

Test Report No.:
FCC2021-0008-4

RF Test Report

EUT : LC300 LTE CPE

MODEL : LC300,LC300SV,LC300CA, LC300A,
LC300B, LC300C, LC300D

BRAND NAME : sunvot

CLIENT : Ningbo Sunvot Technology Co., Ltd

Classification Of Test : Commission Test

Vkan Certification & Testing Co., Ltd.



Test Report No.: FCC2021-0008-4		Page 2 of 127	
Client		Name : Ningbo Sunvot Technology Co., Ltd Address : Building 3, NO 55 Longtan Shan Road, Beilun Daqi, Ningbo, Zhejiang	
Manufacturer		Name : Ningbo Sunvot Technology Co., Ltd Address : Building 3, NO 55 Longtan Shan Road, Beilun Daqi, Ningbo, Zhejiang	
Equipment Under Test		Name : LC300 LTE CPE Model/Type: LC300, LC300SV, LC300CA, LC300A, LC300B, LC300C, LC300D Trade mark : sunvot Serial NO.: N/A Sample NO.: 1-1	
Date of Receipt.	2021.04.27	Date of Testing	2021.03.19~2021.04.27
Test Specification		Test Result	
FCC Part 15, Subpart C, Section 15.247		PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied. Issue Date: 2021.04.27	
Tested by: Zhu Cheng <i>zhu cheng</i> Name Signature	Reviewed by: <i>Cheng Xiaochuan</i> Cheng Xiao Chuan Name Signature	Approved by: Dong San Bi <i>Dong Sanbi</i> Name Signature	
Other Aspects: NONE.			
Abbreviations: OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			
This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.			



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2021-0008-4	Original release	2021.04.27

1 GENERAL INFORMATION

1.1 GENERAL PRODUCT INFORMATION

PRODUCT	LC300 LTE CPE
BRAND	sunvot
MODEL	LC300
ADDITIONAL MODEL	LC300SV,LC300CA, LC300A, LC300B, LC300C, LC300D
FCC ID	2AZGN-LC300-202103
POWER SUPPLY	DC 48V From Adapter input AC120V/60Hz
MODULATIONTECHNOLOGY	DSSS, OFDM
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
OPERATING FREQUENCY	2412MHz ~ 2462MHz for 11b/g/n(HT20) 2422MHz ~ 2452MHz for 11n(HT40)
NUMBER OF CHANNEL	802.11b/g/n (HT20): 11 802.11n (HT40): 7
PEAK OUTPUT POWER	WLAN: 23.25dBm (Maximum)
ANTENNA TYPE	External Antenna , 2dBi Gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

Remark:

- For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- Additional models (see about table)are identical with the test model LC300SV,LC300CA, LC300A, LC300B, LC300C, LC300D except the color of the appearance and model name for trading purpose.
- Please refer to the EUT photo document (Reference No.: FCC2021-0008) for detailed product photo.
- The EUT have SISO function, provides 2completed transmitter and 2 receiver.

MODULATION MODE	TX FUNCTION
802.11b	2TX/2RX
802.11g	2TX/2RX
802.11n (HT20)	2TX/2RX
802.11n (HT40)	2TX/2RX

1.2 Description of Accessories

Adapter	
BRAND	N/A
Model No.:	KT241480050US
Input:	100-240V~50/60Hz 0.8A
Output:	48V $\equiv$ 0.5A
AC Cable:	N/A
DC Cable:	1.40 Meter, Unshielded without ferrite

1.3 OTHER INFORMATION

Operating frequency of each channel

2.4G WIFI					
802.11b/g/n (HT20)					
CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447		
802.11n (HT40)					
3	2422	6	2437	9	2452
4	2427	7	2442		
5	2432	8	2447		

Note:

- The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore only the data of the test channels were recorded in this report.

1.4 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports

EUT CONFIGURE MODE	APPLICABLE TEST ITEMS				DESCRIPTION
	RE<1G	RE≥1G	PLC	APCM	
A	√	√	√	√	2.4G WIFI Function

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

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

**RADIATED EMISSION TEST (BELOW 1 GHz):**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type.
- ☒ The worst case was found when positioned on x axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	6	DSSS	DBPSK	6.0

For the test results, only the worst case was shown in test report.

RADIATED EMISSION TEST (ABOVE 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type.
- ☒ The worst case was found when positioned on x axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n(HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5

POWER LINE CONDUCTED EMISSION TEST:

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

EUT CONFIGURE MODE	TESTED CONDITION
-	WIFI (2.4G) Link

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



EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n(HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE (SYSTEM)	TESTED BY
RE<1G	25deg. C, 55%RH	AC 120V/60Hz	Zhu Yu Lin
RE≥1G	25deg. C, 55%RH	AC 120V/60Hz	Zhu Yu Lin
PLC	25deg. C, 55%RH	AC 120V/60Hz	Zhu Yu Lin
APCM	25deg. C, 60%RH	AC 120V/60Hz	Zhu Yu Lin



1.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC PART 15, Subpart C. Section 15.247
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2013

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

1.6 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.

Support Equipment							
NO	Description	Brand	Model No.	Serial Number	Supplied by		
N/A	N/A	N/A	N/A	N/A	N/A		
Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

PPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Meet the requirement of limit.

2.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Refer to Appendix B.

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

No.	ITEM	FREQUENCY	UNCERTAINTY
1	Conducted emissions	9kHz~30MHz	2.7dB
2	Radiated emissions	9KHz ~ 30MHz	5.6dB
		30MHz ~ 1GMHz	4.6dB
		1GHz ~ 18GHz	4.4dB
		18GHz ~ 40GHz	4.6dB

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

2.3 TEST LOCATION

CVC Testing Technology Co., Ltd.

No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangdong, China

Test Firm Registration Number: 937273

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 Limit

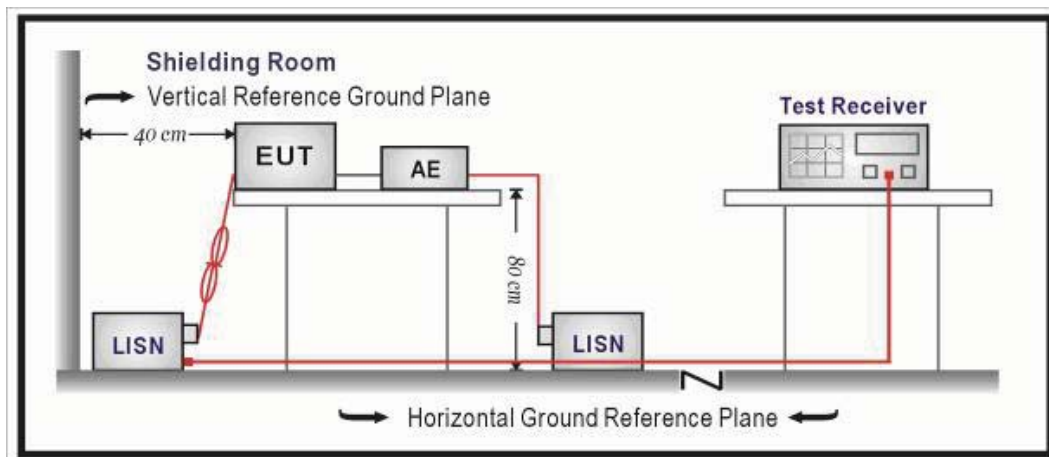
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.
NOTE: 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3.1.2 Measurement procedure

- The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the Test photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. The equipment under test shall be placed on a support of non-metallic material, the height of which shall be 1.5m above the ground,
- The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

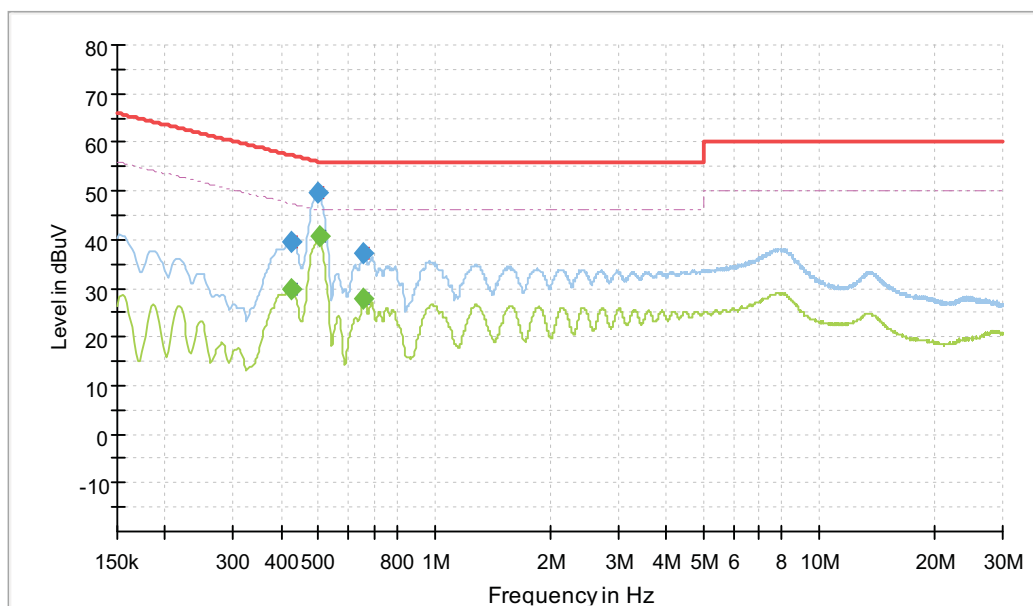
3.1.3 Test setup



3.1.4 Test results

CONDUCTED WORST-CASE DATA: WIFI (2.4G) Link

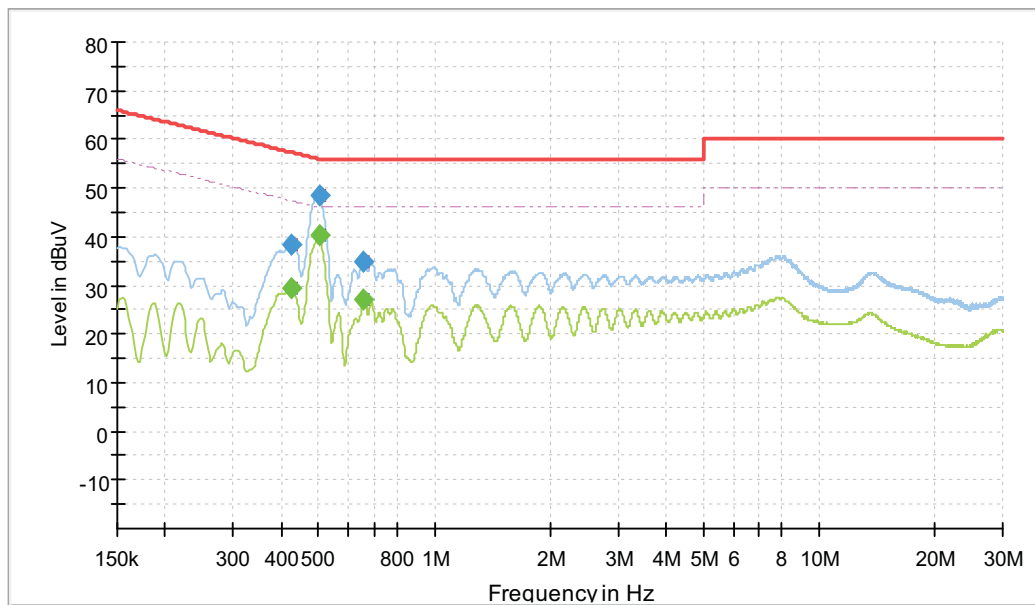
Test Mode	WIFI (2.4G) Link		
Frequency Range	150KHz ~ 30MHz	PHASE	Line (L)



NO.	Frequency (MHz)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Corr. (dB)	Remark
1	0.425	39.8	57.4	17.6	19.5	QP
2	0.425	29.9	47.4	17.4	19.5	AVG
3	0.499	49.6	56.0	6.5	19.5	QP
4	0.503	40.7-	46.0	5.3	19.5	AVG
5	0.654	36.9	56.0	19.1	19.6	QP
6	0.656	27.9	46.0	18.1	19.6	AVG

Remark: The emission levels of other frequencies were very low against the limit.

Test Mode	WIFI (2.4G) Link		
Frequency Range	150KHz ~ 30MHz	PHASE	Line (N)



NO.	Frequency (MHz)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Corr. (dB)	Remark
1	0.425	29.3	47.4	18.1	19.6	AVG
2	0.429	38.4	57.3	18.8	19.6	QP
3	0.501	48.7	56.0	7.3	19.6	QP
4	0.503	40.5	46.0	5.5	19.6	AVG
5	0.654	34.9	56.0	21.1	19.6	QP
6	0.654	27.3	46.0	18.7	19.6	AVG

Remark: The emission levels of other frequencies were very low against the limit.

3.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.2.1 Limit

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

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

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

NOTE: 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

NOTE: 3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.2.2 Measurement procedure

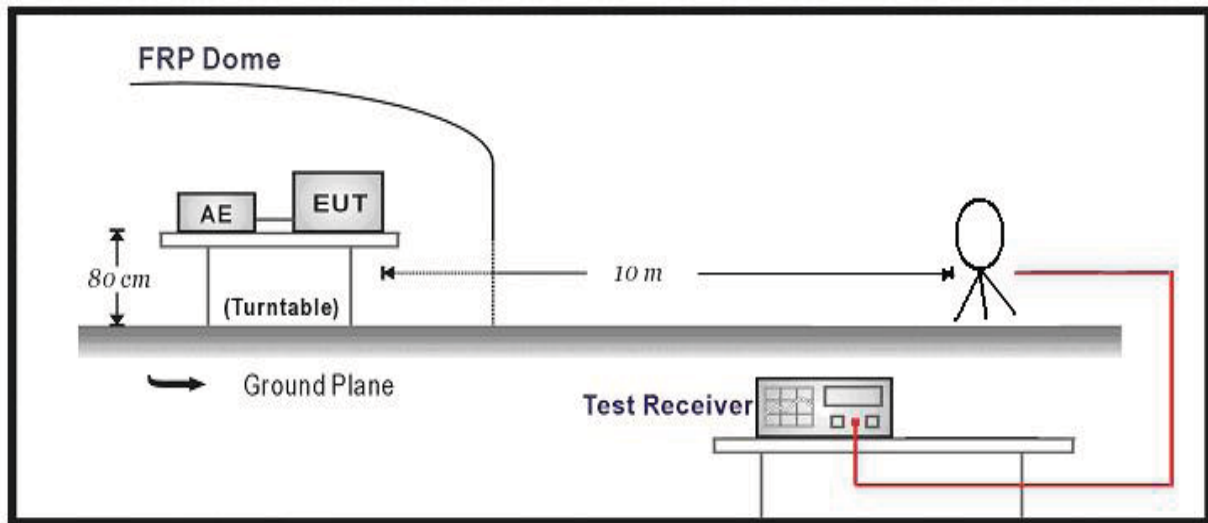
- The EUT was placed on the top of a rotating table 1.5 meters(above 1GHz) and 0.8 meters(below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving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

NOTE:

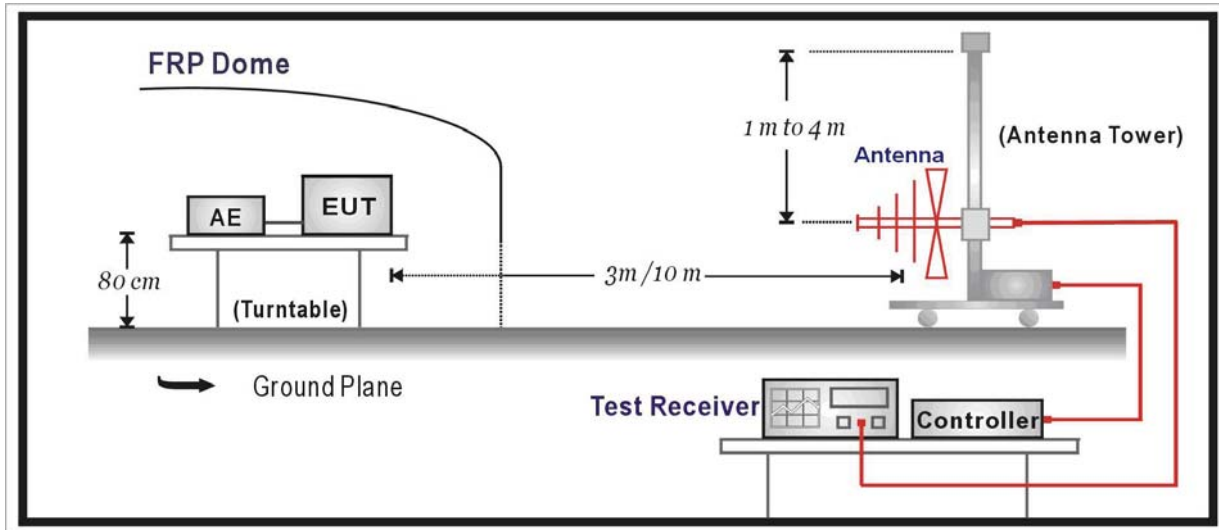
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) 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.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.
6. For the test results, the EUT had been tested with all conditions. But only the worst case (MIMO Mode) was shown in test report.

3.2.3 Test setup

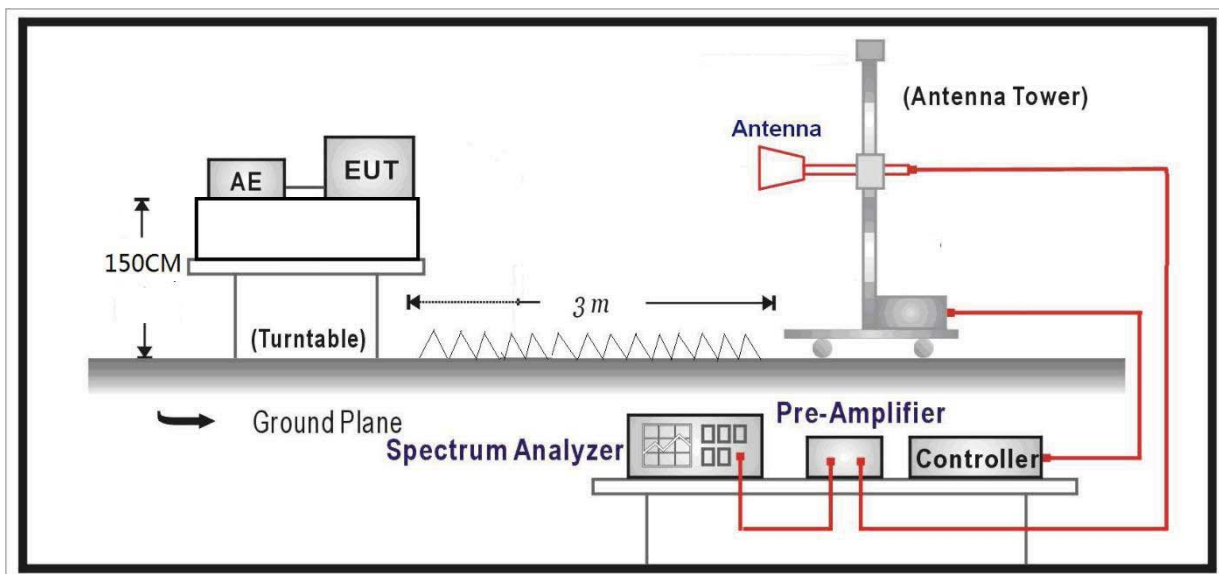
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:

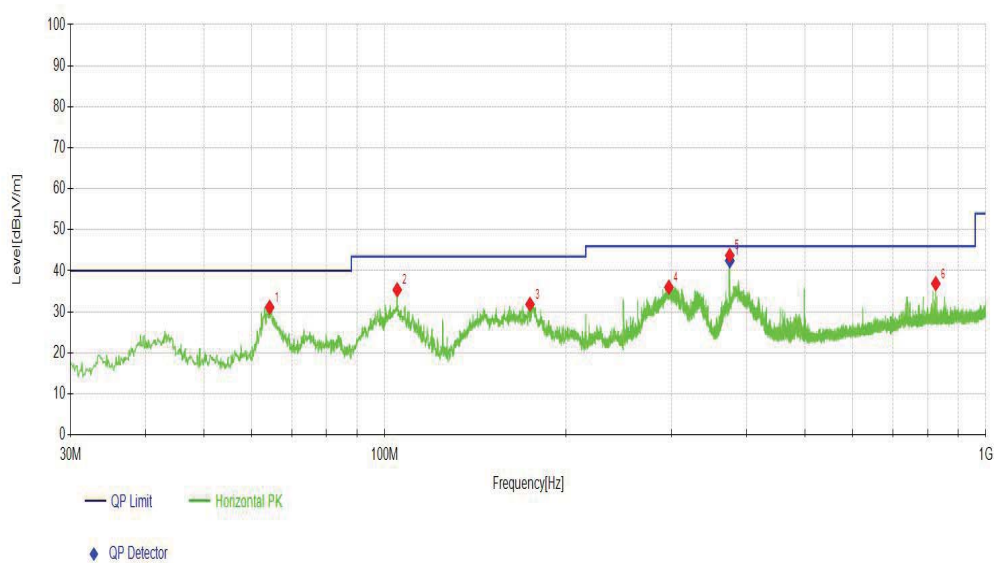


3.2.4 Test results

BELOW 1GHz WORST-CASE DATA:

Worst Test Mode	802.11b	Worst Test Channel	CH 6
Frequency Range	9KHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Horizontal



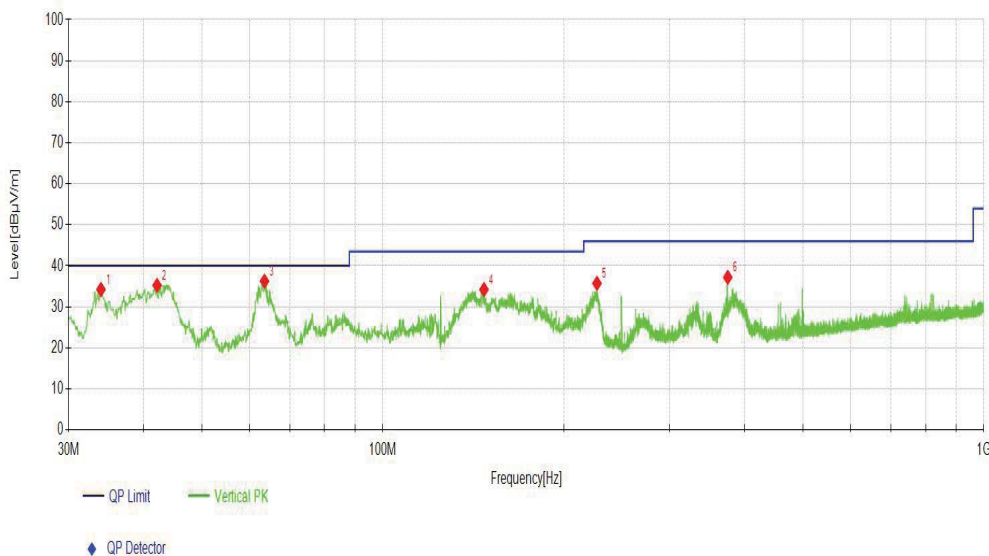
NO.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Azimuth (deg)	Remark
1	64.3414	31.09	40.00	8.91	300	24	PK
2	104.8915	35.36	43.50	8.14	300	36	PK
3	174.4474	31.83	43.50	11.67	200	136	PK
4	296.9707	35.98	46.00	10.02	100	3	PK
5	374.9937	42.46	46.00	3.54	101	249.4	PK
6	825.4795	36.86	46.00	9.14	100	174	PK

Remark: 1. 9KHz~30MHz have been test and test data more than 20dB margin.

2. The emission levels of other frequencies were greater than 20dB margin.

Worst Test Mode	802.11b	Worst Test Channel	CH 6
Frequency Range	9KHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Vertical



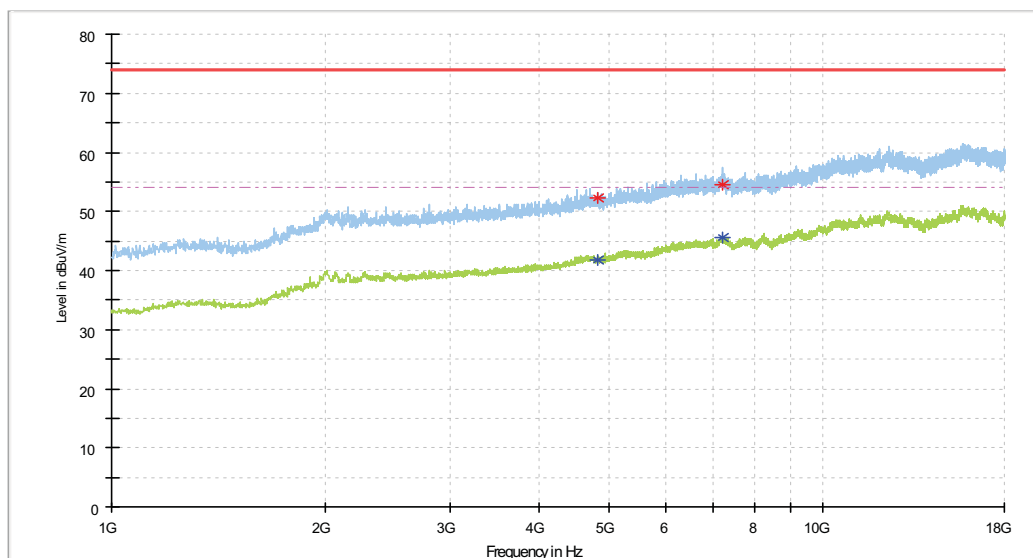
NO.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Azimuth (deg)	Remark
1	33.9774	34.22	40.00	5.78	100	130	PK
2	42.1262	35.23	40.00	4.77	100	143	PK
3	63.5654	36.25	40.00	3.75	100	168	PK
4	147.3817	34.22	43.50	9.28	100	278	PK
5	227.2207	35.71	46.00	10.29	100	345	PK
6	374.9665	37.19	46.00	8.81	100	223	PK

Remark: 1. 9KHz~30MHz have been test and test data more than 20dB margin.
2. The emission levels of other frequencies were greater than 20dB margin.

ABOVE 1GHz DATA

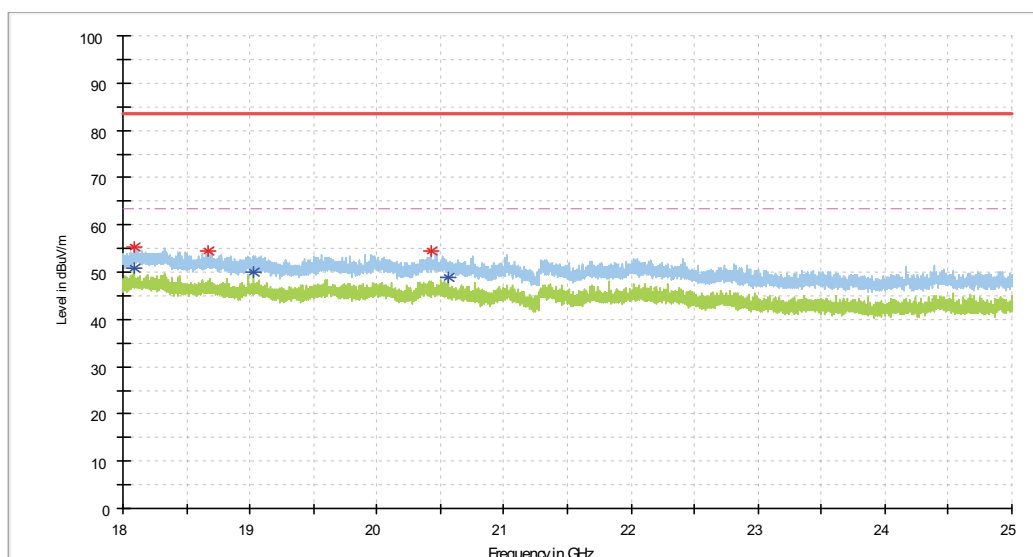
Test Mode	802.11b	Channel	CH 1
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4825.000	41.8	54.0	12.2	200.0	172.0	6.9	Avg
2	4825.000	52.3	74.0	21.7	200.0	172.0	6.9	Peak
3	7235.600	45.5	54.0	8.5	200.0	91.0	10.2	Avg
4	7235.600	54.6	74.0	19.4	100.0	314.0	10.2	Peak

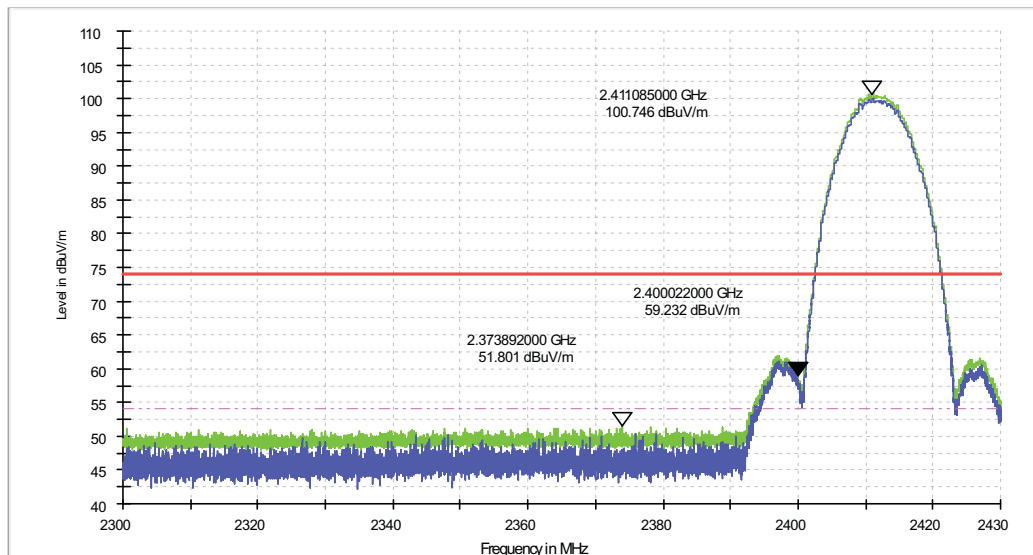
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

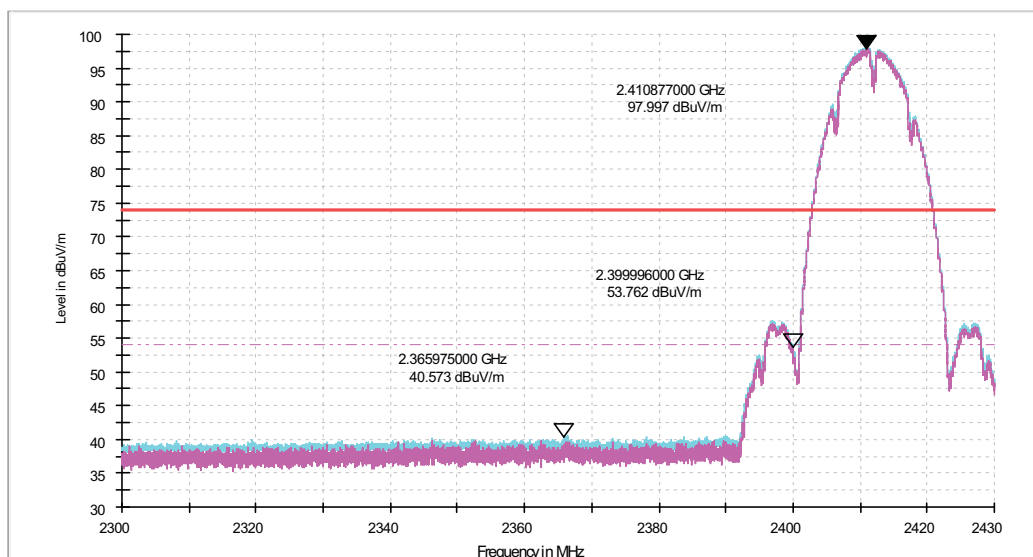
Test Mode	802.11b	Channel	CH 1
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



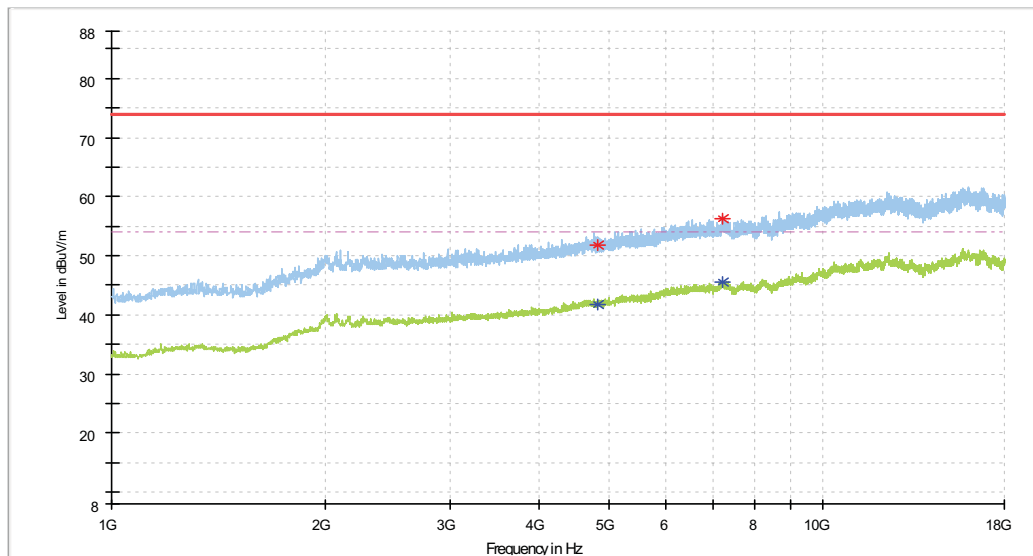
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



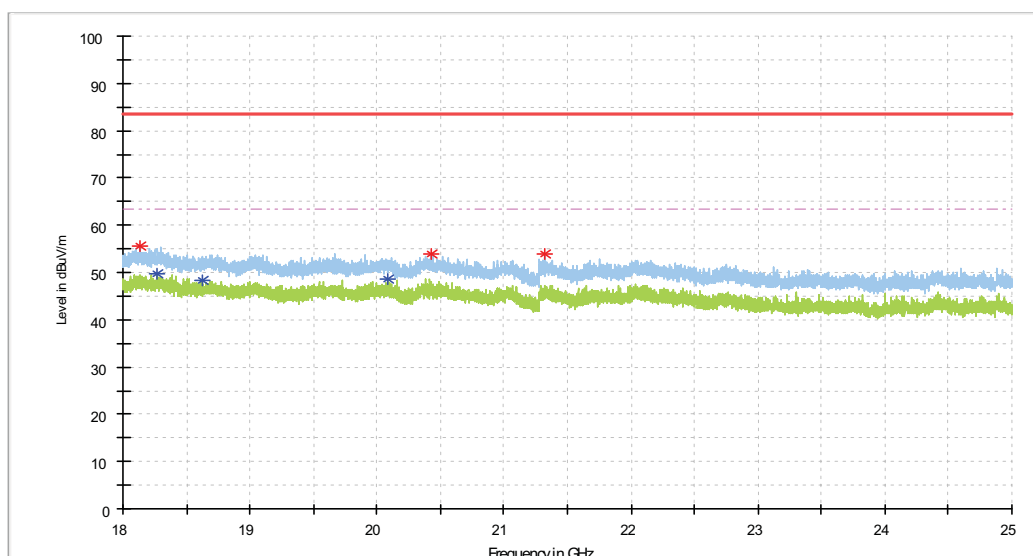
Test Mode	802.11b	Channel	CH 1
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4825.000	41.4	54.0	12.6	100.0	62.0	6.9	Avg
2	4825.000	52.0	74.0	22.0	200.0	354.0	6.9	Peak
3	7233.900	46.3	54.0	7.7	100.0	0.0	10.2	Avg
4	7235.600	55.6	74.0	18.4	200.0	322.0	10.2	Peak

Test frequency range :18G-25G

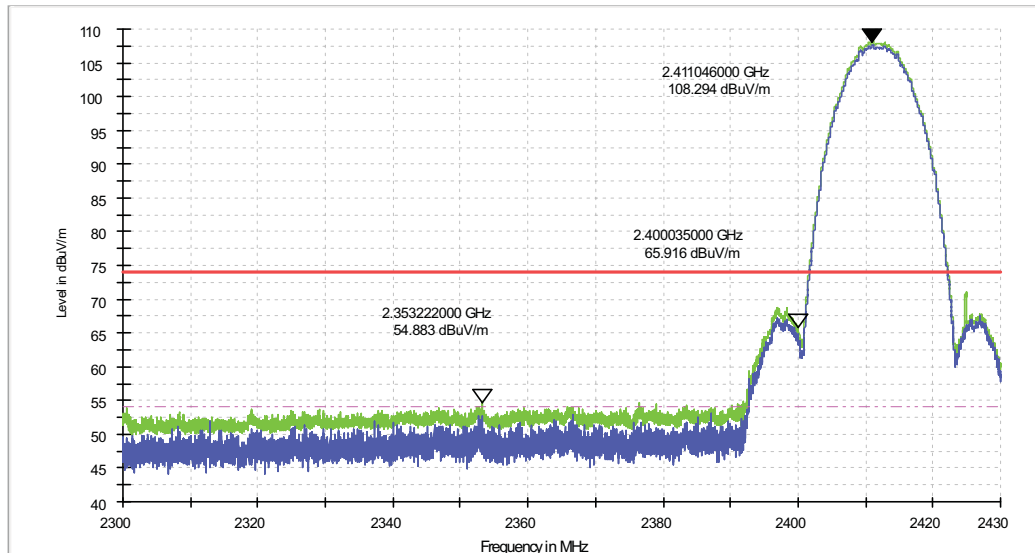


Remark: The emission levels of other frequencies were greater than 10dB margin.



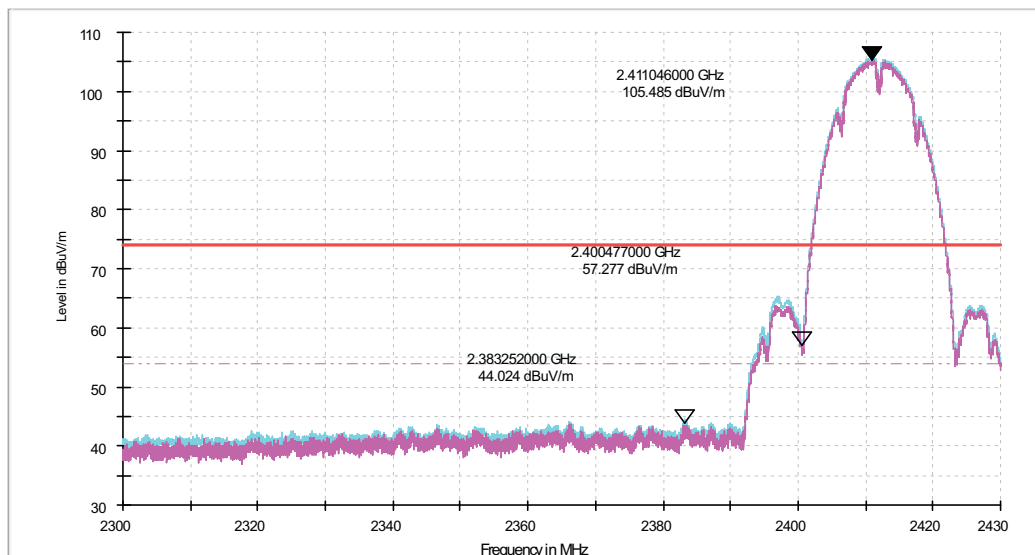
Test Mode	802.11b	Channel	CH 1
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



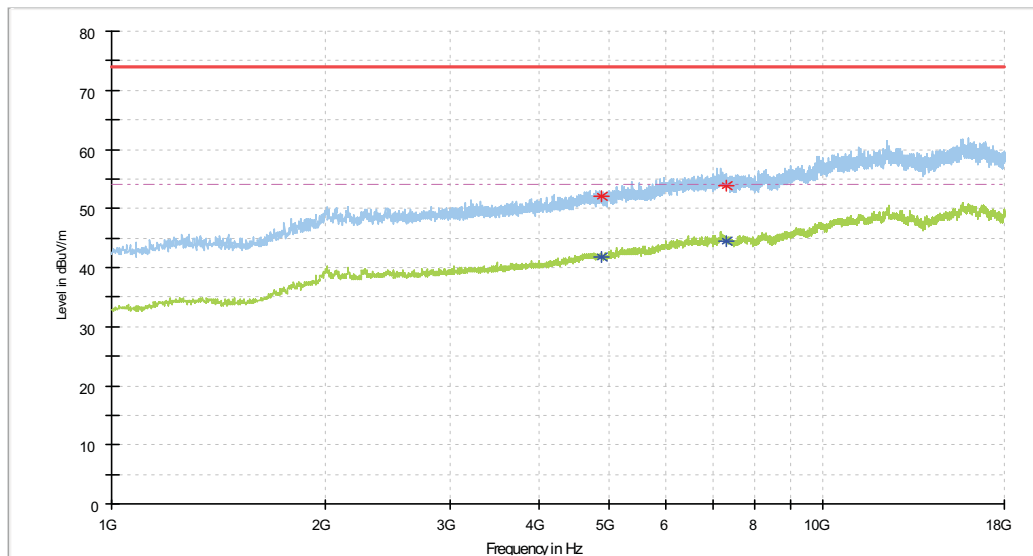
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



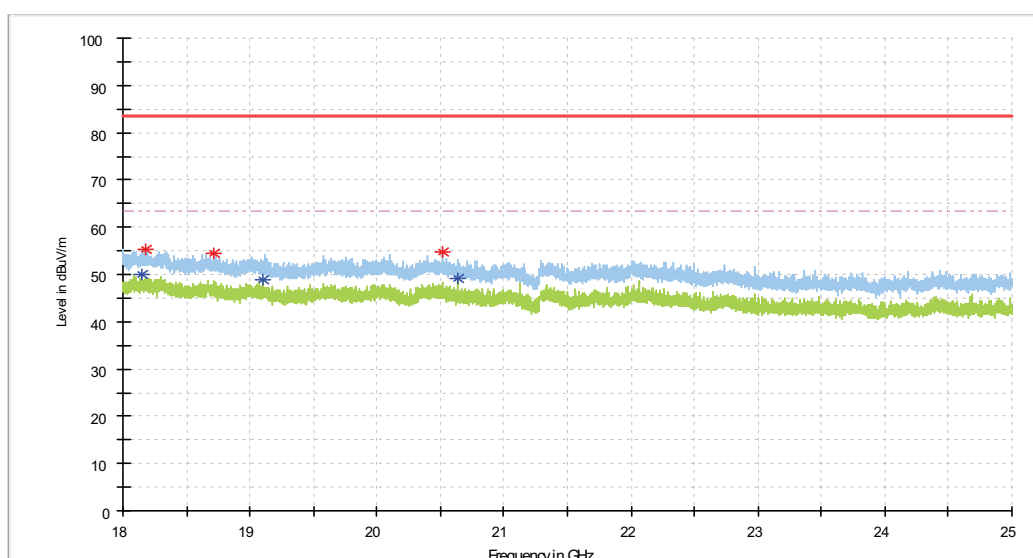
Test Mode	802.11b	Channel	CH 6
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.9	54.0	12.1	100.0	224.0	6.9	Avg
2	4874.300	52.1	74.0	21.9	100.0	224.0	6.9	Peak
3	7310.400	53.9	74.0	20.1	200.0	11.0	9.9	Avg
4	7310.400	44.4	54.0	9.6	100.0	324.0	9.9	Peak

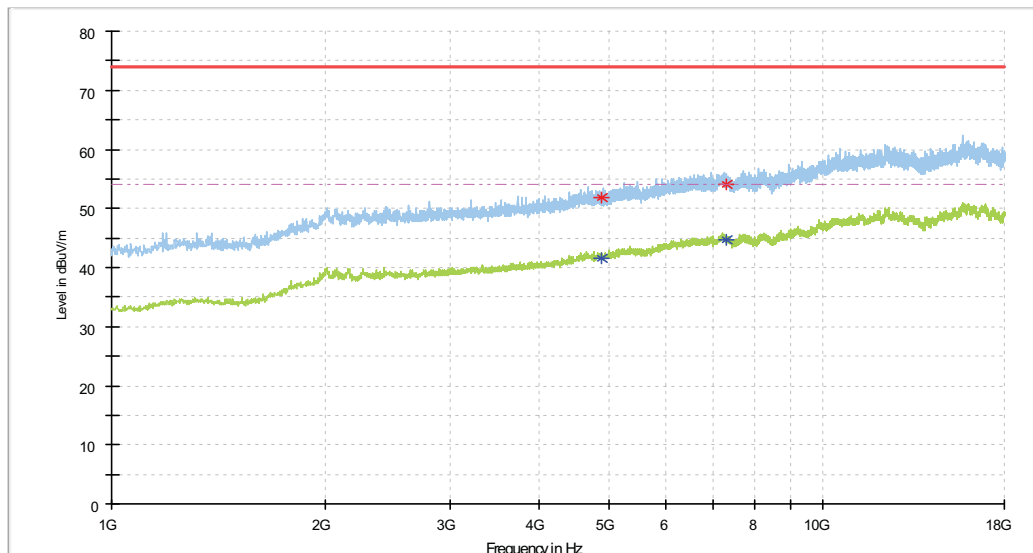
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

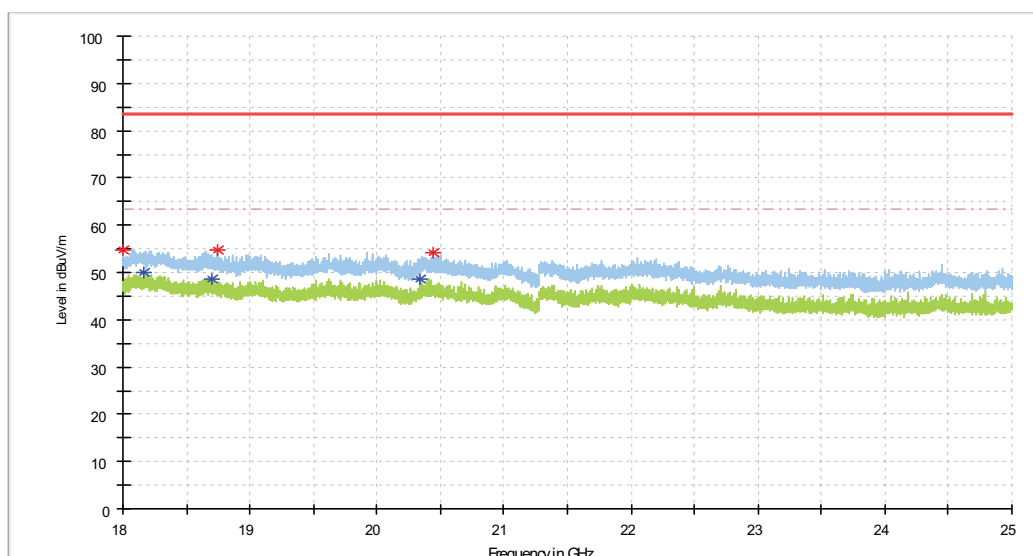
Test Mode	802.11b	Channel	CH 6
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.6	54.0	12.4	100.0	207.0	6.9	Avg
2	4874.300	51.9	74.0	22.1	100.0	207.0	6.9	Peak
3	7310.400	44.6	54.0	9.4	200.0	205.0	9.9	Peak
4	7310.400	54.1	74.0	19.9	100.0	234.0	9.9	Avg

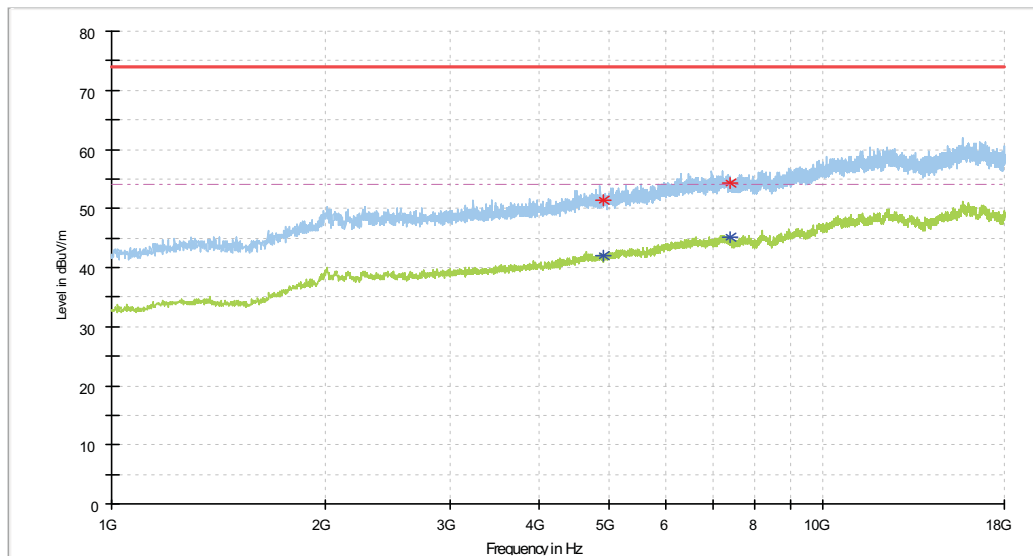
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

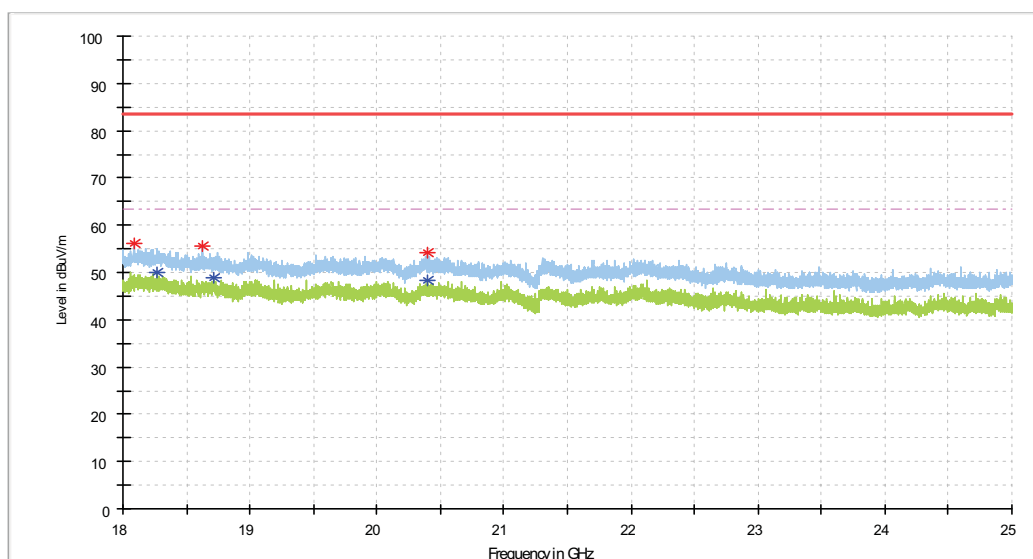
Test Mode	802.11b	Channel	CH 11
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4925.300	41.9	54.0	12.1	100.0	0.0	7.1	Avg
2	4925.300	51.5	74.0	22.5	100.0	0.0	7.1	Peak
3	7386.900	45.1	54.0	8.9	100.0	235.0	10.1	Avg
4	7386.900	54.2	74.0	19.8	100.0	235.0	10.1	Peak

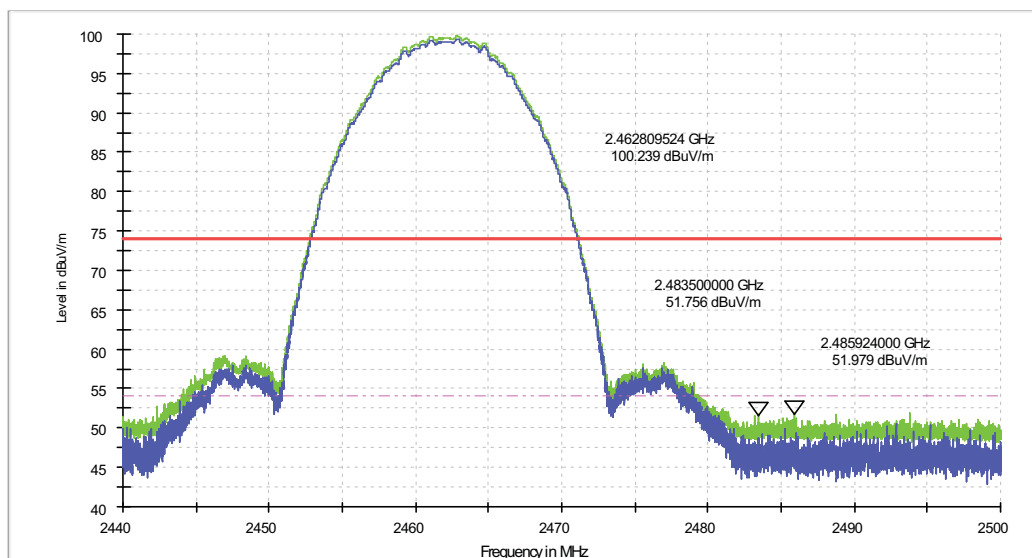
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

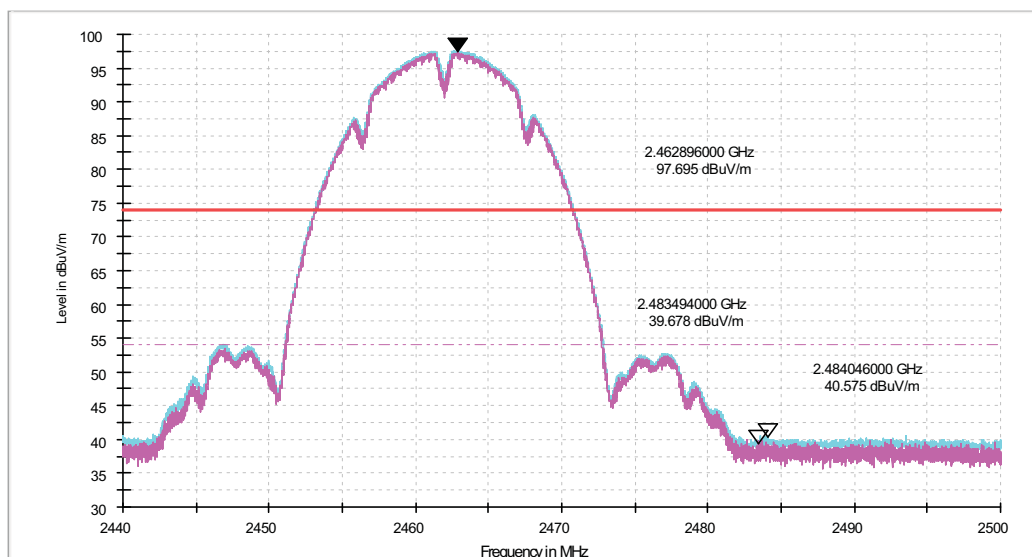
Test Mode	802.11b	Channel	CH 11
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



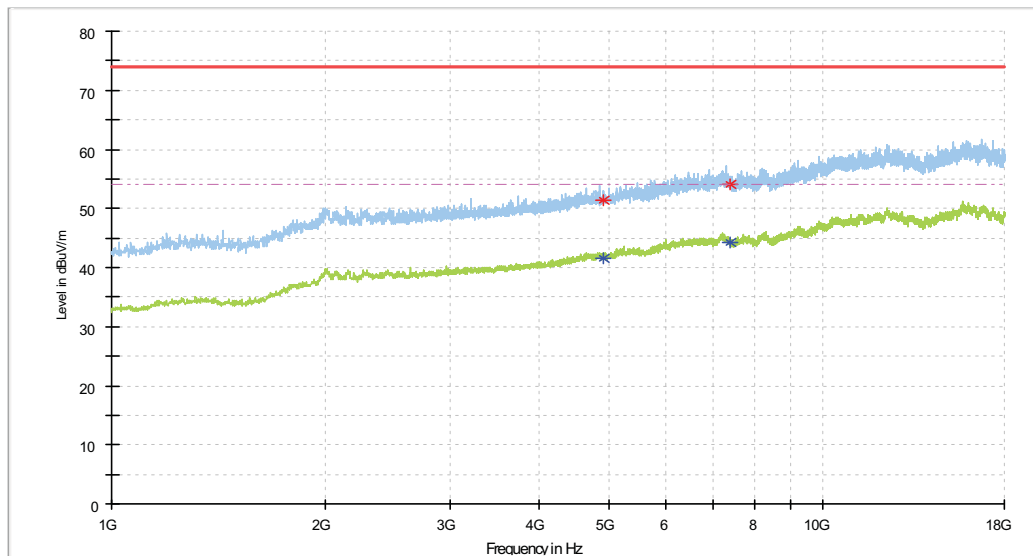
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



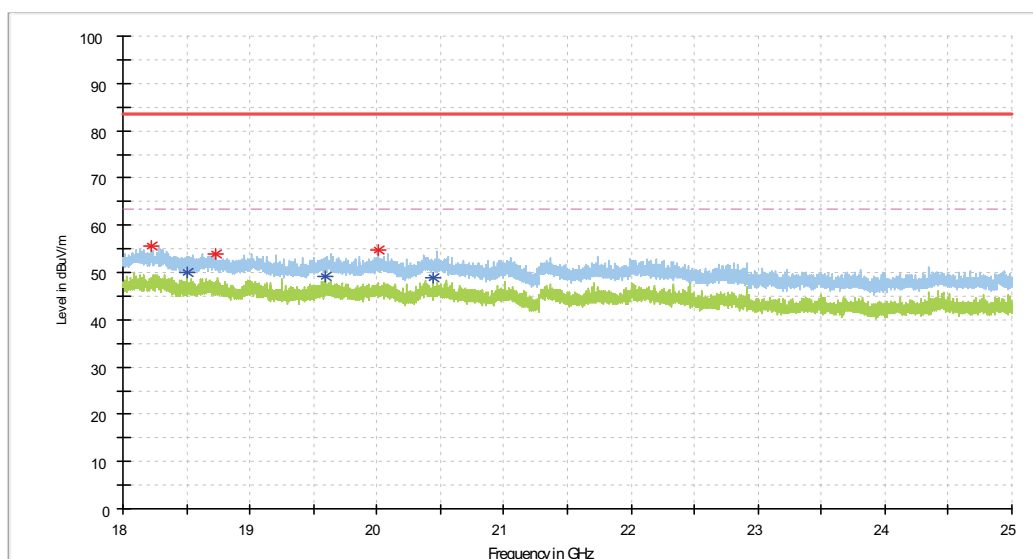
Test Mode	802.11b	Channel	CH 11
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4923.600	41.6	54.0	12.4	200.0	256.0	7.1	Avg
2	4923.600	51.4	74.0	22.6	200.0	256.0	7.1	Peak
3	7386.900	44.3	54.0	9.7	200.0	90.0	10.1	Avg
4	7386.900	54.1	74.0	19.9	100.0	346.0	10.1	Peak

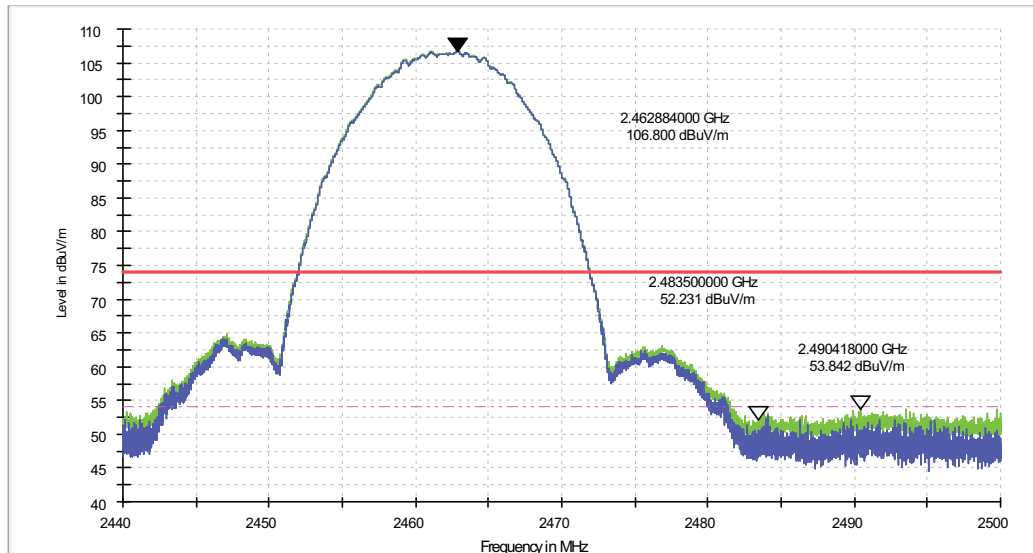
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

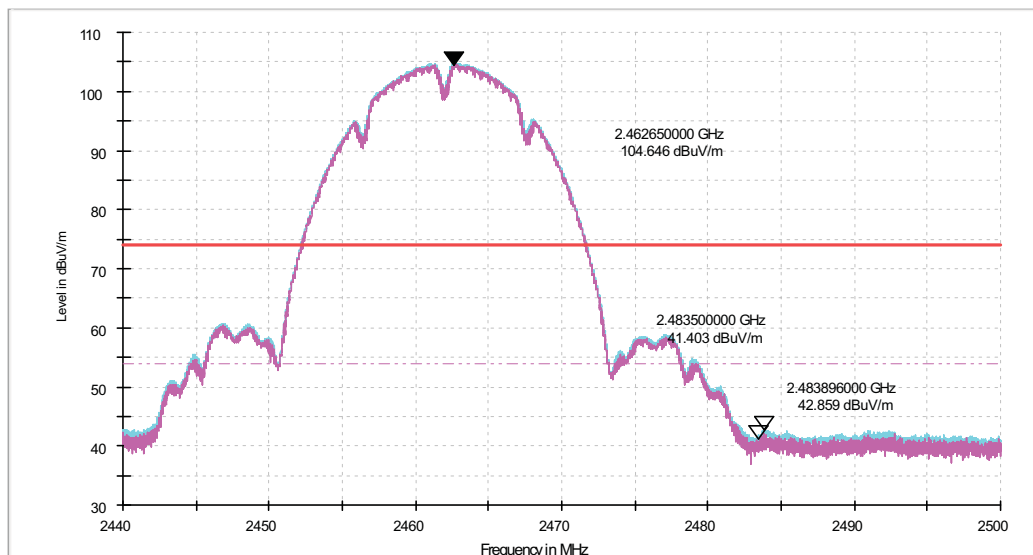
Test Mode	802.11b	Channel	CH 11
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



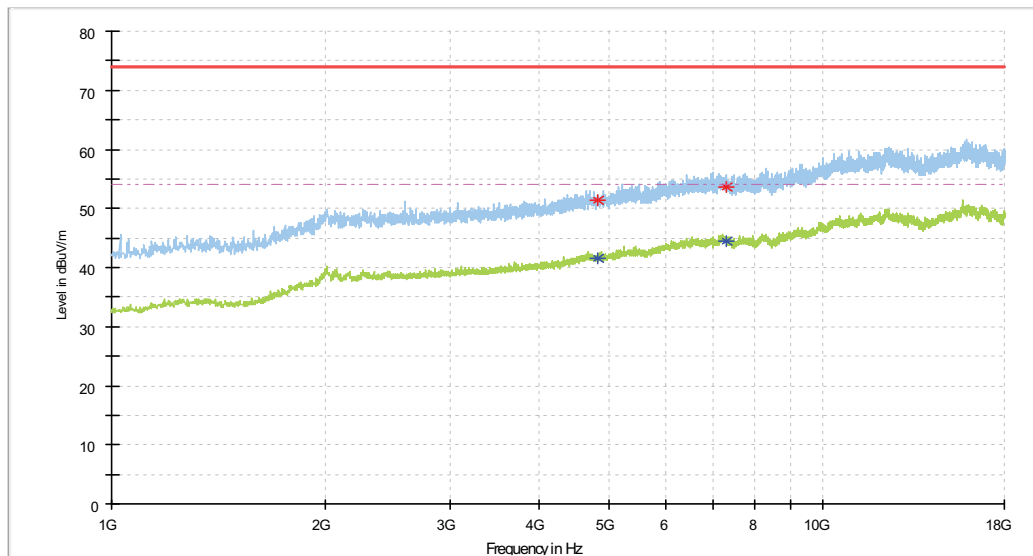
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



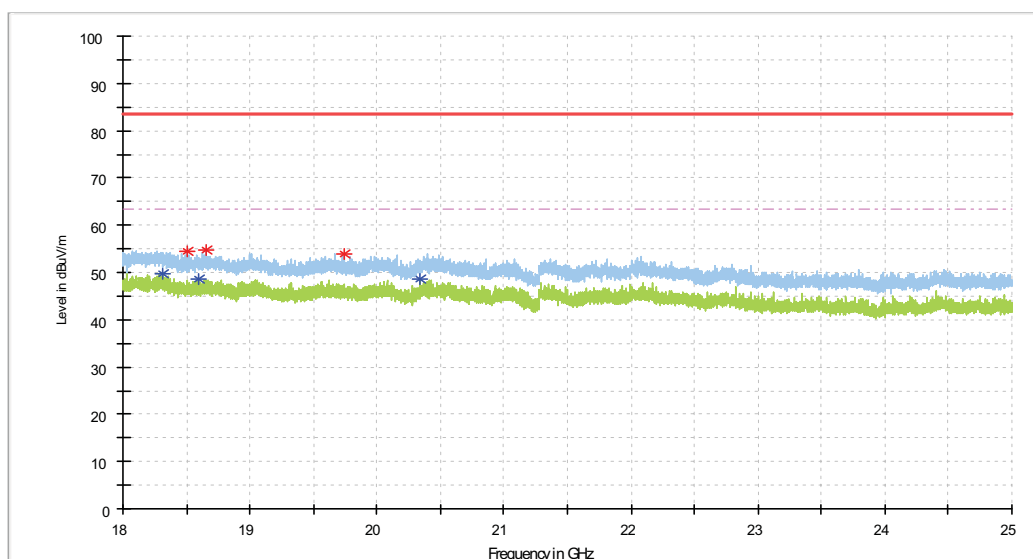
Test Mode	802.11g	Channel	CH 1
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4825.000	41.7	54.0	12.3	100.0	186.0	6.9	Avg
2	4825.000	51.4	74.0	22.6	100.0	186.0	6.9	Peak
3	7325.700	44.6	54.0	9.4	100.0	206.0	9.9	Peak
4	7325.700	53.6	74.0	20.4	100.0	206.0	9.9	Avg

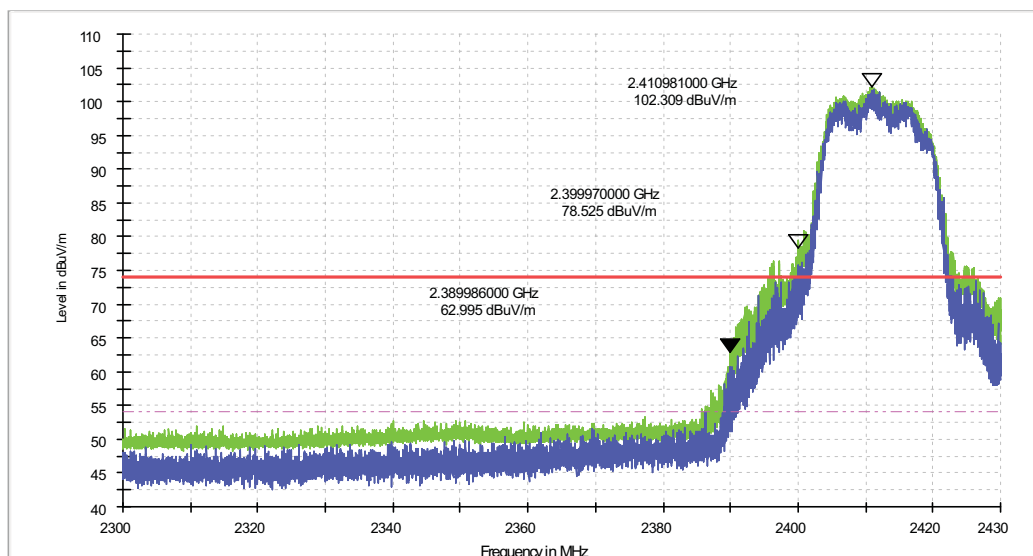
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

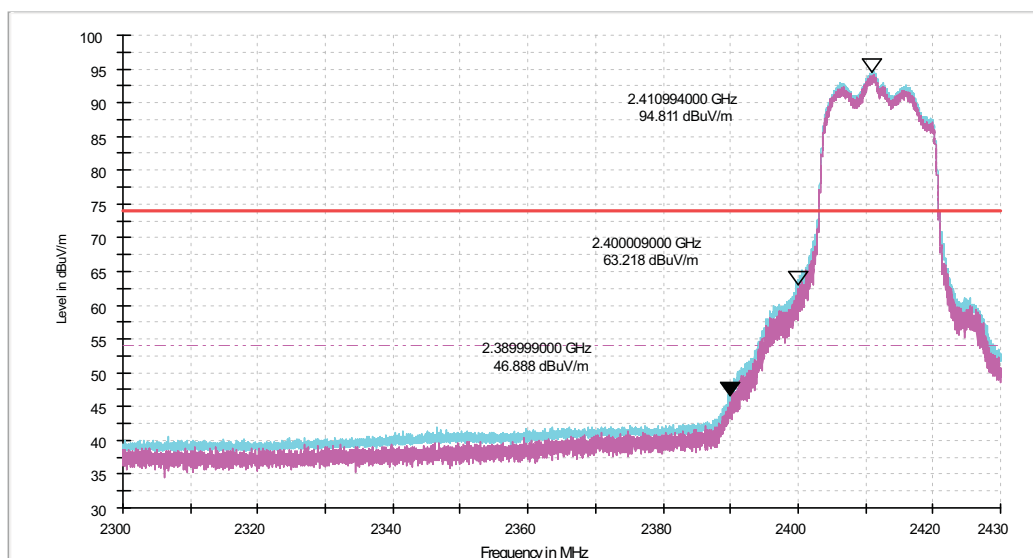
Test Mode	802.11g	Channel	CH 1
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



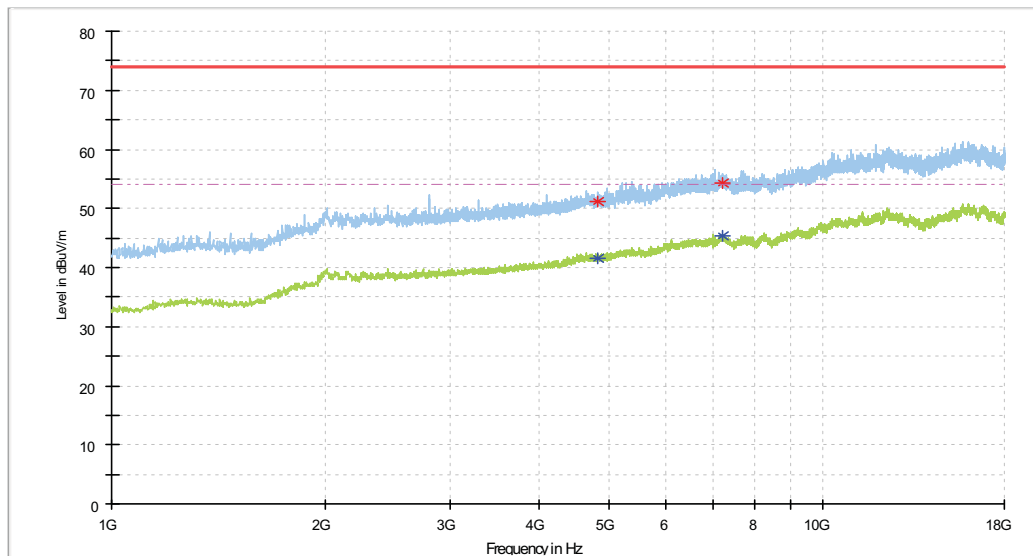
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



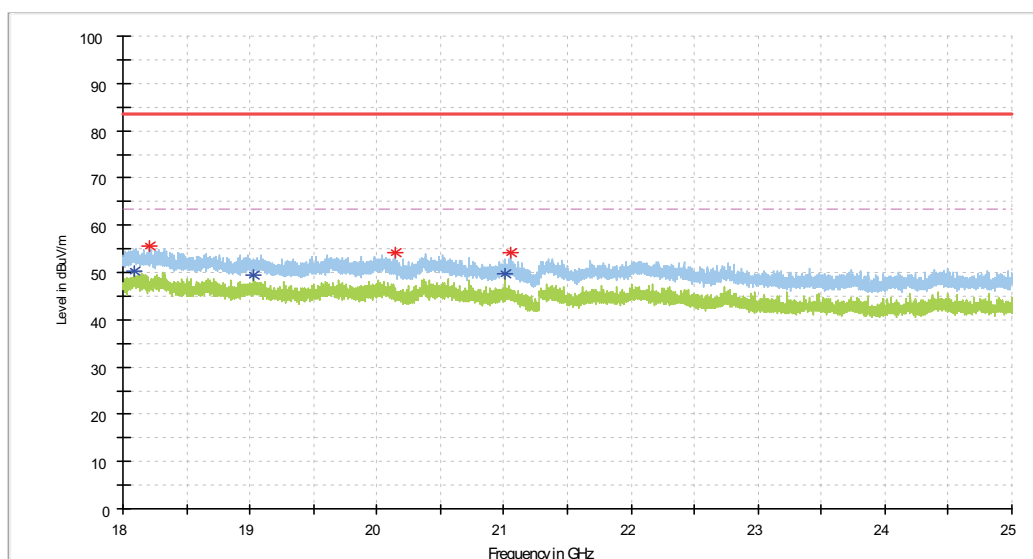
Test Mode	802.11g	Channel	CH 1
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4825.000	41.6	54.0	12.4	100.0	0.0	6.9	Avg
2	4825.000	51.1	74.0	22.9	100.0	0.0	6.9	Peak
3	7237.300	45.3	54.0	8.7	100.0	164.0	10.2	Peak
4	7237.300	54.2	74.0	19.8	100.0	164.0	10.2	Avg

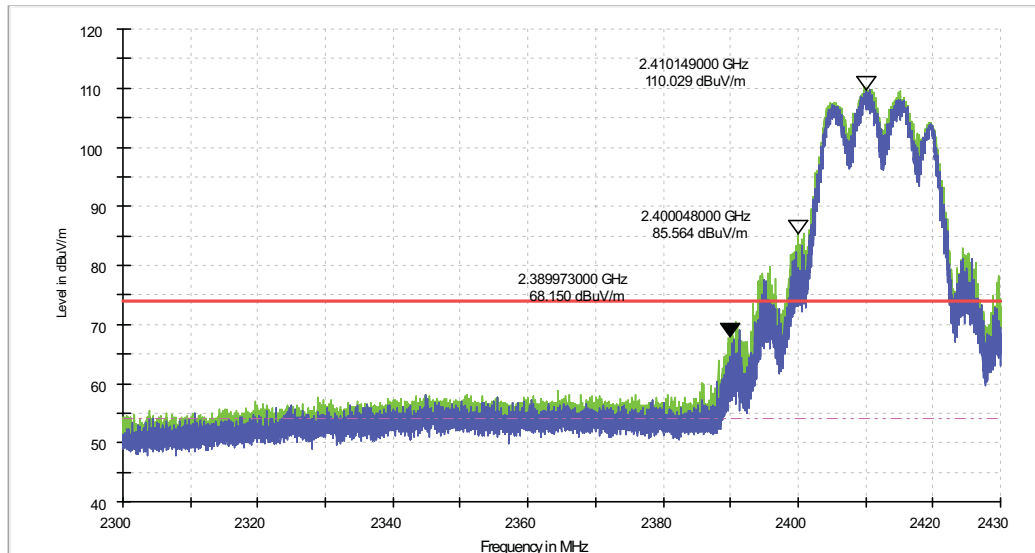
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

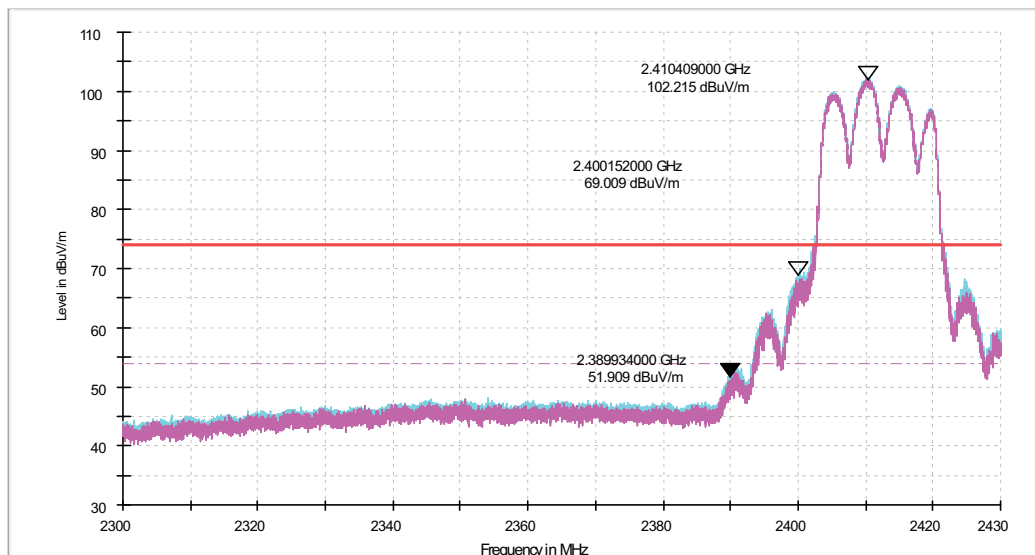
Test Mode	802.11g	Channel	CH 1
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



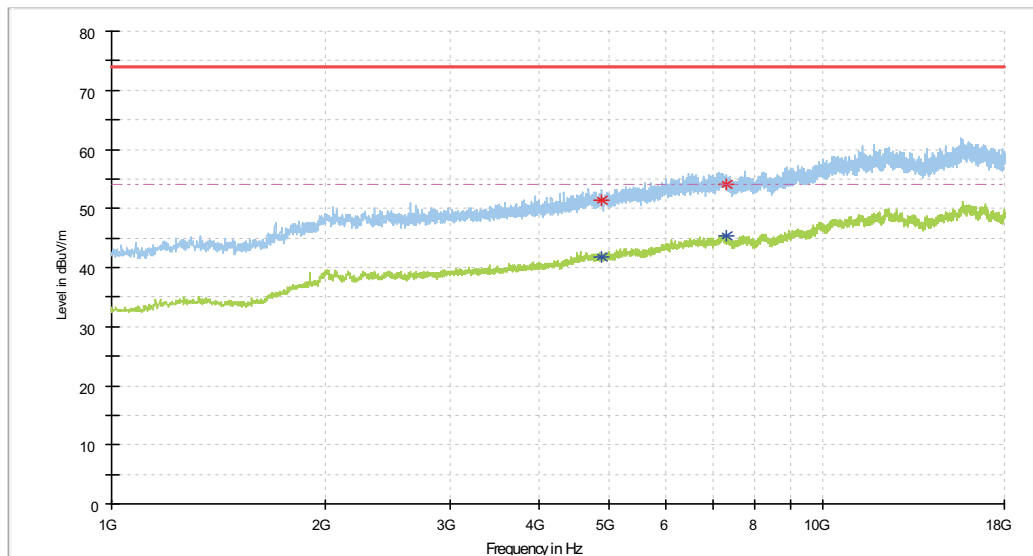
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



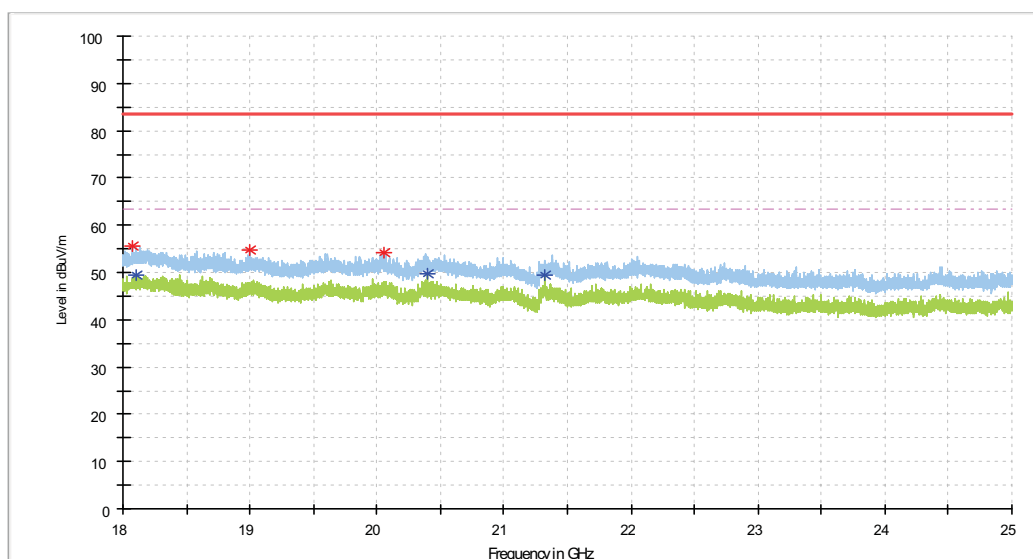
Test Mode	802.11g	Channel	CH 6
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.9	54.0	12.1	100.0	206.0	6.9	Avg
2	4874.300	51.4	74.0	22.6	100.0	206.0	6.9	Peak
3	7310.400	45.3	54.0	8.7	100.0	118.0	9.9	Avg
4	7310.400	54.1	74.0	19.9	100.0	118.0	9.9	Peak

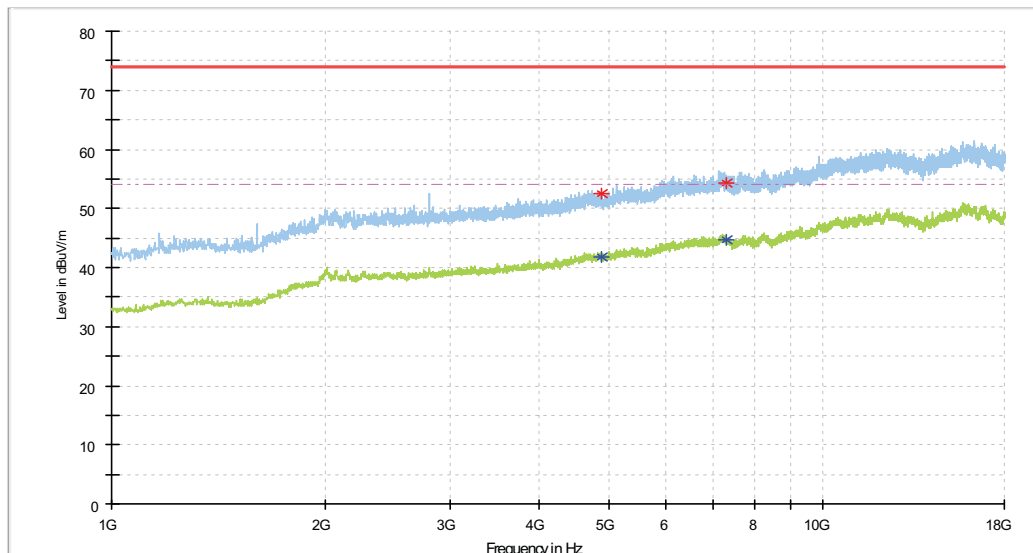
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

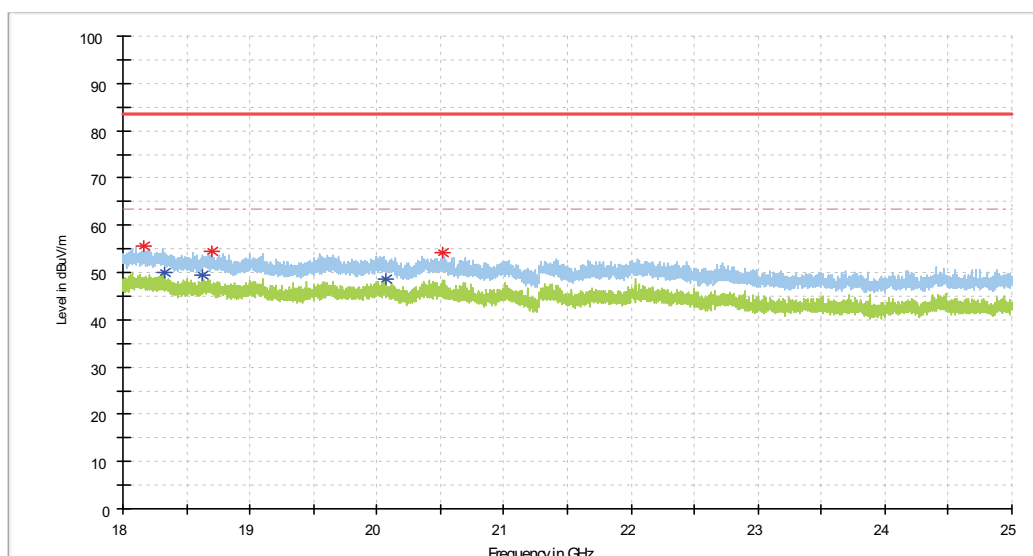
Test Mode	802.11g	Channel	CH 6
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.9	54.0	12.2	100.0	129.0	6.9	Avg
2	4874.300	52.6	74.0	21.4	100.0	129.0	6.9	Peak
3	7310.400	44.7	54.0	9.3	100.0	269.0	9.9	Peak
4	7310.400	54.2	74.0	19.8	100.0	269.0	9.9	Avg

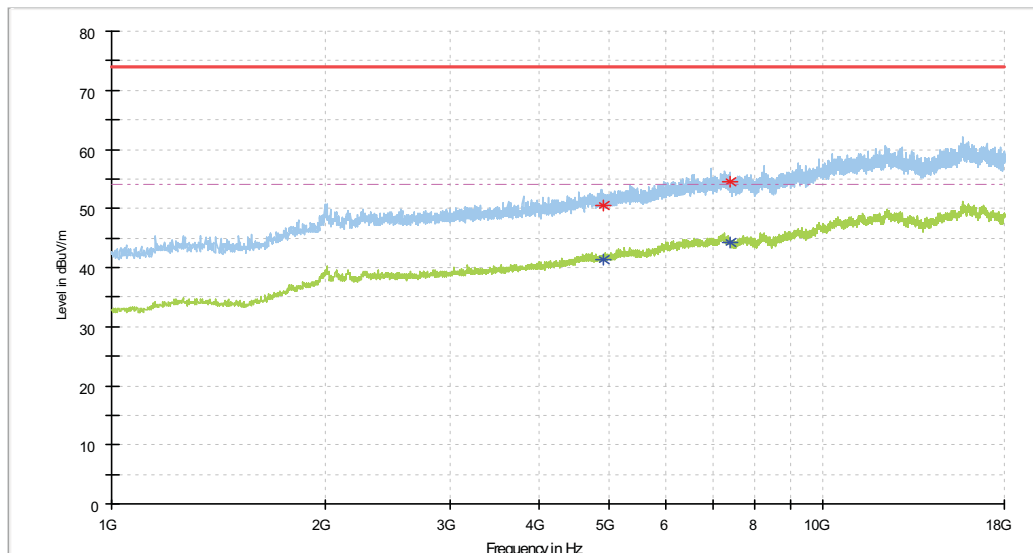
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

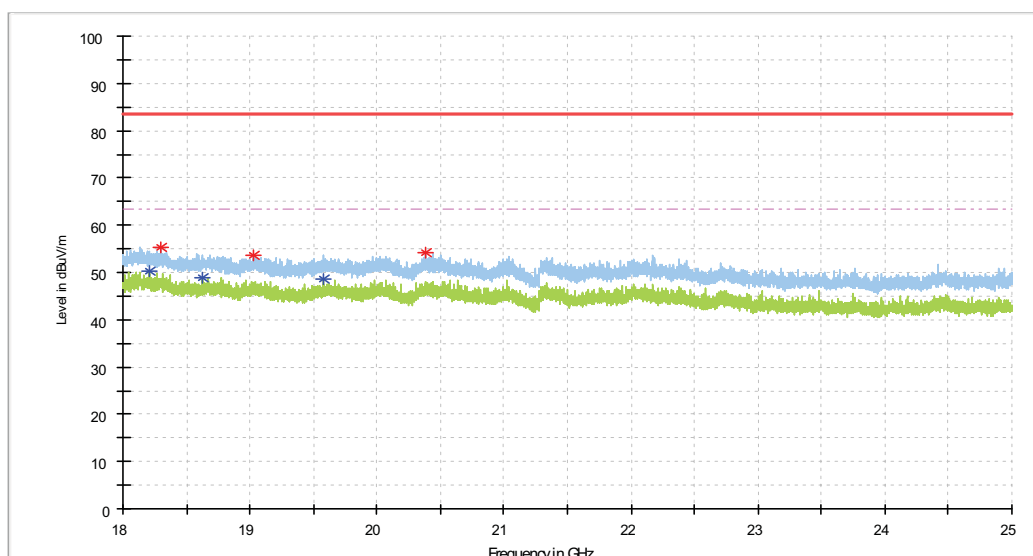
Test Mode	802.11g	Channel	CH 11
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4925.300	41.4	54.0	12.6	100.0	62.0	7.1	Avg
2	4925.300	50.6	74.0	23.4	100.0	62.0	7.1	Peak
3	7386.900	44.3	54.0	9.7	100.0	102.0	10.1	Avg
4	7386.900	54.5	74.0	19.5	100.0	102.0	10.1	Peak

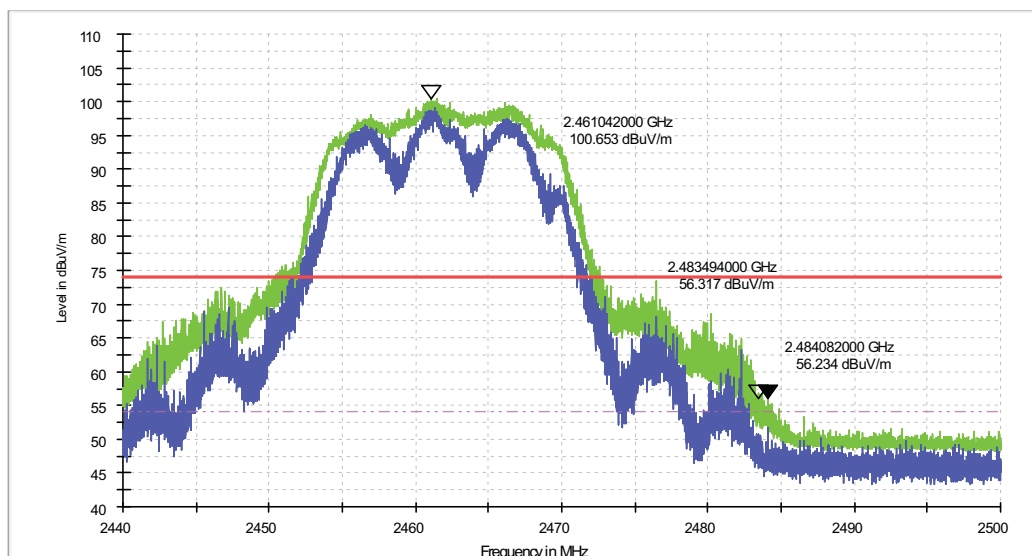
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

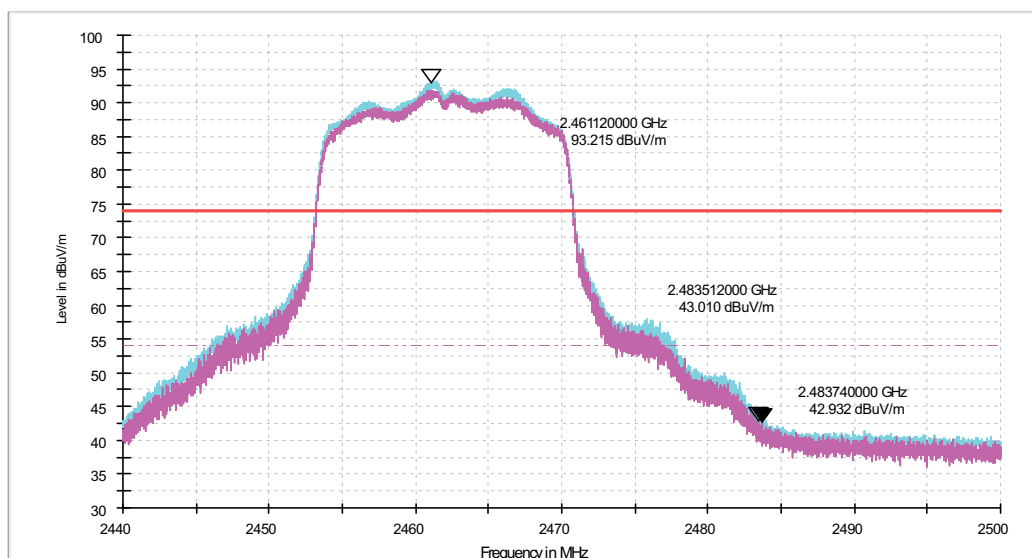
Test Mode	802.11g	Channel	CH 11
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



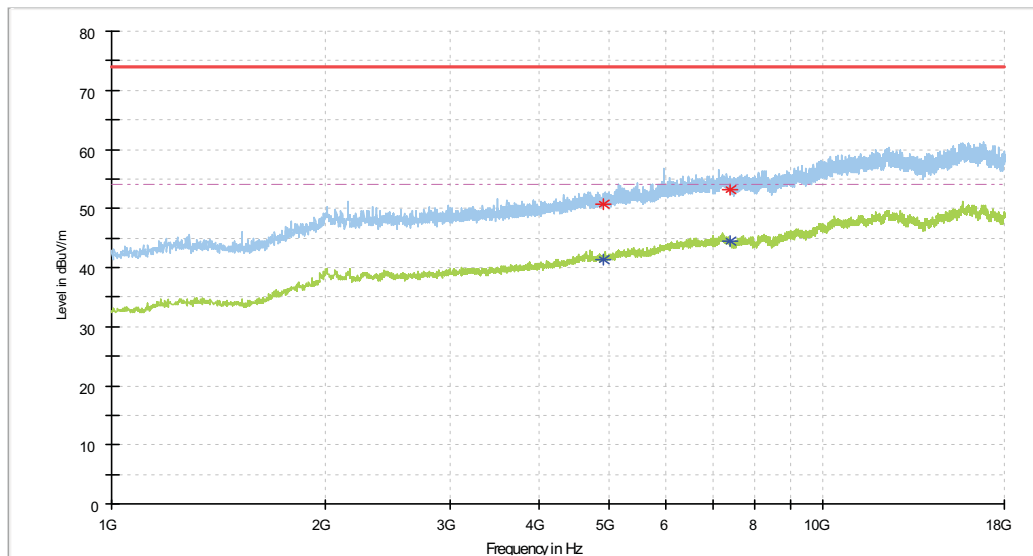
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



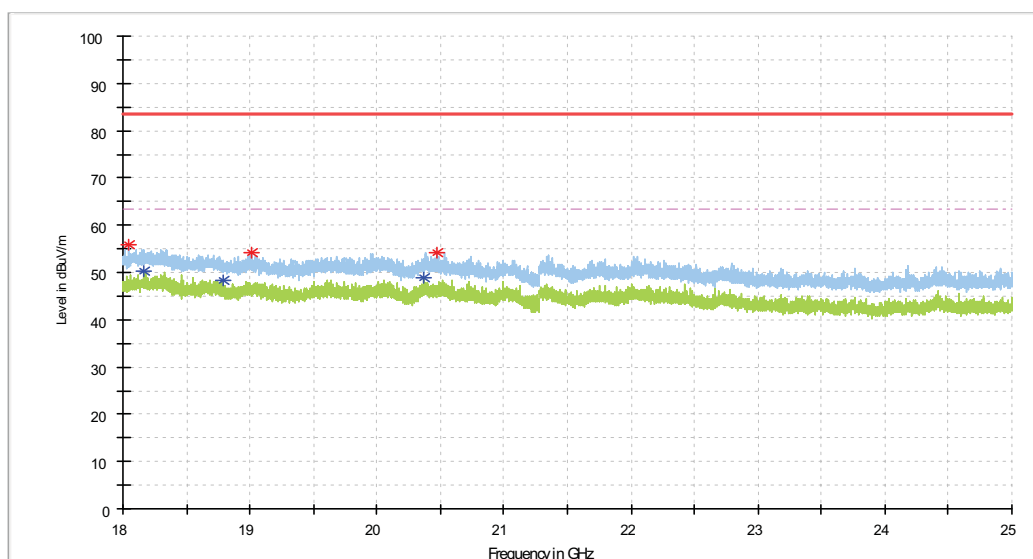
Test Mode	802.11g	Channel	CH 11
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4925.300	41.4	54.0	12.6	100.0	171.0	7.1	Avg
2	4925.300	50.8	74.0	23.2	100.0	171.0	7.1	Peak
3	7385.200	53.3	74.0	20.7	100.0	259.0	10.1	Peak
4	7386.900	44.4	54.0	9.6	100.0	84.0	10.1	Avg

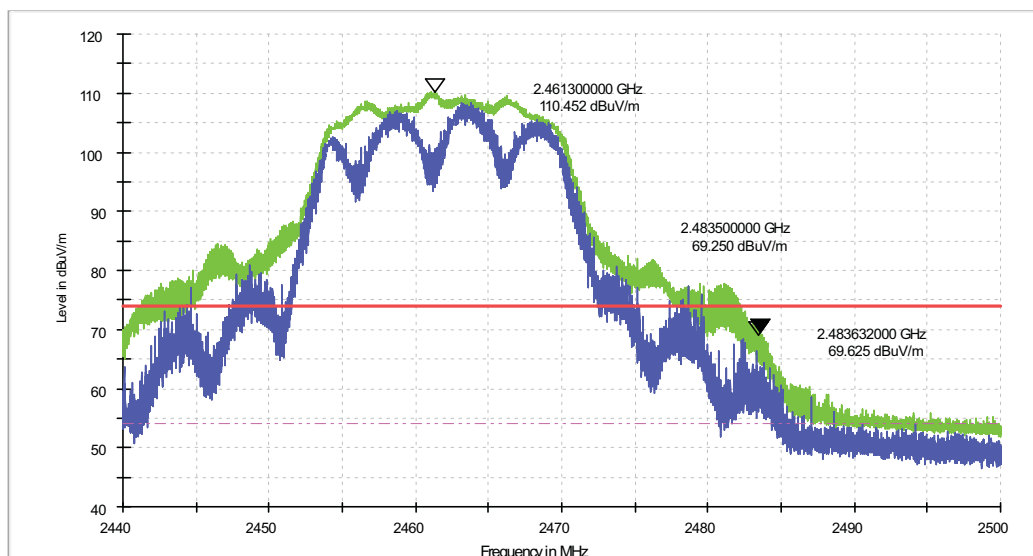
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

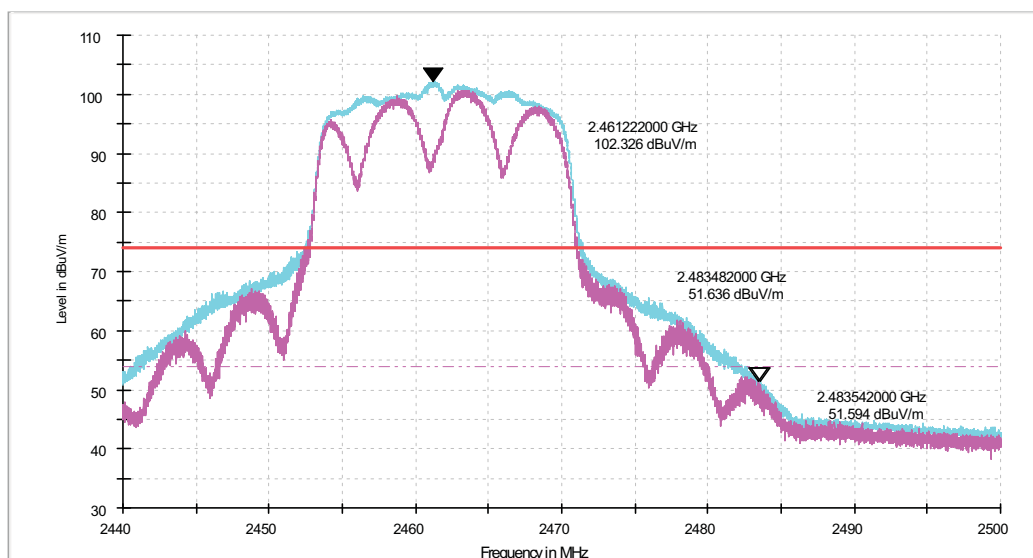
Test Mode	802.11g	Channel	CH 11
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



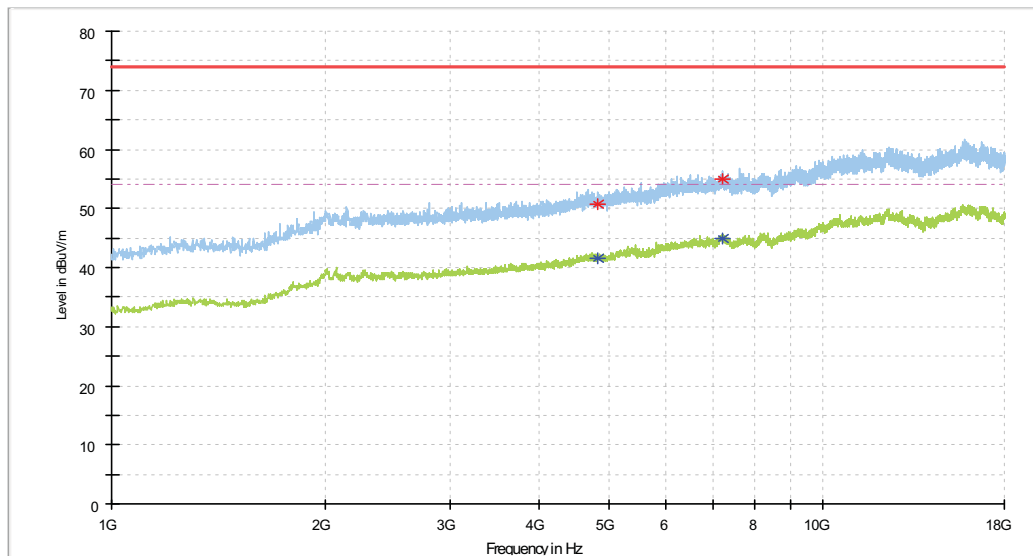
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



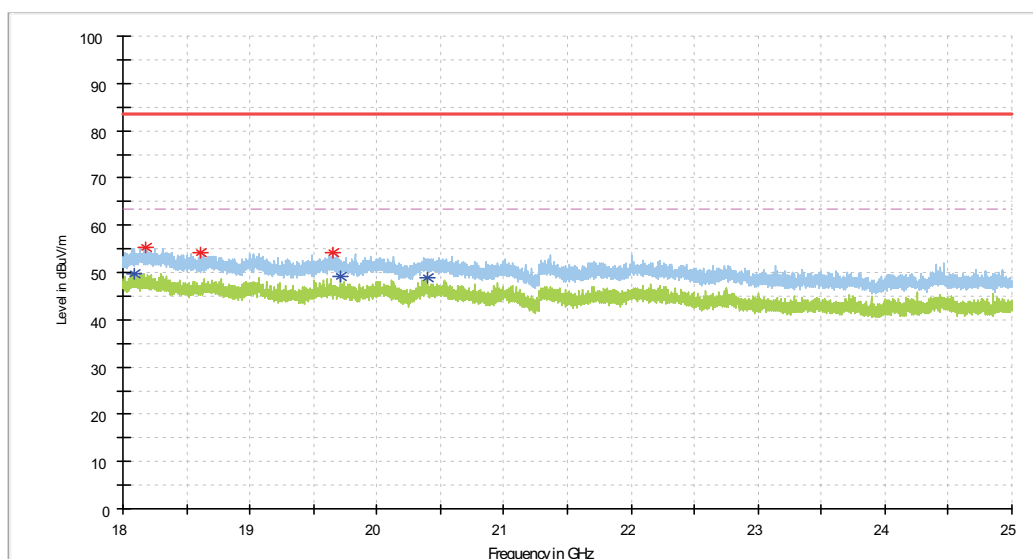
Test Mode	802.11n(HT20)	Channel	CH 1
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4825.000	41.5	54.0	12.5	100.0	0.0	6.9	Avg
2	4825.000	50.7	74.0	23.3	100.0	0.0	6.9	Peak
3	7235.600	44.8	54.0	9.2	100.0	245.0	10.2	Peak
4	7235.600	55.0	74.0	19.0	100.0	245.0	10.2	Avg

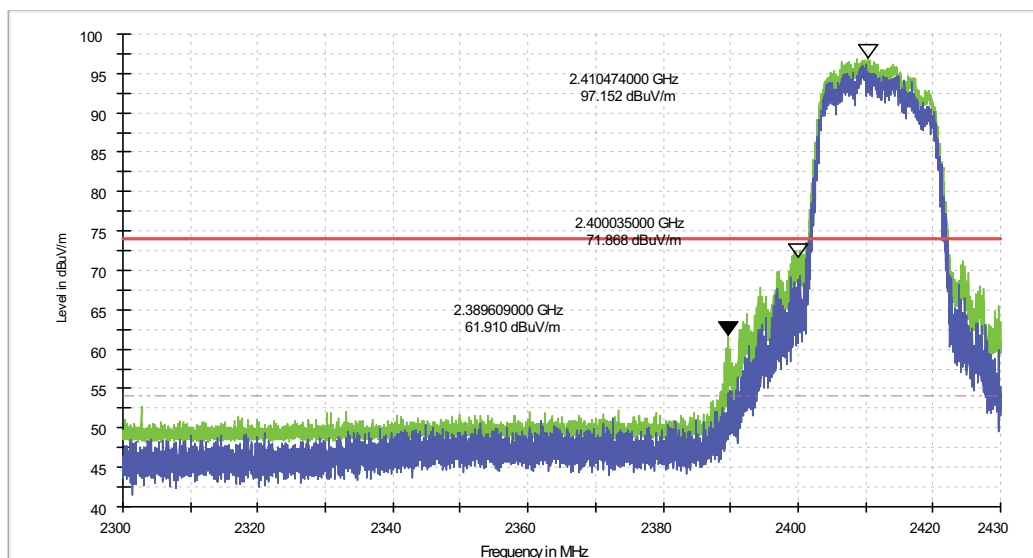
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

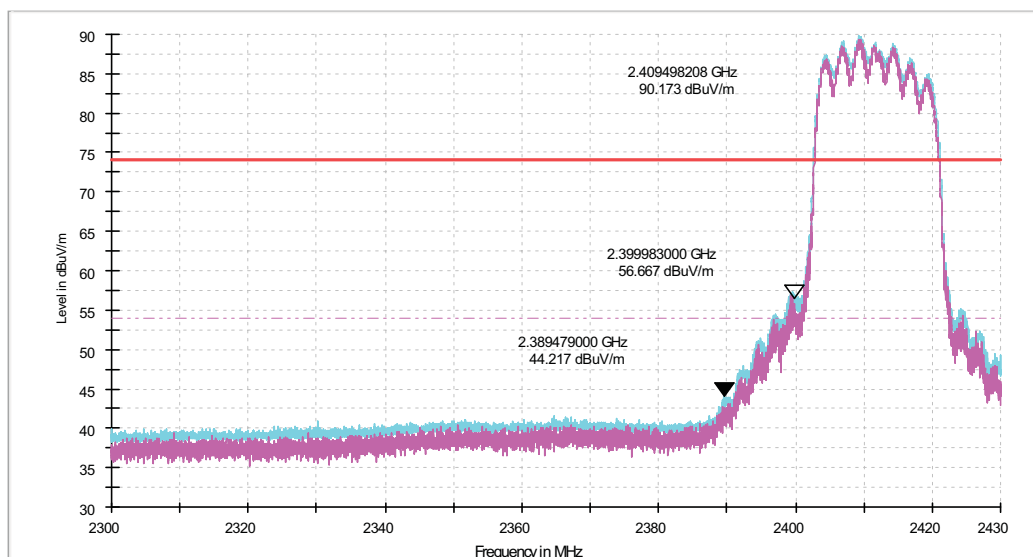
Test Mode	802.11n(HT20)	Channel	CH 1
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



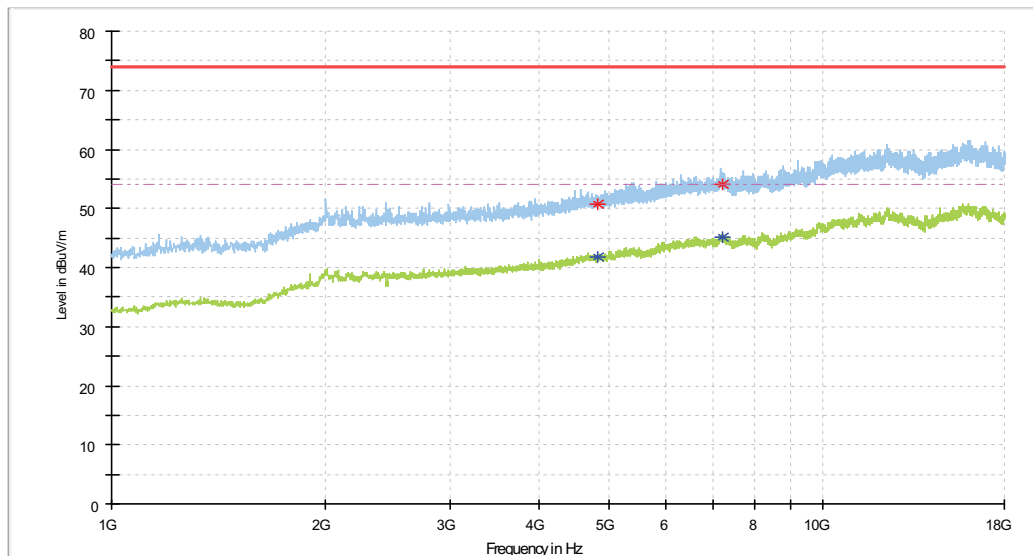
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



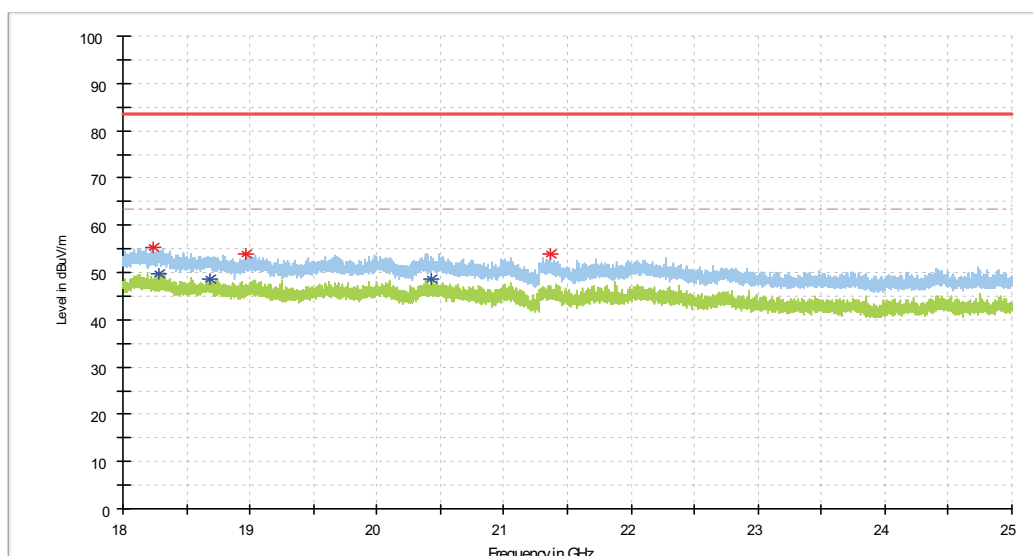
Test Mode	802.11n(HT20)	Channel	CH 1
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4823.300	41.9	54.0	12.1	100.0	29.0	6.9	Avg
2	4823.300	50.7	74.0	23.3	100.0	29.0	6.9	Peak
3	7235.600	45.1	54.0	8.9	100.0	116.0	10.2	Avg
4	7235.600	54.0	74.0	20.0	100.0	116.0	10.2	Peak

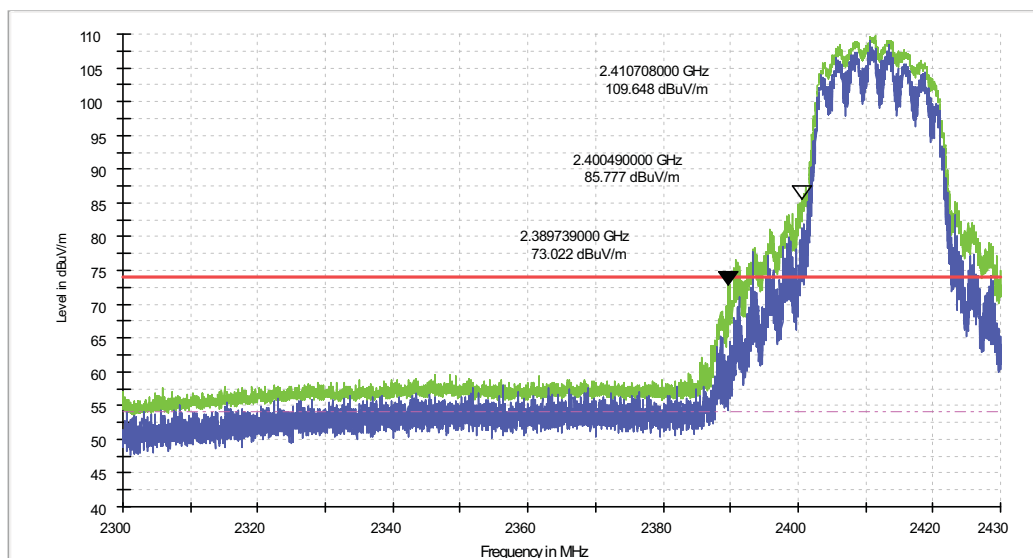
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

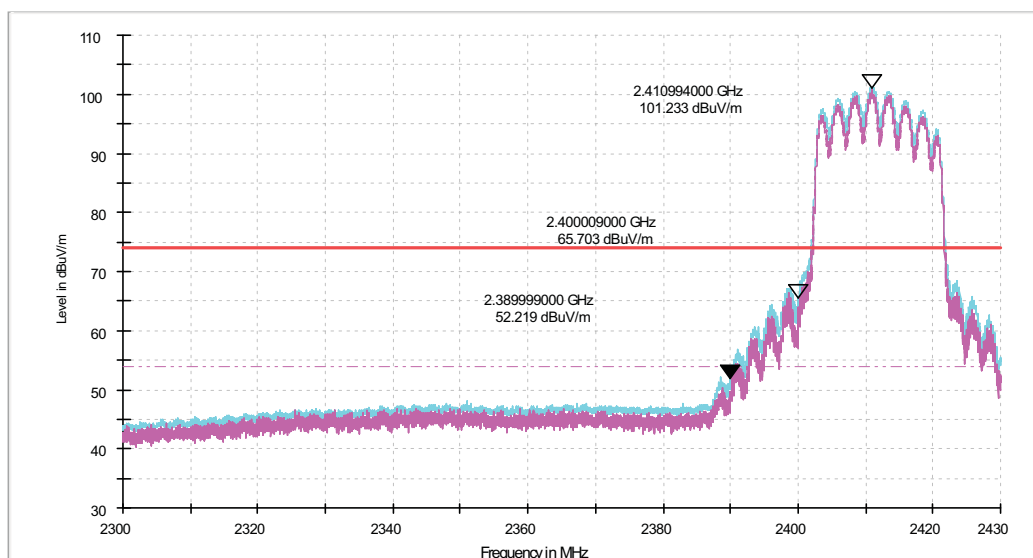
Test Mode	802.11n(HT20)	Channel	CH 1
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



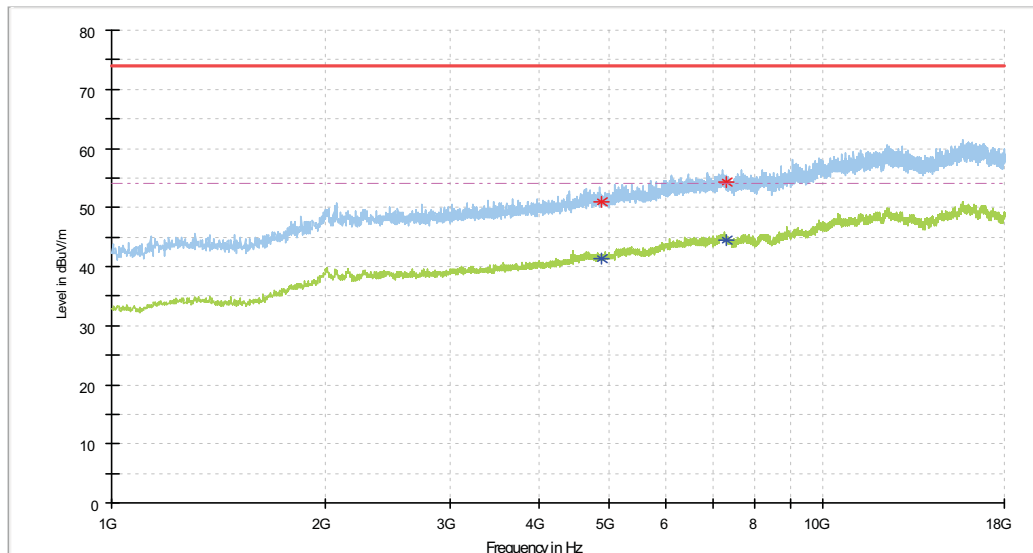
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



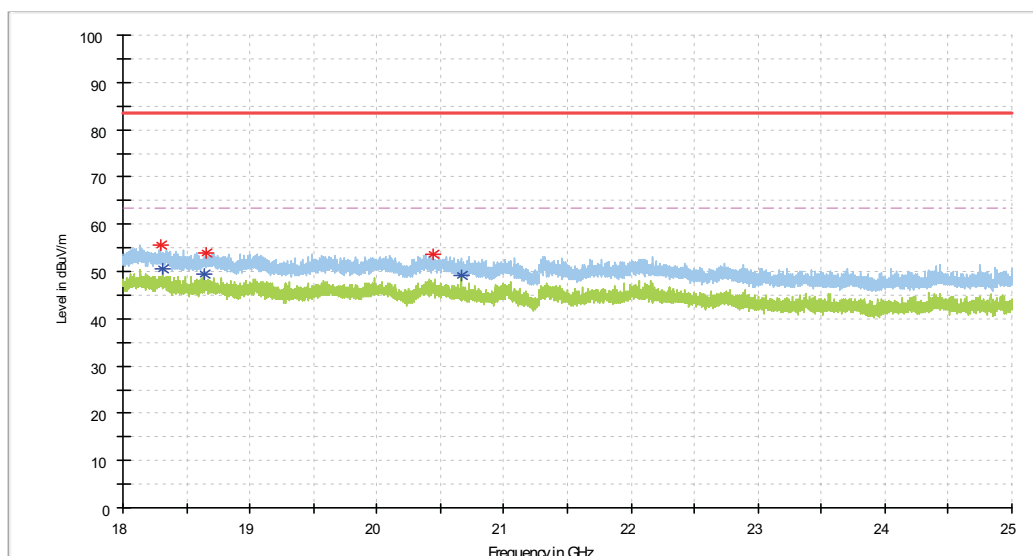
Test Mode	802.11n(HT20)	Channel	CH 6
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.4	54.0	12.6	100.0	15.0	6.9	Avg
2	4874.300	51.1	74.0	23.0	100.0	15.0	6.9	Peak
3	7310.400	54.4	74.0	19.6	100.0	122.0	9.9	Peak
4	7310.400	44.4	54.0	9.6	100.0	122.0	9.9	Avg

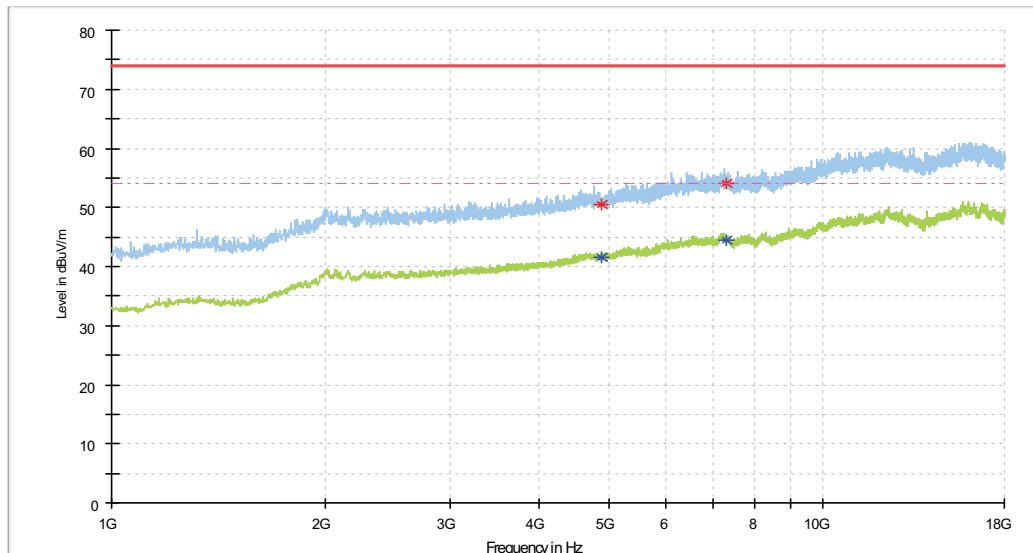
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

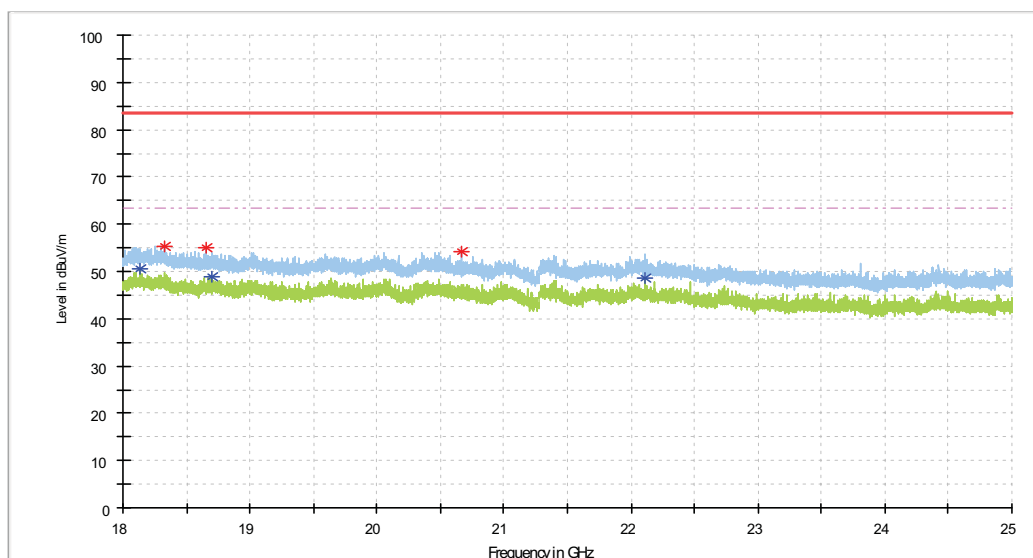
Test Mode	802.11n(HT20)	Channel	CH 6
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.6	54.0	12.4	100.0	210.0	6.9	Avg
2	4874.300	50.6	74.0	23.4	100.0	210.0	6.9	Peak
3	7312.100	44.5	54.0	9.5	100.0	314.0	9.9	Avg
4	7312.100	54.2	74.0	19.8	100.0	314.0	9.9	Peak

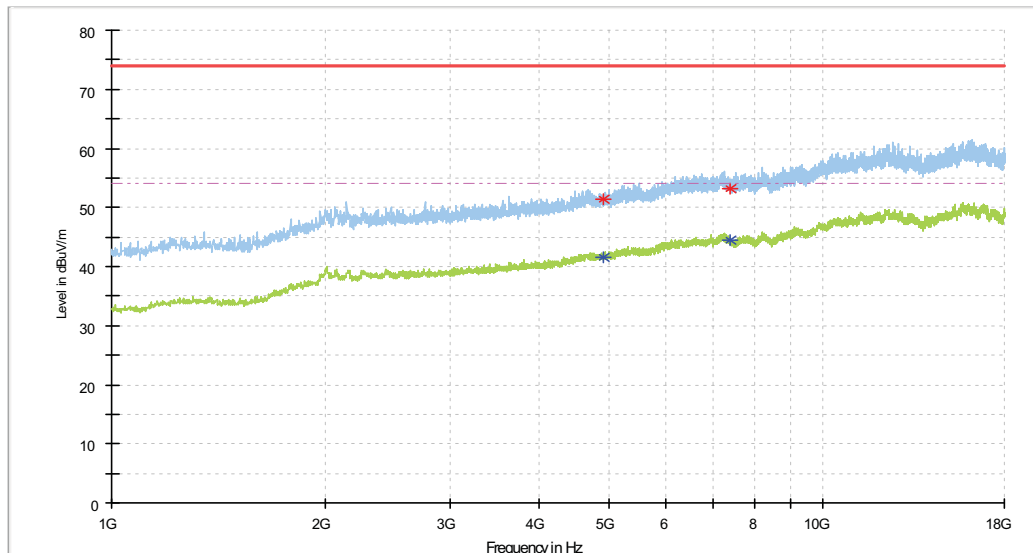
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

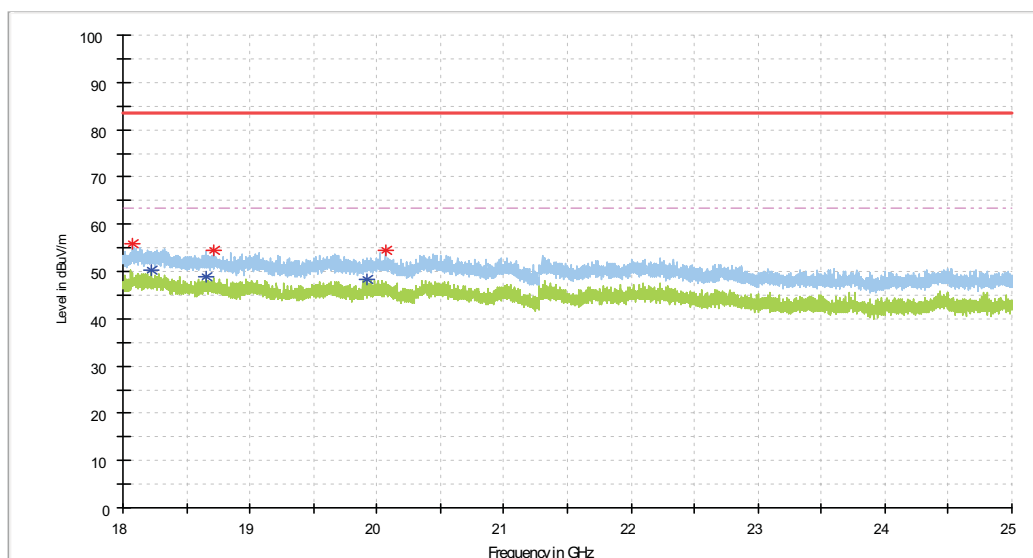
Test Mode	802.11n(HT20)	Channel	CH 11
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4925.300	41.6	54.0	12.4	100.0	196.0	7.1	Avg
2	4925.300	51.3	74.0	22.7	100.0	196.0	7.1	Peak
3	7386.900	44.4	54.0	9.6	100.0	169.0	10.1	Avg
4	7386.900	53.2	74.0	20.8	100.0	169.0	10.1	Peak

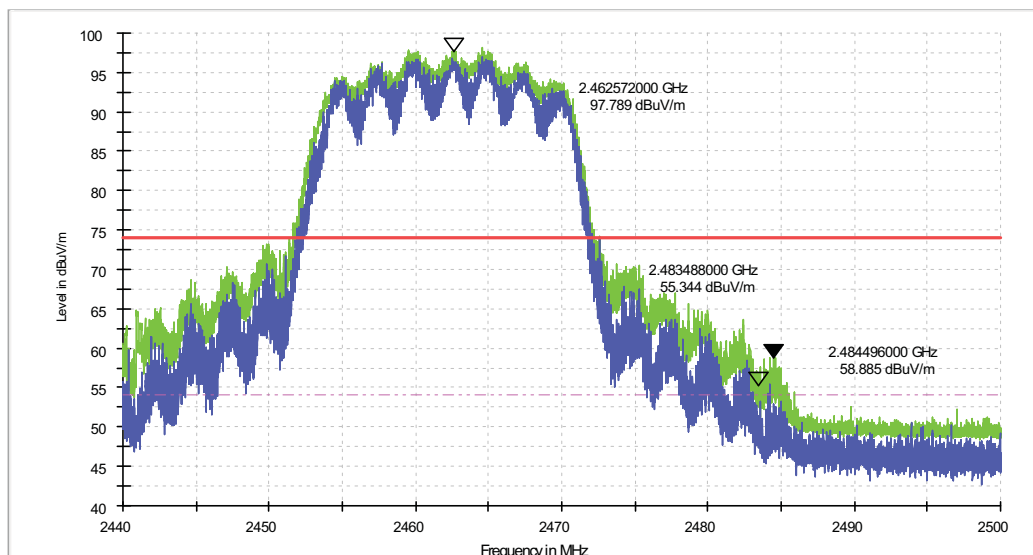
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

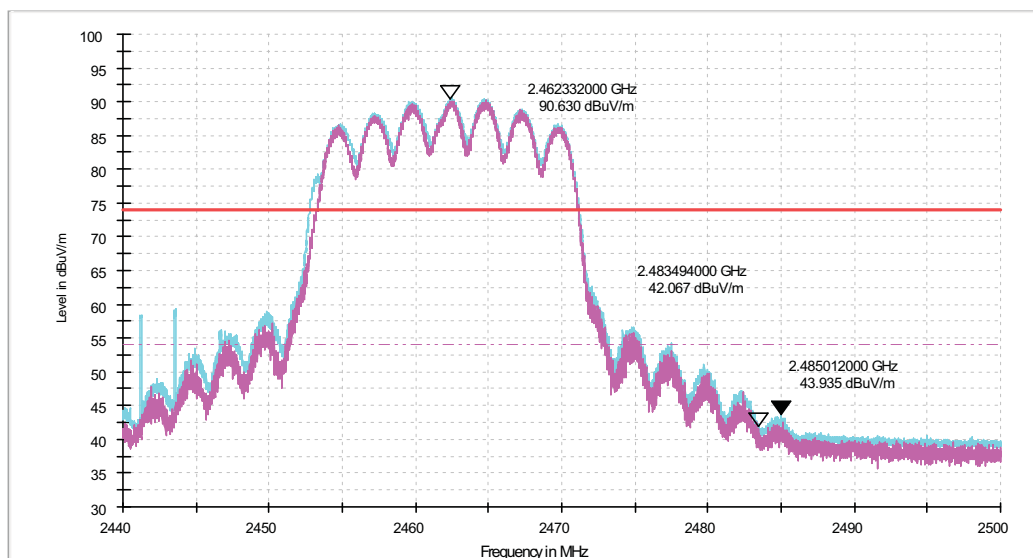
Test Mode	802.11n(HT20)	Channel	CH 11
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



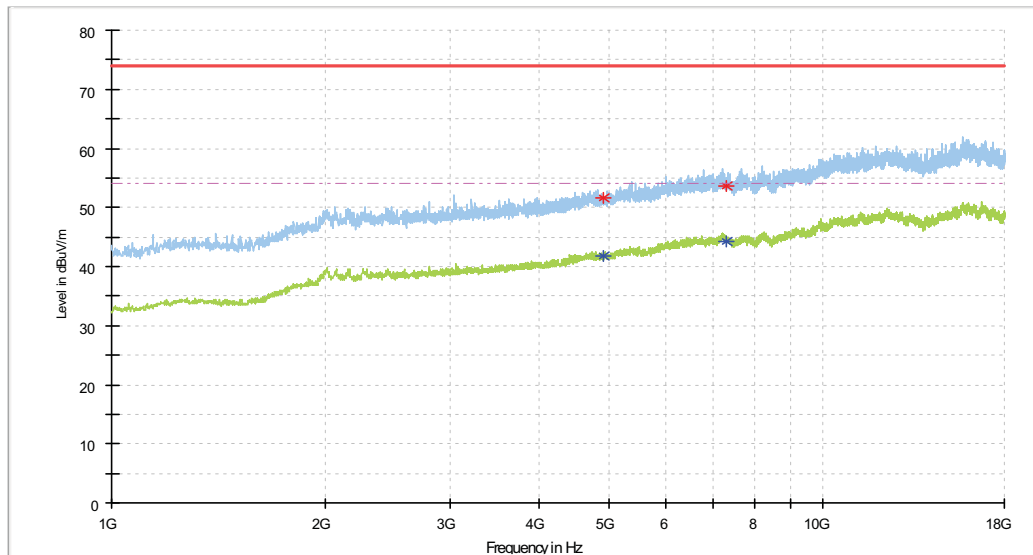
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



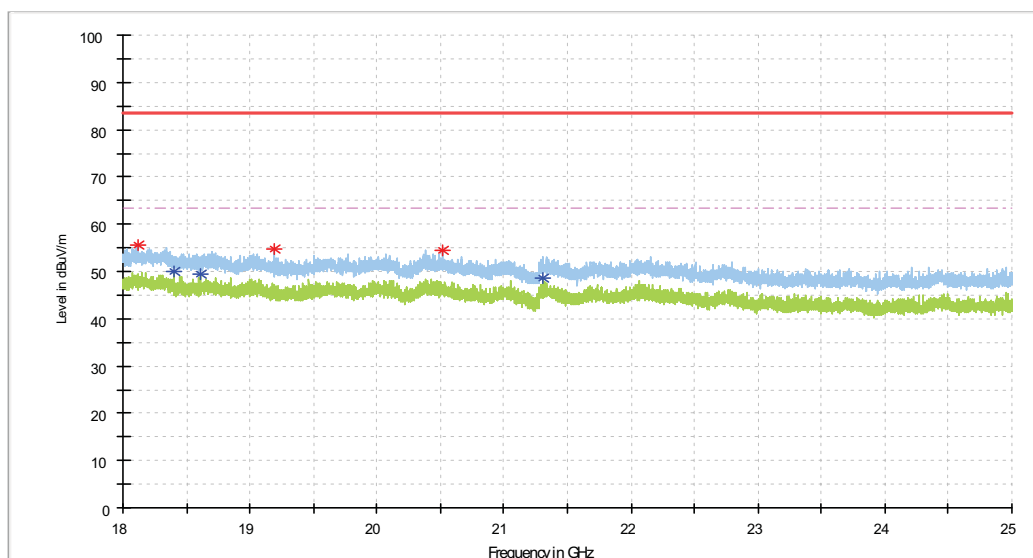
Test Mode	802.11n(HT20)	Channel	CH 11
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4925.300	41.8	54.0	12.2	100.0	94.0	7.1	Peak
2	4925.300	51.7	74.0	22.3	100.0	94.0	7.1	Avg
3	7327.400	44.2	54.0	9.8	100.0	30.0	9.9	Avg
4	7327.400	53.7	74.0	20.3	100.0	30.0	9.9	Peak

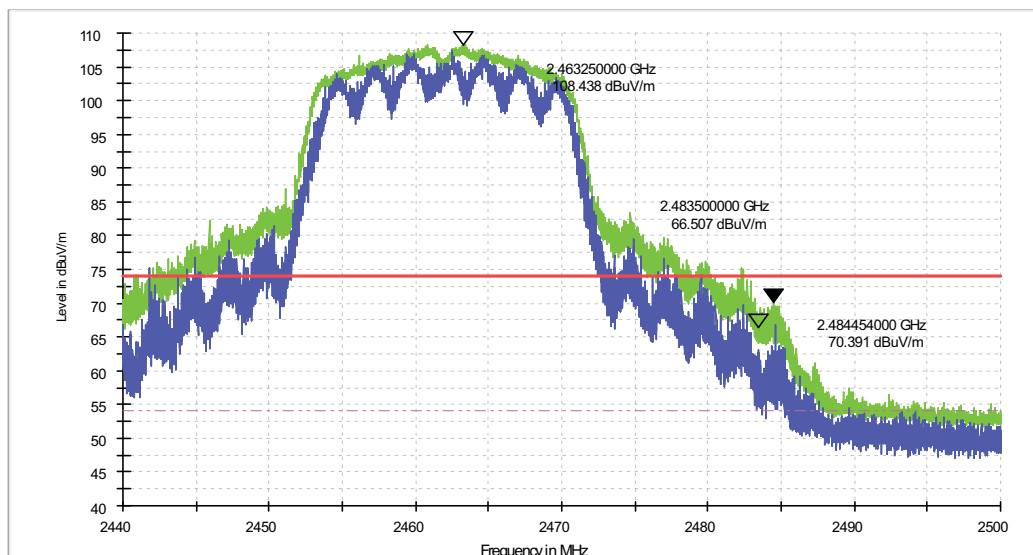
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

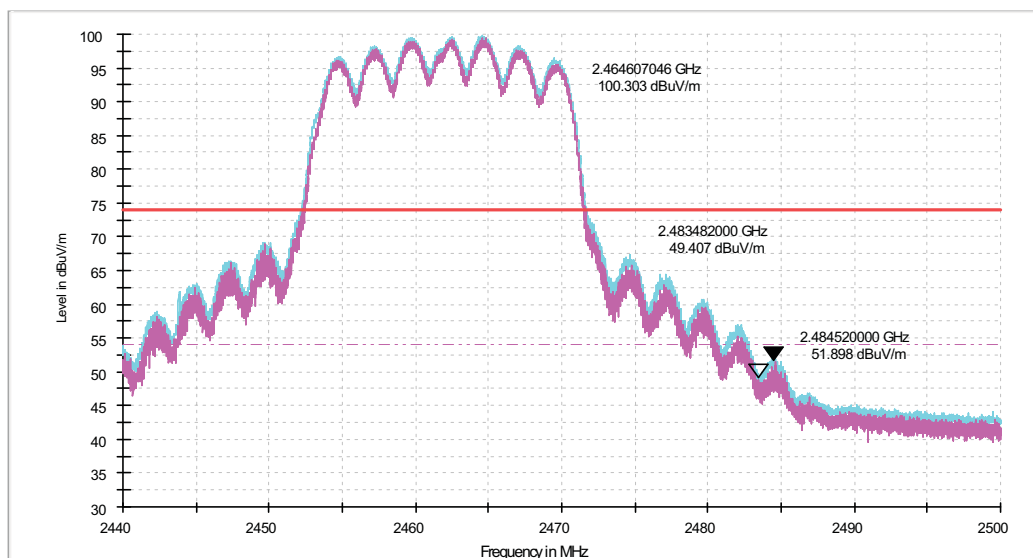
Test Mode	802.11n(HT20)	Channel	CH 11
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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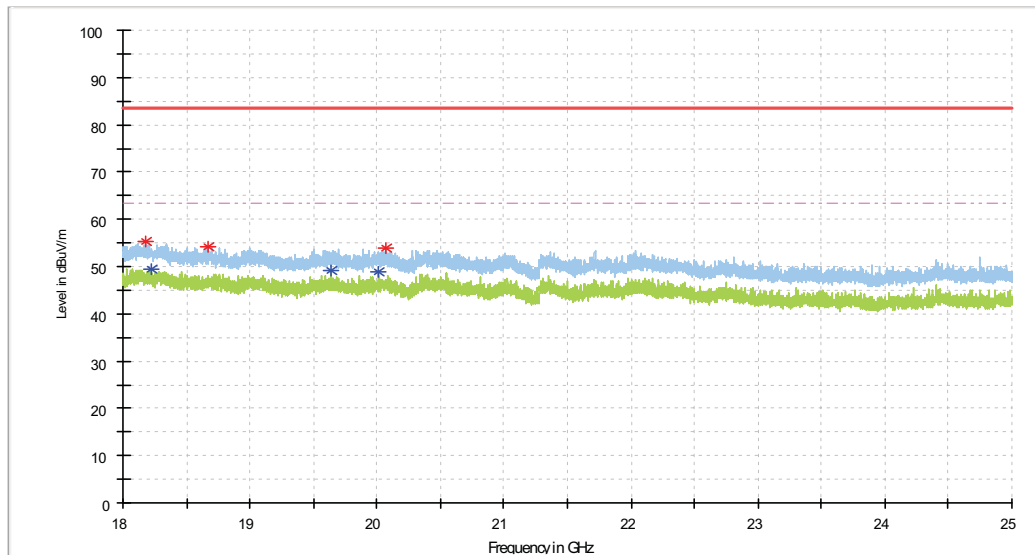
Test frequency range :2440 MHz-2500MHz





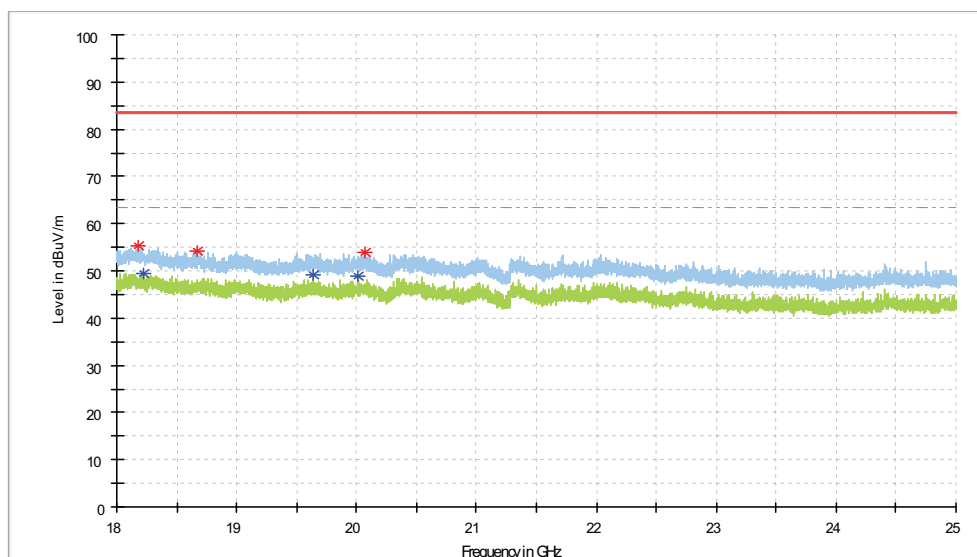
Test Mode	802.11n(HT40)	Channel	CH 3
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	18179.200	55.4	83.5	28.1	200.0	37.0	0.3	Peak
2	20067.800	53.8	83.5	29.7	200.0	54.0	0.9	Peak
3	18672.000	54.2	83.5	29.3	100.0	108.0	0.1	Peak
4	18223.300	49.6	63.5	13.9	100.0	141.0	0.2	Avg
5	19636.600	49.1	63.5	14.4	100.0	241.0	0.9	Avg
6	20017.400	49.0	63.5	14.5	100.0	294.0	0.8	Avg

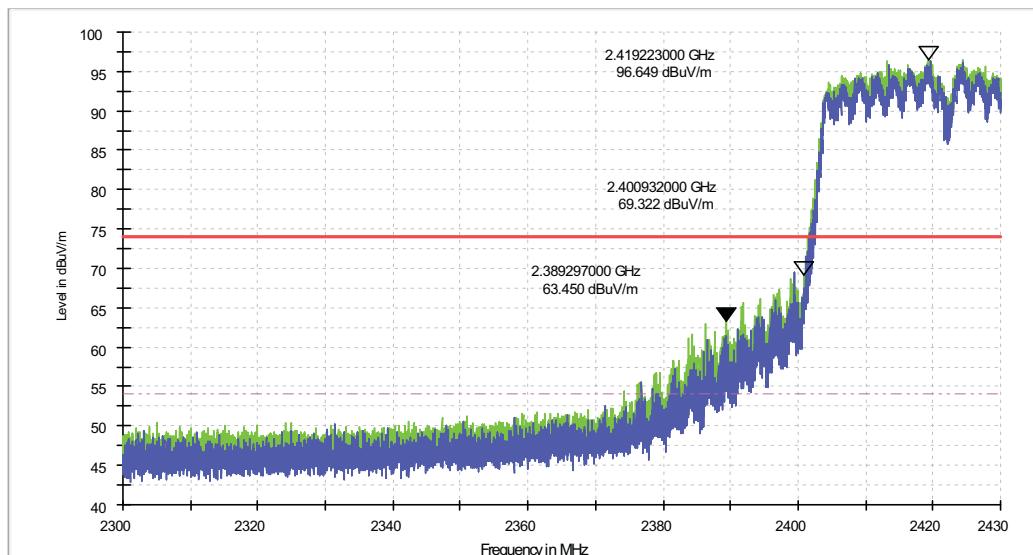
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

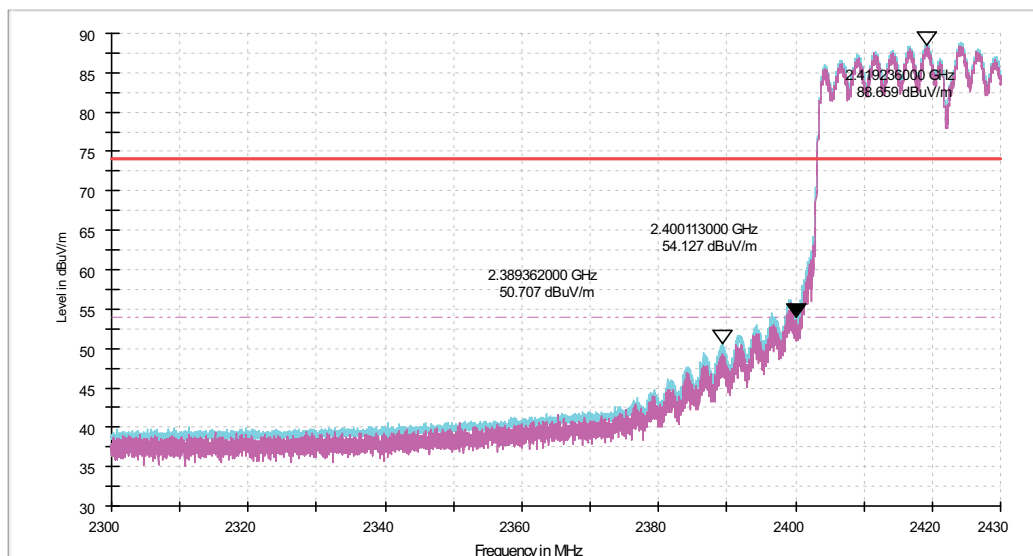
Test Mode	802.11n(HT40)	Channel	CH 3
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



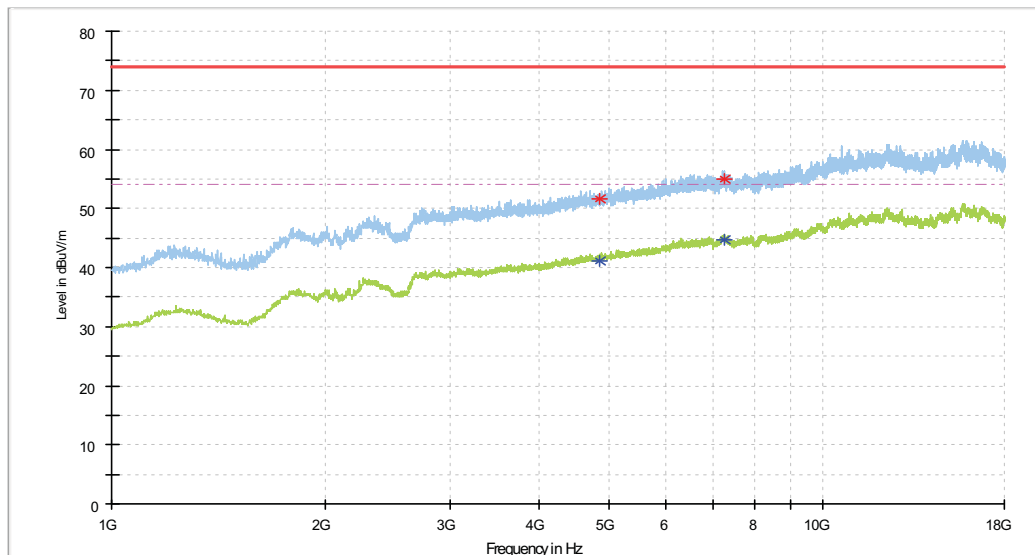
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



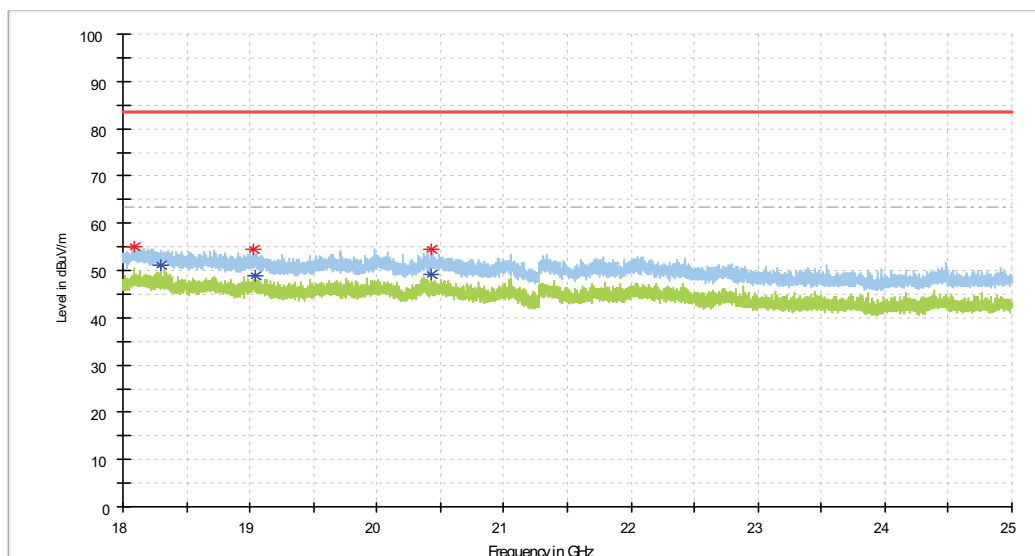
Test Mode	802.11n(HT40)	Channel	CH 3
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4845.400	41.0	54.0	13.0	100.0	158.0	6.9	Avg
2	4845.400	51.6	74.0	22.4	200.0	0.0	6.9	Peak
3	7266.200	44.7	54.0	9.3	200.0	206.0	10.1	Avg
4	7266.200	55.0	74.0	19.0	100.0	37.0	10.1	Peak

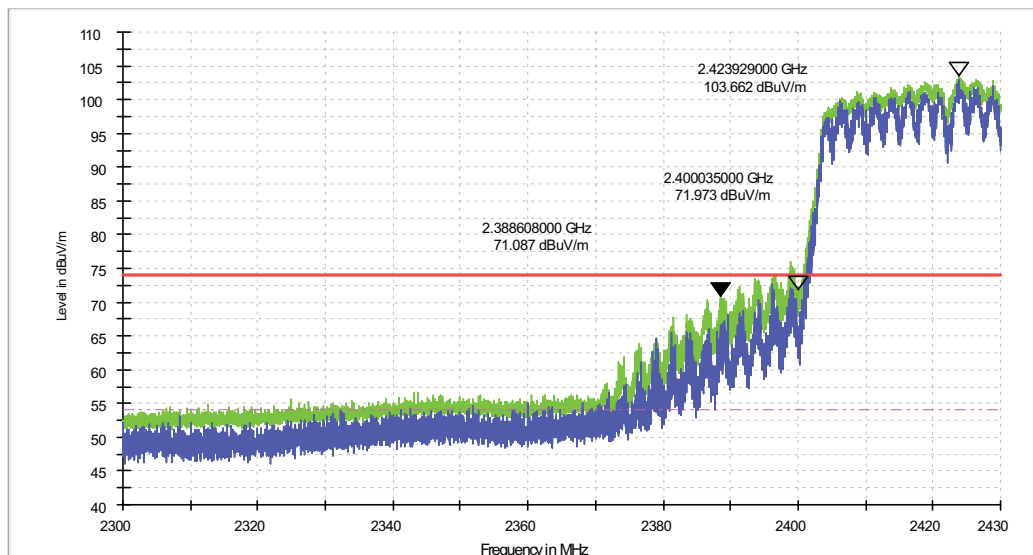
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

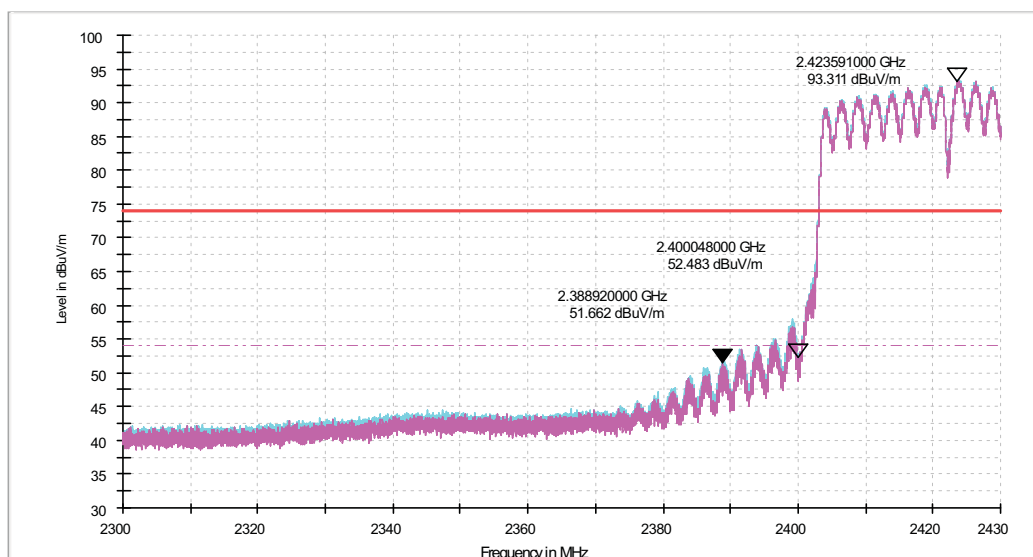
Test Mode	802.11n(HT40)	Channel	CH 3
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2300 MHz-2430MHz



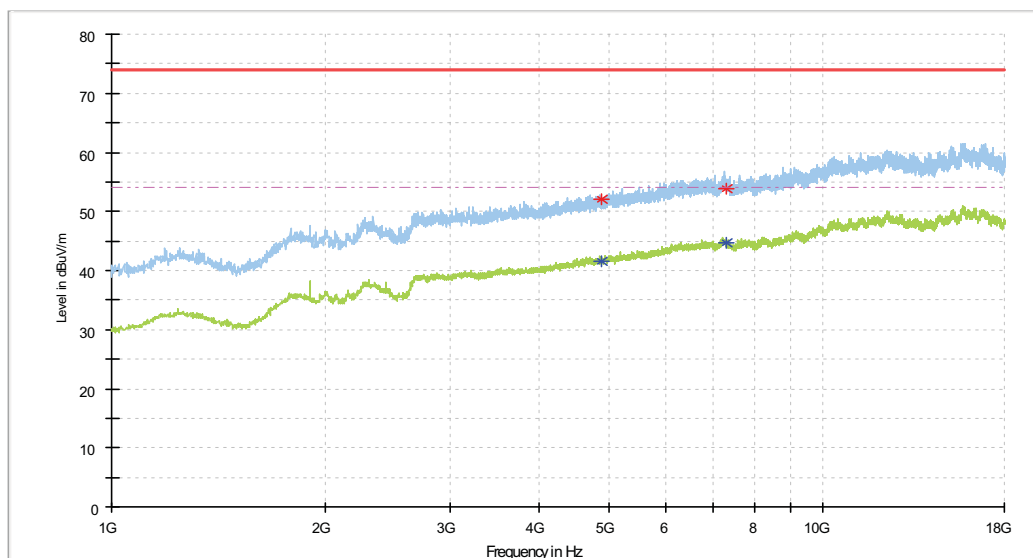
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2300 MHz-2430MHz



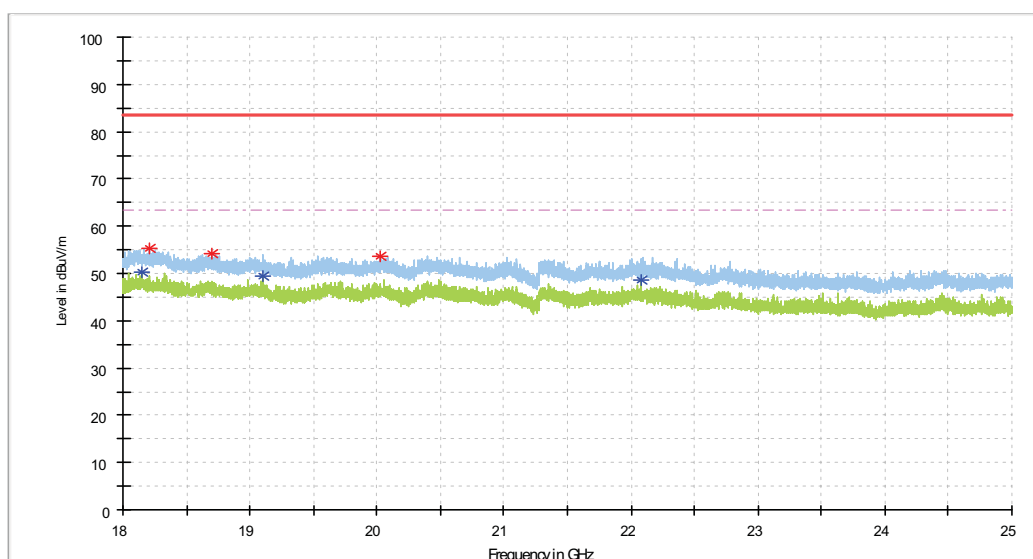
Test Mode	802.11n(HT40)	Channel	CH 6
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	41.5	54.0	12.5	100.0	120.0	6.9	Avg
2	4874.300	52.1	74.0	21.9	100.0	120.0	6.9	Peak
3	7311.400	44.7	54.0	9.3	200.0	5.0	9.9	Avg
4	7311.400	53.9	74.0	20.1	200.0	5.0	9.9	Peak

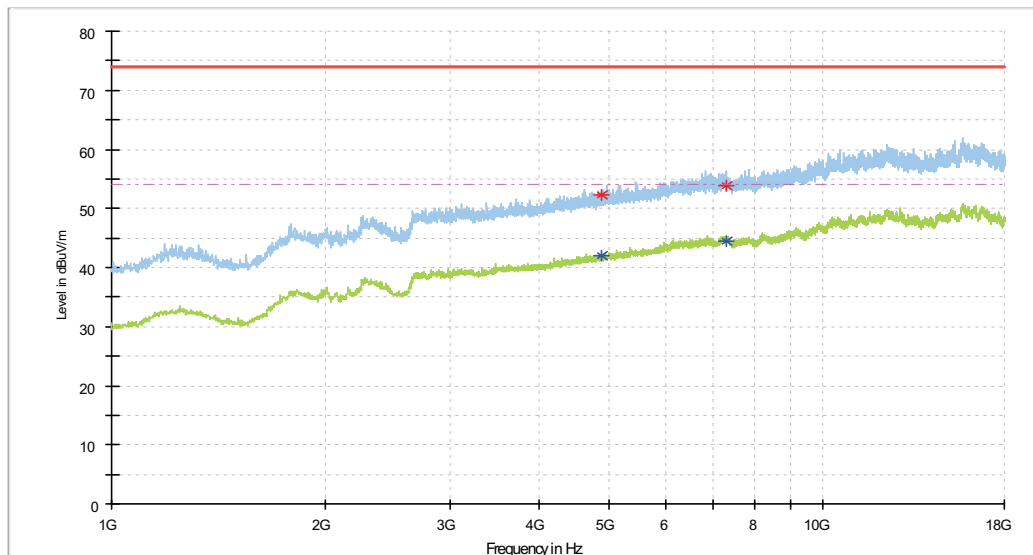
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

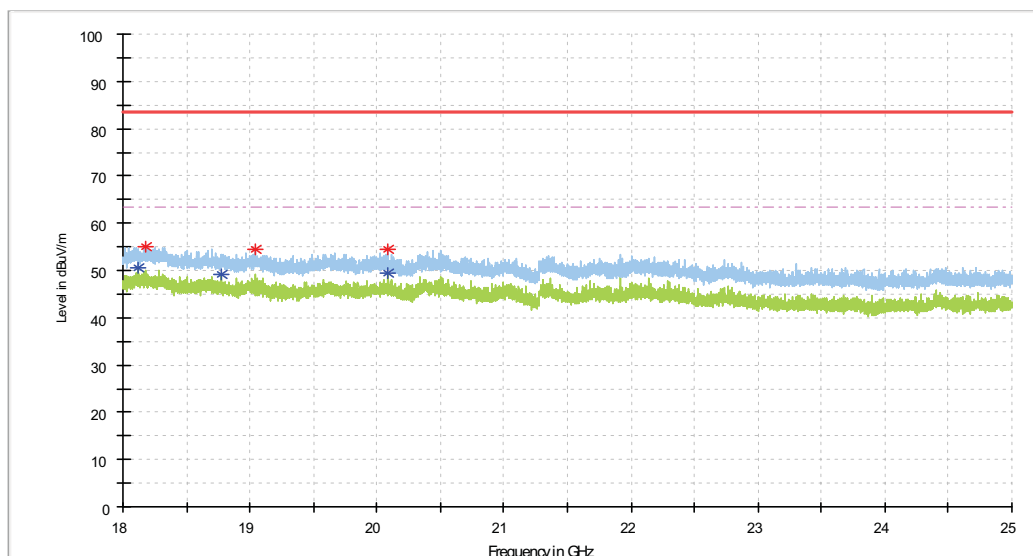
Test Mode	802.11n(HT40)	Channel	CH 6
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4874.300	42.1	54.0	11.9	200.0	80.0	6.9	Avg
2	4874.300	52.3	74.0	21.7	200.0	80.0	6.9	Peak
3	7311.100	44.5	54.0	9.5	200.0	281.0	9.9	Avg
4	7311.100	54.0	74.0	20.0	200.0	281.0	9.9	Peak

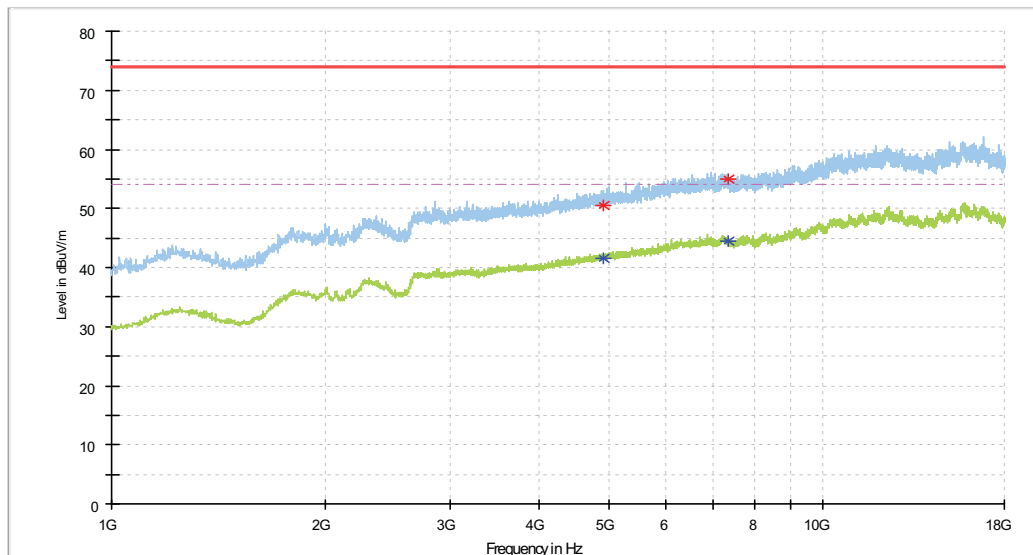
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

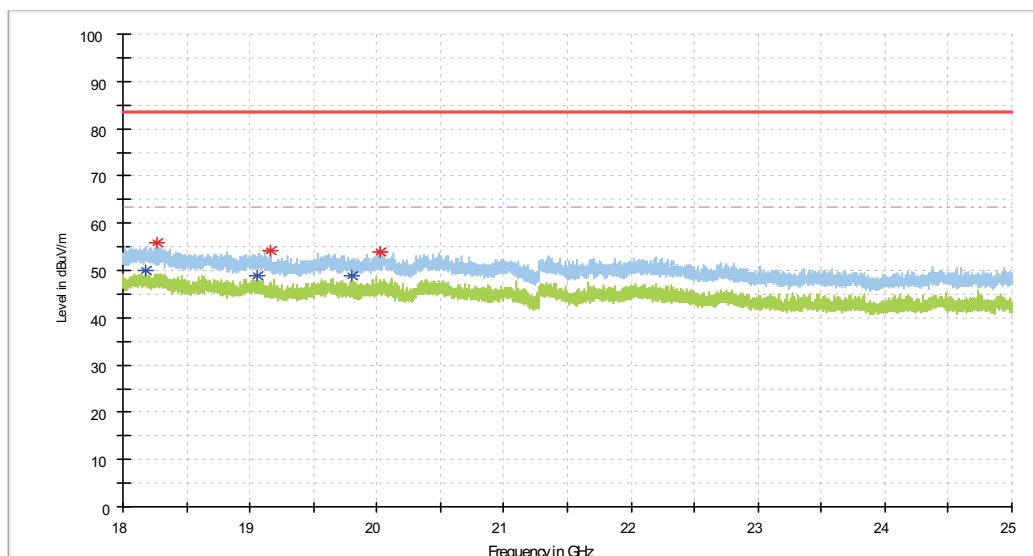
Test Mode	802.11n(HT40)	Channel	CH 9
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4904.200	41.6	54.0	12.4	100.0	279.0	7.0	Avg
2	4904.600	50.6	74.0	23.4	200.0	12.0	7.0	Peak
3	7356.900	44.5	54.0	9.5	100.0	0.0	10.0	Avg
4	7356.600	54.9	74.0	19.1	200.0	330.0	10.0	Peak

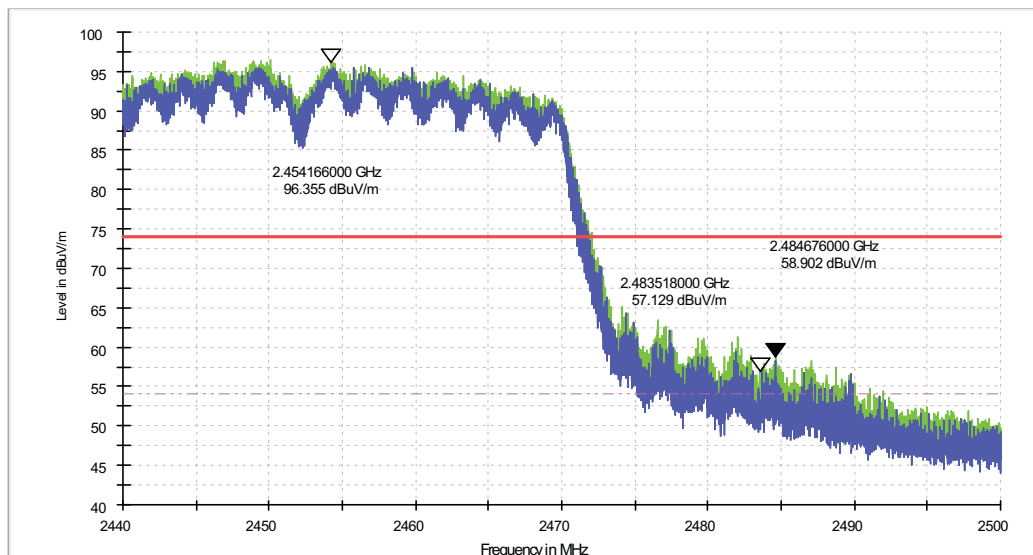
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

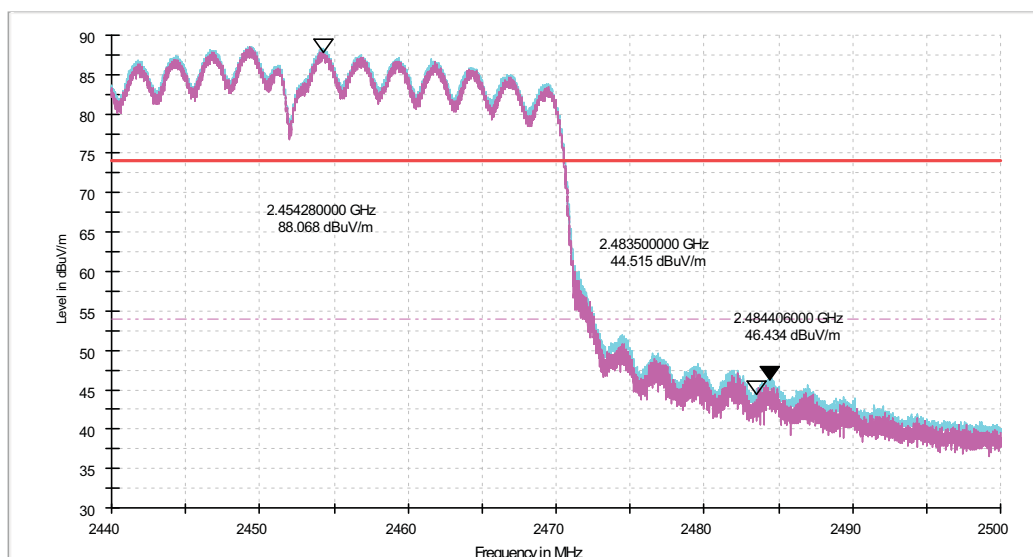
Test Mode	802.11n(HT40)	Channel	CH 9
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



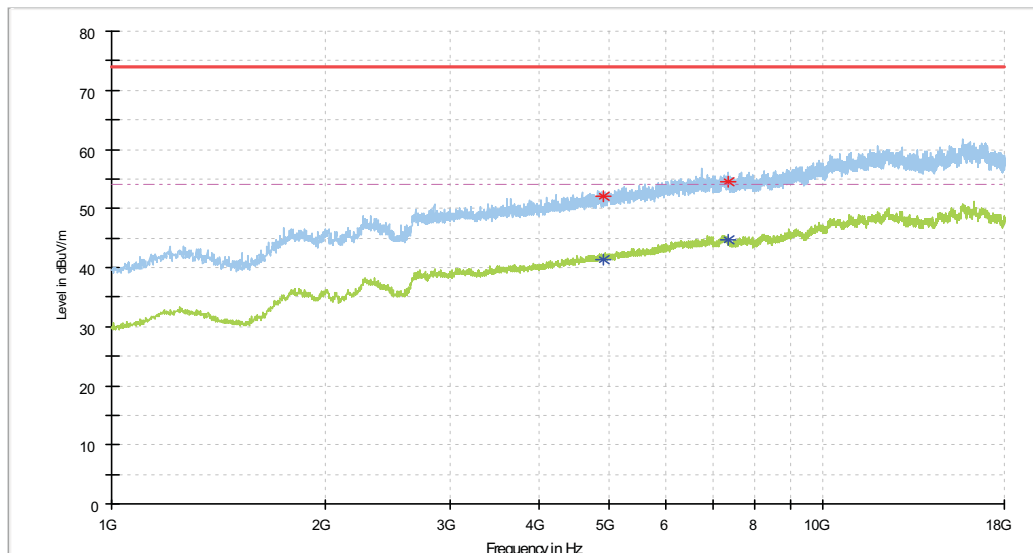
Antenna Polarity & Test Distance	Horizontal at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



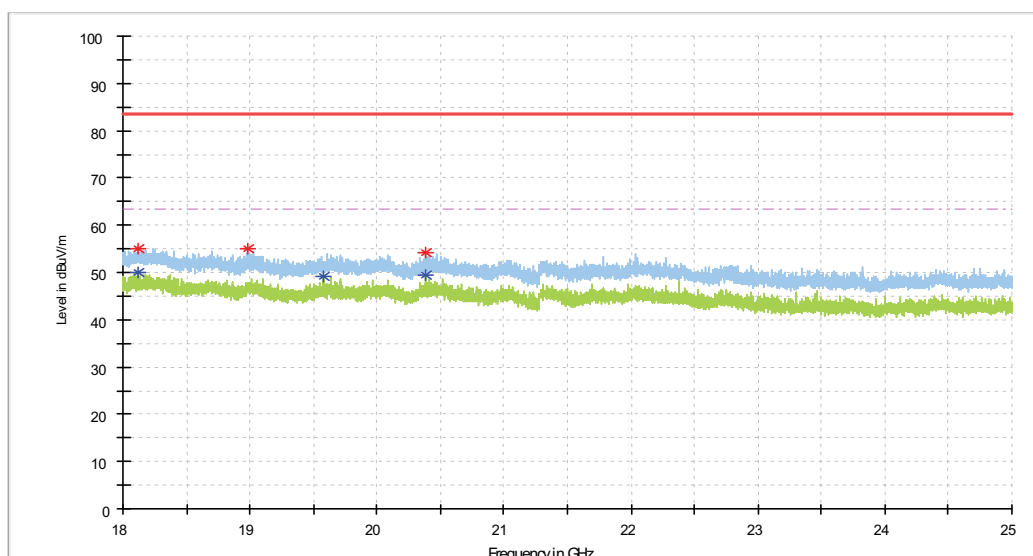
Test Mode	802.11n(HT40)	Channel	CH 9
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK) Average (AV)

Test frequency range :1G-18G



NO.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB/m)	Remark
1	4904.400	41.4	54.0	12.6	200.0	96.0	7.0	Avg
2	4904.400	52.0	74.0	22.0	200.0	96.0	7.0	Peak
3	7356.300	44.7	54.0	9.3	200.0	11.0	10.0	Avg
4	7356.300	54.6	74.0	19.4	200.0	11.0	10.0	Peak

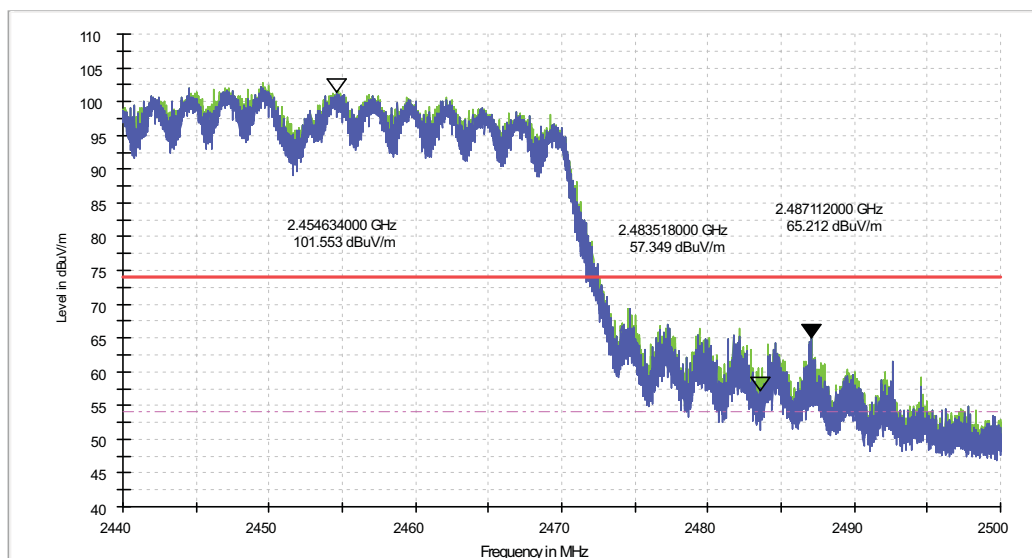
Test frequency range :18G-25G



Remark: The emission levels of other frequencies were greater than 10dB margin.

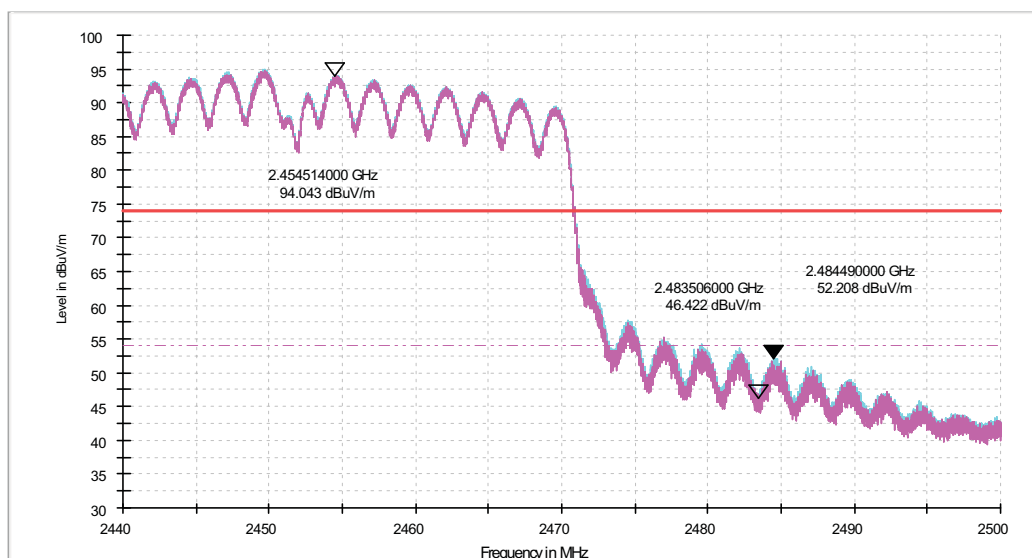
Test Mode	802.11n(HT40)	Channel	CH 9
Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Peak (PK)

Test frequency range :2440 MHz-2500MHz



Antenna Polarity & Test Distance	Vertical at 3m	Detector Function	Average (AV)
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Test frequency range :2440 MHz-2500MHz



3.2 6dB BANDWIDTH MEASUREMENT

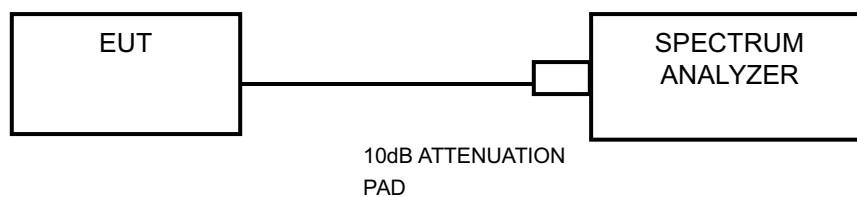
3.2.1 Limits

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

3.2.2 Measurement procedure

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

3.2.3 Test setup





3.2.4 Test result

Please refer Annex A.

3.3 CONDUCTED OUTPUT POWER

3.3.1 Limits

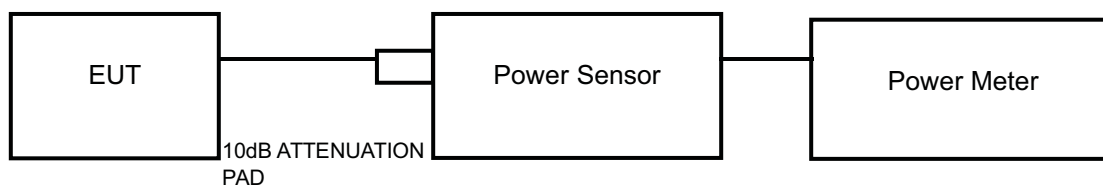
Forsystems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm).

3.3.2 Measurement procedure

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

3.3.3 Test setup

Please refer Annex A.





3.3.4 Test result

Please refer Annex A.

3.4 POWER SPECTRAL DENSITY MEASUREMENT

3.4.1 Limits

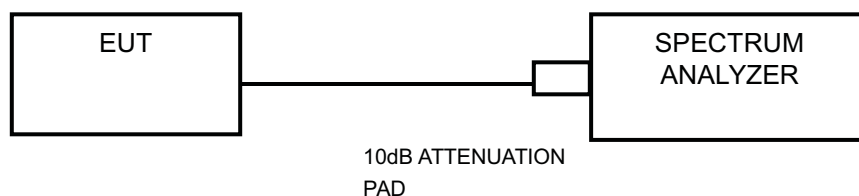
The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

3.4.2 Measurement procedure

- Set instrument center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set RBW to: 3KHz
- Set VBW $\geq 3 \times$ RBW.
- Detector = peak
- Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
- Sweep time = auto couple.
- Use the peak marker function to determine the maximum amplitude level.

3.4.3 Test setup

Please refer Annex A.





3.4.4 Test result

Please refer Annex A.

3.5 OUT OF BAND EMISSION MEASUREMENT

3.5.1 Limits

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

3.5.2 Measurement procedure

Measurement Procedure -Reference Level

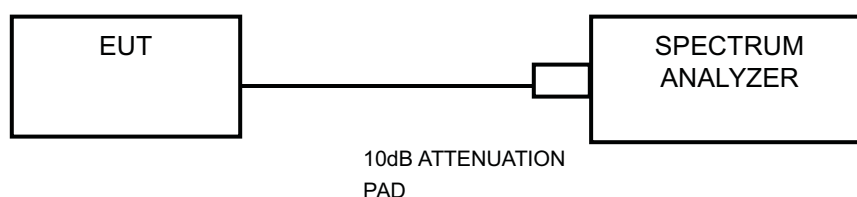
- Set the RBW = 100 kHz.
- Set the VBW $\geq$ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHzband segment within the fundamental EBW.

Measurement Procedure –Unwanted Emission Level

- Set RBW = 100 kHz.
- Set VBW $\geq$ 300 kHz.
- Set span to encompass the spectrum to be examined
- Detector = peak.
- Trace Mode = max hold.
- Sweep = auto couple.

3.5.3 Test setup

Please refer Annex A.





3.5.4 Test result

Please refer Annex A.



4 PHOTOGRAPHS OF TEST SETUP

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

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5 Appendix A. Test Results

Please refer to the following pages for test results.



5.1 DTS Bandwidth

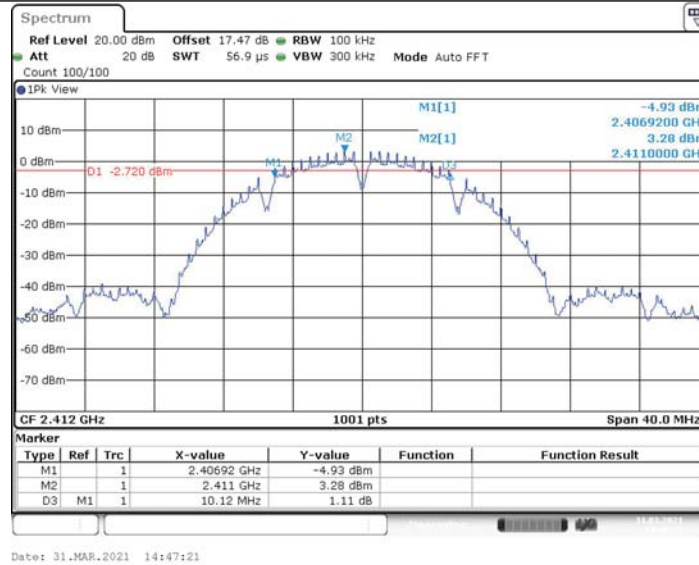
5.1.1 Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-CDD	Ant1	2412	10.120	2406.920	2417.040	0.5	PASS
	Ant2	2412	9.160	2407.400	2416.560	0.5	PASS
	Ant1	2437	9.640	2431.920	2441.560	0.5	PASS
	Ant2	2437	9.640	2431.920	2441.560	0.5	PASS
	Ant1	2462	10.120	2456.920	2467.040	0.5	PASS
	Ant2	2462	10.120	2456.920	2467.040	0.5	PASS
11G-CDD	Ant1	2412	16.400	2403.800	2420.200	0.5	PASS
	Ant2	2412	16.400	2403.800	2420.200	0.5	PASS
	Ant1	2437	16.160	2428.760	2444.920	0.5	PASS
	Ant2	2437	16.400	2428.760	2445.160	0.5	PASS
	Ant1	2462	16.400	2453.800	2470.200	0.5	PASS
	Ant2	2462	16.400	2453.800	2470.200	0.5	PASS
11N20MIMO	Ant1	2412	17.640	2403.160	2420.800	0.5	PASS
	Ant2	2412	17.640	2403.160	2420.800	0.5	PASS
	Ant1	2437	17.400	2428.160	2445.560	0.5	PASS
	Ant2	2437	17.040	2428.160	2445.200	0.5	PASS
	Ant1	2462	17.640	2453.160	2470.800	0.5	PASS
	Ant2	2462	17.000	2453.800	2470.800	0.5	PASS
11N40MIMO	Ant1	2422	35.200	2403.760	2438.960	0.5	PASS
	Ant2	2422	34.560	2403.760	2438.320	0.5	PASS
	Ant1	2437	36.080	2418.760	2454.840	0.5	PASS
	Ant2	2437	35.200	2418.760	2453.960	0.5	PASS
	Ant1	2452	36.240	2433.760	2470.000	0.5	PASS
	Ant2	2452	35.200	2433.760	2468.960	0.5	PASS

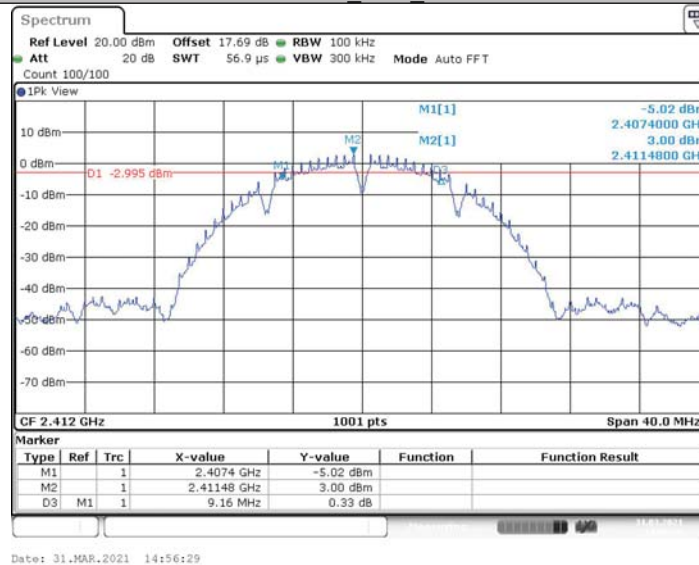


5.1.2 Test Graphs

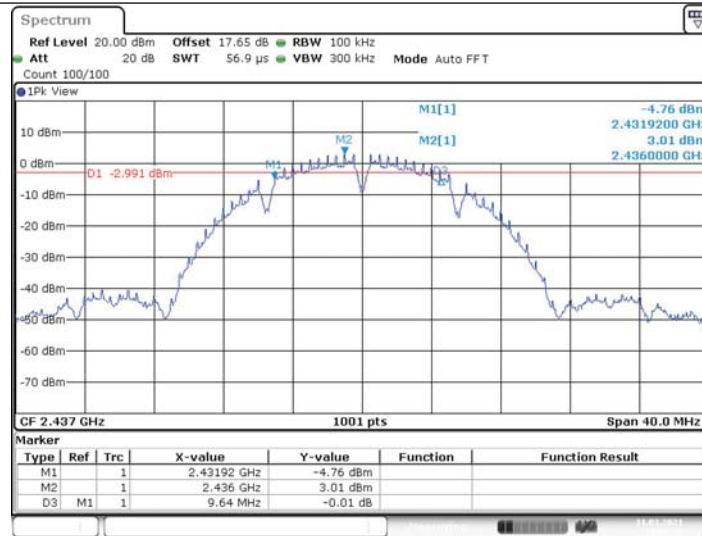
11B-CDD_Ant1_2412



11B-CDD_Ant2_2412

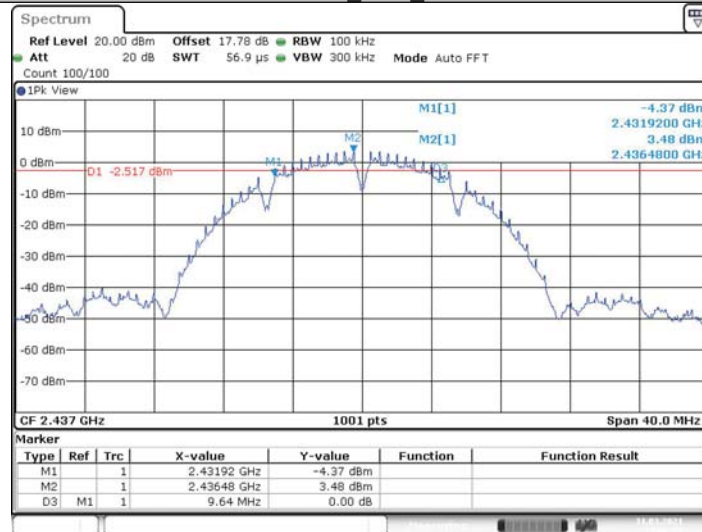


11B-CDD_Ant1_2437



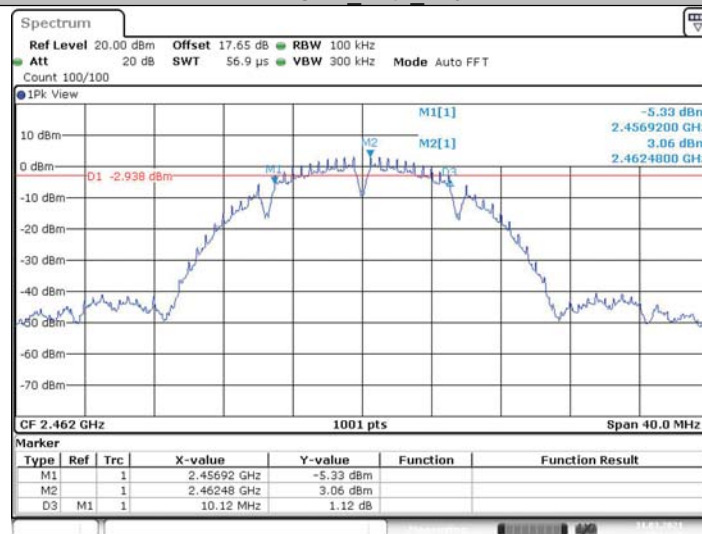
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11B-CDD Ant2 2437



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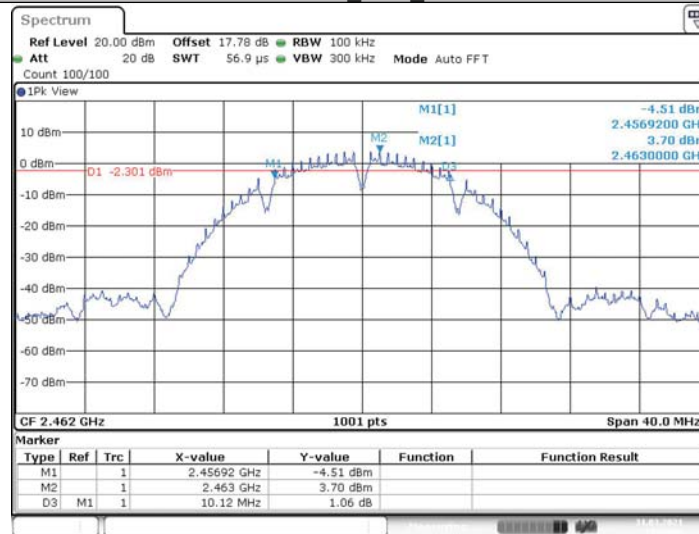
11B-CDD Ant1 2462



Date: 31.MAR.2021 15:11:17

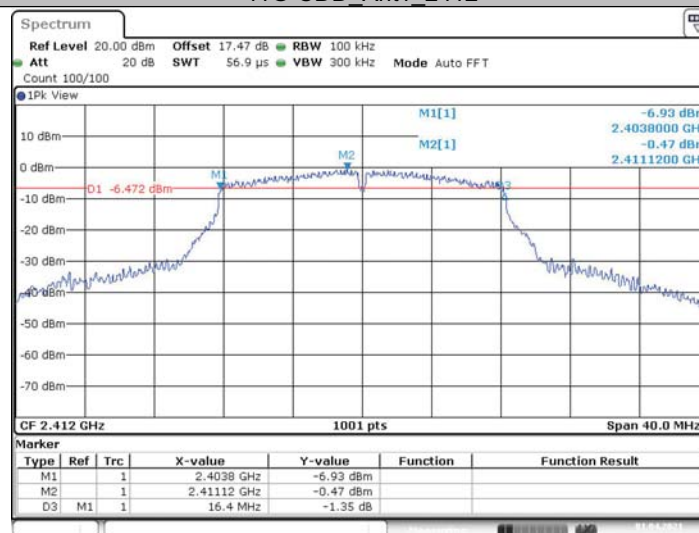


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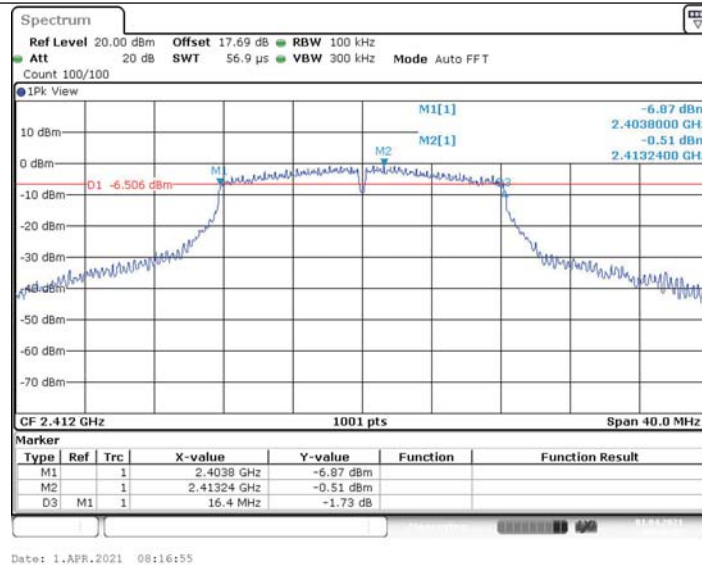
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11G-CDD_Ant1_2412

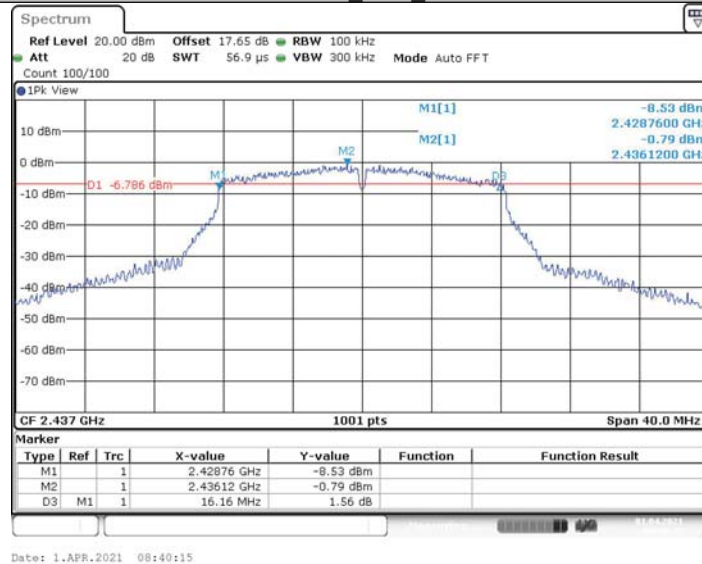


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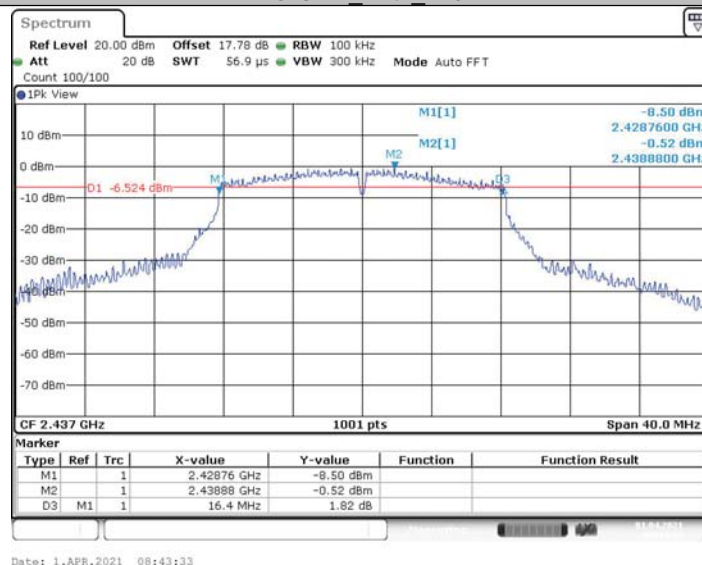
11G-CDD_Ant2_2412



11G-CDD Ant1 2437

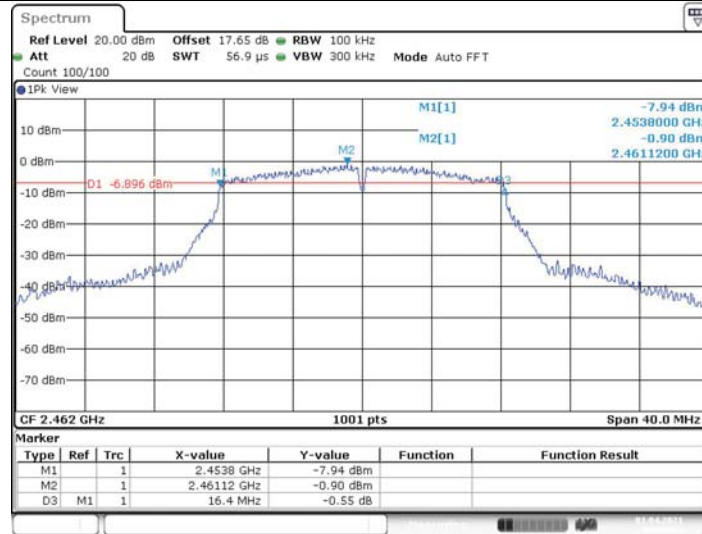


11G-CDD Ant2 2437

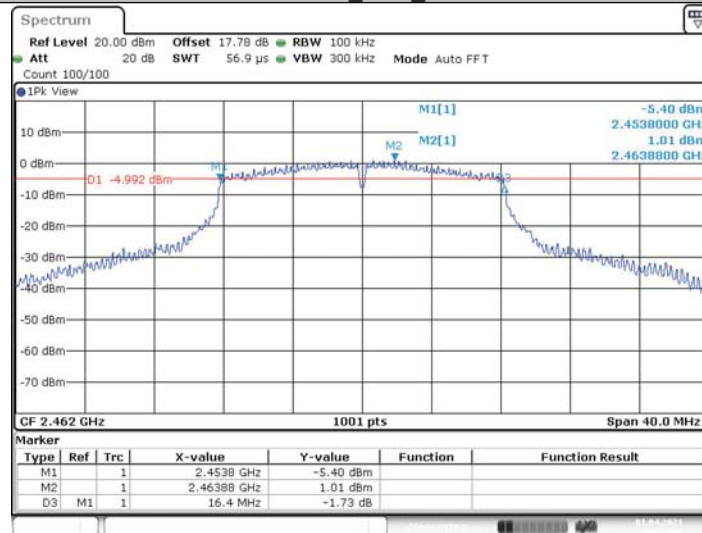




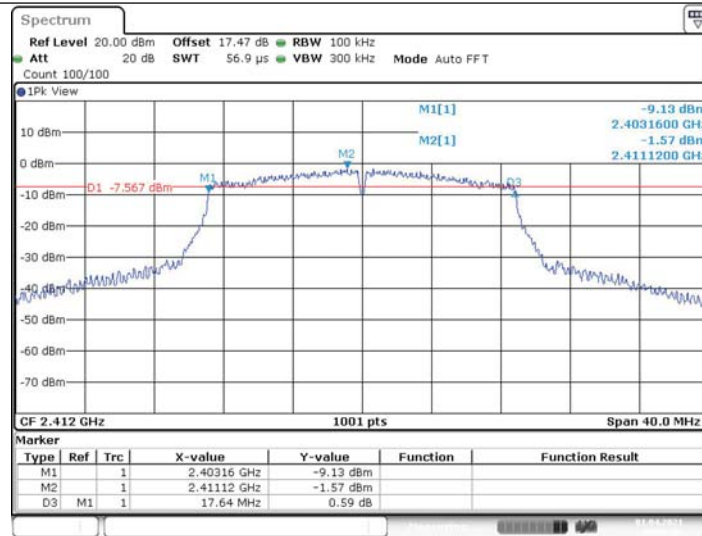
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11G-CDD_Ant2_2462

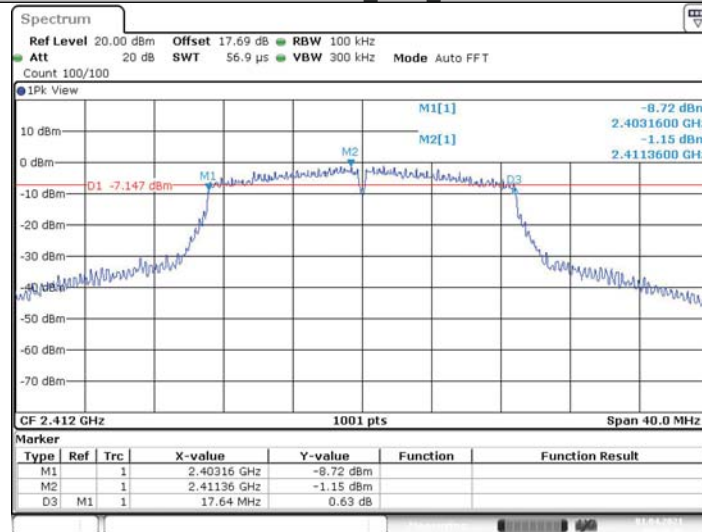


11N20MIMO_Ant1_2412



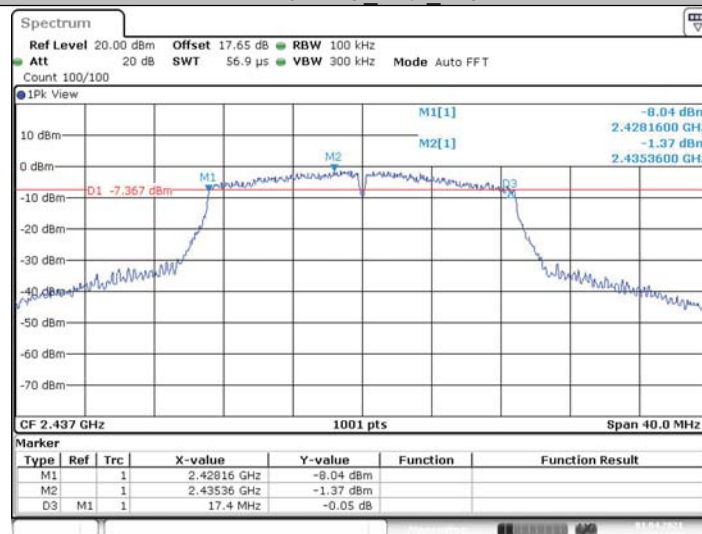
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11N20MIMO Ant2 2412



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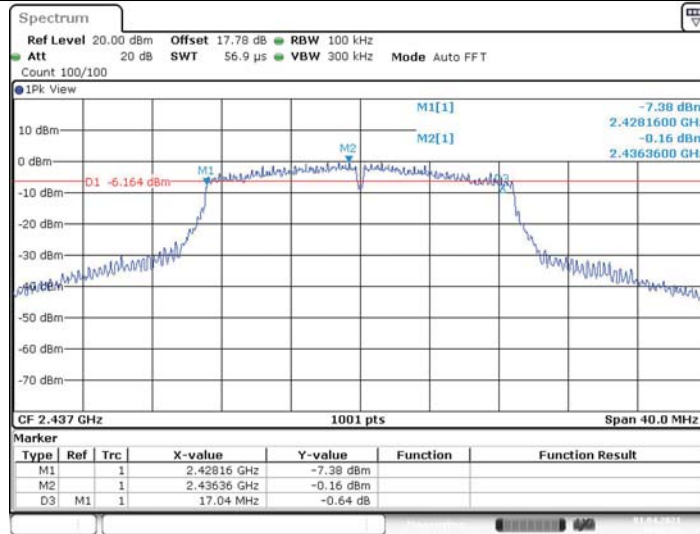
11N20MIMO Ant1 2437



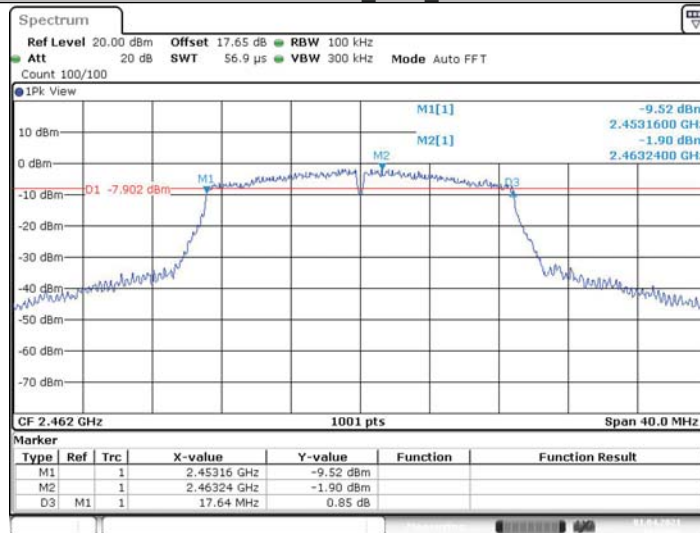
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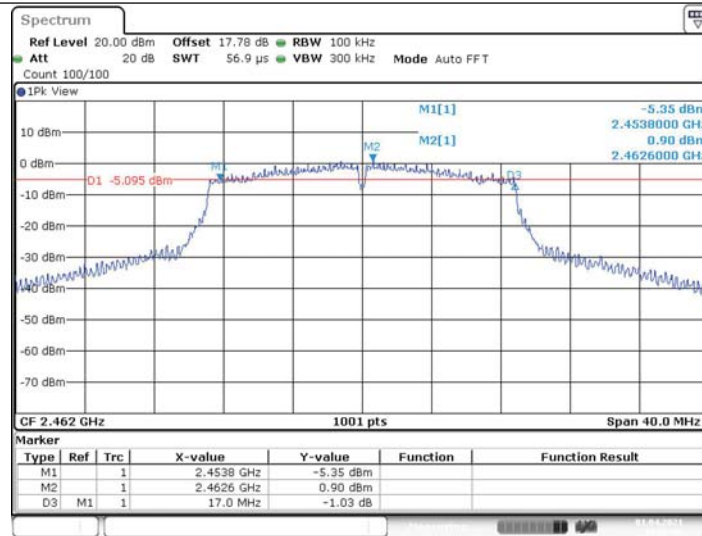
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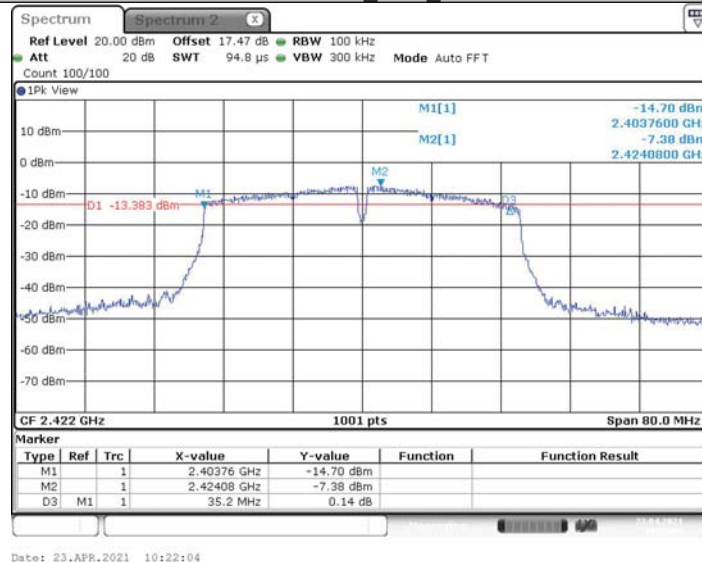
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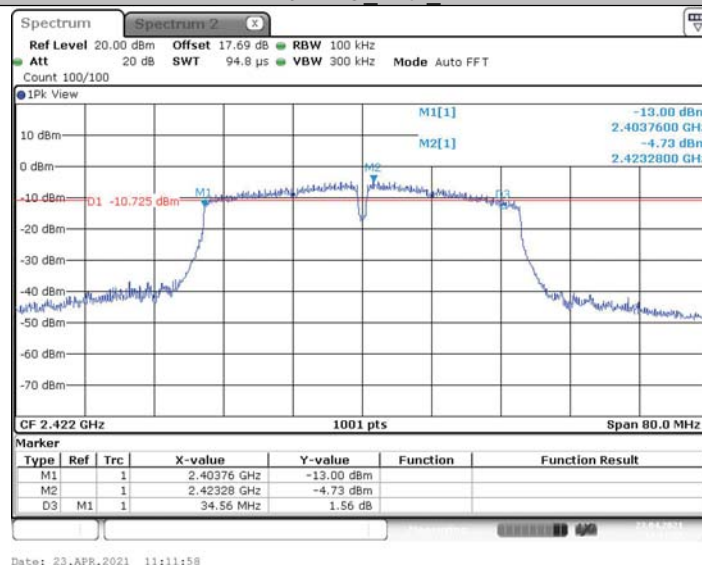
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11N40MIMO Ant1 2422

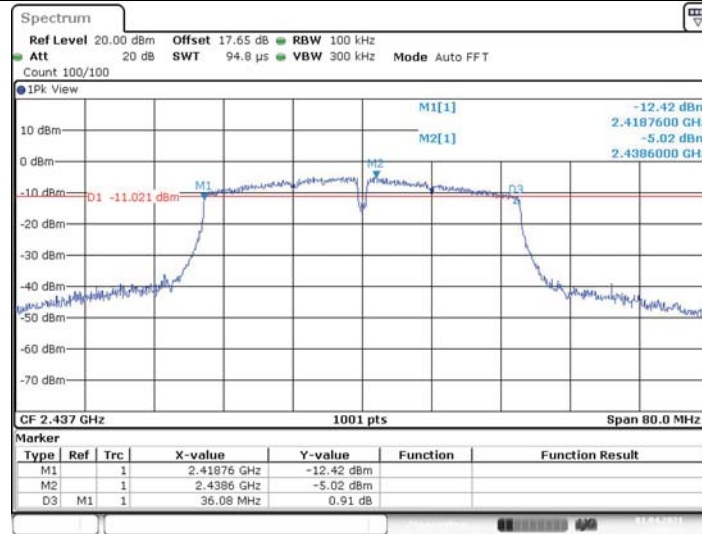


11N40MIMO Ant2 2422



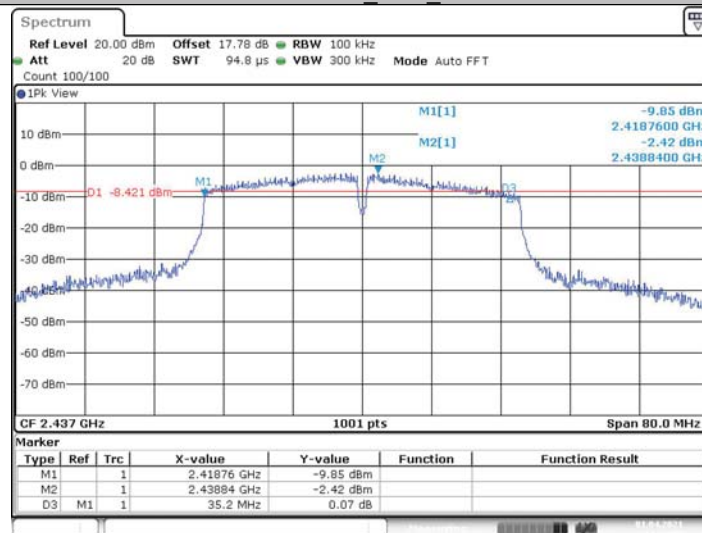


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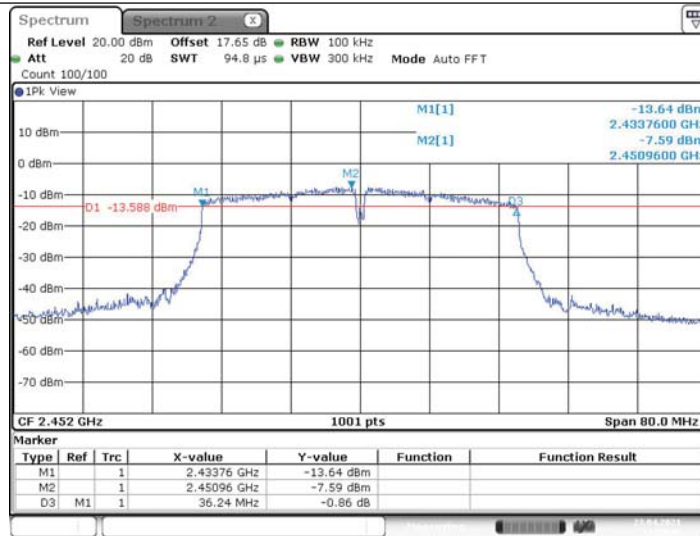
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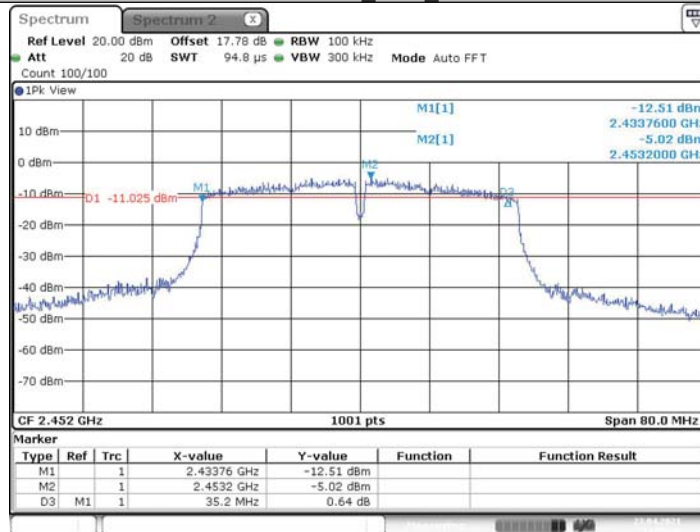
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11N40MIMO_Ant1_2452



Date: 23.APR.2021 11:29:50

11N40MIMO Ant2 2452



Date: 23.APR.2021 11:35:40