

FCC Test Report

Report No.: RF181220E07A

FCC ID: I88LTE7480-S905-V

Test Model: LTE7480-S905

Received Date: Apr. 24, 2020

Test Date: Sep. 10 to 17, 2020

Issued Date: Sep. 28, 2020

Applicant: Zyxel Communications Corporation

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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RF181220E07A	Original release.	Sep. 28, 2020

1 Certificate of Conformity

Product: LTE-A Outdoor Router

Brand: ZYXEL

Test Model: LTE7480-S905

Sample Status: ENGINEERING SAMPLE

Applicant: Zyxel Communications Corporation

Test Date: Sep. 10 to 17, 2020

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :  , **Date:** Sep. 28, 2020
Claire Kuan / Specialist

Approved by :  , **Date:** Sep. 28, 2020
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -5.66dB at 0.31269MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 2390.00MHz and 2483.50MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is iPEX not a standard connector.

Note:

- For 2.4GHz band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 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	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Conducted emissions	-	2.5 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	LTE-A Outdoor Router
Brand	ZYXEL
Test Model	LTE7480-S905
CPU Model No.	MT7621AT
WiFi Chip Model No.	MT7603E
LTE chip Model No.	SDX20
FW version	LTE7480-S905 V2.00(ABQT.2)C0
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 48V from adapter (POE)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps
Operating Frequency	2.412 ~ 2.462GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	332.485mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter (POE) x 1
Data Cable Supplied	RJ45 cable (Unshielded, 1.8m)

Note:

1. There are WLAN and WWAN technology used for the EUT. The EUT has below radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz)	WWAN (LTE)

2. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WWAN (LTE)

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3. The EUT must be supplied with a adapter (POE) as following table:

Brand	Model No.	Spec.
RISUNIC	RP020-4800500USG	Input: 100-240Vac, 0.7A, 50/60Hz Output: 48Vdc

4. The antennas provided to the EUT, please refer to the following table:

Chain No.	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
WLAN-ANT0	6	2.4 ~ 2.4835GHz	PIFA	iPEX
WLAN-ANT1	5	2.4 ~ 2.4835GHz	PIFA	iPEX
WWAN_0 (TX & RX)	9.85	3550 ~ 3700 MHz	Dipole	iPEX
WWAN_1 (RX only)	9.85	3550 ~ 3700 MHz	Dipole	iPEX
WWAN_2 (RX only)	9.85	3550 ~ 3700 MHz	Dipole	iPEX
WWAN_3 (RX only)	9.85	3550 ~ 3700 MHz	Dipole	iPEX

5. The EUT incorporates a MIMO function.

MODULATION MODE	TX & RX CONFIGURATION	
802.11b	1TX diversity	2RX
802.11g	1TX diversity	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX

Note: Max. gain was selected for 1TX test.

6. The power setting are list as below:

802.11b		802.11g		802.11n (HT20)		802.11n (HT40)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
2412	1B	2412	1D	2412	19	2422	12
2437	19	2437	1A	2437	1E	2437	18
2462	1A	2462	1B	2462	15	2452	11

7. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

8. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G:** Radiated Emission above 1GHz & Bandedge Measurement
RE<1G: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission
APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the 0 degree, Vertical +30 degree, Vertical -30 degree, 0 degree clockwise 45 degree and 0 degree counterclockwise 45 degree. The worst case was found when positioned on 0 degree.

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 TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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 TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

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 TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	6	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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE _≥ 1G	24deg. C, 68%RH	120Vac, 60Hz	Tom Yang
RE _{<} 1G	25deg. C, 65%RH	120Vac, 60Hz	Carter Lin
PLC	26deg. C, 67%RH	120Vac, 60Hz	Tom Yang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

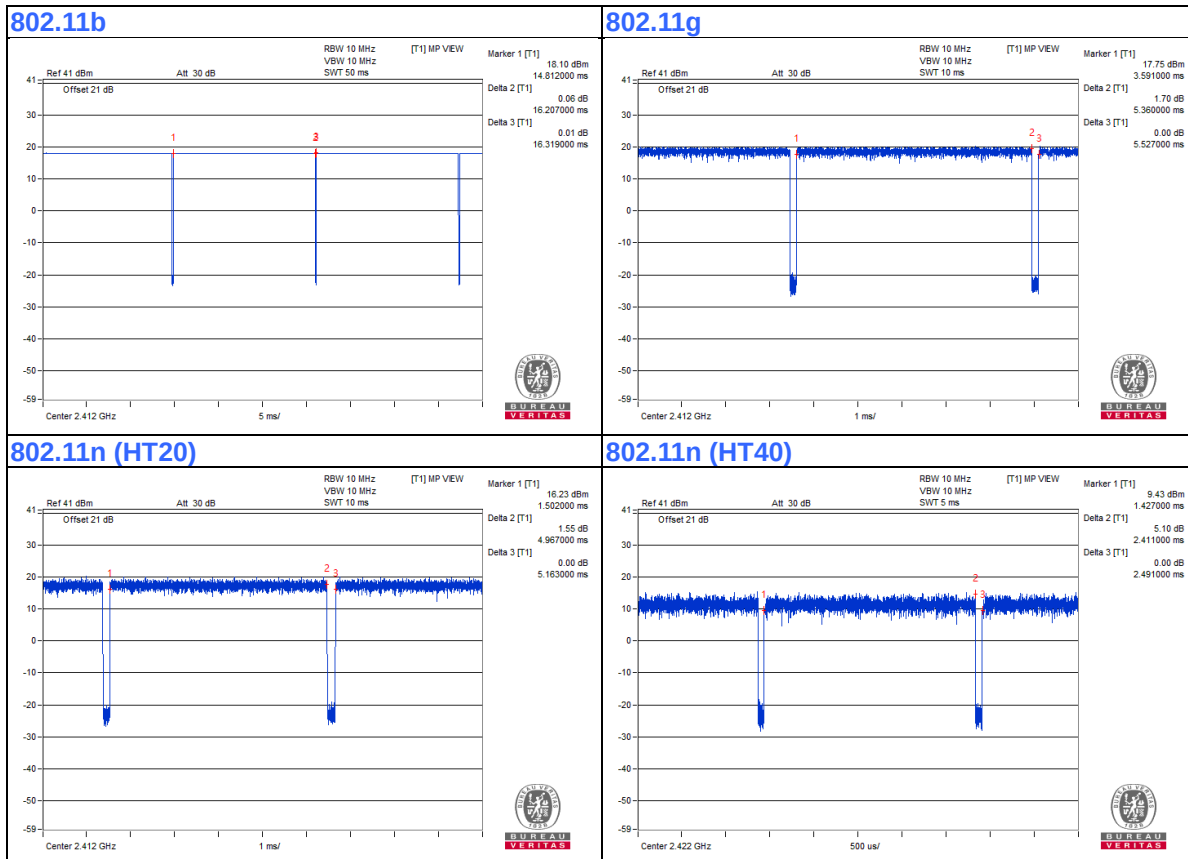
If duty cycle of test signal is $\geq 98\%$, duty factor is not required.
If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11b: Duty cycle = 16.207 ms / 16.319 ms = 0.993

802.11g: Duty cycle = 5.36 ms / 5.527 ms = 0.97, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.13 \text{ dB}$

802.11n (HT20): Duty cycle = 4.967 ms / 5.163 ms = 0.962, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.17 \text{ dB}$

802.11n (HT40): Duty cycle = 2.411 ms / 2.491 ms = 0.968, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.14 \text{ dB}$



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.

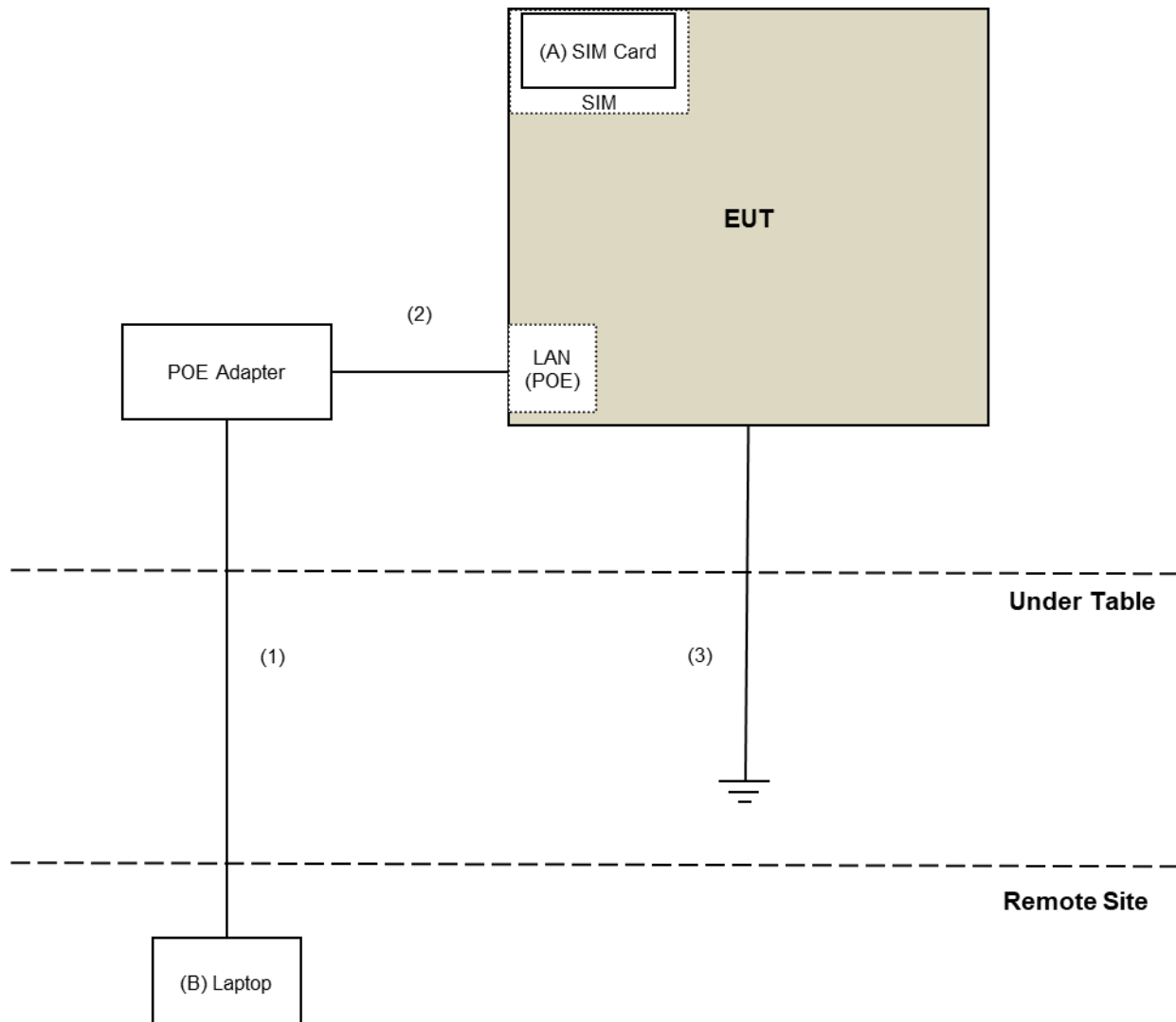
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	SIM Card	R&S	NA	NA	NA	Provided by Lab
B.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	1.8	No	0	Supplied by client
3.	GND Cable	1	2.8	No	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart C (15.247)

ANSI C63.10-2013

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

References Test Guidance:

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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. 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

For Radiated emission & Bandedge test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 13, 2019	Dec. 12, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Oct. 23, 2019	Oct. 22, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-4-1	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-2	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-3	Mar. 18, 2020	Mar. 17, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 26, 2019	Sep. 25, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160923	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Sep. 10 to 17, 2020

For other test

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Sep. 17, 2020

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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 Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 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 height of antenna 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

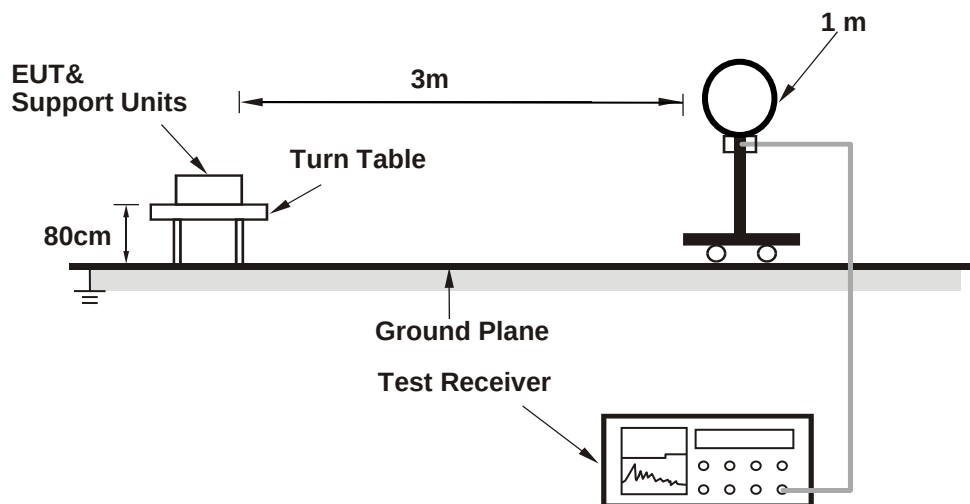
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

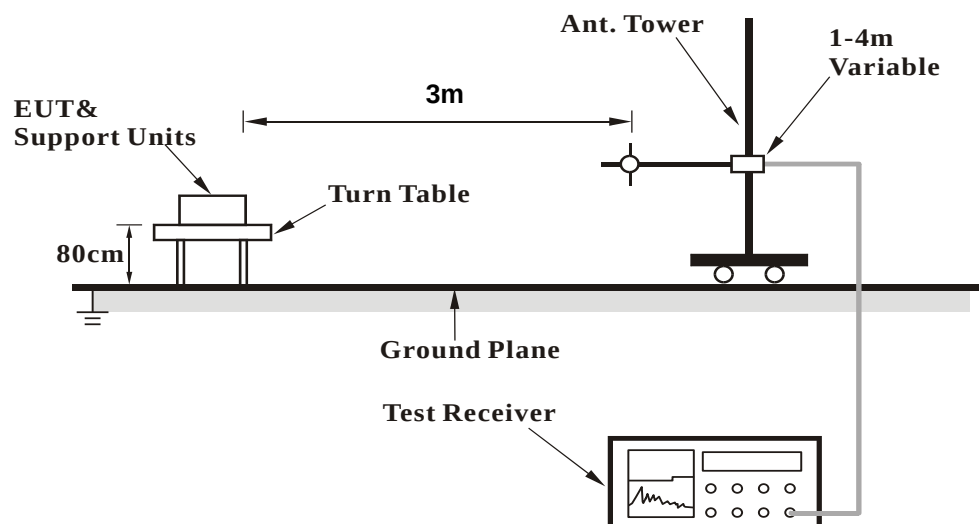
No deviation.

4.1.5 Test Setup

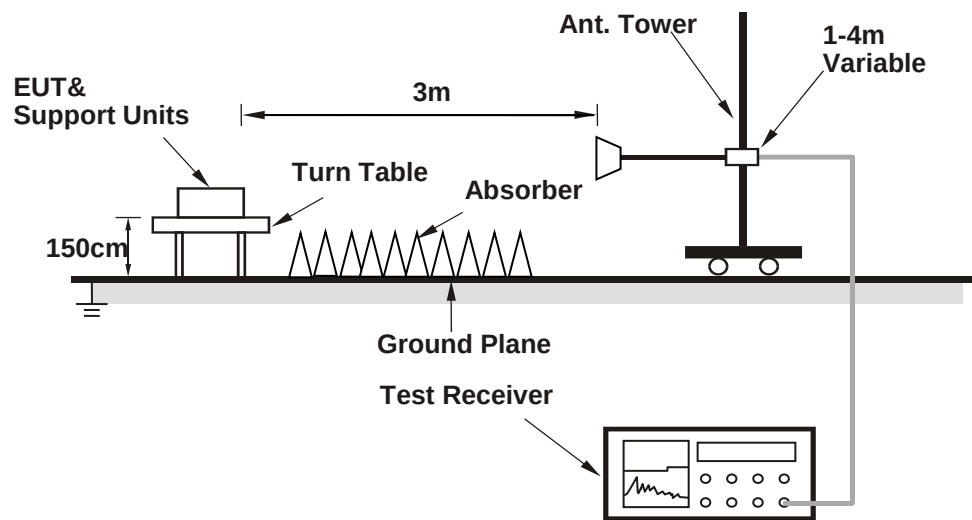
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Connected the EUT with the Laptop which is placed on remote site.
- Controlling software (QA Tool (Version: 0.0.1.85)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data :

802.11b

Channel	TX Channel 1	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	53.6 PK	74.0	-20.4	1.01 H	55	57.7	-4.1
2	2390.00	41.3 AV	54.0	-12.7	1.01 H	55	45.4	-4.1
3	*2412.00	102.3 PK			1.01 H	55	106.4	-4.1
4	*2412.00	99.9 AV			1.01 H	55	104.0	-4.1
5	4824.00	45.8 PK	74.0	-28.2	1.95 H	12	45.7	0.1
6	4824.00	43.6 AV	54.0	-10.4	1.95 H	12	43.5	0.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	54.9 PK	74.0	-19.1	3.62 V	340	59.0	-4.1
2	2390.00	41.4 AV	54.0	-12.6	3.62 V	340	45.5	-4.1
3	*2412.00	100.5 PK			3.62 V	340	104.6	-4.1
4	*2412.00	98.2 AV			3.62 V	340	102.3	-4.1
5	4824.00	49.4 PK	74.0	-24.6	1.48 V	319	49.3	0.1
6	4824.00	48.2 AV	54.0	-5.8	1.48 V	319	48.1	0.1

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 6	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	54.9 PK	74.0	-19.1	1.05 H	54	59.0	-4.1
2	2390.00	41.2 AV	54.0	-12.8	1.05 H	54	45.3	-4.1
3	*2437.00	102.4 PK			1.05 H	54	106.5	-4.1
4	*2437.00	99.9 AV			1.05 H	54	104.0	-4.1
5	2483.50	54.8 PK	74.0	-19.2	1.05 H	54	58.9	-4.1
6	2483.50	41.4 AV	54.0	-12.6	1.05 H	54	45.5	-4.1
7	4874.00	49.7 PK	74.0	-24.3	1.90 H	29	49.6	0.1
8	4874.00	48.5 AV	54.0	-5.5	1.90 H	29	48.4	0.1
9	7311.00	46.6 PK	74.0	-27.4	1.75 H	320	40.0	6.6
10	7311.00	40.1 AV	54.0	-13.9	1.75 H	320	33.5	6.6

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	54.1 PK	74.0	-19.9	3.56 V	342	58.2	-4.1
2	2390.00	41.3 AV	54.0	-12.7	3.56 V	342	45.4	-4.1
3	*2437.00	100.1 PK			3.56 V	342	104.2	-4.1
4	*2437.00	97.8 AV			3.56 V	342	101.9	-4.1
5	2483.50	53.3 PK	74.0	-20.7	3.56 V	342	57.4	-4.1
6	2483.50	41.4 AV	54.0	-12.6	3.56 V	342	45.5	-4.1
7	4874.00	48.5 PK	74.0	-25.5	1.48 V	320	48.4	0.1
8	4874.00	46.6 AV	54.0	-7.4	1.48 V	320	46.5	0.1
9	7311.00	44.7 PK	74.0	-29.3	1.55 V	351	38.1	6.6
10	7311.00	36.0 AV	54.0	-18.0	1.55 V	351	29.4	6.6

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 11	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	102.7 PK			1.02 H	60	106.8	-4.1
2	*2462.00	100.3 AV			1.02 H	60	104.4	-4.1
3	2483.50	54.0 PK	74.0	-20.0	1.02 H	60	58.1	-4.1
4	2483.50	41.7 AV	54.0	-12.3	1.02 H	60	45.8	-4.1
5	4924.00	49.3 PK	74.0	-24.7	1.93 H	28	49.1	0.2
6	4924.00	48.0 AV	54.0	-6.0	1.93 H	28	47.8	0.2
7	7386.00	45.2 PK	74.0	-28.8	1.80 H	316	38.4	6.8
8	7386.00	36.7 AV	54.0	-17.3	1.80 H	316	29.9	6.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	103.6 PK			3.34 V	340	107.7	-4.1
2	*2462.00	101.3 AV			3.34 V	340	105.4	-4.1
3	2483.50	54.3 PK	74.0	-19.7	3.34 V	340	58.4	-4.1
4	2483.50	42.5 AV	54.0	-11.5	3.34 V	340	46.6	-4.1
5	4924.00	51.8 PK	74.0	-22.2	1.72 V	354	51.6	0.2
6	4924.00	50.6 AV	54.0	-3.4	1.72 V	354	50.4	0.2
7	7386.00	45.7 PK	74.0	-28.3	1.29 V	315	38.9	6.8
8	7386.00	37.3 AV	54.0	-16.7	1.29 V	315	30.5	6.8

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

802.11g

Channel	TX Channel 1	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.7 PK	74.0	-6.3	1.01 H	55	71.8	-4.1
2	2390.00	51.7 AV	54.0	-2.3	1.01 H	55	55.8	-4.1
3	*2412.00	105.4 PK			1.01 H	55	109.5	-4.1
4	*2412.00	95.5 AV			1.01 H	55	99.6	-4.1
5	4824.00	48.6 PK	74.0	-25.4	1.95 H	13	48.5	0.1
6	4824.00	35.7 AV	54.0	-18.3	1.95 H	13	35.6	0.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	64.1 PK	74.0	-9.9	1.45 V	348	68.2	-4.1
2	2390.00	49.2 AV	54.0	-4.8	1.45 V	348	53.3	-4.1
3	*2412.00	103.3 PK			1.45 V	348	107.4	-4.1
4	*2412.00	93.3 AV			1.45 V	348	97.4	-4.1
5	4824.00	49.9 PK	74.0	-24.1	3.26 V	319	49.8	0.1
6	4824.00	36.6 AV	54.0	-17.4	3.26 V	319	36.5	0.1

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 6	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	54.9 PK	74.0	-19.1	1.01 H	54	59.0	-4.1
2	2390.00	41.7 AV	54.0	-12.3	1.01 H	54	45.8	-4.1
3	*2437.00	104.3 PK			1.01 H	54	108.4	-4.1
4	*2437.00	94.7 AV			1.01 H	54	98.8	-4.1
5	2483.50	55.2 PK	74.0	-18.8	1.01 H	54	59.3	-4.1
6	2483.50	42.5 AV	54.0	-11.5	1.01 H	54	46.6	-4.1
7	4874.00	46.2 PK	74.0	-27.8	1.73 H	30	46.1	0.1
8	4874.00	34.0 AV	54.0	-20.0	1.73 H	30	33.9	0.1
9	7311.00	46.9 PK	74.0	-27.1	1.87 H	52	40.3	6.6
10	7311.00	33.3 AV	54.0	-20.7	1.87 H	52	26.7	6.6

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	54.0 PK	74.0	-20.0	1.58 V	346	58.1	-4.1
2	2390.00	41.2 AV	54.0	-12.8	1.58 V	346	45.3	-4.1
3	*2437.00	102.3 PK			1.58 V	346	106.4	-4.1
4	*2437.00	92.2 AV			1.58 V	346	96.3	-4.1
5	2483.50	54.6 PK	74.0	-19.4	1.58 V	346	58.7	-4.1
6	2483.50	41.6 AV	54.0	-12.4	1.58 V	346	45.7	-4.1
7	4874.00	47.6 PK	74.0	-26.4	1.38 V	20	47.5	0.1
8	4874.00	34.5 AV	54.0	-19.5	1.38 V	20	34.4	0.1
9	7311.00	46.9 PK	74.0	-27.1	1.40 V	322	40.3	6.6
10	7311.00	33.7 AV	54.0	-20.3	1.40 V	322	27.1	6.6

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 11	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	106.4 PK			1.00 H	53	110.5	-4.1
2	*2462.00	96.3 AV			1.00 H	53	100.4	-4.1
3	2483.50	69.2 PK	74.0	-4.8	1.00 H	53	73.3	-4.1
4	2483.50	53.1 AV	54.0	-0.9	1.00 H	53	57.2	-4.1
5	2484.42	71.5 PK	74.0	-2.5	1.00 H	53	75.6	-4.1
6	2484.42	50.7 AV	54.0	-3.3	1.00 H	53	54.8	-4.1
7	4924.00	46.9 PK	74.0	-27.1	3.34 H	317	46.7	0.2
8	4924.00	34.6 AV	54.0	-19.4	3.34 H	317	34.4	0.2
9	7386.00	44.5 PK	74.0	-29.5	1.64 H	322	37.7	6.8
10	7386.00	32.8 AV	54.0	-21.2	1.64 H	322	26.0	6.8

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	106.0 PK			3.33 V	343	110.1	-4.1
2	*2462.00	95.1 AV			3.33 V	343	99.2	-4.1
3	2483.50	65.8 PK	74.0	-8.2	3.33 V	343	69.9	-4.1
4	2483.50	51.0 AV	54.0	-3.0	3.33 V	343	55.1	-4.1
5	2484.38	68.6 PK	74.0	-5.4	3.33 V	343	72.7	-4.1
6	2484.38	49.0 AV	54.0	-5.0	3.33 V	343	53.1	-4.1
7	4924.00	46.9 PK	74.0	-27.1	1.48 V	319	46.7	0.2
8	4924.00	34.0 AV	54.0	-20.0	1.48 V	319	33.8	0.2
9	7386.00	44.7 PK	74.0	-29.3	1.42 V	324	37.9	6.8
10	7386.00	32.0 AV	54.0	-22.0	1.42 V	324	25.2	6.8

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

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	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.16	72.8 PK	74.0	-1.2	1.32 H	51	76.9	-4.1
2	2388.16	50.8 AV	54.0	-3.2	1.32 H	51	54.9	-4.1
3	2390.00	68.3 PK	74.0	-5.7	1.32 H	51	72.4	-4.1
4	2390.00	53.5 AV	54.0	-0.5	1.32 H	51	57.6	-4.1
5	*2412.00	109.3 PK			1.32 H	51	113.4	-4.1
6	*2412.00	99.2 AV			1.32 H	51	103.3	-4.1
7	4824.00	49.1 PK	74.0	-24.9	1.95 H	10	49.0	0.1
8	4824.00	35.7 AV	54.0	-18.3	1.95 H	10	35.6	0.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.68	72.2 PK	74.0	-1.8	2.69 V	353	76.3	-4.1
2	2388.68	53.0 AV	54.0	-1.0	2.69 V	353	57.1	-4.1
3	*2412.00	109.3 PK			2.69 V	353	113.4	-4.1
4	*2412.00	99.3 AV			2.69 V	353	103.4	-4.1
5	4824.00	47.8 PK	74.0	-26.2	1.59 V	360	47.7	0.1
6	4824.00	35.3 AV	54.0	-18.7	1.59 V	360	35.2	0.1

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 6	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	54.4 PK	74.0	-19.6	1.25 H	52	58.5	-4.1
2	2390.00	42.2 AV	54.0	-11.8	1.25 H	52	46.3	-4.1
3	*2437.00	110.5 PK			1.25 H	52	114.6	-4.1
4	*2437.00	100.8 AV			1.25 H	52	104.9	-4.1
5	2483.50	56.8 PK	74.0	-17.2	1.25 H	52	60.9	-4.1
6	2483.50	43.2 AV	54.0	-10.8	1.25 H	52	47.3	-4.1
7	4874.00	50.5 PK	74.0	-23.5	1.74 H	30	50.4	0.1
8	4874.00	38.6 AV	54.0	-15.4	1.74 H	30	38.5	0.1
9	7311.00	52.9 PK	74.0	-21.1	2.95 H	49	46.3	6.6
10	7311.00	39.3 AV	54.0	-14.7	2.95 H	49	32.7	6.6

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	54.4 PK	74.0	-19.6	2.70 V	352	58.5	-4.1
2	2390.00	42.1 AV	54.0	-11.9	2.70 V	352	46.2	-4.1
3	*2437.00	111.2 PK			2.70 V	352	115.3	-4.1
4	*2437.00	101.2 AV			2.70 V	352	105.3	-4.1
5	2483.50	57.1 PK	74.0	-16.9	2.70 V	352	61.2	-4.1
6	2483.50	43.3 AV	54.0	-10.7	2.70 V	352	47.4	-4.1
7	4874.00	47.9 PK	74.0	-26.1	2.52 V	2	47.8	0.1
8	4874.00	35.4 AV	54.0	-18.6	2.52 V	2	35.3	0.1
9	7311.00	48.0 PK	74.0	-26.0	2.19 V	350	41.4	6.6
10	7311.00	35.9 AV	54.0	-18.1	2.19 V	350	29.3	6.6

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 11	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	106.7 PK			1.02 H	51	110.8	-4.1
2	*2462.00	96.9 AV			1.02 H	51	101.0	-4.1
3	2483.73	67.7 PK	74.0	-6.3	1.02 H	51	71.8	-4.1
4	2483.73	52.0 AV	54.0	-2.0	1.02 H	51	56.1	-4.1
5	4924.00	47.4 PK	74.0	-26.6	2.13 H	358	47.2	0.2
6	4924.00	34.6 AV	54.0	-19.4	2.13 H	358	34.4	0.2
7	7386.00	45.8 PK	74.0	-28.2	2.81 H	35	39.0	6.8
8	7386.00	32.9 AV	54.0	-21.1	2.81 H	35	26.1	6.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	108.7 PK			2.92 V	356	112.8	-4.1
2	*2462.00	98.3 AV			2.92 V	356	102.4	-4.1
3	2483.73	69.5 PK	74.0	-4.5	2.92 V	356	73.6	-4.1
4	2483.73	52.7 AV	54.0	-1.3	2.92 V	356	56.8	-4.1
5	4924.00	46.3 PK	74.0	-27.7	1.72 V	358	46.1	0.2
6	4924.00	32.7 AV	54.0	-21.3	1.72 V	358	32.5	0.2
7	7386.00	45.6 PK	74.0	-28.4	1.36 V	325	38.8	6.8
8	7386.00	32.2 AV	54.0	-21.8	1.36 V	325	25.4	6.8

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

802.11n (HT40)

Channel	TX Channel 3	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.20	67.6 PK	74.0	-6.4	1.27 H	51	71.7	-4.1
2	2388.20	53.2 AV	54.0	-0.8	1.27 H	51	57.3	-4.1
3	2390.00	67.3 PK	74.0	-6.7	1.27 H	51	71.4	-4.1
4	2390.00	53.5 AV	54.0	-0.5	1.27 H	51	57.6	-4.1
5	*2422.00	103.1 PK			1.27 H	51	107.2	-4.1
6	*2422.00	93.9 AV			1.27 H	51	98.0	-4.1
7	4844.00	43.6 PK	74.0	-30.4	1.90 H	31	43.5	0.1
8	4844.00	32.5 AV	54.0	-21.5	1.90 H	31	32.4	0.1
9	7266.00	43.2 PK	74.0	-30.8	1.07 H	40	36.7	6.5
10	7266.00	31.4 AV	54.0	-22.6	1.07 H	40	24.9	6.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.19	66.6 PK	74.0	-7.4	3.06 V	356	70.7	-4.1
2	2388.19	52.5 AV	54.0	-1.5	3.06 V	356	56.6	-4.1
3	*2422.00	104.0 PK			3.06 V	356	108.1	-4.1
4	*2422.00	94.2 AV			3.06 V	356	98.3	-4.1
5	4844.00	41.6 PK	74.0	-32.4	1.55 V	360	41.5	0.1
6	4844.00	30.9 AV	54.0	-23.1	1.55 V	360	30.8	0.1
7	7266.00	43.0 PK	74.0	-31.0	1.37 V	323	36.5	6.5
8	7266.00	31.2 AV	54.0	-22.8	1.37 V	323	24.7	6.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 6	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	64.7 PK	74.0	-9.3	1.29 H	49	68.8	-4.1
2	2390.00	50.6 AV	54.0	-3.4	1.29 H	49	54.7	-4.1
3	*2437.00	104.6 PK			1.29 H	49	108.7	-4.1
4	*2437.00	95.7 AV			1.29 H	49	99.8	-4.1
5	2484.72	67.3 PK	74.0	-6.7	1.29 H	49	71.4	-4.1
6	2484.72	53.0 AV	54.0	-1.0	1.29 H	49	57.1	-4.1
7	4874.00	44.8 PK	74.0	-29.2	1.68 H	30	44.7	0.1
8	4874.00	34.4 AV	54.0	-19.6	1.68 H	30	34.3	0.1
9	7311.00	46.4 PK	74.0	-27.6	2.84 H	48	39.8	6.6
10	7311.00	34.3 AV	54.0	-19.7	2.84 H	48	27.7	6.6

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.2 PK	74.0	-11.8	2.58 V	16	66.3	-4.1
2	2390.00	49.1 AV	54.0	-4.9	2.58 V	16	53.2	-4.1
3	*2437.00	106.5 PK			2.58 V	16	110.6	-4.1
4	*2437.00	96.8 AV			2.58 V	16	100.9	-4.1
5	2484.72	67.1 PK	74.0	-6.9	2.58 V	16	71.2	-4.1
6	2484.72	52.6 AV	54.0	-1.4	2.58 V	16	56.7	-4.1
7	4874.00	44.1 PK	74.0	-29.9	1.61 V	356	44.0	0.1
8	4874.00	32.1 AV	54.0	-21.9	1.61 V	356	32.0	0.1
9	7311.00	43.7 PK	74.0	-30.3	2.14 V	349	37.1	6.6
10	7311.00	31.8 AV	54.0	-22.2	2.14 V	349	25.2	6.6

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Channel	TX Channel 9	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	101.5 PK			1.27 H	51	105.6	-4.1
2	*2452.00	93.4 AV			1.27 H	51	97.5	-4.1
3	2483.50	65.7 PK	74.0	-8.3	1.27 H	51	69.8	-4.1
4	2483.50	52.0 AV	54.0	-2.0	1.27 H	51	56.1	-4.1
5	4904.00	40.1 PK	74.0	-33.9	1.86 H	30	40.0	0.1
6	4904.00	29.3 AV	54.0	-24.7	1.86 H	30	29.2	0.1
7	7356.00	42.5 PK	74.0	-31.5	1.34 H	308	35.8	6.7
8	7356.00	30.7 AV	54.0	-23.3	1.34 H	308	24.0	6.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	102.7 PK			3.29 V	357	106.8	-4.1
2	*2452.00	93.1 AV			3.29 V	357	97.2	-4.1
3	2483.50	67.4 PK	74.0	-6.6	3.29 V	357	71.5	-4.1
4	2483.50	53.5 AV	54.0	-0.5	3.29 V	357	57.6	-4.1
5	4904.00	41.5 PK	74.0	-32.5	1.63 V	358	41.4	0.1
6	4904.00	29.4 AV	54.0	-24.6	1.63 V	358	29.3	0.1
7	7356.00	42.5 PK	74.0	-31.5	1.29 V	324	35.8	6.7
8	7356.00	30.6 AV	54.0	-23.4	1.29 V	324	23.9	6.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

Below 1GHz Data:

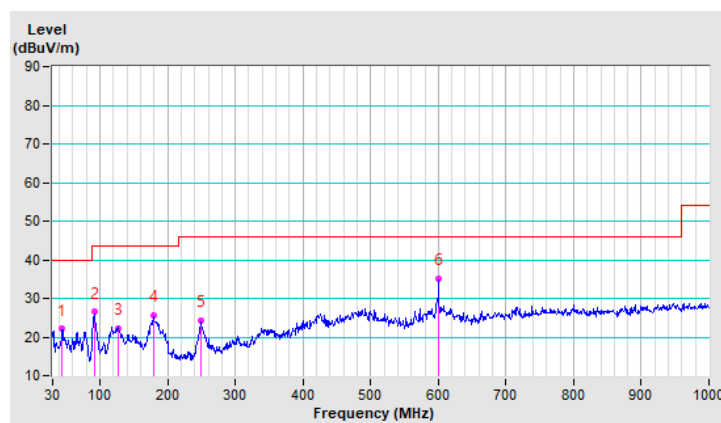
802.11n (HT20)

Channel	TX Channel 6	Detector Function	Quasi-Peak (QP)
Frequency Range	9kHz ~ 1GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.48	22.1 QP	40.0	-17.9	2.00 H	143	30.1	-8.0
2	92.33	26.5 QP	43.5	-17.0	1.50 H	242	39.9	-13.4
3	126.17	22.3 QP	43.5	-21.2	2.00 H	103	31.3	-9.0
4	179.33	25.6 QP	43.5	-17.9	1.50 H	201	34.7	-9.1
5	249.99	24.3 QP	46.0	-21.7	1.50 H	250	32.8	-8.5
6	599.68	35.2 QP	46.0	-10.8	1.00 H	9	33.8	1.4

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

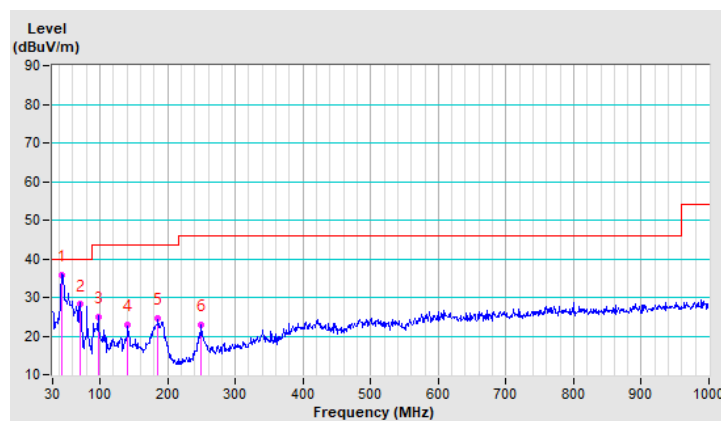


Channel	TX Channel 6	Detector Function	Quasi-Peak (QP)
Frequency Range	9kHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.38	35.8 QP	40.0	-4.2	1.00 V	139	43.8	-8.0
2	70.24	28.2 QP	40.0	-11.8	1.50 V	230	38.3	-10.1
3	97.33	25.0 QP	43.5	-18.5	1.00 V	226	37.6	-12.6
4	140.99	22.8 QP	43.5	-20.7	2.00 V	347	30.6	-7.8
5	185.96	24.5 QP	43.5	-19.0	2.00 V	344	34.4	-9.9
6	249.99	22.9 QP	46.0	-23.1	2.00 V	5	31.4	-8.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	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.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 27, 2019	Sep. 26, 2020
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 Tested Date: Sep. 17 2020

4.2.3 Test Procedures

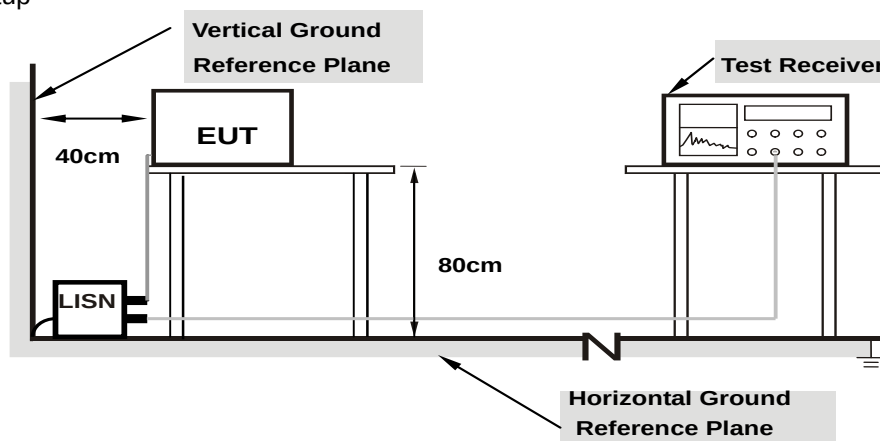
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

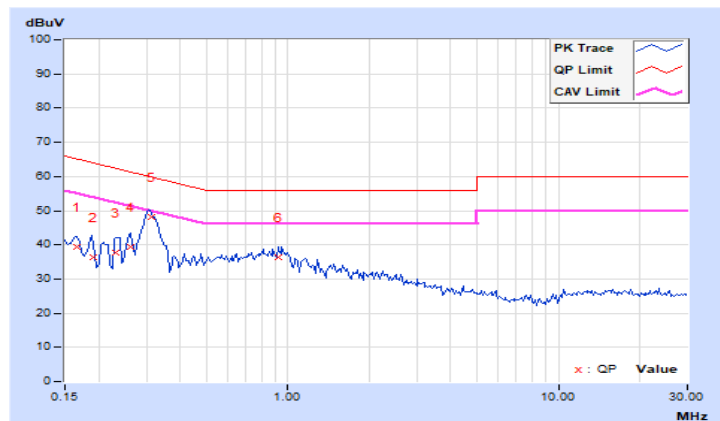
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16672	9.97	29.27	19.23	39.24	29.20	65.12	55.12	-25.88	-25.92
2	0.19026	9.99	26.54	16.71	36.53	26.70	64.03	54.03	-27.50	-27.33
3	0.23129	10.00	27.57	24.50	37.57	34.50	62.40	52.40	-24.83	-17.90
4	0.26128	10.01	29.29	23.26	39.30	33.27	61.39	51.39	-22.09	-18.12
5	0.31216	10.02	38.22	33.03	48.24	43.05	59.91	49.91	-11.67	-6.86
6	0.92013	10.06	26.26	21.02	36.32	31.08	56.00	46.00	-19.68	-14.92

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

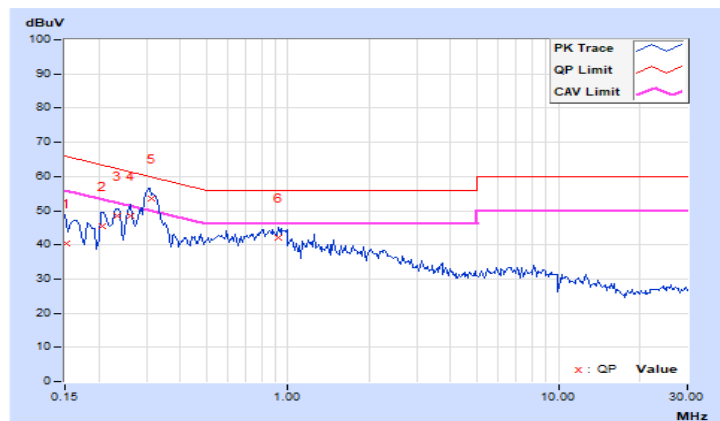


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15132	9.96	30.30	11.28	40.26	21.24	65.93	55.93	-25.67	-34.69
2	0.20629	10.00	35.48	26.81	45.48	36.81	63.35	53.35	-17.87	-16.54
3	0.23383	10.01	38.31	35.78	48.32	45.79	62.31	52.31	-13.99	-6.52
4	0.26112	10.01	38.38	31.83	48.39	41.84	61.40	51.40	-13.01	-9.56
5	0.31269	10.02	43.35	34.22	53.37	44.24	59.90	49.90	-6.53	-5.66
6	0.92031	10.09	32.15	26.93	42.24	37.02	56.00	46.00	-13.76	-8.98

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

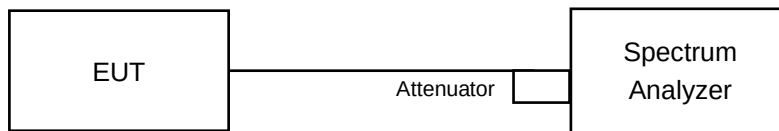


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 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 Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.07	0.5	Pass
6	2437	9.63	0.5	Pass
11	2462	9.57	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.32	0.5	Pass
6	2437	16.11	0.5	Pass
11	2462	15.79	0.5	Pass

802.11n (HT20)

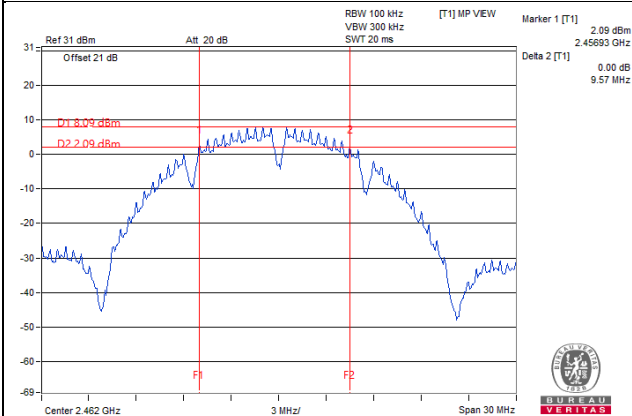
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.18	17.01	0.5	PASS
6	2437	16.71	17.65	0.5	PASS
11	2462	16.43	17.01	0.5	PASS

802.11n (HT40)

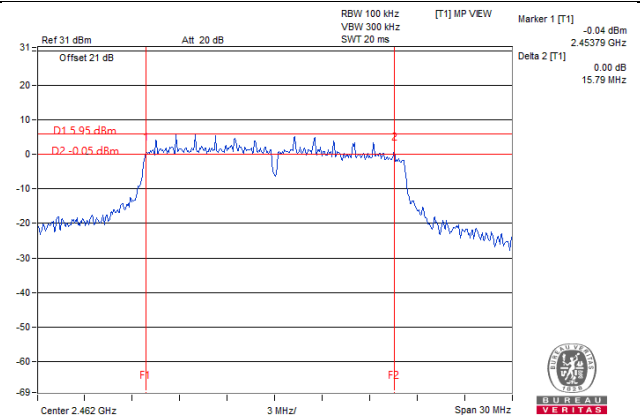
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.49	36.48	0.5	Pass
6	2437	35.47	36.46	0.5	Pass
9	2452	35.3	35.88	0.5	Pass

Spectrum Plot of Worst Value

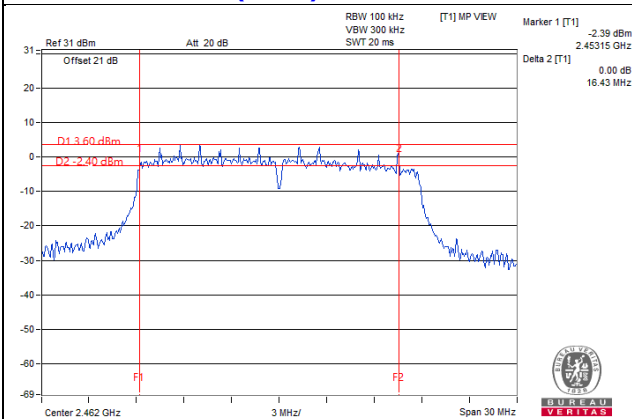
802.11b : CH11



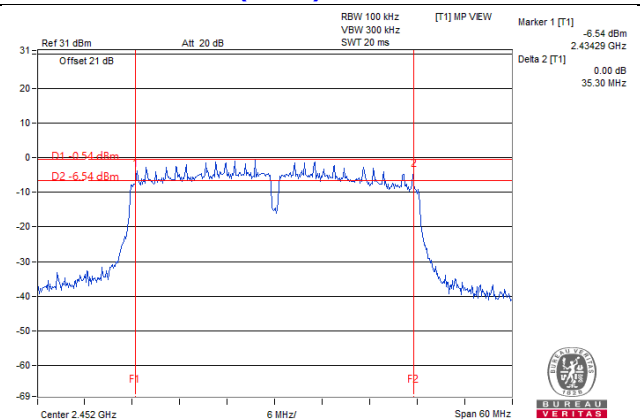
802.11g : CH11



802.11ax (HE20) / Chain 0 : CH11



802.11ax (HE40) / Chain 0 : CH9



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

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

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

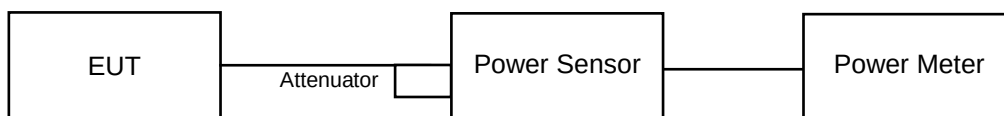
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 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.

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	71.45	18.54	30	Pass
6	2437	62.806	17.98	30	Pass
11	2462	64.714	18.11	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	188.365	22.75	30	Pass
6	2437	163.305	22.13	30	Pass
11	2462	151.705	21.81	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	21.01	21.31	261.39	24.17	30	Pass
6	2437	22.35	22.06	332.485	25.22	30	Pass
11	2462	20.06	20.10	203.72	23.09	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	20.10	20.11	204.894	23.12	30	Pass
6	2437	22.02	21.92	314.817	24.98	30	Pass
9	2452	20.01	19.92	198.405	22.98	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	43.752	16.41
6	2437	42.56	16.29
11	2462	43.551	16.39

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	43.053	16.34
6	2437	41.976	16.23
11	2462	42.756	16.31

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.21	15.96	72.635	18.61
6	2437	16.32	16.14	83.97	19.24
11	2462	14.08	14.05	50.996	17.08

802.11n (HT40)

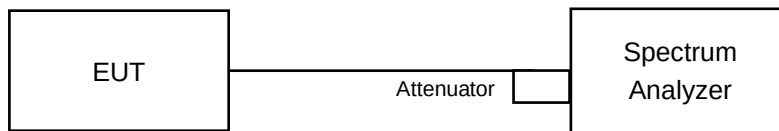
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	12.45	12.70	36.2	15.59
6	2437	15.96	15.87	78.082	18.93
9	2452	12.43	12.32	34.559	15.39

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

- a. Set analyzer center frequency to DTS channel center frequency.
- b. Set the span to 1.5 times the DTS bandwidth.
- c. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d. Set the VBW $\geq 3 \times \text{RBW}$.
- e. Detector = peak.
- f. Sweep time = auto couple.
- 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-6.19	8	Pass
6	2437	-5.60	8	Pass
11	2462	-5.10	8	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-11.18	8	Pass
6	2437	-11.62	8	Pass
11	2462	-10.05	8	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain 0	Chain 1				
1	2412	-11.52	-10.59	0.15777	-8.02	5.48	PASS
6	2437	-11.21	-8.12	0.22985	-6.39	5.48	PASS
11	2462	-12.97	-12.06	0.1127	-9.48	5.48	PASS

Note: 1. Directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 8.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(8.52-6) = 5.48\text{dBm}$

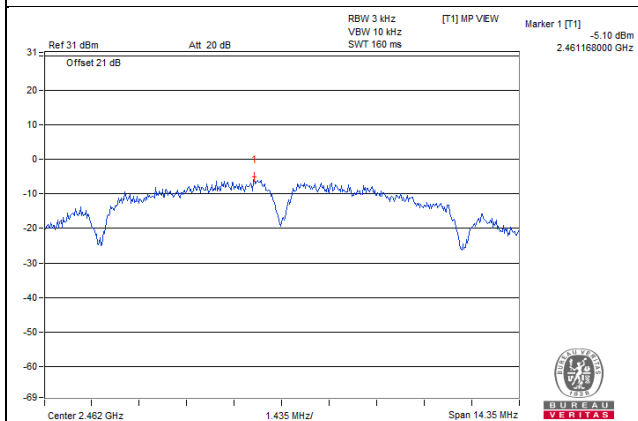
802.11n (HT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain 0	Chain 1				
3	2422	-17.30	-16.96	0.03876	-14.12	5.48	PASS
6	2437	-13.43	-14.02	0.08502	-10.70	5.48	PASS
9	2452	-16.21	-17.16	0.04316	-13.65	5.48	PASS

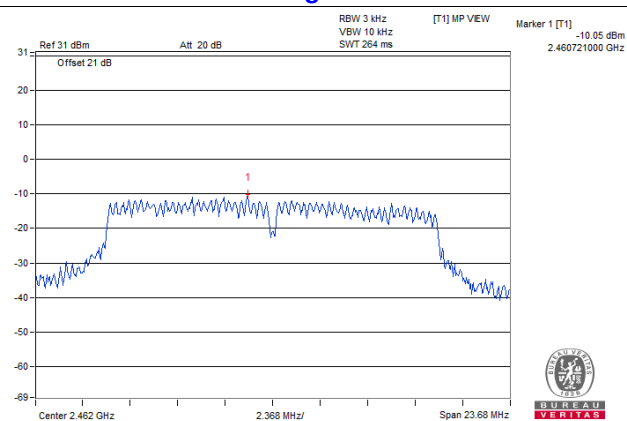
Note: 1. Directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 8.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(8.52-6) = 5.48\text{dBm}$

Spectrum Plot of Worst Value

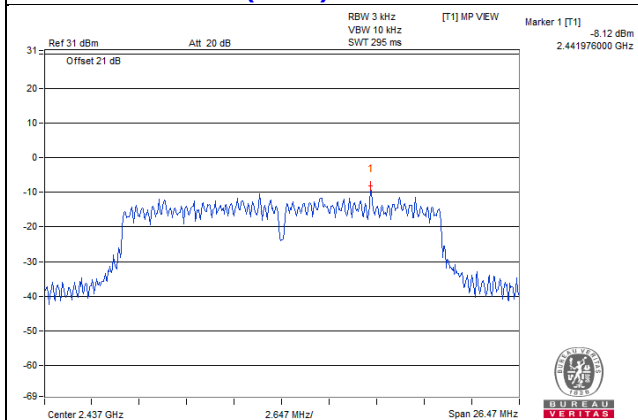
802.11b : CH11



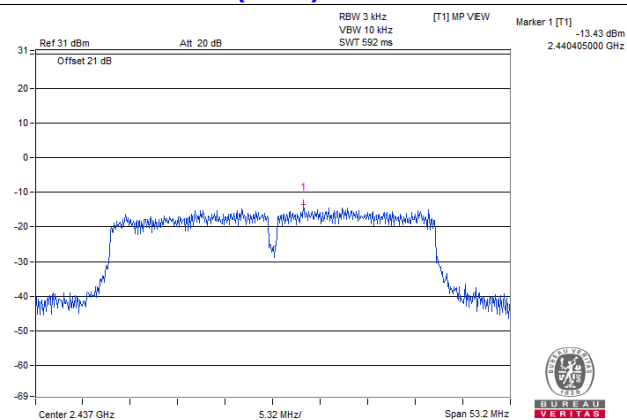
802.11g : CH11



802.11ax (HE20) / Chain 1 : CH6



802.11ax (HE40) / Chain 0 : CH6

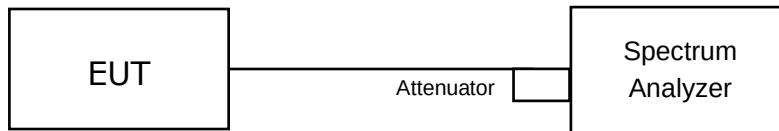


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 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. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

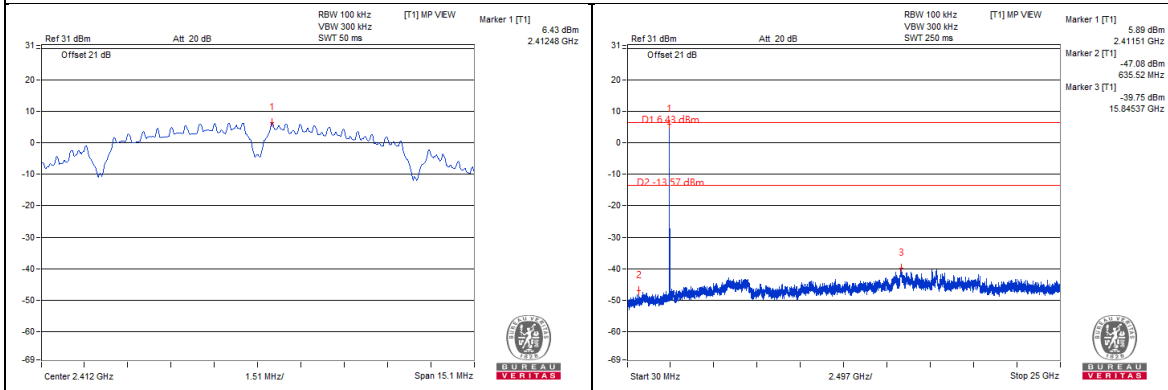
Same as Item 4.3.6

4.6.7 Test Results

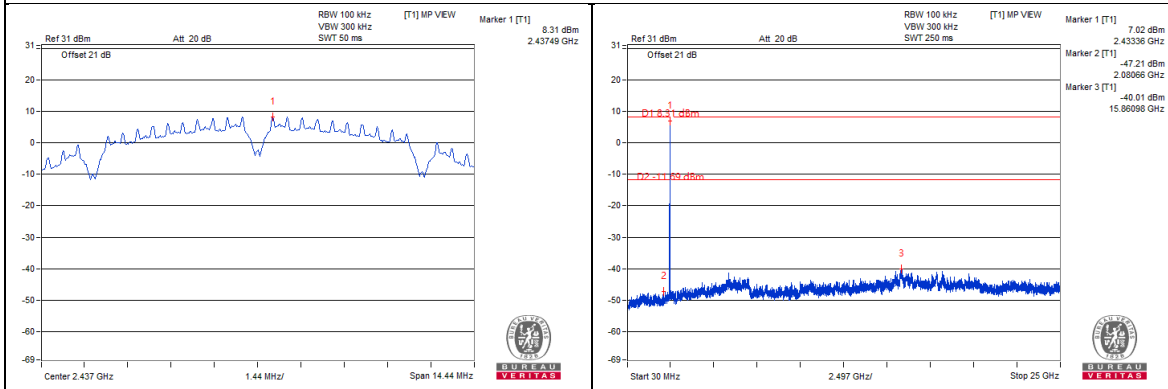
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

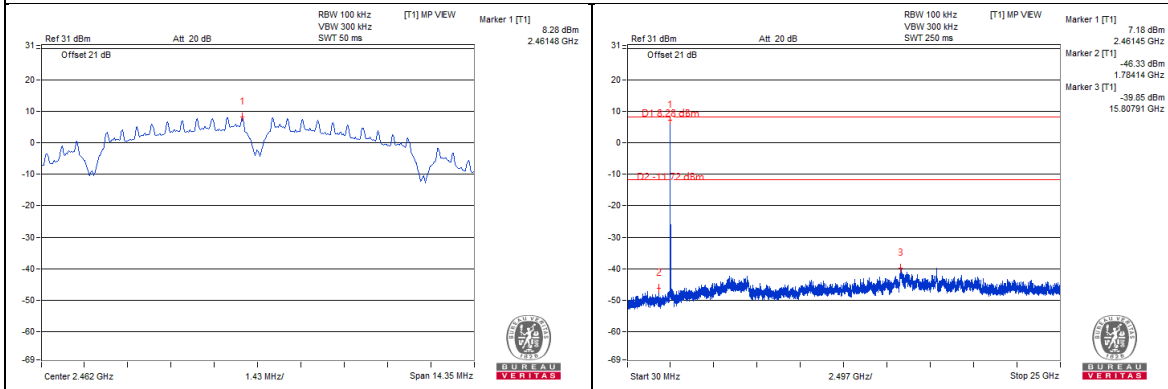
CH 1



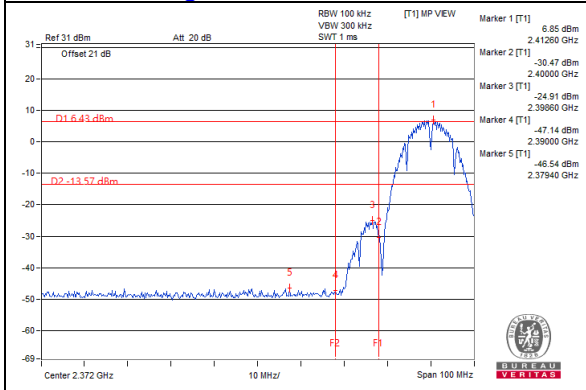
CH 6



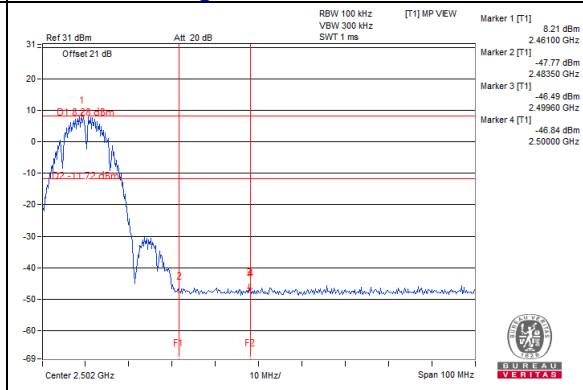
CH 11



CH 1 Band edge

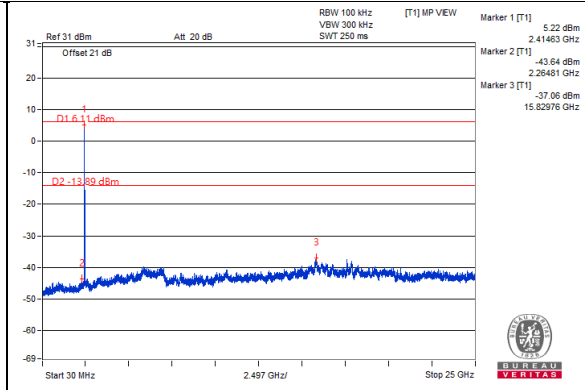
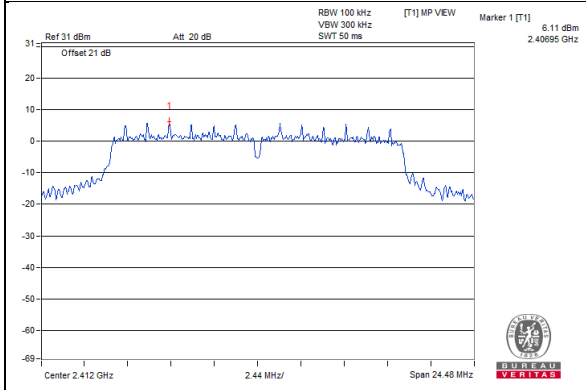


CH 11 Band edge

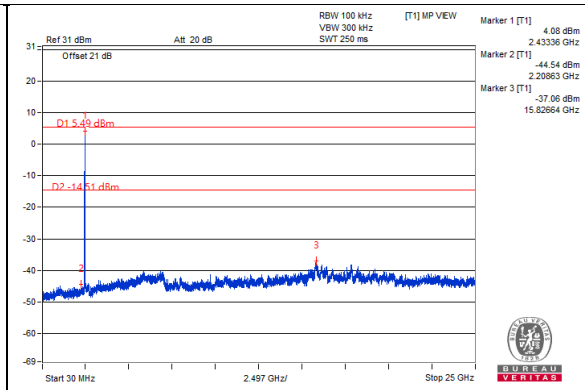
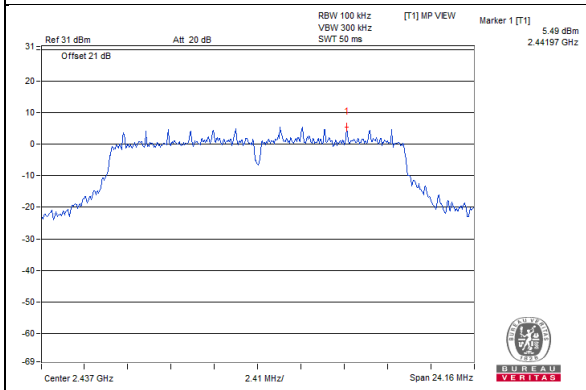


802.11g

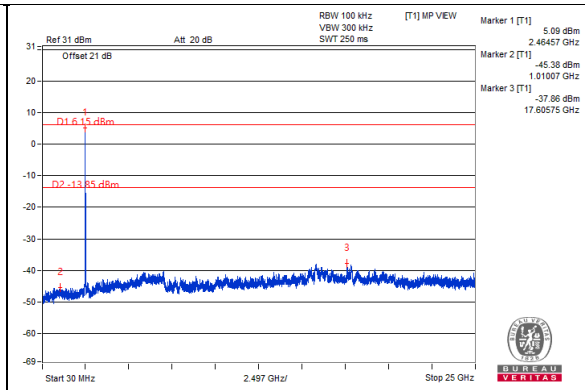
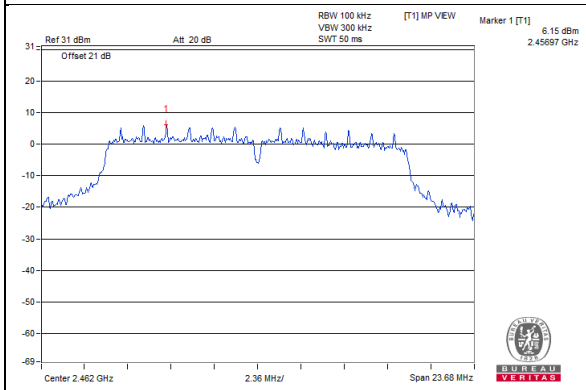
CH 1



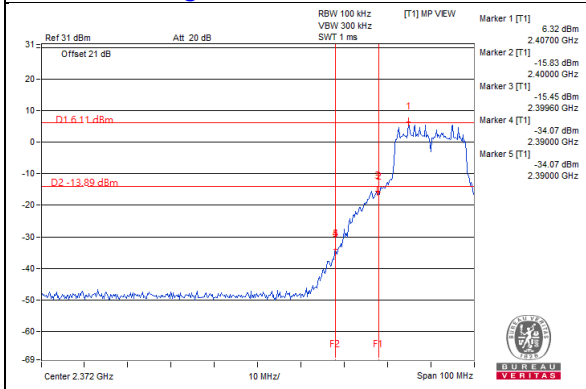
CH 6



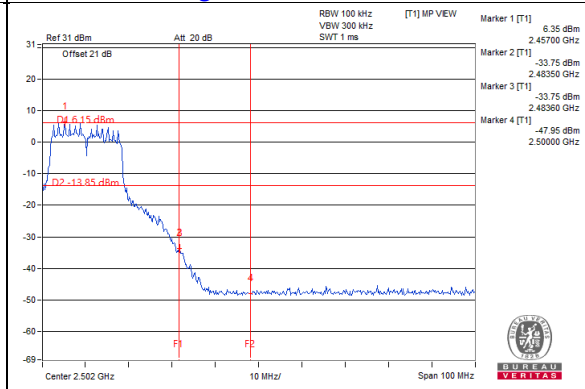
CH 11



CH 1 Band edge

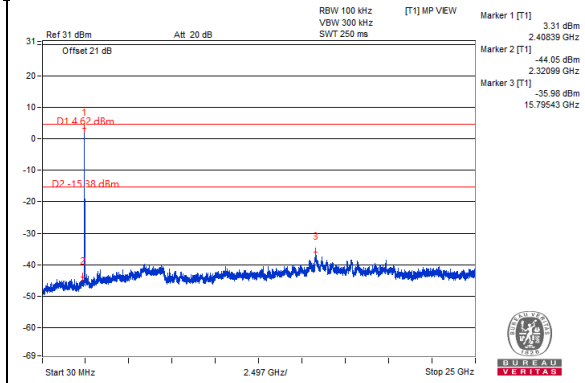
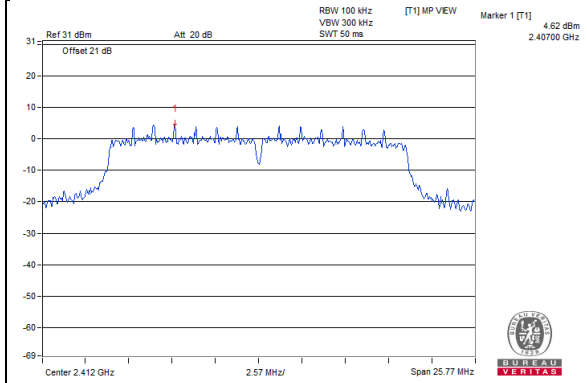


CH 11 Band edge

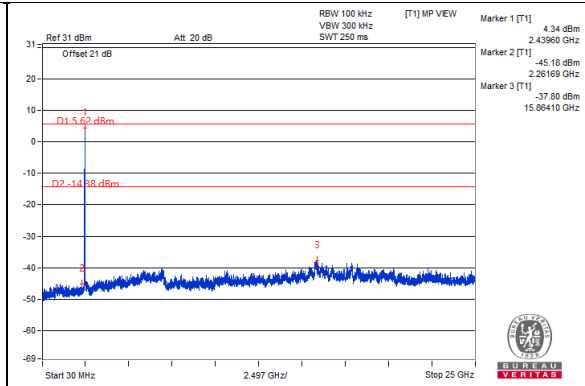
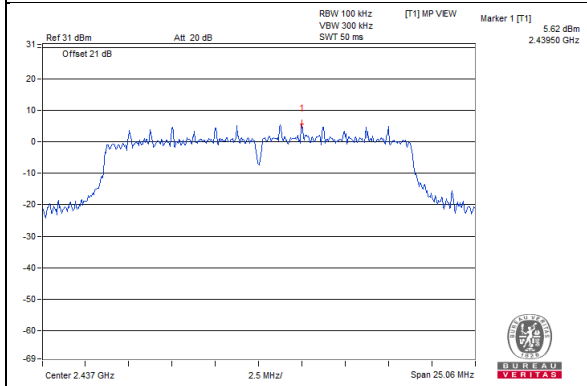


802.11n (HT20) Chain 0

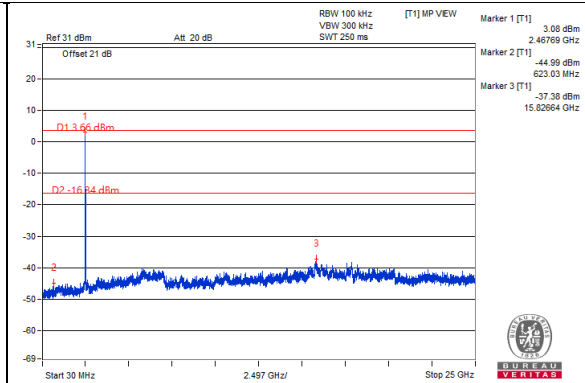
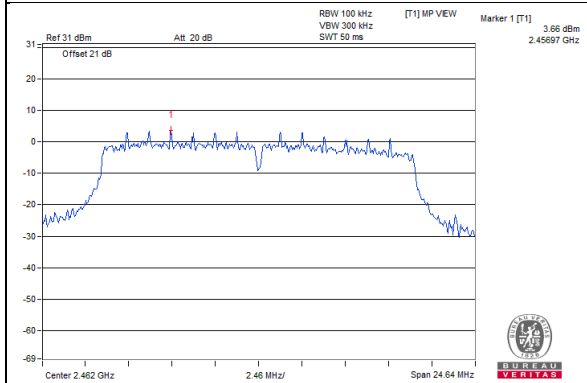
CH 1



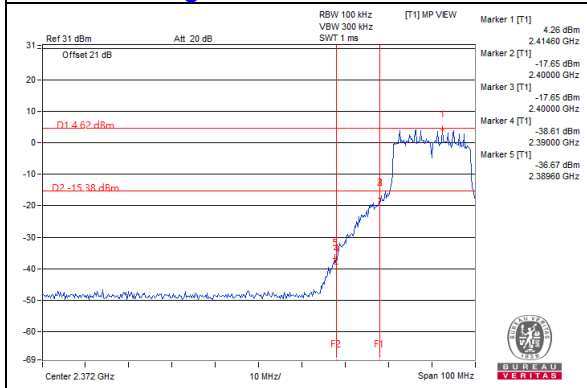
CH 6



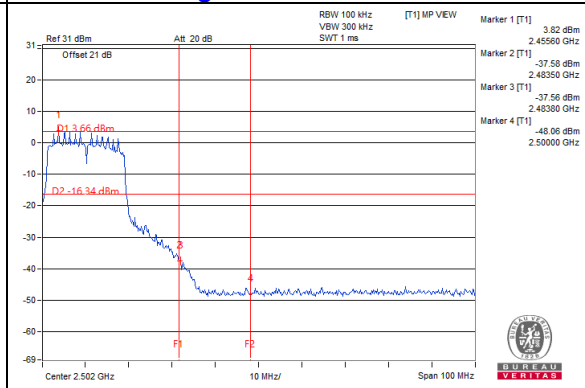
CH 11



CH 1 Band edge

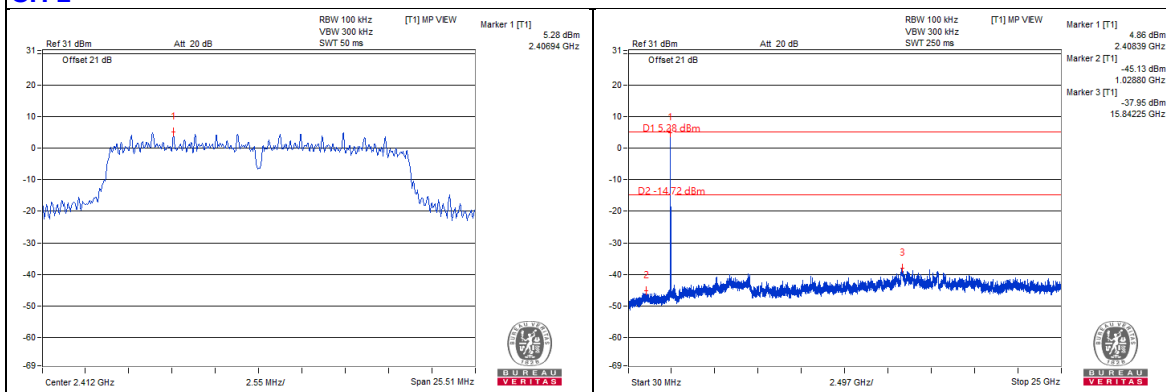


CH 11 Band edge

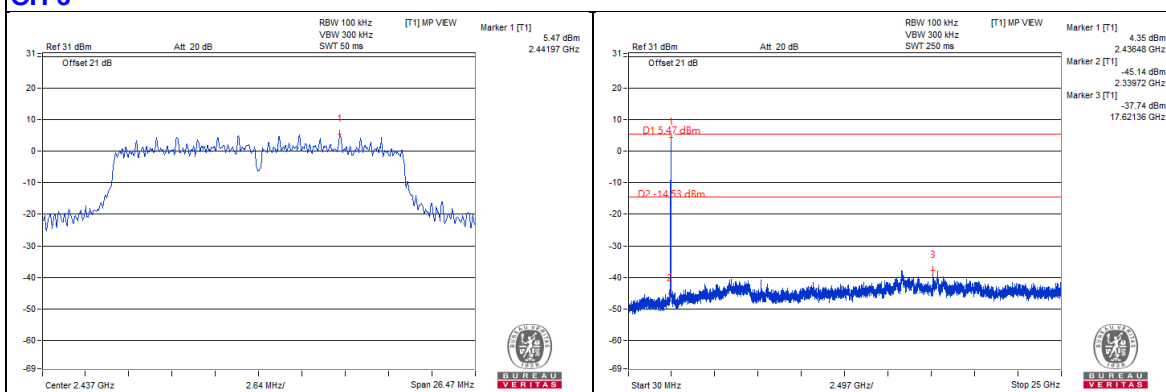


Chain 1

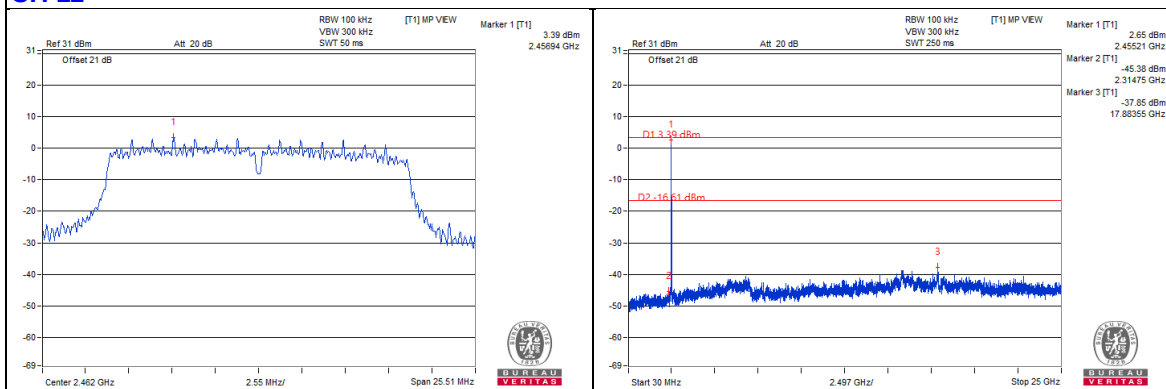
CH 1



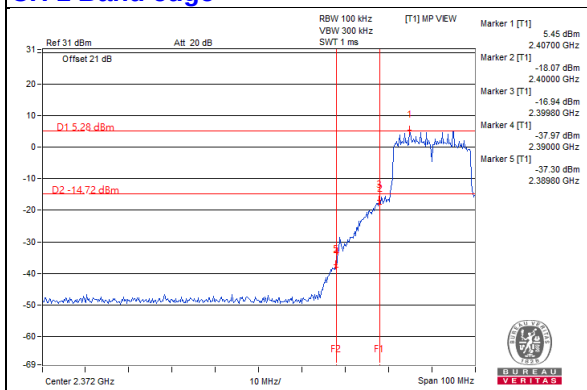
CH 6



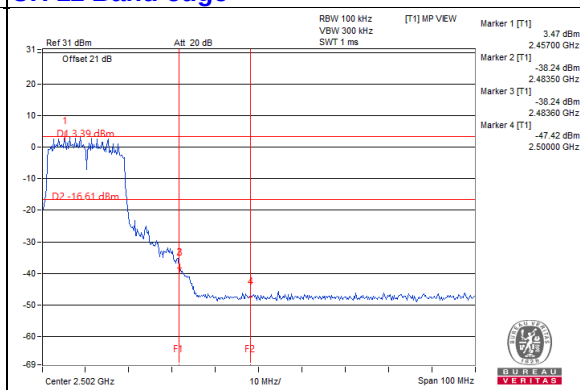
CH 11



CH 1 Band edge

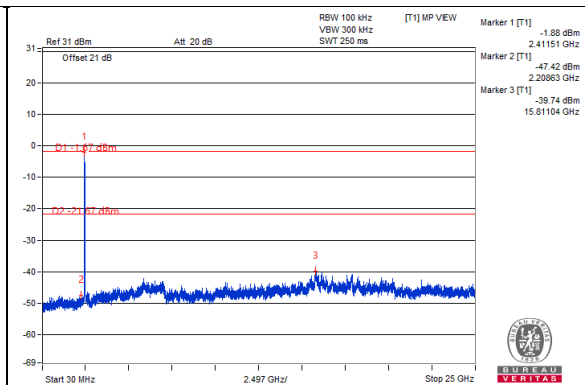
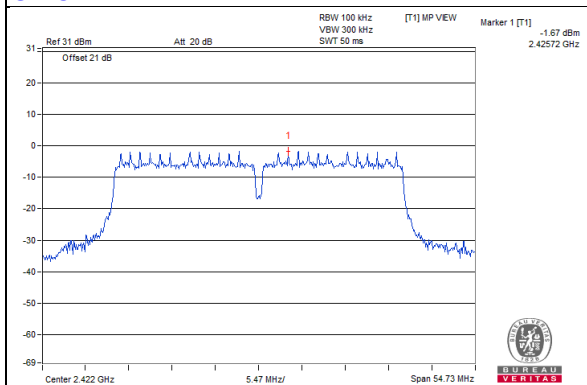


CH 11 Band edge

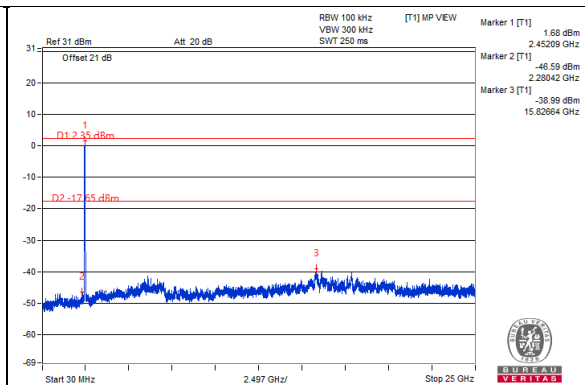
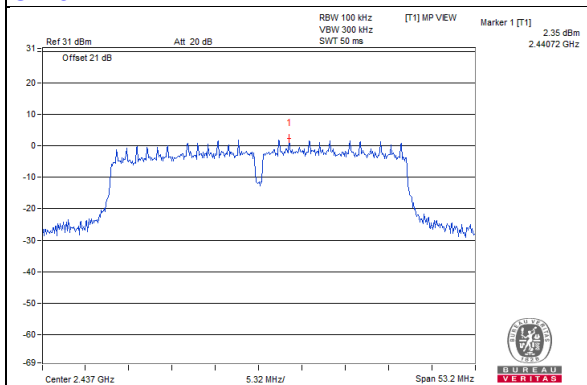


802.11n (HT40) Chain 0

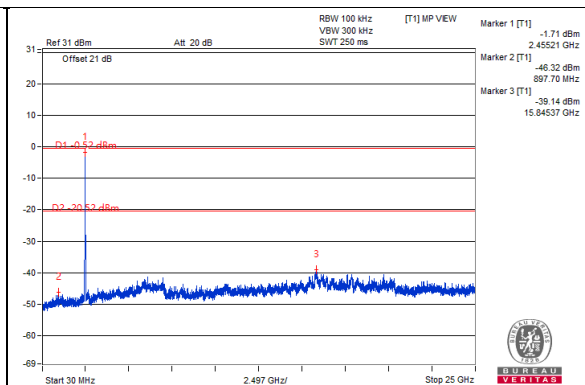
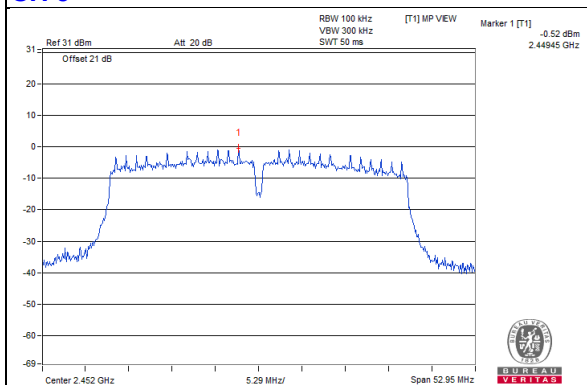
CH 3



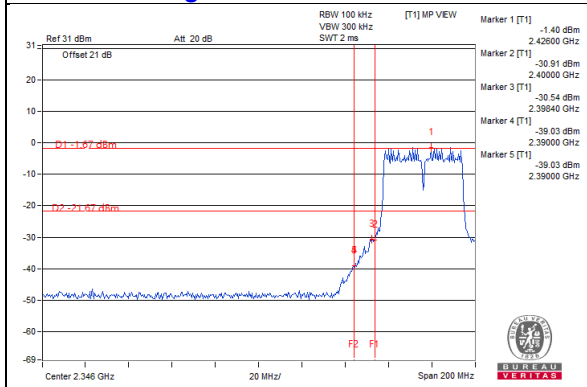
CH 6



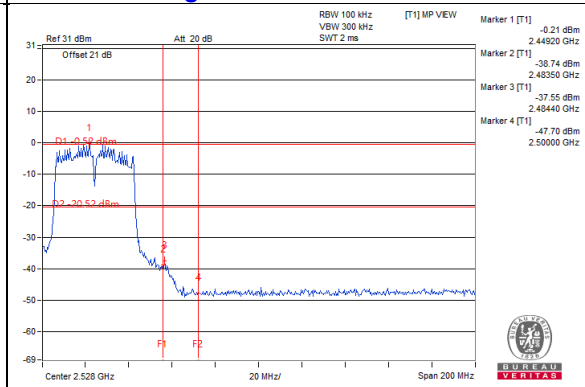
CH 9



CH 3 Band edge

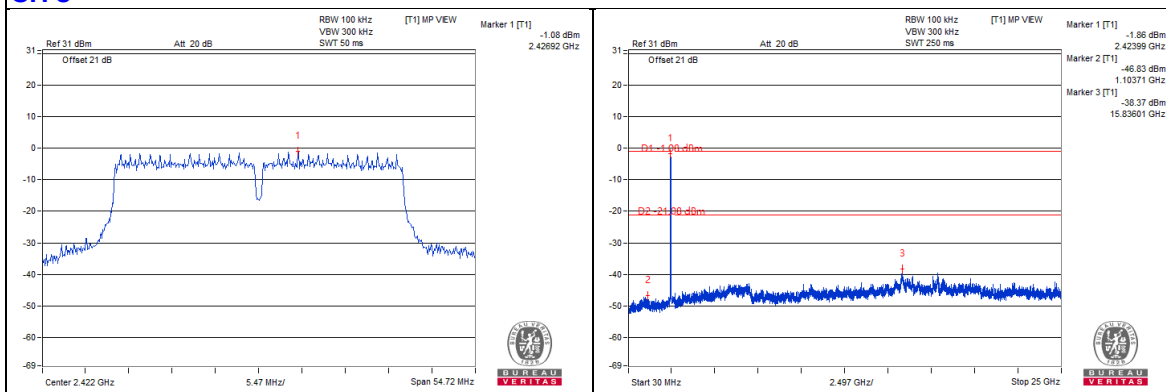


CH 9 Band edge

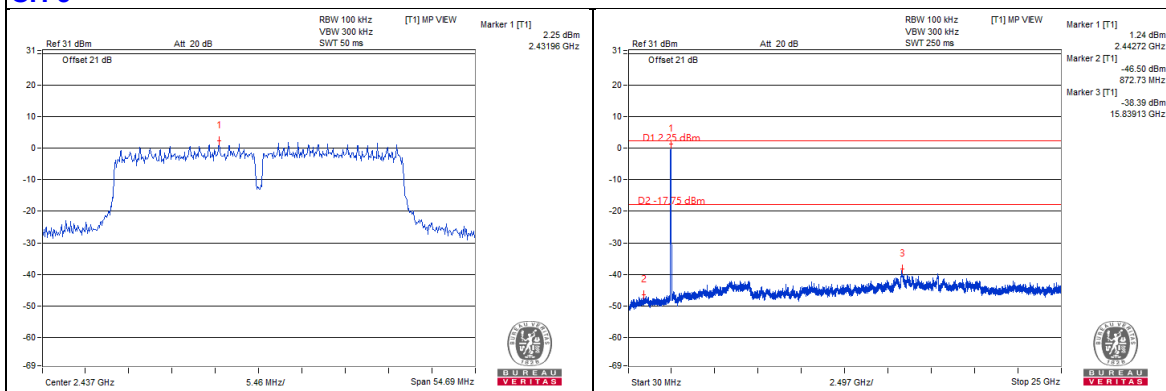


Chain 1

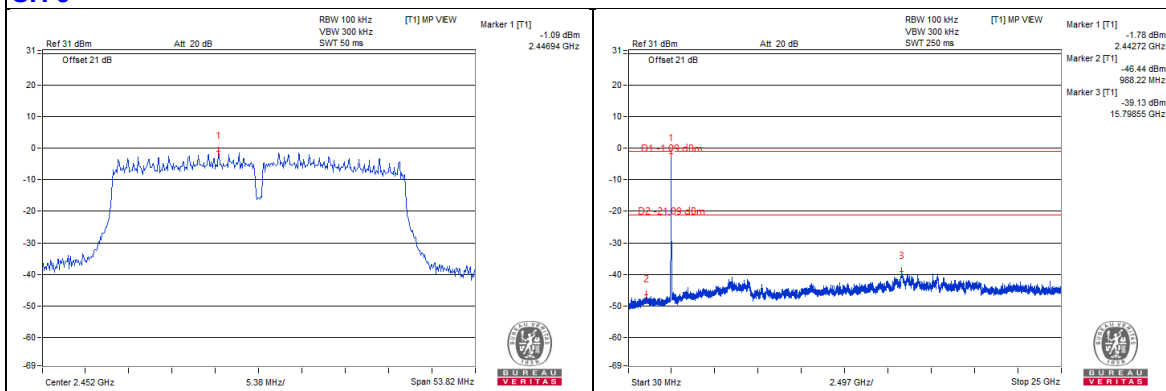
CH 3



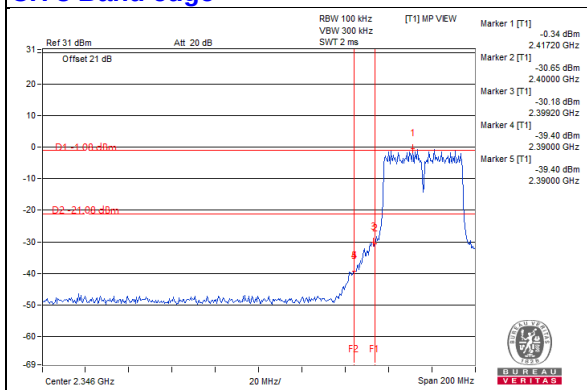
CH 6



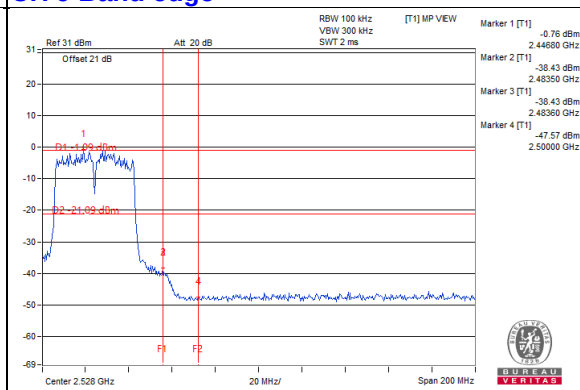
CH 9



CH 3 Band edge



CH 9 Band edge

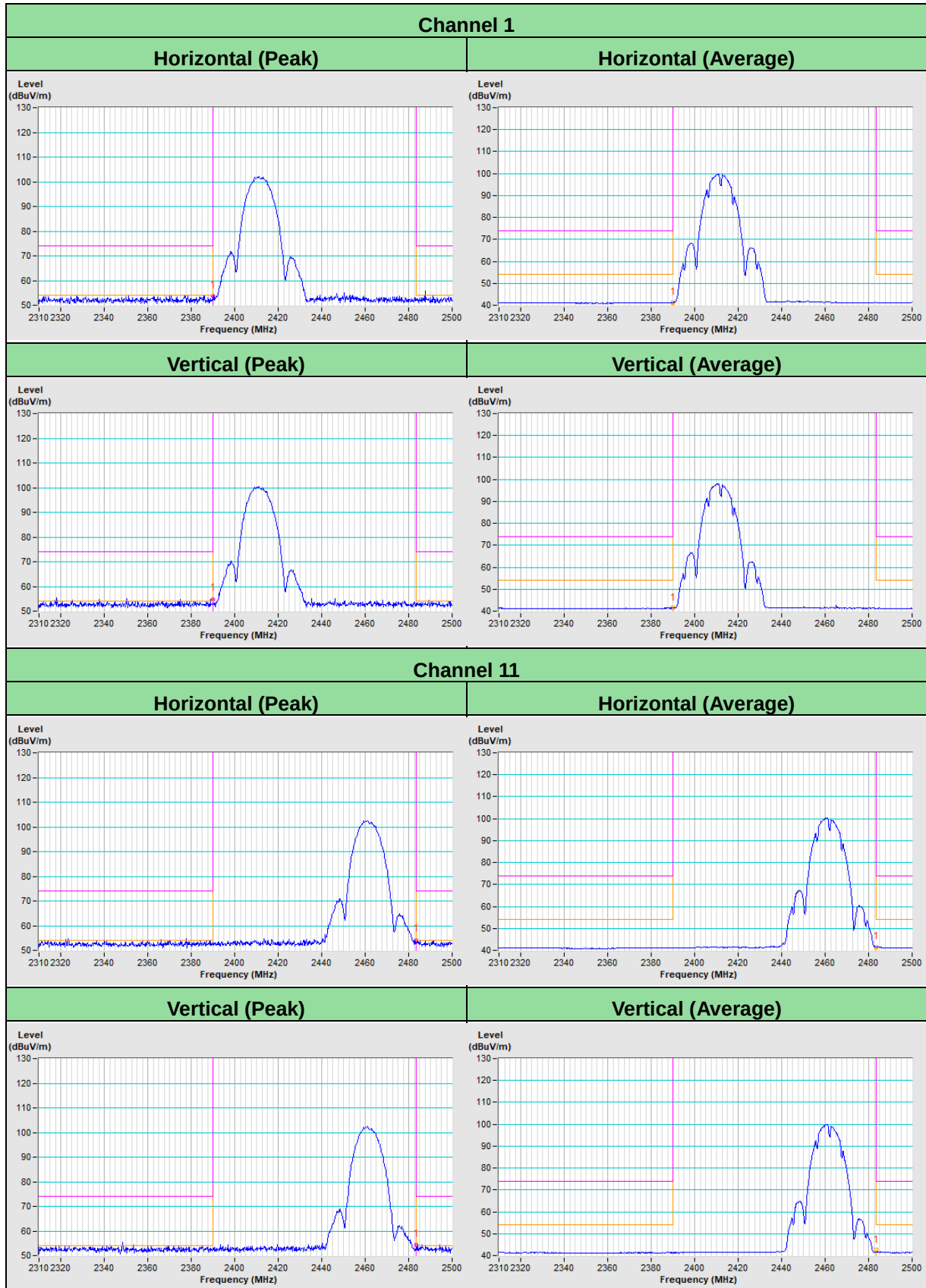


5 Pictures of Test Arrangements

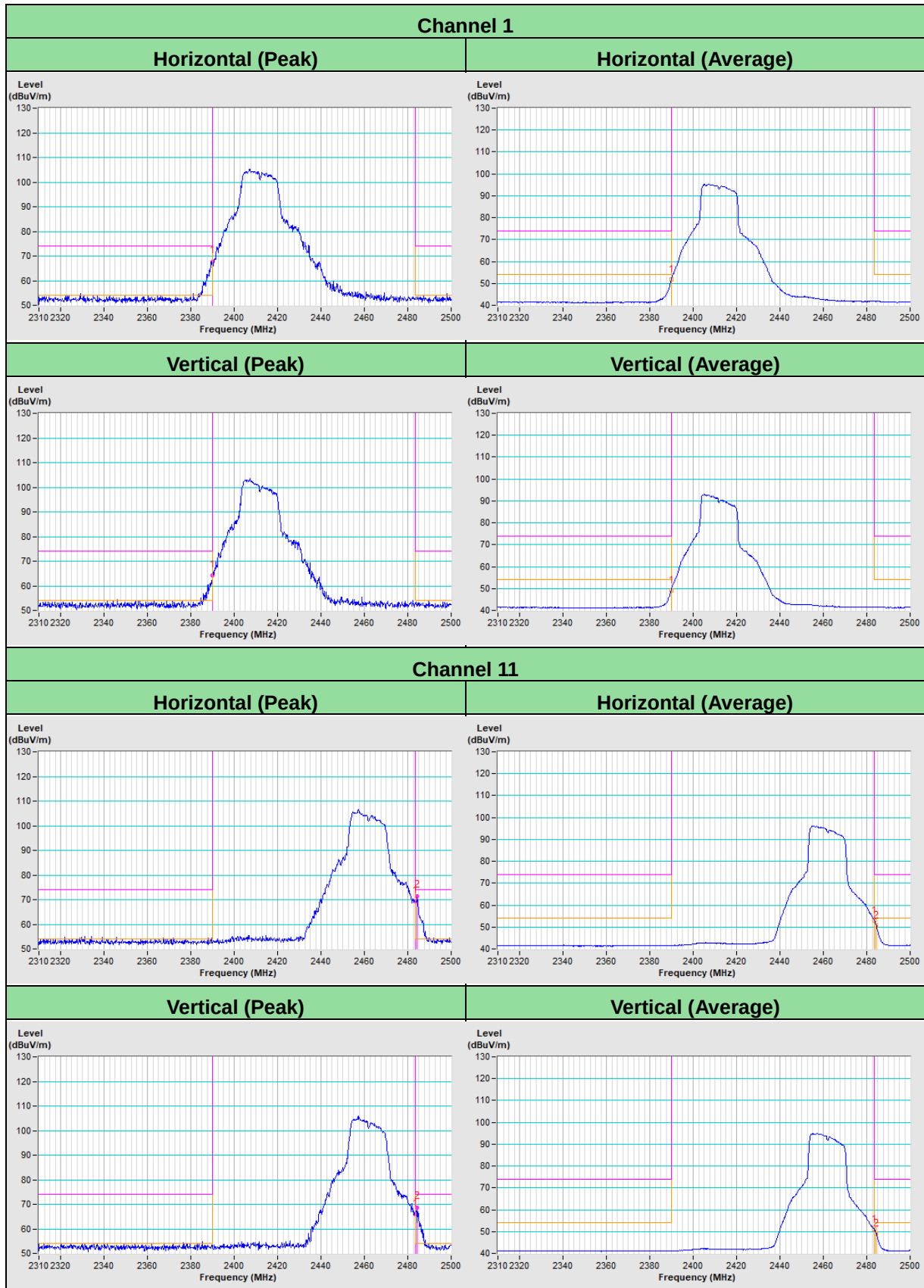
Please refer to the attached file (Test Setup Photo).

Annex A - Band-Edge Measurement

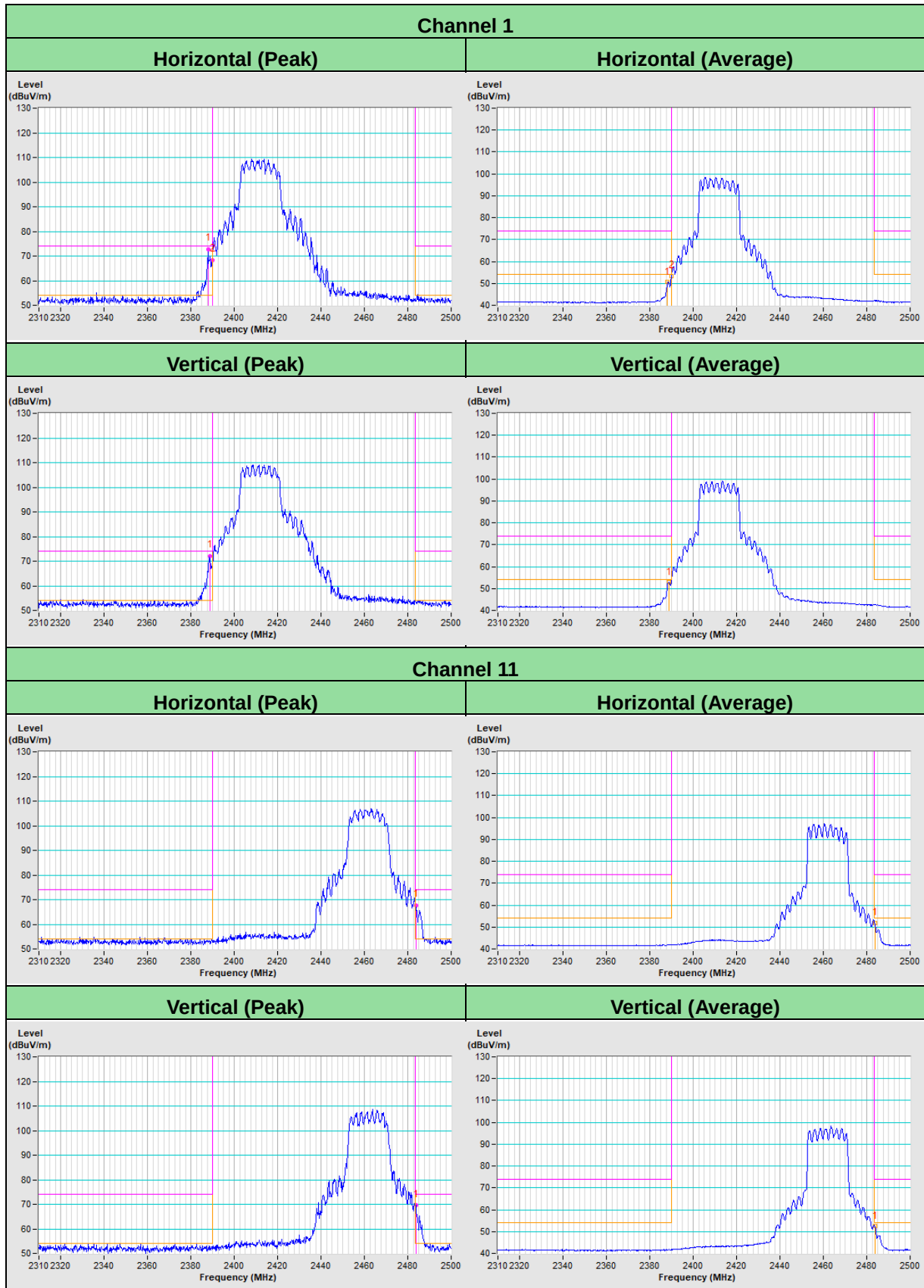
802.11b



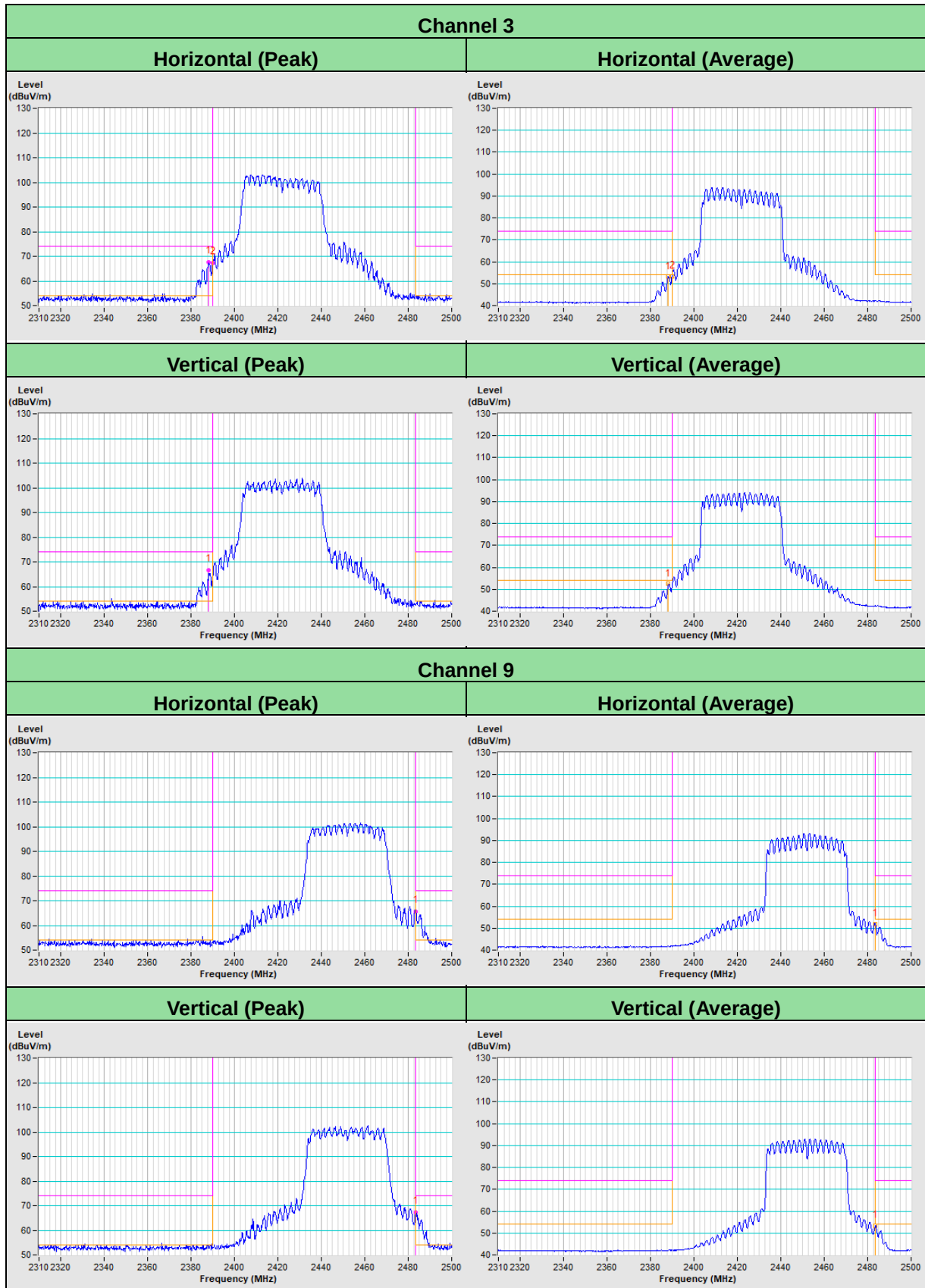
802.11g



802.11n (HT20)



802.11n (HT40)



Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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