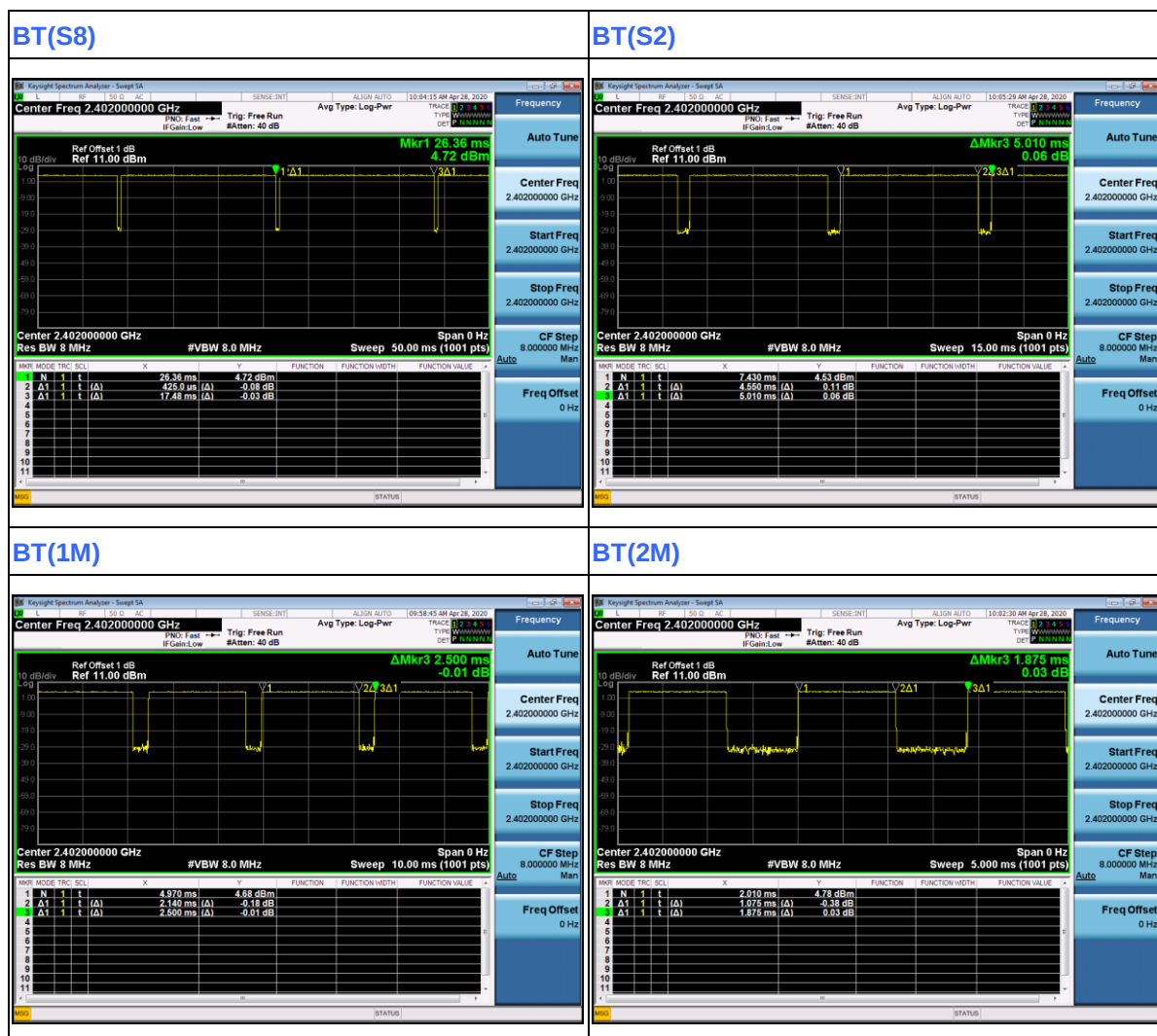
BT LE

BT (S8) : Duty cycle = $0.425/17.48 = 0.024 < 98\%$, Duty factor = $10 * \log(1/0.024) = 16.142$

BT (S2) : Duty cycle = $4.550/5.010 = 0.908 < 98\%$, Duty factor = $10 * \log(1/0.908) = 0.418$

BT (1M) : Duty cycle = $2.140/2.500 = 0.856 < 98\%$, Duty factor = $10 * \log(1/0.856) = 0.675$

BT (2M) : Duty cycle = $1.075/1.875 = 0.573 < 98\%$, Duty factor = $10 * \log(1/0.573) = 2.416$





2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C, Section 15.247

KDB 558074 D01 DTS Meas Guidance v05r02

ANSI C63.10-2013

Note :

1. All test items have been performed and recorded as per the above standards.
2. The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Sdoc). The test report has been issued separately.

2.5 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



3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

NOTE: 1.The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Feb. 28,20	Feb. 27,21
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Feb. 28,20	Feb. 27,21

NOTE:

1. The test was performed in CE shielded 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.



3.1.3 TEST PROCEDURES

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

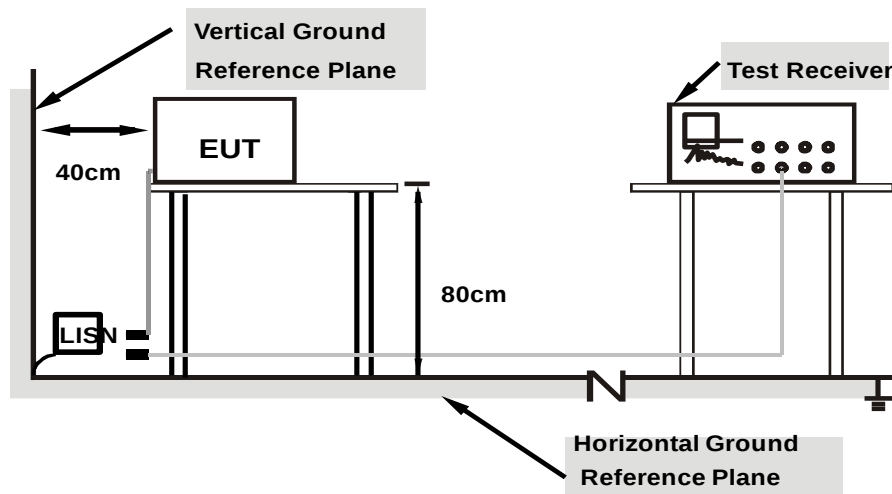
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.



3.1.5 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).

3.1.6 EUT OPERATING CONDITIONS

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



3.1.7 TEST RESULTS

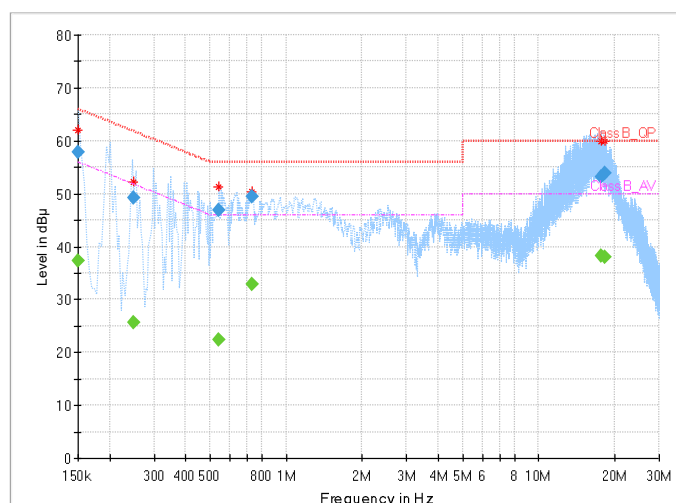
CONDUCTED WORST-CASE DATA:

Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23deg. C, 55RH
Tested By	Chase Zhou		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	37.40	56.00	-18.60	L1	ON	9.7
0.150000	57.91	---	66.00	-8.09	L1	ON	9.7
0.248000	---	25.60	51.82	-26.22	L1	ON	9.7
0.248000	49.25	---	61.82	-12.58	L1	ON	9.7
0.540000	---	22.42	46.00	-23.58	L1	ON	9.7
0.540000	46.82	---	56.00	-9.18	L1	ON	9.7
0.736000	---	32.92	46.00	-13.08	L1	ON	9.7
0.736000	49.40	---	56.00	-6.60	L1	ON	9.7
17.596000	---	38.14	50.00	-11.86	L1	ON	10.0
17.596000	53.20	---	60.00	-6.80	L1	ON	10.0
18.188000	---	37.91	50.00	-12.09	L1	ON	10.0
18.188000	53.84	---	60.00	-6.16	L1	ON	10.0

- 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.

Full Spectrum



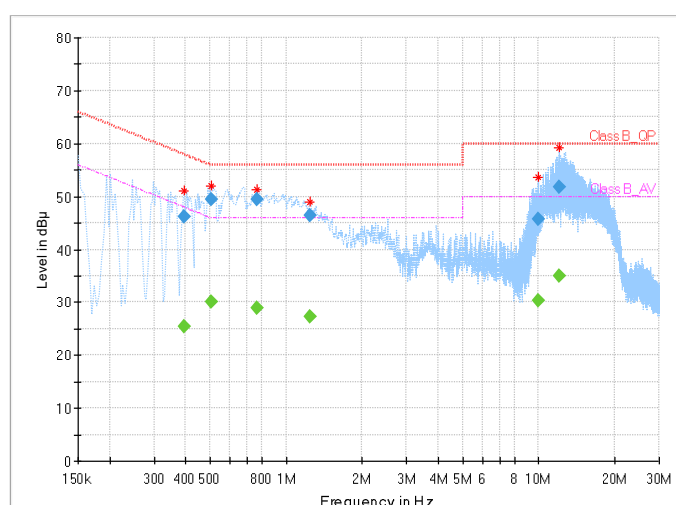


Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23deg. C, 55RH
Tested By	Chase Zhou		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.396000	---	25.37	47.94	-22.57	N	ON	9.8
0.396000	46.18	---	57.94	-11.76	N	ON	9.8
0.508000	---	30.00	46.00	-16.00	N	ON	9.8
0.508000	49.49	---	56.00	-6.51	N	ON	9.8
0.768000	---	28.99	46.00	-17.01	N	ON	9.8
0.768000	49.39	---	56.00	-6.61	N	ON	9.8
1.244000	---	27.37	46.00	-18.63	N	ON	9.8
1.244000	46.43	---	56.00	-9.57	N	ON	9.8
9.964000	---	30.38	50.00	-19.62	N	ON	10.0
9.964000	45.65	---	60.00	-14.35	N	ON	10.0
12.084000	---	34.89	50.00	-15.11	N	ON	10.0
12.084000	51.75	---	60.00	-8.25	N	ON	10.0

- 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.

Full Spectrum





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 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.

**3.2.2 TEST INSTRUMENTS****FREQUENCY RANGE BELOW 1GHz**

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESL6	1300.5001K06-100262-eQ	Mar. 24,20	Mar. 24,21
Bilog Antenna	Sunol Sciences	JB6	A110712	Apr. 08, 20	Apr. 07,21
Active Antenna	CMO-POWER	AL-130	121031	Mar. 27, 20	Mar. 26, 21
Signal Amplifier	HP	8447E	443008	Mar. 24, 20	Mar. 24, 21
3m Semi-anechoic Chamber	SAEMC	9m*6m*6m	N/A	Oct. 18,18	Oct. 17,21
Test Software	EZ-EMC	ICP-03A1	N/A	N/A	N/A
Universal Radio Communication	ROHDE&SCHWARZ	CMU200	112012	Mar. 24,20	Mar. 24,21
Wireless Communication Test Set	ROHDE&SCHWARZ	CMW500	1201.0002K500-155842-Gd	Nov. 1, 19	Oct. 31, 20



FREQUENCY RANGE ABOVE 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXA signal analyzer	Agilent	N9020A	MY49100060	Mar. 24, 20	Mar. 24, 21
Horn Antenna	COM-POWER	HAH-118	71259	Apr. 17, 20	Apr. 17, 21
Horn Antenna	COM-POWER	HAH-118	71283	Mar. 20, 20	Mar. 19, 21
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170147	Jun. 30, 20	Jun. 29, 21
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170242	Jun. 30, 20	Jun. 29, 21
AMPLIFIER	EM Electornic Corporation	EM01G26 G	60613	Mar. 24, 20	Mar. 24, 21
3m Semi-anechoic Chamber	SAEMC	9m*6m*6m	N/A	Oct. 18,18	Oct. 17,21
Test Software	EZ-EMC	ICP-03A1	N/A	N/A	N/A
Universal Radio Communicatio n	ROHDE&SCHWAR Z	CMU200	112012	Mar. 24,20	Mar. 24,21
Wireless Communicatio n Test Set	ROHDE&SCHWAR Z	CMW500	1201.0002K500-155842-G d	Nov. 1, 19	Oct. 31, 20



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NOTE:

1. The calibration interval of the above test instruments is 12 months (except 3m Semi-anechoic Chamber). And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 535293.



3.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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 (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

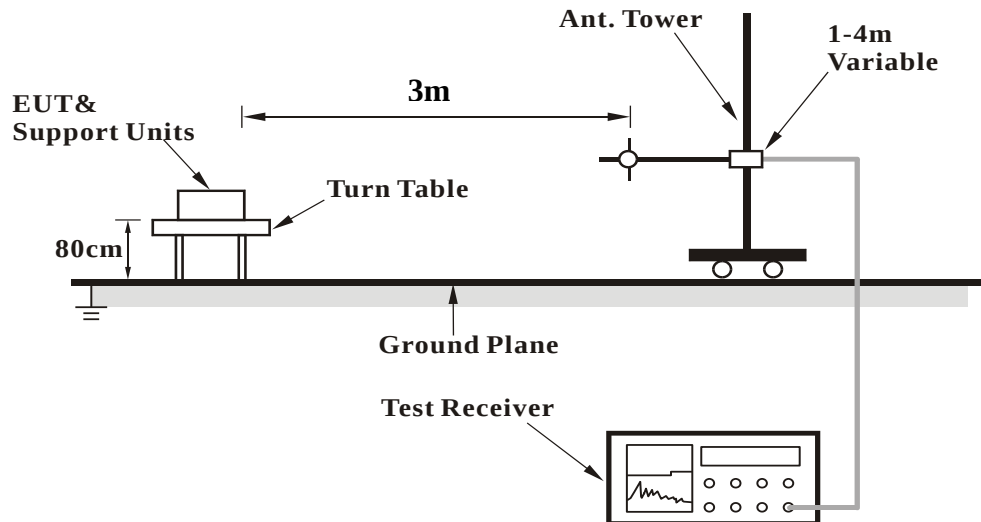
3.2.4 DEVIATION FROM TEST STANDARD

No deviation

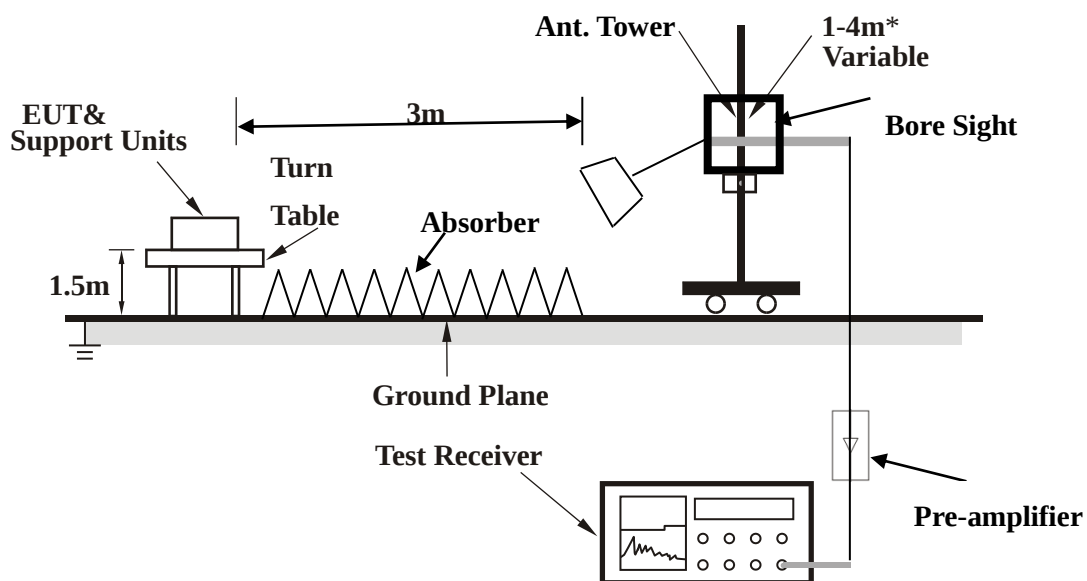


3.2.5 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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



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3.2.6 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.



3.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA :

30 MHz – 1GHz data:

802.11n (40MHz)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()
39.854 2	34.42	peak	12.8 2	22.2 8	0.18	25.14	40.00	-14.8 6	100	31
84.999 5	35.32	peak	7.20	22.3 7	0.58	20.73	40.00	-19.2 7	100	2
195.13 65	46.54	peak	11.4 4	22.3 5	1.53	37.16	43.50	-6.34	100	56
281.99 46	36.35	peak	13.2 7	22.2 9	1.68	29.01	46.00	-16.9 9	200	357
321.06 08	36.22	peak	14.1 2	22.2 3	1.77	29.88	46.00	-16.1 2	100	145
955.43 81	31.23	peak	23.7 0	20.7 7	2.71	36.87	46.00	-9.13	100	111

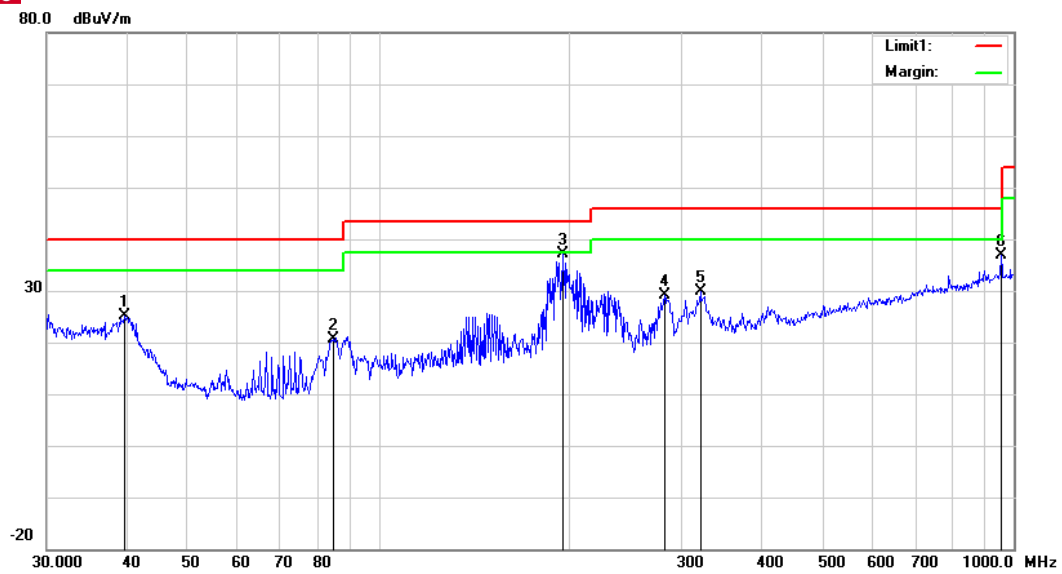
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.



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CHANNEL	TX Channel 3	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
(MHz)	(dBμV/m)		(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(cm)	()
39.437 2	44.09	peak	13.1 7	22.2 8	0.18	35.16	40.00	-4.84	100	335
66.498 9	45.42	peak	6.71	22.3 9	0.31	30.05	40.00	-9.95	100	118
149.48 57	38.16	peak	10.9 2	22.3 4	1.26	28.00	43.50	-15.5 0	100	178
193.77 28	40.22	peak	11.4 3	22.3 4	1.52	30.83	43.50	-12.6 7	100	117
417.64 11	30.64	peak	16.6 4	21.9 7	1.96	27.27	46.00	-18.7 3	100	124
790.61 88	29.03	peak	22.1 1	21.1 7	2.54	32.51	46.00	-13.4 9	100	30

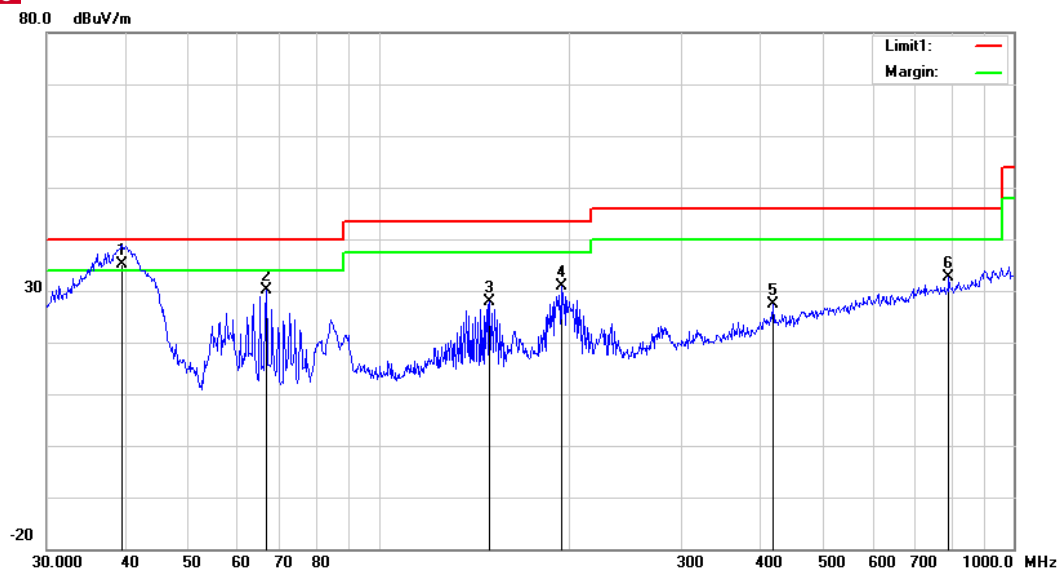
REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.



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ABOVE 1GHz WORST-CASE DATA:

Note: For higher frequency, the emission is too low to be detected.

802.11b TEST DATA:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	54.04	PK	74	-19.96	140	169	65.42	-11.38
2390	37.96	AV	54	-16.04	140	169	49.34	-11.38
2412	105.64	PK			189	4	117.02	-11.38
2412	102.11	AV			189	4	113.49	-11.38
4824	44.43	PK	74	-29.57	360	73	50.5	-6.07
4824	32.64	AV	54	-21.36	360	73	38.71	-6.07
7236	48.5	PK	74	-25.5	371	204	48.21	0.29
7236	36.53	AV	54	-17.47	371	204	36.24	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	54.12	PK	74	-19.88	173	347	65.5	-11.38
2390	38.66	AV	54	-15.34	173	347	50.04	-11.38
2412	100.98	PK			210	108	112.36	-11.38
2412	97.15	AV			210	108	108.53	-11.38
4824	43.59	PK	74	-30.41	350	121	49.66	-6.07
4824	31.58	AV	54	-22.42	350	121	37.65	-6.07
7236	48.59	PK	74	-25.41	355	309	48.3	0.29
7236	36.82	AV	54	-17.18	355	309	36.53	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2412MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	103.12	PK			243	73	114.5	-11.38
2437	99.77	AV			243	73	111.15	-11.38
4874	45.25	PK	74	-28.75	280	36	51.32	-6.07
4874	32.84	AV	54	-21.16	280	36	38.91	-6.07
7311	47.54	PK	74	-26.46	394	167	47.25	0.29
7311	36.11	AV	54	-17.89	394	167	35.82	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	99.07	PK			134	122	110.45	-11.38
2437	95.71	AV			134	122	107.09	-11.38
4874	44.91	PK	74	-29.09	351	0	50.98	-6.07
4874	33.2	AV	54	-20.8	351	0	39.27	-6.07
7311	46.79	PK	74	-27.21	339	217	46.5	0.29
7311	34.31	AV	54	-19.69	339	217	34.02	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2437MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	48.25	PK	74	-25.75	380	318	59.63	-11.38
2483.5	32.19	AV	54	-21.81	380	318	43.57	-11.38
2462	100.64	PK			123	334	112.02	-11.38
2462	96.89	AV			123	334	108.27	-11.38
4924	44.92	PK	74	-29.08	198	33	50.99	-6.07
4924	33.02	AV	54	-20.98	198	33	39.09	-6.07
7386	48.11	PK	74	-25.89	329	124	47.82	0.29
7386	36.14	AV	54	-17.86	329	124	35.85	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	48.15	PK	74	-25.85	186	72	59.53	-11.38
2483.5	34.18	AV	54	-19.82	186	72	45.56	-11.38
2462	98.58	PK			363	242	109.96	-11.38
2462	94.34	AV			363	242	105.72	-11.38
4924	44.84	PK	74	-29.16	193	134	50.91	-6.07
4924	33.21	AV	54	-20.79	193	134	39.28	-6.07
7386	48.26	PK	74	-25.74	124	270	47.97	0.29
7386	36.52	AV	54	-17.48	124	270	36.23	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2462MHz: Fundamental frequency.



802.11g TEST DATA:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	62.23	PK	74	-11.77	129	220	73.61	-11.38
2390	43.29	AV	54	-10.71	129	220	54.67	-11.38
2412	104.44	PK			369	133	115.82	-11.38
2412	95.67	AV			369	133	107.05	-11.38
4824	46.18	PK	74	-27.82	202	272	52.25	-6.07
4824	35.02	AV	54	-18.98	202	272	41.09	-6.07
7236	47.22	PK	74	-26.78	196	123	46.93	0.29
7236	37.7	AV	54	-16.3	196	123	37.41	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	57.64	PK	74	-16.36	305	134	69.02	-11.38
2390	42.61	AV	54	-11.39	305	134	53.99	-11.38
2412	102.01	PK			229	67	113.39	-11.38
2412	93.15	AV			229	67	104.53	-11.38
4824	44.99	PK	74	-29.01	328	95	51.06	-6.07
4824	33.96	AV	54	-20.04	328	95	40.03	-6.07
7236	45.57	PK	74	-28.43	134	299	45.28	0.29
7236	34.75	AV	54	-19.25	134	299	34.46	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2412MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	99.83	PK			268	39	111.21	-11.38
2437	90.17	AV			268	39	101.55	-11.38
4874	43.98	PK	74	-30.02	151	13	50.05	-6.07
4874	33.19	AV	54	-20.81	151	13	39.26	-6.07
7311	46.29	PK	74	-27.71	142	216	46	0.29
7311	36.71	AV	54	-17.29	142	216	36.42	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	98.04	PK			312	89	109.42	-11.38
2437	89.38	AV			312	89	100.76	-11.38
4874	44.58	PK	74	-29.42	195	318	50.65	-6.07
4874	33.49	AV	54	-20.51	195	318	39.56	-6.07
7311	47.19	PK	74	-26.81	286	223	46.9	0.29
7311	35.94	AV	54	-18.06	286	223	35.65	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2437MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	61.23	PK	74	-12.77	148	249	72.61	-11.38
2483.5	44.21	AV	54	-9.79	148	249	55.59	-11.38
2462	100.76	PK			191	87	112.14	-11.38
2462	91.79	AV			191	87	103.17	-11.38
4924	44.89	PK	74	-29.11	164	270	50.96	-6.07
4924	30.15	AV	54	-23.85	164	270	36.22	-6.07
7386	47.95	PK	74	-26.05	128	315	47.66	0.29
7386	38.12	AV	54	-15.88	128	315	37.83	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	60.82	PK	74	-13.18	400	215	72.2	-11.38
2483.5	42.94	AV	54	-11.06	400	215	54.32	-11.38
2462	99.06	PK			266	19	110.44	-11.38
2462	90.34	AV			266	19	101.72	-11.38
4924	45.97	PK	74	-28.03	387	344	52.04	-6.07
4924	36.48	AV	54	-17.52	387	344	42.55	-6.07
7386	47.26	PK	74	-26.74	178	124	46.97	0.29
7386	35.69	AV	54	-18.31	178	124	35.4	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2462MHz: Fundamental frequency.



802.11n (20MHz) TEST DATA:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	64.96	PK	74	-9.04	139	256	76.34	-11.38
2390	44.95	AV	54	-9.05	139	256	56.33	-11.38
2412	102.2	PK			362	228	113.58	-11.38
2412	90.06	AV			362	228	101.44	-11.38
4824	44.22	PK	74	-29.78	365	70	50.29	-6.07
4824	34.96	AV	54	-19.04	365	70	41.03	-6.07
7236	45.58	PK	74	-28.42	281	134	45.29	0.29
7236	35.37	AV	54	-18.63	281	134	35.08	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	58.59	PK	74	-15.41	272	125	69.97	-11.38
2390	38.12	AV	54	-15.88	272	125	49.5	-11.38
2412	98.45	PK			227	79	109.83	-11.38
2412	88.41	AV			227	79	99.79	-11.38
4824	45.69	PK	74	-28.31	378	37	51.76	-6.07
4824	36.49	AV	54	-17.51	378	37	42.56	-6.07
7236	48.22	PK	74	-25.78	349	201	47.93	0.29
7236	36.17	AV	54	-17.83	349	201	35.88	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2412MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	99.25	PK			163	196	110.63	-11.38
2437	88.39	AV			163	196	99.77	-11.38
4874	45.66	PK	74	-28.34	295	36	51.73	-6.07
4874	32.69	AV	54	-21.31	295	36	38.76	-6.07
7311	48.26	PK	74	-25.74	114	112	47.97	0.29
7311	37.94	AV	54	-16.06	114	112	37.65	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	95.96	PK			211	353	107.34	-11.38
2437	84.61	AV			211	353	95.99	-11.38
4874	47.45	PK	74	-26.55	220	138	53.52	-6.07
4874	37.16	AV	54	-16.84	220	138	43.23	-6.07
7311	47.22	PK	74	-26.78	194	125	46.93	0.29
7311	35.41	AV	54	-18.59	194	125	35.12	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2437MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: RF200324W001-2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	61.01	PK	74	-12.99	365	133	72.39	-11.38
2483.5	42.48	AV	54	-11.52	365	133	53.86	-11.38
2462	100.59	PK			283	341	111.97	-11.38
2462	88.44	AV			283	341	99.82	-11.38
4924	46.64	PK	74	-27.36	173	268	52.71	-6.07
4924	34.87	AV	54	-19.13	173	268	40.94	-6.07
7386	47.7	PK	74	-26.3	105	74	47.41	0.29
7386	35.79	AV	54	-18.21	105	74	35.5	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	58.32	PK	74	-15.68	125	68	69.7	-11.38
2483.5	40.67	AV	54	-13.33	125	68	52.05	-11.38
2462	97.27	PK			208	25	108.65	-11.38
2462	86.45	AV			208	25	97.83	-11.38
4924	46.97	PK	74	-27.03	366	309	53.04	-6.07
4924	35.97	AV	54	-18.03	366	309	42.04	-6.07
7386	47.77	PK	74	-26.23	357	258	47.48	0.29
7386	36.97	AV	54	-17.03	357	258	36.68	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2462MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: RF200324W001-2

802.11n (40MHz) TEST DATA:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	69.06	PK	74	-4.94	126	271	80.44	-11.38
2390	49.16	AV	54	-4.84	126	271	80.44	-11.38
2422	103.09	PK			336	202	114.47	-11.38
2422	92.16	AV			336	202	114.47	-11.38
4844	44.82	PK	74	-29.18	188	38	50.89	-6.07
4844	33.73	AV	54	-20.27	188	38	50.89	-6.07
7266	45.3	PK	74	-28.7	320	275	45.01	0.29
7266	35.35	AV	54	-18.65	320	275	45.01	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	63.61	PK	74	-10.39	172	190	74.99	-11.38
2390	42.91	AV	54	-11.09	172	190	54.29	-11.38
2422	99.17	PK			170	310	110.55	-11.38
2422	88.45	AV			170	310	99.83	-11.38
4844	47.42	PK	74	-26.58	394	87	53.49	-6.07
4844	37.43	AV	54	-16.57	394	87	43.5	-6.07
7266	48.12	PK	74	-25.88	321	107	47.83	0.29
7266	36.45	AV	54	-17.55	321	107	36.16	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2422MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	100.23	PK			311	113	111.61	-11.38
2437	89.55	AV			311	113	100.93	-11.38
4874	44.77	PK	74	-29.23	144	257	50.84	-6.07
4874	34.98	AV	54	-19.02	144	257	41.05	-6.07
7311	45.64	PK	74	-28.36	199	133	45.35	0.29
7311	35.66	AV	54	-18.34	199	133	35.37	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2437	96.45	PK			393	4	107.83	-11.38
2437	85.44	AV			393	4	96.82	-11.38
4874	44.38	PK	74	-29.62	286	140	50.45	-6.07
4874	34.54	AV	54	-19.46	286	140	40.61	-6.07
7311	48.06	PK	74	-25.94	154	291	47.77	0.29
7311	38.34	AV	54	-15.66	154	291	38.05	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2437MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	67.13	PK	74	-6.87	189	247	78.51	-11.38
2483.5	47.95	AV	54	-6.05	189	247	59.33	-11.38
2452	101.2	PK			153	317	112.58	-11.38
2452	90.56	AV			153	317	101.94	-11.38
4904	44.85	PK	74	-29.15	207	76	50.92	-6.07
4904	34.09	AV	54	-19.91	207	76	40.16	-6.07
7356	48.46	PK	74	-25.54	107	222	48.17	0.29
7356	38.8	AV	54	-15.2	107	222	38.51	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	61.99	PK	74	-12.01	191	61	73.37	-11.38
2483.5	40.79	AV	54	-13.21	191	61	52.17	-11.38
2452	97.41	PK			341	59	108.79	-11.38
2452	86.48	AV			341	59	97.86	-11.38
4904	45.3	PK	74	-28.7	396	163	51.37	-6.07
4904	35.87	AV	54	-18.13	396	163	41.94	-6.07
7356	47.57	PK	74	-26.43	297	327	47.28	0.29
7356	36.81	AV	54	-17.19	297	327	36.52	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2452MHz: Fundamental frequency.



BUREAU VERITAS Test Report No.: RF200324W001-2

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

BT-LE (1M)

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()
59.025 1	32.73	peak	7.41	22.4 1	0.26	17.99	40.00	-22.0 1	300	6
88.652 5	34.29	peak	7.95	22.3 3	0.62	20.53	43.50	-22.9 7	100	33
140.34 21	37.29	peak	12.6 0	22.4 1	1.21	28.69	43.50	-14.8 1	300	85
208.58 03	45.76	peak	11.9 8	22.3 6	1.56	36.94	43.50	-6.56	200	347
307.83 13	35.21	peak	13.7 6	22.2 7	1.74	28.44	46.00	-17.5 6	100	138
790.61 88	30.66	peak	21.2 9	21.1 7	2.54	33.32	46.00	-12.6 8	300	292

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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Test Report No.: RF200324W001-2





CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()
34.760 2	32.76	QP	17.7 3	22.2 5	0.15	28.39	40.00	-11.6 1	100	322
61.995 1	45.00	peak	7.40	22.4 0	0.28	30.28	40.00	-9.72	200	161
84.110 0	37.89	peak	7.76	22.3 8	0.58	23.85	40.00	-16.1 5	200	37
135.98 22	34.96	peak	12.8 6	22.4 0	1.16	26.58	43.50	-16.9 2	200	212
204.95 51	40.16	peak	12.0 3	22.3 7	1.56	31.38	43.50	-12.1 2	200	229
790.61 88	28.81	peak	21.2 9	21.1 7	2.54	31.47	46.00	-14.5 3	100	304

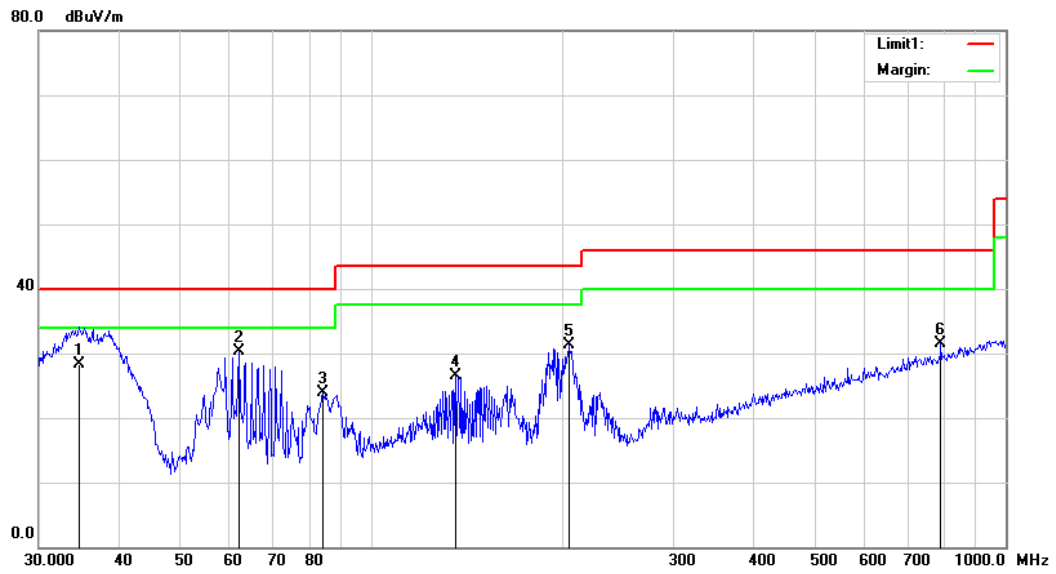
REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



BUREAU
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Test Report No.: RF200324W001-2





ABOVE 1GHz TEST DATA

Note: For higher frequency, the emission is too low to be detected.

BT-LE (S8)

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	47.25	PK	74	-26.75	292	164	58.63	-11.38
2390	33.15	AV	54	-20.85	292	164	44.53	-11.38
2402	94.83	PK			190	157	106.21	-11.38
2402	94.03	AV			190	157	105.41	-11.38
4804	44.13	PK	74	-29.87	150	248	50.2	-6.07
4804	32.22	AV	54	-21.78	150	248	38.29	-6.07
7206	45.62	PK	74	-28.38	267	197	45.33	0.29
7206	34.31	AV	54	-19.69	267	197	34.02	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	46.47	PK	74	-27.53	230	183	57.85	-11.38
2390	3.83	AV	54	-50.17	230	183	15.21	-11.38
2402	103.44	PK			397	146	114.82	-11.38
2402	102.68	AV			397	146	114.06	-11.38
4804	46.27	PK	74	-27.73	308	57	52.34	-6.07
4804	36.67	AV	54	-17.33	308	57	42.74	-6.07
7206	47.95	PK	74	-26.05	300	50	47.66	0.29
7206	37.3	AV	54	-16.7	300	50	37.01	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2402MHz: Fundamental frequency.



CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	96.24	PK			224	308	107.62	-11.38
2440	95.36	AV			224	308	106.74	-11.38
4880	45.99	PK	74	-28.01	263	13	52.06	-6.07
4880	35.3	AV	54	-18.7	263	13	41.37	-6.07
7320	46.83	PK	74	-27.17	379	70	46.54	0.29
7320	36.63	AV	54	-17.37	379	70	36.34	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	104.21	PK			133	268	115.59	-11.38
2440	103.55	AV			133	268	114.93	-11.38
4880	45.92	PK	74	-28.08	260	187	51.99	-6.07
4880	35.03	AV	54	-18.97	260	187	41.1	-6.07
7320	45.88	PK	74	-28.12	169	111	45.59	0.29
7320	35.34	AV	54	-18.66	169	111	35.05	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2440MHz: Fundamental frequency.



CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	43.21	PK	74	-30.79	213	326	54.59	-11.38
2483.5	33.67	AV	54	-20.33	213	326	45.05	-11.38
2480	96.44	PK			335	13	107.82	-11.38
2480	95.47	AV			335	13	106.85	-11.38
4960	44.93	PK	74	-29.07	211	331	51	-6.07
4960	34.58	AV	54	-19.42	211	331	40.65	-6.07
7440	45.53	PK	74	-28.47	357	98	45.24	0.29
7440	35.86	AV	54	-18.14	357	98	35.57	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	50.53	PK	74	-23.47	331	331	61.91	-11.38
2483.5	42.33	AV	54	-11.67	331	331	53.71	-11.38
2480	101.08	PK			133	171	112.46	-11.38
2480	100.27	AV			133	171	111.65	-11.38
4960	46.54	PK	74	-27.46	319	145	52.61	-6.07
4960	35.12	AV	54	-18.88	319	145	41.19	-6.07
7440	48.3	PK	74	-25.7	196	22	48.01	0.29
7440	38.75	AV	54	-15.25	196	22	38.46	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2480MHz: Fundamental frequency.



BT-LE (S2)

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	50.76	PK	74	-23.24	220	316	62.14	-11.38
2390	34.9	AV	54	-19.1	220	316	46.28	-11.38
2402	95.45	PK			370	335	106.83	-11.38
2402	93.29	AV			370	335	104.67	-11.38
4804	44.02	PK	74	-29.98	170	292	50.09	-6.07
4804	33.15	AV	54	-20.85	170	292	39.22	-6.07
7206	47.99	PK	74	-26.01	365	316	47.7	0.29
7206	36.32	AV	54	-17.68	365	316	36.03	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	47.04	PK	74	-26.96	256	336	58.42	-11.38
2390	33.78	AV	54	-20.22	256	336	45.16	-11.38
2402	103.44	PK			113	339	114.82	-11.38
2402	102.64	AV			113	339	114.02	-11.38
4804	47.43	PK	74	-26.57	215	315	53.5	-6.07
4804	36.86	AV	54	-17.14	215	315	42.93	-6.07
7206	47.93	PK	74	-26.07	338	360	47.64	0.29
7206	36.43	AV	54	-17.57	338	360	36.14	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.



CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	97.53	PK			189	317	108.91	-11.38
2440	96.15	AV			189	317	107.53	-11.38
4880	45.79	PK	74	-28.21	365	293	51.86	-6.07
4880	35.5	AV	54	-18.5	365	293	41.57	-6.07
7320	45.92	PK	74	-28.08	323	304	45.63	0.29
7320	36.21	AV	54	-17.79	323	304	35.92	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	104.16	PK			145	128	115.54	-11.38
2440	103.21	AV			145	128	114.59	-11.38
4880	47.11	PK	74	-26.89	152	232	53.18	-6.07
4880	35.95	AV	54	-18.05	152	232	42.02	-6.07
7320	46.3	PK	74	-27.7	166	213	46.01	0.29
7320	35.09	AV	54	-18.91	166	213	34.8	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2440MHz: Fundamental frequency.



CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	48.01	PK	74	-25.99	241	145	59.39	-11.38
2483.5	37.42	AV	54	-16.58	241	145	48.8	-11.38
2480	97.36	PK			169	77	108.74	-11.38
2480	96.44	AV			169	77	107.82	-11.38
4960	47.06	PK	74	-26.94	327	184	53.13	-6.07
4960	37.26	AV	54	-16.74	327	184	43.33	-6.07
7440	45.68	PK	74	-28.32	259	318	45.39	0.29
7440	36.2	AV	54	-17.8	259	318	35.91	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	49.59	PK	74	-24.41	276	165	60.97	-11.38
2483.5	37.36	AV	54	-16.64	276	165	48.74	-11.38
2480	101.13	PK			203	112	112.51	-11.38
2480	100.26	AV			203	112	111.64	-11.38
4960	44.24	PK	74	-29.76	114	343	50.31	-6.07
4960	33.04	AV	54	-20.96	114	343	39.11	-6.07
7440	48.44	PK	74	-25.56	213	132	48.15	0.29
7440	36.67	AV	54	-17.33	213	132	36.38	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.



BT-LE (1M)

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	46.74	PK	74	-27.26	242	279	58.12	-11.38
2390	34.33	AV	54	-19.67	242	279	45.71	-11.38
2402	95.1	PK			172	21	106.48	-11.38
2402	94.28	AV			172	21	105.66	-11.38
4804	45.8	PK	74	-28.2	254	260	51.87	-6.07
4804	34.86	AV	54	-19.14	254	260	40.93	-6.07
7206	45.73	PK	74	-28.27	384	122	45.44	0.29
7206	35.86	AV	54	-18.14	384	122	35.57	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	46.09	PK	74	-27.91	368	27	57.47	-11.38
2390	34.34	AV	54	-19.66	368	27	45.72	-11.38
2402	103.49	PK			302	99	114.87	-11.38
2402	103.12	AV			302	99	114.5	-11.38
4804	47.35	PK	74	-26.65	370	104	53.42	-6.07
4804	35.66	AV	54	-18.34	370	104	41.73	-6.07
7206	48.1	PK	74	-25.9	272	185	47.81	0.29
7206	36.31	AV	54	-17.69	272	185	36.02	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2402MHz: Fundamental frequency.



CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	97.96	PK			293	135	109.34	-11.38
2440	96.81	AV			293	135	108.19	-11.38
4880	44.62	PK	74	-29.38	196	79	50.69	-6.07
4880	34.38	AV	54	-19.62	196	79	40.45	-6.07
7320	46.35	PK	74	-27.65	363	156	46.06	0.29
7320	34.79	AV	54	-19.21	363	156	34.5	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	103.41	PK			270	196	114.79	-11.38
2440	102.59	AV			270	196	113.97	-11.38
4880	44.68	PK	74	-29.32	142	161	50.75	-6.07
4880	34.21	AV	54	-19.79	142	161	40.28	-6.07
7320	48.17	PK	74	-25.83	379	64	47.88	0.29
7320	36.45	AV	54	-17.55	379	64	36.16	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2440MHz: Fundamental frequency.



CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	47.01	PK	74	-26.99	204	244	58.39	-11.38
2483.5	34.24	AV	54	-19.76	204	244	45.62	-11.38
2480	96.44	PK			366	296	107.82	-11.38
2480	95.47	AV			366	296	106.85	-11.38
4960	45.04	PK	74	-28.96	396	145	51.11	-6.07
4960	35.67	AV	54	-18.33	396	145	41.74	-6.07
7440	46.61	PK	74	-27.39	178	199	46.32	0.29
7440	37.1	AV	54	-16.9	178	199	36.81	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	47.52	PK	74	-26.48	162	142	58.9	-11.38
2483.5	38.12	AV	54	-15.88	162	142	49.5	-11.38
2480	101.12	PK			227	239	112.5	-11.38
2480	99.79	AV			227	239	111.17	-11.38
4960	46.54	PK	74	-27.46	148	198	52.61	-6.07
4960	35.42	AV	54	-18.58	148	198	41.49	-6.07
7440	47.26	PK	74	-26.74	350	318	46.97	0.29
7440	38.12	AV	54	-15.88	350	318	37.83	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.



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BT-LE (2M)

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	40.64	PK	74	-33.36	149	324	52.02	-11.38
2390	30.18	AV	54	-23.82	149	324	41.56	-11.38
2402	95.33	PK			323	103	106.71	-11.38
2402	85.14	AV			323	103	96.52	-11.38
4804	45.83	PK	74	-28.17	387	38	51.9	-6.07
4804	36.52	AV	54	-17.48	387	38	42.59	-6.07
7206	48.08	PK	74	-25.92	212	291	47.79	0.29
7206	38.08	AV	54	-15.92	212	291	37.79	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2390	45.7	PK	74	-28.3	189	323	57.08	-11.38
2390	35.79	AV	54	-18.21	189	323	47.17	-11.38
2402	102.8	PK			306	33	114.18	-11.38
2402	91.86	AV			306	33	103.24	-11.38
4804	44.46	PK	74	-29.54	113	217	50.53	-6.07
4804	33.54	AV	54	-20.46	113	217	39.61	-6.07
7206	46.48	PK	74	-27.52	180	284	46.19	0.29
7206	36.9	AV	54	-17.1	180	284	36.61	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2402MHz: Fundamental frequency.



CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	98.02	PK			180	60	109.4	-11.38
2440	88.26	AV			180	60	99.64	-11.38
4880	45.68	PK	74	-28.32	276	253	51.75	-6.07
4880	36.43	AV	54	-17.57	276	253	42.5	-6.07
7320	47.01	PK	74	-26.99	264	203	46.72	0.29
7320	37.94	AV	54	-16.06	264	203	37.65	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2440	103.5	PK			387	251	114.88	-11.38
2440	92.68	AV			387	251	104.06	-11.38
4880	44.35	PK	74	-29.65	235	222	50.42	-6.07
4880	34.52	AV	54	-19.48	235	222	40.59	-6.07
7320	47.34	PK	74	-26.66	113	131	47.05	0.29
7320	35.71	AV	54	-18.29	113	131	35.42	0.29

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 2440MHz: Fundamental frequency.



CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	47.81	PK	74	-26.19	119	154	59.19	-11.38
2483.5	34.76	AV	54	-19.24	119	154	46.14	-11.38
2480	97.18	PK			106	24	108.56	-11.38
2480	87.69	AV			106	24	99.07	-11.38
4960	46.47	PK	74	-27.53	398	161	52.54	-6.07
4960	34.67	AV	54	-19.33	398	161	40.74	-6.07
7440	46.95	PK	74	-27.05	310	141	46.66	0.29
7440	36.81	AV	54	-17.19	310	141	36.52	0.29
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	DETECTOR(PK/AV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (MM)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
2483.5	45.73	PK	74	-28.27	361	266	57.11	-11.38
2483.5	37.85	AV	54	-16.15	361	266	49.23	-11.38
2480	101.26	PK			394	284	112.64	-11.38
2480	91.62	AV			394	284	103	-11.38
4960	46.91	PK	74	-27.09	106	27	52.98	-6.07
4960	35.4	AV	54	-18.6	106	27	41.47	-6.07
7440	48.17	PK	74	-25.83	119	180	47.88	0.29
7440	37.16	AV	54	-16.84	119	180	36.87	0.29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 2480MHz: Fundamental frequency.

Note: Radiated Emission AND BANDEDGE Measurement Test was performed by **Lab B**.



3.3 6 dB BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Meter	ANRITSU	ML2495A	1506002	Feb. 28,20	Feb. 27,21
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 28,20	Feb. 27,21
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Feb. 28,20	Feb. 27,21
Power Sensor	ANRITSU	MA2411B	1339352	Feb. 28,20	Feb. 27,21

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 RF Oven room.

3.3.3 TEST PROCEDURE

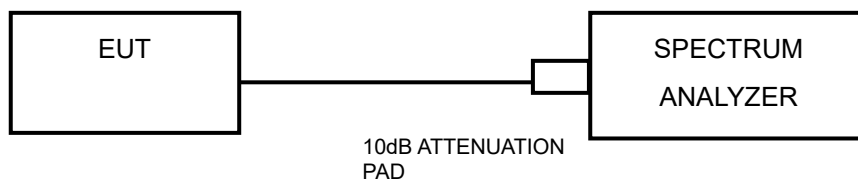
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points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



3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



3.3.6 EUT OPERATING CONDITIONS

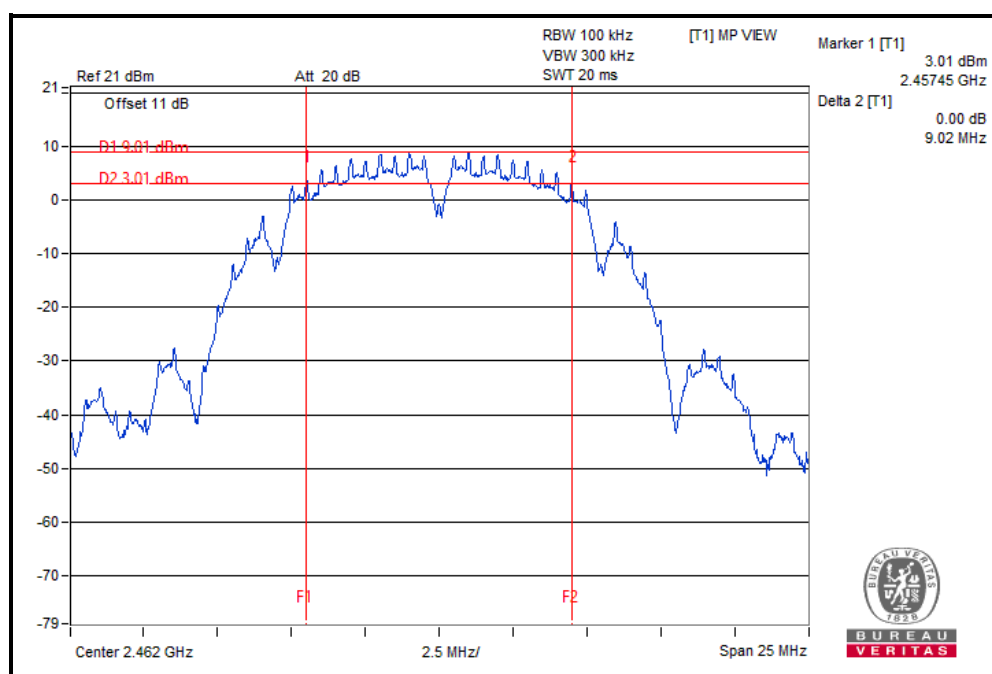
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



3.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.53	0.5	PASS
6	2437	8.09	0.5	PASS
11	2462	9.02	0.5	PASS



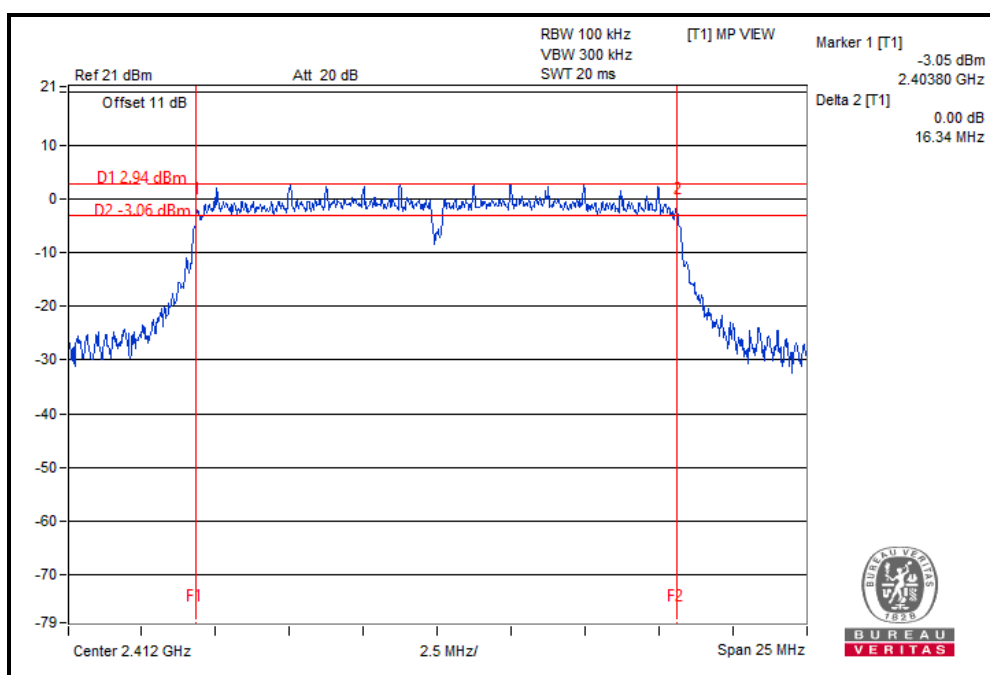


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802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.34	0.5	PASS
6	2437	15.72	0.5	PASS
11	2462	16.34	0.5	PASS



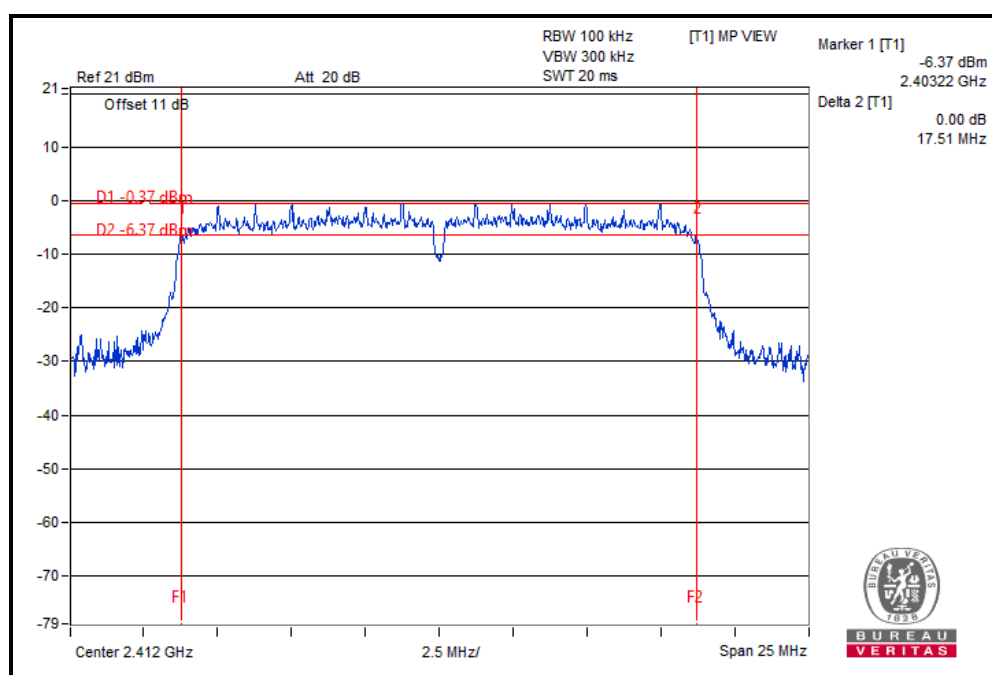


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802.11n (20MHz)

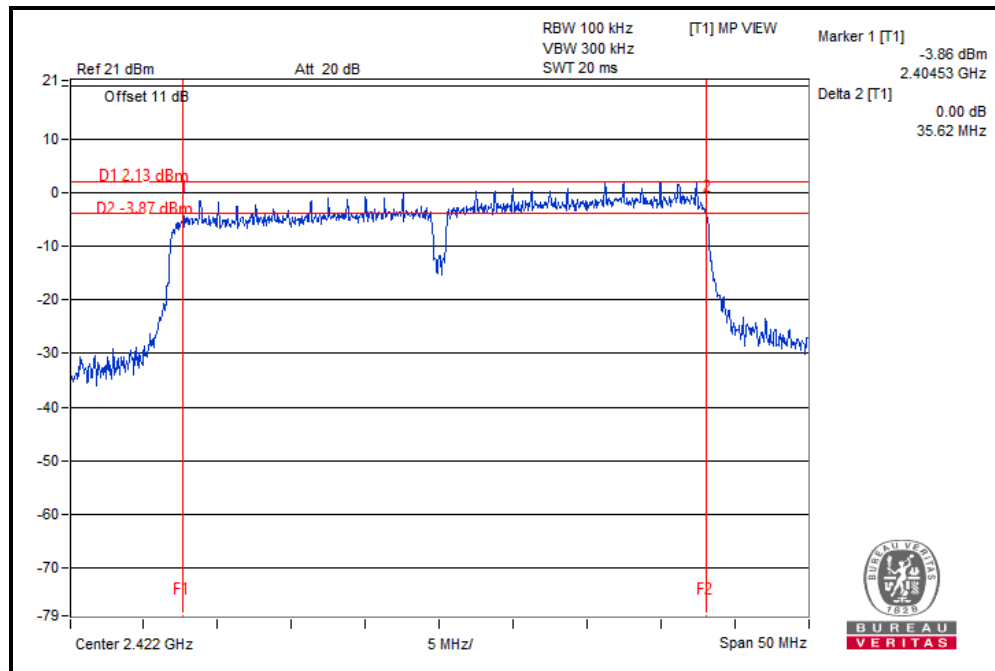
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.51	0.5	PASS
6	2437	16.09	0.5	PASS
11	2462	17.31	0.5	PASS





802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.62	0.5	PASS
6	2437	35.09	0.5	PASS
9	2452	35.41	0.5	PASS



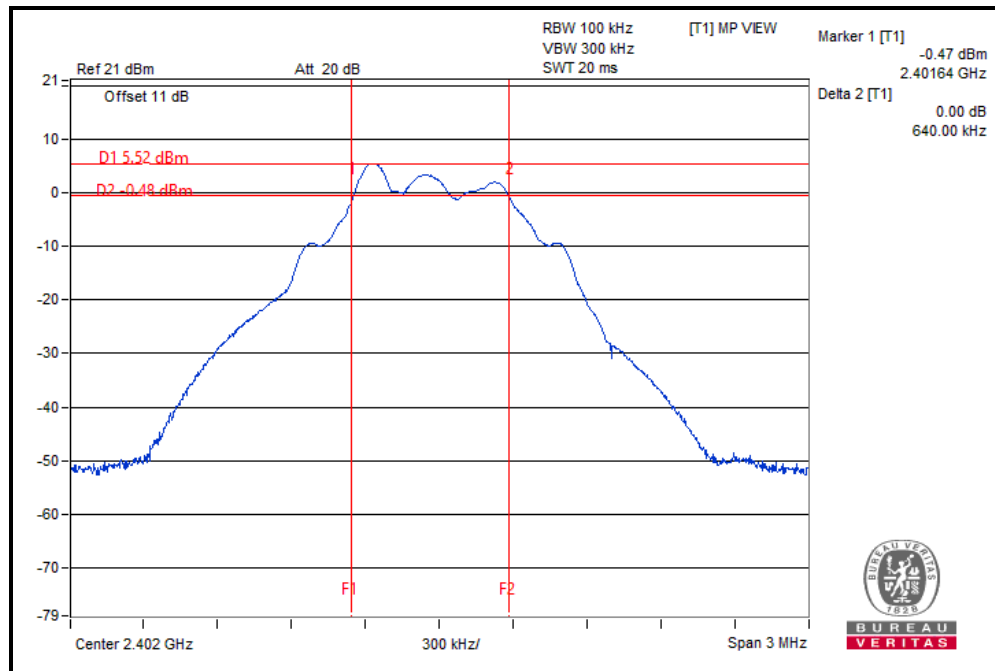


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BT-LE (GFSK) (S8)

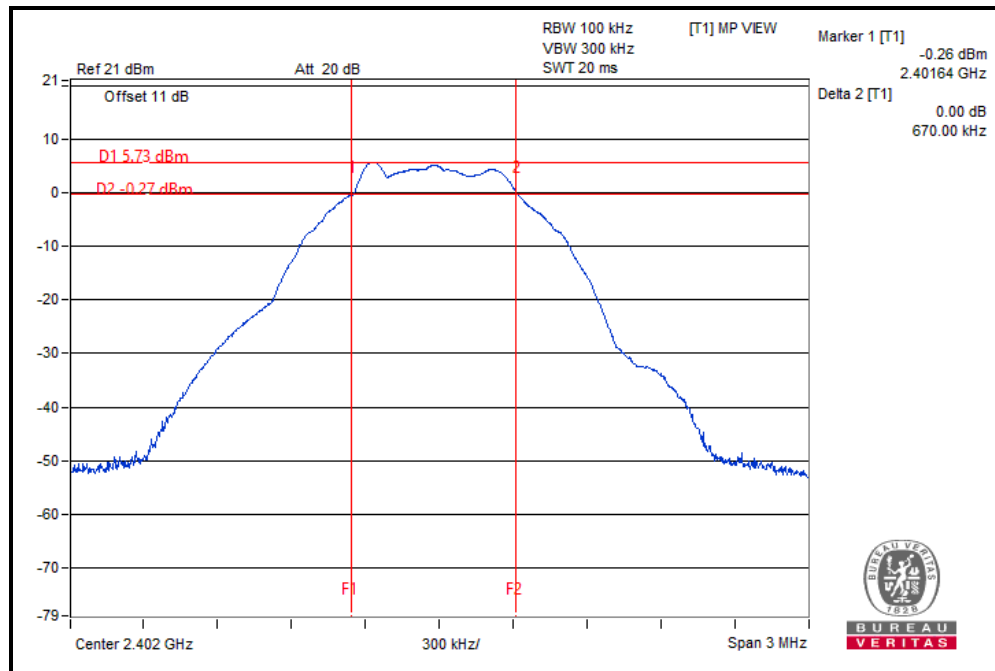
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	0.64	0.5	PASS
19	2440	0.64	0.5	PASS
39	2480	0.63	0.5	PASS





BT-LE (GFSK) (S2)

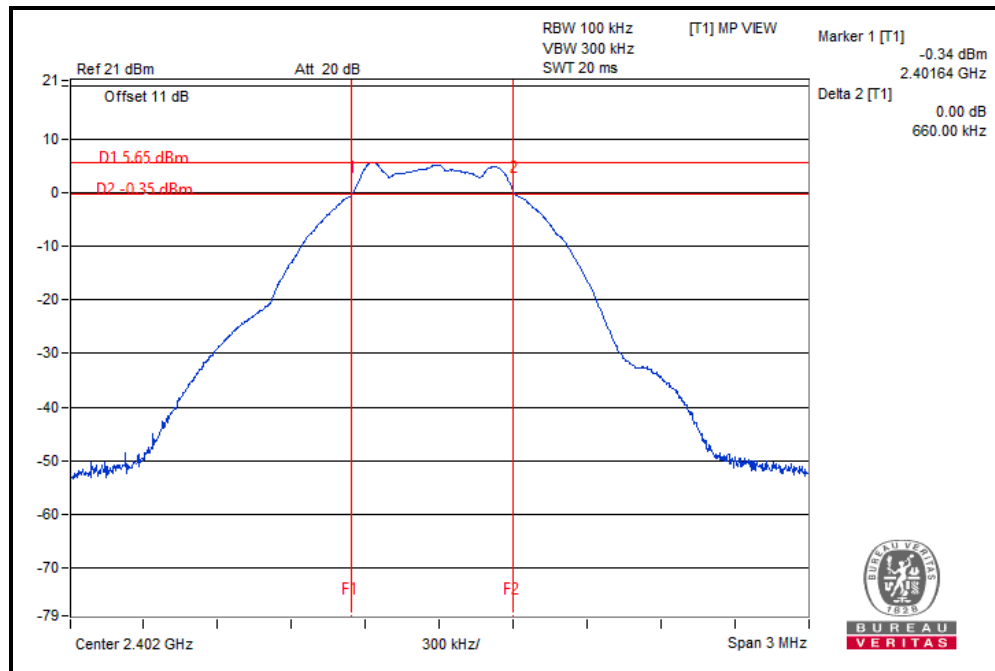
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	0.67	0.5	PASS
19	2440	0.66	0.5	PASS
39	2480	0.67	0.5	PASS





BT-LE (GFSK) (1M)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	0.66	0.5	PASS
19	2440	0.66	0.5	PASS
39	2480	0.66	0.5	PASS



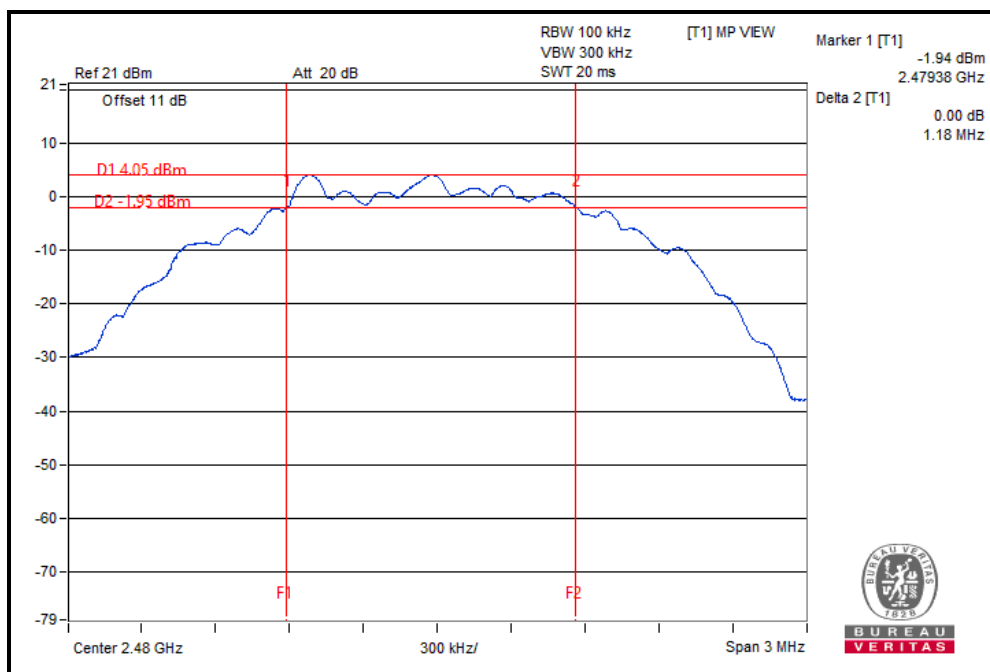


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Test Report No.: RF200324W001-2

BT-LE (GFSK) (2M)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	1.17	0.5	PASS
19	2440	1.17	0.5	PASS
39	2480	1.18	0.5	PASS



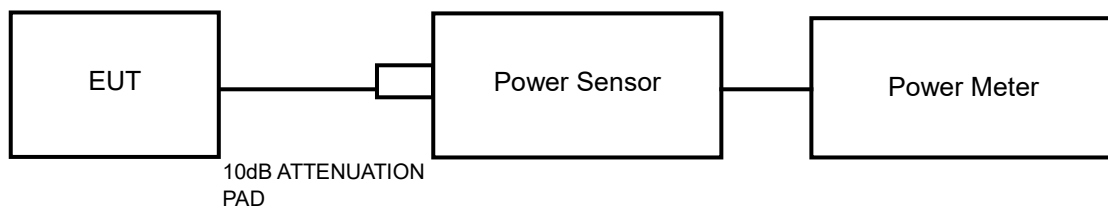


3.4 CONDUCTED OUTPUT POWER

3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.4.4 TEST PROCEDURES

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

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

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



3.4.7 TEST RESULTS

3.4.7.1 MAXIMUM PEAK OUTPUT POWER

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
1	2412	17.72	59.16	1	PASS
6	2437	18.07	64.12	1	PASS
11	2462	17.99	62.95	1	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
1	2412	20.61	115.08	1	PASS
6	2437	20.59	114.55	1	PASS
11	2462	20.14	103.28	1	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
1	2412	17.75	59.57	1	PASS
6	2437	17.72	59.16	1	PASS
11	2462	17.38	54.70	1	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
3	2422	18.38	68.87	1	PASS
6	2437	18.69	73.96	1	PASS
9	2452	18.30	67.61	1	PASS



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BT-LE (1MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
0	2402	3.72	2.36	1	PASS
19	2440	1.68	1.47	1	PASS
39	2480	2.58	1.81	1	PASS

BT-LE (2MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
0	2402	3.64	2.31	1	PASS
19	2440	1.57	1.44	1	PASS
39	2480	2.42	1.75	1	PASS

BT-LE (S8)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
0	2402	3.61	2.30	1	PASS
19	2440	1.54	1.43	1	PASS
39	2480	2.43	1.75	1	PASS

BT-LE (S2)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT(W)	PASS/FAIL
0	2402	3.73	2.36	1	PASS
19	2440	1.69	1.48	1	PASS
39	2480	2.55	1.80	1	PASS



3.4.7.2 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)	PASS/FAIL
1	2412	15.34	N/A
6	2437	15.88	N/A
11	2462	15.58	N/A

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	16.90	N/A
6	2437	16.64	N/A
11	2462	16.37	N/A

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	14.05	N/A
6	2437	13.81	N/A
11	2462	14.12	N/A

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	14.60	N/A
6	2437	14.85	N/A
11	2462	14.65	N/A

**BT-LE (1MHz)**

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	3.44	N/A
19	2440	1.32	N/A
39	2480	2.33	N/A

BT-LE (2MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	3.43	N/A
19	2440	1.39	N/A
39	2480	2.19	N/A

BT-LE (S8)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	3.44	N/A
19	2440	1.35	N/A
39	2480	2.21	N/A

BT-LE (S2)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	3.46	N/A
19	2440	1.43	N/A
39	2480	2.33	N/A

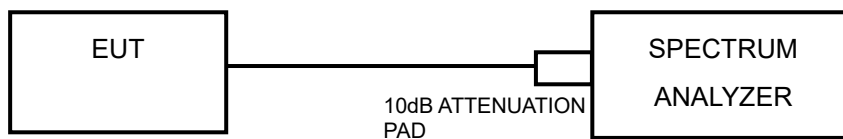


3.5 POWER SPECTRAL DENSITY MEASUREMENT

3.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

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

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.5.4 TEST PROCEDURE

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 3 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.

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITION

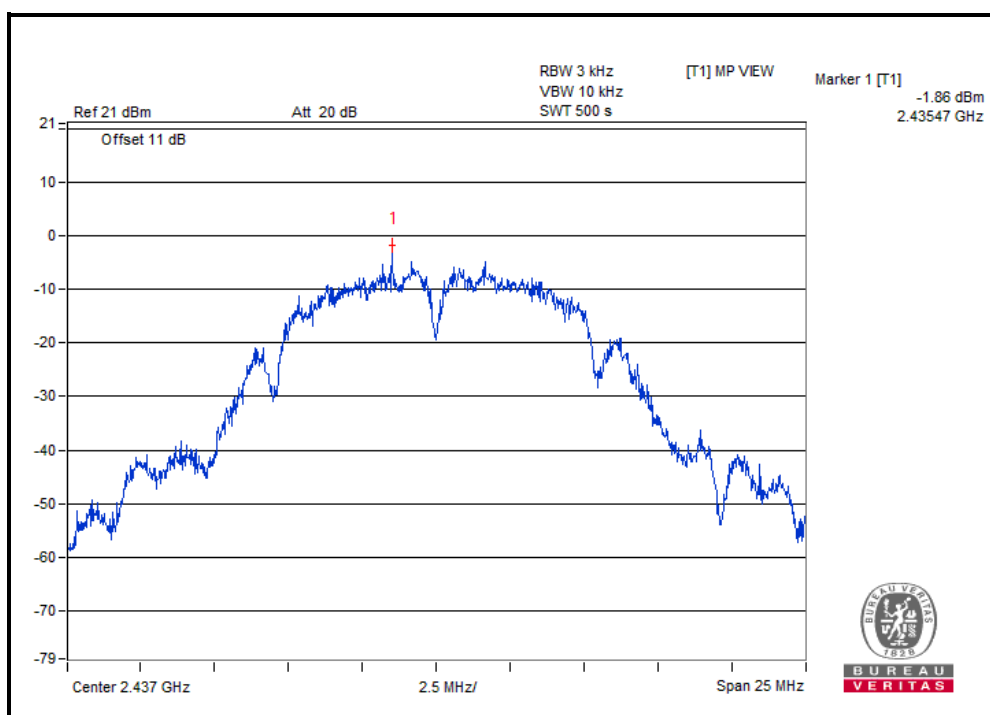
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



3.5.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	ANT0 PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-5.09	8	PASS
6	2437	-1.86	8	PASS
11	2462	-4.40	8	PASS



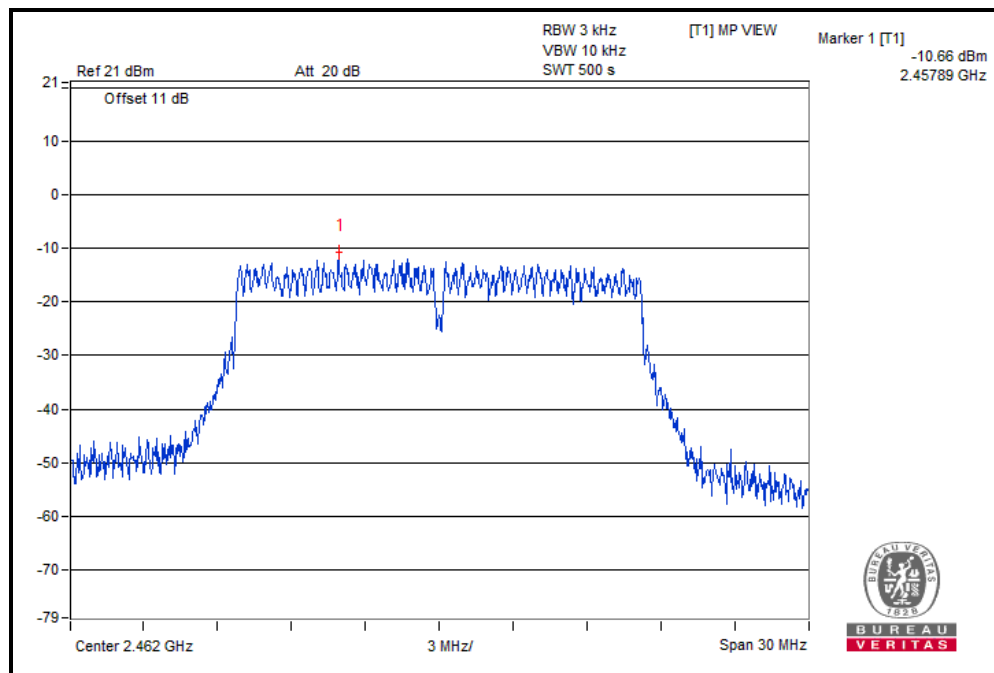


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802.11g

Channel	FREQ. (MHz)	ANT0 PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-11.93	8	PASS
6	2437	-10.70	8	PASS
11	2462	-10.66	8	PASS



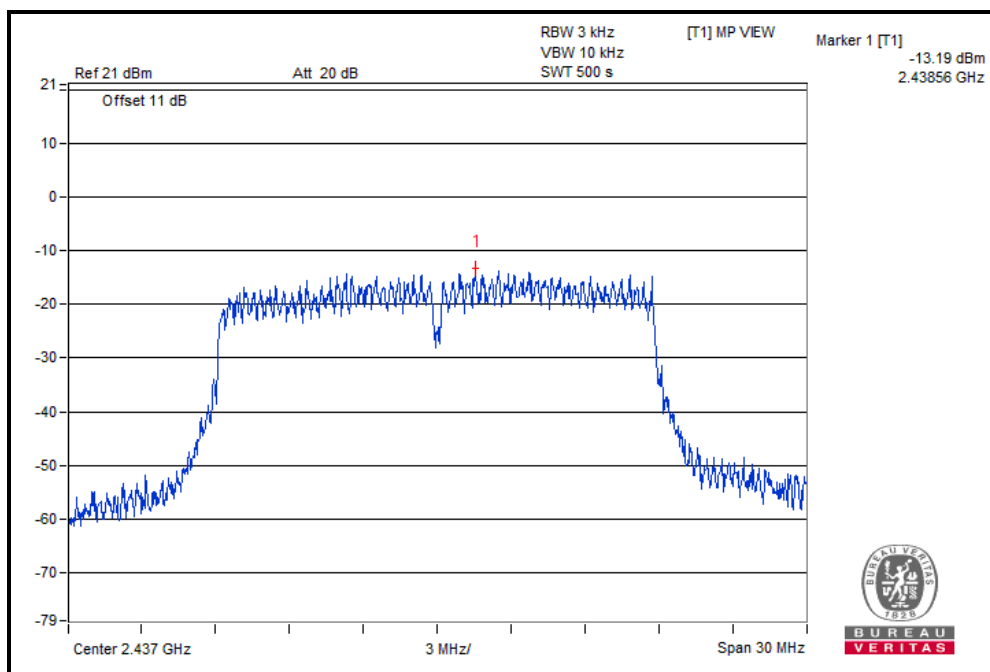


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VERITAS

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802.11n (20MHz)

Channel	FREQ. (MHz)	ANT0 PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-13.73	8	PASS
6	2437	-13.19	8	PASS
11	2462	-13.93	8	PASS



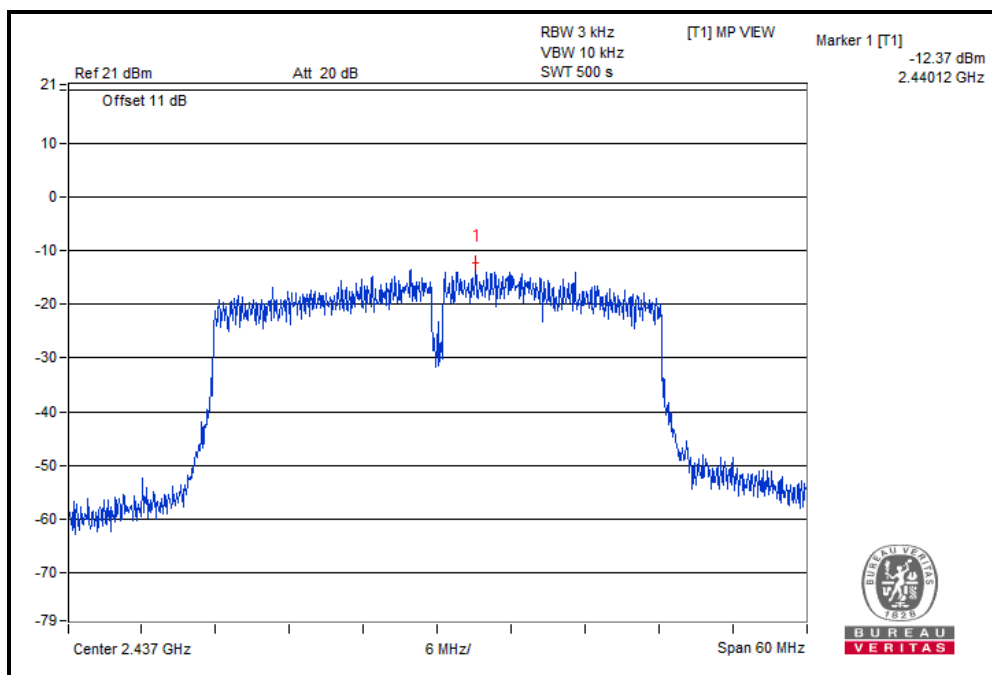


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VERITAS

Test Report No.: RF200324W001-2

802.11n (40MHz)

Channel	FREQ. (MHz)	ANT0 PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-12.68	8	PASS
6	2437	-12.37	8	PASS
9	2452	-13.39	8	PASS



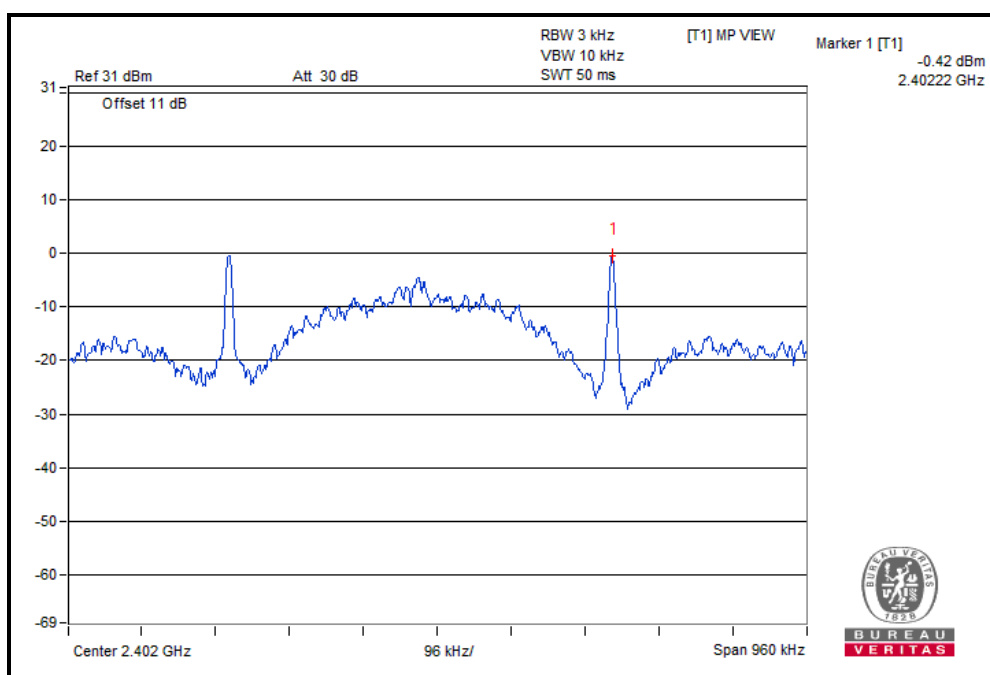


BUREAU
VERITAS

Test Report No.: RF200324W001-2

BT-LE (S8)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	2402	-0.42	8	PASS
19	2440	-2.28	8	PASS
39	2480	-1.36	8	PASS



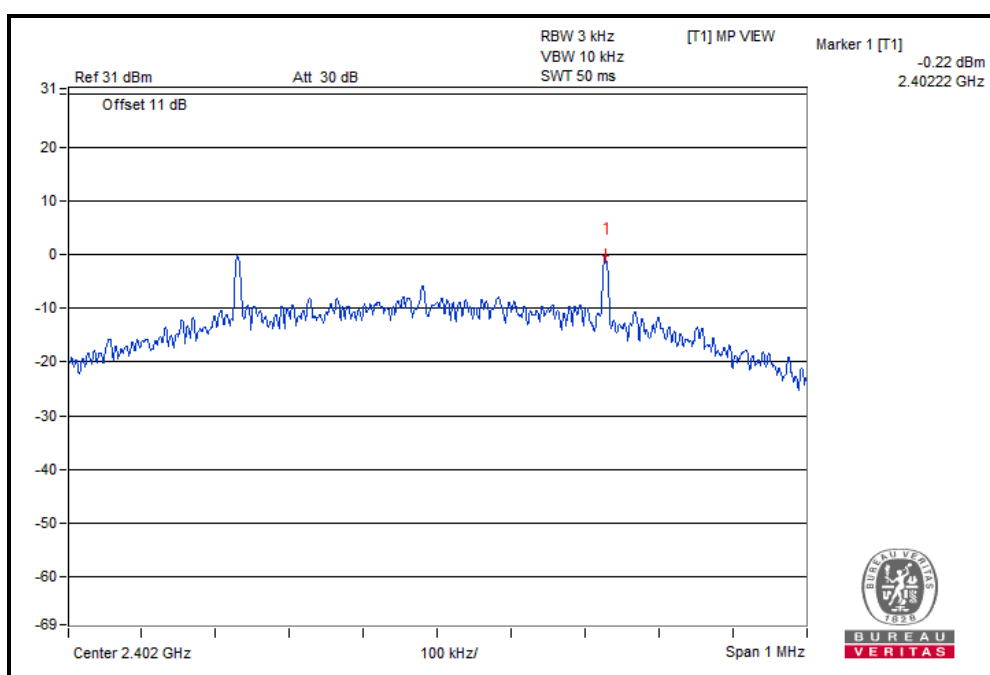


BUREAU
VERITAS

Test Report No.: RF200324W001-2

BT-LE (S2)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	2402	-0.22	8	PASS
19	2440	-2.15	8	PASS
39	2480	-1.26	8	PASS



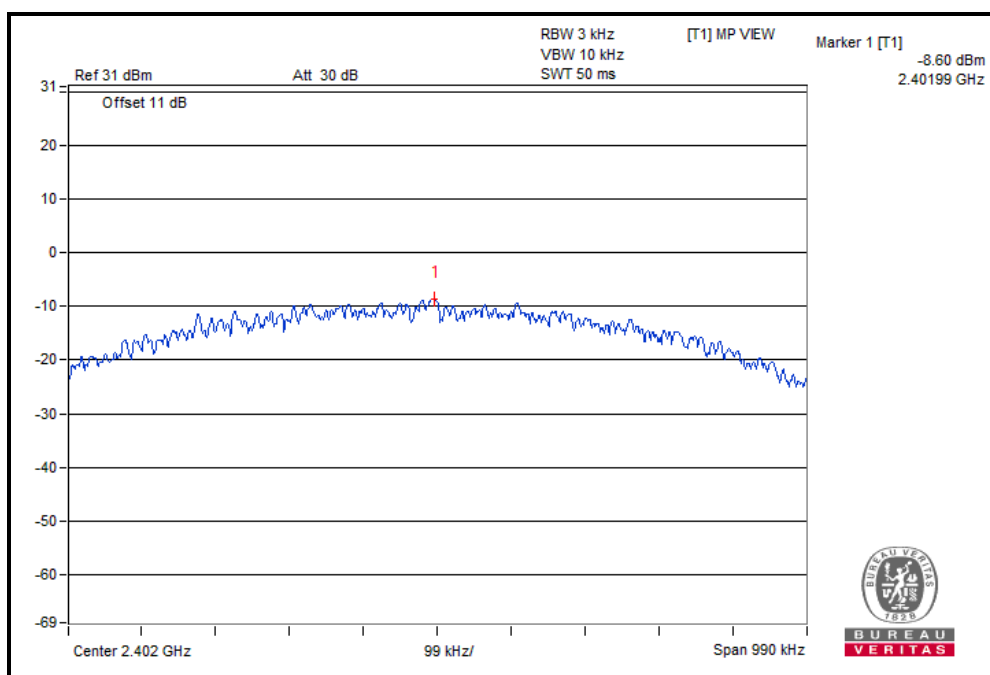


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VERITAS

Test Report No.: RF200324W001-2

BT-LE (1M)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	2402	-8.60	8	PASS
19	2440	-10.55	8	PASS
39	2480	-9.54	8	PASS



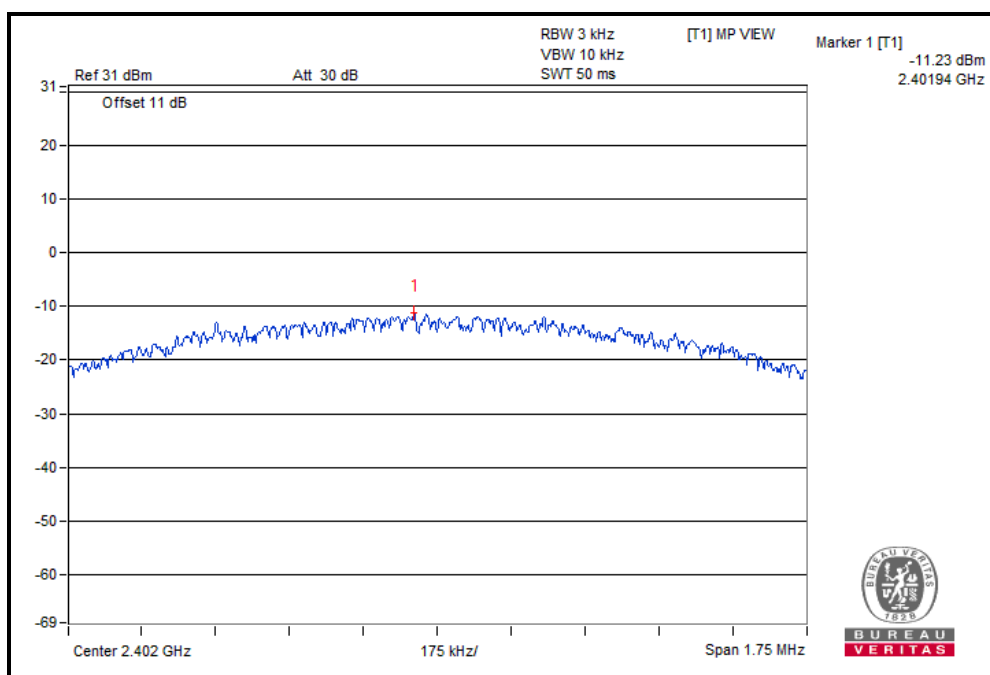


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VERITAS

Test Report No.: RF200324W001-2

BT-LE (2M)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	2402	-11.23	8	PASS
19	2440	-13.51	8	PASS
39	2480	-12.20	8	PASS



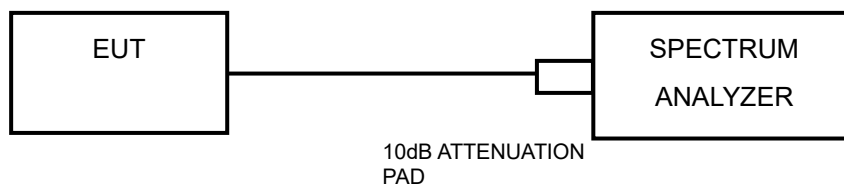


3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

3.6.2 TEST SETUP



3.6.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

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 OOB

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.

3.6.5 DEVIATION FROM TEST STANDARD

No deviation.

3.6.6 EUT OPERATING CONDITION

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

3.6.7 TEST RESULTS

The spectrum plots are attached on the following images. D1 line indicates the highest level. D2 line indicates the 20dB offset below D1. It shows compliance to the requirement.

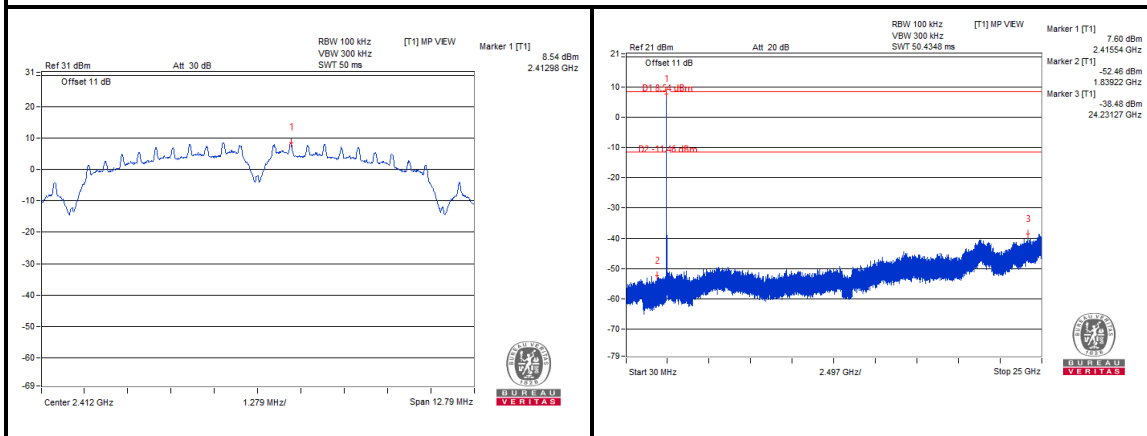


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VERITAS

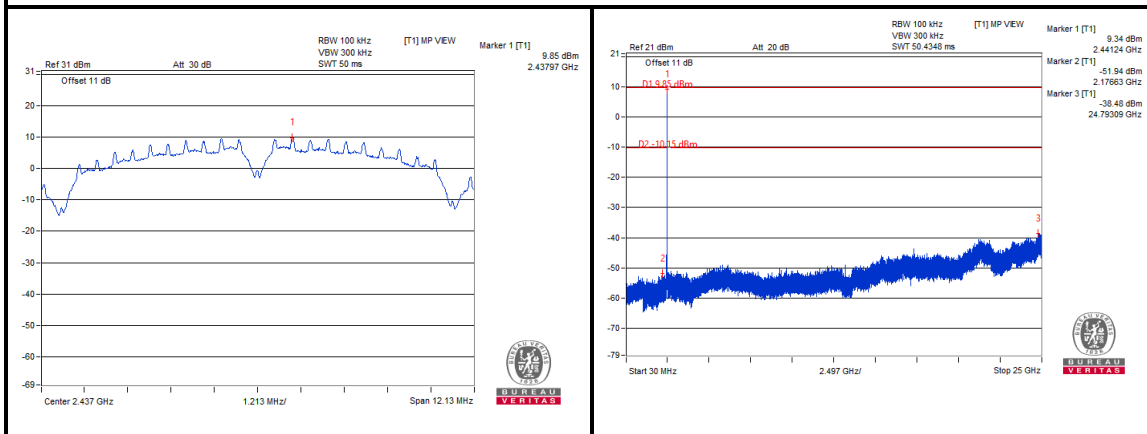
Test Report No.: RF200324W001-2

802.11b

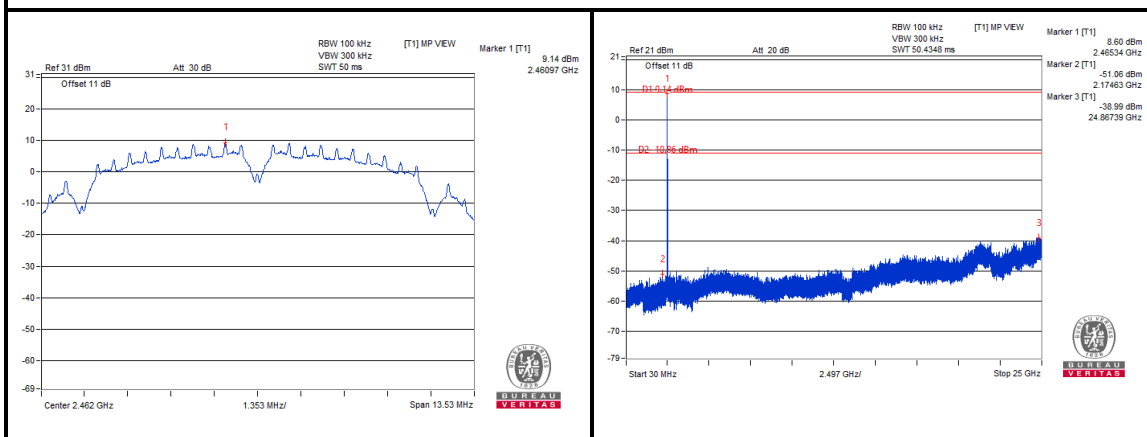
CH 1



CH 6



CH 11

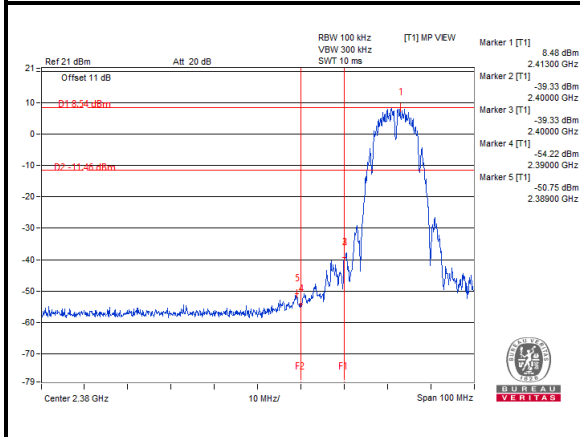




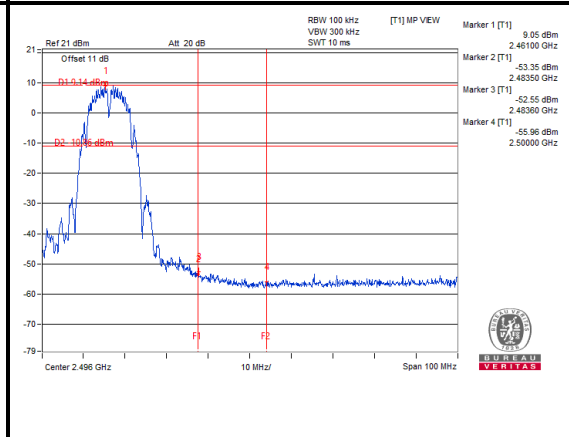
BUREAU
VERITAS

Test Report No.: RF200324W001-2

CH 1 Band Edge



CH 11 Band Edge



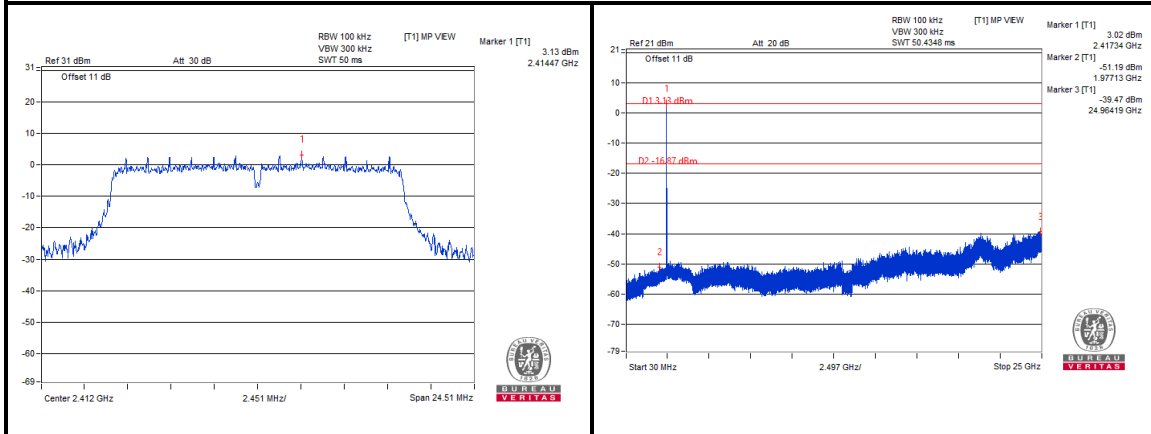


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VERITAS

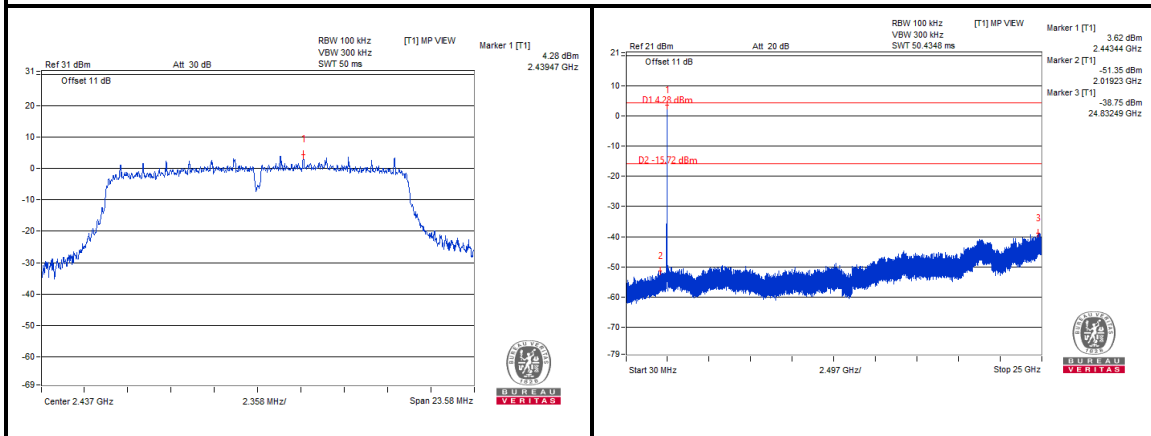
Test Report No.: RF200324W001-2

802.11g

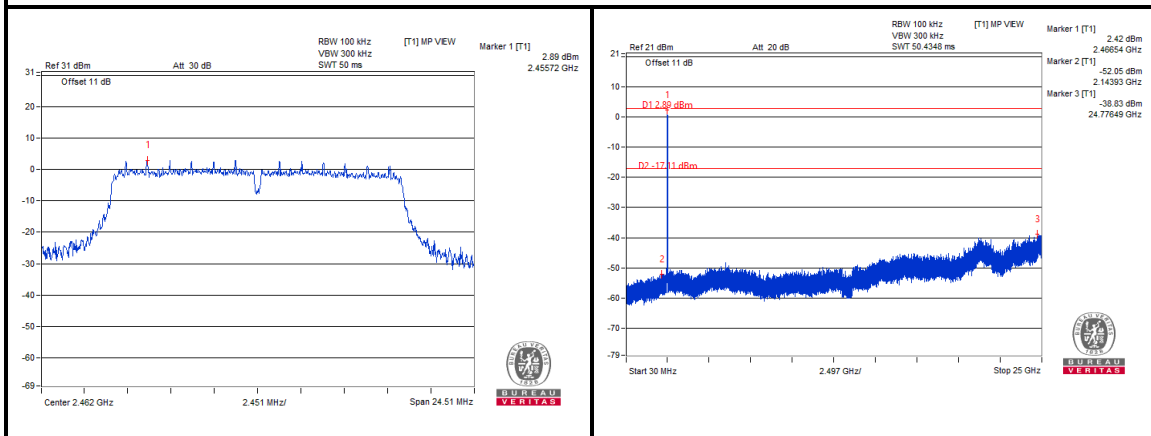
CH 1



CH 6



CH 11

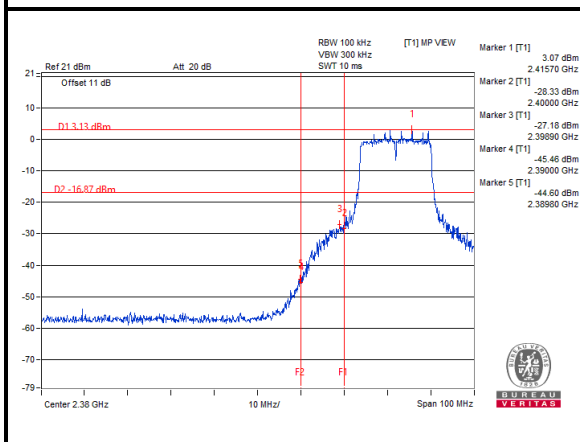




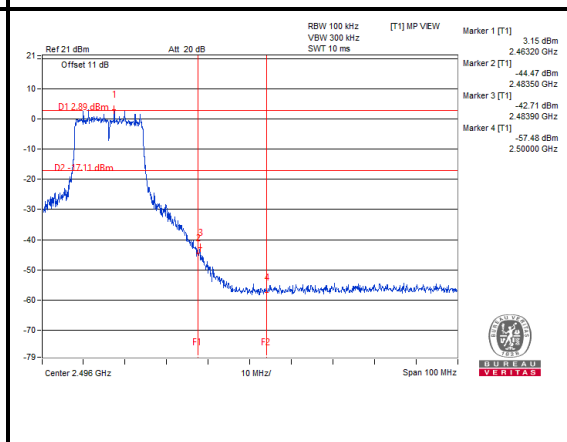
BUREAU
VERITAS

Test Report No.: RF200324W001-2

CH 1 Band Edge



CH 11 Band Edge



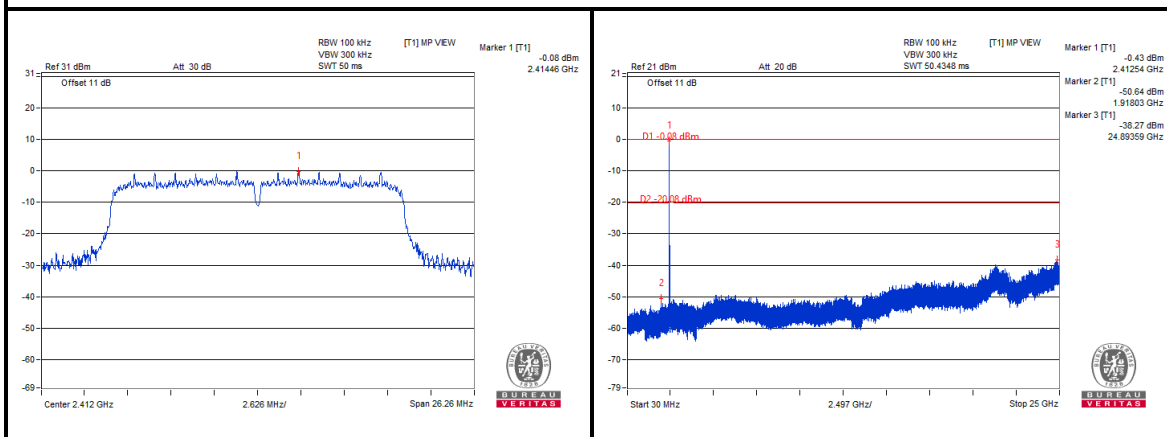


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VERITAS

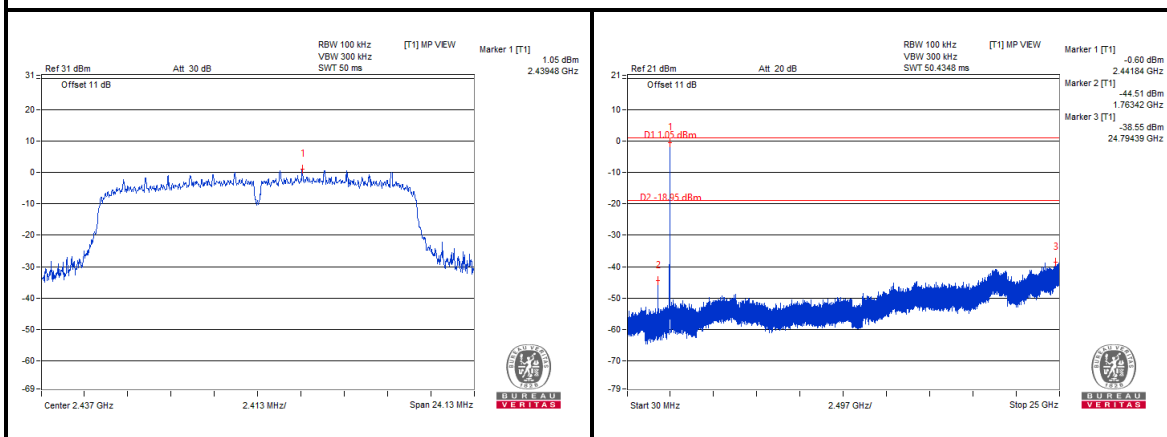
Test Report No.: RF200324W001-2

802.11n (20MHz)

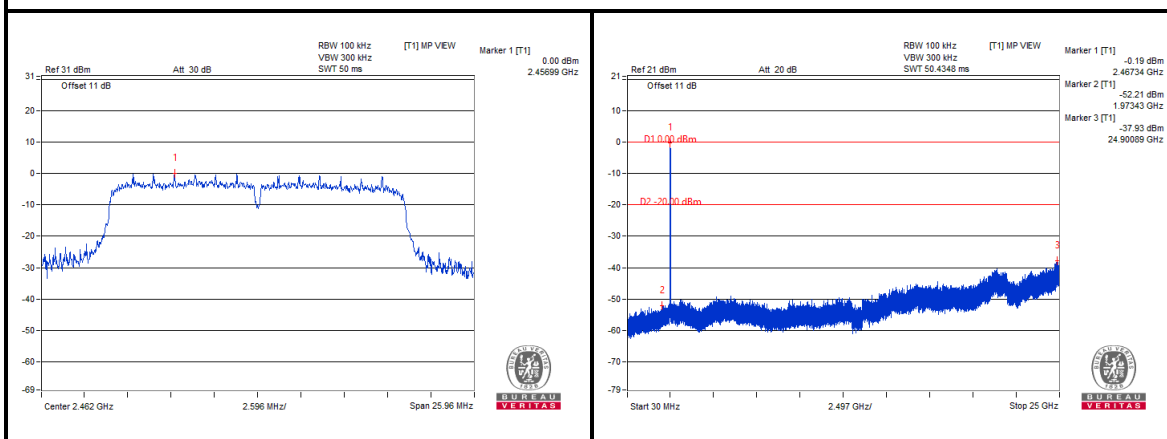
CH 1



CH 6



CH 11

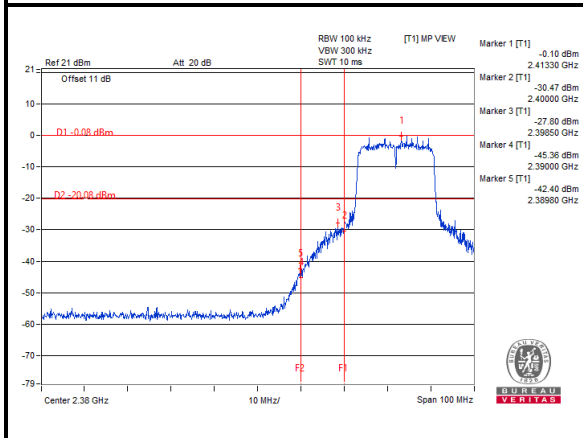




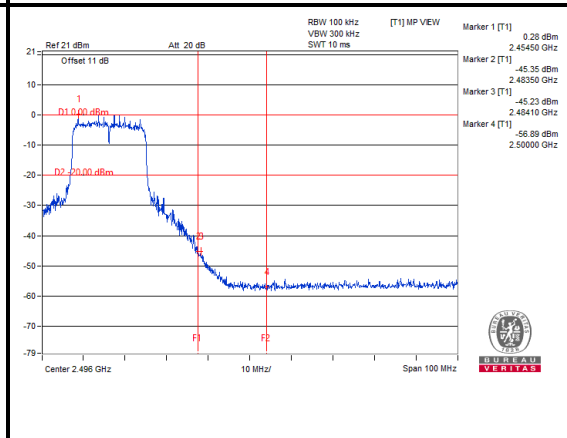
BUREAU
VERITAS

Test Report No.: RF200324W001-2

CH 1 Band Edge



CH 11 Band Edge



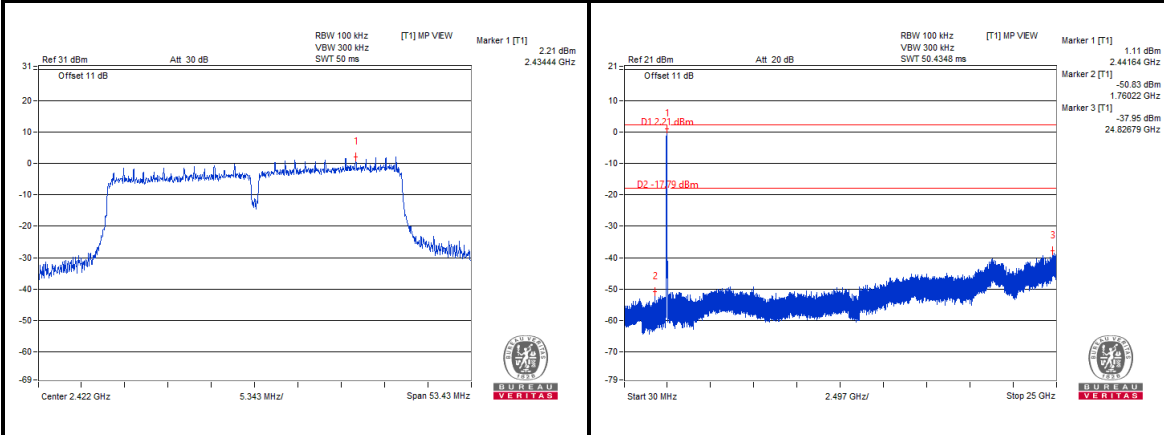


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VERITAS

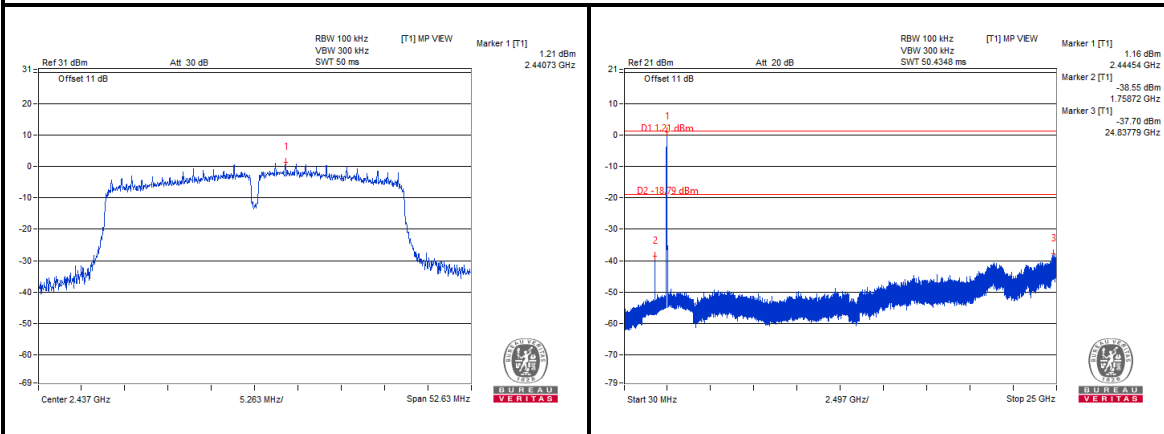
Test Report No.: RF200324W001-2

802.11n (40MHz)

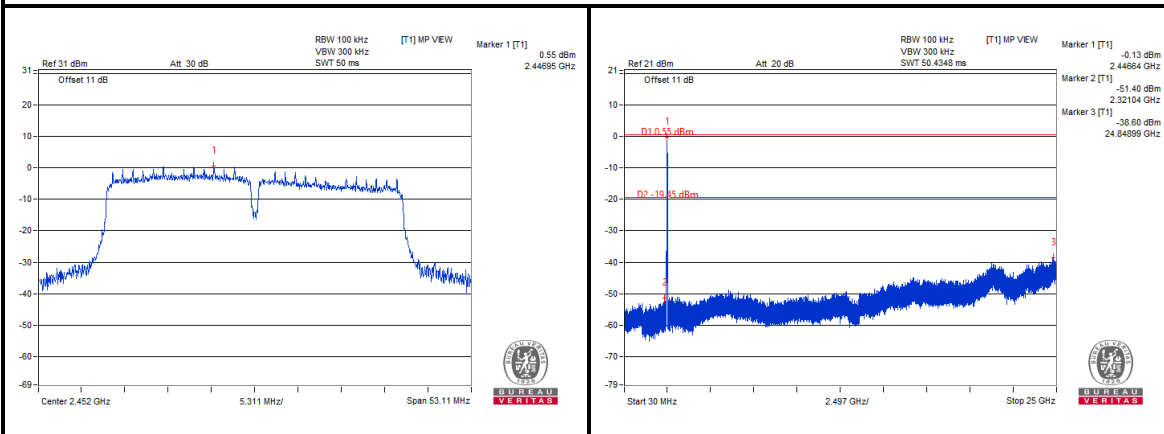
CH 3



CH 6



CH 9

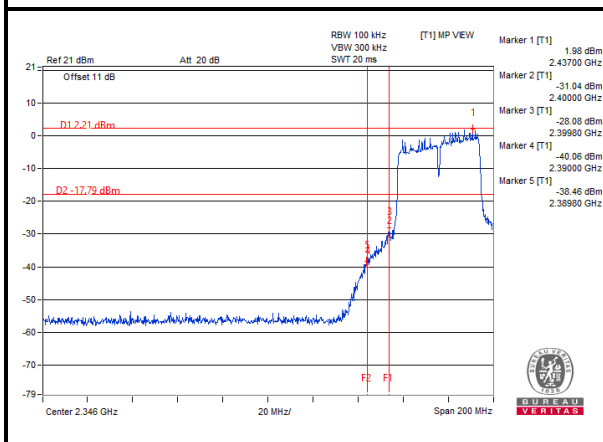




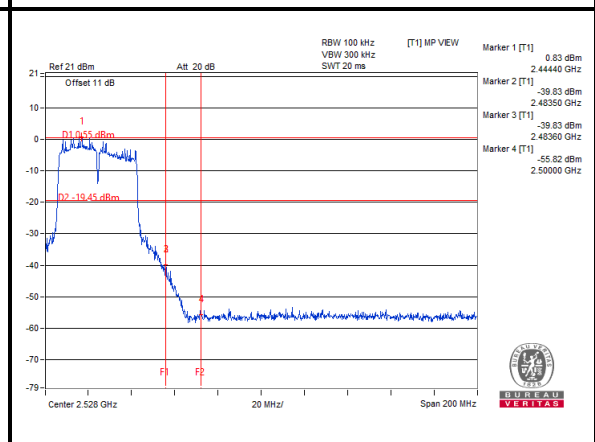
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CH 3 Band Edge



CH 9 Band Edge



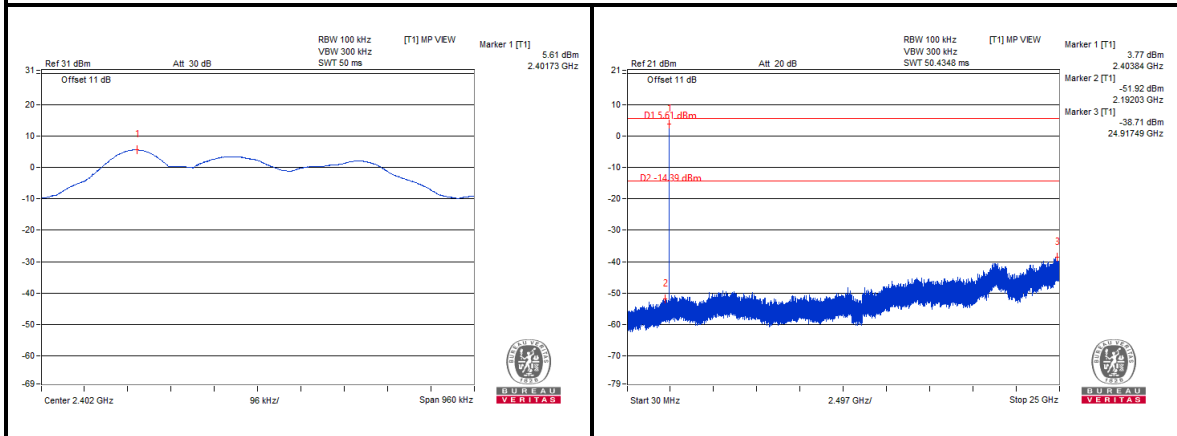


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VERITAS

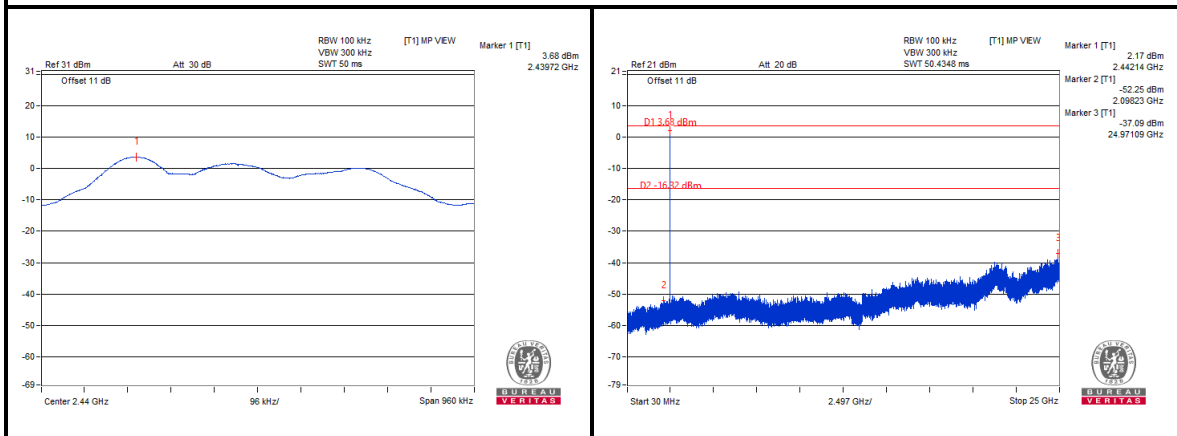
Test Report No.: RF200324W001-2

BT-LE (S8)

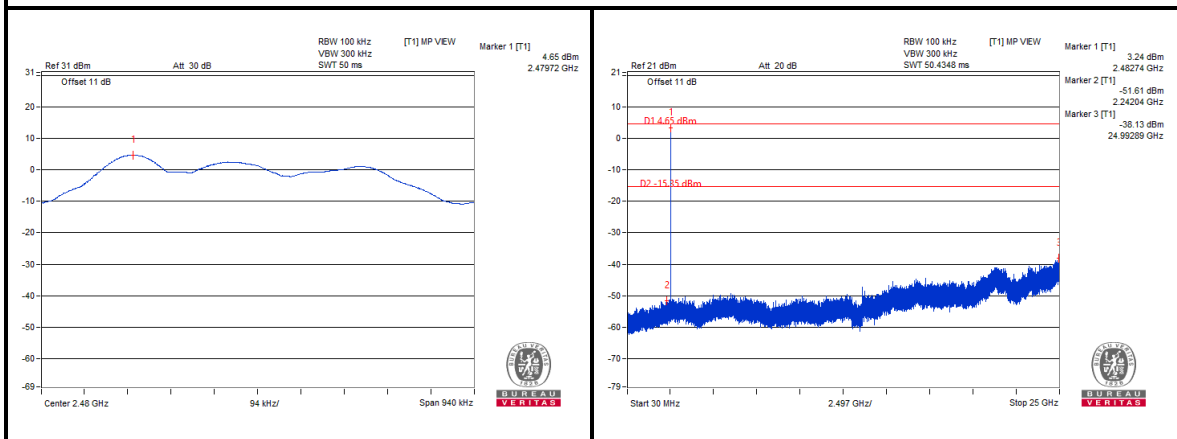
CH 0



CH 19



CH 39

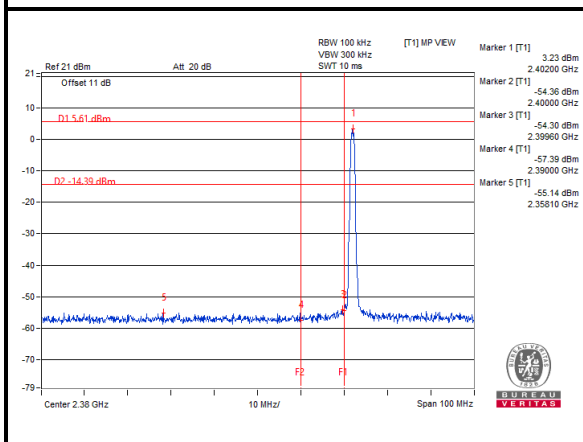




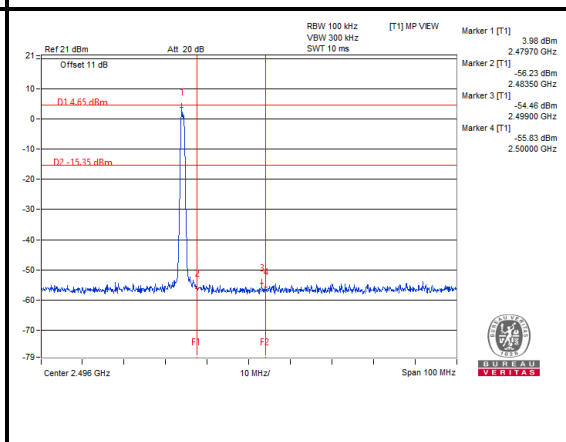
BUREAU
VERITAS

Test Report No.: RF200324W001-2

CH 0 Band Edge



CH 39 Band Edge



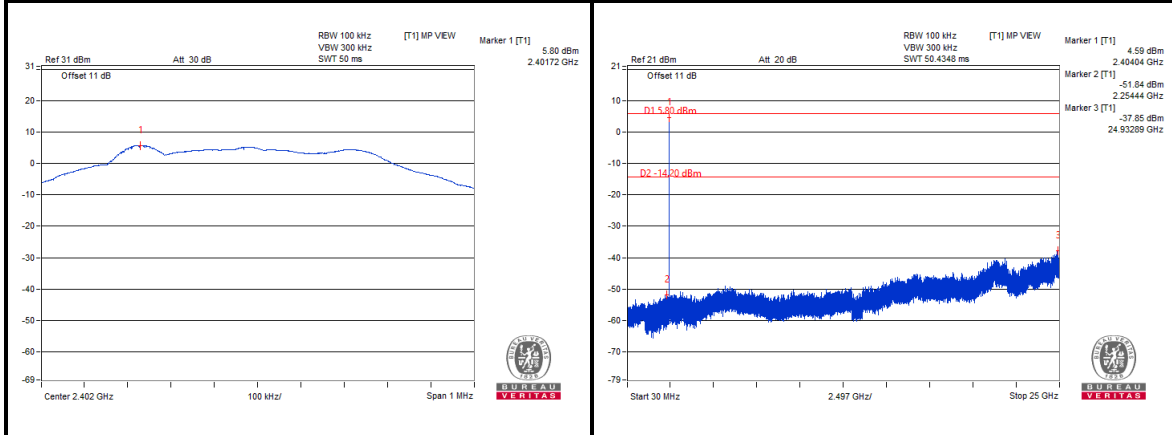


BUREAU
VERITAS

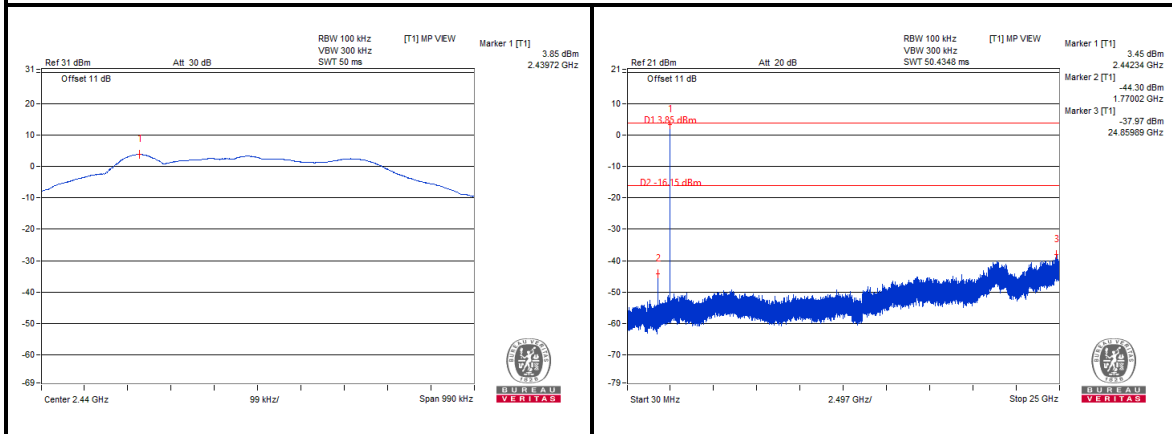
Test Report No.: RF200324W001-2

BT-LE (S2)

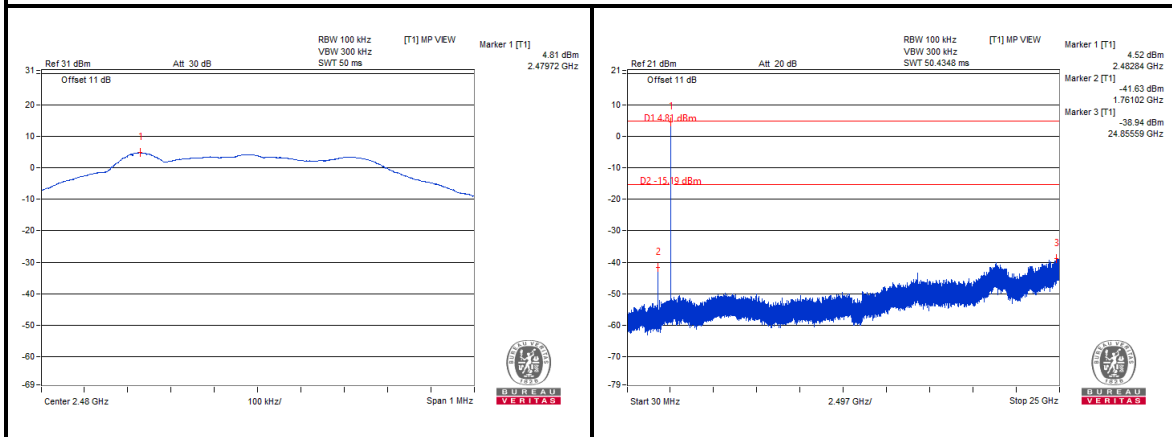
CH 0



CH 19



CH 39

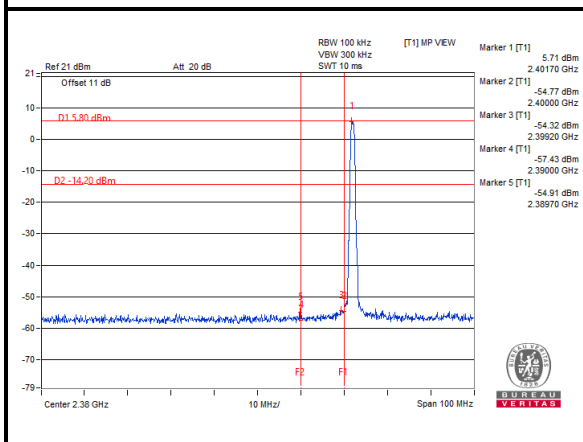




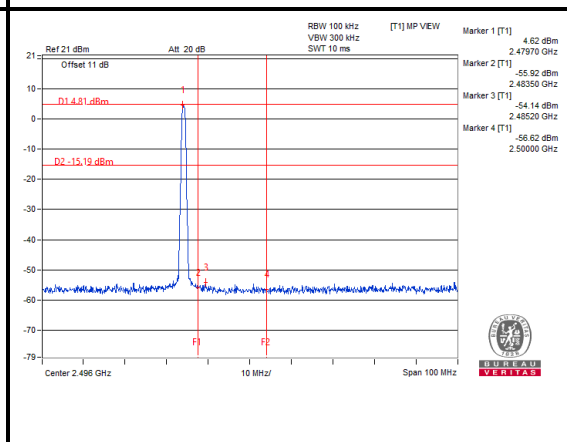
BUREAU
VERITAS

Test Report No.: RF200324W001-2

CH 0 Band Edge



CH 39 Band Edge



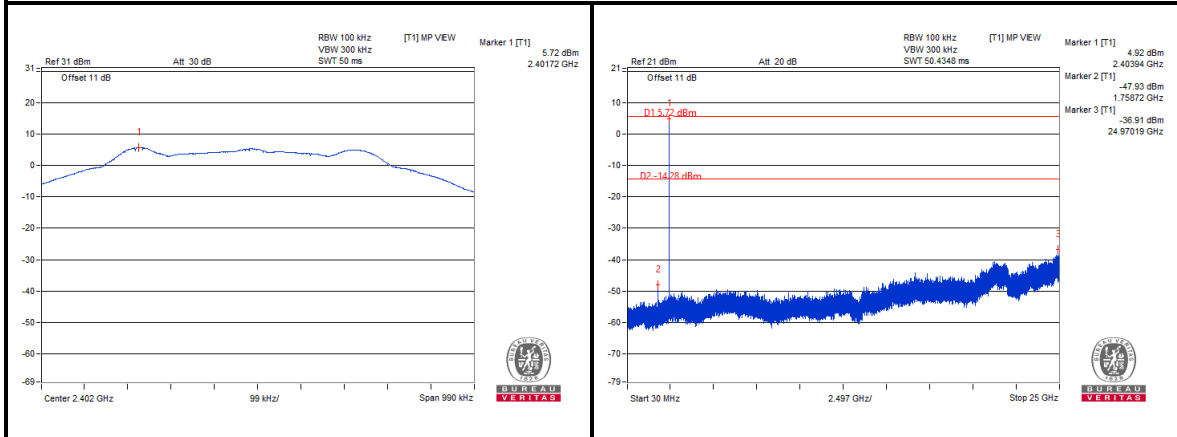


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VERITAS

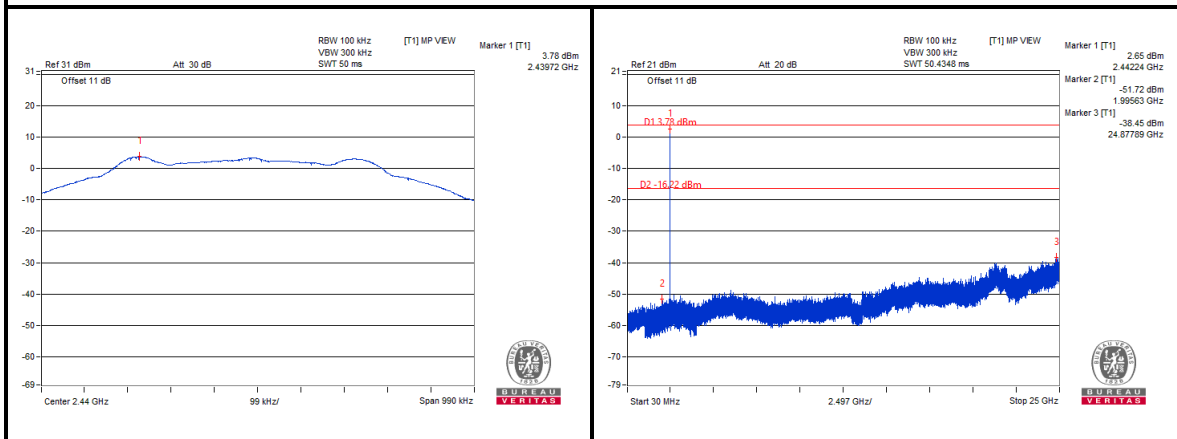
Test Report No.: RF200324W001-2

BT-LE (1M)

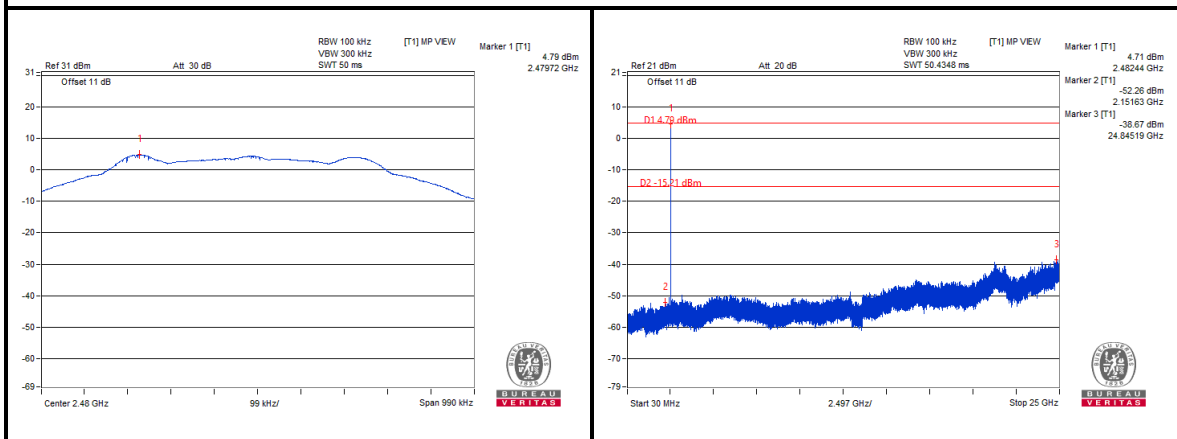
CH 0



CH 19



CH 39

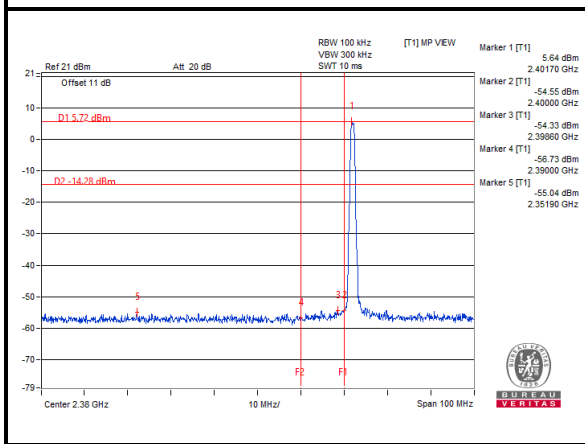




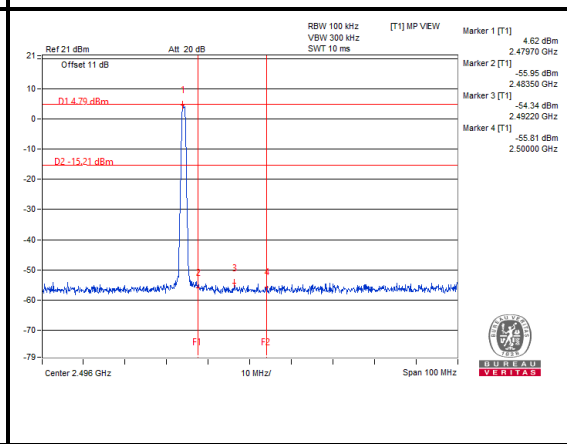
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VERITAS

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CH 0 Band Edge



CH 39 Band Edge



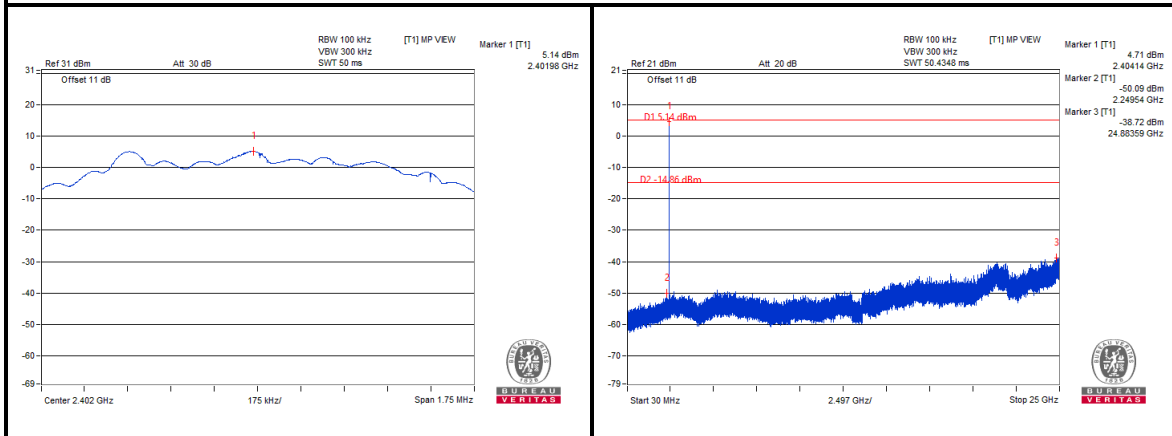


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VERITAS

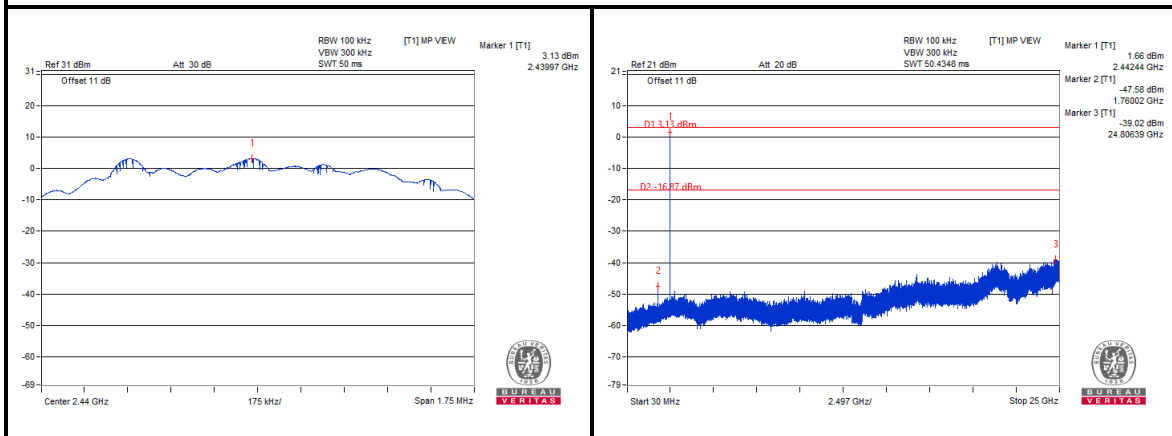
Test Report No.: RF200324W001-2

BT-LE (2M)

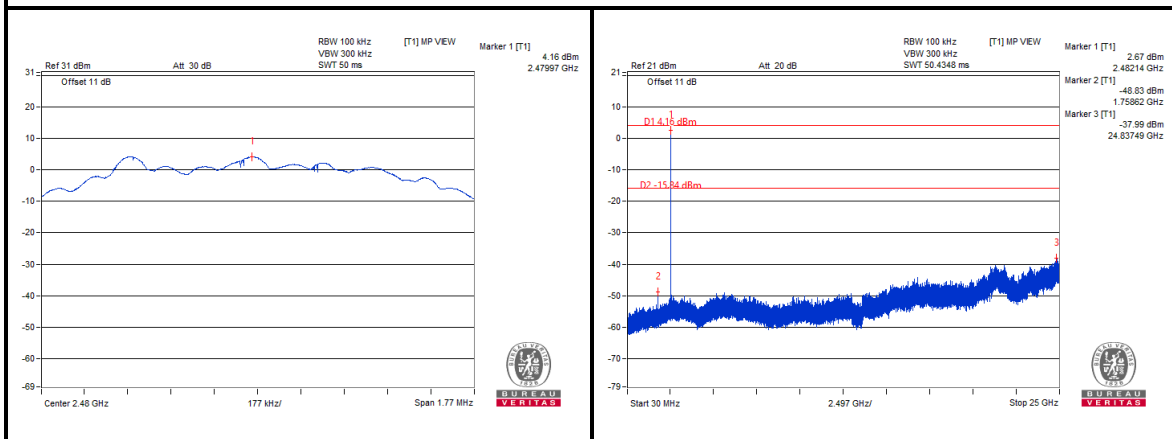
CH 0



CH 19



CH 39

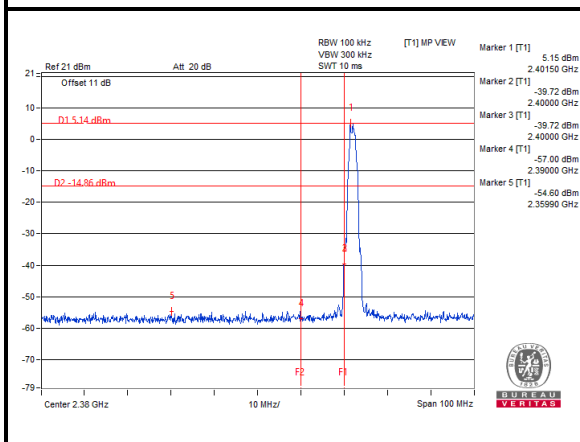




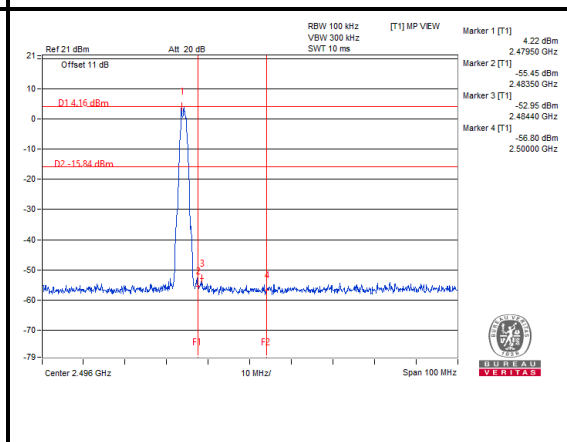
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CH 0 Band Edge



CH 39 Band Edge





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4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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5 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.

modifications recorders for engineering changes to the eut by the lab

---END---