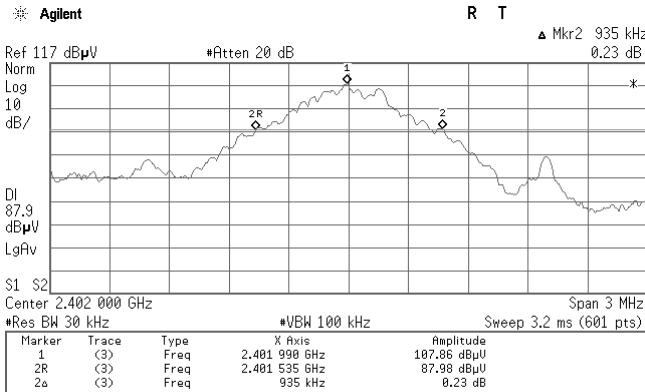
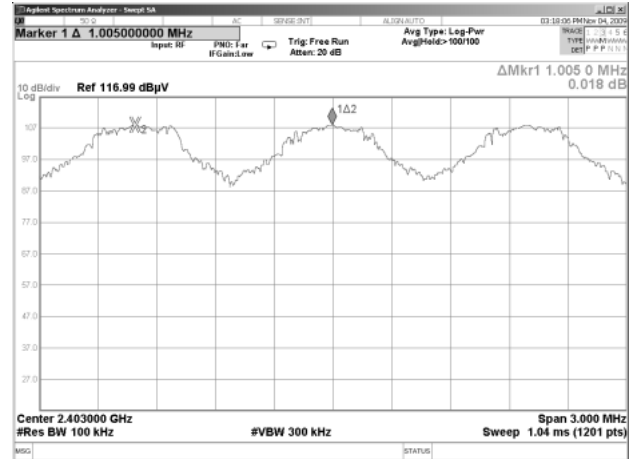
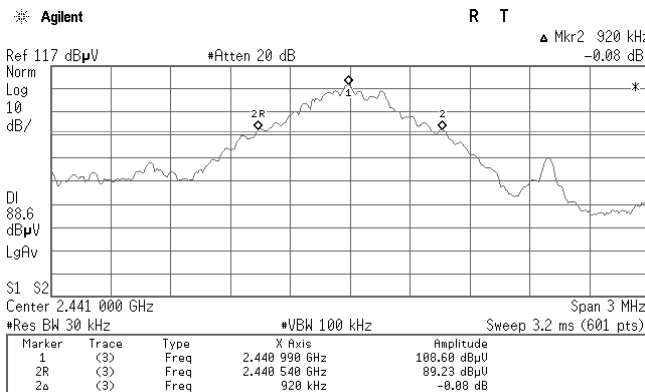
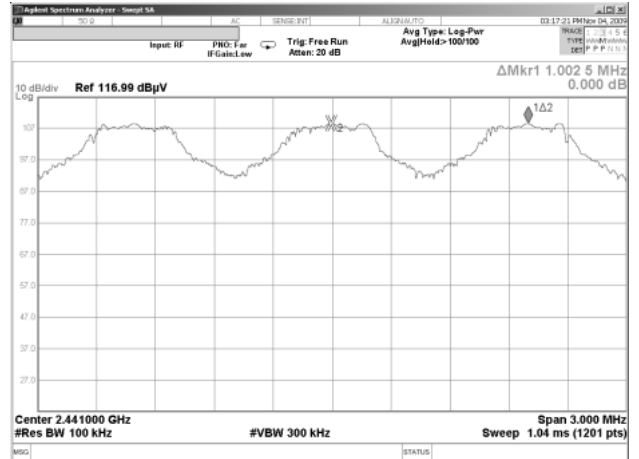
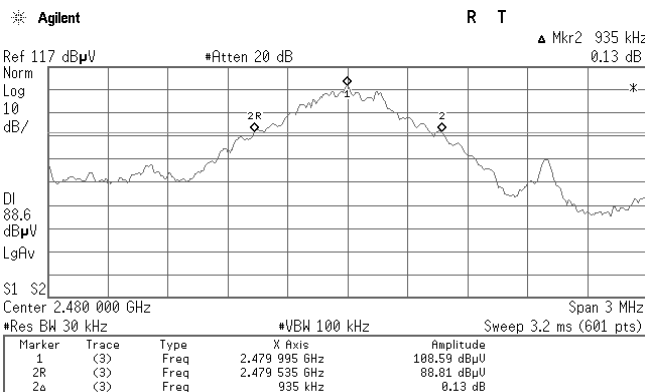


20dB Bandwidth and Carrier Frequency Separation

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2009/11/2 2009/11/4
Temperature / Humidity 23deg.C. , 45% 24deg.C. , 50%
Engineer Wataru Kojima
Mode Tx

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
DH5	2402.0	0.935	1.005	≥ 0.623
DH5	2441.0	0.920	1.003	≥ 0.613
DH5	2480.0	0.935	1.008	≥ 0.623
3DH5	2402.0	1.245	1.005	≥ 0.830
3DH5	2441.0	1.230	1.005	≥ 0.820
3DH5	2480.0	1.230	1.005	≥ 0.820
Inquiry	2441.0	0.808	2.004	≥ 0.538

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

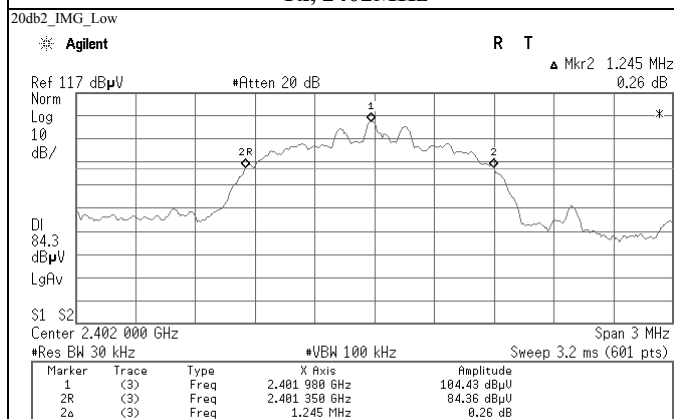
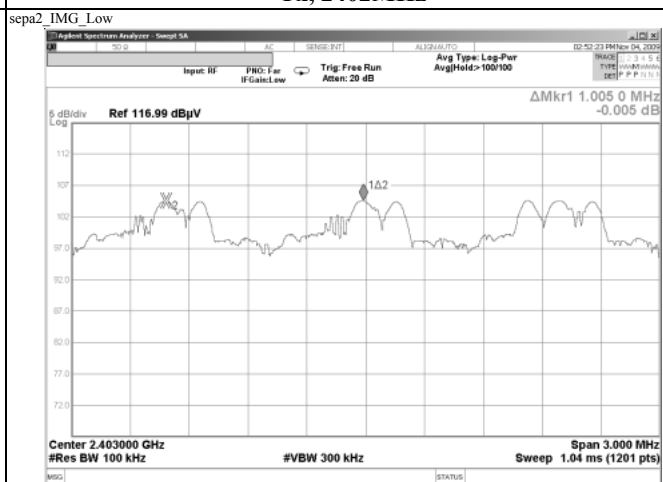
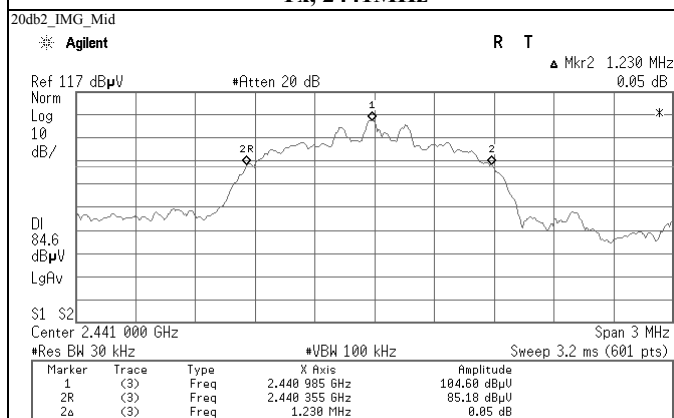
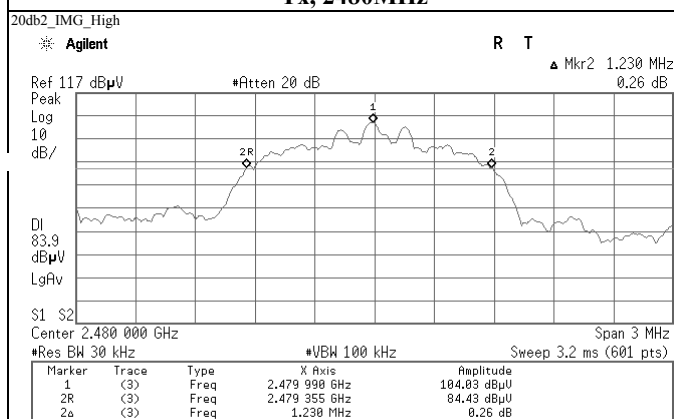
20dB Bandwidth and Carrier Frequency Separation**DH5****20dB Bandwidth****Tx, 2402MHz****Carrier Frequency Separation****Tx, 2402MHz****Tx, 2441MHz****Tx, 2441MHz****Tx, 2480MHz****Tx, 2480MHz**

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20dB Bandwidth and Carrier Frequency Separation**3-DH5****20dB Bandwidth
Tx, 2402MHz****Carrier Frequency Separation
Tx, 2402MHz****Tx, 2441MHz****Tx, 2441MHz****Tx, 2480MHz****Tx, 2480MHz**

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20dB Bandwidth and Carrier Frequency Separation

Inquiry

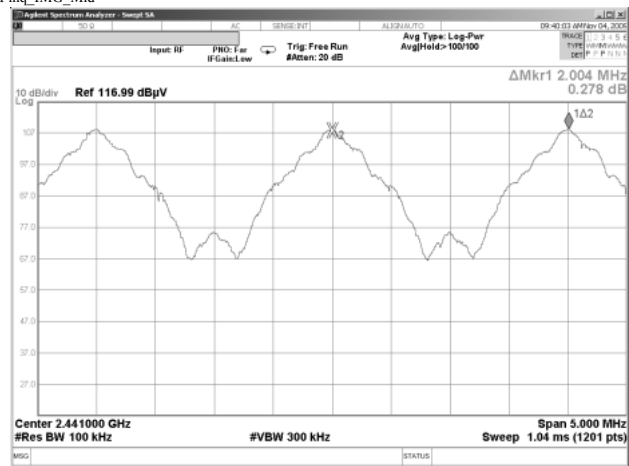
20dB Bandwidth

20db-inq_IMG_Mid



Carrier Frequency Separation

sepa-inq_IMG_Mid



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Number of Hopping Frequency (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2009/11/2 2009/11/4
Temperature / Humidity 23deg.C. , 45% 24deg.C. , 50%
Engineer Wataru Kojima
Mode Tx,

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

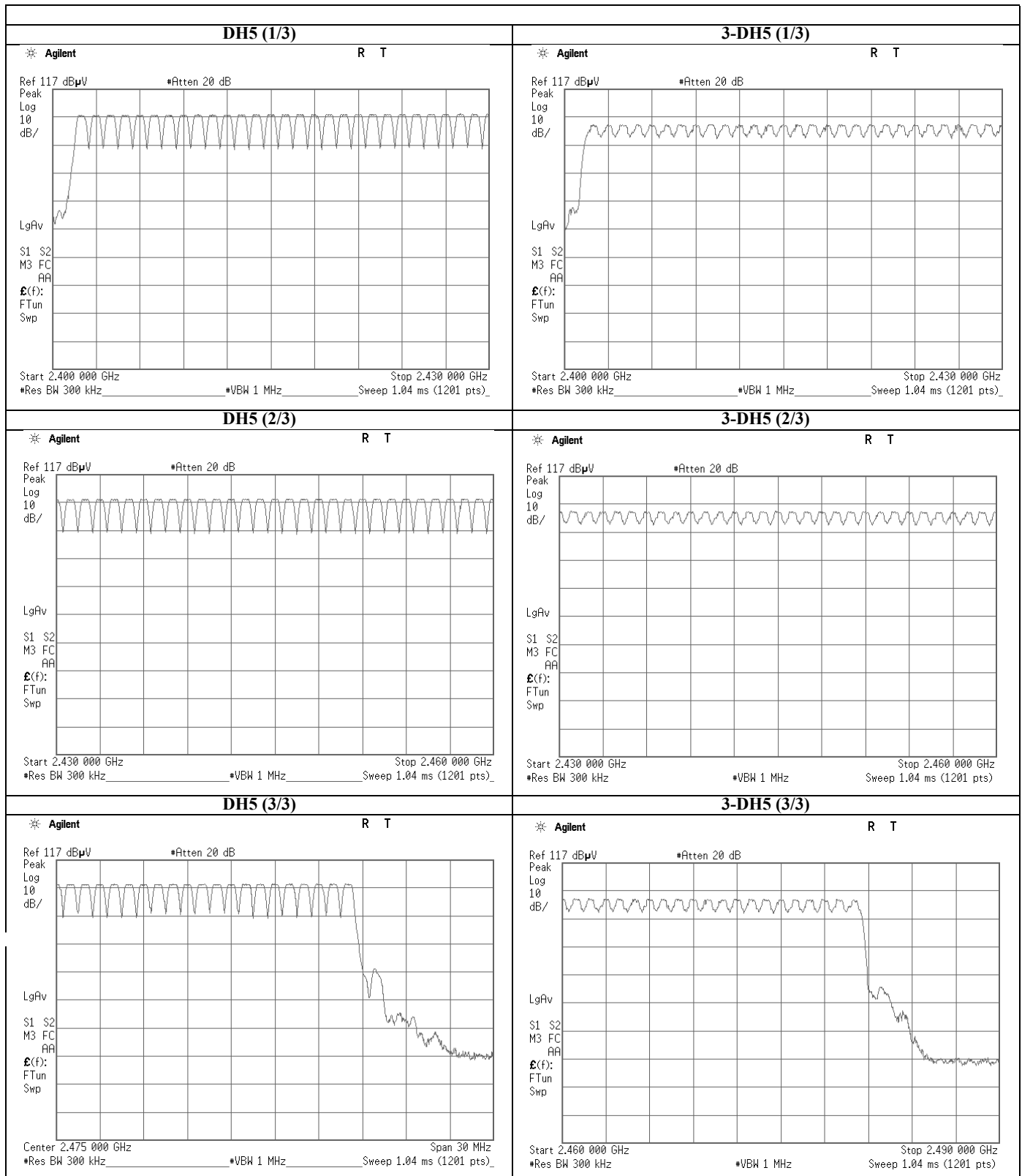
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Shonan EMC Lab.

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Number of Hopping Frequency



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Number of Hopping Frequency

Inquiry (1/3) Agilent Spectrum Analyzer - Screenshot Input: RF PRO: Fast IF Gain: Low Trig: Free Run #Atten: 20 dB Avg Type: Log-Pwr AvgHold: >100/100 10 dB/div Log Ref 116.99 dBμV Start 2.40000 GHz Stop 2.43000 GHz #Res BW 300 kHz #VBW 1.0 MHz Sweep 1.04 ms (1201 pts)	
Inquiry (2/3) Agilent Spectrum Analyzer - Screenshot Stop Freq 2.460000000 GHz Input: RF PRO: Fast IF Gain: Low Trig: Free Run #Atten: 20 dB Avg Type: Log-Pwr AvgHold: >100/100 10 dB/div Log Ref 116.99 dBμV Start 2.43000 GHz Stop 2.46000 GHz #Res BW 300 kHz #VBW 1.0 MHz Sweep 1.04 ms (1201 pts)	
Inquiry (3/3) Agilent Spectrum Analyzer - Screenshot Input: RF PRO: Fast IF Gain: Low Trig: Free Run Avg Type: Log-Pwr AvgHold: >100/100 10 dB/div Log Ref 116.99 dBμV Start 2.46000 GHz Stop 2.49000 GHz #Res BW 300 kHz #VBW 1.0 MHz Sweep 1.04 ms (1201 pts)	

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Dwell Time (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2009/11/2 2009/11/4
Temperature / Humidity 23deg.C. , 45% 24deg.C. , 50%
Engineer Wataru Kojima
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 transmission time [msec]	Result [msec]	Limit [msec]
DH1	50.8 times / 5 sec. x 31.6 sec. = 322 times	0.493	160	400
DH3	25.2 times / 5 sec. x 31.6 sec. = 160 times	1.753	324	400
DH5	16.8 times / 5 sec. x 31.6 sec. = 107 times	3.007	370	400
3DH1	50.4 times / 5 sec. x 31.6 sec. = 319 times	0.492	159	400
3DH3	25.6 times / 5 sec. x 31.6 sec. = 162 times	1.743	331	400
3DH5	16.8 times / 5 sec. x 31.6 sec. = 107 times	2.999	348	400
Inquiry	100.0 times / 1 sec. x 12.8 sec. = 1280 times	0.188	240	400

Sample Calculation

Result = Number of transmission x Length of transmittion time

*Average data of 5 tests.(except Inquiry)

Mode	Sampling [times]					Average [times]
	1	2	3	4	5	
DH1	51	51	51	51	50	50.8
DH3	25	25	25	26	25	25.2
DH5	17	17	17	17	16	16.8
3DH1	51	50	50	51	50	50.4
3DH3	26	26	25	25	26	25.6
3DH5	16	17	17	17	17	16.8

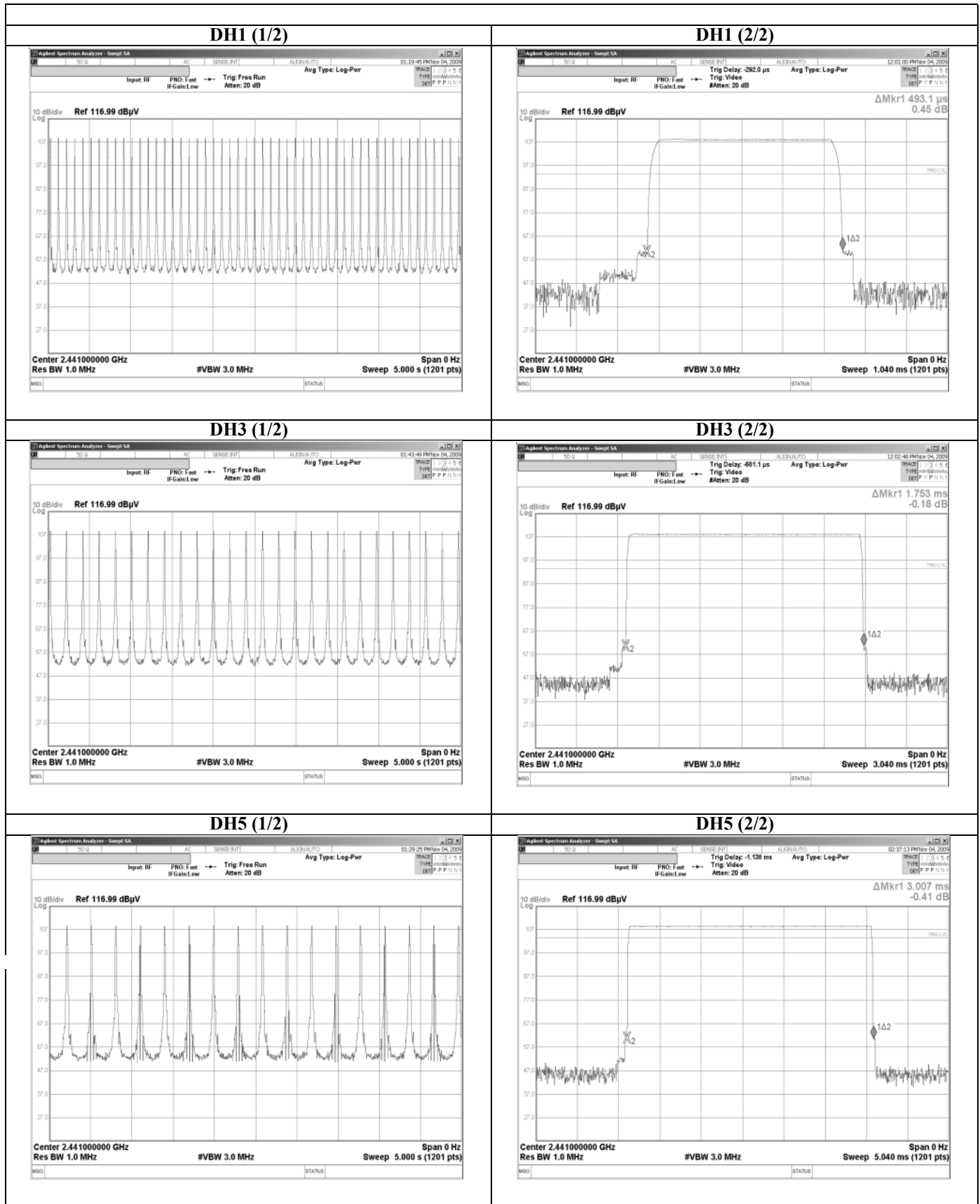
Sample Calculation

Average= Summation(Sampling 1 to 5) / 5

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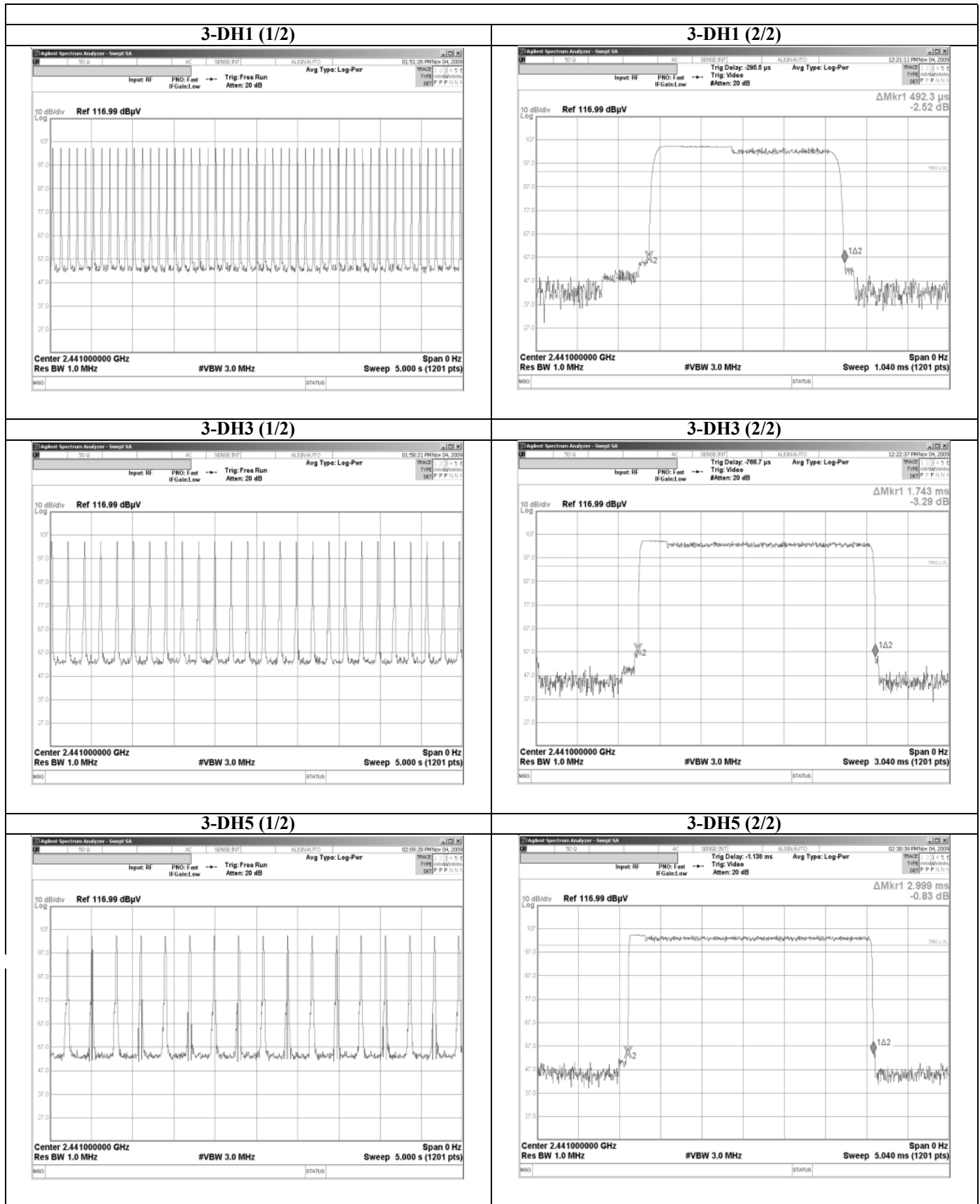
Dwell time



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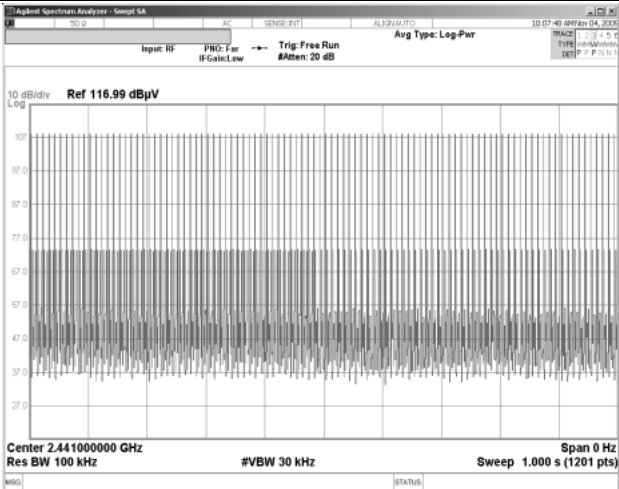
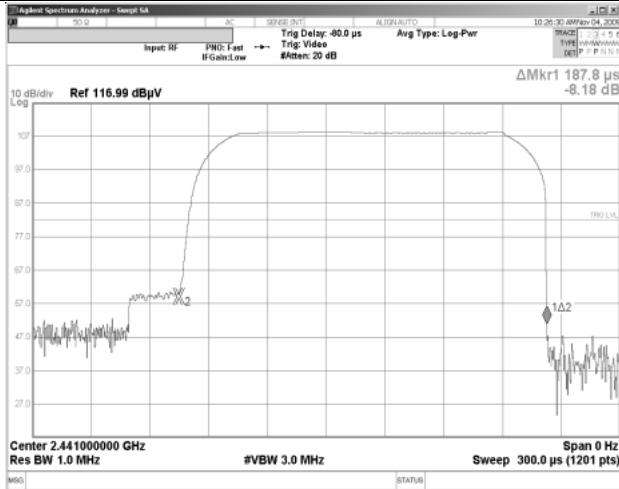
Dwell time



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Dwell time

Inquiry (1/2)	Inquiry (2/2)
 Agilent Spectrum Analyzer - Sweep CA 10:07:40 AM Nov 04, 2009 Input: RF PWD: Test IF Gain: Low Trig: Free Run #Atten: 20 dB Avg Type: Log-Pwr 10 dB/div Ref 116.99 dBuV Center 2.441000000 GHz Res BW 100 kHz #VBW 30 kHz Span 0 Hz Sweep 1.000 s (1201 pts)	 Agilent Spectrum Analyzer - Sweep CA 10:20:30 AM Nov 04, 2009 Input: RF PWD: Test IF Gain: Low Trig Delay: -60.0 μs Trig: Video #Atten: 20 dB Avg Type: Log-Pwr 10 dB/div Ref 116.99 dBuV ΔMkr1 187.8 μs -8.18 dB Center 2.441000000 GHz Res BW 1.0 MHz #VBW 3.0 MHz Span 0 Hz Sweep 300.0 μs (1201 pts)

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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2009/11/2
Temperature / Humidity 23deg.C. , 45%
Engineer Wataru Kojima
Mode Tx

BDR (DH5)

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	0.96	1.23	9.99	12.18	16.52	20.97	125	8.79
Mid	2441.0	1.48	1.24	9.99	12.71	18.66	20.97	125	8.26
High	2480.0	1.58	1.25	9.99	12.82	19.14	20.97	125	8.15

EDR (3-DH5)

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-2.73	1.23	9.99	8.49	7.06	20.97	125	12.48
Mid	2441.0	-2.65	1.24	9.99	8.58	7.21	20.97	125	12.39
High	2480.0	-3.17	1.25	9.99	8.07	6.41	20.97	125	12.90

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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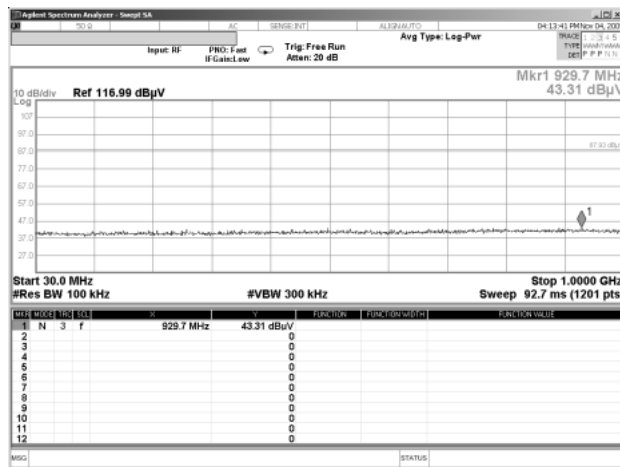
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Spurious emission (Conducted)

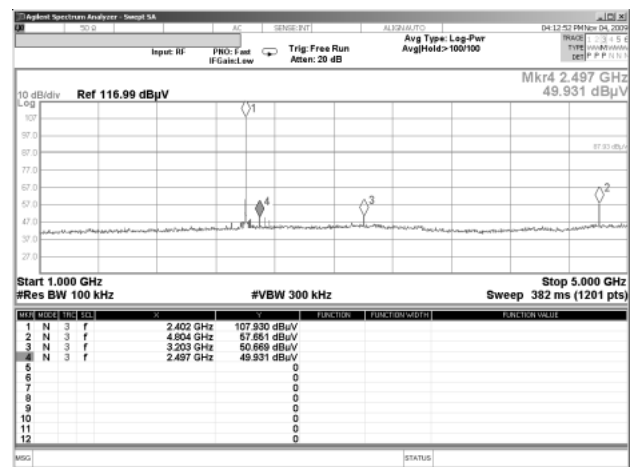
DH5

Tx, 2402MHz

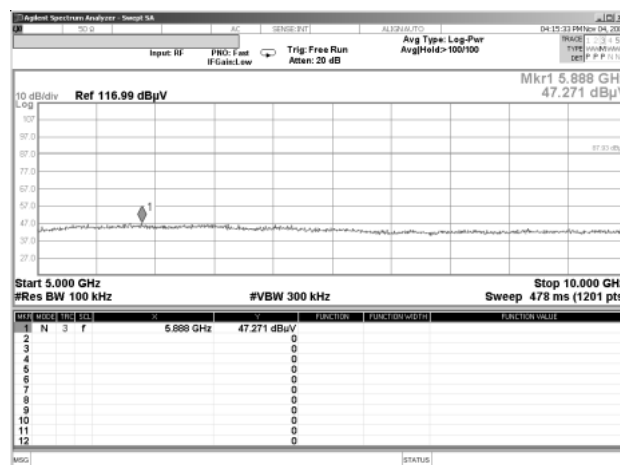
30MHz - 1GHz



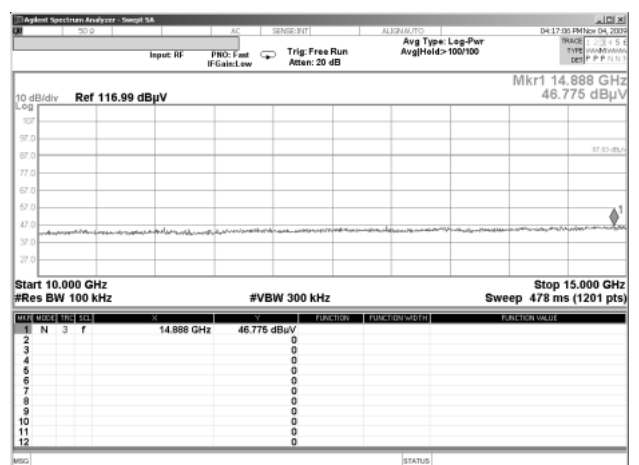
1GHz - 5GHz



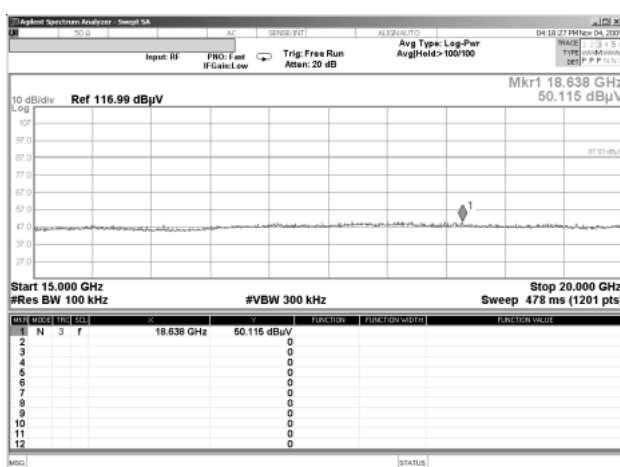
5GHz - 10GHz



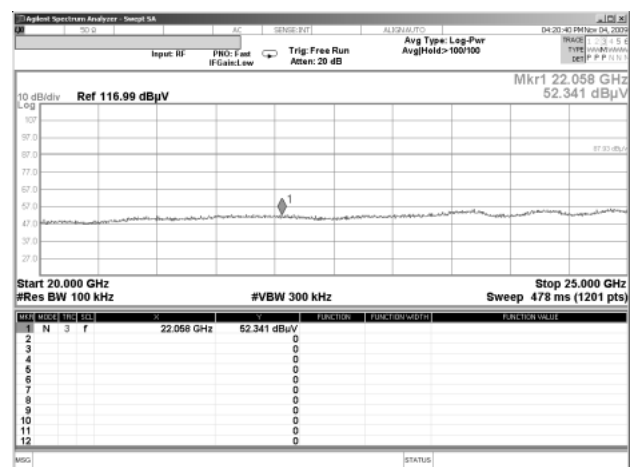
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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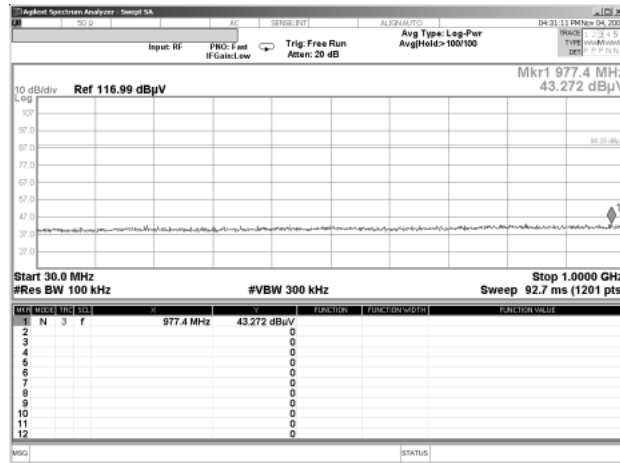
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Spurious emission (Conducted)

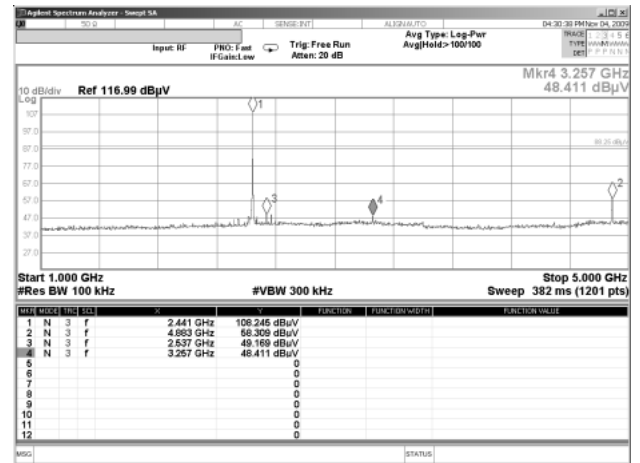
DH5

Tx, 2441MHz

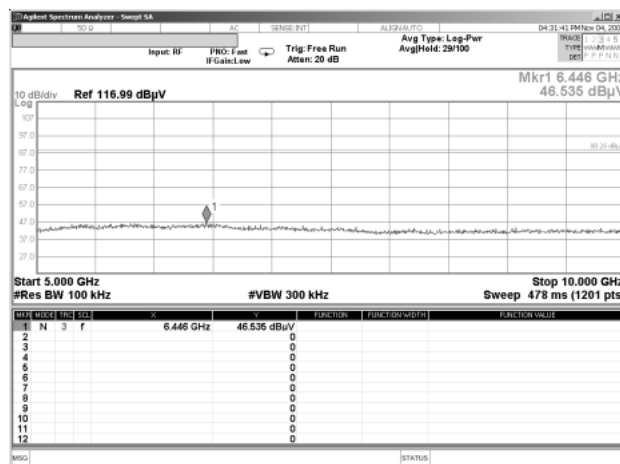
30MHz - 1GHz



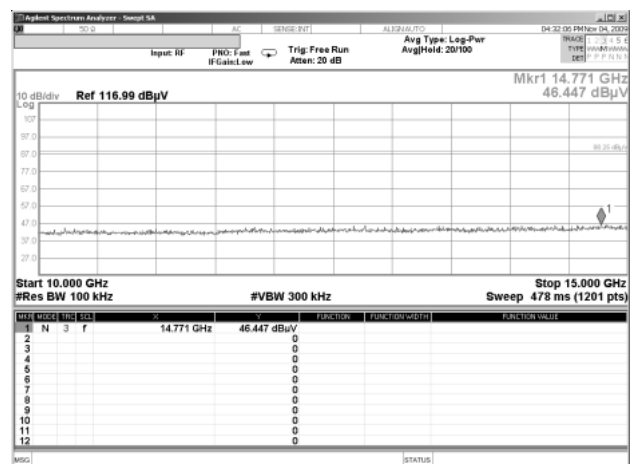
1GHz - 5GHz



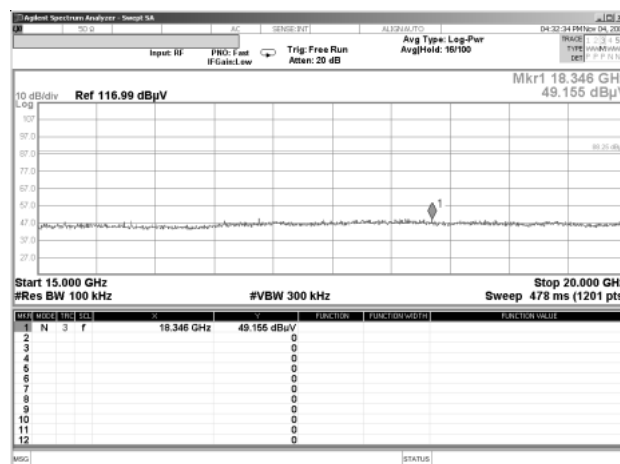
5GHz - 10GHz



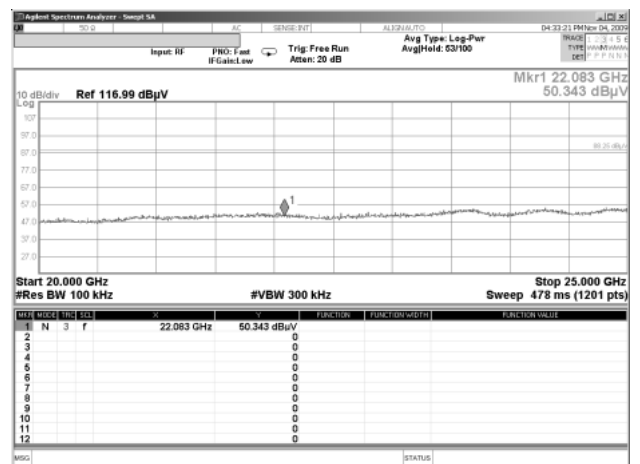
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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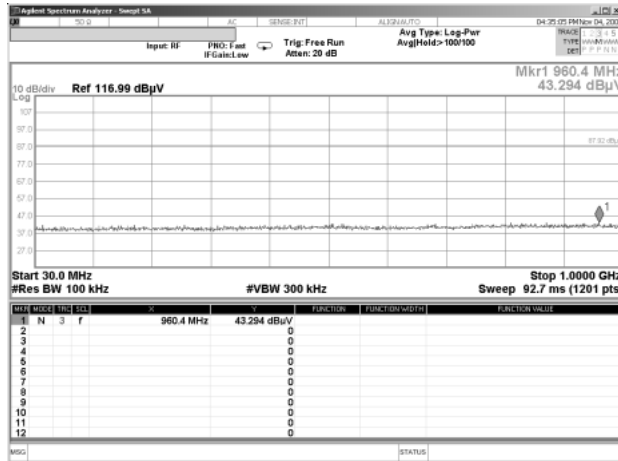
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Spurious emission (Conducted)

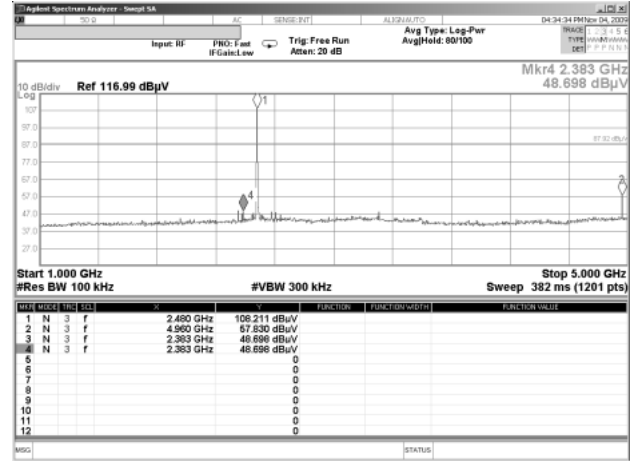
DH5

Tx, 2480MHz

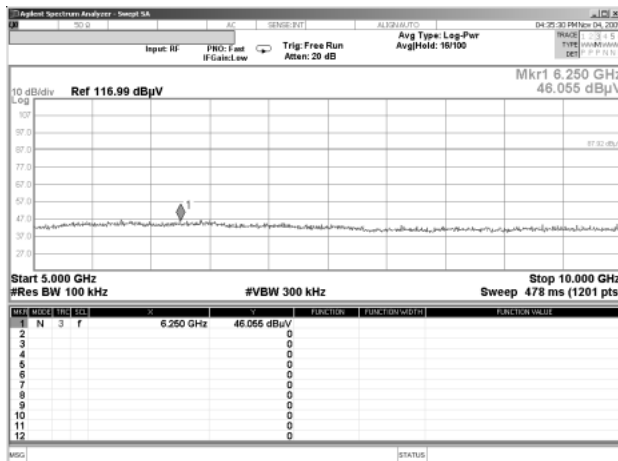
30MHz - 1GHz



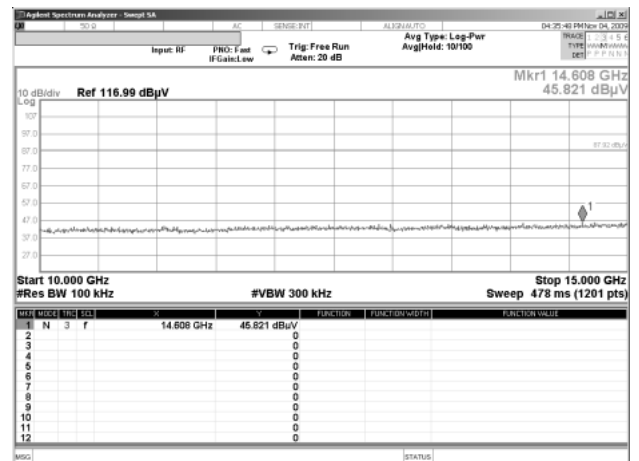
1GHz - 5GHz



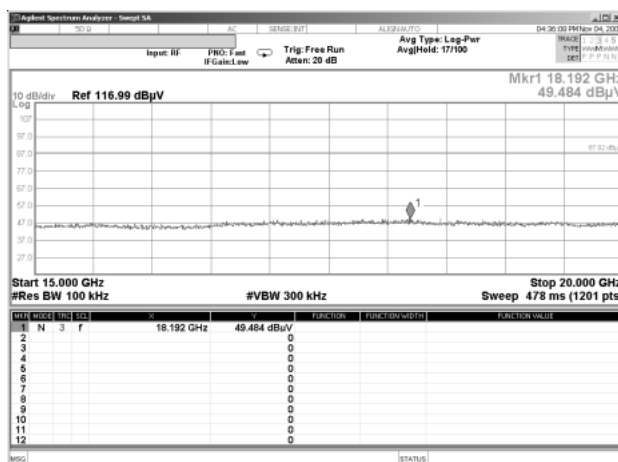
5GHz - 10GHz



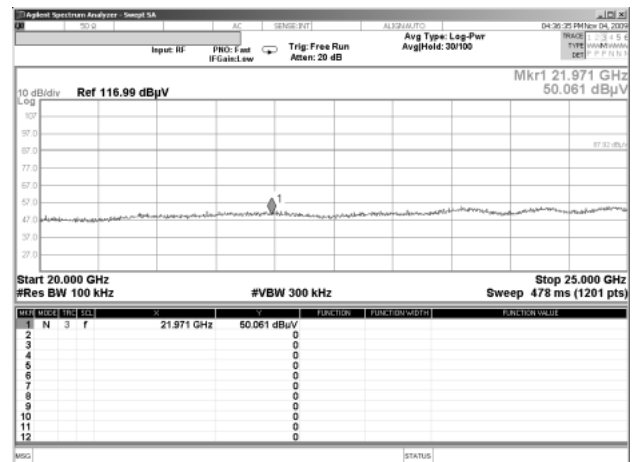
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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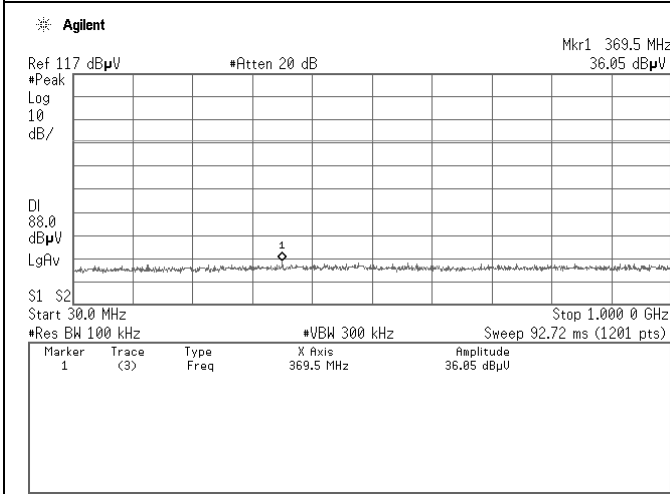
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Spurious emission (Conducted)

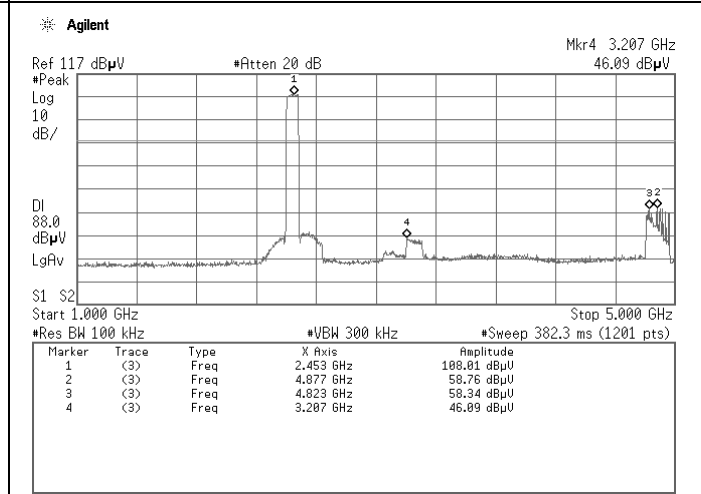
DH5

Hopping

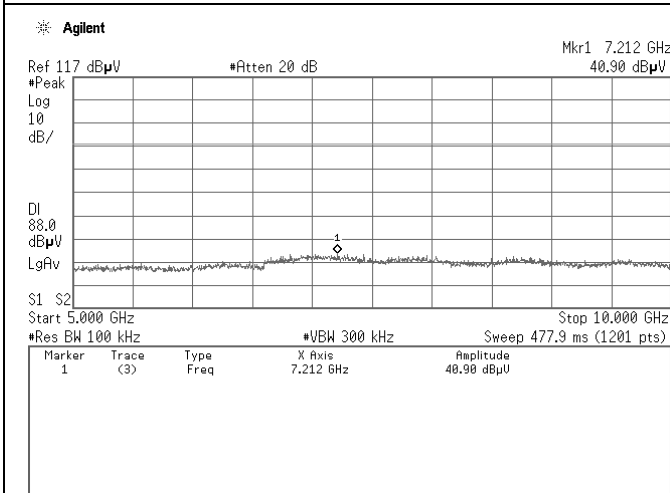
30MHz - 1GHz



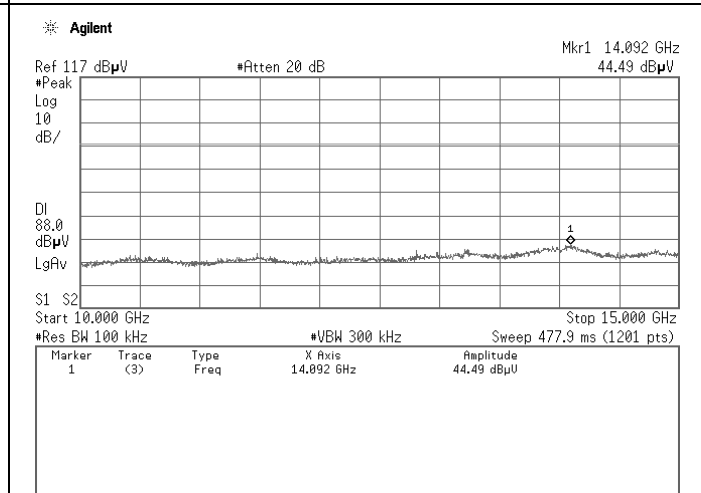
1GHz - 5GHz



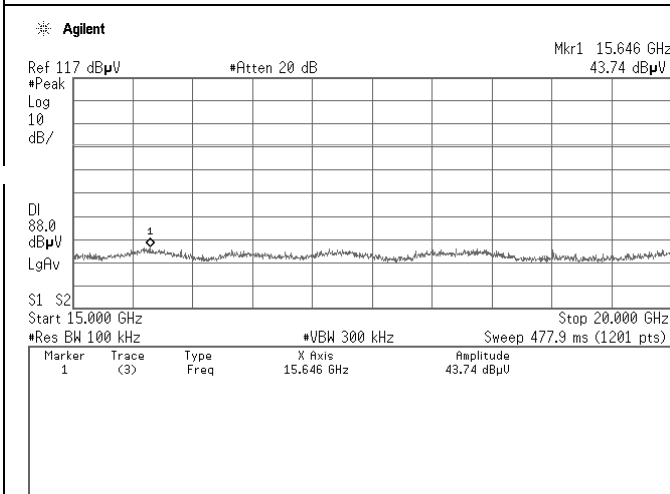
5GHz - 10GHz



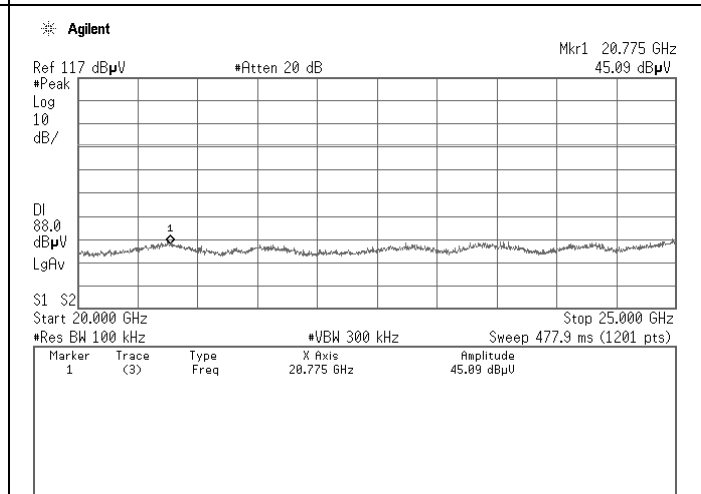
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



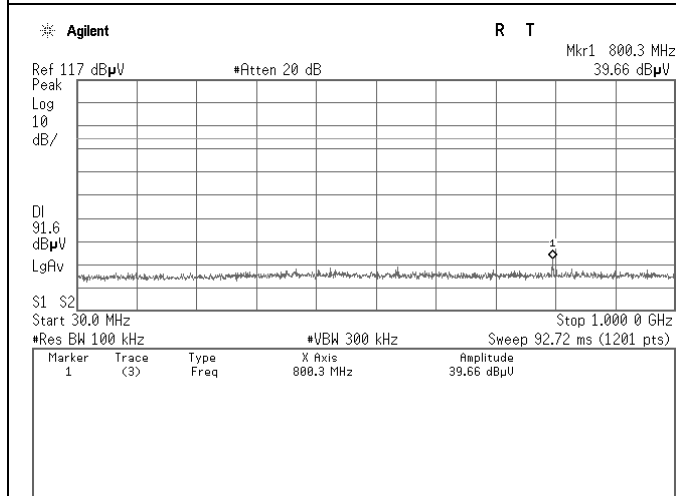
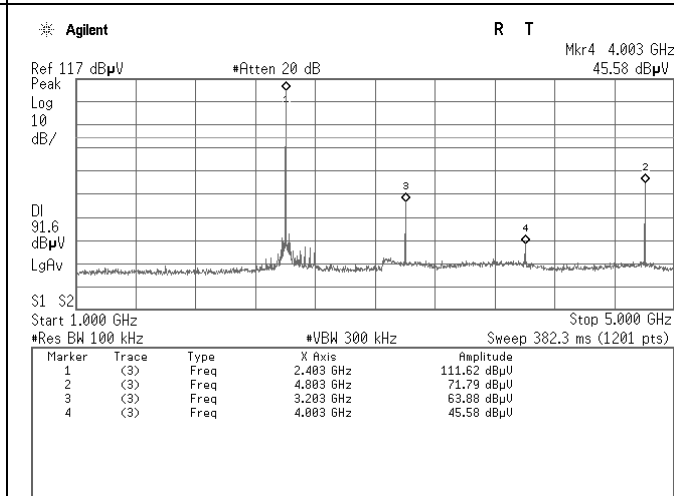
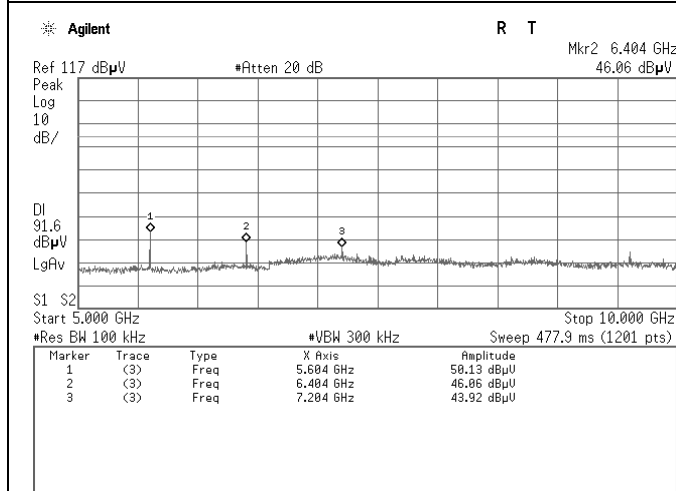
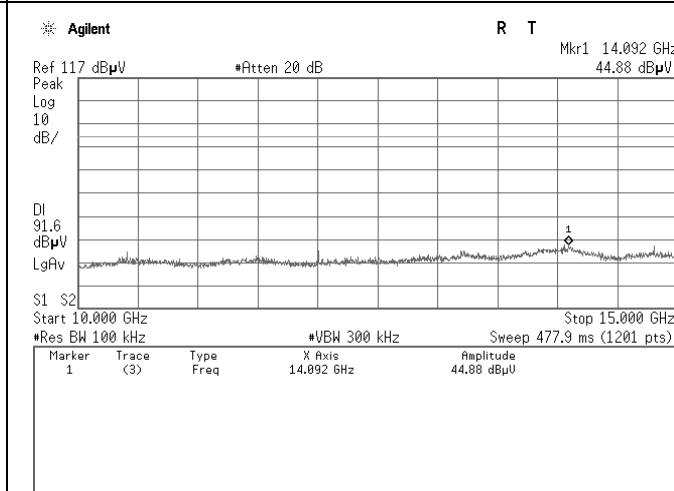
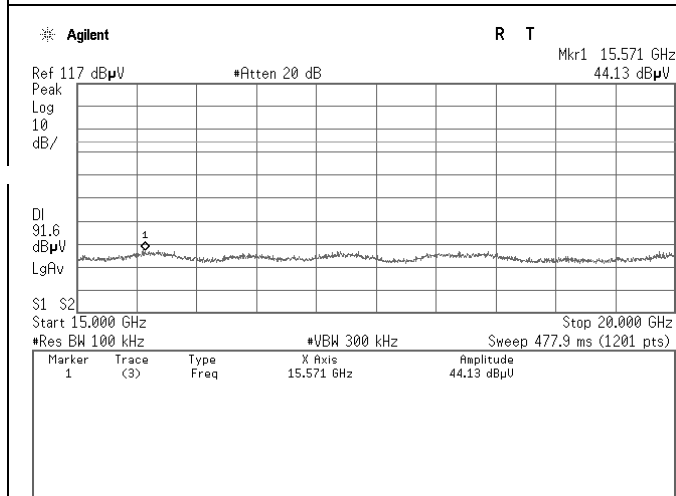
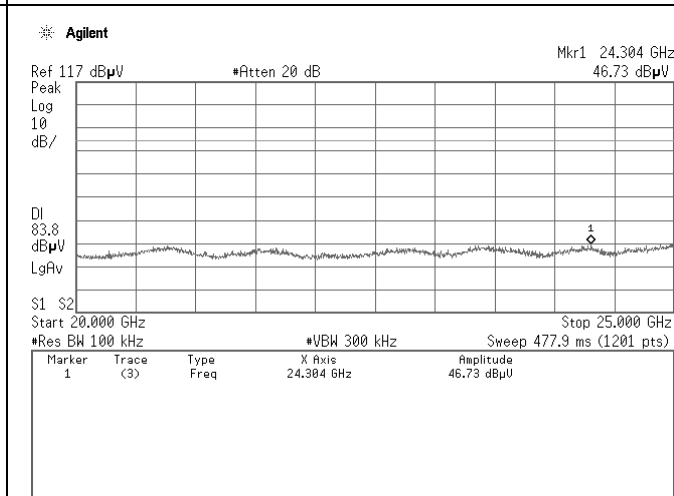
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Shonan EMC Lab.

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Spurious emission (Conducted)

3-DH5

Tx, 2402MHz

30MHz - 1GHz**1GHz - 5GHz****5GHz - 10GHz****10GHz - 15GHz****15GHz - 20GHz****20GHz - 25GHz**

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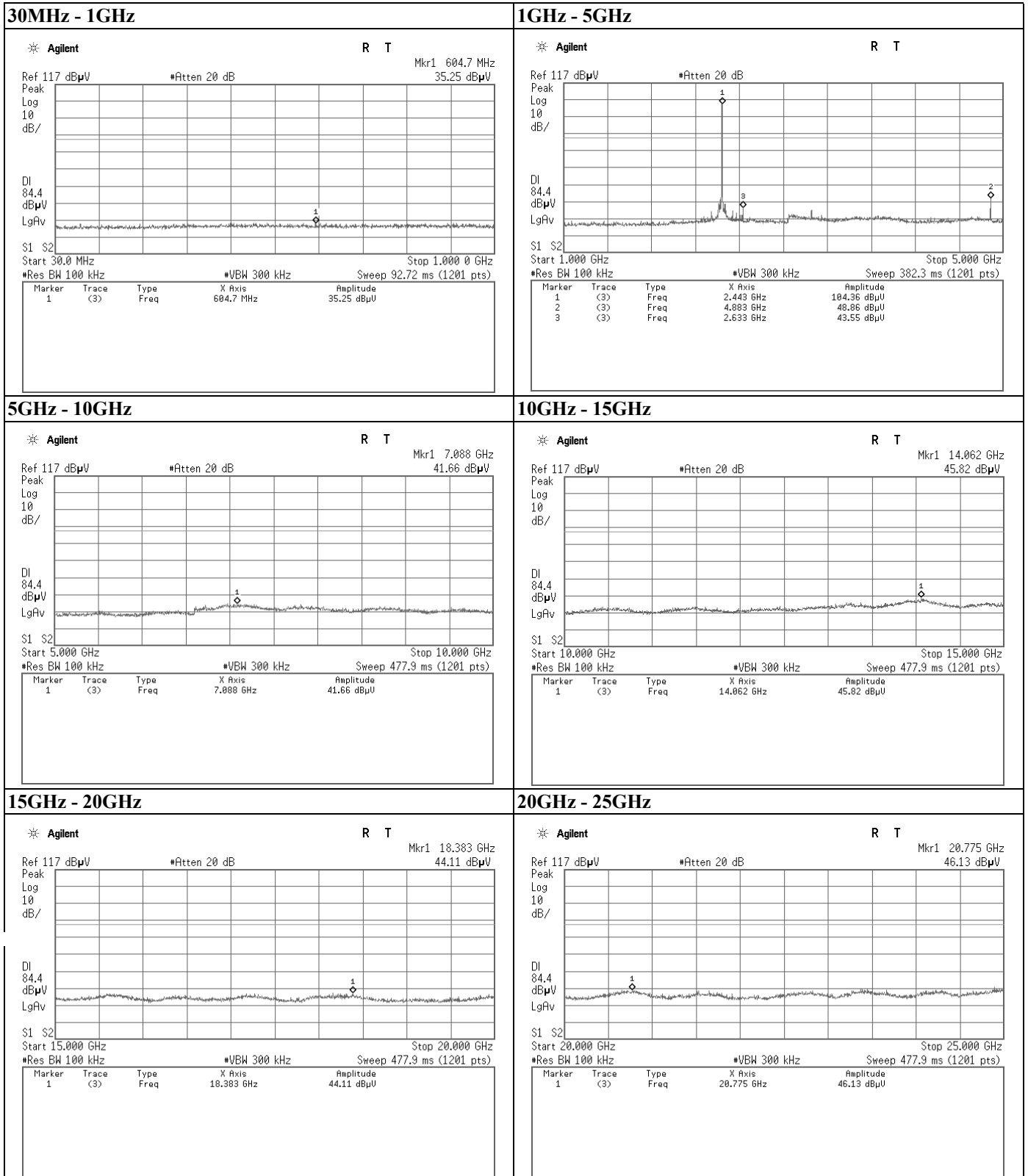
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Spurious emission (Conducted)

3-DH5

Tx, 2441MHz



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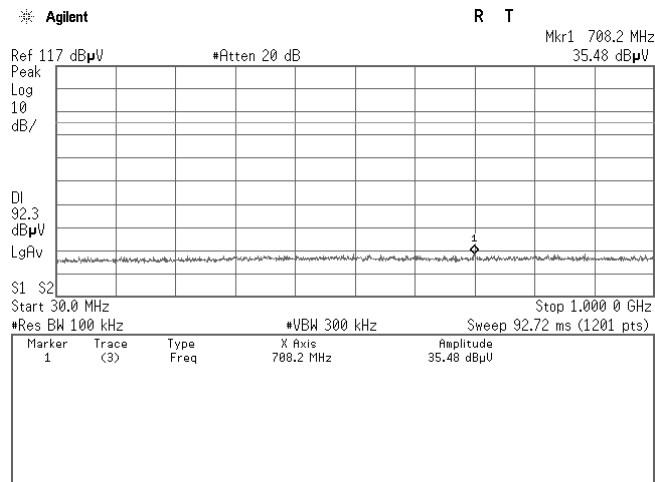
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

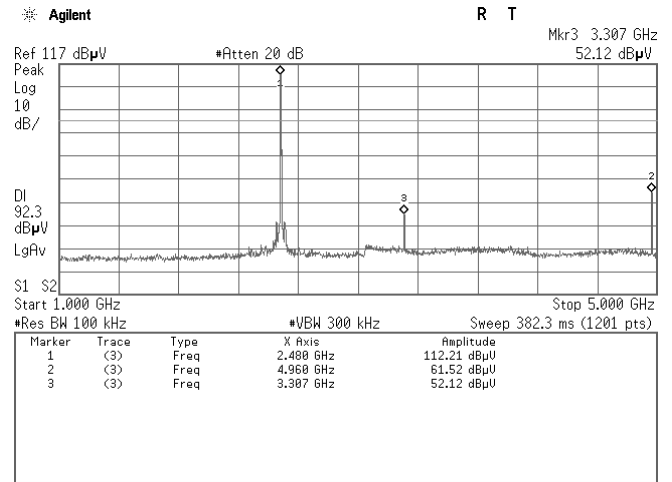
3-DH5

Tx, 2480MHz

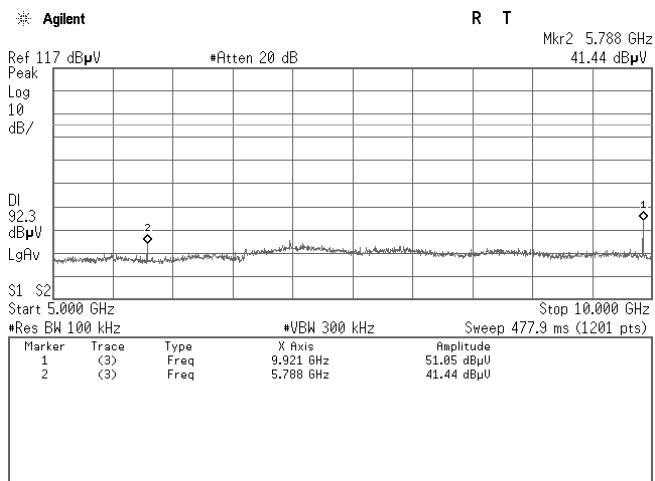
30MHz - 1GHz



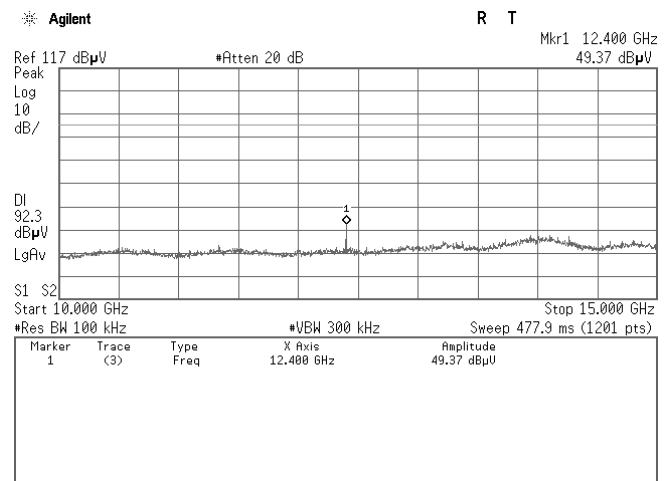
1GHz - 5GHz



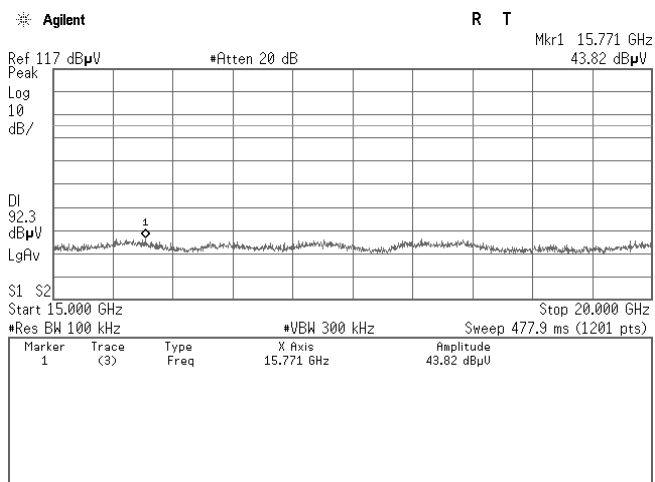
5GHz - 10GHz



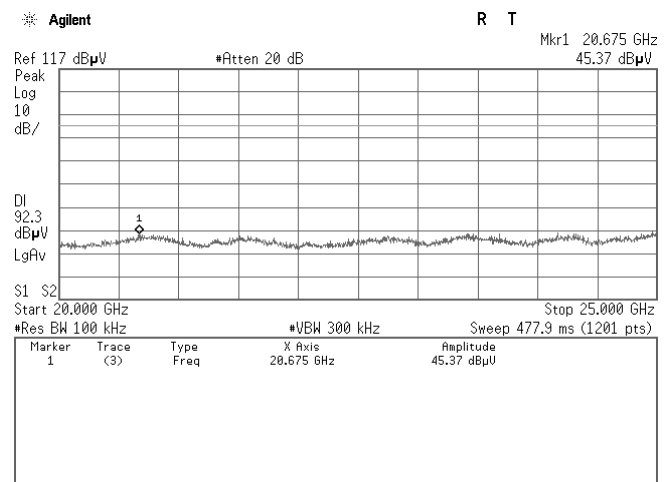
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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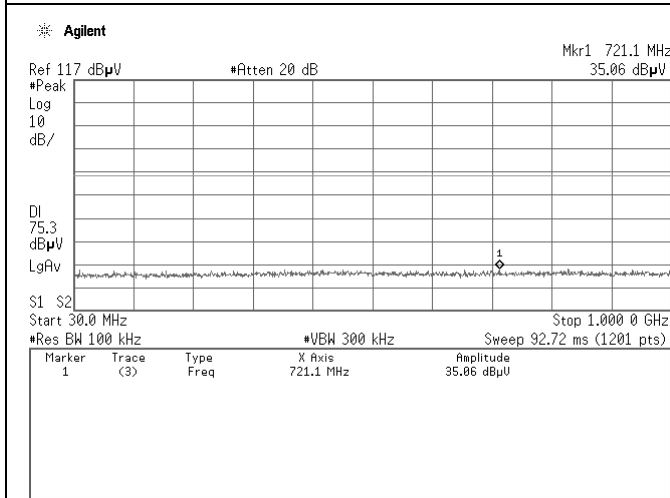
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

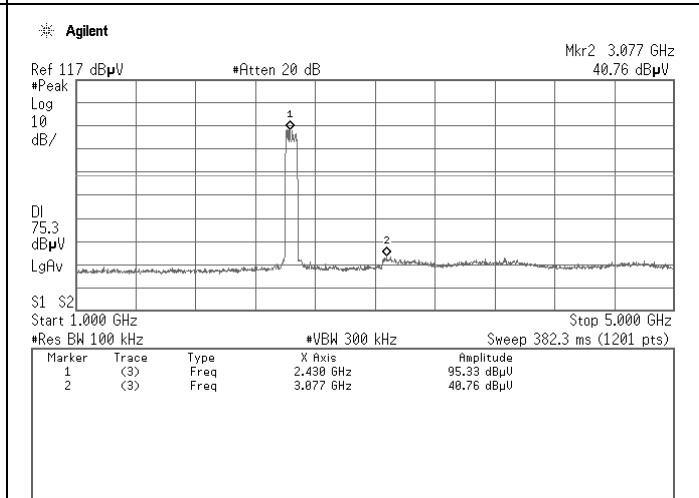
3DH5

Hopping

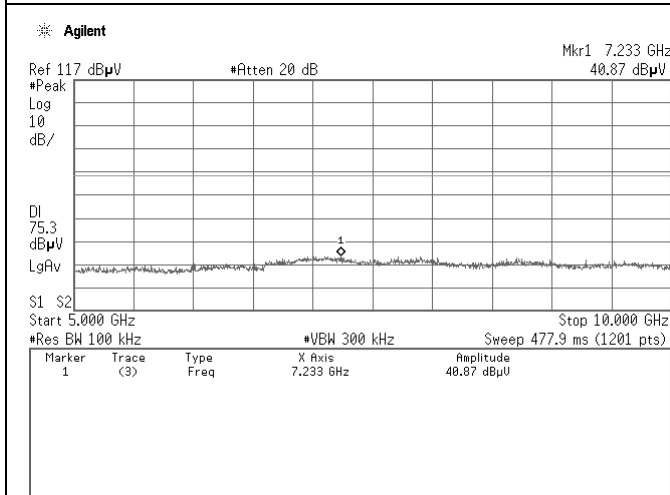
30MHz - 1GHz



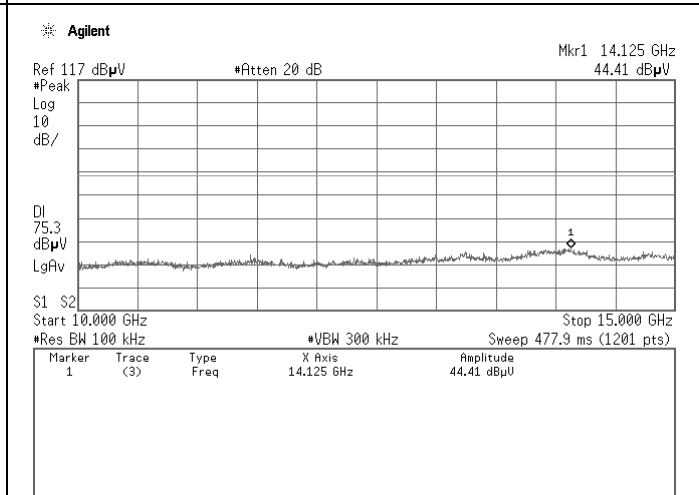
1GHz - 5GHz



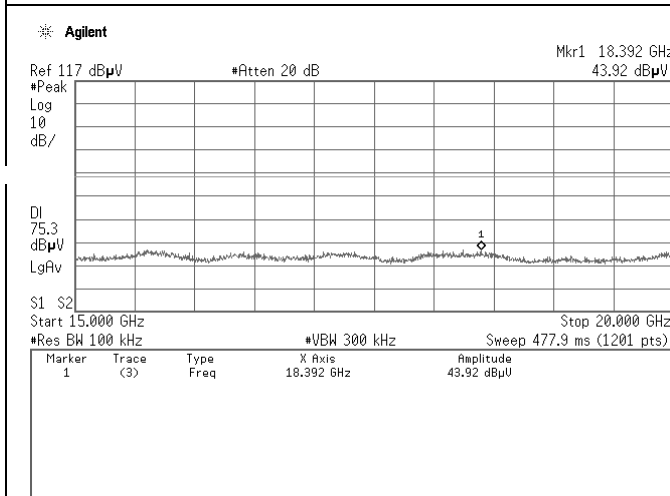
5GHz - 10GHz



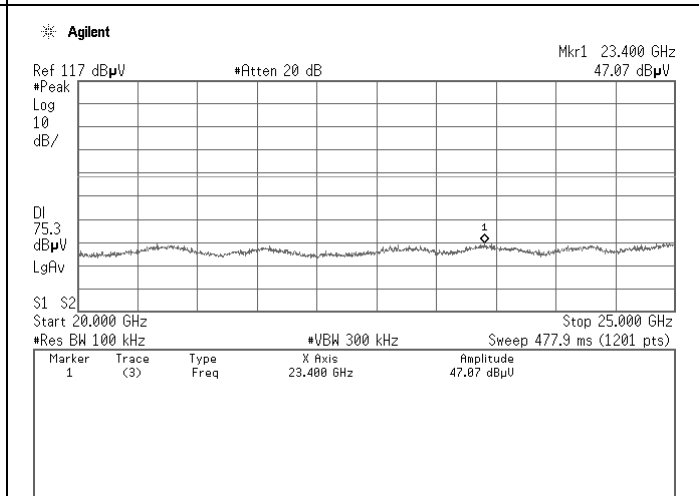
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



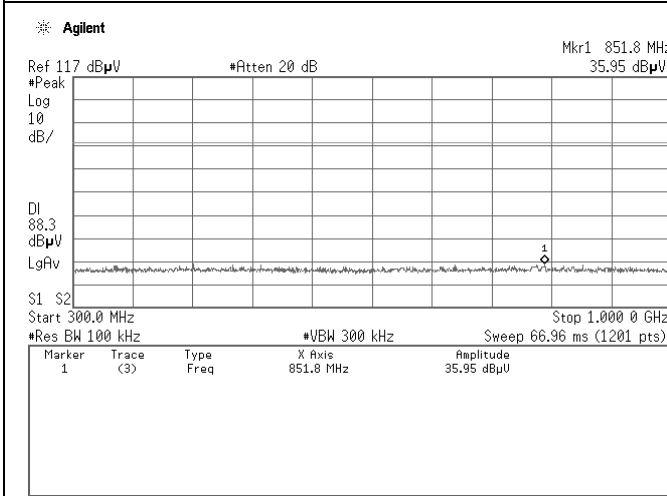
UL Japan, Inc.
Shonan EMC Lab.

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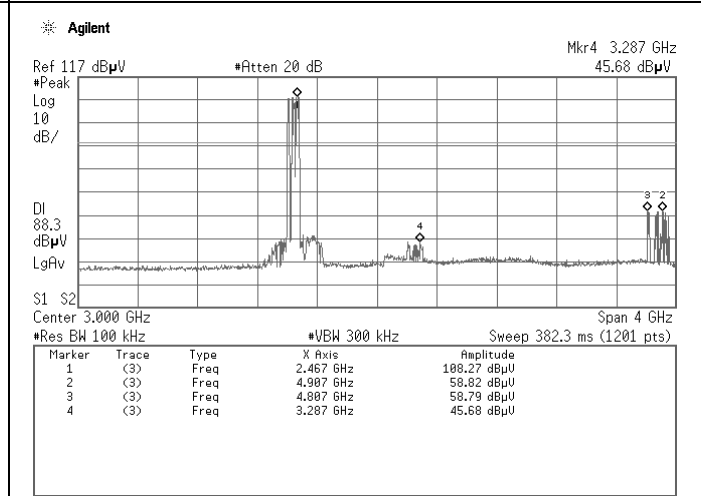
Spurious emission (Conducted)

Inquiry

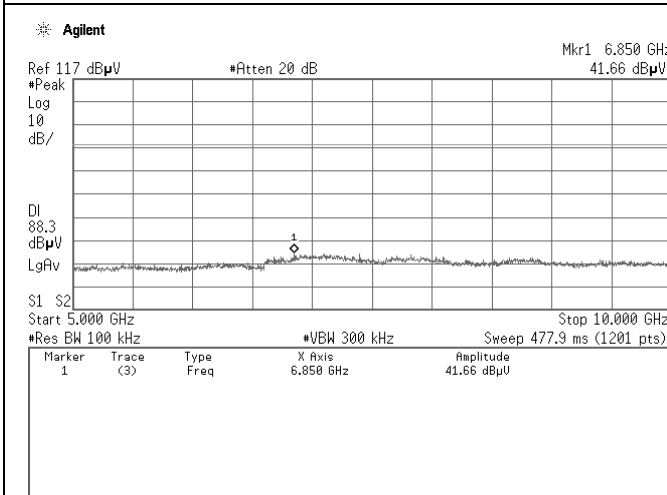
30MHz - 1GHz



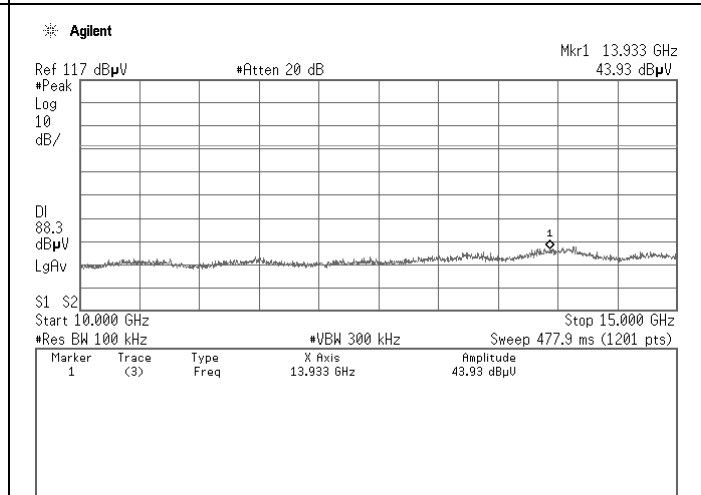
1GHz - 5GHz



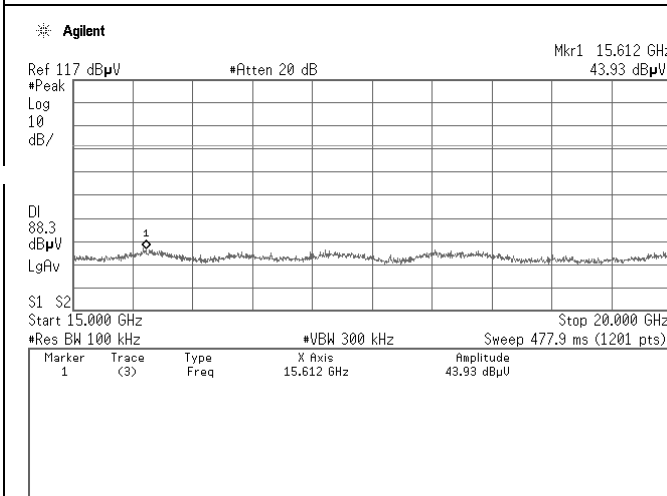
5GHz - 10GHz



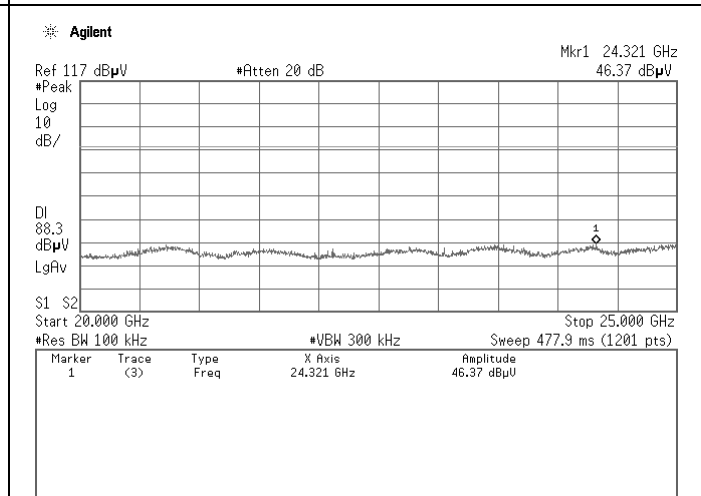
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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Shonan EMC Lab.

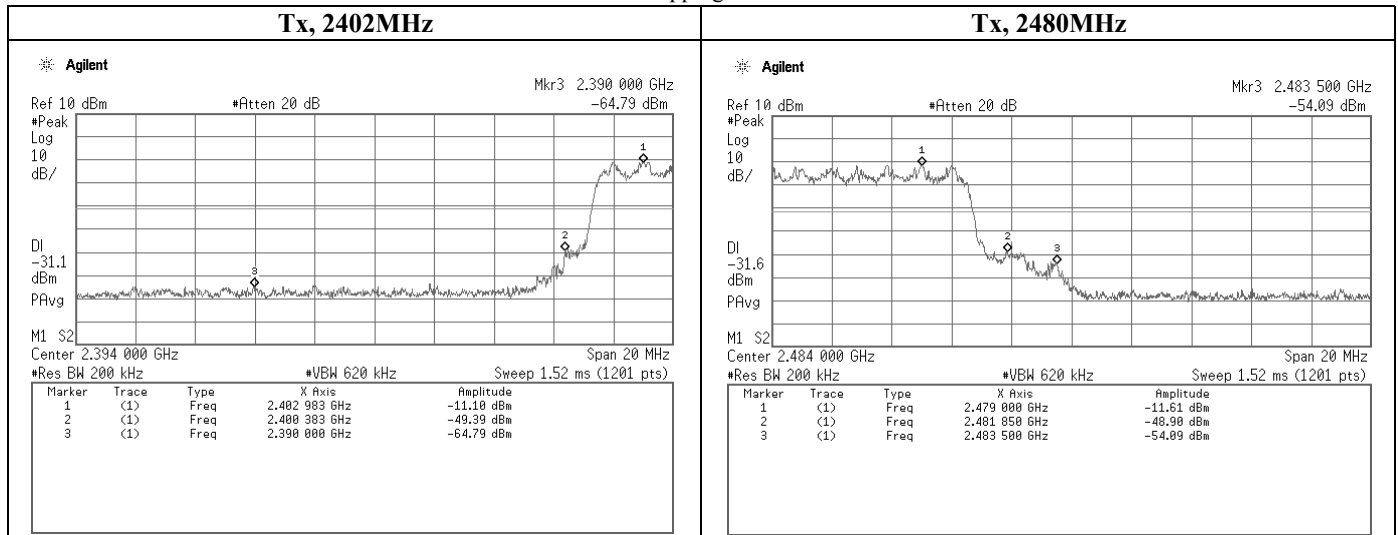
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

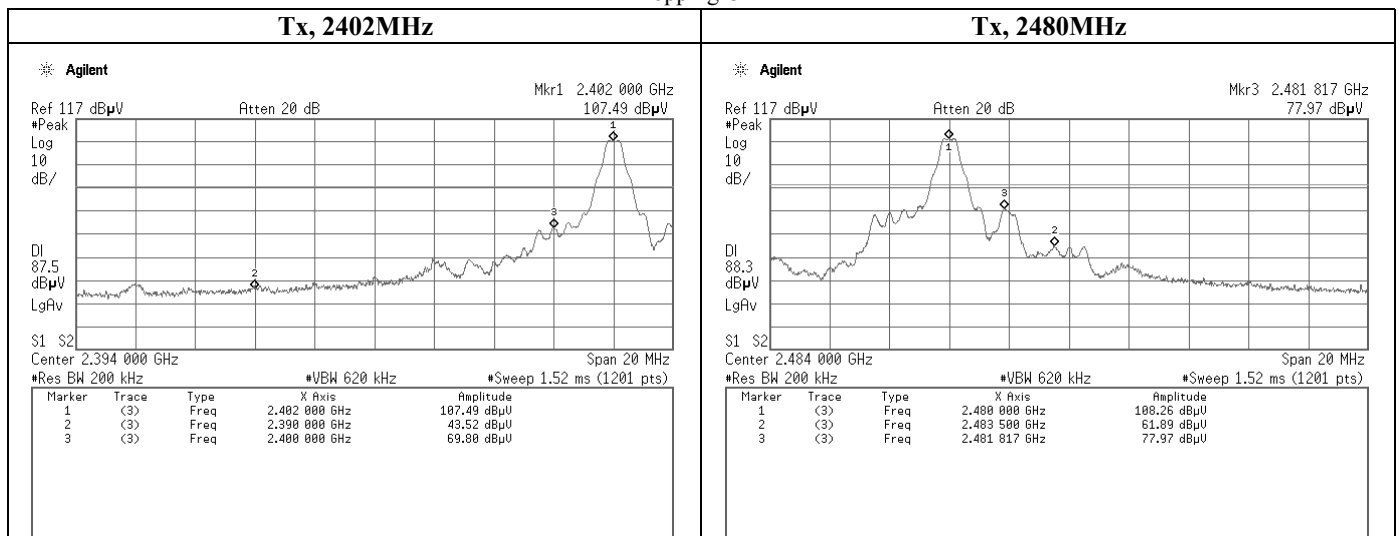
Band Edge compliance

DH5

Hopping ON



Hopping OFF

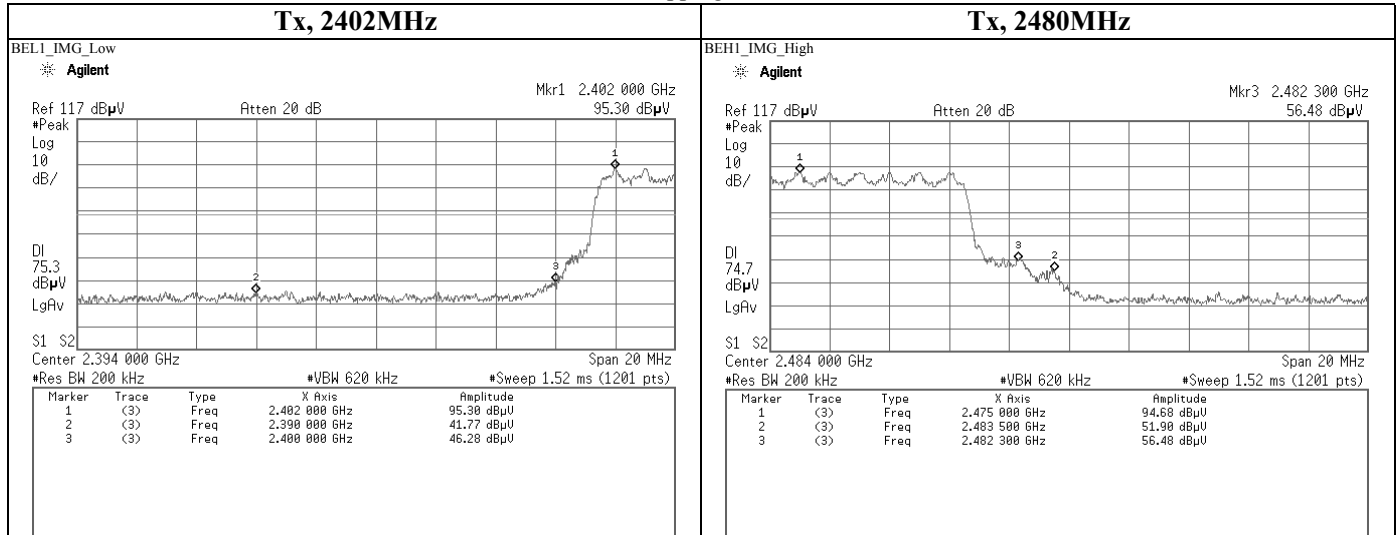


Spurious emission (Conducted)

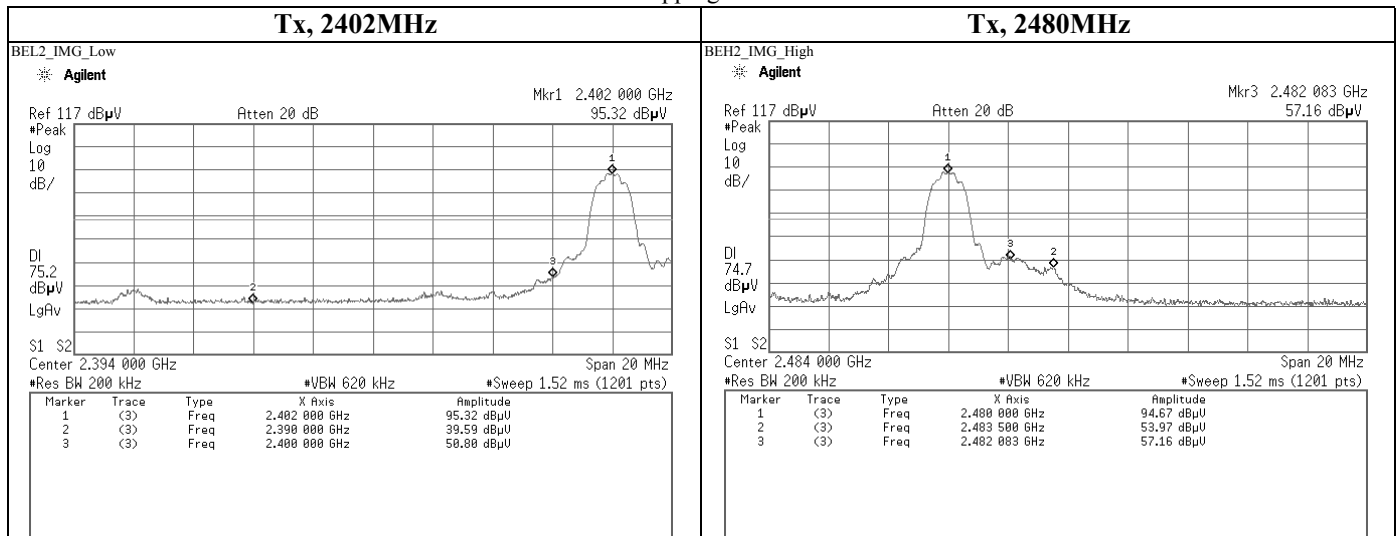
Band Edge compliance

3-DH5

Hopping ON



Hopping OFF



DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/11/05

Company : BRIDGESTONE CORPORATION Mode : Transmitting(DH5 2402MHz)
Kind of EUT : TPMS(Tire Pressure Monitoring System) Report No. : 30CE0195-SH-02-A
Model No. : E612 Power : DC24V
Serial No. : Refer to Section2.1 Temp./Humi. : 23 / 34%

Remarks : Horizontal(ANT:Z Module:Z),Vertical(ANT:Z Module:Z)

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa

<< QP DATA >>

No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	144.001	42.9	14.5	7.4	32.0	32.8	43.5	10.7	Hori	242	186	BC	
2	175.993	37.7	15.7	7.6	32.0	29.0	43.5	14.5	Hori	193	200	BC	
3	272.308	37.7	17.9	8.1	31.9	31.8	46.0	14.2	Hori	118	156	BC	
4	304.007	52.5	13.8	8.3	31.9	42.7	46.0	3.3	Hori	174	176	LP	
5	336.001	53.0	14.5	8.4	31.9	44.0	46.0	2.0	Hori	157	52	LP	
6	144.231	52.0	14.5	7.4	32.0	41.9	43.5	1.6	Vert.	100	104	BC	
7	176.000	43.6	15.7	7.6	32.0	34.9	43.5	8.6	Vert.	100	108	BC	
8	272.002	41.6	17.9	8.1	31.9	35.7	46.0	10.3	Vert.	100	162	BC	
9	304.007	46.4	13.8	8.3	31.9	36.6	46.0	9.4	Vert.	100	89	LP	
10	336.001	48.0	14.5	8.4	31.9	39.0	46.0	7.0	Vert.	100	150	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/11/05

Company : BRIDGESTONE CORPORATION Mode : Transmitting(DH5 2441MHz)
Kind of EUT : TPMS(Tire Pressure Monitoring System) Report No. : 30CE0195-SH-02-A
Model No. : E612 Power : DC24V
Serial No. : Refer to Section2.1 Temp./Humi. : 23 / 34%

Remarks : Horizontal(ANT:Z Module:Z),Vertical(ANT:Z Module:Z)

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa

<< QP DATA >>

No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	144.000	42.2	14.5	7.4	32.0	32.1	43.5	11.4	Hori	230	202	BC	
2	304.003	52.9	13.8	8.3	31.9	43.1	46.0	2.9	Hori	171	170	LP	
3	336.000	53.1	14.5	8.4	31.9	44.1	46.0	1.9	Hori	175	54	LP	
4	80.000	52.0	6.3	7.0	32.1	33.2	40.0	6.8	Vert.	142	134	BC	
5	111.998	49.8	11.9	7.2	32.1	36.8	43.5	6.7	Vert.	100	84	BC	
6	143.998	51.8	14.5	7.4	32.0	41.7	43.5	1.8	Vert.	100	96	BC	
7	176.007	43.7	15.7	7.6	32.0	35.0	43.5	8.5	Vert.	100	105	BC	
8	304.009	46.6	13.8	8.3	31.9	36.8	46.0	9.2	Vert.	100	100	LP	
9	336.000	48.1	14.5	8.4	31.9	39.1	46.0	6.9	Vert.	100	19	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/11/05

Company : BRIDGESTONE CORPORATION Mode : Transmitting(DH5 2480MHz)
Kind of EUT : TPMS(Tire Pressure Monitoring System) Report No. : 30CE0195-SH-02-A
Model No. : E612 Power : DC24V
Serial No. : Refer to Section2.1 Temp./Humi. : 23 / 34%

Remarks : Horizontal(ANT:Z Module:Z),Vertical(ANT:Z Module:Z)

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa

<< QP DATA >>

No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	144.000	43.4	14.5	7.4	32.0	33.3	43.5	10.2	Hori	240	202	BC	
2	304.000	53.1	13.8	8.3	31.9	43.3	46.0	2.7	Hori	159	173	LP	
3	335.897	53.2	14.5	8.4	31.9	44.2	46.0	1.8	Hori	146	53	LP	
4	80.005	51.5	6.3	7.0	32.1	32.7	40.0	7.3	Vert.	135	105	BC	
5	112.018	49.1	11.9	7.2	32.1	36.1	43.5	7.4	Vert.	100	70	BC	
6	144.231	52.1	14.5	7.4	32.0	42.0	43.5	1.5	Vert.	100	106	BC	
7	175.992	43.6	15.7	7.6	32.0	34.9	43.5	8.6	Vert.	100	108	BC	
8	303.994	47.2	13.8	8.3	31.9	37.4	46.0	8.6	Vert.	100	92	LP	
9	336.000	47.6	14.5	8.4	31.9	38.6	46.0	7.4	Vert.	100	25	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/11/05

Company : BRIDGESTONE CORPORATION Mode : Transmitting(3DH5 2402MHz)
Kind of EUT : TPMS(Tire Pressure Monitoring System) Report No. : 30CE0195-SH-02-A
Model No. : E612 Power : DC24V
Serial No. : Refer to Section2.1 Temp./Humi. : 23 / 34%

Remarks : Horizontal(ANT:Z Module:Z),Vertical(ANT:Z Module:Z)

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa

<< QP DATA >>

No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	144.001	45.7	14.5	7.4	32.0	35.6	43.5	7.9	Hori	253	200	BC	
2	303.989	52.3	13.8	8.3	31.9	42.5	46.0	3.5	Hori	170	178	LP	
3	335.897	53.1	14.5	8.4	31.9	44.1	46.0	1.9	Hori	174	53	LP	
4	80.001	51.7	6.3	7.0	32.1	32.9	40.0	7.1	Vert.	137	121	BC	
5	111.998	49.4	11.9	7.2	32.1	36.4	43.5	7.1	Vert.	101	57	BC	
6	143.991	52.4	14.5	7.4	32.0	42.3	43.5	1.2	Vert.	101	92	BC	
7	175.986	43.2	15.7	7.6	32.0	34.5	43.5	9.0	Vert.	100	104	BC	
8	303.365	46.6	13.8	8.3	31.9	36.8	46.0	9.2	Vert.	100	97	LP	
9	335.992	47.9	14.5	8.4	31.9	38.9	46.0	7.1	Vert.	100	151	LP	
10	400.004	44.6	16.1	8.7	31.9	37.5	46.0	8.5	Vert.	111	194	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/11/05

Company : BRIDGESTONE CORPORATION Mode : Transmitting(3DH5 2441MHz)
Kind of EUT : TPMS(Tire Pressure Monitoring System) Report No. : 30CE0195-SH-02-A
Model No. : E612 Power : DC24V
Serial No. : Refer to Section2.1 Temp./Humi. : 23 / 34%

Remarks : Horizontal(ANT:Z Module:Z),Vertical(ANT:Z Module:Z)

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa

<< QP DATA >>

No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	144.003	44.5	14.5	7.4	32.0	34.4	43.5	9.1	Hori	233	198	BC	
2	303.998	52.1	13.8	8.3	31.9	42.3	46.0	3.7	Hori	154	181	LP	
3	335.993	52.5	14.5	8.4	31.9	43.5	46.0	2.5	Hori	176	47	LP	
4	80.009	52.2	6.3	7.0	32.1	33.4	40.0	6.6	Vert.	122	130	BC	
5	143.997	52.1	14.5	7.4	32.0	42.0	43.5	1.5	Vert.	100	89	BC	
6	176.000	43.0	15.7	7.6	32.0	34.3	43.5	9.2	Vert.	100	110	BC	
7	239.998	42.1	17.1	8.0	31.9	35.3	46.0	10.7	Vert.	100	117	BC	
8	304.001	46.3	13.8	8.3	31.9	36.5	46.0	9.5	Vert.	100	95	LP	
9	335.897	48.3	14.5	8.4	31.9	39.3	46.0	6.7	Vert.	100	155	LP	
10	399.995	44.1	16.1	8.7	31.9	37.0	46.0	9.0	Vert.	100	193	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/11/05

Company : BRIDGESTONE CORPORATION Mode : Transmitting(3DH5 2480MHz)
Kind of EUT : TPMS(Tire Pressure Monitoring System) Report No. : 30CE0195-SH-02-A
Model No. : E612 Power : DC24V
Serial No. : Refer to Section2.1 Temp./Humi. : 23 / 34%

Remarks : Horizontal(ANT:Z Module:Z),Vertical(ANT:Z Module:Z)

Limit1 : FCC15.209 3m, below 1GHz:QP, above 1GHz:AV

Engineer : Hikaru Shirasawa

<< QP DATA >>

No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
		<QP>				<QP>	<QP>	<QP>					
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	143.999	43.7	14.5	7.4	32.0	33.6	43.5	9.9	Hori	238	197	BC	
2	304.000	52.4	13.8	8.3	31.9	42.6	46.0	3.4	Hori	157	177	LP	
3	335.990	52.6	14.5	8.4	31.9	43.6	46.0	2.4	Hori	168	52	LP	
4	80.007	52.1	6.3	7.0	32.1	33.3	40.0	6.7	Vert.	143	112	BC	
5	112.003	49.9	11.9	7.2	32.1	36.9	43.5	6.6	Vert.	105	50	BC	
6	144.005	52.1	14.5	7.4	32.0	42.0	43.5	1.5	Vert.	100	96	BC	
7	304.001	46.5	13.8	8.3	31.9	36.7	46.0	9.3	Vert.	100	101	LP	
8	336.004	48.9	14.5	8.4	31.9	39.9	46.0	6.1	Vert.	100	155	LP	
9	400.000	44.6	16.1	8.7	31.9	37.5	46.0	8.5	Vert.	139	194	LP	

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date November 4, 2009
 Temperature / Humidity 26deg.C. ,33%
 Engineer Go Ishiwata
 Mode Tx, 2402 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.	2390.000	PK	50.0	27.6	13.4	39.8	51.2	73.9	22.7	100	35	
Hori.	4804.000	PK	57.8	30.6	6.1	39.5	55.0	73.9	18.9	112	131	
Hori.	7206.000	PK	45.9	36.0	7.4	38.3	51.0	73.9	22.9	100	35	
Hori.	9608.000	PK	44.0	38.4	8.5	36.9	54.0	73.9	19.9	100	35	
Hori.	12010.000	PK	44.5	39.7	9.5	38.0	55.7	73.9	18.2	100	35	
Vert.	2390.000	PK	51.9	27.6	13.4	39.8	53.1	73.9	20.8	100	0	
Vert.	4804.000	PK	59.6	30.6	6.1	39.5	56.8	73.9	17.1	105	139	
Vert.	7206.000	PK	46.3	36.0	7.4	38.3	51.4	73.9	22.5	100	0	
Vert.	9608.000	PK	44.4	38.4	8.5	36.9	54.4	73.9	19.5	100	0	
Vert.	12010.000	PK	44.3	39.7	9.5	38.0	55.5	73.9	18.4	100	0	

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

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

*No noise was detected above the 5th order harmonics.

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	PK	50.0	27.6	13.4	39.8	-30.7	20.5	53.9	33.4	
Hori.	4804.000	PK	57.8	30.6	6.1	39.5	-30.7	24.3	53.9	29.6	
Hori.	7206.000	PK	45.9	36.0	7.4	38.3	-30.7	20.3	53.9	33.6	
Hori.	9608.000	PK	44.0	38.4	8.5	36.9	-30.7	23.3	53.9	30.6	
Hori.	12010.000	PK	44.5	39.7	9.5	38.0	-30.7	25.0	53.9	28.9	
Vert.	2390.000	PK	51.9	27.6	13.4	39.8	-30.7	22.4	53.9	31.5	
Vert.	4804.000	PK	59.6	30.6	6.1	39.5	-30.7	26.1	53.9	27.8	
Vert.	7206.000	PK	46.3	36.0	7.4	38.3	-30.7	20.7	53.9	33.2	
Vert.	9608.000	PK	44.4	38.4	8.5	36.9	-30.7	23.7	53.9	30.2	
Vert.	12010.000	PK	44.3	39.7	9.5	38.0	-30.7	24.8	53.9	29.1	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*No noise was detected above the 5th order harmonics.

UL Japan, Inc.

Shonan EMC Lab.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date November 8, 2009
 Temperature / Humidity 24deg.C. , 43%
 Engineer Makoto Hosaka
 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.	4882.000	PK	55.5	30.9	6.3	39.5	53.2	73.9	20.7	100	105	
Hori.	7323.000	PK	46.5	36.0	7.5	38.4	51.6	73.9	22.3	100	0	
Hori.	9764.000	PK	44.5	38.4	8.6	37.0	54.5	73.9	19.4	100	0	
Hori.	12205.000	PK	45.8	39.7	9.8	37.7	57.6	73.9	16.3	100	0	
Vert.	4882.000	PK	58.9	30.9	6.3	39.5	56.6	73.9	17.3	111	200	
Vert.	7323.000	PK	46.6	36.0	7.5	38.4	51.7	73.9	22.2	100	0	
Vert.	9764.000	PK	44.6	38.4	8.6	37.0	54.6	73.9	19.3	100	0	
Vert.	12205.000	PK	46.2	39.7	9.8	37.7	58.0	73.9	15.9	100	0	

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

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

*No noise was detected above the 5th order harmonics.

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4882.000	PK	55.5	30.9	6.3	39.5	-30.7	22.5	53.9	31.4	
Hori.	7323.000	PK	46.5	36.0	7.5	38.4	-30.7	20.9	53.9	33.0	
Hori.	9764.000	PK	44.5	38.4	8.6	37.0	-30.7	23.8	53.9	30.1	
Hori.	12205.000	PK	45.8	39.7	9.8	37.7	-30.7	26.9	53.9	27.0	
Vert.	4882.000	PK	58.9	30.9	6.3	39.5	-30.7	25.9	53.9	28.0	
Vert.	7323.000	PK	46.6	36.0	7.5	38.4	-30.7	21.0	53.9	32.9	
Vert.	9764.000	PK	44.6	38.4	8.6	37.0	-30.7	23.9	53.9	30.0	
Vert.	12205.000	PK	46.2	39.7	9.8	37.7	-30.7	27.3	53.9	26.6	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*No noise was detected above the 5th order harmonics.

UL Japan, Inc.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date November 8, 2009
 Temperature / Humidity 24deg.C. , 43%
 Engineer Makoto Hosaka
 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.	2483.500	PK	59.7	27.9	14.0	39.8	61.8	73.9	12.1	122	123	
Hori.	4960.000	PK	55.3	31.1	6.4	39.4	53.4	73.9	20.5	108	238	
Hori.	7440.000	PK	45.5	35.9	7.7	38.5	50.6	73.9	23.3	100	0	
Hori.	9920.000	PK	44.4	38.3	8.6	37.1	54.2	73.9	19.8	100	0	
Hori.	12400.000	PK	45.4	39.7	10.3	37.4	58.0	73.9	15.9	100	0	
Vert.	2483.500	PK	65.4	27.9	14.0	39.8	67.5	73.9	6.4	126	0	
Vert.	4960.000	PK	54.5	31.1	6.4	39.4	52.6	73.9	21.4	100	11	
Vert.	7440.000	PK	45.8	35.9	7.7	38.5	50.9	73.9	23.0	100	0	
Vert.	9920.000	PK	43.2	38.3	8.6	37.1	53.0	73.9	20.9	100	0	
Vert.	12400.000	PK	45.0	39.7	10.3	37.4	57.6	73.9	16.3	100	0	

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

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

*No noise was detected above the 5th order harmonics.

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	PK	59.7	27.9	14.0	39.8	-30.7	31.1	53.9	22.8	
Hori.	4960.000	PK	55.3	31.1	6.4	39.4	-30.7	22.7	53.9	31.2	
Hori.	7440.000	PK	45.5	35.9	7.7	38.5	-30.7	19.9	53.9	34.0	
Hori.	9920.000	PK	44.4	38.3	8.6	37.1	-30.7	23.5	53.9	30.4	
Hori.	12400.000	PK	45.4	39.7	10.3	37.4	-30.7	27.3	53.9	26.6	
Vert.	2483.500	PK	65.4	27.9	14.0	39.8	-30.7	36.8	53.9	17.1	
Vert.	4960.000	PK	54.5	31.1	6.4	39.4	-30.7	21.9	53.9	32.0	
Vert.	7440.000	PK	45.8	35.9	7.7	38.5	-30.7	20.2	53.9	33.7	
Vert.	9920.000	PK	43.2	38.3	8.6	37.1	-30.7	22.3	53.9	31.6	
Vert.	12400.000	PK	45.0	39.7	10.3	37.4	-30.7	26.9	53.9	27.0	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*No noise was detected above the 5th order harmonics.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date November 4, 2009
 Temperature / Humidity 26deg.C. ,33%
 Engineer Go Ishiwata
 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.	2390.000	PK	56.4	27.6	13.4	39.8	57.6	73.9	16.3	100	145	
Hori.	4804.000	PK	53.2	30.6	6.1	39.5	50.4	73.9	23.5	102	135	
Hori.	7206.000	PK	46.0	36.0	7.4	38.3	51.1	73.9	22.8	100	145	
Hori.	9608.000	PK	44.2	38.4	8.5	36.9	54.2	73.9	19.7	100	145	
Hori.	12010.000	PK	44.4	39.7	9.5	38.0	55.6	73.9	18.3	100	145	
Vert.	2390.000	PK	56.5	27.6	13.4	39.8	57.7	73.9	16.2	100	357	
Vert.	4804.000	PK	53.5	30.6	6.1	39.5	50.7	73.9	23.2	100	160	
Vert.	7206.000	PK	46.2	36.0	7.4	38.3	51.3	73.9	22.6	100	357	
Vert.	9608.000	PK	44.2	38.4	8.5	36.9	54.2	73.9	19.7	100	357	
Vert.	12010.000	PK	44.1	39.7	9.5	38.0	55.3	73.9	18.6	100	357	

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

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

*No noise was detected above the 5th order harmonics.

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	PK	56.4	27.6	13.4	39.8	-30.5	27.1	53.9	26.8	
Hori.	4804.000	PK	53.2	30.6	6.1	39.5	-30.5	19.9	53.9	34.0	
Hori.	7206.000	PK	46.0	36.0	7.4	38.3	-30.5	20.6	53.9	33.3	
Hori.	9608.000	PK	44.2	38.4	8.5	36.9	-30.5	23.7	53.9	30.2	
Hori.	12010.000	PK	44.4	39.7	9.5	38.0	-30.5	25.1	53.9	28.8	
Vert.	2390.000	PK	56.5	27.6	13.4	39.8	-30.5	27.2	53.9	26.7	
Vert.	4804.000	PK	53.5	30.6	6.1	39.5	-30.5	20.2	53.9	33.7	
Vert.	7206.000	PK	46.2	36.0	7.4	38.3	-30.5	20.8	53.9	33.1	
Vert.	9608.000	PK	44.2	38.4	8.5	36.9	-30.5	23.7	53.9	30.2	
Vert.	12010.000	PK	44.1	39.7	9.5	38.0	-30.5	24.8	53.9	29.1	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*No noise was detected above the 5th order harmonics.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date November 8, 2009
 Temperature / Humidity 24deg.C. , 43%
 Engineer Makoto Hosaka
 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.	4882.000	PK	50.6	30.9	6.3	39.5	48.3	73.9	25.6	100	106	
Hori.	7323.000	PK	46.3	36.0	7.5	38.4	51.4	73.9	22.5	100	0	
Hori.	9764.000	PK	44.8	38.4	8.6	37.0	54.8	73.9	19.2	100	0	
Hori.	12205.000	PK	45.8	39.7	9.8	37.7	57.6	73.9	16.3	100	0	
Vert.	4882.000	PK	54.7	30.9	6.3	39.5	52.4	73.9	21.5	113	200	
Vert.	7323.000	PK	46.9	36.0	7.5	38.4	52.0	73.9	21.9	100	0	
Vert.	9764.000	PK	44.7	38.4	8.6	37.0	54.7	73.9	19.2	100	0	
Vert.	12205.000	PK	45.7	39.7	9.8	37.7	57.5	73.9	16.4	100	0	

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

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

*No noise was detected above the 5th order harmonics.

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4882.000	PK	50.6	30.9	6.3	39.5	-30.5	17.8	53.9	36.1	
Hori.	7323.000	PK	46.3	36.0	7.5	38.4	-30.5	20.9	53.9	33.0	
Hori.	9764.000	PK	44.8	38.4	8.6	37.0	-30.5	24.3	53.9	29.6	
Hori.	12205.000	PK	45.8	39.7	9.8	37.7	-30.5	27.1	53.9	26.8	
Vert.	4882.000	PK	54.7	30.9	6.3	39.5	-30.5	21.9	53.9	32.0	
Vert.	7323.000	PK	46.9	36.0	7.5	38.4	-30.5	21.5	53.9	32.4	
Vert.	9764.000	PK	44.7	38.4	8.6	37.0	-30.5	24.2	53.9	29.7	
Vert.	12205.000	PK	45.7	39.7	9.8	37.7	-30.5	27.0	53.9	26.9	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*No noise was detected above the 5th order harmonics.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date November 8, 2009
 Temperature / Humidity 24deg.C. , 43%
 Engineer Makoto Hosaka
 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.	2483.500	PK	60.7	27.9	14.0	39.8	62.8	73.9	11.1	100	131	
Hori.	4960.000	PK	51.2	31.1	6.4	39.4	49.3	73.9	24.6	103	147	
Hori.	7440.000	PK	46.7	35.9	7.7	38.5	51.8	73.9	22.1	100	0	
Hori.	9920.000	PK	43.9	38.3	8.6	37.1	53.7	73.9	20.2	100	0	
Hori.	12400.000	PK	46.2	39.7	10.3	37.4	58.8	73.9	15.1	100	0	
Vert.	2483.500	PK	66.3	27.9	14.0	39.8	68.4	73.9	5.5	122	2	
Vert.	4960.000	PK	52.6	31.1	6.4	39.4	50.7	73.9	23.2	110	199	
Vert.	7440.000	PK	46.6	35.9	7.7	38.5	51.7	73.9	22.2	100	0	
Vert.	9920.000	PK	44.6	38.3	8.6	37.1	54.4	73.9	19.5	100	0	
Vert.	12400.000	PK	46.7	39.7	10.3	37.4	59.3	73.9	14.6	100	0	

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

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

*No noise was detected above the 5th order harmonics.

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	PK	60.7	27.9	14.0	39.8	-30.5	32.3	53.9	21.6	
Hori.	4960.000	PK	51.2	31.1	6.4	39.4	-30.5	18.8	53.9	35.1	
Hori.	7440.000	PK	46.7	35.9	7.7	38.5	-30.5	21.3	53.9	32.6	
Hori.	9920.000	PK	43.9	38.3	8.6	37.1	-30.5	23.2	53.9	30.7	
Hori.	12400.000	PK	46.2	39.7	10.3	37.4	-30.5	28.3	53.9	25.6	
Vert.	2483.500	PK	66.3	27.9	14.0	39.8	-30.5	37.9	53.9	16.0	
Vert.	4960.000	PK	52.6	31.1	6.4	39.4	-30.5	20.2	53.9	33.7	
Vert.	7440.000	PK	46.6	35.9	7.7	38.5	-30.5	21.2	53.9	32.7	
Vert.	9920.000	PK	44.6	38.3	8.6	37.1	-30.5	23.9	53.9	30.0	
Vert.	12400.000	PK	46.7	39.7	10.3	37.4	-30.5	28.8	53.9	25.1	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

*No noise was detected above the 5th order harmonics.

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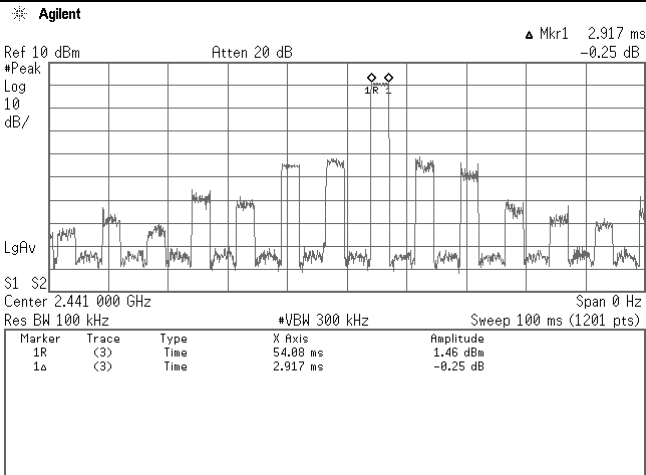
Telephone : +81 463 50 6400

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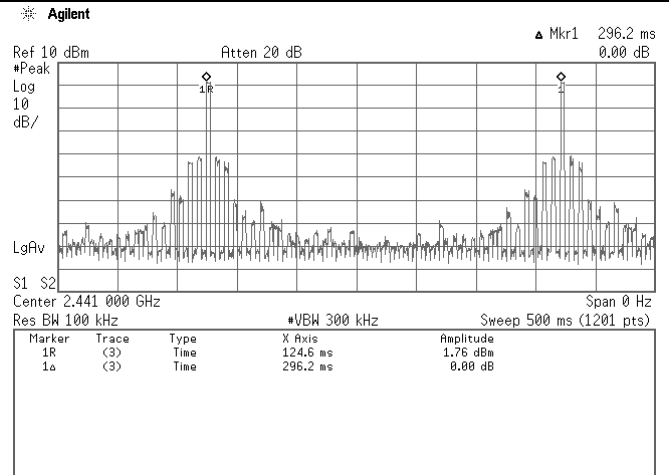
Spurious emission (Radiated)

DH5

**Worst 100ms,
Dwell time factor = $20\log(2.917/100) = -30.70\text{dB}$**

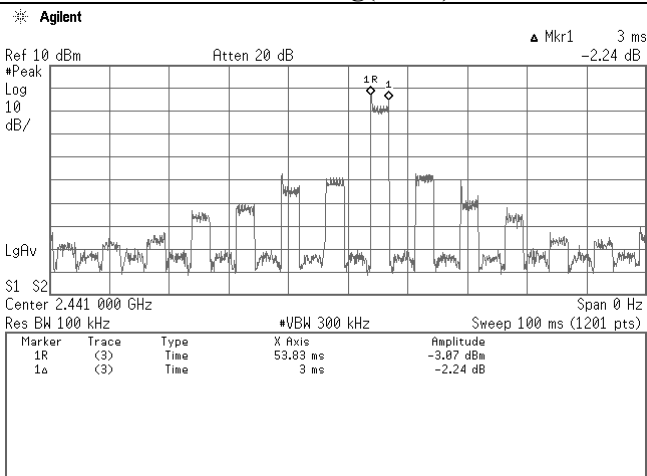


**1cycle time:
296.2ms**

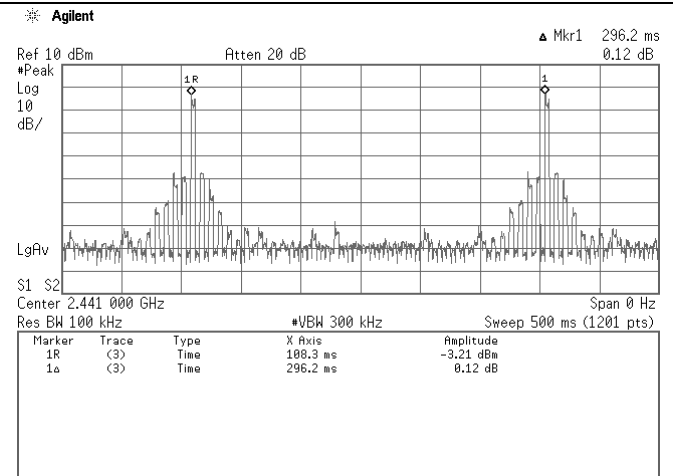


3DH5

**Worst 100ms,
Dwell time factor = $20\log(3/100) = -30.46\text{dB}$**



**1cycle time:
296.2ms**

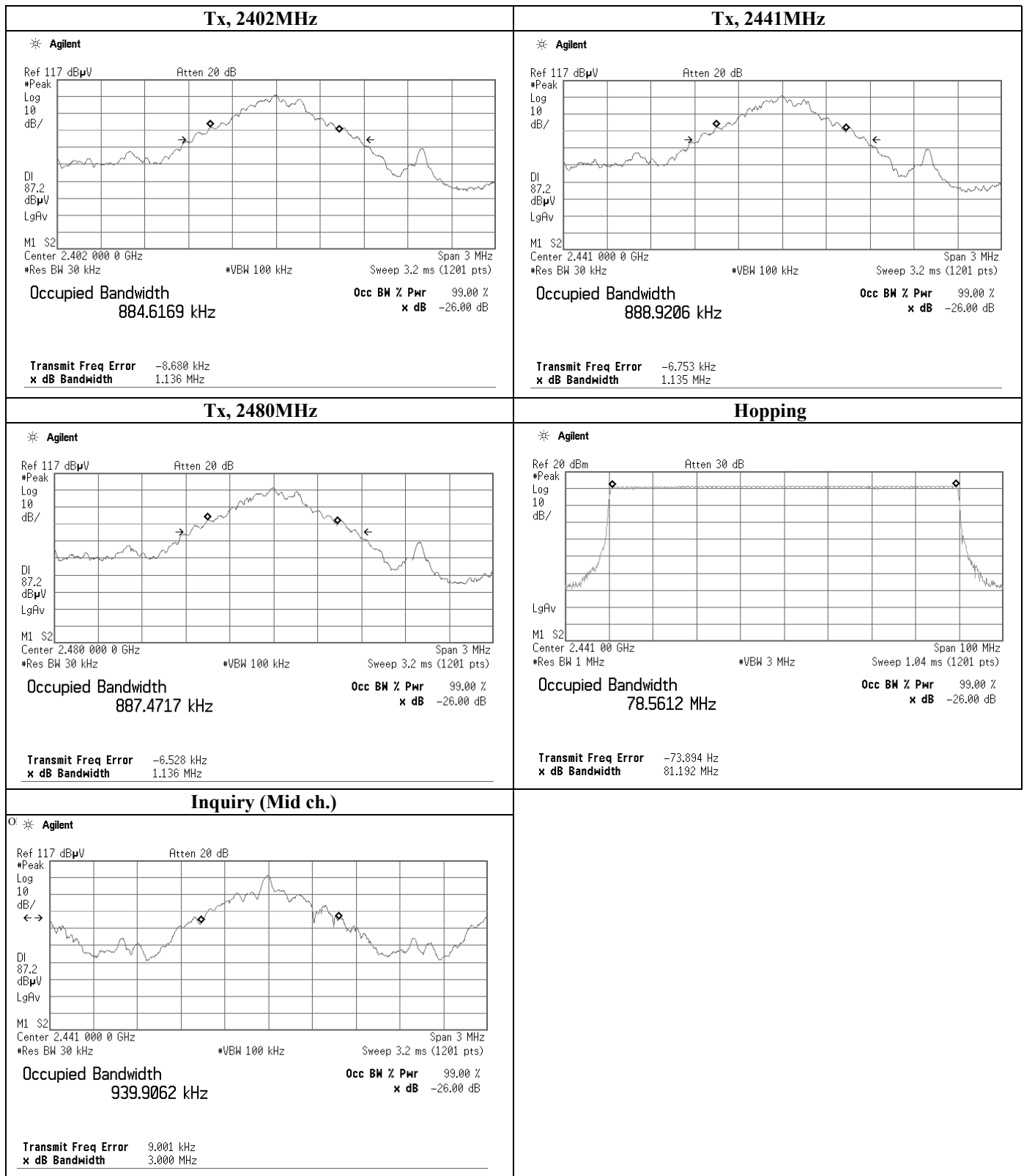


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99% Occupied Bandwidth

DH5

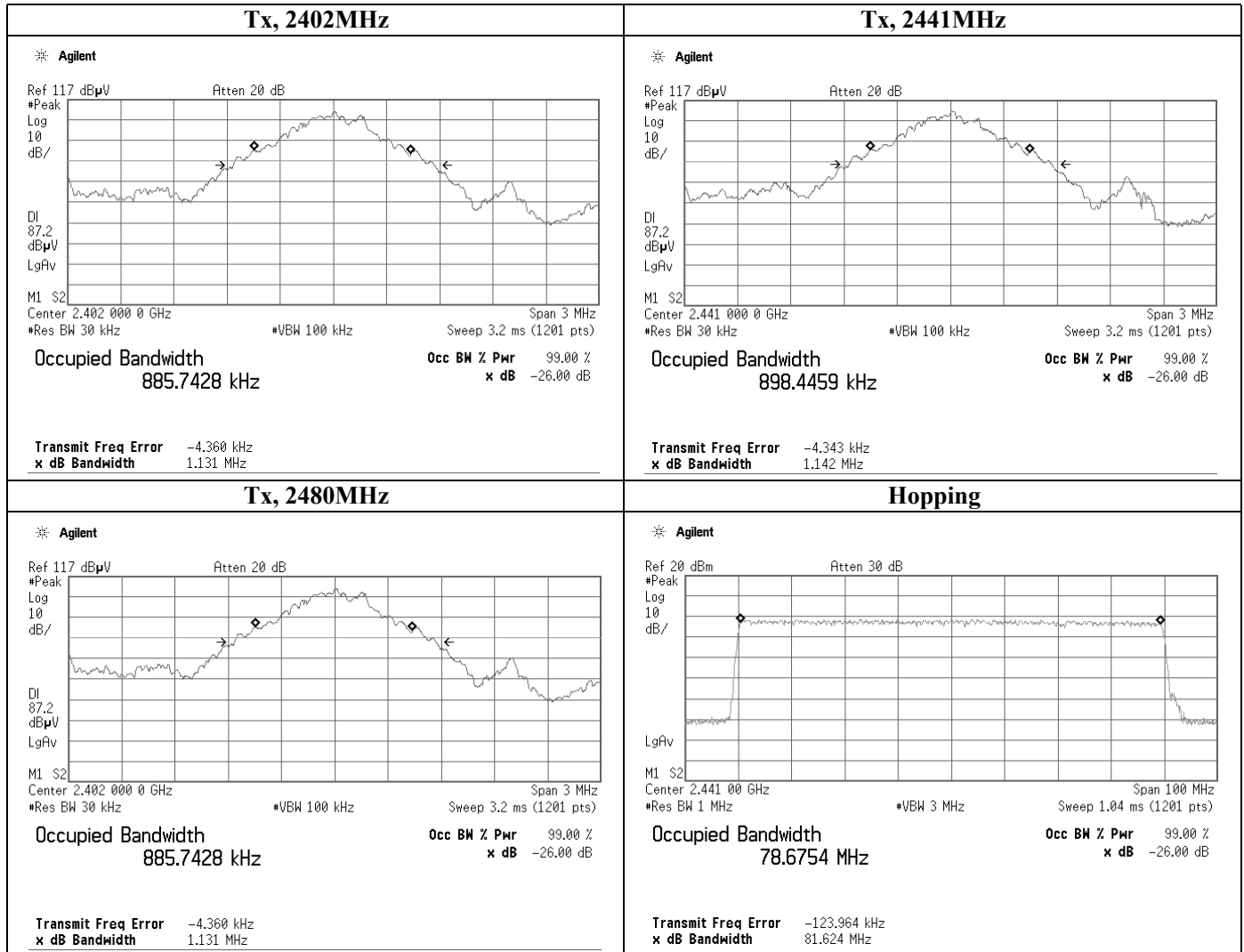


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99% Occupied Bandwidth

3-DH5



APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2009/02/13 * 12
SAT6-05	Attenuator	JFW	50HF-006N	-	RE	2009/02/13 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2009/03/20 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2009/04/06 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A0901	RE	2009/03/20 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2009/02/04 * 12
STR-03	Test Receiver	Rohde & Schwarz	ES140	100054/040	RE	2009/04/08 * 12
SJM-03	Measure	KOMELON	KMC-36	-	RE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2009/03/19 * 12
COTS-SEMI-I	EMI Software	TSJ	TEPTO-DV	1	RE	-
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2009/03/26 * 12
SCC-G03	Coaxial Cable	Suhner	SUCOFLEX 104A	46499/4A	RE	2009/04/10 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2009/05/27 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2009/08/23 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2009/03/25 * 12
SCC-G11	Coaxial Cable	Suhner	SUCOFLEX 102	31595/2	RE	2009/03/11 * 12
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	RE	2009/03/24 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	RE	2009/06/16 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE	2009/04/02 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2009/04/09 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2009/03/27 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2009/03/24 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT1,2,3,4,6	2009/06/16 * 12
SCC-G14	Coaxial Cable	Suhner	SUCOFLEX 102	31600/2	AT1,2,3,4,6	2009/03/11 * 12
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	AT1,2,3,4,6	2009/03/24 * 12
SPSS-01	Power Sensor	Anritsu	MA2444D	0738366	AT5	2009/03/16 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT5	2009/03/16 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT all	2009/02/04 * 12
SBM-09	Barometer	Sunoh	SBR121	001074	AT all	2009/02/05 * 36
SSA-01	Spectrum Analyzer	Agilent	N9010A-526	MY48031482	AT1,2,3,4,6	2009/03/31 * 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 traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

RE: Out of Band Emission (Radiated)

AT: Antenna terminal conducted test

1: Carrier Frequency Separation

2: 20dB Bandwidth

3: Number of Hopping Frequency

4: Dwell time

5: Maximum Peak Output Power

6: Out of Band Emission (Conducted)