

FCC Radio Test Report

FCC ID: Q3N-RK95

Report No. : BTL-FCCP-1-1910T097
Equipment : Mobile Computer
Model Name : RK95
Brand Name : CIPHERLAB
Applicant : CIPHERLAB CO., LTD
Address : 12F, 333, Dunhua S.Rd., Sec.2, Taipei, Taiwan

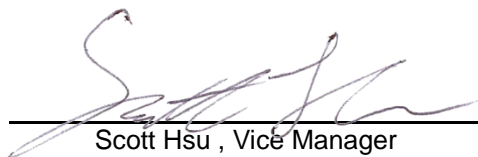
Radio Function : Bluetooth EDR

FCC Rule Part(s) : FCC Part15, Subpart C (15.247)
Measurement Procedure(s) : ANSI C63.4-2014

Date of Receipt : 2019/10/24
Date of Test : 2019/10/24 ~ 2019/11/20
Issued Date : 2019/11/27

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NIST, A2LA, or any agency of the U.S. Government.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	2019/11/27

1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Part 15, Subpart C (15.247)				
Standard(s) Section	Description	Test Result	Judgement	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	Pass	-----
15.205 15.209 15.247(d)	Radiated Emissions	APPENDIX B APPENDIX C	Pass	-----
15.247 (a)(1)(iii)	Number of Hopping Frequency	APPENDIX D	Pass	-----
15.247 (a)(1)(iii)	Average Time of Occupancy	APPENDIX E	Pass	-----
15.247 (a)(1)	Hopping Channel Separation	APPENDIX F	Pass	-----
15.247 (a)(1)	Bandwidth	APPENDIX G	Pass	-----
15.247 (b)(1)	Output Power	APPENDIX H	Pass	-----
15.247(d)	Antenna conducted Spurious Emission	APPENDIX I	Pass	-----
15.203	Antenna Requirement	-----	Pass	-----

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

The test sites and facilities are covered under FCC RN: 355421 and DN: TW1099.

☒ C05 ☐ CB08 ☐ CB11 ☐ CB15 ☐ CB16
☒ SR06

No.18, Ln. 171, Sec. 2, Jiuzong Rd., Neihu Dist., Taipei City 114, Taiwan

The test sites and facilities are covered under FCC RN: 325517 and DN: TW1115.

☐ C03 ☒ CB18 ☐ CB19

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, providing a level of confidence of approximately **95 %**.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
C05	CISPR	150 kHz ~ 30MHz	3.44

B. Radiated emissions test :

Test Site	Measurement Frequency Range	U,(dB)
CB18	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
	1 GHz ~ 6 GHz	5.21
	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

C. Conducted test :

Test Item	U,(dB)
Number of Hopping Frequency	0.00
Average Time of Occupancy	1.20
Hopping Channel Separation	1.20
Bandwidth	1.13
Peak Output Power	1.06
Antenna conducted Spurious Emission	1.14
Conducted Band edges	1.13

NOTE:

Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Tested by
AC Power Line Conducted Emissions	25 °C, 45 %	Eric Lee
Radiated emissions below 1 GHz	23 °C, 59 %	Hunter Chiang
Radiated emissions above 1 GHz	23 °C, 59 %	Hunter Chiang
Number of Hopping Frequency	23.5 °C, 49 %	William Wei
Average Time of Occupancy	23.5 °C, 49 %	William Wei
Hopping Channel Separation	23.5 °C, 49 %	William Wei
Bandwidth	23.5 °C, 49 %	William Wei
Output Power	23.5 °C, 49 %	William Wei
Antenna conducted Spurious Emission	23.5 °C, 49 %	William Wei

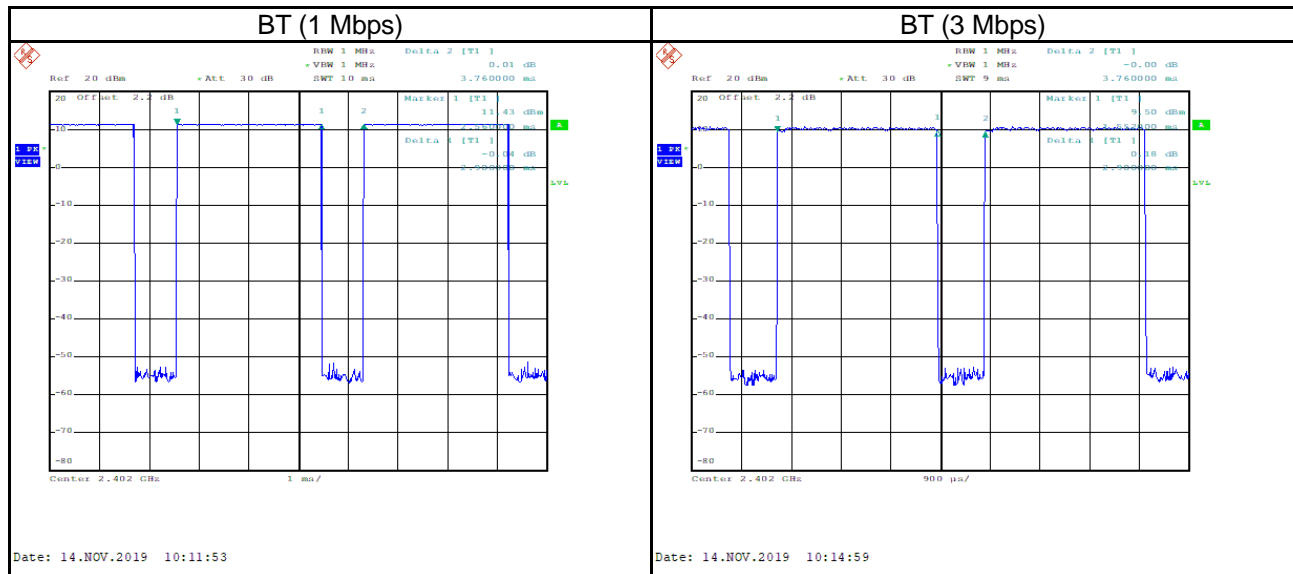
1.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

Test Software	QRCT			
Modulation Mode	2402 MHz	2441 MHz	2480 MHz	Data Rate
GFSK	9	9	8	1 Mbps
$\pi/4$ -DQPSK	9	9	8	2 Mbps
8DPSK	9	9	8	3 Mbps

1.5 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.

If duty cycle is $< 98\%$, duty factor shall be considered.



Remark	Delta 1			Delta 2	On Time/Period	10 log(1/Duty Cycle)
Mode	ON (ms)	Numbers (ON)	On Time (B) (ms)	Period (ON+OFF) (ms)	Duty Cycle (%)	Duty Factor (dB)
BT (1 Mbps)	2.900	1	2.900	3.760	77.13%	1.13
BT (3 Mbps)	2.900	1	2.900	3.760	77.13%	1.13

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Mobile Computer
Model Name	RK95
Brand Name	CIPHERLAB
Model Difference	N/A
Power Source	DC voltage supplied from AC/DC Adapter.
Power Rating	I/P: 100-240~, 1.0A MAX,50-60Hz O/P: +5V ---2A
Products Covered	1* Adapter: SYS1561-1005 1* SNOB-ON CABLE: CIPHERLAB/ SNP-RK95-USB 3* Reader: (1) SE4750SR (2) SE4750MR (3) SE4850 2* Keypad: (1) 59 Keys (2) 38 Keys 1* Camera
Frequency Range	2400 MHz ~ 2483.5 MHz
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	GFSK, $\pi/4$ -DQPSK, 8DPSK
Modulation Technology	FHSS
Transfer Rate	1/2/3Mbps
Output Power Max.	1 Mbps: 11.06 dBm (0.0128 W) 3 Mbps: 10.87 dBm (0.0122 W)
Test Model	RK95
Sample Status	Engineering Sample
EUT Modification(s)	N/A

NOTE:

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

(2) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

(3) Table for Filed Antenna:

Ant.	Brand	Test Model	Antenna Type	Connector	Gain (dBi)
CH0	Cipherlab	KZWBCF4950001	PCB	N/A	3.71

2.2 TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal	-	-
Transmitter Radiated Emissions (below 1GHz)	3 Mbps	00	-
Transmitter Radiated Emissions (above 1GHz)	1/3 Mbps	00/78	Bandedge
	1/3 Mbps	00/39/78	Harmonic
Number of Hopping Frequency	1/3 Mbps	00~78	-
Average Time of Occupancy	1/3 Mbps	00/39/78	-
Hopping Channel Separation	1/3 Mbps	00/39/78	-
Bandwidth	1/3 Mbps	00/39/78	-
Peak Output Power	1/2/3 Mbps	00/39/78	-
Antenna conducted Spurious Emission	1/3 Mbps	00/39/78	-

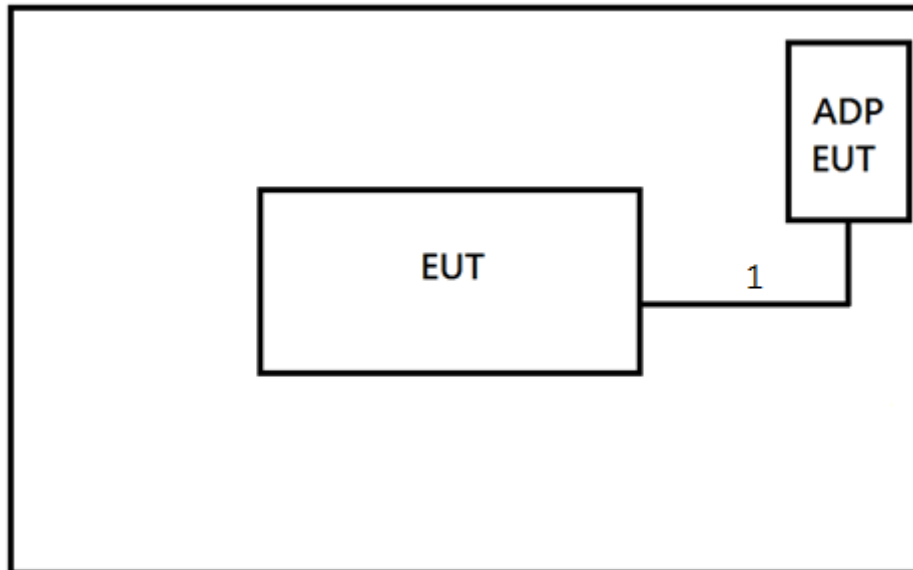
NOTE:

- (1) The Radiated emissions test was verified based on the worst conducted power and Bandwidth test results reported in the original report.
- (2) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Vertical) is recorded.
- (3) All X, Y and Z axes are evaluated, but only the worst case (Z axis) is recorded.
- (4) There were no emissions found below 30 MHz within 20 dB of the limit.

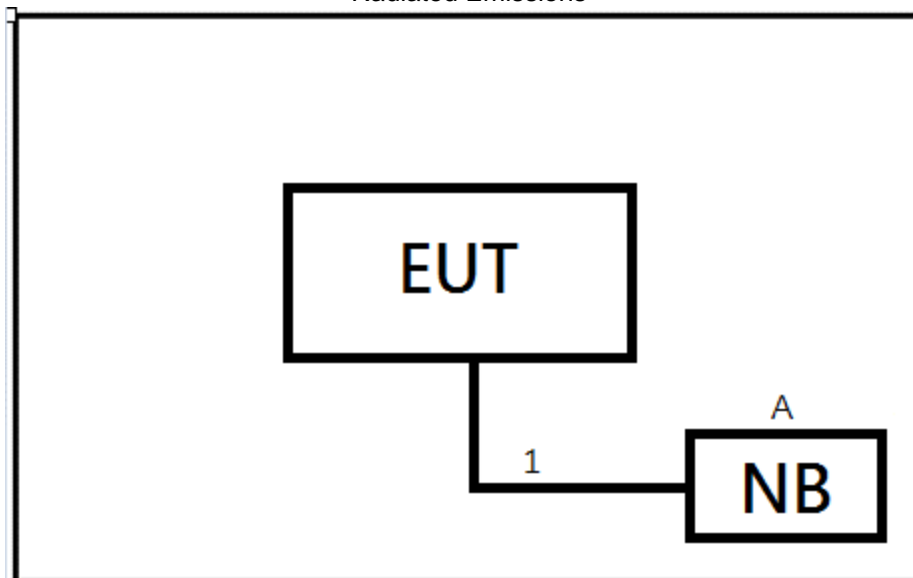
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.

AC power line conducted emissions



Radiated Emissions



2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	RF-02	HP	TPN-I119	NA	-

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	NA	NA	1.5M	SNOP-ON Cable	-

3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56 *	56 - 46 *
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)
 Margin Level = Measurement Value – Limit Value
 Calculation example:

Reading Level		Correct Factor		Measurement Value
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
41.67	-	60	=	-18.33

The following table is the setting of the receiver.

Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
 All other support equipment were powered from an additional LISN(s).
 The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle to keep the cable above 40 cm.
- c. Excess I/O cables that are not connected to a peripheral shall be bundled in the center.
 The end of the cable will be terminated, using the correct terminating impedance.
 The overall length shall not exceed 1 m.
- d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
- e. For the actual test configuration, please refer to the related Item - EUT TEST PHOTO.

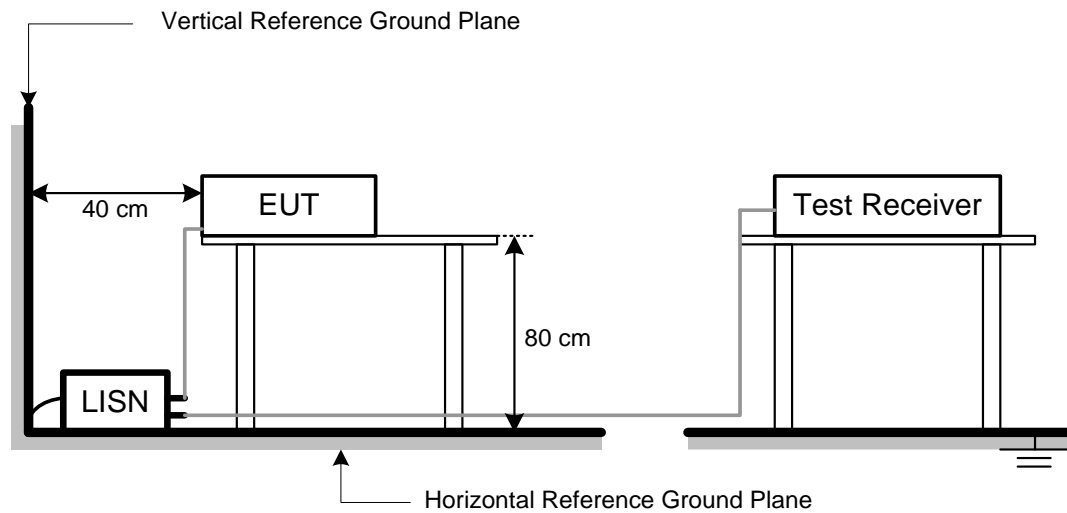
NOTE:

- (1) In the results, each reading is marked as Peak, QP or AVG per the detector used.
 BW=9 kHz (6 dB Bandwidth)
- (2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 TEST RESULT

Please refer to the APPENDIX A.

4 RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205, then the 15.209 limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

Frequency (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
960~1000	500	3

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Radiated Emissions (dBuV/m)		Measurement Distance (meters)
	Peak	Average	
Above 1000	74	54	3

NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
19.11	+	2.11	=	21.22

Measurement Value		Limit Value		Margin Level
21.22	-	54	=	-32.78

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average

Spectrum Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

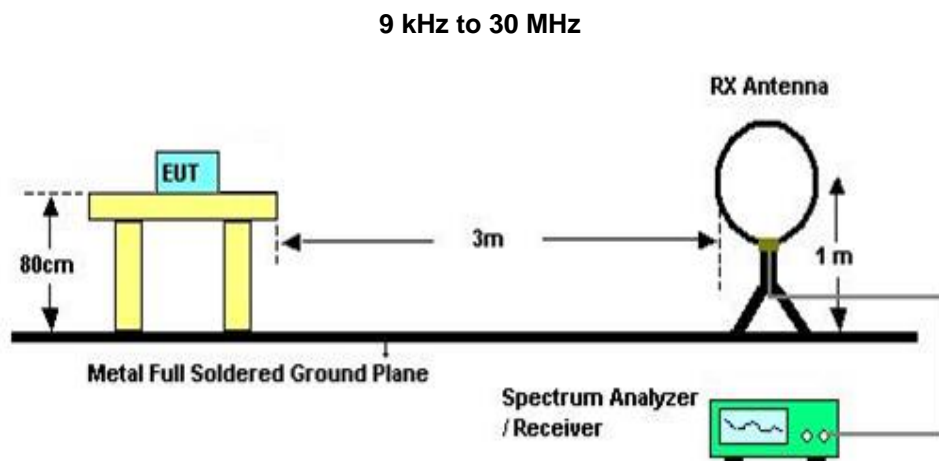
4.2 TEST PROCEDURE

- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 m, the height of the test antenna shall vary between 1 m to 4 m. 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 find the maximum reading (used Bore sight function).
- The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- For the actual test configuration, please refer to the related Item – EUT TEST PHOTO.

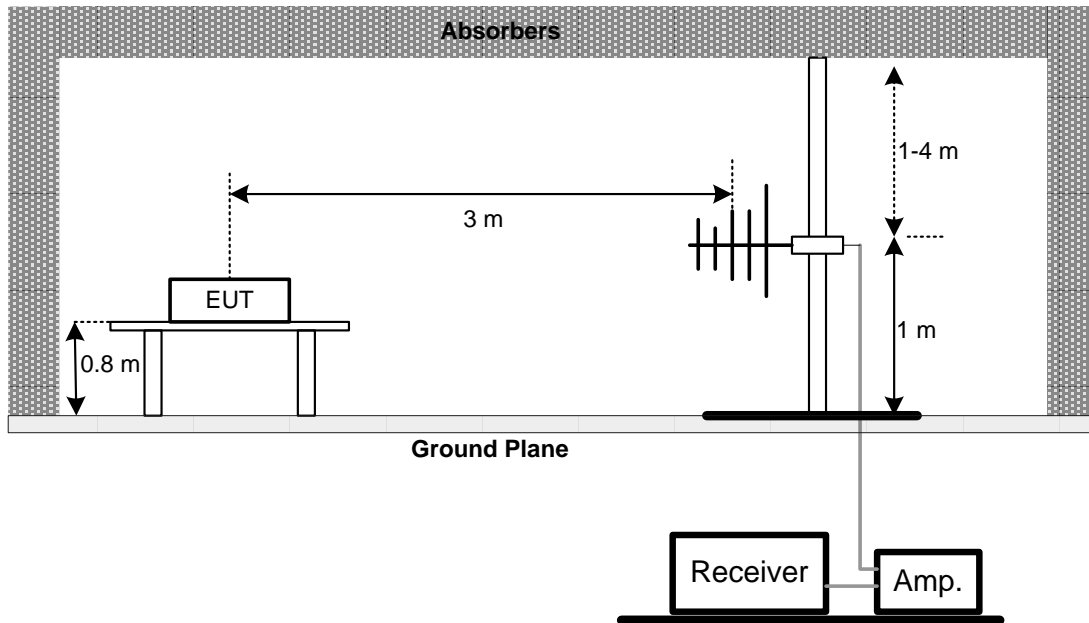
4.3 DEVIATION FROM TEST STANDARD

No deviation.

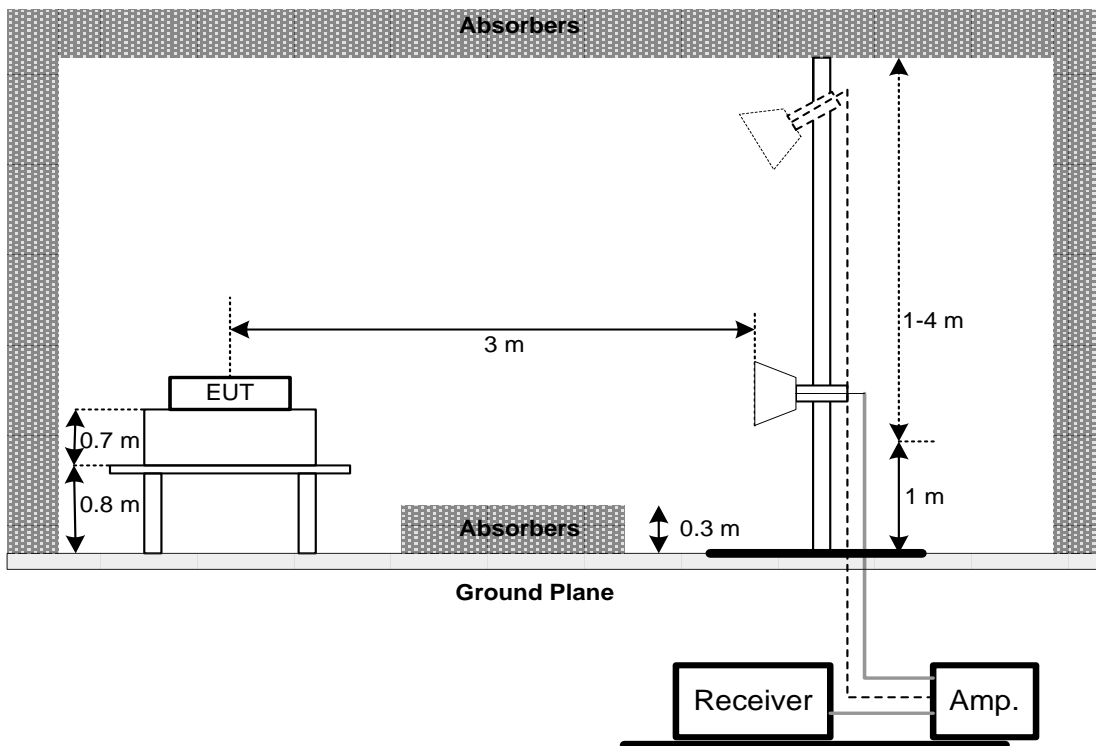
4.4 TEST SETUP



30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT – 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

4.7 TEST RESULT – ABOVE 1 GHZ

Please refer to the APPENDIX C.

NOTE:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5 NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(1)(iii)	Number of Hopping Channel	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RBW	100 KHz
VBW	100 KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW=100KHz, VBW=100KHz, Sweep time = Auto.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULTS

Please refer to the APPENDIX D.

6 AVERAGE TIME OF OCCUPANCY

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

6.2 TEST PROCEDURE

- The transmitter output (antenna port) was connected to the spectrum analyzer
- Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- Use a video trigger with the trigger level set to enable triggering only on full pulses.
- Sweep Time is more than once pulse time.
- Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- Measure the maximum time duration of one single pulse.
- Set the EUT for DH5, DH3 and DH1 packet transmitting.
- Measure the maximum time duration of one single pulse.
- Measure the maximum time duration of one single pulse.
A Period Time = (channel number)*0.4

For Normal Mode (79 Channel):

DH1 Time Solt: Reading * (1600/2)*31.6/(channel number)

DH3 Time Solt: Reading * (1600/2)*31.6/(channel number)

DH5 Time Solt: Reading * (1600/2)*31.6/(channel number)

For AFH Mode (20 Channel):

DH1 Time Solt: Reading * (1600/2)*8/(channel number)

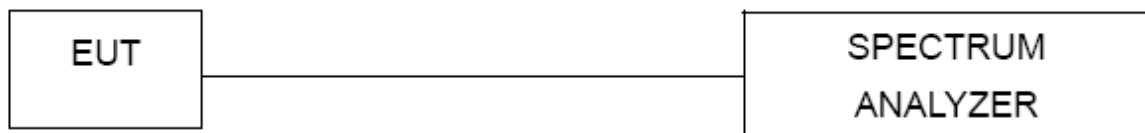
DH3 Time Solt: Reading * (1600/4)*8/(channel number)

DH5 Time Solt: Reading * (1600/6)*8/(channel number)

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

Please refer to the APPENDIX E.

7 Hopping Channel Separation Measurement

7.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 KHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RBW	30 KHz
VBW	100 KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

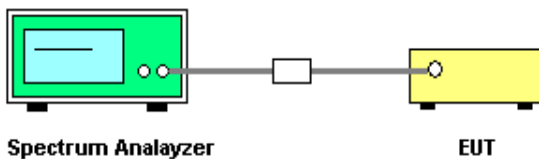
7.2 TEST PROCEDURE

- a. The EUT must have its hopping function enabled
- b. Span = wide enough to capture the peaks of two adjacent channels
Resolution (or IF) Bandwidth (RBW) \geq 1% of the span
Video (or Average) Bandwidth (VBW) \geq RBW
Sweep = Auto
Detector function = Peak
Trace = Max Hold

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 TEST RESULTS

Please refer to the APPENDIX F.

8 BANDWIDTH TEST

8.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C		
Section	Test Item	Frequency Range (MHz)
15.247(a)(2)	Bandwidth	2400-2483.5

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RBW	30 KHz (20dB Bandwidth) / 30 KHz (Channel Separation)
VBW	100 KHz (20dB Bandwidth) / 100 KHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

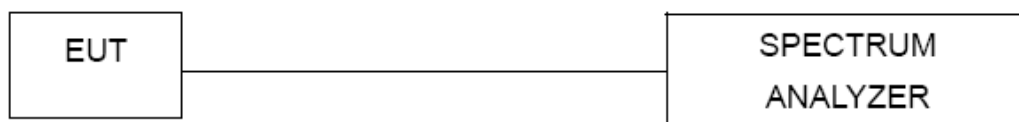
8.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep Time = Auto.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULTS

Please refer to the APPENDIX G.

9 OUTPUT POWER TEST

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(1)	Peak Output Power	1 Watt or 30dBm (hopping channel >75) 0.125Watt or 21dBm (hopping channel <75	2400-2483.5	PASS

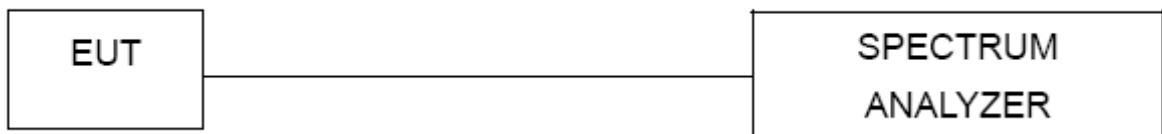
9.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 3MHz, VBW= 3MHz, Sweep time = Auto.

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

9.6 TEST RESULTS

Please refer to the APPENDIX H.

10 ANTENNA CONDUCTED SPURIOUS EMISSION

10.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits.

10.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.
- Offset=antenna gain+cable loss

10.3 DEVIATION FROM STANDARD

No deviation.

10.4 TEST SETUP



10.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

10.6 TEST RESULTS

Please refer to the APPENDIX I.

11 LIST OF MEASURING EQUIPMENTS

AC Power Line Conducted Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	2019/3/18	2020/3/17
2	Test Cable	EMCI	EMCCFD300-BM-BMR-6000	170715	2019/8/7	2020/8/6
3	EMI Test Receiver	R&S	ESR7	101433	2018/12/5	2019/12/4
4	Measurement Software	EZ	EZ EMC (Version NB-03A)	N/A	N/A	N/A

Radiated Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC001340	980555	2019/4/12	2020/4/11
2	Preamplifier	EMCI	EMC02325B	980217	2019/4/12	2020/4/11
3	Preamplifier	EMCI	EMC012645B	980267	2019/4/12	2020/4/11
4	Test Cable	EMCI	EMC104-SM-SM-800	150207	2019/4/12	2020/4/11
5	Test Cable	EMCI	EMC104-SM-SM-3000	151205	2019/4/12	2020/4/11
6	Test Cable	EMCI	EMC-SM-SM-7000	180408	2019/4/12	2020/4/11
7	MXE EMI Receiver	Agilent	N9038A	MY55420127	2019/3/26	2020/3/25
8	Signal Analyzer	Agilent	N9010A	MY56480554	2019/6/6	2020/6/5
9	Loop Ant	EMCO	EMCI-LPA600	274	2019/5/31	2020/5/30
10	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2019/6/10	2020/6/9

Number of Hopping Frequency						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP40	100129	2019/5/23	2020/5/22

Average Time of Occupancy						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP40	100129	2019/5/23	2020/5/22

Hopping Channel Separation						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP40	100129	2019/5/23	2020/5/22

Bandwidth						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP40	100129	2019/5/23	2020/5/22

Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP40	100129	2019/5/23	2020/5/22
2	Power Meter	Anritsu	ML2495A	1128008	2018/12/6	2019/12/5
3	Power Sensor	Anritsu	MA2411B	1126001	2018/12/6	2019/12/5

Antenna conducted Spurious Emission						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP40	100129	2019/5/23	2020/5/22

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

12 EUT TEST PHOTO

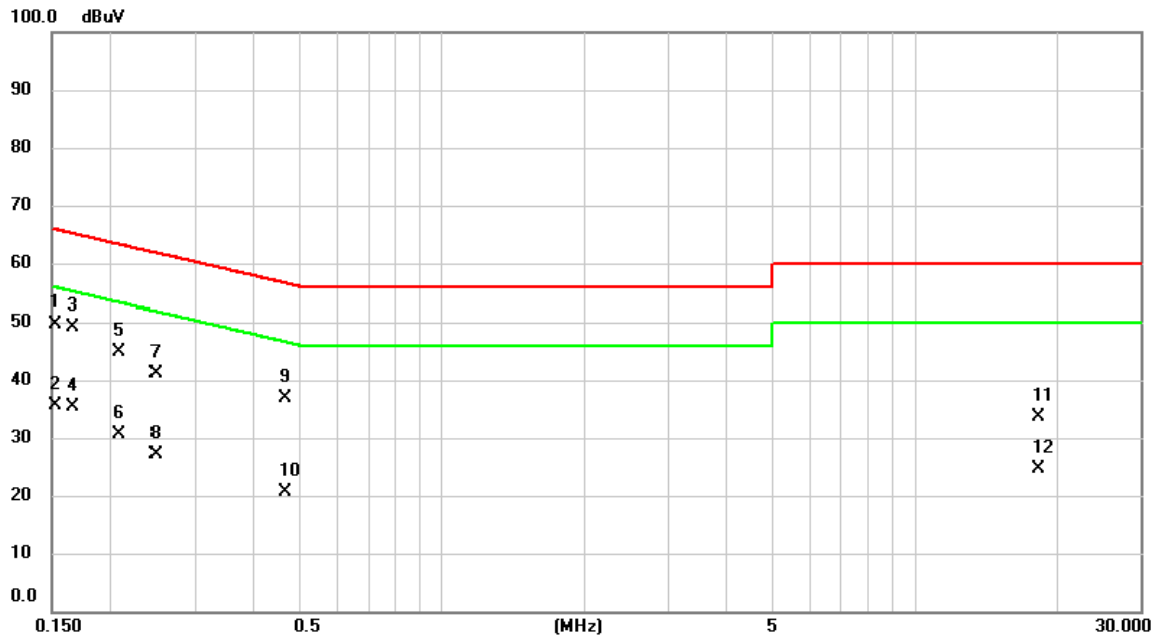
Please refer to document Appendix No.: TP-1910T097-FCCP-1 (APPENDIX-TEST PHOTOS).

13 EUT PHOTOS

Please refer to document Appendix No.: EP-1910T097-1 (APPENDIX-EUT PHOTOS).

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

Test Mode	Normal	Tested Date	2019/11/18
Test Voltage	AC 120V/60Hz	Phase	Line



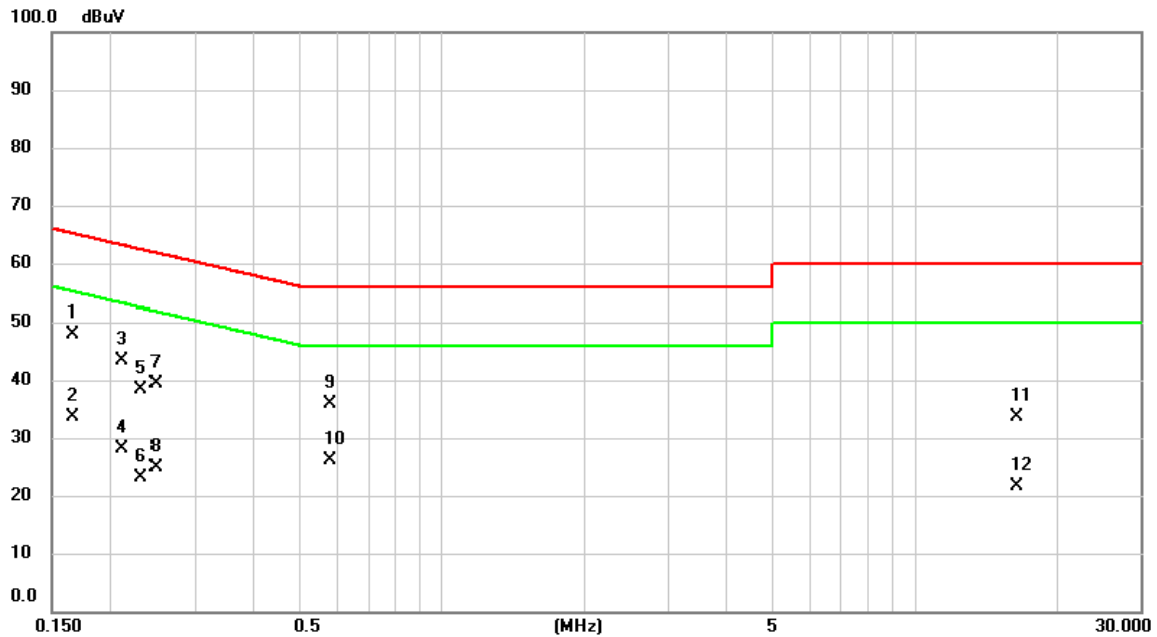
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1522	39.99	9.57	49.56	65.88	-16.32	QP	
2		0.1522	26.01	9.57	35.58	55.88	-20.30	AVG	
3	*	0.1658	39.62	9.57	49.19	65.17	-15.98	QP	
4		0.1658	25.72	9.57	35.29	55.17	-19.88	AVG	
5		0.2085	35.39	9.56	44.95	63.26	-18.31	QP	
6		0.2085	20.99	9.56	30.55	53.26	-22.71	AVG	
7		0.2490	31.68	9.56	41.24	61.79	-20.55	QP	
8		0.2490	17.51	9.56	27.07	51.79	-24.72	AVG	
9		0.4672	27.23	9.62	36.85	56.56	-19.71	QP	
10		0.4672	11.02	9.62	20.64	46.56	-25.92	AVG	
11		18.2558	23.64	9.95	33.59	60.00	-26.41	QP	
12		18.2558	14.65	9.95	24.60	50.00	-25.40	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	Normal	Tested Date	2019/11/18
Test Voltage	AC 120V/60Hz	Phase	Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1658	38.25	9.61	47.86	65.17	-17.31	QP	
2		0.1658	24.03	9.61	33.64	55.17	-21.53	AVG	
3		0.2108	33.84	9.61	43.45	63.17	-19.72	QP	
4		0.2108	18.49	9.61	28.10	53.17	-25.07	AVG	
5		0.2310	28.73	9.61	38.34	62.41	-24.07	QP	
6		0.2310	13.43	9.61	23.04	52.41	-29.37	AVG	
7		0.2490	29.85	9.61	39.46	61.79	-22.33	QP	
8		0.2490	15.17	9.61	24.78	51.79	-27.01	AVG	
9		0.5820	26.17	9.67	35.84	56.00	-20.16	QP	
10		0.5820	16.58	9.67	26.25	46.00	-19.75	AVG	
11		16.4130	23.51	10.00	33.51	60.00	-26.49	QP	
12		16.4130	11.67	10.00	21.67	50.00	-28.33	AVG	

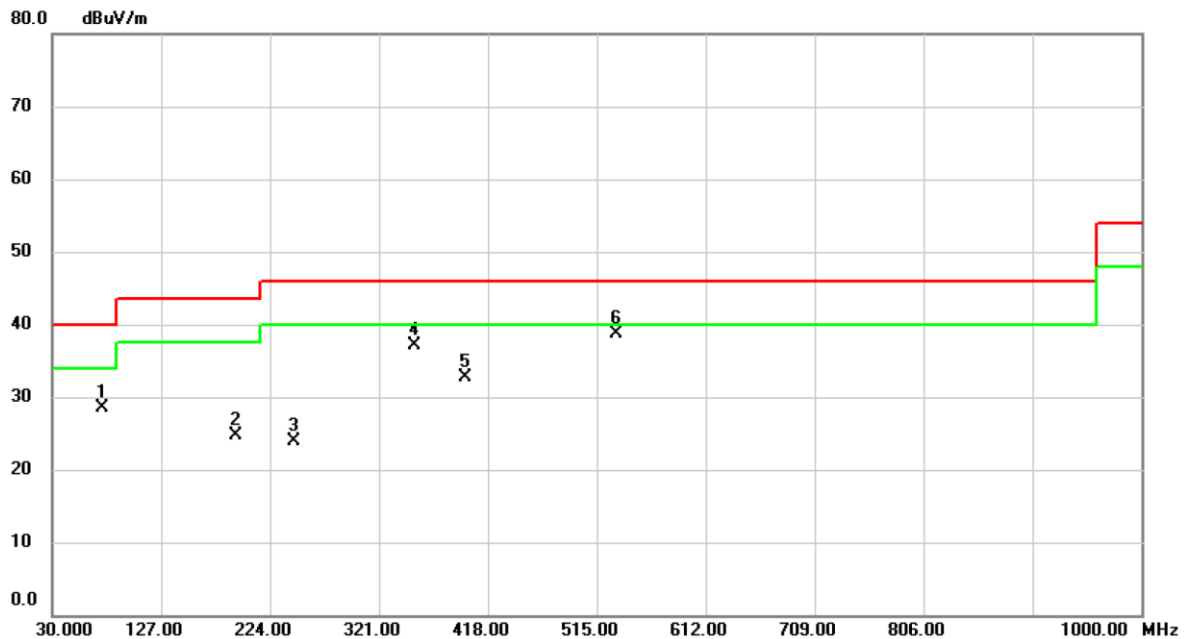
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

Test Mode	TX Mode 2402MHz _CH00_3Mbps	Tested Date	2019/11/15
Test Voltage	AC 120V/60Hz	Polarization	Vertical

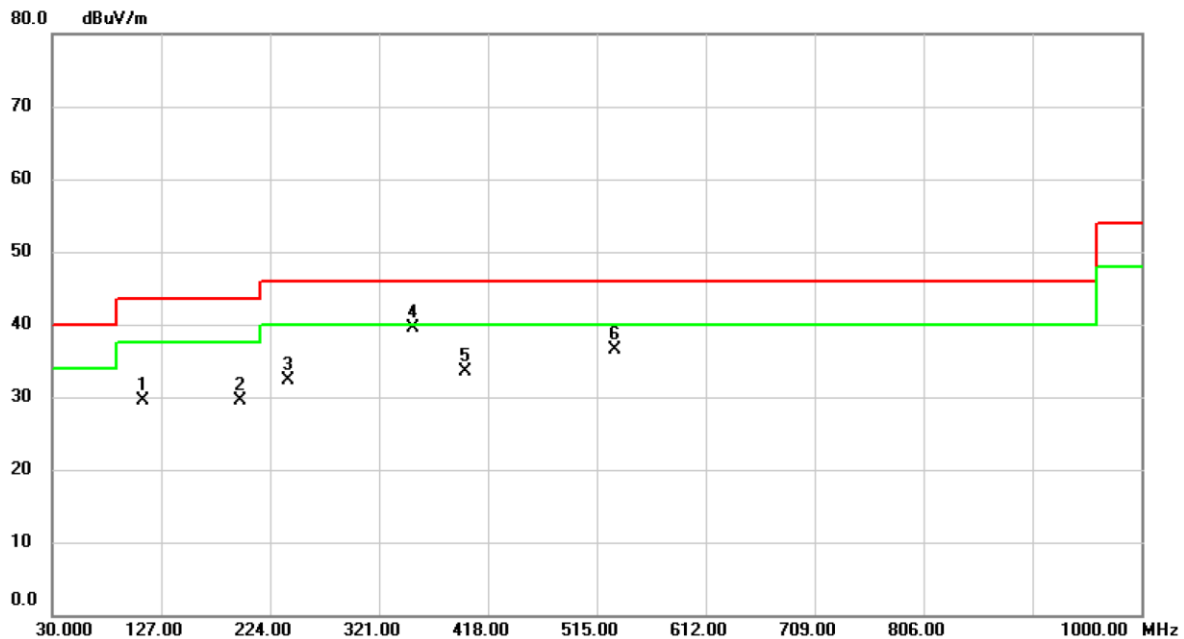


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		74.6200	43.08	-14.66	28.42	40.00	-11.58	peak	
2		193.9300	38.71	-14.07	24.64	43.50	-18.86	peak	
3		245.3400	37.00	-13.06	23.94	46.00	-22.06	peak	
4		352.0400	46.81	-9.78	37.03	46.00	-8.97	peak	
5		397.6300	41.04	-8.41	32.63	46.00	-13.37	peak	
6	*	532.4600	44.19	-5.42	38.77	46.00	-7.23	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2402MHz _CH00_3Mbps	Tested Date	2019/11/15
Test Voltage	AC 120V/60Hz	Polarization	Horizontal



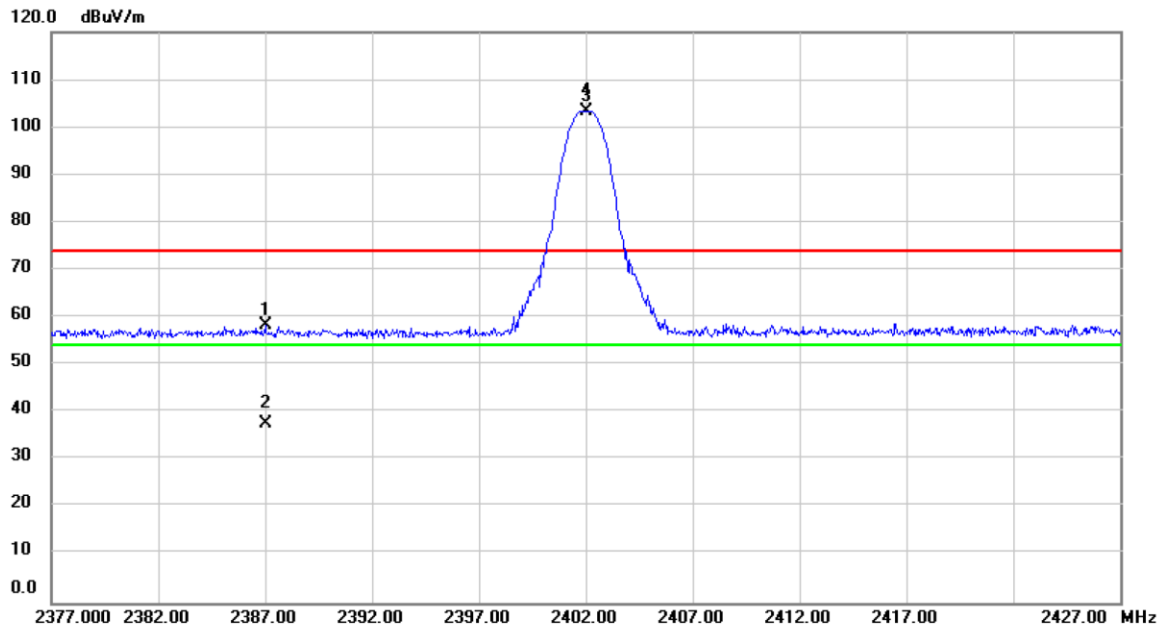
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		110.5100	43.93	-14.51	29.42	43.50	-14.08	peak	
2		196.8400	43.79	-14.23	29.56	43.50	-13.94	peak	
3		240.4900	45.50	-13.19	32.31	46.00	-13.69	peak	
4	*	351.0700	49.29	-9.80	39.49	46.00	-6.51	peak	
5		397.6300	41.86	-8.41	33.45	46.00	-12.55	peak	
6		530.5200	41.90	-5.46	36.44	46.00	-9.56	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C RADIATED EMISSIONS - ABOVE 1 GHZ

Test Mode	TX Mode 2402MHz _CH00_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

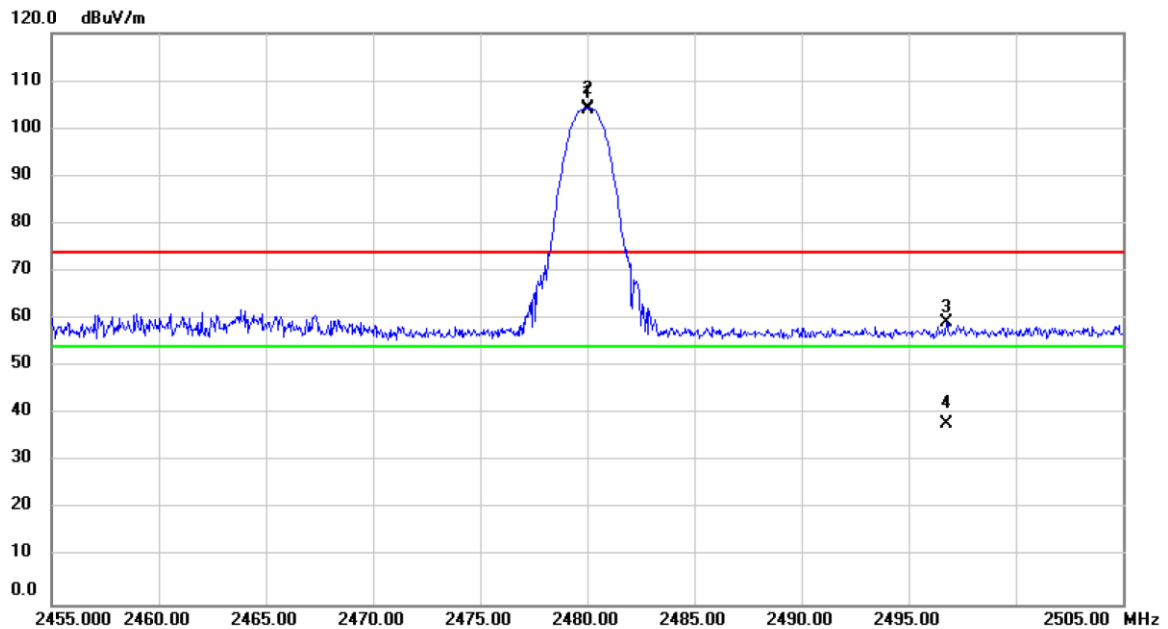


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2387.000	27.22	31.23	58.45	74.00	-15.55	peak	
2		2387.000	6.29	31.23	37.52	54.00	-16.48	AVG	
3	X	2402.000	72.17	31.30	103.47	74.00	29.47	peak	
4	*	2402.000	71.95	31.30	103.25	54.00	49.25	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2480MHz_CH78_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical



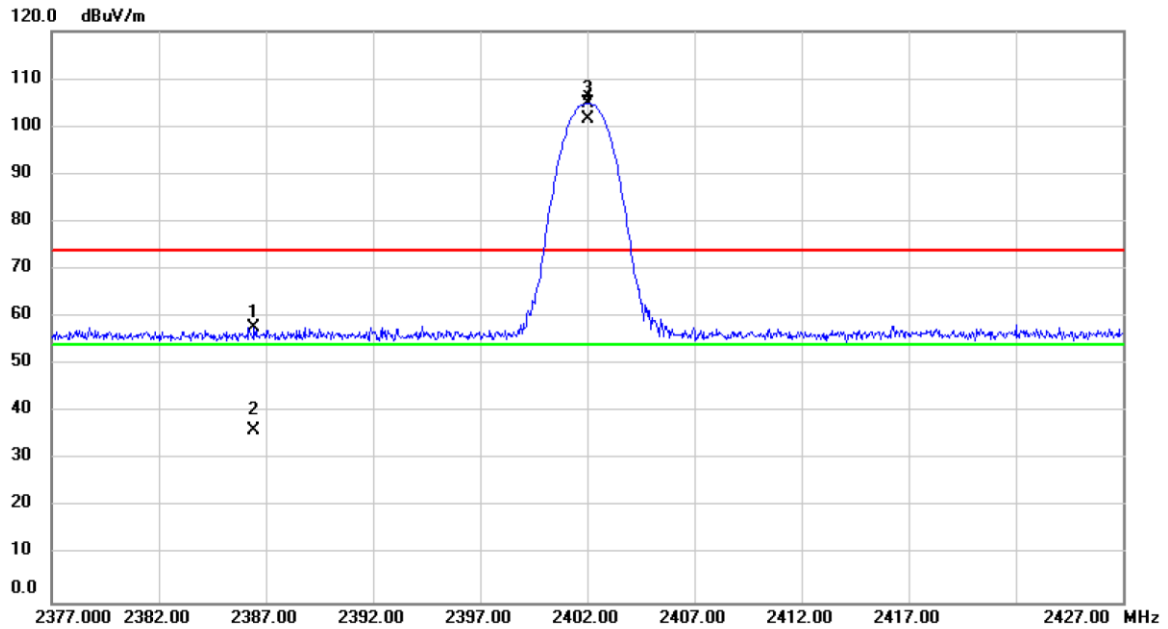
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2480.000	72.55	31.65	104.20	74.00	30.20	peak	
2	*	2480.000	72.29	31.65	103.94	54.00	49.94	AVG	
3		2496.750	27.45	31.72	59.17	74.00	-14.83	peak	
4		2496.750	6.22	31.72	37.94	54.00	-16.06	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2402MHz_CH00_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

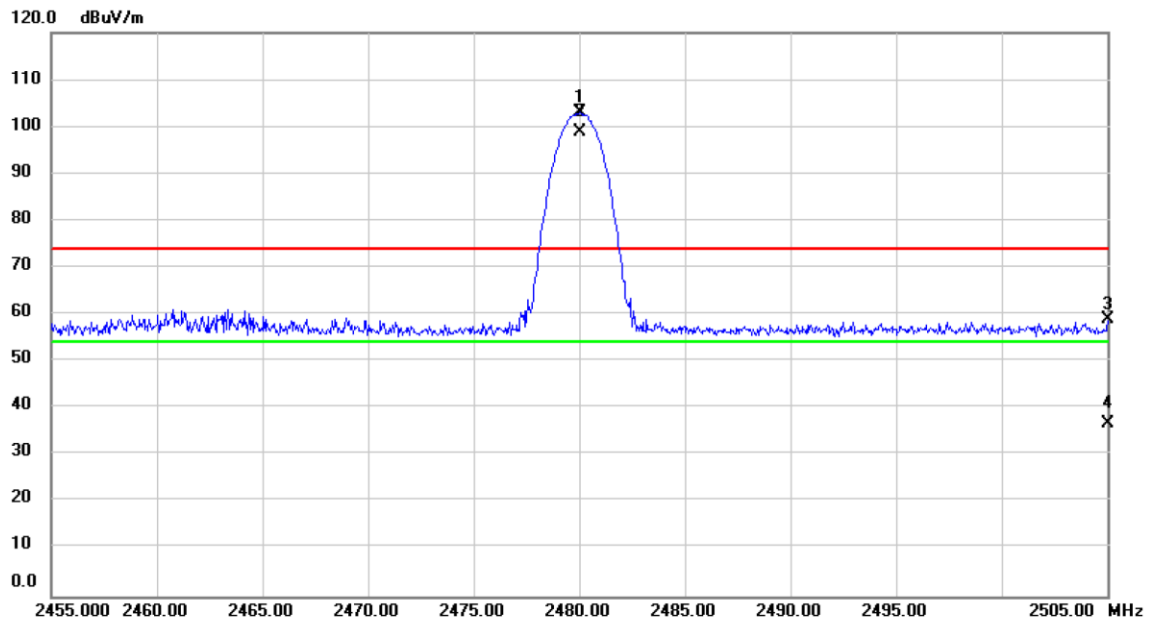


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2386.450	26.61	31.23	57.84	74.00	-16.16	peak	
2		2386.450	4.91	31.23	36.14	54.00	-17.86	AVG	
3	X	2402.050	73.61	31.30	104.91	74.00	30.91	peak	
4	*	2402.050	70.16	31.30	101.46	54.00	47.46	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2480MHz_CH78_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

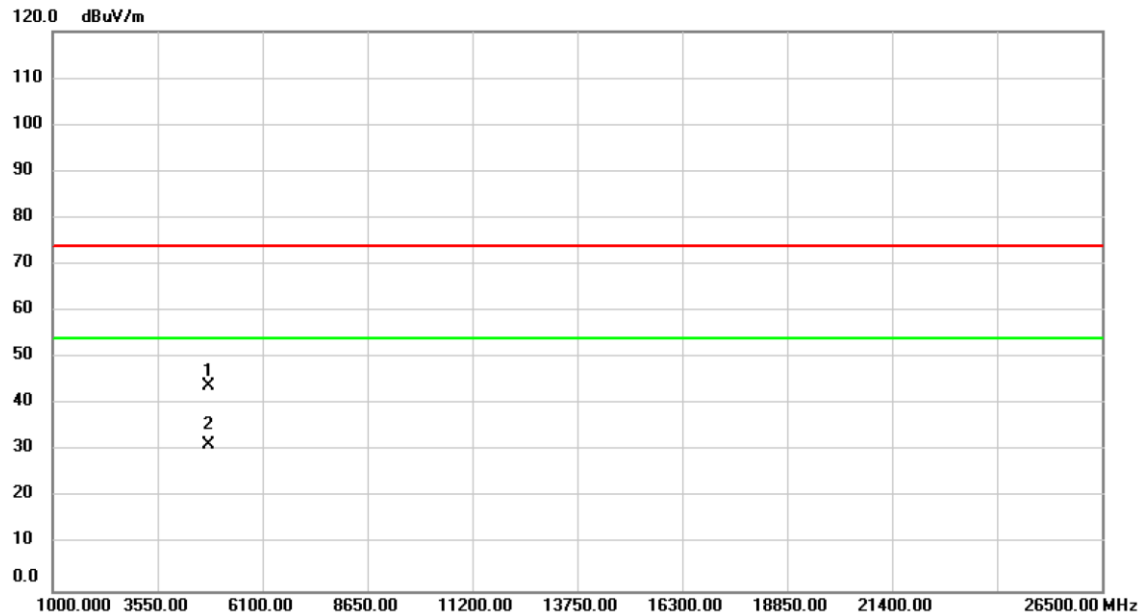


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2480.000	71.28	31.65	102.93	74.00	28.93	peak	
2	*	2480.050	67.34	31.65	98.99	54.00	44.99	AVG	
3		2505.000	27.21	31.75	58.96	74.00	-15.04	peak	
4		2505.000	5.12	31.75	36.87	54.00	-17.13	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2402MHz _CH00_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

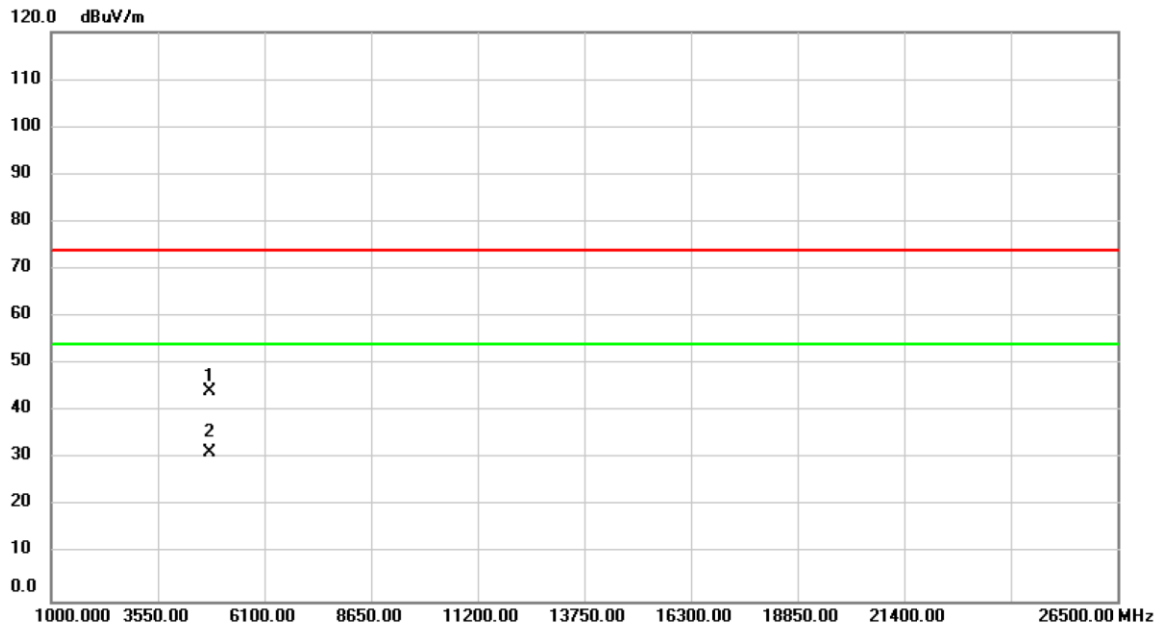


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	54.06	-10.18	43.88	74.00	-30.12	peak	
2	*	4804.000	41.64	-10.18	31.46	54.00	-22.54	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2402MHz _CH00_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Horizontal

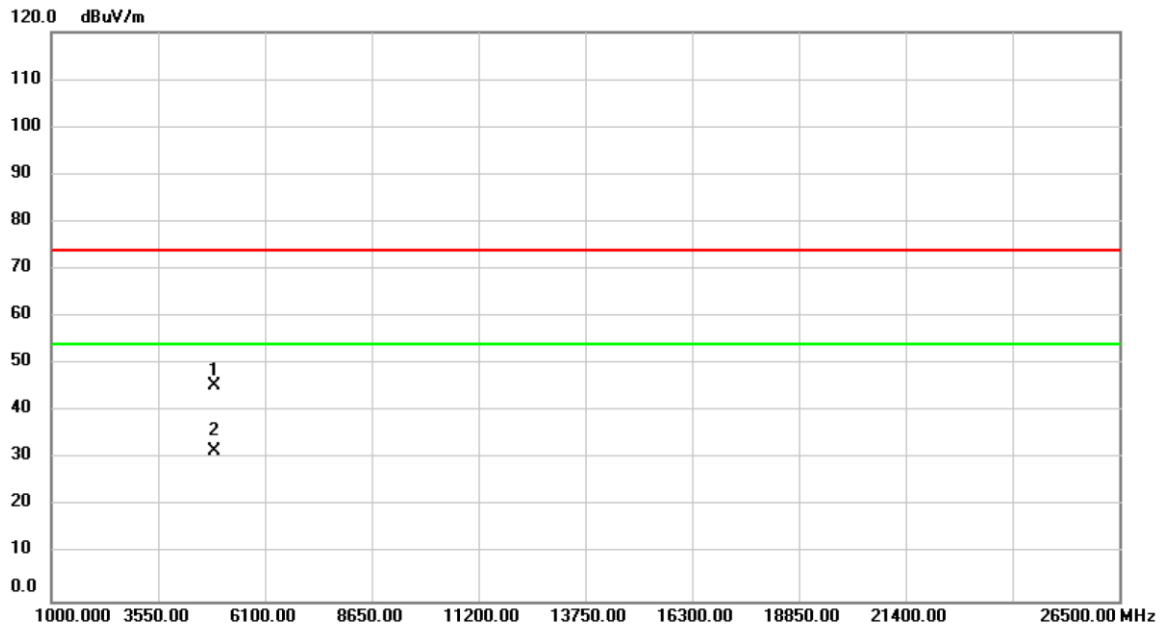


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4804.000	54.51	-10.18	44.33	74.00	-29.67	peak	
2	*	4804.000	41.68	-10.18	31.50	54.00	-22.50	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2441MHz _CH39_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

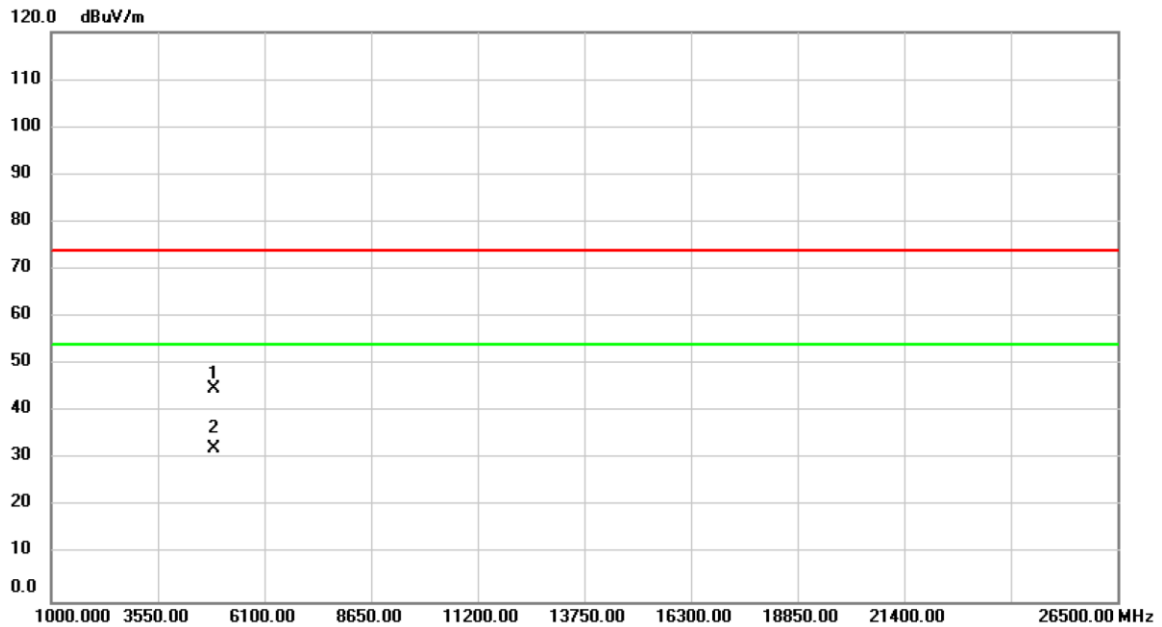


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4882.000	55.58	-10.02	45.56	74.00	-28.44	peak	
2	*	4882.000	41.76	-10.02	31.74	54.00	-22.26	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2441MHz _CH39_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Horizontal

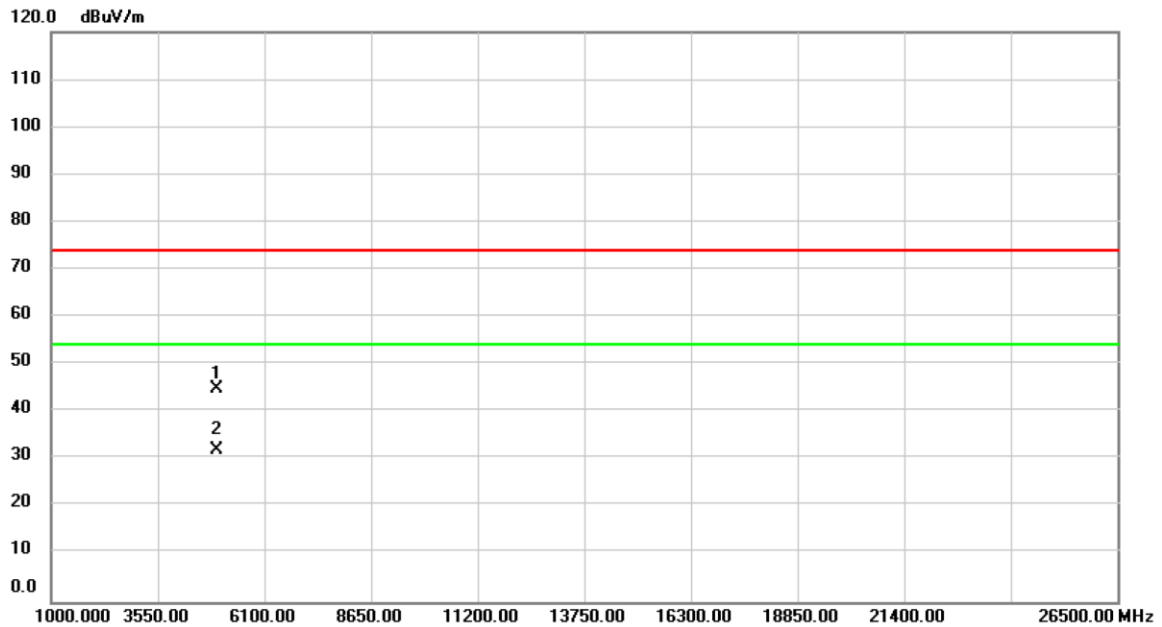


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4882.000	54.88	-10.02	44.86	74.00	-29.14	peak	
2	*	4882.000	42.13	-10.02	32.11	54.00	-21.89	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2480MHz _CH78_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

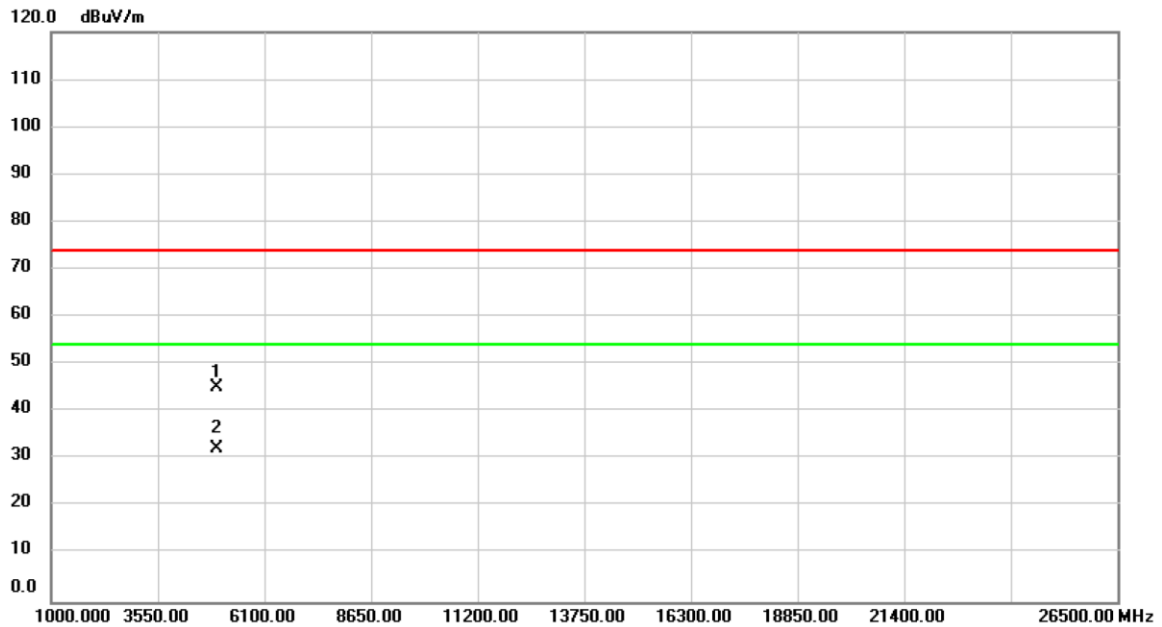


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4960.000	54.65	-9.85	44.80	74.00	-29.20	peak	
2	*	4960.000	41.91	-9.85	32.06	54.00	-21.94	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2480MHz _CH78_1Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Horizontal

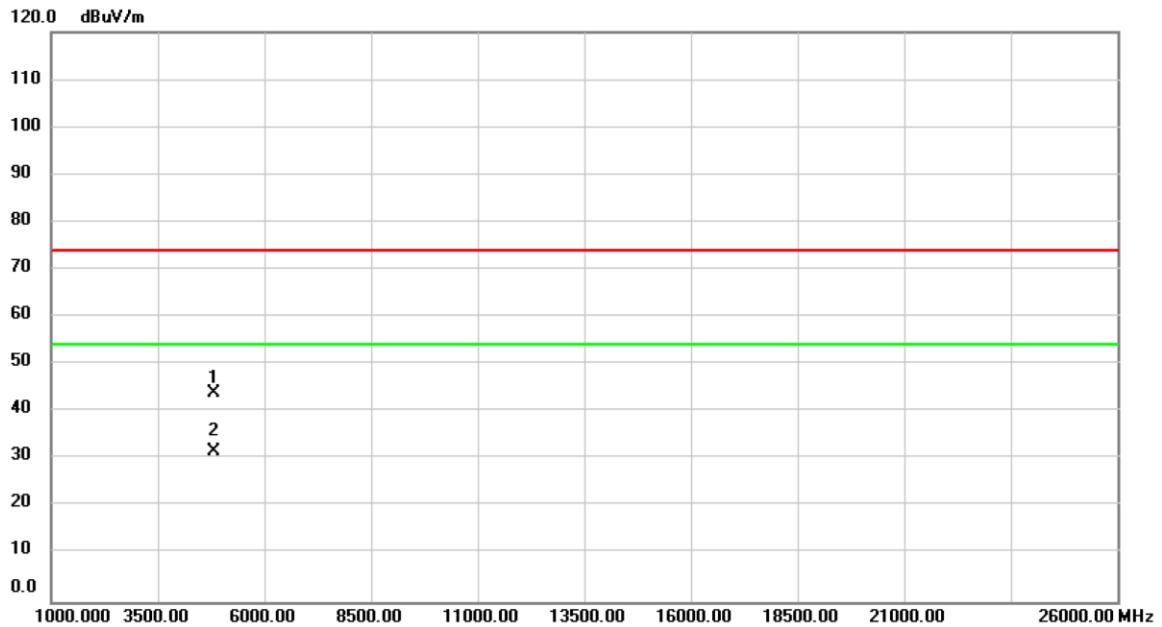


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4960.000	54.91	-9.85	45.06	74.00	-28.94	peak	
2	*	4960.000	42.00	-9.85	32.15	54.00	-21.85	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2402MHz _CH00_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

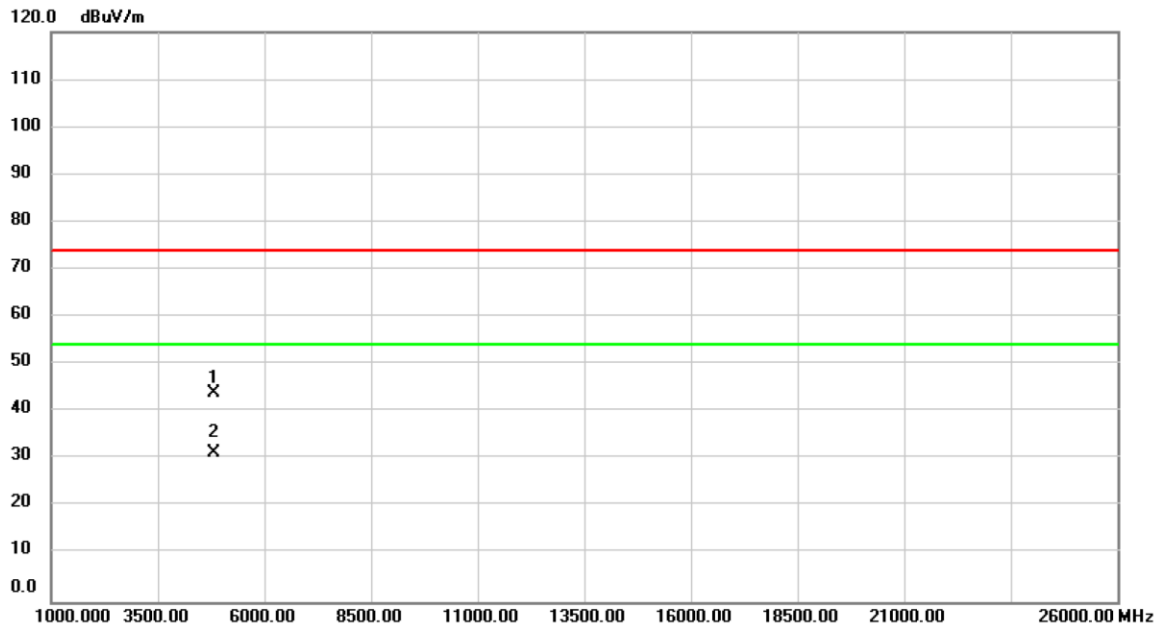


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4804.000	54.56	-10.58	43.98	74.00	-30.02	peak	
2	*	4804.000	42.13	-10.58	31.55	54.00	-22.45	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2402MHz _CH00_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Horizontal

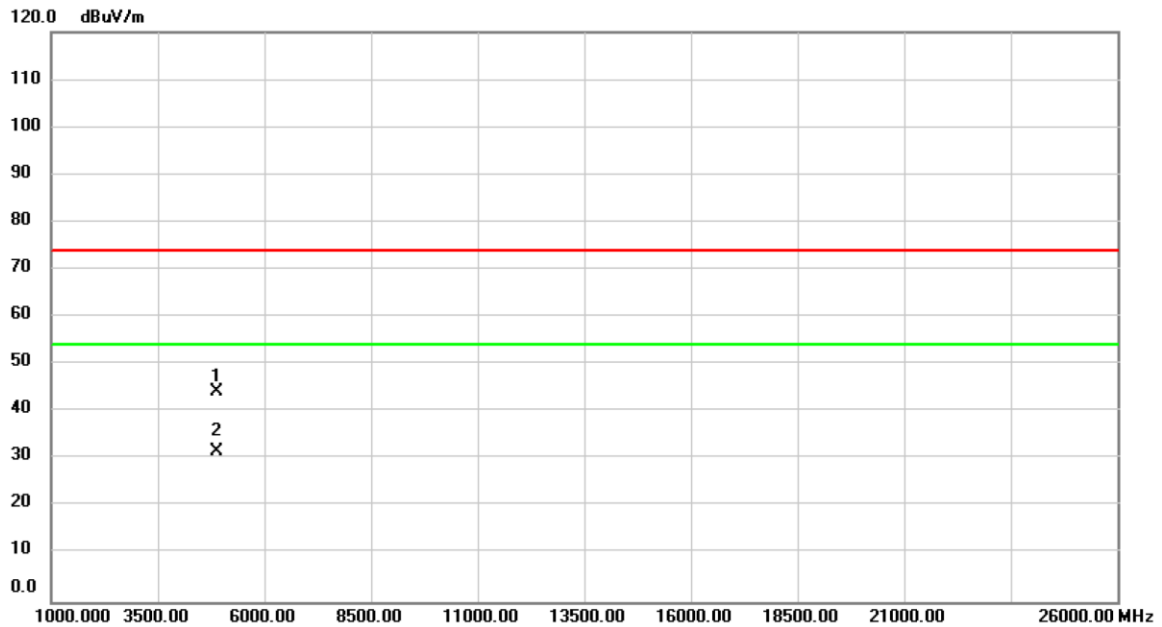


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4804.000	54.66	-10.58	44.08	74.00	-29.92	peak	
2	*	4804.000	41.92	-10.58	31.34	54.00	-22.66	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2441MHz _CH39_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

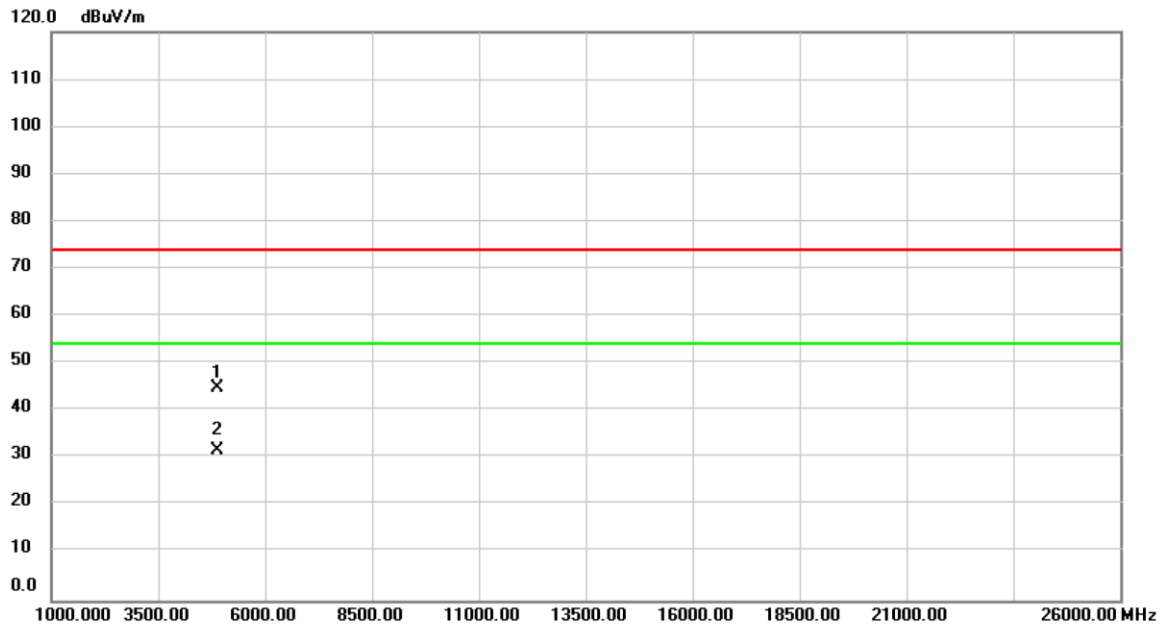


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4882.000	54.60	-10.39	44.21	74.00	-29.79	peak	
2	*	4882.000	42.17	-10.39	31.78	54.00	-22.22	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2441MHz _CH39_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Horizontal

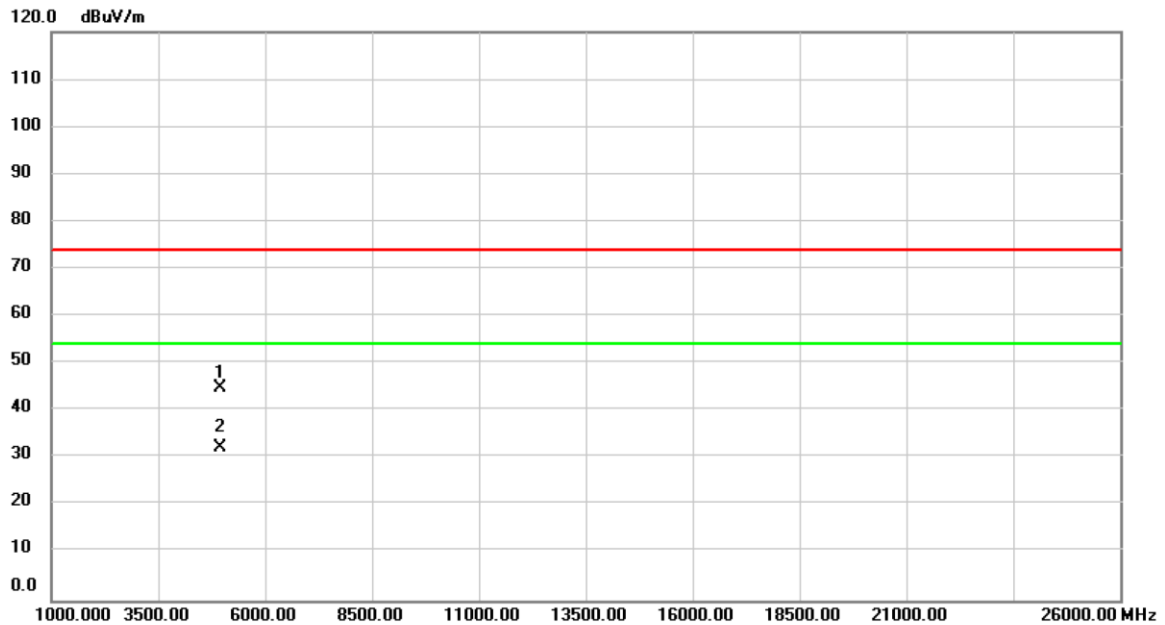


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4882.000	55.21	-10.39	44.82	74.00	-29.18	peak	
2	*	4882.000	42.19	-10.39	31.80	54.00	-22.20	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2480MHz _CH78_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Vertical

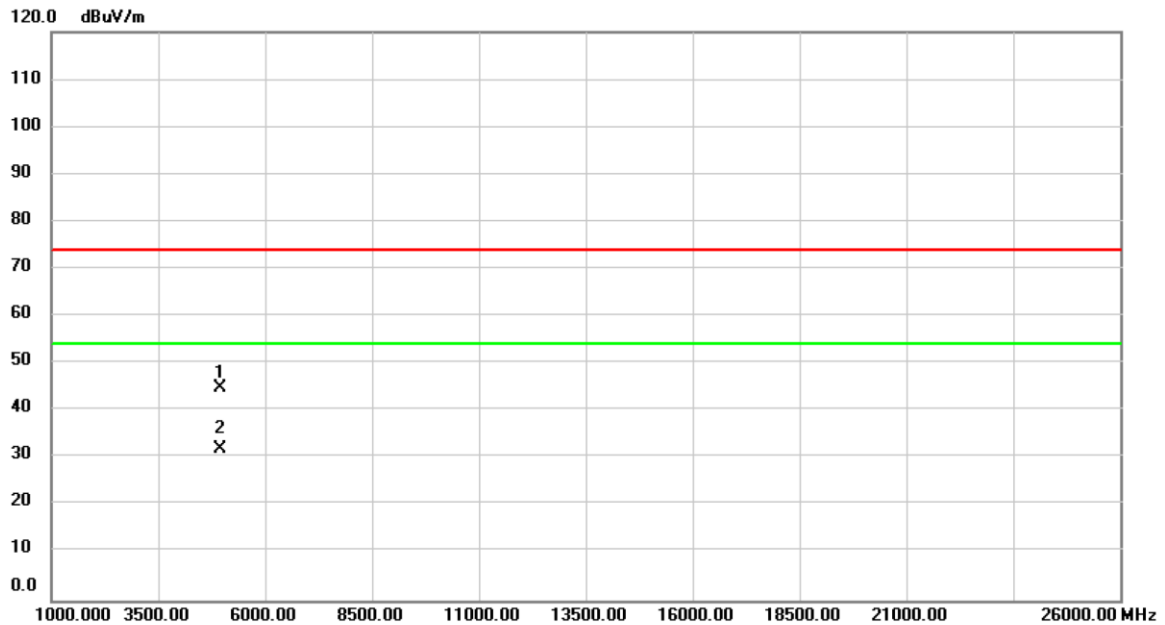


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4960.000	54.91	-10.19	44.72	74.00	-29.28	peak	
2	*	4960.000	42.46	-10.19	32.27	54.00	-21.73	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode 2480MHz _CH78_3Mbps	Tested Date	2019/11/14
Test Voltage	AC 120V/60Hz	Polarization	Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4960.000	54.95	-10.19	44.76	74.00	-29.24	peak	
2	*	4960.000	42.27	-10.19	32.08	54.00	-21.92	AVG	

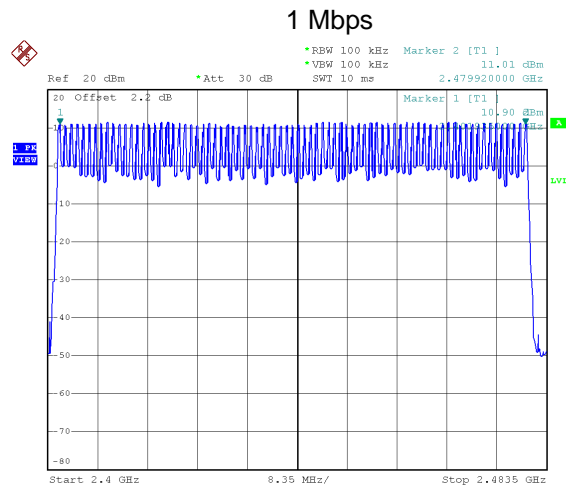
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

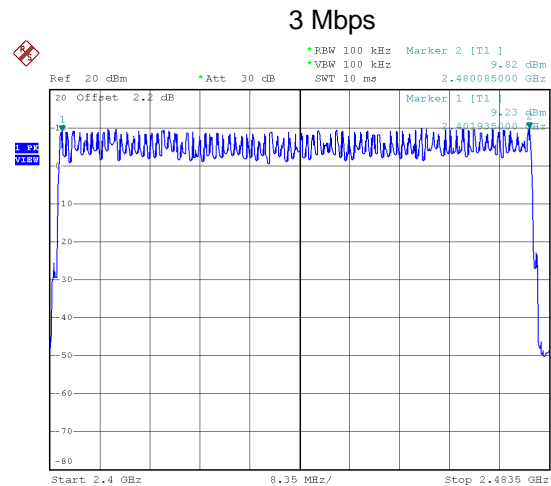
APPENDIX D NUMBER OF HOPPING CHANNEL

Test Mode	1/3Mbps
Test Voltage	AC 120V/60Hz

Test Mode	Number of Hopping Channel	≥ Limit	Test Result
1 Mbps	79	15	Pass
3 Mbps	79	15	Pass



Date: 13.NOV.2019 20:34:24

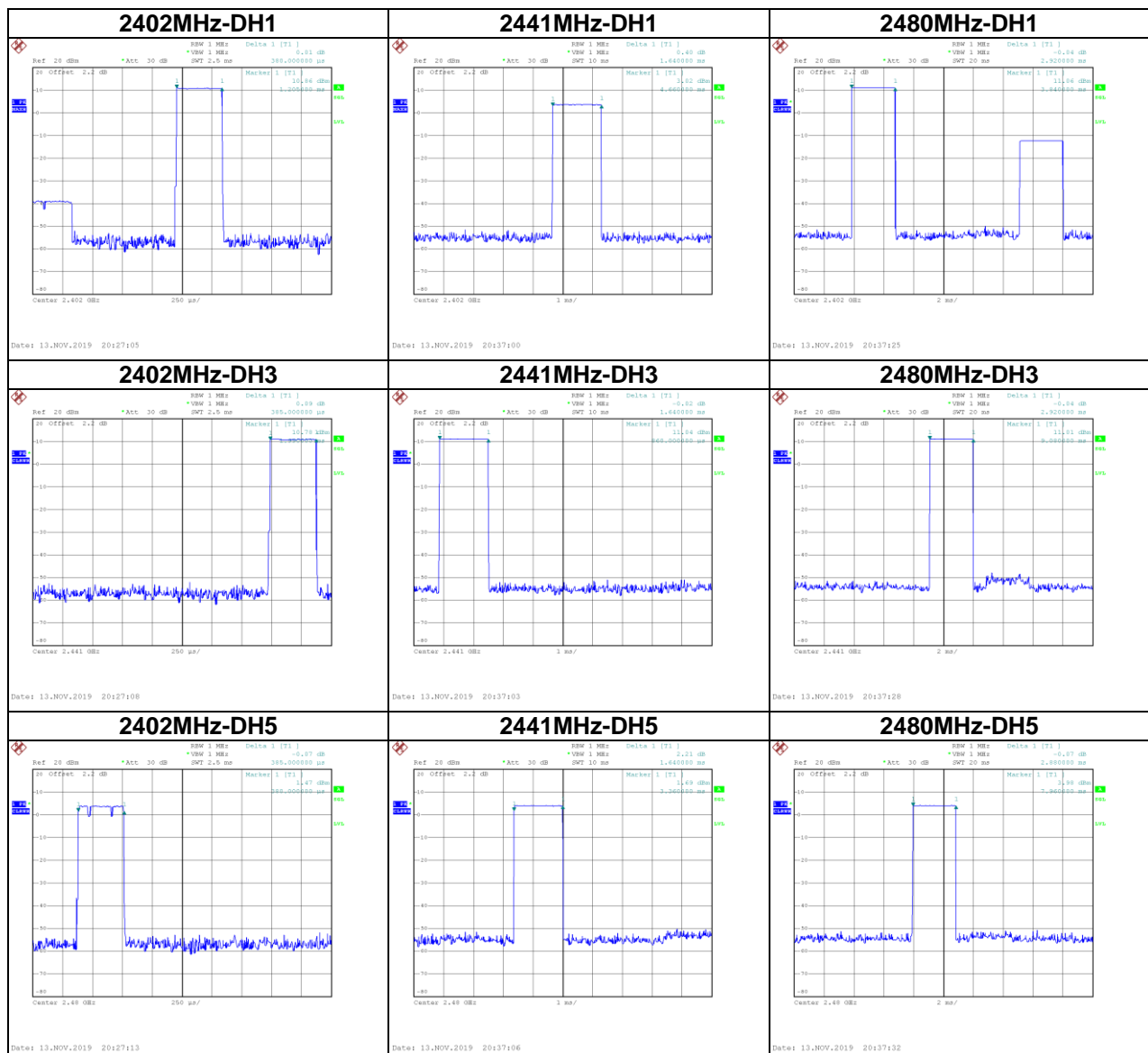


Date: 13.NOV.2019 21:08:47

APPENDIX E AVERAGE TIME OF OCCUPANCY

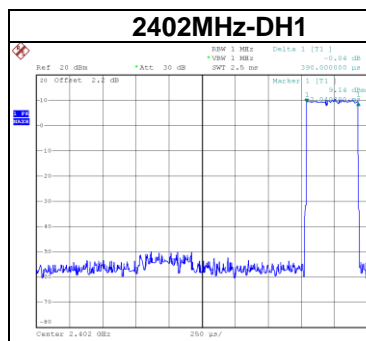
Test Mode :	TX Mode_1Mbps
Test Voltage	AC 120V/60Hz

Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limits (s)	Test Result
DH5	2402 MHz	2.9200	0.3115	0.4000	Pass
DH3	2402 MHz	1.6400	0.2624	0.4000	Pass
DH1	2402 MHz	0.3800	0.1216	0.4000	Pass
DH5	2441 MHz	2.9200	0.3115	0.4000	Pass
DH3	2441 MHz	1.6400	0.2624	0.4000	Pass
DH1	2441 MHz	0.3850	0.1232	0.4000	Pass
DH5	2480 MHz	2.8800	0.3072	0.4000	Pass
DH3	2480 MHz	1.6400	0.2624	0.4000	Pass
DH1	2480 MHz	0.3850	0.1232	0.4000	Pass

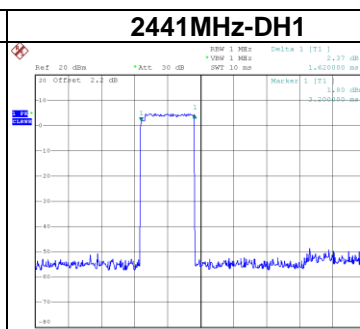


Test Mode :	TX Mode_3Mbps
Test Voltage	AC 120V/60Hz

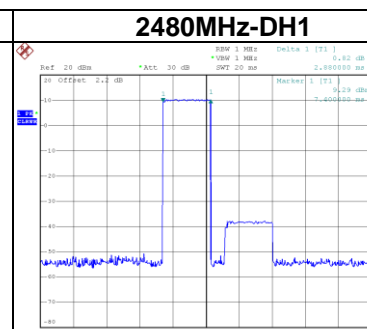
Data Packet	Frequency	Pulse Duration(ms)	Dwell Time(s)	Limits(s)	Test Result
DH5	2402 MHz	2.8800	0.3072	0.4000	Pass
DH3	2402 MHz	1.6200	0.2592	0.4000	Pass
DH1	2402 MHz	0.3900	0.1248	0.4000	Pass
DH5	2441 MHz	2.8800	0.3072	0.4000	Pass
DH3	2441 MHz	1.6400	0.2624	0.4000	Pass
DH1	2441 MHz	0.3750	0.1200	0.4000	Pass
DH5	2480 MHz	2.9200	0.3115	0.4000	Pass
DH3	2480 MHz	1.6400	0.2624	0.4000	Pass
DH1	2480 MHz	0.3850	0.1232	0.4000	Pass



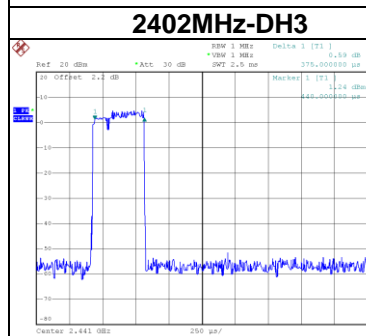
Date: 13.NOV.2019 20:49:32



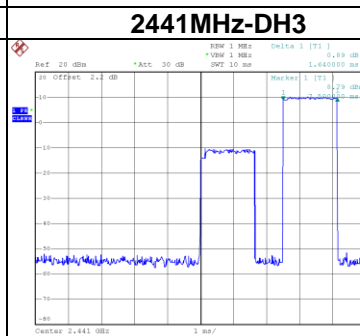
Date: 13.NOV.2019 20:49:59



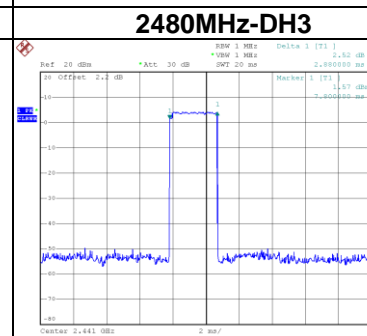
Date: 13.NOV.2019 20:50:23



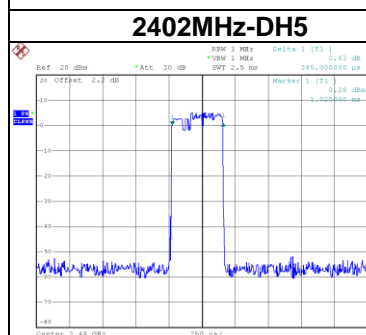
Date: 13.NOV.2019 20:49:35



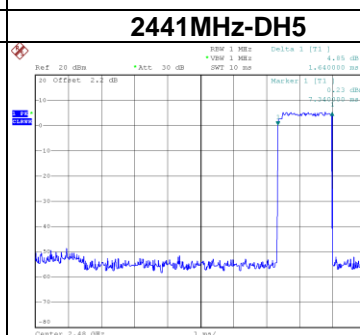
Date: 13.NOV.2019 20:50:03



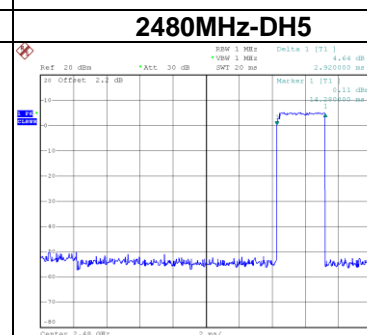
Date: 13.NOV.2019 20:50:26



Date: 13.NOV.2019 20:49:38



Date: 13.NOV.2019 20:50:09

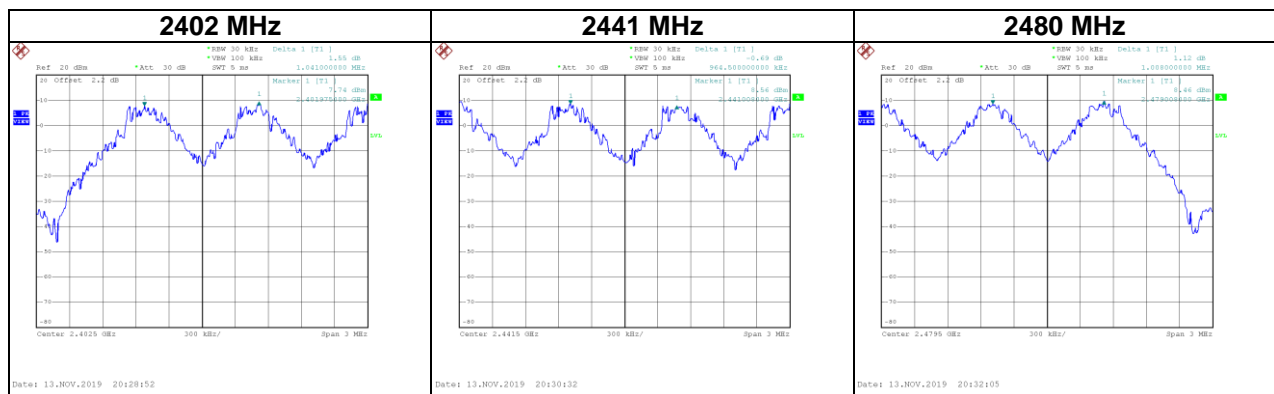


Date: 13.NOV.2019 20:50:31

APPENDIX F HOPPING CHANNEL SEPARATION MEASUREMENT

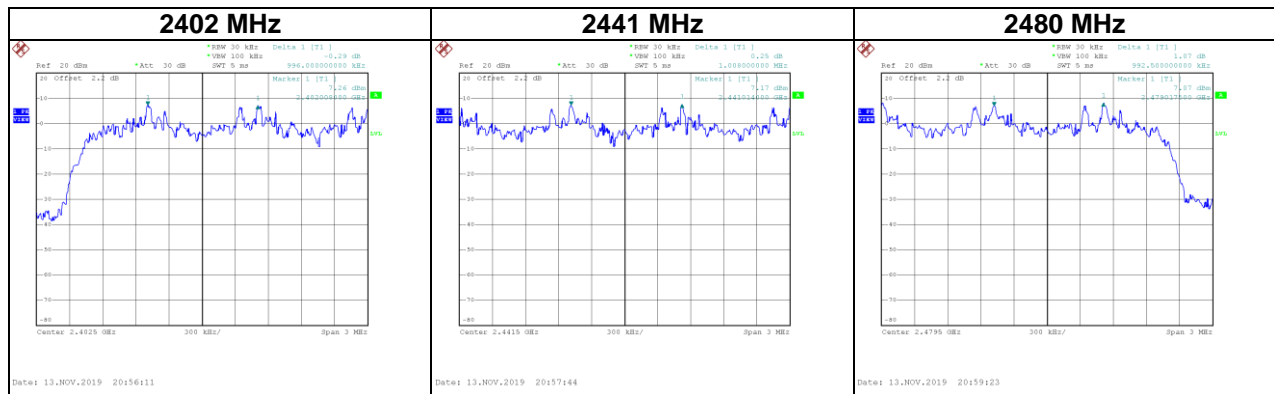
Test Mode :	Hopping on _1Mbps
Test Voltage	AC 120V/60Hz

Frequency (MHz)	Channel Separation (MHz)	2/3 of 20dB Bandwidth (MHz)	Test Result
2402	1.041	0.621	Pass
2441	0.965	0.623	Pass
2480	1.008	0.620	Pass



Test Mode :	Hopping on _3Mbps
Test Voltage	AC 120V/60Hz

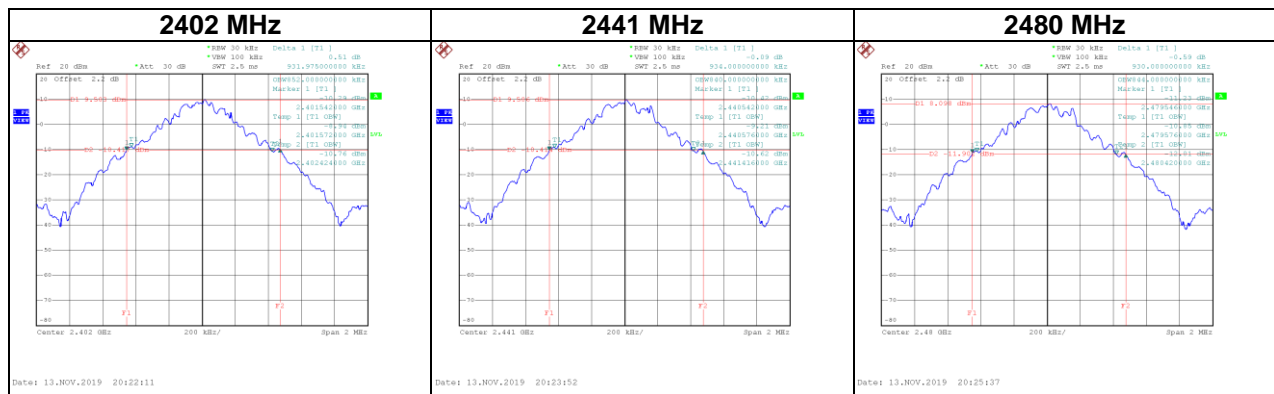
Frequency (MHz)	Channel Separation (MHz)	2/3 of 20dB Bandwidth (MHz)	Test Result
2402	0.996	0.870	Pass
2441	1.008	0.853	Pass
2480	0.993	0.861	Pass



APPENDIX G BANDWIDTH

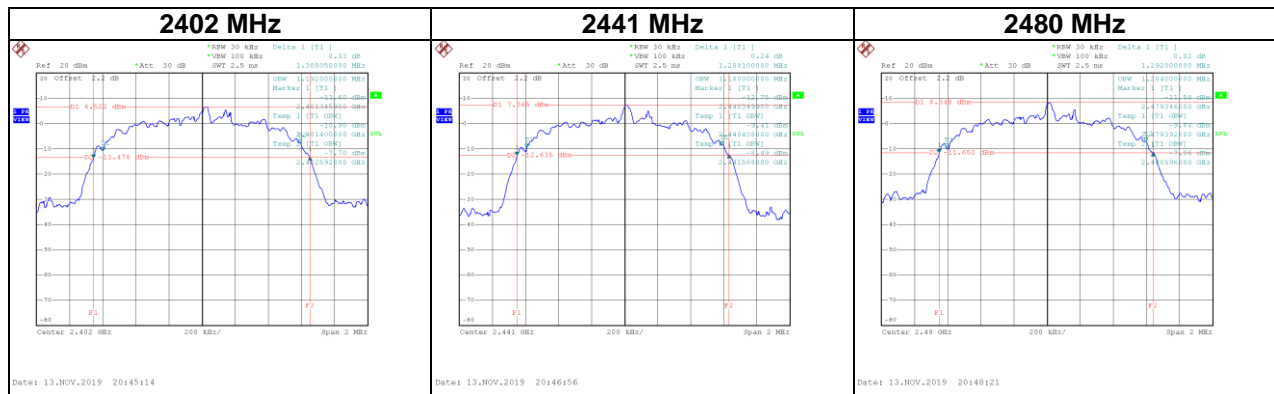
Test Mode :	TX Mode _1Mbps
Test Voltage	AC 120V/60Hz

Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)	Test Result
2402	0.932	0.852	Pass
2441	0.934	0.840	Pass
2480	0.930	0.844	Pass



Test Mode :	TX Mode _3Mbps
Test Voltage	AC 120V/60Hz

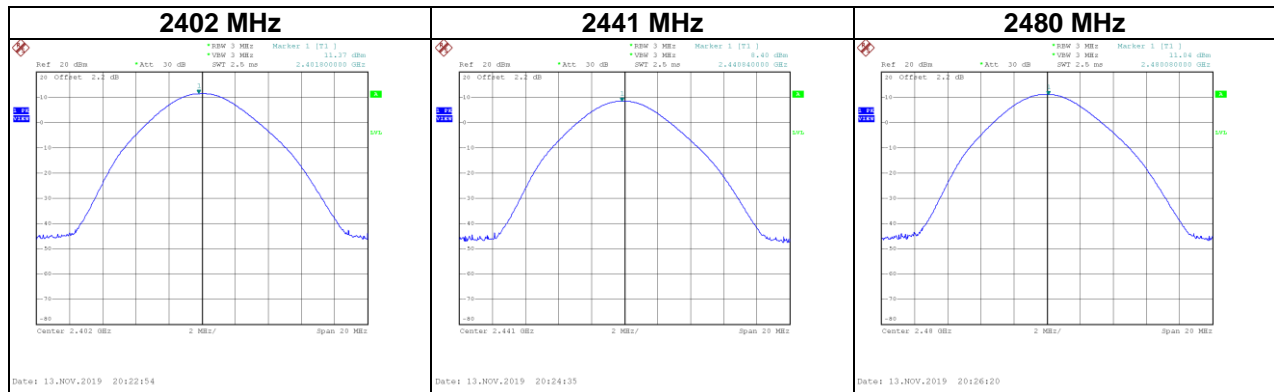
Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)	Test Result
2402	1.305	1.192	Pass
2441	1.280	1.180	Pass
2480	1.292	1.204	Pass



APPENDIX H OUTPUT POWER

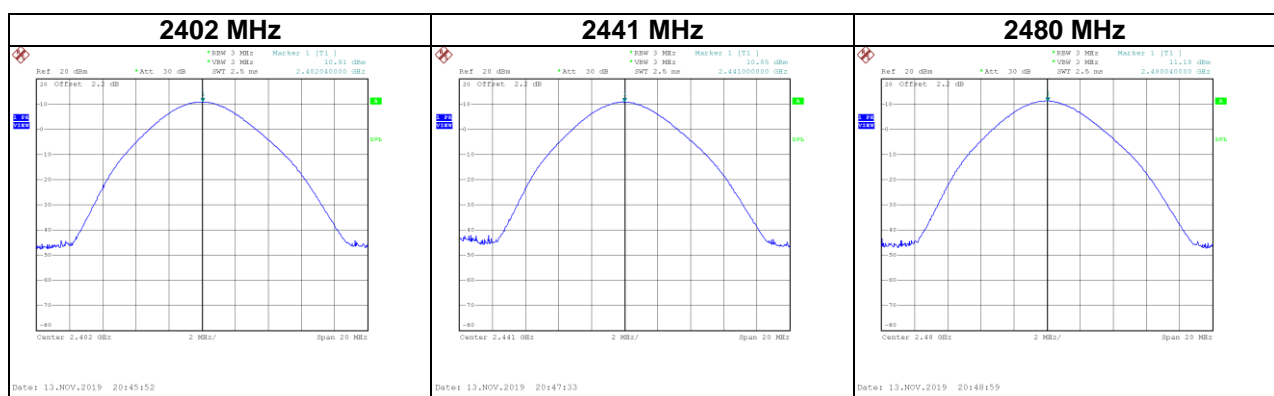
Test Mode :	TX Mode _1Mbps
Test Voltage	AC 120V/60Hz

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	11.06	0.0128	20.97	0.1250	Pass
2441	10.98	0.0125	20.97	0.1250	Pass
2480	6.65	0.0046	20.97	0.1250	Pass



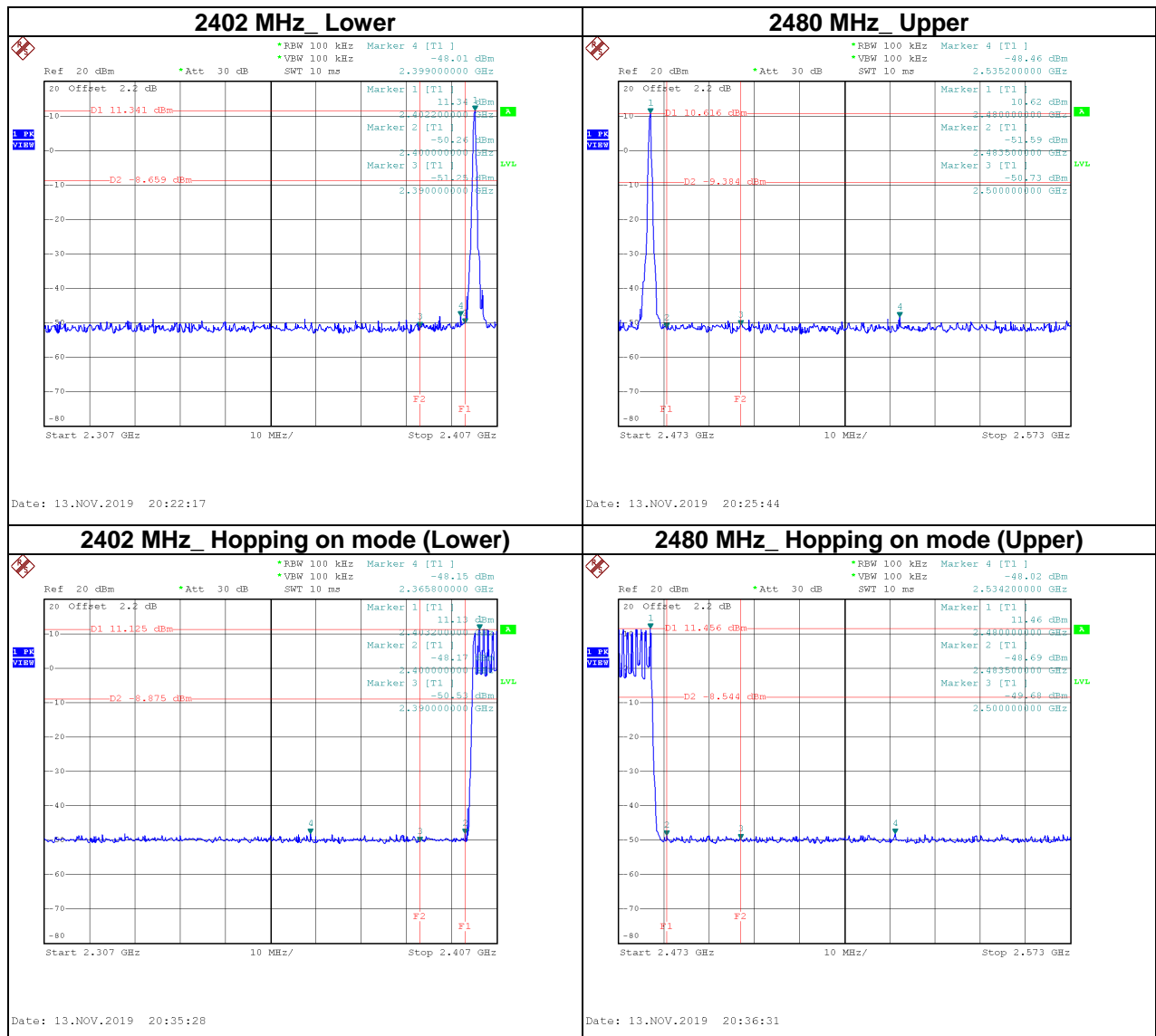
Test Mode :	TX Mode _3Mbps
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Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	10.87	0.0122	20.97	10.87	Pass
2441	10.72	0.0118	20.97	10.72	Pass
2480	6.53	0.0045	20.97	6.53	Pass

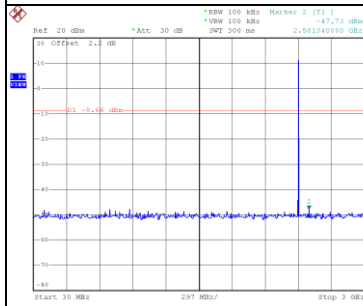


APPENDIX I ANTENNA CONDUCTED SPURIOUS EMISSION

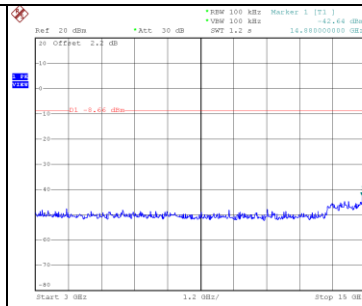
Test Mode	1Mbps
Test Voltage	AC 120V/60Hz



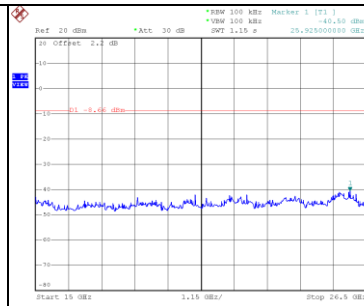
2402 MHz – 10th Harmonics



Date: 13.NOV.2019 20:22:130

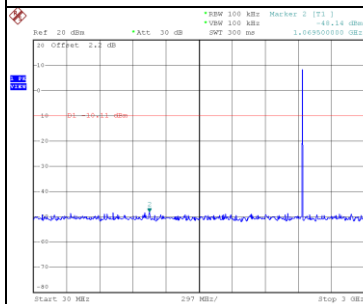


Date: 13.NOV.2019 20:22:137

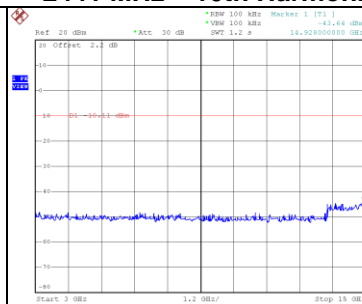


Date: 13.NOV.2019 20:22:143

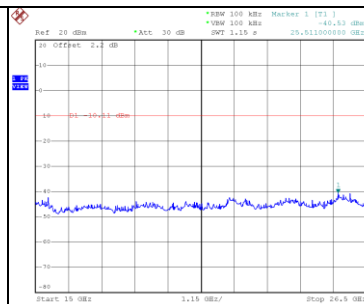
2441 MHz – 10th Harmonics



Date: 13.NOV.2019 20:24:112

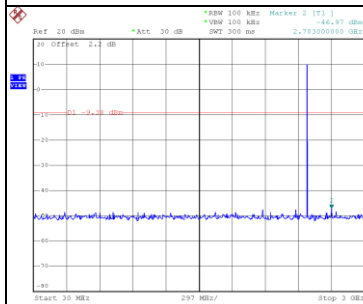


Date: 13.NOV.2019 20:24:118

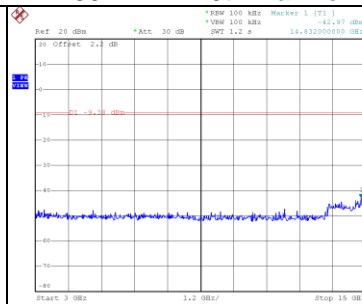


Date: 13.NOV.2019 20:24:125

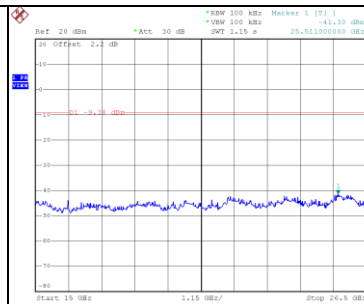
2480 MHz – 10th Harmonics



Date: 13.NOV.2019 20:25:157

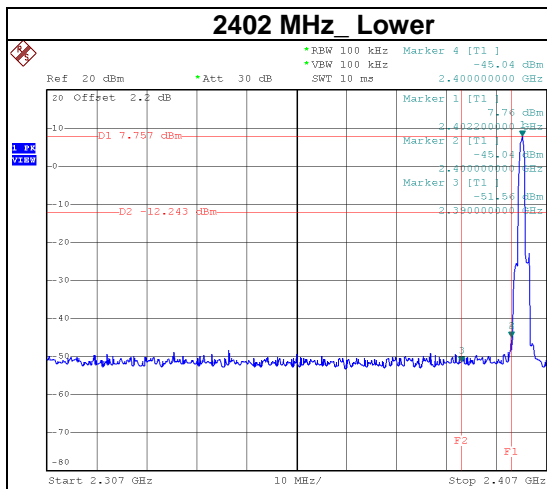


Date: 13.NOV.2019 20:26:103

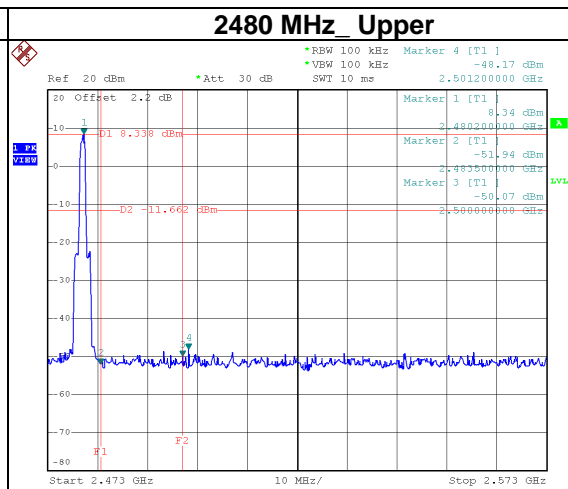


Date: 13.NOV.2019 20:26:110

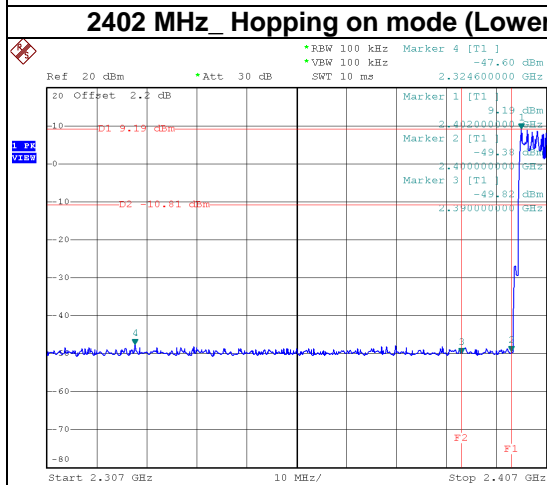
Test Mode	3Mbps
Test Voltage	AC 120V/60Hz



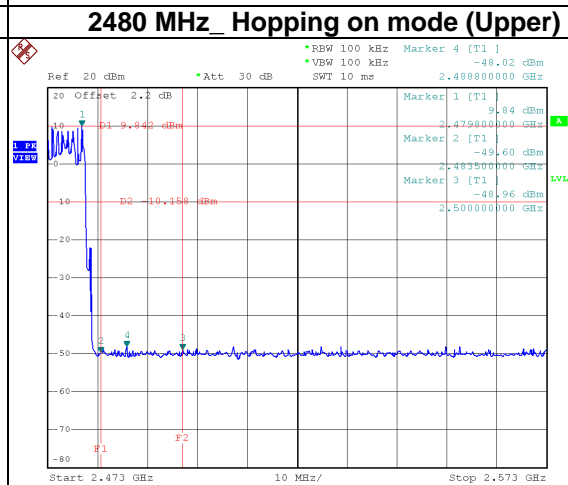
Date: 13.NOV.2019 20:45:21



Date: 13.NOV.2019 20:48:28

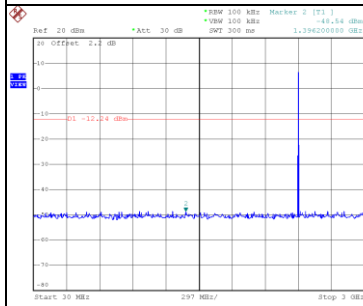


Date: 13.NOV.2019 21:10:20

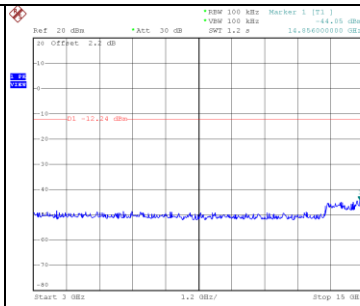


Date: 13.NOV.2019 20:54:38

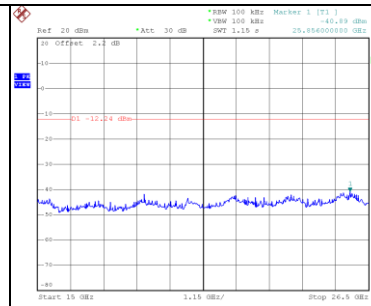
2402 MHz – 10 Harmonics



Date: 13.NOV.2019 20:45:34

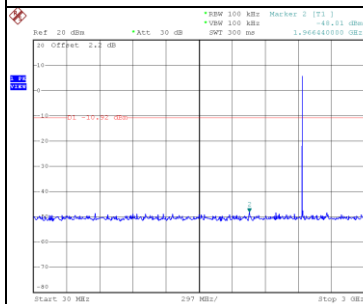


Date: 13.NOV.2019 20:45:40

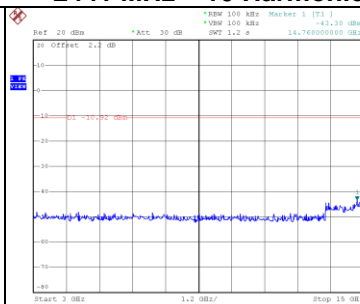


Date: 13.NOV.2019 20:45:47

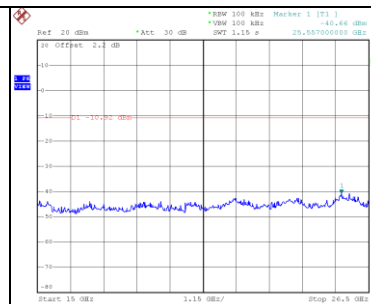
2441 MHz – 10 Harmonics



Date: 13.NOV.2019 20:47:15

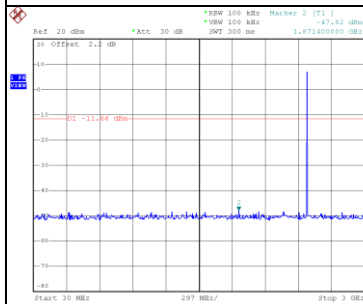


Date: 13.NOV.2019 20:47:21

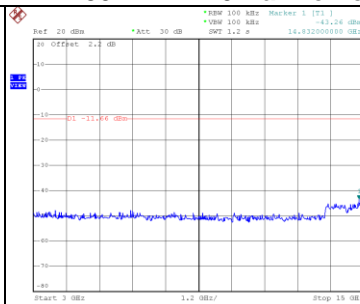


Date: 13.NOV.2019 20:47:28

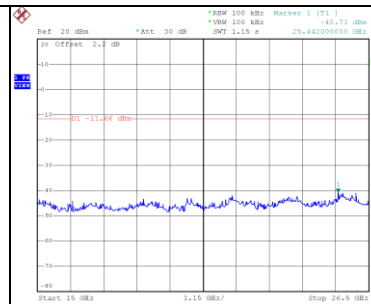
2480 MHz – 10 Harmonics



Date: 13.NOV.2019 20:48:40



Date: 13.NOV.2019 20:48:47



Date: 13.NOV.2019 20:48:53

End of Test Report