FCC RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART C

Test Standard	**FCC Part 15.231**
Trade name	**Continental**
Product name	**Radio Frequency Transmitter**
Model No.	**MTXN1**
Operation Freq.	**TX: 433.92MHz, RX: 125kHz**
Test Result	**Pass**
Statements of Conformity	**Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.**

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.
The test Report of full or partial shall not copy. Without written approval of SGS Compliance Certification Services Inc. (Wugu Laboratory)

Approved by:

Kevin Tsai
Deputy Manager

Revision History

Rev.	Issue Date	Revisions	Effect page	Revised By
00	January 17, 2020	Initial Issue	ALL	May Lin
01	January 21, 2020	See the following Note Rev. (01)	P.5-6	May Lin
02	January 21, 2020	See the following Note Rev. (02)	P.5	May Lin

Rev (01):
1. Revised the section 1.1.
Rev (02):
1. Revised the section 1.1.

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	Continental Automotive GmbH Siemensstrasse 12 SV C TS RBG EMC-Laboratory Regensburg, 93055 Germany
Manufacturer	Continental Automotive GmbH Siemensstrasse 12 SV C TS RBG EMC-Laboratory Regensburg, 93055 Germany
Factory	Continental Automotive Changchun Co., Ltd.Jingyue Branch No. 5800 Shengtai StreetJingyue Zone, Changchun City, Jilin Province, P. R. China 130000
Equipment	Radio Frequency Transmitter
Model Name	MTXN1
Model Discrepancy	Please see the note
Received Date	October 14, 2019
Date of Test	October 16 ~ 21, 2019
Periodic operation	☒ (1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. ☐ (2) A transmitter activated automatically shall cease transmission within 5 seconds after activation ☐ (3) Periodic transmissions at regular predetermined intervals are not permitted. ☐ (4) Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.
Power Operation	Power from Battery: CR2025 x1 (Lithium: 3V)
Operation Frequency	TX: 433.92MHz, RX: 125kHz
S/W Version	MTXN1
H/W Version	MTXN1

Note:

1. All the specification and layout are identical except they come with different external appearance, as shown below:

Product reference	Product variant	S/N
S180145200	Lock/Unlock	T20891
S180145300	Lock/Unlock/PBD	T3000
S180145400	Lock/Unlock/Panic	T30438
S180145500	Lock/Unlock/PBD/Panic	T40742

1.2 EUT CHANNEL INFORMATION

Frequency Range	TX: 433.92MHz, RX: 125kHz
Modulation Type	FSK

Remark:
Refer as ANSI 63.10:2013 clause 5.6.1 Table 4 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	**Number of frequencies**	**Location in frequency range of operation**
☒ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☐ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	internal, 3D (dimensional) loop antenna (Model: 434MTXN1)
Antenna Gain	-17 dBi
Antenna Connector	N/A

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

***Remark**:*
1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Test site	Test Engineer	Remark
AC Conduction Room	-	Not applicable, because EUT doesn't connect to AC Main Source direct.
Radiation	Dally Hong	-
RF Conducted	KW Huang	-

Remark: *The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.*

1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Coaxial Cable	Woken	WC12	CC003	06/28/2019	06/27/2020
Signal Analyzer	R&S	FSV 40	101073	09/25/2019	09/24/2020
Software	N/A				

Fully Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Bilog Antenna	Sunol Sciences	JB1	A052609	03/06/2019	03/05/2020
Loop Ant	COM-POWER	AL-130	121051	03/22/2019	03/21/2020
Cable	HUBER SUHNER	SUCOFLEX 104PEA	23452	06/27/2019	06/26/2020
Cable	HUBER SUHNER	SUCOFLEX 104PEA	33960	06/27/2019	06/26/2020
Digital Thermo-Hygro Meter	WISEWIND	1110	D06	01/30/2019	01/29/2020
Horn Antenna	SCHWARZBECK	BBHA 9120D	779	03/09/2019	03/08/2020
Pre-Amplifier	Anritsu	MH648A	M89145	06/27/2019	06/26/2020
Pre-Amplifier	EMEC	EM01G26G	060570	06/27/2019	06/26/2020
Signal Analyzer	Agilent	N9010A	MY52220817	03/20/2019	03/19/2020
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				

Remark:
1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

There are no accessories and support equipment be used during the test.

EUT Accessories Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
	N/A				

Support Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
	N/A				

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC 15.231.

2. TEST SUMMERY

Standard Sec.	Chapter	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207	4.1	AC Power-line Conducted Emission	Not applicable
15.231(c)	4.2	Emission Bandwidth	Pass
15.231(b)	4.3	Fundamental Emission	Pass
15.209(b)	4.4	Transmitter Radiated Emission	Pass
15.231(a)(1)	4.5	Operation Restriction	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	TX: 433.92MHz, RX: 125kHz
RF Field strength	Peak: 77.44 dBuv/m Average : 58.44 dBuv/m

Remark: Field strength performed Average level at 3m.

3.2 THE WORST MODE OF MEASUREMENT

Radiated Emission Measurement Above 1G	
Test Condition	**Band edge, Emission for Unwanted and Fundamental**
Power supply Mode	**Mode 1: EUT power by Battery (DC 3V)**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**
Worst Position	☐ **Placed in fixed position.** ☒ **Placed in fixed position at X-Plane (E2-Plane)** ☐ **Placed in fixed position at Y-Plane (E1-Plane)** ☐ **Placed in fixed position at Z-Plane (H-Plane)**

Radiated Emission Measurement Below 1G	
Test Condition	**Radiated Emission Below 1G**
Power supply Mode	**Mode 1: EUT power by Battery (DC 3V)**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**

Remark:
1. The worst mode was record in this test report.
2. The EUT pre-scanned in three axis ,X,Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case (X-Plane) were recorded in this report.

3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

According to FCC 15.231(b), 15.231(e),

(b) In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	[1]1,250 to 3,750	[1]125 to 375
174-260	3,750	375
260-470	[1]3,750 to 12,500	[1]375 to 1,250
Above 470	12,500	1,250

[1]Linear interpolations.

(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.

(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in §15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of §15.205 shall be demonstrated using the measurement instrumentation specified in that section.

(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in §15.209, whichever limit permits a higher field strength.

(e) Intentional radiators may operate at a periodic rate exceeding that specified in paragraph (a) of this section and may be employed for any type of operation, including operation prohibited in paragraph (a) of this section, provided the intentional radiator complies with the provisions of paragraphs (b) through (d) of this section, except the field strength table in paragraph (b) of this section is replaced by the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	1,000	100
70-130	500	50
130-174	500 to 1,500[1]	50 to 150[1]
174-260	1,500	150
260-470	1,500 to 5,000[1]	150 to 500[1]
Above 470	5,000	500

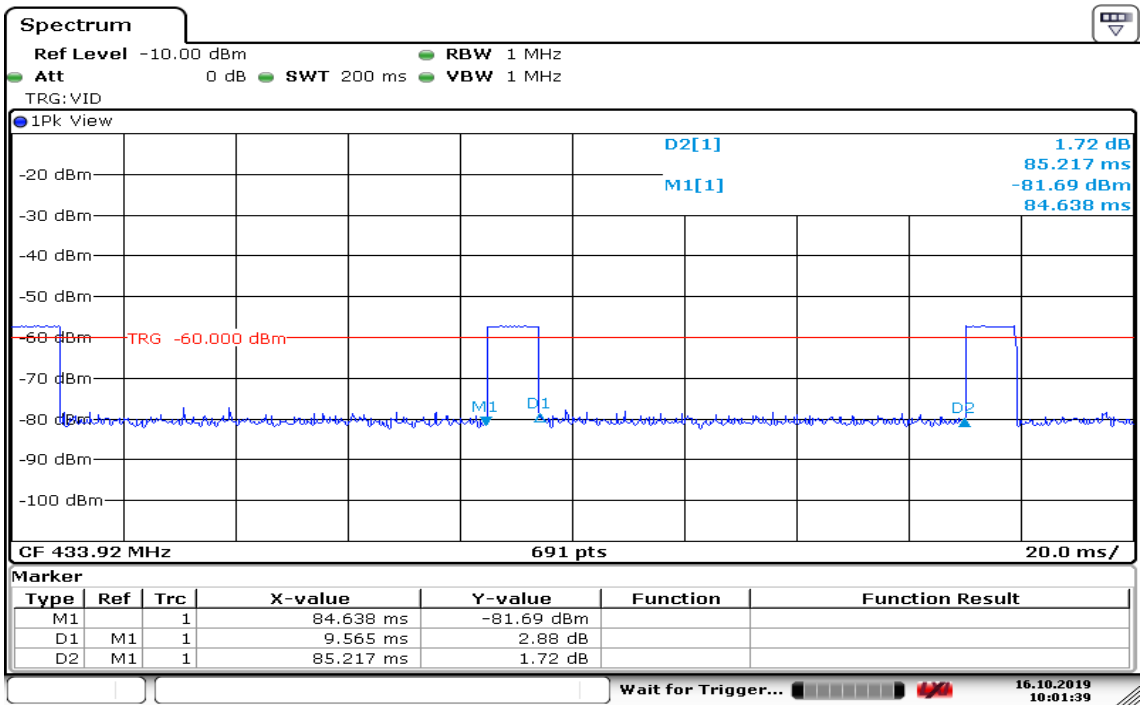
[1]Linear interpolations.

In addition, devices operated under the provisions of this paragraph shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.

3.4 EUT DUTY CYCLE

433MHz - 434MHz

Duty Cycle			
TX ON (ms)	TX All(ms)	Duty Cycle (%)	Duty Factor(dB)
9.57	85.22	11.22%	-19.00



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Notes:

1. The transmitter duty cycle was measured using a spectrum analyser in the time domain and calculated by 20 log (Time$_{(on)}$ / [Period or 100 ms whichever is the lesser])
2. The EUT transmits for a Time(on) of 9.565 milliseconds.

   20 log (Time$_{(on)}$ / [Period or 100 ms whichever is the lesser]).

   20 log (9.565/85.217) = -19.00dB

4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a),

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

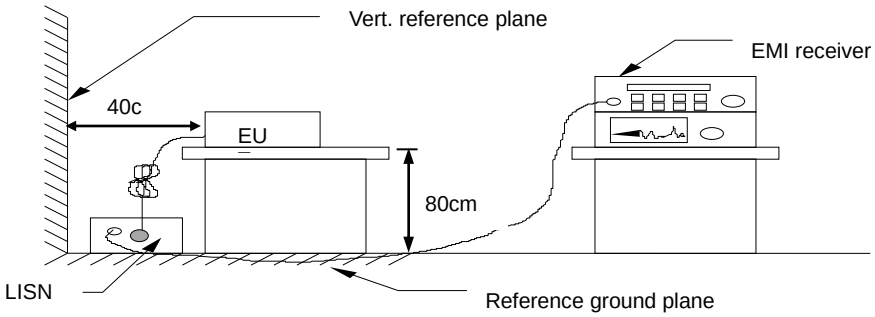
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 6.2,

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete

4.1.3 Test Setup



4.1.4 Test Result

Not applicable

4.2 EMISSION BANDWIDTH

4.2.1 Test Limit

According to §15.231(c),

Limit	☒ 70 MHz – 900 MHz : Fc * 0.25 % ☐ Above 900 MHz : Fc * 0. 5 %

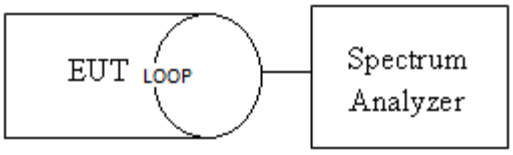
4.2.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 6.9.2,

The Loop antenna connected to the spectrum analyzer, was touching to the transmitter antenna. Set the RBW=20KHz, VBW=30KHz, Detector = Peak, Trace mode = Max hold, Sweep = Auto. Measure the maximum width of the emission that is constrained by the frequencies associated with the 20dB Bandwidth.

The Loop antenna connected to the spectrum analyzer, was touching to the transmitter antenna. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, Trace mode = Max hold, Sweep = Auto. Measure the maximum width of the emission that is constrained by the frequencies associated with the Occupied Bandwidth (99%).

4.2.3 Test Setup

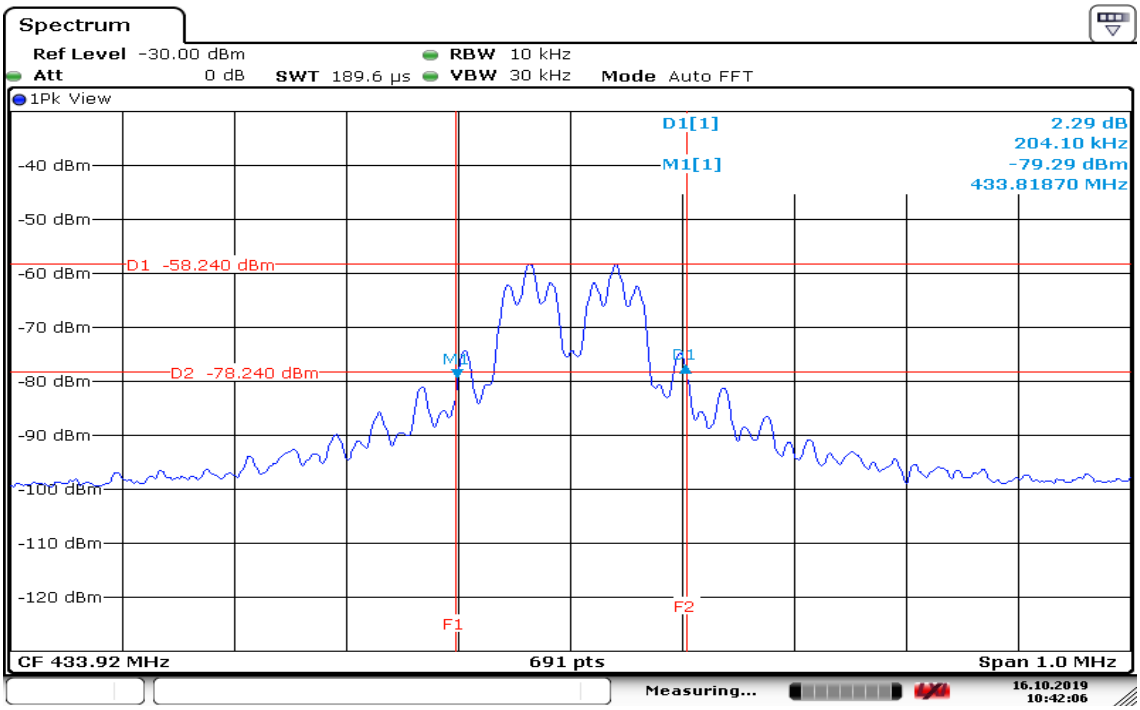


4.2.4 Test Result

Spectrum Bandwidth				
Frequency (MHz)	**20dB Bandwidth (KHz)**	**20dB Bandwidth Limits (MHz)**	**99% Occupied BW (KHz)**	**99% Bandwidth Limits (MHz)**
433.92	204.10	469.77264	201.1577	469.77264

Test Data

20dB Bandwidth



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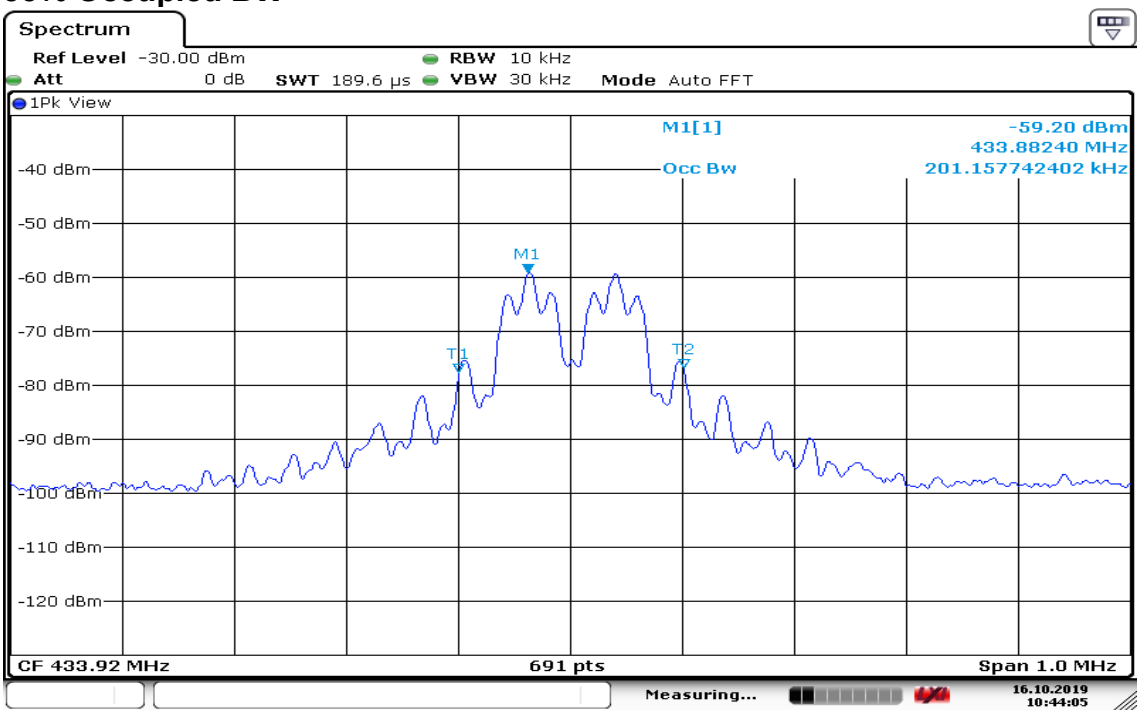
99% Occupied BW



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4.3 FIELD STRENGTH OF FUNDAMENTAL

4.3.1 Test Limit

According to §15.231(b)

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of fundamental (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	[1]1,250 to 3,750	[1]125 to 375
174-260	3,750	375
260-470	[1]3,750 to 12,500	[1]375 to 1,250
Above 470	12,500	1,250

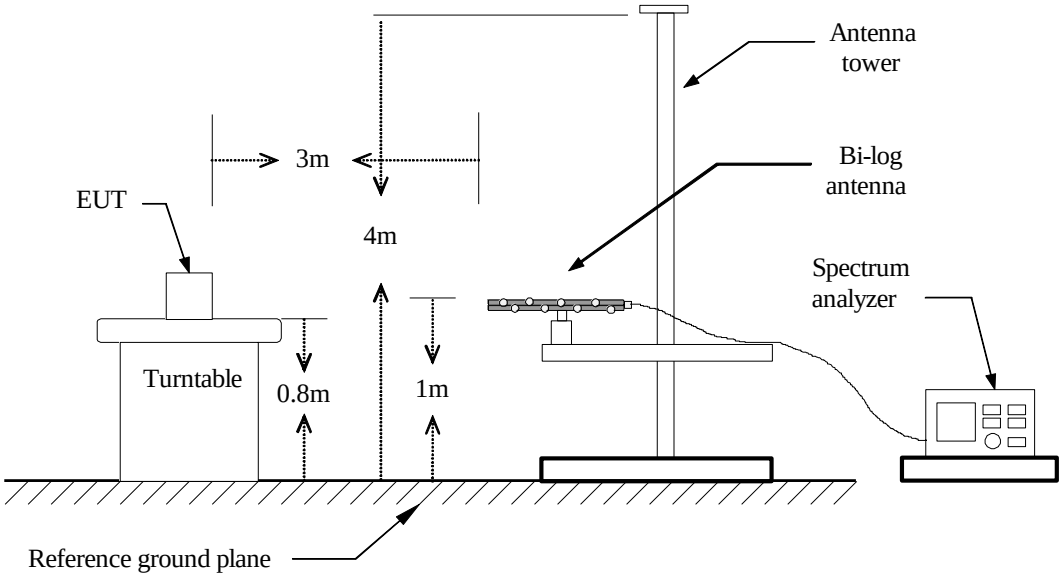
* Linear interpolation with frequency, f, in MHz:
For 130-174 MHz: Field Strength (μV/m) = (56.82 × f)−6136
For 260-470 MHz: Field Strength (μV/m) = (41.67 × f)−7083

4.3.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 4.1.4 and clause 6.5

clause 4.1.4	☒ 4.1.4.2.2: Measurement Peak value. ☐ 4.1.4.2.3: Duty cycle ≥ 100%. ☒ 4.1.4.2.4: Measurement Average value.

4.3.3 Test Setup



4.3.4 Test Result

Field Strength					
Frequency (MHz)	**Fundamental (dBuV/m) at 3m**	**Limit (dBuV/m) at 3m**	**Margin (dB)**	**Axis/Pol.**	**Remark**
433.92	58.44	80.80	-5.89	X/H	AVG

Remark:

1. Fundamental measured method setting on spectrum, RBW=100 kHz, VBW=100kHz and Detector=Peak.

2. Average result = Peak result + Duty factor = 77.44 dBuV/m –19.00= 58.44dBuV/m

*3. 260MHz ~ 470MHz limit is 41.67 * (Frequency, MHz) – 7083*

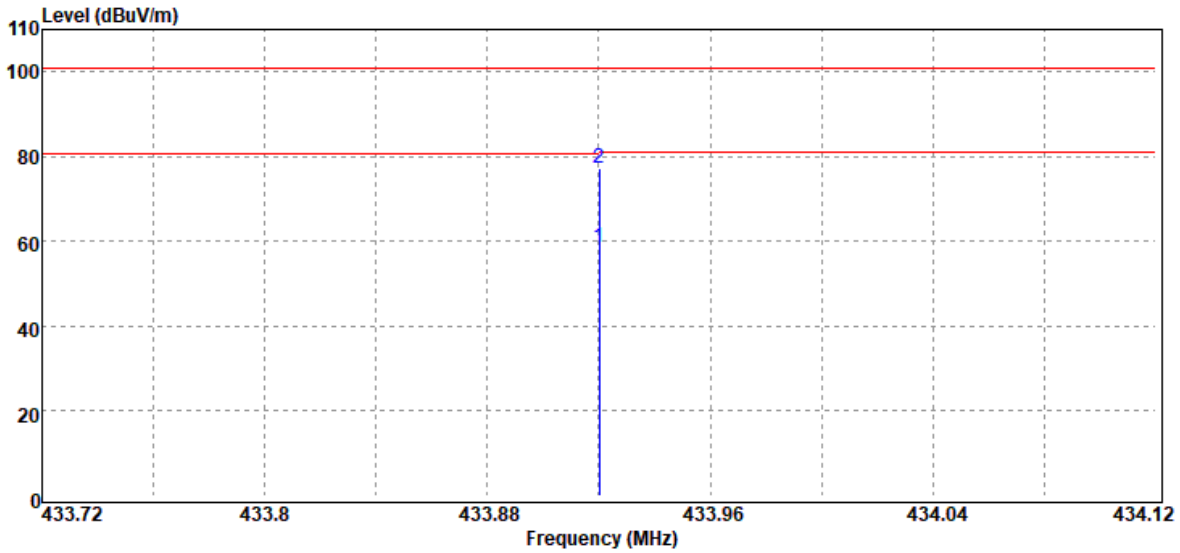
*Limit = 41.67 * (433.92 MHz) – 7083*

=10998.4464 (uV/m)

dBuv/m = 20 Log (uV/m) = 20 Log (10998.4464 uV/m)= 80.82dBuV/m

Test Data

Test Mode:	TX-433.92MHz	Temp/Hum	25.9(℃)/ 50%RH
Test Item	Fundamental	Test Date	2019/10/21
Axis/Polarize	X-Plane /Hor..	Test Engineer	Dally Hong
Detector	Peak & AVG		



No	Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)
2	433.92	Peak	81.67	-4.23	77.44	100.82	-23.38

Note:
No.1 Average result = Peak result + Duty factor = 58.44 dBuV/m –19.00= 58.44dBuV/m

4.4 RADIATION UNWANTED EMISSION

4.4.1 Test Limit

According to §15.231(b) and §15.209, §15.205
Unwanted emissions limit follow the table or the FCC Part 15.209, whichever limit permits higher field strength.

According to §15.231(b)

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of fundamental (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	[1]1,250 to 3,750	[1]125 to 375
174-260	3,750	375
260-470	[1]3,750 to 12,500	[1]375 to 1,250
Above 470	12,500	1,250

[1]Linear interpolations.

Below 30MHz

Frequency (MHz)	Field Strength				
	(μV/m)	(dBμV/m)	Measurement Distance (meter)	(dBμV/m)	Measurement Distance (meter)
0.009 - 0.490	2400/F(kHz)	48.52 – 13.80	300	128.52–104.84	3
0.490 - 1.705	24000/F(kHz)	33.80 – 22.97	30	73.80– 62.97	3
1.705 – 30.0	30	29.54	30	69.54	3

Above 30MHz

Frequency (MHz)	Field Strength		Measurement Distance (meter)
	(μV/m)	(dBμV/m)	
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

.

4.4.2 Test Procedure

Test method Refer as ANSI 63.10:2013

☒ Unwanted Emission	☒ clause 4.1.4.2.2: Measurement Peak value. ☐ clause 4.1.4.2.3: Duty cycle ≥ 100%. ☒ clause 4.1.4.2.4: Measurement Average value.

☒ Radiated Emission	☒ clause 6.4: below 30 MHz and test distance is 3m. ☒ clause 6.5: below 30 MHz -1 GHz and test distance is 3m. ☒ clause 6.6: Above 30 MHz and test distance is 3m.

1. The EUT is placed on a turntable, which is 0.8m for test below 1GHz and 1.5m for test above 1GHz, above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

   Below 1GHz:

   RBW=100kHz / VBW=300kHz / Sweep=AUTO

   Above 1GHz:

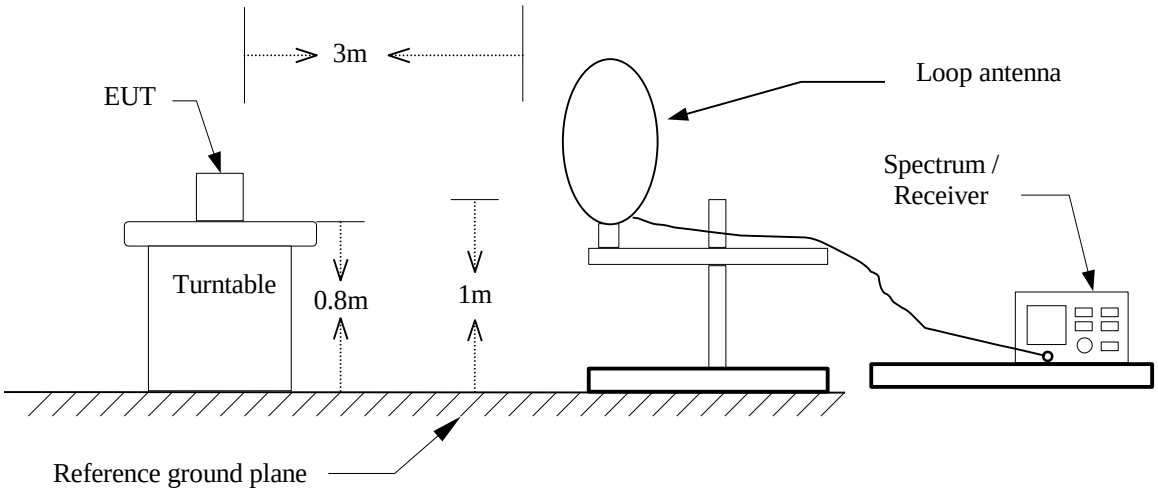
   (a)PEAK: RBW=1MHz / VBW=3MHz / Sweep=AUTO

   (b)AVERAGE: RBW=1MHz,
7. Repeat above procedures until the measurements for all frequencies are complete.

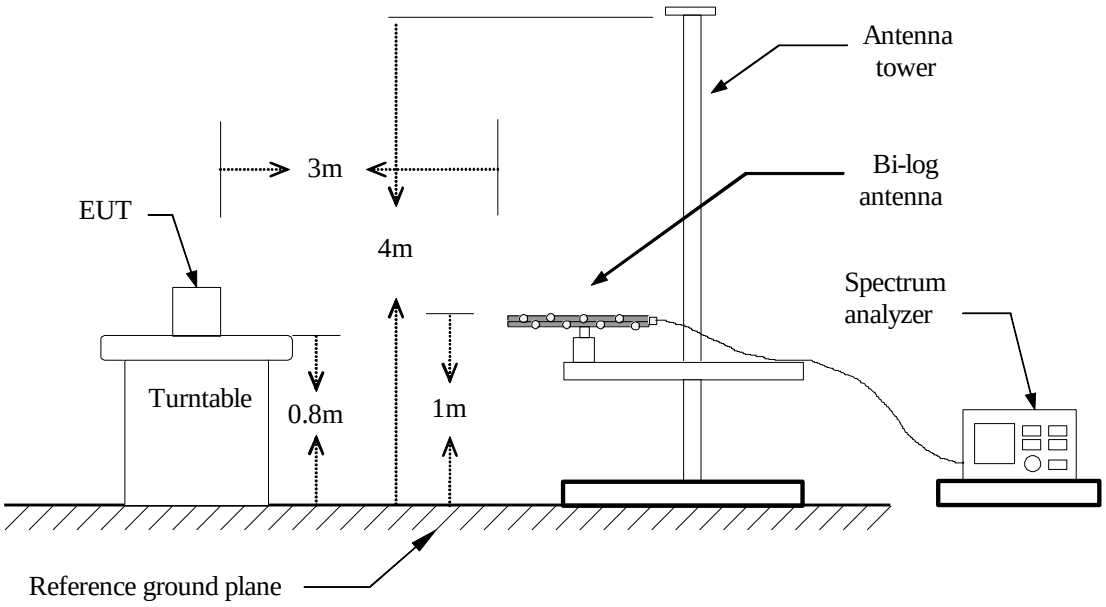
Remark.
1. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
2. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

4.4.3 Test Setup

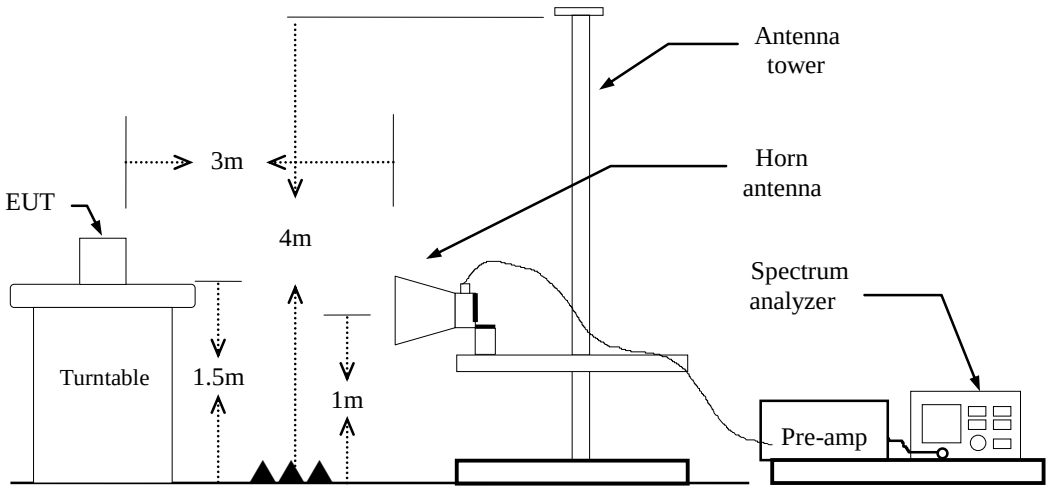
9kHz ~ 30MHz



30MHz ~ 1 GHz



Above 1 GHz



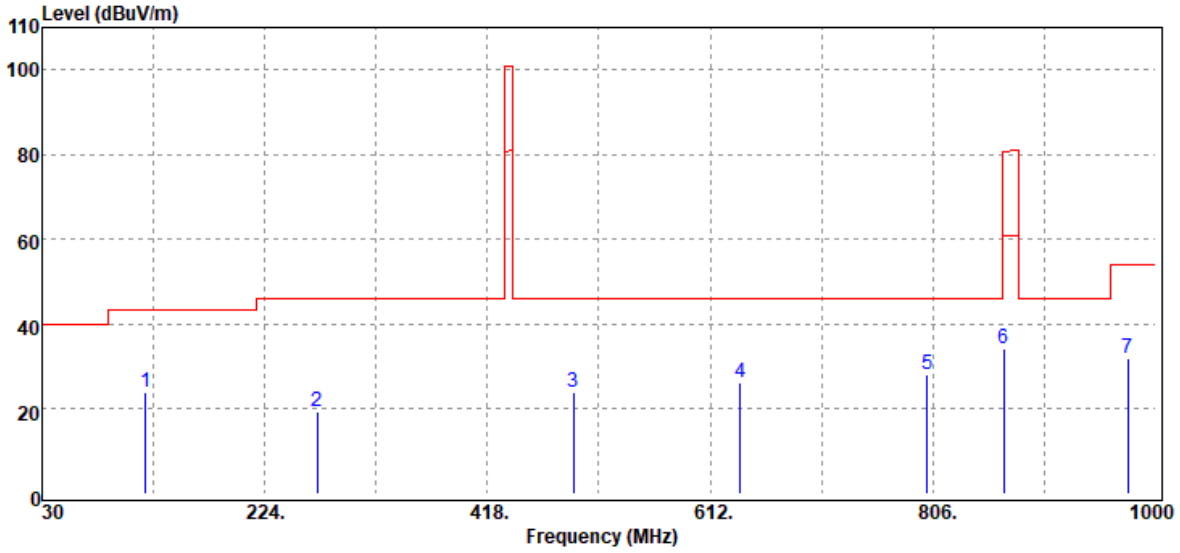
4.4.4 Test Result

Pass.

Test Data

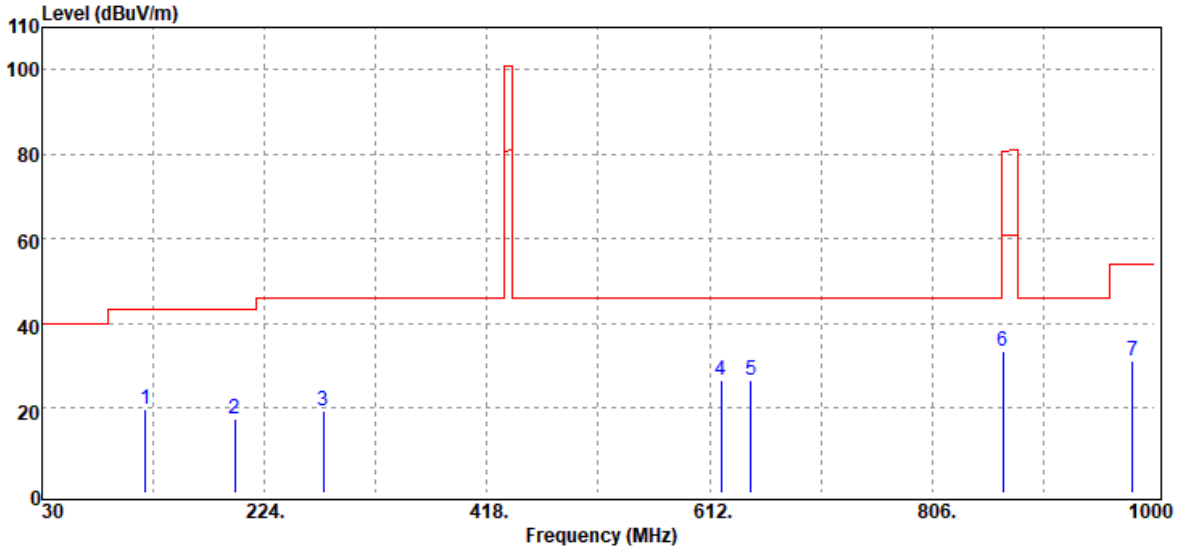
Below 1GHz

Test Mode:	TX-433.92MHz	Temp/Hum	25.9(℃)/ 50%RH
Test Item	Below 1GHz	Test Date	2019/10/21
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)
120.21	Peak	32.72	-8.88	23.84	43.50	-19.66
269.59	Peak	27.85	-8.58	19.27	46.00	-26.73
492.69	Peak	26.84	-2.97	23.87	46.00	-22.13
638.19	Peak	26.76	-0.37	26.39	46.00	-19.61
801.15	Peak	26.42	1.72	28.14	46.00	-17.86
867.84	Peak	31.18	2.92	34.10	80.82	-46.72
975.75	Peak	26.49	5.54	32.03	54.00	-21.97

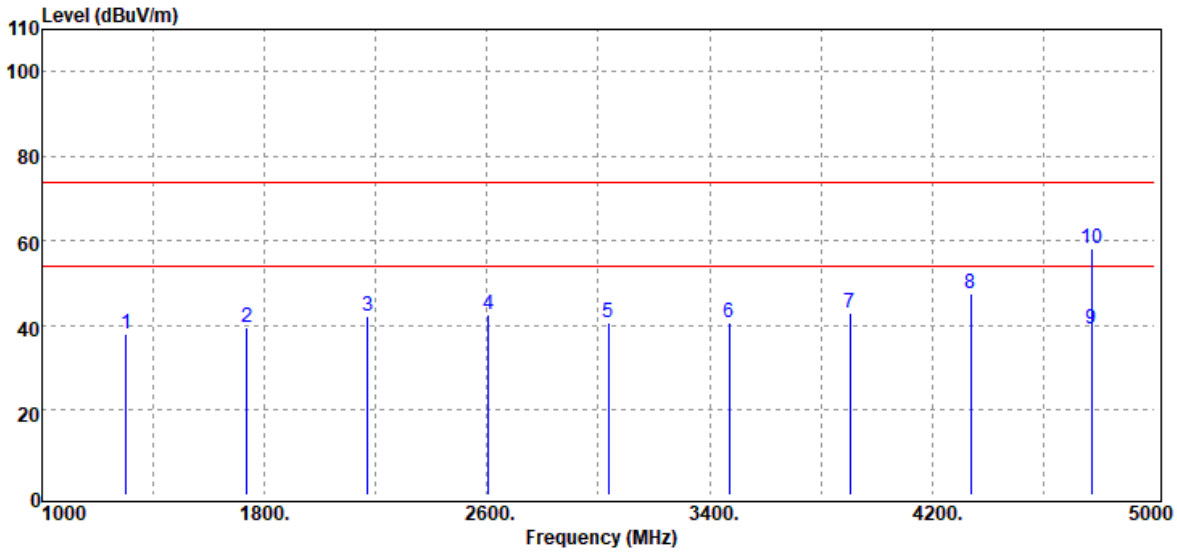
Test Mode:	TX-433.92MHz	Temp/Hum	25.9(℃)/ 50%RH
Test Item	Below 1GHz	Test Date	2019/10/21
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)
120.21	Peak	28.65	-8.88	19.77	43.50	-23.73
197.81	Peak	27.15	-9.46	17.69	43.50	-25.81
275.41	Peak	27.74	-8.42	19.32	46.00	-26.68
621.70	Peak	27.47	-0.81	26.66	46.00	-19.34
647.89	Peak	26.81	-0.06	26.75	46.00	-19.25
867.84	Peak	30.54	2.92	33.46	80.82	-47.36
980.60	Peak	25.58	5.72	31.30	54.00	-22.70
992.24	Peak	26.26	5.17	31.43	54.00	-22.57

Above 1GHz

Test Mode:	TX-433.92MHz	Temp/Hum	25.9(℃)/ 50%RH
Test Item	Above 1GHz	Test Date	2019/10/21
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)
1301.76	Peak	46.07	-8.11	37.96	74.00	-36.04
1735.68	Peak	46.23	-6.52	39.71	74.00	-34.29
2169.60	Peak	45.11	-2.89	42.22	74.00	-31.78
2603.52	Peak	44.61	-2.05	42.56	74.00	-31.44
3037.44	Peak	42.62	-1.79	40.83	74.00	-33.17
3471.36	Peak	41.04	-0.38	40.66	74.00	-33.34
3905.28	Peak	40.85	2.10	42.95	74.00	-31.05
4339.20	Peak	45.35	2.26	47.61	74.00	-26.39
4773.12	Peak	55.31	2.92	58.23	74.00	-15.77

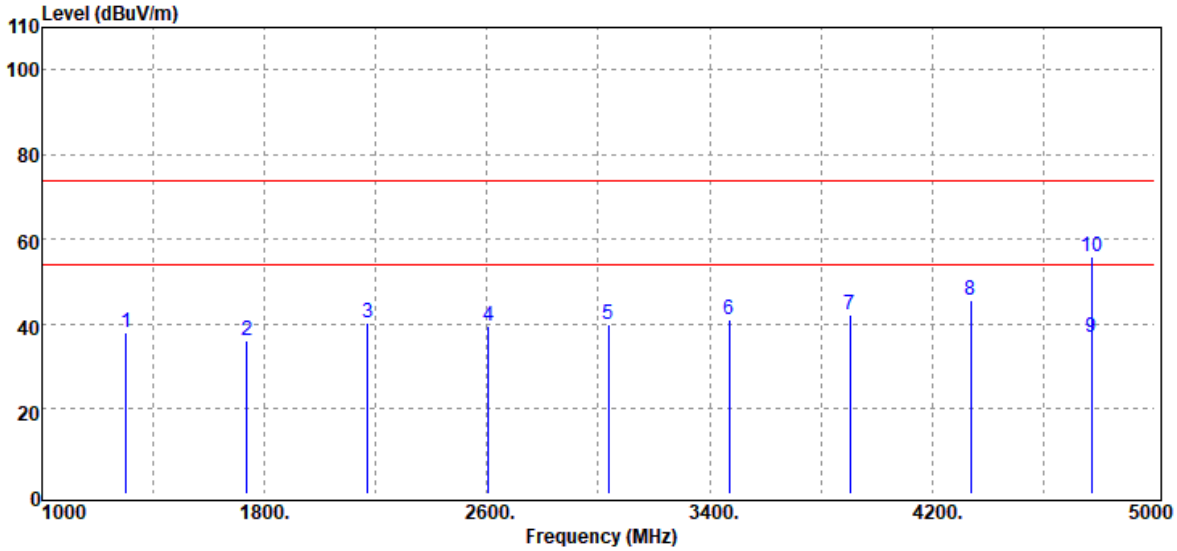
Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

2. Frequency: 4773.12 MHz

Average result = Peak result + Duty factor = 58.23 dBuV/m –19.00= 39.23 dBuV/m

Test Mode:	TX-433.92MHz	Temp/Hum	25.9(℃)/ 50%RH
Test Item	Above 1GHz	Test Date	2019/10/21
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)
1301.76	Peak	46.21	-8.11	38.10	74.00	-35.90
1735.68	Peak	42.73	-6.52	36.21	74.00	-37.79
2169.60	Peak	43.07	-2.89	40.18	74.00	-33.82
2603.52	Peak	41.79	-2.05	39.74	74.00	-34.26
3037.44	Peak	41.87	-1.79	40.08	74.00	-33.92
3471.36	Peak	41.51	-0.38	41.13	74.00	-32.87
3905.28	Peak	40.14	2.10	42.24	74.00	-31.76
4339.20	Peak	43.58	2.26	45.84	74.00	-28.16
4773.12	Peak	53.11	2.92	56.03	74.00	-17.97

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

2. Frequency: 4773.12 MHz

Average result = Peak result + Duty factor = 56.03 dBuV/m –19.00= 37.03 dBuV/m

4.5 OPERATION RESTRICTION

4.5.1 Test Limit

15.231(a)(1),

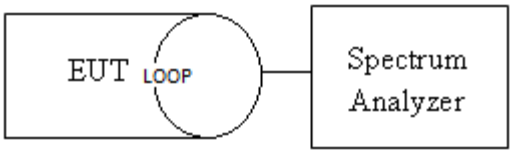
A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

4.5.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 7.4

The Loop antenna connected to the spectrum analyzer, was touching to the transmitter antenna. Set the RBW=1MHz, VBW=1MHz, Detector = Peak, Trace mode = Max hold, Sweep = 1s. Measure

4.5.3 Test Setup



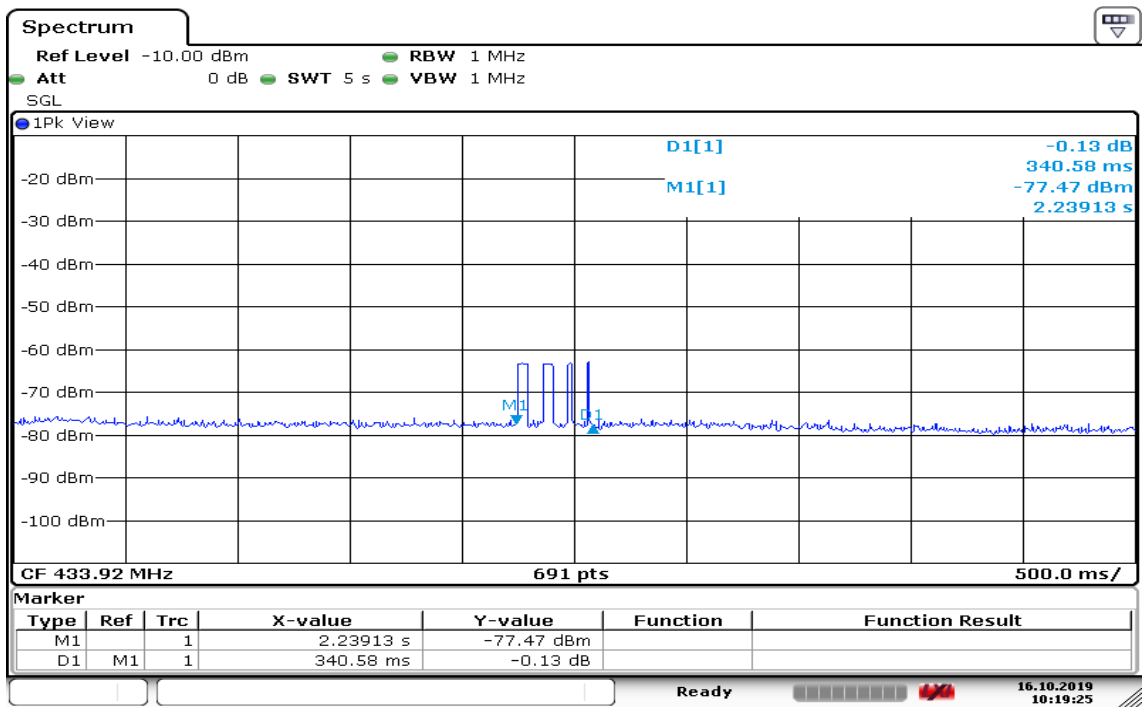
4.5.4 Test Result

433.92MHz

Dwell Time			
Operation condition	**Pulse On Time (s)**	**Limits**	**Result**
manually operated	2.23913s	5 sec	PASS

Test Data

433.92MHz



- End of Test Report -