



# RADIO TEST REPORT

**Test Report No.: 11253032S**

**Applicant** : **Fukuda Denshi Co., Ltd.**  
**Type of Equipment** : **TM XMTR Module**  
**Model No.** : **HLX-801(G)**  
**FCC ID** : **DV8HLX801G**  
**Test regulation** : **FCC Part 95 Subpart H: 2015**  
**FCC Part 2 Subpart J: 2015**  
**Test result** : **Complied**

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
7. This test report covers Radio technical requirements.  
It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)

**Date of test:**

May 16 to 20, 2016

**Representative test engineer:**

Yosuke Ishikawa  
Engineer  
Consumer Technology Division

**Approved by :**

Toyokazu Imamura  
Leader  
Consumer Technology Division

- The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.  
 There is no testing item of "Non-accreditation".



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# REVISION HISTORY

Original Test Report No.: 11253032S

Revision	Test report No.	Date	Page revised	Contents
-(Original)	11253032S	June 2, 2016	-	-
1	11253032S	June 16, 2016	6	Correction of typo
2	11253032S	July 11, 2016	4 27-32	Update of *1) Update of data

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## **SECTION 1: Customer information**

Company Name : Fukuda Denshi Co., Ltd.  
Address : 35-8, Hongo 2-chome, Bunkyo-ku, Tokyo 113-8420, Japan  
Telephone Number : +81-3-5684-1300  
Facsimile Number : +81-3-5684-1449  
Contact Person : Yasuhiro Yonekawa

## **SECTION 2: Equipment under test (E.U.T.)**

### **2.1 Identification of E.U.T.**

Type of equipment : TM XMTR Module  
Model No. : HLX-801(G)  
Serial No. : Refer to Clause 4.2  
Rating : DC 5 V  
Country of Mass-production : Japan  
Condition of EUT : Engineering prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)  
Modification of EUT : No modification by the test lab.  
Receipt Date of Sample : May 16, 2016

### **2.2 Product description**

Model: HLX-801(G) (referred to as the EUT in this report) is a TM XMTR Module.

Clock frequency(ies) in the system : 84 kHz, 18.432 MHz (No Radio part)  
13.0 MHz (Radio part)

Radio specification:

Radio Type : Transmitter  
Frequency of Operation : 1395.0375 MHz to 1399.9625 MHz, 1427.0375 MHz to 1431.4625 MHz  
Modulation : DFSK (Digital Frequency Shift Keying)  
RF Output Power : 5 mW  $\pm$ 2 dB \*1)  
RF Output Power Limit : 740 mV/m at 3m (= 117.3 dBuV/m at 3 m)  
Antenna type : 1/2 wavelength sleeve antenna  
Antenna gain : 2.14 dBi  
Frequency stability : 2.5 ppm

\*1) RF Output Power is fixed as shown in "08 (Confidential) Theory of Operation.pdf" and this product is shipped.  
(\* maximum measurement value was 5.653 mW. Refer to APPENDIX 1 (p.27 to p.32).)

Radio part power supply:

This equipment provides the Radio part with stable power supply (DC 3 V), therefore, the equipment complies power supply regulation.

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## **SECTION 3: Test specification, procedures & results**

### **3.1 Test specification**

Test specification : FCC Part 95 Subpart H: 2015, final revised on November 23, 2015  
Title : FCC 47CFR Part 95 Personal Radio Services  
Subpart H Wireless Medical Telemetry Service (WMTS)

\*Some parts are effective after the approval by the OMB. The revision does not affect the test specification applied to the EUT.

Test specification : FCC Part 2 Subpart J: 2015, final revised on September 8, 2015  
Title : FCC 47CFR Part 2 Frequency Allocations and Radio Treaty Matters; General Rules and Regulations  
Subpart J Equipment Authorization Procedures

The EUT is used for the purpose of being related with medical treatment. Therefore this device applies to §15.103(e), exempted from FCC Part 15 Subpart B.

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### 3.2 Procedures & Results

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst margin	Results
Conducted emissions	ANSI C63.4: 2014	FCC 15.207	-	N/A	19.9 dB, QP 0.36430 MHz, N Tx 1395.0375 MHz 0.36160 MHz, N Tx 1397.5125 MHz 0.37170 MHz, N 0.42430 MHz, N Tx 1399.9625 MHz 0.36420 MHz, N 0.41940 MHz, N 0.36160 MHz, L1 Tx 1427.0375 MHz 0.37480 MHz, N 0.37660 MHz, L1 Tx 1429.2625 MHz 0.34860 MHz, N 0.42640 MHz, N 0.35105 MHz, L1 Tx 1431.4625 MHz	Complied *3)
Field strength of fundamental emission	FCC 2.1046, ANSI/TIA-603-E	FCC 95.1115 (a)	Radiated	N/A	12.4 dB 1431.463 MHz Horizontal, AV Tx 1431.4625 MHz	Complied
Field strength of spurious emissions	FCC 2.1053, ANSI/TIA-603-E	FCC 95.1115 (b)	Radiated	N/A	0.6 dB 2795.075 MHz Horizontal, AV Tx 1395.0375 MHz	Complied
Frequency stability	FCC 2.1055, ANSI/TIA-603-E	FCC 95.1115 (e)	Radiated	N/A	-	Complied
Bandwidth	FCC 2.1049, ANSI/TIA-603-E	Applicant specification	Radiated	N/A	-	Complied
Spurious emission at antenna terminals	FCC 2.1051, ANSI/TIA-603-E	-	Conducted	N/A *2)	-	N/A

Note: UL Japan, Inc.'s EMI Work Test Procedure 13-EM-W0420.

\*1) These tests were also referred to "Land Mobile FM or PM Communications Equipment Measurement and Performance Standards" (TIA-603-E: 2016).

\*2) The test is not applicable since the EUT has no antenna terminals.

\*3) The conducted emissions test as FCC part 15 subpart C (2015) was measured for reference.

### 3.3 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

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### 3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor  $k=2$ .

Item	Frequency range	No.1 SAC <sup>*1</sup> /SR <sup>*2</sup> (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)	No.4 SAC/SR (±)
Conducted emission (AC Mains) AMN/LISN	150 kHz-30 MHz	2.1 dB	2.1 dB	2.6 dB	2.2 dB
Radiated emission (Measurement distance: 3 m)	30 MHz-300 MHz	4.4 dB	4.4 dB	4.6 dB	-
	300 MHz-1 GHz	5.6 dB	5.5 dB	5.3 dB	-
	1 GHz-18 GHz	5.2 dB	5.2 dB	5.2 dB	-

\*1: SAC=Semi-Anechoic Chamber

\*2: SR= Shielded Room is applied besides radiated emission

#### Conducted emission

The data listed in this test report has enough margin, more than the site margin.

#### Radiated emission

The data listed in this test report meets the limits unless the uncertainty is taken into consideration.

#### Other test

Frequency Measurement uncertainty for this test was: (±)  $5.3 \times 10^{-6}$ .

Bandwidth Measurement uncertainty for this test was: (±) 1.61 %

Voltage uncertainty for this test was: (±) 0.24%

Temperature uncertainty for this test was: (±) 0.97 deg.C

### 3.5 Test location

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JAB Accreditation No. : RTL02610

	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
<input type="checkbox"/> No.1 semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
<input type="checkbox"/> No.2 semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
<input checked="" type="checkbox"/> No.3 semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
<input type="checkbox"/> No.4 semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
<input type="checkbox"/> No.1 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input type="checkbox"/> No.2 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input checked="" type="checkbox"/> No.3 shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
<input type="checkbox"/> No.4 shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
<input checked="" type="checkbox"/> No.5 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.6 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.8 shielded room	-	3.45 x 5.5 x 2.4	3.45 x 5.5	-
<input type="checkbox"/> No.1 measurement room	-	2.55 x 4.1 x 2.5	-	-

### 3.6 Test setup, Test data & Test instruments

Refer to APPENDIX 1 to 3.

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## **SECTION 4: Operation of E.U.T. during testing**

### **4.1 Operating mode**

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

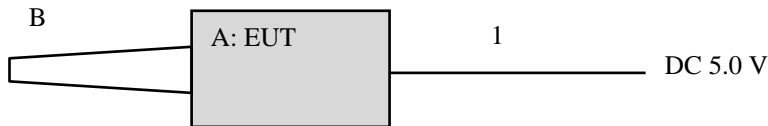
Test item	Operating mode	Tested frequency
All items	Transmitting (Modulated)	1395.0375 MHz, 1397.5125 MHz, 1399.9625 MHz, 1427.0375 MHz, 1429.2625 MHz, 1431.4625 MHz

Software: V02-01(#28)

Power setting: Fixed

Justification: The system was configured in typical fashion (as customer would normally use it) for testing.

### **4.2 Configuration and peripherals**



\* Test data was taken under worse case conditions.

#### **Description of EUT and support equipment**

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	TM XMTR Module	HLX-801(G)	10	FUKUDA DENSHI	EUT
B	Antenna	-	-	FUKUDA DENSHI	EUT

#### **List of cables used**

No.	Name	Length (m)	Shield (Cable)	Shield (Connector)	Remarks
1	DC Cable	0.7	Unshielded	Unshielded	-

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## **SECTION 5: Conducted emission**

### **5.1 Operating environment**

Test place : See test data (APPENDIX 1)  
Temperature : See test data (APPENDIX 1)  
Humidity : See test data (APPENDIX 1)

### **5.2 Test configuration**

EUT was placed on a platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals was aligned and was flushed with rear of tabletop. All other surfaces of tabletop were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from LISN and excess AC cable was bundled in center. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN to the input power source. Photographs of the set up are shown in APPENDIX 3.

### **5.3 Test conditions**

Frequency range : 0.15 MHz - 30 MHz  
EUT position : Table top

### **5.4 Test procedure**

The AC Mains Terminal Continuous disturbance Voltage had been measured with the EUT via DC power supply within a Shielded room. The DC power supply was connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection has been performed. The measurements had been performed with a quasi-peak detector and if required, an average detector. The conducted emission measurements were made with the following detection of the test receiver.

Detection Type : Quasi-Peak/ Average  
IF Bandwidth : 9 kHz

### **5.5 Results**

Summary of the test results : Pass

Refer to APPENDIX 1

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## **SECTION 6: Bandwidth & Occupied bandwidth (99 %)**

### **Test procedure**

The bandwidth was measured with a spectrum analyzer.

Summary of the test results: Pass  
Refer to APPENDIX 1

## **SECTION 7: Frequency stability**

### **Test procedure**

The frequency stability was measured with a spectrum analyzer.

The temperature test was started after the temperature stabilization time of 30 minutes.

\* Tested temperature was -30 deg.C. to +50 deg.C

Summary of the test results: Pass  
Refer to APPENDIX 1

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## **SECTION 8: Field strength of fundamental emission and spurious emissions**

### **8.1 Operating environment**

Test place : See test data (APPENDIX 1)  
Temperature : See test data (APPENDIX 1)  
Humidity : See test data (APPENDIX 1)

### **8.2 Test configuration**

EUT was placed on a polystyrene platform of nominal size, 0.5 m by 0.5 m, raised 0.8 m above the conducting ground plane. Photographs of the set up are shown in APPENDIX 3.

### **8.3 Test conditions**

Frequency range : 30 MHz to 15 GHz  
EUT position : Table top

### **8.4 Test procedure**

The Radiated Electric Field Strength intensity has been measured with a ground plane and at a distance of 3 m. The measuring antenna height was varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization.

Measurements were performed with QP and AV detector.

The radiated emission measurements were made with the following detector function.

Frequency	Below 1 GHz	Above 1 GHz
Instrument used	Test Receiver	Spectrum Analyzer *1)
Detector IF Bandwidth	QP: BW 120 kHz	AV RBW: 1 MHz VBW: 10 Hz (No pulse emission detected)
Measuring antenna	Biconical (30 MHz - 300 MHz) Logperiodic (300 MHz - 1 GHz)	Horn

\*1) When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

	Antenna polarization	Carrier (Band edge)	Spurious (Below 1 GHz)	Spurious (1 GHz - 15 GHz)
EUT	Horizontal	Z	Y	Z
	Vertical	X	Y	X
Antenna	Horizontal	X	X	X
	Vertical	Y	X	Y

\* The definition of each position is shown in a 'Pre-check of the worst position' in APPENDIX 3.

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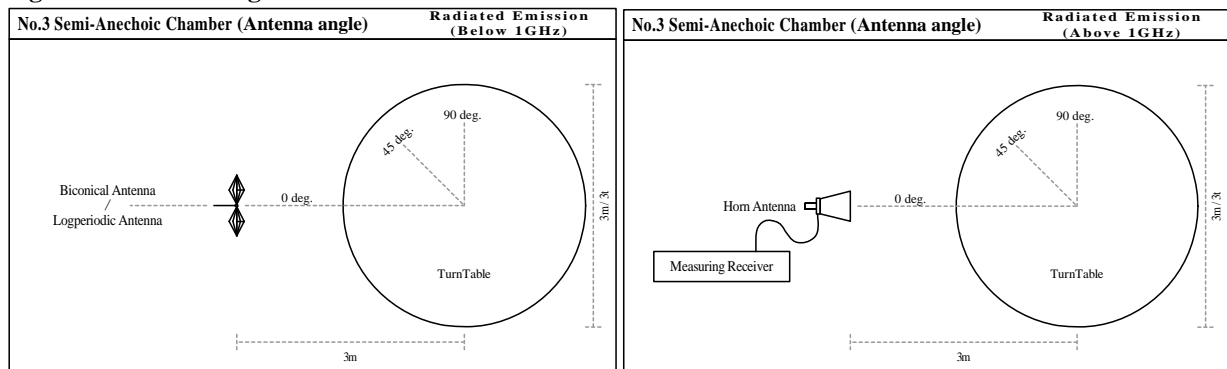
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**Figure 1. Antenna angle**



**8.5 Band edge**

To determine the level of band-edge spurious, we use the following procedure:

Set the resolution bandwidth to 1 kHz in the peak detector mode.

Because we don't want to include in-band emission at Band edge measurement if center frequencies are "1395.0375 MHz" or "1399.9625 MHz" and Band edges are "1395 MHz" or "1400 MHz", "1427.0375 MHz" or "1431.4625 MHz" and Band edges are "1427 MHz" or "1432 MHz", (The supplementation: There are some granted test report that were measured by 3 kHz RBW for the equipment that has 350 kHz for 26 dB bandwidth in similar case. )

\*As we started at section 7.5, we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 662683.

Measure the maximum level of the in-band channel closest to the band edge and the maximum level of the out-of-band emissions close to the same band edge.

Determine the ratio of the in-band signal to the out-of-band emissions. Then, measure the level of the in-band channel in Average mode (= VBW 10 Hz) with 1MHz bandwidth. Using the ratio obtained, we calculate the equivalent level of the out-of-band emissions to determine compliance with the limits.

The emission tests, except for the band edge, were performed with the average mode of the spectrum analyzer. (Bandwidth: 1 MHz)

**8.6 Results**

Summary of the test results : Pass

\* No noise from radio part was detected in 9 kHz to 30 MHz.

Refer to APPENDIX 1

# DATA OF CONDUCTED EMISSION TEST

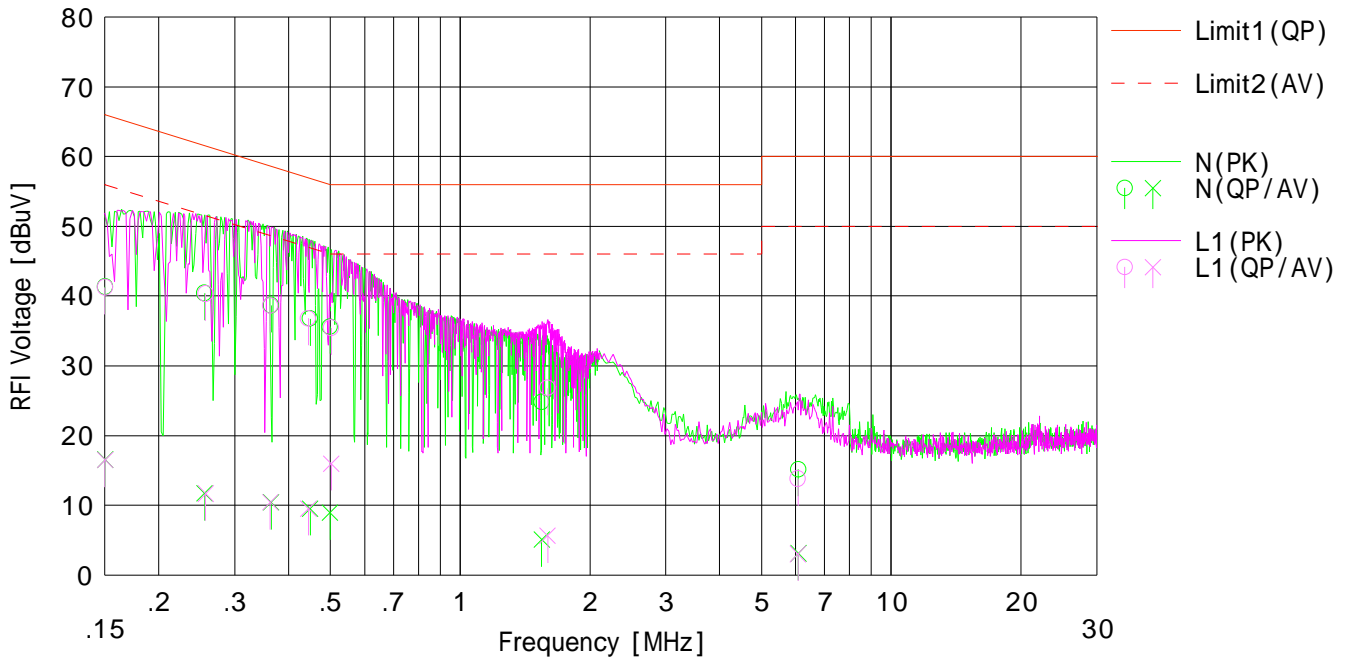
UL Japan,Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2016/05/17

Company : FUKUDA DENSHI CO.,LTD  
Kind of EUT : TM XMTR Module  
Model No. : HLX-801 (G)  
Serial No. : 10  
Remarks : -

Mode : Transmitting(1395.0375 MHz)  
Order No. : 11253032S  
Power : DC 5 V(AC 120 V / 60 Hz)  
Temp./Humi. : 25 deg.C / 56 %RH

Limit1 : FCC 15C(15.207) QP  
Limit2 : FCC 15C(15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.95	4.15	12.40	41.35	16.55	66.00	56.00	24.6	39.4	N	
2	0.25550	28.02	-0.69	12.40	40.42	11.71	61.58	51.58	21.1	39.8	N	
3	0.36430	26.25	-2.05	12.44	38.69	10.39	58.63	48.63	19.9	38.2	N	
4	0.44870	24.32	-2.93	12.44	36.76	9.51	56.90	46.90	20.1	37.3	N	
5	0.49950	23.14	-3.52	12.44	35.58	8.92	56.01	46.01	20.4	37.0	N	
6	1.54500	12.32	-7.44	12.50	24.82	5.06	56.00	46.00	31.1	40.9	N	
7	6.08700	2.43	-9.63	12.73	15.16	3.10	60.00	50.00	44.8	46.9	N	
8	0.15000	28.86	4.09	12.40	41.26	16.49	66.00	56.00	24.7	39.5	L1	
9	0.25680	27.93	-0.72	12.40	40.33	11.68	61.53	51.53	21.2	39.8	L1	
10	0.36280	26.21	-2.04	12.44	38.65	10.40	58.66	48.66	20.0	38.2	L1	
11	0.44480	24.36	-2.92	12.44	36.80	9.52	56.97	46.97	20.1	37.4	L1	
12	0.50250	23.01	3.55	12.44	35.45	15.99	56.00	46.00	20.5	30.0	L1	
13	1.59650	14.31	-6.88	12.50	26.81	5.62	56.00	46.00	29.1	40.3	L1	
14	6.08250	1.05	-9.72	12.73	13.78	3.01	60.00	50.00	46.2	46.9	L1	

Calculation:Result [ dBuV ]=Reading [ dBuV ]+C.Fac (LISN+ATT+Cable) [ dB ]  
LISN: SLS-05

# DATA OF CONDUCTED EMISSION TEST

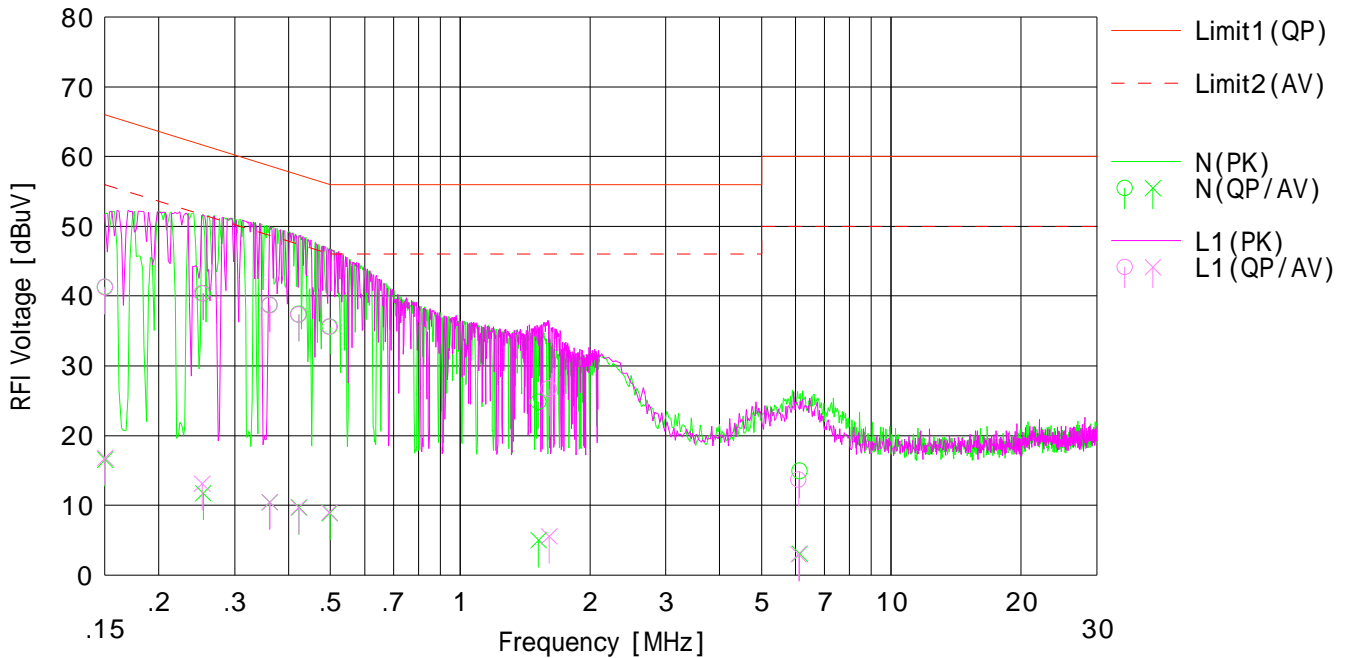
UL Japan,Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2016/05/17

Company : FUKUDA DENSHI CO.,LTD  
 Kind of EUT : TM XMTR Module  
 Model No. : HLX-801 (G)  
 Serial No. : 10  
 Remarks : -

Mode : Transmitting(1397.5125 MHz)  
 Order No. : 11253032S  
 Power : DC 5 V(AC 120 V / 60 Hz)  
 Temp./Humi. : 25 deg.C / 56 %RH

Limit1 : FCC 15C(15.207) QP  
 Limit2 : FCC 15C(15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.92	4.16	12.40	41.32	16.56	66.00	56.00	24.6	39.4	N	
2	0.25370	28.01	-0.67	12.40	40.41	11.73	61.64	51.64	21.2	39.9	N	
3	0.36160	26.29	-2.04	12.44	38.73	10.40	58.69	48.69	19.9	38.2	N	
4	0.42290	24.95	-2.74	12.43	37.38	9.69	57.39	47.39	20.0	37.7	N	
5	0.49890	23.12	-3.54	12.44	35.56	8.90	56.02	46.02	20.4	37.1	N	
6	1.52000	12.32	-7.54	12.50	24.82	4.96	56.00	46.00	31.1	41.0	N	
7	6.13200	2.15	-9.69	12.73	14.88	3.04	60.00	50.00	45.1	46.9	N	
8	0.15000	28.86	4.37	12.40	41.26	16.77	66.00	56.00	24.7	39.2	L1	
9	0.25220	27.97	0.72	12.40	40.37	13.12	61.68	51.68	21.3	38.5	L1	
10	0.36210	26.23	-2.05	12.44	38.67	10.39	58.68	48.68	20.0	38.2	L1	
11	0.42240	24.92	-2.72	12.43	37.35	9.71	57.40	47.40	20.0	37.6	L1	
12	0.49720	23.12	-3.49	12.44	35.56	8.95	56.05	46.05	20.4	37.1	L1	
13	1.60880	14.21	-6.96	12.50	26.71	5.54	56.00	46.00	29.2	40.4	L1	
14	6.10600	0.93	-9.79	12.73	13.66	2.94	60.00	50.00	46.3	47.0	L1	

Calculation:Result [ dBuV ]=Reading [ dBuV ]+C.Fac (LISN+ATT+Cable) [ dB ]  
 LISN: SLS-05

# DATA OF CONDUCTED EMISSION TEST

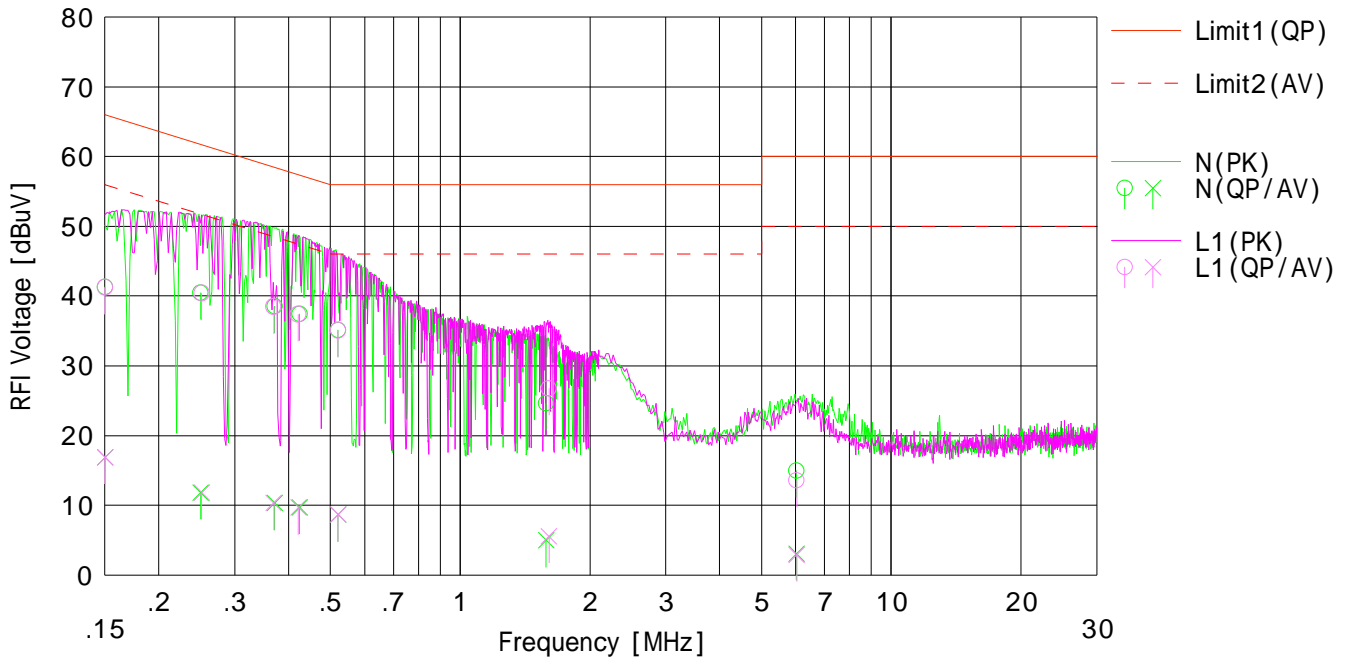
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2016/05/17

Company : FUKUDA DENSHI CO.,LTD  
 Kind of EUT : TM XMTR Module  
 Model No. : HLX-801 (G)  
 Serial No. : 10  
 Remarks : -

Mode : Transmitting (1399.9625 MHz)  
 Order No. : 11253032S  
 Power : DC 5 V (AC 120 V / 60 Hz)  
 Temp./Humi. : 25 deg.C / 56 %RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.91	4.48	12.40	41.31	16.88	66.00	56.00	24.6	39.1	N	
2	0.25040	28.09	-0.58	12.40	40.49	11.82	61.74	51.74	21.2	39.9	N	
3	0.37170	26.09	-2.14	12.44	38.53	10.30	58.46	48.46	19.9	38.1	N	
4	0.42430	24.99	-2.72	12.43	37.42	9.71	57.36	47.36	19.9	37.6	N	
5	0.52090	22.68	-3.76	12.44	35.12	8.68	56.00	46.00	20.8	37.3	N	
6	1.58300	12.12	-7.54	12.50	24.62	4.96	56.00	46.00	31.3	41.0	N	
7	6.02960	2.23	-9.64	12.73	14.96	3.09	60.00	50.00	45.0	46.9	N	
8	0.15000	28.86	4.49	12.40	41.26	16.89	66.00	56.00	24.7	39.1	L1	
9	0.25150	28.02	-0.59	12.40	40.42	11.81	61.71	51.71	21.2	39.9	L1	
10	0.36980	26.06	-2.12	12.44	38.50	10.32	58.51	48.51	20.0	38.1	L1	
11	0.42140	24.94	-2.74	12.43	37.37	9.69	57.42	47.42	20.0	37.7	L1	
12	0.52130	22.63	-3.75	12.44	35.07	8.69	56.00	46.00	20.9	37.3	L1	
13	1.60780	14.24	-6.94	12.50	26.74	5.56	56.00	46.00	29.2	40.4	L1	
14	6.03900	0.85	-9.84	12.73	13.58	2.89	60.00	50.00	46.4	47.1	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+ATT+Cable) [dB]  
 LISN: SLS-05

# DATA OF CONDUCTED EMISSION TEST

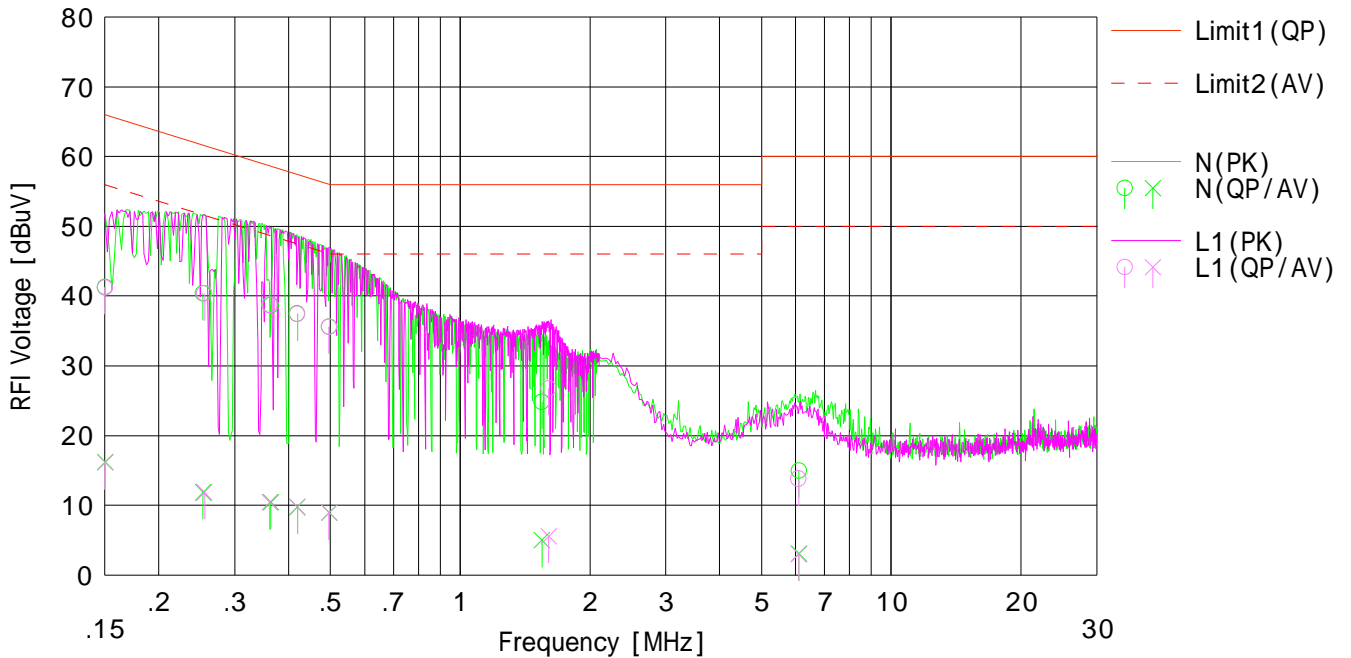
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2016/05/17

Company : FUKUDA DENSHI CO.,LTD  
 Kind of EUT : TM XMTR Module  
 Model No. : HLX-801 (G)  
 Serial No. : 10  
 Remarks : -

Mode : Transmitting (1427.0375 MHz)  
 Order No. : 11253032S  
 Power : DC 5 V (AC 120 V / 60 Hz)  
 Temp./Humi. : 25 deg.C / 56 %RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.91	3.82	12.40	41.31	16.22	66.00	56.00	24.6	39.7	N	
2	0.25310	28.01	-0.55	12.40	40.41	11.85	61.65	51.65	21.2	39.8	N	
3	0.36420	26.24	-2.05	12.44	38.68	10.39	58.63	48.63	19.9	38.2	N	
4	0.41940	25.06	-2.68	12.43	37.49	9.75	57.46	47.46	19.9	37.7	N	
5	0.49800	23.17	-3.51	12.44	35.61	8.93	56.03	46.03	20.4	37.1	N	
6	1.54850	12.34	-7.53	12.50	24.84	4.97	56.00	46.00	31.1	41.0	N	
7	6.10800	2.23	-9.69	12.73	14.96	3.04	60.00	50.00	45.0	46.9	N	
8	0.15000	28.83	3.73	12.40	41.23	16.13	66.00	56.00	24.7	39.8	L1	
9	0.25540	27.94	-0.55	12.40	40.34	11.85	61.58	51.58	21.2	39.7	L1	
10	0.36160	26.26	-2.03	12.44	38.70	10.41	58.69	48.69	19.9	38.2	L1	
11	0.41920	25.01	-2.66	12.43	37.44	9.77	57.46	47.46	20.0	37.6	L1	
12	0.49680	23.16	-3.51	12.44	35.60	8.93	56.05	46.05	20.4	37.1	L1	
13	1.60570	14.27	-6.94	12.50	26.77	5.56	56.00	46.00	29.2	40.4	L1	
14	6.10600	1.05	-9.73	12.73	13.78	3.00	60.00	50.00	46.2	47.0	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+ATT+Cable) [dB]  
 LISN: SLS-05



# DATA OF CONDUCTED EMISSION TEST

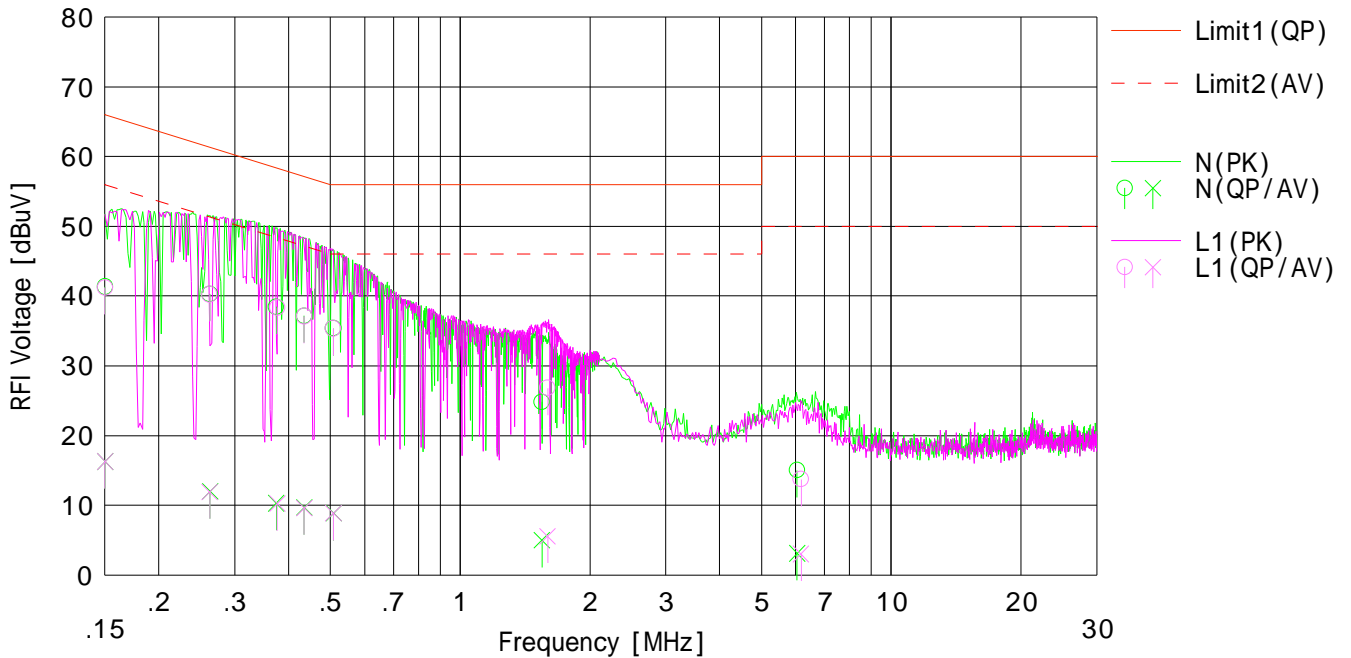
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2016/05/17

Company : FUKUDA DENSHI CO.,LTD  
 Kind of EUT : TM XMTR Module  
 Model No. : HLX-801 (G)  
 Serial No. : 10  
 Remarks : -

Mode : Transmitting (1429.2625 MHz)  
 Order No. : 11253032S  
 Power : DC 5 V (AC 120 V / 60 Hz)  
 Temp./Humi. : 25 deg.C / 56 %RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.93	3.88	12.40	41.33	16.28	66.00	56.00	24.6	39.7	N	
2	0.26290	27.89	-0.42	12.41	40.30	11.99	61.34	51.34	21.0	39.3	N	
3	0.37480	26.03	-2.15	12.44	38.47	10.29	58.39	48.39	19.9	38.1	N	
4	0.43440	24.73	-2.75	12.43	37.16	9.68	57.17	47.17	20.0	37.4	N	
5	0.50850	22.94	-3.59	12.44	35.38	8.85	56.00	46.00	20.6	37.1	N	
6	1.54800	12.33	-7.52	12.50	24.83	4.98	56.00	46.00	31.1	41.0	N	
7	6.05200	2.29	-9.62	12.73	15.02	3.11	60.00	50.00	44.9	46.8	N	
8	0.15000	28.84	3.88	12.40	41.24	16.28	66.00	56.00	24.7	39.7	L1	
9	0.26270	27.83	-0.48	12.41	40.24	11.93	61.35	51.35	21.1	39.4	L1	
10	0.37660	25.94	-2.18	12.43	38.37	10.25	58.35	48.35	19.9	38.1	L1	
11	0.43480	24.66	-2.83	12.43	37.09	9.60	57.16	47.16	20.0	37.5	L1	
12	0.50830	22.91	-3.59	12.44	35.35	8.85	56.00	46.00	20.6	37.1	L1	
13	1.59668	14.32	-6.92	12.50	26.82	5.58	56.00	46.00	29.1	40.4	L1	
14	6.18200	0.99	-9.74	12.74	13.73	3.00	60.00	50.00	46.2	47.0	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+ATT+Cable) [dB]  
 LISN: SLS-05

# DATA OF CONDUCTED EMISSION TEST

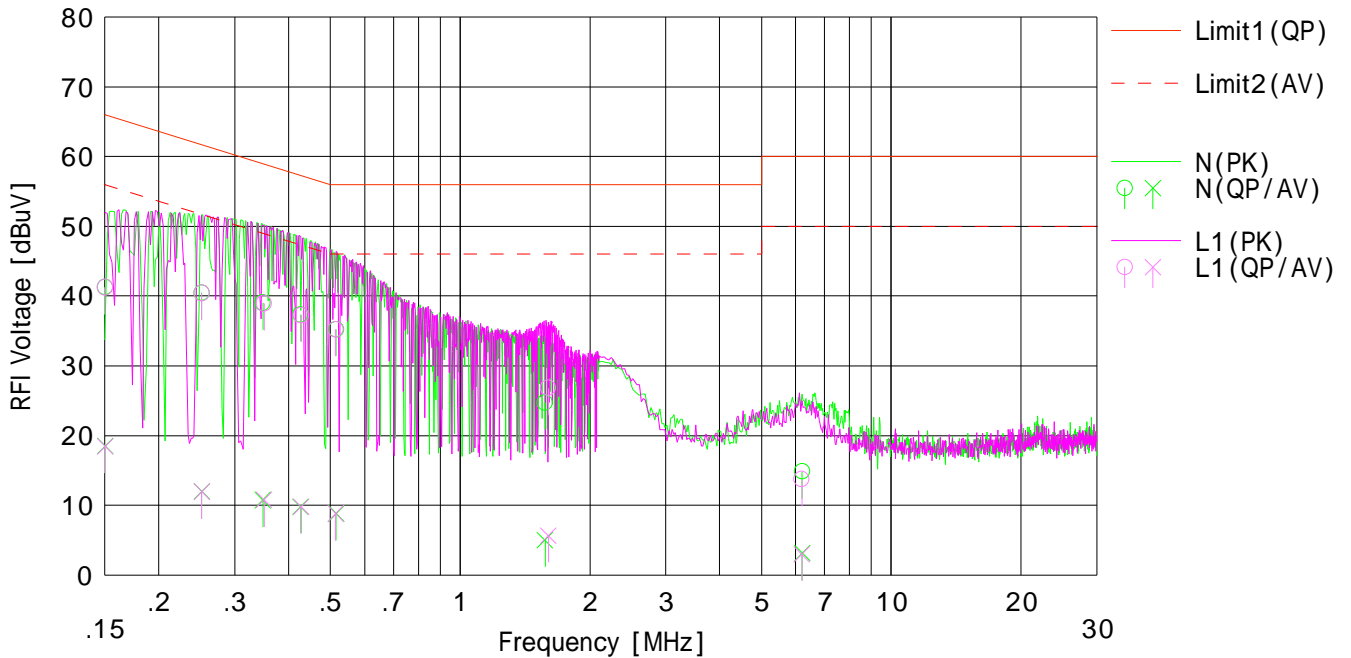
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2016/05/17

Company : FUKUDA DENSHI CO.,LTD  
 Kind of EUT : TM XMTR Module  
 Model No. : HLX-801 (G)  
 Serial No. : 10  
 Remarks : -

Mode : Transmitting(1431.4625 MHz)  
 Order No. : 11253032S  
 Power : DC 5 V(AC 120 V / 60 Hz)  
 Temp./Humi. : 25 deg.C / 56 %RH

Limit1 : FCC 15C(15.207) QP  
 Limit2 : FCC 15C(15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.88	6.11	12.40	41.28	18.51	66.00	56.00	24.7	37.4	N	
2	0.25160	28.06	-0.44	12.40	40.46	11.96	61.70	51.70	21.2	39.7	N	
3	0.34860	26.61	-1.69	12.44	39.05	10.75	59.00	49.00	19.9	38.2	N	
4	0.42640	24.92	-2.63	12.43	37.35	9.80	57.32	47.32	19.9	37.5	N	
5	0.51555	22.78	-3.63	12.44	35.22	8.81	56.00	46.00	20.7	37.1	N	
6	1.57430	12.22	-7.48	12.50	24.72	5.02	56.00	46.00	31.2	40.9	N	
7	6.21800	2.10	-9.61	12.74	14.84	3.13	60.00	50.00	45.1	46.8	N	
8	0.15000	28.86	6.06	12.40	41.26	18.46	66.00	56.00	24.7	37.5	L1	
9	0.25150	28.02	-0.45	12.40	40.42	11.95	61.71	51.71	21.2	39.7	L1	
10	0.35105	26.52	-1.67	12.44	38.96	10.77	58.94	48.94	19.9	38.1	L1	
11	0.42810	24.84	-2.63	12.43	37.27	9.80	57.29	47.29	20.0	37.4	L1	
12	0.51406	22.78	-3.62	12.44	35.22	8.82	56.00	46.00	20.7	37.1	L1	
13	1.60400	14.31	-6.87	12.50	26.81	5.63	56.00	46.00	29.1	40.3	L1	
14	6.20000	0.98	-9.77	12.74	13.72	2.97	60.00	50.00	46.2	47.0	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+ATT+Cable) [dB]  
 LISN: SLS-05

## Frequency Stability

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 19, 2016	May 20, 2016
Temperature / Humidity	26 deg.C / 40 %RH	26 deg.C / 52 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa
Mode	Transmitting	

Test Condition deg.C	Test Condition Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20 deg.C	DC 4.25 V (Vmin)	Power on	1395.036883	-0.000617	-0.44	2.50	2.06
		on 2 min.	1395.037165	-0.000335	-0.24	2.50	2.26
		on 5 min.	1395.037052	-0.000448	-0.32	2.50	2.18
		on 10 min.	1395.036564	-0.000936	-0.67	2.50	1.83
	DC 5 V (Vnom)	Power on	1395.036420	-0.001080	-0.77	2.50	1.73
		on 2 min.	1395.036721	-0.000779	-0.56	2.50	1.94
		on 5 min.	1395.037290	-0.000210	-0.15	2.50	2.35
		on 10 min.	1395.036708	-0.000792	-0.57	2.50	1.93
	DC 5.75 V (Vmax)	Power on	1395.037033	-0.000467	-0.33	2.50	2.17
		on 2 min.	1395.036764	-0.000736	-0.53	2.50	1.97
		on 5 min.	1395.036764	-0.000736	-0.53	2.50	1.97
		on 10 min.	1395.036721	-0.000779	-0.56	2.50	1.94
50 deg.C	DC 5 V	Power on	1395.036658	-0.000842	-0.60	2.50	1.90
		on 2 min.	1395.037090	-0.000410	-0.29	2.50	2.21
		on 5 min.	1395.037153	-0.000347	-0.25	2.50	2.25
		on 10 min.	1395.036777	-0.000723	-0.52	2.50	1.98
40 deg.C		Power on	1395.036883	-0.000617	-0.44	2.50	2.06
		on 2 min.	1395.036846	-0.000654	-0.47	2.50	2.03
		on 5 min.	1395.036640	-0.000860	-0.62	2.50	1.88
		on 10 min.	1395.036652	-0.000848	-0.61	2.50	1.89
30 deg.C		Power on	1395.036752	-0.000748	-0.54	2.50	1.96
		on 2 min.	1395.036933	-0.000567	-0.41	2.50	2.09
		on 5 min.	1395.037096	-0.000405	-0.29	2.50	2.21
		on 10 min.	1395.036752	-0.000748	-0.54	2.50	1.96
20deg.C	Power on	1395.036420	-0.001080	-0.77	2.50	1.73	
	on 2 min.	1395.036721	-0.000779	-0.56	2.50	1.94	
	on 5 min.	1395.037290	-0.000210	-0.15	2.50	2.35	
	on 10 min.	1395.036708	-0.000792	-0.57	2.50	1.93	
10 deg.C	Power on	1395.036884	-0.000616	-0.44	2.50	2.06	
	on 2 min.	1395.037046	-0.000454	-0.33	2.50	2.17	
	on 5 min.	1395.036921	-0.000579	-0.42	2.50	2.08	
	on 10 min.	1395.037027	-0.000473	-0.34	2.50	2.16	
0 deg.C	Power on	1395.036639	-0.000861	-0.62	2.50	1.88	
	on 2 min.	1395.036757	-0.000743	-0.53	2.50	1.97	
	on 5 min.	1395.036738	-0.000762	-0.55	2.50	1.95	
	on 10 min.	1395.036657	-0.000843	-0.60	2.50	1.90	
-10 deg.C	Power on	1395.036914	-0.000586	-0.42	2.50	2.08	
	on 2 min.	1395.036563	-0.000937	-0.67	2.50	1.83	
	on 5 min.	1395.036707	-0.000793	-0.57	2.50	1.93	
	on 10 min.	1395.036757	-0.000743	-0.53	2.50	1.97	
-20 deg.C	Power on	1395.036976	-0.000524	-0.38	2.50	2.12	
	on 2 min.	1395.036901	-0.000599	-0.43	2.50	2.07	
	on 5 min.	1395.036914	-0.000586	-0.42	2.50	2.08	
	on 10 min.	1395.036889	-0.000611	-0.44	2.50	2.06	
-30 deg.C	Power on	1395.037051	-0.000449	-0.32	2.50	2.18	
	on 2 min.	1395.036839	-0.000661	-0.47	2.50	2.03	
	on 5 min.	1395.036970	-0.000530	-0.38	2.50	2.12	
	on 10 min.	1395.036839	-0.000661	-0.47	2.50	2.03	

Limit : 1395.0375 MHz +/-0.00025 % (+/- 2.5 ppm) =

+/- 0.003488 MHz

**UL Japan, Inc.**  
**Shonan EMC Lab.**

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## Frequency Stability

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 19, 2016	May 20, 2016
Temperature / Humidity	26 deg.C / 40 %RH	26 deg.C / 52 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa
Mode	Transmitting	

Test Condition deg.C	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20 deg.C	DC 4.25 V (Vmin)	Power on	1397.511782	-0.000718	-0.51	1.99
		on 2 min.	1397.511670	-0.000830	-0.59	1.91
		on 5 min.	1397.512065	-0.000436	-0.31	2.19
		on 10 min.	1397.511908	-0.000593	-0.42	2.08
	DC 5 V (Vnom)	Power on	1397.511783	-0.000717	-0.51	1.99
		on 2 min.	1397.511789	-0.000711	-0.51	1.99
		on 5 min.	1397.512071	-0.000429	-0.31	2.19
		on 10 min.	1397.511946	-0.000555	-0.40	2.10
	DC 5.75 V (Vmax)	Power on	1397.512139	-0.000362	-0.26	2.24
		on 2 min.	1397.511820	-0.000680	-0.49	2.01
		on 5 min.	1397.511983	-0.000517	-0.37	2.13
		on 10 min.	1397.511933	-0.000567	-0.41	2.09
50 deg.C	DC 5 V	Power on	1397.511633	-0.000868	-0.62	1.88
on 2 min.		1397.512052	-0.000448	-0.32	2.18	
on 5 min.		1397.511990	-0.000511	-0.37	2.13	
on 10 min.		1397.511796	-0.000704	-0.50	2.00	
40 deg.C		Power on	1397.511877	-0.000624	-0.45	2.05
on 2 min.		1397.511927	-0.000573	-0.41	2.09	
on 5 min.		1397.511883	-0.000617	-0.44	2.06	
on 10 min.		1397.511808	-0.000692	-0.50	2.00	
30 deg.C		Power on	1397.512040	-0.000461	-0.33	2.17
on 2 min.		1397.511852	-0.000649	-0.46	2.04	
on 5 min.		1397.511739	-0.000761	-0.54	1.96	
on 10 min.		1397.511852	-0.000649	-0.46	2.04	
20deg.C		Power on	1397.511783	-0.000717	-0.51	1.99
on 2 min.		1397.511789	-0.000711	-0.51	1.99	
on 5 min.		1397.512071	-0.000429	-0.31	2.19	
on 10 min.		1397.511946	-0.000555	-0.40	2.10	
10 deg.C		Power on	1397.512015	-0.000485	-0.35	2.15
on 2 min.		1397.511864	-0.000636	-0.46	2.04	
on 5 min.		1397.511996	-0.000505	-0.36	2.14	
on 10 min.		1397.511971	-0.000530	-0.38	2.12	
0 deg.C		Power on	1397.511488	-0.001012	-0.72	1.78
on 2 min.		1397.511707	-0.000793	-0.57	1.93	
on 5 min.		1397.511732	-0.000768	-0.55	1.95	
on 10 min.		1397.511538	-0.000962	-0.69	1.81	
-10 deg.C	Power on	1397.511713	-0.000787	-0.56	1.94	
on 2 min.	1397.511845	-0.000655	-0.47	2.03		
on 5 min.	1397.511964	-0.000536	-0.38	2.12		
on 10 min.	1397.511870	-0.000630	-0.45	2.05		
-20 deg.C	Power on	1397.511976	-0.000524	-0.37	2.13	
on 2 min.	1397.511983	-0.000517	-0.37	2.13		
on 5 min.	1397.511970	-0.000531	-0.38	2.12		
on 10 min.	1397.511770	-0.000731	-0.52	1.98		
-30 deg.C	Power on	1397.512001	-0.000499	-0.36	2.14	
on 2 min.	1397.511964	-0.000536	-0.38	2.12		
on 5 min.	1397.511964	-0.000536	-0.38	2.12		
on 10 min.	1397.511807	-0.000693	-0.50	2.00		

Limit : 1397.5125 MHz +/-0.00025 % (+/- 2.5 ppm) =

+/- 0.003494 MHz

**UL Japan, Inc.**  
**Shonan EMC Lab.**

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Facsimile : +81 463 50 6401

## Frequency Stability

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 19, 2016	May 20, 2016
Temperature / Humidity	26 deg.C / 40 %RH	26 deg.C / 52 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa
Mode	Transmitting	

Test Condition deg.C	Test Condition Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20 deg.C	DC 4.25 V (Vmin)	Power on	1399.962171	-0.000329	-0.24	2.50	2.26
		on 2 min.	1399.961888	-0.000612	-0.44	2.50	2.06
		on 5 min.	1399.962001	-0.000500	-0.36	2.50	2.14
		on 10 min.	1399.961702	-0.000799	-0.57	2.50	1.93
	DC 5 V (Vnom)	Power on	1399.961864	-0.000636	-0.45	2.50	2.05
		on 2 min.	1399.961874	-0.000626	-0.45	2.50	2.05
		on 5 min.	1399.961971	-0.000530	-0.38	2.50	2.12
		on 10 min.	1399.962008	-0.000492	-0.35	2.50	2.15
	DC 5.75 V (Vmax)	Power on	1399.961708	-0.000792	-0.57	2.50	1.93
		on 2 min.	1399.961807	-0.000693	-0.50	2.50	2.00
		on 5 min.	1399.962258	-0.000243	-0.17	2.50	2.33
		on 10 min.	1399.961708	-0.000792	-0.57	2.50	1.93
50 deg.C	DC 5 V	Power on	1399.962033	-0.000467	-0.33	2.50	2.17
		on 2 min.	1399.962027	-0.000473	-0.34	2.50	2.16
		on 5 min.	1399.962278	-0.000223	-0.16	2.50	2.34
		on 10 min.	1399.961877	-0.000624	-0.45	2.50	2.05
40 deg.C		Power on	1399.961821	-0.000679	-0.49	2.50	2.01
		on 2 min.	1399.961808	-0.000692	-0.49	2.50	2.01
		on 5 min.	1399.961858	-0.000642	-0.46	2.50	2.04
		on 10 min.	1399.961814	-0.000686	-0.49	2.50	2.01
30 deg.C		Power on	1399.961990	-0.000511	-0.36	2.50	2.14
		on 2 min.	1399.961827	-0.000674	-0.48	2.50	2.02
		on 5 min.	1399.961964	-0.000536	-0.38	2.50	2.12
		on 10 min.	1399.961921	-0.000580	-0.41	2.50	2.09
20deg.C	Power on	1399.961864	-0.000636	-0.45	2.50	2.05	
	on 2 min.	1399.961874	-0.000626	-0.45	2.50	2.05	
	on 5 min.	1399.961971	-0.000530	-0.38	2.50	2.12	
	on 10 min.	1399.962008	-0.000492	-0.35	2.50	2.15	
10 deg.C	Power on	1399.962027	-0.000474	-0.34	2.50	2.16	
	on 2 min.	1399.961958	-0.000542	-0.39	2.50	2.11	
	on 5 min.	1399.961965	-0.000536	-0.38	2.50	2.12	
	on 10 min.	1399.961896	-0.000605	-0.43	2.50	2.07	
0 deg.C	Power on	1399.962139	-0.000362	-0.26	2.50	2.24	
	on 2 min.	1399.961619	-0.000881	-0.63	2.50	1.87	
	on 5 min.	1399.961826	-0.000674	-0.48	2.50	2.02	
	on 10 min.	1399.961769	-0.000731	-0.52	2.50	1.98	
-10 deg.C	Power on	1399.961769	-0.000731	-0.52	2.50	1.98	
	on 2 min.	1399.961964	-0.000537	-0.38	2.50	2.12	
	on 5 min.	1399.961707	-0.000794	-0.57	2.50	1.93	
	on 10 min.	1399.961907	-0.000593	-0.42	2.50	2.08	
-20 deg.C	Power on	1399.962058	-0.000443	-0.32	2.50	2.18	
	on 2 min.	1399.961751	-0.000749	-0.54	2.50	1.96	
	on 5 min.	1399.962208	-0.000293	-0.21	2.50	2.29	
	on 10 min.	1399.961889	-0.000612	-0.44	2.50	2.06	
-30 deg.C	Power on	1399.962282	-0.000218	-0.16	2.50	2.34	
	on 2 min.	1399.961813	-0.000687	-0.49	2.50	2.01	
	on 5 min.	1399.962082	-0.000418	-0.30	2.50	2.20	
	on 10 min.	1399.961995	-0.000506	-0.36	2.50	2.14	

Limit : 1399.9625 MHz +/-0.00025 % (+/- 2.5 ppm) =

+/- 0.003500 MHz

## Frequency Stability

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 19, 2016	May 20, 2016
Temperature / Humidity	26 deg.C / 40 %RH	26 deg.C / 52 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa
Mode	Transmitting	

Test Condition deg.C	Test Condition Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20 deg.C	DC 4.25 V (Vmin)	Power on	1427.037373	-0.000127	-0.09	2.50	2.41
		on 2 min.	1427.036629	-0.000871	-0.61	2.50	1.89
		on 5 min.	1427.036596	-0.000904	-0.63	2.50	1.87
		on 10 min.	1427.036478	-0.001022	-0.72	2.50	1.78
	DC 5 V (Vnom)	Power on	1427.037091	-0.000409	-0.29	2.50	2.21
		on 2 min.	1427.036948	-0.000552	-0.39	2.50	2.11
		on 5 min.	1427.036948	-0.000552	-0.39	2.50	2.11
		on 10 min.	1427.036785	-0.000715	-0.50	2.50	2.00
	DC 5.75 V (Vmax)	Power on	1427.036352	-0.001148	-0.80	2.50	1.70
		on 2 min.	1427.036785	-0.000715	-0.50	2.50	2.00
		on 5 min.	1427.037436	-0.000065	-0.05	2.50	2.45
		on 10 min.	1427.037092	-0.000409	-0.29	2.50	2.21
50 deg.C	DC 5 V	Power on	1427.036885	-0.000616	-0.43	2.50	2.07
		on 2 min.	1427.036872	-0.000628	-0.44	2.50	2.06
		on 5 min.	1427.036853	-0.000647	-0.45	2.50	2.05
		on 10 min.	1427.036779	-0.000722	-0.51	2.50	1.99
40 deg.C		Power on	1427.037104	-0.000396	-0.28	2.50	2.22
		on 2 min.	1427.036610	-0.000890	-0.62	2.50	1.88
		on 5 min.	1427.036579	-0.000922	-0.65	2.50	1.85
		on 10 min.	1427.036704	-0.000796	-0.56	2.50	1.94
30 deg.C		Power on	1427.036809	-0.000691	-0.48	2.50	2.02
		on 2 min.	1427.036991	-0.000509	-0.36	2.50	2.14
		on 5 min.	1427.036904	-0.000596	-0.42	2.50	2.08
		on 10 min.	1427.036741	-0.000759	-0.53	2.50	1.97
20deg.C	Power on	1427.037091	-0.000409	-0.29	2.50	2.21	
	on 2 min.	1427.036948	-0.000552	-0.39	2.50	2.11	
	on 5 min.	1427.036948	-0.000552	-0.39	2.50	2.11	
	on 10 min.	1427.036785	-0.000715	-0.50	2.50	2.00	
10 deg.C	Power on	1427.036903	-0.000597	-0.42	2.50	2.08	
	on 2 min.	1427.036810	-0.000690	-0.48	2.50	2.02	
	on 5 min.	1427.036841	-0.000659	-0.46	2.50	2.04	
	on 10 min.	1427.037117	-0.000383	-0.27	2.50	2.23	
0 deg.C	Power on	1427.036772	-0.000728	-0.51	2.50	1.99	
	on 2 min.	1427.036772	-0.000728	-0.51	2.50	1.99	
	on 5 min.	1427.036759	-0.000742	-0.52	2.50	1.98	
	on 10 min.	1427.036822	-0.000679	-0.48	2.50	2.02	
-10 deg.C	Power on	1427.036471	-0.001029	-0.72	2.50	1.78	
	on 2 min.	1427.036571	-0.000929	-0.65	2.50	1.85	
	on 5 min.	1427.036878	-0.000622	-0.44	2.50	2.06	
	on 10 min.	1427.036891	-0.000609	-0.43	2.50	2.07	
-20 deg.C	Power on	1427.037129	-0.000371	-0.26	2.50	2.24	
	on 2 min.	1427.037079	-0.000421	-0.30	2.50	2.20	
	on 5 min.	1427.036967	-0.000534	-0.37	2.50	2.13	
	on 10 min.	1427.036829	-0.000671	-0.47	2.50	2.03	
-30 deg.C	Power on	1427.036978	-0.000522	-0.37	2.50	2.13	
	on 2 min.	1427.037229	-0.000272	-0.19	2.50	2.31	
	on 5 min.	1427.037304	-0.000196	-0.14	2.50	2.36	
	on 10 min.	1427.037492	-0.000008	-0.01	2.50	2.49	

Limit : 1427.0375 MHz +/-0.00025 % (+/- 2.5 ppm) =

+/- 0.003568 MHz

**UL Japan, Inc.**  
**Shonan EMC Lab.**

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## Frequency Stability

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 19, 2016	May 20, 2016
Temperature / Humidity	26 deg.C / 40 %RH	26 deg.C / 52 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa
Mode	Transmitting	

Test Condition deg.C	Test Condition Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]
20 deg.C	DC 4.25 V (Vmin)	Power on	1429.261558	-0.000942	-0.66	2.50	1.84
		on 2 min.	1429.261816	-0.000685	-0.48	2.50	2.02
		on 5 min.	1429.261641	-0.000860	-0.60	2.50	1.90
		on 10 min.	1429.261659	-0.000841	-0.59	2.50	1.91
	DC 5 V (Vnom)	Power on	1429.261947	-0.000553	-0.39	2.50	2.11
		on 2 min.	1429.261835	-0.000665	-0.47	2.50	2.03
		on 5 min.	1429.261879	-0.000621	-0.43	2.50	2.07
		on 10 min.	1429.261848	-0.000653	-0.46	2.50	2.04
	DC 5.75 V (Vmax)	Power on	1429.261854	-0.000646	-0.45	2.50	2.05
		on 2 min.	1429.262197	-0.000303	-0.21	2.50	2.29
		on 5 min.	1429.261678	-0.000822	-0.58	2.50	1.92
		on 10 min.	1429.261947	-0.000553	-0.39	2.50	2.11
50 deg.C	DC 5 V	Power on	1429.261666	-0.000835	-0.58	2.50	1.92
		on 2 min.	1429.261572	-0.000928	-0.65	2.50	1.85
		on 5 min.	1429.261741	-0.000759	-0.53	2.50	1.97
		on 10 min.	1429.261716	-0.000784	-0.55	2.50	1.95
40 deg.C		Power on	1429.261516	-0.000984	-0.69	2.50	1.81
		on 2 min.	1429.261591	-0.000910	-0.64	2.50	1.86
		on 5 min.	1429.261685	-0.000816	-0.57	2.50	1.93
		on 10 min.	1429.261766	-0.000734	-0.51	2.50	1.99
30 deg.C		Power on	1429.261591	-0.000909	-0.64	2.50	1.86
		on 2 min.	1429.261735	-0.000766	-0.54	2.50	1.96
		on 5 min.	1429.261666	-0.000834	-0.58	2.50	1.92
		on 10 min.	1429.261841	-0.000659	-0.46	2.50	2.04
20deg.C	Power on	1429.261947	-0.000553	-0.39	2.50	2.11	
	on 2 min.	1429.261835	-0.000665	-0.47	2.50	2.03	
	on 5 min.	1429.261879	-0.000621	-0.43	2.50	2.07	
	on 10 min.	1429.261848	-0.000653	-0.46	2.50	2.04	
10 deg.C	Power on	1429.262066	-0.000434	-0.30	2.50	2.20	
	on 2 min.	1429.261916	-0.000584	-0.41	2.50	2.09	
	on 5 min.	1429.261835	-0.000665	-0.47	2.50	2.03	
	on 10 min.	1429.261766	-0.000734	-0.51	2.50	1.99	
0 deg.C	Power on	1429.261884	-0.000616	-0.43	2.50	2.07	
	on 2 min.	1429.262003	-0.000497	-0.35	2.50	2.15	
	on 5 min.	1429.261671	-0.000829	-0.58	2.50	1.92	
	on 10 min.	1429.261947	-0.000554	-0.39	2.50	2.11	
-10 deg.C	Power on	1429.261502	-0.000998	-0.70	2.50	1.80	
	on 2 min.	1429.261965	-0.000535	-0.37	2.50	2.13	
	on 5 min.	1429.261665	-0.000835	-0.58	2.50	1.92	
	on 10 min.	1429.261934	-0.000566	-0.40	2.50	2.10	
-20 deg.C	Power on	1429.262279	-0.000222	-0.15	2.50	2.35	
	on 2 min.	1429.261522	-0.000978	-0.68	2.50	1.82	
	on 5 min.	1429.261853	-0.000647	-0.45	2.50	2.05	
	on 10 min.	1429.261578	-0.000923	-0.65	2.50	1.85	
-30 deg.C	Power on	1429.261240	-0.001260	-0.88	2.50	1.62	
	on 2 min.	1429.261622	-0.000878	-0.61	2.50	1.89	
	on 5 min.	1429.261440	-0.001060	-0.74	2.50	1.76	
	on 10 min.	1429.261547	-0.000954	-0.67	2.50	1.83	

Limit : 1429.2625 MHz +/-0.00025 % (+/- 2.5 ppm) =

+/- 0.003573 MHz

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## Frequency Stability

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 19, 2016	May 20, 2016
Temperature / Humidity	26 deg.C / 40 %RH	26 deg.C / 52 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa
Mode	Transmitting	

Test Condition deg.C Volts	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit [+/- ppm]	Margin [ppm]	
20 deg.C	DC 4.25 V (Vmin)	Power on	1431.461857	-0.000643	-0.45	2.50	2.05
		on 2 min.	1431.462414	-0.000087	-0.06	2.50	2.44
		on 5 min.	1431.461783	-0.000718	-0.50	2.50	2.00
		on 10 min.	1431.462313	-0.000187	-0.13	2.50	2.37
	DC 5 V (Vnom)	Power on	1431.461783	-0.000718	-0.50	2.50	2.00
		on 2 min.	1431.461826	-0.000674	-0.47	2.50	2.03
		on 5 min.	1431.461701	-0.000799	-0.56	2.50	1.94
		on 10 min.	1431.461832	-0.000668	-0.47	2.50	2.03
	DC 5.75 V (Vmax)	Power on	1431.461306	-0.001195	-0.83	2.50	1.67
		on 2 min.	1431.461745	-0.000755	-0.53	2.50	1.97
		on 5 min.	1431.461387	-0.001113	-0.78	2.50	1.72
		on 10 min.	1431.462027	-0.000474	-0.33	2.50	2.17
50 deg.C	DC 5 V	Power on	1431.461533	-0.000968	-0.68	2.50	1.82
		on 2 min.	1431.461808	-0.000693	-0.48	2.50	2.02
		on 5 min.	1431.461683	-0.000818	-0.57	2.50	1.93
		on 10 min.	1431.461958	-0.000542	-0.38	2.50	2.12
40 deg.C	DC 5 V	Power on	1431.461721	-0.000780	-0.54	2.50	1.96
		on 2 min.	1431.461589	-0.000911	-0.64	2.50	1.86
		on 5 min.	1431.461489	-0.001011	-0.71	2.50	1.79
		on 10 min.	1431.461607	-0.000893	-0.62	2.50	1.88
30 deg.C	DC 5 V	Power on	1431.461439	-0.001062	-0.74	2.50	1.76
		on 2 min.	1431.461326	-0.001174	-0.82	2.50	1.68
		on 5 min.	1431.461607	-0.000893	-0.62	2.50	1.88
		on 10 min.	1431.461714	-0.000787	-0.55	2.50	1.95
20deg.C	DC 5 V	Power on	1431.461783	-0.000718	-0.50	2.50	2.00
		on 2 min.	1431.461826	-0.000674	-0.47	2.50	2.03
		on 5 min.	1431.461701	-0.000799	-0.56	2.50	1.94
		on 10 min.	1431.461832	-0.000668	-0.47	2.50	2.03
10 deg.C	DC 5 V	Power on	1431.461945	-0.000555	-0.39	2.50	2.11
		on 2 min.	1431.461744	-0.000756	-0.53	2.50	1.97
		on 5 min.	1431.462139	-0.000362	-0.25	2.50	2.25
		on 10 min.	1431.461995	-0.000506	-0.35	2.50	2.15
0 deg.C	DC 5 V	Power on	1431.461588	-0.000913	-0.64	2.50	1.86
		on 2 min.	1431.461750	-0.000750	-0.52	2.50	1.98
		on 5 min.	1431.462188	-0.000312	-0.22	2.50	2.28
		on 10 min.	1431.461712	-0.000788	-0.55	2.50	1.95
-10 deg.C	DC 5 V	Power on	1431.461832	-0.000669	-0.47	2.50	2.03
		on 2 min.	1431.461581	-0.000919	-0.64	2.50	1.86
		on 5 min.	1431.462063	-0.000438	-0.31	2.50	2.19
		on 10 min.	1431.461556	-0.000944	-0.66	2.50	1.84
-20 deg.C	DC 5 V	Power on	1431.462694	0.000194	0.14	2.50	2.36
		on 2 min.	1431.462713	0.000213	0.15	2.50	2.35
		on 5 min.	1431.462025	-0.000475	-0.33	2.50	2.17
		on 10 min.	1431.462031	-0.000470	-0.33	2.50	2.17
-30 deg.C	DC 5 V	Power on	1431.461625	-0.000876	-0.61	2.50	1.89
		on 2 min.	1431.461518	-0.000982	-0.69	2.50	1.81
		on 5 min.	1431.461906	-0.000595	-0.42	2.50	2.08
		on 10 min.	1431.461830	-0.000670	-0.47	2.50	2.03

Limit : 1431.4625 MHz +/-0.00025 % (+/- 2.5 ppm) =

+/- 0.003579 MHz

**UL Japan, Inc.**  
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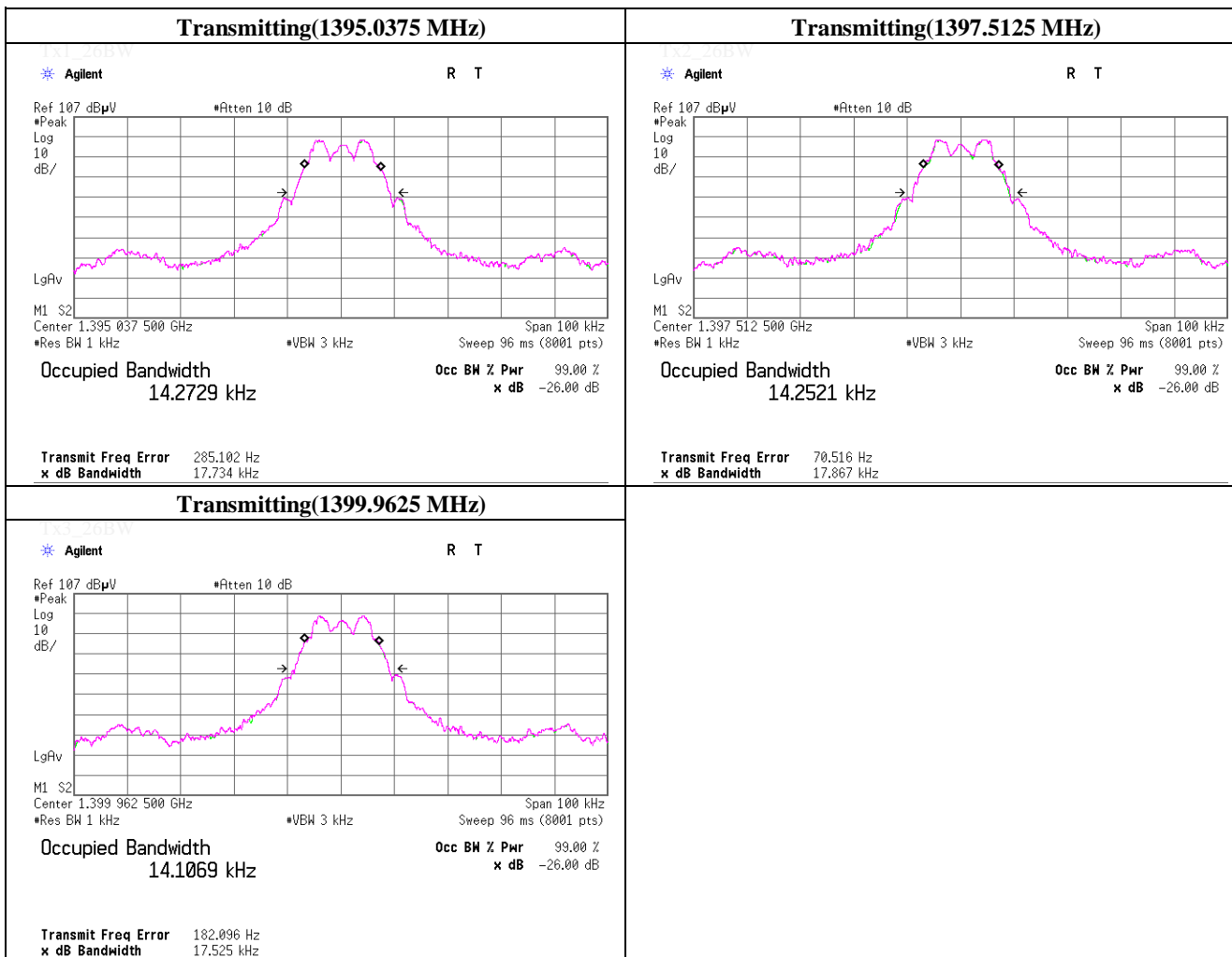


## -26 dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	May 16, 2016	
Temperature / Humidity	23 deg.C / 57 %RH	
Engineer	Kenichi Adachi	
Mode	Transmitting	

Freq. [MHz]	-26 dB Bandwidth [kHz]
1395.0375	17.734
1397.5125	17.867
1399.9625	17.525

No limit applies to -26 dB Bandwidth.



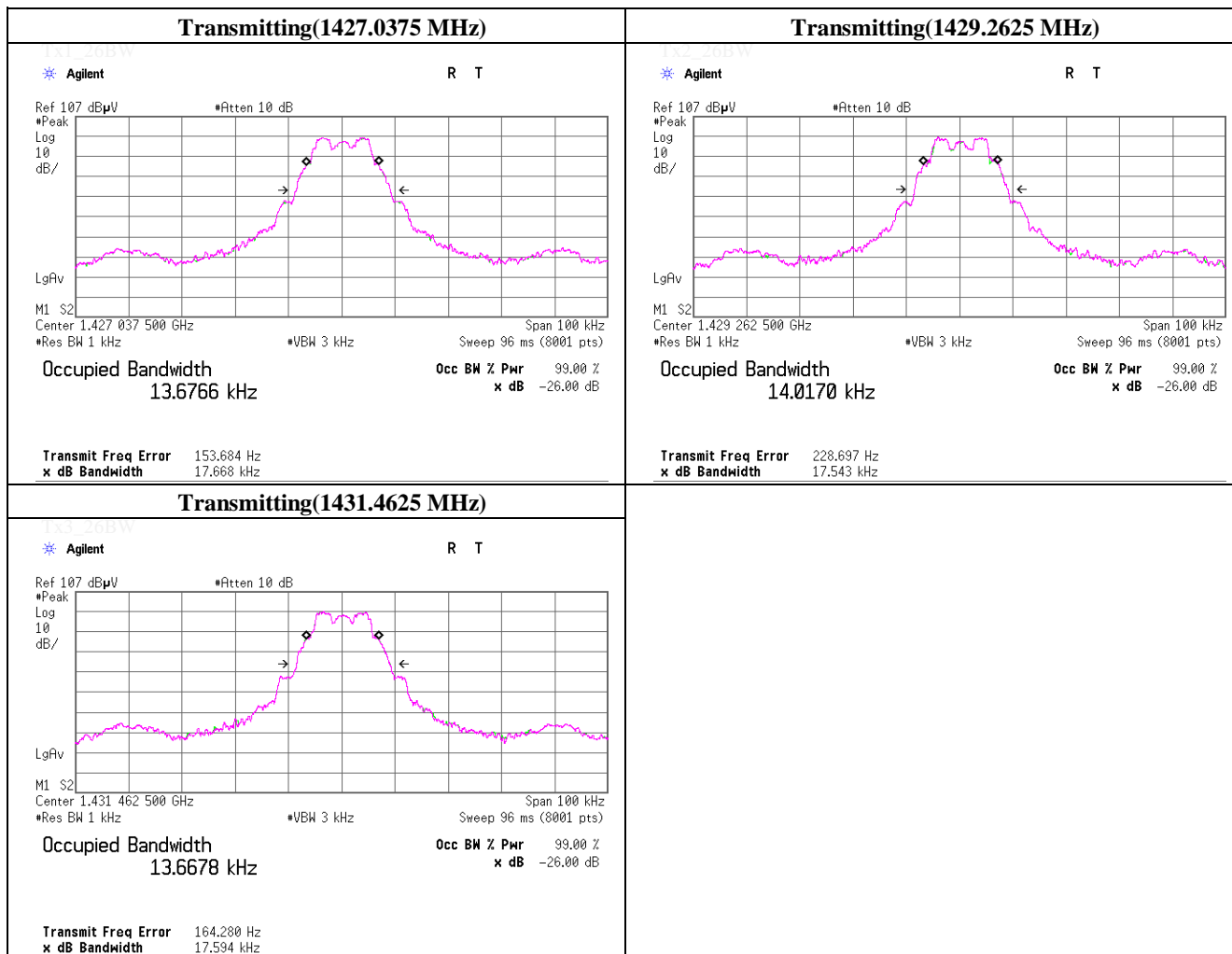
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## -26 dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	May 16, 2016	
Temperature / Humidity	23 deg.C / 57 %RH	
Engineer	Kenichi Adachi	
Mode	Transmitting	

Freq. [MHz]	-26 dB Bandwidth [kHz]
1427.0375	17.668
1429.2625	17.543
1431.4625	17.594

No limit applies to -26 dB Bandwidth.



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## Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission and Band Edge Compliance)

Test place                   UL Japan, Inc. Shonan EMC Lab.                   No.3 Semi Anechoic Chamber  
Date                         May 16, 2016                   May 17, 2016  
Temperature / Humidity   23 deg.C / 50 %RH   25 deg.C / 54 %RH  
Engineer                 Yosuke Ishikawa         Hikaru Shirasawa  
Mode                       Tx,                         1395.0375 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	240.000	QP	21.7	16.9	8.4	32.0	15.0	46.0	31.0	100	0	
Hori.	640.000	QP	22.0	19.5	10.1	31.9	19.7	46.0	26.3	100	0	
Hori.	1395.038	AV	95.8	24.7	23.0	40.7	102.8	117.3	14.5	100	262	Carrier, VBW 10Hz,
Hori.	2795.075	AV	41.9	28.1	24.2	40.8	53.3	53.9	0.6	100	270	VBW 10Hz,
Hori.	4185.112	AV	44.0	29.6	5.5	40.2	38.8	53.9	15.1	104	36	VBW 10Hz,
Hori.	5580.150	AV	41.7	32.4	6.3	38.8	41.6	53.9	12.3	100	194	VBW 10Hz,
Hori.	6975.188	AV	37.0	36.7	6.8	39.8	40.8	53.9	13.1	100	162	VBW 10Hz,
Hori.	8370.225	AV	37.8	37.5	7.6	40.7	42.2	53.9	11.7	122	71	VBW 10Hz,
Hori.	9765.263	AV	37.2	38.5	8.2	39.5	44.3	53.9	9.6	100	41	VBW 10Hz,
Hori.	11160.300	AV	34.9	40.2	8.6	39.0	44.7	53.9	9.3	100	105	VBW 10Hz,
Hori.	12555.340	AV	34.1	39.5	9.1	39.7	43.0	53.9	10.9	108	0	VBW 10Hz,
Hori.	13950.375	AV	33.0	41.2	0.1	40.0	34.4	53.9	19.5	100	0	VBW 10Hz,
Vert.	240.000	QP	23.0	16.9	8.4	32.0	16.2	46.0	29.8	100	134	
Vert.	640.000	QP	22.0	19.5	10.1	31.9	19.6	46.0	26.4	100	0	
Vert.	1395.038	AV	94.8	24.7	23.0	40.7	101.8	117.3	15.5	133	137	Carrier, VBW 10Hz,
Vert.	2795.075	AV	37.3	28.1	24.2	40.8	48.7	53.9	5.2	126	186	VBW 10Hz,
Vert.	4185.112	AV	39.9	29.6	5.5	40.2	34.7	53.9	19.2	115	145	VBW 10Hz,
Vert.	5580.150	AV	42.0	32.4	6.3	38.8	41.9	53.9	12.1	100	148	VBW 10Hz,
Vert.	6975.188	AV	37.3	36.7	6.8	39.8	41.1	53.9	12.8	100	340	VBW 10Hz,
Vert.	8370.225	AV	37.2	37.5	7.6	40.7	41.6	53.9	12.3	100	108	VBW 10Hz,
Vert.	9765.263	AV	39.1	38.5	8.2	39.5	46.3	53.9	7.7	100	70	VBW 10Hz,
Vert.	11160.300	AV	35.0	40.2	8.6	39.0	44.8	53.9	9.1	100	195	VBW 10Hz,
Vert.	12555.340	AV	34.4	39.5	9.1	39.7	43.3	53.9	10.6	100	126	VBW 10Hz,
Vert.	13950.375	AV	33.1	41.2	0.1	40.0	34.5	53.9	19.4	100	0	VBW 10Hz,

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF Output Power]

	Result [dBuV/m]	Result1 [mW]	Result2 [mW]
carrier Level	102.8	3.51	5.563

### Marker Delta Method(Test distance 3 meters)

	Polarity	AV			
		Hor.		Ver.	
		1394.996	1395.000	1394.995	1395.000
	Frequency [MHz]	[dBuV/m] Result		[dBuV/m] Result	
Step1	Fundamental(1395.0375 MHz)	102.8	102.8	101.8	101.8
Step2	Fundamental(1395.0375 MHz)	101.0	101.0	99.8	99.8
	Band-edge	48.5	45.1	43.0	46.2
	Amplitude delta	52.5	55.8	56.7	53.6
Step3	Field strength of band-edge	50.3	47.0	45.1	48.3
	Limit	53.9	53.9	53.9	53.9
	Margin	3.6	6.9	8.8	5.6

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

\*As we started at section 7.5, we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 662683.

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## Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission)

Test place                      UL Japan, Inc. Shonan EMC Lab.                      No.3 Semi Anechoic Chamber  
 Date                              May 16, 2016                      May 17, 2016  
 Temperature / Humidity      23 deg.C / 57 %RH      25 deg.C / 54 %RH  
 Engineer                        Kenichi Adachi                      Hikaru Shirasawa  
 Mode                              Tx,                              1397.5125 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	240.000	QP	21.6	16.9	8.4	32.0	14.9	46.0	31.1	100	0	
Hori.	640.000	QP	22.0	19.5	10.1	31.9	19.6	46.0	26.4	100	0	
Hori.	1397.513	AV	96.5	24.7	23.0	40.7	103.5	117.3	13.8	100	263	Carrier, VBW 10Hz,
Hori.	2795.025	AV	40.1	28.1	24.2	40.8	51.6	53.9	2.3	100	265	VBW 10Hz,
Hori.	4192.538	AV	43.8	29.6	5.5	40.2	38.7	53.9	15.2	103	32	VBW 10Hz,
Hori.	5590.050	AV	42.0	32.4	6.3	38.8	41.9	53.9	12.0	100	197	VBW 10Hz,
Hori.	6987.563	AV	36.2	36.8	6.9	39.8	40.1	53.9	13.8	100	159	VBW 10Hz,
Hori.	8385.075	AV	37.4	37.5	7.6	40.7	41.8	53.9	12.1	191	165	VBW 10Hz,
Hori.	9782.588	AV	36.2	38.5	8.2	39.5	43.4	53.9	10.5	179	332	VBW 10Hz,
Hori.	11180.100	AV	34.6	40.2	8.6	39.0	44.4	53.9	9.5	100	52	VBW 10Hz,
Hori.	12577.613	AV	34.4	39.5	9.1	39.7	43.3	53.9	10.6	100	92	VBW 10Hz,
Hori.	13975.125	AV	33.1	41.3	0.1	40.0	34.5	53.9	19.4	100	0	VBW 10Hz,
Vert.	240.000	QP	22.8	16.9	8.4	32.0	16.0	46.0	30.0	100	148	
Vert.	640.000	QP	21.9	19.5	10.1	31.9	19.6	46.0	26.4	100	0	
Vert.	1397.513	AV	95.3	24.7	23.0	40.7	102.3	117.3	15.0	128	126	Carrier, VBW 10Hz,
Vert.	2795.025	AV	36.6	28.1	24.2	40.8	48.1	53.9	5.8	128	141	VBW 10Hz,
Vert.	4192.538	AV	41.6	29.6	5.5	40.2	36.5	53.9	17.4	107	261	VBW 10Hz,
Vert.	5590.050	AV	41.8	32.4	6.3	38.8	41.7	53.9	12.2	120	202	VBW 10Hz,
Vert.	6987.563	AV	37.1	36.8	6.9	39.8	41.0	53.9	12.9	100	354	VBW 10Hz,
Vert.	8385.075	AV	40.5	37.5	7.6	40.7	44.9	53.9	9.0	123	223	VBW 10Hz,
Vert.	9782.588	AV	37.8	38.5	8.2	39.5	45.0	53.9	8.9	169	353	VBW 10Hz,
Vert.	11180.100	AV	35.7	40.2	8.6	39.0	45.5	53.9	8.4	100	192	VBW 10Hz,
Vert.	12577.613	AV	34.6	39.5	9.1	39.7	43.5	53.9	10.4	100	143	VBW 10Hz,
Vert.	13975.125	AV	33.2	41.3	0.1	40.0	34.6	53.9	19.3	100	0	VBW 10Hz,

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF Output Power]

	Result [dBuV/m]	Result1 [mW]	Result2 [mW]
carrier Level	103.5	4.095	6.49

Calculation:

$$\text{Result1 [mW]} = (((10^{\text{Result [dBuV/m]}} / 20) \times (10^{-6})) \times (\text{distance} = 3 \text{ [m]})^2) / (30 \times (\text{gain} = 1.64)) \times 10^0$$

(Fundamental emission with power tolerance = Result2)

$$\text{Result2 [mW]} = 10^{((10 \times \log(\text{Result1 [mW]}) + 2 \text{ dB}^*) / 10)}$$

\* tolerance specification is +/-2 dB

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## Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission and Band Edge Compliance)

Test place                   UL Japan, Inc. Shonan EMC Lab.                   No.3 Semi Anechoic Chamber  
 Date                         May 16, 2016                   May 17, 2016  
 Temperature / Humidity   23 deg.C / 57 %RH   25 deg.C / 54 %RH  
 Engineer                 Kenichi Adachi             Hikaru Shirasawa  
 Mode                      Tx,                         1399.9625 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	240.000	QP	21.6	16.9	8.4	32.0	14.9	46.0	31.1	100	0	
Hori.	640.000	QP	22.0	19.5	10.1	31.9	19.7	46.0	26.3	100	0	
Hori.	1399.963	AV	96.7	24.7	23.0	40.7	103.7	117.3	13.6	100	262	Carrier, VBW 10Hz,
Hori.	2799.925	AV	40.9	28.1	24.2	40.8	52.4	53.9	1.5	100	266	VBW 10Hz,
Hori.	4199.888	AV	42.1	29.6	5.5	40.2	37.0	53.9	16.9	102	28	VBW 10Hz,
Hori.	5599.850	AV	41.7	32.4	6.3	38.8	41.6	53.9	12.3	100	194	VBW 10Hz,
Hori.	6999.813	AV	35.9	36.8	6.9	39.8	39.8	53.9	14.1	100	157	VBW 10Hz,
Hori.	8399.775	AV	36.3	37.5	7.6	40.7	40.7	53.9	13.2	183	219	VBW 10Hz,
Hori.	9799.738	AV	35.0	38.5	8.2	39.5	42.2	53.9	11.7	182	226	VBW 10Hz,
Hori.	11199.700	AV	34.4	40.2	8.7	39.0	44.3	53.9	9.6	100	51	VBW 10Hz,
Hori.	12599.663	AV	34.3	39.5	9.2	39.7	43.3	53.9	10.6	100	93	VBW 10Hz,
Hori.	13999.625	AV	33.2	41.3	0.1	40.0	34.6	53.9	19.3	100	0	VBW 10Hz,
Vert.	240.000	QP	22.3	16.9	8.4	32.0	15.6	46.0	30.4	100	0	
Vert.	640.000	QP	22.0	19.5	10.1	31.9	19.7	46.0	26.3	100	0	
Vert.	1399.963	AV	95.5	24.7	23.0	40.7	102.5	117.3	14.8	127	125	Carrier, VBW 10Hz,
Vert.	2799.925	AV	36.4	28.1	24.2	40.8	47.9	53.9	6.0	129	140	VBW 10Hz,
Vert.	4199.888	AV	41.3	29.6	5.5	40.2	36.2	53.9	17.7	120	262	VBW 10Hz,
Vert.	5599.850	AV	42.2	32.4	6.3	38.8	42.1	53.9	11.8	121	196	VBW 10Hz,
Vert.	6999.813	AV	37.0	36.8	6.9	39.8	40.9	53.9	13.0	100	337	VBW 10Hz,
Vert.	8399.775	AV	40.1	37.5	7.6	40.7	44.5	53.9	9.4	130	225	VBW 10Hz,
Vert.	9799.738	AV	38.9	38.5	8.2	39.5	46.1	53.9	7.8	144	221	VBW 10Hz,
Vert.	11199.700	AV	36.2	40.2	8.7	39.0	46.1	53.9	7.8	132	191	VBW 10Hz,
Vert.	12599.663	AV	35.3	39.5	9.2	39.7	44.3	53.9	9.6	100	123	VBW 10Hz,
Vert.	13999.625	AV	33.1	41.3	0.1	40.0	34.5	53.9	19.4	100	0	VBW 10Hz,

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF Output Power]

	Result [dBuV/m]	Result1 [mW]	Result2 [mW]
carrier Level	103.7	4.288	6.796

### Marker Delta Method(Test distance 3 meters)

	Polarity	AV				
		Hor.		Ver.		
		Frequency [MHz]	Result [dBuV/m]	Frequency [MHz]	Result [dBuV/m]	
Step1	Fundamental(1399.9625 MHz)	1 M / 10 Hz	103.7	103.7	102.5	102.5
Step2	Fundamental(1399.9625 MHz)	1 kHz/3 kHz	95.0	95.0	93.7	93.7
	Band-edge	1 kHz/3 kHz	36.7	41.5	35.5	40.9
	Amplitude delta	-	58.3	53.5	58.2	52.8
Step3	Field strength of band-edge	-	45.4	50.2	44.3	49.7
	Limit	-	53.9	53.9	53.9	53.9
	Margin	-	8.5	3.7	9.6	4.2

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

\*As we started at section 7.5, we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 662683.

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## Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission and Band Edge Compliance)

Test place                   UL Japan, Inc. Shonan EMC Lab.                   No.3 Semi Anechoic Chamber  
Date                         May 16, 2016                   May 17, 2016  
Temperature / Humidity   23 deg.C / 57 %RH   25 deg.C / 54 %RH  
Engineer                 Kenichi Adachi               Hikaru Shirasawa  
Mode                       Tx,                         1427.0375 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	240.000	QP	21.8	16.9	8.4	32.0	15.1	46.0	30.9	100	0	
Hori.	640.000	QP	22.2	19.5	10.1	31.9	19.9	46.0	26.1	100	0	
Hori.	1427.038	AV	96.4	24.8	23.1	40.7	103.6	117.3	13.7	100	261	Carrier, VBW 10Hz,
Hori.	2854.075	AV	47.8	28.1	5.9	40.8	41.0	53.9	12.9	114	212	VBW 10Hz,
Hori.	4281.113	AV	42.4	29.8	5.5	40.2	37.5	53.9	16.4	104	29	VBW 10Hz,
Hori.	5708.150	AV	41.8	32.6	6.3	38.8	41.9	53.9	12.0	100	196	VBW 10Hz,
Hori.	7135.188	AV	36.0	36.9	7.0	40.0	39.9	53.9	14.0	100	158	VBW 10Hz,
Hori.	8562.225	AV	36.6	37.4	7.7	40.7	41.0	53.9	12.9	185	221	VBW 10Hz,
Hori.	9989.263	AV	35.2	38.4	8.2	39.3	42.5	53.9	11.4	180	231	VBW 10Hz,
Hori.	11416.300	AV	34.5	40.0	8.8	38.9	44.4	53.9	9.5	100	49	VBW 10Hz,
Hori.	12843.340	AV	34.4	39.4	9.5	39.7	43.6	53.9	10.3	100	89	VBW 10Hz,
Hori.	14270.380	AV	34.6	41.2	0.3	40.3	35.8	53.9	18.1	100	0	VBW 10Hz,
Vert.	240.000	QP	23.1	16.9	8.4	32.0	16.4	46.0	29.6	100	144	
Vert.	640.000	QP	22.2	19.5	10.1	31.9	19.9	46.0	26.1	100	0	
Vert.	1427.038	AV	96.4	24.8	23.1	40.7	103.6	117.3	13.7	124	129	Carrier, VBW 10Hz,
Vert.	2854.075	AV	40.7	28.1	5.9	40.8	33.9	53.9	20.0	100	11	VBW 10Hz,
Vert.	4281.113	AV	40.5	29.8	5.5	40.2	35.6	53.9	18.3	119	261	VBW 10Hz,
Vert.	5708.150	AV	43.8	32.6	6.3	38.8	43.9	53.9	10.0	121	158	VBW 10Hz,
Vert.	7135.188	AV	37.2	36.9	7.0	40.0	41.1	53.9	12.8	106	273	VBW 10Hz,
Vert.	8562.225	AV	39.4	37.4	7.7	40.7	43.8	53.9	10.1	136	232	VBW 10Hz,
Vert.	9989.263	AV	37.8	38.4	8.2	39.3	45.1	53.9	<b>8.8</b>	134	245	VBW 10Hz,
Vert.	11416.300	AV	34.9	40.0	8.8	38.9	44.8	53.9	9.1	129	240	VBW 10Hz,
Vert.	12843.340	AV	35.5	39.4	9.5	39.7	44.7	53.9	9.2	111	242	VBW 10Hz,
Vert.	14270.380	AV	34.5	41.2	0.3	40.3	35.7	53.9	18.2	100	0	VBW 10Hz,

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF Output Power]

	Result [dBuV/m]	Result1 [mW]	Result2 [mW]
carrier Level	103.6	4.191	6.642

### Marker Delta Method(Test distance 3meters)

	Polarity	AV				
		Hor.		Ver.		
		1426.996	1427.000	1426.997	1427.000	
	Frequency [MHz]					
		[dBuV/m]		[dBuV/m]		
	RBW VBW	Result		Result		
Step1	Fundamental(1427.0375 MHz)	1 M / 10 Hz	103.6	103.6	103.6	103.6
Step2	Fundamental(1427.0375 MHz)	1 kHz/3 kHz	94.7	94.7	95.0	95.0
	Band-edge	1 kHz/3 kHz	40.9	37.7	40.3	37.8
	Amplitude delta	-	53.8	57.0	54.8	57.2
Step3	Field strength of band-edge	-	49.8	46.6	48.8	46.4
	Limit	-	53.9	53.9	53.9	53.9
	Margin	-	4.1	7.3	5.1	7.5

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

\*As we started at section 7.5, we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 662683.

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## Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission)

Test place                      UL Japan, Inc. Shonan EMC Lab.                      No.3 Semi Anechoic Chamber  
 Date                              May 16, 2016                      May 17, 2016  
 Temperature / Humidity      23 deg.C / 57 %RH      25 deg.C / 54 %RH  
 Engineer                        Kenichi Adachi                      Hikaru Shirasawa  
 Mode                              Tx,                              1429.2625 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	240.000	QP	21.8	16.9	8.4	32.0	15.1	46.0	30.9	100	0	
Hori.	640.000	QP	22.1	19.5	10.1	31.9	19.8	46.0	26.2	100	0	
Hori.	1429.263	AV	96.7	24.8	23.1	40.7	103.9	117.3	13.4	100	263	Carrier, VBW 10Hz,
Hori.	2858.525	AV	47.1	28.1	5.8	40.8	40.2	53.9	13.7	116	210	VBW 10Hz,
Hori.	4287.788	AV	42.4	29.8	5.5	40.1	37.6	53.9	16.3	102	33	VBW 10Hz,
Hori.	5717.050	AV	41.8	32.6	6.3	38.8	41.9	53.9	12.0	100	194	VBW 10Hz,
Hori.	7146.313	AV	36.0	36.9	7.0	40.0	39.9	53.9	14.0	100	155	VBW 10Hz,
Hori.	8575.575	AV	36.7	37.5	7.7	40.6	41.3	53.9	12.6	188	224	VBW 10Hz,
Hori.	10004.840	AV	35.3	38.5	8.2	39.3	42.7	53.9	11.2	183	233	VBW 10Hz,
Hori.	11434.100	AV	34.5	40.0	8.8	38.9	44.4	53.9	9.5	100	53	VBW 10Hz,
Hori.	12863.360	AV	34.3	39.4	9.5	39.7	43.5	53.9	10.4	100	91	VBW 10Hz,
Hori.	14292.630	AV	34.6	41.2	0.3	40.3	35.8	53.9	18.1	100	0	VBW 10Hz,
Vert.	240.000	QP	22.8	16.9	8.4	32.0	16.1	46.0	29.9	100	132	
Vert.	640.000	QP	22.1	19.5	10.1	31.9	19.8	46.0	26.2	100	0	
Vert.	1429.263	AV	96.5	24.8	23.1	40.7	103.7	117.3	13.6	123	131	Carrier, VBW 10Hz,
Vert.	2858.525	AV	37.6	28.1	5.8	40.8	30.7	53.9	23.2	100	13	VBW 10Hz,
Vert.	4287.788	AV	41.2	29.8	5.5	40.1	36.4	53.9	17.5	121	259	VBW 10Hz,
Vert.	5717.050	AV	43.6	32.6	6.3	38.8	43.7	53.9	10.2	122	157	VBW 10Hz,
Vert.	7146.313	AV	37.0	36.9	7.0	40.0	40.9	53.9	13.0	104	271	VBW 10Hz,
Vert.	8575.575	AV	39.1	37.5	7.7	40.6	43.7	53.9	10.2	134	229	VBW 10Hz,
Vert.	10004.840	AV	37.6	38.5	8.2	39.3	45.0	53.9	<b>8.9</b>	132	242	VBW 10Hz,
Vert.	11434.100	AV	34.7	40.0	8.8	38.9	44.6	53.9	9.3	127	244	VBW 10Hz,
Vert.	12863.360	AV	35.2	39.4	9.5	39.7	44.4	53.9	9.5	109	239	VBW 10Hz,
Vert.	14292.630	AV	34.5	41.2	0.3	40.3	35.7	53.9	18.2	100	0	VBW 10Hz,

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF Output Power]

	Result [dBuV/m]	Result1 [mW]	Result2 [mW]
carrier Level	103.9	4.49	7.116

Calculation:

$$\text{Result1 [mW]} = (((10^{\text{Result [dBuV/m]}} / 20) \times (10^{-6})) \times (\text{distance} = 3 \text{ [m]})^2) / (30 \times (\text{gain} = 1.64)) \times 10^{\text{Margin}}$$

(Fundamental emission with power tolerance = Result2)

$$\text{Result2 [mW]} = 10^{\text{Margin}} \times (10 \times \log(\text{Result1 [mW]}) + 2 \text{ dB}) / 10$$

\* tolerance specification is +/-2 dB

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## Field Strength(Electric Field Strength of Fundamental Emission , Spurious Emission and Band Edge Compliance)

Test place                      UL Japan, Inc. Shonan EMC Lab.                      No.3 Semi Anechoic Chamber  
 Date                              May 16, 2016                      May 17, 2016  
 Temperature / Humidity      23 deg.C / 57 %RH      25 deg.C / 54 %RH  
 Engineer                        Kenichi Adachi                      Hikaru Shirasawa  
 Mode                              Tx,                      1431.4625 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	240.000	QP	22.0	16.9	8.4	32.0	15.3	46.0	30.7	100	0	
Hori.	640.000	QP	22.2	19.5	10.1	31.9	19.9	46.0	26.1	100	0	
Hori.	1431.463	AV	97.7	24.8	23.1	40.7	104.9	117.3	12.4	100	261	Carrier, VBW 10Hz,
Hori.	2862.925	AV	46.7	28.1	5.8	40.8	39.8	53.9	14.1	114	216	VBW 10Hz,
Hori.	4294.388	AV	42.5	29.8	5.5	40.1	37.7	53.9	16.2	104	31	VBW 10Hz,
Hori.	5725.850	AV	42.0	32.6	6.3	38.8	42.1	53.9	11.8	100	191	VBW 10Hz,
Hori.	7157.313	AV	36.2	36.9	7.0	40.0	40.1	53.9	13.8	100	158	VBW 10Hz,
Hori.	8588.775	AV	37.0	37.5	7.7	40.6	41.6	53.9	12.3	192	225	VBW 10Hz,
Hori.	10020.240	AV	35.5	38.5	8.2	39.3	42.9	53.9	11.0	184	230	VBW 10Hz,
Hori.	11451.700	AV	34.6	40.0	8.8	38.9	44.5	53.9	9.4	100	54	VBW 10Hz,
Hori.	12883.160	AV	34.5	39.4	9.6	39.7	43.8	53.9	10.1	100	92	VBW 10Hz,
Hori.	14314.630	AV	35.2	41.2	0.3	40.3	36.4	53.9	17.5	100	0	VBW 10Hz,
Vert.	240.000	QP	22.5	16.9	8.4	32.0	15.8	46.0	30.2	100	133	
Vert.	640.000	QP	22.2	19.5	10.1	31.9	19.9	46.0	26.1	100	0	
Vert.	1431.463	AV	97.1	24.8	23.1	40.7	104.3	117.3	13.0	125	135	Carrier, VBW 10Hz,
Vert.	2862.925	AV	41.4	28.1	5.8	40.8	34.5	53.9	19.4	110	223	VBW 10Hz,
Vert.	4294.388	AV	42.0	29.8	5.5	40.1	37.2	53.9	16.7	121	267	VBW 10Hz,
Vert.	5725.850	AV	45.1	32.6	6.3	38.8	45.2	53.9	8.7	109	156	VBW 10Hz,
Vert.	7157.313	AV	38.3	36.9	7.0	40.0	42.2	53.9	11.7	108	109	VBW 10Hz,
Vert.	8588.775	AV	37.8	37.5	7.7	40.6	42.4	53.9	11.5	131	167	VBW 10Hz,
Vert.	10020.240	AV	40.0	38.5	8.2	39.3	47.4	53.9	<b>6.5</b>	133	243	VBW 10Hz,
Vert.	11451.700	AV	34.5	40.0	8.8	38.9	44.4	53.9	9.5	129	246	VBW 10Hz,
Vert.	12883.160	AV	35.6	39.4	9.6	39.7	44.9	53.9	9.0	112	241	VBW 10Hz,
Vert.	14314.630	AV	35.3	41.2	0.3	40.3	36.5	53.9	17.4	100	0	VBW 10Hz,

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF Output Power]

	Result [dBuV/m]	Result1 [mW]	Result2 [mW]
carrier Level	104.9	5.653	8.959

### Marker Delta Method(Test distance 3meters)

	Polarity	AV				
		Hor.		Ver.		
		Frequency [MHz]	Result [dBuV/m]	Frequency [MHz]	Result [dBuV/m]	
Step1	Fundamental(1431.4625 MHz)	1 M / 10 Hz	104.9	-	104.3	-
Step2	Fundamental(1431.4625 MHz)	1 kHz/3 kHz	95.2	-	95.2	-
	Band-edge	1 kHz/3 kHz	13.3	-	14.0	-
	Amplitude delta	-	81.9	-	81.2	-
Step3	Field strength of band-edge	-	23.0	-	23.1	-
	Limit	-	53.9	-	53.9	-
	Margin	-	30.9	-	30.8	-

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

Calculation:

Result1 [mW] = (((10^(Result [dBuV/m] / 20)) x (10^(-6)))  
 x (distance=) 3 [m] ) ^2) / (30 x (gain=) 1.64)) x 10^9  
 (Fundamental emission with power tolerance = Result2)  
 Result2 [mW] = 10^((10 x log (Result1 [mW]) + 2 dB) / 10)  
 \* tolerance specification is +/- 2 dB

\*As we started at section 7.5, we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 662683.

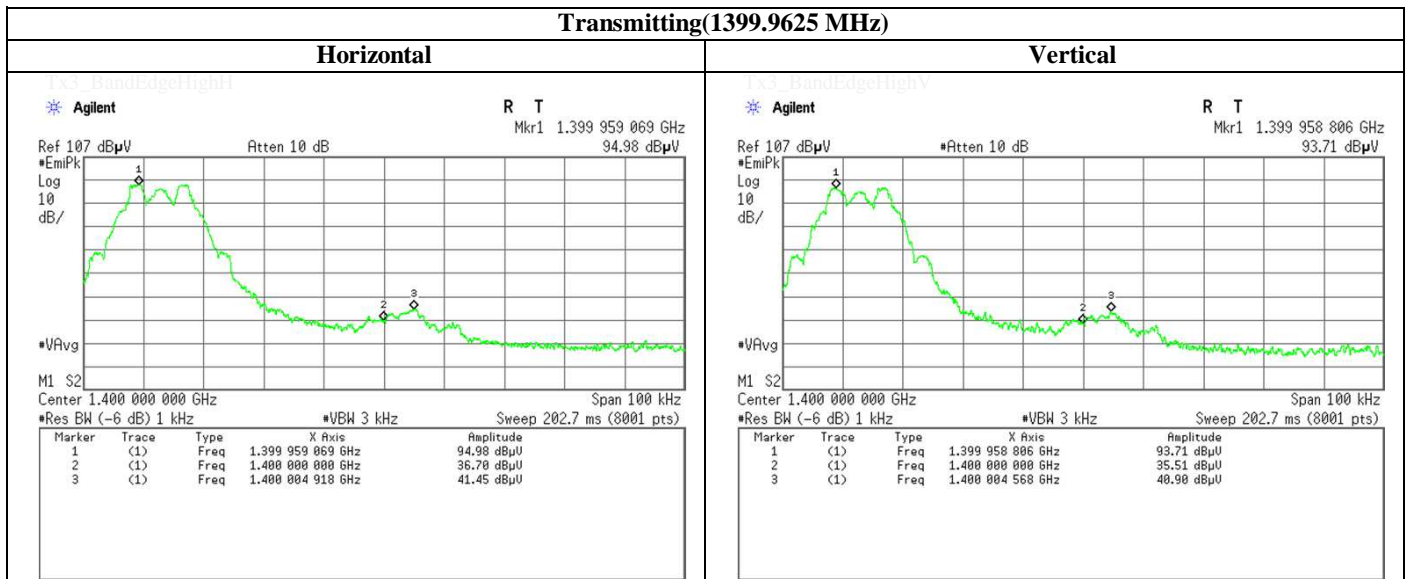
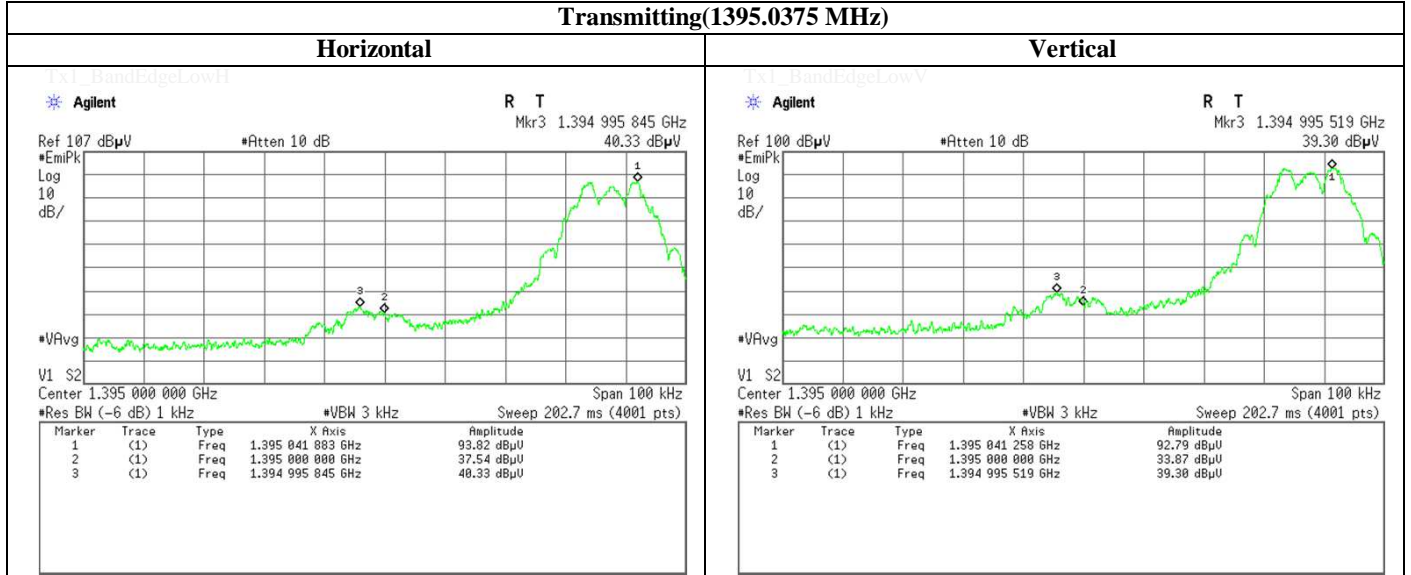
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Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber  
 Date May 16, 2016 May 16, 2016  
 Temperature / Humidity 23 deg.C / 50 %RH 23 deg.C / 57 %RH  
 Engineer Yosuke Ishikawa Kenichi Adachi

**Field Strength(Electric Field Strength of Fundamental Emission ,  
 Spurious Emission and Band Edge Compliance)**

Band Edge compliance(for Marker Delta Method)

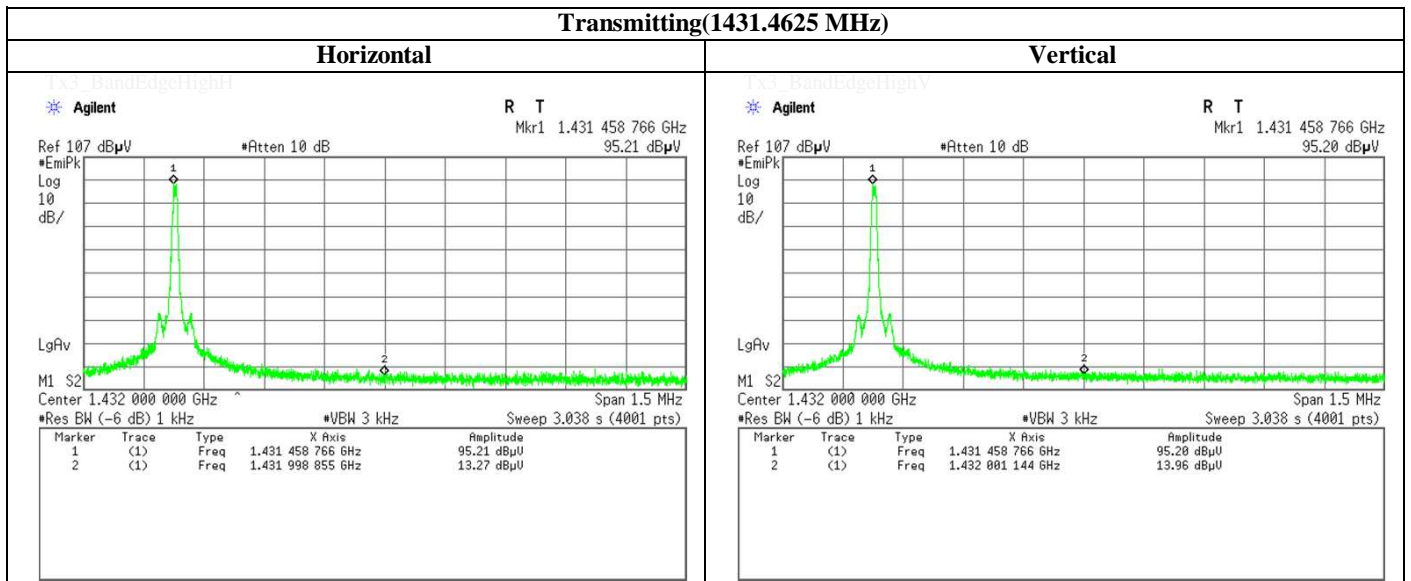
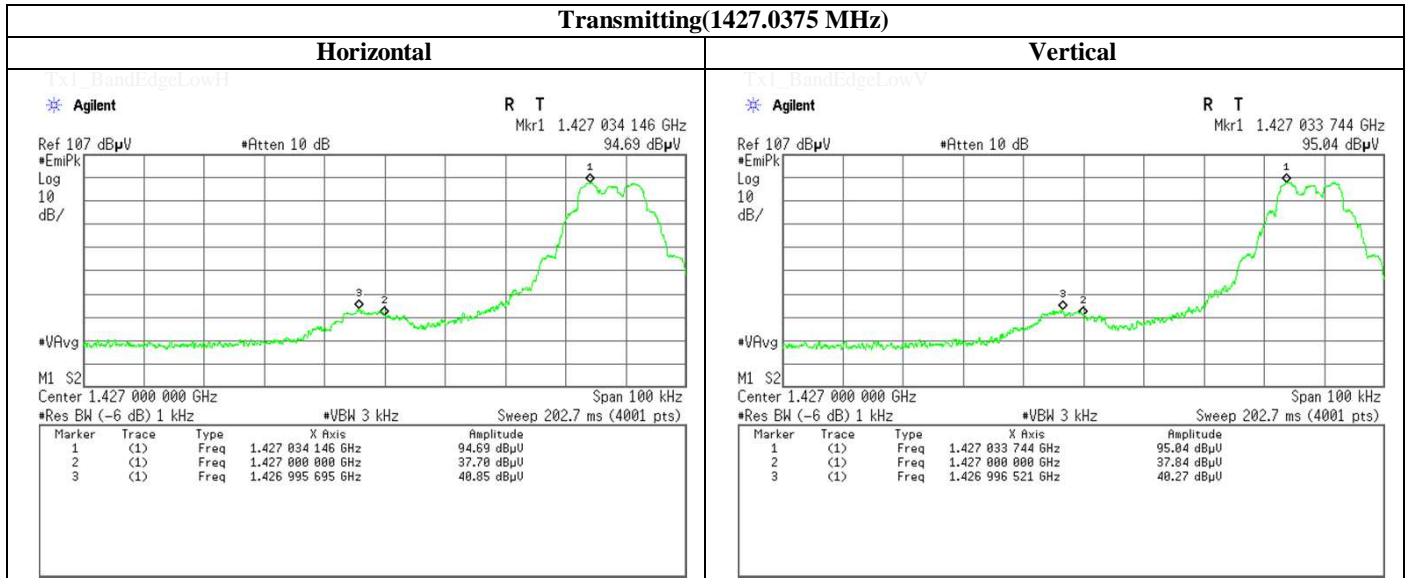


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Test place                   UL Japan, Inc. Shonan EMC Lab.                   No.3 Semi Anechoic Chamber  
 Date                         May 16, 2016  
 Temperature / Humidity   23 deg.C     /   57 %RH  
 Engineer                    Kenichi Adachi

**Field Strength(Electric Field Strength of Fundamental Emission ,  
 Spurious Emission and Band Edge Compliance)**

Band Edge compliance(for Marker Delta Method)

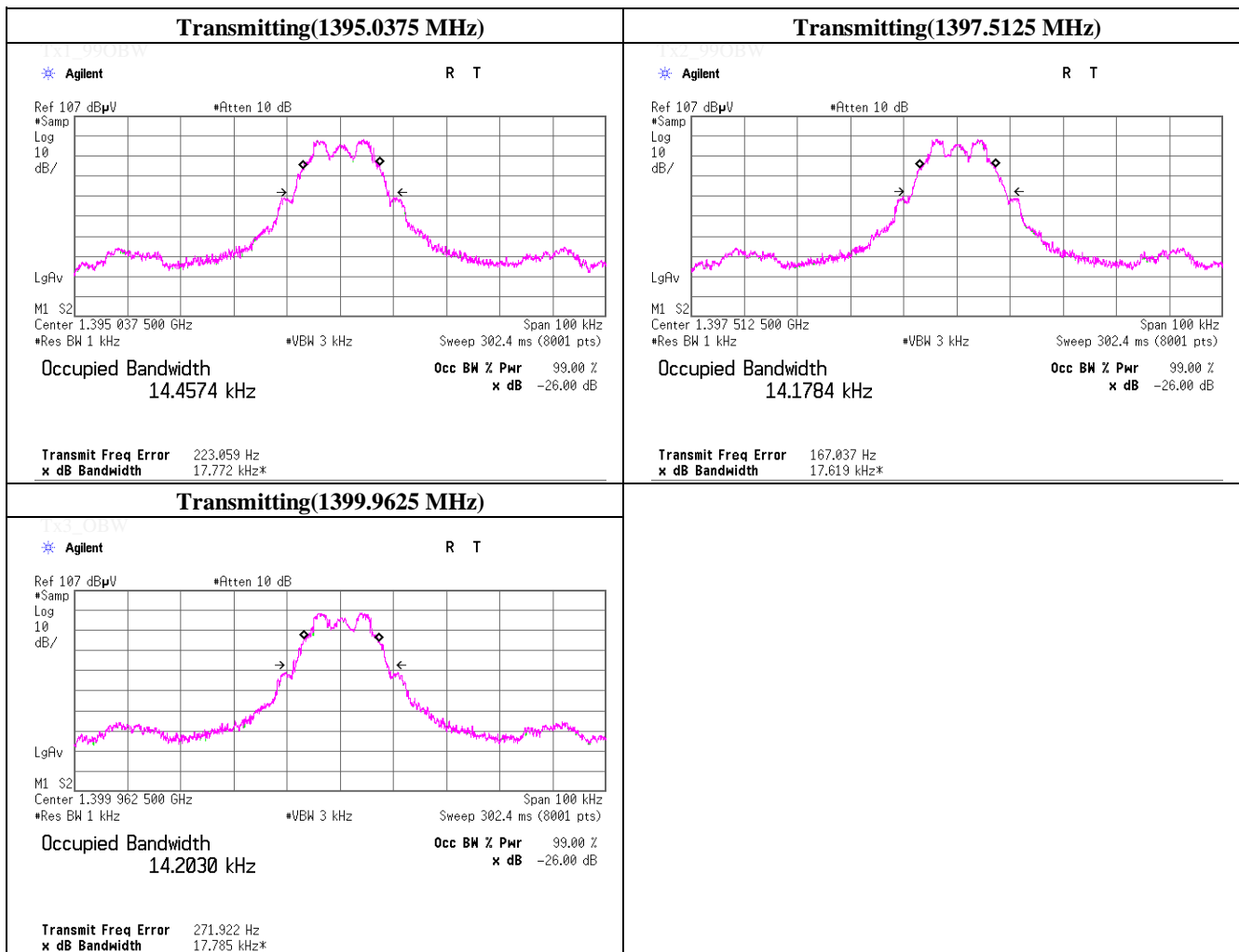


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### 99 % Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	May 16, 2016	
Temperature / Humidity	23 deg.C / 57 %RH	
Engineer	Kenichi Adachi	
Mode	Transmitting	

Freq. [MHz]	99 % Occupied Bandwidth [kHz]
1395.0375	14.457
1397.5125	14.178
1399.9625	14.203

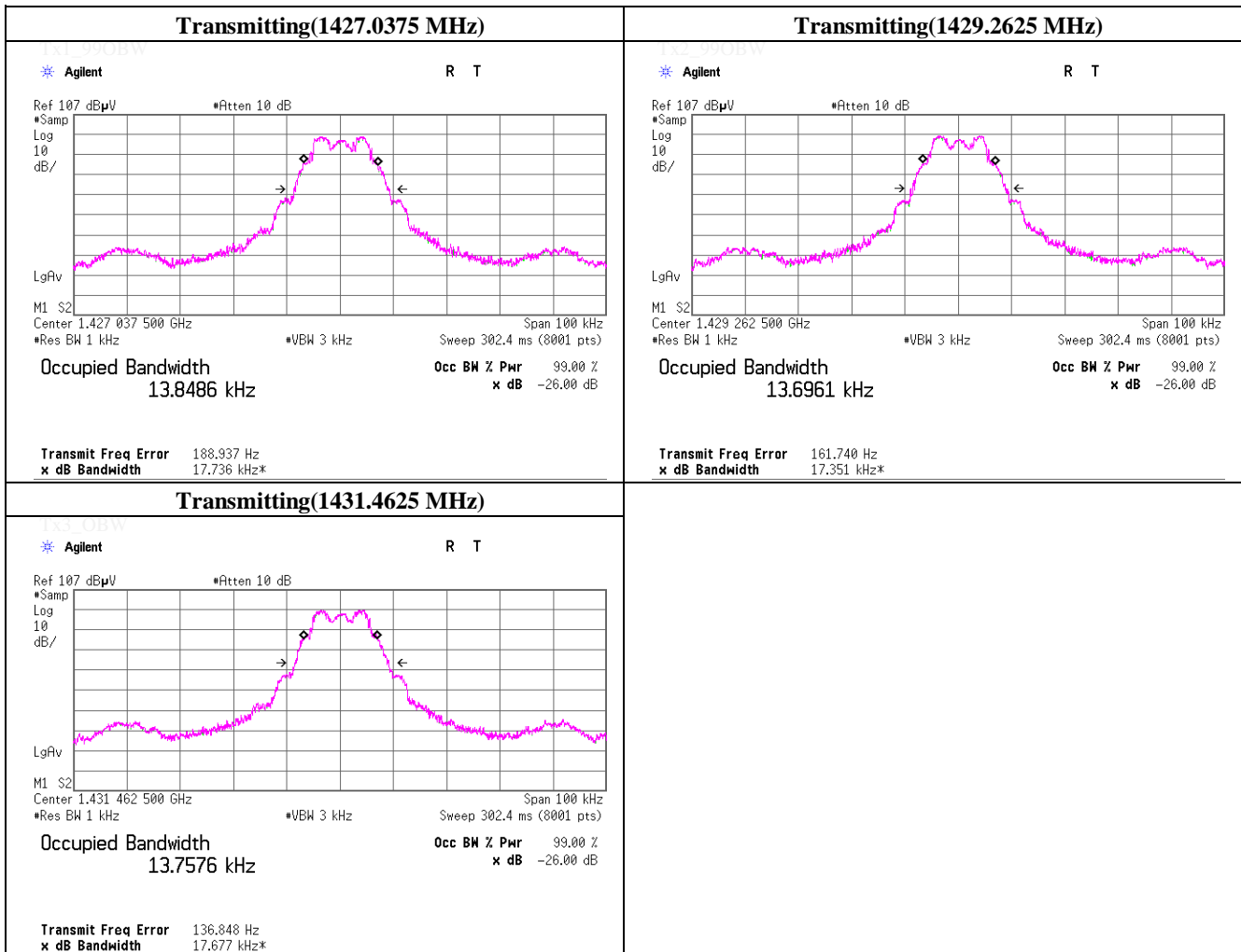


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### 99 % Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	May 16, 2016	
Temperature / Humidity	23 deg.C / 57 %RH	
Engineer	Kenichi Adachi	
Mode	Transmitting	

Freq. [MHz]	99 % Occupied Bandwidth [kHz]
1427.0375	13.849
1429.2625	13.696
1431.4625	13.758



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## APPENDIX 2 Test Instruments

### EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2015/07/16 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2015/05/27 * 12
SCC-G04	Coaxial Cable	Junkosha	J12J102207-00	JUN-12-14-018	RE	2015/06/08 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2015/05/19 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2015/08/11 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2015/10/22 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2016/03/23 * 12
SJM-15	Measure	ASKUL	-	-	RE, CE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFLMF)	-	RE, CE	-
STS-03	Digital Hitester	Hioki	3805-50	080997823	RE, CE	2015/11/18 * 12
SAT20-01	Attenuator(above1GHz)	Agilent	8493C-020	74889	RE	2015/11/04 * 12
SFL-18	Highpass Filter	MICRO-TRONICS	HPM50111	119	RE	2016/04/18 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2015/10/11 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2015/10/11 * 12
SAT6-08	Attenuator	HIROSE ELECTRIC CO.,LTD.	AT-406(40)	-	RE	2015/08/31 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2016/04/22 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2016/02/25 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE, CE	2016/03/28 * 12
SCC-C9/C10/SRSE-03	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271(RF Selector)	CE	2016/04/22 * 12
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE(EUT)	2016/02/09 * 12
SAT3-07	Attenuator	JFW	50HF-003N	-	CE	2015/09/18 * 12
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	CE	2015/12/07 * 12
SCH-01	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	TF	2016/04/14 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	TF	2015/09/16 * 12

The expiration date of the calibration is the end of the expired month .

As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

CE: Conducted emission ,

RE: Radiated emission ,

TF: Test Fixture