

# TEST REPORT

For

## HF/50MHz TRANSCEIVER

In conformity with

### FCC CFR 47 Part15 Subpart B (CSR)

**Model : FTDX10****FCC ID : K6620761X50****Test Item : HF/50MHz TRANSCEIVER****Report No. : WE200818BC1-12****Issue Date : 26 Oct. 2020****Prepared for**YAESU MUSEN CO., LTD.  
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## History

Report No.	Date	Revisions	Issued By
WE200818BC1-11	18 Sep. 2020	Initial Issue	T. Kato
WE200818BC1-12	26 Oct. 2020	Add the setup photo of radiated emission	T. Kato

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# 1 General information

## 1.1 Product description from applicant

Test item	: HF/50MHz TRANSCEIVER
Manufacturer	: YAESU MUSEN CO., LTD.
Address	: 43 Utsuroda, Morijuku, Sukagawa-shi, Fukushima-ken 962-0001 JAPAN
Model	: FTDX10
FCC ID	: K6620761X50
Serial number	: SPP1
Hardware version	: SPP1
Software version	: 2020-07-29-1 V01-00 (MAIN) : 2020-07-10-1 V00-88 (DISPLAY) : V92-00 (DSP) : VA1-14 (SDR) : V09-25 (AF)
Operating frequency range	: 0.03 - 75 MHz
Highest internal operating Freq.	: 250 MHz
Receipt date of EUT	: 04 Sep. 2020
Nominal power source voltages	: DC 13.8 V (This is supplied by a DC power supply)

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## 1.2 Test(s) performed/ Summary of test result

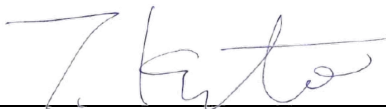
Test specification(s)	: FCC CFR 47 Part 15 Subpart B
Test method(s)	: ANSI C63.4: 2014
Test(s) started	: 07 Sep. 2020
Test(s) completed	: 11 Sep. 2020
Purpose of test(s)	: Certification as the scanning receiver
Summary of test result	: <u>Complied</u>

Note: The above judgment is only based on the measurement data and it does not include the measurement uncertainty. Accordingly, the statement below is applied to the test result.


The EUT complies with the limit required in the standard in case that the margin is not less than the measurement uncertainty in the Laboratory.

Compliance of the EUT is more probable than non-compliance is case that the margin is less than the measurement uncertainty in the Laboratory.

Test engineer

:   
T. Kato  
(Test Engineer, EMC/RF Testing Lab.)

Reviewer

:   
K. Onishi  
(Testing Leader, EMC/RF Testing Lab.)

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### 1.3 Test facility

The Federal Communications Commission has reviewed the technical characteristics of the test facilities at SGS Japan Inc., located in 472, Nippa-cho, Kohoku-ku, Yokohama, 223-0057, Japan, and has found these test facilities to be in compliance with the requirements of 47 CFR Part 15, section 2.948. The description of the test facilities has been filed under registration number JP5001 at the Office of the Federal Communications Commission. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

The list of all public test facilities is available on the Internet at <http://www.fcc.gov>.

Registered by Innovation, Science and Economic Development Canada (ISED):  
The registered CAB identifier is JP0009.

Accredited by **National Voluntary Laboratory Accreditation Program (NVLAP)** for the emission tests stated in the scope of the certificate under Certificate Number 200780-0

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



### 1.4 Measurement uncertainty

The treatment of uncertainty is based on the general matters on the definition of uncertainty in “Guide to the expression of uncertainty in measurement (GUM)” published by ISO. The Lab’s uncertainty is determined by referring UKAS Publication LAB34: 2002 “The Expression of Uncertainty in EMC Testing” and CISPR16-4-2: 2011 “Uncertainty in EMC Measurements”.

The uncertainty of the measurement result in the level of confidence of approximately 95% (k=2) is as follows;

AC conducted emission (150 kHz - 30 MHz)	: ± 3.3 dB
RF conducted emission (30 MHz - 6 GHz)	: ± 0.9 dB
Radiated emission (30 MHz - 1000 MHz)	: ± 6.0 dB
Radiated emission (1 GHz - 6 GHz)	: ± 4.2 dB

## 1.5 Summary of test results

Requirement	Section in specification	Result	Section in this report
Radiated emissions (30 to 2000 MHz) (*1)	15.109	Complied	2.1
Conducted emission for receiver	15.111	Complied	2.2
AC power line conducted emissions	15.107	Complied	2.3
38 dB Rejection (cellular band)	15.121 (b)	- (*2)	-

(\*1) The highest internal operating frequency is 250 MHz

(\*2) This item was not tested in this report.

## 1.6 Setup of equipment under test (EUT)

### 1.6.1 Test configuration of EUT

#### Equipment(s) under test

No.	Item	Manufacture	Model No.	Serial No.
1	HF/50MHz TRANSCEIVER	YAESU MUSEN CO., LTD.	FTDX10	SPP1
-	-	-	-	-

#### Support Equipment(s)

No.	Item	Manufacture	Model No.	Serial No.
2	Stereo Headphones	YAESU MUSEN CO., LTD.	YH-77STA	YTS03
3	Microphone	YAESU MUSEN CO., LTD.	SSM-75E	-
4	Remote Control Keypad	YAESU MUSEN CO., LTD.	FH-2	YTS02
5	External Speaker	YAESU MUSEN CO., LTD.	SP-30	ES01
6	USB Mouse	Del	MO56UC	F0E01TU4
7	USB Keyboard	Dell	KB-212-B	CN-0DH939-71616-38R-0HDB-A00
8	Monitor	Lenovo	6622-HJ1	V1B7857
9	DC Power Supply	YAESU MUSEN CO., LTD.	FP-1030A	1412167017
10	Remote Control System	YAESU MUSEN CO., LTD.	SCU-LAN10	PP#01

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**Connected cable(s)**

No.	Item	From	To	Cable Shielded	Ferrite Core	Length [m]
A	Headphone Cable	1	2	No	No	1.8
B	Mic. Cable	1	3	No	No	0.5
C	RTTY/DATA Cable	1	OPEN	No	No	1.6
D	TUNER Cable	1	OPEN	No	No	1.0
E	RS-232C Cable	1	OPEN	Yes	No	2.0
F	GND Cable	1	GND	No	No	2.0
G	REM Cable	1	4	No	No	1.0
H	LINEAR Cable	1	OPEN	No	No	1.0
I	Speaker Cable	1	5	No	No	1.0
J	Key Cable	1	OPEN	No	No	1.6
K	USB Cable	1	10	No	No	1.8
L	ACC Cable	1	10	Yes	Yes	1.8
M	LAN Cable	10	OPEN	No	No	1.0
N	Mouse Cable	1	6	Yes	No	1.8
O	Keypad Cable	1	7	Yes	No	2.1
P	DVI Cable	1	8	Yes	Yes (Pre-Assy)	1.9
Q	DC Cable	1	9	No	No	2.8

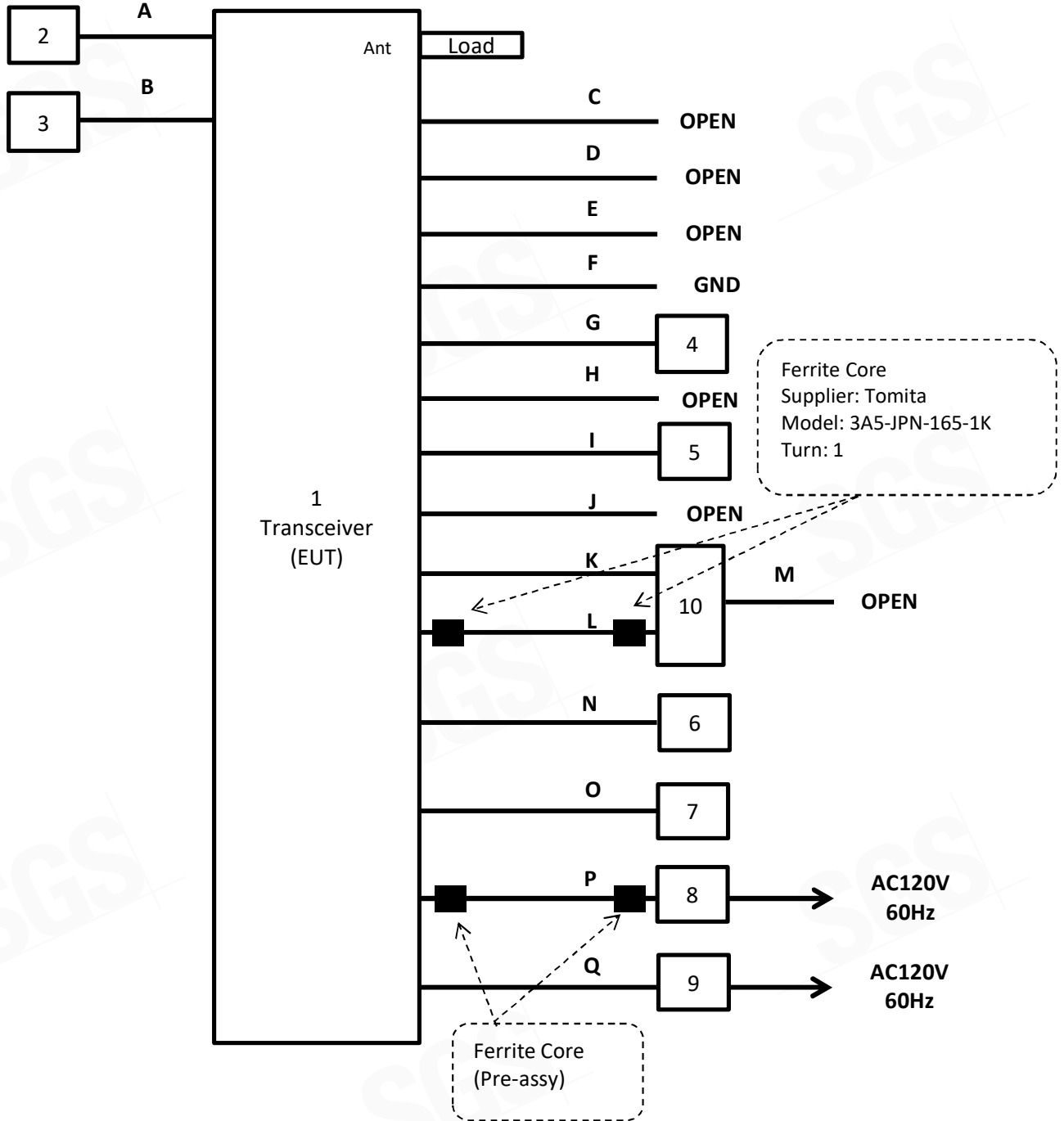
**1.6.2 Operating condition:**

- Rx 0.03 MHz
- Rx 28 MHz
- Rx 75 MHz

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### 1.6.3 Setup diagram of tested system



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## 1.7 Equipment modifications

No modifications have been made to the equipment in order to achieve compliance with the applicable standards described in clause 1.2.

## 1.8 Deviation from the standard

No deviations from the standards described in clause 1.2.

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## 2 Test procedure and test data

### 2.1 Radiated emissions

#### Test setup

Test setup was implemented according to the method of ANSI C63.4 clause 6 “General requirements for EUT equipment arrangements and operation”, clause 8.2 and Annex H.3 “Radiated emission measurements setup”.

#### Test procedure

Measurement procedures were implemented according to the method of ANSI C63.4 clauses 8.2. The EUT is placed on a non-conducted table which is 0.8 m height from a ground plane and the measurement antenna to EUT distance is 3 meters. The turn table is rotated for 360 degrees to determine the maximum emission level.

The antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

The spectrum analyzer and receiver are set to the followings;

RBW=100 kHz (up to 1000 MHz) or 1 MHz (above 1000 MHz) ,  
 VBW= 300 kHz (up to 1000 MHz) or 3 MHz (above 1000 MHz)

Final measurement is carried out with a receiver RBW of 120 kHz (up to 1000 MHz), or 1 MHz (above 1000 MHz).

#### Applicable rule and limitation

FCC 15.109 Radiated emissions limits

Frequency [MHz]	Field Strength [ $\mu\text{V/m}$ ]	Measurement Distance [m]	Field Strength [ $\text{dB}\mu\text{V/m}$ ]
30 – 88	100	3	40.0
88 – 216	150	3	43.5
216 – 960	200	3	46.0
Above 960	500	3	53.9

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

The emission limits shown in the above table are based on measurements employing a QP detector (up to 1000 MHz) or AVE/PEAK detector (above 1000 MHz).

#### Test results - Complied with requirement

#### Test equipment used (refer to List of utilized test equipment)

AC01	TR06	CL11	PR21	BA07	CL38	CL39
PR12	DH06					

**Test software used**

EMI1 Ver. 6.1

**Calculation method**

The Correction Factor and Result are calculated as followings.

$$\begin{aligned} \text{Correction Factor [dB/m]} &= \text{Ant. Factor [dB/m]} + \text{Loss [dB]} - \text{Gain [dB]} \\ \text{Result [dB}\mu\text{V/m]} &= \text{Reading [dB}\mu\text{V]} + \text{Correction Factor [dB/m]} \end{aligned}$$

**Test Data**

*Operating mode: Rx 0.03 MHz*

Range: 30 - 1000 MHz

No.	Frequency [MHz]	Reading [dBμV]	Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Ant.
1	77.187	48.6	7.8	7.5	30.3	33.6	40.0	6.4	Hori.
2	135.012	50.5	12.6	8.1	30.2	41.0	43.5	2.5	Hori.
3	189.016	50.4	11.0	8.6	30.1	39.9	43.5	3.6	Hori.
4	202.517	49.4	11.7	8.7	30.1	39.7	43.5	3.8	Hori.
5	337.529	44.1	14.6	9.8	30.2	38.3	46.0	7.7	Hori.
6	675.058	41.7	18.9	11.7	30.2	42.1	46.0	3.9	Hori.
7	810.069	43.2	20.0	12.3	29.9	45.6	46.0	0.4	Hori.
8	864.074	37.3	20.3	12.5	29.6	40.5	46.0	5.5	Hori.
9	49.204	40.1	13.6	7.1	30.4	30.4	40.0	9.6	Vert.
10	202.517	44.9	11.7	8.7	30.1	35.2	43.5	8.3	Vert.
11	675.058	40.9	18.9	11.7	30.2	41.3	46.0	4.7	Vert.
12	810.069	42.1	20.0	12.3	29.9	44.5	46.0	1.5	Vert.

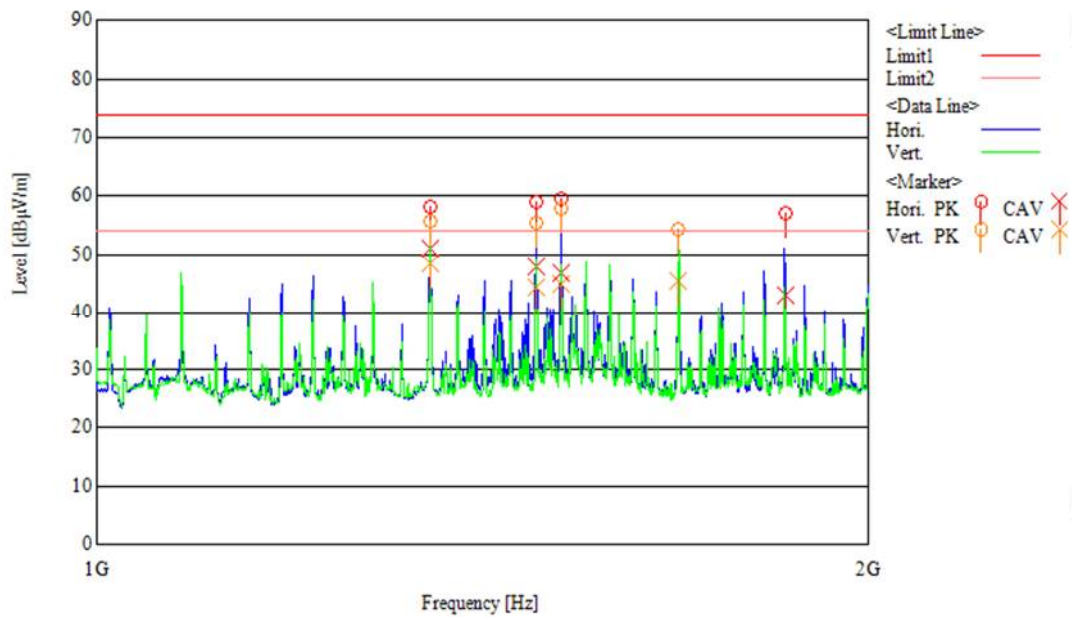
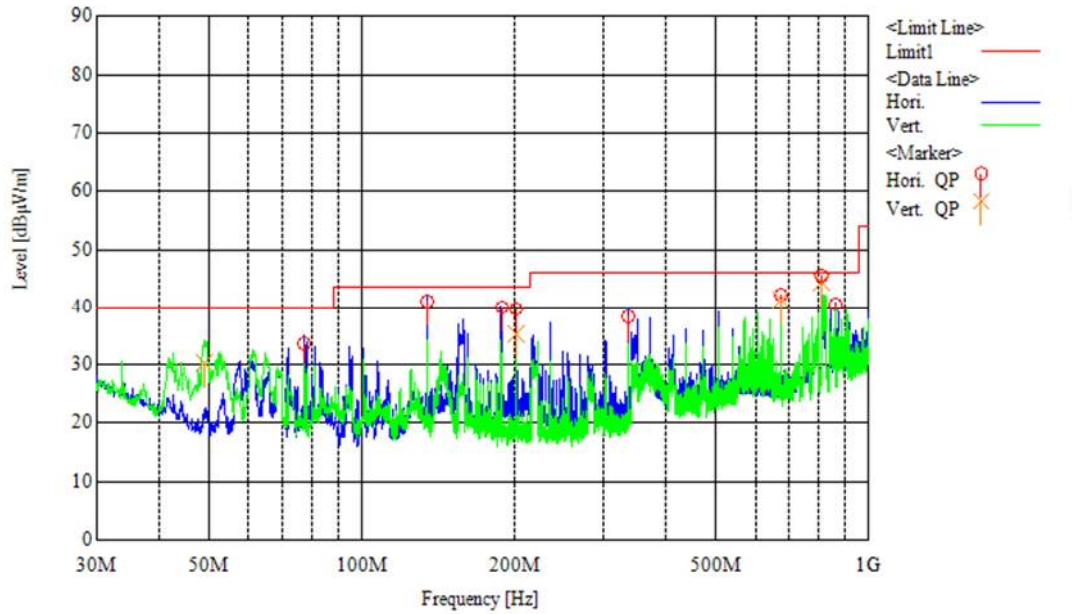
Range: 1000 - 2000 MHz

No.	Frequency [MHz]	Reading PK [dBμV]	Reading AVE [dBμV]	C.Factor [dB/m]	Result PK [dBμV/m]	Result AVE [dBμV/m]	Limit PK [dBμV/m]	Limit AVE [dBμV/m]	Margin PK [dB]	Margin AVE [dB]	Ant.
1	1350.111	67.2	60.2	-9.1	58.1	51.1	73.9	53.9	15.8	2.8	Hori.
2	1485.126	68.0	57.0	-9.1	58.9	47.9	73.9	53.9	15.0	6.0	Hori.
3	1518.880	68.7	55.9	-9.1	59.6	46.8	73.9	53.9	14.3	7.1	Hori.
4	1856.405	65.3	51.1	-8.2	57.1	42.9	73.9	53.9	16.8	11.0	Hori.
5	1350.114	64.9	57.6	-9.1	55.8	48.5	73.9	53.9	18.1	5.4	Vert.
6	1485.124	64.5	53.6	-9.1	55.4	44.5	73.9	53.9	18.5	9.4	Vert.
7	1518.878	67.1	54.1	-9.1	58.0	45.0	73.9	53.9	15.9	8.9	Vert.
8	1687.642	63.2	54.4	-8.9	54.3	45.5	73.9	53.9	19.6	8.4	Vert.

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[Chart]



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Operating mode: Rx 28 MHz

Range: 30 - 1000 MHz

No.	Frequency [MHz]	Reading [dBμV]	Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Ant.
1	78.040	48.4	7.7	7.5	30.3	33.3	40.0	6.7	Hori.
2	135.012	50.4	12.6	8.1	30.2	40.9	43.5	2.6	Hori.
3	189.016	50.3	11.0	8.6	30.1	39.8	43.5	3.7	Hori.
4	202.517	49.3	11.7	8.7	30.1	39.6	43.5	3.9	Hori.
5	337.529	44.7	14.6	9.8	30.2	38.9	46.0	7.1	Hori.
6	675.058	41.8	18.9	11.7	30.2	42.2	46.0	3.8	Hori.
7	810.069	43.0	20.0	12.3	29.9	45.4	46.0	0.6	Hori.
8	864.074	37.3	20.3	12.5	29.6	40.5	46.0	5.5	Hori.
9	49.242	40.1	13.6	7.1	30.4	30.4	40.0	9.6	Vert.
10	202.517	44.9	11.7	8.7	30.1	35.2	43.5	8.3	Vert.
11	675.058	40.3	18.9	11.7	30.2	40.7	46.0	5.3	Vert.
12	810.069	41.7	20.0	12.3	29.9	44.1	46.0	1.9	Vert.

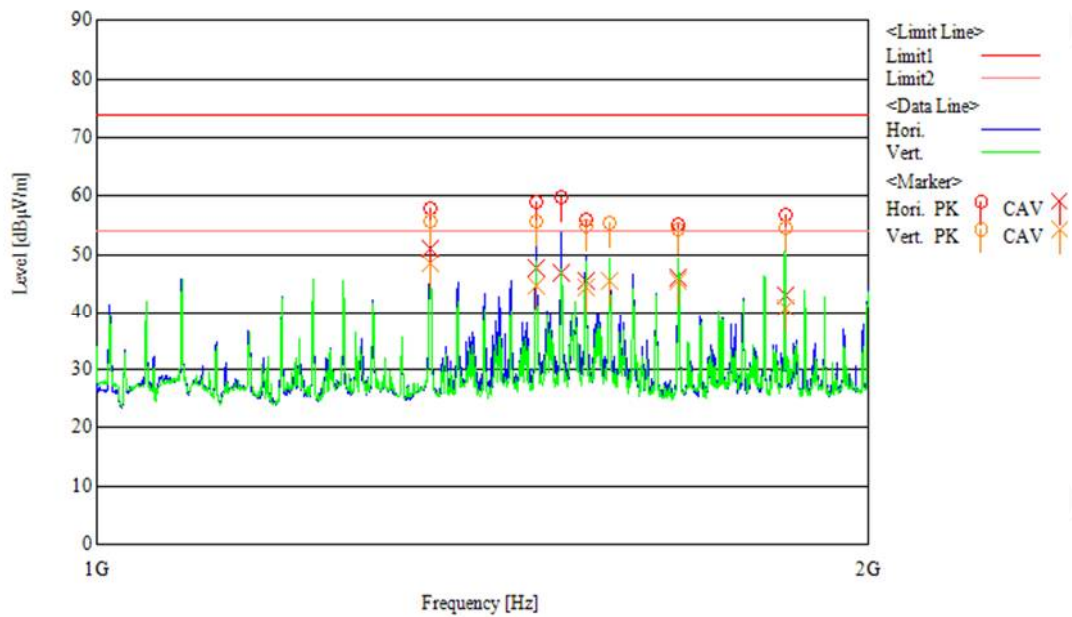
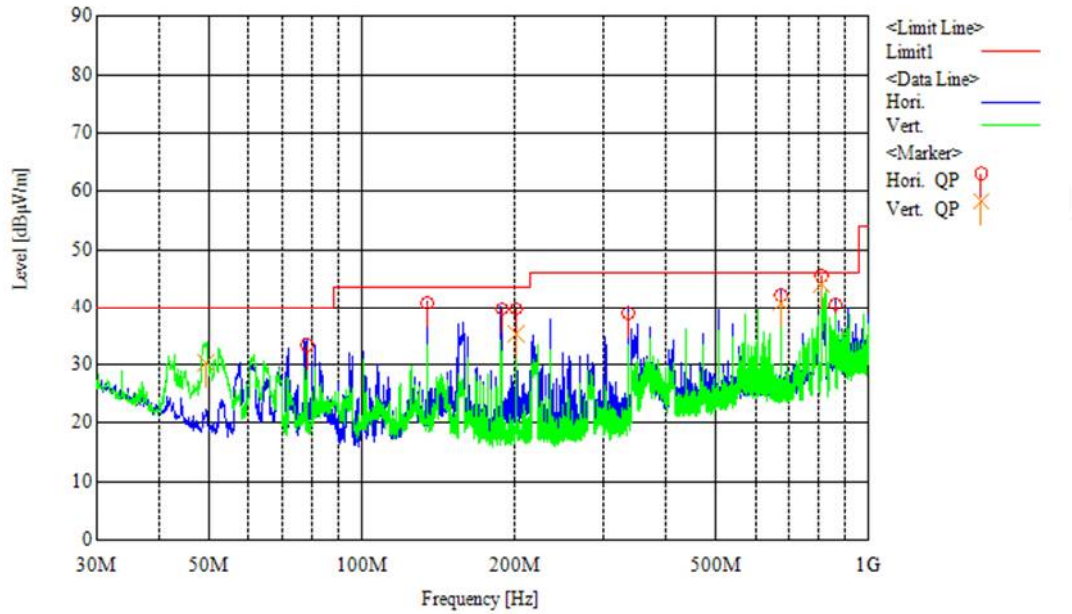
Range: 1000 - 2000 MHz

No.	Frequency [MHz]	Reading PK [dBμV]	Reading AVE [dBμV]	C.Factor [dB/m]	Result PK [dBμV/m]	Result AVE [dBμV/m]	Limit PK [dBμV/m]	Limit AVE [dBμV/m]	Margin PK [dB]	Margin AVE [dB]	Ant.
1	1350.112	67.1	60.0	-9.1	58.0	50.9	73.9	53.9	15.9	3.0	Hori.
2	1485.124	68.0	56.9	-9.1	58.9	47.8	73.9	53.9	15.0	6.1	Hori.
3	1518.876	68.9	55.9	-9.1	59.8	46.8	73.9	53.9	14.1	7.1	Hori.
4	1552.630	64.9	54.5	-9.0	55.9	45.5	73.9	53.9	18.0	8.4	Hori.
5	1687.641	64.1	55.0	-8.9	55.2	46.1	73.9	53.9	18.7	7.8	Hori.
6	1856.405	65.1	51.3	-8.2	56.9	43.1	73.9	53.9	17.0	10.8	Hori.
7	1350.113	64.8	57.5	-9.1	55.7	48.4	73.9	53.9	18.2	5.5	Vert.
8	1485.124	64.9	53.8	-9.1	55.8	44.7	73.9	53.9	18.1	9.2	Vert.
9	1552.630	63.8	53.3	-9.0	54.8	44.3	73.9	53.9	19.1	9.6	Vert.
10	1586.383	64.4	54.5	-9.0	55.4	45.5	73.9	53.9	18.5	8.4	Vert.
11	1687.641	63.3	54.3	-8.9	54.4	45.4	73.9	53.9	19.5	8.5	Vert.
12	1856.406	62.7	49.1	-8.2	54.5	40.9	73.9	53.9	19.4	13.0	Vert.

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[Chart]



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Operating mode: Rx 75 MHz

Range: 30 - 1000 MHz

No.	Frequency [MHz]	Reading [dBμV]	Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Ant.
1	77.187	48.4	7.8	7.5	30.3	33.4	40.0	6.6	Hori.
2	135.012	50.2	12.6	8.1	30.2	40.7	43.5	2.8	Hori.
3	189.016	50.6	11.0	8.6	30.1	40.1	43.5	3.4	Hori.
4	202.517	49.2	11.7	8.7	30.1	39.5	43.5	4.0	Hori.
5	337.529	44.5	14.6	9.8	30.2	38.7	46.0	7.3	Hori.
6	675.059	41.4	18.9	11.7	30.2	41.8	46.0	4.2	Hori.
7	810.069	43.2	20.0	12.3	29.9	45.6	46.0	0.4	Hori.
8	864.074	37.2	20.3	12.5	29.6	40.4	46.0	5.6	Hori.
9	49.261	39.9	13.6	7.1	30.4	30.2	40.0	9.8	Vert.
10	202.517	44.8	11.7	8.7	30.1	35.1	43.5	8.4	Vert.
11	675.058	40.6	18.9	11.7	30.2	41.0	46.0	5.0	Vert.
12	810.070	41.8	20.0	12.3	29.9	44.2	46.0	1.8	Vert.

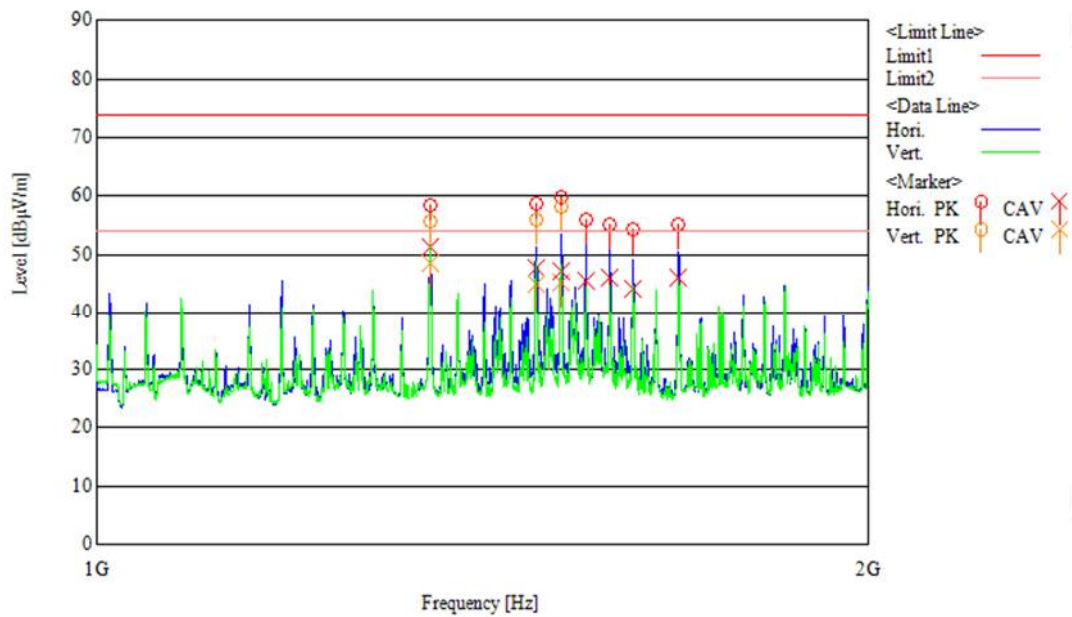
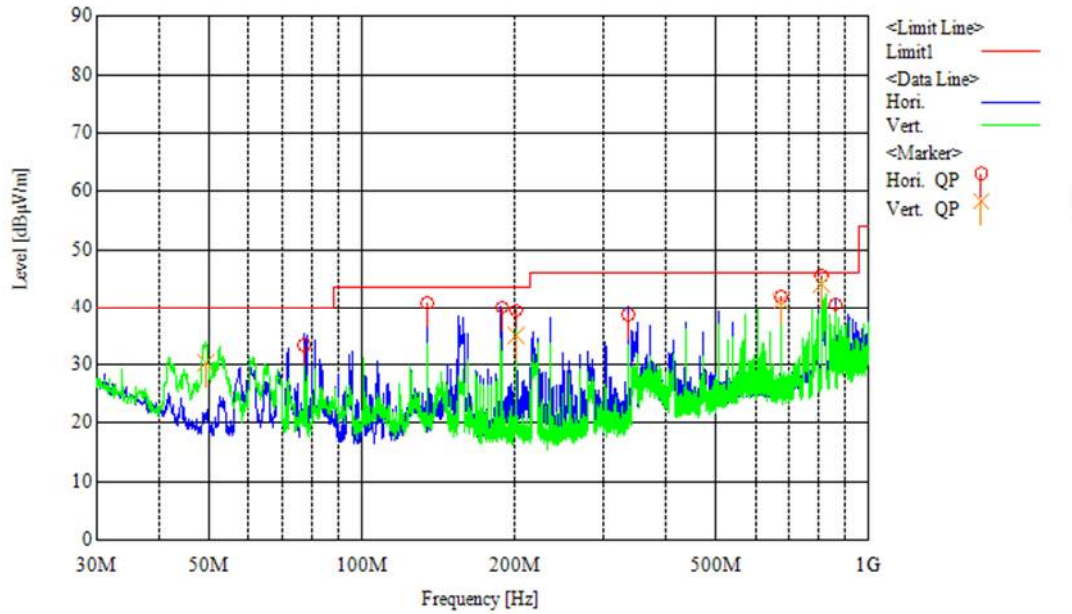
Range: 1000 - 2000 MHz

No.	Frequency [MHz]	Reading PK [dBμV]	Reading AVE [dBμV]	C.Factor [dB/m]	Result PK [dBμV/m]	Result AVE [dBμV/m]	Limit PK [dBμV/m]	Limit AVE [dBμV/m]	Margin PK [dB]	Margin AVE [dB]	Ant.
1	1350.108	67.5	60.4	-9.1	58.4	51.3	73.9	53.9	15.5	2.6	Hori.
2	1485.150	67.9	56.8	-9.1	58.8	47.7	73.9	53.9	15.1	6.2	Hori.
3	1518.873	68.9	56.1	-9.1	59.8	47.0	73.9	53.9	14.1	6.9	Hori.
4	1552.625	65.0	54.5	-9.0	56.0	45.5	73.9	53.9	17.9	8.4	Hori.
5	1586.379	64.2	54.9	-9.0	55.2	45.9	73.9	53.9	18.7	8.0	Hori.
6	1620.132	63.4	53.0	-9.0	54.4	44.0	73.9	53.9	19.5	9.9	Hori.
7	1687.638	63.9	54.9	-8.9	55.0	46.0	73.9	53.9	18.9	7.9	Hori.
8	1350.111	64.8	57.5	-9.1	55.7	48.4	73.9	53.9	18.2	5.5	Vert.
9	1485.123	65.0	54.0	-9.1	55.9	44.9	73.9	53.9	18.0	9.0	Vert.
10	1518.876	67.3	54.3	-9.1	58.2	45.2	73.9	53.9	15.7	8.7	Vert.

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[Chart]



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## [Test condition]

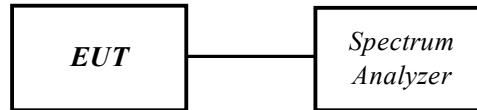
Day 1Tested Date: 07 Sep. 2020  
Humidity: 64 %Temperature: 22 degC  
Atmos. Press: 1014 hPaDay 2Tested Date: 11 Sep. 2020  
Humidity: 68 %Temperature: 20 degC  
Atmos. Press: 1015 hPa

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## 2.2 Conducted emissions for receiver

### Test setup



### Applicable rule and limitation

§15.111 (b) Antenna power conducted limit : 2 nW (= -57 dBm)

### Test equipment used (refer to List of utilized test equipment)

TR06	CL31	
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### Test results - Complied with requirement

### Test Data

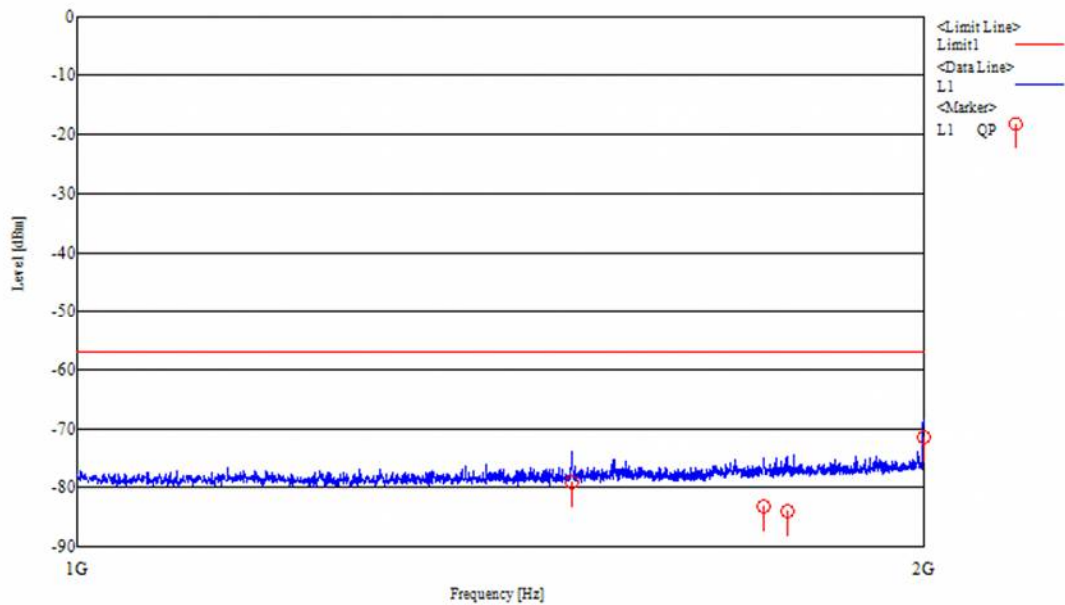
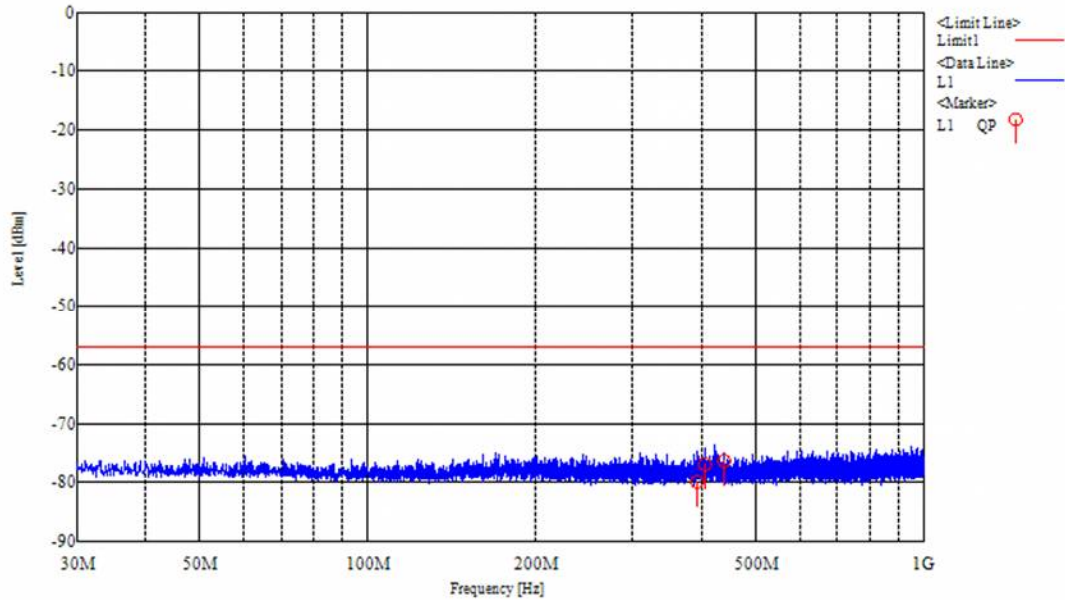
Operating mode: Rx 0.03 MHz

No.	Frequency [MHz]	Result [dBm]	Limit [dBm]	Margin [dB]
1	392.857	-80.0	-57.0	23.0
2	405.032	-76.9	-57.0	19.9
3	438.785	-76.5	-57.0	19.5
4	1500.000	-79.0	-57.0	22.0
5	1755.148	-83.3	-57.0	26.3
6	1788.900	-84.1	-57.0	27.1
7	2000.000	-71.4	-57.0	14.4

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[Chart]



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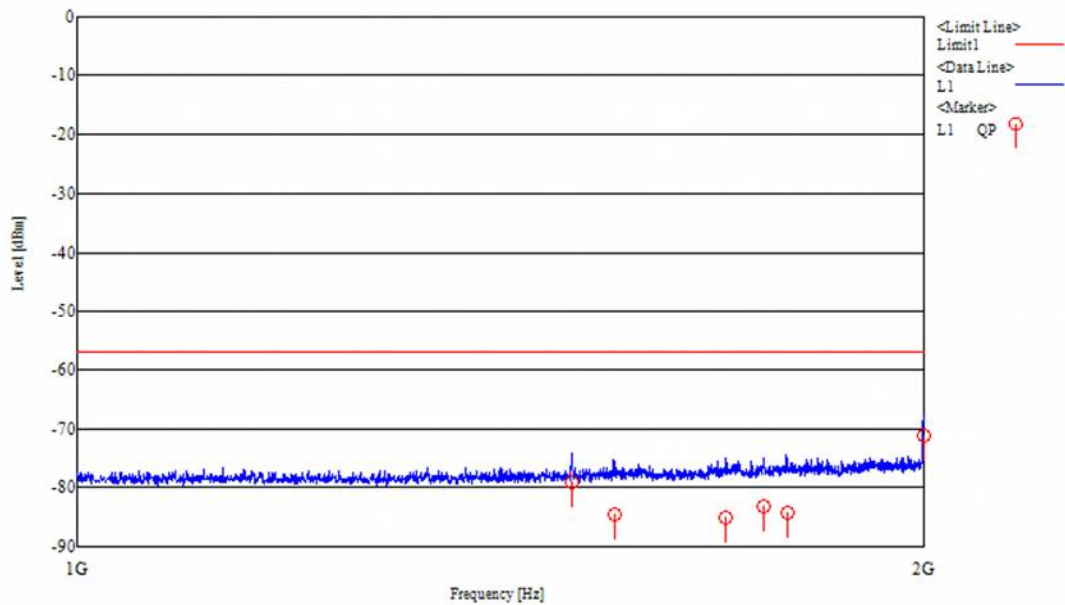
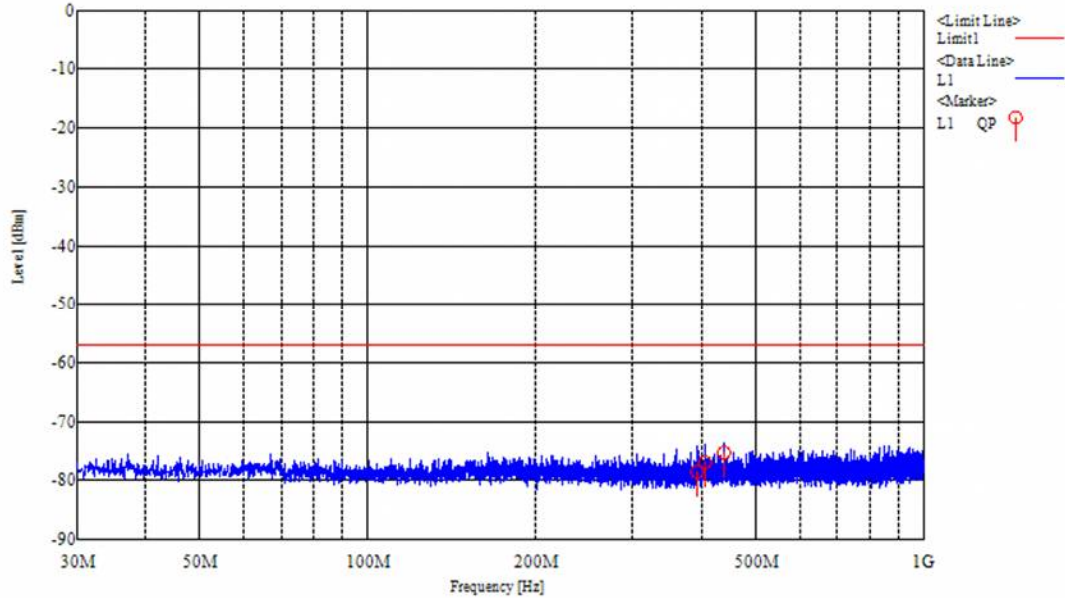
Operating mode: Rx 28 MHz

No.	Frequency [MHz]	Result [dBm]	Limit [dBm]	Margin [dB]
1	392.857	-78.5	-57.0	21.5
2	405.032	-76.9	-57.0	19.9
3	438.784	-75.3	-57.0	18.3
4	1500.000	-79.1	-57.0	22.1
5	1552.630	-84.6	-57.0	27.6
6	1702.230	-85.1	-57.0	28.1
7	1755.147	-83.3	-57.0	26.3
8	1788.901	-84.3	-57.0	27.3
9	2000.000	-71.3	-57.0	14.3

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[Chart]



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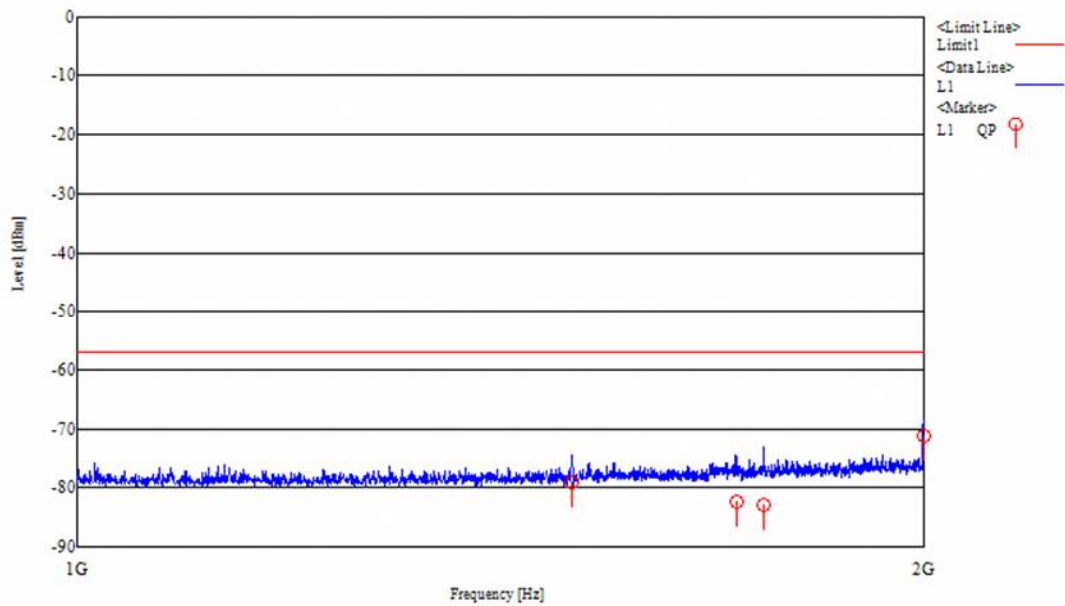
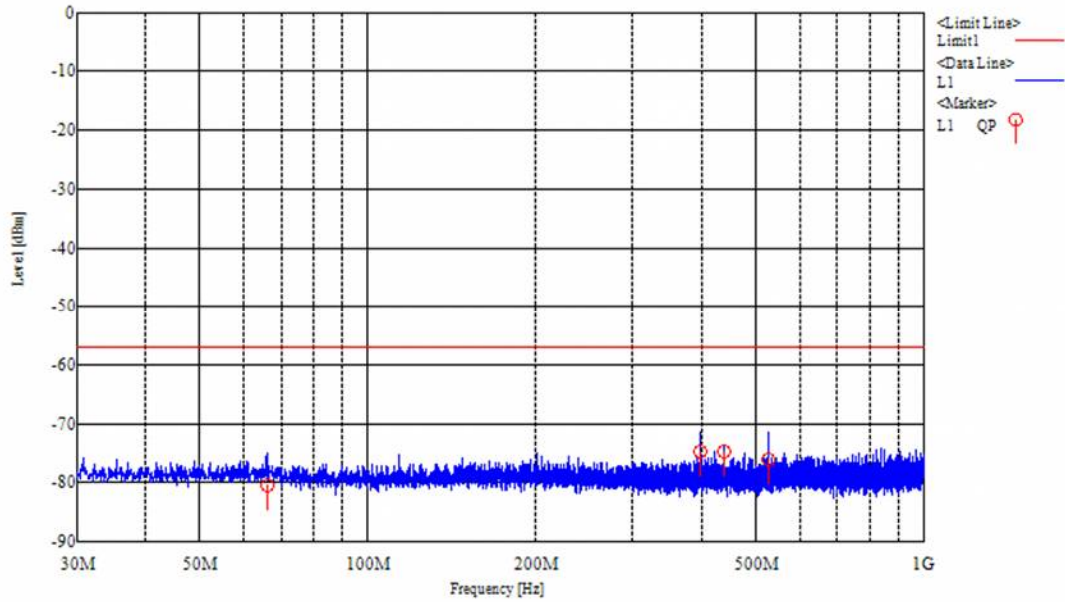
Operating mode: Rx 75 MHz

No.	Frequency [MHz]	Result [dBm]	Limit [dBm]	Margin [dB]
1	65.996	-80.4	-57.0	23.4
2	395.970	-74.8	-57.0	17.8
3	438.781	-74.7	-57.0	17.7
4	527.959	-76.2	-57.0	19.2
5	1500.000	-79.0	-57.0	22.0
6	1715.870	-82.3	-57.0	25.3
7	1755.143	-82.9	-57.0	25.9
8	2000.000	-71.1	-57.0	14.1

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[Chart]



[Test condition]

Tested Date: 11 Sep. 2020  
 Humidity: 68 %

Temperature: 20 degC  
 Atmos. Press: 1015 hPa

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## 2.3 AC power line conducted emissions

### Test setup

Test setup was implemented according to the method of ANSI C63.4 clause 6 “General requirements for EUT equipment arrangements and operation” and Annex H.1 “AC power line conducted emission measurements setup”.

### Test procedure

Measurement procedures were implemented according to the method of ANSI C63.4 clauses 7, clause 13.1.3 and Annex H.2 “AC power line conducted emission measurements”.

Exploratory measurements were used the spectrum analyzer to identify the frequency of the emission that has the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable positions, and with a typical system equipment configuration and arrangement.

Final ac power line conducted emission measurements were performed based on the exploratory tests.

The EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit are selected for the final measurement.

When the measurement value is greater than average limitation the average detection measurements were performed.

### Applicable rule and limitation

§15.107 (b) AC power line conducted limits

Frequency of Emission [MHz]	Conducted emissions Limit [dBμV]	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

\* Decreases with the logarithm of the frequency. The lower limit applies at the band edges.

### Test equipment used (refer to List of utilized test equipment)

TR09	LN05	CL18	LN06
------	------	------	------

### Test software used

EMI1 Ver. 6.1

### Calculation method

The Correction Factor and Result are calculated as followings.

$$\begin{aligned} \text{Correction Factor [dB]} &= \text{ISN Factor [dB]} + \text{Loss [dB]} \\ \text{Result [dB}\mu\text{V]} &= \text{Reading [dB}\mu\text{V]} + \text{Correction Factor [dB]} \end{aligned}$$

### Test results - Complied with requirement

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## Test Data

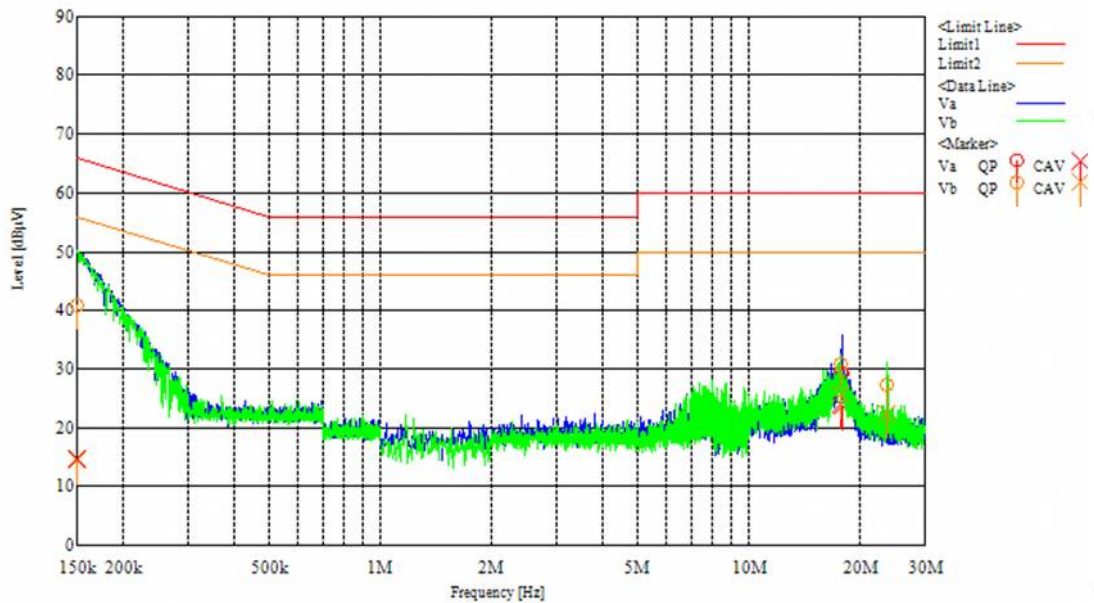
[Emission level]

Operating mode: Rx 0.03 MHz

	Freq. [MHz]	Reading QP [dBμV]	Reading Ave [dBμV]	Factor [dB]	Result QP [dBμV]	Result Ave [dBμV]	Limit QP [dBμV]	Limit Ave [dBμV]	Margin QP [dB]	Margin Ave [dB]	Line
1	0.15000	30.8	4.4	10.2	41.0	14.6	66.0	56.0	25.0	41.4	Va
2	17.81391	19.1	13.6	10.4	29.5	24.0	60.0	50.0	30.5	26.0	Va
3	18.01401	18.8	13.2	10.4	29.2	23.6	60.0	50.0	30.8	26.4	Va
4	0.15000	30.7	4.1	10.3	41.0	14.4	66.0	56.0	25.0	41.6	Vb
5	17.81290	20.3	15.2	10.4	30.7	25.6	60.0	50.0	29.3	24.4	Vb
6	23.74687	16.6	11.7	10.6	27.2	22.3	60.0	50.0	32.8	27.7	Vb

[Chart]

Operating mode: Rx 0.03 MHz



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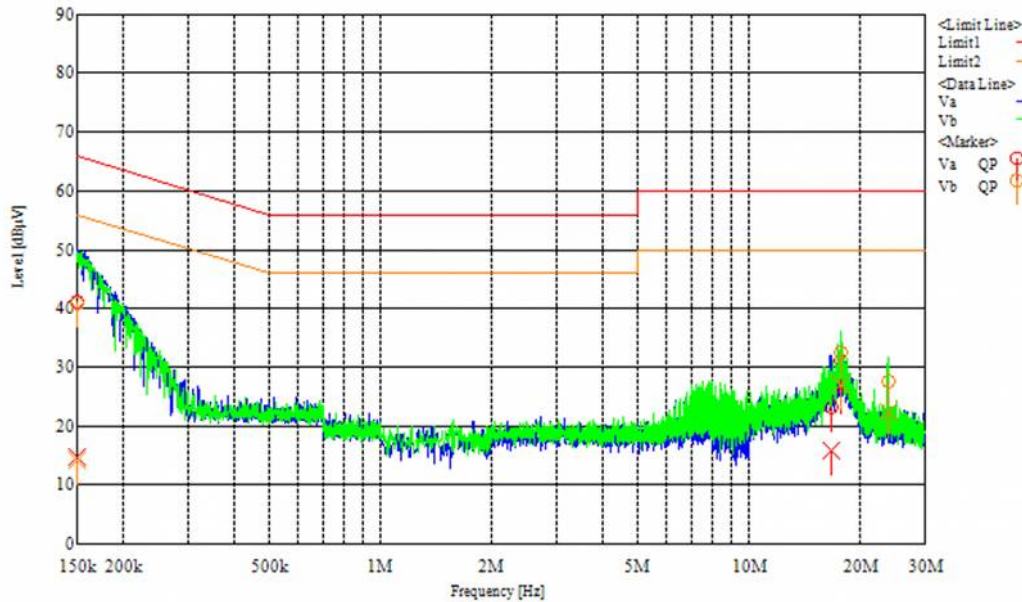
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Operating mode: Rx 28 MHz

	Freq. [MHz]	Reading QP [dBμV]	Reading Ave [dBμV]	Factor [dB]	Result QP [dBμV]	Result Ave [dBμV]	Limit QP [dBμV]	Limit Ave [dBμV]	Margin QP [dB]	Margin Ave [dB]	Line
1	0.15000	31.0	4.5	10.2	41.2	14.7	66.0	56.0	24.8	41.3	Va
2	16.78339	12.9	5.5	10.4	23.3	15.9	60.0	50.0	36.7	34.1	Va
3	17.81391	20.8	15.9	10.4	31.2	26.3	60.0	50.0	28.8	23.7	Va
4	0.15000	30.6	4.0	10.3	40.9	14.3	66.0	56.0	25.1	41.7	Vb
5	17.81391	22.1	16.7	10.4	32.5	27.1	60.0	50.0	27.5	22.9	Vb
6	24.01701	16.8	11.7	10.6	27.4	22.3	60.0	50.0	32.6	27.7	Vb

[Chart]

Operating mode: Rx 28 MHz



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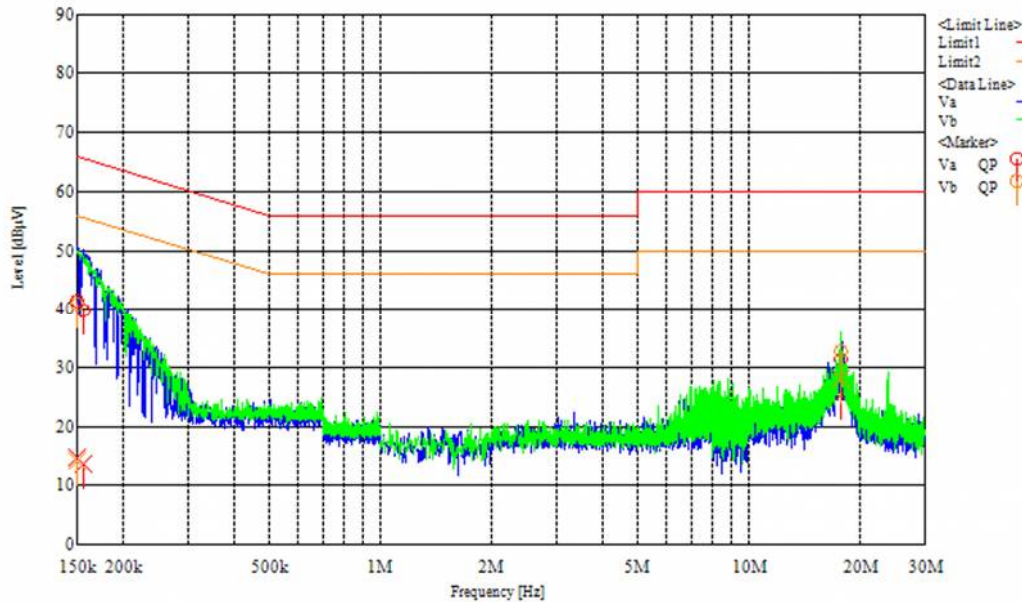
Operating mode: Rx 75 MHz

	Freq. [MHz]	Reading QP [dBμV]	Reading Ave [dBμV]	Factor [dB]	Result QP [dBμV]	Result Ave [dBμV]	Limit QP [dBμV]	Limit Ave [dBμV]	Margin QP [dB]	Margin Ave [dB]	Line
1	0.15000	31.1	4.6	10.2	41.3	14.8	66.0	56.0	24.7	41.2	Va
2	0.15638	29.6	3.4	10.2	39.8	13.6	65.7	55.7	25.9	42.1	Va
3	17.81936	20.9	14.9	10.4	31.3	25.3	60.0	50.0	28.7	24.7	Va
4	0.15000	30.5	4.0	10.3	40.8	14.3	66.0	56.0	25.2	41.7	Vb
5	17.81391	22.3	17.7	10.4	32.7	28.1	60.0	50.0	27.3	21.9	Vb

Note: Other emissions have more than 20 dB margin.

[Chart]

Operating mode: Rx 75 MHz



[Test condition]

Tested Date: 09 Sep. 2020  
 Humidity: 52 %

Temperature: 25 degC  
 Atmos. Press: 1015 hPa

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## 4 List of utilized test equipment / calibration

ID No.	Kind of Equipment	Manufacturer	Model No.	Serial Number	Cal. Date	Cal. until
AC01(EM)	Anechoic Chamber (1st test room)	JSE	203397C	-	2020/4/17	2021/4/30
AC01(EG)	Anechoic Chamber (1st test room)	JSE	203397C	-	2020/3/28	2021/3/31
BA07	Biological Antenna	TESEQ	CBL6143A	26670	2019/12/9	2020/12/31
CL11	RF Cable for RE	RFT	-	-	2020/3/25	2021/3/31
CL18	RF Cable for CE	RFT	-	-	2020/3/25	2021/3/31
CL31	RF Cable 1 m	Junkosha	MWX221	1303S118	2020/1/30	2021/1/31
CL38	RF Cable 2 m	Junkosha	MWX221	1603S626	2020/1/30	2021/1/31
CL39	RF Cable 5 m	SUHNER	SUCOFLEX126E	523222	2020/2/3	2021/2/28
DH06	DRG Horn Antenna	A.H. Systems	SAS-571	1339	2020/6/27	2022/6/30
LN05	LISN	Kyoritsu	KNW-407F	8-1773-2	2020/5/19	2021/5/31
LN06	LISN	Kyoritsu	KNW-407F	8-1773-3	2020/4/28	2021/4/30
PR12	Pre. Amplifier (1-26G)	Agilent Technologies	8449B	3008A02513	2020/1/29	2021/1/31
PR21	Pre. Amplifier	Anritsu	MH648A	6200467119	2019/12/3	2020/12/31
TR06	Test Receiver (F/W : 4.73 SP4)	Rohde & Schwarz	ESU26	100002	2019/10/7	2020/10/31
TR09	Test Receiver (F/W : 4.43 SP3)	Rohde & Schwarz	ESU8	100386	2020/6/23	2021/6/30

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

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