

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

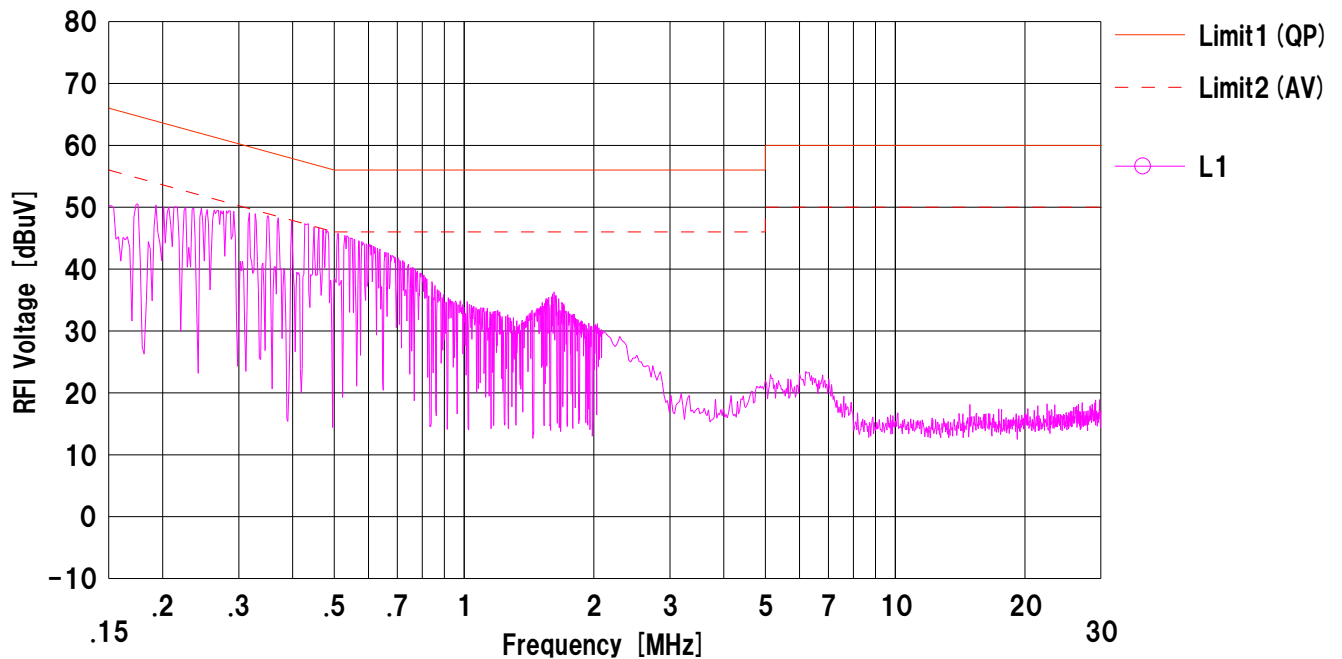
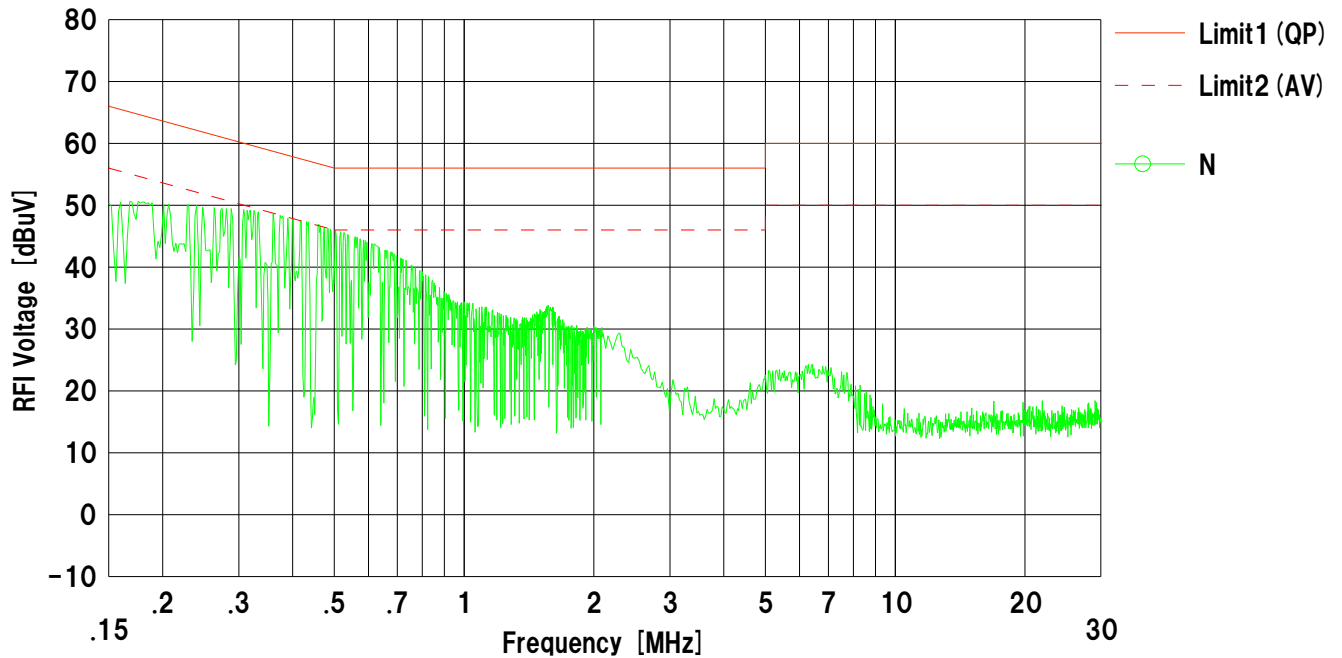
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx DH5 2402MHz
Report No. : 31CE0052-HO-01-I
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



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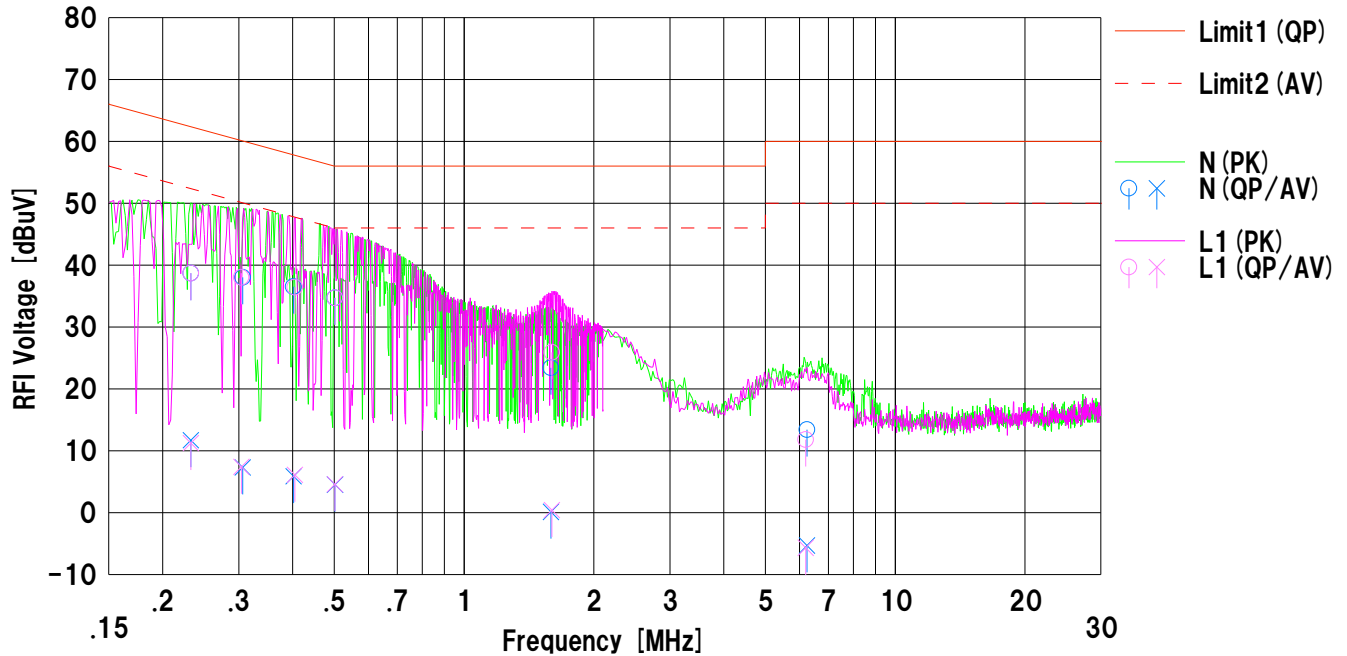
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx DH5 2441MHz
Report No. : 31CE0052-HO-01-I
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23250	26.1	-0.9	12.6	38.7	11.7	62.3	52.3	23.6	40.6	N	
2	0.30640	25.3	-5.4	12.7	38.0	7.3	60.0	50.0	22.0	42.7	N	
3	0.40202	23.8	-6.8	12.7	36.5	5.9	57.8	47.8	21.3	41.9	N	
4	0.50180	22.0	-8.2	12.7	34.7	4.5	56.0	46.0	21.3	41.5	N	
5	1.59055	10.6	-12.7	12.8	23.4	0.1	56.0	46.0	32.6	45.9	N	
6	6.24210	0.3	-18.4	13.1	13.4	-5.3	60.0	50.0	46.6	55.3	N	
7	0.23250	26.1	-1.4	12.6	38.7	11.2	62.3	52.3	23.6	41.1	L1	
8	0.30430	25.3	-5.3	12.7	38.0	7.4	60.1	50.1	22.1	42.7	L1	
9	0.40510	23.7	-6.6	12.7	36.4	6.1	57.7	47.7	21.3	41.6	L1	
10	0.50150	22.0	-8.1	12.7	34.7	4.6	56.0	46.0	21.3	41.4	L1	
11	1.59820	13.1	-12.4	12.8	25.9	0.4	56.0	46.0	30.1	45.6	L1	
12	6.20400	-1.3	-18.8	13.1	11.8	-5.7	60.0	50.0	48.2	55.7	L1	

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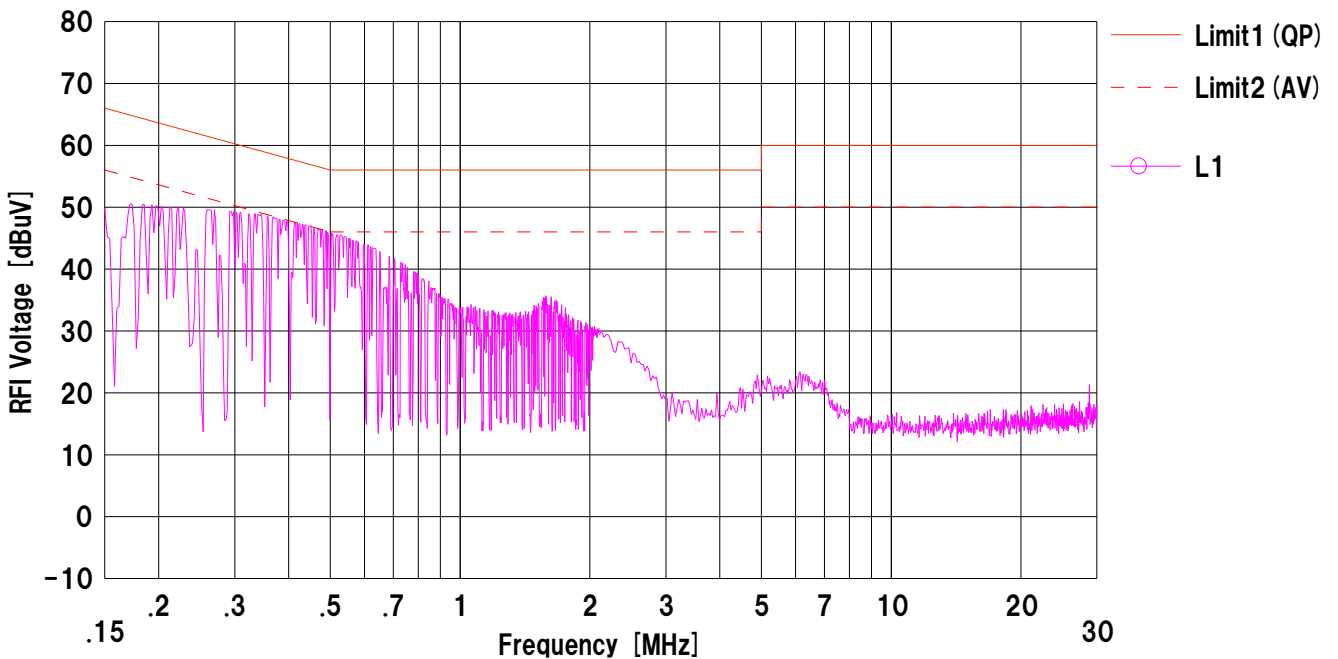
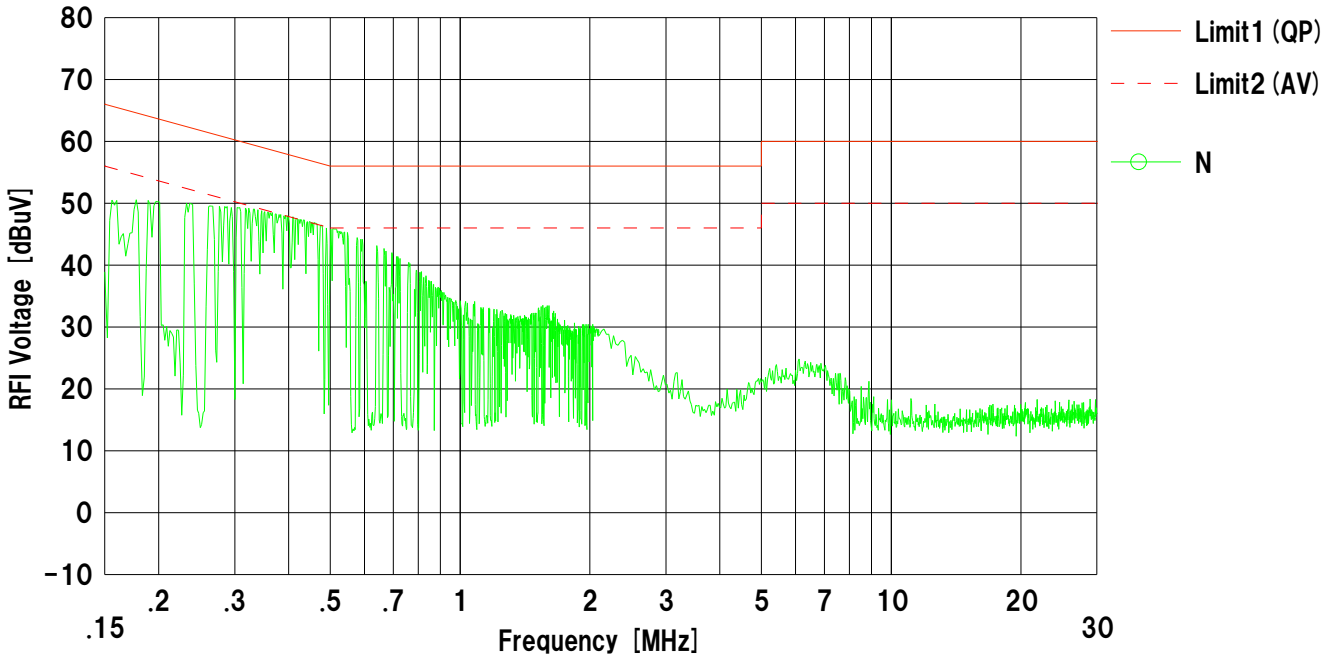
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx DH5 2480MHz
Report No. : 31CE0052-HO-01-I
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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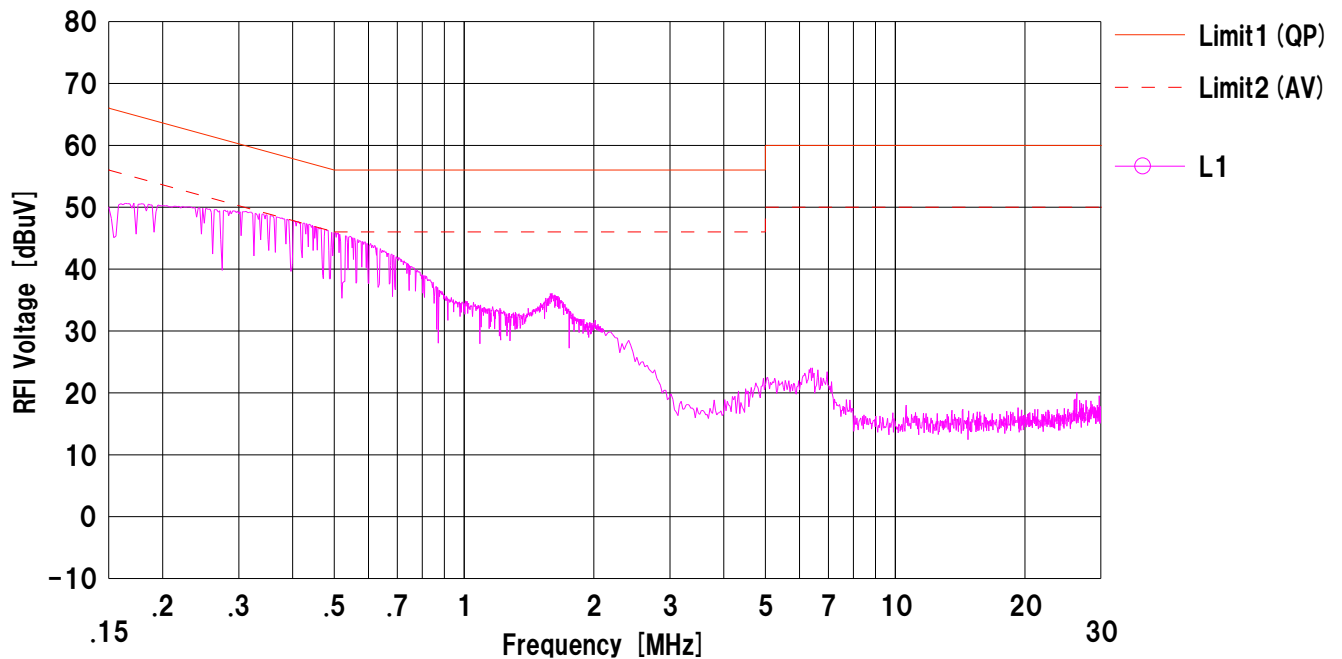
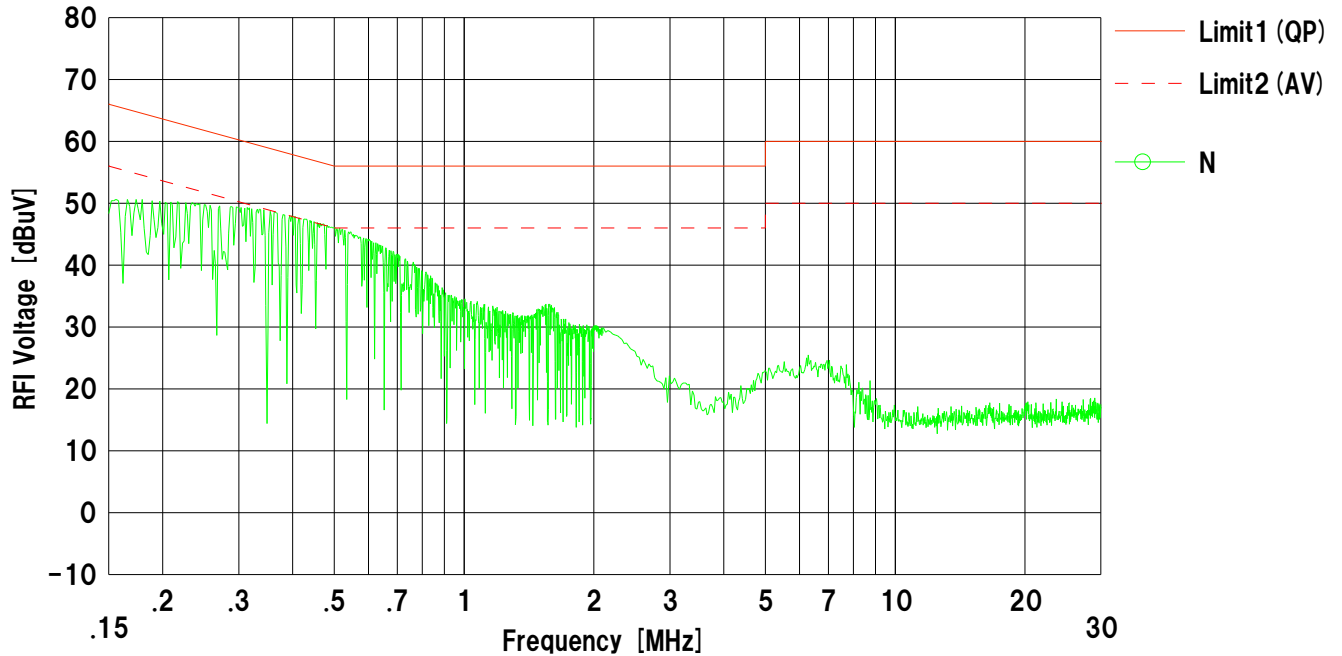
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 3DH5 2402MHz
Report No. : 31CE0052-HO-01-I
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Limit2 : FCC 15C (15.207) AV

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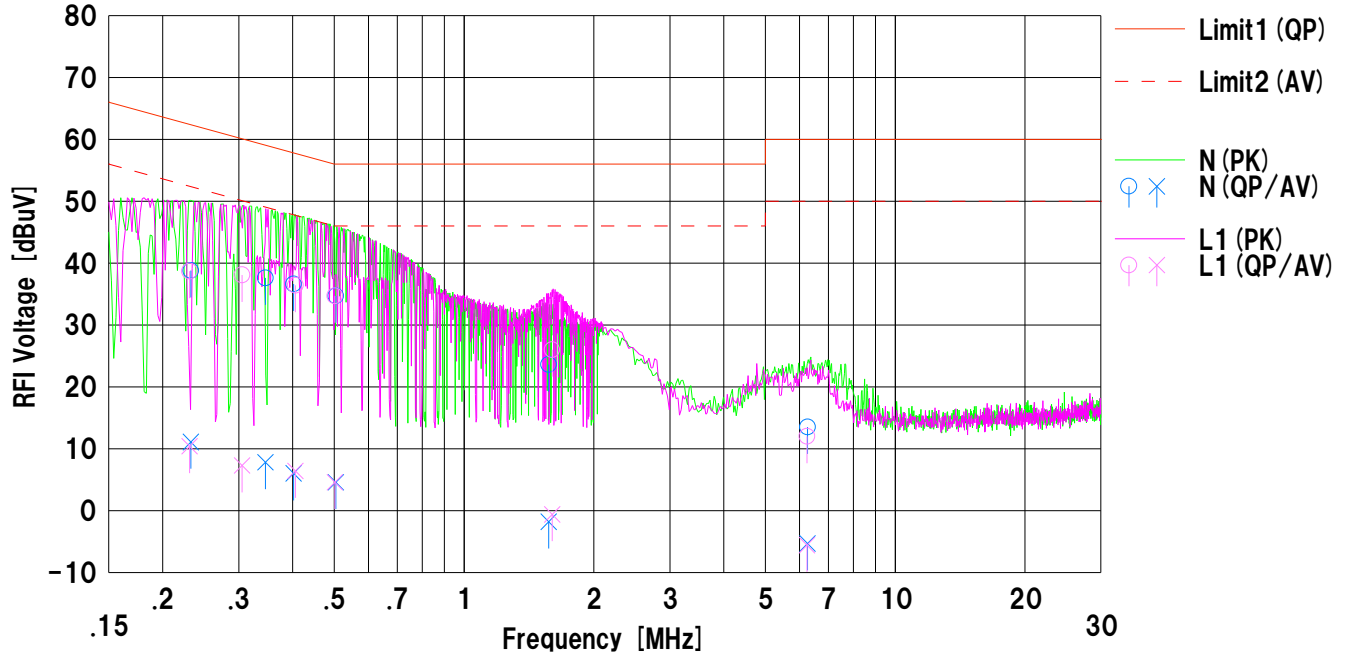
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Mode : Tx 3DH5 2441MHz
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Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23224	26.2	-1.5	12.6	38.8	11.1	62.3	52.3	23.5	41.2	N	
2	0.34594	24.9	-4.9	12.7	37.6	7.8	59.0	49.0	21.4	41.2	N	
3	0.40233	23.9	-6.7	12.7	36.6	6.0	57.8	47.8	21.2	41.8	N	
4	0.50411	22.0	-8.1	12.7	34.7	4.6	56.0	46.0	21.3	41.4	N	
5	1.57130	10.8	-14.6	12.8	23.6	-1.8	56.0	46.0	32.4	47.8	N	
6	6.27100	0.4	-18.4	13.1	13.5	-5.3	60.0	50.0	46.5	55.3	N	
7	0.23070	26.1	-2.2	12.6	38.7	10.4	62.4	52.4	23.7	42.0	L1	
8	0.30542	25.4	-5.4	12.7	38.1	7.3	60.0	50.0	21.9	42.7	L1	
9	0.40644	23.7	-6.3	12.7	36.4	6.4	57.7	47.7	21.3	41.3	L1	
10	0.50130	22.0	-8.1	12.7	34.7	4.6	56.0	46.0	21.3	41.4	L1	
11	1.60010	13.2	-13.4	12.8	26.0	-0.6	56.0	46.0	30.0	46.6	L1	
12	6.24520	-1.1	-18.7	13.1	12.0	-5.6	60.0	50.0	48.0	55.6	L1	

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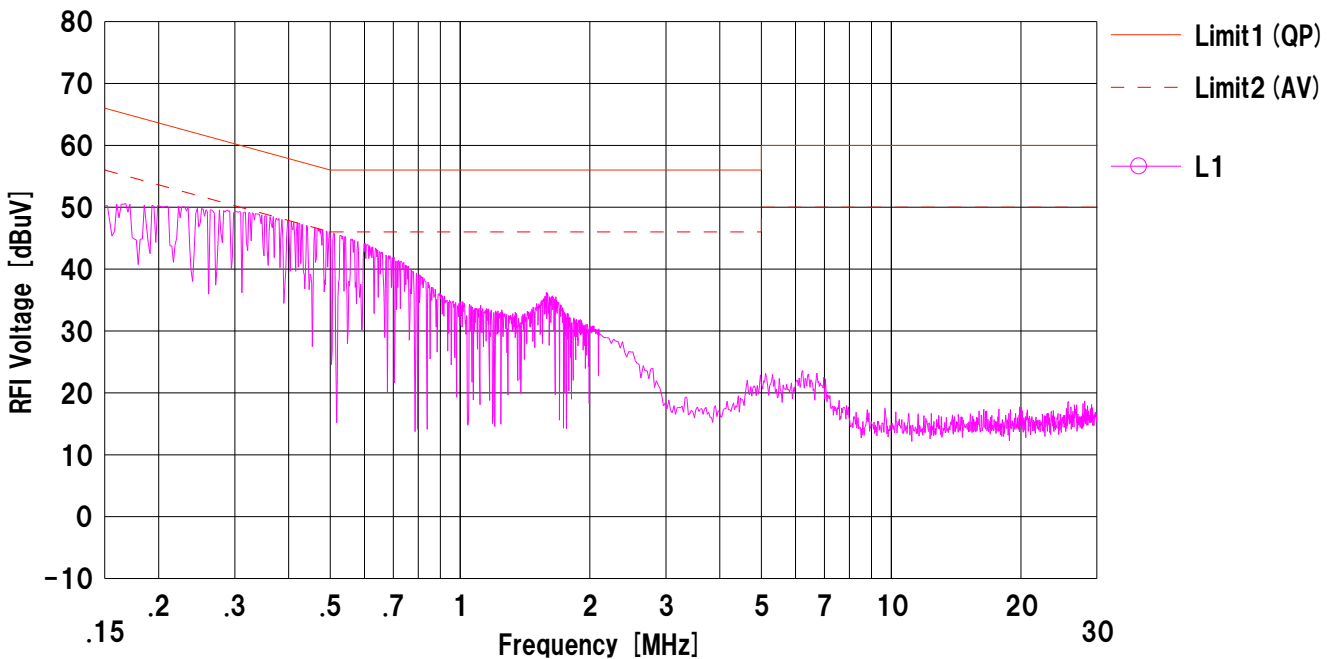
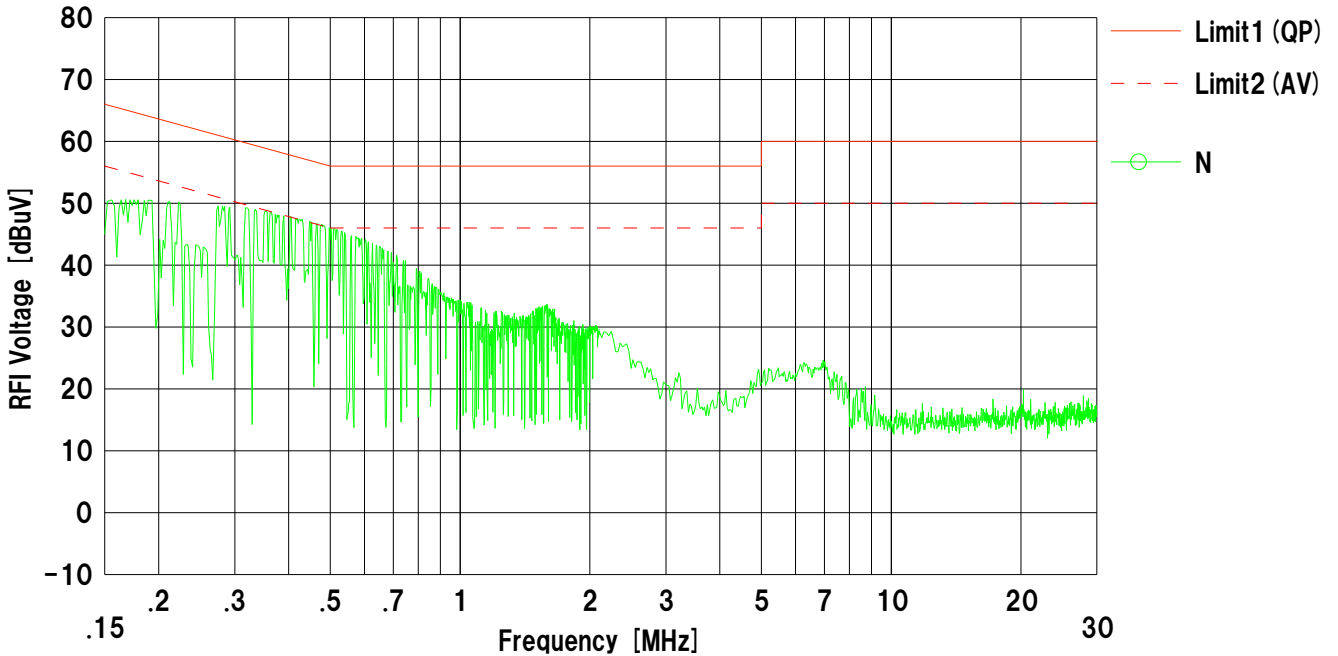
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Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 3DH5 2480MHz
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Engineer : Akio Hayashi



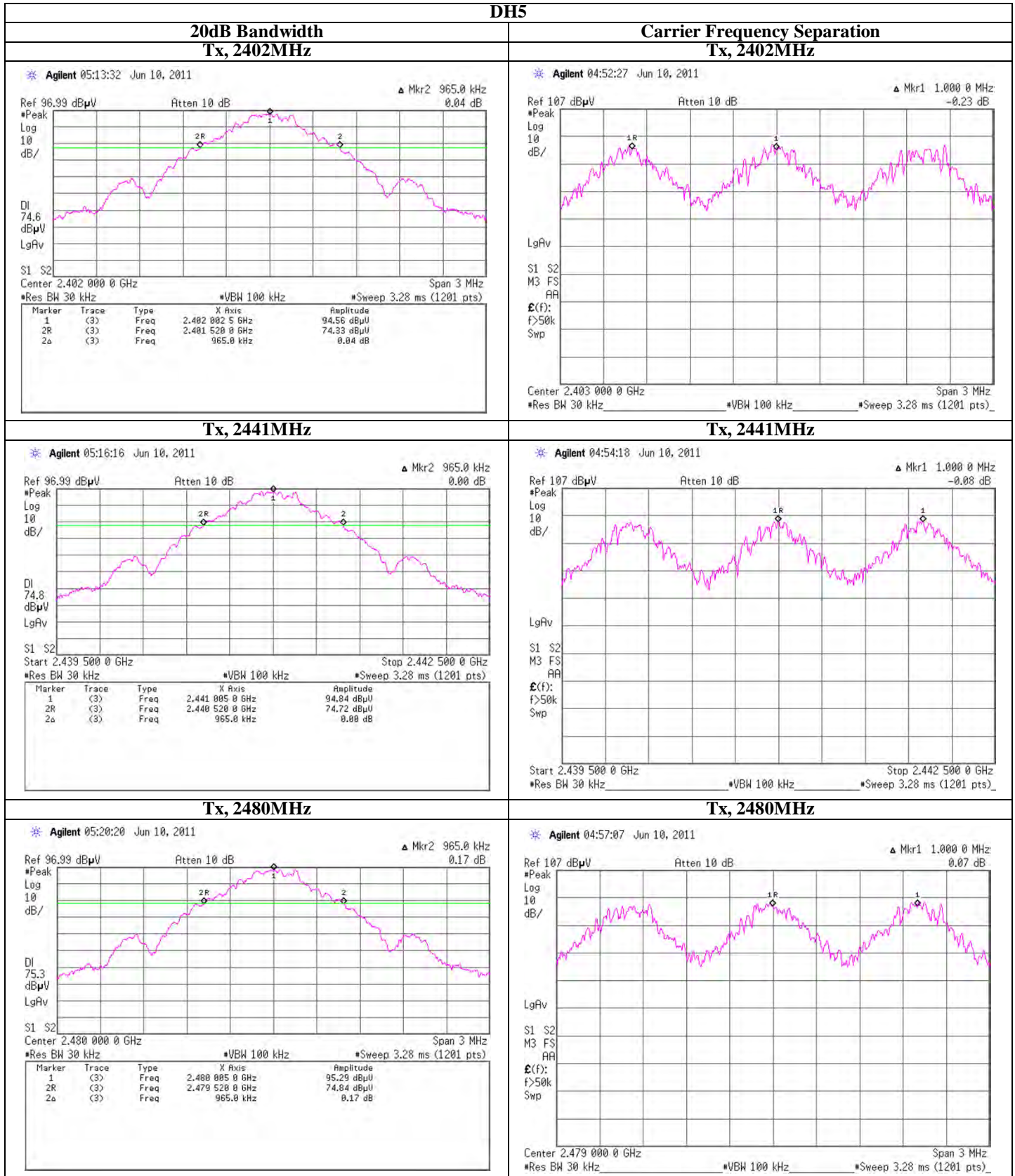
20dB Bandwidth and Carrier Frequency Separation

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	2011/6/10	
Temperature / Humidity	27deg.C 63% RH	
Engineer	Wataru Kojima	
Mode	Tx	

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
DH5	2402.0	0.965	1.000	>= 0.643
DH5	2441.0	0.965	1.000	>= 0.643
DH5	2480.0	0.965	1.000	>= 0.643
3DH5	2402.0	1.325	1.008	>= 0.883
3DH5	2441.0	1.318	1.003	>= 0.878
3DH5	2480.0	1.325	1.008	>= 0.883
Inquiry	2441.0	0.800	2.000	>= 0.533

Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).
No limit applies to 20dB Bandwidth.

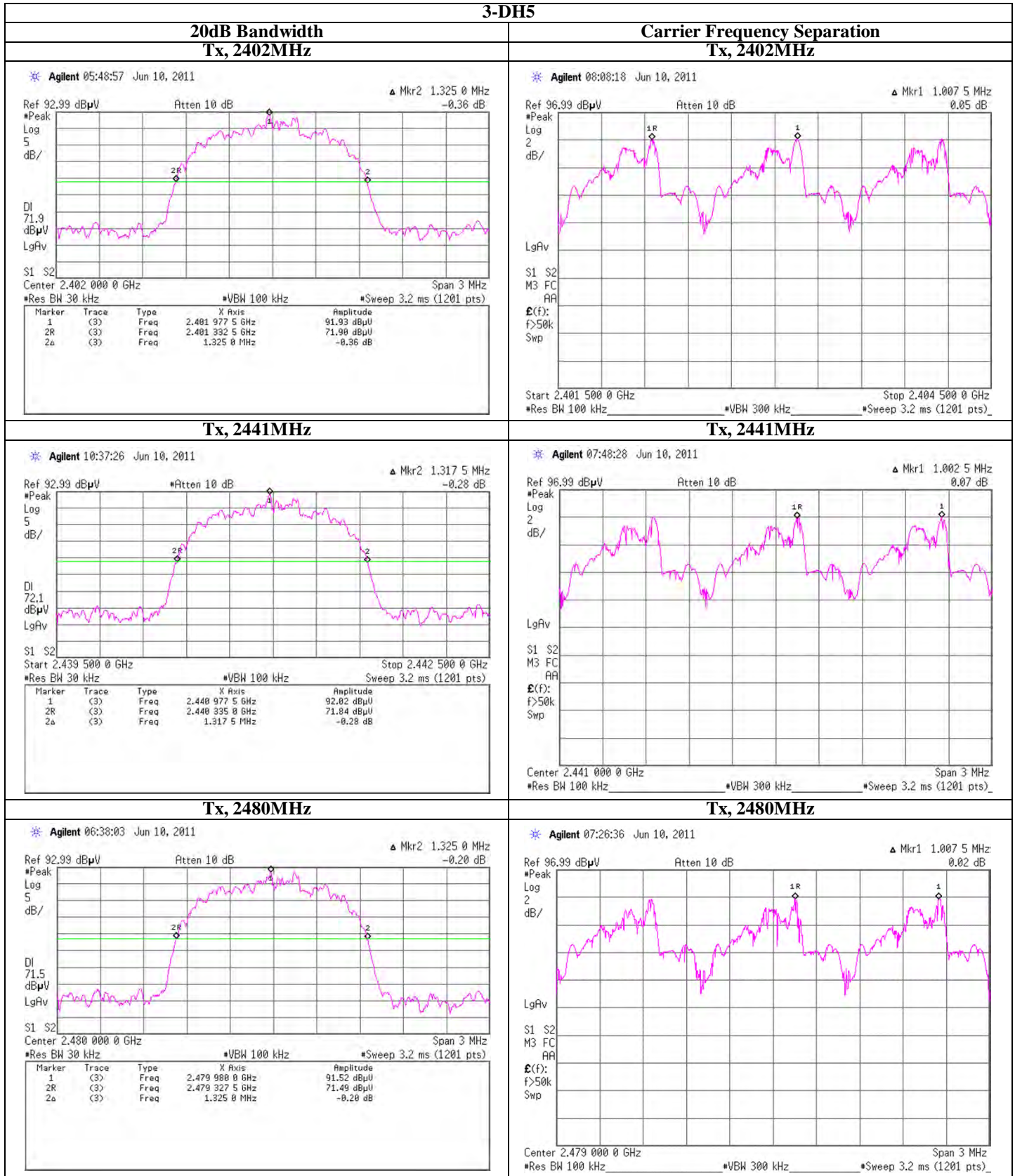
20dB Bandwidth and Carrier Frequency Separation



UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

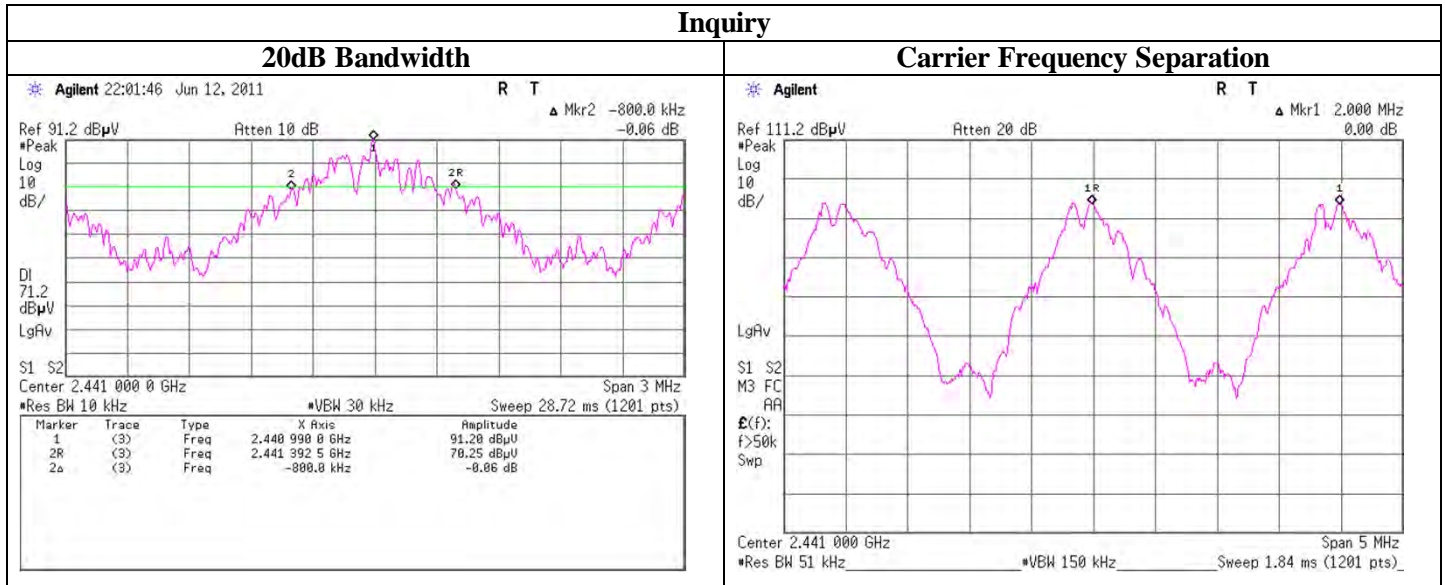
20dB Bandwidth and Carrier Frequency Separation



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20dB Bandwidth and Carrier Frequency Separation



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Number of Hopping Frequency (Conducted)

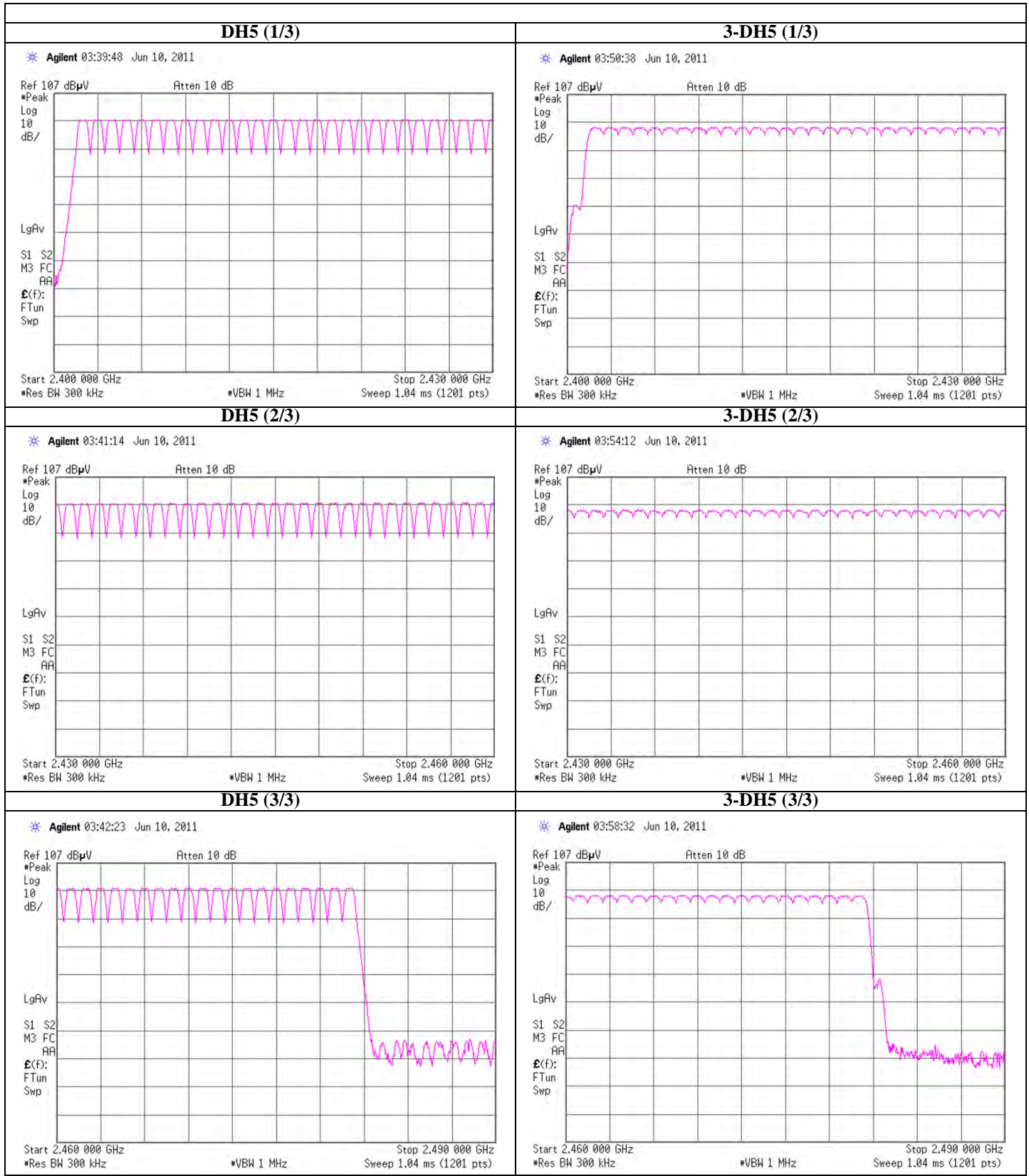
Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2011/6/10
Temperature / Humidity 27deg.C 63% RH
Engineer Wataru Kojima
Mode Tx,

Mode	Number of Channel [times]	Limit [times]
DH5	79	>=15
3-DH5	79	>=15
Inquiry	32	>=15

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Number of Hopping Frequency



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Number of Hopping Frequency

Inquiry (1/3)	
<p style="text-align: center;">* Agilent R T</p> <p>Ref 111.2 dBµV Atten 20 dB</p> <p>Start 2.400 000 GHz Stop 2.430 000 GHz #Res BW 300 kHz #VBW 1 MHz Sweep 1.04 ms (1201 pts)</p>	
Inquiry (2/3)	
<p style="text-align: center;">* Agilent R T</p> <p>Ref 111.2 dBµV Atten 20 dB</p> <p>Start 2.430 000 GHz Stop 2.460 000 GHz #Res BW 300 kHz #VBW 1 MHz Sweep 1.04 ms (1201 pts)</p>	
Inquiry (3/3)	
<p style="text-align: center;">* Agilent R T</p> <p>Ref 111.2 dBµV Atten 20 dB</p> <p>Start 2.460 000 GHz Stop 2.490 000 GHz #Res BW 300 kHz #VBW 1 MHz Sweep 1.04 ms (1201 pts)</p>	

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Dwell Time (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date 2011/6/10 2011/6/17
 Temperature / Humidity 27deg.C 63% RH 26deg.C 53% RH
 Engineer Wataru Kojima Tatsuya Arai
 Mode Tx,

Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of	Result	Limit
		transmission time [msec]	transmission time [msec]	[msec]
DH1	50.0 times / 5.0 sec. x 31.6 sec. = 316 times	0.381	120	400
DH3	26.2 times / 5.0 sec. x 31.6 sec. = 166 times	1.637	272	400
DH5	16.8 times / 5.0 sec. x 31.6 sec. = 107 times	2.887	309	400
3DH1	49.4 times / 5.0 sec. x 31.6 sec. = 313 times	0.383	120	400
3DH3	25.6 times / 5.0 sec. x 31.6 sec. = 162 times	1.634	265	400
3DH5	16.4 times / 5.0 sec. x 31.6 sec. = 104 times	2.887	300	400
Inquiry	100.0 times / 1.0 sec. x 12.8 sec. = 1280 times	0.085	109	400

Sample Calculation

Result = Number of transmission x Length of transmission time

*Average data of 5 tests.(except Inquiry)

Mode	Sampling [times]					Average [times]
	1	2	3	4	5	
DH1	49	51	51	50	49	50.0
DH3	23	28	24	28	28	26.2
DH5	17	17	18	15	17	16.8
3DH1	50	48	50	50	49	49.4
3DH3	27	27	26	21	27	25.6
3DH5	15	17	17	18	15	16.4

Sample Calculation

Average= Summation(Sampling 1 to 5) / 5

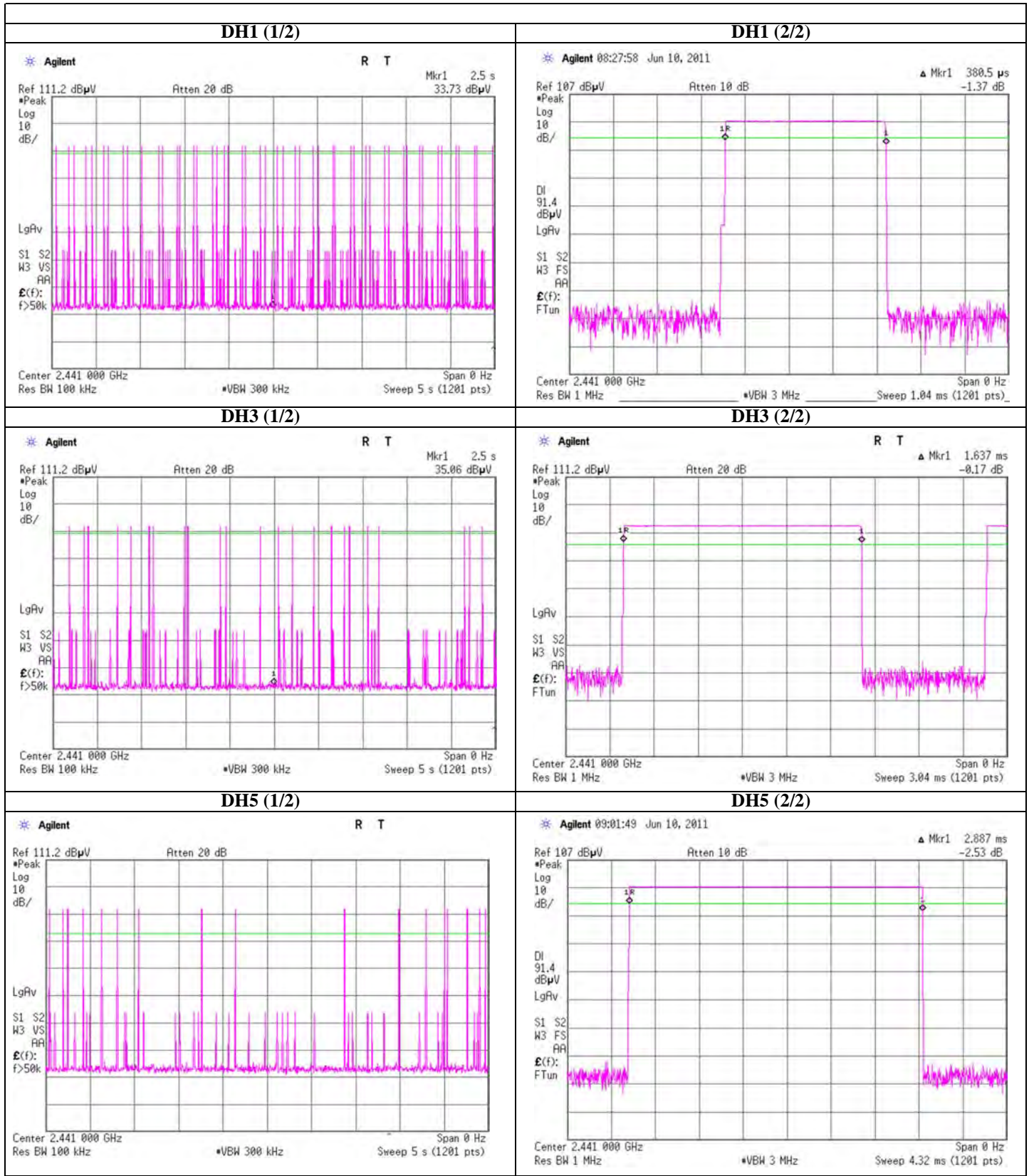
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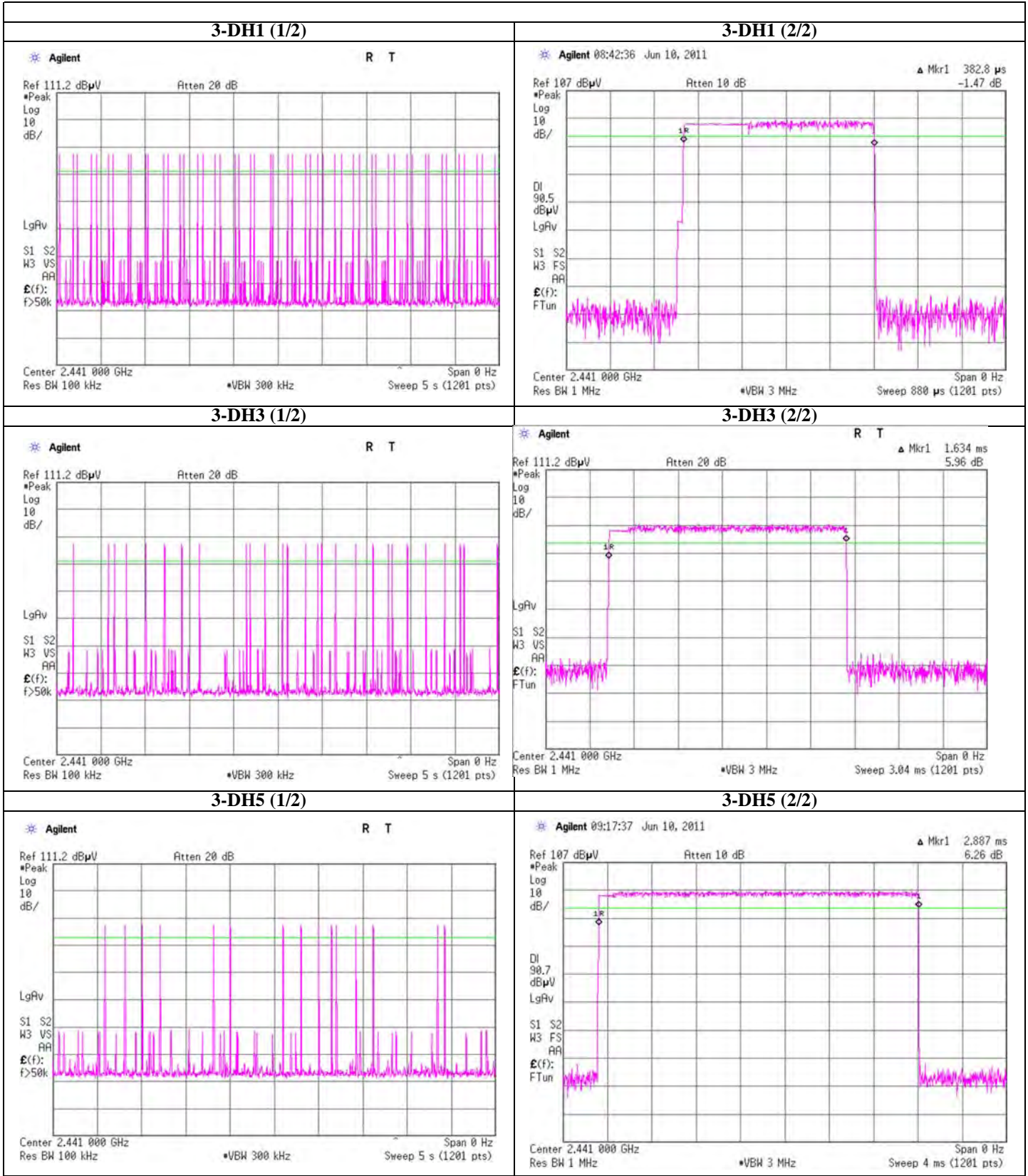
Dwell time



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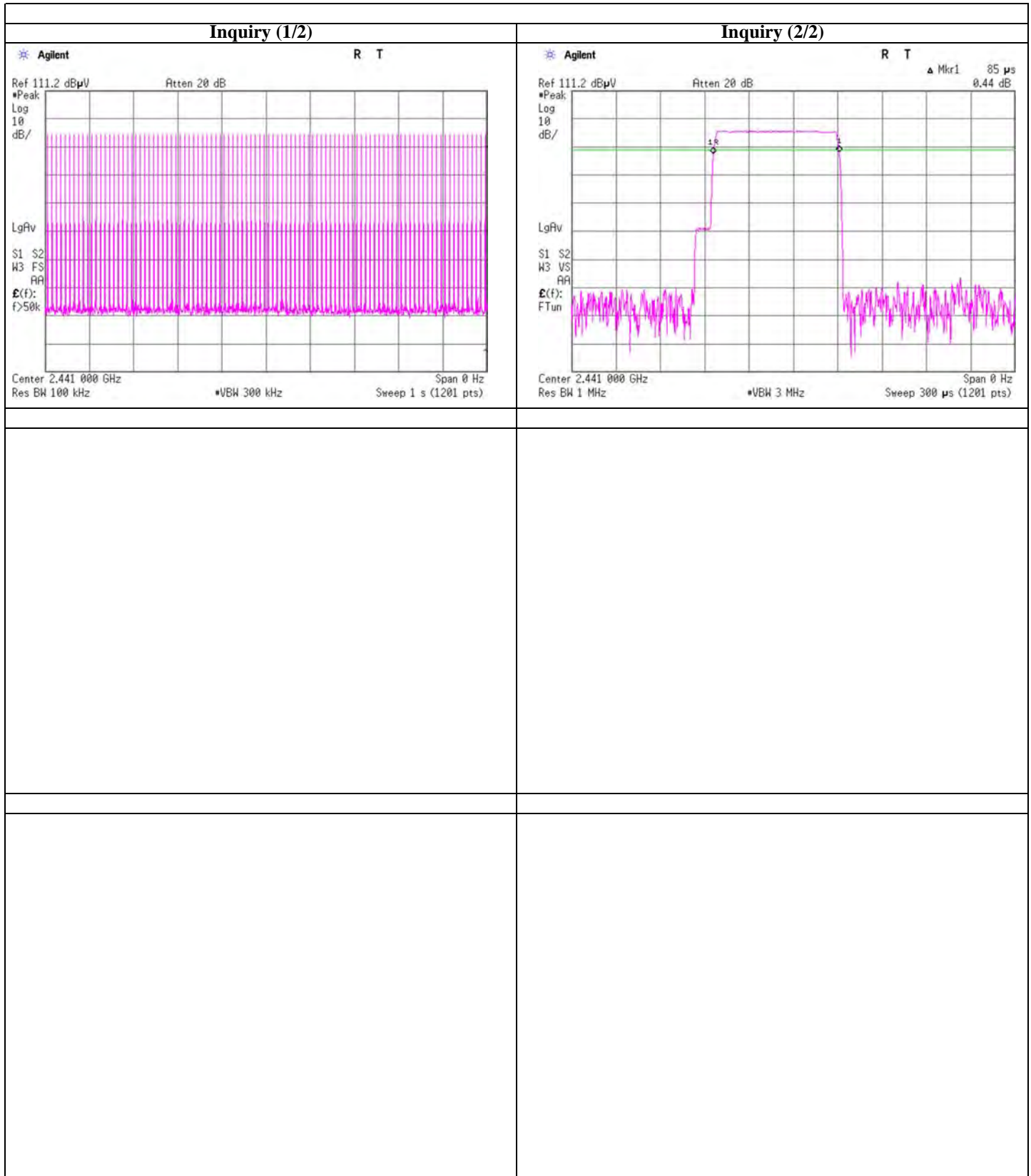
Dwell time



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Dwell time



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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date 2011/6/17
 Temperature / Humidity 28deg.C 61% RH
 Engineer Wataru Kojima
 Mode Tx,

BDR (DH5)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-9.56	1.28	9.97	1.69	1.48	20.97	125	19.28
Mid	2441.0	-9.63	1.29	9.97	1.63	1.46	20.97	125	19.34
High	2480.0	-9.35	1.30	9.97	1.92	1.56	20.97	125	19.05

EDR (2-DH5)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-10.68	1.28	9.97	0.57	1.14	20.97	125	20.40
Mid	2441.0	-10.34	1.29	9.97	0.92	1.24	20.97	125	20.05
High	2480.0	-10.39	1.30	9.97	0.88	1.22	20.97	125	20.09

EDR (3-DH5)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-10.46	1.28	9.97	0.79	1.20	20.97	125	20.18
Mid	2441.0	-10.27	1.29	9.97	0.99	1.26	20.97	125	19.98
High	2480.0	-10.14	1.30	9.97	1.13	1.30	20.97	125	19.84

P/M: Power meter with Power sensor

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Semi Anechoic Chamber No.2 No.2 No.2 No.2 No.2
 Date March 20, 2011 June 7, 2011 June 13, 2011 June 16, 2011 June 21, 2011
 Temperature / Humidity 27deg.C. , 47%RH 24deg.C. , 60%RH 23deg.C. , 64%RH 25deg.C. , 65%RH 25deg.C. , 57%RH
 Engineer Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano Akio Hayashi
 Mode Tx, 2402 MHz
 Bluetooth, DHS,

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	575.843	QP	23.1	18.8	8.5	31.6	18.8	46.0	27.2	100	0	
Hori.	2320.096	PK	46.0	27.3	13.5	40.6	46.2	73.9	27.7	114	74	
Hori.	2390.000	PK	45.5	27.4	13.6	40.6	45.9	73.9	28.0	114	74	
Hori.	2394.452	PK	45.9	27.4	13.6	40.6	46.3	73.9	27.6	114	74	
Hori.	2483.188	PK	46.7	27.4	13.6	40.5	47.2	73.9	26.7	114	74	
Hori.	4804.000	PK	43.2	30.5	5.9	36.6	43.0	73.9	30.9	100	0	
Hori.	7206.000	PK	46.5	36.2	7.3	38.4	51.6	73.9	22.3	100	0	
Hori.	9608.000	PK	44.2	38.3	8.6	37.1	54.0	73.9	19.9	100	0	
Hori.	12010.000	PK	46.7	39.4	9.9	37.9	58.1	73.9	15.8	100	0	
Hori.	14412.000	PK	46.4	41.1	1.1	37.3	51.3	73.9	22.6	100	346	
Hori.	2320.096	AV	35.5	27.3	13.5	40.6	35.7	53.9	18.2	114	74	VBW:270Hz
Hori.	2390.000	AV	35.4	27.4	13.6	40.6	35.8	53.9	18.1	114	74	VBW:270Hz
Hori.	2394.452	AV	35.9	27.4	13.6	40.6	36.3	53.9	17.6	114	74	VBW:270Hz
Hori.	2483.188	AV	36.8	27.4	13.6	40.5	37.3	53.9	16.6	114	74	VBW:270Hz
Hori.	4804.000	AV	34.0	30.5	5.9	36.6	33.8	53.9	20.1	100	0	VBW:270Hz
Hori.	7206.000	AV	35.2	36.2	7.3	38.4	40.3	53.9	13.6	100	0	VBW:270Hz
Hori.	9608.000	AV	33.1	38.3	8.6	37.1	42.9	53.9	11.0	100	0	VBW:270Hz
Hori.	12010.000	AV	35.0	39.4	9.9	37.9	46.4	53.9	7.5	100	0	VBW:270Hz
Hori.	14412.000	AV	36.3	41.1	1.1	37.3	41.2	53.9	12.7	100	346	VBW:10Hz
Vert.	575.843	QP	22.8	18.8	8.5	31.6	18.5	46.0	27.5	100	0	
Vert.	2320.600	PK	46.9	27.3	13.5	40.6	47.1	73.9	26.8	105	137	
Vert.	2390.000	PK	46.2	27.4	13.6	40.6	46.6	73.9	27.3	105	137	
Vert.	2394.557	PK	46.5	27.4	13.6	40.6	46.9	73.9	27.0	105	137	
Vert.	2483.733	PK	47.0	27.4	13.6	40.5	47.5	73.9	26.4	105	137	
Vert.	4804.000	PK	44.1	30.5	5.9	36.6	43.9	73.9	30.0	100	0	
Vert.	7206.000	PK	46.4	36.2	7.3	38.4	51.5	73.9	22.4	100	0	
Vert.	9608.000	PK	44.6	38.3	8.6	37.1	54.4	73.9	19.5	100	0	
Vert.	12010.000	PK	47.1	39.4	9.9	37.9	58.5	73.9	15.4	100	0	
Vert.	14412.000	PK	43.7	41.1	1.1	37.3	48.6	73.9	25.3	101	347	
Vert.	2320.600	AV	36.4	27.3	13.5	40.6	36.6	53.9	17.3	105	137	VBW:270Hz
Vert.	2390.000	AV	36.0	27.4	13.6	40.6	36.4	53.9	17.5	105	137	VBW:270Hz
Vert.	2394.557	AV	36.2	27.4	13.6	40.6	36.6	53.9	17.3	105	137	VBW:270Hz
Vert.	2483.733	AV	36.3	27.4	13.6	40.5	36.8	53.9	17.1	105	137	VBW:270Hz
Vert.	4804.000	AV	32.6	30.5	5.9	36.6	32.4	53.9	21.5	100	0	VBW:270Hz
Vert.	7206.000	AV	36.7	36.2	7.3	38.4	41.8	53.9	12.1	100	0	VBW:270Hz
Vert.	9608.000	AV	33.4	38.3	8.6	37.1	43.2	53.9	10.7	100	0	VBW:270Hz
Vert.	12010.000	AV	35.6	39.4	9.9	37.9	47.0	53.9	6.9	100	0	VBW:270Hz
Vert.	14412.000	AV	34.7	41.1	1.1	37.3	39.6	53.9	14.3	101	347	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	93.5	27.4	13.7	40.6	94.0	-	-	Carrier
Hori.	2400.000	PK	47.8	27.4	13.7	40.6	48.3	74.0	25.7	
Vert.	2402.000	PK	91.0	27.4	13.7	40.6	91.5	-	-	Carrier
Vert.	2400.000	PK	38.2	27.4	13.7	40.6	38.7	71.5	32.8	

UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.2	No.2	No.2	No.2
Date	June 7, 2011	June 13, 2011	June 16, 2011	June 21, 2011
Temperature / Humidity	24deg.C. , 60%RH	23deg.C. , 64%RH	25deg.C. , 65%RH	25deg.C. , 57%RH
Engineer	Shinichi Takano	Shinichi Takano	Shinichi Takano	Akio Hayashi
Mode	Tx, 2441 MHz Bluetooth, DH5,			

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	910.220	QP	22.5	22.1	10.0	30.8	23.8	46.0	22.2	100	0	
Hori.	2357.027	PK	45.8	27.3	13.5	40.6	46.0	73.9	27.9	118	73	
Hori.	2523.321	PK	45.9	27.5	13.7	40.5	46.6	73.9	27.3	118	73	
Hori.	4882.000	PK	43.5	30.8	5.9	36.6	43.6	73.9	30.3	100	0	
Hori.	7323.000	PK	45.1	36.4	7.4	38.4	50.5	73.9	23.4	100	0	
Hori.	9764.000	PK	43.2	38.5	8.6	37.1	53.2	73.9	20.7	100	0	
Hori.	12205.000	PK	45.5	39.4	9.9	38.0	56.8	73.9	17.1	100	0	
Hori.	14646.000	PK	45.5	41.2	1.1	37.6	50.2	73.9	23.7	100	359	
Hori.	2357.027	AV	35.9	27.3	13.5	40.6	36.1	53.9	17.8	118	73	VBW:270Hz
Hori.	2523.321	AV	36.1	27.5	13.7	40.5	36.8	53.9	17.1	118	73	VBW:270Hz
Hori.	4882.000	AV	32.5	30.8	5.9	36.6	32.6	53.9	21.3	100	0	VBW:270Hz
Hori.	7323.000	AV	34.9	36.4	7.4	38.4	40.3	53.9	13.6	100	0	VBW:270Hz
Hori.	9764.000	AV	33.0	38.5	8.6	37.1	43.0	53.9	10.9	100	0	VBW:270Hz
Hori.	12205.000	AV	34.3	39.4	9.9	38.0	45.6	53.9	8.3	100	0	VBW:270Hz
Hori.	14646.000	AV	36.4	41.2	1.1	37.6	41.1	53.9	12.8	100	359	VBW:10Hz
Vert.	910.220	QP	22.3	22.1	10.0	30.8	23.6	46.0	22.4	100	0	
Vert.	2358.092	PK	47.5	27.3	13.5	40.6	47.7	73.9	26.2	103	140	
Vert.	2526.658	PK	46.0	27.5	13.7	40.5	46.7	73.9	27.2	103	140	
Vert.	4882.000	PK	43.6	30.8	5.9	36.6	43.7	73.9	30.2	100	0	
Vert.	7323.000	PK	45.8	36.4	7.4	38.4	51.2	73.9	22.7	100	0	
Vert.	9764.000	PK	43.1	38.5	8.6	37.1	53.1	73.9	20.8	100	0	
Vert.	12205.000	PK	47.7	39.4	9.9	38.0	59.0	73.9	14.9	100	0	
Vert.	14646.000	PK	44.3	41.2	1.1	37.6	49.0	73.9	24.9	100	56	
Vert.	2358.092	AV	37.2	27.3	13.5	40.6	37.4	53.9	16.5	103	140	VBW:270Hz
Vert.	2526.658	AV	36.1	27.5	13.7	40.5	36.8	53.9	17.1	103	140	VBW:270Hz
Vert.	4882.000	AV	32.5	30.8	5.9	36.6	32.6	53.9	21.3	100	0	VBW:270Hz
Vert.	7323.000	AV	34.9	36.4	7.4	38.4	40.3	53.9	13.6	100	0	VBW:270Hz
Vert.	9764.000	AV	33.2	38.5	8.6	37.1	43.2	53.9	10.7	100	0	VBW:270Hz
Vert.	12205.000	AV	35.3	39.4	9.9	38.0	46.6	53.9	7.3	100	0	VBW:270Hz
Vert.	14646.000	AV	34.8	41.2	1.1	37.6	39.5	53.9	14.4	100	56	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

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

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.				
Semi Anechoic Chamber	No.2	No.2	No.2	No.2	No.2
Date	March 20, 2011	June 7, 2011	June 13, 2011	June 16, 2011	June 21, 2011
Temperature / Humidity	27deg.C. , 47%RH	24deg.C. , 60%RH	23deg.C. , 64%RH	25deg.C. , 65%RH	25deg.C. , 57%RH
Engineer	Shinichi Takano	Shinichi Takano	Shinichi Takano	Shinichi Takano	Akio Hayashi
Mode	Tx, 2480 MHz Bluetooth, DH5,				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	930.672	QP	21.9	22.3	10.1	30.7	23.6	46.0	22.4	100	0	
Hori.	2393.542	PK	47.3	27.4	13.6	40.6	47.7	73.9	26.2	115	79	
Hori.	2483.500	PK	46.5	27.4	13.6	40.5	47.0	73.9	26.9	115	79	
Hori.	2487.683	PK	46.2	27.4	13.6	40.5	46.7	73.9	27.2	115	79	
Hori.	2566.258	PK	46.1	27.5	13.7	40.6	46.7	73.9	27.2	115	79	
Hori.	4960.000	PK	43.5	31.0	5.9	36.5	43.9	73.9	30.0	100	0	
Hori.	7440.000	PK	44.9	36.7	7.3	38.4	50.5	73.9	23.4	100	0	
Hori.	9920.000	PK	43.0	38.7	8.6	37.2	53.1	73.9	20.8	100	0	
Hori.	12400.000	PK	46.5	39.4	9.9	38.0	57.8	73.9	16.1	100	347	
Hori.	14880.000	PK	47.4	41.2	1.2	37.9	51.9	73.9	22.0	100	354	
Hori.	2393.542	AV	37.5	27.4	13.6	40.6	37.9	53.9	16.0	115	79	VBW:270Hz
Hori.	2483.500	AV	36.0	27.4	13.6	40.5	36.5	53.9	17.4	115	79	VBW:270Hz
Hori.	2487.683	AV	36.2	27.4	13.6	40.5	36.7	53.9	17.2	115	79	VBW:270Hz
Hori.	2566.258	AV	36.4	27.5	13.7	40.6	37.0	53.9	16.9	115	79	VBW:270Hz
Hori.	4960.000	AV	32.4	31.0	5.9	36.5	32.8	53.9	21.1	100	0	VBW:270Hz
Hori.	7440.000	AV	34.6	36.7	7.3	38.4	40.2	53.9	13.7	100	0	VBW:270Hz
Hori.	9920.000	AV	32.4	38.7	8.6	37.2	42.5	53.9	11.4	100	0	VBW:270Hz
Hori.	12400.000	AV	35.6	39.4	9.9	38.0	46.9	53.9	7.0	100	347	VBW:270Hz
Hori.	14880.000	AV	38.4	41.2	1.2	37.9	42.9	53.9	11.0	100	354	VBW:10Hz
Vert.	930.672	QP	21.7	22.3	10.1	30.7	23.4	46.0	22.6	100	0	
Vert.	2393.300	PK	47.3	27.4	13.6	40.6	47.7	73.9	26.2	105	136	
Vert.	2483.500	PK	45.9	27.4	13.6	40.5	46.4	73.9	27.5	105	136	
Vert.	2487.613	PK	46.5	27.4	13.6	40.5	47.0	73.9	26.9	105	136	
Vert.	2566.357	PK	46.6	27.5	13.7	40.6	47.2	73.9	26.7	105	136	
Vert.	4960.000	PK	44.8	31.0	5.9	36.5	45.2	73.9	28.7	100	0	
Vert.	7440.000	PK	45.4	36.7	7.3	38.4	51.0	73.9	22.9	100	0	
Vert.	9920.000	PK	43.2	38.7	8.6	37.2	53.3	73.9	20.6	100	0	
Vert.	12400.000	PK	47.7	39.4	9.9	38.0	59.0	73.9	14.9	100	358	
Vert.	14880.000	PK	45.2	41.2	1.2	37.9	49.7	73.9	24.2	100	55	
Vert.	2393.300	AV	36.9	27.4	13.6	40.6	37.3	53.9	16.6	105	136	VBW:270Hz
Vert.	2483.500	AV	35.9	27.4	13.6	40.5	36.4	53.9	17.5	105	136	VBW:270Hz
Vert.	2487.613	AV	36.0	27.4	13.6	40.5	36.5	53.9	17.4	105	136	VBW:270Hz
Vert.	2566.357	AV	35.9	27.5	13.7	40.6	36.5	53.9	17.4	105	136	VBW:270Hz
Vert.	4960.000	AV	32.5	31.0	5.9	36.5	32.9	53.9	21.0	100	0	VBW:270Hz
Vert.	7440.000	AV	34.9	36.7	7.3	38.4	40.5	53.9	13.4	100	0	VBW:270Hz
Vert.	9920.000	AV	32.5	38.7	8.6	37.2	42.6	53.9	11.3	100	0	VBW:270Hz
Vert.	12400.000	AV	36.8	39.4	9.9	38.0	48.1	53.9	5.8	100	358	VBW:270Hz
Vert.	14880.000	AV	35.7	41.2	1.2	37.9	40.2	53.9	13.7	100	55	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amprifier)

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

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

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.				
Semi Anechoic Chamber	No.2	No.2	No.2	No.2	No.2
Date	March 20, 2011	June 7, 2011	June 13, 2011	June 16, 2011	June 21, 2011
Temperature / Humidity	27deg.C. , 47%RH	24deg.C. , 60%RH	23deg.C. , 64%RH	25deg.C. , 65%RH	25deg.C. , 57%RH
Engineer	Shinichi Takano	Tatsuya Arai	Shinichi Takano	Shinichi Takano	Akio Hayashi
Mode	Tx, 2402 MHz Bluetooth, 3-DH5,				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	942.434	QP	22.0	22.4	10.2	30.6	24.0	46.0	22.0	100	0	
Hori.	2320.117	PK	47.5	27.3	13.5	40.6	47.7	73.9	26.2	119	70	
Hori.	2390.000	PK	46.1	27.4	13.6	40.6	46.5	73.9	27.4	119	70	
Hori.	2399.567	PK	52.9	27.4	13.6	40.6	53.3	73.9	20.6	119	70	
Hori.	2483.157	PK	46.9	27.4	13.6	40.5	47.4	73.9	26.5	119	70	
Hori.	4804.000	PK	42.7	30.5	5.9	36.6	42.5	73.9	31.4	100	0	
Hori.	7206.000	PK	46.0	36.2	7.3	38.4	51.1	73.9	22.8	100	0	
Hori.	9608.000	PK	43.4	38.3	8.6	37.1	53.2	73.9	20.7	100	0	
Hori.	12010.000	PK	45.8	39.4	9.9	37.9	57.2	73.9	16.7	100	0	
Hori.	14412.000	PK	46.2	41.1	1.1	37.3	51.1	73.9	22.8	100	359	
Hori.	2320.117	AV	35.8	27.3	13.5	40.6	36.0	53.9	17.9	119	70	VBW:270Hz
Hori.	2390.000	AV	35.5	27.4	13.6	40.6	35.9	53.9	18.0	119	70	VBW:270Hz
Hori.	2399.567	AV	39.1	27.4	13.6	40.6	39.5	53.9	14.4	119	70	VBW:270Hz
Hori.	2483.157	AV	36.0	27.4	13.6	40.5	36.5	53.9	17.4	119	70	VBW:270Hz
Hori.	4804.000	AV	32.2	30.5	5.9	36.6	32.0	53.9	21.9	100	0	VBW:270Hz
Hori.	7206.000	AV	35.0	36.2	7.3	38.4	40.1	53.9	13.8	100	0	VBW:270Hz
Hori.	9608.000	AV	33.0	38.3	8.6	37.1	42.8	53.9	11.1	100	0	VBW:270Hz
Hori.	12010.000	AV	35.0	39.4	9.9	37.9	46.4	53.9	7.5	100	0	VBW:270Hz
Hori.	14412.000	AV	35.7	41.1	1.1	37.3	40.6	53.9	13.3	100	359	VBW:10Hz
Vert.	942.434	QP	21.9	22.4	10.2	30.6	23.9	46.0	22.1	100	0	
Vert.	2320.480	PK	46.0	27.3	13.5	40.6	46.2	73.9	27.7	106	139	
Vert.	2390.000	PK	45.8	27.4	13.6	40.6	46.2	73.9	27.7	106	139	
Vert.	2399.567	PK	51.9	27.4	13.6	40.6	52.3	73.9	21.6	106	139	
Vert.	2483.083	PK	45.7	27.4	13.6	40.5	46.2	73.9	27.7	106	139	
Vert.	4804.000	PK	42.8	30.5	5.9	36.6	42.6	73.9	31.3	100	0	
Vert.	7206.000	PK	46.0	36.2	7.3	38.4	51.1	73.9	22.8	100	0	
Vert.	9608.000	PK	43.8	38.3	8.6	37.1	53.6	73.9	20.3	100	0	
Vert.	12010.000	PK	45.6	39.4	9.9	37.9	57.0	73.9	16.9	100	0	
Vert.	14412.000	PK	43.6	41.1	1.1	37.3	48.5	73.9	25.4	100	344	
Vert.	2320.480	AV	35.8	27.3	13.5	40.6	36.0	53.9	17.9	106	139	VBW:270Hz
Vert.	2390.000	AV	35.7	27.4	13.6	40.6	36.1	53.9	17.8	106	139	VBW:270Hz
Vert.	2399.567	AV	38.6	27.4	13.6	40.6	39.0	53.9	14.9	106	139	VBW:270Hz
Vert.	2483.083	AV	35.9	27.4	13.6	40.5	36.4	53.9	17.5	106	139	VBW:270Hz
Vert.	4804.000	AV	32.5	30.5	5.9	36.6	32.3	53.9	21.6	100	0	VBW:270Hz
Vert.	7206.000	AV	35.3	36.2	7.3	38.4	40.4	53.9	13.5	100	0	VBW:270Hz
Vert.	9608.000	AV	33.2	38.3	8.6	37.1	43.0	53.9	10.9	100	0	VBW:270Hz
Vert.	12010.000	AV	35.8	39.4	9.9	37.9	47.2	53.9	6.7	100	0	VBW:270Hz
Vert.	14412.000	AV	34.5	41.1	1.1	37.3	39.4	53.9	14.5	100	344	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	91.7	27.4	13.7	40.6	92.2	-	-	Carrier
Hori.	2400.000	PK	40.2	27.4	13.7	40.6	40.7	72.2	31.5	
Vert.	2402.000	PK	89.2	27.4	13.7	40.6	89.7	-	-	Carrier
Vert.	2400.000	PK	39.6	27.4	13.7	40.6	40.1	69.7	29.6	

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.2	No.2	No.2	No.2
Date	June 7, 2011	June 13, 2011	June 16, 2011	June 21, 2011
Temperature / Humidity	24deg.C. , 60%RH	23deg.C. , 64%RH	25deg.C. , 65%RH	25deg.C. , 57%RH
Engineer	Tatsuya Arai	Shinichi Takano	Shinichi Takano	Akio Hayashi
Mode	Tx, 2441 MHz Bluetooth, 3-DH5,			

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	948.340	QP	21.9	22.5	10.2	30.6	24.0	46.0	22.0	100	0	
Hori.	2357.395	PK	46.2	27.3	13.5	40.6	46.4	73.9	27.5	115	77	
Hori.	2527.260	PK	46.1	27.5	13.7	40.5	46.8	73.9	27.1	115	77	
Hori.	4882.000	PK	43.0	30.8	5.9	36.6	43.1	73.9	30.8	100	0	
Hori.	7323.000	PK	44.9	36.4	7.4	38.4	50.3	73.9	23.6	100	0	
Hori.	9764.000	PK	43.7	38.5	8.6	37.1	53.7	73.9	20.2	100	0	
Hori.	12205.000	PK	43.9	39.4	9.9	38.0	55.2	73.9	18.7	100	0	
Hori.	14646.000	PK	46.0	41.2	1.1	37.6	50.7	73.9	23.2	100	359	
Hori.	2357.395	AV	35.9	27.3	13.5	40.6	36.1	53.9	17.8	115	77	VBW:270Hz
Hori.	2527.260	AV	35.8	27.5	13.7	40.5	36.5	53.9	17.4	115	77	VBW:270Hz
Hori.	4882.000	AV	32.3	30.8	5.9	36.6	32.4	53.9	21.5	100	0	VBW:270Hz
Hori.	7323.000	AV	34.7	36.4	7.4	38.4	40.1	53.9	13.8	100	0	VBW:270Hz
Hori.	9764.000	AV	32.8	38.5	8.6	37.1	42.8	53.9	11.1	100	0	VBW:270Hz
Hori.	12205.000	AV	34.4	39.4	9.9	38.0	45.7	53.9	8.2	100	0	VBW:270Hz
Hori.	14646.000	AV	35.8	41.2	1.1	37.6	40.5	53.9	13.4	100	359	VBW:10Hz
Vert.	948.340	QP	21.8	22.5	10.2	30.6	23.9	46.0	22.1	100	0	
Vert.	2357.053	PK	46.2	27.3	13.5	40.6	46.4	73.9	27.5	103	141	
Vert.	2527.040	PK	46.2	27.5	13.7	40.5	46.9	73.9	27.0	103	141	
Vert.	4882.000	PK	43.0	30.8	5.9	36.6	43.1	73.9	30.8	100	0	
Vert.	7323.000	PK	45.0	36.4	7.4	38.4	50.4	73.9	23.5	100	0	
Vert.	9764.000	PK	42.6	38.5	8.6	37.1	52.6	73.9	21.3	100	0	
Vert.	12205.000	PK	44.5	39.4	9.9	38.0	55.8	73.9	18.1	100	0	
Vert.	14646.000	PK	44.5	41.2	1.1	37.6	49.2	73.9	24.7	100	58	
Vert.	2357.053	AV	35.9	27.3	13.5	40.6	36.1	53.9	17.8	103	141	VBW:270Hz
Vert.	2527.040	AV	35.8	27.5	13.7	40.5	36.5	53.9	17.4	103	141	VBW:270Hz
Vert.	4882.000	AV	32.3	30.8	5.9	36.6	32.4	53.9	21.5	100	0	VBW:270Hz
Vert.	7323.000	AV	34.6	36.4	7.4	38.4	40.0	53.9	13.9	100	0	VBW:270Hz
Vert.	9764.000	AV	33.0	38.5	8.6	37.1	43.0	53.9	10.9	100	0	VBW:270Hz
Vert.	12205.000	AV	34.0	39.4	9.9	38.0	45.3	53.9	8.6	100	0	VBW:270Hz
Vert.	14646.000	AV	34.5	41.2	1.1	37.6	39.2	53.9	14.7	100	58	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

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

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.				
Semi Anechoic Chamber	No.2	No.2	No.2	No.2	No.2
Date	March 20, 2011	June 7, 2011	June 13, 2011	June 16, 2011	June 21, 2011
Temperature / Humidity	27deg.C. , 47%RH	24deg.C. , 60%RH	23deg.C. , 64%RH	25deg.C. , 65%RH	25deg.C. , 57%RH
Engineer	Shinichi Takano	Tatsuya Arai	Shinichi Takano	Shinichi Takano	Akio Hayashi
Mode	Tx, 2480 MHz Bluetooth, 3-DH5,				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	897.855	QP	22.8	21.9	10.0	30.9	23.8	46.0	22.2	100	0	
Hori.	2392.810	PK	46.4	27.4	13.6	40.6	46.8	73.9	27.1	117	72	
Hori.	2483.500	PK	47.6	27.4	13.6	40.5	48.1	73.9	25.8	117	72	
Hori.	2484.979	PK	47.5	27.4	13.6	40.5	48.0	73.9	25.9	117	72	
Hori.	2566.763	PK	45.3	27.5	13.7	40.6	45.9	73.9	28.0	117	72	
Hori.	4960.000	PK	42.8	31.0	5.9	36.5	43.2	73.9	30.7	100	0	
Hori.	7440.000	PK	44.6	36.7	7.3	38.4	50.2	73.9	23.7	100	0	
Hori.	9920.000	PK	43.6	38.7	8.6	37.2	53.7	73.9	20.2	100	0	
Hori.	12400.000	PK	42.6	39.4	9.9	38.0	53.9	73.9	20.0	100	0	
Hori.	14880.000	PK	46.4	41.2	1.2	37.9	50.9	73.9	23.0	100	359	
Hori.	2392.810	AV	36.2	27.4	13.6	40.6	36.6	53.9	17.3	117	72	VBW:270Hz
Hori.	2483.500	AV	36.7	27.4	13.6	40.5	37.2	53.9	16.7	117	72	VBW:270Hz
Hori.	2484.979	AV	36.3	27.4	13.6	40.5	36.8	53.9	17.1	117	72	VBW:270Hz
Hori.	2566.763	AV	35.7	27.5	13.7	40.6	36.3	53.9	17.6	117	72	VBW:270Hz
Hori.	4960.000	AV	32.2	31.0	5.9	36.5	32.6	53.9	21.3	100	0	VBW:270Hz
Hori.	7440.000	AV	34.5	36.7	7.3	38.4	40.1	53.9	13.8	100	0	VBW:270Hz
Hori.	9920.000	AV	31.5	38.7	8.6	37.2	41.6	53.9	12.3	100	0	VBW:270Hz
Hori.	12400.000	AV	33.7	39.4	9.9	38.0	45.0	53.9	8.9	100	0	VBW:270Hz
Hori.	14880.000	AV	36.5	41.2	1.2	37.9	41.0	53.9	12.9	100	359	VBW:10Hz
Vert.	897.855	QP	22.7	21.9	10.0	30.9	23.7	46.0	22.3	100	0	
Vert.	2393.180	PK	46.7	27.4	13.6	40.6	47.1	73.9	26.8	103	141	
Vert.	2483.500	PK	46.6	27.4	13.6	40.5	47.1	73.9	26.8	103	141	
Vert.	2485.395	PK	46.0	27.4	13.6	40.5	46.5	73.9	27.4	103	141	
Vert.	2566.787	PK	45.7	27.5	13.7	40.6	46.3	73.9	27.6	103	141	
Vert.	4960.000	PK	43.5	31.0	5.9	36.5	43.9	73.9	30.0	100	0	
Vert.	7440.000	PK	46.1	36.7	7.3	38.4	51.7	73.9	22.2	100	0	
Vert.	9920.000	PK	42.4	38.7	8.6	37.2	52.5	73.9	21.4	100	0	
Vert.	12400.000	PK	47.2	39.4	9.9	38.0	58.5	73.9	15.4	100	110	
Vert.	14880.000	PK	45.5	41.2	1.2	37.9	50.0	73.9	23.9	100	63	
Vert.	2393.180	AV	36.0	27.4	13.6	40.6	36.4	53.9	17.5	103	141	VBW:270Hz
Vert.	2483.500	AV	36.2	27.4	13.6	40.5	36.7	53.9	17.2	103	141	VBW:270Hz
Vert.	2485.395	AV	35.9	27.4	13.6	40.5	36.4	53.9	17.5	103	141	VBW:270Hz
Vert.	2566.787	AV	35.7	27.5	13.7	40.6	36.3	53.9	17.6	103	141	VBW:270Hz
Vert.	4960.000	AV	32.3	31.0	5.9	36.5	32.7	53.9	21.2	100	0	VBW:270Hz
Vert.	7440.000	AV	34.6	36.7	7.3	38.4	40.2	53.9	13.7	100	0	VBW:270Hz
Vert.	9920.000	AV	32.4	38.7	8.6	37.2	42.5	53.9	11.4	100	0	VBW:270Hz
Vert.	12400.000	AV	38.5	39.4	9.9	38.0	49.8	53.9	4.1	100	110	VBW:270Hz
Vert.	14880.000	AV	35.3	41.2	1.2	37.9	39.8	53.9	14.1	100	63	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

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

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Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Caluculation of VBW and Dwell Time Factor

DH5,

VBW (AV) Calculation

DH5,	3-DH5,
VBW: $1/x = 266\text{Hz} < 270\text{Hz}$ x: (Tx on+Tx off) = 3.75ms	VBW: $1/x = 266\text{Hz} < 270\text{Hz}$ x: (Tx on+Tx off) = 3.75ms
<p>Agilent L Mkr1 3.75 ms -0.13 dB</p> <p>Ref 107 dBμV *Atten 10 dB</p> <p>Log 10 dB/</p> <p>*PAvg</p> <p>S1 S2 W3 FS AA</p> <p>E(f): FTun</p> <p>Center 2.441 000 GHz Span 0 Hz</p> <p>Res BW (CISPR) 1 MHz *VBW 3 MHz Sweep 10 ms (1001 pts)</p>	<p>Agilent L Mkr1 3.75 ms -0.08 dB</p> <p>Ref 107 dBμV *Atten 10 dB</p> <p>Log 10 dB/</p> <p>*PAvg</p> <p>S1 S2 W3 FS AA</p> <p>E(f): FTun</p> <p>Center 2.441 000 GHz Span 0 Hz</p> <p>Res BW (CISPR) 1 MHz *VBW 3 MHz Sweep 10 ms (1001 pts)</p>

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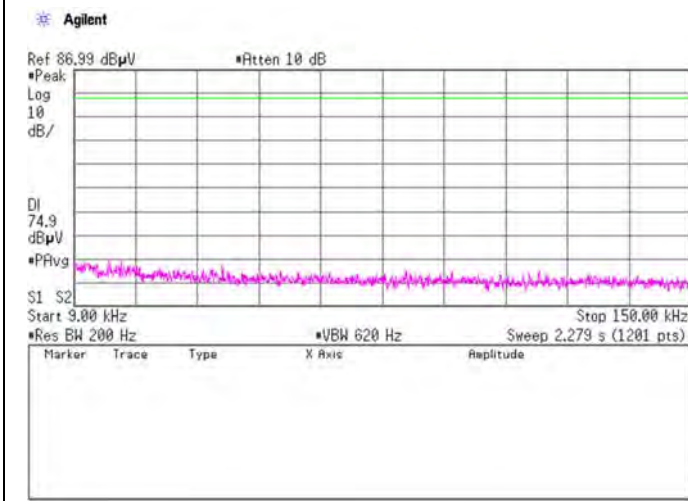
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Spurious emission (Conducted)

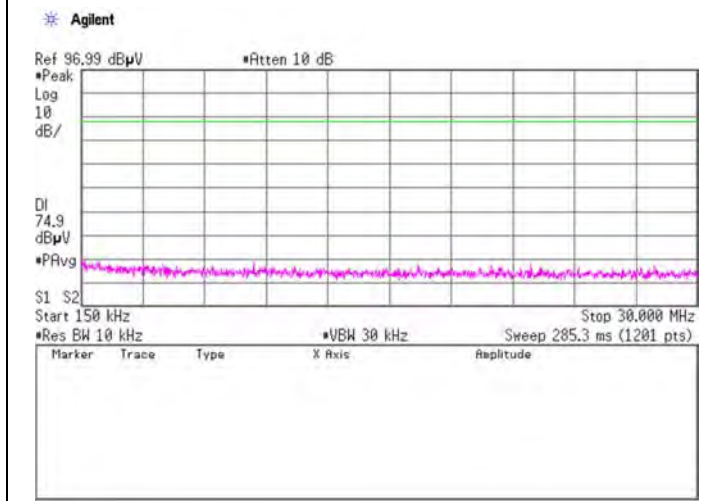
DH5,

Tx, 2402MHz

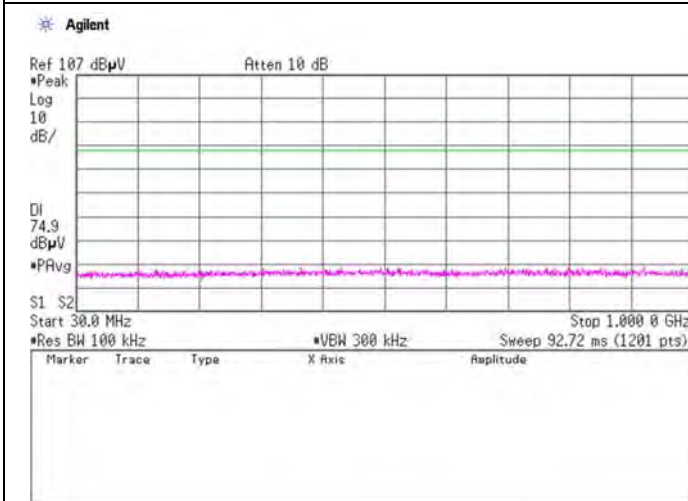
9kHz - 150kHz



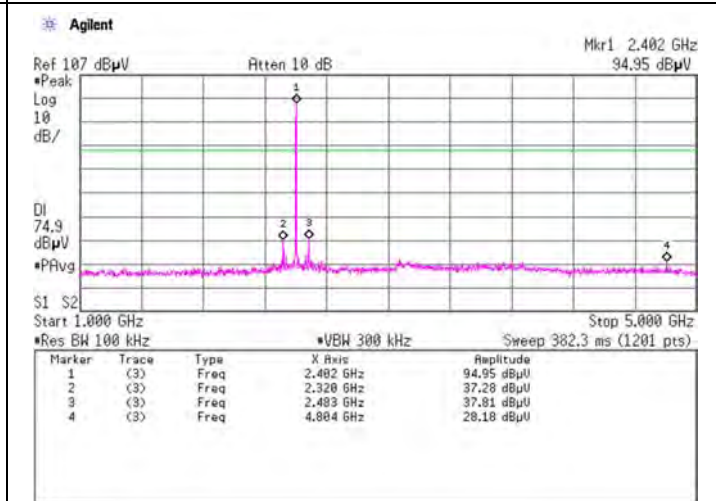
150kHz - 30MHz



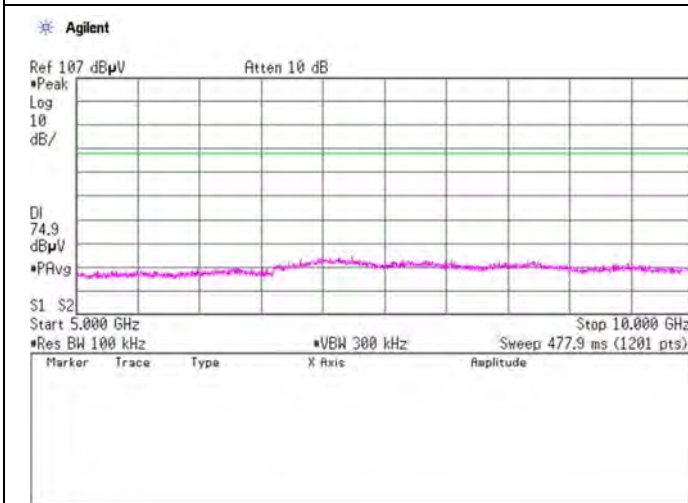
30MHz - 1GHz



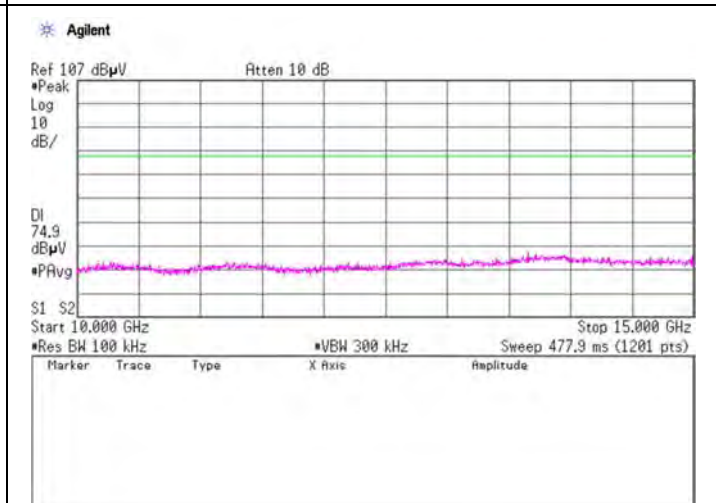
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz

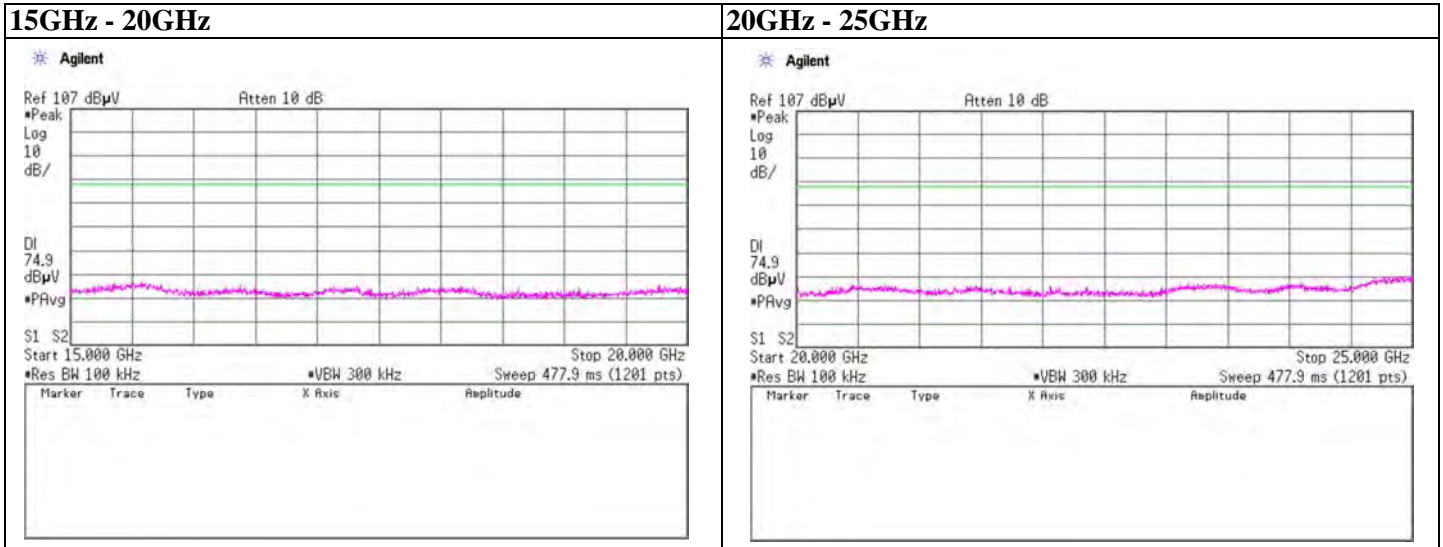


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Spurious emission (Conducted)

DH5,
Tx, 2402MHz



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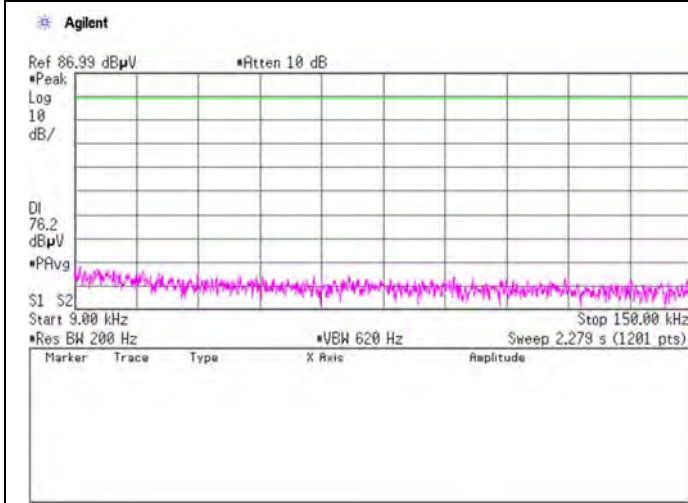
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Spurious emission (Conducted)

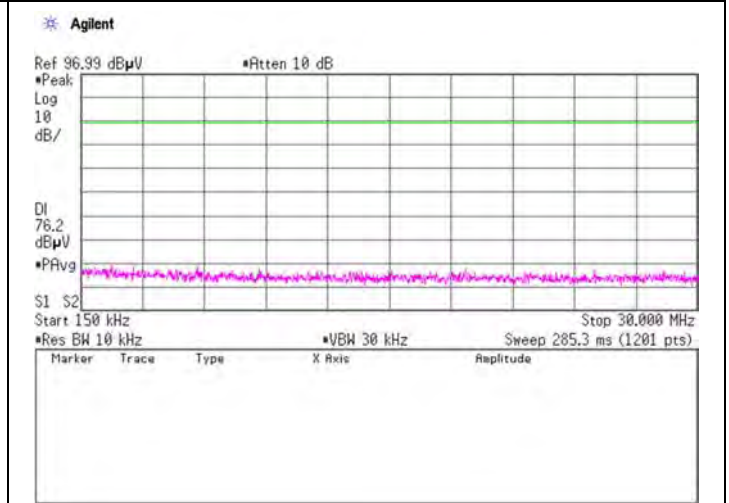
DH5,

Tx, 2441MHz

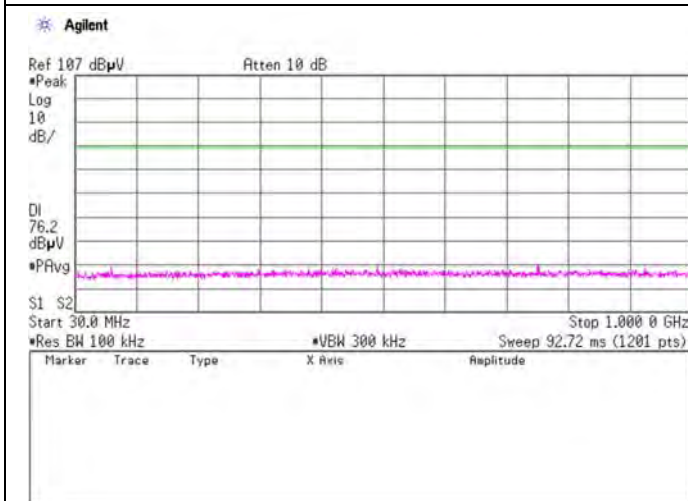
9kHz - 150kHz



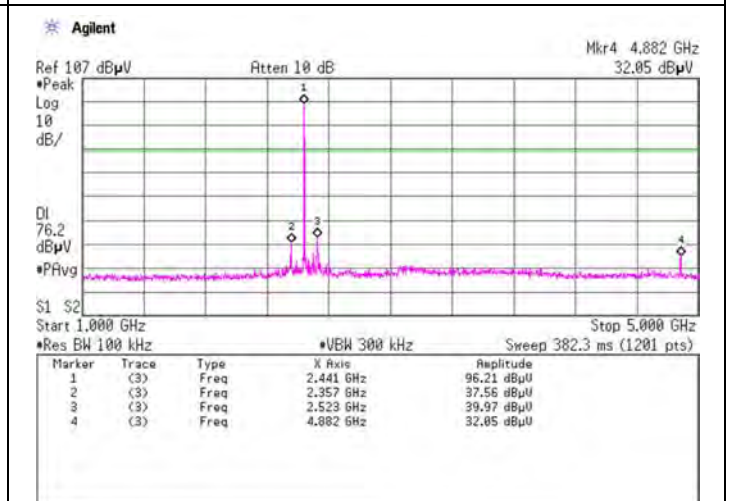
150kHz - 30MHz



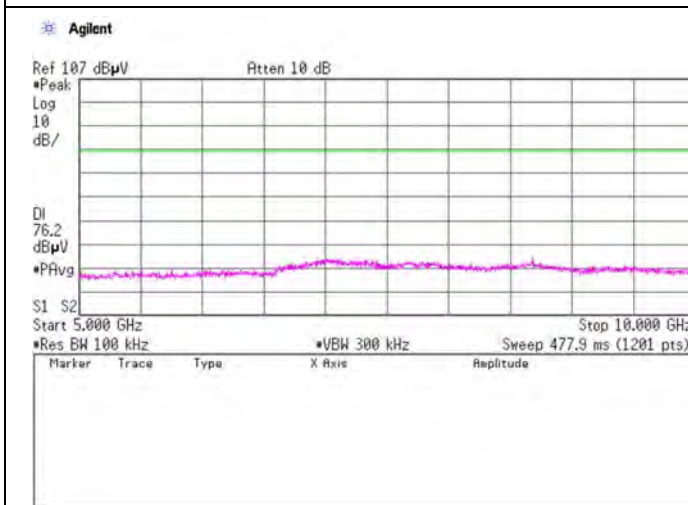
30MHz - 1GHz



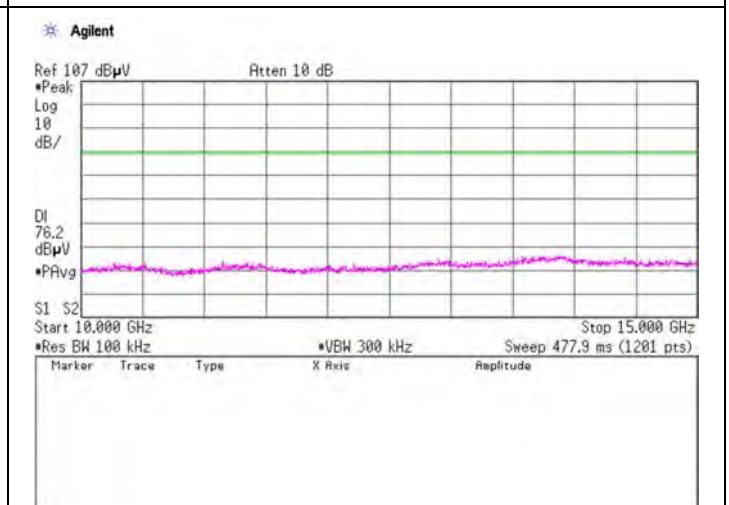
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz



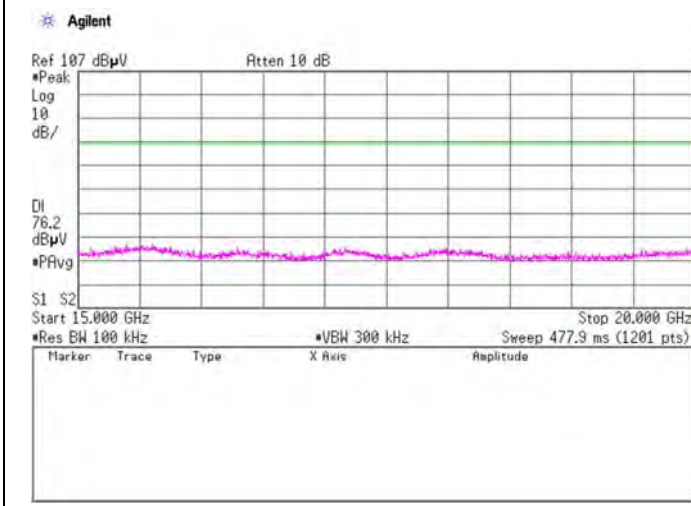
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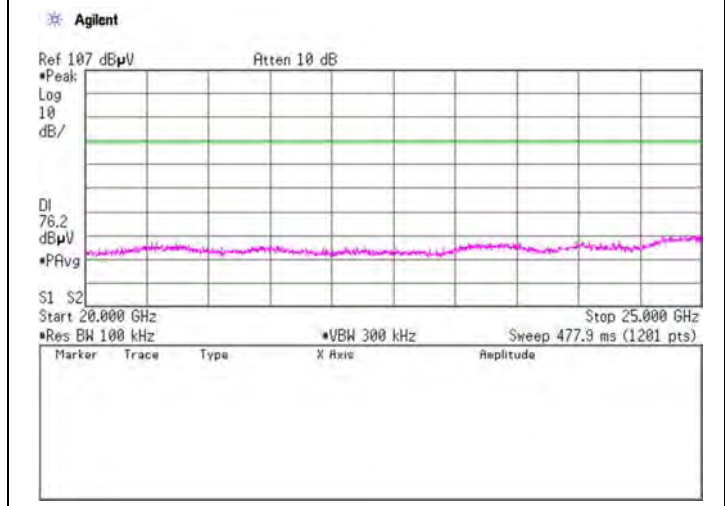
Spurious emission (Conducted)

DH5,
Tx, 2441MHz

15GHz - 20GHz



20GHz - 25GHz



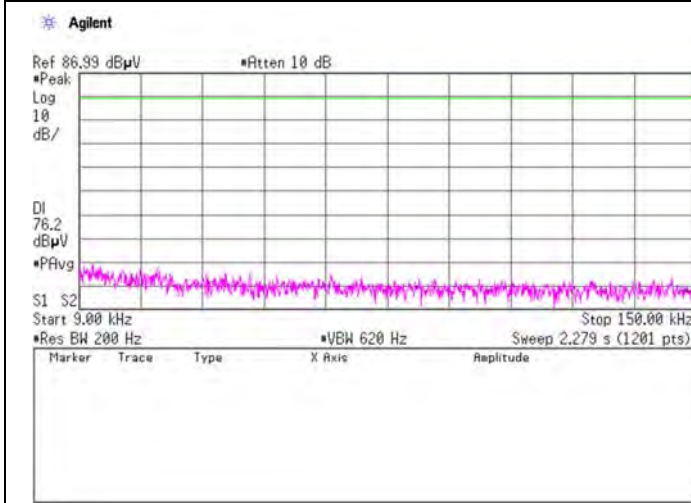
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Shonan EMC Lab.

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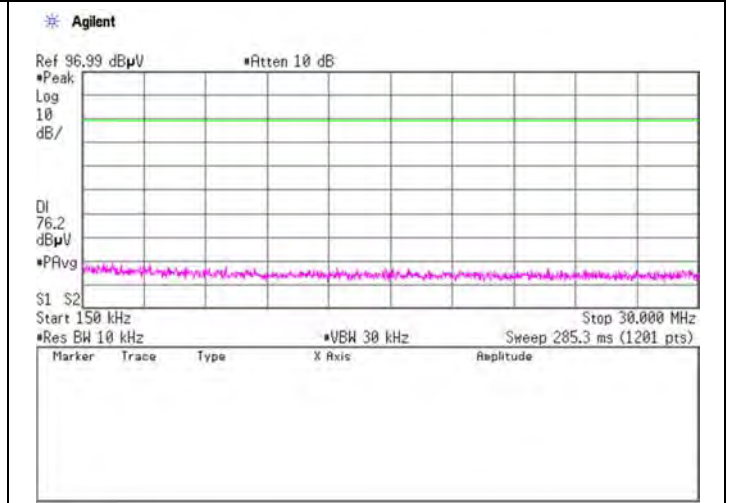
Spurious emission (Conducted)

DH5,
Tx, 2480MHz

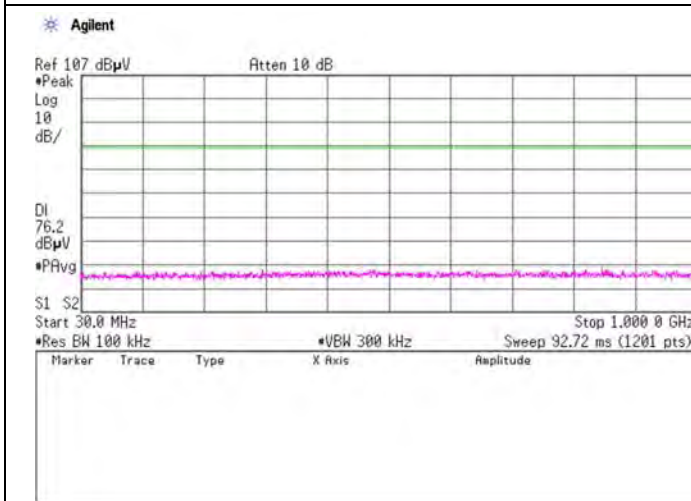
9kHz - 150kHz



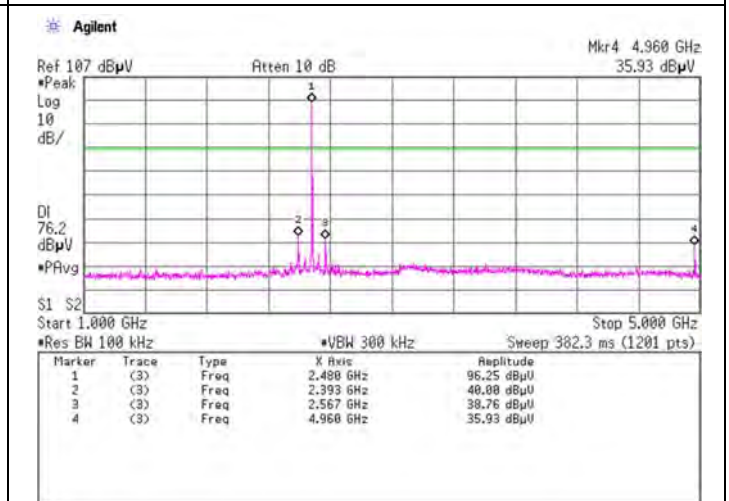
150kHz - 30MHz



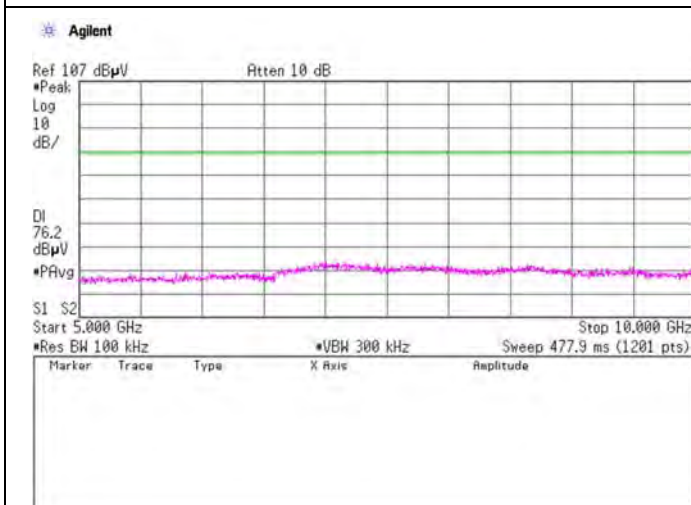
30MHz - 1GHz



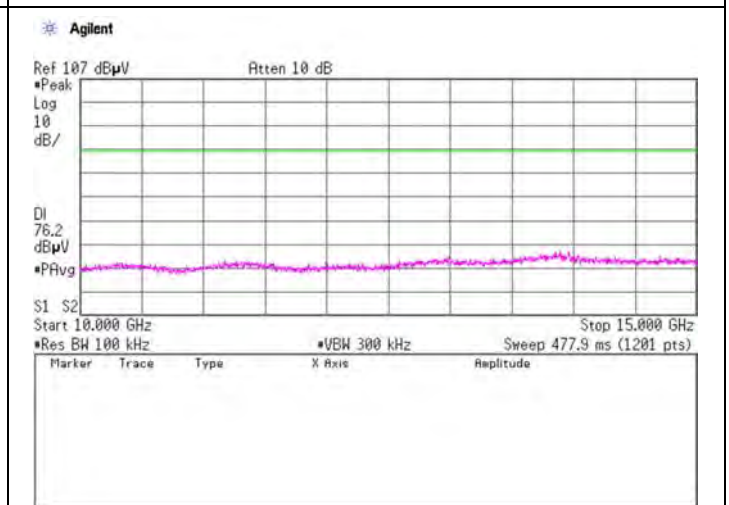
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz



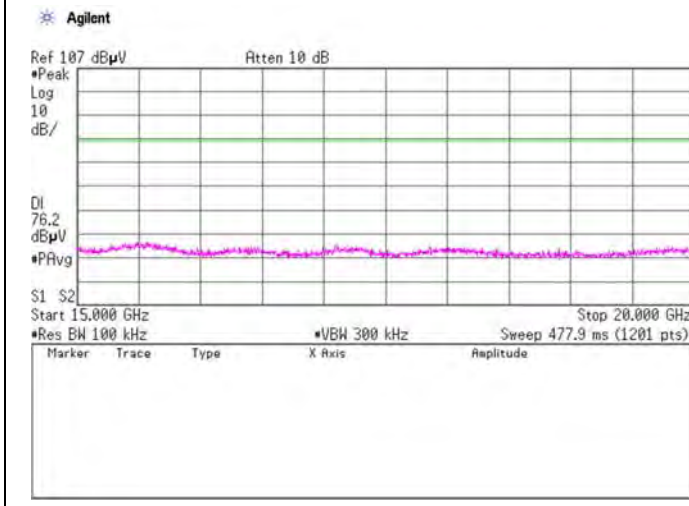
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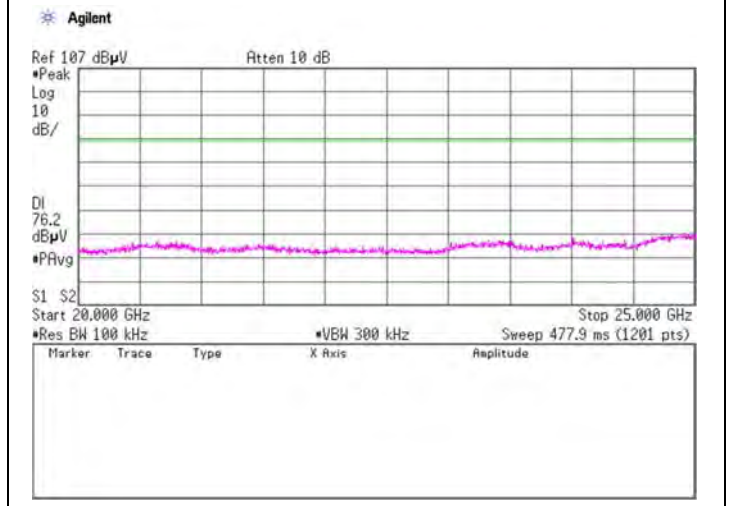
Spurious emission (Conducted)

DH5,
Tx, 2480MHz

15GHz - 20GHz



20GHz - 25GHz



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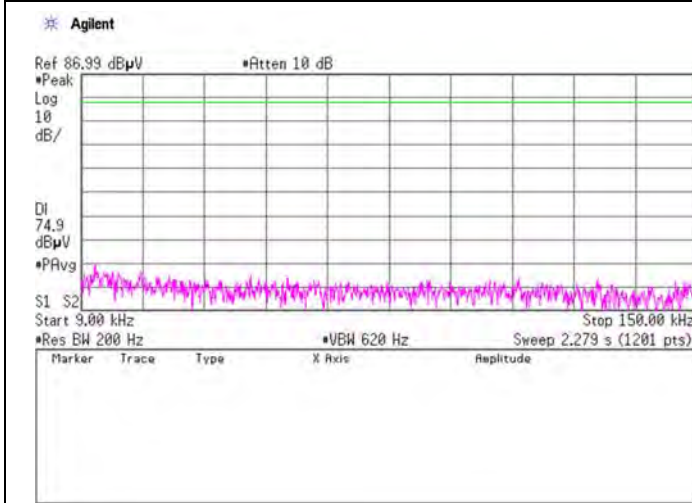
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Spurious emission (Conducted)

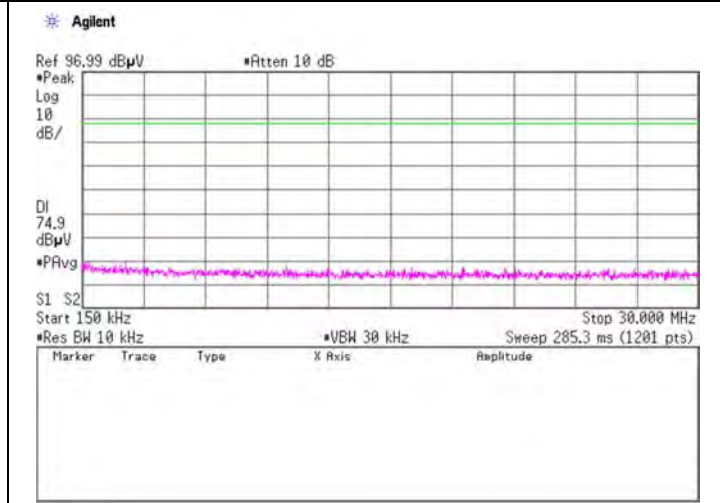
3-DH5,

Tx, 2402MHz

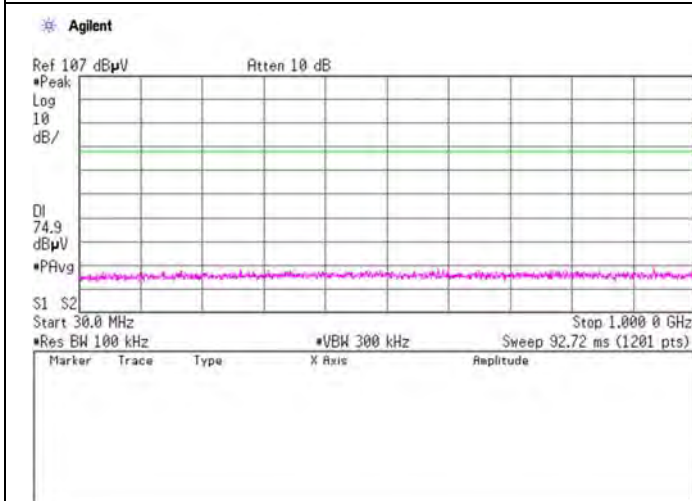
9kHz - 150kHz



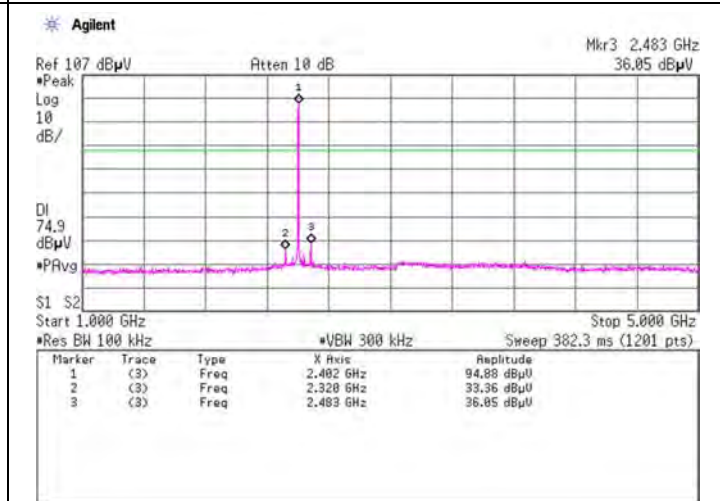
150kHz - 30MHz



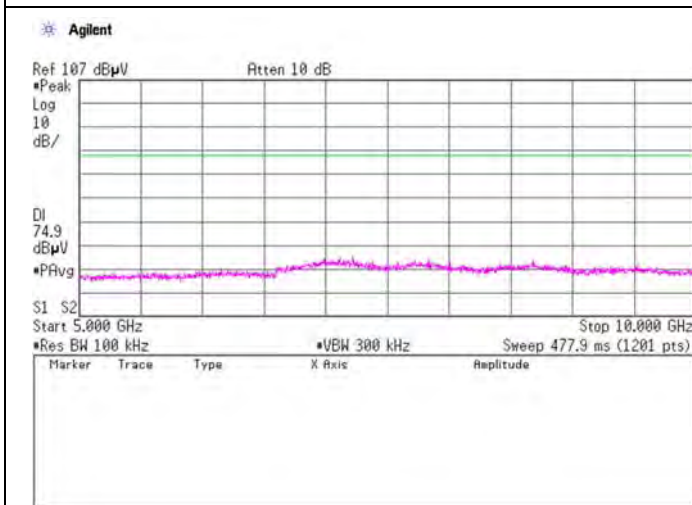
30MHz - 1GHz



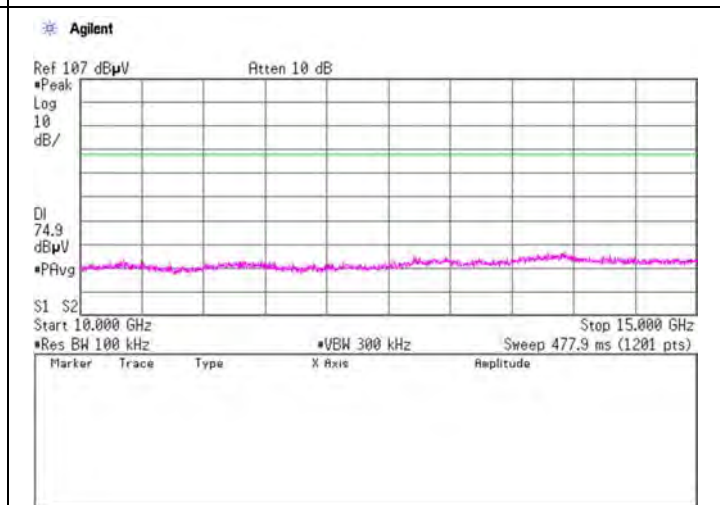
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz



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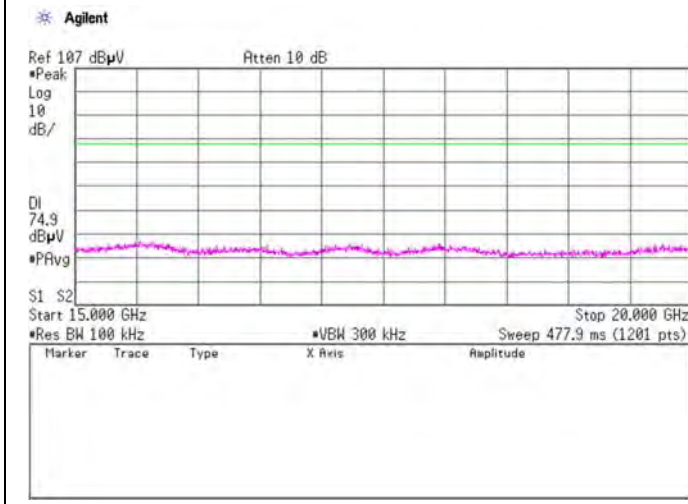
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Spurious emission (Conducted)

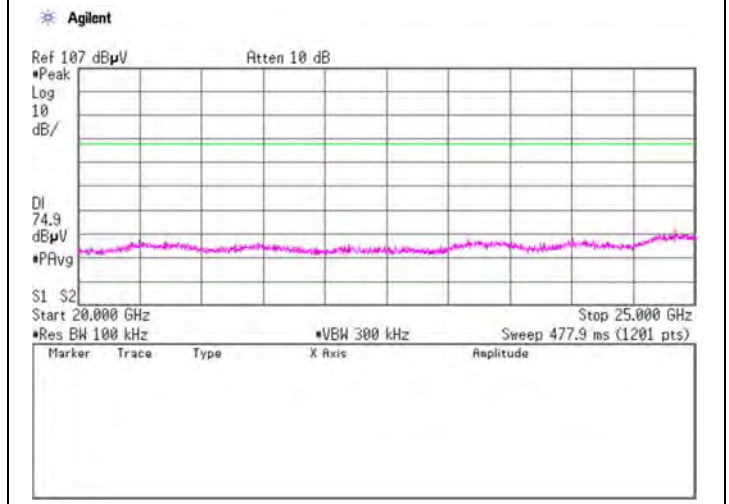
3-DH5,

Tx, 2402MHz

15GHz - 20GHz



20GHz - 25GHz



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Shonan EMC Lab.

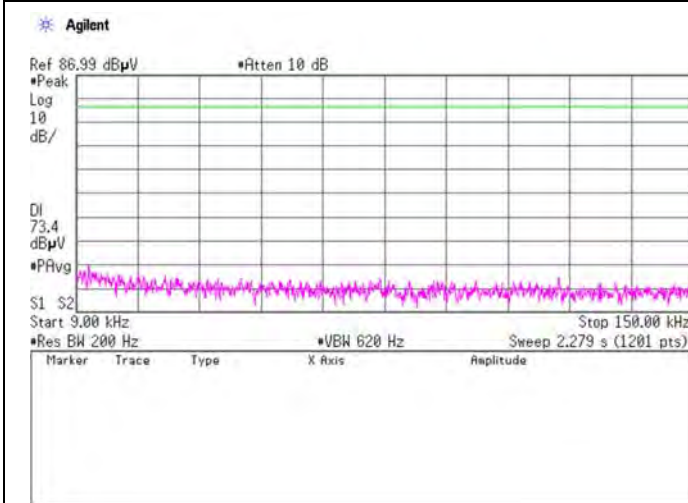
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Spurious emission (Conducted)

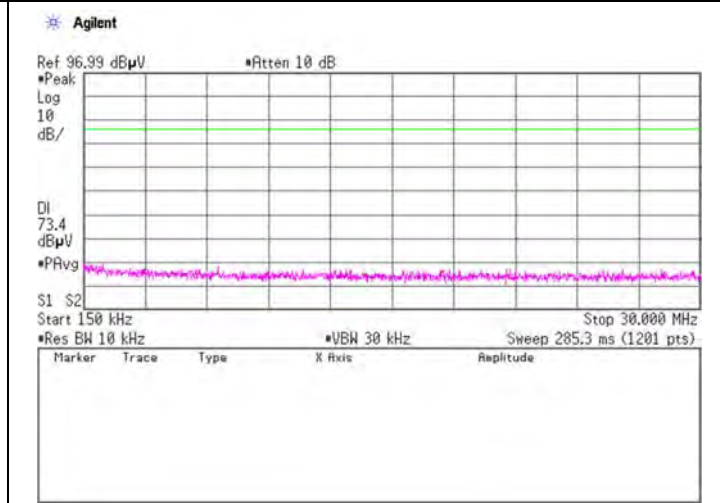
3-DH5,

Tx, 2441MHz

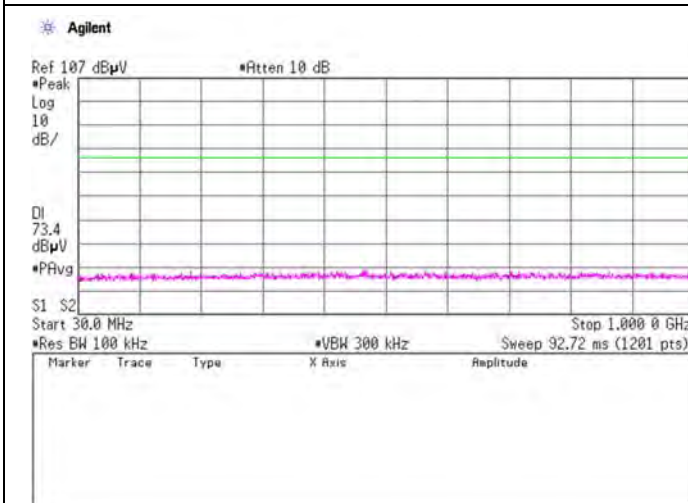
9kHz - 150kHz



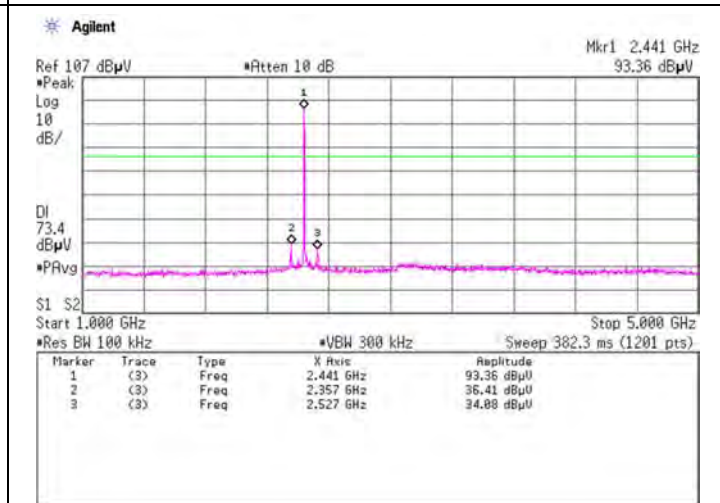
150kHz - 30MHz



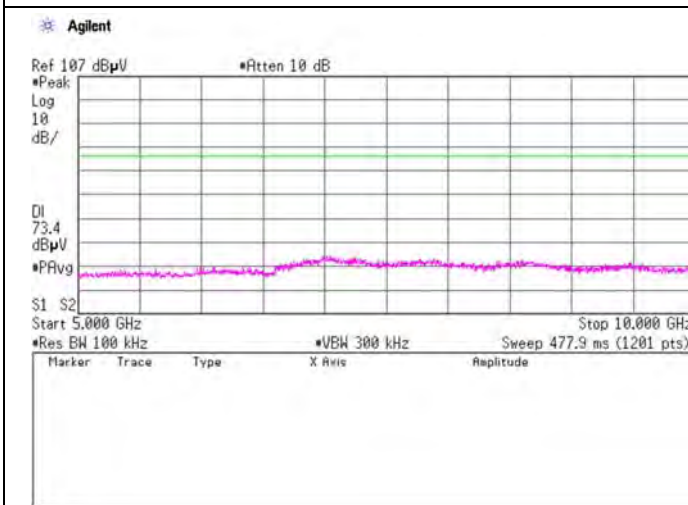
30MHz - 1GHz



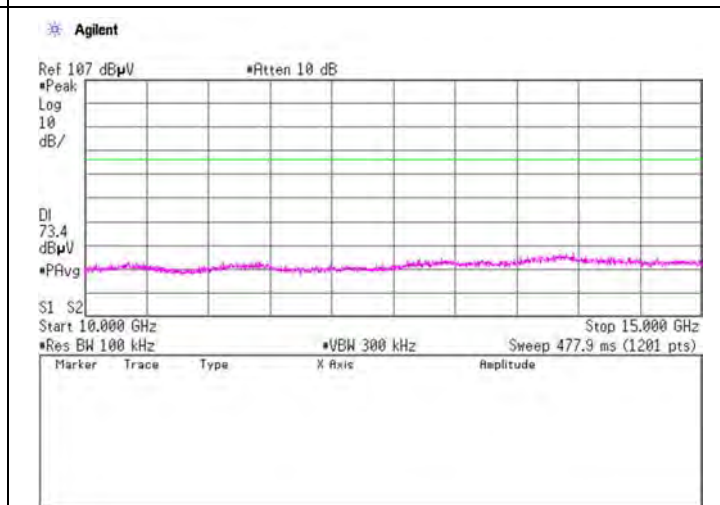
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz



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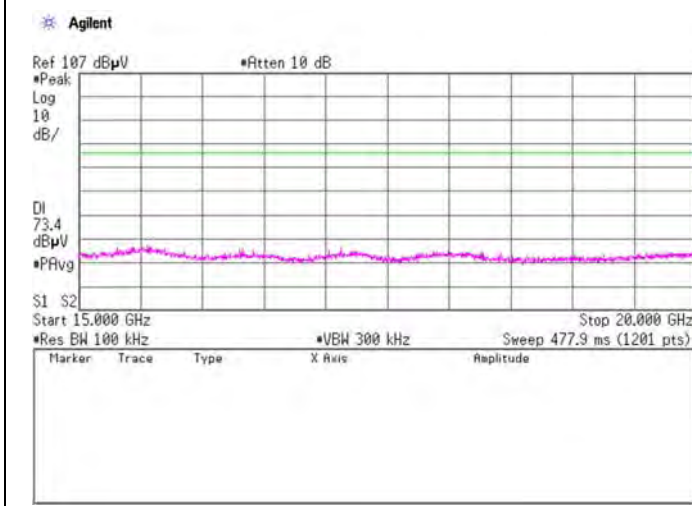
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Spurious emission (Conducted)

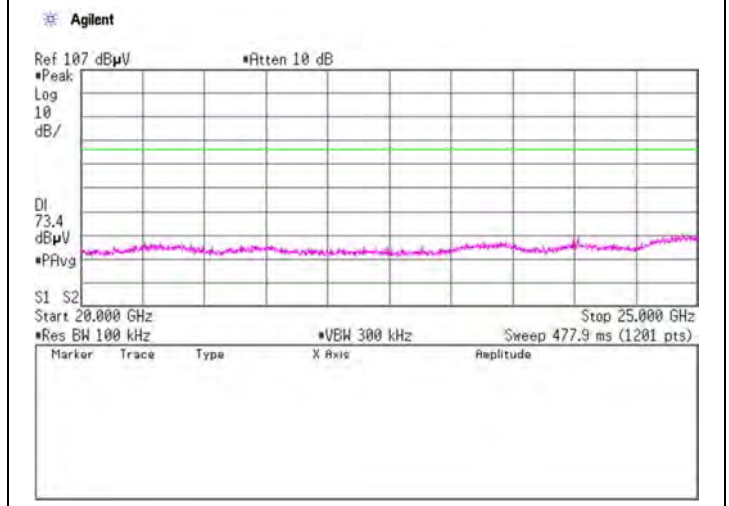
3-DH5,

Tx, 2441MHz

15GHz - 20GHz



20GHz - 25GHz



UL Japan, Inc.
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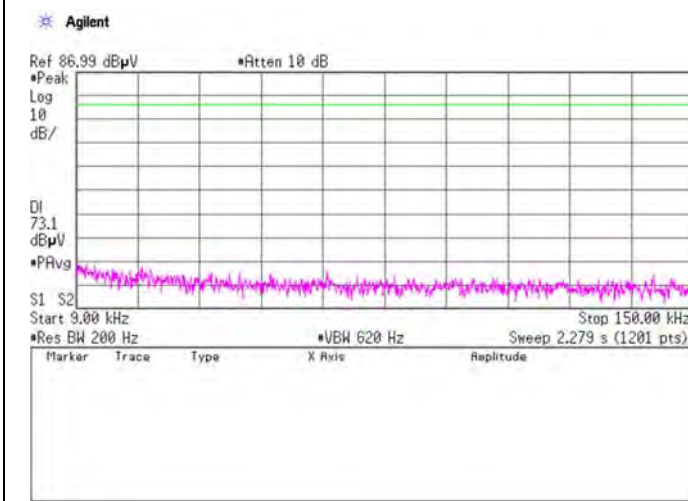
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

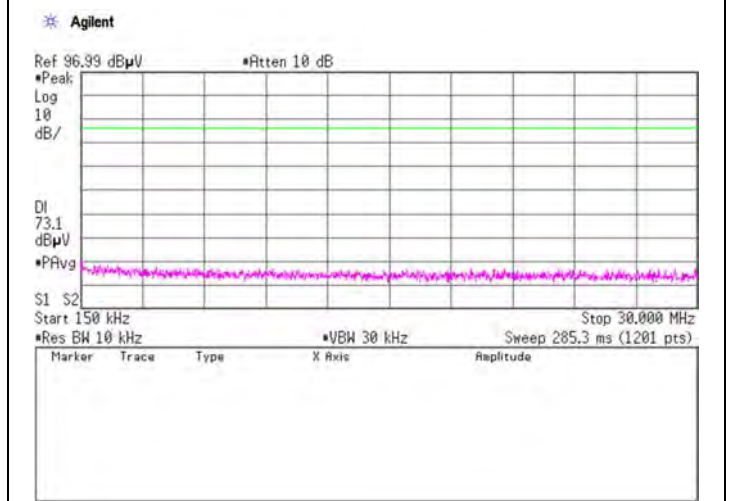
3-DH5,

Tx, 2480MHz

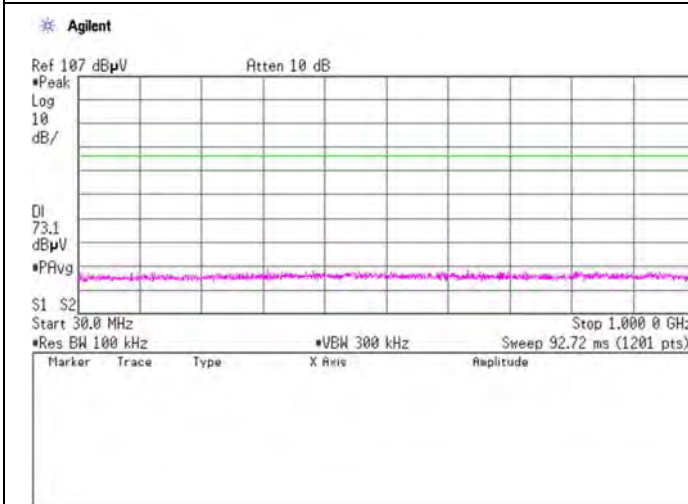
9kHz - 150kHz



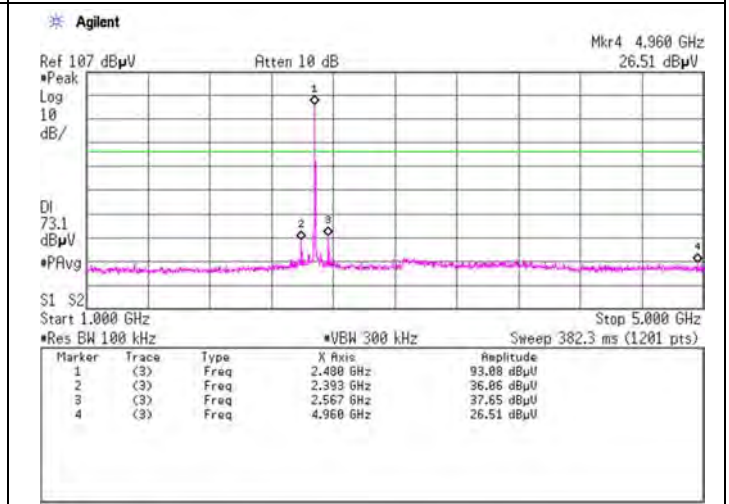
150kHz - 30MHz



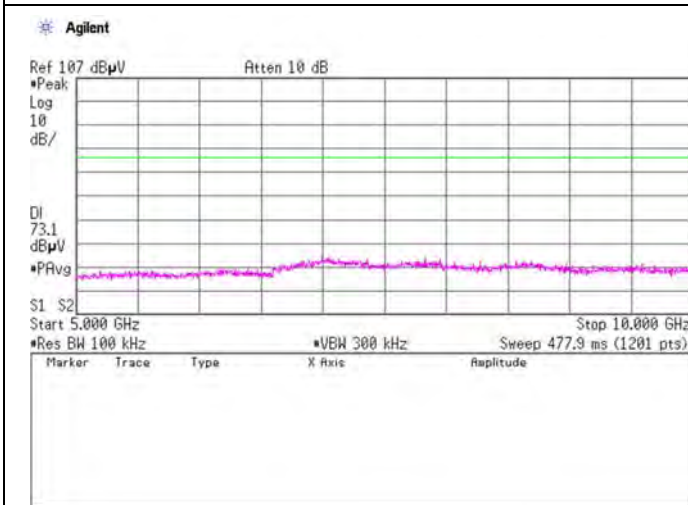
30MHz - 1GHz



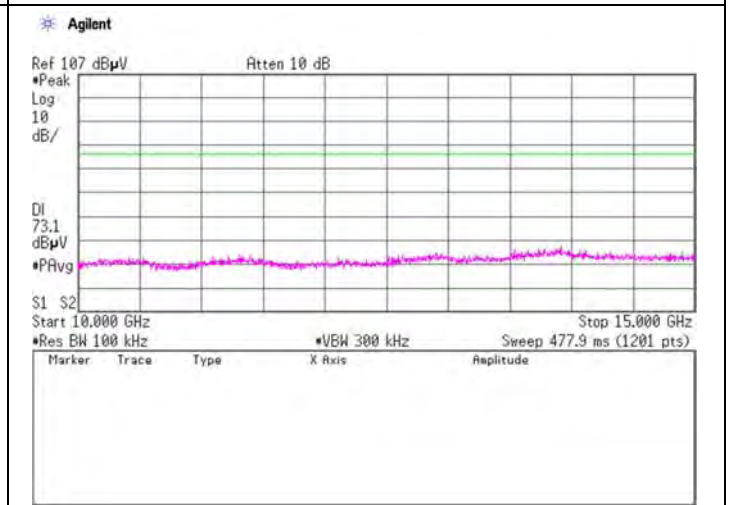
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz



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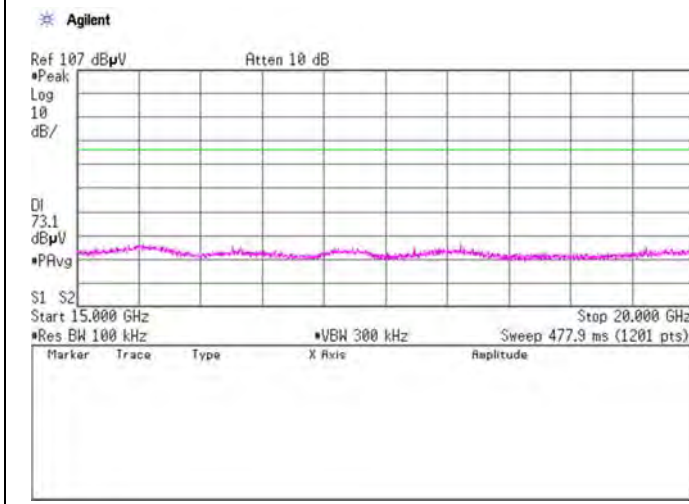
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
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Spurious emission (Conducted)

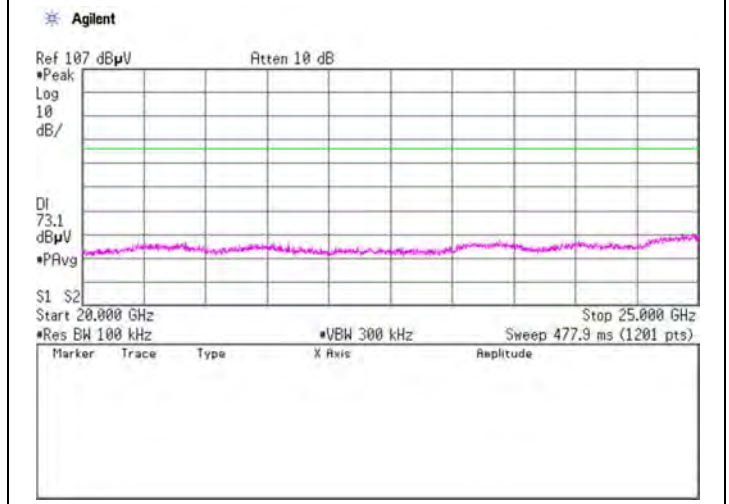
3-DH5,

Tx, 2480MHz

15GHz - 20GHz



20GHz - 25GHz



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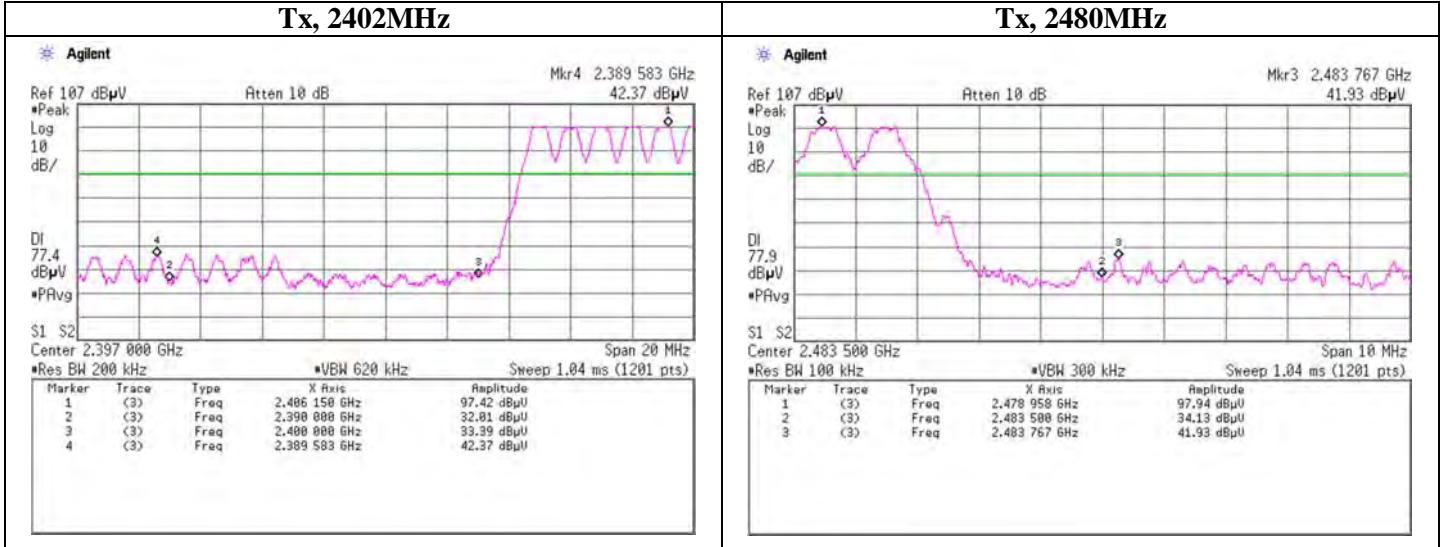
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

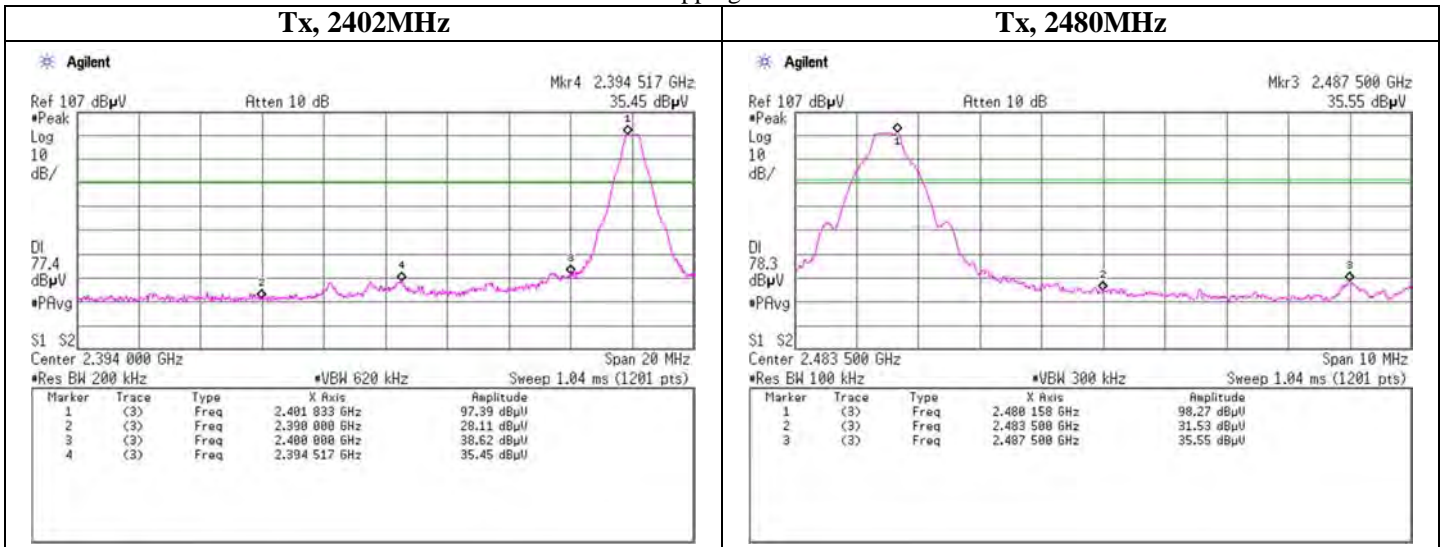
Band Edge compliance

DH5,

Hopping ON



Hopping OFF



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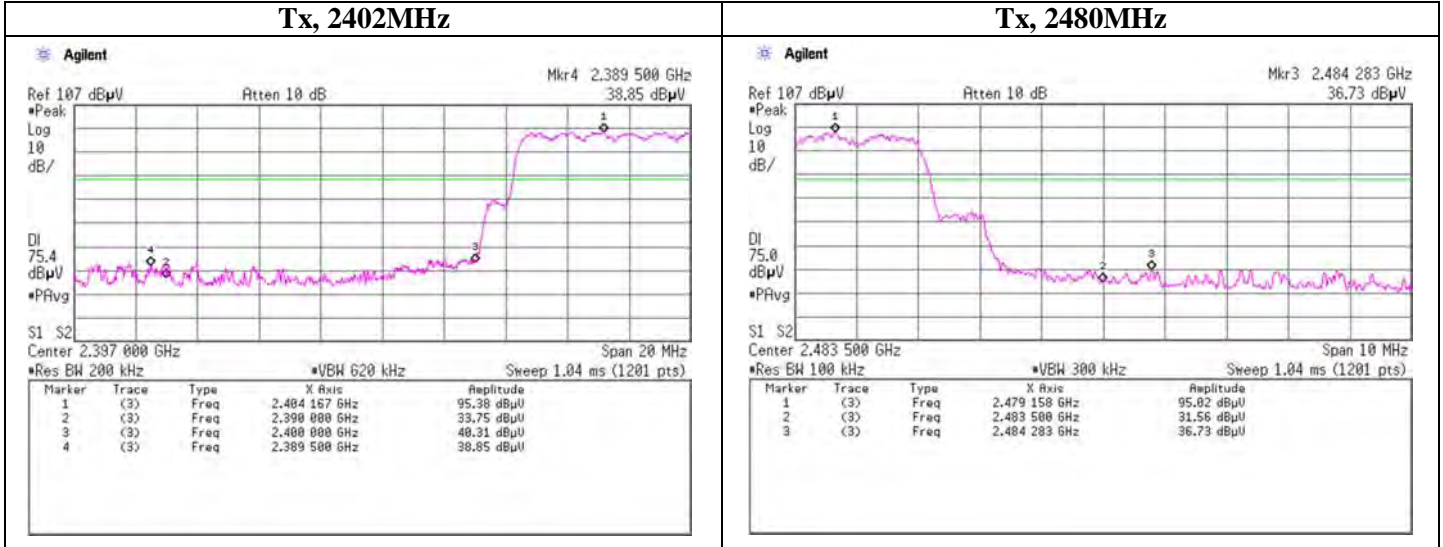
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

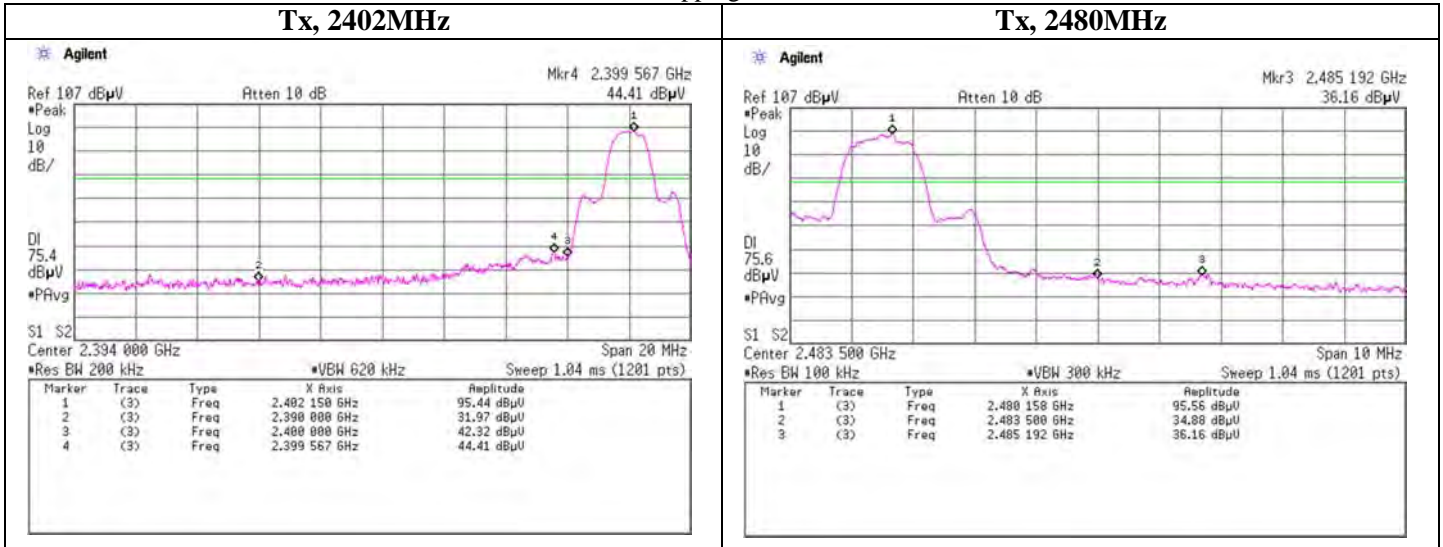
Band Edge compliance

3-DH5,

Hopping ON



Hopping OFF

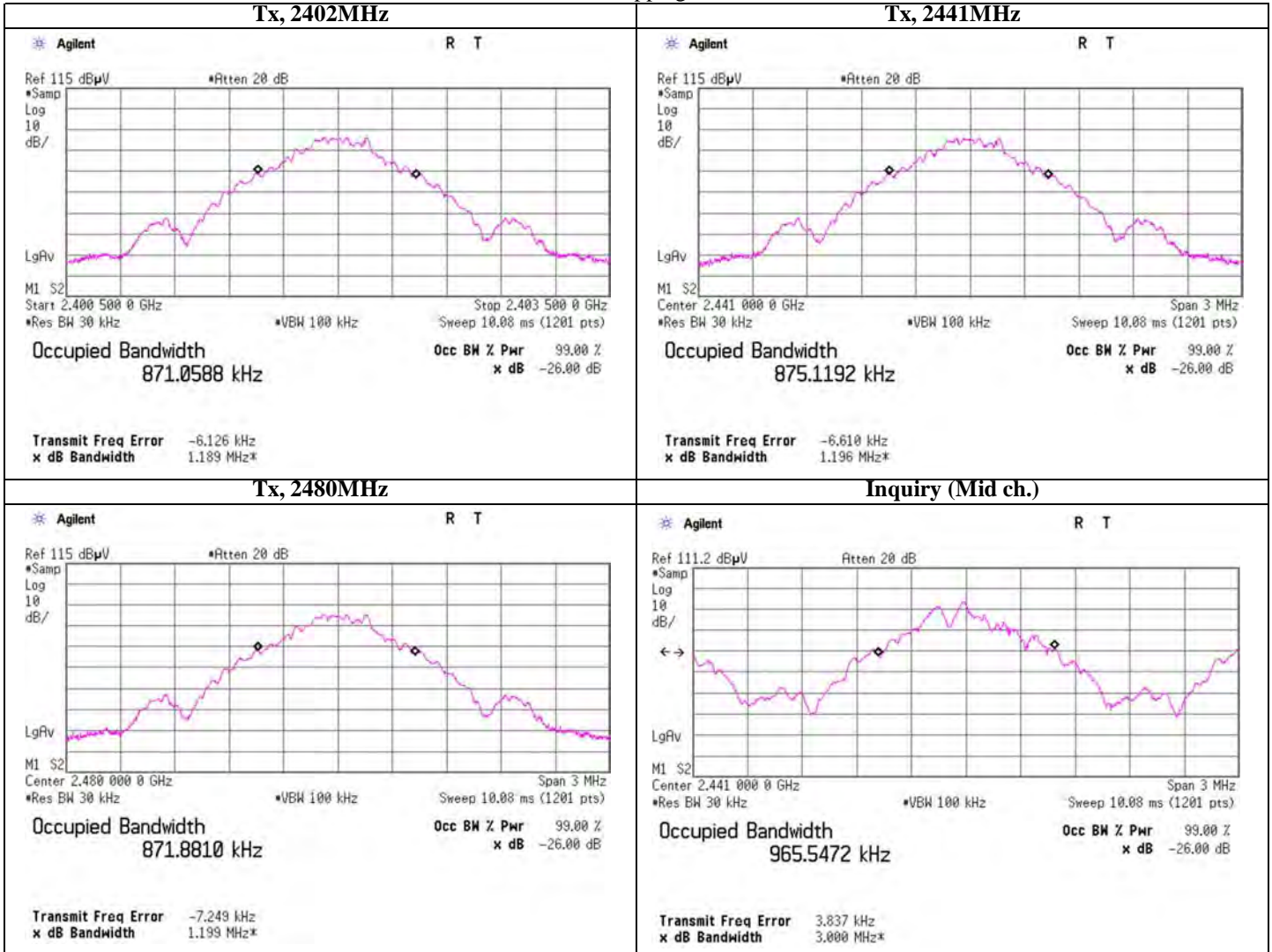


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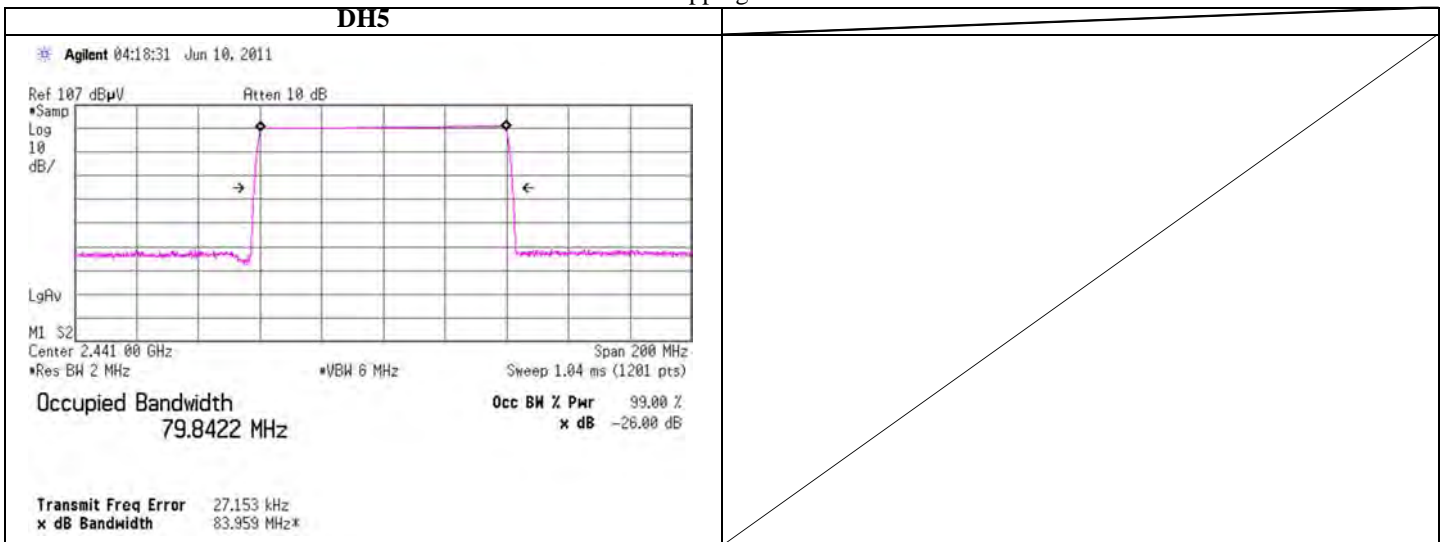
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
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99% Occupied Bandwidth

DH5, Hopping Off



Hopping On

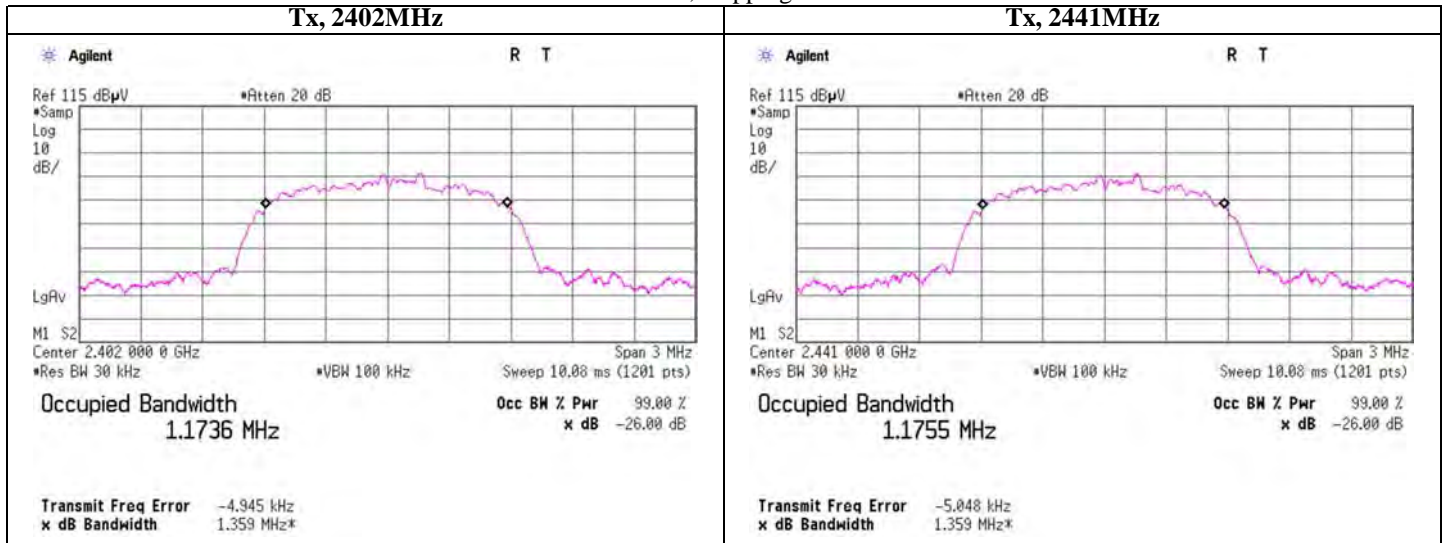


UL Japan, Inc.
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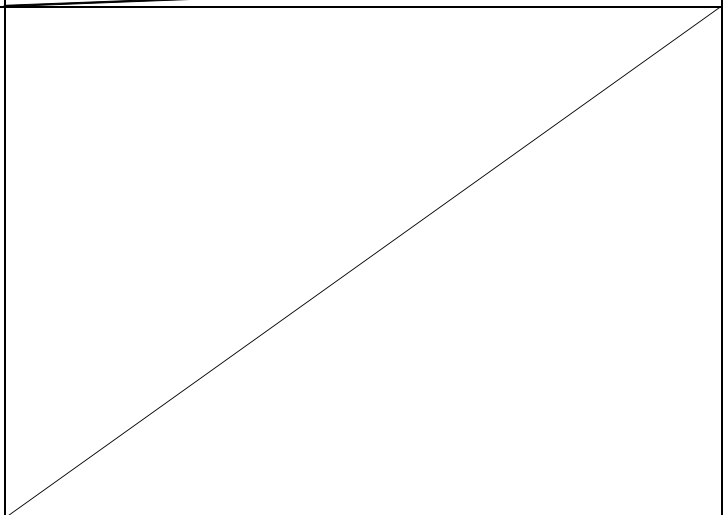
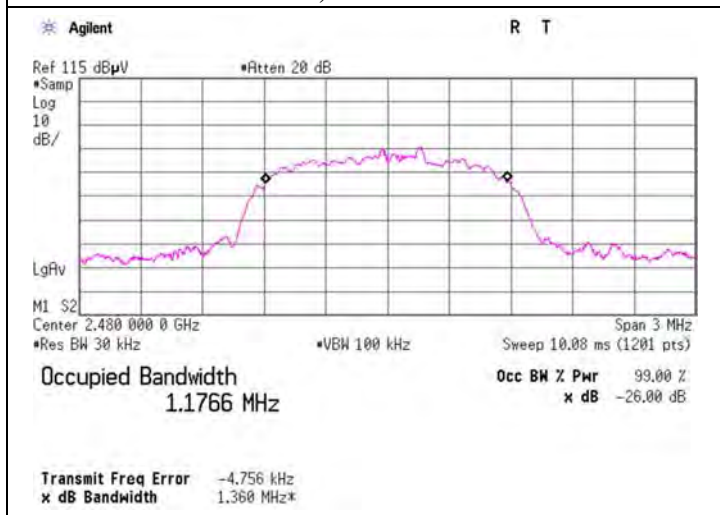
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
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99% Occupied Bandwidth

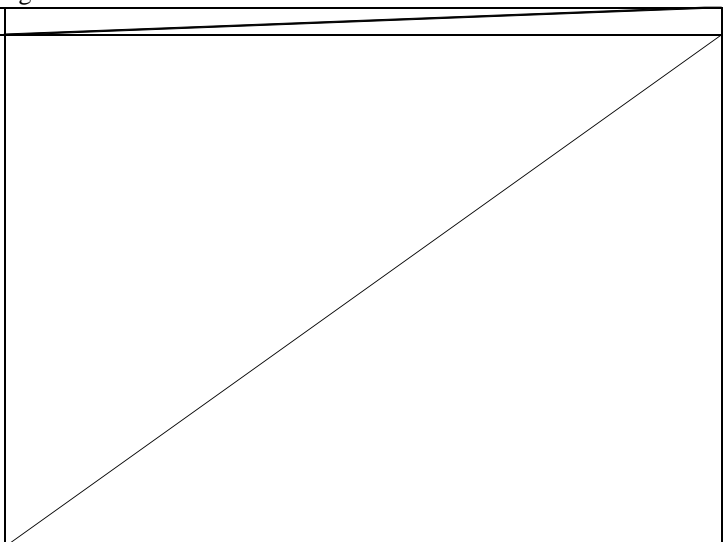
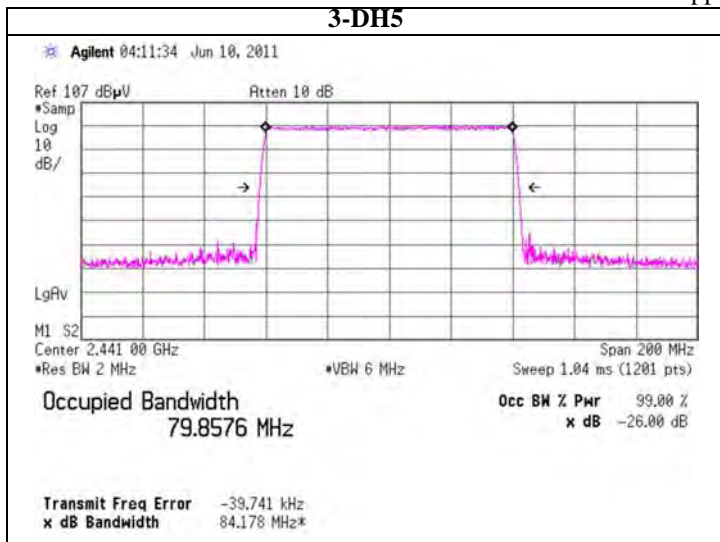
3-DH5, Hopping Off



Tx, 2480MHz



Hopping On



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APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2011/04/12 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2011/04/12 * 12
SAT10-09	Attenuator	Weinschel Corp.	54A-10	W5692	AT	2010/11/24 * 12
SOS-10	Humidity Indicator	A&D	AD-5681	4064561	AT	2011/02/23 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	AT/RE	2011/02/02 * 12
SCC-G11	Coaxial Cable	Suhner	SUCOFLEX 102	31595/2	AT	2011/03/23 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT	2011/03/23 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2011/03/02 * 12
SAF-04	Pre Amplifier	TOYO Corporation	TPA0118-36	1440489	RE	2011/03/23 * 12
SCC-G02	Coaxial Cable	Suhner	SUCOFLEX 104A	46498/4A	RE	2011/04/28 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2011/05/27 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2010/08/08 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2011/02/23 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	RE	2010/11/16 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE/CE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFLMF)	-	RE/CE	-
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	RE	2010/12/15 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2010/12/15 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2011/03/07 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2010/12/15 * 12
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2011/03/23 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2011/03/15 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2011/03/16 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2011/03/16 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

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

Test Item :

- CE: Conducted emission ,
- RE: Radiated emission ,
- AT: Antenna terminal conducted test

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2011/02/17 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SAT3-02	Attenuator	JFW	50HF-003N	-	RE	2011/02/17 * 12
SBA-02	Biconical Antenna	Schwarzbeck	BBA9106	91032665	RE	2010/10/11 * 12
SCC-B1/B3/B5/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2011/04/28 * 12
SCC-B2/B4/B6/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2011/04/28 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP9108-A 0893	RE	2010/10/11 * 12
STR-02	Test Receiver	Rohde & Schwarz	ESCI	100575	RE/CE	2010/08/18 * 12
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2010/09/04 * 12
SCC-B12/B13/SRSE-02	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-270(RF Selector)	CE	2011/04/28 * 12
SLS-03	LISN	Rohde & Schwarz	ENV216	100513	CE	2011/02/23 * 12
SAT3-05	Attenuator	JFW	50HF-003N	-	CE	2011/02/17 * 12
SOS-04	Humidity Indicator	A&D	AD-5681	4061512	CE	2011/03/02 * 12

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

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

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Test Item :

CE: Conducted emission ,

RE: Radiated emission ,

AT: Antenna terminal conducted test