

TEST REPORT

Applicant	GST Enterprise Ltd.
Address	Zhizaogang C6-2, Lane 1000, Yunshan Road, Ningbo, China

Manufacturer or Supplier	GST Enterprise Ltd.
Address	Zhizaogang C6-2, Lane 1000, Yunshan Road, Ningbo, China
Product	VIDEO WALKIE TALKIES
Brand Name	N/A
Model	GS-Q21412
Additional Model & Model Difference	2698413; see items 3.1
Date of tests	Jul. 31, 2026 ~ Aug. 03, 2026

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

☒ **FCC Part 15, Subpart C, Section 15.247**

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

Prepared by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Aug. 12, 2026

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

TABLE OF CONTENTS

1	SUMMARY OF TEST RESULTS.....	5
2	MEASUREMENT UNCERTAINTY	5
3	GENERAL INFORMATION	6
3.1	GENERAL DESCRIPTION OF EUT	6
3.2	DESCRIPTION OF TEST MODES	7
3.2.1	CONFIGURATION OF SYSTEM UNDER TEST	7
3.2.2	TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL.....	7
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	9
3.4	DESCRIPTION OF SUPPORT UNITS	9
3.5	CONFIGURATION OF SYSTEM UNDER TEST	10
3.6	DUTY CYCLE OF TESET SIGNAL.....	11
4	TEST TYPES AND RESULTS.....	12
4.1	RADIATED EMISSION MEASUREMENT	12
4.1.1	LIMITS OF RADIATED EMISSION MEASUREMENT	12
4.1.2	TEST INSTRUMENTS.....	13
4.1.3	TEST PROCEDURES	14
4.1.4	DEVIATION FROM TEST STANDARD	14
4.1.5	TEST SETUP	15
4.1.6	EUT OPERATING CONDITIONS	16
4.1.7	TEST RESULTS	17
4.2	6DB BANDWIDTH MEASUREMENT	28
4.2.1	LIMITS OF 6DB BANDWIDTH MEASUREMENT	28
4.2.2	TEST INSTRUMENTS.....	28
4.2.3	TEST PROCEDURE.....	28
4.2.4	DEVIATION FROM TEST STANDARD	28
4.2.5	TEST SETUP	29
4.2.6	EUT OPERATING CONDITIONS	29
4.2.7	TEST RESULTS	30
4.3	CONDUCTED OUTPUT POWER.....	31
4.3.1	LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT	31
4.3.2	TEST SETUP	31
4.3.3	TEST INSTRUMENTS.....	31
4.3.4	TEST PROCEDURES	31
4.3.5	DEVIATION FROM TEST STANDARD	31
4.3.6	EUT OPERATING CONDITIONS	31
4.3.7	TEST RESULTS	32
4.4	POWER SPECTRAL DENSITY MEASUREMENT	33
4.4.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	33
4.4.2	TEST SETUP	33
4.4.3	TEST INSTRUMENTS.....	33
4.4.4	TEST PROCEDURE.....	33
4.4.5	DEVIATION FROM TEST STANDARD	33

4.4.6	EUT OPERATING CONDITION	33
4.4.7	TEST RESULTS	34
4.5	OUT OF BAND EMISSION MEASUREMENT	35
4.5.1	LIMITS OF OUT OF BAND EMISSION MEASUREMENT	35
4.5.2	TEST SETUP	35
4.5.3	TEST INSTRUMENTS	35
4.5.4	TEST PROCEDURE	35
4.5.5	DEVIATION FROM TEST STANDARD	36
4.5.6	EUT OPERATING CONDITION	36
4.5.7	TEST RESULTS	37
5	PHOTOGRAPHS OF THE TEST CONFIGURATION	39
6	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	40

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2606WDG0261	Original release	Aug. 12, 2026

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	Powered by battery
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	i-pex connector is used

Test Location:

A: No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province. 523942. People's Republic of China.

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	150kHz~30MHz	3.36dB
Radiated emissions	9kHz~30MHz	2.76dB
	30MHz ~ 1GMHz	4.32dB
	1GHz ~ 18GHz	4.76dB
	18GHz ~ 40GHz	4.50dB

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	VIDEO WALKIE TALKIES
MODEL NO.	GS-Q21412
ADDITIONAL MODEL	2698413
FCC ID	2BXJC-GST38739603
NOMINAL VOLTAGE	DC 3.7V from li-ion battery or powered by USB host unit
MODULATION TECHNOLOGY	OFDM
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK for OFDM
OPERATING FREQUENCY	2412-2462MHz for 11n(HT20)
PEAK OUTPUT POWER	62.373mw (Maximum)
ANTENNA TYPE	Metal Antenna, 2.30dBi Gai
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB Cable: Unshielded, detachable, 22cm

NOTES:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 2606WDG0261) for detailed product photo.
4. When the EUT is charging that the RF function does not work.
5. Additional model 2698413 is identical with test model GS-Q21412 except the model No. for trading purposes.
6. The EUT incorporates a SISO function. Physically, the EUT provides one transmitter and one receiver.

MODULATION MODE	FUNCTION
802.11n (HT20)	1TX/1RX

3.2 DESCRIPTION OF TEST MODES

11 channels are provided for 802.11n(HT20):

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

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

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

3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, power supply voltage range and antenna ports. The worst case was found when positioned on Y axis for radiated emission. Following test modes were selected for the final test, and the final worst case is marked in boldface and recorded in the report:

EUT CONFIGURE MODE	APPLICABLE TO				MODE
	RE<1G	RE≥1G	PLC	APCM	
A	√	√	-	√	Powered by Fully Battery

Where **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission

RE≥1G: Radiated Emission above 1GHz
APCM: Antenna Port Conducted Measurement

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n HT20	1 to 11	1	OFDM	BPSK	6.5

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5

ANTENNA PORT CONDUCTED MEASUREMENT:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n HT20	1 to 11	1, 6, 11	OFDM	BPSK	6.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	25deg. C, 57%RH	DC 3.7V From Fully Battery	Neil
RE≥1G	25deg. C, 57%RH	DC 3.7V From Fully Battery	Neil
PLC	--	--	-
APCM	25deg. C, 57%RH	DC 3.7V From Fully Battery	Leo

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 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 15.247 Meas Guidance v05r02

ANSI C63.10-2020

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

3.4 DESCRIPTION OF SUPPORT UNITS

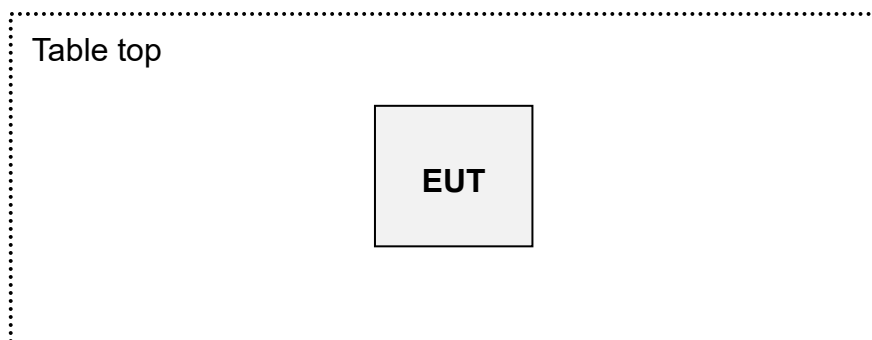
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	REMARK
1	N/A	N/A	N/A	N/A	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

3.5 CONFIGURATION OF SYSTEM UNDER TEST

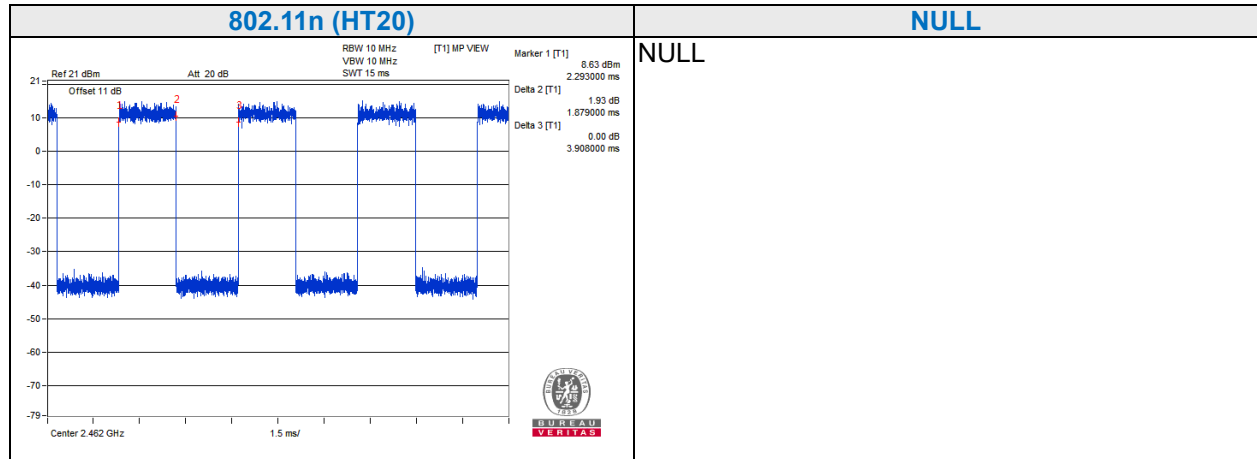
For Radiated Emission Test



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

3.6 DUTY CYCLE OF TESET SIGNAL

Test Mode	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty factor (dB)	1/T Min. VBW (KHz)	VBW Setting
802.11n (HT20)	1.879	3.908	48.1	3.18	0.532	1KHz



4 TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Oct. 09, 26
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	Apr. 08, 27
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	Apr. 13, 27
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Feb. 12, 27
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Dec. 14, 26
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	0085519	Oct. 11, 26
Horn Antenna (18GHz -40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	Apr. 19, 27
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 16, 27
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
Broadband Preamplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	Feb. 12, 27
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Oct. 10, 26

NOTES:

1. The test was performed in 966 Chamber.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site registration No. is 749762, and the designation number is CN1174.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. For below 1GHz was used bilog antenna, and above 1GHz was used horn antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT, and the centre of the loop shall be 1.3m above the ground.
- a. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

NOTE:

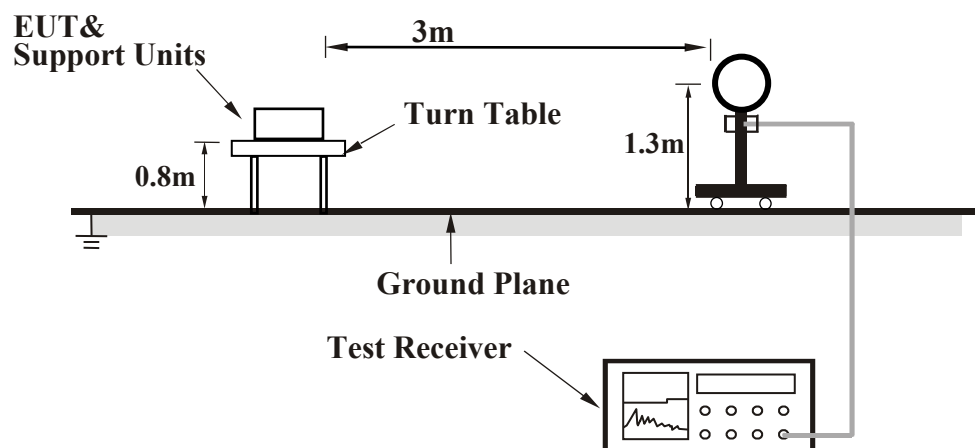
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) 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.

4.1.4 DEVIATION FROM TEST STANDARD

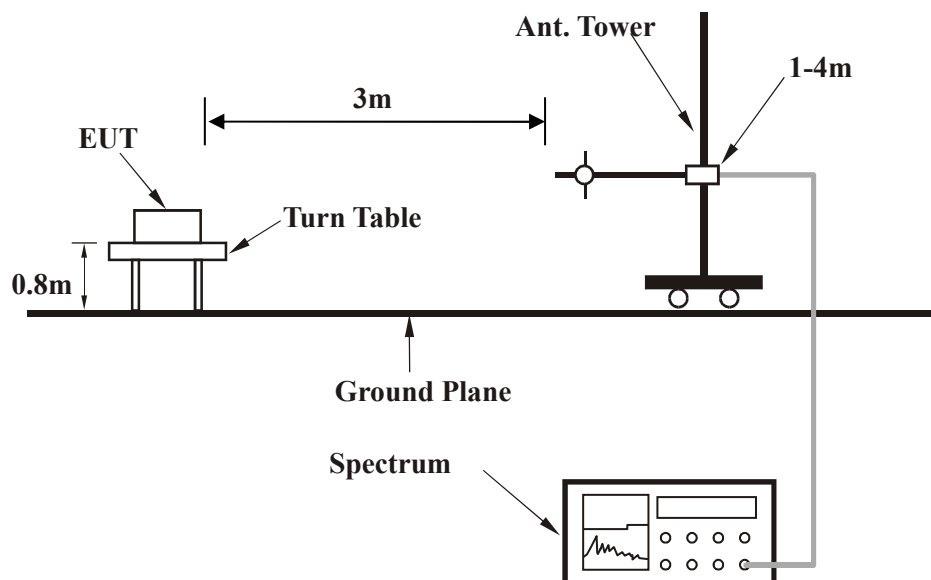
No deviation.

4.1.5 TEST SETUP

Below 30MHz test setup

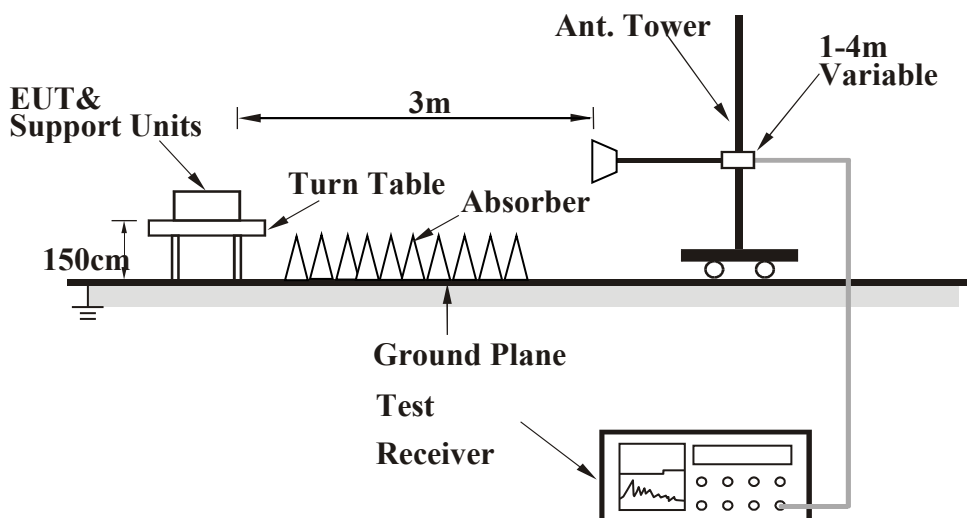


Below 1GHz test setup



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

Above 1GHz test setup



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

4.1.6 EUT OPERATING CONDITIONS

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

4.1.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA:

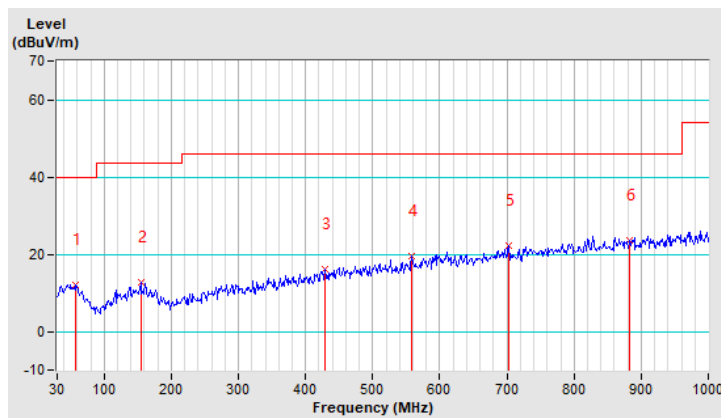
802.11n

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	56.43	11.98 QP	40.00	-28.02	1.00 H	79	28.81	-16.83
2	154.36	12.71 QP	43.50	-30.79	1.00 H	65	29.21	-16.50
3	429.50	16.26 QP	46.00	-29.74	1.00 H	95	28.53	-12.27
4	558.53	19.55 QP	46.00	-26.45	1.00 H	51	29.26	-9.71
5	703.09	22.16 QP	46.00	-23.84	1.00 H	39	28.94	-6.78
6	883.41	23.53 QP	46.00	-22.47	1.00 H	27	27.83	-4.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.

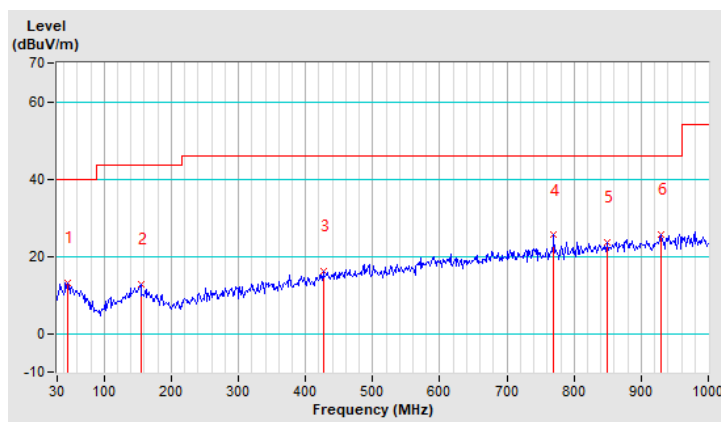


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.54	13.10 QP	40.00	-26.90	1.21 V	324	29.84	-16.74
2	154.36	12.67 QP	43.50	-30.83	1.33 V	312	29.17	-16.50
3	426.39	16.09 QP	46.00	-29.91	1.46 V	300	28.45	-12.36
4	769.94	25.44 QP	46.00	-20.56	1.79 V	267	31.29	-5.85
5	849.21	23.71 QP	46.00	-22.29	1.60 V	286	28.19	-4.48
6	930.05	25.64 QP	46.00	-20.36	1.95 V	251	29.37	-3.73

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.



ABOVE 1GHz DATA

802.11n HT20

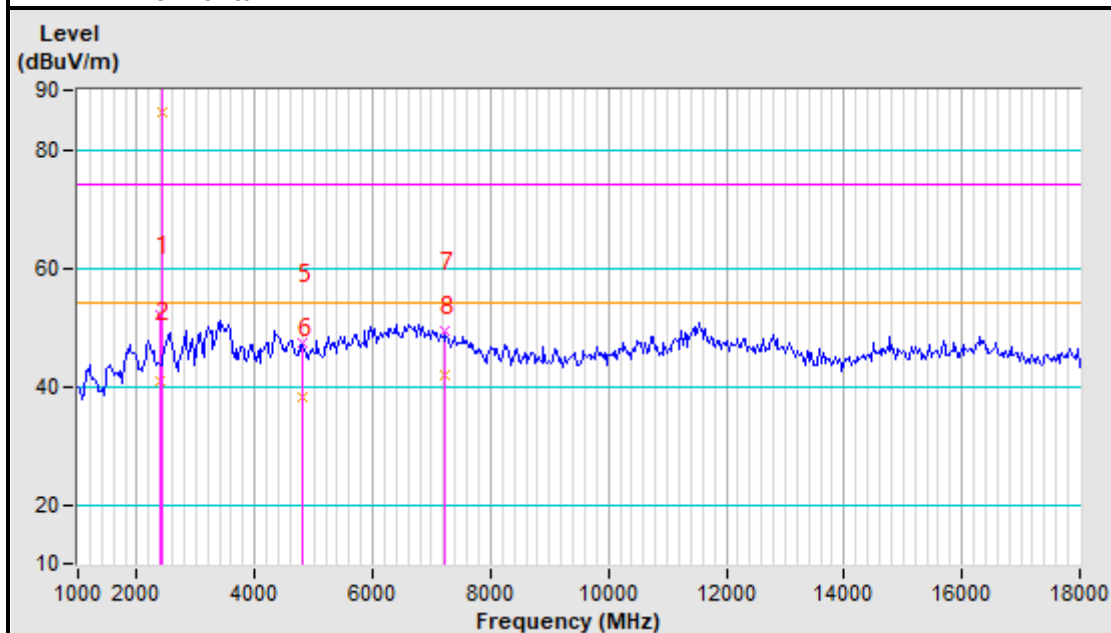
CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	51.98 PK	74.00	-22.02	1.56 H	5	49.73	2.25
2	2390.00	40.95 AV	54.00	-13.05	1.56 H	5	38.70	2.25
3	*2412.00	96.50 PK			1.56 H	5	94.21	2.29
4	*2412.00	86.30 AV			1.56 H	5	84.01	2.29
5	4824.00	47.34 PK	74.00	-26.66	1.56 H	5	41.49	5.85
6	4824.00	38.26 AV	54.00	-15.74	1.56 H	5	32.41	5.85
7	7236.00	49.30 PK	74.00	-24.70	1.00 H	5	41.46	7.84
8	7236.00	41.80 AV	54.00	-12.20	1.00 H	5	33.96	7.84
ANTENNA POLARITY & TEST DISTANCE : VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	53.46 PK	74.00	-20.54	1.05 V	55	51.21	2.25
2	2390.00	42.83 AV	54.00	-11.17	1.05 V	55	40.58	2.25
3	*2412.00	102.53 PK			1.56 V	45	100.24	2.29
4	*2412.00	92.83 AV			1.56 V	45	90.54	2.29
5	4824.00	48.23 PK	74.00	-25.77	1.56 V	5	42.38	5.85
6	4824.00	38.17 AV	54.00	-15.83	1.56 V	5	32.32	5.85
7	7236.00	49.31 PK	74.00	-24.69	1.56 V	5	41.47	7.84
8	7236.00	42.89 AV	54.00	-11.11	1.56 V	5	35.05	7.84

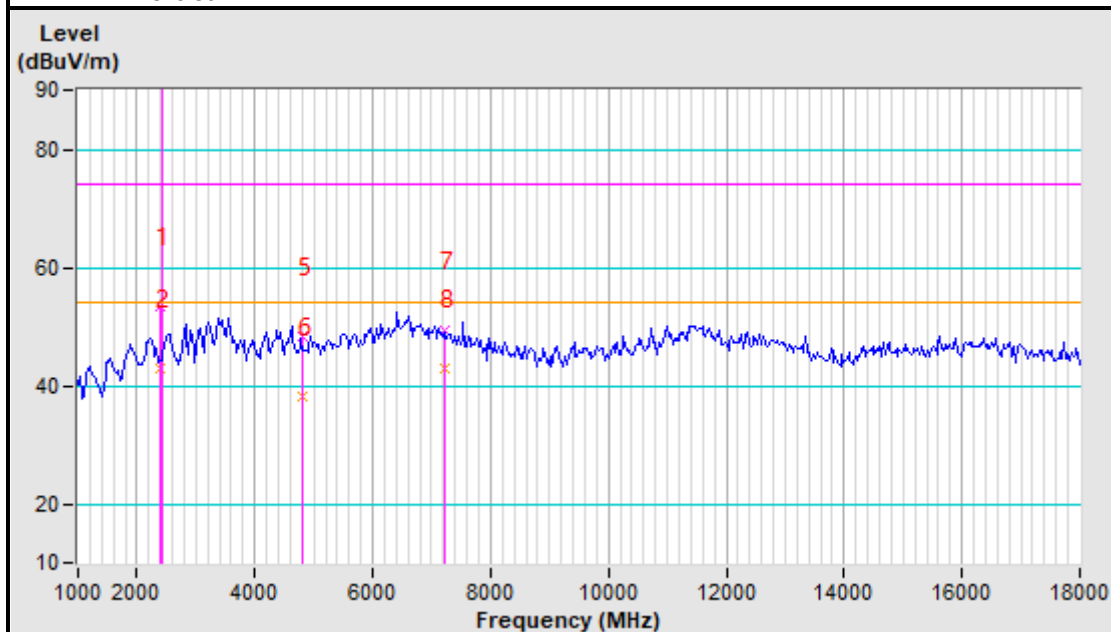
REMARKS:

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

2412MHz Horizontal

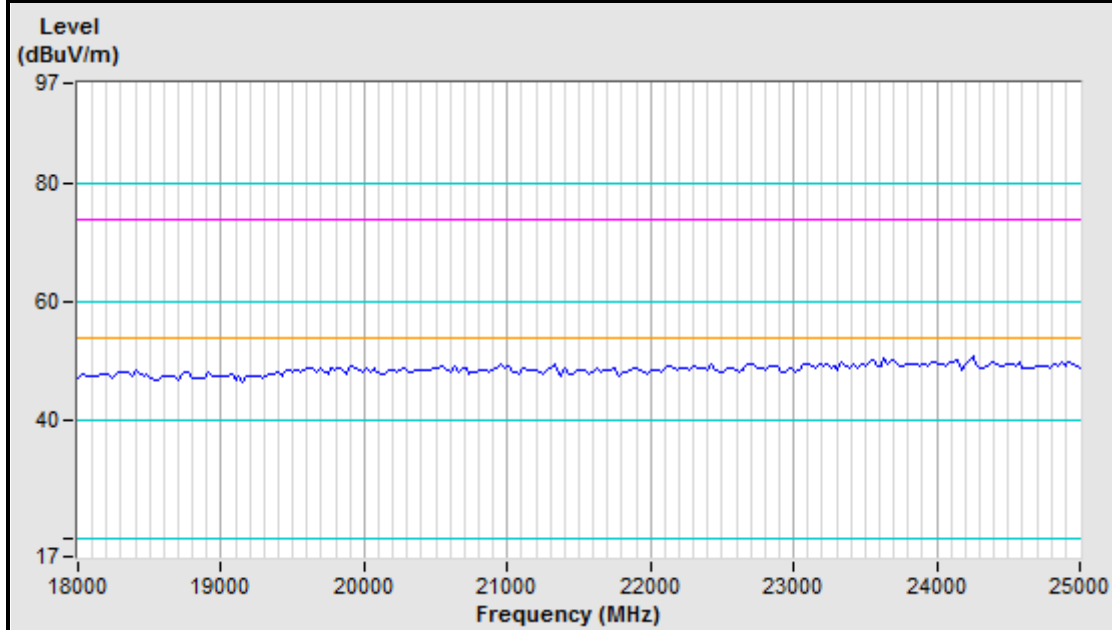


2412MHz Vertical

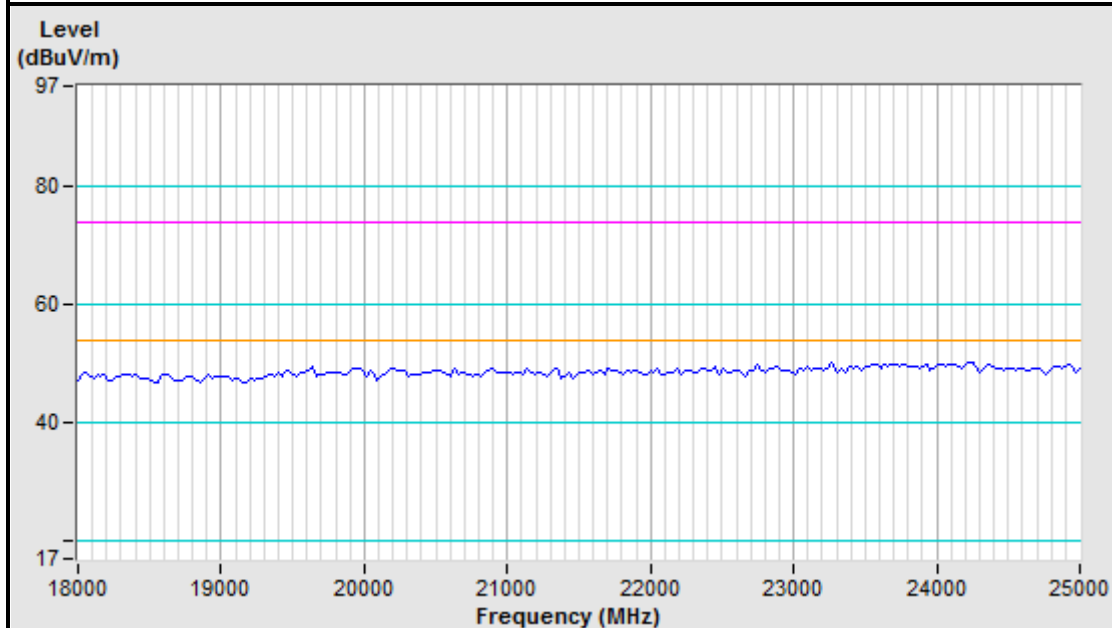


Note: When the harmonic frequency test a fundamental frequency filter is used.

2412MHz Horizontal



2412MHz Vertical



Note: When the harmonic frequency test a fundamental frequency filter is used.

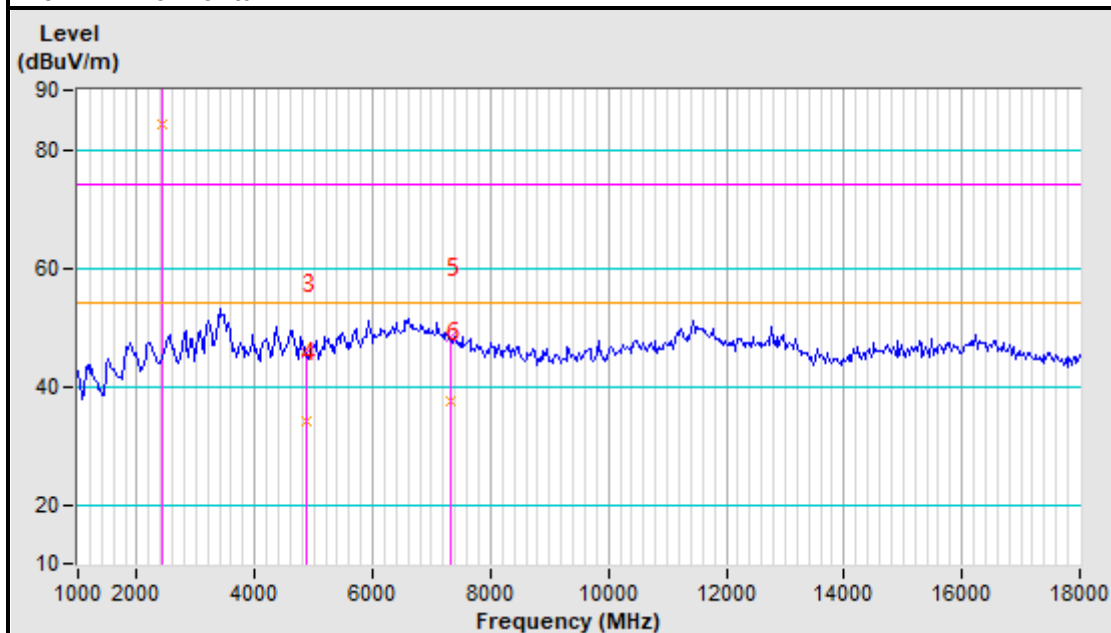
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	94.37 PK			1.25 H	62	92.06	2.31
2	*2437.00	84.24 AV			1.25 H	62	81.93	2.31
3	4874.00	45.62 PK	74.00	-28.38	1.66 H	241	39.88	5.74
4	4874.00	34.05 AV	54.00	-19.95	1.66 H	241	28.31	5.74
5	7311.00	48.31 PK	74.00	-25.69	1.55 H	264	40.72	7.59
6	7311.00	37.62 AV	54.00	-16.38	1.55 H	264	30.03	7.59
ANTENNA POLARITY & TEST DISTANCE : VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.53 PK			1.52 V	116	99.22	2.31
2	*2437.00	91.22 AV			1.52 V	116	88.91	2.31
3	4874.00	46.23 PK	74.00	-27.77	1.02 V	335	40.49	5.74
4	4874.00	35.29 AV	54.00	-18.71	1.02 V	335	29.55	5.74
5	7311.00	47.69 PK	74.00	-26.31	1.09 V	51	40.10	7.59
6	7311.00	38.21 AV	54.00	-15.79	1.09 V	51	30.62	7.59

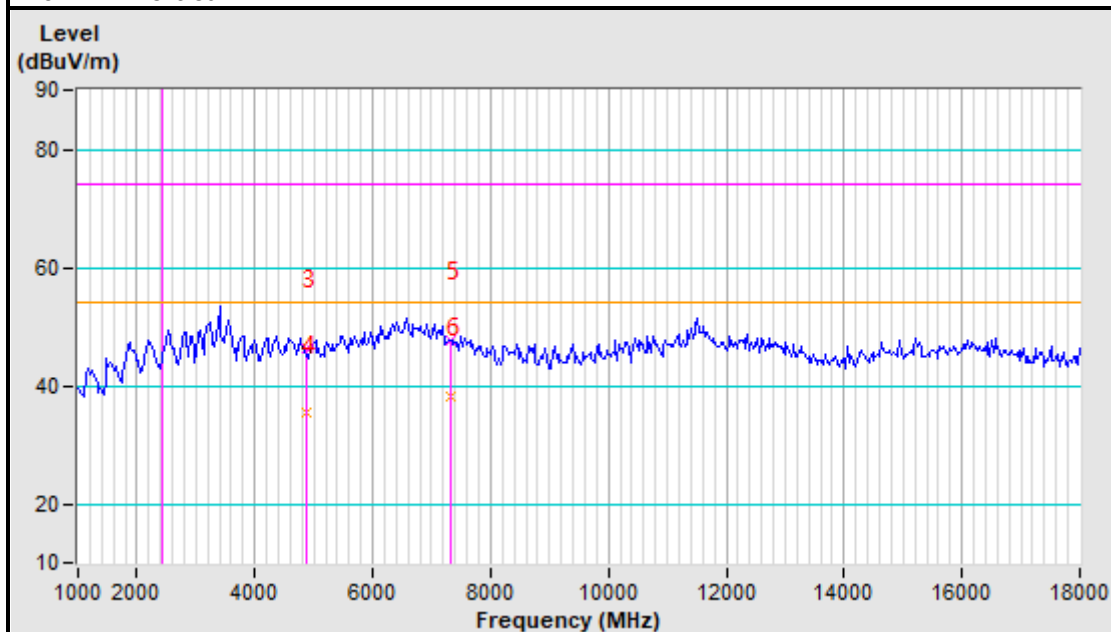
REMARKS:

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

2437MHz Horizontal

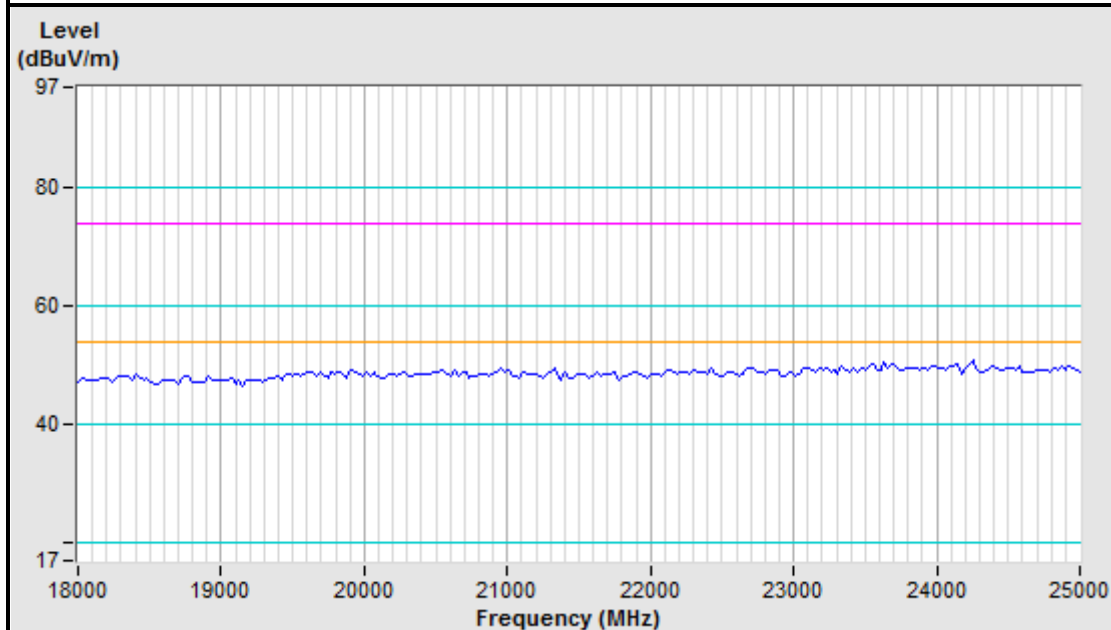


2437MHz Vertical

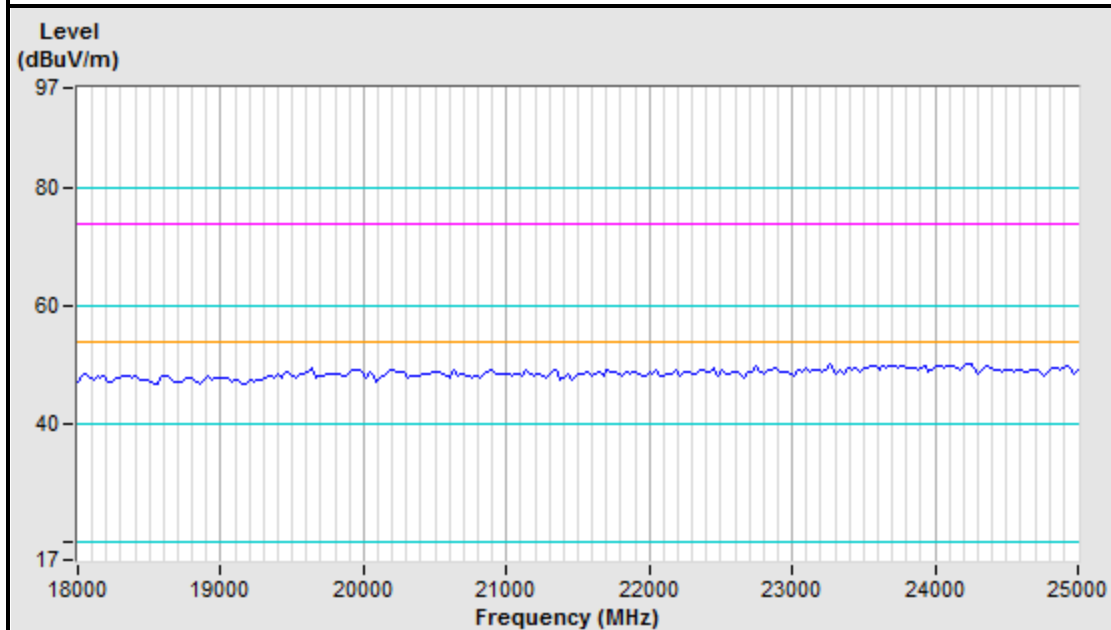


Note: When the harmonic frequency test a fundamental frequency filter is used.

2437MHz Horizontal



2437MHz Vertical



Note: When the harmonic frequency test a fundamental frequency filter is used.

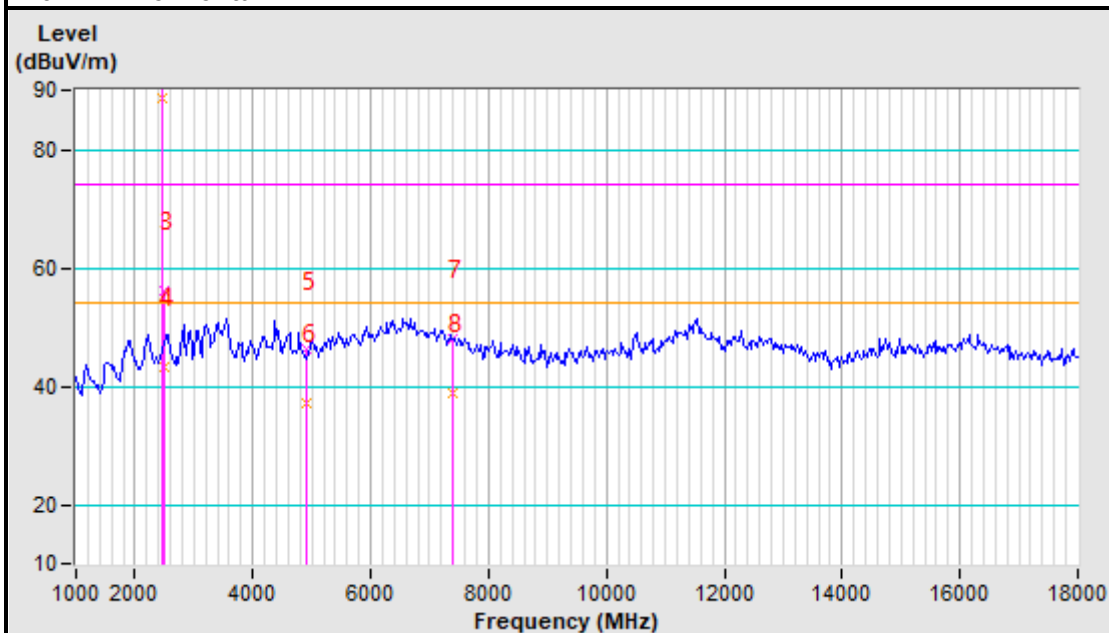
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.65 PK			1.42 H	223	96.31	2.34
2	*2462.00	88.59 AV			1.42 H	223	86.25	2.34
3	2483.50	56.21 PK	74.00	-17.79	1.13 H	250	53.85	2.36
4	2483.50	43.24 AV	54.00	-10.76	1.13 H	250	40.88	2.36
5	4924.00	46.15 PK	74.00	-27.85	1.20 H	114	40.51	5.64
6	4924.00	37.09 AV	54.00	-16.91	1.20 H	114	31.45	5.64
7	7386.00	48.11 PK	74.00	-25.89	1.06 H	64	40.76	7.35
8	7386.00	38.92 AV	54.00	-15.08	1.06 H	64	31.57	7.35
ANTENNA POLARITY & TEST DISTANCE : VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.74 PK			1.62 V	105	103.40	2.34
2	*2462.00	95.57 AV			1.62 V	105	93.23	2.34
3	2483.50	56.21 PK	74.00	-17.79	1.55 V	130	53.85	2.36
4	2483.50	43.06 AV	54.00	-10.94	1.55 V	130	40.70	2.36
5	4924.00	47.41 PK	74.00	-26.59	1.36 V	22	41.77	5.64
6	4924.00	37.85 AV	54.00	-16.15	1.36 V	22	32.21	5.64
7	7386.00	48.32 PK	74.00	-25.68	1.45 V	226	40.97	7.35
8	7386.00	39.20 AV	54.00	-14.80	1.45 V	226	31.85	7.35

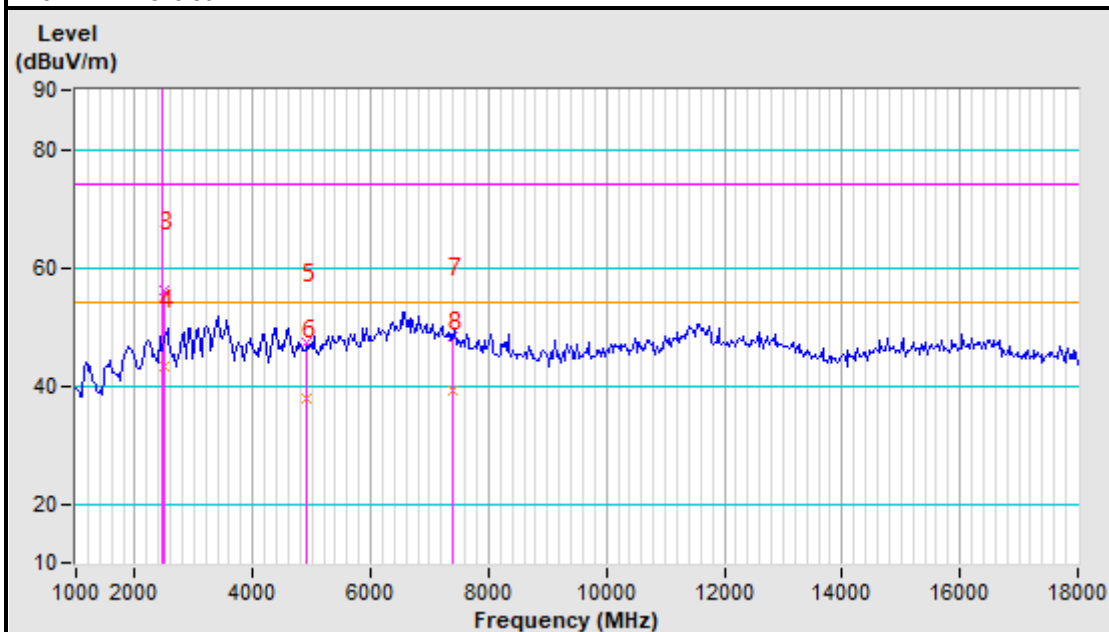
REMARKS:

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

2462MHz Horizontal

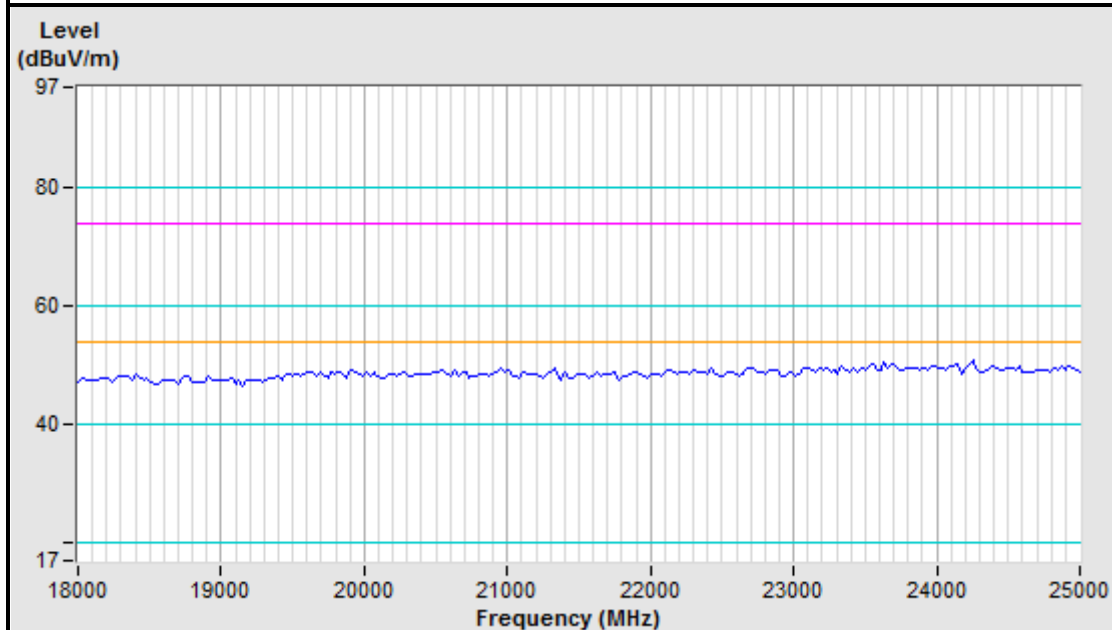


2462MHz Vertical

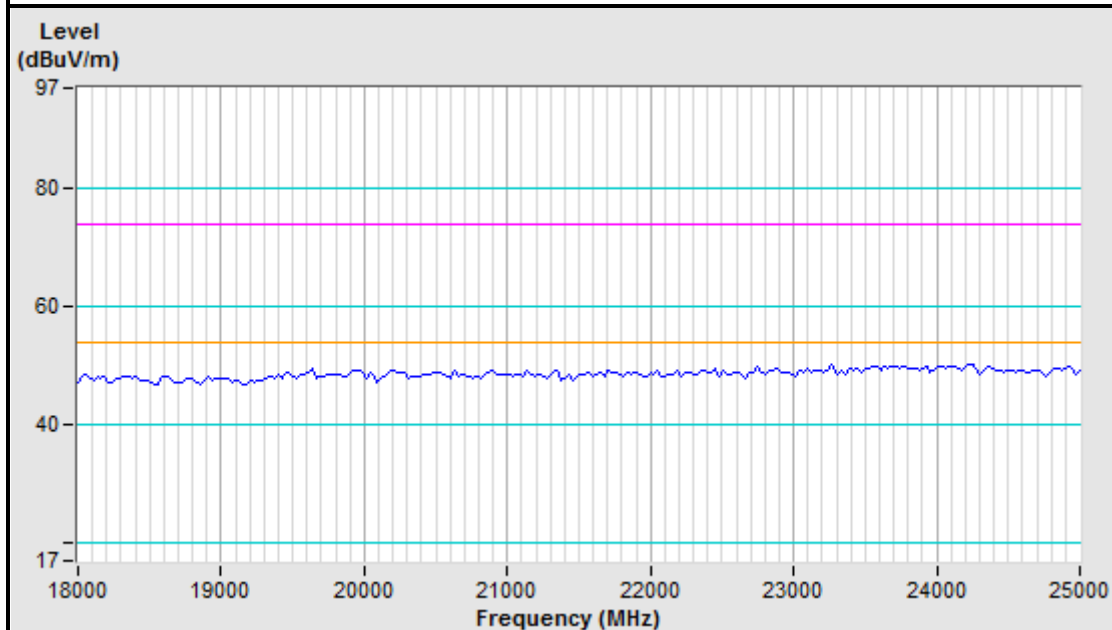


Note: When the harmonic frequency test a fundamental frequency filter is used.

2462MHz Horizontal



2462MHz Vertical



Note: When the harmonic frequency test a fundamental frequency filter is used.

4.2 6DB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Power Sensor	Keysight	U2021XA	MY57320002	Apr. 08, 27
Digital Multimeter	FLUKE	15B	12151063	Apr. 07, 27
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Oct. 10, 26
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101003	Oct. 09, 26
Signal Generator	Agilent	N5183A	MY50140980	Jul. 02, 27
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Jul. 02, 27
Attenuator	MINI	BW-S10W2+	S130129FGE2	Jul. 02, 27
DC Source	Rohde&Schwarz	HMP2020	101295	Apr. 07, 27
Test software	ADT	ADT_RF Test Software V6.6.5.3	N/A	N/A
Power Sensor	Keysight	U2021XA	MY57320002	Apr. 08, 27

NOTES:

1. The test was performed in RF Test Shielded Room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

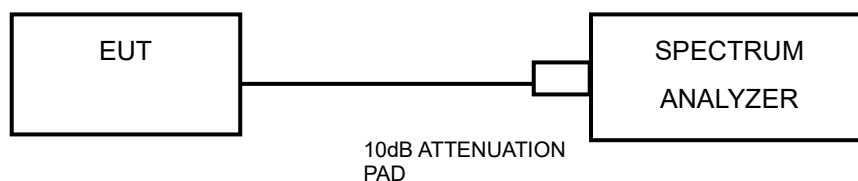
4.2.3 TEST PROCEDURE

1. Set RBW = 100K(shall be in the range of 1% to 5% of OBW, but not less than 100kHz).
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = No faster than coupled(auto) time.
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.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



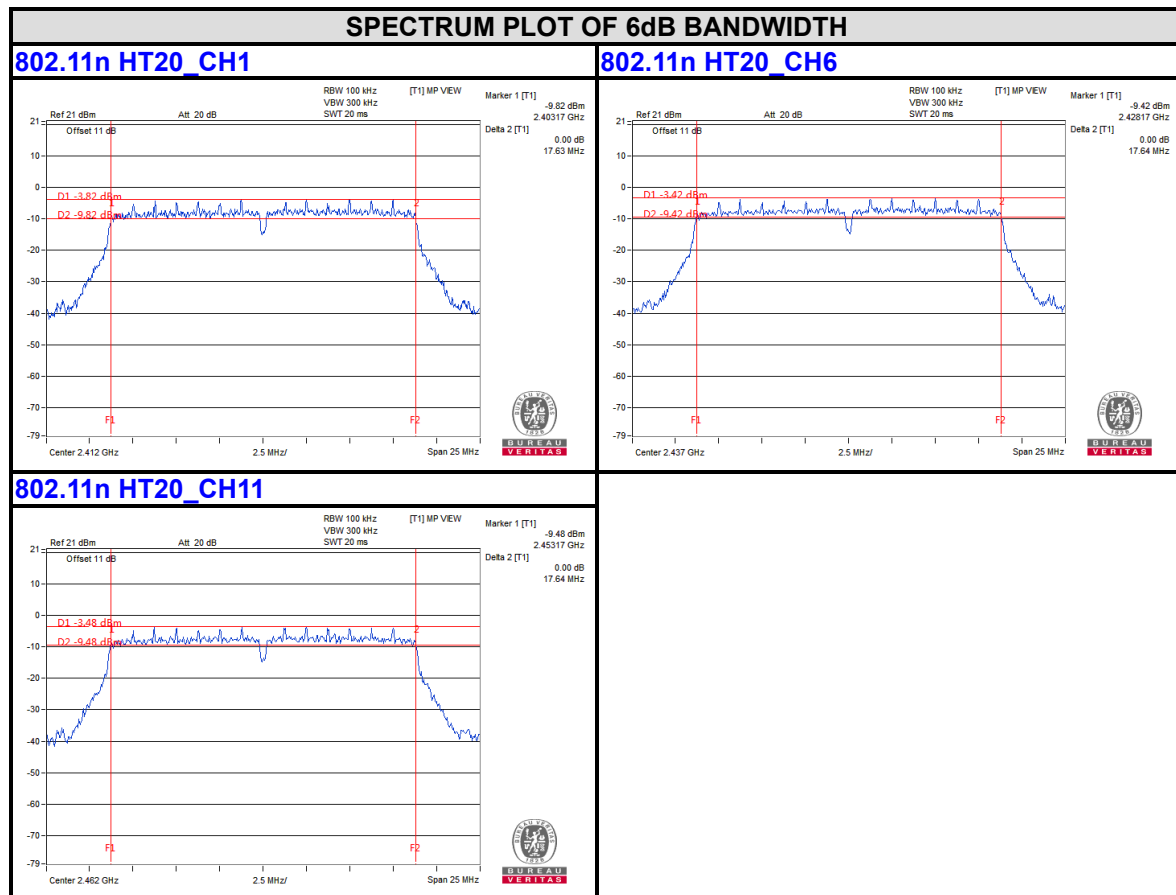
4.2.6 EUT OPERATING CONDITIONS

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

4.2.7 TEST RESULTS

802.11n HT20

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.63	0.5	PASS
6	2437	17.64	0.5	PASS
11	2462	17.64	0.5	PASS

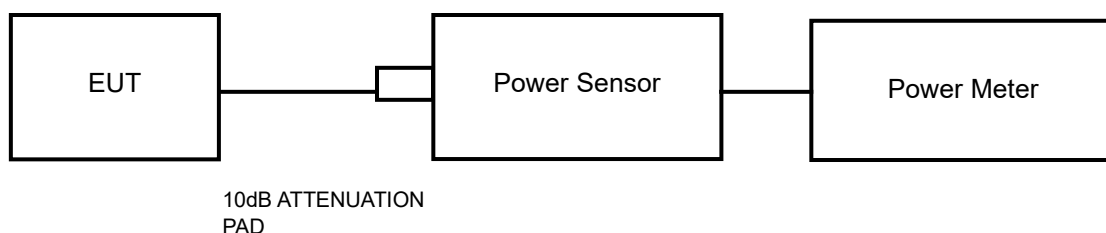


4.3 CONDUCTED OUTPUT POWER

4.3.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.2.2 to get information of above instrument.

4.3.4 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 and set the detector to PEAK. Record the power level.

An average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor and set the detector to AVERAGE. Record the power level.

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

MAXIMUM PEAK OUTPUT POWER

802.11n HT20

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
1	2412	15.77	37.757	1	PASS
6	2437	17.95	62.373	1	PASS
11	2462	16.10	40.738	1	PASS

AVERAGE OUTPUT POWER (FOR REFERENCE)

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

802.11n HT20

CHANNEL	CHANNEL FREQUENCY(MHz)	AVERAGE POWER (dBm)	AVG. POWER (mW)
1	2412	7.29	5.358
6	2437	7.71	5.902
11	2462	7.91	6.18

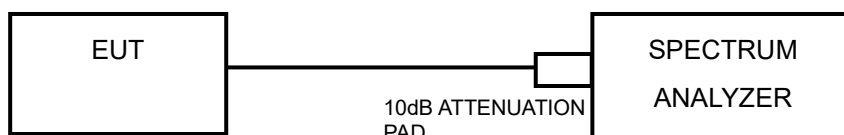
Note: The above PSD values include duty cycle factors.

4.4 POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.2.2 to get information of above instrument.

4.4.4 TEST PROCEDURE

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set span > 1.5 times the DTS bandwidth.
- c) Set RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100\text{KHz}$
- d) Set VBW $\geq 3 \times \text{RBW}$
- e) Detector = peak
- f) Sweep time = No faster than coupled(auto) time,
- g) Trace mode = max hold
- h) allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds requirement, then reduce RBW(but no less than 3KHz) and repeat.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITION

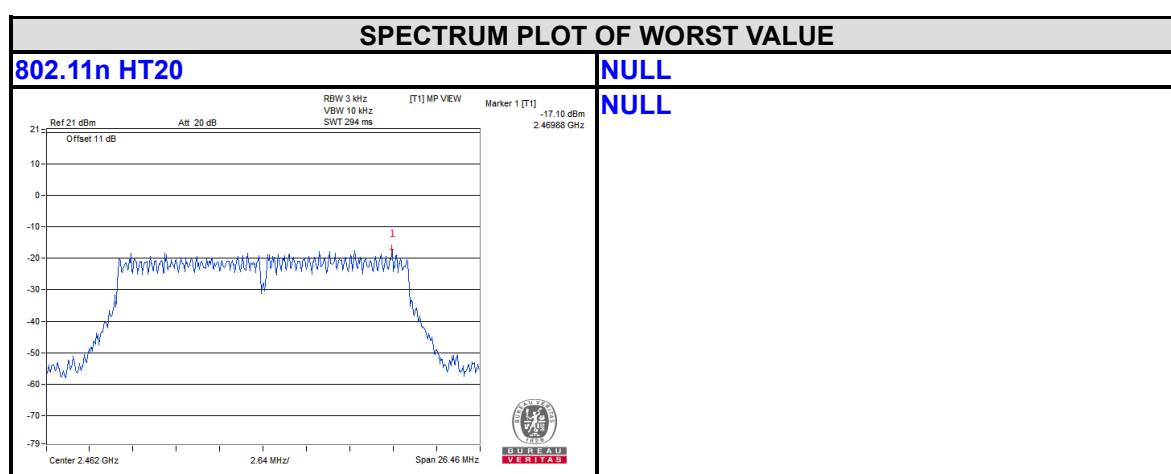
Same as item 4.3.6.

4.4.7 TEST RESULTS

802.11n HT20

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-18.10	8.00	PASS
6	2437	-17.26	8.00	PASS
11	2462	-17.10	8.00	PASS

Note: The above PSD values include duty cycle factors.

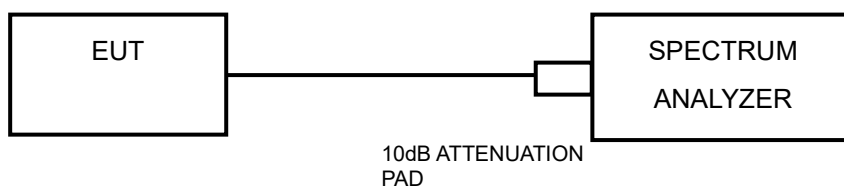


4.5 OUT OF BAND EMISSION MEASUREMENT

4.5.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.2.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

Measurement Procedure – Reference Level

1. Set instrument center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW = 100 kHz.
4. Set the VBW $\geq$ 100KHz(3x RBW).
5. Detector = peak.
6. Sweep time = No faster than coupled(auto) time.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum PSD level.

Measurement Procedure –Unwanted Emission Level

1. Set the center frequency and span to encompass frequency range to be measured.
2. Set RBW = 100 kHz.
3. Set VBW $\geq$ 300 kHz.
4. Detector = peak.
5. Sweep = No faster than coupled(auto) time.
6. Trace Mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

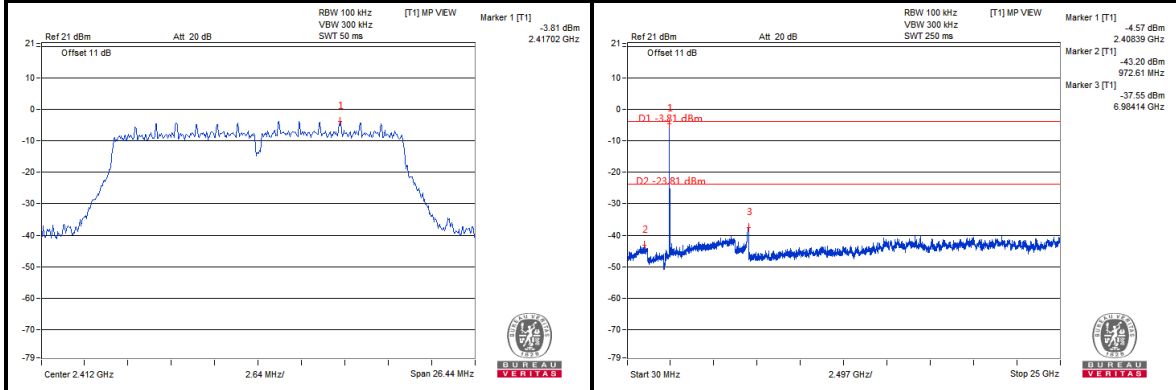
4.5.6 EUT OPERATING CONDITION

Same as item 4.3.6

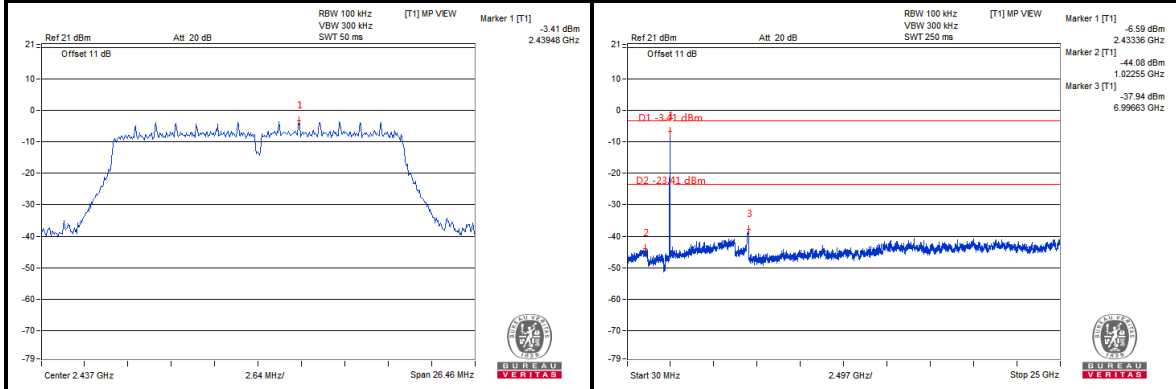
4.5.7 TEST RESULTS

802.11n (HT20)

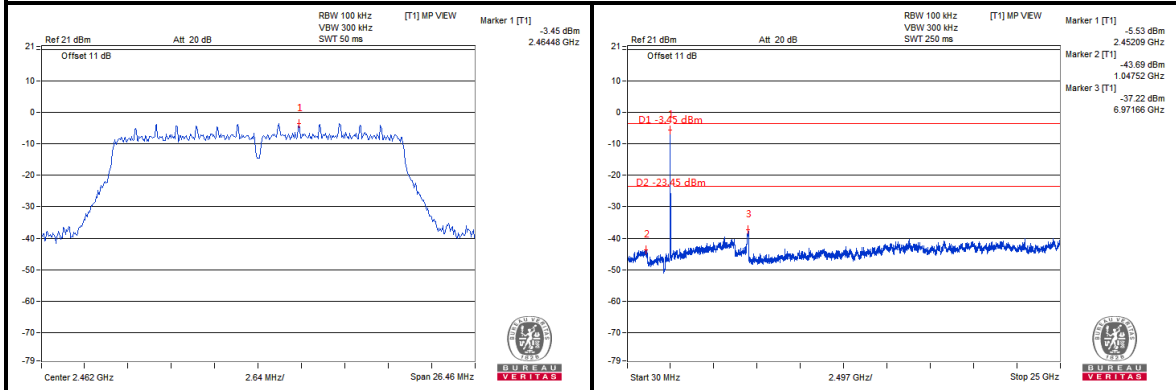
CH 1



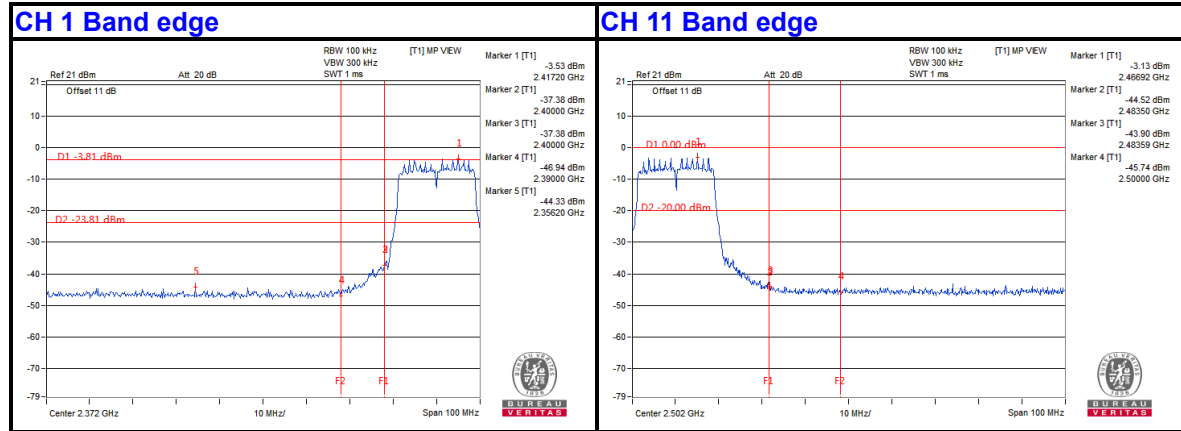
CH 6



CH 11



802.11n HT20



5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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

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

---END---