FCC Test Report

Product Name	：	Hex Sense
Trade Name	：	Origin Wireless Taiwan Corporation
Model No.	：	Hex Sense
FCC ID	：	2AW26TR-WIFISEN-X

Applicant	：	Origin Wireless Taiwan Corp.
Address	：	3F A1-1 No. 1, Lixing 1st. Rd., Easr Dist. Hsinchu City 300, Taiwan

Date of Receipt	：	Sep. 07, 2020
Issued Date	：	Nov. 19, 2020
Report No.	：	2090185R-E3032110108
Report Version	：	V1.0

Test Report Certification

Issued Date: Nov. 19, 2020
Report No. : 2090185R-E3032110108

Product Name	:	Hex Sense
Applicant	:	Origin Wireless Taiwan Corp.
Address	:	3F A1-1 No. 1, Lixing 1st. Rd., Easr Dist. Hsinchu City 300, Taiwan
Manufacturer	:	WNC VIETNAM CO., LTD.
Address	:	Factory H2, Lot G1-3-4-6-8, Que Vo Industrial Park, Van Duong Ward, Bac Ninh City, Bac Ninh Province, Vietnam
Trade Name	:	Origin Wireless Taiwan Corporation
Model No.	:	Hex Sense
FCC ID	:	2AW26TR-WIFISEN-X
EUT Voltage	:	AC 120V/60Hz
Testing Voltage	:	AC 120V/60Hz
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2019 ANSI C63.10: 2013
Laboratory Name	:	Hsin Chu Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result	:	Complied

Documented By : Lyla Yang

(Lyla Yang / Engineering Adm. Specialist)

Tested By : Scott Chang

(Scott Chang / Senior Engineer)

Approved By : Louis Hsu

(Louis Hsu / Deputy Manager)

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Nov. 19, 2020

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1. General Information

1.1. EUT Description

Product Name	Hex Sense
Trade Name	Origin Wireless Taiwan Corporation
Model No.	Hex Sense
Frequency Range	2402~2480MHz
Channel Number	40 Channels
Type of Modulation	GFSK
HW Version	HW002
SW Version	0.1.0a

Antenna Information				
No.	Brand	Model No.	Antenna Type	Antenna Gain
0	WNC	LVX5_3S.00227.111	PIFA Antenna	Bluetooth: 0.44dBi WiFi 5GHz: 3.28 dBi

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 10	2422 MHz	Channel 20	2442 MHz	Channel 30	2462 MHz
Channel 01	2404 MHz	Channel 11	2424 MHz	Channel 21	2444 MHz	Channel 31	2464 MHz
Channel 02	2406 MHz	Channel 12	2426 MHz	Channel 22	2446 MHz	Channel 32	2466 MHz
Channel 03	2408 MHz	Channel 13	2428 MHz	Channel 23	2448 MHz	Channel 33	2468 MHz
Channel 04	2410 MHz	Channel 14	2430 MHz	Channel 24	2450 MHz	Channel 34	2470 MHz
Channel 05	2412 MHz	Channel 15	2432 MHz	Channel 25	2452 MHz	Channel 35	2472 MHz
Channel 06	2414 MHz	Channel 16	2434 MHz	Channel 26	2454 MHz	Channel 36	2474 MHz
Channel 07	2416MHz	Channel 17	2436 MHz	Channel 27	2456 MHz	Channel 37	2476 MHz
Channel 08	2418 MHz	Channel 18	2438 MHz	Channel 28	2458 MHz	Channel 38	2478 MHz
Channel 09	2420 MHz	Channel 19	2440 MHz	Channel 29	2460 MHz	Channel 39	2480 MHz

Note:

1. This device is a Hex Sense including 5GHz a/n and BT 4.0 transmitting and receiving functions.
2. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
3. The EUT description is from the customer declaration.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Test Mode	Mode 1: Transmit Mode

Test Items	Modulation	Channel	Result
Conducted Emission	GFSK	00	Complies
Maximum peak conducted	GFSK	00/19/39	Complies
Radiated Emission	GFSK	00/19/39	Complies
RF antenna conducted test	GFSK	00/19/39	Complies
Radiated Emission Band Edge	GFSK	00/19/39	Complies
Occupied Bandwidth & DTS Bandwidth	GFSK	00/19/39	Complies
Power Density	GFSK	00/19/39	Complies

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

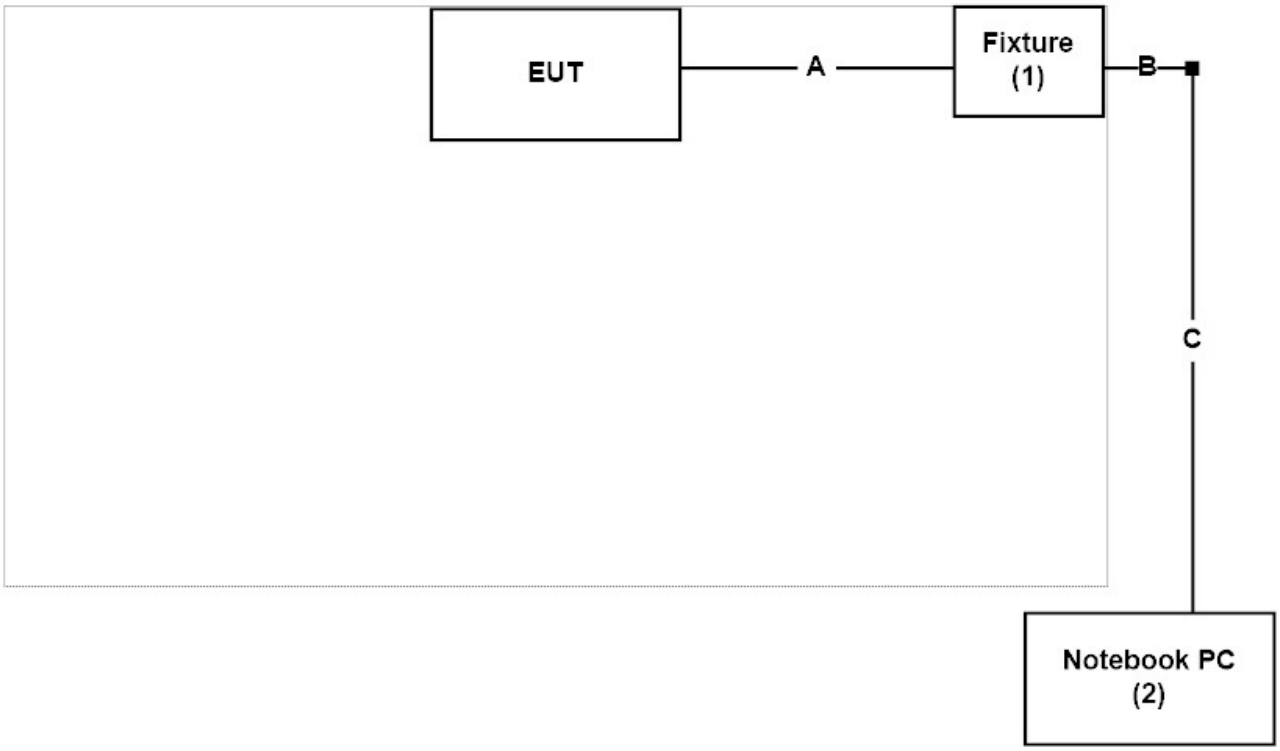
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Fixture	WNC	48.J53RS.SGA	N/A	DoC	--
2	Notebook PC	ASUS	E402S	GBN0CV14W050478	DoC	Shielded, 2m

1.4. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	Signal Cable	Non-Shielded, 0.5m, 4PCS
B	RS-232 to USB Cable	Shielded, 1m
C	USB Cable	Shielded, 6m

1.5. EUT Exercise Software

1	Set the EUT as shown in Section 1.4.
2	Execute “MediaTek BT Tool” software on the laptop.
3	Configure test mode, test channel and data rate.
4	Let the EUT start sending or receiving continuously.
5	Verify that the device is working properly.

1.6. Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required	Test Site
Temperature (°C)	FCC PART 15 C 15.207	15 - 35	2
Humidity (%RH)	Conducted Emission	25 - 75	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	1
Humidity (%RH)	Maximum peak conducted output power	25 - 75	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	1
Humidity (%RH)	Radiated Emission	25 - 75	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	1
Humidity (%RH)	RF antenna conducted test	25 - 75	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	1
Humidity (%RH)	Radiated Emission Band Edge	25 - 75	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	1
Humidity (%RH)	Occupied Bandwidth & DTS Bandwidth	25 - 75	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	1
Humidity (%RH)	Power Density	25 - 75	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	**:**	**FCC Registration Number: TW3024**
Canada	**:**	**IC Registration Number: 22397-1 / 22397-2 / 22397-3**

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 2. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-582-8001 2. +886-3-582-8001
Fax number	1. +886-3-582-8958 2. +886-3-582-8958
Email address	info.tw@dekra.com
Website	http://www.dekra.com.tw

1.8. List of Test Equipment

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2020/01/08	2021/01/07
Test Receiver	R&S	ESCS 30	836858/022	2020/02/25	2021/02/24
LISN	R&S	ENV216	100092	2020/06/22	2021/06/21

Maximum peak conducted output power / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2019/12/02	2020/12/01
Pulse Power Sensor	Anritsu	MA2411B	1531043	2019/12/02	2020/12/01
Pulse Power Sensor	Anritsu	MA2411B	1531044	2019/12/02	2020/12/01
Power Meter	Keysight	8990B	MY51000248	2020/05/20	2021/05/19
Power Sensor	Keysight	N1923A	MY57240005	2020/05/20	2021/05/19

Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2020/10/12	2021/10/11
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2020/02/21	2021/02/20
Bilog Antenna	Teseq	CBL6112D	23191	2020/06/12	2021/06/11
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2020/06/04	2021/06/03
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Pre-Amplifier	DEKRA	AP-025C	12183122	2020/09/03	2021/09/02
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2020/10/14	2021/10/13
Band Reject Filter	Micro-Tronics	BRM50702	G192	2020/03/09	2021/03/08
Signal Analyzer	R&S	FSV40	101435	2020/06/24	2021/06/23
Coaxial Cable(10m)	Suhner	SF102_SF104	CB4-H	2020/04/25	2021/04/24
DEKRA Testing System	DEKRA	Version 1.2	CB4-H	NA	NA

RF antenna conducted test / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29

Radiated Emission Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2020/10/12	2021/10/11
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2020/02/21	2021/02/20
Bilog Antenna	Teseq	CBL6112D	23191	2020/06/12	2021/06/11
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2020/06/04	2021/06/03
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Pre-Amplifier	DEKRA	AP-025C	12183122	2020/09/03	2021/09/02
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2020/10/14	2021/10/13
Band Reject Filter	Micro-Tronics	BRM50702	G192	2020/03/09	2021/03/08
Signal Analyzer	R&S	FSV40	101435	2020/06/24	2021/06/23
Coaxial Cable(10m)	Suhner	SF102_SF104	CB4-H	2020/04/25	2021/04/24
DEKRA Testing System	DEKRA	Version 1.2	CB4-H	NA	NA

Occupied Bandwidth & DTS Bandwidth / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29

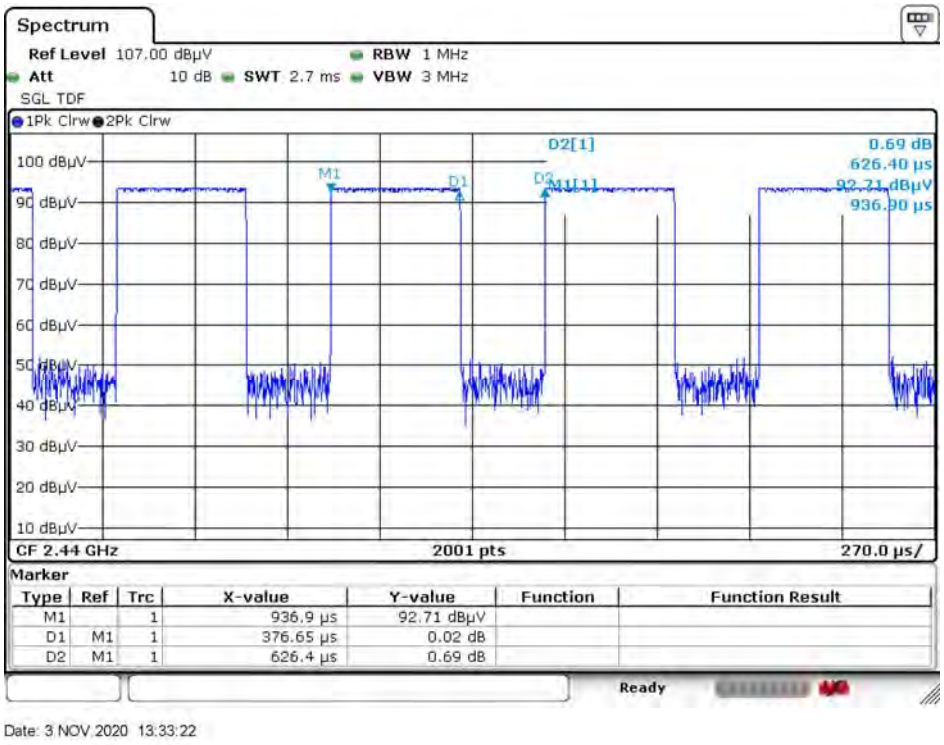
Power Density / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

1.9. Duty cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor(dB) linear voltage	Duty Factor(dB) Power	1/T Minimum VBW (kHz)
BLE	0.377	0.626	60.22%	4.404660	2.20	2.653

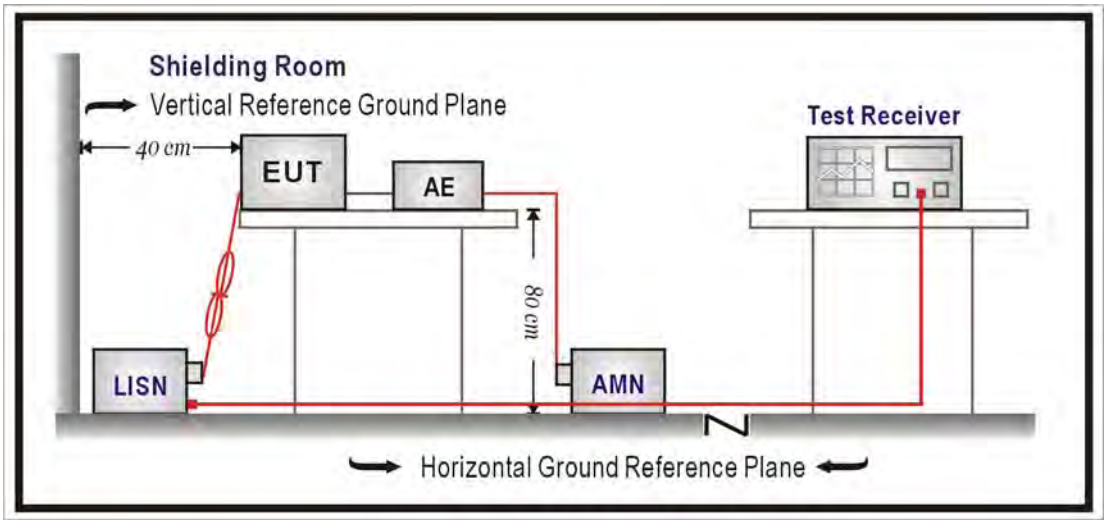


1.10. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26 dB
Maximum peak conducted output power	± 1.27 dB
Radiated Emission	30MHz~1GHz as ± 3.43 dB 1GHz~26.5GHz as ± 3.65 dB
RF antenna conducted test	± 1.27 dB
Radiated Emission Band Edge	± 3.65 dB
Occupied Bandwidth & DTS Bandwidth	± 50 Hz
Power Density	± 1.27 dB

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

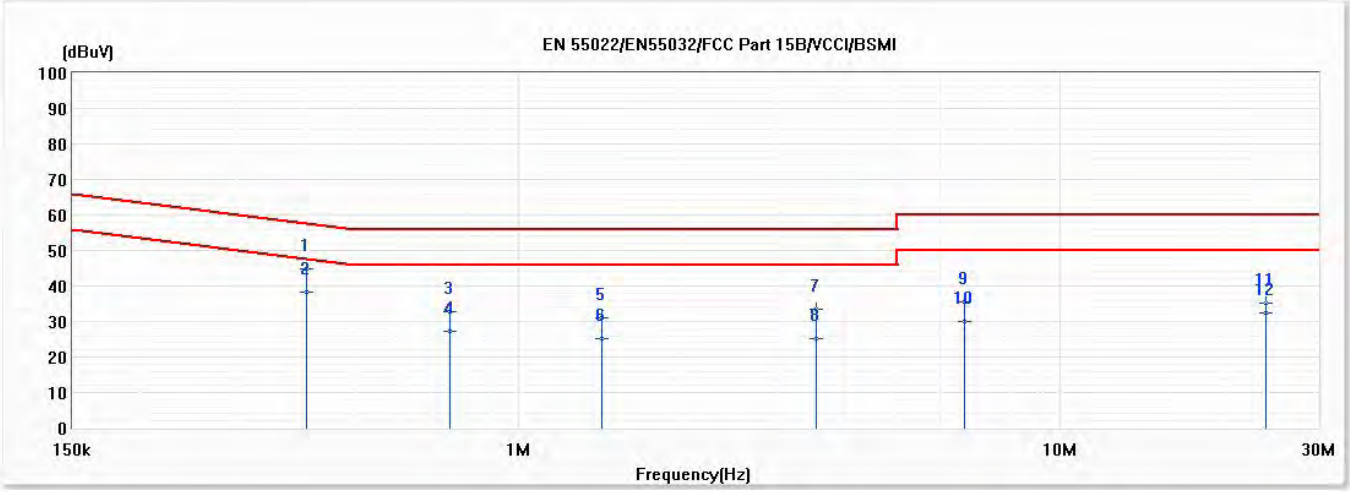
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9KHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2019

2.5. Test Result

Model No	Hex Sense	Site	SR2-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/11
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Phase	L	Temperature (℃)	25.5
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	57

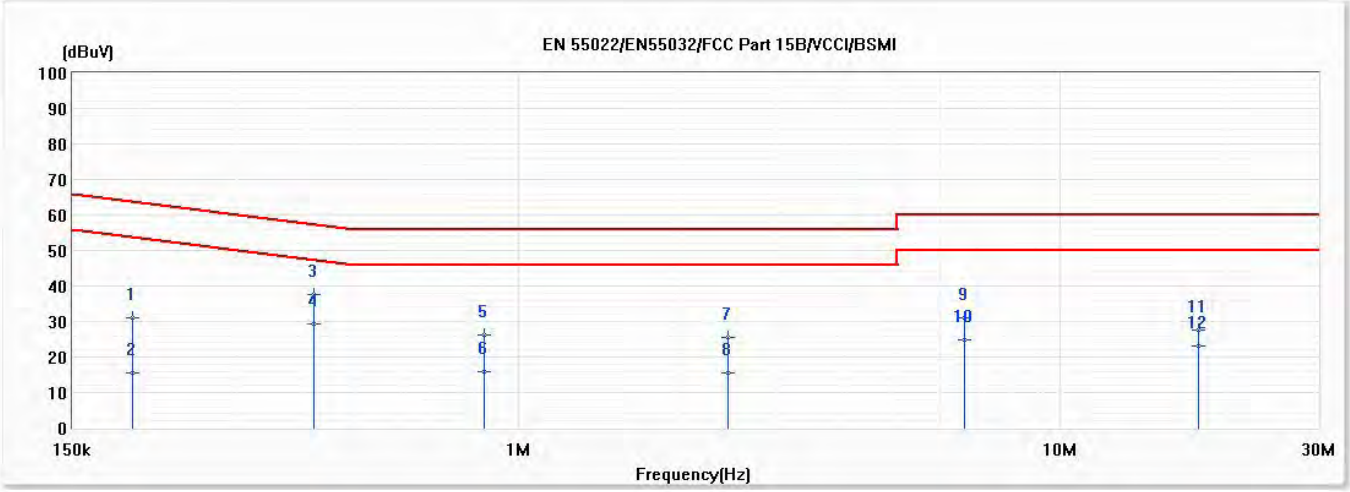


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.406	44.94	57.73	-12.79	35.26	9.68	QP
*2	0.406	38.22	47.73	-9.51	28.54	9.68	AV
3	0.748	32.69	56.00	-23.31	22.97	9.72	QP
4	0.748	27.28	46.00	-18.72	17.56	9.72	AV
5	1.427	31.05	56.00	-24.95	21.29	9.76	QP
6	1.427	25.28	46.00	-20.72	15.52	9.76	AV
7	3.547	33.51	56.00	-22.49	23.65	9.87	QP
8	3.547	25.07	46.00	-20.93	15.20	9.87	AV
9	6.661	35.60	60.00	-24.40	25.60	10.00	QP
10	6.661	29.87	50.00	-20.13	19.86	10.00	AV
11	24.000	35.04	60.00	-24.96	24.62	10.42	QP
12	24.000	32.36	50.00	-17.64	21.94	10.42	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Model No	Hex Sense	Site	SR2-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/11
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Phase	N	Temperature (℃)	25.5
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	57



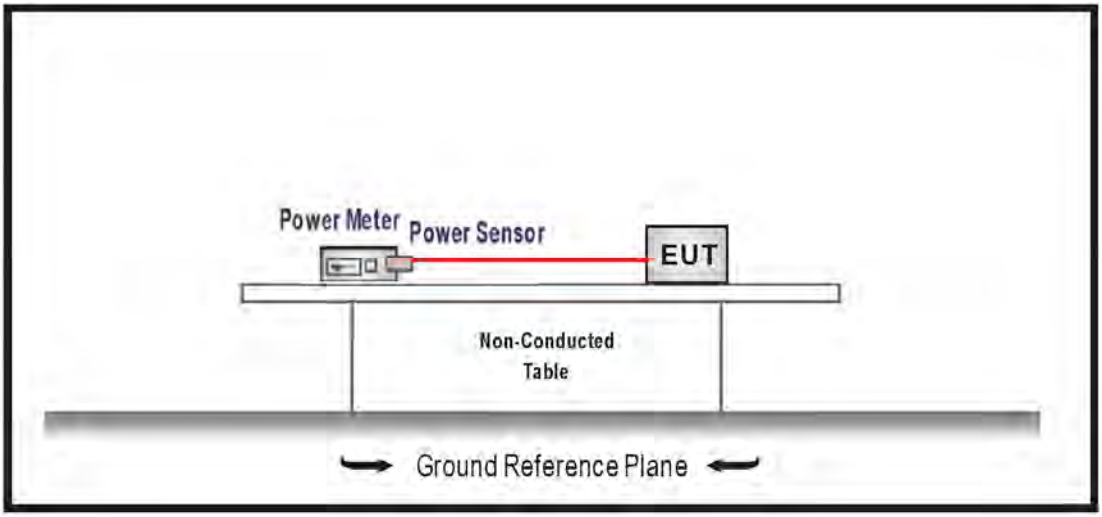
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.194	30.96	63.87	-32.91	21.33	9.64	QP
2	0.194	15.44	53.87	-38.42	5.81	9.64	AV
3	0.418	37.72	57.48	-19.77	28.05	9.67	QP
*4	0.418	29.25	47.48	-18.24	19.58	9.67	AV
5	0.863	26.31	56.00	-29.69	16.60	9.71	QP
6	0.863	15.88	46.00	-30.12	6.17	9.71	AV
7	2.441	25.41	56.00	-30.59	15.60	9.80	QP
8	2.441	15.65	46.00	-30.35	5.85	9.80	AV
9	6.663	31.14	60.00	-28.86	21.13	10.00	QP
10	6.663	24.96	50.00	-25.04	14.95	10.00	AV
11	18.004	27.72	60.00	-32.28	17.27	10.46	QP
12	18.004	23.25	50.00	-26.75	12.79	10.46	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

3. Maximum peak conducted output power

3.1. Test Setup



3.2. Limits

The maximum peak conducted output power shall be less 1 Watt.

3.3. Test procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074 D01V05r02 for compliance to FCC 47CFR 15.247 requirements.

3.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

3.5. Test Result

Product	Hex Sense		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/11/06	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	55.0

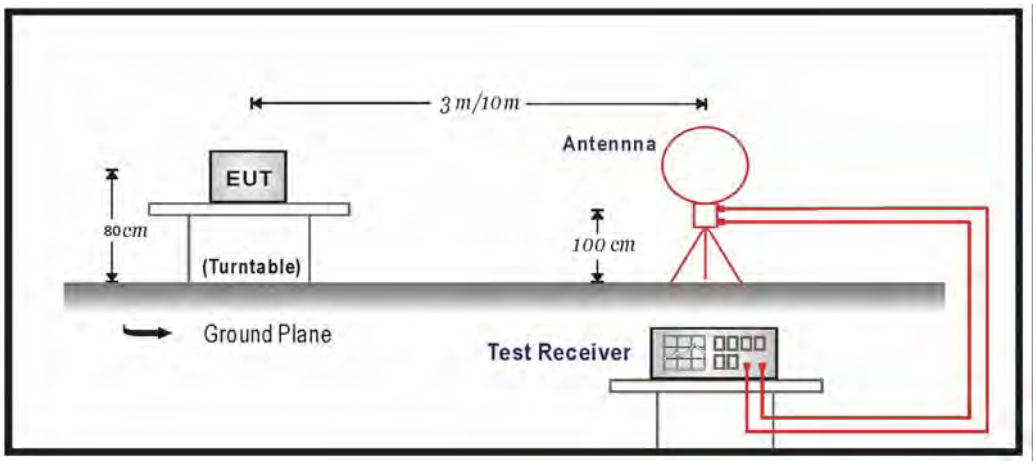
GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
00	2402	-2.190	≦30
19	2440	-2.200	≦30
39	2480	-2.210	≦30

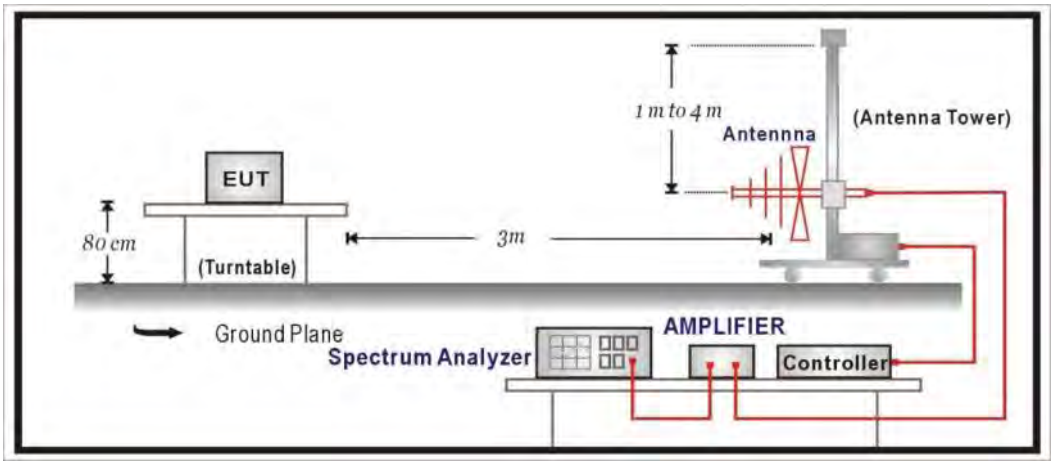
4. Radiated Emission

4.1. Test Setup

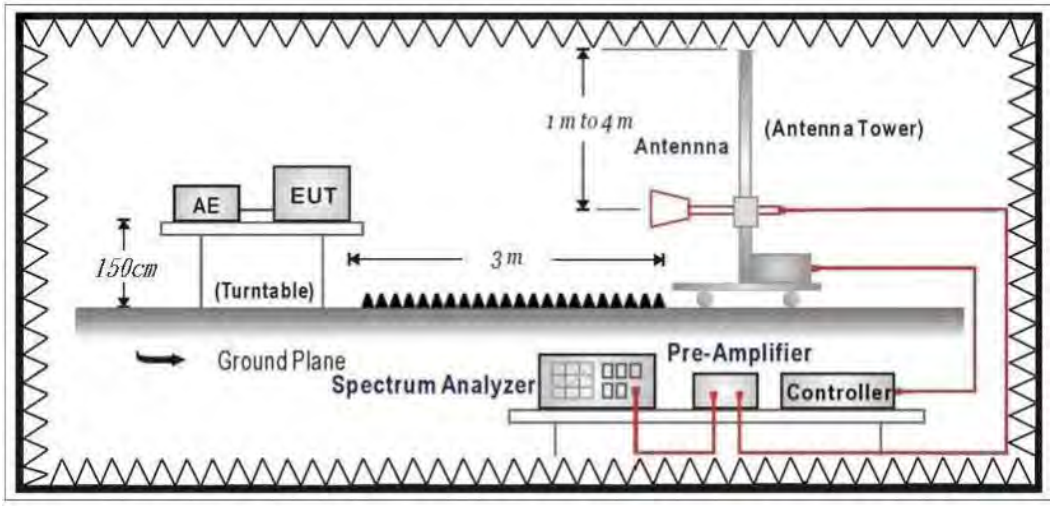
Under 30MHz Test Setup:



Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency (MHz)	uV/m	dBuV/m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the Radiated Emission Band Edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074 D01V05r02 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground.
The turn table can rotate 360 degrees to determine the position of the maximum emission level.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.
On any frequency or frequencies form 9KHz(inculde The the lowest oscillator frequency generated within the device up to the 10th harmonic) to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

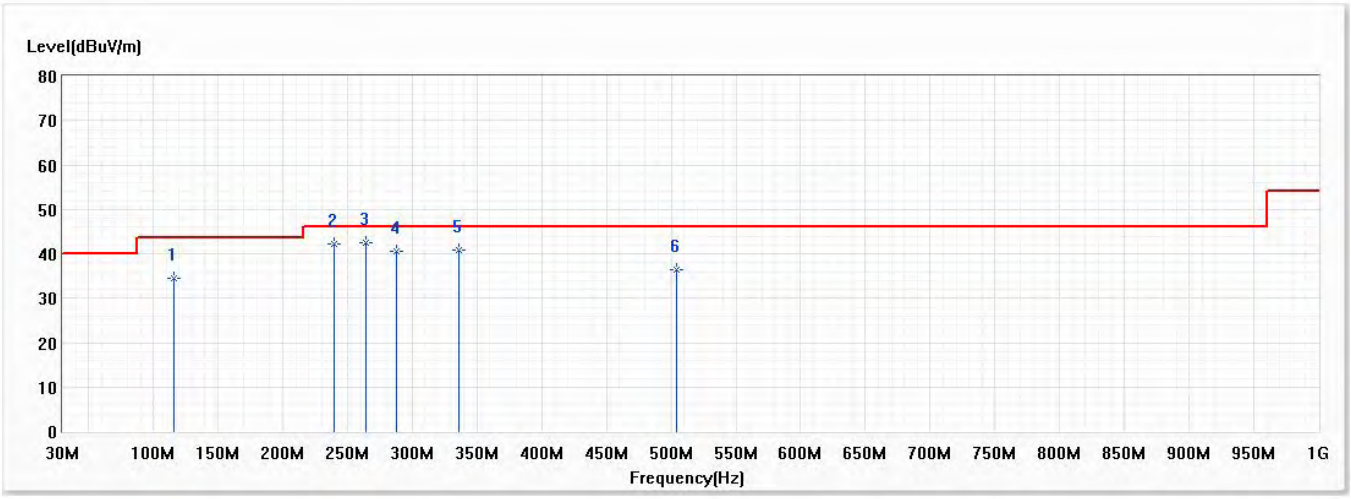
4.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

4.5. Test Result

30MHz-1GHz Spurious

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0

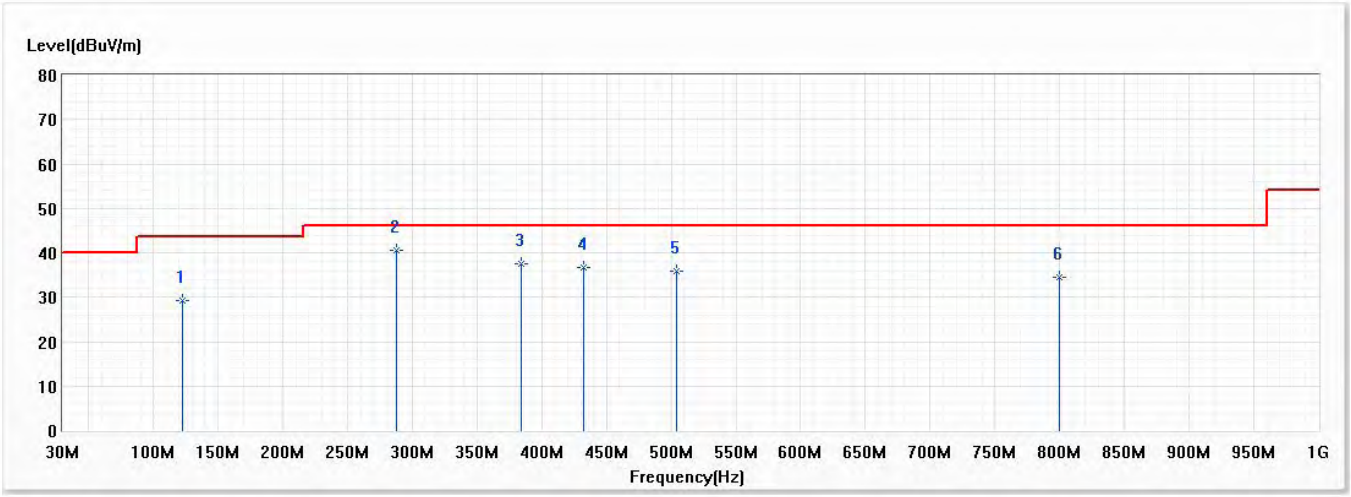


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	116.330	34.53	43.50	-8.97	37.26	-2.73	QP
2	240.005	42.09	46.00	-3.91	44.69	-2.60	QP
* 3	263.770	42.52	46.00	-3.48	44.34	-1.82	QP
4	288.020	40.46	46.00	-5.54	41.88	-1.42	QP
5	336.035	40.78	46.00	-5.22	40.82	-0.04	QP
6	503.845	36.28	46.00	-9.72	32.46	3.82	QP

Note:

1. All reading levels is Quasi-Peak value.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0



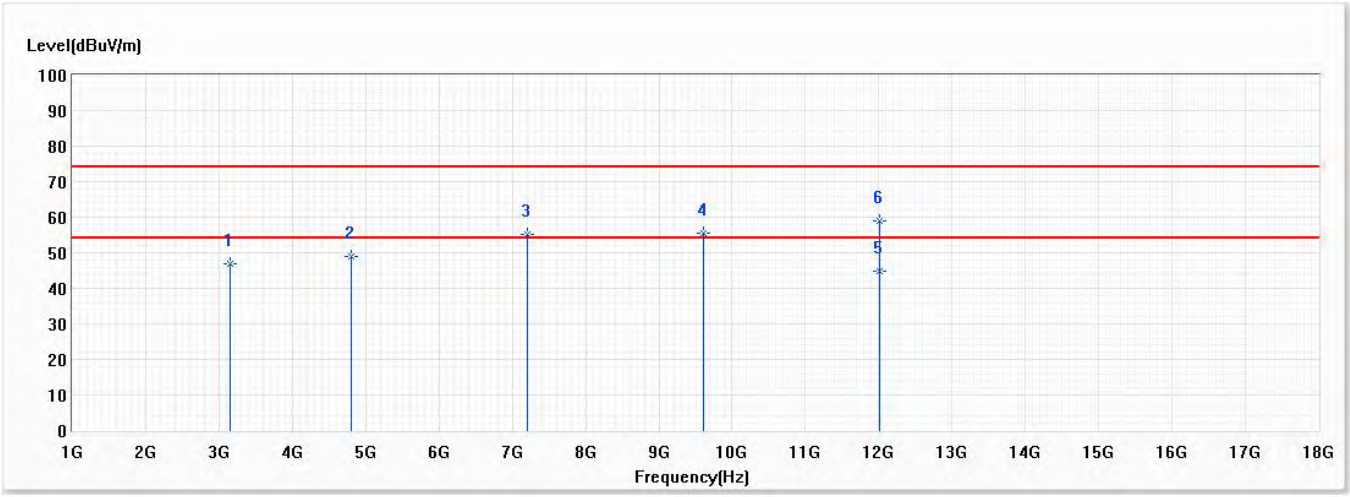
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	122.150	29.24	43.50	-14.26	31.66	-2.42	QP
* 2	288.020	40.46	46.00	-5.54	41.88	-1.42	QP
3	384.050	37.57	46.00	-8.43	36.06	1.51	QP
4	432.065	36.71	46.00	-9.29	34.10	2.61	QP
5	503.845	35.98	46.00	-10.02	32.16	3.82	QP
6	800.180	34.55	46.00	-11.45	27.20	7.35	QP

Note:

1. All reading levels is Quasi-Peak value.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Harmonic & Spurious:

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	3145.600	46.89	74.00	-27.11	64.21	-17.32	PK
2	4804.000	48.94	74.00	-25.06	60.97	-12.03	PK
3	7206.000	55.15	74.00	-18.85	59.83	-4.68	PK
4	9608.000	55.51	74.00	-18.49	56.84	-1.33	PK
* 5	12010.000	44.89	54.00	-9.11	42.08	2.81	AV
6	12010.000	58.90	74.00	-15.10	56.09	2.81	PK

Note:

1.All reading above 1GHz is performed with peak and/or average measurements as necessary.

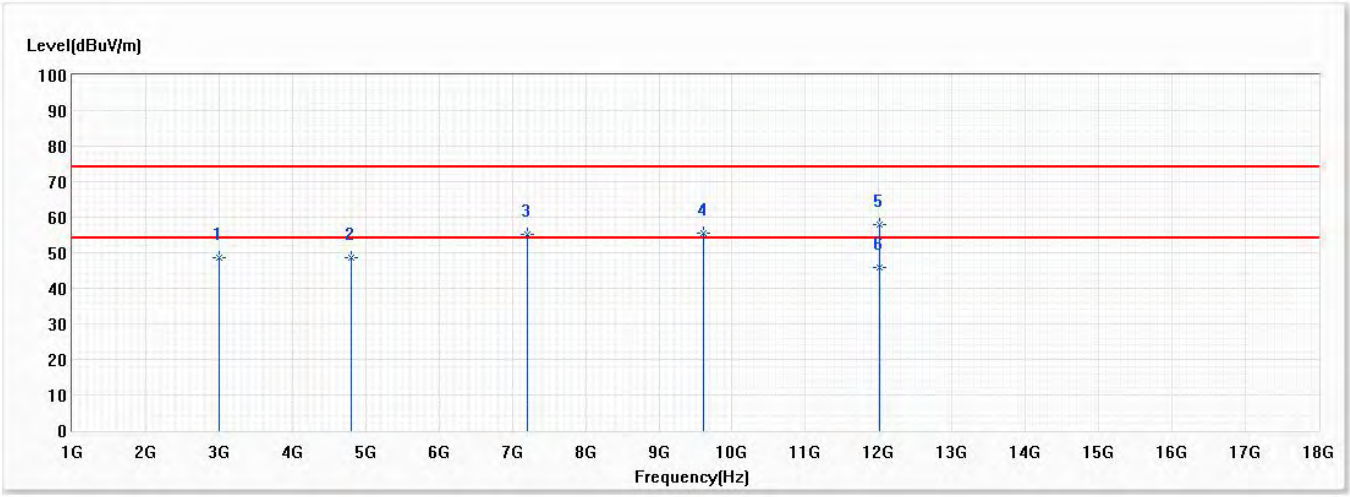
2. “ * ”, means this data is the worst value.

3.Emission Level = Reading Level + Correct Factor.

4.The average measurement was not performed when the peak measured data under the limit of average detection.

5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2996.500	48.66	74.00	-25.34	66.22	-17.56	PK
2	4804.000	48.66	74.00	-25.34	60.69	-12.03	PK
3	7206.000	55.11	74.00	-18.89	59.79	-4.68	PK
4	9608.000	55.47	74.00	-18.53	56.80	-1.33	PK
5	12010.000	57.92	74.00	-16.08	55.11	2.81	PK
* 6	12010.000	45.78	54.00	-8.22	42.97	2.81	AV

Note:

1.All reading above 1GHz is performed with peak and/or average measurements as necessary.

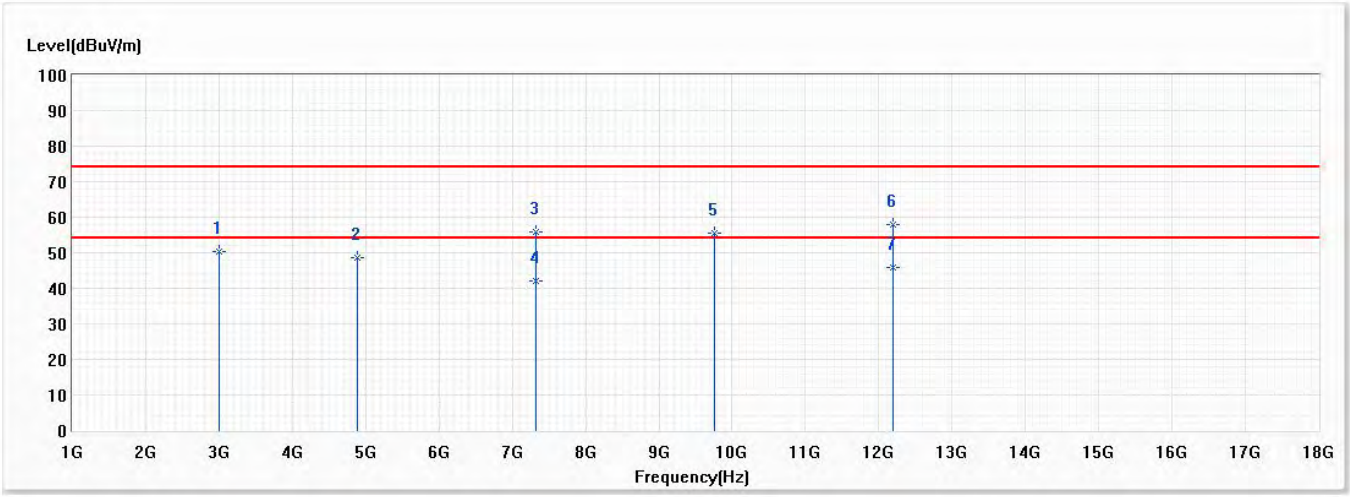
2. “ * ”, means this data is the worst value.

3.Emission Level = Reading Level + Correct Factor.

4.The average measurement was not performed when the peak measured data under the limit of average detection.

5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 19,2.44G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2996.300	50.25	74.00	-23.75	67.81	-17.56	PK
2	4880.000	48.58	74.00	-25.42	60.41	-11.83	PK
3	7320.000	55.77	74.00	-18.23	60.12	-4.35	PK
4	7320.000	42.22	54.00	-11.78	46.57	-4.35	AV
5	9760.000	55.57	74.00	-18.43	56.84	-1.27	PK
6	12200.000	57.87	74.00	-16.13	55.29	2.58	PK
* 7	12200.000	45.69	54.00	-8.31	43.11	2.58	AV

Note:

1.All reading above 1GHz is performed with peak and/or average measurements as necessary.

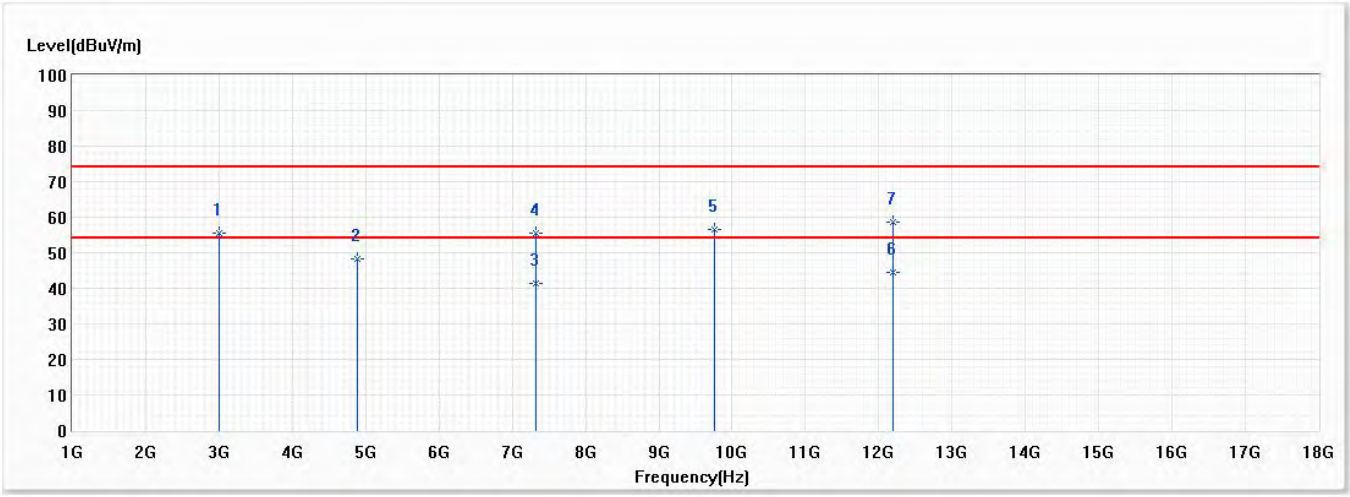
2. “ * ”, means this data is the worst value.

3.Emission Level = Reading Level + Correct Factor.

4.The average measurement was not performed when the peak measured data under the limit of average detection.

5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 19,2.44G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2997.800	55.60	74.00	-18.40	73.15	-17.55	PK
2	4880.000	48.16	74.00	-25.84	59.99	-11.83	PK
3	7320.000	41.55	54.00	-12.45	45.90	-4.35	AV
4	7320.000	55.55	74.00	-18.45	59.90	-4.35	PK
5	9760.000	56.56	74.00	-17.44	57.83	-1.27	PK
* 6	12200.000	44.54	54.00	-9.46	41.96	2.58	AV
7	12200.000	58.58	74.00	-15.42	56.00	2.58	PK

Note:

1.All reading above 1GHz is performed with peak and/or average measurements as necessary.

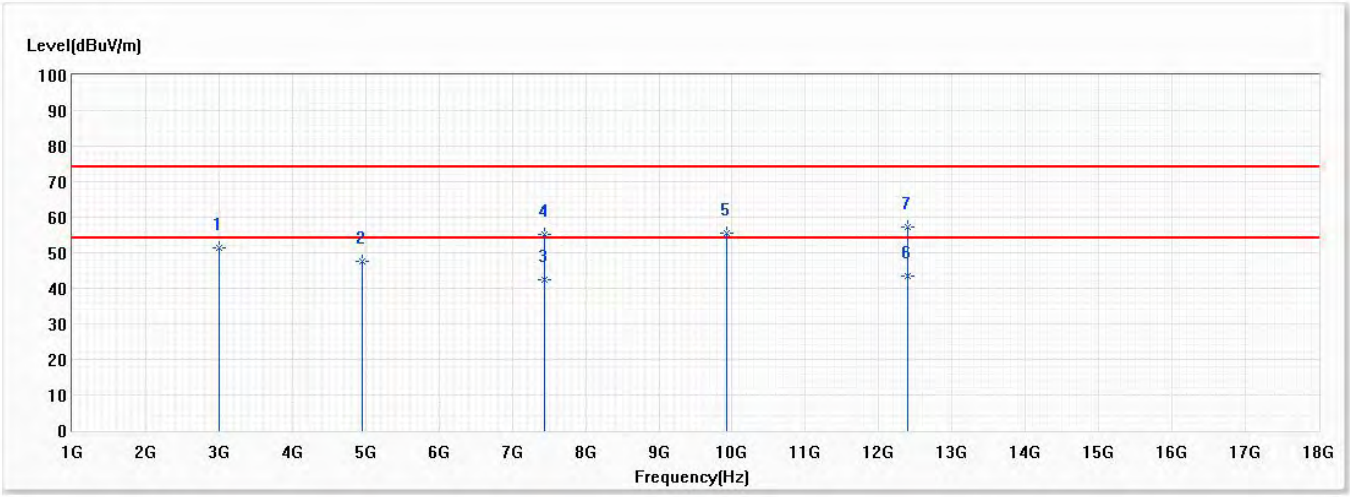
2. “ * ”, means this data is the worst value.

3.Emission Level = Reading Level + Correct Factor.

4.The average measurement was not performed when the peak measured data under the limit of average detection.

5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 39,2.48G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2996.500	51.22	74.00	-22.78	68.78	-17.56	PK
2	4960.000	47.62	74.00	-26.38	59.22	-11.60	PK
3	7440.000	42.35	54.00	-11.65	46.36	-4.01	AV
4	7440.000	55.13	74.00	-18.87	59.14	-4.01	PK
5	9920.000	55.39	74.00	-18.61	56.58	-1.19	PK
* 6	12400.000	43.42	54.00	-10.58	41.08	2.34	AV
7	12400.000	57.32	74.00	-16.68	54.98	2.34	PK

Note:

1.All reading above 1GHz is performed with peak and/or average measurements as necessary.

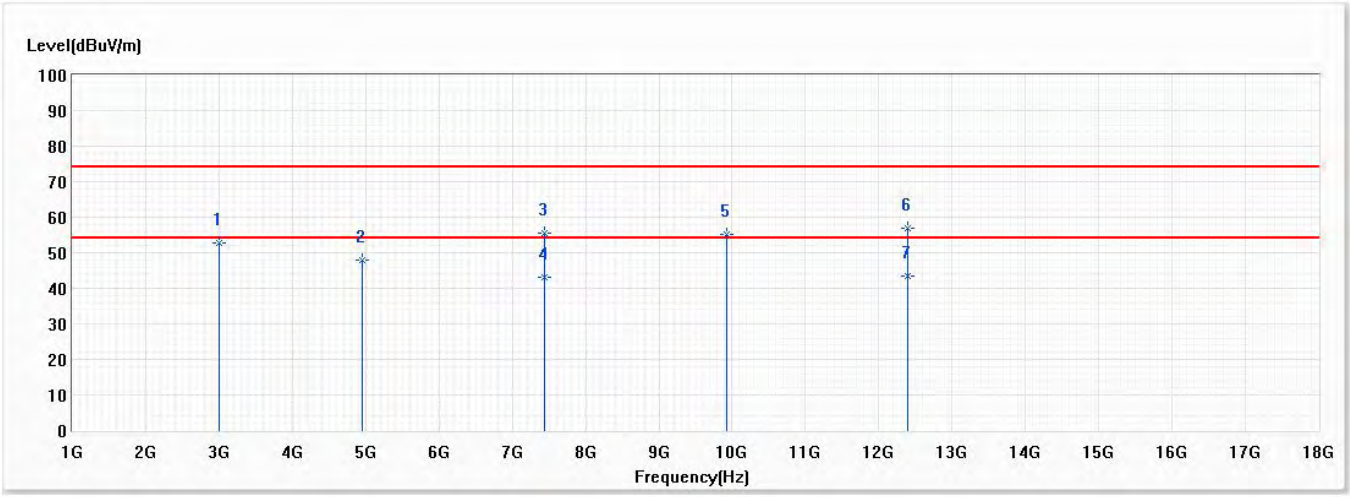
2. “ * ”, means this data is the worst value.

3.Emission Level = Reading Level + Correct Factor.

4.The average measurement was not performed when the peak measured data under the limit of average detection.

5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 39,2.48G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2996.500	52.77	74.00	-21.23	70.33	-17.56	PK
2	4960.000	47.81	74.00	-26.19	59.41	-11.60	PK
3	7440.000	55.48	74.00	-18.52	59.49	-4.01	PK
4	7440.000	43.25	54.00	-10.75	47.26	-4.01	AV
5	9920.000	55.29	74.00	-18.71	56.48	-1.19	PK
6	12400.000	56.86	74.00	-17.14	54.52	2.34	PK
* 7	12400.000	43.58	54.00	-10.42	41.24	2.34	AV

Note:

1.All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. “ * ”, means this data is the worst value.

3.Emission Level = Reading Level + Correct Factor.

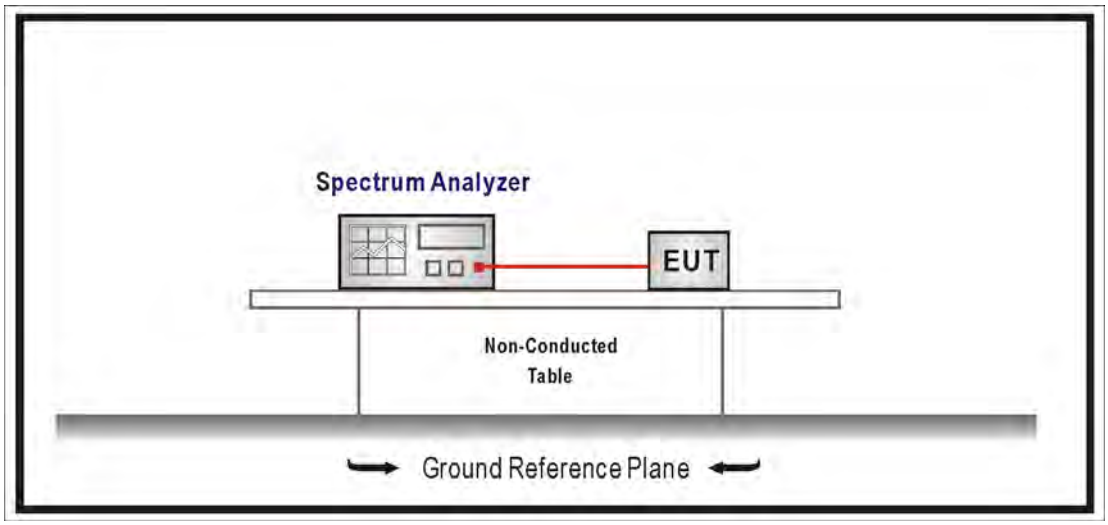
4.The average measurement was not performed when the peak measured data under the limit of average detection.

5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

5. RF antenna conducted test

5.1. Test Setup

RF Conducted Measurement:



5.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

5.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074 D01V05r02 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

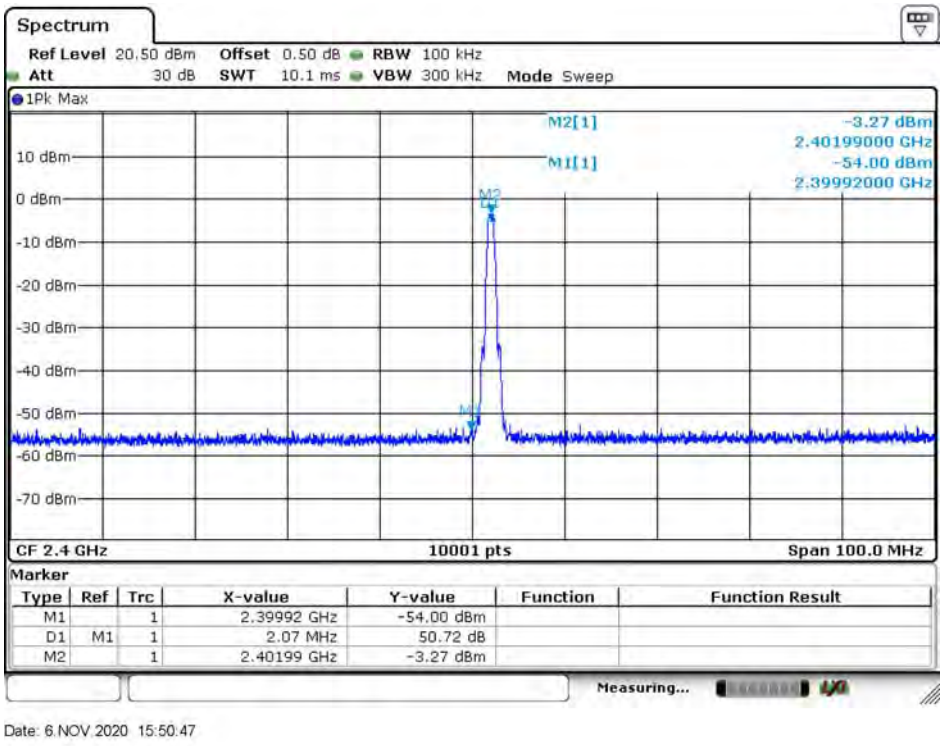
5.5. Test Result

Product	Hex Sense		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/11/06	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	55.0

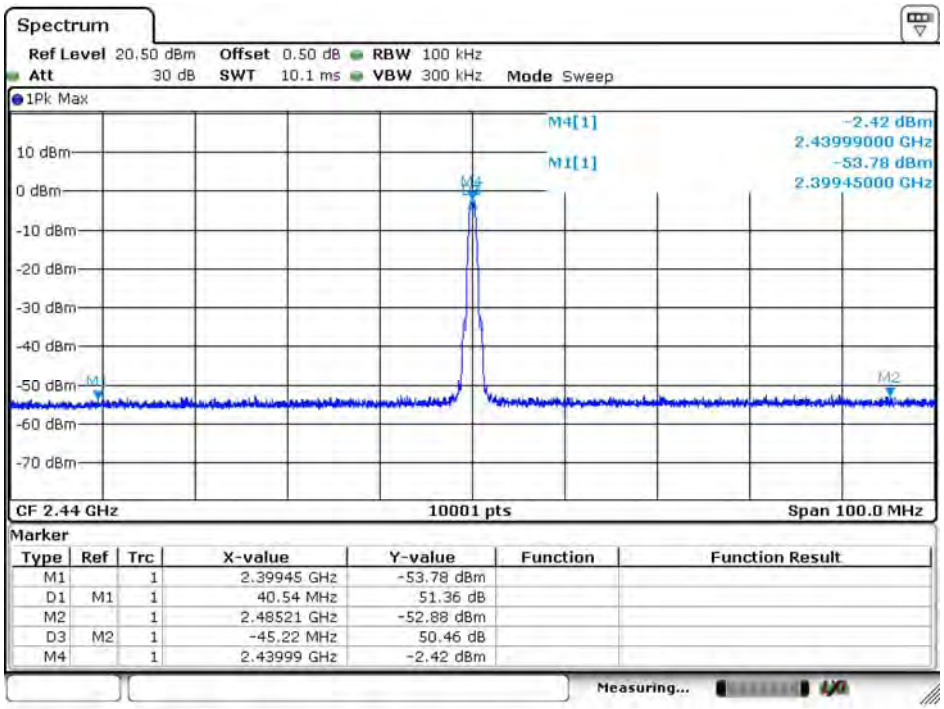
GFSK

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)
00	2402	41.850	≧20
19	2440	42.240	≧20
39	2480	42.770	≧20

Channel 00

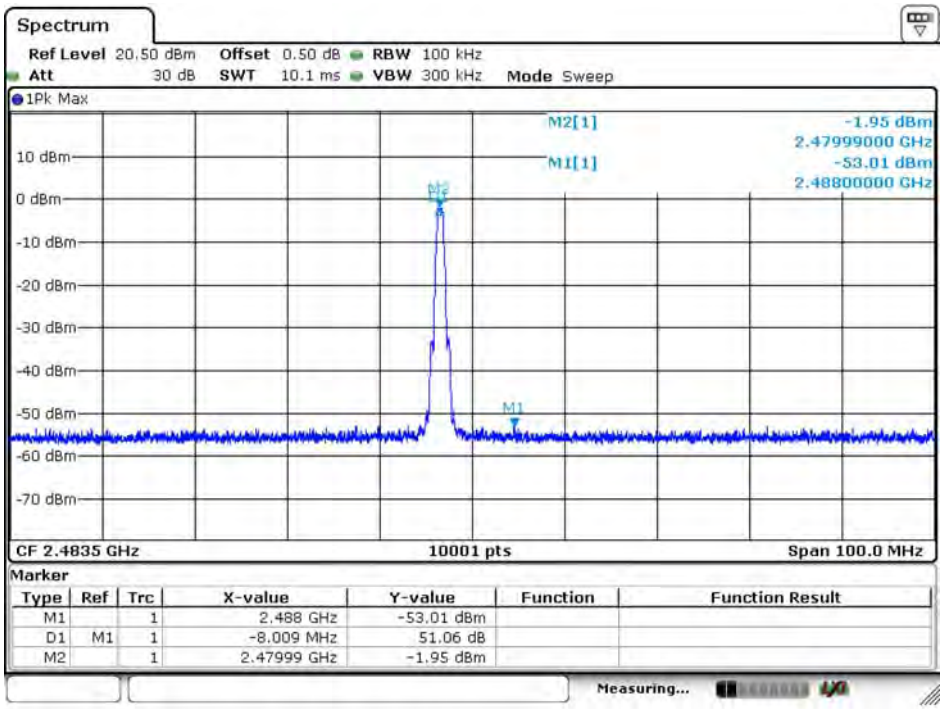


Channel 19



Date: 6.NOV.2020 15:48:40

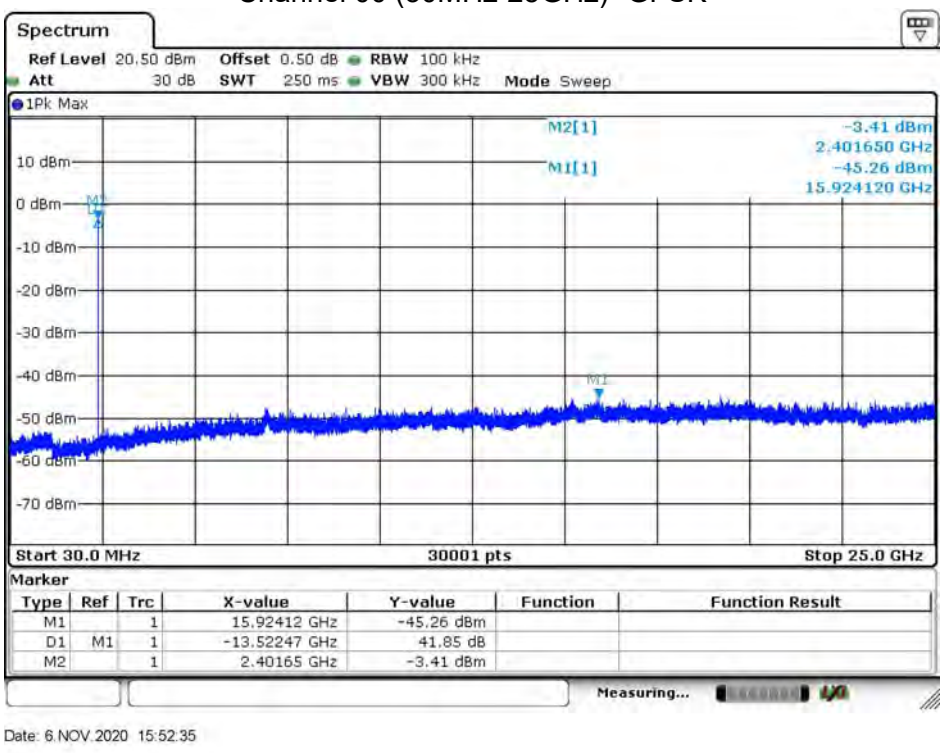
Channel 39



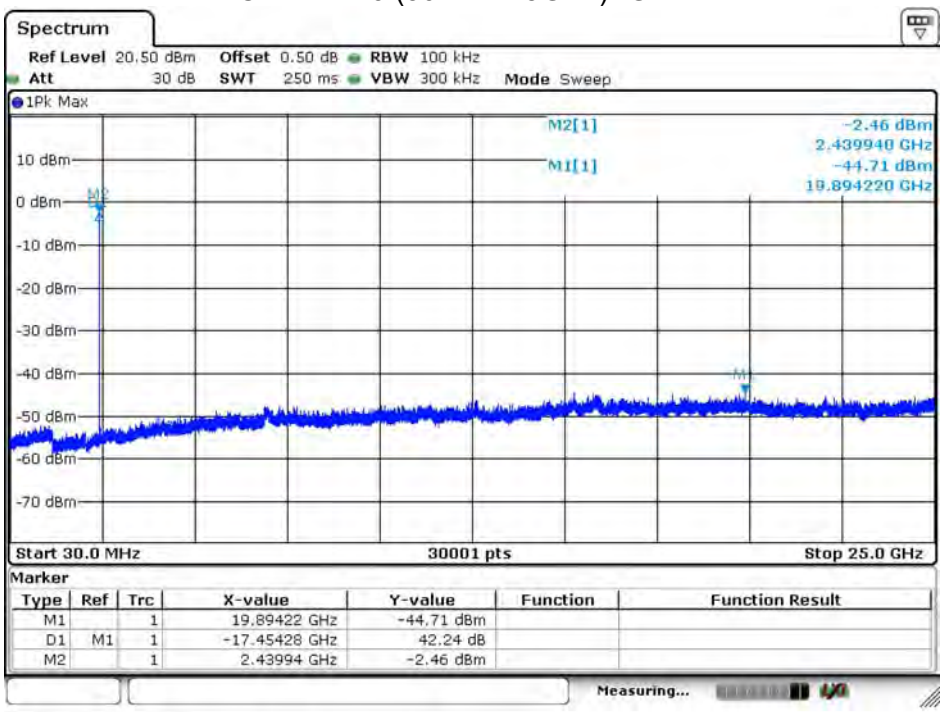
Date: 6.NOV.2020 15:36:57

Product	Hex Sense		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/11/06	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	55.0

Channel 00 (30MHz-25GHz)- GFSK



Channel 19 (30MHz-25GHz)- GFSK



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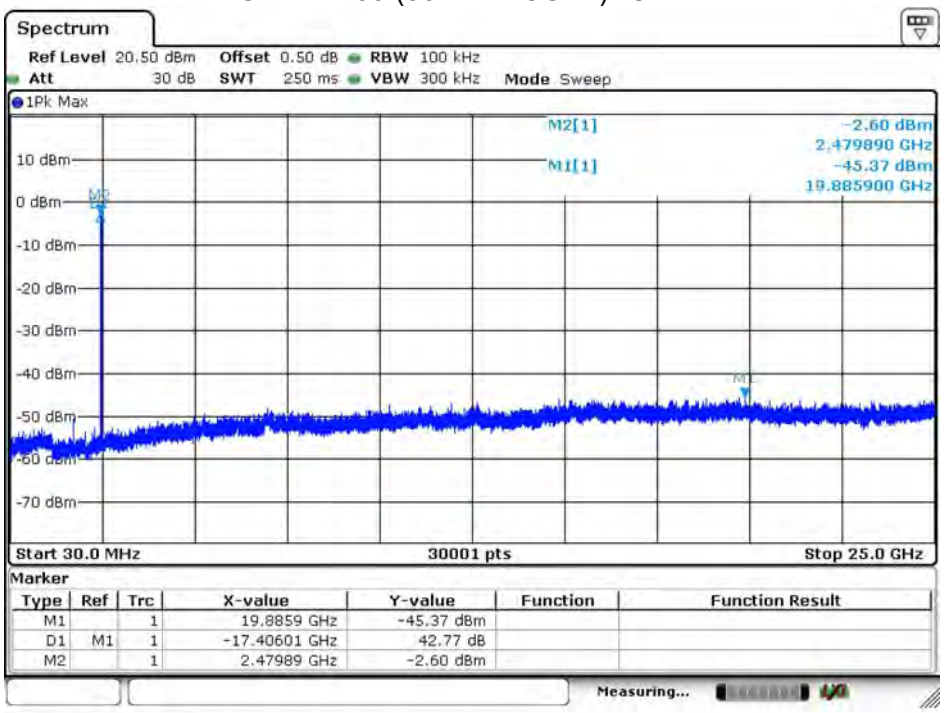
Channel 39 (30MHz-25GHz)- GFSK

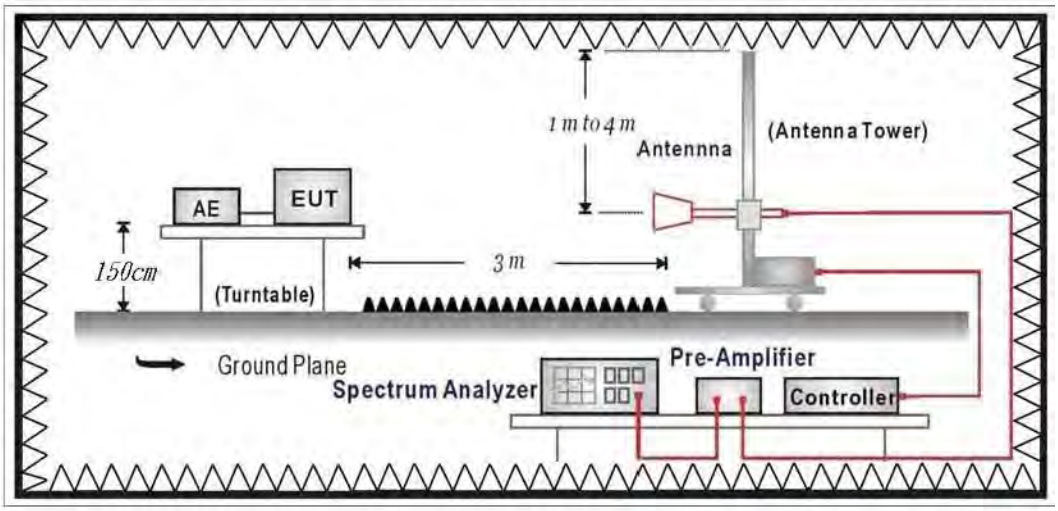


Date: 6.NOV.2020 15:58:01

6. Radiated Emission Band Edge

6.1. Test Setup

RF Radiated Measurement:



6.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.3. Test Procedure

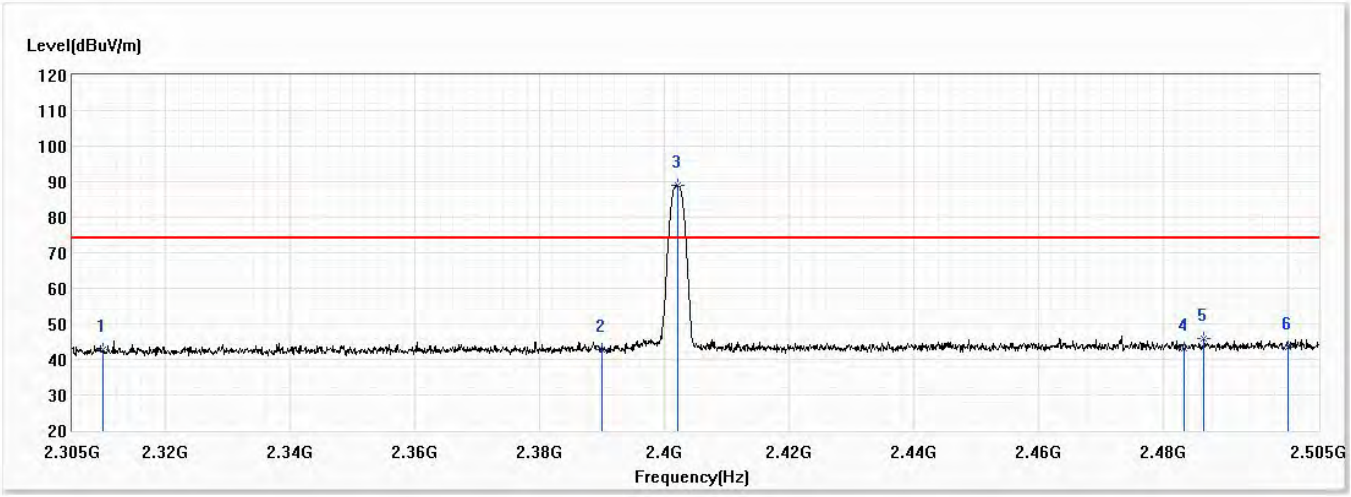
The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074 D01V05r02 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.
The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

6.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

6.5. Test Result

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	42.61	74.00	-31.39	29.46	13.15	PK
2	2390.000	42.67	74.00	-31.33	28.97	13.70	PK
! 3	2402.200	88.81	74.00	14.81	75.02	13.79	PK
4	2483.500	43.19	74.00	-30.81	28.83	14.36	PK
5	2486.600	45.80	74.00	-28.20	31.41	14.39	PK
6	2500.000	43.47	74.00	-30.53	28.99	14.48	PK

Note:

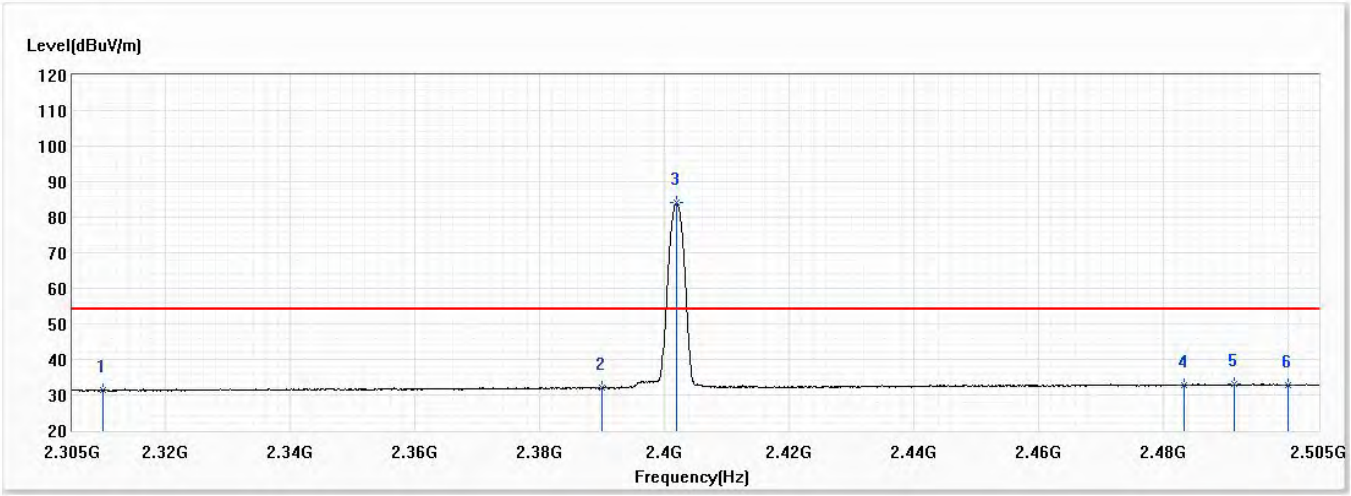
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0

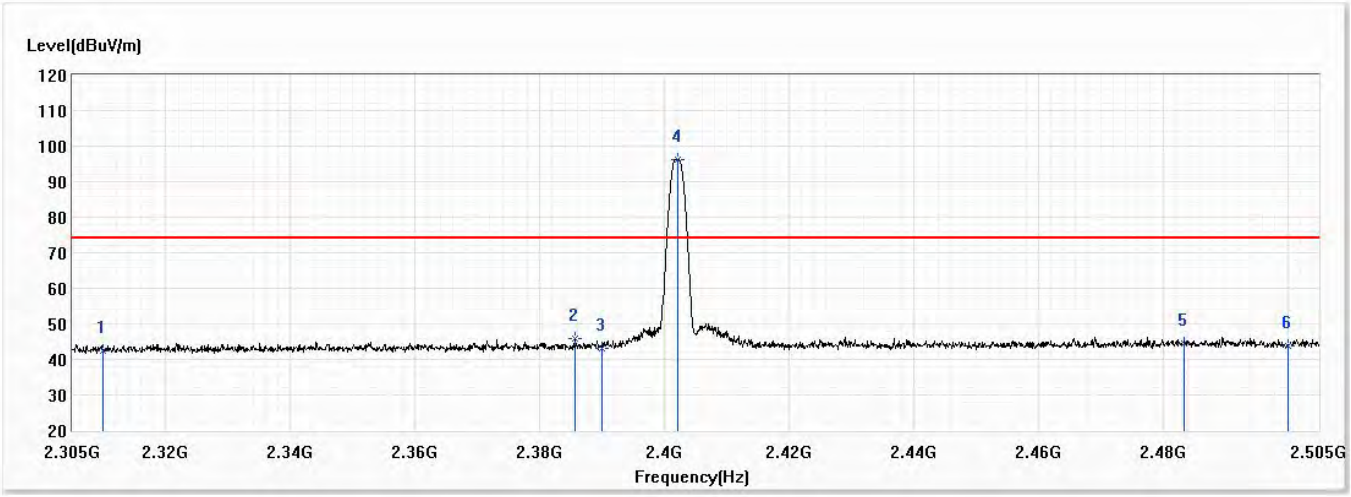


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	31.24	54.00	-22.76	18.09	13.15	AV
2	2390.000	31.94	54.00	-22.06	18.24	13.70	AV
! 3	2402.000	84.00	54.00	30.00	70.21	13.79	AV
4	2483.500	32.68	54.00	-21.32	18.32	14.36	AV
5	2491.400	33.02	54.00	-20.98	18.61	14.41	AV
6	2500.000	32.72	54.00	-21.28	18.24	14.48	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0

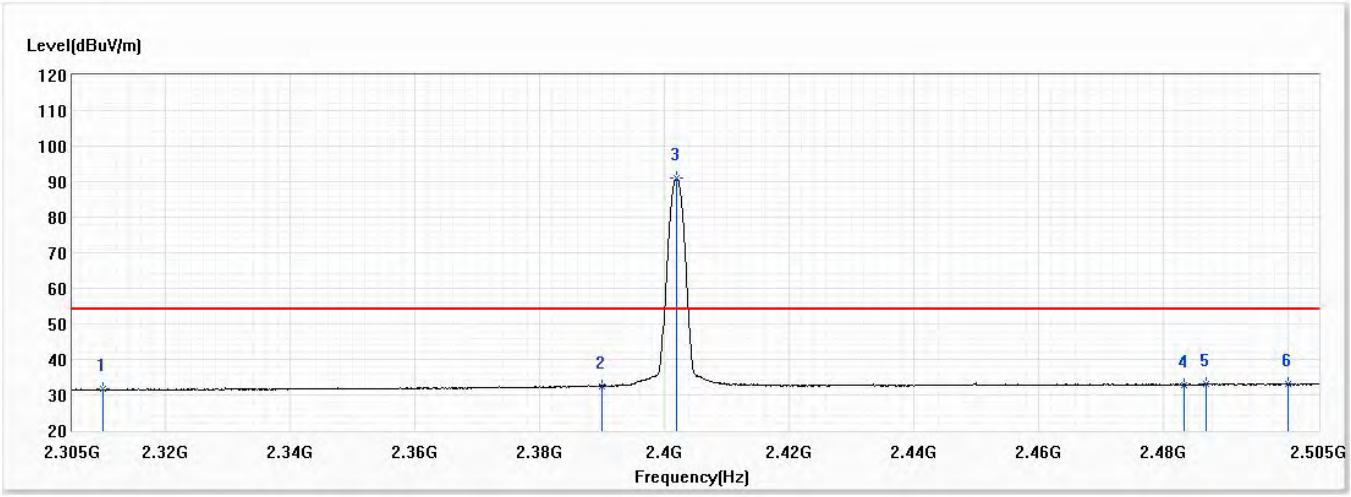


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	42.54	74.00	-31.46	29.39	13.15	PK
2	2385.700	45.91	74.00	-28.09	32.24	13.67	PK
3	2390.000	43.10	74.00	-30.90	29.40	13.70	PK
! 4	2402.200	96.21	74.00	22.21	82.42	13.79	PK
5	2483.500	44.62	74.00	-29.38	30.26	14.36	PK
6	2500.000	43.94	74.00	-30.06	29.46	14.48	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 0,2.402G	Humidity (%RH)	58.0

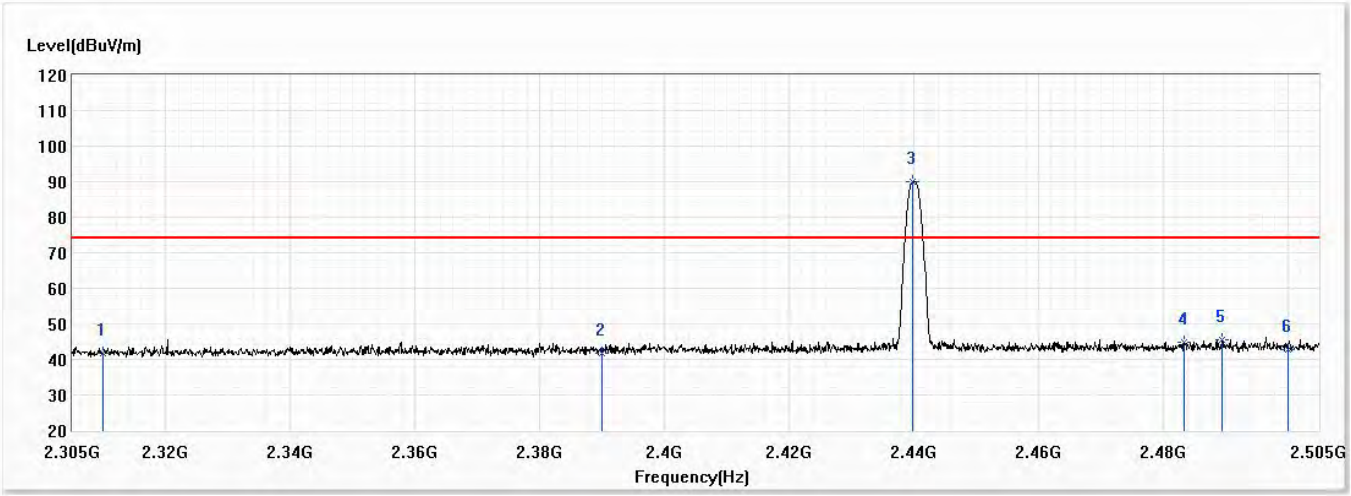


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	31.63	54.00	-22.37	18.48	13.15	AV
2	2390.000	32.51	54.00	-21.49	18.81	13.70	AV
! 3	2401.900	90.95	54.00	36.95	77.16	13.79	AV
4	2483.500	32.89	54.00	-21.11	18.53	14.36	AV
5	2486.900	33.16	54.00	-20.84	18.77	14.39	AV
6	2500.000	33.04	54.00	-20.96	18.56	14.48	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 19,2.44G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	41.61	74.00	-32.39	28.46	13.15	PK
2	2390.000	41.65	74.00	-32.35	27.95	13.70	PK
! 3	2439.900	89.89	74.00	15.89	75.84	14.05	PK
4	2483.500	45.00	74.00	-29.00	30.64	14.36	PK
5	2489.500	45.42	74.00	-28.58	31.02	14.40	PK
6	2500.000	42.81	74.00	-31.19	28.33	14.48	PK

Note:

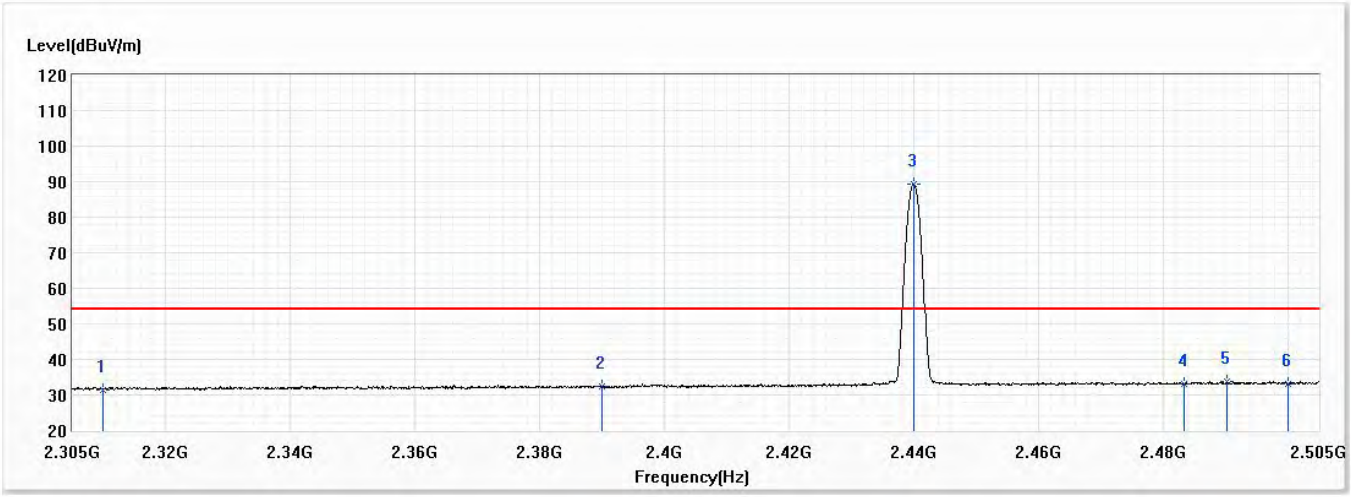
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 19,2.44G	Humidity (%RH)	58.0

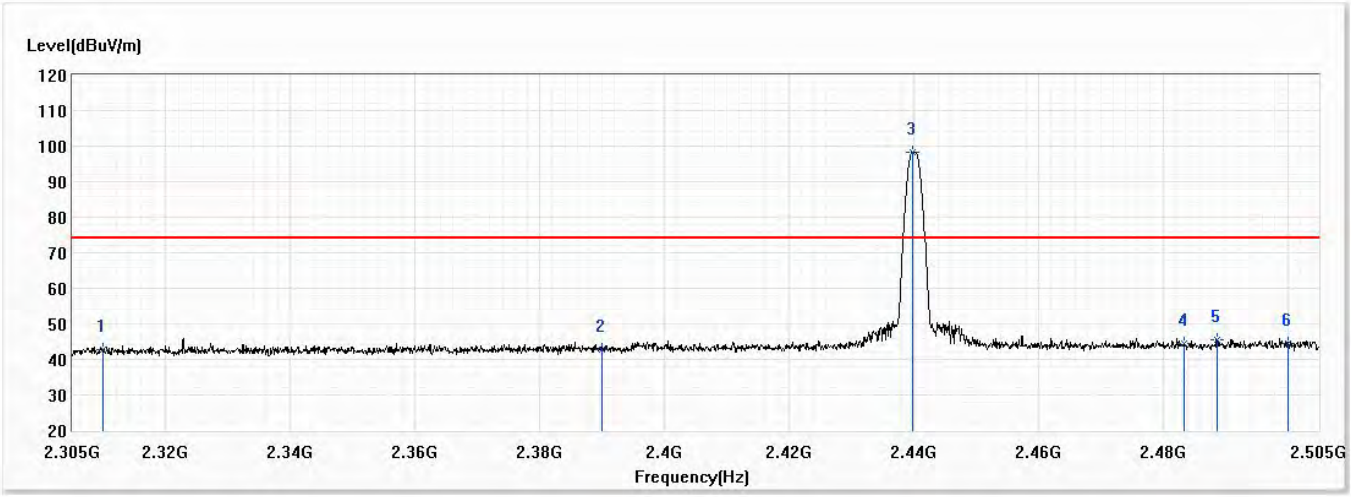


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	31.50	54.00	-22.50	18.35	13.15	AV
2	2390.000	32.41	54.00	-21.59	18.71	13.70	AV
! 3	2440.000	89.35	54.00	35.35	75.30	14.05	AV
4	2483.500	33.17	54.00	-20.83	18.81	14.36	AV
5	2490.200	33.92	54.00	-20.08	19.52	14.40	AV
6	2500.000	33.16	54.00	-20.84	18.68	14.48	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 19,2.44G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	42.92	74.00	-31.08	29.77	13.15	PK
2	2390.000	42.77	74.00	-31.23	29.07	13.70	PK
! 3	2439.900	98.30	74.00	24.30	84.25	14.05	PK
4	2483.500	44.41	74.00	-29.59	30.05	14.36	PK
5	2488.700	45.66	74.00	-28.34	31.26	14.40	PK
6	2500.000	44.50	74.00	-29.50	30.02	14.48	PK

Note:

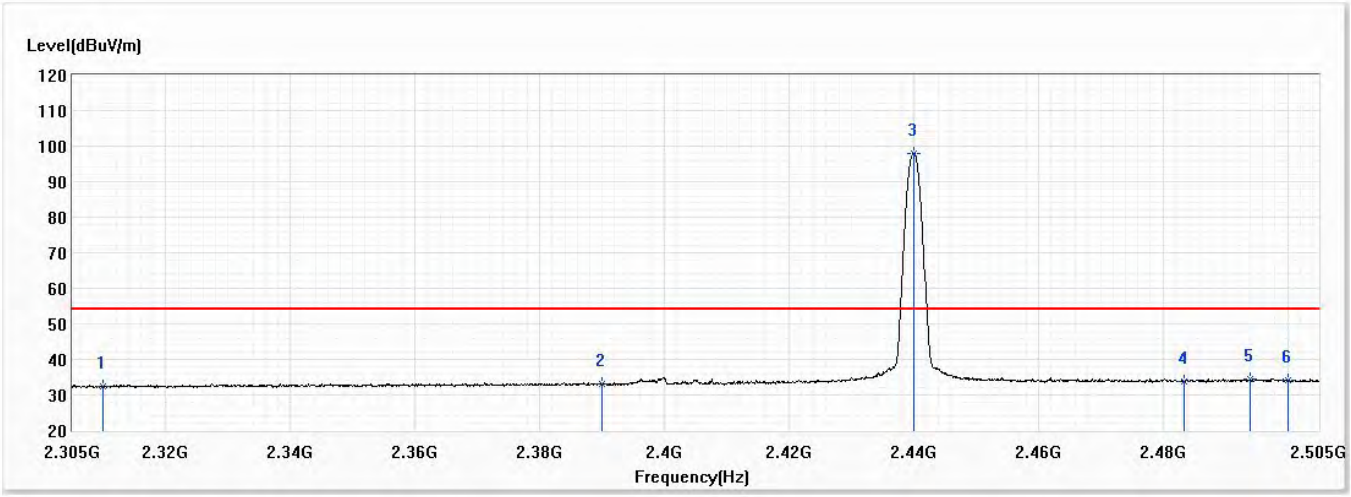
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 19,2.44G	Humidity (%RH)	58.0

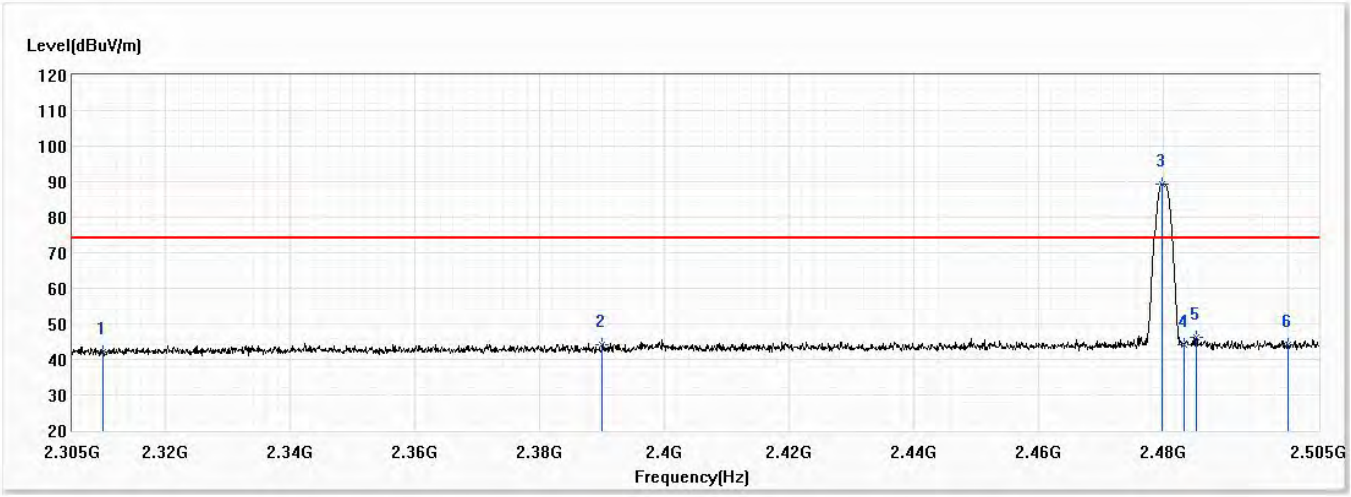


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	32.26	54.00	-21.74	19.11	13.15	AV
2	2390.000	33.06	54.00	-20.94	19.36	13.70	AV
! 3	2440.100	98.00	54.00	44.00	83.95	14.05	AV
4	2483.500	33.88	54.00	-20.12	19.52	14.36	AV
5	2494.000	34.39	54.00	-19.61	19.95	14.44	AV
6	2500.000	34.07	54.00	-19.93	19.59	14.48	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 39,2.48G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	41.98	74.00	-32.02	28.83	13.15	PK
2	2390.000	44.28	74.00	-29.72	30.58	13.70	PK
! 3	2479.900	89.31	74.00	15.31	74.97	14.34	PK
4	2483.500	43.99	74.00	-30.01	29.63	14.36	PK
5	2485.300	46.04	74.00	-27.96	31.67	14.37	PK
6	2500.000	44.17	74.00	-29.83	29.69	14.48	PK

Note:

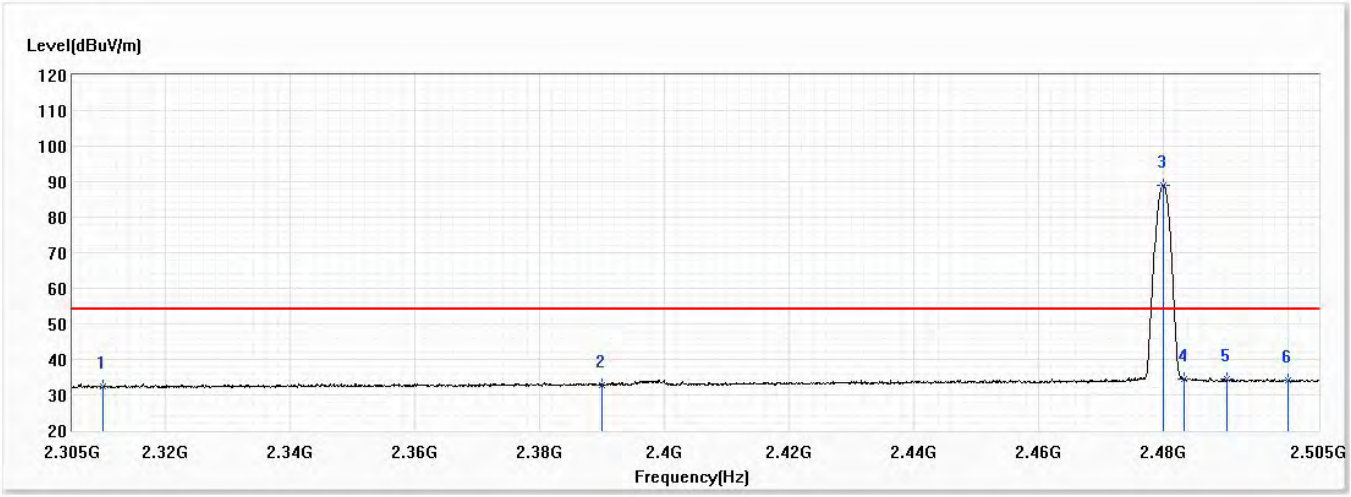
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Horizontal	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 39,2.48G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	32.46	54.00	-21.54	19.31	13.15	AV
2	2390.000	32.74	54.00	-21.26	19.04	13.70	AV
! 3	2480.000	88.94	54.00	34.94	74.60	14.34	AV
4	2483.500	34.43	54.00	-19.57	20.07	14.36	AV
5	2490.300	34.41	54.00	-19.59	20.00	14.41	AV
6	2500.000	34.02	54.00	-19.98	19.54	14.48	AV

Note:

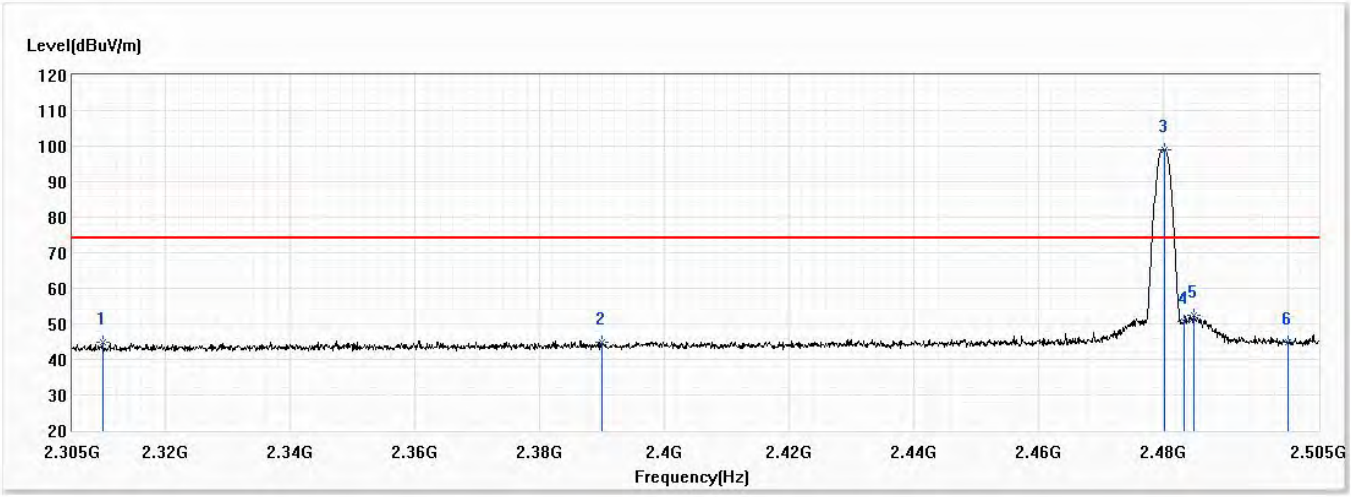
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 39,2.48G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	44.79	74.00	-29.21	31.64	13.15	PK
2	2390.000	44.79	74.00	-29.21	31.09	13.70	PK
! 3	2480.200	98.92	74.00	24.92	84.58	14.34	PK
4	2483.500	50.62	74.00	-23.38	36.26	14.36	PK
5	2484.900	52.39	74.00	-21.61	38.02	14.37	PK
6	2500.000	44.79	74.00	-29.21	30.31	14.48	PK

Note:

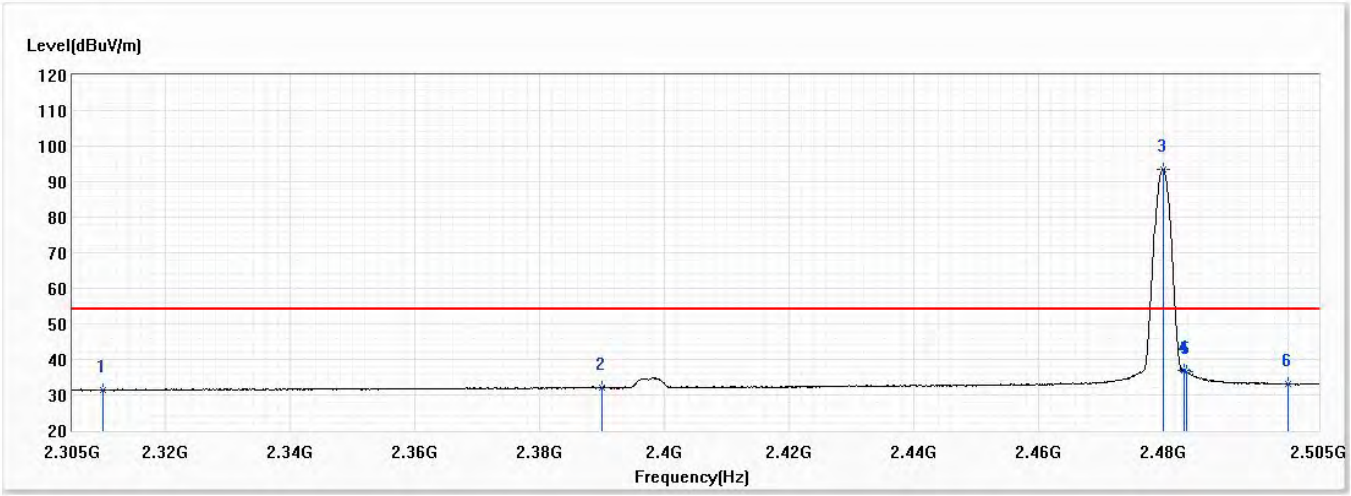
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Model No	Hex Sense	Site	CB4-H
Test Voltage	AC 120V/60Hz	Test Date	2020/11/3
Test Mode	Mode 1: Transmit Mode	Engineer	Scott Chang
Polarity	Vertical	Temperature (℃)	25.1
Test Condition	BLE,Ant0,Ch 39,2.48G	Humidity (%RH)	58.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2310.000	31.31	54.00	-22.69	18.16	13.15	AV
2	2390.000	31.97	54.00	-22.03	18.27	13.70	AV
! 3	2480.000	93.50	54.00	39.50	79.16	14.34	AV
4	2483.500	36.79	54.00	-17.21	22.43	14.36	AV
5	2483.800	36.53	54.00	-17.47	22.17	14.36	AV
6	2500.000	33.04	54.00	-20.96	18.56	14.48	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.

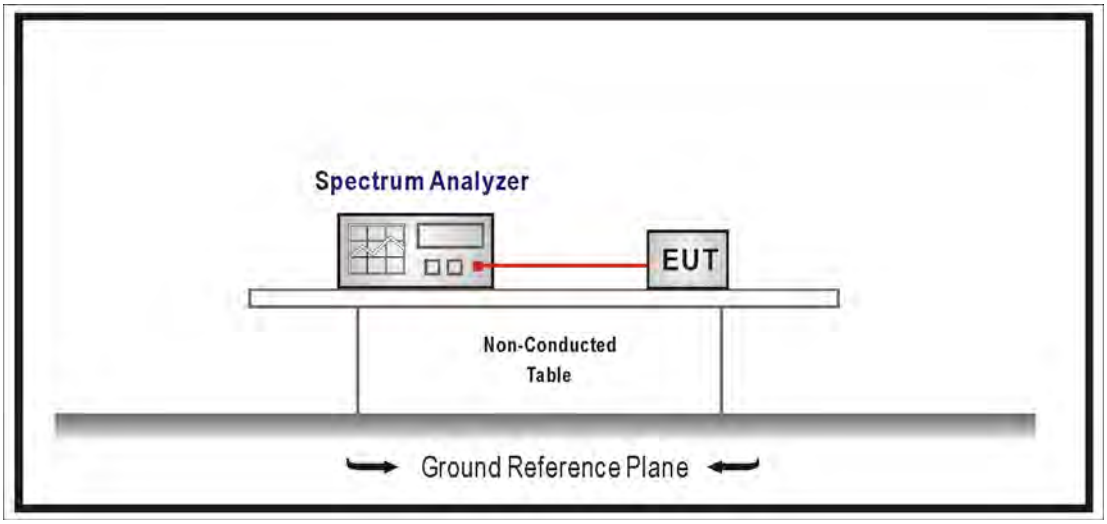
2. Emission Level = Reading Level + Correct Factor.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

4. The fundamental for reference only, it’s not restricted by unwanted emission limit.

7. Occupied Bandwidth & DTS Bandwidth

7.1. Test Setup



7.2. Limits

The 6 dB bandwidth: ≧ 500 kHz.

Occupied Bandwidth: NA

7.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074 D01V05r02 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Specification

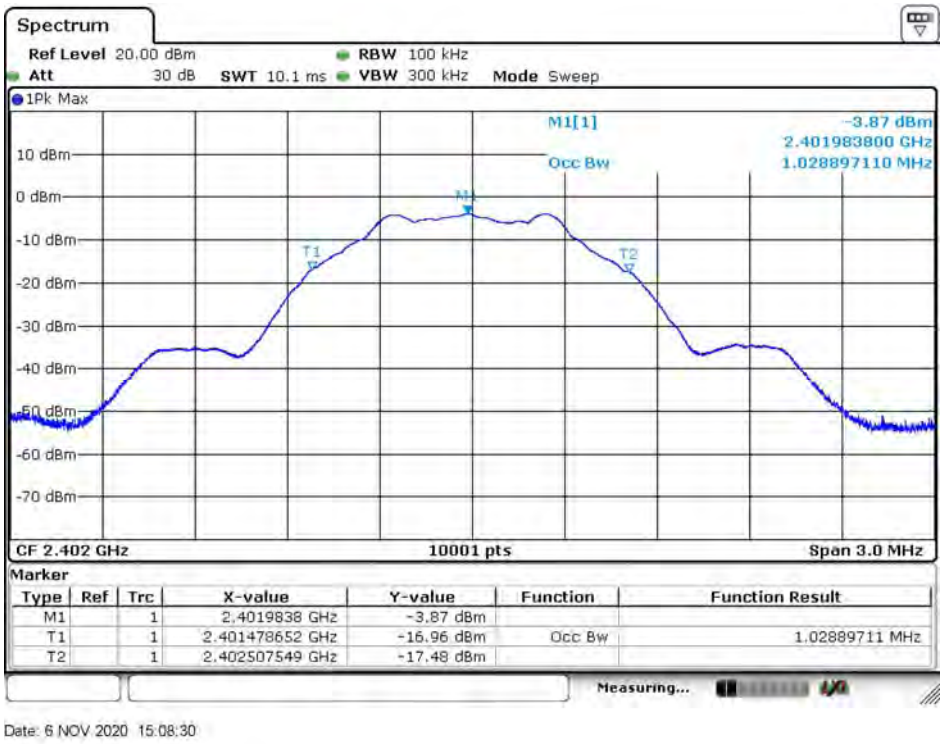
According to FCC Part 15 Subpart C Paragraph 15.247: 2019

7.5. Test Result

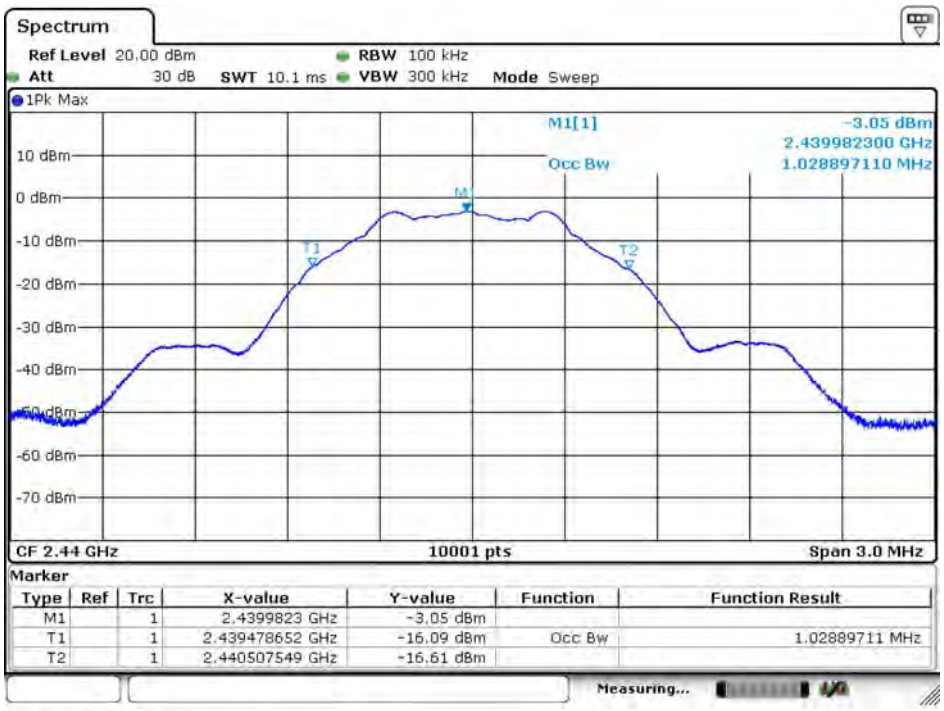
Product	Hex Sense		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/11/06	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	55.0

Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
0	2402	1.029	--
19	2440	1.029	--
39	2480	1.027	--

Channel 00

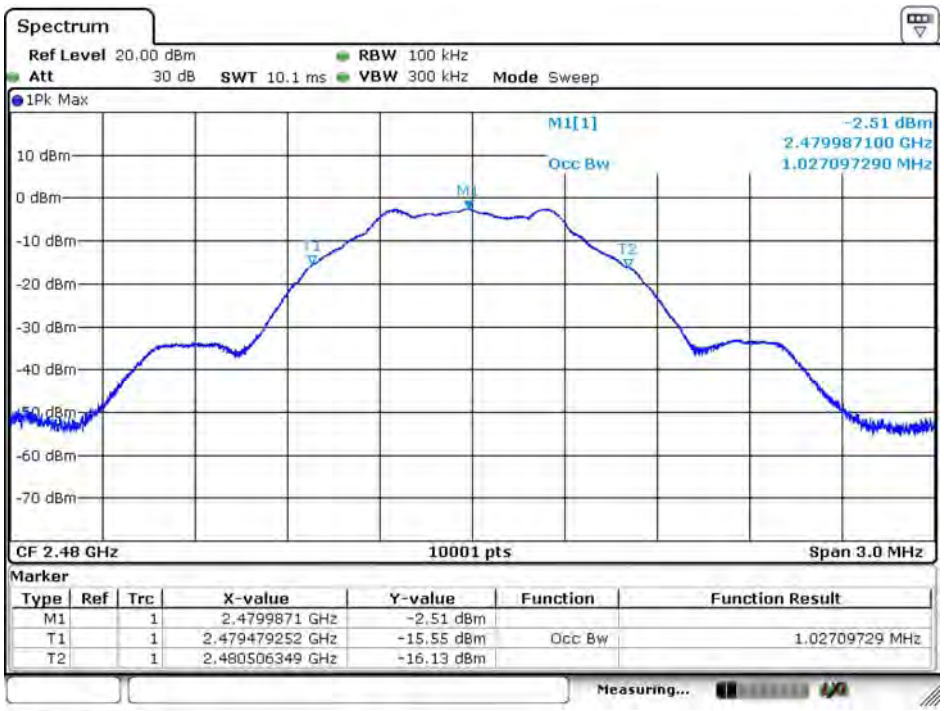


Channel 19



Date: 6.NOV.2020 15:06:48

Channel 39

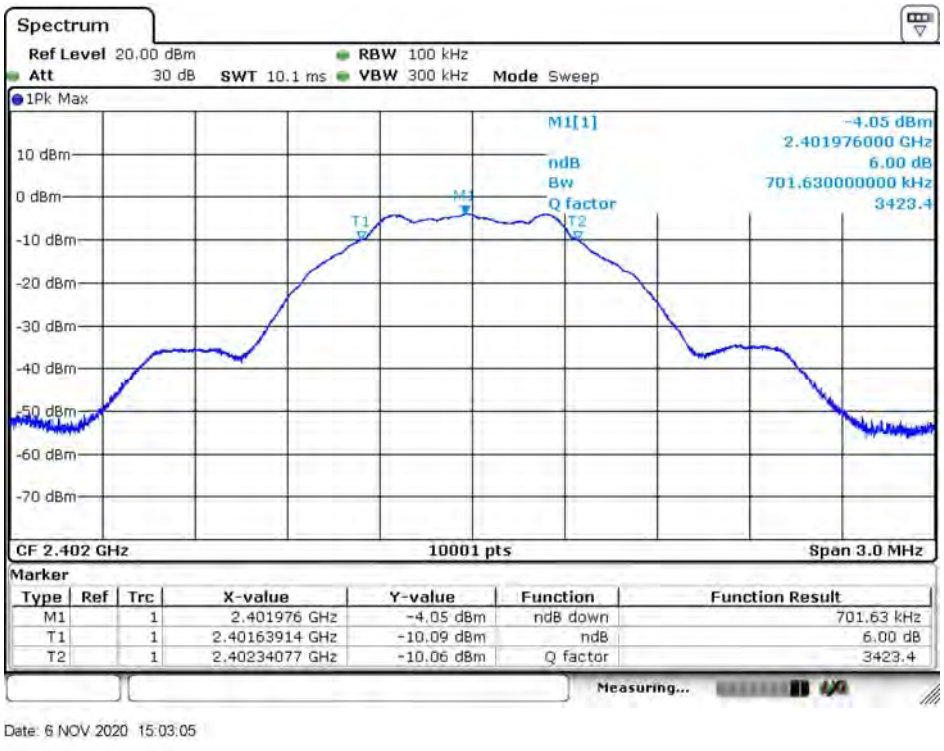


Date: 6.NOV.2020 15:05:02

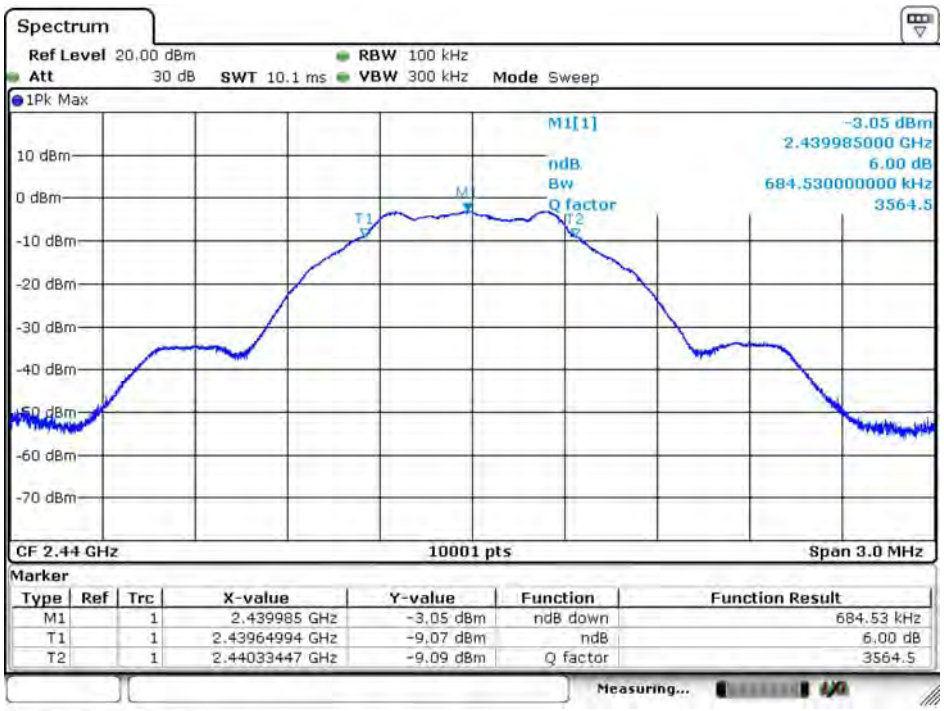
Product	Hex Sense		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/11/06	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	55.0

Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
0	2402	0.702	≧0.5
19	2440	0.685	≧0.5
39	2480	0.688	≧0.5

Channel 00



Channel 19



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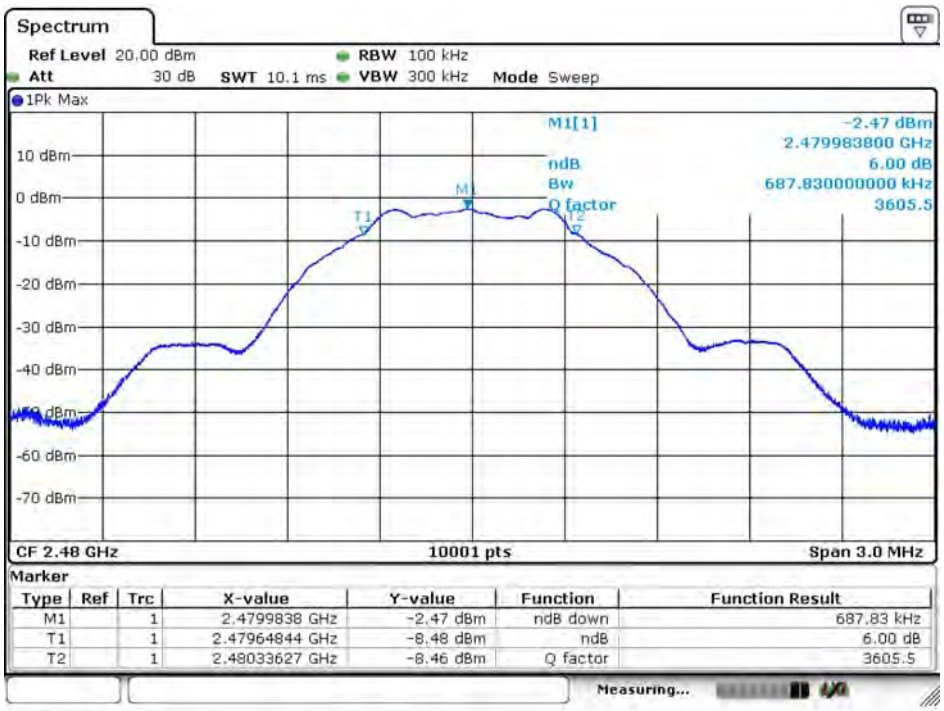
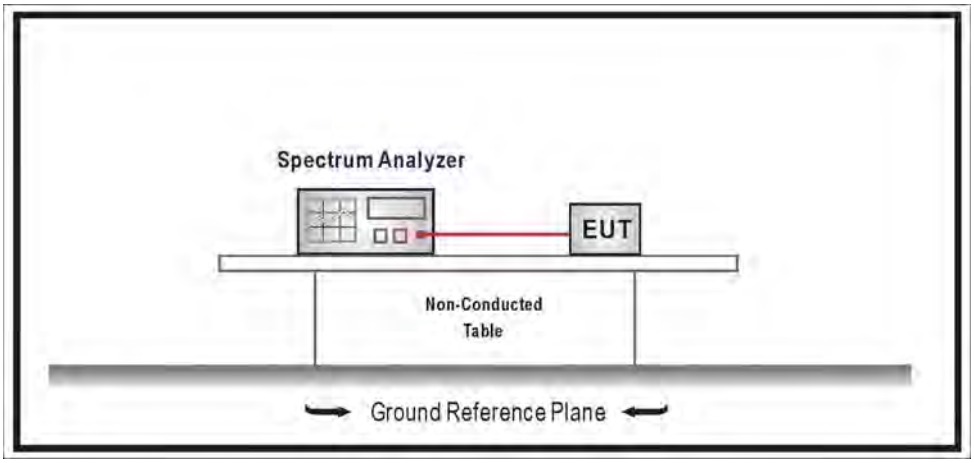
Channel 39



Date: 6.NOV.2020 15:04:32

8. Power Density

8.1. Test Setup



8.2. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

8.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074 D01V05r02 for compliance to FCC 47CFR 15.247 requirements.

8.4. Test Specification

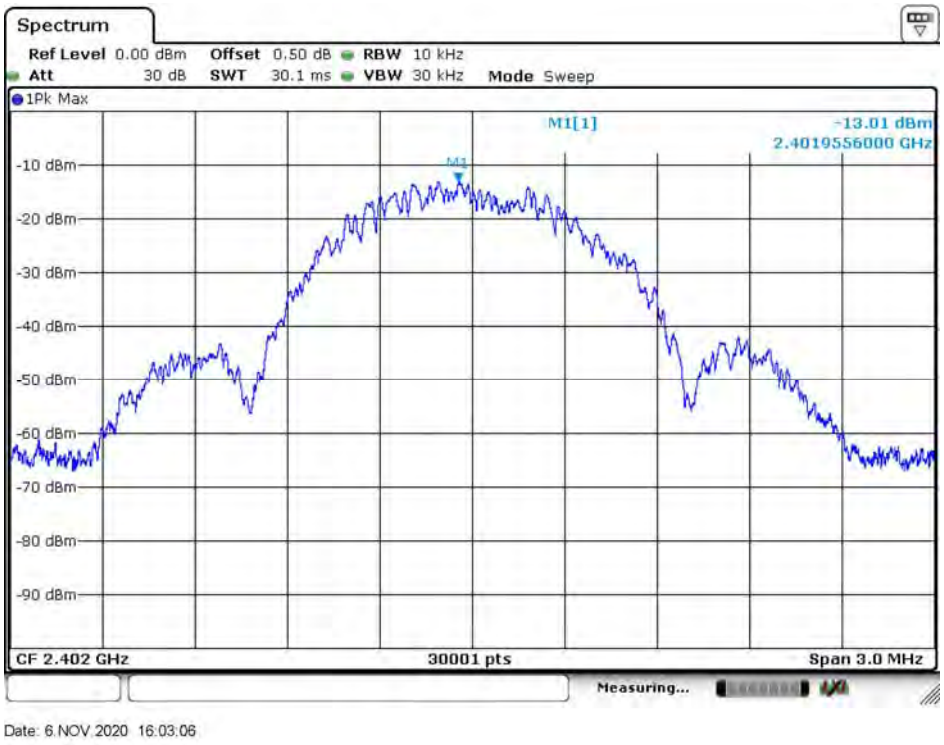
According to FCC Part 15 Subpart C Paragraph 15.247

8.5. Test Result

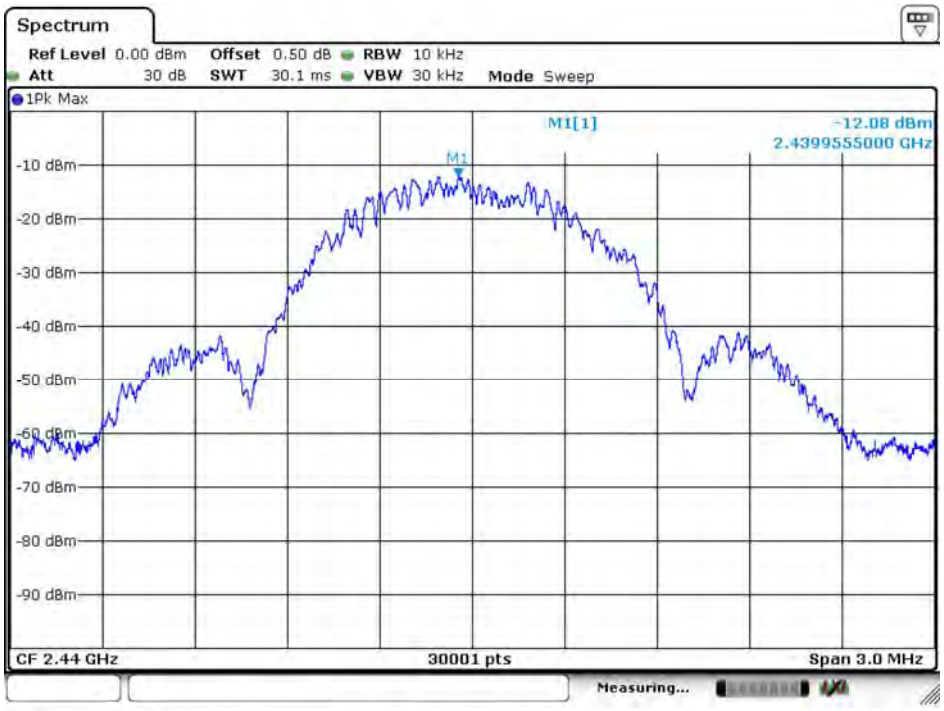
Product	Hex Sense		
Test Item	Power Density		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/11/06	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	55.0

Channel No.	Frequency (MHz)	Measure Value (dBm/10kHz)	Limit (dBm/10kHz)
00	2402	-13.010	≦8.000
19	2440	-12.080	≦8.000
39	2480	-11.640	≦8.000

Channel 00



Channel 19



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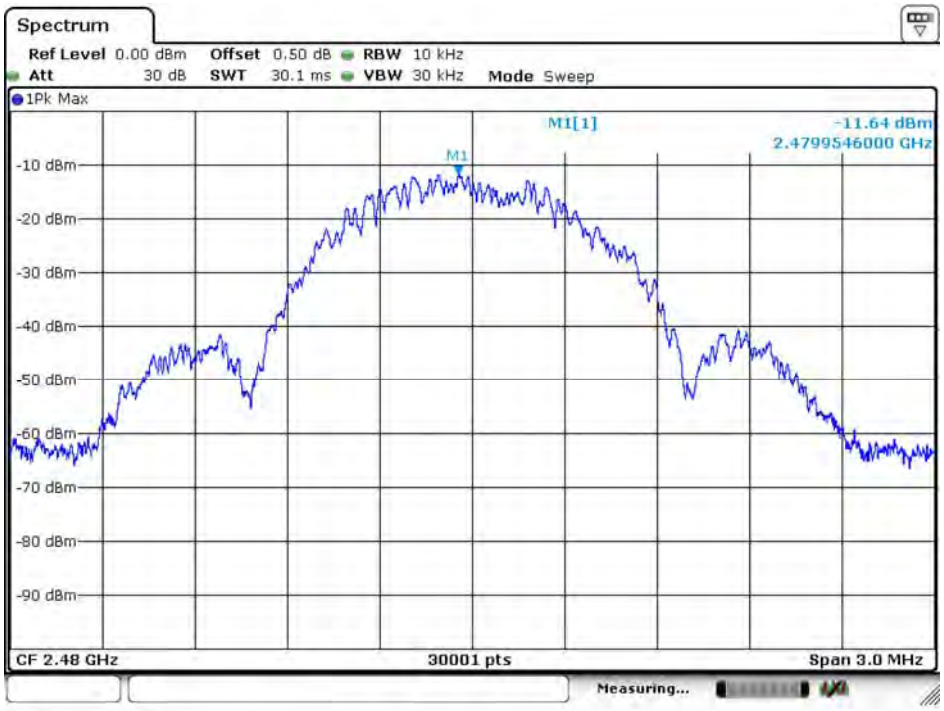
Channel 39



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