FCC Test Report

Report No.:	RF200330E01
FCC ID:	H8NEAI2304P
Test Model:	EAI2304P
Received Date:	Mar. 30, 2020
Test Date:	Feb. 07 to May 01, 2020
Issued Date:	May 18, 2020
Applicant:	ASKEY COMPUTER CORP.
Address:	10F, NO.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 23585, TAIWAN, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF200330E01	Original release.	

1 Certificate of Conformity

Product:	Indoor AP
Brand:	ASKEY, T-Mobile
Test Model:	EAI2304P
Sample Status:	ENGINEERING SAMPLE
Applicant:	ASKEY COMPUTER CORP.
Test Date:	Feb. 07 to May 01, 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 : Joyce Kuo , **Date:** May 18, 2020

Joyce Kuo / Specialist

Approved by : , **Date:** May 18, 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 -6.71 dB at 12.60938 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.7 dB at 2483.50 MHz.
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 R-SMA not a standard connector.

Note:
1. 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.
2. 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
Conducted Emissions	9kHz ~ 40GHz	3.1 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 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	Indoor AP
Brand	ASKEY, T-Mobile
Test Model	EAI2304P
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	Refer to Note
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	DSSS,OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11a/g: up to 54 Mbps 802.11n: up to 800 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2401.9 Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462 GHz **5GHz:** 5.18 ~ 5.24 GHz, 5.745 ~ 5.825 GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2
Output Power	**CDD Mode:** **2.412 ~ 2.462 GHz:** 978.061 mW **5.18 ~ 5.24 GHz:** 714.126 mW **5.745 ~ 5.825 GHz:** 991.459 mW **Beamforming Mode:** **2.412 ~ 2.462 GHz:** 321.784 mW **5.18 ~ 5.24 GHz:** 345.166 mW **5.745 ~ 5.825 GHz:** 333.511 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ-45 Cable x 1(Unshielded, 2m)

Note:

1. The EUT must be supplied with a power adapter, POE adapter (only for test) or battery, please refer to the following table:

Adapter		
Brand	Model	Spec.
SUNNY	SYS1546-3612-T3	Input: 100-240V, 1.5A, 50/60Hz Output: 12V, 3.0A DC output cable: Unshielded, 1.4m
Only for test, not for sale		
POE adapter		
Brand	Model	Spec.
DELTA	ADH-45AR B	Input: 100-240V, 1.5A, 50/60Hz Output: 56V, 0.805A AC cable: Unshielded, 2.3m
Microsemi	PD-9001GR/AT/AC	Input: 100-240V, 0.67A, 50/60Hz Output: 55V, 0.6A AC cable: Unshielded, 2.3m
Battery		
Brand	Model	Spec.
ETICA	BP19-002820	Voltage Range: 6.0-8.4V Capacity: 2,900 mAh

2. The EUT has below radios as following table:

Radio 1	Radio 2	Radio 3
WLAN(2.4GHz)	WLAN(5GHz)	WWAN(LTE)

3. Simultaneously transmission condition.

Condition	Technology
1	WWAN + WLAN(2.4GHz) + WLAN(5GHz) MIMO
2	WWAN + WLAN(5GHz) MIMO
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.	

4. EUT contains a certified LTE module as following table:

Brand	Model	FCC ID:
Telit	LM960	RI7LM960

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

Antenna NO.	RF Chain NO.	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
WIFI_0	chain0 chain3	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA
WIFI_1	chain1 chain2	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA
WIFI_2	chain2 chain1	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA
WIFI_3	chain3 chain0	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA

6. For conducted emissions, the EUT was pre-tested under the following modes:

Pre-test Mode	Description	Model
Mode A	Power from adapter	SYS1546-3612-T3
Mode B	Power from PoE adapter	ADH-45AR B
Mode C	**Power from PoE adapter**	**PD-9001GR/AT/AC**

From the above modes, the worst case was found in **Mode C**. Therefore only the test data of the mode was recorded in this report.

7. For radiated emissions, the EUT was pre-tested under the following modes:

Pre-test Mode	Item	Description		Model
Mode A	Below 1GHz	laying-flat type	Power from Adapter	SYS1546-3612-T3
Mode B	Below 1GHz	wall mount type	Power from Adapter	SYS1546-3612-T3
Mode C	Below 1GHz	laying-flat type	Power from Battery	BP19-002820
Mode D	Below 1GHz	laying-flat type	Power from PoE adapter	ADH-45AR B
Mode E	**Below 1GHz**	laying-flat type	**Power from PoE adapter**	**PD-9001GR/AT/AC**
Mode F	Above 1GHz	laying-flat type	Power from PoE adapter	PD-9001GR/AT/AC
Mode G	**Above 1GHz**	wall mount type	**Power from PoE adapter**	**PD-9001GR/AT/AC**

From the above modes, the worst spurious emission was found in **Mode E and Mode G**. Therefore only the test data of the modes were recorded in this report.

8. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	1TX (Fixed Chain 0)	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX

Note:
1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and VHT mode for 20MHz (40MHz) and 802.11ax mode for 20MHz (40MHz), therefore the manufacturer will control the power for 802.11n/VHT mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)

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

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, and 802.11ax (HE20):

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), VHT40, 802.11ax (HE40):

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≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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.

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	Data Rate Parameter
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 10, 11	OFDM	BPSK	6
802.11ax (HE20)	1 to 11	1, 2, 6, 10, 11	OFDMA	BPSK	MCS0
802.11ax (HE40)	3 to 9	3, 6, 9	OFDMA	BPSK	MCS0

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.

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	Data Rate Parameter
802.11ax (HE20)	1 to 11	6	OFDMA	BPSK	MCS0

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.

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	Data Rate Parameter
802.11ax (HE20)	1 to 11	6	OFDMA	BPSK	MCS0

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.

CDD Mode					
MODE	**AVAILABLE CHANNEL**	**TESTED CHANNEL**	**MODULATION TECHNOLOGY**	**MODULATION TYPE**	**Data Rate Parameter**
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 10, 11	OFDM	BPSK	6
VHT20 (Output power only)	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5
VHT40 (Output power only)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11ax (HE20)	1 to 11	1, 2, 6, 10, 11	OFDMA	BPSK	MCS0
802.11ax (HE40)	3 to 9	3, 6, 9	OFDMA	BPSK	MCS0
Beamforming Mode (output power only)					
MODE	**AVAILABLE CHANNEL**	**TESTED CHANNEL**	**MODULATION TECHNOLOGY**	**MODULATION TYPE**	**Data Rate Parameter**
VHT20	1 to 11	1, 2, 6, 10,11	OFDM	BPSK	6.5
VHT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11ax (HE20)	1 to 11	1, 2, 6, 10,11	OFDMA	BPSK	MCS0
802.11ax (HE40)	3 to 9	3, 6, 9	OFDMA	BPSK	MCS0

Test Condition:

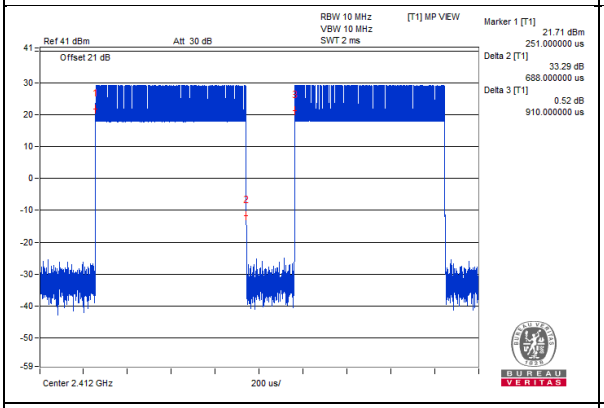
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (System)	TESTED BY
RE≥1G	25deg. C, 75%RH	120Vac, 60Hz	Nelson Teng
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
PLC	20deg. C, 60%RH	120Vac, 60Hz	Sampson
APCM	25deg. C, 60%RH	120Vac, 60Hz	Andy Ho

3.3 Duty Cycle of Test Signal

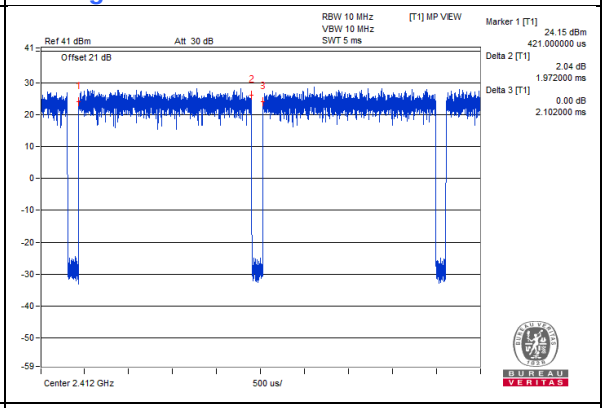
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11b: Duty cycle = 0.688/0.91 = 0.756, Duty factor = 10 * log(1/0.756) = 1.21
802.11g: Duty cycle = 1.972/2.102 = 0.938, Duty factor = 10 * log(1/0.938) = 0.28
802.11ax (HE20): Duty cycle = 5.448/5.748 = 0.948, Duty factor = 10 * log(1/0.948) = 0.23
802.11ax (HE40): Duty cycle = 5.43/5.705 = 0.952, Duty factor = 10 * log(1/0.952) = 0.21

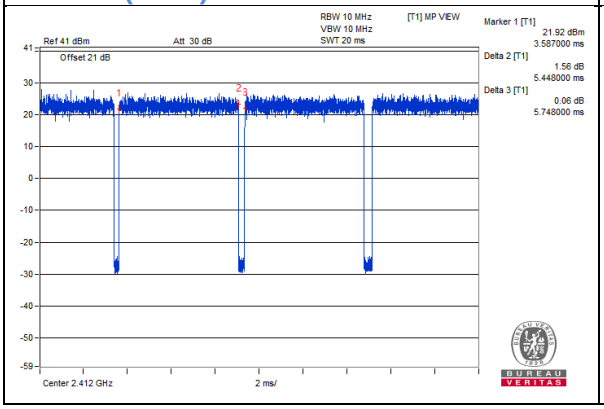
802.11b



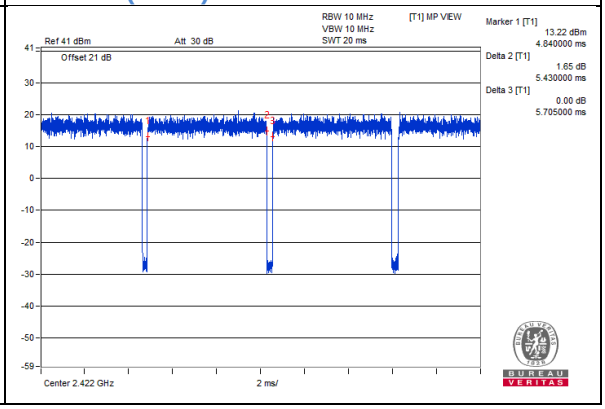
802.11g



802.11ax (HE20)



802.11ax (HE40)



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.

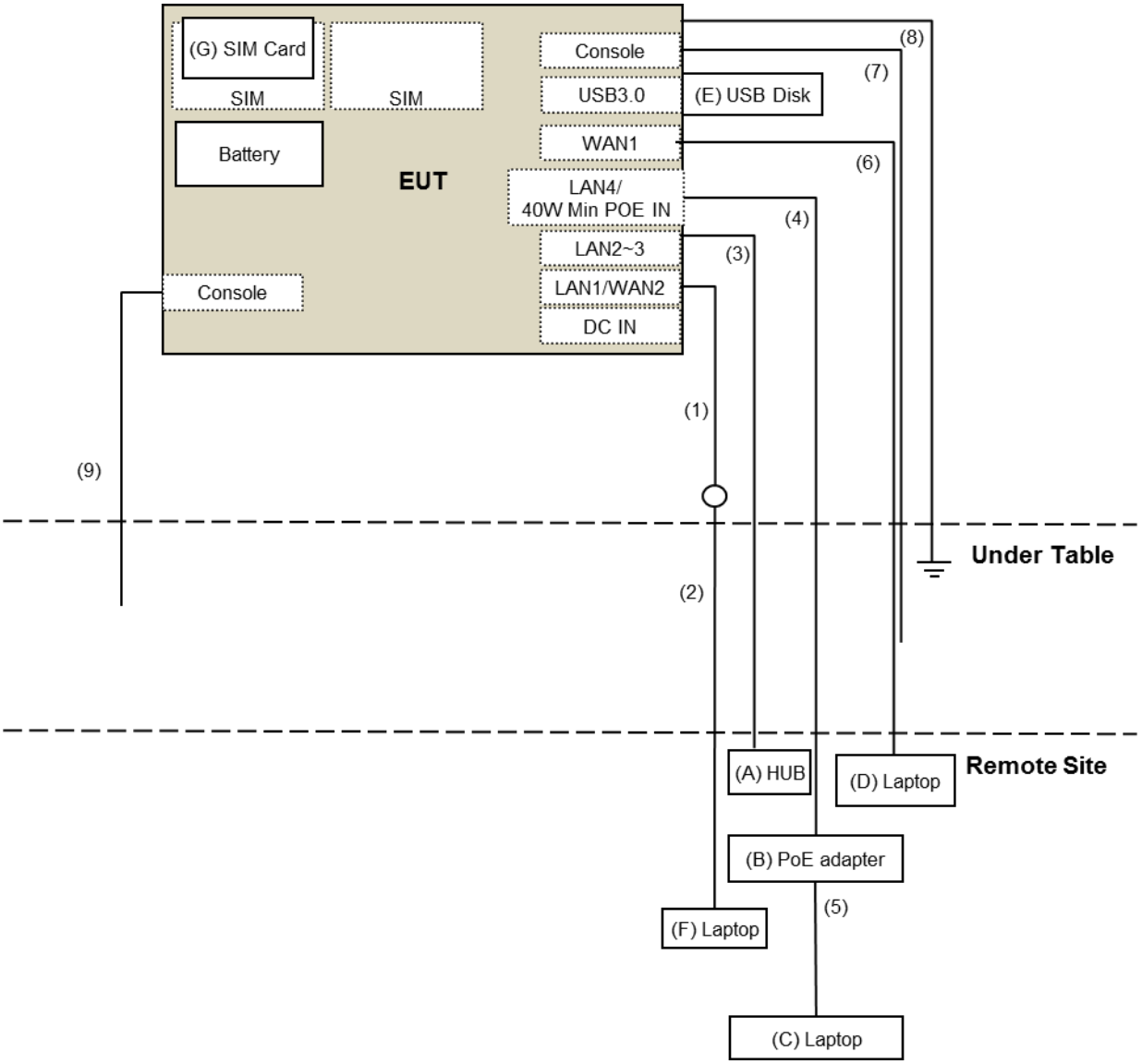
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	HUB	ZyXEL	GS1100-16	S150H44000046	FCC Doc	Provided by Lab
B.	PoE Adapter	Microsemi	PD-9001GR/AT/AC	NA	NA	Supplied by client
C.	Laptop	DELL	E5430	GM1SKV1	FCC DoC	Provided by Lab
D.	Laptop	DELL	E6420	482T3R1	FCC DoC	Provided by Lab
E.	USB Disk	SanDisk	NA	NA	NA	Provided by Lab
F.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
G.	SIM Card	KeysSight	E7515-10910	NA	NA	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	2	No	0	Supplied by client
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	2	10	No	0	Provided by Lab
4.	RJ-45 Cable	1	10	No	0	Provided by Lab
5.	RJ-45 Cable	1	1.8	No	0	Provided by Lab
6.	RJ-45 Cable	1	10	No	0	Provided by Lab
7.	RJ-45 to RS-232 Console Cable	1	1.8	No	0	Provided by Lab
8.	GND cable	1	3	No	0	Provided by Lab
9.	Micro USB Cable	1	1.8	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 30dB 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 test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 03, 2019	July 02, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 30, 2019	May 29, 2020
Loop Antenna Electro-Metrics	EM-6879	269	Sep. 16, 2019	Sep. 15, 2020
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-05	Apr. 30, 2019	Apr. 29, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 26, 2019	Sep. 25, 2020
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1200	160922	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 10, 2019	June 09, 2020
RF Cable	EMC104-SM-SM-6000	180602	June 10, 2019	June 09, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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. 3.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Apr. 27 to 29, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	June 04, 2019	June 03, 2020
Spectrum Analyzer Keysight	N9030A	MY54490679	July 17, 2019	July 16, 2020
Power meter Anritsu	ML2495A	1014008	May 13, 2019	May 12, 2020
Power sensor Anritsu	MA2411B	0917122	May 13, 2019	May 12, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Mech Switch Absorptive Mini-Circuits	MSP4TA-18+	0140	Feb. 10, 2020	Feb. 09, 2021
FXD ATTEN Mini-Circuits	BW-S3W2+	MN71981	Feb. 10, 2020	Feb. 09, 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: May 01, 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:

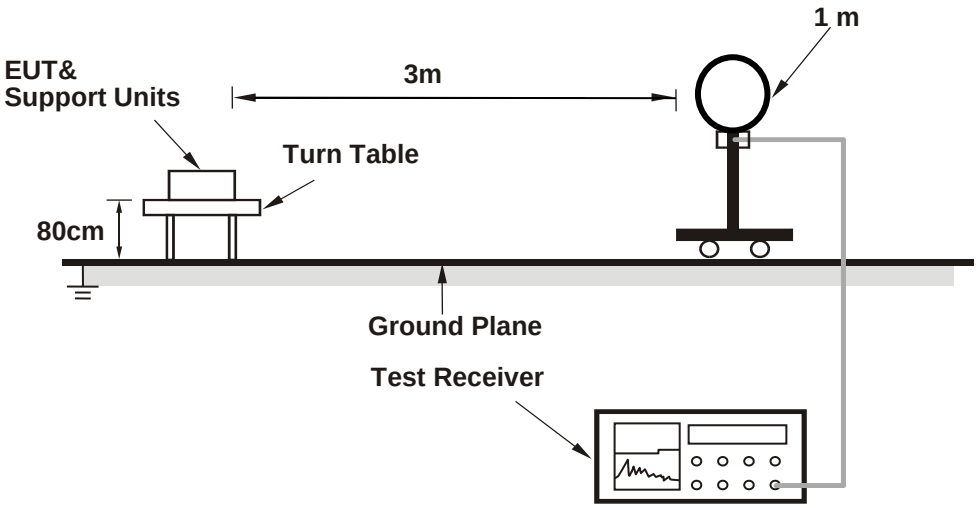
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (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.

4.1.4 Deviation from Test Standard

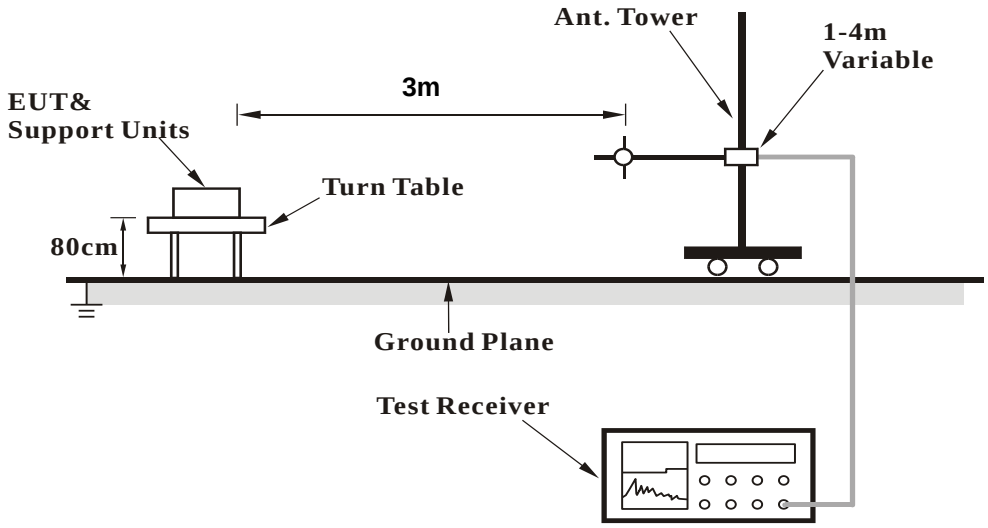
No deviation.

4.1.5 Test Setup

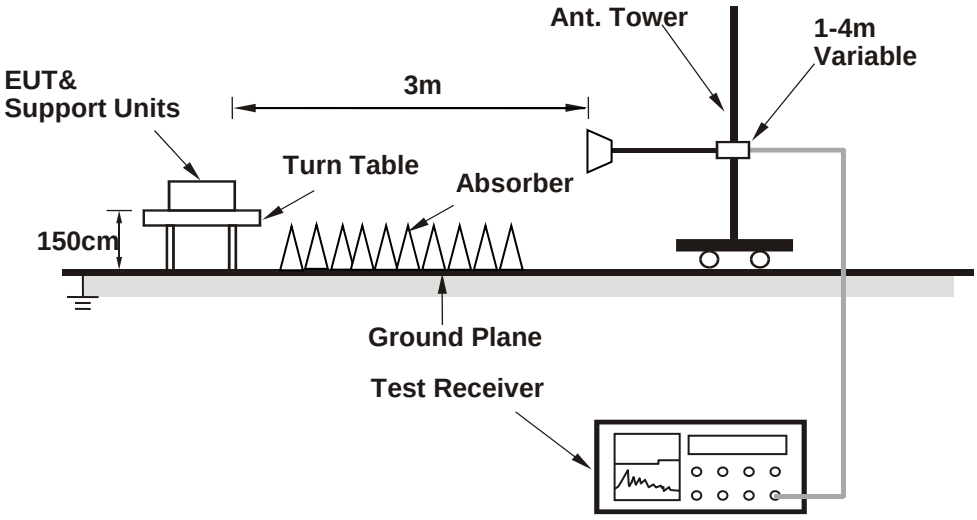
For Radiated emission below 30MHz



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

a. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (QDART-Connectivity1.0-00070) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

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4.1.7 Test Results

802.11b

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

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	2387.11	54.7 PK	74.0	-19.3	1.80 H	328	56.6	-1.9
2	2387.11	43.3 AV	54.0	-10.7	1.80 H	328	45.2	-1.9
3	*2412.00	104.5 PK			1.80 H	328	106.4	-1.9
4	*2412.00	101.8 AV			1.80 H	328	103.7	-1.9
5	4824.00	39.9 PK	74.0	-34.1	1.63 H	138	37.0	2.9
6	4824.00	30.1 AV	54.0	-23.9	1.63 H	138	27.2	2.9
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	2387.11	57.5 PK	74.0	-16.5	1.33 V	25	59.4	-1.9
2	2387.11	48.6 AV	54.0	-5.4	1.33 V	25	50.5	-1.9
3	*2412.00	114.9 PK			1.33 V	25	116.8	-1.9
4	*2412.00	112.0 AV			1.33 V	25	113.9	-1.9
5	4824.00	41.0 PK	74.0	-33.0	1.66 V	181	38.1	2.9
6	4824.00	35.1 AV	54.0	-18.9	1.66 V	181	32.2	2.9

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.2 PK	74.0	-18.8	1.82 H	334	57.1	-1.9
2	2390.00	42.6 AV	54.0	-11.4	1.82 H	334	44.5	-1.9
3	*2437.00	103.5 PK			1.82 H	334	105.5	-2.0
4	*2437.00	100.8 AV			1.82 H	334	102.8	-2.0
5	2483.50	54.8 PK	74.0	-19.2	1.82 H	334	56.7	-1.9
6	2483.50	42.6 AV	54.0	-11.4	1.82 H	334	44.5	-1.9
7	4874.00	40.0 PK	74.0	-34.0	1.62 H	127	37.2	2.8
8	4874.00	30.2 AV	54.0	-23.8	1.62 H	127	27.4	2.8
9	7311.00	44.4 PK	74.0	-29.6	1.86 H	41	35.5	8.9
10	7311.00	34.0 AV	54.0	-20.0	1.86 H	41	25.1	8.9
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	56.5 PK	74.0	-17.5	1.06 V	167	58.4	-1.9
2	2390.00	43.8 AV	54.0	-10.2	1.06 V	167	45.7	-1.9
3	*2437.00	115.8 PK			1.06 V	167	117.8	-2.0
4	*2437.00	112.9 AV			1.06 V	167	114.9	-2.0
5	2483.50	57.1 PK	74.0	-16.9	1.06 V	167	59.0	-1.9
6	2483.50	44.9 AV	54.0	-9.1	1.06 V	167	46.8	-1.9
7	4874.00	41.6 PK	74.0	-32.4	1.71 V	203	38.8	2.8
8	4874.00	35.7 AV	54.0	-18.3	1.71 V	203	32.9	2.8
9	7311.00	43.9 PK	74.0	-30.1	1.38 V	155	35.0	8.9
10	7311.00	34.8 AV	54.0	-19.2	1.38 V	155	25.9	8.9

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	105.5 PK			1.21 H	336	107.4	-1.9
2	*2462.00	102.9 AV			1.21 H	336	104.8	-1.9
3	2483.50	54.9 PK	74.0	-19.1	1.21 H	336	56.8	-1.9
4	2483.50	44.2 AV	54.0	-9.8	1.21 H	336	46.1	-1.9
5	4924.00	40.4 PK	74.0	-33.6	1.66 H	140	37.7	2.7
6	4924.00	30.6 AV	54.0	-23.4	1.66 H	140	27.9	2.7
7	7386.00	44.6 PK	74.0	-29.4	1.90 H	41	35.6	9.0
8	7386.00	34.0 AV	54.0	-20.0	1.90 H	41	25.0	9.0
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	114.7 PK			1.07 V	172	116.6	-1.9
2	*2462.00	111.8 AV			1.07 V	172	113.7	-1.9
3	2484.90	58.2 PK	74.0	-15.8	1.07 V	172	60.1	-1.9
4	2484.90	47.9 AV	54.0	-6.1	1.07 V	172	49.8	-1.9
5	4924.00	41.4 PK	74.0	-32.6	1.66 V	194	38.7	2.7
6	4924.00	35.4 AV	54.0	-18.6	1.66 V	194	32.7	2.7
7	7386.00	43.8 PK	74.0	-30.2	1.32 V	164	34.8	9.0
8	7386.00	34.9 AV	54.0	-19.1	1.32 V	164	25.9	9.0

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.2 PK	74.0	-18.8	1.19 H	339	57.1	-1.9
2	2390.00	43.3 AV	54.0	-10.7	1.19 H	339	45.2	-1.9
3	*2412.00	110.8 PK			1.19 H	339	112.7	-1.9
4	*2412.00	101.8 AV			1.19 H	339	103.7	-1.9
5	4824.00	40.5 PK	74.0	-33.5	1.60 H	151	37.6	2.9
6	4824.00	30.5 AV	54.0	-23.5	1.60 H	151	27.6	2.9
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	66.9 PK	74.0	-7.1	1.74 V	334	68.8	-1.9
2	2390.00	53.2 AV	54.0	-0.8	1.74 V	334	55.1	-1.9
3	*2412.00	123.1 PK			1.74 V	334	125.0	-1.9
4	*2412.00	114.3 AV			1.74 V	334	116.2	-1.9
5	4824.00	42.3 PK	74.0	-31.7	1.72 V	197	39.4	2.9
6	4824.00	36.1 AV	54.0	-17.9	1.72 V	197	33.2	2.9

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	56.3 PK	74.0	-17.7	1.51 H	38	58.2	-1.9
2	2390.00	43.1 AV	54.0	-10.9	1.51 H	38	45.0	-1.9
3	*2437.00	114.3 PK			1.51 H	38	116.3	-2.0
4	*2437.00	104.1 AV			1.51 H	38	106.1	-2.0
5	2483.50	56.1 PK	74.0	-17.9	1.51 H	38	58.0	-1.9
6	2483.50	43.3 AV	54.0	-10.7	1.51 H	38	45.2	-1.9
7	4874.00	40.3 PK	74.0	-33.7	1.65 H	141	37.5	2.8
8	4874.00	30.8 AV	54.0	-23.2	1.65 H	141	28.0	2.8
9	7311.00	44.7 PK	74.0	-29.3	1.86 H	54	35.8	8.9
10	7311.00	34.3 AV	54.0	-19.7	1.86 H	54	25.4	8.9
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	62.2 PK	74.0	-11.8	1.60 V	331	64.1	-1.9
2	2390.00	46.6 AV	54.0	-7.4	1.60 V	331	48.5	-1.9
3	*2437.00	125.4 PK			1.60 V	331	127.4	-2.0
4	*2437.00	116.1 AV			1.60 V	331	118.1	-2.0
5	2483.50	59.4 PK	74.0	-14.6	1.60 V	331	61.3	-1.9
6	2483.50	46.8 AV	54.0	-7.2	1.60 V	331	48.7	-1.9
7	4874.00	41.1 PK	74.0	-32.9	1.62 V	194	38.3	2.8
8	4874.00	35.2 AV	54.0	-18.8	1.62 V	194	32.4	2.8
9	7311.00	43.8 PK	74.0	-30.2	1.28 V	152	34.9	8.9
10	7311.00	35.2 AV	54.0	-18.8	1.28 V	152	26.3	8.9

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 10	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2457.00	109.6 PK			1.73 H	41	111.5	-1.9
2	*2457.00	100.2 AV			1.73 H	41	102.1	-1.9
3	2483.50	56.5 PK	74.0	-17.5	1.73 H	41	58.4	-1.9
4	2483.50	44.0 AV	54.0	-10.0	1.73 H	41	45.9	-1.9
5	4914.00	40.5 PK	74.0	-33.5	1.61 H	142	37.8	2.7
6	4914.00	31.0 AV	54.0	-23.0	1.61 H	142	28.3	2.7
7	7371.00	45.1 PK	74.0	-28.9	1.94 H	27	36.2	8.9
8	7371.00	34.5 AV	54.0	-19.5	1.94 H	27	25.6	8.9
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	*2457.00	120.4 PK			1.64 V	25	122.3	-1.9
2	*2457.00	112.8 AV			1.64 V	25	114.7	-1.9
3	2483.50	66.7 PK	74.0	-7.3	1.64 V	25	68.6	-1.9
4	2483.50	53.1 AV	54.0	-0.9	1.64 V	25	55.0	-1.9
5	4914.00	41.0 PK	74.0	-33.0	1.65 V	192	38.3	2.7
6	4914.00	35.2 AV	54.0	-18.8	1.65 V	192	32.5	2.7
7	7371.00	44.5 PK	74.0	-29.5	1.32 V	162	35.6	8.9
8	7371.00	35.4 AV	54.0	-18.6	1.32 V	162	26.5	8.9

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	108.1 PK			1.73 H	38	110.0	-1.9
2	*2462.00	99.4 AV			1.73 H	38	101.3	-1.9
3	2483.50	56.1 PK	74.0	-17.9	1.73 H	38	58.0	-1.9
4	2483.50	43.9 AV	54.0	-10.1	1.73 H	38	45.8	-1.9
5	4924.00	40.1 PK	74.0	-33.9	1.71 H	136	37.4	2.7
6	4924.00	30.3 AV	54.0	-23.7	1.71 H	136	27.6	2.7
7	7386.00	44.0 PK	74.0	-30.0	1.92 H	49	35.0	9.0
8	7386.00	33.6 AV	54.0	-20.4	1.92 H	49	24.6	9.0
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	119.1 PK			1.66 V	24	121.0	-1.9
2	*2462.00	111.3 AV			1.66 V	24	113.2	-1.9
3	2483.50	66.2 PK	74.0	-7.8	1.66 V	24	68.1	-1.9
4	2483.50	52.7 AV	54.0	-1.3	1.66 V	24	54.6	-1.9
5	4924.00	41.5 PK	74.0	-32.5	1.71 V	194	38.8	2.7
6	4924.00	35.6 AV	54.0	-18.4	1.71 V	194	32.9	2.7
7	7386.00	43.8 PK	74.0	-30.2	1.35 V	165	34.8	9.0
8	7386.00	34.9 AV	54.0	-19.1	1.35 V	165	25.9	9.0

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.

802.11ax (HE20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.3 PK	74.0	-18.7	1.62 H	351	57.2	-1.9
2	2390.00	43.3 AV	54.0	-10.7	1.62 H	351	45.2	-1.9
3	*2412.00	111.8 PK			1.62 H	351	113.7	-1.9
4	*2412.00	100.2 AV			1.62 H	351	102.1	-1.9
5	4824.00	40.1 PK	74.0	-33.9	1.62 H	136	37.2	2.9
6	4824.00	30.1 AV	54.0	-23.9	1.62 H	136	27.2	2.9
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	64.8 PK	74.0	-9.2	1.64 V	15	66.7	-1.9
2	2390.00	52.6 AV	54.0	-1.4	1.64 V	15	54.5	-1.9
3	*2412.00	121.3 PK			1.64 V	15	123.2	-1.9
4	*2412.00	110.1 AV			1.64 V	15	112.0	-1.9
5	4824.00	41.9 PK	74.0	-32.1	1.76 V	202	39.0	2.9
6	4824.00	36.0 AV	54.0	-18.0	1.76 V	202	33.1	2.9

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 2	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.5 PK	74.0	-18.5	1.66 H	351	57.4	-1.9
2	2390.00	43.7 AV	54.0	-10.3	1.66 H	351	45.6	-1.9
3	*2417.00	112.6 PK			1.66 H	351	114.5	-1.9
4	*2417.00	101.0 AV			1.66 H	351	102.9	-1.9
5	4834.00	40.6 PK	74.0	-33.4	1.69 H	135	37.7	2.9
6	4834.00	30.7 AV	54.0	-23.3	1.69 H	135	27.8	2.9
7	7251.00	44.4 PK	74.0	-29.6	1.95 H	32	35.6	8.8
8	7251.00	33.7 AV	54.0	-20.3	1.95 H	32	24.9	8.8
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	65.3 PK	74.0	-8.7	1.63 V	12	67.2	-1.9
2	2390.00	53.1 AV	54.0	-0.9	1.63 V	12	55.0	-1.9
3	*2417.00	122.4 PK			1.63 V	12	124.3	-1.9
4	*2417.00	111.3 AV			1.63 V	12	113.2	-1.9
5	4834.00	41.9 PK	74.0	-32.1	1.62 V	189	39.0	2.9
6	4834.00	35.7 AV	54.0	-18.3	1.62 V	189	32.8	2.9
7	7251.00	43.5 PK	74.0	-30.5	1.30 V	174	34.7	8.8
8	7251.00	34.7 AV	54.0	-19.3	1.30 V	174	25.9	8.8

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.1 PK	74.0	-14.9	1.45 H	152	61.0	-1.9
2	2390.00	44.0 AV	54.0	-10.0	1.45 H	152	45.9	-1.9
3	*2437.00	115.2 PK			1.45 H	152	117.2	-2.0
4	*2437.00	104.2 AV			1.45 H	152	106.2	-2.0
5	2483.50	55.4 PK	74.0	-18.6	1.45 H	152	57.3	-1.9
6	2483.50	43.8 AV	54.0	-10.2	1.45 H	152	45.7	-1.9
7	4874.00	40.3 PK	74.0	-33.7	1.71 H	156	37.5	2.8
8	4874.00	30.6 AV	54.0	-23.4	1.71 H	156	27.8	2.8
9	7311.00	44.4 PK	74.0	-29.6	1.95 H	33	35.5	8.9
10	7311.00	34.0 AV	54.0	-20.0	1.95 H	33	25.1	8.9
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	62.7 PK	74.0	-11.3	1.66 V	16	64.6	-1.9
2	2390.00	47.3 AV	54.0	-6.7	1.66 V	16	49.2	-1.9
3	*2437.00	128.6 PK			1.66 V	16	130.6	-2.0
4	*2437.00	115.5 AV			1.66 V	16	117.5	-2.0
5	2483.50	60.5 PK	74.0	-13.5	1.66 V	16	62.4	-1.9
6	2483.50	47.5 AV	54.0	-6.5	1.66 V	16	49.4	-1.9
7	4874.00	41.3 PK	74.0	-32.7	1.65 V	210	38.5	2.8
8	4874.00	35.5 AV	54.0	-18.5	1.65 V	210	32.7	2.8
9	7311.00	43.9 PK	74.0	-30.1	1.35 V	168	35.0	8.9
10	7311.00	35.2 AV	54.0	-18.8	1.35 V	168	26.3	8.9

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 10	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2457.00	108.1 PK			1.72 H	42	110.0	-1.9
2	*2457.00	97.6 AV			1.72 H	42	99.5	-1.9
3	2483.50	55.7 PK	74.0	-18.3	1.72 H	42	57.6	-1.9
4	2483.50	43.5 AV	54.0	-10.5	1.72 H	42	45.4	-1.9
5	4914.00	40.7 PK	74.0	-33.3	1.65 H	148	38.0	2.7
6	4914.00	30.7 AV	54.0	-23.3	1.65 H	148	28.0	2.7
7	7371.00	44.3 PK	74.0	-29.7	1.90 H	57	35.4	8.9
8	7371.00	33.9 AV	54.0	-20.1	1.90 H	57	25.0	8.9
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	*2457.00	120.3 PK			1.70 V	23	122.2	-1.9
2	*2457.00	109.0 AV			1.70 V	23	110.9	-1.9
3	2483.50	66.8 PK	74.0	-7.2	1.70 V	23	68.7	-1.9
4	**2483.50**	**53.3 AV**	**54.0**	**-0.7**	**1.70 V**	**23**	**55.2**	**-1.9**
5	4914.00	41.8 PK	74.0	-32.2	1.63 V	198	39.1	2.7
6	4914.00	35.6 AV	54.0	-18.4	1.63 V	198	32.9	2.7
7	7371.00	44.0 PK	74.0	-30.0	1.38 V	166	35.1	8.9
8	7371.00	35.3 AV	54.0	-18.7	1.38 V	166	26.4	8.9

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	107.3 PK			1.76 H	38	109.2	-1.9
2	*2462.00	96.7 AV			1.76 H	38	98.6	-1.9
3	2483.50	55.7 PK	74.0	-18.3	1.76 H	38	57.6	-1.9
4	2483.50	43.7 AV	54.0	-10.3	1.76 H	38	45.6	-1.9
5	4924.00	40.5 PK	74.0	-33.5	1.72 H	129	37.8	2.7
6	4924.00	30.8 AV	54.0	-23.2	1.72 H	129	28.1	2.7
7	7386.00	44.0 PK	74.0	-30.0	1.88 H	47	35.0	9.0
8	7386.00	33.6 AV	54.0	-20.4	1.88 H	47	24.6	9.0
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	119.0 PK			1.72 V	14	120.9	-1.9
2	*2462.00	107.7 AV			1.72 V	14	109.6	-1.9
3	2483.50	66.6 PK	74.0	-7.4	1.72 V	14	68.5	-1.9
4	2483.50	52.9 AV	54.0	-1.1	1.72 V	14	54.8	-1.9
5	4924.00	40.9 PK	74.0	-33.1	1.61 V	208	38.2	2.7
6	4924.00	35.2 AV	54.0	-18.8	1.61 V	208	32.5	2.7
7	7386.00	43.6 PK	74.0	-30.4	1.27 V	165	34.6	9.0
8	7386.00	34.5 AV	54.0	-19.5	1.27 V	165	25.5	9.0

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.

802.11ax (HE40)

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

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	2387.47	56.1 PK	74.0	-17.9	1.76 H	346	58.0	-1.9
2	2387.47	44.2 AV	54.0	-9.8	1.76 H	346	46.1	-1.9
3	*2422.00	104.0 PK			1.76 H	346	105.9	-1.9
4	*2422.00	92.8 AV			1.76 H	346	94.7	-1.9
5	4844.00	40.8 PK	74.0	-33.2	1.65 H	156	37.9	2.9
6	4844.00	30.7 AV	54.0	-23.3	1.65 H	156	27.8	2.9
7	7266.00	44.5 PK	74.0	-29.5	1.93 H	56	35.7	8.8
8	7266.00	33.8 AV	54.0	-20.2	1.93 H	56	25.0	8.8
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	2387.47	64.5 PK	74.0	-9.5	1.71 V	18	66.4	-1.9
2	2387.47	52.7 AV	54.0	-1.3	1.71 V	18	54.6	-1.9
3	*2422.00	115.6 PK			1.71 V	18	117.5	-1.9
4	*2422.00	105.1 AV			1.71 V	18	107.0	-1.9
5	4844.00	42.0 PK	74.0	-32.0	1.70 V	203	39.1	2.9
6	4844.00	35.8 AV	54.0	-18.2	1.70 V	203	32.9	2.9
7	7266.00	43.3 PK	74.0	-30.7	1.37 V	170	34.5	8.8
8	7266.00	34.6 AV	54.0	-19.4	1.37 V	170	25.8	8.8

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.

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

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	2385.69	56.4 PK	74.0	-17.6	2.22 H	5	58.3	-1.9
2	2385.69	43.7 AV	54.0	-10.3	2.22 H	5	45.6	-1.9
3	*2437.00	105.7 PK			2.22 H	5	107.7	-2.0
4	*2437.00	95.5 AV			2.22 H	5	97.5	-2.0
5	2483.50	55.2 PK	74.0	-18.8	2.22 H	5	57.1	-1.9
6	2483.50	43.5 AV	54.0	-10.5	2.22 H	5	45.4	-1.9
7	4874.00	40.8 PK	74.0	-33.2	1.72 H	125	38.0	2.8
8	4874.00	31.1 AV	54.0	-22.9	1.72 H	125	28.3	2.8
9	7311.00	44.7 PK	74.0	-29.3	1.94 H	32	35.8	8.9
10	7311.00	34.1 AV	54.0	-19.9	1.94 H	32	25.2	8.9
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	2385.69	63.5 PK	74.0	-10.5	2.31 V	343	65.4	-1.9
2	2385.69	47.9 AV	54.0	-6.1	2.31 V	343	49.8	-1.9
3	*2437.00	117.5 PK			2.31 V	343	119.5	-2.0
4	*2437.00	107.5 AV			2.31 V	343	109.5	-2.0
5	2483.50	64.2 PK	74.0	-9.8	2.31 V	343	66.1	-1.9
6	2483.50	52.8 AV	54.0	-1.2	2.31 V	343	54.7	-1.9
7	4874.00	41.1 PK	74.0	-32.9	1.68 V	179	38.3	2.8
8	4874.00	35.2 AV	54.0	-18.8	1.68 V	179	32.4	2.8
9	7311.00	44.1 PK	74.0	-29.9	1.31 V	172	35.2	8.9
10	7311.00	35.2 AV	54.0	-18.8	1.31 V	172	26.3	8.9

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	102.6 PK			2.17 H	6	104.5	-1.9
2	*2452.00	91.7 AV			2.17 H	6	93.6	-1.9
3	2483.50	54.5 PK	74.0	-19.5	2.17 H	6	56.4	-1.9
4	2483.50	43.4 AV	54.0	-10.6	2.17 H	6	45.3	-1.9
5	4904.00	40.6 PK	74.0	-33.4	1.72 H	137	37.9	2.7
6	4904.00	30.6 AV	54.0	-23.4	1.72 H	137	27.9	2.7
7	7356.00	44.3 PK	74.0	-29.7	1.91 H	37	35.4	8.9
8	7356.00	33.6 AV	54.0	-20.4	1.91 H	37	24.7	8.9
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	*2452.00	116.7 PK			1.70 V	25	118.6	-1.9
2	*2452.00	105.7 AV			1.70 V	25	107.6	-1.9
3	2485.96	65.6 PK	74.0	-8.4	1.70 V	25	67.5	-1.9
4	2485.96	52.8 AV	54.0	-1.2	1.70 V	25	54.7	-1.9
5	4904.00	41.7 PK	74.0	-32.3	1.71 V	182	39.0	2.7
6	4904.00	35.8 AV	54.0	-18.2	1.71 V	182	33.1	2.7
7	7356.00	44.2 PK	74.0	-29.8	1.29 V	160	35.3	8.9
8	7356.00	35.2 AV	54.0	-18.8	1.29 V	160	26.3	8.9

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.

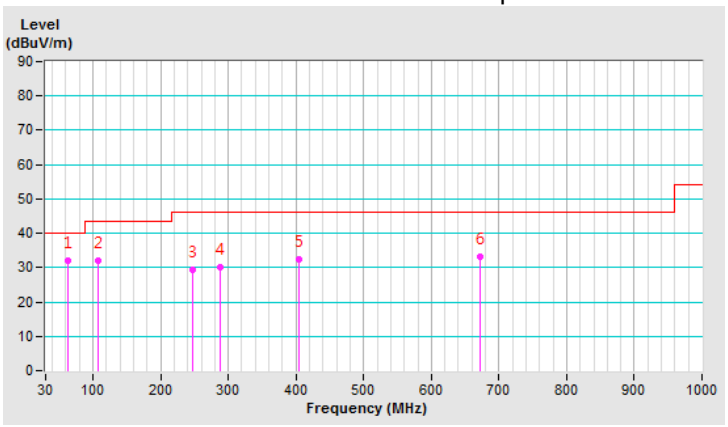
802.11ax (HE20)

CHANNEL	TX Channel 6	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	63.15	31.9 QP	40.0	-8.1	3.00 H	86	40.6	-8.7
2	107.99	32.0 QP	43.5	-11.5	2.00 H	263	42.5	-10.5
3	246.41	29.3 QP	46.0	-16.7	1.00 H	42	37.5	-8.2
4	288.04	30.1 QP	46.0	-15.9	1.00 H	306	36.5	-6.4
5	404.69	32.2 QP	46.0	-13.8	1.00 H	245	35.3	-3.1
6	672.79	33.0 QP	46.0	-13.0	1.00 H	360	29.9	3.1

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 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.

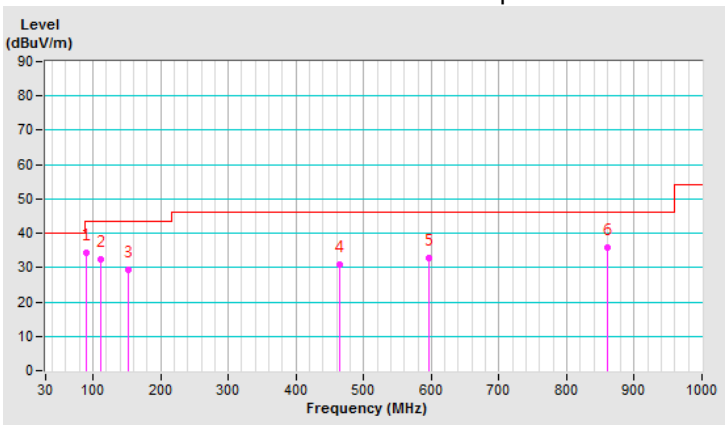


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	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	89.66	34.1 QP	43.5	-9.4	1.00 V	342	47.4	-13.3
2	111.55	32.3 QP	43.5	-11.2	1.00 V	3	42.4	-10.1
3	152.24	29.2 QP	43.5	-14.3	1.00 V	173	36.1	-6.9
4	464.58	30.9 QP	46.0	-15.1	2.00 V	360	32.2	-1.3
5	596.55	32.8 QP	46.0	-13.2	3.00 V	158	30.9	1.9
6	860.25	35.9 QP	46.0	-10.1	4.00 V	360	29.6	6.3

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. 30, 2019	Aug. 29, 2020
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: Apr. 21 2020

4.2.3 Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

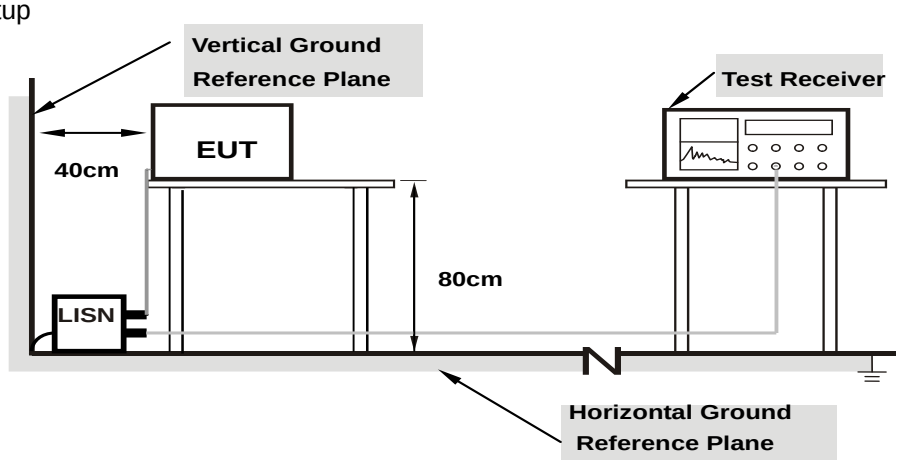
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: 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.

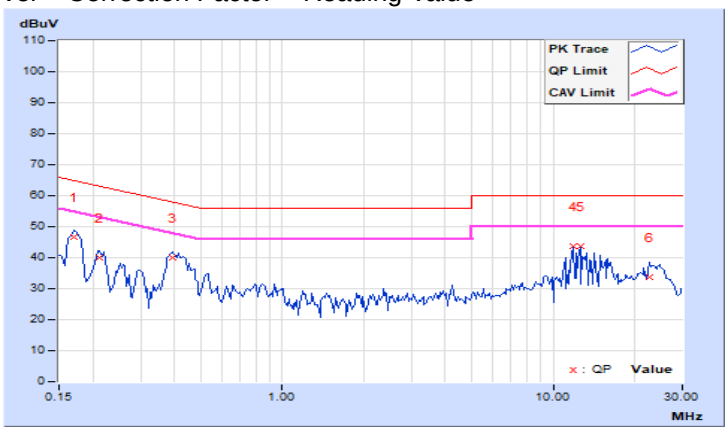
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	9.97	36.77	25.55	46.74	35.52	64.98	54.98	-18.24	-19.46
2	0.21250	9.97	29.85	19.98	39.82	29.95	63.11	53.11	-23.29	-23.16
3	0.39219	9.98	30.13	24.04	40.11	34.02	58.02	48.02	-17.91	-14.00
4	11.85547	10.59	32.96	32.63	43.55	43.22	60.00	50.00	-16.45	-6.78
5	**12.60938**	**10.63**	**33.24**	**32.66**	**43.87**	**43.29**	**60.00**	**50.00**	**-16.13**	**-6.71**
6	22.68359	11.13	22.40	16.55	33.53	27.68	60.00	50.00	-26.47	-22.32

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

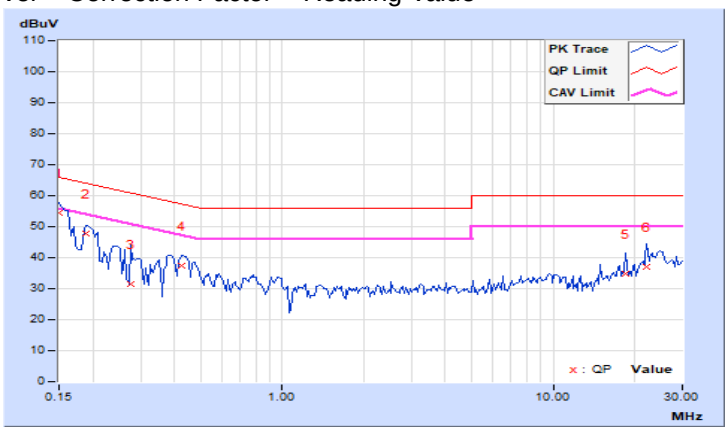


Phase	Neutral (N)	**Detector Function**	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	9.97	44.57	32.72	54.54	42.69	66.00	56.00	-11.46	-13.31
2	0.18906	9.97	37.74	26.38	47.71	36.35	64.08	54.08	-16.37	-17.73
3	0.27500	9.97	21.57	5.06	31.54	15.03	60.97	50.97	-29.43	-35.94
4	0.42734	9.98	27.57	20.37	37.55	30.35	57.30	47.30	-19.75	-16.95
5	18.41406	10.74	24.16	21.08	34.90	31.82	60.00	50.00	-25.10	-18.18
6	22.19922	10.84	26.34	21.55	37.18	32.39	60.00	50.00	-22.82	-17.61

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

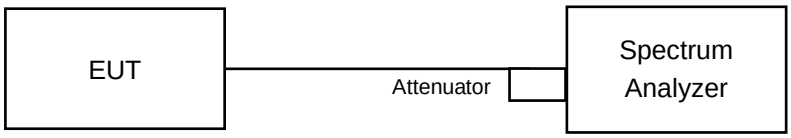


4.3 6dB Bandwidth Measurement

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

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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 fromTest 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	7.6	0.5	PASS
6	2437	8.55	0.5	PASS
11	2462	8.56	0.5	PASS

802.11g

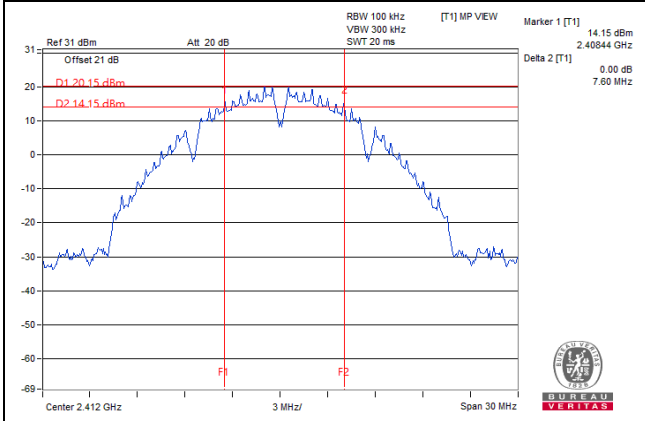
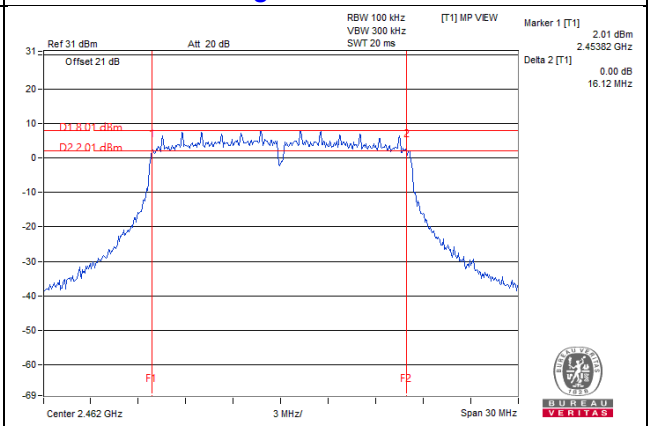
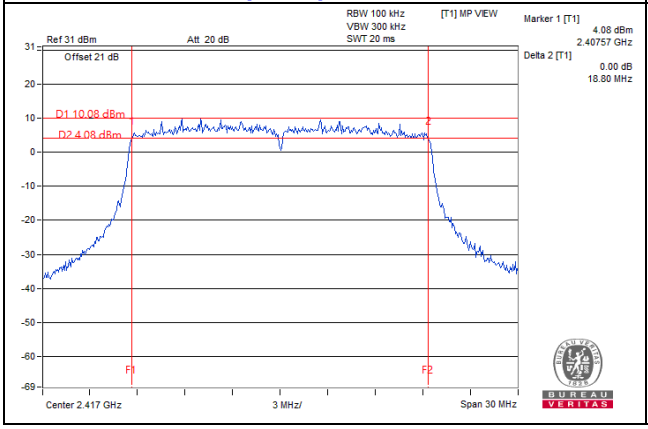
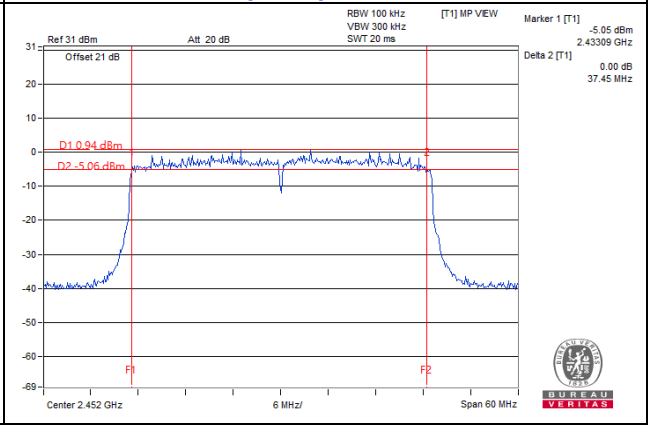
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	16.35	16.39	16.34	16.37	0.5	PASS
6	2437	16.33	16.37	16.35	16.36	0.5	PASS
10	2457	16.34	16.39	16.34	16.35	0.5	PASS
11	2462	16.12	16.35	16.34	16.36	0.5	PASS

802.11ax (HE20):

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	18.99	18.97	18.94	18.95	0.5	PASS
2	2417	18.8	18.88	18.97	18.9	0.5	PASS
6	2437	18.92	18.95	18.93	18.95	0.5	PASS
10	2457	18.93	18.85	18.97	18.95	0.5	PASS
11	2462	18.94	18.84	18.97	18.96	0.5	PASS

802.11ax (HE40):

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	37.91	37.99	37.97	37.91	0.5	PASS
6	2437	38.14	37.99	37.89	38	0.5	PASS
9	2452	38.12	37.87	37.45	37.76	0.5	PASS

Spectrum Plot of Worst Value	
802.11b / Chain 0 : CH1	**802.11g / Chain 0 : CH11**
	
802.11ax (HE20) / Chain 0 : CH2	**802.11ax (HE40) / Chain 2 : CH9**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

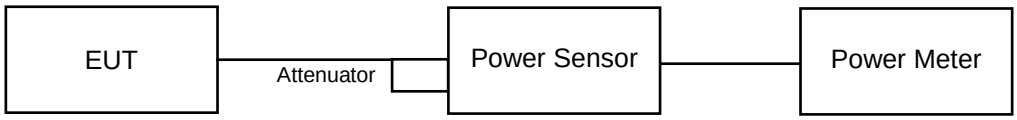
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

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

CDD Mode

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	27.03	504.661	27.03	30.00	Pass
6	2437	26.92	492.04	26.92	30.00	Pass
11	2462	26.81	479.733	26.81	30.00	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	22.12	22.07	21.85	21.78	627.764	27.98	30.00	Pass
6	2437	23.93	23.83	23.85	23.73	967.427	29.86	30.00	Pass
10	2457	19.53	20.08	20.25	20.23	402.966	26.05	30.00	Pass
11	2462	18.97	18.98	19.05	18.98	317.374	25.02	30.00	Pass

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	20.20	19.62	19.85	19.72	386.696	25.87	30.00	Pass
2	2417	20.67	20.74	20.48	20.94	471.109	26.73	30.00	Pass
6	2437	23.80	23.65	23.69	23.64	936.713	29.72	30.00	Pass
10	2457	17.06	17.46	17.30	17.66	218.582	23.40	30.00	Pass
11	2462	16.16	16.15	16.43	16.36	169.72	22.30	30.00	Pass

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.71	16.34	16.40	16.39	177.137	22.48	30.00	Pass
6	2437	17.41	17.72	17.32	17.42	223.396	23.49	30.00	Pass
9	2452	14.63	14.69	14.29	14.10	111.042	20.45	30.00	Pass

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	20.21	20.02	19.92	19.89	401.09	26.03	30.00	Pass
2	2417	21.01	20.91	20.93	21.22	505.807	27.04	30.00	Pass
6	2437	23.91	23.89	23.96	23.77	978.061	29.90	30.00	Pass
10	2457	17.37	17.49	17.47	17.84	227.341	23.57	30.00	Pass
11	2462	16.46	16.42	16.44	16.53	177.145	22.48	30.00	Pass

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.73	16.71	16.59	16.53	184.561	22.66	30.00	Pass
6	2437	17.72	17.74	17.61	17.49	232.367	23.66	30.00	Pass
9	2452	14.78	14.79	14.59	14.57	117.607	20.70	30.00	Pass

Beamforming Mode

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	18.96	18.88	18.71	18.73	304.919	24.84	25.48	Pass
2	2417	19.55	18.89	18.42	18.44	306.929	24.87	25.48	Pass
6	2437	18.65	18.81	18.83	18.40	294.882	24.70	25.48	Pass
10	2457	17.06	17.46	17.30	17.66	218.582	23.40	25.48	Pass
11	2462	16.16	16.15	16.43	16.36	169.72	22.30	25.48	Pass

Note: Directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6dBi, so the power limit shall be reduced to 30.00-(10.52-6) = 25.48dBm

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.71	16.34	16.40	16.39	177.137	22.48	25.48	Pass
6	2437	17.41	17.72	17.32	17.42	223.396	23.49	25.48	Pass
9	2452	14.63	14.69	14.29	14.10	111.042	20.45	25.48	Pass

Note: 1. Directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6dBi, so the power limit shall be reduced to 30.00-(10.52-6) = 25.48dBm

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	19.16	19.05	18.85	18.86	316.416	25.00	25.48	Pass
2	2417	19.82	18.93	18.84	18.52	321.784	25.08	25.48	Pass
6	2437	19.06	18.94	19.01	18.85	315.233	24.99	25.48	Pass
10	2457	17.37	17.49	17.47	17.84	227.341	23.57	25.48	Pass
11	2462	16.46	16.42	16.44	16.53	177.145	22.48	25.48	Pass

Note: 1. Directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6dBi, so the power limit shall be reduced to 30.00-(10.52-6) = 25.48dBm

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.73	16.71	16.59	16.53	184.561	22.66	25.48	Pass
6	2437	17.72	17.74	17.61	17.49	232.367	23.66	25.48	Pass
9	2452	14.78	14.79	14.59	14.57	117.607	20.70	25.48	Pass

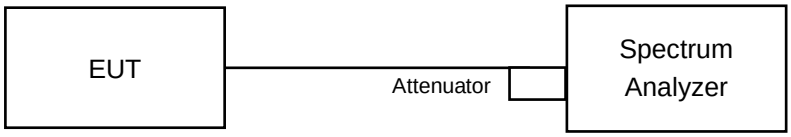
Note: 1. Directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6dBi, so the power limit shall be reduced to 30.00-(10.52-6) = 25.48dBm

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) Measure the duty cycle (x).
b) Set instrument center frequency to DTS channel center frequency.
c) Set span to at least 1.5 times the OBW.
d) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz..
e) Set VBW ≥3 x RBW.
f) Detector = power averaging (RMS) or sample detector (when RMS not available).
g) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h) Sweep time = auto couple.
i) Do not use sweep triggering. Allow sweep to “free run”.
j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
k) Use the peak marker function to determine the maximum amplitude level.
l) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

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

CDD Mode

802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
1	2412	-2.45	1.21	0.7516	-1.24	8.00	Pass
6	2437	-3.87	1.21	0.542	-2.66	8.00	Pass
11	2462	-3.94	1.21	0.5333	-2.73	8.00	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 4.5 dBi < 6 dBi , so the power density limit shall not be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11g

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)				Duty Factor (dB)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3					
1	2412	-11.32	-10.28	-10.86	-12.89	0.28	0.32137	-4.93	3.48	Pass
6	2437	-9.70	-7.89	-9.24	-10.38	0.28	0.51286	-2.90	3.48	Pass
10	2457	-13.47	-14.23	-13.17	-13.09	0.28	0.19187	-7.17	3.48	Pass
11	2462	-13.70	-13.61	-13.20	-15.41	0.28	0.17378	-7.60	3.48	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6 dBi , so the power density limit shall be reduced to 8-(10.52-6) = 3.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)				Duty Factor (dB)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3					
1	2412	-14.27	-14.84	-15.39	-15.34	0.23	0.13521	-8.69	3.48	PASS
2	2417	-14.31	-14.26	-13.52	-15.31	0.23	0.15668	-8.05	3.48	PASS
6	2437	-10.94	-11.50	-11.52	-11.38	0.23	0.31046	-5.08	3.48	PASS
10	2457	-16.67	-16.59	-18.78	-17.26	0.23	0.07962	-10.99	3.48	PASS
11	2462	-19.94	-18.33	-18.82	-17.00	0.23	0.06109	-12.14	3.48	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6 dBi , so the power density limit shall be reduced to 8-(10.52-6) = 3.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

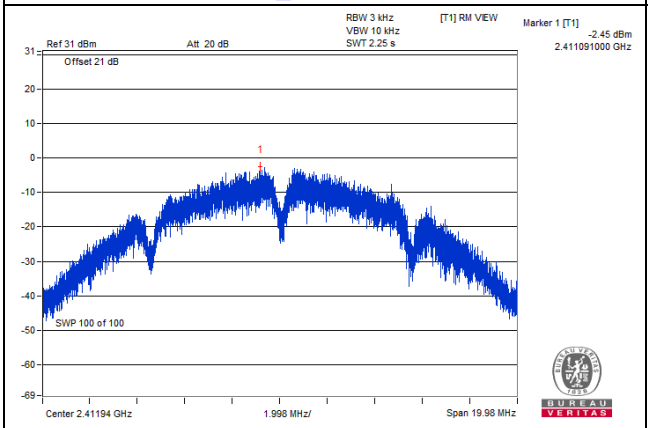
802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)				Duty Factor (dB)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3					
3	2422	-20.72	-22.23	-21.33	-20.88	0.21	0.031477	-15.02	3.48	PASS
6	2437	-20.09	-21.34	-20.29	-21.74	0.21	0.034834	-14.58	3.48	PASS
9	2452	-23.22	-23.20	-23.12	-23.97	0.21	0.019364	-17.13	3.48	PASS

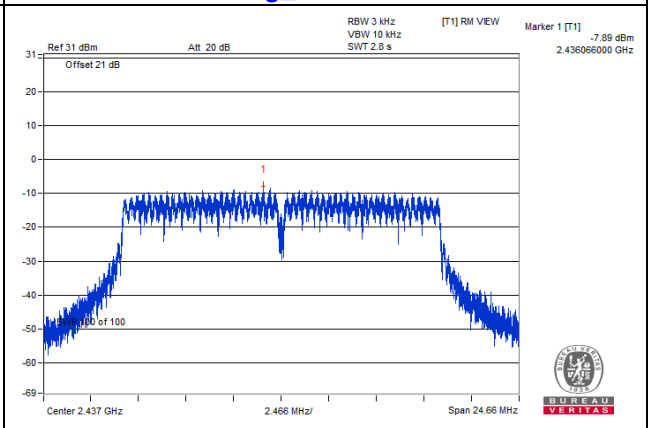
Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 4.5dBi + 10log(4) = 10.52dBi > 6 dBi , so the power density limit shall be reduced to 8-(10.52-6) = 3.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

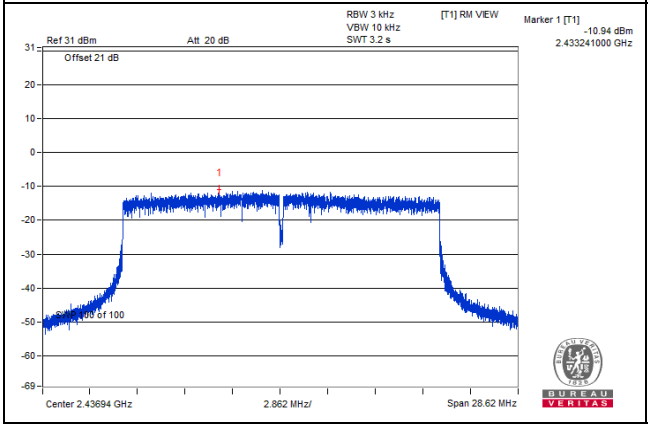
802.11b_ Chain 0 / CH1



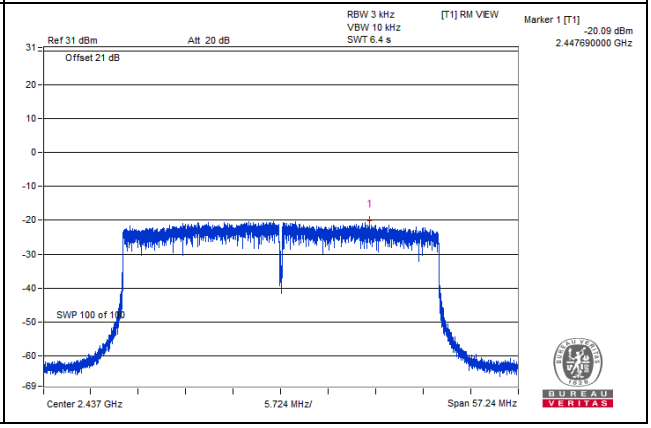
802.11g_Chain 1 / CH6



802.11ax (HE20)_Chain 0 / CH6



802.11ax (HE40)_Chain 0 / CH6

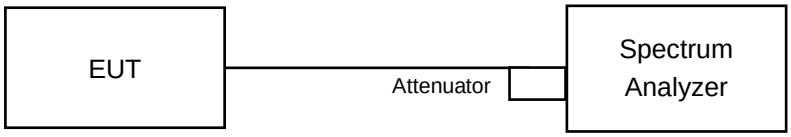


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB 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 ≥ 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 OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 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

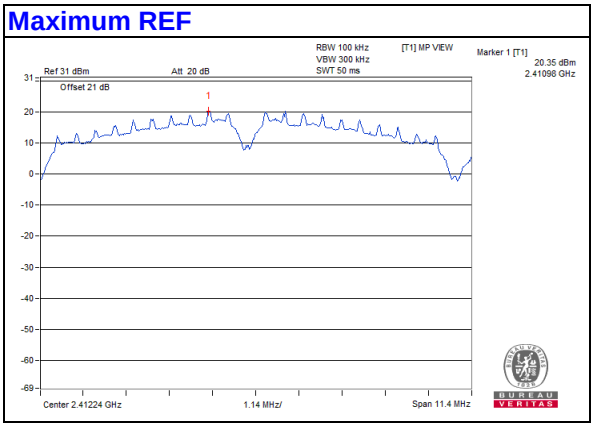
Same as Item 4.3.6

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 30dB offset below D1. It shows compliance with the requirement.

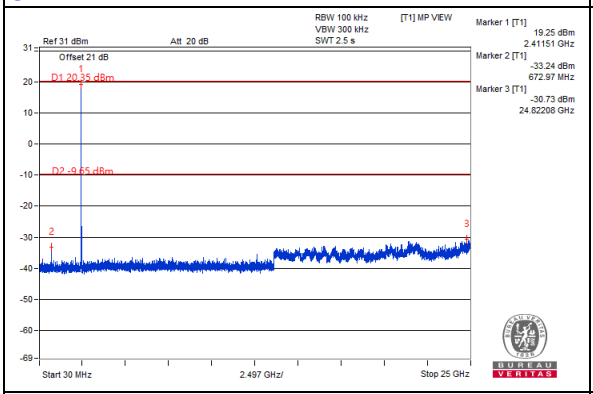
802.11b

Maximum REF

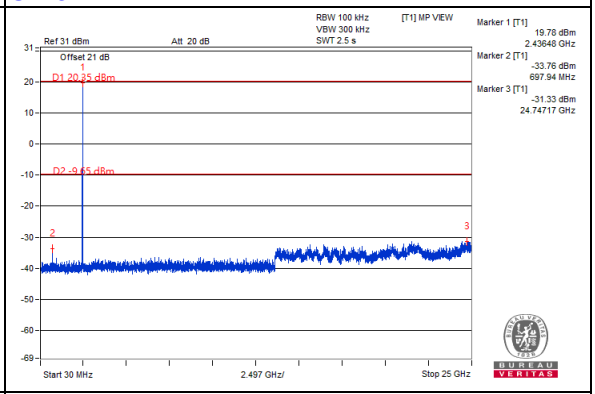


Chain 0

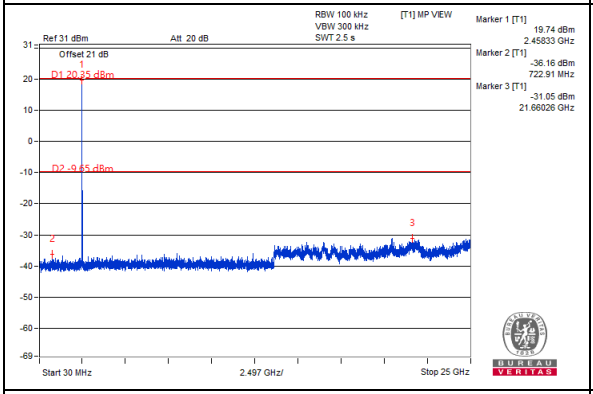
CH 1



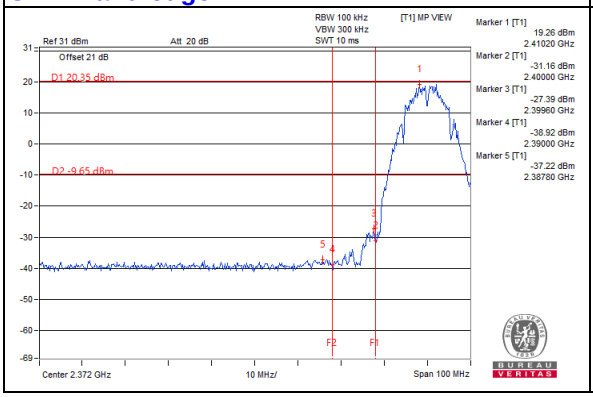
CH 6



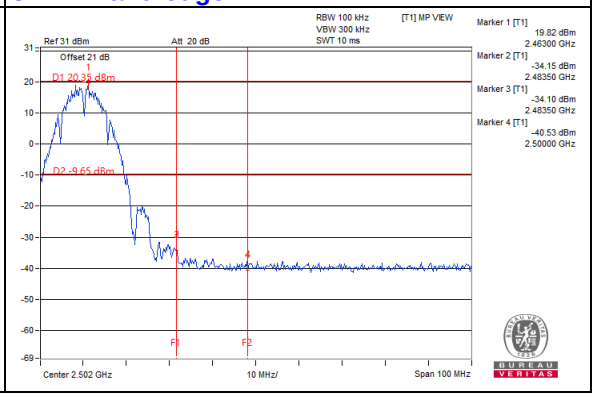
CH 11



CH 1 Band edge

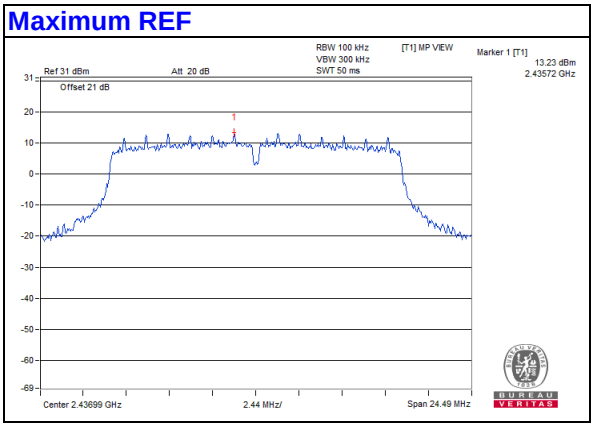


CH 11 Band edge



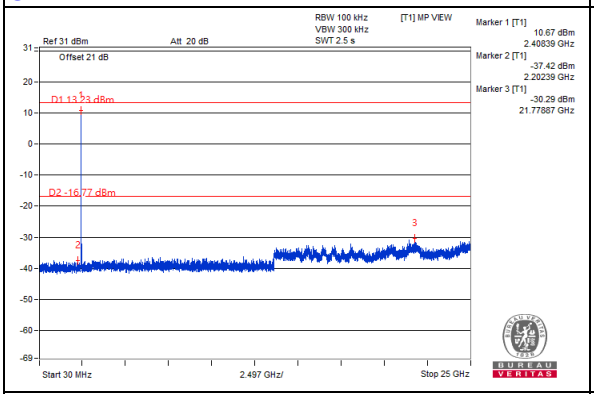
802.11g

Maximum REF

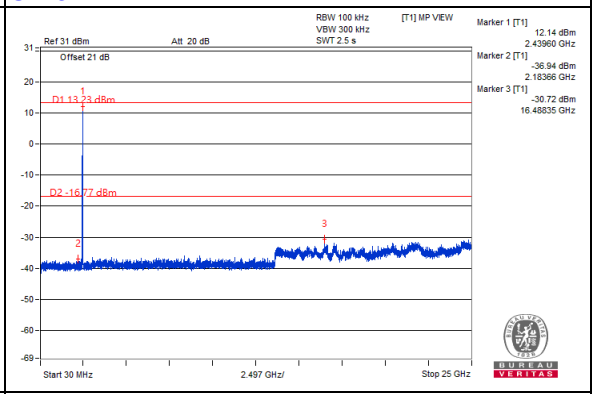


Chain 0

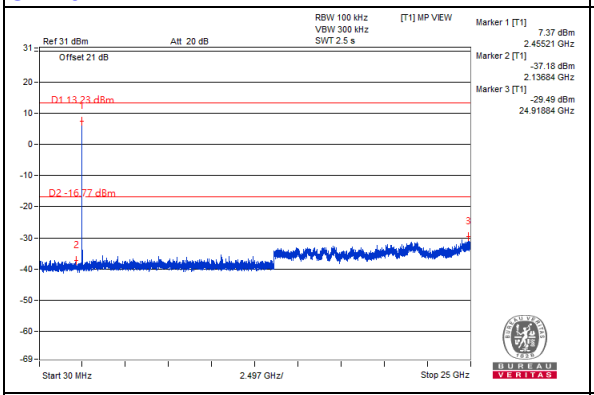
CH 1



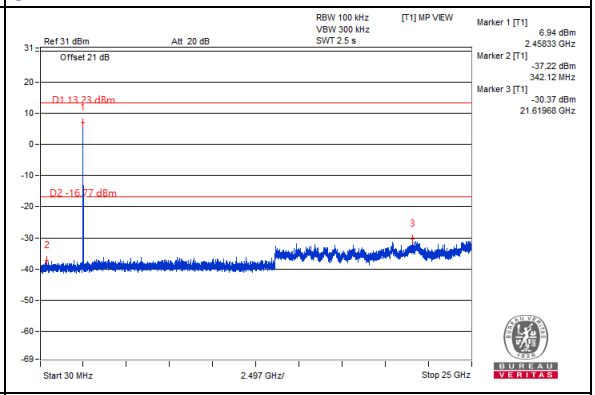
CH 6



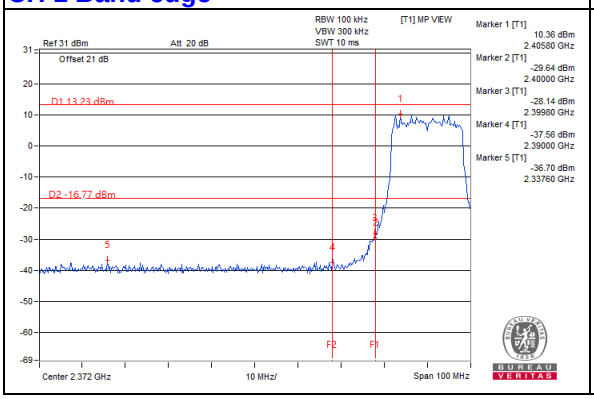
CH 10



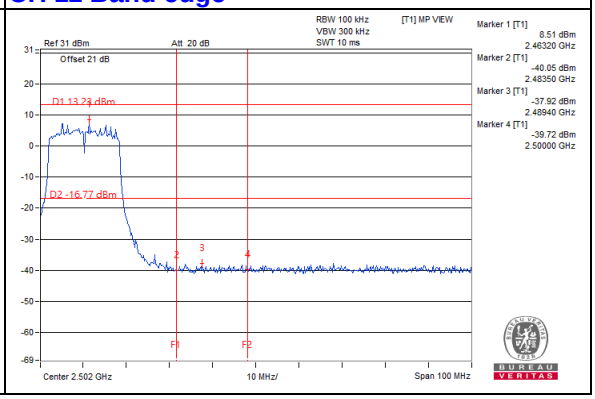
CH 11



CH 1 Band edge

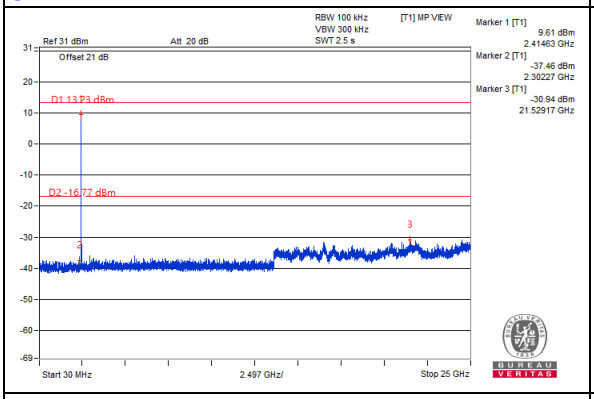


CH 11 Band edge

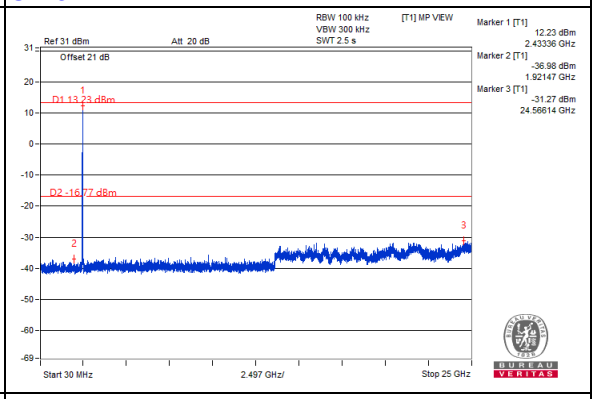


Chain 1

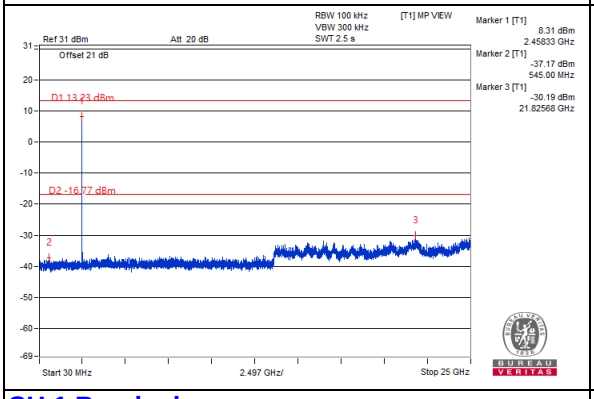
CH 1



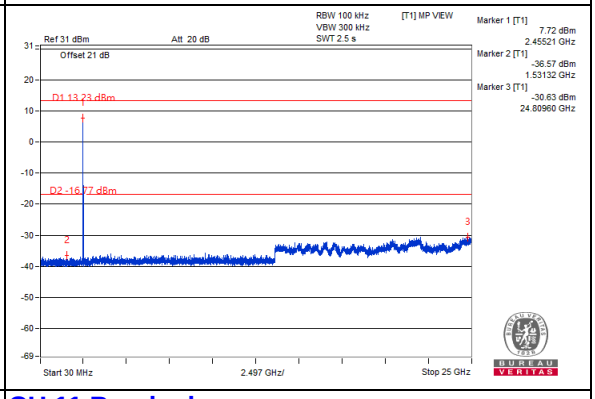
CH 6



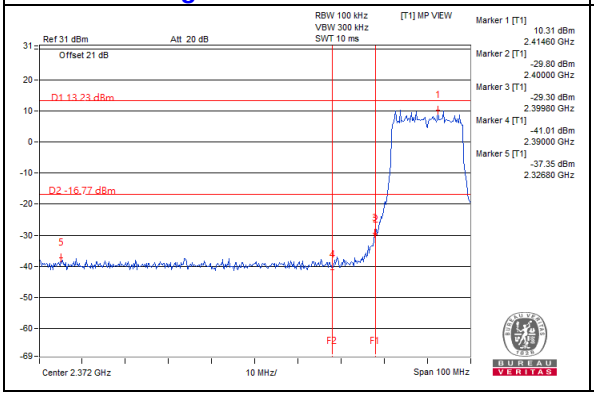
CH 10



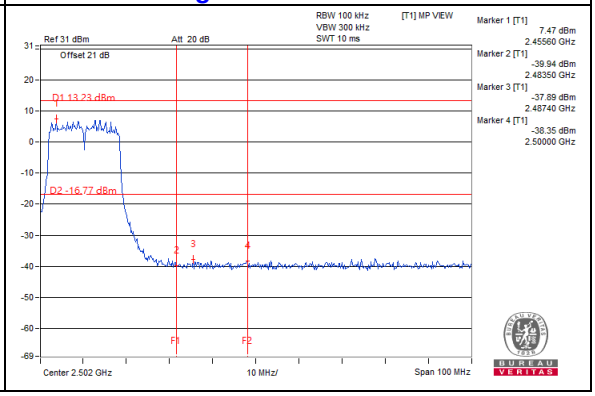
CH 11



CH 1 Band edge

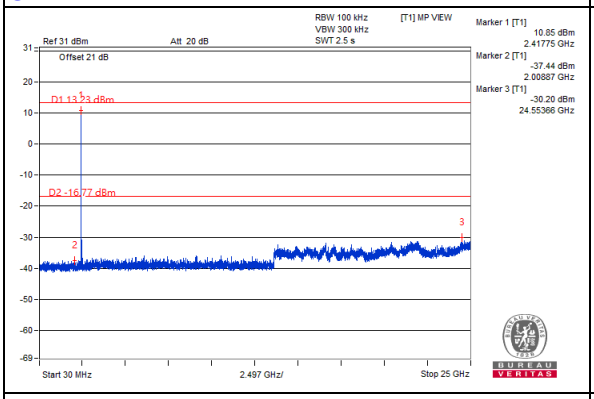


CH 11 Band edge

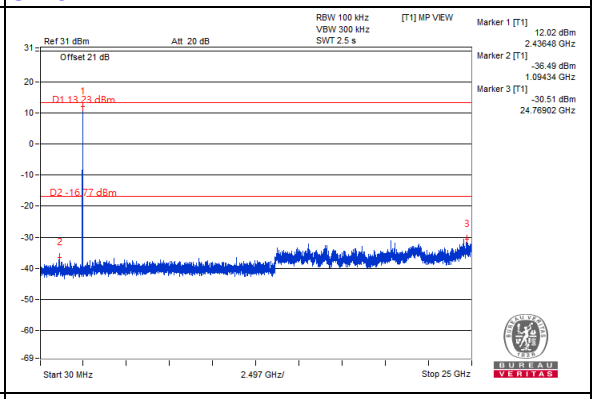


Chain 2

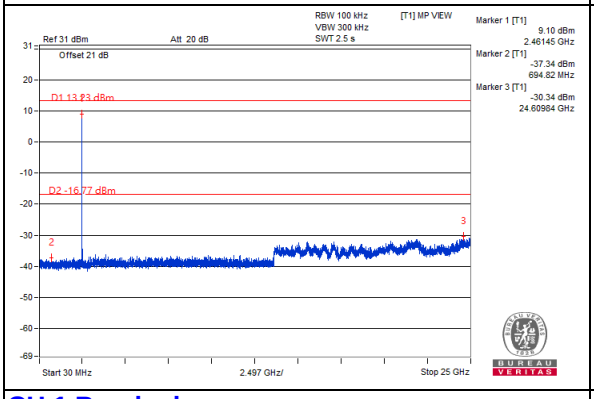
CH 1



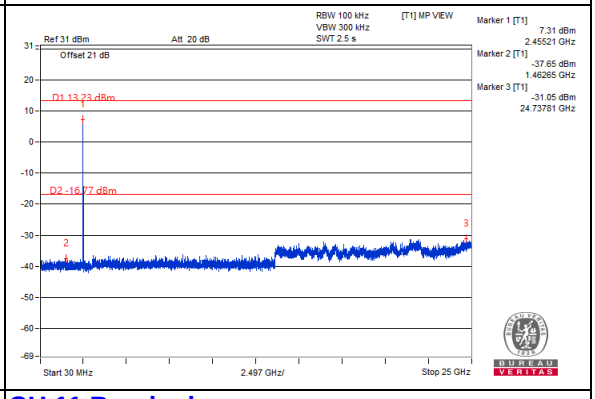
CH 6



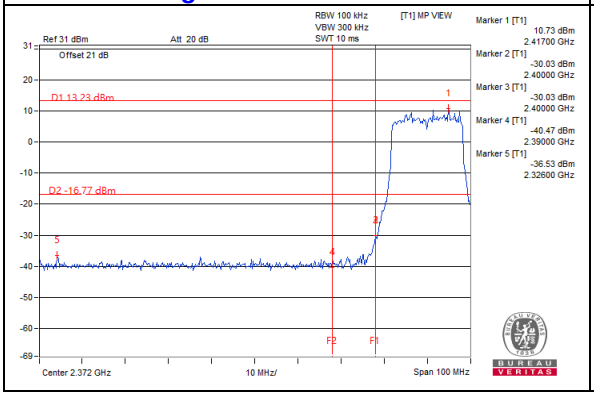
CH 10



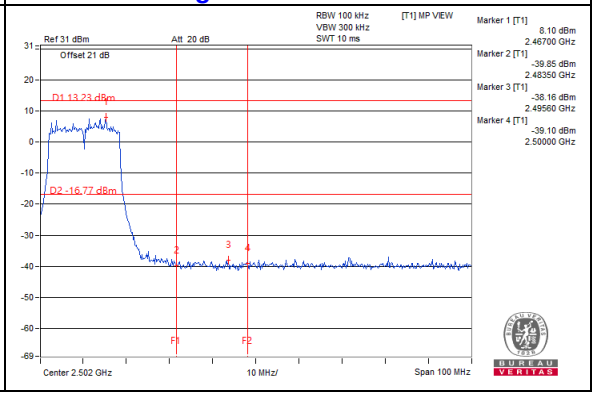
CH 11



CH 1 Band edge

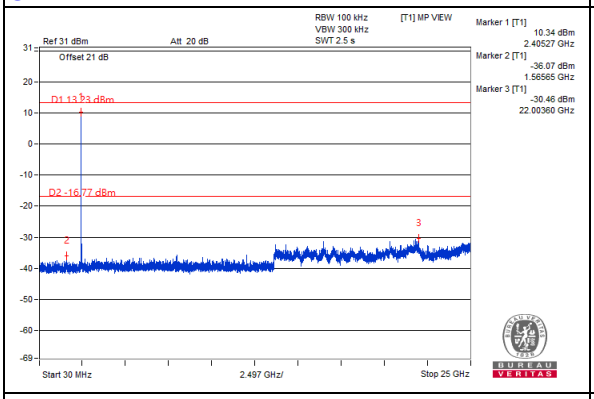


CH 11 Band edge

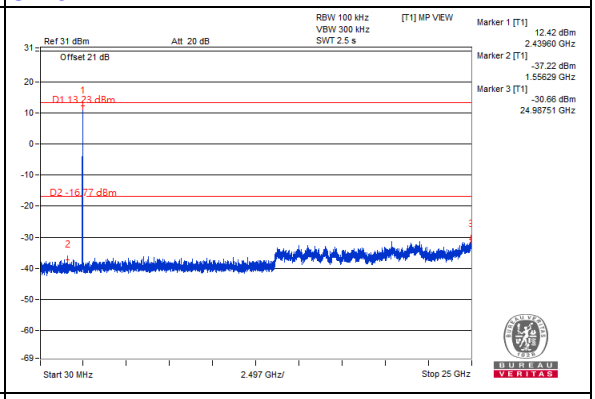


Chain 3

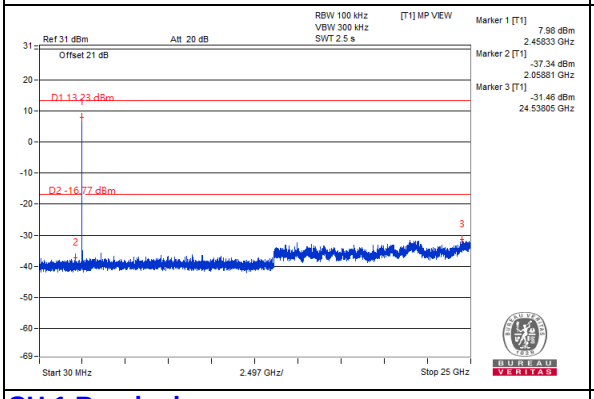
CH 1



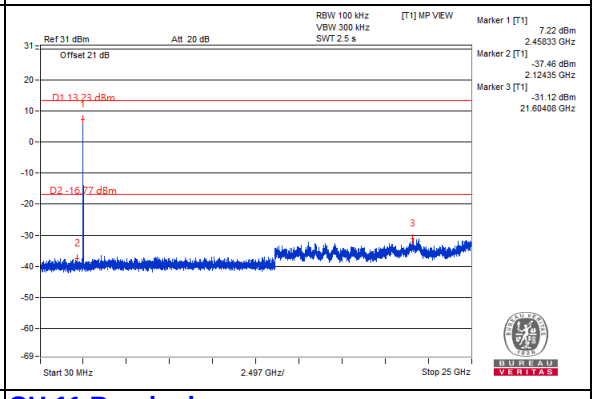
CH 6



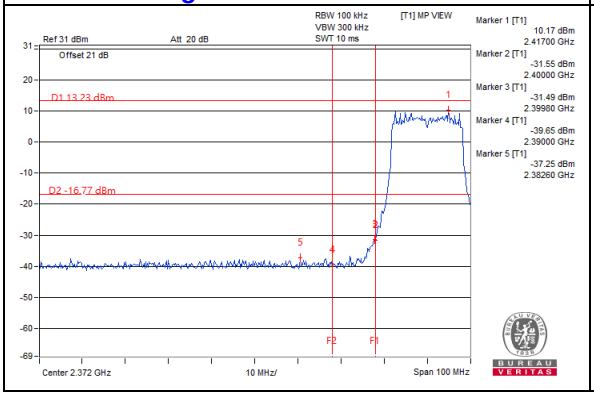
CH 10



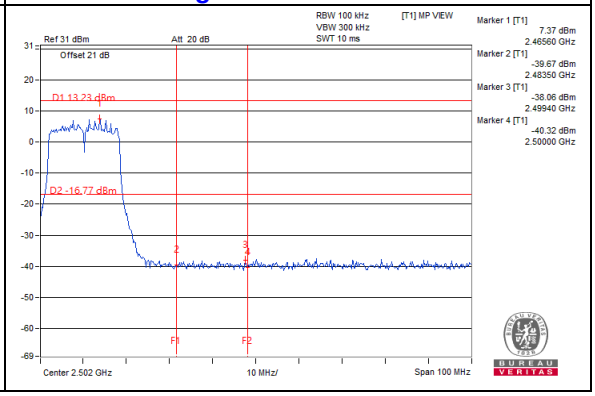
CH 11



CH 1 Band edge

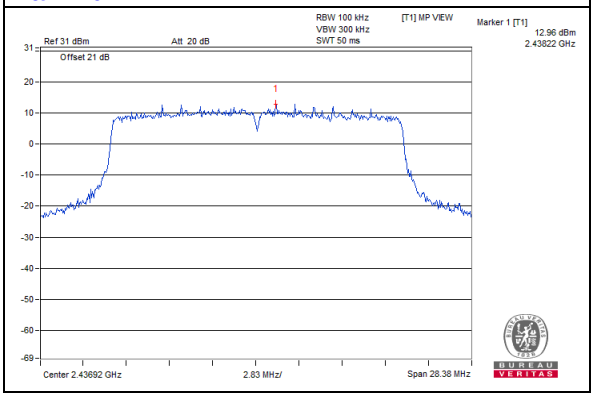


CH 11 Band edge



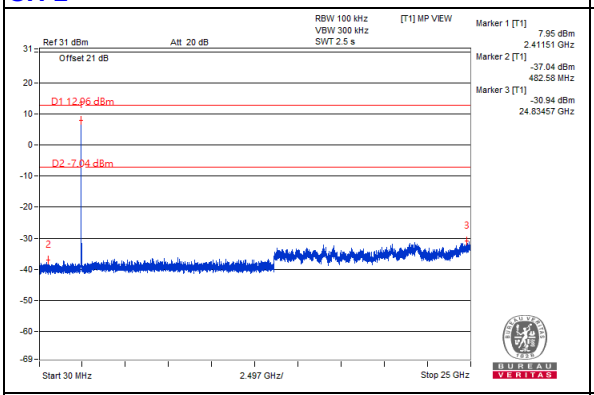
802.11ax (HE20)

Maximum REF

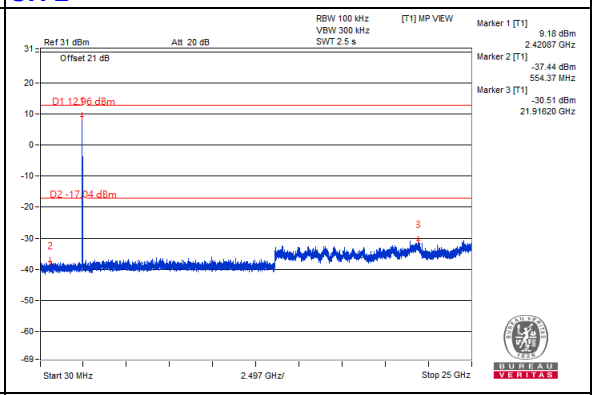


Chain 0

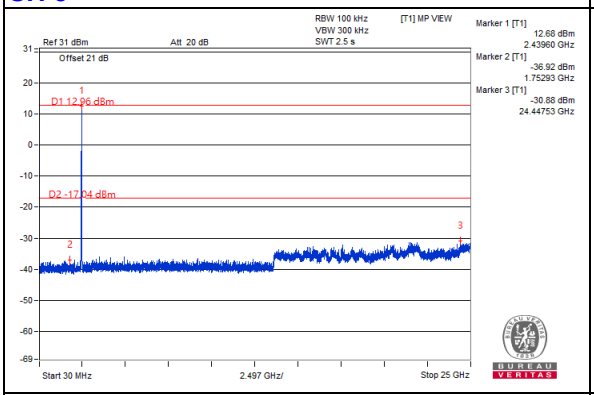
CH 1



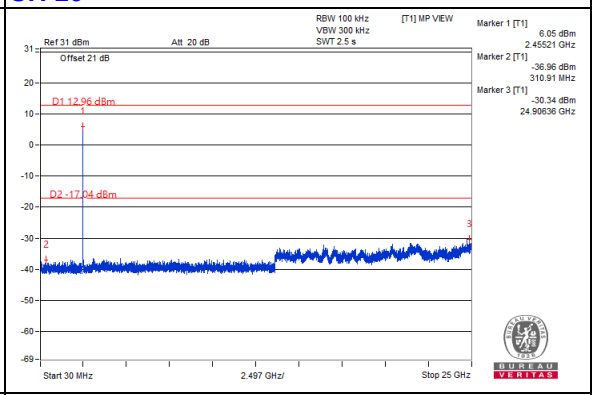
CH 2



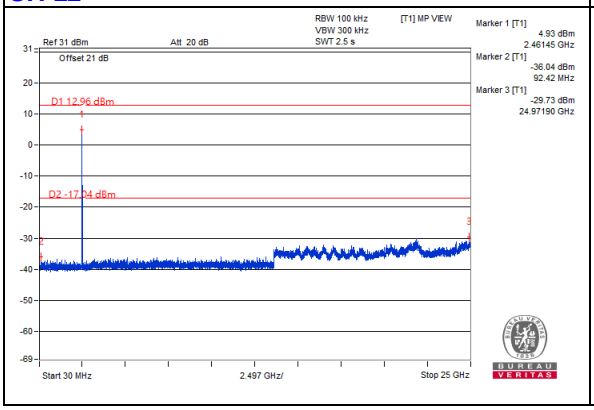
CH 6



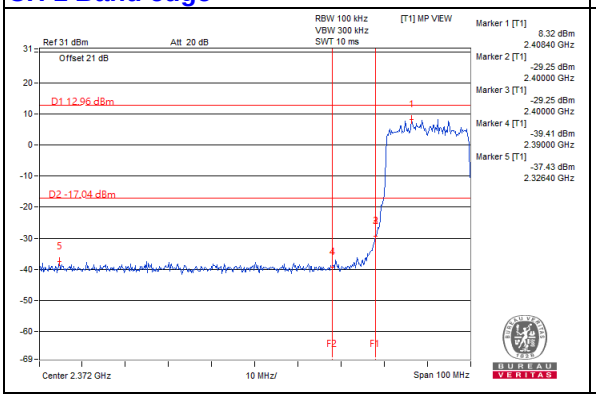
CH 10



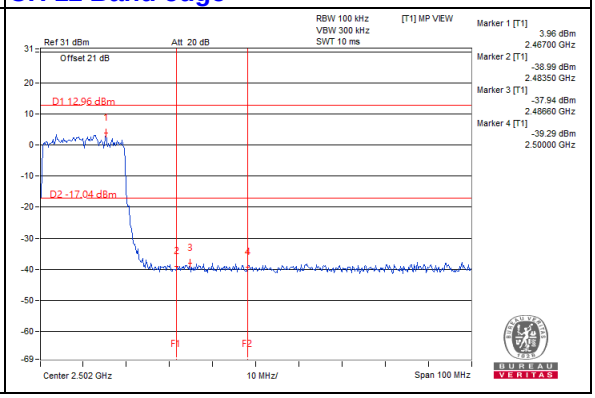
CH 11



CH 1 Band edge

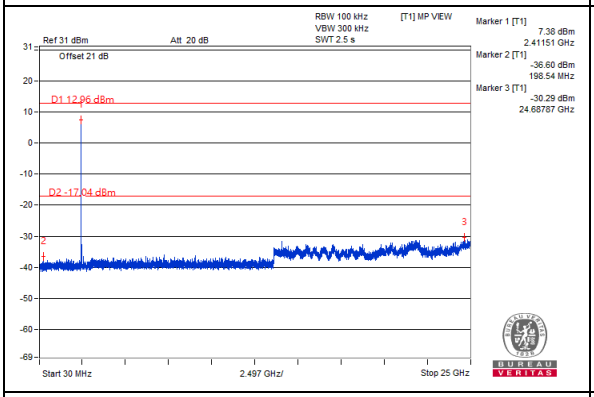


CH 11 Band edge

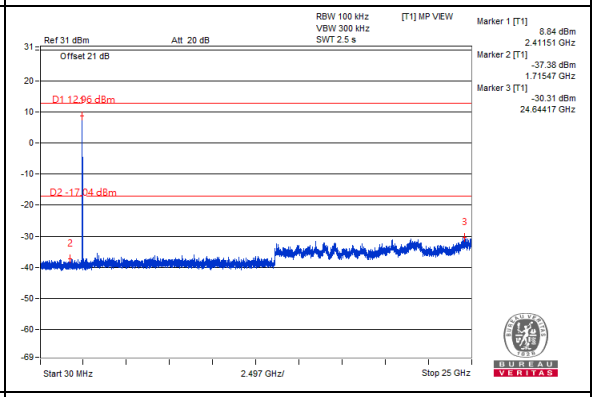


Chain 1

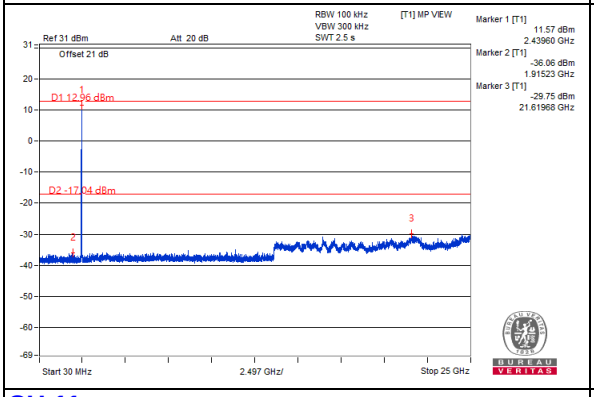
CH 1



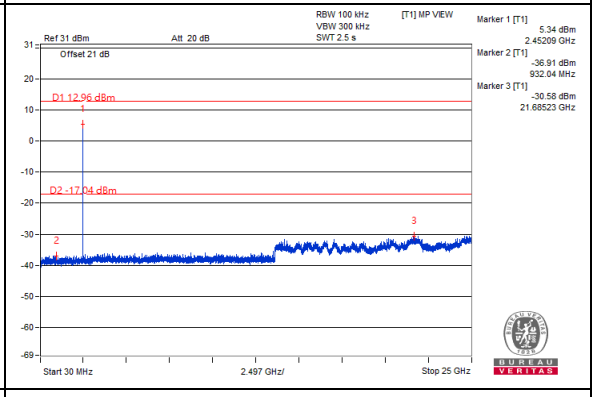
CH 2



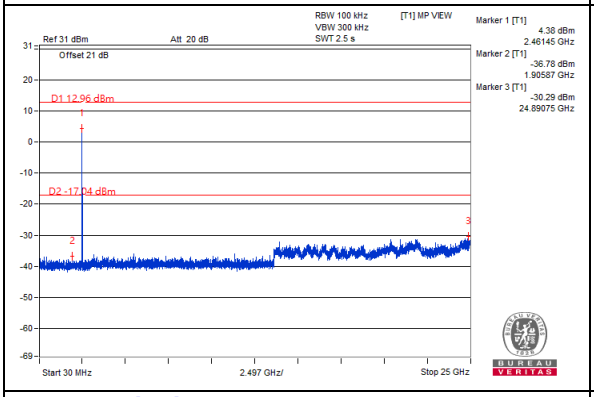
CH 6



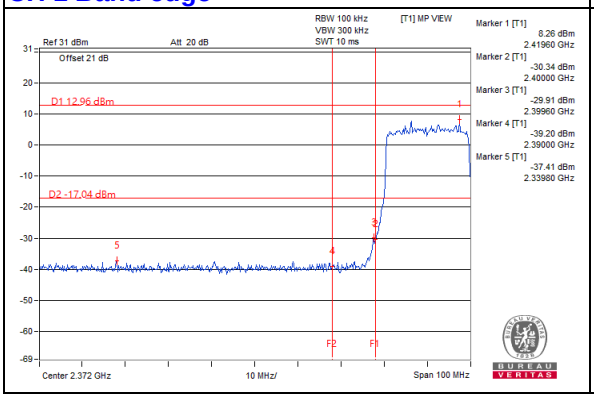
CH 10



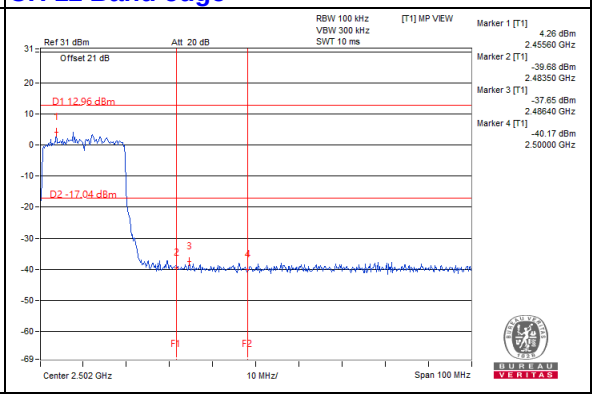
CH 11



CH 1 Band edge

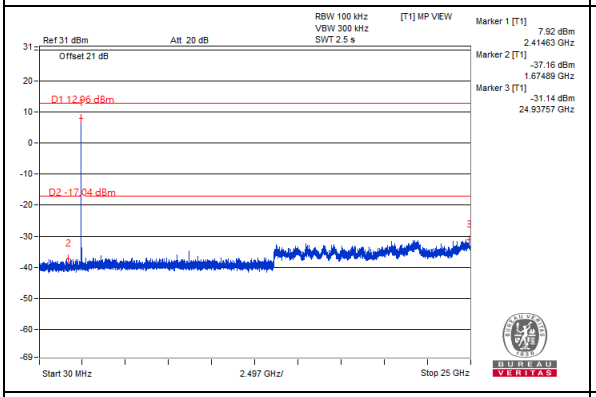


CH 11 Band edge

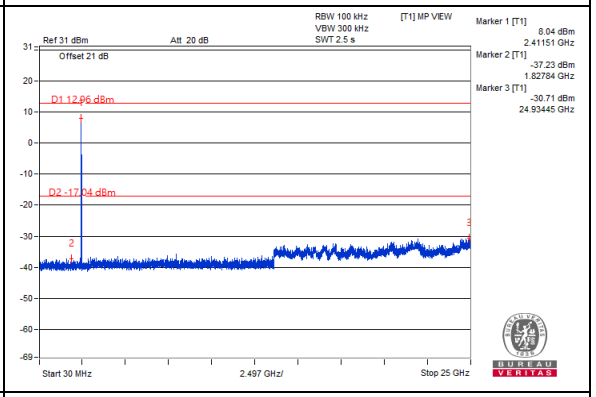


Chain 2

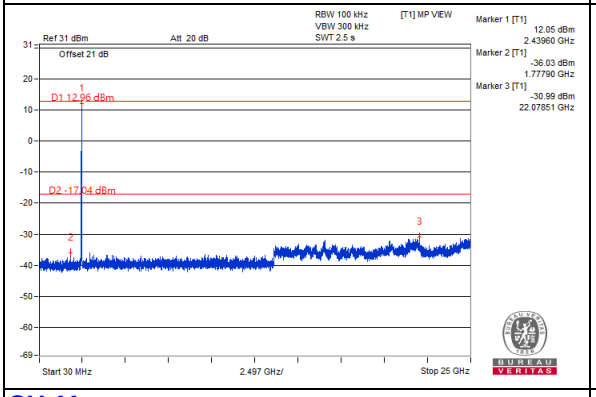
CH 1



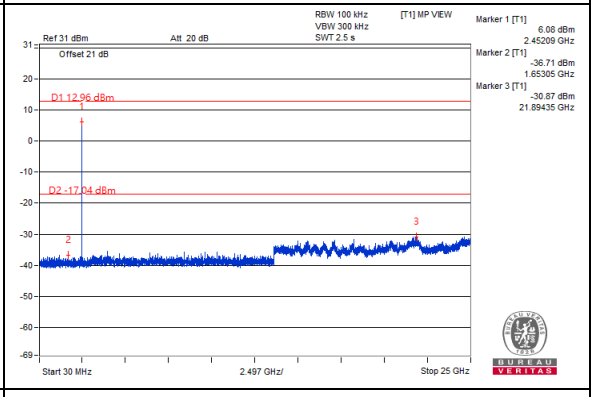
CH 2



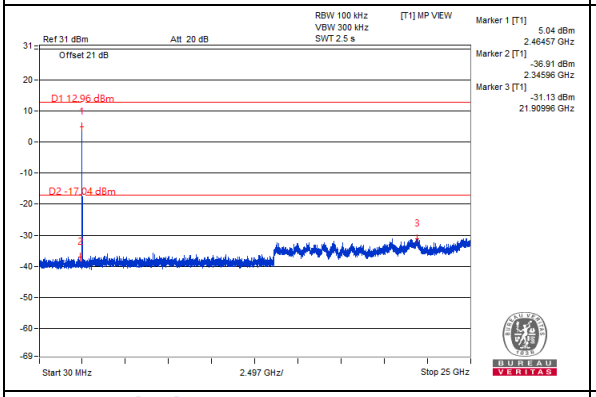
CH 6



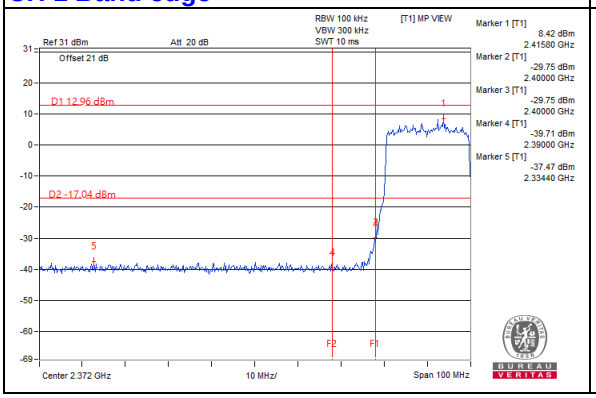
CH 10



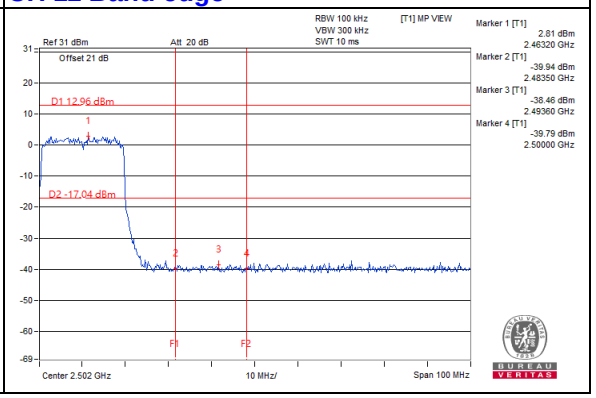
CH 11



CH 1 Band edge

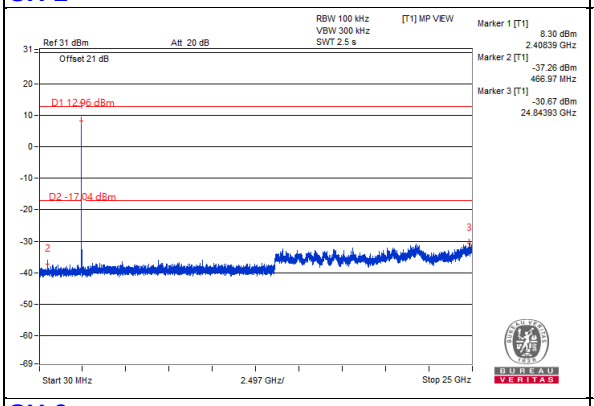


CH 11 Band edge

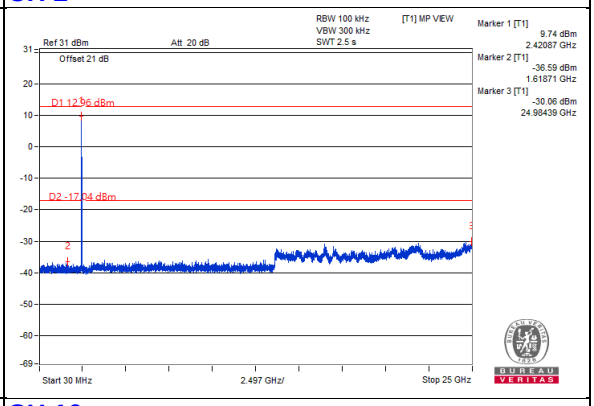


Chain 3

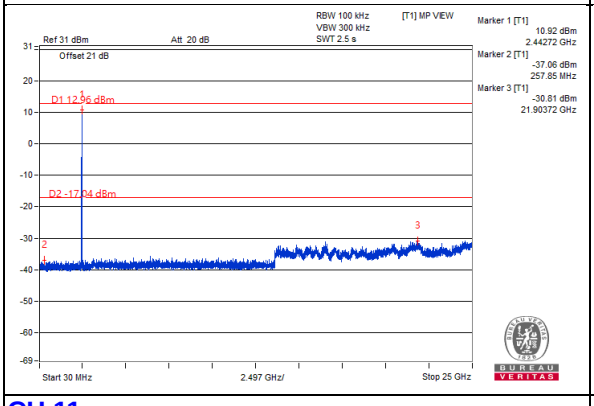
CH 1



CH 2



CH 6



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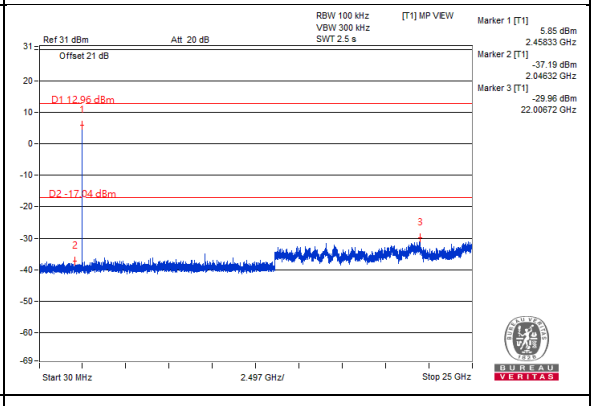
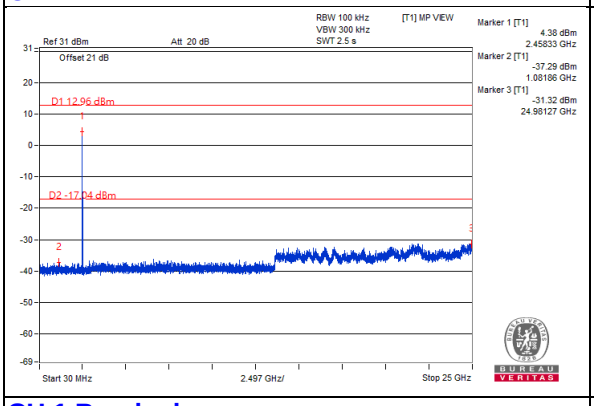
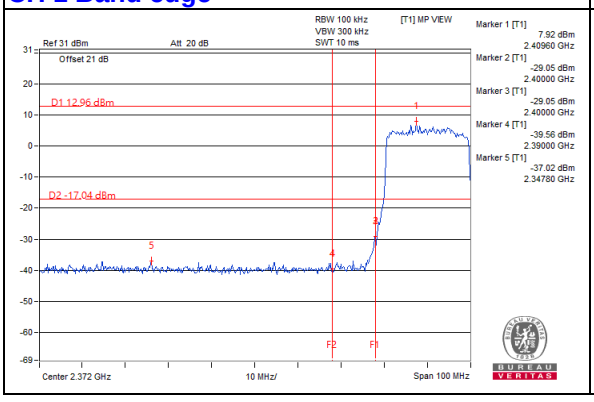


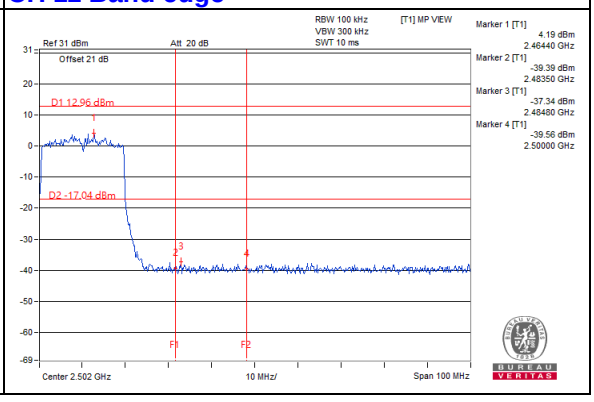
CH 11



CH 1 Band edge

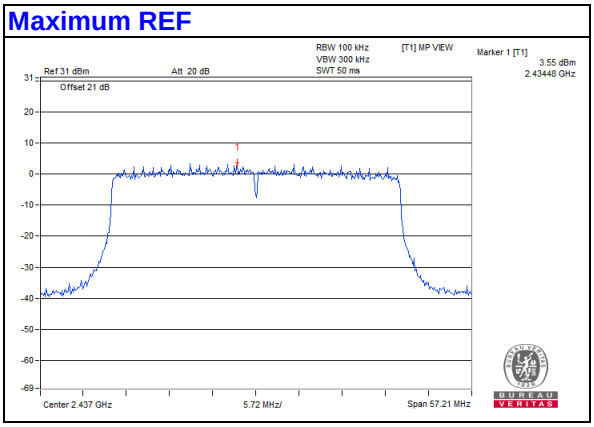


CH 11 Band edge



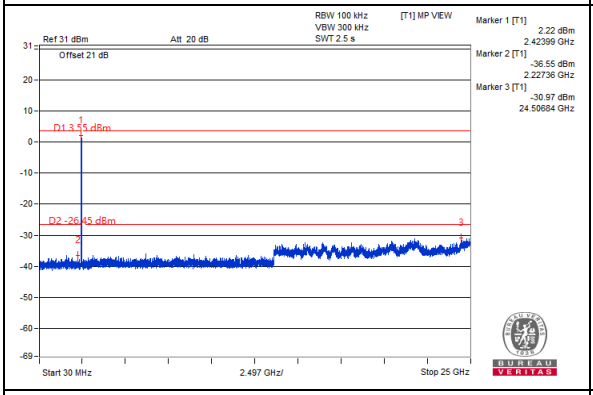
802.11ax (HE40)

Maximum REF

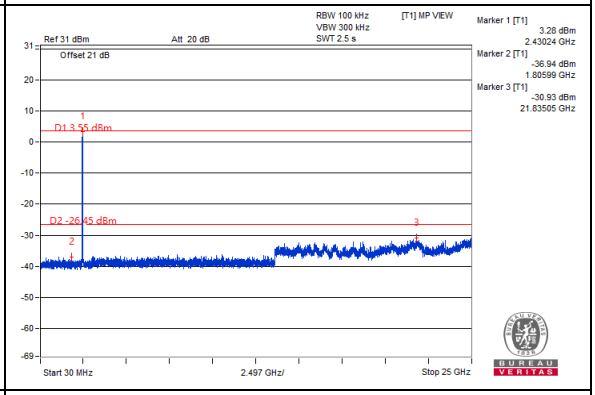


Chain 0

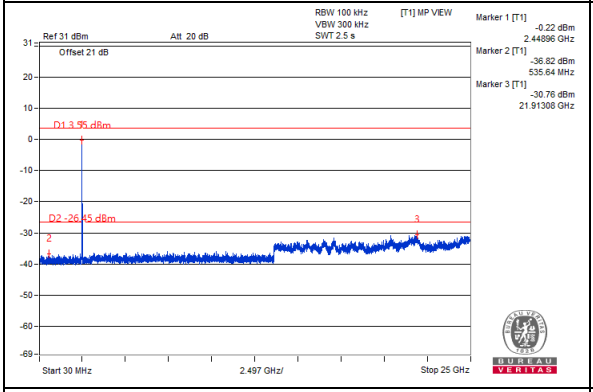
CH 3



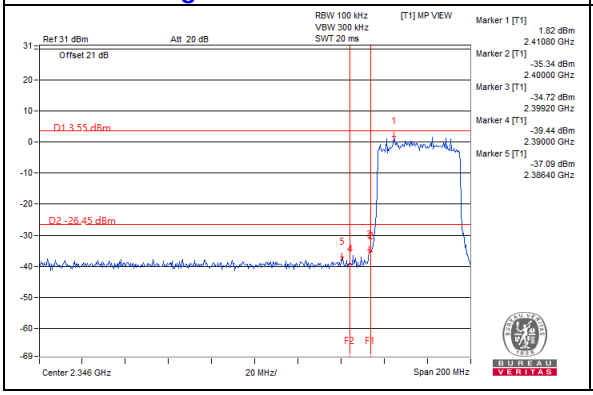
CH 6



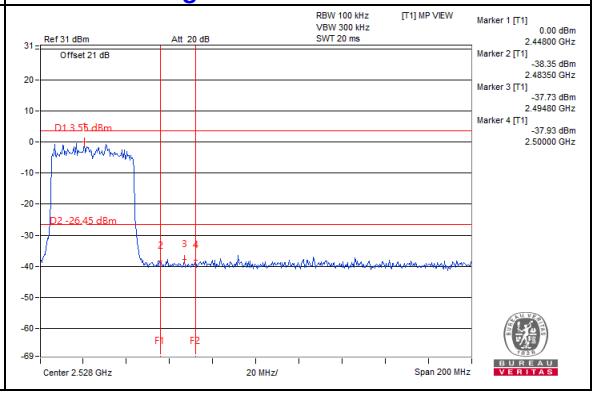
CH 9



CH 3 Band edge

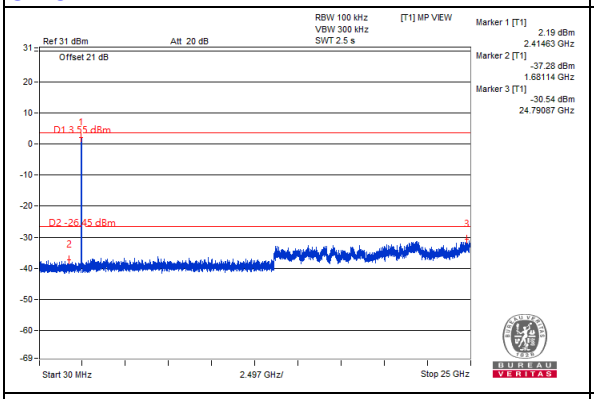


CH 9 Band edge



Chain 1

CH 3



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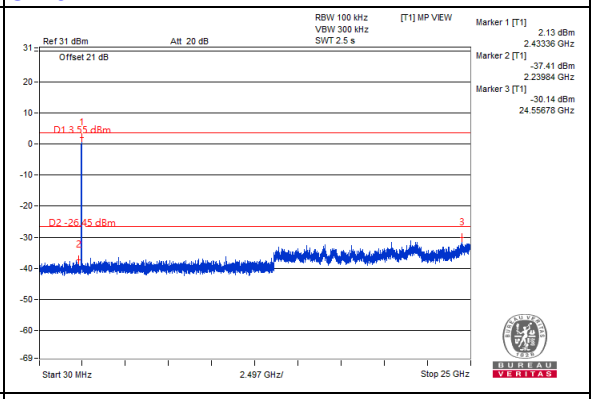

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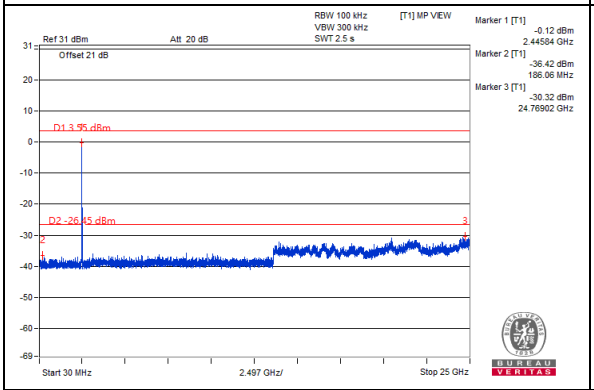
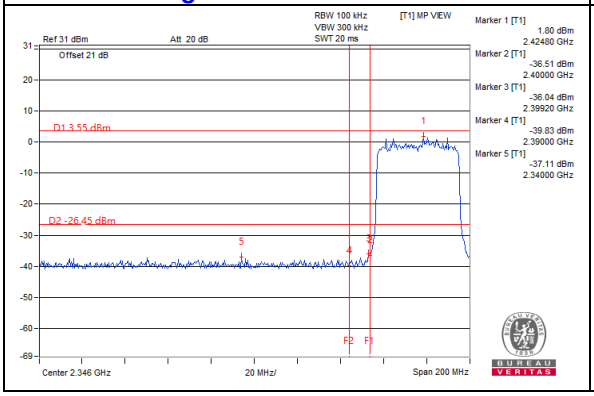


CH 3 Band edge



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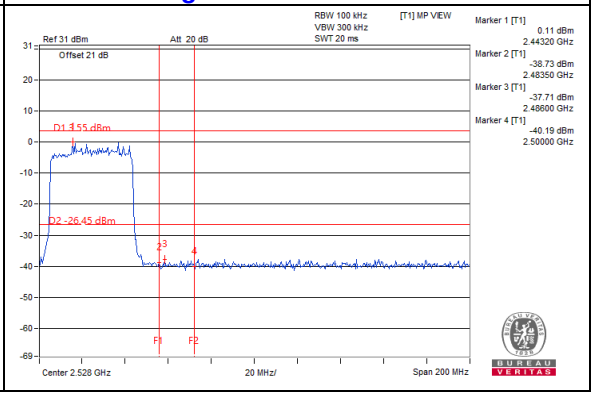
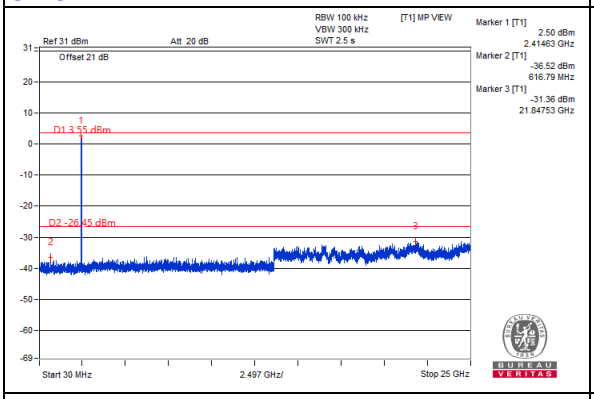


Chain 2

CH 3



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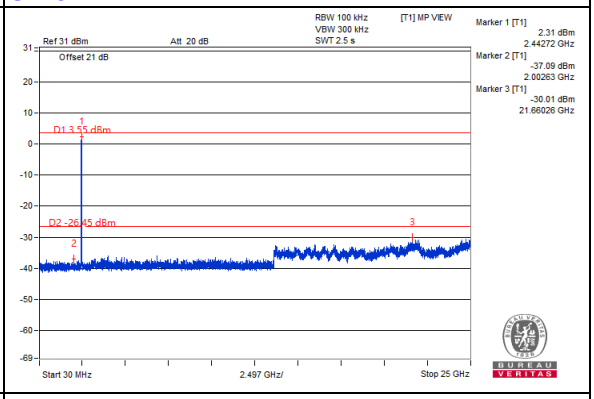
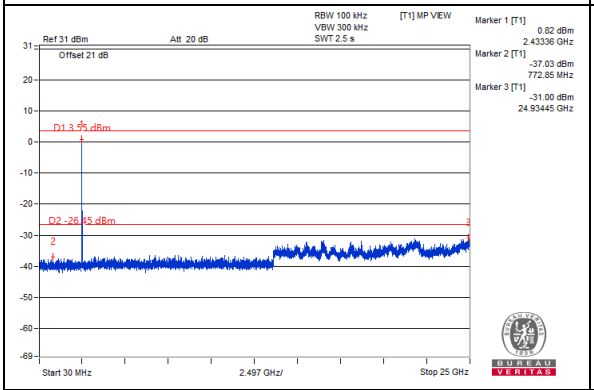
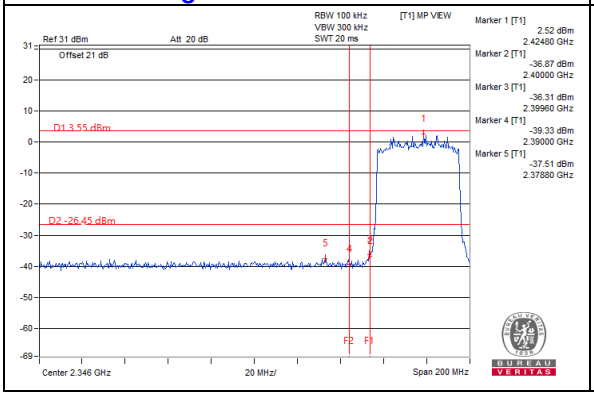


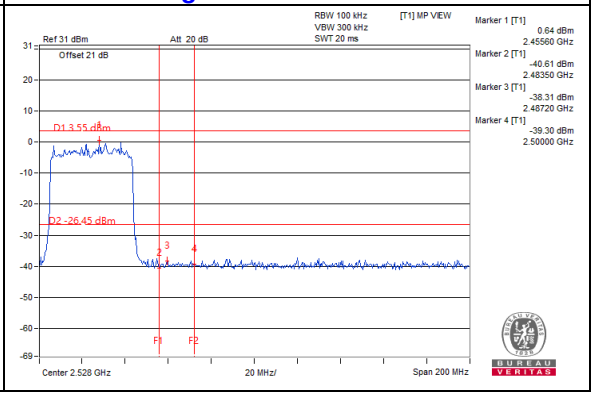
CH 9



CH 3 Band edge

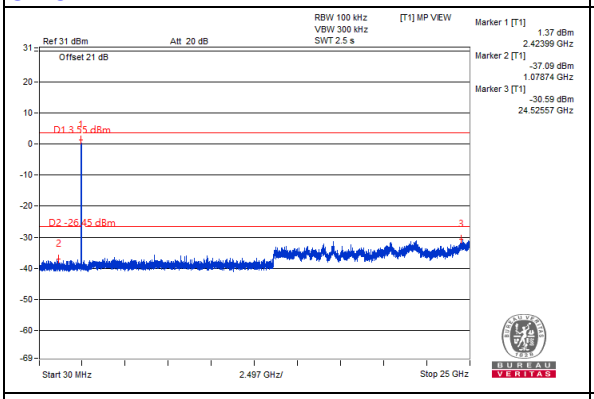


CH 9 Band edge



Chain 3

CH 3



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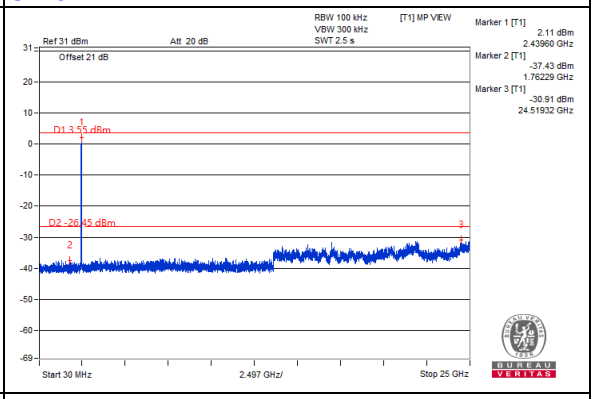

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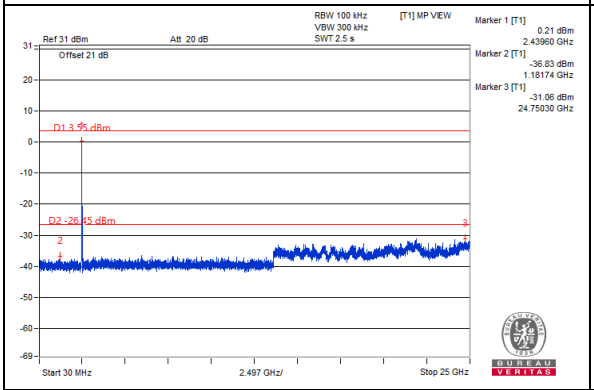
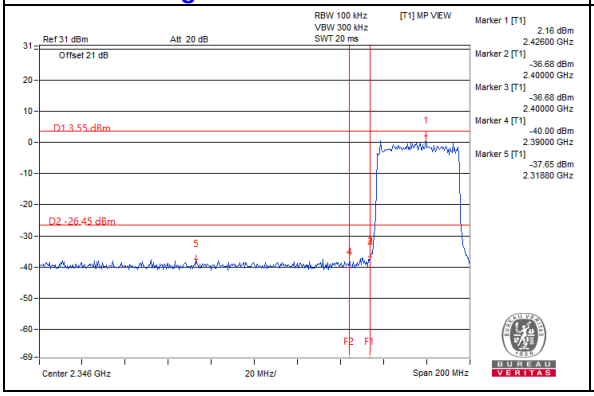
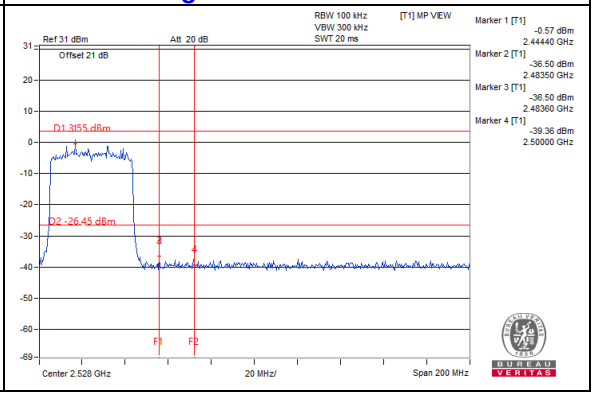


CH 3 Band edge



CH 9 Band edge

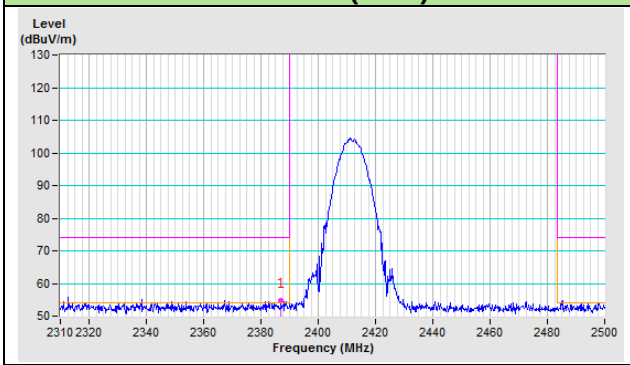
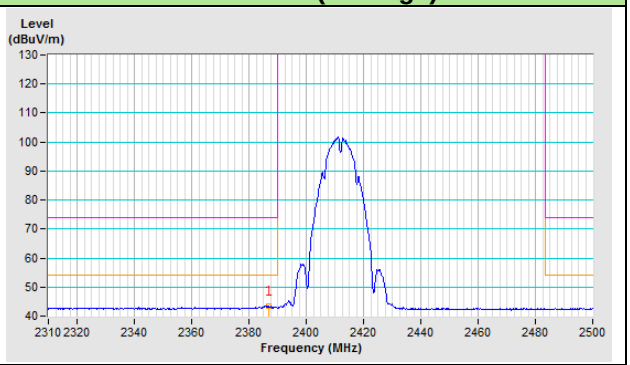
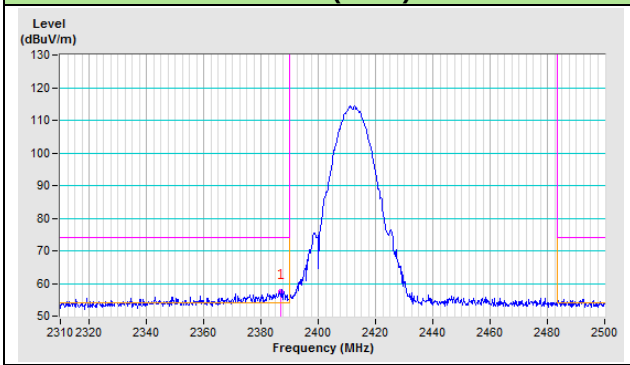
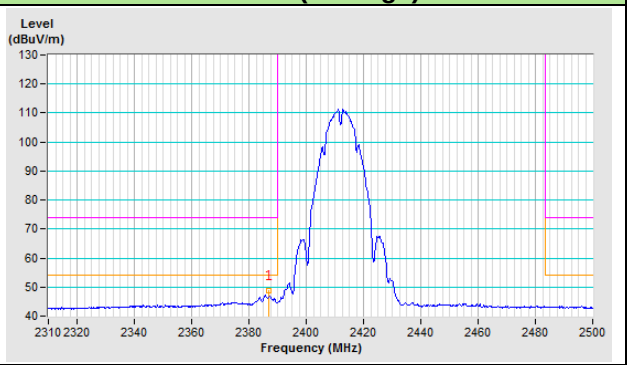
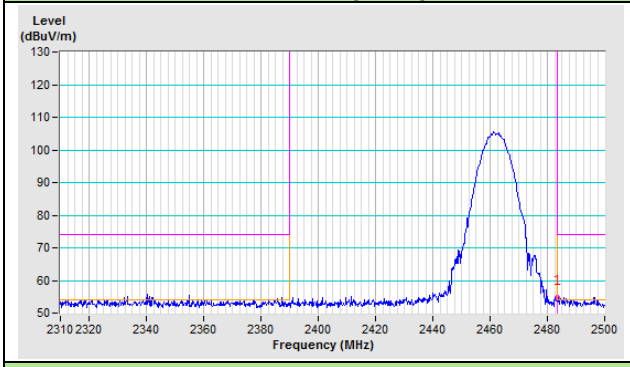
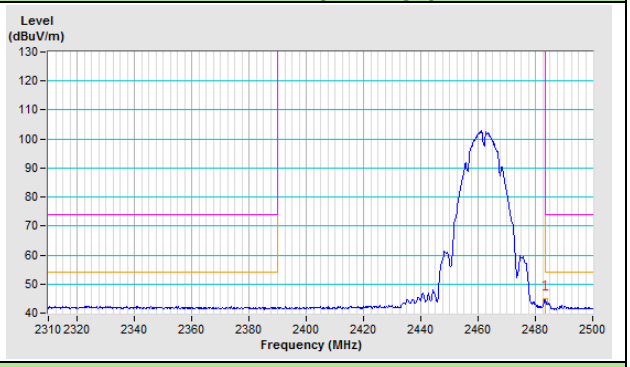
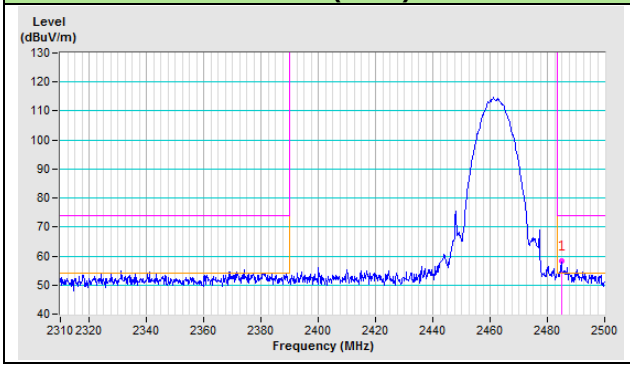
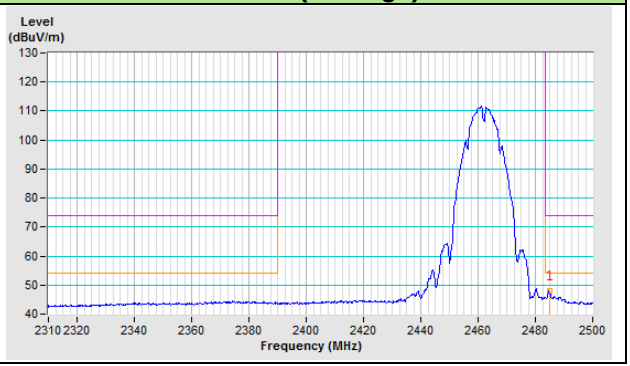


5 Pictures of Test Arrangements

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

ANNEX A- BAND-EDGE MEASUREMENT

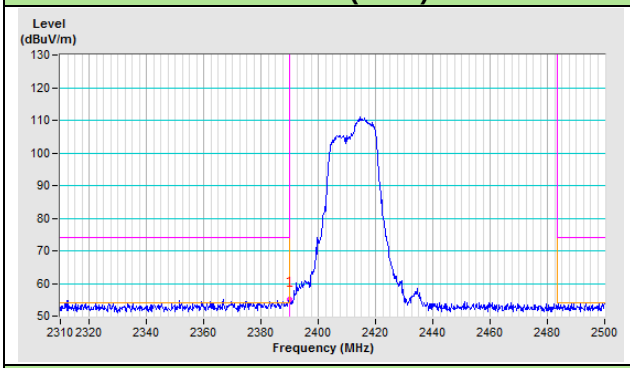
802.11b

Channel 1	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 11	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

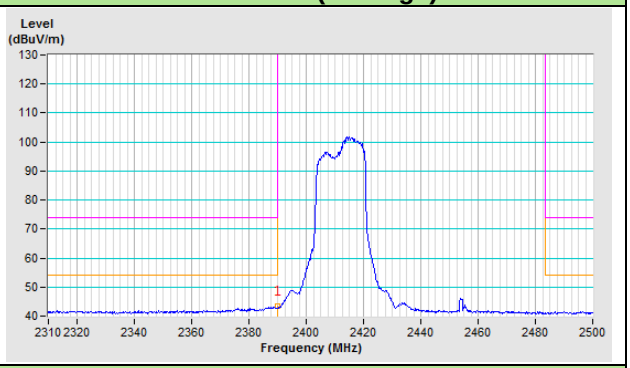
802.11g

Channel 1

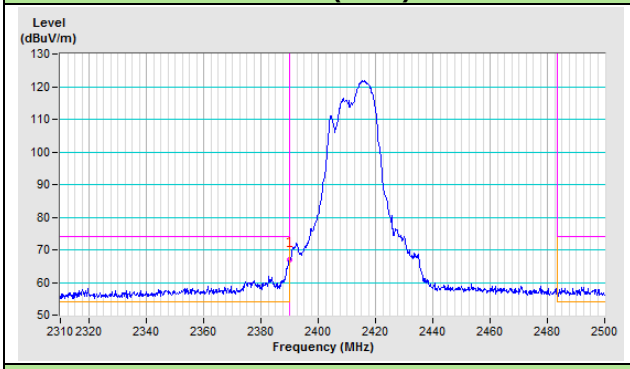
Horizontal (Peak)



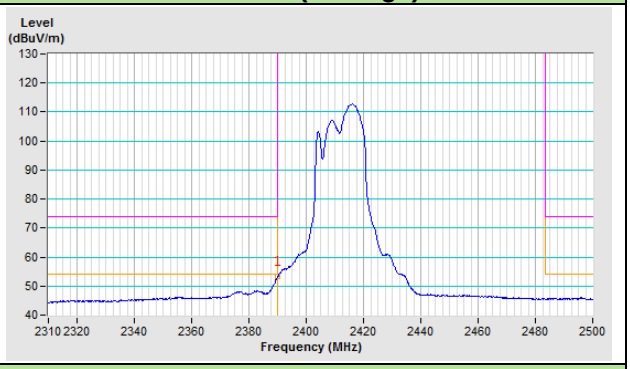
Horizontal (Average)



Vertical (Peak)

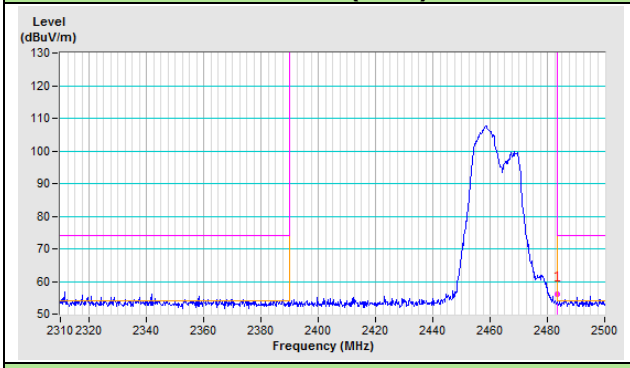


Vertical (Average)

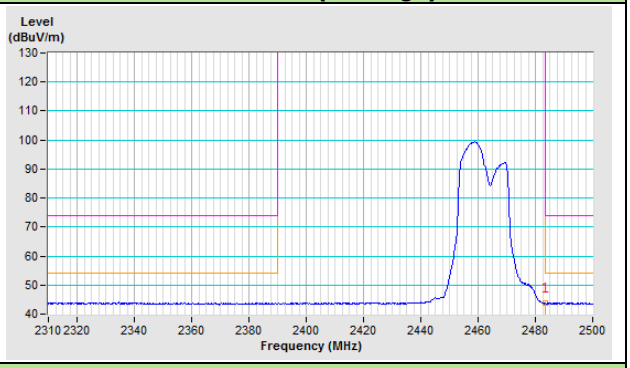


Channel 11

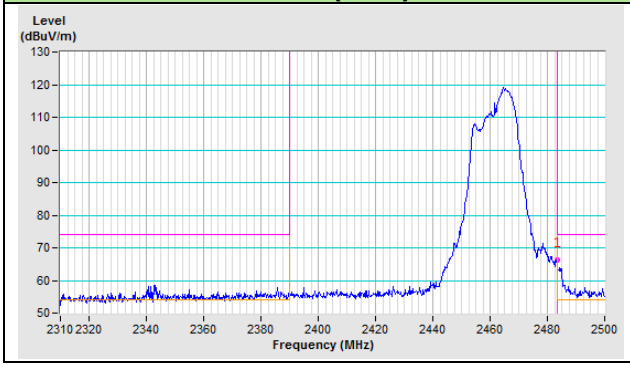
Horizontal (Peak)



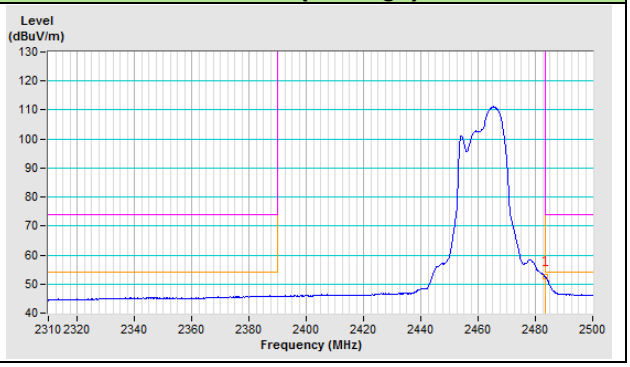
Horizontal (Average)



Vertical (Peak)



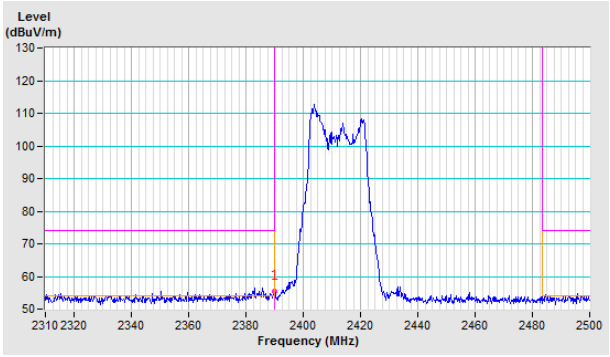
Vertical (Average)



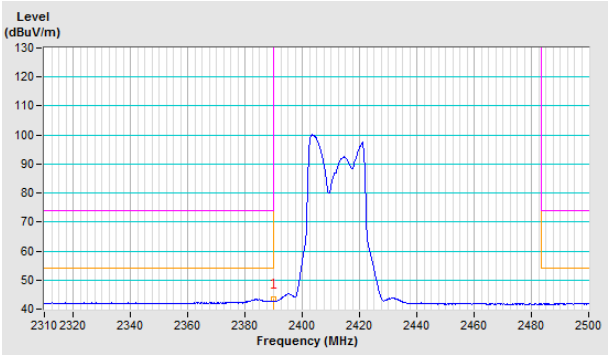
802.11ax (HE20)

Channel 1

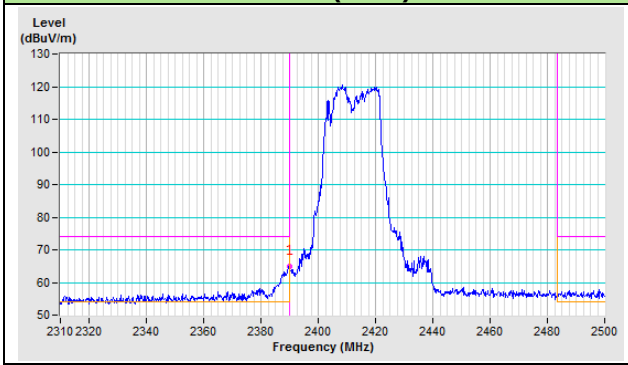
Horizontal (Peak)



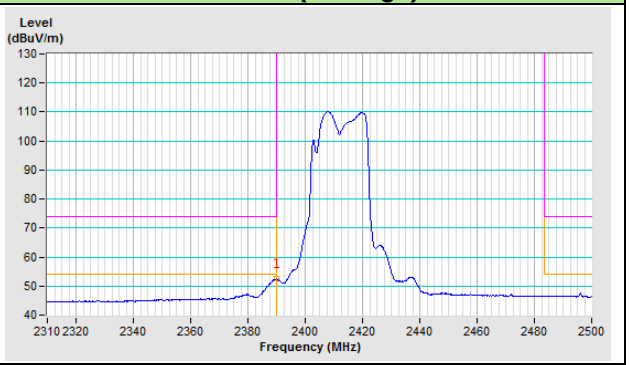
Horizontal (Average)



Vertical (Peak)

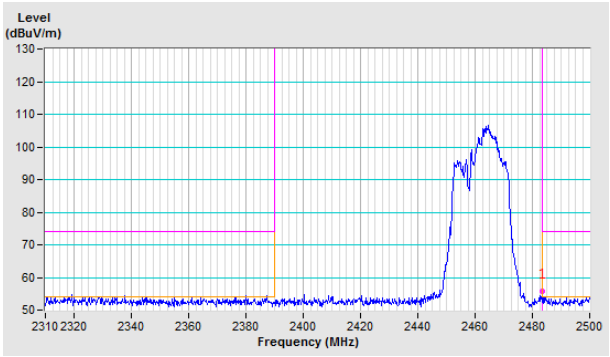


Vertical (Average)

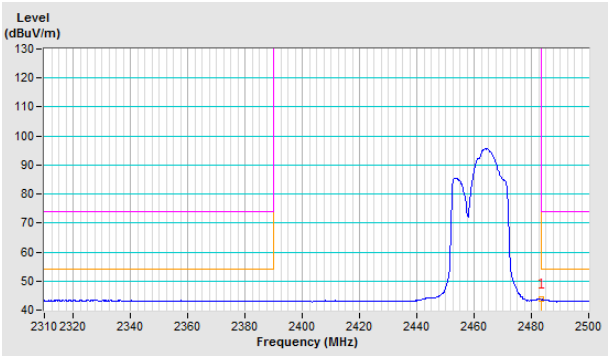


Channel 11

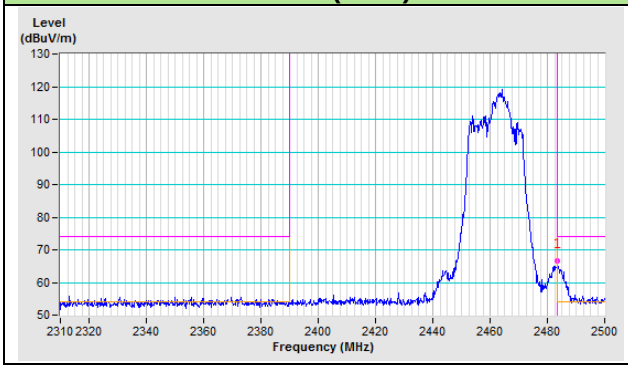
Horizontal (Peak)



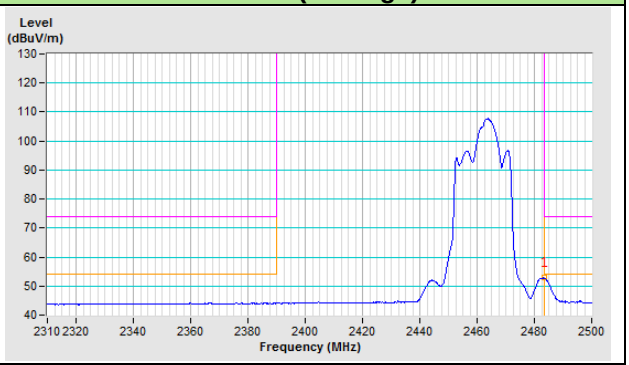
Horizontal (Average)



Vertical (Peak)



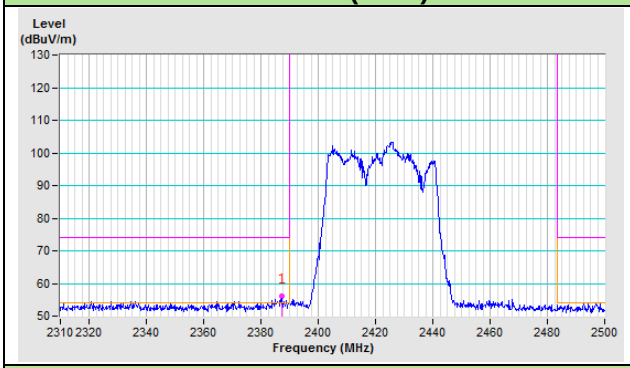
Vertical (Average)



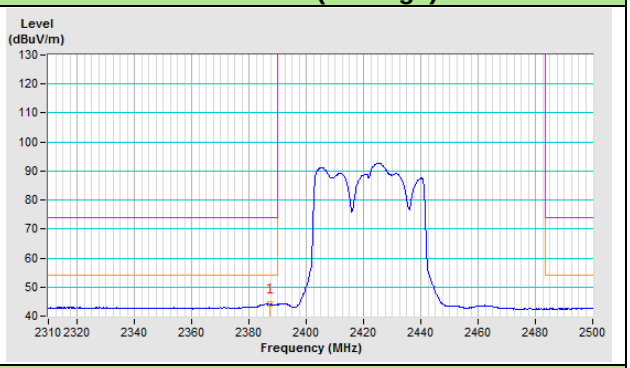
802.11ax (HE40)

Channel 3

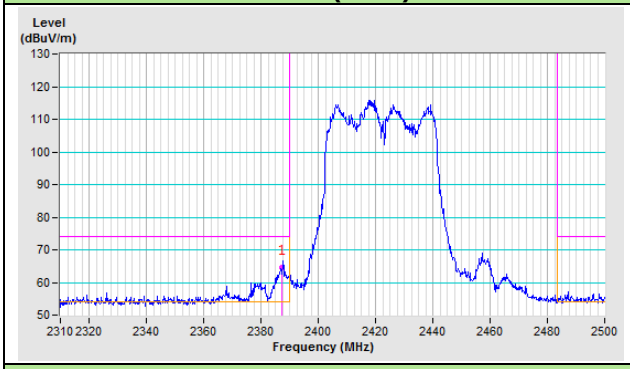
Horizontal (Peak)



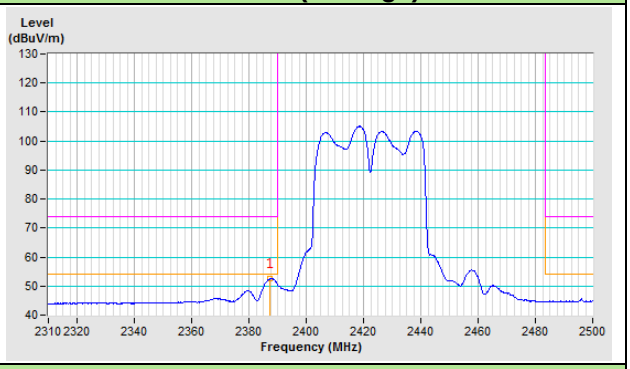
Horizontal (Average)



Vertical (Peak)

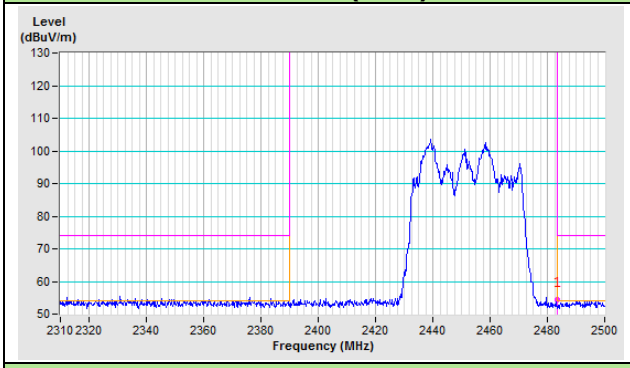


Vertical (Average)

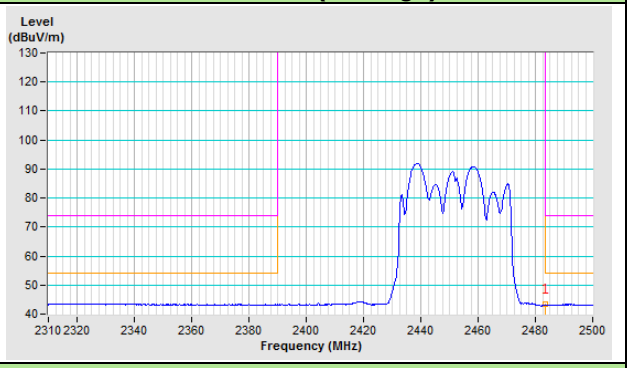


Channel 9

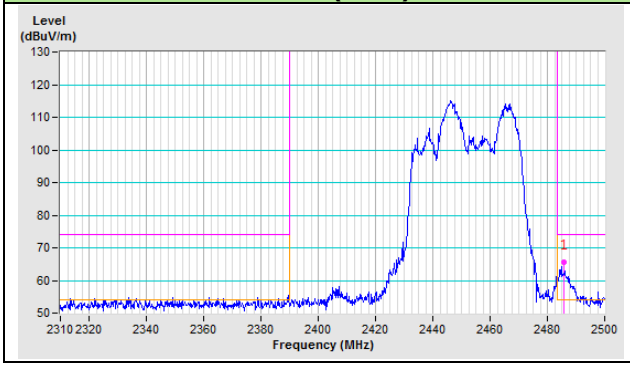
Horizontal (Peak)



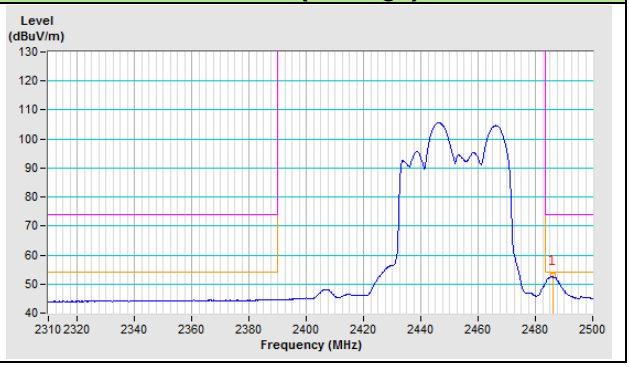
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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