RADIO TEST REPORT

Test Report No. : 11082059S

(Original test report: 31KE0363-SH-01-A)

Applicant	:	**Easy-Measure Co., Ltd.**
Type of Equipment	:	**RF-Module**
Model No.	:	**KXN-RF24-01**
FCC ID	:	**Z3D00KXN024W001A**
Test regulation	:	**FCC Part 15 Subpart C: 2015**
Test item	:	**Radiated spurious emission**
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 above regulation.
4. The test results in this report are traceable to the national or international standards.
5. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
6. 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: December 22, 2015 to January 10, 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".

RTL02610

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REVISION HISTORY

Original Test Report No.: 11082059S

Revision	Test report No.	Date	Page revised	Contents
- (Original)	11082059S	January 28, 2016	-	-
1	11082059S	April 4, 2016	5	Update of description about FCC Part 15.203
2	11082059S	April 6, 2016	7	Update of 4.2

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SECTION 1: Customer information

Company Name	:	Easy-Measure Co., Ltd.
Address	:	2-6-3, Kogane, Kokurakitaku, Kitakyusyu-shi, Fukuoka-ken, 802-0071 Japan
Telephone Number	:	+81-93-952-0226
Facsimile Number	:	+81-93-952-0216
Contact Person	:	Kurato Fujibayashi

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

2.1 Identification of E.U.T.

Type of Equipment	:	RF-Module
Model No.	:	KXN-RF24-01
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 2.8 V - 3.6 V (Typical DC 3.3 V)
Receipt Date of Sample	:	December 22, 2015
Country of Mass-production	:	Japan
Condition of EUT	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No Modification by the test lab.

2.2 Product Description

Model: KXN-RF24-01 (referred to as the EUT in this report) is a RF-Module.

General Specification

Clock frequency(ies) in the system : 16 MHz

Radio Specification

Equipment type	:	Transceiver
Frequency of operation	:	2402 MHz - 2482 MHz
Number of channels	:	80 channels
Type of modulation	:	GFSK
Antenna type	:	H2401SB: 1/2 Lambda whip antenna ANT-2.45-CHP-X: Chip antenna RUFA2.4GHz: Chip antenna
Antenna connector type	:	H2401SB: U.FL ANT-2.45-CHP-X: SMA (with SMA-U.FL converted cable) RUFA2.4GHz: U.FL
Antenna gain	:	H2401SB: 2.14 dBi ANT-2.45-CHP-X: 0.5 dBi RUFA2.4GHz: 2.1 dBi
ITU code	:	F1D
Operation temperature range	:	-10 deg.C. to +80 deg.C.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	FCC Part 15 Subpart C: 2015, final revised on November 23, 2015
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz

*Some parts are effective on and after December 17, 2015 or December 23, 2015. The revision does not affect the test specification applied to the EUT.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	**FCC:** ANSI C63.10: 2013 7. AC power line Conducted Emission measurements **IC:** RSS-Gen 8.8	**FCC:** Section 15.207 **IC:** RSS-Gen 8.8	-	-	*1)
6dB Bandwidth	**FCC:** KDB 558074 D01 DTS Meas Guidance v03r04 **IC:** -	**FCC:** Section 15.247(a)(2) **IC:** RSS-247 5.2(1)	-	-	1)
Maximum Peak Output Power	**FCC:** KDB 558074 D01 DTS Meas Guidance v03r04 **IC:** RSS-Gen 6.12	**FCC:** Section 15.247(b)(3) **IC:** RSS-247 5.4(4)	-	-	1)
Power Density	**FCC:** KDB 558074 D01 DTS Meas Guidance v03r04 **IC:** -	**FCC:** Section 15.247(e) **IC:** RSS-247 5.2(2)	-	-	1)
Spurious Emission Restricted Band Edges	**FCC:** KDB 558074 D01 DTS Meas Guidance v03r04 **IC:** RSS-Gen 6.13	**FCC:** Section15.247(d) **IC:** RSS-247 5.5 RSS-Gen 8.9 RSS-Gen 8.10	0.3 dB 153.424 MHz, QP, Vert. Tx 2442MHz (Cable 5 m) Antenna: ANT-2.45-CHP-X type	Complied	Radiated (above 30 MHz) *2)

Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.
*1) Refer to the original test report: 31KE0363-SH-01-A.
*2) Radiated test was selected over 30 MHz based on section 15.247(d) and KDB 558074 D01 DTS Meas Guidance v03r04 12.2.7.
* In case any questions arise about test procedure, ANSI C63.10: 2013 is also referred. (ANSI C63.10:2013 is Non-accreditation)

FCC Part 15.31 (e)
The RF Module has its own regulator.
The RF Module is constantly provided voltage (DC 2.0 V) through the regulator regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203
The EUT has an external antenna connector, but it is installed by the professionals. Therefore the equipment complies with the requirement.

3.3 Addition to standard

Other than above, no addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

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

Shonan EMC Lab.

Item	Frequency range	Uncertainty (+/-)		
		No. 1 SAC / SR	No. 2 SAC / SR	No. 3 SAC / SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	3.6 dB	3.4 dB	3.4 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	3.7 dB	3.5 dB	3.5 dB
	30 MHz-300 MHz	4.9 dB	4.9 dB	4.7 dB
	300 MHz-1 GHz	5.0 dB	5.0 dB	4.8 dB
	1 GHz-13 GHz	4.9 dB	4.9 dB	4.9 dB
Radiated emission (Measurement distance: 1 m)	13 GHz-18 GHz	5.7 dB	5.7 dB	5.7 dB
	18 GHz-40 GHz	4.5 dB	4.3 dB	4.3 dB

SAC=Semi-Anechoic Chamber

SR= Shielded Room is applied besides radiated emission

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)_SPM-06	0.76 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-06	0.79 dB
Power Measurement above 1 GHz (Average Detector)_SPM-07	0.74 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-07	1.08 dB
Spurious emission (Conducted) below 1GHz	1.5 dB
Spurious emission (Conducted) 1 GHz-3 GHz	1.7 dB
Spurious emission (Conducted) 3 GHz-18 GHz	2.4 dB
Spurious emission (Conducted) 18 GHz-26.5 GHz	2.5 dB
Spurious emission (Conducted) 26.5 GHz-40 GHz	2.5 dB
Bandwidth Measurement	0.66 %
Duty cycle and Time Measurement	0.012 %

Radiated emission test

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

3.5 Test Location

UL Japan, Inc. Shonan EMC Lab.
1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone: +81 463 50 6400, Facsimile: +81 463 50 6401
JAB Accreditation No. RTL02610

Test site	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
No.1 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.8 shielded room	-	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room	-	2.55 x 4.1 x 2.5	-	-

3.6 Test data, Test instruments, and Test set up

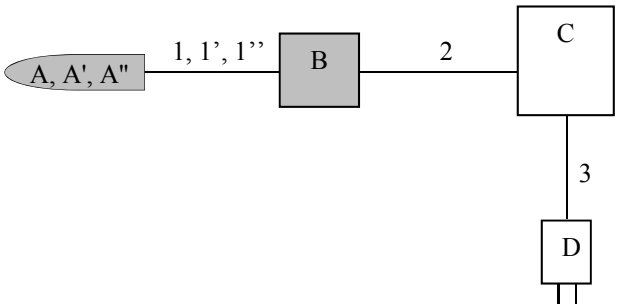
Refer to APPENDIX.

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

4.1 Operating Mode(s)

Mode	Tested frequency
Transmitting (Tx)	2402 MHz, 2442 MHz, 2482 MHz
*1) Software: None (controlled by jig) *2) Power setting: Fixed (End users cannot change the settings of the output power of the product.)	

4.2 Configuration and peripherals



* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Antenna	ANT-2.45-CHP-X	-	Nomura Engineering Co., Ltd.	EUT
A'	Antenna	H2401SB	-	Daiichi Dempa Kogyo Co., Ltd.	EUT
A''	Antenna	RUFA 2.4GHz	-	Nomura Engineering Co., Ltd.	EUT
B	RF-Module	KXN-RF24-01	1	Nomura Engineering Co., Ltd.	EUT
C	Jig	-	-	Nomura Engineering Co., Ltd.	-
D	AC adaptor	LTE05W-S1	143500818	LI TONE ELECTRONICS CO., LTD.	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	Antenna	1.0 or 5.0	Shielded	Shielded	*3)
1'	Antenna	1.0 or 15.0	Shielded	Shielded	*3)
1''	Antenna	1.0 or 15.0	Shielded	Shielded	*3)
2	Signal	0.1	Unshielded	Unshielded	-
3	DC	1.8	Unshielded	Unshielded	-

*3) Antenna cable has used two kinds of length by exclusive choice.

SECTION 5: Radiated Spurious Emission

Test Procedure

It was measured based on "11.0 Emissions in non-restricted frequency bands" of "558074 D01 DTS Meas Guidance v03r04".

Below 1 GHz
EUT was placed on a platform of nominal size, 1.0 m by 2.0 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.
Above 1 GHz
EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

The height of the measuring antenna varied between 1 m and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.
The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.
The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).
The test was made with the detector (RBW/VBW) in the following table.
When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

Test Antennas are used as below;

Frequency	30 MHz to 300 MHz	300 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

In any 100 kHz bandwidth outside the restricted band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

20 dBc was applied to the frequency over the limit of FCC 15.209 / Table 4 of RSS-Gen 8.9(IC) and outside the restricted band of FCC15.205 / Table 6 of RSS-Gen 8.10 (IC).

Frequency	Below 1 GHz	Above 1 GHz		20 dBc
Instrument used	Test Receiver	Spectrum Analyzer		Spectrum Analyzer
Detector	QP	PK	AV *3)	PK
IF Bandwidth	BW 120 kHz	RBW: 1 MHz VBW: 3 MHz	Average Power Method: 12.2.5.3 Method VB RBW: 1 MHz VBW: 1/T (*T = transmission duration)	RBW: 100 kHz VBW: 300kHz
Test Distance	3m	4.25 m *1) (below 13 GHz), 1 m *2) (above 13 GHz)		4.25 m *1) (below 13 GHz), 1 m *2) (above 13 GHz)

*1) Distance Factor: 20 x log (4.25 m / 3.0 m) = 3.1 dB
*2) Distance Factor: 20 x log (1.0 m / 3.0 m) = -9.5 dB
*3) Average Power Measurement was performed based on 6.0 & 12.2.5 of " KDB 558074 D01 DTS Meas Guidance v03r04

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.

Worst position:
Antenna: H2401SB type (with antenna cable 1 m)

		Carrier (Band edge)	Spurious				
			30 M-1 GHz	1 -2.8 GHz	2.8-13 GHz	13-18 GHz	18-26.5 GHz
Horizontal	Module	Y	X	Y	Y	X	X
	Antenna	X	Y	X	X	X	X
Vertical	Module	Z	X	Z	Z	X	X
	Antenna	Y	Y	Y	X	X	X

Antenna: H2401SB type (with antenna cable 15 m)

		Carrier (Band edge)	Spurious				
			30 M-1 GHz	1 -2.8 GHz	2.8-13 GHz	13-18 GHz	18-26.5 GHz
Horizontal	Module	Y	X	Y	Y	X	X
	Antenna	X	Y	X	X	X	X
Vertical	Module	Z	X	Z	Z	X	X
	Antenna	Y	Y	Y	X	X	X

Antenna: RUFA type (with antenna cable 1 m)

		Carrier (Band edge)	Spurious				
			30 M-1 GHz	1 -2.8 GHz	2.8-13 GHz	13-18 GHz	18-26.5 GHz
Horizontal	Module	Y	X	Y	Y	X	X
	Antenna	X	X	Y	X	X	X
Vertical	Module	Z	X	Z	Z	X	X
	Antenna	Y	X	X	X	X	X

Antenna: RUFA type (with antenna cable 15 m)

		Carrier (Band edge)	Spurious				
			30 M-1 GHz	1 -2.8 GHz	2.8-13 GHz	13-18 GHz	18-26.5 GHz
Horizontal	Module	Y	X	Y	Y	X	X
	Antenna	X	X	Y	X	X	X
Vertical	Module	Z	X	Z	Z	X	X
	Antenna	Y	X	X	X	X	X

Antenna: ANT-2.45-CHP-X type (with antenna cable 1 m)

		Carrier (Band edge)	Spurious				
			30 M-1 GHz	1 -2.8 GHz	2.8-13 GHz	13-18 GHz	18-26.5 GHz
Horizontal	Module	Y	X	Y	Z	Z	X
	Antenna	X	Z	Y	Z	Z	X
Vertical	Module	Z	X	Z	Z	Z	X
	Antenna	Y	Z	Z	Z	Z	X

Antenna: ANT-2.45-CHP-X type (with antenna cable 5 m)

		Carrier (Band edge)	Spurious				
			30 M-1 GHz	1 -2.8 GHz	2.8-13 GHz	13-18 GHz	18-26.5 GHz
Horizontal	Module	Y	X	Y	Z	Z	X
	Antenna	X	Z	Y	Z	Z	X
Vertical	Module	Z	X	Z	Z	Z	X
	Antenna	Y	Z	Z	Z	Z	X

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Measurement range : 30 M - 26 GHz
Test data : APPENDIX
Test result : Pass

APPENDIX 1: Test data

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2402 MHz, ANT-2.45-CHP-X (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.747	QP	54.7	5.9	8.3	31.8	0.0	37.1	40.0	2.9	260	253	
Hori.	92.169	QP	52.4	8.2	8.3	31.8	0.0	37.1	43.5	6.4	339	237	
Hori.	177.988	QP	47.0	16.1	8.9	31.8	0.0	40.2	43.5	3.3	175	262	
Hori.	202.543	QP	46.0	16.2	9.1	31.8	0.0	39.5	43.5	4.0	159	235	
Hori.	313.222	QP	44.6	14.2	6.6	31.8	0.0	33.6	46.0	12.4	111	161	
Hori.	2390.000	PK	50.9	27.8	13.7	41.0	3.1	54.5	73.9	19.4	155	134	
Hori.	4804.000	PK	52.9	31.4	6.1	33.8	3.1	59.7	73.9	14.2	138	146	
Hori.	7206.000	PK	41.7	36.9	7.5	33.9	3.1	55.3	73.9	18.6	150	0	
Hori.	9608.000	PK	42.9	38.0	8.7	34.7	3.1	58.0	73.9	15.9	150	0	
Hori.	12010.000	PK	42.5	39.7	9.2	34.3	3.1	60.2	73.9	13.7	150	0	
Hori.	2390.000	AV	35.3	27.8	13.7	41.0	3.1	38.9	53.9	15.0	155	134	
Hori.	4804.000	AV	46.6	31.4	6.1	33.8	3.1	53.4	53.9	**0.5**	138	146	
Hori.	7206.000	AV	29.5	36.9	7.5	33.9	3.1	43.1	53.9	10.8	150	0	
Hori.	9608.000	AV	30.7	38.0	8.7	34.7	3.1	45.8	53.9	8.1	150	0	
Hori.	12010.000	AV	30.7	39.7	9.2	34.3	3.1	48.4	53.9	5.5	150	0	
Vert.	55.138	QP	50.0	8.8	7.4	31.8	0.0	34.4	40.0	5.6	100	334	
Vert.	79.748	QP	53.7	5.9	8.3	31.8	0.0	36.1	40.0	3.9	100	4	
Vert.	153.427	QP	49.0	14.8	8.8	31.8	0.0	40.8	43.5	2.7	100	137	
Vert.	177.987	QP	48.7	16.1	8.9	31.8	0.0	41.9	43.5	1.6	100	101	
Vert.	202.551	QP	47.1	16.2	9.1	31.8	0.0	40.6	43.5	2.9	100	176	
Vert.	2390.000	PK	49.3	27.8	13.7	41.0	3.1	52.9	73.9	21.0	100	187	
Vert.	4804.000	PK	50.1	31.4	6.1	33.8	3.1	56.9	73.9	17.0	140	322	
Vert.	7206.000	PK	41.6	36.9	7.5	33.9	3.1	55.2	73.9	18.7	150	0	
Vert.	9608.000	PK	42.8	38.0	8.7	34.7	3.1	57.9	73.9	16.0	150	0	
Vert.	12010.000	PK	42.4	39.7	9.2	34.3	3.1	60.1	73.9	13.8	150	0	
Vert.	2390.000	AV	35.3	27.8	13.7	41.0	3.1	38.9	53.9	15.0	100	187	
Vert.	4804.000	AV	42.9	31.4	6.1	33.8	3.1	49.7	53.9	4.2	140	322	
Vert.	7206.000	AV	29.4	36.9	7.5	33.9	3.1	43.0	53.9	10.9	150	0	
Vert.	9608.000	AV	30.8	38.0	8.7	34.7	3.1	45.9	53.9	8.0	150	0	
Vert.	12010.000	AV	30.6	39.7	9.2	34.3	3.1	48.3	53.9	5.6	150	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	82.3	27.8	13.7	41.0	3.1	85.9	-	-	Carrier
Hori.	2400.000	PK	51.3	27.8	13.7	41.0	3.1	54.9	65.9	11.0	
Vert.	2402.000	PK	82.6	27.8	13.7	41.0	3.1	86.2	-	-	Carrier
Vert.	2400.000	PK	52.0	27.8	13.7	41.0	3.1	55.6	66.2	10.6	

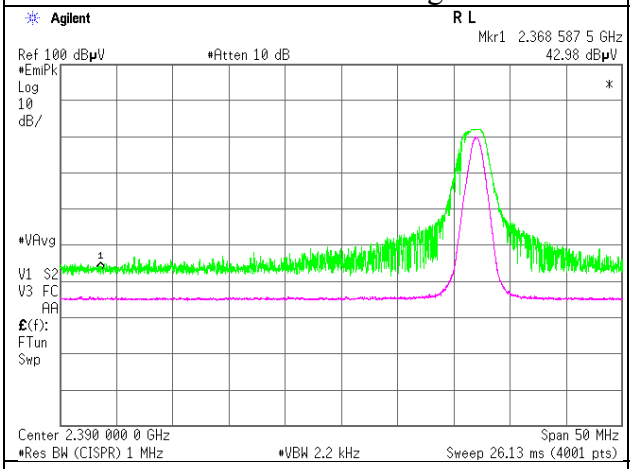
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz)
Mode	Tx 2402 MHz, ANT-2.45-CHP-X (antenna cable 1 m)

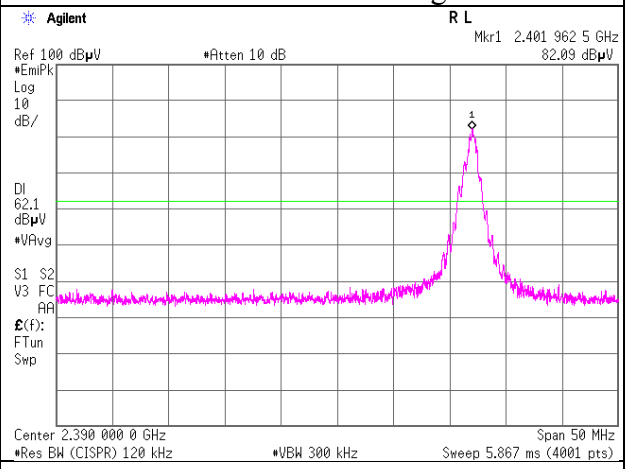
Horizontal

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

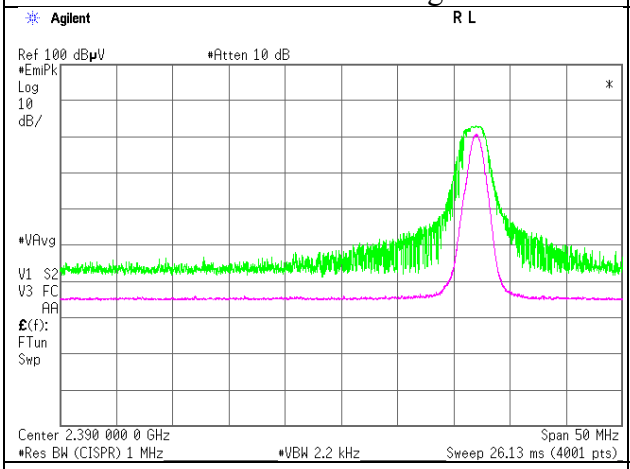
Authorized-band band-edge Plot



20dBc Plot

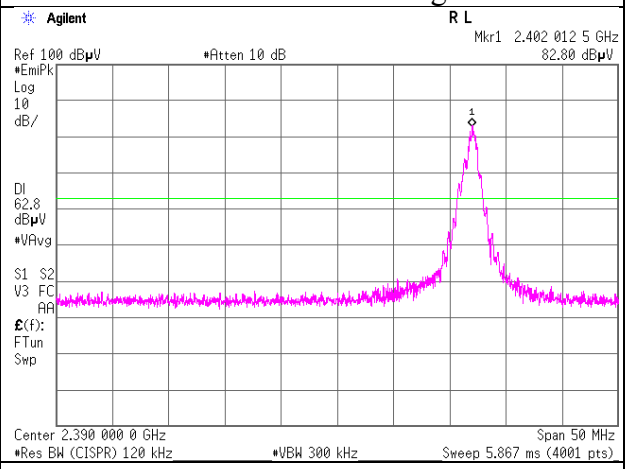
Vertical

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

Authorized-band band-edge Plot



20dBc Plot

* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, ANT-2.45-CHP-X (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.743	QP	54.7	5.9	8.3	31.8	0.0	37.1	40.0	2.9	237	254	
Hori.	92.169	QP	52.2	8.2	8.3	31.8	0.0	36.9	43.5	6.6	199	253	
Hori.	177.984	QP	47.0	16.1	8.9	31.8	0.0	40.2	43.5	3.3	176	264	
Hori.	202.546	QP	46.1	16.2	9.1	31.8	0.0	39.6	43.5	3.9	163	241	
Hori.	325.338	QP	44.3	14.4	6.7	31.8	0.0	33.6	46.0	12.4	100	157	
Hori.	4884.000	PK	52.7	31.7	6.2	33.8	3.1	59.9	73.9	14.0	141	147	
Hori.	7326.000	PK	42.0	36.9	7.6	33.8	3.1	55.8	73.9	18.1	150	0	
Hori.	9768.000	PK	43.1	38.1	8.8	34.7	3.1	58.4	73.9	15.5	150	0	
Hori.	12210.000	PK	42.7	39.6	9.3	34.4	3.1	60.3	73.9	13.6	150	0	
Hori.	4884.000	AV	46.3	31.7	6.2	33.8	3.1	53.5	53.9	**0.4**	141	147	
Hori.	7326.000	AV	30.4	36.9	7.6	33.8	3.1	44.2	53.9	9.7	150	0	
Hori.	9768.000	AV	31.5	38.1	8.8	34.7	3.1	46.8	53.9	7.1	150	0	
Hori.	12210.000	AV	31.1	39.6	9.3	34.4	3.1	48.7	53.9	5.2	150	0	
Vert.	55.192	QP	50.1	8.8	7.4	31.8	0.0	34.5	40.0	5.5	100	156	
Vert.	79.749	QP	53.7	5.9	8.3	31.8	0.0	36.1	40.0	3.9	100	359	
Vert.	153.429	QP	49.0	14.8	8.8	31.8	0.0	40.8	43.5	2.7	100	138	
Vert.	178.001	QP	48.7	16.1	8.9	31.8	0.0	41.9	43.5	1.6	100	194	
Vert.	202.541	QP	47.0	16.2	9.1	31.8	0.0	40.5	43.5	3.0	100	128	
Vert.	4884.000	PK	50.0	31.7	6.2	33.8	3.1	57.2	73.9	16.7	139	319	
Vert.	7326.000	PK	42.1	36.9	7.6	33.8	3.1	55.9	73.9	18.0	150	0	
Vert.	9768.000	PK	43.0	38.1	8.8	34.7	3.1	58.3	73.9	15.6	150	0	
Vert.	12210.000	PK	42.6	39.6	9.3	34.4	3.1	60.2	73.9	13.7	150	0	
Vert.	4884.000	AV	42.5	31.7	6.2	33.8	3.1	49.7	53.9	4.2	139	319	
Vert.	7326.000	AV	30.5	36.9	7.6	33.8	3.1	44.3	53.9	9.6	150	0	
Vert.	9768.000	AV	31.4	38.1	8.8	34.7	3.1	46.7	53.9	7.2	150	0	
Vert.	12210.000	AV	31.0	39.6	9.3	34.4	3.1	48.6	53.9	5.3	150	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2482 MHz, ANT-2.45-CHP-X (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.743	QP	54.7	5.9	8.3	31.8	0.0	37.1	40.0	2.9	237	252	
Hori.	92.167	QP	51.9	8.2	8.3	31.8	0.0	36.6	43.5	6.9	176	255	
Hori.	177.982	QP	47.0	16.1	8.9	31.8	0.0	40.2	43.5	3.3	177	277	
Hori.	202.548	QP	46.1	16.2	9.1	31.8	0.0	39.6	43.5	3.9	162	257	
Hori.	325.332	QP	44.2	14.4	6.7	31.8	0.0	33.5	46.0	12.5	100	150	
Hori.	4964.000	PK	52.0	31.9	6.3	33.9	3.1	59.4	73.9	14.5	143	151	
Hori.	7446.000	PK	42.6	37.0	7.7	33.7	3.1	56.7	73.9	17.2	150	0	
Hori.	9928.000	PK	43.3	38.2	8.9	34.7	3.1	58.8	73.9	15.1	150	0	
Hori.	12410.000	PK	42.2	39.5	9.4	34.4	3.1	59.8	73.9	14.1	150	0	
Hori.	4964.000	AV	45.7	31.9	6.3	33.9	3.1	53.1	53.9	**0.8**	143	151	
Hori.	7446.000	AV	31.4	37.0	7.7	33.7	3.1	45.5	53.9	8.4	150	0	
Hori.	9928.000	AV	31.6	38.2	8.9	34.7	3.1	47.1	53.9	6.8	150	0	
Hori.	12410.000	AV	31.1	39.5	9.4	34.4	3.1	48.7	53.9	5.2	150	0	
Vert.	55.193	QP	50.0	8.8	7.4	31.8	0.0	34.4	40.0	5.6	100	245	
Vert.	79.751	QP	53.7	5.9	8.3	31.8	0.0	36.1	40.0	3.9	100	356	
Vert.	153.431	QP	49.1	14.8	8.8	31.8	0.0	40.9	43.5	2.6	100	161	
Vert.	177.987	QP	48.8	16.1	8.9	31.8	0.0	42.0	43.5	1.5	100	213	
Vert.	202.552	QP	47.0	16.2	9.1	31.8	0.0	40.5	43.5	3.0	100	182	
Vert.	4964.000	PK	49.9	31.9	6.3	33.9	3.1	57.3	73.9	16.6	141	323	
Vert.	7446.000	PK	42.5	37.0	7.7	33.7	3.1	56.6	73.9	17.3	150	0	
Vert.	9928.000	PK	43.2	38.2	8.9	34.7	3.1	58.7	73.9	15.2	150	0	
Vert.	12410.000	PK	42.1	39.5	9.4	34.4	3.1	59.7	73.9	14.2	150	0	
Vert.	4964.000	AV	42.2	31.9	6.3	33.9	3.1	49.6	53.9	4.3	141	323	
Vert.	7446.000	AV	31.3	37.0	7.7	33.7	3.1	45.4	53.9	8.5	150	0	
Vert.	9928.000	AV	31.5	38.2	8.9	34.7	3.1	47.0	53.9	6.9	150	0	
Vert.	12410.000	AV	31.0	39.5	9.4	34.4	3.1	48.6	53.9	5.3	150	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2482.000	PK	83.9	27.9	13.8	41.0	3.1	87.7	-	-	Carrier
Hori.	2483.500	PK	38.6	27.9	13.8	41.0	3.1	42.4	67.7	25.3	
Vert.	2482.000	PK	79.0	27.9	13.8	41.0	3.1	82.8	-	-	Carrier
Vert.	2483.500	PK	32.6	27.9	13.8	41.0	3.1	36.4	62.8	26.4	
Vert.	2483.770	PK	33.3	27.9	13.8	41.0	3.1	37.1	62.8	25.7	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No. 3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa
	(1-2.8 GHz)
Mode	Tx 2482 MHz, ANT-2.45-CHP-X (antenna cable 1 m)

Marker Delta Method (Test distance 3meter)

Frequency of Band-edge: 2483.5 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	83.94	87.73	79.14	82.93	1MHz/2.2kHz	82.01	85.8	76.96	80.75
Step2	Fundamental (2482MHz)	30kHz/91kHz	82.67	86.46	77.62	81.41	-	-	-	-	-
	Band-edge(2483.5MHz)	30kHz/91kHz	38.61	42.4	32.64	36.43	-	-	-	-	-
	Amplitude delta [dB]	-	44.06		44.98		-	44.06		44.98	
Step3	Field strenght of band-edge	-	-	43.67	-	37.95	-	-	41.74	-	35.77
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	73.9	-	-	53.9	-	53.9
	Margin [dB]	-	-	30.23	-	35.95	-	-	12.16	-	18.13

Frequency of Band-edge: 2483.77 MHz

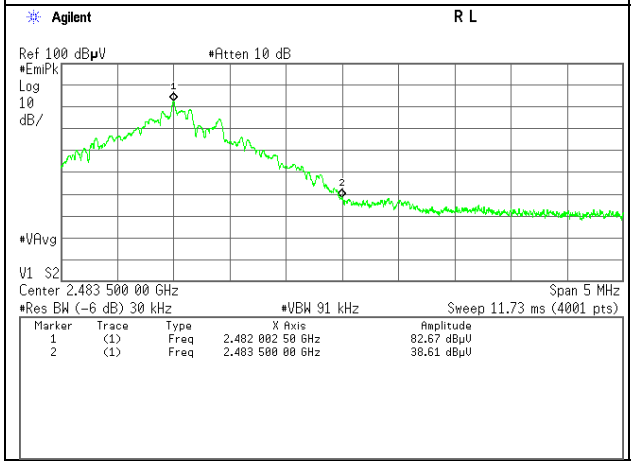
		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	-	-	79.14	82.93	1MHz/2.2kHz	-	-	76.96	80.75
Step2	Fundamental (2482MHz)	30kHz/91kHz	-	-	77.62	81.41	-	-	-	-	-
	Band-edge(2483.77MHz)	30kHz/91kHz	-	-	33.26	37.05	-	-	-	-	-
	Amplitude delta [dB]	-	-		44.36		-	-		44.36	
Step3	Field strenght of band-edge	-	-	-	-	38.57	-	-	-	-	36.39
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	-	-	73.9	-	-	-	-	53.9
	Margin [dB]	-	-	-	-	35.33	-	-	-	-	17.51

Result = Reading + Ant Factor + Loss (Cable+Attenuator) - Gain(Amprifier) (Refer to Radiated emission data sheets)

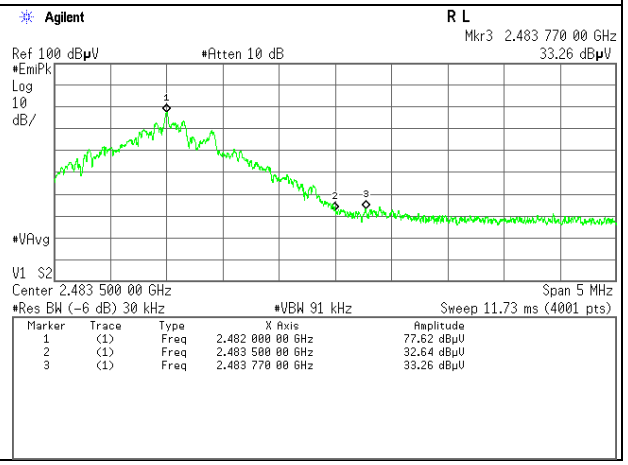
*1 Amplitude delta = Fundamental(RBW:30kHz,VBW:91kHz) - Band-edge(RBW:30kHz,VBW:91kHz)

*2 Field strength of band-edge = Fundamental(Peak or Average) - Amplitude delta - Dwell time factor

Horizontal



Vertical



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2402 MHz, ANT-2.45-CHP-X (antenna cable 5 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	153.422	QP	47.7	14.8	8.8	31.8	0.0	39.5	43.5	4.0	205	258	
Hori.	177.996	QP	46.8	16.1	8.9	31.8	0.0	40.0	43.5	3.5	172	269	
Hori.	313.203	QP	42.3	14.2	6.6	31.8	0.0	31.3	46.0	14.7	115	196	
Hori.	2390.000	PK	48.7	27.8	13.7	41.0	3.1	52.3	73.9	21.6	118	127	
Hori.	4804.000	PK	52.8	31.4	6.1	33.8	3.1	59.6	73.9	14.3	158	153	
Hori.	7206.000	PK	41.7	36.9	7.5	33.9	3.1	55.3	73.9	18.6	150	0	
Hori.	9608.000	PK	43.0	38.0	8.7	34.7	3.1	58.1	73.9	15.8	150	0	
Hori.	12010.000	PK	42.4	39.7	9.2	34.3	3.1	60.1	73.9	13.8	150	0	
Hori.	2390.000	AV	35.0	27.8	13.7	41.0	3.1	38.6	53.9	15.3	118	127	
Hori.	4804.000	AV	45.9	31.4	6.1	33.8	3.1	52.7	53.9	1.2	158	153	
Hori.	7206.000	AV	29.4	36.9	7.5	33.9	3.1	43.0	53.9	10.9	150	0	
Hori.	9608.000	AV	30.8	38.0	8.7	34.7	3.1	45.9	53.9	8.0	150	0	
Hori.	12010.000	AV	30.6	39.7	9.2	34.3	3.1	48.3	53.9	5.6	150	0	
Vert.	55.125	QP	51.4	8.8	7.4	31.8	0.0	35.8	40.0	4.2	100	205	
Vert.	79.747	QP	57.1	5.9	8.3	31.8	0.0	39.5	40.0	0.5	100	172	
Vert.	92.163	QP	55.9	8.2	8.3	31.8	0.0	40.6	43.5	2.9	100	0	
Vert.	153.421	QP	51.3	14.8	8.8	31.8	0.0	43.1	43.5	**0.4**	100	157	
Vert.	165.854	QP	49.3	15.5	8.9	31.8	0.0	41.9	43.5	1.6	100	182	
Vert.	202.597	QP	46.4	16.2	9.1	31.8	0.0	39.9	43.5	3.6	100	210	
Vert.	2390.000	PK	46.3	27.8	13.7	41.0	3.1	49.9	73.9	24.0	152	61	
Vert.	4804.000	PK	52.7	31.4	6.1	33.8	3.1	59.5	73.9	14.4	153	120	
Vert.	7206.000	PK	41.8	36.9	7.5	33.9	3.1	55.4	73.9	18.5	150	0	
Vert.	9608.000	PK	42.9	38.0	8.7	34.7	3.1	58.0	73.9	15.9	150	0	
Vert.	12010.000	PK	42.5	39.7	9.2	34.3	3.1	60.2	73.9	13.7	150	0	
Vert.	2390.000	AV	35.2	27.8	13.7	41.0	3.1	38.8	53.9	15.1	152	61	
Vert.	4804.000	AV	45.6	31.4	6.1	33.8	3.1	52.4	53.9	1.5	153	120	
Vert.	7206.000	AV	29.5	36.9	7.5	33.9	3.1	43.1	53.9	10.8	150	0	
Vert.	9608.000	AV	30.7	38.0	8.7	34.7	3.1	45.8	53.9	8.1	150	0	
Vert.	12010.000	AV	30.7	39.7	9.2	34.3	3.1	48.4	53.9	5.5	150	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	79.0	27.8	13.7	41.0	3.1	82.6	-	-	Carrier
Hori.	2400.000	PK	50.6	27.8	13.7	41.0	3.1	54.2	62.6	8.4	
Vert.	2402.000	PK	75.3	27.8	13.7	41.0	3.1	78.9	-	-	Carrier
Vert.	2400.000	PK	47.2	27.8	13.7	41.0	3.1	50.8	58.9	8.1	

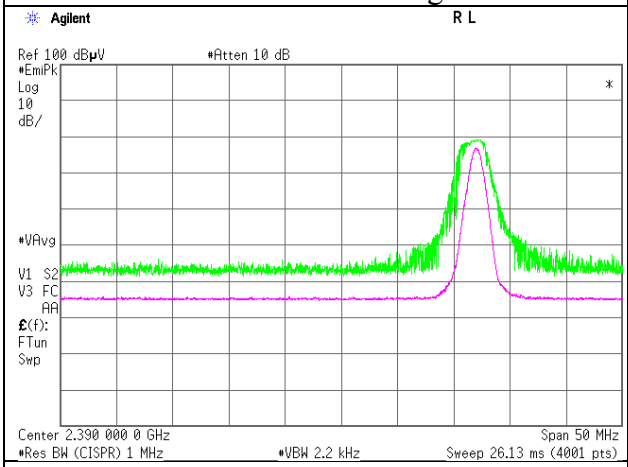
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz)
Mode	Tx 2402 MHz, ANT-2.45-CHP-X (antenna cable 5 m)

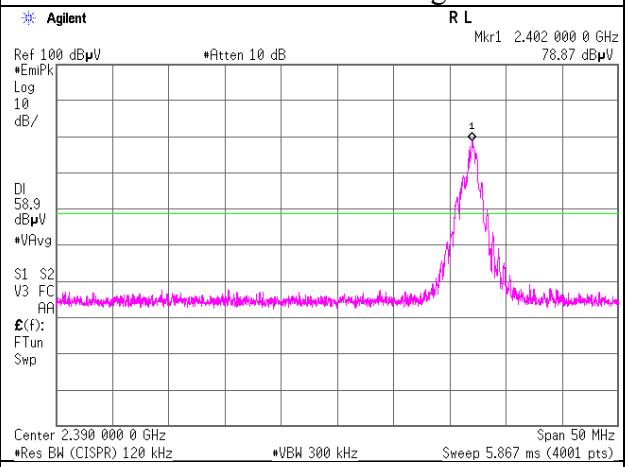
Horizontal

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

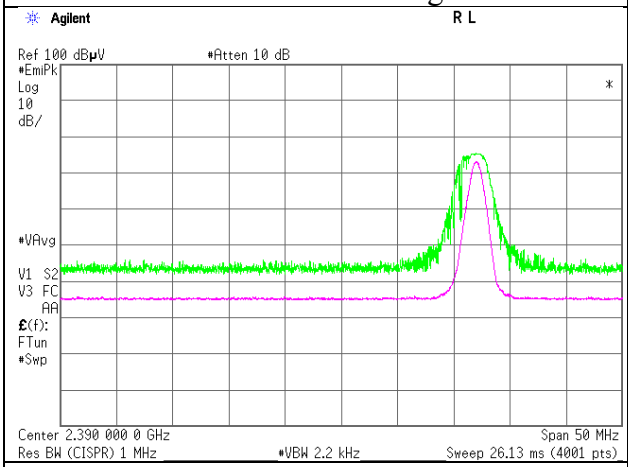
Authorized-band band-edge Plot



20dBc Plot

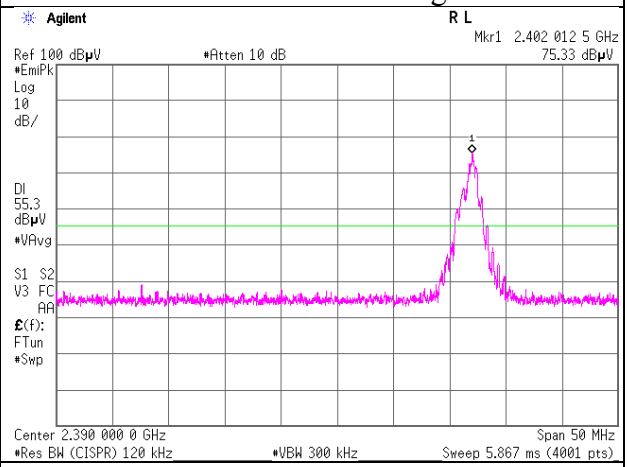
Vertical

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

Authorized-band band-edge Plot



20dBc Plot

* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, ANT-2.45-CHP-X (antenna cable 5 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	153.427	QP	47.9	14.8	8.8	31.8	0.0	39.7	43.5	3.8	202	258	
Hori.	177.974	QP	46.8	16.1	8.9	31.8	0.0	40.0	43.5	3.5	185	265	
Hori.	325.326	QP	41.7	14.4	6.7	31.8	0.0	31.0	46.0	15.0	103	218	
Hori.	4884.000	PK	51.7	31.7	6.2	33.8	3.1	58.9	73.9	15.0	161	152	
Hori.	7326.000	PK	42.1	36.9	7.6	33.8	3.1	55.9	73.9	18.0	150	0	
Hori.	9768.000	PK	43.0	38.1	8.8	34.7	3.1	58.3	73.9	15.6	150	0	
Hori.	12210.000	PK	42.6	39.6	9.3	34.4	3.1	60.2	73.9	13.7	150	0	
Hori.	4884.000	AV	44.7	31.7	6.2	33.8	3.1	51.9	53.9	2.0	161	152	
Hori.	7326.000	AV	30.5	36.9	7.6	33.8	3.1	44.3	53.9	9.6	150	0	
Hori.	9768.000	AV	31.4	38.1	8.8	34.7	3.1	46.7	53.9	7.2	150	0	
Hori.	12210.000	AV	31.0	39.6	9.3	34.4	3.1	48.6	53.9	5.3	150	0	
Vert.	55.183	QP	51.2	8.8	7.4	31.8	0.0	35.6	40.0	4.4	100	157	
Vert.	79.743	QP	57.2	5.9	8.3	31.8	0.0	39.6	40.0	0.4	100	144	
Vert.	92.164	QP	56.0	8.2	8.3	31.8	0.0	40.7	43.5	2.8	100	346	
Vert.	153.424	QP	51.4	14.8	8.8	31.8	0.0	43.2	43.5	**0.3**	100	157	
Vert.	165.871	QP	49.4	15.5	8.9	31.8	0.0	42.0	43.5	1.5	100	143	
Vert.	202.542	QP	46.4	16.2	9.1	31.8	0.0	39.9	43.5	3.6	100	201	
Vert.	4884.000	PK	50.9	31.7	6.2	33.8	3.1	58.1	73.9	15.8	152	118	
Vert.	7326.000	PK	42.0	36.9	7.6	33.8	3.1	55.8	73.9	18.1	150	0	
Vert.	9768.000	PK	43.1	38.1	8.8	34.7	3.1	58.4	73.9	15.5	150	0	
Vert.	12210.000	PK	42.7	39.6	9.3	34.4	3.1	60.3	73.9	13.6	150	0	
Vert.	4884.000	AV	43.2	31.7	6.2	33.8	3.1	50.4	53.9	3.5	152	118	
Vert.	7326.000	AV	30.4	36.9	7.6	33.8	3.1	44.2	53.9	9.7	150	0	
Vert.	9768.000	AV	31.5	38.1	8.8	34.7	3.1	46.8	53.9	7.1	150	0	
Vert.	12210.000	AV	31.1	39.6	9.3	34.4	3.1	48.7	53.9	5.2	150	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2482 MHz, ANT-2.45-CHP-X (antenna cable 5 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	153.420	QP	47.8	14.8	8.8	31.8	0.0	39.6	43.5	3.9	201	255	
Hori.	177.980	QP	46.9	16.1	8.9	31.8	0.0	40.1	43.5	3.4	182	283	
Hori.	325.139	QP	41.5	14.4	6.7	31.8	0.0	30.8	46.0	15.2	100	198	
Hori.	4964.000	PK	51.1	31.9	6.3	33.9	3.1	58.5	73.9	15.4	154	151	
Hori.	7446.000	PK	42.5	37.0	7.7	33.7	3.1	56.6	73.9	17.3	150	0	
Hori.	9928.000	PK	43.2	38.2	8.9	34.7	3.1	58.7	73.9	15.2	150	0	
Hori.	12410.000	PK	42.1	39.5	9.4	34.4	3.1	59.7	73.9	14.2	150	0	
Hori.	4964.000	AV	44.1	31.9	6.3	33.9	3.1	51.5	53.9	2.4	154	151	
Hori.	7446.000	AV	31.3	37.0	7.7	33.7	3.1	45.4	53.9	8.5	150	0	
Hori.	9928.000	AV	31.5	38.2	8.9	34.7	3.1	47.0	53.9	6.9	150	0	
Hori.	12410.000	AV	31.0	39.5	9.4	34.4	3.1	48.6	53.9	5.3	150	0	
Vert.	55.114	QP	51.5	8.8	7.4	31.8	0.0	35.9	40.0	4.1	100	212	
Vert.	79.573	QP	57.2	5.9	8.3	31.8	0.0	39.6	40.0	**0.4**	100	237	
Vert.	92.169	QP	55.9	8.2	8.3	31.8	0.0	40.6	43.5	2.9	100	349	
Vert.	153.419	QP	51.3	14.8	8.8	31.8	0.0	43.1	43.5	0.4	100	171	
Vert.	165.841	QP	49.6	15.5	8.9	31.8	0.0	42.2	43.5	1.3	100	197	
Vert.	202.536	QP	46.4	16.2	9.1	31.8	0.0	39.9	43.5	3.6	100	204	
Vert.	4964.000	PK	49.2	31.9	6.3	33.9	3.1	56.6	73.9	17.3	151	123	
Vert.	7446.000	PK	42.6	37.0	7.7	33.7	3.1	56.7	73.9	17.2	150	0	
Vert.	9928.000	PK	43.3	38.2	8.9	34.7	3.1	58.8	73.9	15.1	150	0	
Vert.	12410.000	PK	42.2	39.5	9.4	34.4	3.1	59.8	73.9	14.1	150	0	
Vert.	4964.000	AV	41.9	31.9	6.3	33.9	3.1	49.3	53.9	4.6	151	123	
Vert.	7446.000	AV	31.4	37.0	7.7	33.7	3.1	45.5	53.9	8.4	150	0	
Vert.	9928.000	AV	31.6	38.2	8.9	34.7	3.1	47.1	53.9	6.8	150	0	
Vert.	12410.000	AV	31.1	39.5	9.4	34.4	3.1	48.7	53.9	5.2	150	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2482.000	PK	80.4	27.9	13.8	41.0	3.1	84.2	-	-	Carrier
Hori.	2483.500	PK	35.6	27.9	13.8	41.0	3.1	39.4	64.1	24.7	
Hori.	2483.589	PK	36.4	27.9	13.8	41.0	3.1	40.2	64.1	23.9	
Vert.	2482.000	PK	76.2	27.9	13.8	41.0	3.1	80.0	-	-	Carrier
Vert.	2483.500	PK	32.3	27.9	13.8	41.0	3.1	36.1	60.0	23.9	
Vert.	2483.563	PK	34.4	27.9	13.8	41.0	3.1	38.2	60.0	21.8	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa
	(1-2.8 GHz)
Mode	Tx 2482 MHz, ANT-2.45-CHP-X (antenna cable 5 m)

Marker Delta Method (Test distance 3meter)

Frequency of Band-edge: 2483.5 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	80.4	84.19	76.35	80.14	1MHz/2.2kHz	78.14	81.93	74.08	77.87
Step2	Fundamental (2482MHz)	30kHz/91kHz	79.23	83.02	74.57	78.36	-	-	-	-	-
	Band-edge(2483.5MHz)	30kHz/91kHz	35.57	39.36	32.26	36.05	-	-	-	-	-
	Amplitude delta [dB]	-	43.66		42.31		-	43.66		42.31	
Step3	Field strenght of band-edge	-	-	40.53	-	37.83	-	-	38.27	-	35.56
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	73.9	-	-	53.9	-	53.9
	Margin [dB]	-	-	33.37	-	36.07	-	-	15.63	-	18.34

Frequency of Band-edge: 2483.598 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	80.4	84.19	-	-	1MHz/2.2kHz	78.14	81.93	-	-
Step2	Fundamental (2482MHz)	30kHz/91kHz	79.23	83.02	-	-	-	-	-	-	-
	Band-edge(2483.598MHz)	30kHz/91kHz	36.4	40.19	-	-	-	-	-	-	-
	Amplitude delta [dB]	-	42.83		-		-	42.83		-	
Step3	Field strenght of band-edge	-	-	41.36	-	-	-	-	39.1	-	-
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	-	-	-	53.9	-	-
	Margin [dB]	-	-	32.54	-	-	-	-	14.8	-	-

Frequency of Band-edge: 2483.563 MHz

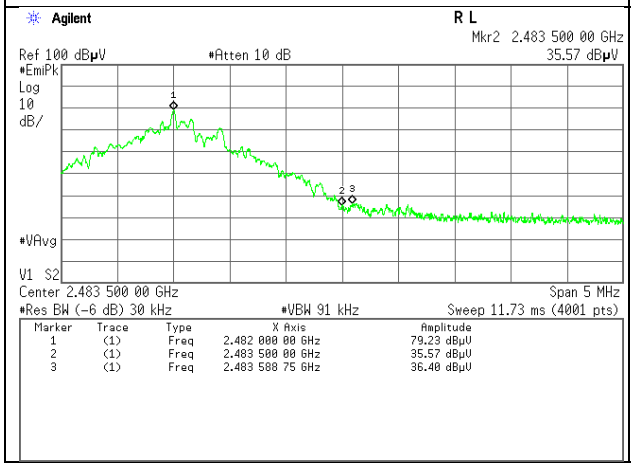
		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	-	-	76.35	80.14	1MHz/2.2kHz	-	-	74.08	77.87
Step2	Fundamental (2482MHz)	30kHz/91kHz	-	-	74.57	78.36	-	-	-	-	-
	Band-edge(2483.563MHz)	30kHz/91kHz	-	-	34.41	38.2	-	-	-	-	-
	Amplitude delta [dB]	-	-		40.16		-	-		40.16	
Step3	Field strenght of band-edge	-	-	-	-	39.98	-	-	-	-	37.71
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	-	-	73.9	-	-	-	-	53.9
	Margin [dB]	-	-	-	-	33.92	-	-	-	-	16.19

Result = Reading + Ant Factor + Loss (Cable+Attenuator) - Gain(Amprifier) (Refer to Radiated emission data sheets)

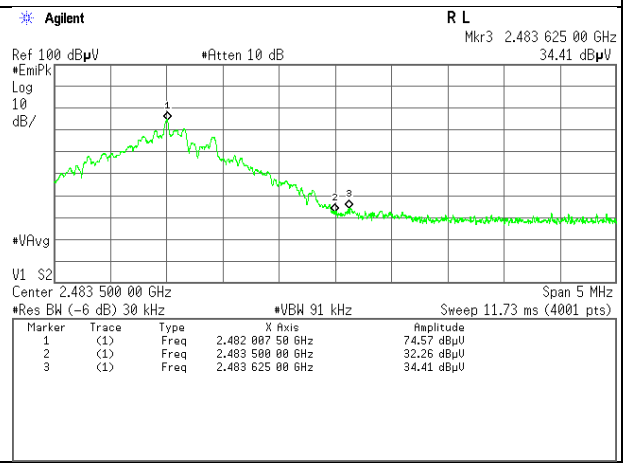
*1 Amplitude delta = Fundamental(RBW:30kHz,VBW:91kHz) - Band-edge(RBW:30kHz,VBW:91kHz)

*2 Field strength of band-edge = Fundamental(Peak or Average) - Amplitude delta - Dwell time factor

Horizontal



Vertical



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Kenichi Adachi (30-1000 MHz, 1AC)
Mode	Tx 2402 MHz, H2401SB (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.745	QP	52.9	5.9	8.3	31.8	0.0	35.3	40.0	4.7	246	253	
Hori.	153.428	QP	46.8	14.8	8.8	31.8	0.0	38.6	43.5	4.9	193	257	
Hori.	325.327	QP	42.7	14.4	6.7	31.8	0.0	32.0	46.0	14.0	182	19	
Hori.	2390.000	PK	54.2	27.8	13.7	41.0	3.1	57.8	73.9	16.1	248	2	
Hori.	4804.000	PK	56.6	31.4	5.8	39.6	3.1	57.3	73.9	16.6	122	178	
Hori.	7206.000	PK	45.3	36.9	7.2	40.1	3.1	52.4	73.9	21.5	100	0	
Hori.	9608.000	PK	45.2	38.5	8.2	39.6	3.1	55.4	73.9	18.5	100	0	
Hori.	12010.000	PK	44.1	39.7	9.4	39.3	3.1	57.0	73.9	16.9	100	0	
Hori.	2390.000	AV	35.8	27.8	13.7	41.0	3.1	39.4	53.9	14.5	248	2	
Hori.	4804.000	AV	49.9	31.4	5.8	39.6	3.1	50.6	53.9	3.3	122	178	
Hori.	7206.000	AV	34.6	36.9	7.2	40.1	3.1	41.7	53.9	12.2	100	0	
Hori.	9608.000	AV	34.5	38.5	8.2	39.6	3.1	44.7	53.9	9.2	100	0	
Hori.	12010.000	AV	34.0	39.7	9.4	39.3	3.1	46.9	53.9	7.0	100	0	
Vert.	55.190	QP	50.3	8.8	7.4	31.8	0.0	34.7	40.0	5.3	100	23	
Vert.	79.750	QP	54.4	5.9	8.3	31.8	0.0	36.8	40.0	3.2	100	22	
Vert.	153.423	QP	48.6	14.8	8.8	31.8	0.0	40.4	43.5	3.1	100	188	
Vert.	177.980	QP	48.4	16.1	8.9	31.8	0.0	41.6	43.5	**1.9**	100	174	
Vert.	202.542	QP	47.9	16.2	9.1	31.8	0.0	41.4	43.5	2.1	100	149	
Vert.	239.529	QP	45.0	16.9	9.5	31.7	0.0	39.7	46.0	6.3	100	122	
Vert.	2390.000	PK	52.6	27.8	13.7	41.0	3.1	56.2	73.9	17.7	100	132	
Vert.	4804.000	PK	54.6	31.4	5.8	39.6	3.1	55.3	73.9	18.6	171	235	
Vert.	7206.000	PK	46.6	36.9	7.2	40.1	3.1	53.7	73.9	20.2	100	0	
Vert.	9608.000	PK	46.7	38.5	8.2	39.6	3.1	56.9	73.9	17.0	100	0	
Vert.	12010.000	PK	44.8	39.7	9.4	39.3	3.1	57.7	73.9	16.2	100	0	
Vert.	2390.000	AV	35.2	27.8	13.7	41.0	3.1	38.8	53.9	15.1	100	132	
Vert.	4804.000	AV	48.0	31.4	5.8	39.6	3.1	48.7	53.9	5.2	171	235	
Vert.	7206.000	AV	34.8	36.9	7.2	40.1	3.1	41.9	53.9	12.0	100	0	
Vert.	9608.000	AV	34.6	38.5	8.2	39.6	3.1	44.8	53.9	9.1	100	0	
Vert.	12010.000	AV	33.7	39.7	9.4	39.3	3.1	46.6	53.9	7.3	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Dwell(time)factor + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB
Dwell (time) factor refer to "Dwell time factor Calculation chart" sheet.

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	89.6	27.8	13.7	41.0	3.1	93.2	-	-	Carrier
Hori.	2400.000	PK	55.7	27.8	13.7	41.0	3.1	59.3	73.1	13.8	
Vert.	2402.000	PK	87.4	27.8	13.7	41.0	3.1	91.0	-	-	Carrier
Vert.	2400.000	PK	53.4	27.8	13.7	41.0	3.1	57.0	71.0	14.0	

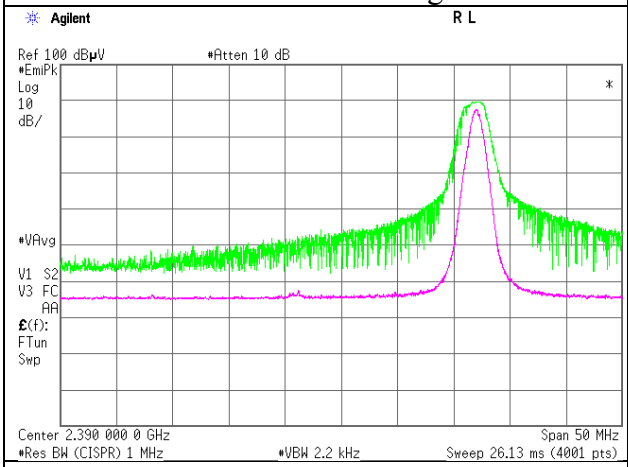
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No. 3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz)
Mode	Tx 2402 MHz, H2401SB (antenna cable 1 m)

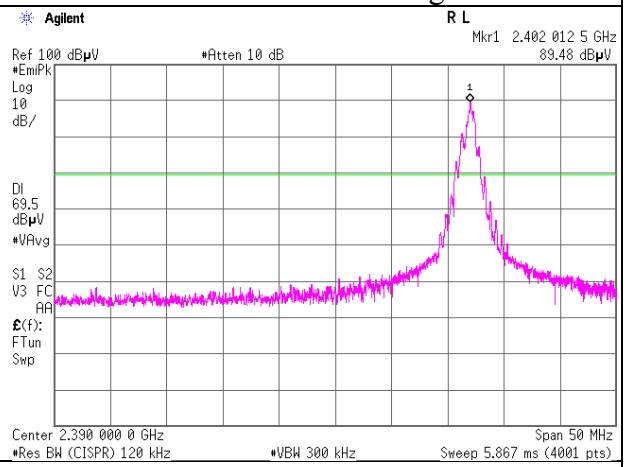
Horizontal

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

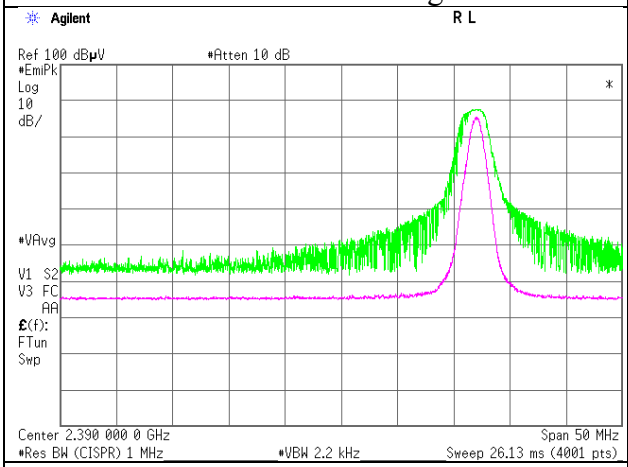
Authorized-band band-edge Plot



20dBc Plot

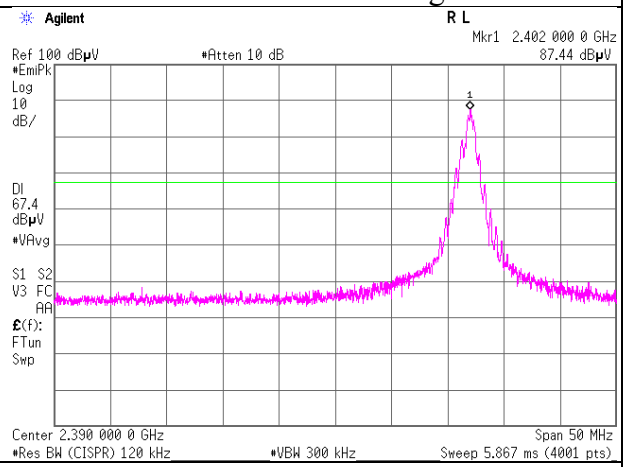
Vertical

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

Authorized-band band-edge Plot



20dBc Plot

* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Kenichi Adachi (30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, H2401SB (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.751	QP	53.0	5.9	8.3	31.8	0.0	35.4	40.0	4.6	248	230	
Hori.	153.434	QP	47.0	14.8	8.8	31.8	0.0	38.8	43.5	4.7	197	242	
Hori.	337.372	QP	42.9	14.7	6.7	31.8	0.0	32.5	46.0	13.5	139	33	
Hori.	4884.000	PK	55.0	31.7	5.9	39.5	3.1	56.2	73.9	17.7	146	172	
Hori.	7326.000	PK	46.0	36.9	7.3	40.2	3.1	53.1	73.9	20.8	100	0	
Hori.	9768.000	PK	46.6	38.5	8.3	39.5	3.1	57.0	73.9	16.9	100	0	
Hori.	12210.000	PK	45.0	39.6	9.5	39.4	3.1	57.8	73.9	16.1	100	0	
Hori.	4884.000	AV	48.4	31.7	5.9	39.5	3.1	49.6	53.9	4.3	146	172	
Hori.	7326.000	AV	34.8	36.9	7.3	40.2	3.1	41.9	53.9	12.0	100	0	
Hori.	9768.000	AV	34.9	38.5	8.3	39.5	3.1	45.3	53.9	8.6	100	0	
Hori.	12210.000	AV	35.0	39.6	9.5	39.4	3.1	47.8	53.9	6.1	100	0	
Vert.	55.190	QP	50.0	8.8	7.4	31.8	0.0	34.4	40.0	5.6	100	116	
Vert.	79.750	QP	54.4	5.9	8.3	31.8	0.0	36.8	40.0	3.2	100	8	
Vert.	153.434	QP	48.9	14.8	8.8	31.8	0.0	40.7	43.5	2.8	100	157	
Vert.	177.995	QP	48.5	16.1	8.9	31.8	0.0	41.7	43.5	**1.8**	100	144	
Vert.	202.559	QP	48.1	16.2	9.1	31.8	0.0	41.6	43.5	1.9	100	127	
Vert.	227.159	QP	45.1	16.7	9.4	31.7	0.0	39.5	46.0	6.5	100	116	
Vert.	4884.000	PK	55.1	31.7	5.9	39.5	3.1	56.3	73.9	17.6	250	100	
Vert.	7326.000	PK	45.2	36.9	7.3	40.2	3.1	52.3	73.9	21.6	100	0	
Vert.	9768.000	PK	46.7	38.5	8.3	39.5	3.1	57.1	73.9	16.8	100	0	
Vert.	12210.000	PK	44.4	39.6	9.5	39.4	3.1	57.2	73.9	16.7	100	0	
Vert.	4884.000	AV	48.1	31.7	5.9	39.5	3.1	49.3	53.9	4.6	250	100	
Vert.	7326.000	AV	34.7	36.9	7.3	40.2	3.1	41.8	53.9	12.1	100	0	
Vert.	9768.000	AV	35.0	38.5	8.3	39.5	3.1	45.4	53.9	8.5	100	0	
Vert.	12210.000	AV	34.8	39.6	9.5	39.4	3.1	47.6	53.9	6.3	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2482 MHz, H2401SB (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.750	QP	53.3	5.9	8.3	31.8	0.0	35.7	40.0	4.3	235	239	
Hori.	153.438	QP	46.8	14.8	8.8	31.8	0.0	38.6	43.5	4.9	197	239	
Hori.	337.821	QP	36.1	14.7	6.7	31.8	0.0	25.7	46.0	20.3	174	0	
Hori.	4964.000	PK	55.0	32.0	6.0	39.4	3.1	56.7	73.9	17.2	150	208	
Hori.	7446.000	PK	46.2	37.0	7.5	40.4	3.1	53.4	73.9	20.5	100	0	
Hori.	9928.000	PK	45.5	38.4	8.4	39.4	3.1	56.0	73.9	17.9	100	0	
Hori.	12410.000	PK	45.3	39.5	9.6	39.6	3.1	57.9	73.9	16.0	100	0	
Hori.	4964.000	AV	48.0	32.0	6.0	39.4	3.1	49.7	53.9	4.2	150	208	
Hori.	7446.000	AV	35.5	37.0	7.5	40.4	3.1	42.7	53.9	11.2	100	0	
Hori.	9928.000	AV	34.5	38.4	8.4	39.4	3.1	45.0	53.9	8.9	100	0	
Hori.	12410.000	AV	34.6	39.5	9.6	39.6	3.1	47.2	53.9	6.7	100	0	
Vert.	67.612	QP	55.9	6.3	7.3	31.8	0.0	37.7	40.0	2.3	100	299	
Vert.	177.982	QP	48.9	16.1	8.9	31.8	0.0	42.1	43.5	1.4	100	182	
Vert.	190.442	QP	48.9	16.2	8.9	31.8	0.0	42.2	43.5	1.3	100	142	
Vert.	202.544	QP	48.9	16.2	9.1	31.8	0.0	42.4	43.5	**1.1**	100	135	
Vert.	4964.000	PK	54.8	32.0	6.0	39.4	3.1	56.5	73.9	17.4	100	202	
Vert.	7446.000	PK	46.9	37.0	7.5	40.4	3.1	54.1	73.9	19.8	100	0	
Vert.	9928.000	PK	44.6	38.4	8.4	39.4	3.1	55.1	73.9	18.8	100	0	
Vert.	12410.000	PK	45.1	39.5	9.6	39.6	3.1	57.7	73.9	16.2	100	0	
Vert.	4964.000	AV	46.7	32.0	6.0	39.4	3.1	48.4	53.9	5.5	100	202	
Vert.	7446.000	AV	35.8	37.0	7.5	40.4	3.1	43.0	53.9	10.9	100	0	
Vert.	9928.000	AV	34.5	38.4	8.4	39.4	3.1	45.0	53.9	8.9	100	0	
Vert.	12410.000	AV	34.6	39.5	9.6	39.6	3.1	47.2	53.9	6.7	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2482.000	PK	91.6	27.9	13.8	41.0	3.1	95.4	-	-	Carrier
Hori.	2483.500	PK	44.5	27.9	13.8	41.0	3.1	48.3	75.4	27.1	
Hori.	2483.614	PK	47.2	27.9	13.8	41.0	3.1	51.0	75.4	24.4	
Vert.	2482.000	PK	88.7	27.9	13.8	41.0	3.1	92.5	-	-	Carrier
Vert.	2483.500	PK	42.3	27.9	13.8	41.0	3.1	46.1	72.5	26.4	
Vert.	2483.621	PK	45.0	27.9	13.8	41.0	3.1	48.8	72.5	23.7	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No. 3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa
	(1-2.8 GHz)
Mode	Tx 2482 MHz, H2401SB (antenna cable 1 m)

Marker Delta Method (Test distance 3meter)

Frequency of Band-edge: 2483.5 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	91.67	95.46	88.74	92.53	1MHz/2.2kHz	89.58	93.37	86.76	90.55
Step2	Fundamental (2482MHz)	30kHz/91kHz	90.44	94.23	87.52	91.31	-	-	-	-	-
	Band-edge(2483.5MHz)	30kHz/91kHz	44.47	48.26	42.26	46.05	-	-	-	-	-
	Amplitude delta [dB]	-	45.97		45.26		-	45.97		45.26	
Step3	Field strenght of band-edge	-	-	49.49	-	47.27	-	-	47.4	-	45.29
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	73.9	-	-	53.9	-	53.9
	Margin [dB]	-	-	24.41	-	26.63	-	-	6.5	-	8.61

Frequency of Band-edge: 2483.614 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	91.67	95.46	-	-	1MHz/2.2kHz	89.58	93.37	-	-
Step2	Fundamental (2482MHz)	30kHz/91kHz	90.44	94.23	-	-	-	-	-	-	-
	Band-edge(2483.614MHz)	30kHz/91kHz	47.19	50.98	-	-	-	-	-	-	-
	Amplitude delta [dB]	-	43.25		-		-	43.25		-	
Step3	Field strenght of band-edge	-	-	52.21	-	-	-	-	50.12	-	-
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	-	-	-	53.9	-	-
	Margin [dB]	-	-	21.69	-	-	-	-	3.78	-	-

Frequency of Band-edge: 2483.621 MHz

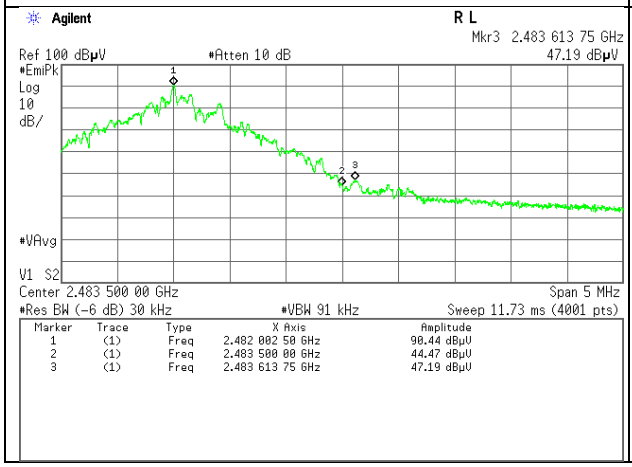
		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	-	-	88.74	92.53	1MHz/2.2kHz	-	-	86.76	90.55
Step2	Fundamental (2482MHz)	30kHz/91kHz	-	-	87.52	91.31	-	-	-	-	-
	Band-edge(2483.621MHz)	30kHz/91kHz	-	-	45.01	48.8	-	-	-	-	-
	Amplitude delta [dB]	-	-		42.51		-	-		42.51	
Step3	Field strenght of band-edge	-	-	-	-	50.02	-	-	-	-	48.04
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	-	-	73.9	-	-	-	-	53.9
	Margin [dB]	-	-	-	-	23.88	-	-	-	-	5.86

Result = Reading + Ant Factor + Loss (Cable+Attenuator) - Gain(Amprifier) (Refer to Radiated emission data sheets)

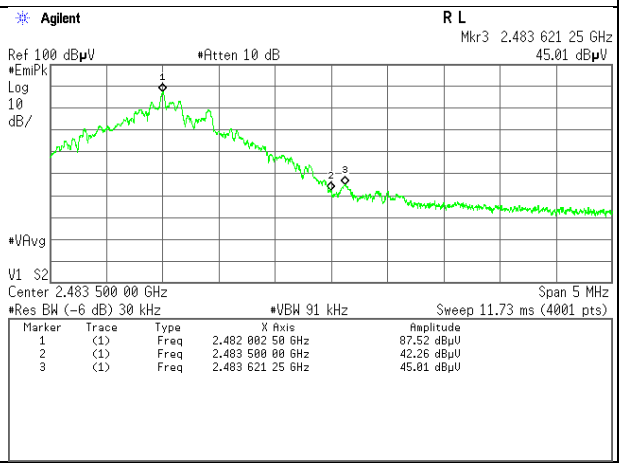
*1 Amplitude delta = Fundamental(RBW:30kHz,VBW:91kHz) - Band-edge(RBW:30kHz,VBW:91kHz)

*2 Field strength of band-edge = Fundamental(Peak or Average) - Amplitude delta - Dwell time factor

Horizontal



Vertical



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Wataru Kojima	Kenichi Adachi	Hiroyuki Morikawa
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 3AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2402 MHz, H2401SB (antenna cable 15 m)			

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.759	QP	53.0	5.9	8.3	31.8	0.0	35.4	40.0	4.6	242	256	
Hori.	128.877	QP	47.8	13.3	8.3	31.8	0.0	37.6	43.5	5.9	255	240	
Hori.	141.316	QP	47.1	14.2	8.6	31.8	0.0	38.1	43.5	5.4	216	237	
Hori.	2390.000	PK	46.9	27.8	13.7	41.0	3.1	50.5	73.9	23.4	254	2	
Hori.	4804.000	PK	55.0	31.4	5.8	39.6	3.1	55.7	73.9	18.2	130	177	
Hori.	7206.000	PK	45.0	36.9	7.2	40.1	3.1	52.1	73.9	21.8	100	0	
Hori.	9608.000	PK	45.5	38.5	8.2	39.6	3.1	55.7	73.9	18.2	100	0	
Hori.	12010.000	PK	44.0	39.7	9.4	39.3	3.1	56.9	73.9	17.0	100	0	
Hori.	2390.000	AV	35.6	27.8	13.7	41.0	3.1	39.2	53.9	14.7	254	2	
Hori.	4804.000	AV	48.9	31.4	5.8	39.6	3.1	49.6	53.9	4.3	130	177	
Hori.	7206.000	AV	34.7	36.9	7.2	40.1	3.1	41.8	53.9	12.1	100	0	
Hori.	9608.000	AV	34.4	38.5	8.2	39.6	3.1	44.6	53.9	9.3	100	0	
Hori.	12010.000	AV	34.0	39.7	9.4	39.3	3.1	46.9	53.9	7.0	100	0	
Vert.	79.759	QP	54.8	5.9	8.3	31.8	0.0	37.2	40.0	2.8	167	185	
Vert.	92.188	QP	57.5	8.2	8.3	31.8	0.0	42.2	43.5	**1.3**	100	186	
Vert.	141.305	QP	50.0	14.2	8.6	31.8	0.0	41.0	43.5	2.5	100	155	
Vert.	2390.000	PK	47.5	27.8	13.7	41.0	3.1	51.1	73.9	22.8	100	230	
Vert.	4804.000	PK	55.7	31.4	5.8	39.6	3.1	56.4	73.9	17.5	100	167	
Vert.	7206.000	PK	46.2	36.9	7.2	40.1	3.1	53.3	73.9	20.6	100	0	
Vert.	9608.000	PK	46.6	38.5	8.2	39.6	3.1	56.8	73.9	17.1	100	0	
Vert.	12010.000	PK	44.9	39.7	9.4	39.3	3.1	57.8	73.9	16.1	100	0	
Vert.	2390.000	AV	35.6	27.8	13.7	41.0	3.1	39.2	53.9	14.7	100	230	
Vert.	4804.000	AV	49.2	31.4	5.8	39.6	3.1	49.9	53.9	4.0	100	167	
Vert.	7206.000	AV	34.7	36.9	7.2	40.1	3.1	41.8	53.9	12.1	100	0	
Vert.	9608.000	AV	36.5	38.5	8.2	39.6	3.1	46.7	53.9	7.2	100	0	
Vert.	12010.000	AV	33.6	39.7	9.4	39.3	3.1	46.5	53.9	7.4	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

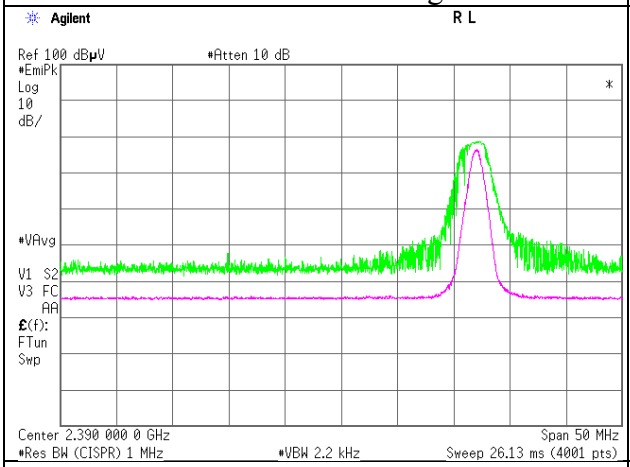
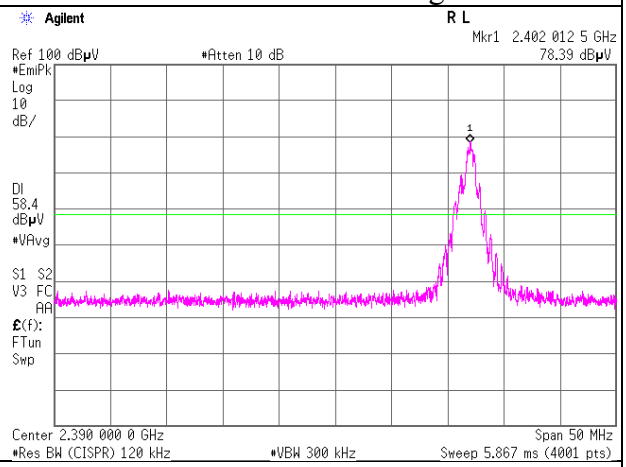
Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	78.5	27.8	13.7	41.0	3.1	82.1	-	-	Carrier
Hori.	2400.000	PK	48.3	27.8	13.7	41.0	3.1	51.9	62.0	10.1	
Vert.	2402.000	PK	76.9	27.8	13.7	41.0	3.1	80.5	-	-	Carrier
Vert.	2400.000	PK	45.3	27.8	13.7	41.0	3.1	48.9	60.5	11.6	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

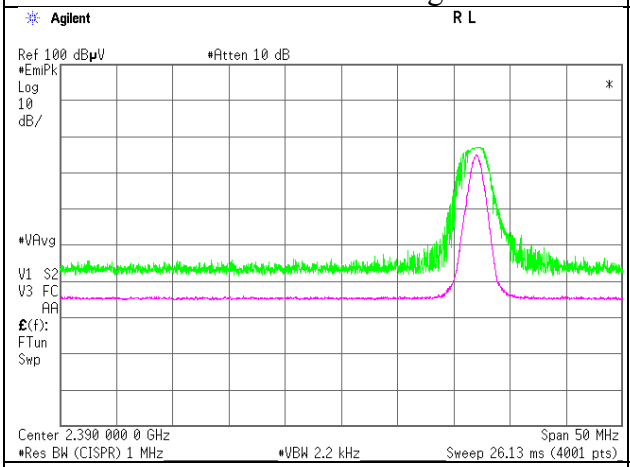
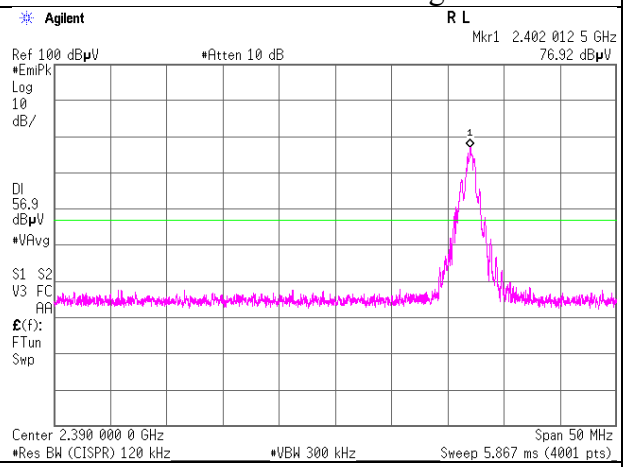
Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz)
Mode	Tx 2402 MHz, H2401SB (antenna cable 15 m)

Horizontal

Restricted-band band-edge Plot	Authorized-band band-edge Plot
	
Trace Green : Peak Plot Trace Purple : Average Plot	20dBc Plot

Vertical

Restricted-band band-edge Plot	Authorized-band band-edge Plot
	
Trace Green : Peak Plot Trace Purple : Average Plot	20dBc Plot

* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, H2401SB (antenna cable 15 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.759	QP	53.3	5.9	8.3	31.8	0.0	35.7	40.0	4.3	258	249	
Hori.	128.892	QP	47.8	13.3	8.3	31.8	0.0	37.6	43.5	5.9	250	244	
Hori.	141.325	QP	47.1	14.2	8.6	31.8	0.0	38.1	43.5	5.4	208	239	
Hori.	4804.000	PK	55.0	31.4	5.8	39.6	3.1	55.7	73.9	18.2	130	177	
Hori.	7206.000	PK	45.0	36.9	7.2	40.1	3.1	52.1	73.9	21.8	100	0	
Hori.	9608.000	PK	45.5	38.5	8.2	39.6	3.1	55.7	73.9	18.2	100	0	
Hori.	12010.000	PK	44.0	39.7	9.4	39.3	3.1	56.9	73.9	17.0	100	0	
Hori.	4804.000	AV	48.9	31.4	5.8	39.6	3.1	49.6	53.9	4.3	130	177	
Hori.	7206.000	AV	34.7	36.9	7.2	40.1	3.1	41.8	53.9	12.1	100	0	
Hori.	9608.000	AV	34.4	38.5	8.2	39.6	3.1	44.6	53.9	9.3	100	0	
Hori.	12010.000	AV	34.0	39.7	9.4	39.3	3.1	46.9	53.9	7.0	100	0	
Vert.	79.760	QP	55.1	5.9	8.3	31.8	0.0	37.5	40.0	2.5	154	177	
Vert.	92.191	QP	56.7	8.2	8.3	31.8	0.0	41.4	43.5	**2.1**	100	178	
Vert.	141.317	QP	50.1	14.2	8.6	31.8	0.0	41.1	43.5	2.4	100	153	
Vert.	4804.000	PK	55.7	31.4	5.8	39.6	3.1	56.4	73.9	17.5	100	167	
Vert.	7206.000	PK	46.2	36.9	7.2	40.1	3.1	53.3	73.9	20.6	100	0	
Vert.	9608.000	PK	46.6	38.5	8.2	39.6	3.1	56.8	73.9	17.1	100	0	
Vert.	12010.000	PK	44.9	39.7	9.4	39.3	3.1	57.8	73.9	16.1	100	0	
Vert.	4804.000	AV	49.2	31.4	5.8	39.6	3.1	49.9	53.9	4.0	100	167	
Vert.	7206.000	AV	34.7	36.9	7.2	40.1	3.1	41.8	53.9	12.1	100	0	
Vert.	9608.000	AV	36.5	38.5	8.2	39.6	3.1	46.7	53.9	7.2	100	0	
Vert.	12010.000	AV	33.6	39.7	9.4	39.3	3.1	46.5	53.9	7.4	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Wataru Kojima	Kenichi Adachi	Hiroyuki Morikawa
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 3AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2482 MHz, H2401SB (antenna cable 15 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.761	QP	53.5	5.9	8.3	31.8	0.0	35.9	40.0	4.1	243	247	
Hori.	128.890	QP	48.1	13.3	8.3	31.8	0.0	37.9	43.5	5.6	250	247	
Hori.	141.319	QP	47.8	14.2	8.6	31.8	0.0	38.8	43.5	4.7	217	235	
Hori.	4964.000	PK	55.9	32.0	6.0	39.4	3.1	57.6	73.9	16.3	125	161	
Hori.	7446.000	PK	46.0	37.0	7.5	40.4	3.1	53.2	73.9	20.7	100	0	
Hori.	9928.000	PK	45.7	38.4	8.4	39.4	3.1	56.2	73.9	17.7	100	0	
Hori.	12410.000	PK	45.8	39.5	9.6	39.6	3.1	58.4	73.9	15.5	100	0	
Hori.	4964.000	AV	49.1	32.0	6.0	39.4	3.1	50.8	53.9	3.1	125	161	
Hori.	7446.000	AV	35.4	37.0	7.5	40.4	3.1	42.6	53.9	11.3	100	0	
Hori.	9928.000	AV	34.5	38.4	8.4	39.4	3.1	45.0	53.9	8.9	100	0	
Hori.	12410.000	AV	34.6	39.5	9.6	39.6	3.1	47.2	53.9	6.7	100	0	
Vert.	79.760	QP	55.2	5.9	8.3	31.8	0.0	37.6	40.0	2.4	139	200	
Vert.	92.189	QP	56.6	8.2	8.3	31.8	0.0	41.3	43.5	**2.2**	100	193	
Vert.	141.318	QP	49.9	14.2	8.6	31.8	0.0	40.9	43.5	2.6	100	157	
Vert.	4964.000	PK	56.0	32.0	6.0	39.4	3.1	57.7	73.9	16.2	100	175	
Vert.	7446.000	PK	46.0	37.0	7.5	40.4	3.1	53.2	73.9	20.7	100	0	
Vert.	9928.000	PK	45.7	38.4	8.4	39.4	3.1	56.2	73.9	17.7	100	0	
Vert.	12410.000	PK	45.7	39.5	9.6	39.6	3.1	58.3	73.9	15.6	100	0	
Vert.	4964.000	AV	49.0	32.0	6.0	39.4	3.1	50.7	53.9	3.2	100	175	
Vert.	7446.000	AV	35.3	37.0	7.5	40.4	3.1	42.5	53.9	11.4	100	0	
Vert.	9928.000	AV	34.5	38.4	8.4	39.4	3.1	45.0	53.9	8.9	100	0	
Vert.	12410.000	AV	34.5	39.5	9.6	39.6	3.1	47.1	53.9	6.8	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2482.000	PK	80.5	27.9	13.8	41.0	3.1	84.3	-	-	Carrier
Hori.	2483.500	PK	36.8	27.9	13.8	41.0	3.1	40.6	64.3	23.7	
Hori.	2483.586	PK	37.0	27.9	13.8	41.0	3.1	40.8	64.3	23.5	
Vert.	2482.000	PK	80.4	27.9	13.8	41.0	3.1	84.2	-	-	Carrier
Vert.	2483.500	PK	34.6	27.9	13.8	41.0	3.1	38.4	64.1	25.7	
Vert.	2483.647	PK	36.7	27.9	13.8	41.0	3.1	40.5	64.1	23.6	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No. 3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa
	(1-2.8 GHz)
Mode	Tx 2482 MHz, H2401SB (antenna cable 15 m)

Marker Delta Method (Test distance 3meter)

Frequency of Band-edge: 2483.5 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	80.58	84.37	80.46	84.25	1MHz/2.2kHz	78.45	82.24	78.32	82.11
Step2	Fundamental (2482MHz)	30kHz/91kHz	79.33	83.12	79.24	83.03	-	-	-	-	-
	Band-edge(2483.5MHz)	30kHz/91kHz	36.82	40.61	34.62	38.41	-	-	-	-	-
	Amplitude delta [dB]	-	42.51		44.62		-	42.51		44.62	
Step3	Field strenght of band-edge	-	-	41.86	-	39.63	-	-	39.73	-	37.49
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	73.9	-	-	53.9	-	53.9
	Margin [dB]	-	-	32.04	-	34.27	-	-	14.17	-	16.41

Frequency of Band-edge: 2483.586 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	80.58	84.37	-	-	1MHz/2.2kHz	78.45	82.24	-	-
Step2	Fundamental (2482MHz)	30kHz/91kHz	79.33	83.12	-	-	-	-	-	-	-
	Band-edge(2483.586MHz)	30kHz/91kHz	36.97	40.76	-	-	-	-	-	-	-
	Amplitude delta [dB]	-	42.36		-		-	42.36		-	
Step3	Field strenght of band-edge	-	-	42.01	-	-	-	-	39.88	-	-
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	-	-	-	53.9	-	-
	Margin [dB]	-	-	31.89	-	-	-	-	14.02	-	-

Frequency of Band-edge: 2483.647 MHz

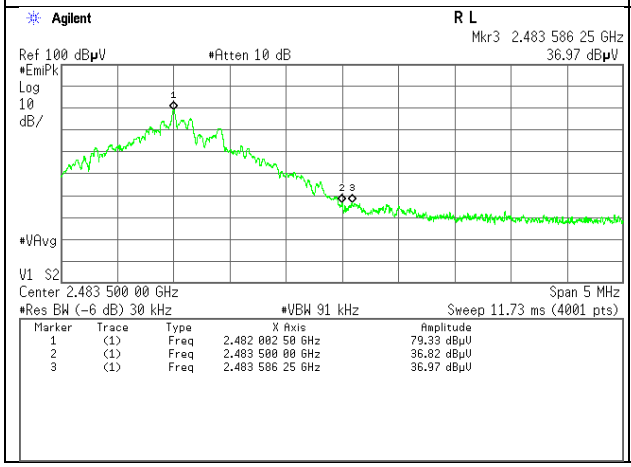
		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	-	-	80.46	84.25	1MHz/2.2kHz	-	-	78.32	82.11
Step2	Fundamental (2482MHz)	30kHz/91kHz	-	-	79.24	83.03	-	-	-	-	-
	Band-edge(2483.647MHz)	30kHz/91kHz	-	-	36.74	40.53	-	-	-	-	-
	Amplitude delta [dB]	-	-		42.5		-	-		42.5	
Step3	Field strenght of band-edge	-	-	-	-	41.75	-	-	-	-	39.61
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	-	-	73.9	-	-	-	-	53.9
	Margin [dB]	-	-	-	-	32.15	-	-	-	-	14.29

Result = Reading + Ant Factor + Loss (Cable+Attenuator) - Gain(Amprifier) (Refer to Radiated emission data sheets)

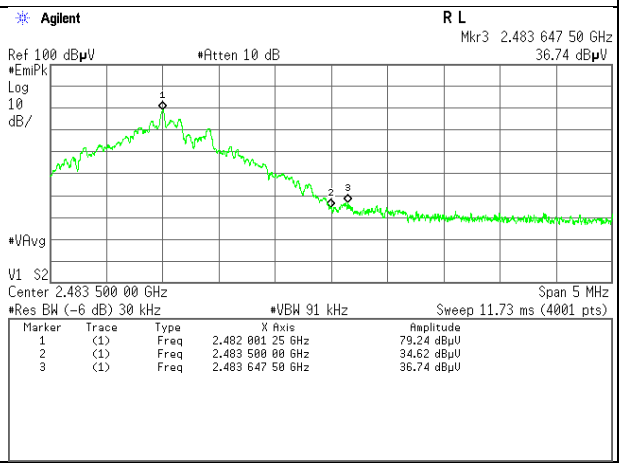
*1 Amplitude delta = Fundamental(RBW:30kHz,VBW:91kHz) - Band-edge(RBW:30kHz,VBW:91kHz)

*2 Field strength of band-edge = Fundamental(Peak or Average) - Amplitude delta - Dwell time factor

Horizontal



Vertical



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2402 MHz, RUFA (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	67.632	QP	49.8	6.3	7.3	31.8	0.0	31.6	40.0	8.4	279	236	
Hori.	153.460	QP	47.0	14.8	8.8	31.8	0.0	38.8	43.5	4.7	203	243	
Hori.	165.901	QP	45.9	15.5	8.9	31.8	0.0	38.5	43.5	5.0	191	252	
Hori.	2390.000	PK	46.7	27.8	13.7	41.0	3.1	50.3	73.9	23.6	173	151	
Hori.	4804.000	PK	58.2	31.4	5.8	39.6	3.1	58.9	73.9	15.0	164	189	
Hori.	7206.000	PK	45.7	36.9	7.2	40.1	3.1	52.8	73.9	21.1	100	0	
Hori.	9608.000	PK	46.2	38.5	8.2	39.6	3.1	56.4	73.9	17.5	100	0	
Hori.	12010.000	PK	44.0	39.7	9.4	39.3	3.1	56.9	73.9	17.0	100	0	
Hori.	2390.000	AV	35.5	27.8	13.7	41.0	3.1	39.1	53.9	14.8	173	151	
Hori.	4804.000	AV	52.1	31.4	5.8	39.6	3.1	52.8	53.9	1.1	164	189	
Hori.	7206.000	AV	35.0	36.9	7.2	40.1	3.1	42.1	53.9	11.8	100	0	
Hori.	9608.000	AV	35.4	38.5	8.2	39.6	3.1	45.6	53.9	8.3	100	0	
Hori.	12010.000	AV	34.3	39.7	9.4	39.3	3.1	47.2	53.9	6.7	100	0	
Vert.	67.634	QP	54.6	6.3	7.3	31.8	0.0	36.4	40.0	3.6	100	349	
Vert.	153.468	QP	49.5	14.8	8.8	31.8	0.0	41.3	43.5	2.2	100	134	
Vert.	165.888	QP	49.9	15.5	8.9	31.8	0.0	42.5	43.5	1.0	100	101	
Vert.	178.024	QP	49.5	16.2	8.9	31.8	0.0	42.8	43.5	**0.7**	100	130	
Vert.	2390.000	PK	46.0	27.8	13.7	41.0	3.1	49.6	73.9	24.3	112	181	
Vert.	4804.000	PK	56.5	31.4	5.8	39.6	3.1	57.2	73.9	16.7	103	351	
Vert.	7206.000	PK	45.3	36.9	7.2	40.1	3.1	52.4	73.9	21.5	100	0	
Vert.	9608.000	PK	45.4	38.5	8.2	39.6	3.1	55.6	73.9	18.3	100	0	
Vert.	12010.000	PK	45.4	39.7	9.4	39.3	3.1	58.3	73.9	15.6	100	0	
Vert.	2390.000	AV	35.2	27.8	13.7	41.0	3.1	38.8	53.9	15.1	112	181	
Vert.	4804.000	AV	50.2	31.4	5.8	39.6	3.1	50.9	53.9	3.0	103	351	
Vert.	7206.000	AV	35.1	36.9	7.2	40.1	3.1	42.2	53.9	11.7	100	0	
Vert.	9608.000	AV	35.5	38.5	8.2	39.6	3.1	45.7	53.9	8.2	100	0	
Vert.	12010.000	AV	34.0	39.7	9.4	39.3	3.1	46.9	53.9	7.0	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

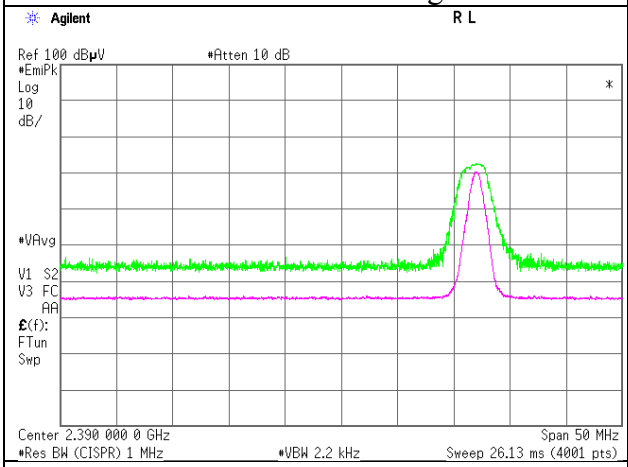
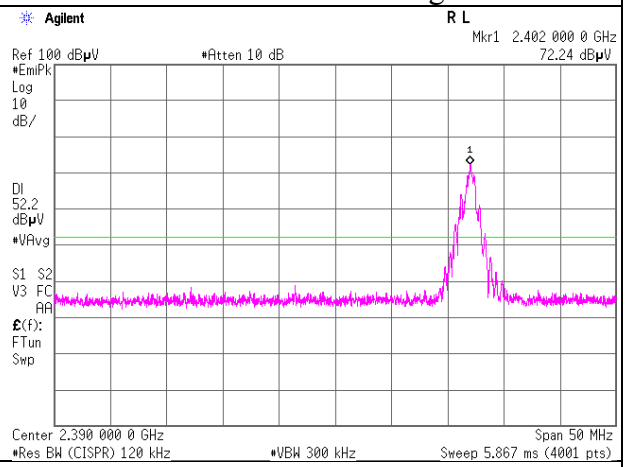
Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	72.3	27.8	13.7	41.0	3.1	75.9	-	-	Carrier
Hori.	2400.000	PK	42.6	27.8	13.7	41.0	3.1	46.2	55.9	9.7	
Vert.	2402.000	PK	70.3	27.8	13.7	41.0	3.1	73.9	-	-	Carrier
Vert.	2400.000	PK	40.5	27.8	13.7	41.0	3.1	44.1	53.9	9.8	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

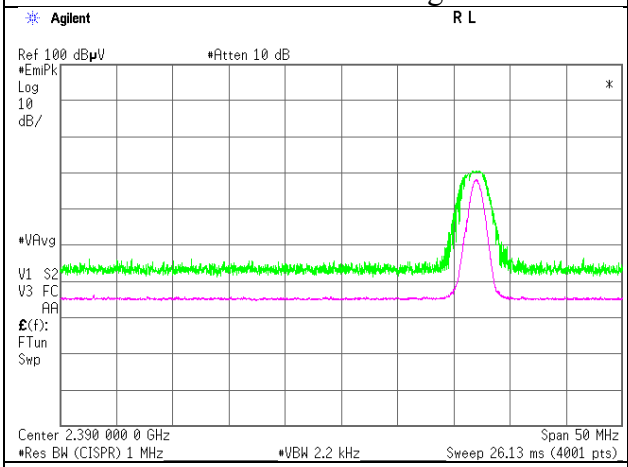
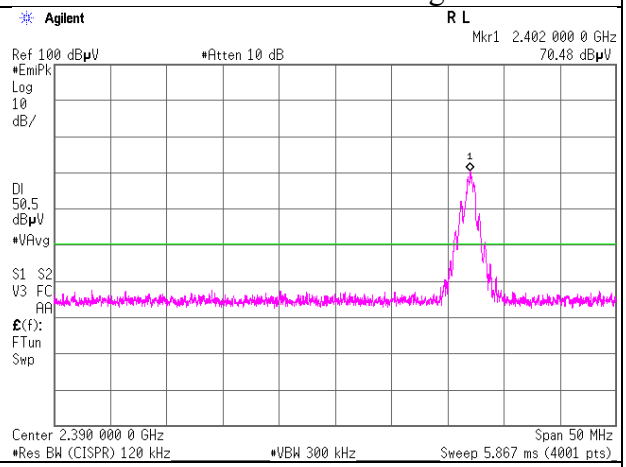
Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No. 3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz)
Mode	Tx 2402 MHz, RUFA (antenna cable 1 m)

Horizontal

Restricted-band band-edge Plot	Authorized-band band-edge Plot
	
Trace Green : Peak Plot Trace Purple : Average Plot	20dBc Plot

Vertical

Restricted-band band-edge Plot	Authorized-band band-edge Plot
	
Trace Green : Peak Plot Trace Purple : Average Plot	20dBc Plot

* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, RUFA (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.762	QP	51.2	5.9	8.3	31.8	0.0	33.6	40.0	6.4	241	243	
Hori.	153.469	QP	46.7	14.8	8.8	31.8	0.0	38.5	43.5	5.0	198	246	
Hori.	165.895	QP	45.2	15.5	8.9	31.8	0.0	37.8	43.5	5.7	192	251	
Hori.	4884.000	PK	57.5	31.7	5.9	39.5	3.1	58.7	73.9	15.2	142	189	
Hori.	7326.000	PK	45.2	36.9	7.3	40.2	3.1	52.3	73.9	21.6	100	0	
Hori.	9768.000	PK	46.5	38.5	8.3	39.5	3.1	56.9	73.9	17.0	100	0	
Hori.	12210.000	PK	46.2	39.6	9.5	39.4	3.1	59.0	73.9	14.9	100	0	
Hori.	4884.000	AV	51.4	31.7	5.9	39.5	3.1	52.6	53.9	1.3	142	189	
Hori.	7326.000	AV	35.1	36.9	7.3	40.2	3.1	42.2	53.9	11.7	100	0	
Hori.	9768.000	AV	35.6	38.5	8.3	39.5	3.1	46.0	53.9	7.9	100	0	
Hori.	12210.000	AV	34.6	39.6	9.5	39.4	3.1	47.4	53.9	6.5	100	0	
Vert.	67.626	QP	54.6	6.3	7.3	31.8	0.0	36.4	40.0	3.6	100	348	
Vert.	153.459	QP	48.8	14.8	8.8	31.8	0.0	40.6	43.5	2.9	100	160	
Vert.	165.895	QP	48.8	15.5	8.9	31.8	0.0	41.4	43.5	2.1	100	102	
Vert.	178.026	QP	49.2	16.2	8.9	31.8	0.0	42.5	43.5	**1.0**	100	110	
Vert.	4884.000	PK	55.0	31.7	5.9	39.5	3.1	56.2	73.9	17.7	100	351	
Vert.	7326.000	PK	45.0	36.9	7.3	40.2	3.1	52.1	73.9	21.8	100	0	
Vert.	9768.000	PK	46.5	38.5	8.3	39.5	3.1	56.9	73.9	17.0	100	0	
Vert.	12210.000	PK	45.6	39.6	9.5	39.4	3.1	58.4	73.9	15.5	100	0	
Vert.	4884.000	AV	48.7	31.7	5.9	39.5	3.1	49.9	53.9	4.0	100	351	
Vert.	7326.000	AV	34.8	36.9	7.3	40.2	3.1	41.9	53.9	12.0	100	0	
Vert.	9768.000	AV	35.8	38.5	8.3	39.5	3.1	46.2	53.9	7.7	100	0	
Vert.	12210.000	AV	35.0	39.6	9.5	39.4	3.1	47.8	53.9	6.1	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2482 MHz, RUFA (antenna cable 1 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.765	QP	51.1	5.9	8.3	31.8	0.0	33.5	40.0	6.5	241	244	
Hori.	153.458	QP	46.5	14.8	8.8	31.8	0.0	38.3	43.5	5.2	195	253	
Hori.	165.894	QP	45.7	15.5	8.9	31.8	0.0	38.3	43.5	5.2	192	258	
Hori.	4964.000	PK	57.6	32.0	6.0	39.4	3.1	59.3	73.9	14.6	123	192	
Hori.	7446.000	PK	47.0	37.0	7.5	40.4	3.1	54.2	73.9	19.7	100	0	
Hori.	9928.000	PK	45.7	38.4	8.4	39.4	3.1	56.2	73.9	17.7	100	0	
Hori.	12410.000	PK	44.4	39.5	9.6	39.6	3.1	57.0	73.9	16.9	100	0	
Hori.	4964.000	AV	51.7	32.0	6.0	39.4	3.1	53.4	53.9	0.5	123	192	
Hori.	7446.000	AV	36.1	37.0	7.5	40.4	3.1	43.3	53.9	10.6	100	0	
Hori.	9928.000	AV	34.7	38.4	8.4	39.4	3.1	45.2	53.9	8.7	100	0	
Hori.	12410.000	AV	34.7	39.5	9.6	39.6	3.1	47.3	53.9	6.6	100	0	
Vert.	67.627	QP	54.7	6.3	7.3	31.8	0.0	36.5	40.0	3.5	100	350	
Vert.	153.459	QP	49.1	14.8	8.8	31.8	0.0	40.9	43.5	2.6	100	130	
Vert.	165.891	QP	49.5	15.5	8.9	31.8	0.0	42.1	43.5	1.4	100	124	
Vert.	178.024	QP	49.7	16.2	8.9	31.8	0.0	43.0	43.5	**0.5**	100	123	
Vert.	4964.000	PK	55.3	32.0	6.0	39.4	3.1	57.0	73.9	16.9	100	354	
Vert.	7446.000	PK	46.3	37.0	7.5	40.4	3.1	53.5	73.9	20.4	100	0	
Vert.	9928.000	PK	45.3	38.4	8.4	39.4	3.1	55.8	73.9	18.1	100	0	
Vert.	12410.000	PK	46.5	39.5	9.6	39.6	3.1	59.1	73.9	14.8	100	0	
Vert.	4964.000	AV	49.1	32.0	6.0	39.4	3.1	50.8	53.9	3.1	100	354	
Vert.	7446.000	AV	35.9	37.0	7.5	40.4	3.1	43.1	53.9	10.8	100	0	
Vert.	9928.000	AV	34.7	38.4	8.4	39.4	3.1	45.2	53.9	8.7	100	0	
Vert.	12410.000	AV	34.7	39.5	9.6	39.6	3.1	47.3	53.9	6.6	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2482.000	PK	75.8	27.9	13.8	41.0	3.1	79.6	-	-	Carrier
Hori.	2483.500	PK	32.7	27.9	13.8	41.0	3.1	36.5	59.6	23.1	
Hori.	2483.596	PK	33.9	27.9	13.8	41.0	3.1	37.7	59.6	21.9	
Vert.	2482.000	PK	71.0	27.9	13.8	41.0	3.1	74.8	-	-	Carrier
Vert.	2483.500	PK	30.0	27.9	13.8	41.0	3.1	33.8	54.8	21.0	
Vert.	2483.616	PK	32.6	27.9	13.8	41.0	3.1	36.4	54.8	18.4	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No. 3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa
	(1-2.8 GHz)
Mode	Tx 2482 MHz, RUFA (antenna cable 1 m)

Marker Delta Method (Test distance 3meter)

Frequency of Band-edge: 2483.5 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	76.06	79.85	71.32	75.11	1MHz/2.2kHz	73.78	77.57	69.02	72.81
Step2	Fundamental (2482MHz)	30kHz/91kHz	74.32	78.11	69.34	73.13	-	-	-	-	-
	Band-edge(2483.5MHz)	30kHz/91kHz	32.69	36.48	30.02	33.81	-	-	-	-	-
	Amplitude delta [dB]	-	41.63		39.32		-	41.63		39.32	
Step3	Field strenght of band-edge	-	-	38.22	-	35.79	-	-	35.94	-	33.49
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	73.9	-	-	53.9	-	53.9
	Margin [dB]	-	-	35.68	-	38.11	-	-	17.96	-	20.41

Frequency of Band-edge: 2483.616 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	-	-	71.32	75.11	1MHz/2.2kHz	-	-	69.02	72.81
Step2	Fundamental (2482MHz)	30kHz/91kHz	-	-	69.34	73.13	-	-	-	-	-
	Band-edge(2483.616MHz)	30kHz/91kHz	-	-	32.62	36.41	-	-	-	-	-
	Amplitude delta [dB]	-	-		36.72		-	-		36.72	
Step3	Field strenght of band-edge	-	-	-	-	38.39	-	-	-	-	36.09
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	-	-	73.9	-	-	-	-	53.9
	Margin [dB]	-	-	-	-	35.51	-	-	-	-	17.81

Frequency of Band-edge: 2483.596 MHz

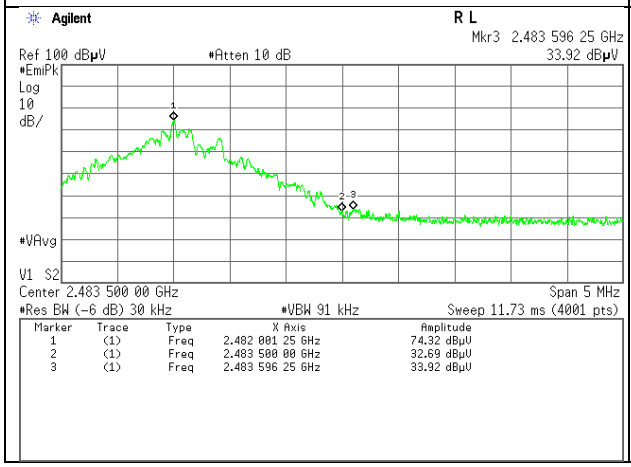
		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	76.06	79.85	-	-	1MHz/2.2kHz	73.78	77.57	-	-
Step2	Fundamental (2482MHz)	30kHz/91kHz	74.32	78.11	-	-	-	-	-	-	-
	Band-edge(2483.596MHz)	30kHz/91kHz	33.92	37.71	-	-	-	-	-	-	-
	Amplitude delta [dB]	-	40.4		-		-	40.4		-	
Step3	Field strenght of band-edge	-	-	39.45	-	-	-	-	37.17	-	-
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	-	-	-	53.9	-	-
	Margin [dB]	-	-	34.45	-	-	-	-	16.73	-	-

Result = Reading + Ant Factor + Loss (Cable+Attenuator) - Gain(Amprifier) (Refer to Radiated emission data sheets)

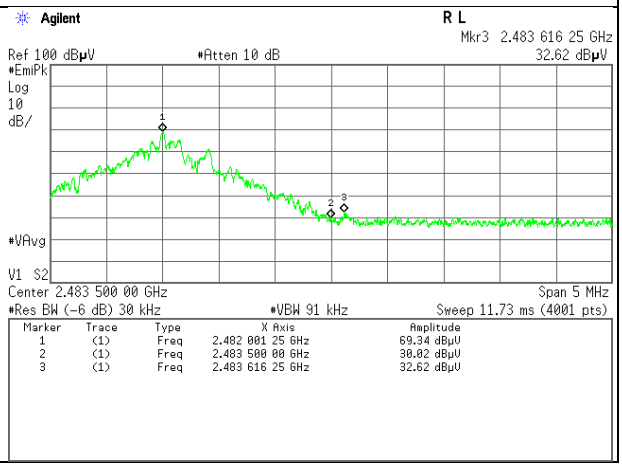
*1 Amplitude delta = Fundamental(RBW:30kHz,VBW:91kHz) - Band-edge(RBW:30kHz,VBW:91kHz)

*2 Field strength of band-edge = Fundamental(Peak or Average) - Amplitude delta - Dwell time factor

Horizontal



Vertical



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 10, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	20 deg. C / 30 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2402 MHz, RUFA (antenna cable 15 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.765	QP	51.9	5.9	8.3	31.8	0.0	34.3	40.0	5.7	243	239	
Hori.	92.200	QP	50.3	8.2	8.3	31.8	0.0	35.0	43.5	8.5	187	236	
Hori.	104.331	QP	48.9	10.4	8.1	31.8	0.0	35.6	43.5	7.9	309	211	
Hori.	2390.000	PK	45.8	27.8	13.7	41.0	3.1	49.4	73.9	24.5	100	270	
Hori.	4804.000	PK	57.9	31.4	5.8	39.6	3.1	58.6	73.9	15.3	147	189	
Hori.	7206.000	PK	46.6	36.9	7.2	40.1	3.1	53.7	73.9	20.2	100	0	
Hori.	9608.000	PK	46.2	38.5	8.2	39.6	3.1	56.4	73.9	17.5	100	0	
Hori.	12010.000	PK	45.7	39.7	9.4	39.3	3.1	58.6	73.9	15.3	100	0	
Hori.	2390.000	AV	35.3	27.8	13.7	41.0	3.1	38.9	53.9	15.0	100	270	
Hori.	4804.000	AV	51.8	31.4	5.8	39.6	3.1	52.5	53.9	**1.4**	147	189	
Hori.	7206.000	AV	35.5	36.9	7.2	40.1	3.1	42.6	53.9	11.3	100	0	
Hori.	9608.000	AV	35.5	38.5	8.2	39.6	3.1	45.7	53.9	8.2	100	0	
Hori.	12010.000	AV	34.0	39.7	9.4	39.3	3.1	46.9	53.9	7.0	100	0	
Vert.	67.627	QP	54.6	6.3	7.3	31.8	0.0	36.4	40.0	3.6	100	325	
Vert.	92.194	QP	57.1	8.2	8.3	31.8	0.0	41.8	43.5	1.7	100	318	
Vert.	141.334	QP	48.7	14.2	8.6	31.8	0.0	39.7	43.5	3.8	100	185	
Vert.	2390.000	PK	46.5	27.8	13.7	41.0	3.1	50.1	73.9	23.8	100	150	
Vert.	4804.000	PK	57.6	31.4	5.8	39.6	3.1	58.3	73.9	15.6	100	178	
Vert.	7206.000	PK	46.6	36.9	7.2	40.1	3.1	53.7	73.9	20.2	100	0	
Vert.	9608.000	PK	45.7	38.5	8.2	39.6	3.1	55.9	73.9	18.0	100	0	
Vert.	12010.000	PK	44.7	39.7	9.4	39.3	3.1	57.6	73.9	16.3	100	0	
Vert.	2390.000	AV	35.2	27.8	13.7	41.0	3.1	38.8	53.9	15.1	100	150	
Vert.	4804.000	AV	51.0	31.4	5.8	39.6	3.1	51.7	53.9	2.2	100	178	
Vert.	7206.000	AV	35.6	36.9	7.2	40.1	3.1	42.7	53.9	11.2	100	0	
Vert.	9608.000	AV	35.0	38.5	8.2	39.6	3.1	45.2	53.9	8.7	100	0	
Vert.	12010.000	AV	34.1	39.7	9.4	39.3	3.1	47.0	53.9	6.9	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	65.9	27.8	13.7	41.0	3.1	69.5	-	-	Carrier
Hori.	2400.000	PK	38.1	27.8	13.7	41.0	3.1	41.7	49.5	7.8	
Vert.	2402.000	PK	65.4	27.8	13.7	41.0	3.1	69.0	-	-	Carrier
Vert.	2400.000	PK	38.2	27.8	13.7	41.0	3.1	41.8	49.0	7.2	

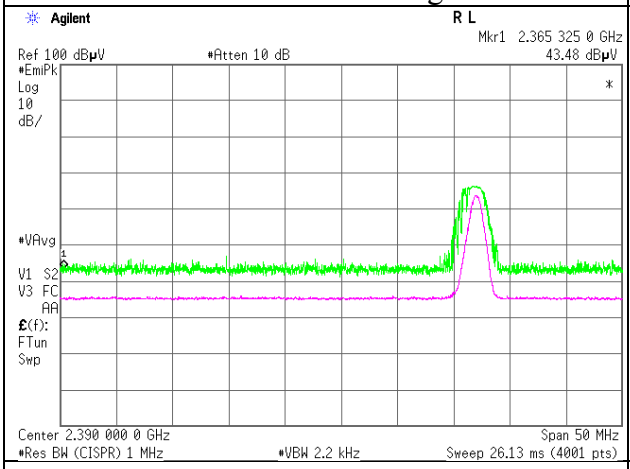
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz)
Mode	Tx 2402 MHz, RUFA (antenna cable 15 m)

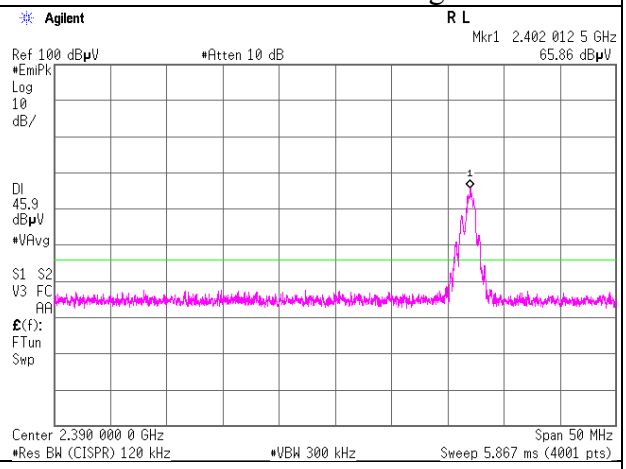
Horizontal

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

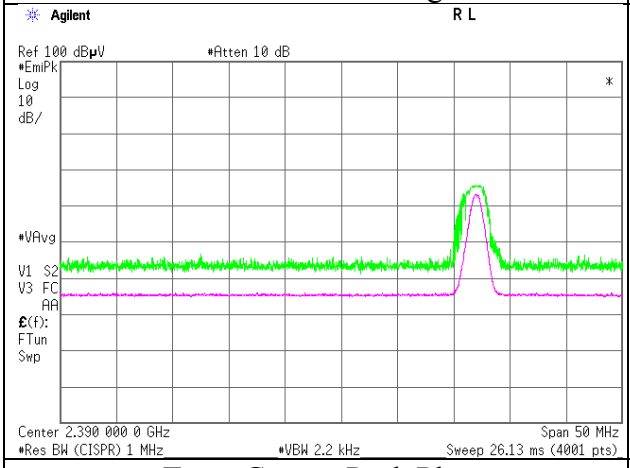
Authorized-band band-edge Plot



20dBc Plot

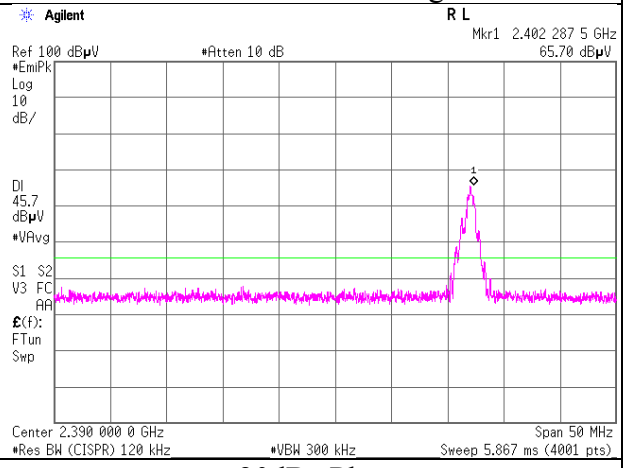
Vertical

Restricted-band band-edge Plot



Trace Green : Peak Plot
Trace Purple : Average Plot

Authorized-band band-edge Plot



20dBc Plot

* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 10, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	20 deg. C / 30 % RH
Engineer	Yosuke Ishikawa (1-2.8 GHz, 3AC)	Wataru Kojima (2.8-18 GHz, 3AC)	Kenichi Adachi (18-26 GHz, 1AC)	Hiroyuki Morikawa (30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, RUFA (antenna cable 15 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.765	QP	52.0	5.9	8.3	31.8	0.0	34.4	40.0	5.6	232	244	
Hori.	92.203	QP	50.8	8.2	8.3	31.8	0.0	35.5	43.5	8.0	203	236	
Hori.	104.334	QP	50.0	10.4	8.1	31.8	0.0	36.7	43.5	6.8	296	229	
Hori.	4884.000	PK	58.2	31.7	5.9	39.5	3.1	59.4	73.9	14.5	150	193	
Hori.	7326.000	PK	45.7	36.9	7.3	40.2	3.1	52.8	73.9	21.1	100	0	
Hori.	9768.000	PK	46.7	38.5	8.3	39.5	3.1	57.1	73.9	16.8	100	0	
Hori.	12210.000	PK	45.5	39.6	9.5	39.4	3.1	58.3	73.9	15.6	100	0	
Hori.	4884.000	AV	52.0	31.7	5.9	39.5	3.1	53.2	53.9	**0.7**	150	193	
Hori.	7326.000	AV	35.2	36.9	7.3	40.2	3.1	42.3	53.9	11.6	100	0	
Hori.	9768.000	AV	35.6	38.5	8.3	39.5	3.1	46.0	53.9	7.9	100	0	
Hori.	12210.000	AV	34.6	39.6	9.5	39.4	3.1	47.4	53.9	6.5	100	0	
Vert.	67.630	QP	55.0	6.3	7.3	31.8	0.0	36.8	40.0	3.2	100	288	
Vert.	92.197	QP	57.2	8.2	8.3	31.8	0.0	41.9	43.5	1.6	100	329	
Vert.	141.337	QP	48.9	14.2	8.6	31.8	0.0	39.9	43.5	3.6	100	176	
Vert.	4884.000	PK	56.5	31.7	5.9	39.5	3.1	57.7	73.9	16.2	100	179	
Vert.	7326.000	PK	46.6	36.9	7.3	40.2	3.1	53.7	73.9	20.2	100	0	
Vert.	9768.000	PK	46.8	38.5	8.3	39.5	3.1	57.2	73.9	16.7	100	0	
Vert.	12210.000	PK	45.0	39.6	9.5	39.4	3.1	57.8	73.9	16.1	100	0	
Vert.	4884.000	AV	50.0	31.7	5.9	39.5	3.1	51.2	53.9	2.7	100	179	
Vert.	7326.000	AV	35.1	36.9	7.3	40.2	3.1	42.2	53.9	11.7	100	0	
Vert.	9768.000	AV	35.4	38.5	8.3	39.5	3.1	45.8	53.9	8.1	100	0	
Vert.	12210.000	AV	34.5	39.6	9.5	39.4	3.1	47.3	53.9	6.6	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 & 3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	December 25, 2015	January 08, 2016	January 10, 2016
Temperature / Humidity	26 deg. C / 42 % RH	23 deg. C / 35 % RH	23 deg. C / 31 % RH	20 deg. C / 30 % RH
Engineer	Yosuke Ishikawa	Wataru Kojima	Kenichi Adachi	Hiroyuki Morikawa
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 3AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2482 MHz, RUFA (antenna cable 15 m)			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	79.760	QP	52.0	5.9	8.3	31.8	0.0	34.4	40.0	5.6	251	242	
Hori.	92.197	QP	51.0	8.2	8.3	31.8	0.0	35.7	43.5	7.8	202	232	
Hori.	104.332	QP	49.9	10.4	8.1	31.8	0.0	36.6	43.5	6.9	299	231	
Hori.	4964.000	PK	57.6	32.0	6.0	39.4	3.1	59.3	73.9	14.6	147	181	
Hori.	7466.000	PK	47.7	37.0	7.5	40.4	3.1	54.9	73.9	19.0	100	0	
Hori.	9928.000	PK	45.8	38.4	8.4	39.4	3.1	56.3	73.9	17.6	100	0	
Hori.	12410.000	PK	44.2	39.5	9.6	39.6	3.1	56.8	73.9	17.1	100	0	
Hori.	4964.000	AV	51.5	32.0	6.0	39.4	3.1	53.2	53.9	**0.7**	147	181	
Hori.	7466.000	AV	35.8	37.0	7.5	40.4	3.1	43.0	53.9	10.9	100	0	
Hori.	9928.000	AV	34.8	38.4	8.4	39.4	3.1	45.3	53.9	8.6	100	0	
Hori.	12410.000	AV	34.6	39.5	9.6	39.6	3.1	47.2	53.9	6.7	100	0	
Vert.	67.631	QP	55.2	6.3	7.3	31.8	0.0	37.0	40.0	3.0	100	316	
Vert.	92.199	QP	57.4	8.2	8.3	31.8	0.0	42.1	43.5	1.4	100	334	
Vert.	141.331	QP	50.3	14.2	8.6	31.8	0.0	41.3	43.5	2.2	100	131	
Vert.	4964.000	PK	56.9	32.0	6.0	39.4	3.1	58.6	73.9	15.3	100	176	
Vert.	7466.000	PK	46.2	37.0	7.5	40.4	3.1	53.4	73.9	20.5	100	0	
Vert.	9928.000	PK	45.3	38.4	8.4	39.4	3.1	55.8	73.9	18.1	100	0	
Vert.	12410.000	PK	46.4	39.5	9.6	39.6	3.1	59.0	73.9	14.9	100	0	
Vert.	4964.000	AV	50.6	32.0	6.0	39.4	3.1	52.3	53.9	1.6	100	176	
Vert.	7466.000	AV	35.8	37.0	7.5	40.4	3.1	43.0	53.9	10.9	100	0	
Vert.	9928.000	AV	34.9	38.4	8.4	39.4	3.1	45.4	53.9	8.5	100	0	
Vert.	12410.000	AV	34.7	39.5	9.6	39.6	3.1	47.3	53.9	6.6	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Dwell(time)factor + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB
Dwell (time) factor refer to "Dwell time factor Calculation chart" sheet.

20 dBc Data Sheet **(RBW 100 kHz, VBW 300 kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2482.000	PK	65.5	27.9	13.8	41.0	3.1	69.3	-	-	Carrier
Hori.	2483.500	PK	28.2	27.9	13.8	41.0	3.1	32.0	49.3	17.3	
Hori.	2483.510	PK	30.3	27.9	13.8	41.0	3.1	34.1	49.3	15.2	
Vert.	2482.000	PK	67.4	27.9	13.8	41.0	3.1	71.2	-	-	Carrier
Vert.	2483.500	PK	29.1	27.9	13.8	41.0	3.1	32.9	51.2	18.3	
Vert.	2483.905	PK	31.1	27.9	13.8	41.0	3.1	34.9	51.2	16.3	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Distance factor : 1 GHz - 13 GHz : 20log (4.25 m / 3.0 m) = 3.1 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission
(Reference Plot for band-edge)

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	11082059S
Date	December 22, 2015
Temperature / Humidity	26 deg. C / 42 % RH
Engineer	Yosuke Ishikawa
	(1-2.8 GHz)
Mode	Tx 2482 MHz, RUFA (antenna cable 15 m)

Marker Delta Method (Test distance 3meter)

Frequency of Band-edge: 2483.5 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	66.2	69.99	67.89	71.68	1MHz/2.2kHz	63.45	67.24	65.37	69.16
Step2	Fundamental (2482MHz)	30kHz/91kHz	64.03	67.82	66.15	69.94	-	-	-	-	-
	Band-edge(2483.5MHz)	30kHz/91kHz	28.2	31.99	29.11	32.9	-	-	-	-	-
	Amplitude delta [dB]	-	35.83		37.04		-	35.83		37.04	
Step3	Field strenght of band-edge	-	-	34.16	-	34.64	-	-	31.41	-	32.12
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	73.9	-	-	53.9	-	53.9
	Margin [dB]	-	-	39.74	-	39.26	-	-	22.49	-	21.78

Frequency of Band-edge: 2483.905 MHz

		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	-	-	67.89	71.68	1MHz/2.2kHz	-	-	65.37	69.16
Step2	Fundamental (2482MHz)	30kHz/91kHz	-	-	66.15	69.94	-	-	-	-	-
	Band-edge(2483.905MHz)	30kHz/91kHz	-	-	31.06	34.85	-	-	-	-	-
	Amplitude delta [dB]	-	-		35.09		-	-		35.09	
Step3	Field strenght of band-edge	-	-	-	-	36.59	-	-	-	-	34.07
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	-	-	73.9	-	-	-	-	53.9
	Margin [dB]	-	-	-	-	37.31	-	-	-	-	19.83

Frequency of Band-edge: 2483.51 MHz

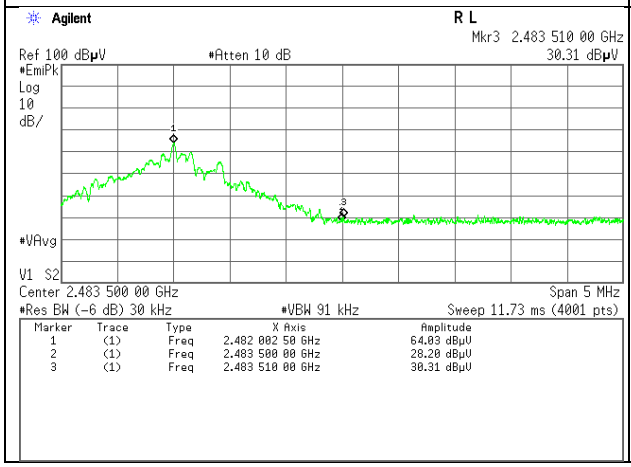
		Peak					Average				
		Polarity	Hor.		Ver.		Polarity	Hor.		Ver.	
		RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]	RBW/VBW	Reading [dBµV]	Result [dBµV]	Reading [dBµV]	Result [dBµV]
Step1	Fundamental (2482MHz)	1MHz/3MHz	66.2	69.99	-	-	1MHz/2.2kHz	63.45	67.24	-	-
Step2	Fundamental (2482MHz)	30kHz/91kHz	64.03	67.82	-	-	-	-	-	-	-
	Band-edge(2483.51MHz)	30kHz/91kHz	30.31	34.1	-	-	-	-	-	-	-
	Amplitude delta [dB]	-	33.72		-		-	33.72		-	
Step3	Field strenght of band-edge	-	-	36.27	-	-	-	-	33.52	-	-
Step4	Dwell time factor	-	-	-	-	-	-	-	-	-	-
	Limit	-	-	73.9	-	-	-	-	53.9	-	-
	Margin [dB]	-	-	37.63	-	-	-	-	20.38	-	-

Result = Reading + Ant Factor + Loss (Cable+Attenuator) - Gain(Amprifier) (Refer to Radiated emission data sheets)

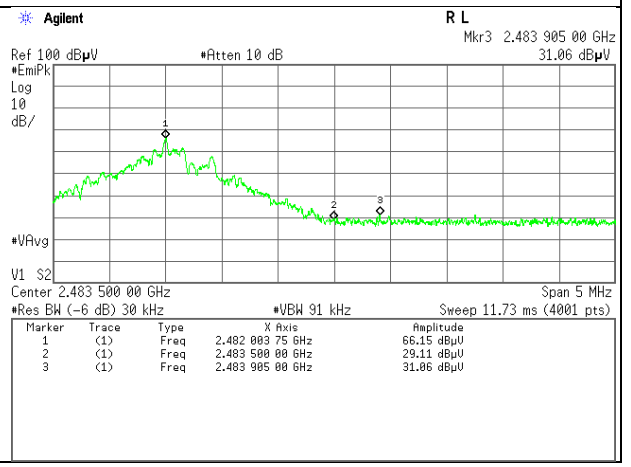
*1 Amplitude delta = Fundamental(RBW:30kHz,VBW:91kHz) - Band-edge(RBW:30kHz,VBW:91kHz)

*2 Field strength of band-edge = Fundamental(Peak or Average) - Amplitude delta - Dwell time factor

Horizontal



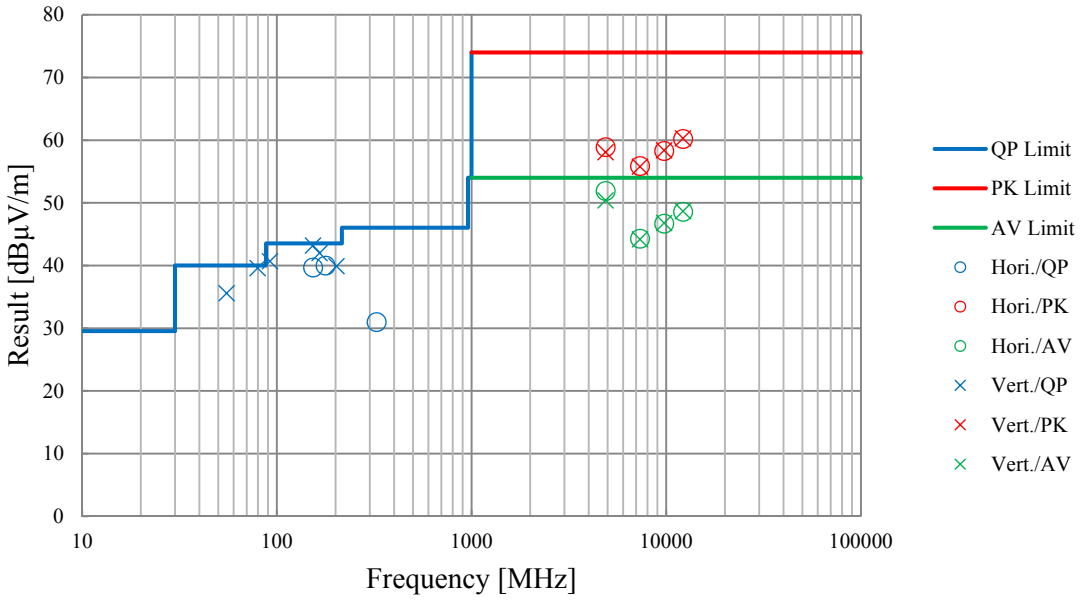
Vertical



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission
(Plot data, Worst case)

Test place	Shonan EMC Lab. No.1, No.2, No.3 Semi Anechoic Chamber			
Report No.	11082059S			
Date	December 22, 2015	January 05, 2016	January 08, 2016	January 09, 2016
Temperature / Humidity	26 deg. C / 42 % RH	24 deg. C / 28 % RH	23 deg. C / 31 % RH	23 deg. C / 31 % RH
Engineer	Yosuke Ishikawa	Kenichi Adachi	Kenichi Adachi	Kenichi Adachi
	(1-2.8 GHz, 3AC)	(2.8-18 GHz, 2AC)	(18-26 GHz, 1AC)	(30-1000 MHz, 1AC)
Mode	Tx 2442 MHz, ANT-2.45-CHP-X (antenna cable 5 m)			



*These plots data contains sufficient number to show the trend of characteristic features for EUT.

APPENDIX 2: Test instruments

Test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
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
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2015/03/23 * 12
SJM-15	Measure	ASKUL	-	-	RE	-
SAEC-03(SVSWR)	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	RE	2015/08/28 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RFI,MF)	-	RE	
STS-03	Digital Hitester	Hioki	3805-50	080997823	RE	2015/11/18 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2015/11/04 * 12
SSA-01	Spectrum Analyzer	Agilent	N9010A-526	MY48031482	RE	2015/04/10 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2015/11/16 * 12
SAEC-02(SVSWR)	Semi-Anechoic Chamber	TDK	SAEC-02(SVSWR)	2	RE	2015/07/09 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2015/08/10 * 12
SCC-G05	Coaxial Cable	Junkosha	J12J102207-00	APR-30-15-037	RE	2015/05/11 * 12
SFL-18	Highpass Filter	MICRO-TRONICS	HPM50111	119	RE	2015/04/09 * 12
KAF-04	Pre Amplifier	Agilent	8449B	3008A01600	RE	2015/04/28 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2015/05/19 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2015/09/04 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2015/10/22 * 12
SJM-09	Measure	PROMART	SEN1935	-	RE	-
STS-02	Digital Hitester	Hioki	3805-50	080997819	RE	2015/03/10 * 12
SAF-04	Pre Amplifier	TOYO Corporation	TPA0118-36	1440489	RE	2015/03/23 * 12
SCC-G01	Coaxial Cable	Suhner	SUCOFLEX 104A	46497/4A	RE	2015/04/17 * 12
SCC-G21	Coaxial Cable	Suhner	SUCOFLEX 104	296169/4	RE	2015/05/19 * 12
SHA-01	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-725	RE	2015/08/10 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2015/10/22 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE	2015/11/06 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE	-
SAEC-01(SVSWR)	Semi-Anechoic Chamber	TDK	SAEC-01(SVSWR)	1	RE	2015/07/08 * 12
STS-01	Digital Hitester	Hioki	3805-50	080997812	RE	2015/11/18 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2015/03/17 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2015/03/23 * 12
SCC-G15	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	RE	2015/03/11 * 12
SCC-G33	Coaxial Cable	Junkosha	MWX241-01000KMSKMS	-	RE	2015/04/09 * 12
SAF-01	Pre Amplifier	SONOMA	310N	290211	RE	2015/02/18 * 12
KAT6-04	Attenuator	INMET	18N-6dB	-	RE	2015/12/18 * 12
SAT3-09	Attenuator	JFW	50HF-003N	-	RE	2015/08/31 * 12
SBA-01	Biconical Antenna	Schwarzbeck	BBA9106	91032664	RE	2015/10/11 * 12
SCC-A1/A3/A5/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2015/04/17 * 12
SCC-A2/A4/A6/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2015/04/17 * 12
SLA-01	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0888	RE	2015/10/11 * 12
SAEC-01(NSA)	Semi-Anechoic Chamber	TDK	SAEC-01(NSA)	1	RE	2015/07/13 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.
Test Item: RE: Radiated Emission test