

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

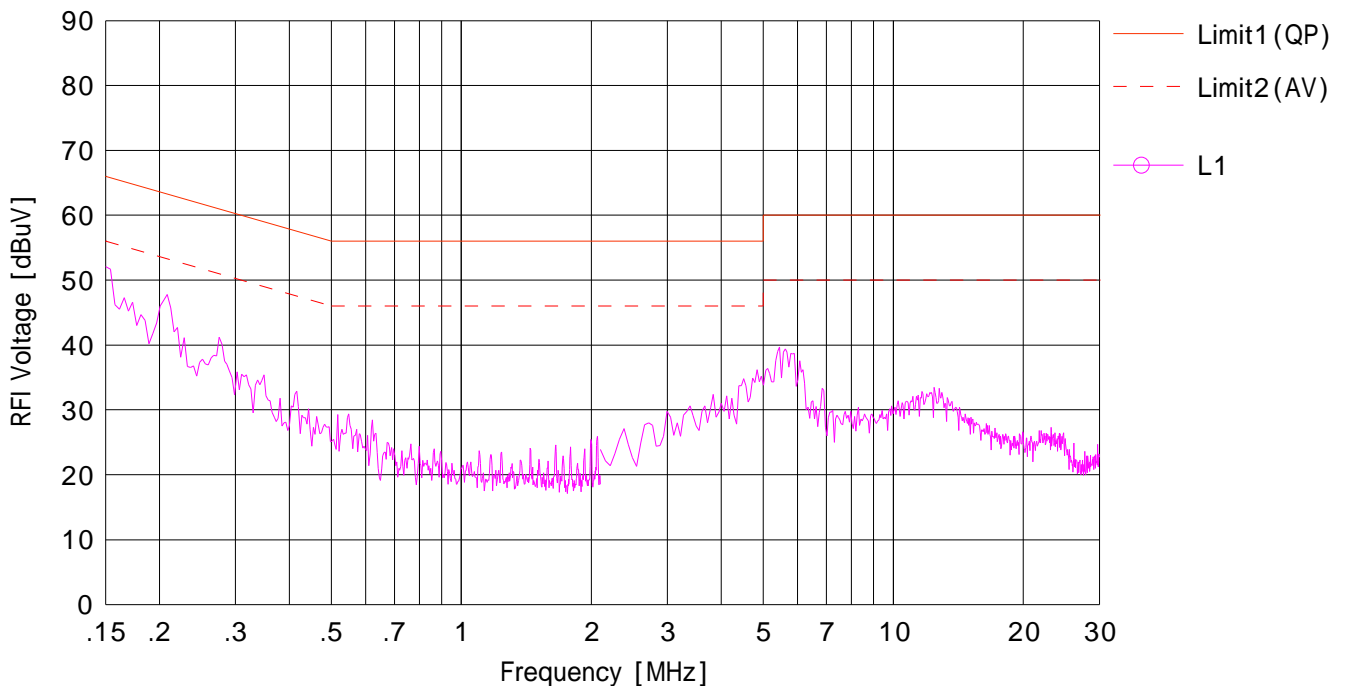
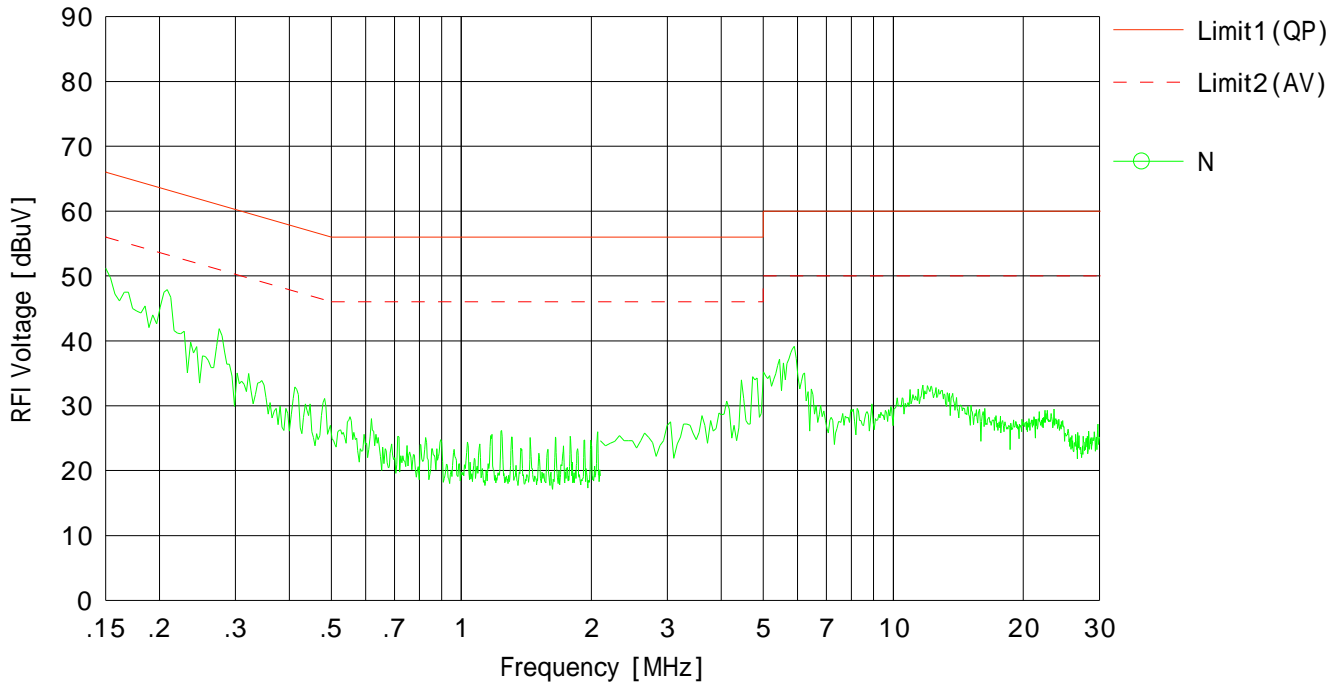
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11b Tx 2412MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

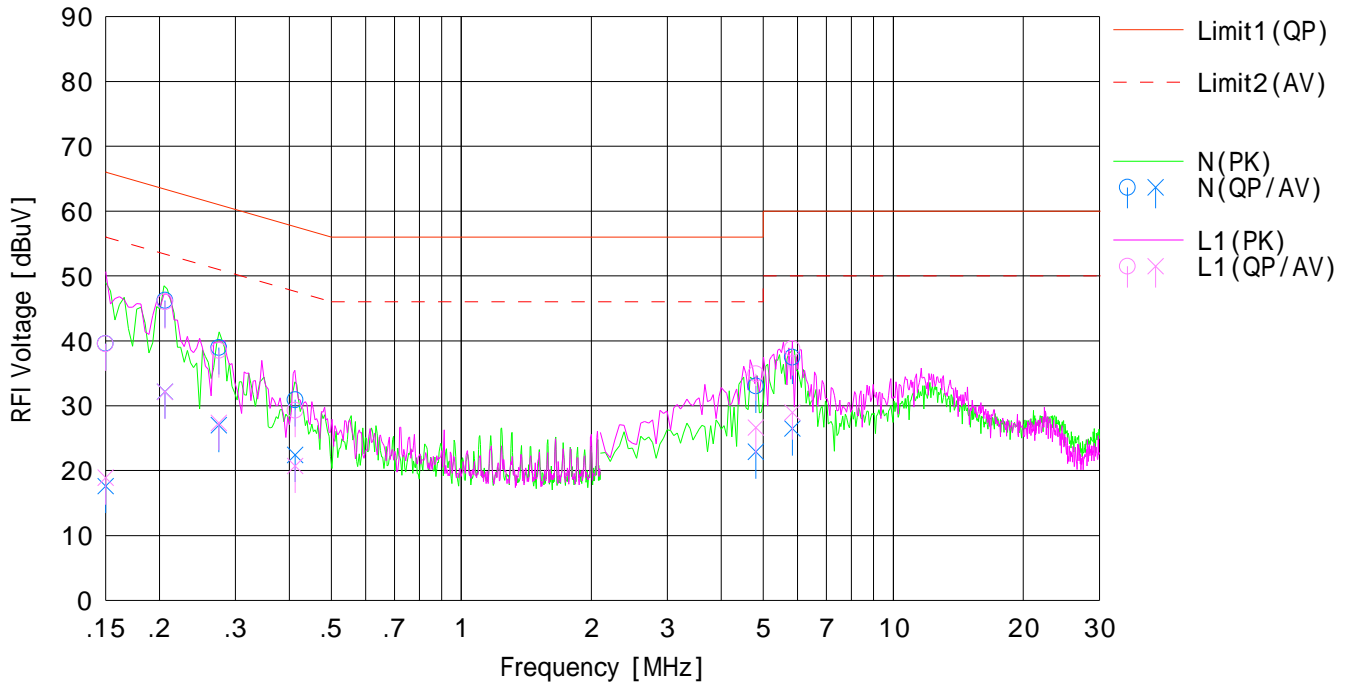
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11b Tx 2437MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	29.9	7.9	9.7	39.6	17.6	66.0	56.0	26.4	38.4	N	
2	0.20609	36.5	22.5	9.7	46.2	32.2	63.4	53.4	17.2	21.2	N	
3	0.27458	29.3	17.3	9.7	39.0	27.0	61.0	51.0	22.0	24.0	N	
4	0.41226	21.2	12.7	9.7	30.9	22.4	57.6	47.6	26.7	25.2	N	
5	4.80680	23.0	12.9	10.0	33.0	22.9	56.0	46.0	23.0	23.1	N	
6	5.83677	27.5	16.5	10.0	37.5	26.5	60.0	50.0	22.5	23.5	N	
7	0.15000	29.8	9.2	9.7	39.5	18.9	66.0	56.0	26.5	37.1	L1	
8	0.20609	36.3	22.5	9.7	46.0	32.2	63.4	53.4	17.4	21.3	L1	
9	0.27458	28.8	17.7	9.7	38.5	27.4	61.0	51.0	22.5	23.7	L1	
10	0.41226	19.6	11.0	9.7	29.3	20.7	57.6	47.6	28.3	26.9	L1	
11	4.80680	24.9	16.6	10.0	34.9	26.6	56.0	46.0	21.1	19.4	L1	
12	5.83677	28.8	19.0	10.0	38.8	29.0	60.0	50.0	21.2	21.1	L1	

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

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Date : 2010/02/03

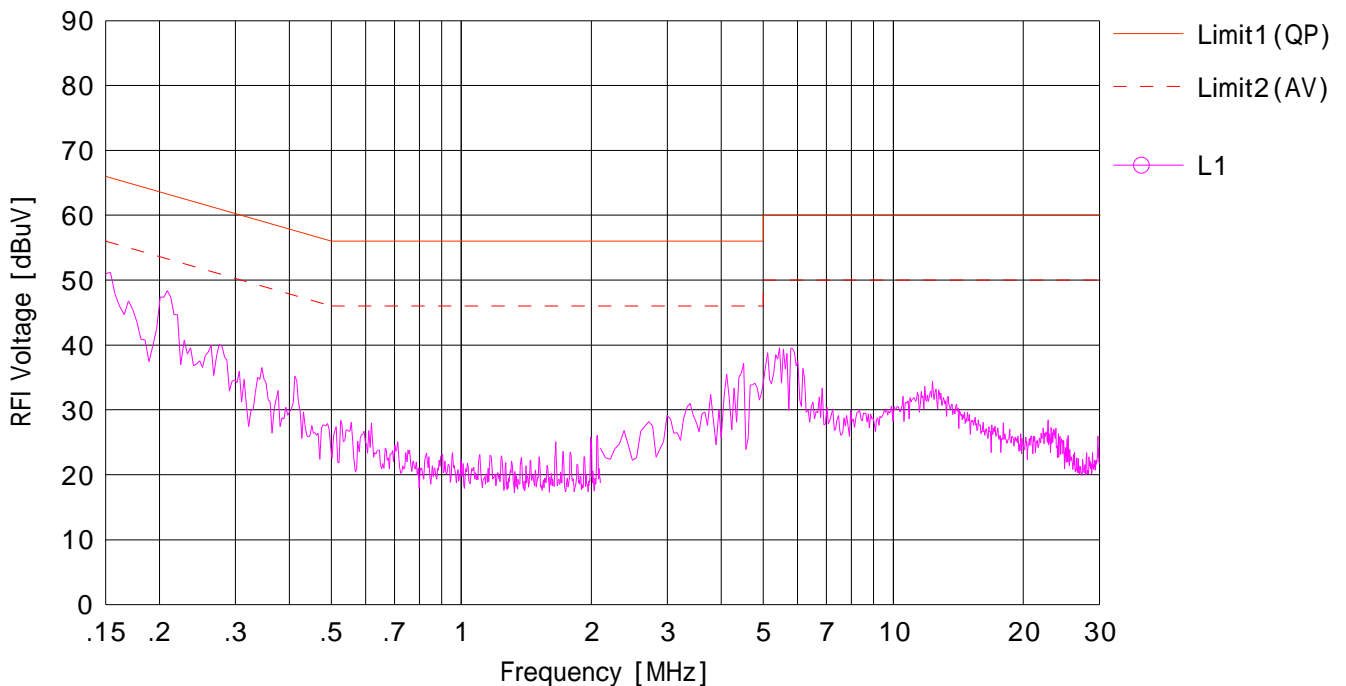
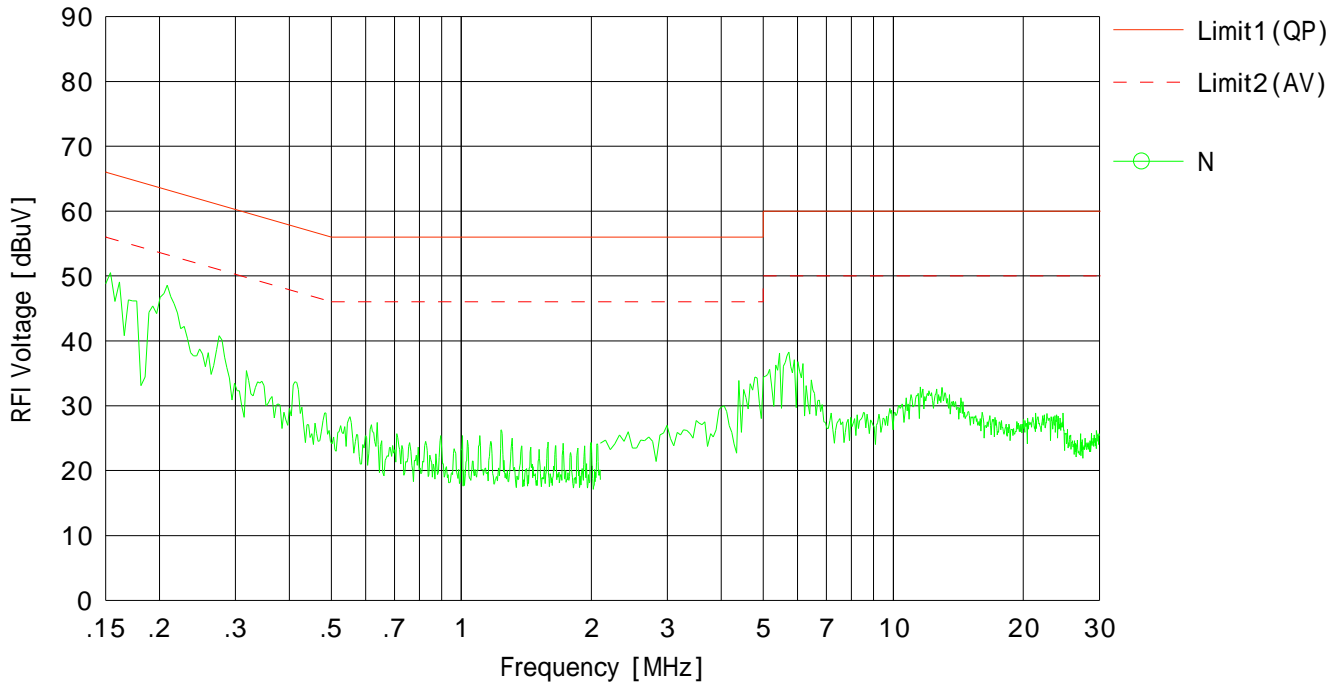
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11b Tx 2462MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

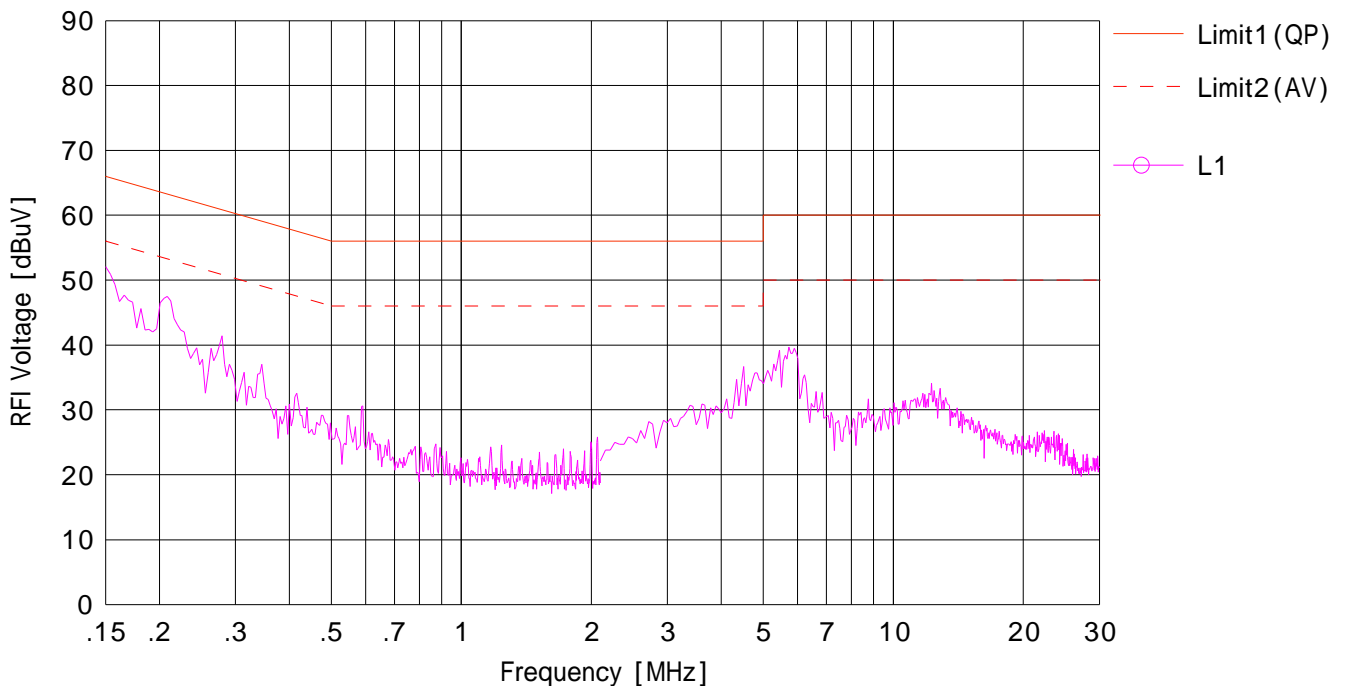
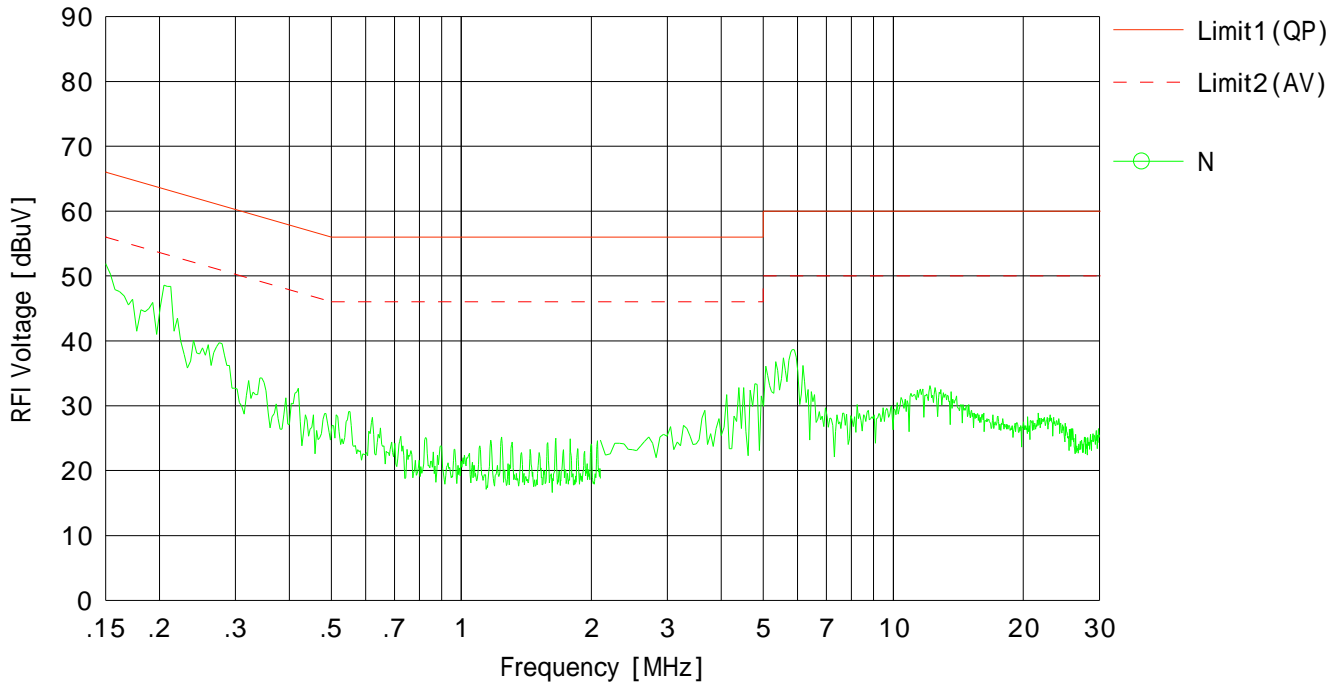
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11g Tx 2412MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

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UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

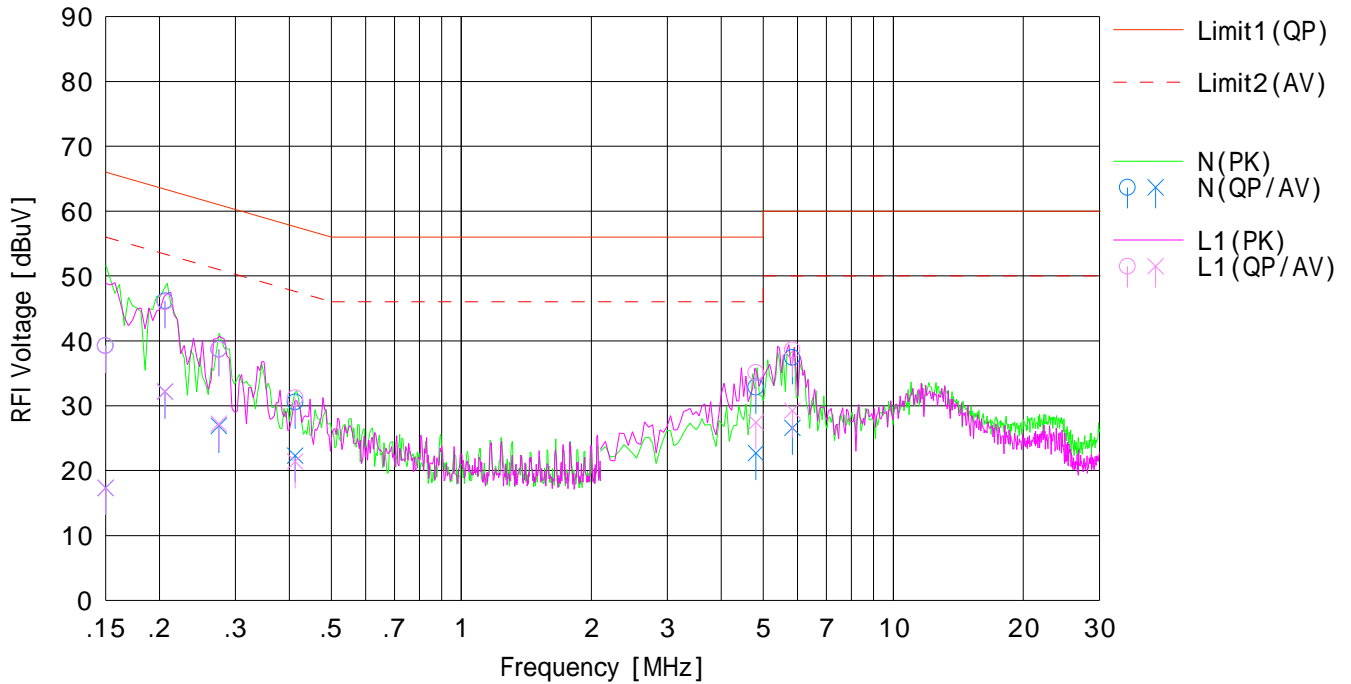
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11g Tx 2437MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	29.6	7.7	9.7	39.3	17.4	66.0	56.0	26.8	38.7	N	
2	0.20609	36.5	22.5	9.7	46.2	32.2	63.4	53.4	17.2	21.2	N	
3	0.27458	29.0	17.2	9.7	38.7	26.9	61.0	51.0	22.3	24.1	N	
4	0.41226	20.9	12.6	9.7	30.6	22.3	57.6	47.6	27.0	25.3	N	
5	4.80680	22.9	12.7	10.0	32.9	22.7	56.0	46.0	23.1	23.3	N	
6	5.83677	27.4	16.6	10.0	37.4	26.6	60.0	50.0	22.6	23.4	N	
7	0.15000	29.6	7.6	9.7	39.3	17.3	66.0	56.0	26.8	38.7	L1	
8	0.20609	36.3	22.4	9.7	46.0	32.1	63.4	53.4	17.4	21.3	L1	
9	0.27458	29.0	17.6	9.7	38.7	27.3	61.0	51.0	22.4	23.7	L1	
10	0.41226	21.5	11.7	9.7	31.2	21.4	57.6	47.6	26.4	26.2	L1	
11	4.80680	25.1	17.4	10.0	35.1	27.4	56.0	46.0	20.9	18.6	L1	
12	5.83677	28.6	19.3	10.0	38.6	29.3	60.0	50.0	21.4	20.8	L1	

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

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Date : 2010/02/03

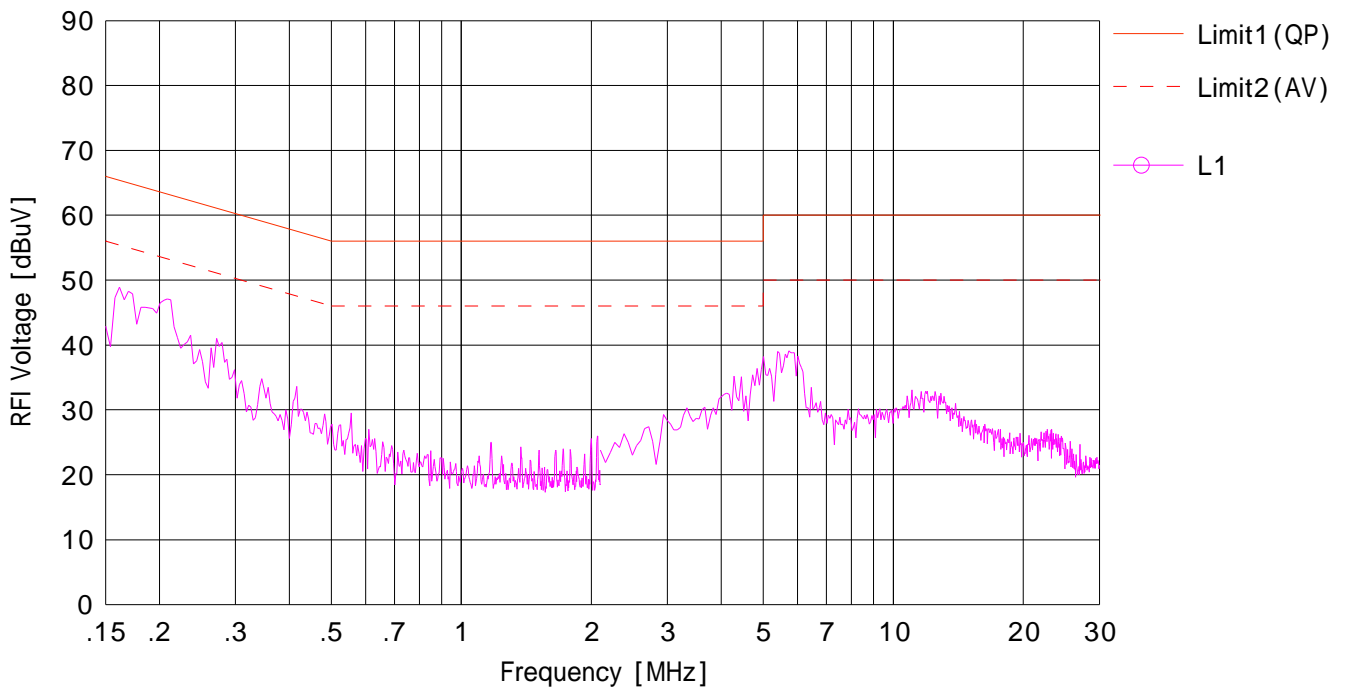
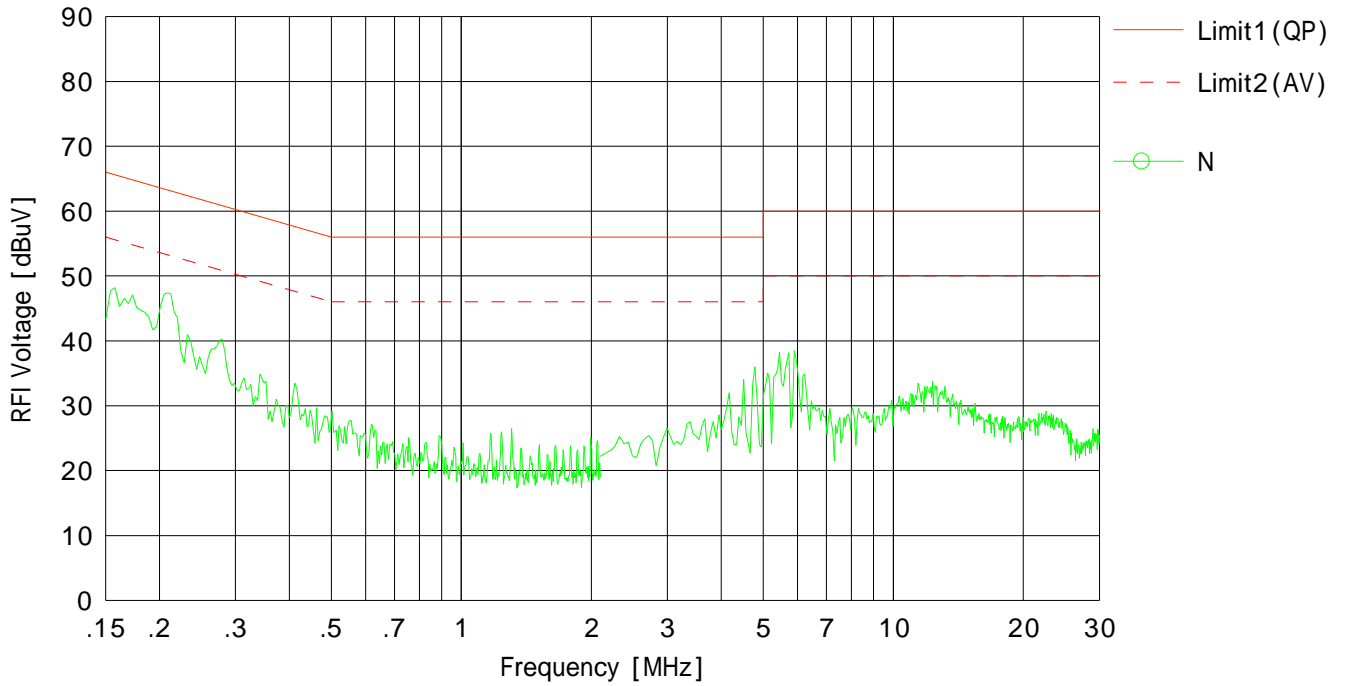
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11g Tx 2462MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

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Date : 2010/02/03

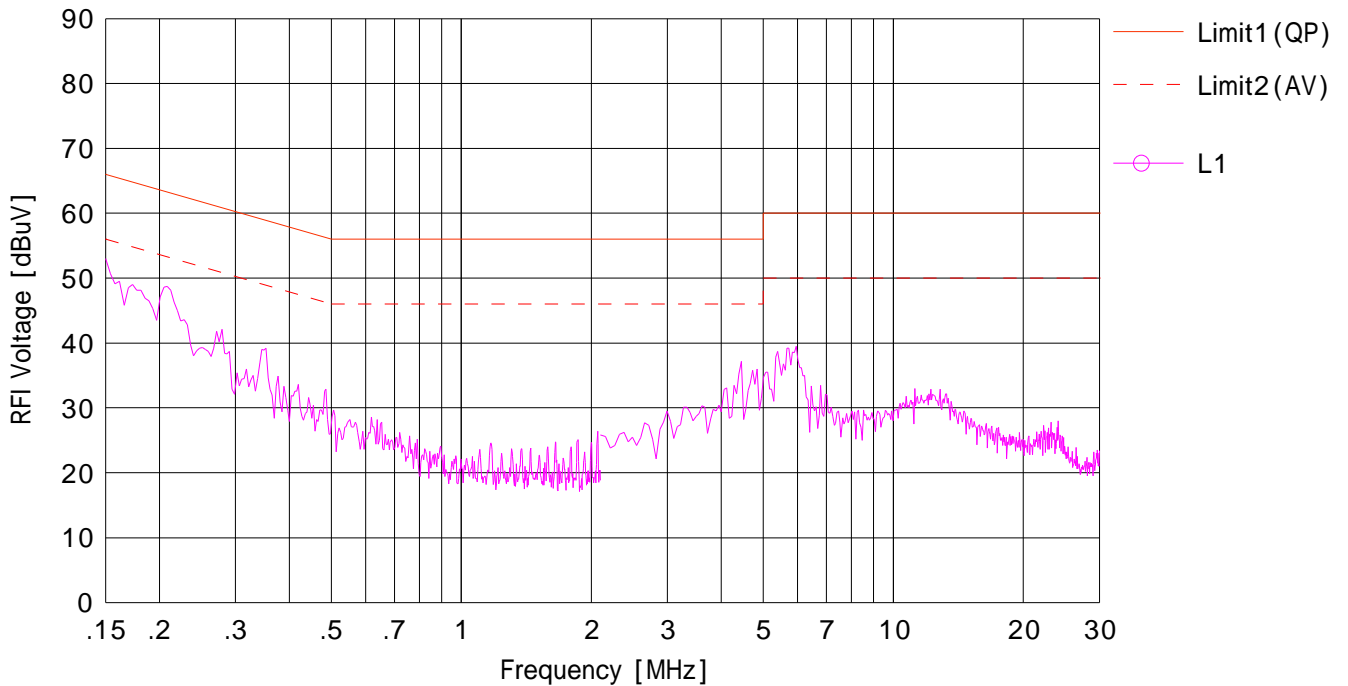
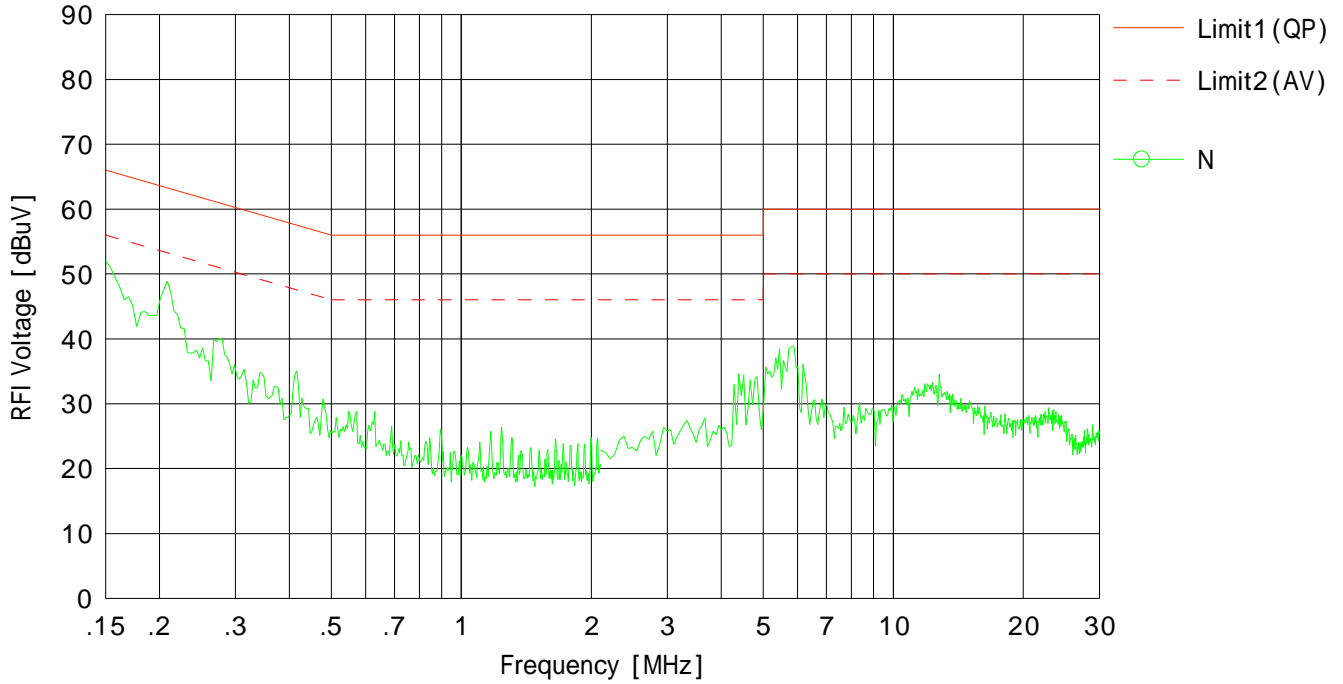
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11n-20 Tx 2412MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

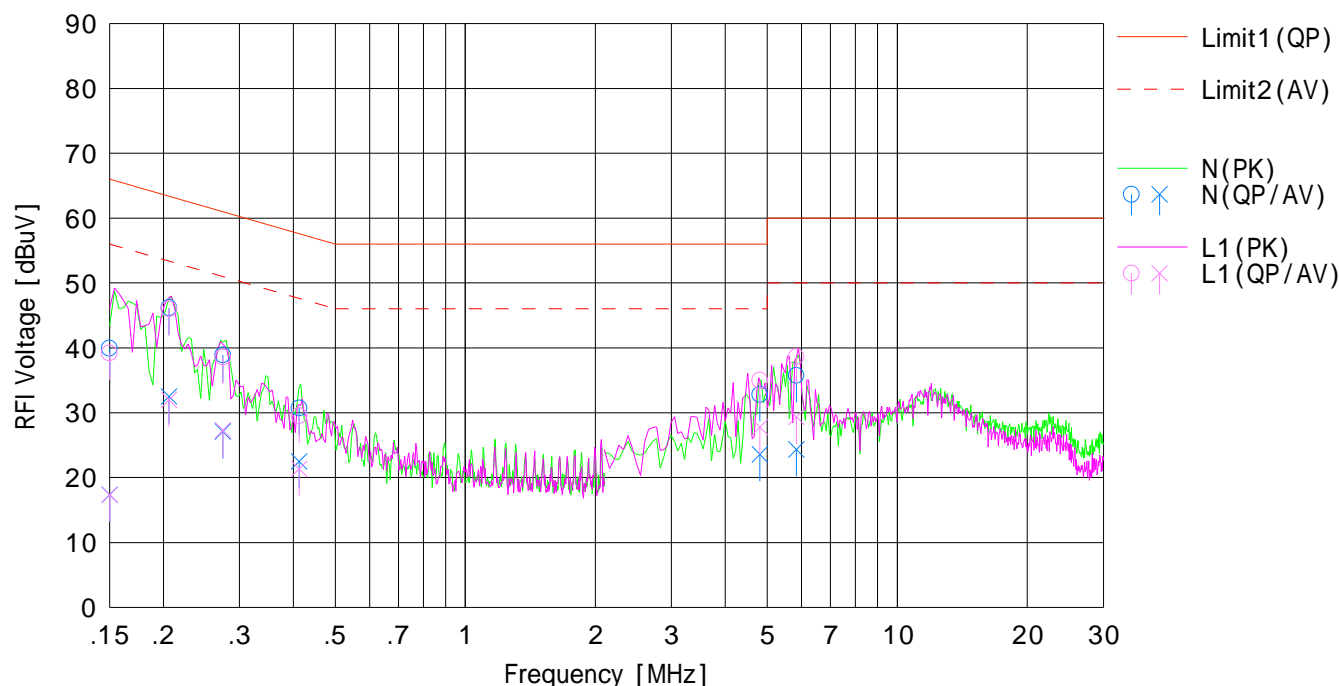
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11n-20 Tx 2437MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]				
1	0.15000	30.2	7.7	9.7	39.9	17.4	66.0	56.0	26.1	38.6	N	
2	0.20609	36.5	22.8	9.7	46.2	32.5	63.4	53.4	17.2	20.9	N	
3	0.27458	29.2	17.4	9.7	38.9	27.1	61.0	51.0	22.1	23.9	N	
4	0.41226	21.0	12.8	9.7	30.7	22.5	57.6	47.6	26.9	25.1	N	
5	4.80680	22.8	13.6	10.0	32.8	23.6	56.0	46.0	23.2	22.4	N	
6	5.83677	25.7	14.3	10.0	35.7	24.3	60.0	50.0	24.3	25.7	N	
7	0.15000	29.5	7.7	9.7	39.2	17.4	66.0	56.0	26.8	38.6	L1	
8	0.20609	36.3	22.3	9.7	46.0	32.0	63.4	53.4	17.4	21.4	L1	
9	0.27458	28.9	17.6	9.7	38.6	27.3	61.0	51.0	22.4	23.7	L1	
10	0.41226	19.8	11.7	9.7	29.5	21.4	57.6	47.6	28.1	26.3	L1	
11	4.80680	25.0	17.8	10.0	35.0	27.8	56.0	46.0	21.0	18.2	L1	
12	5.83677	28.6	19.3	10.0	38.6	29.3	60.0	50.0	21.4	20.7	L1	

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

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UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

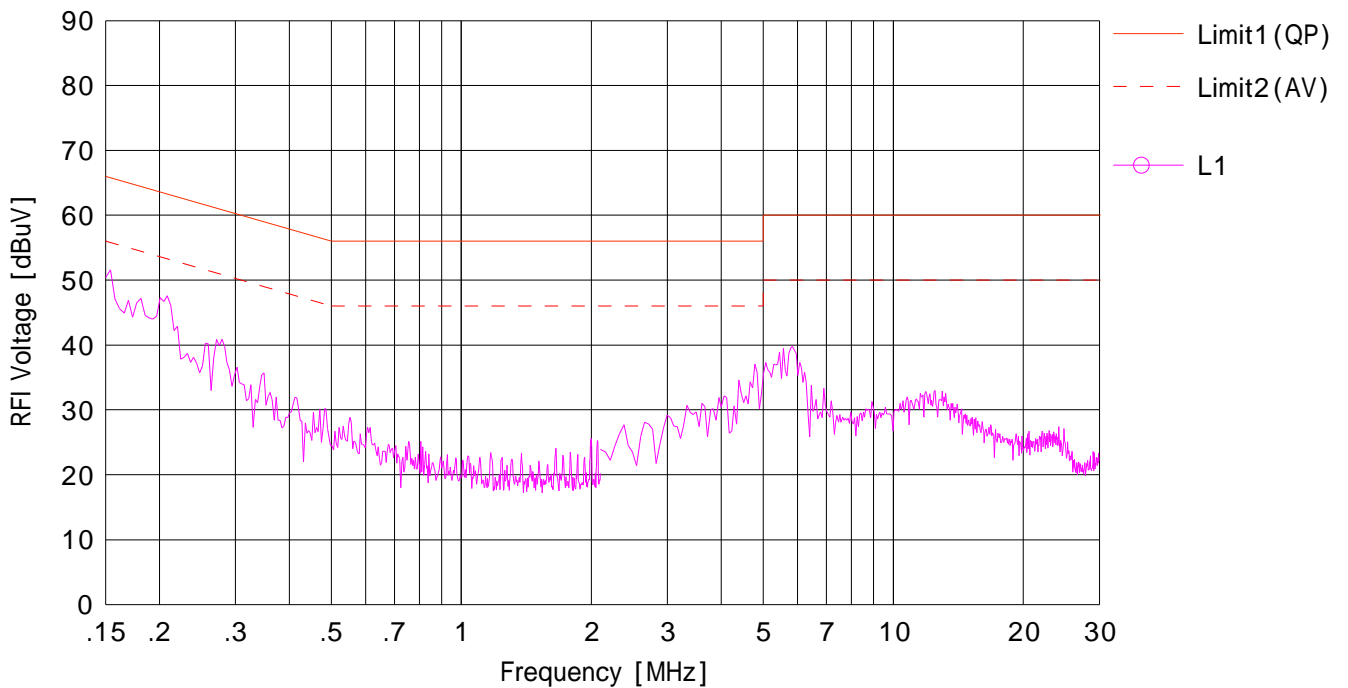
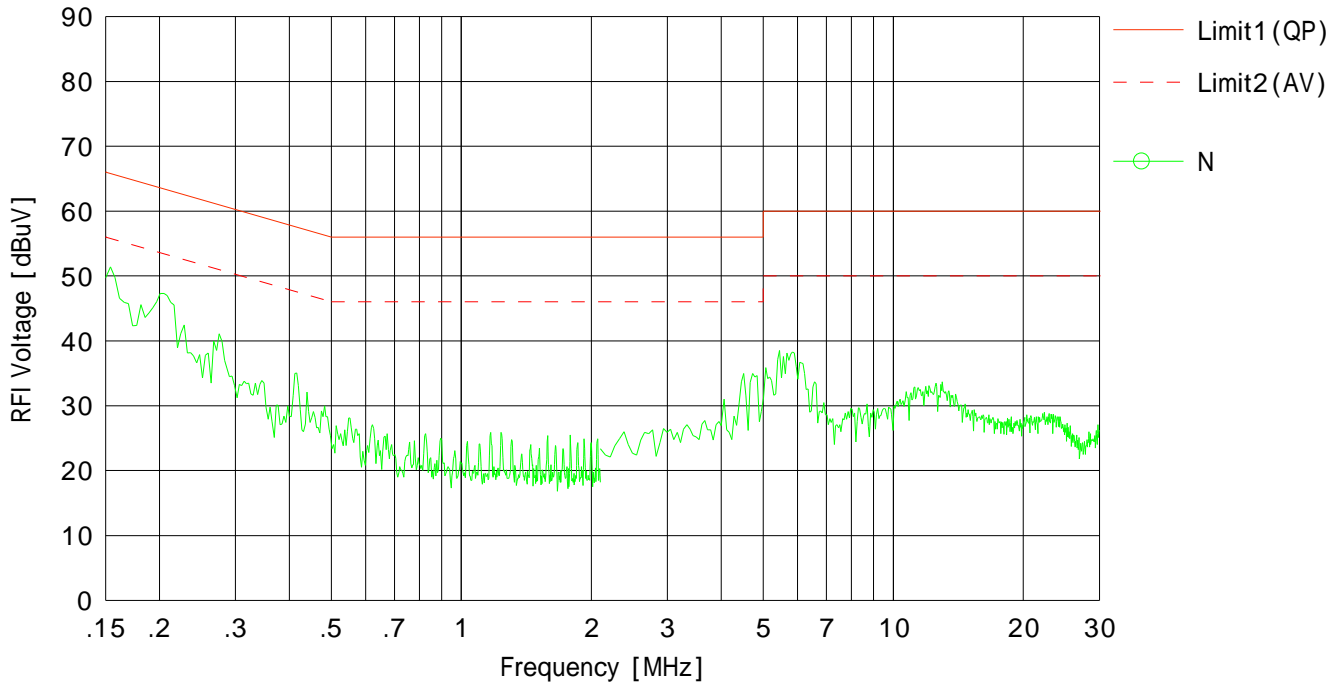
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11n-20 Tx 2462MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

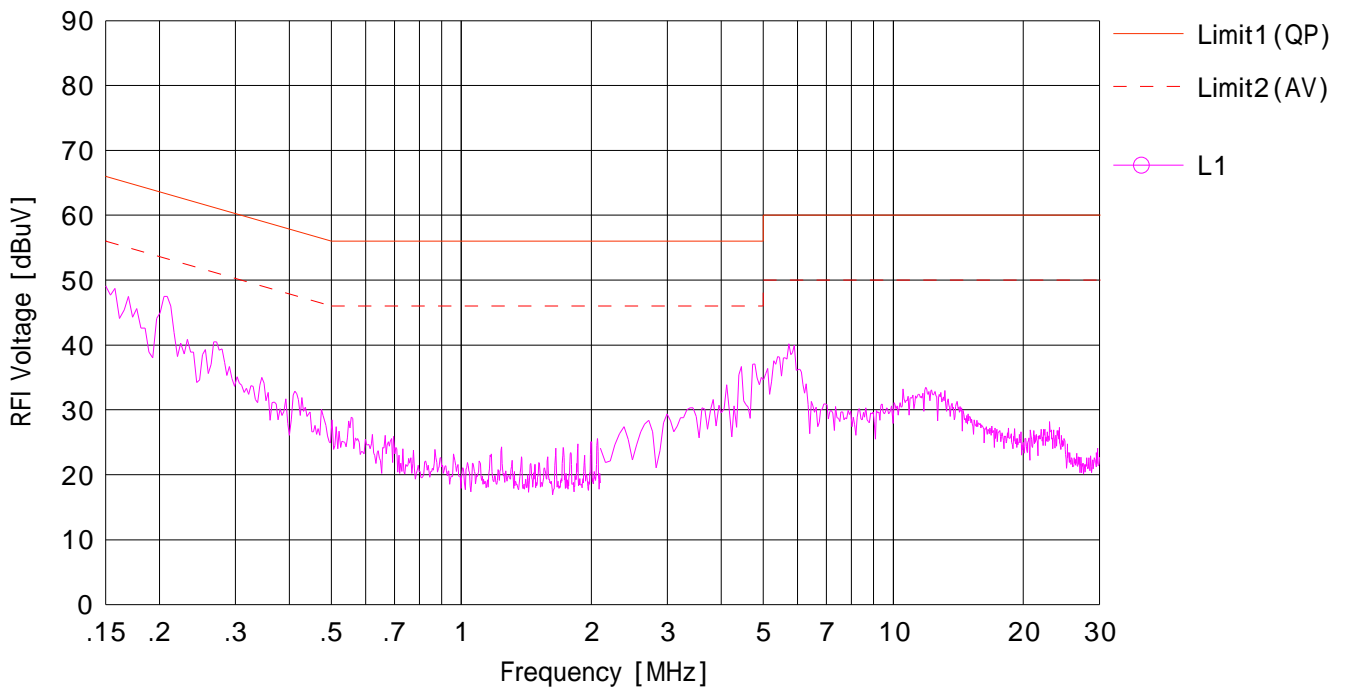
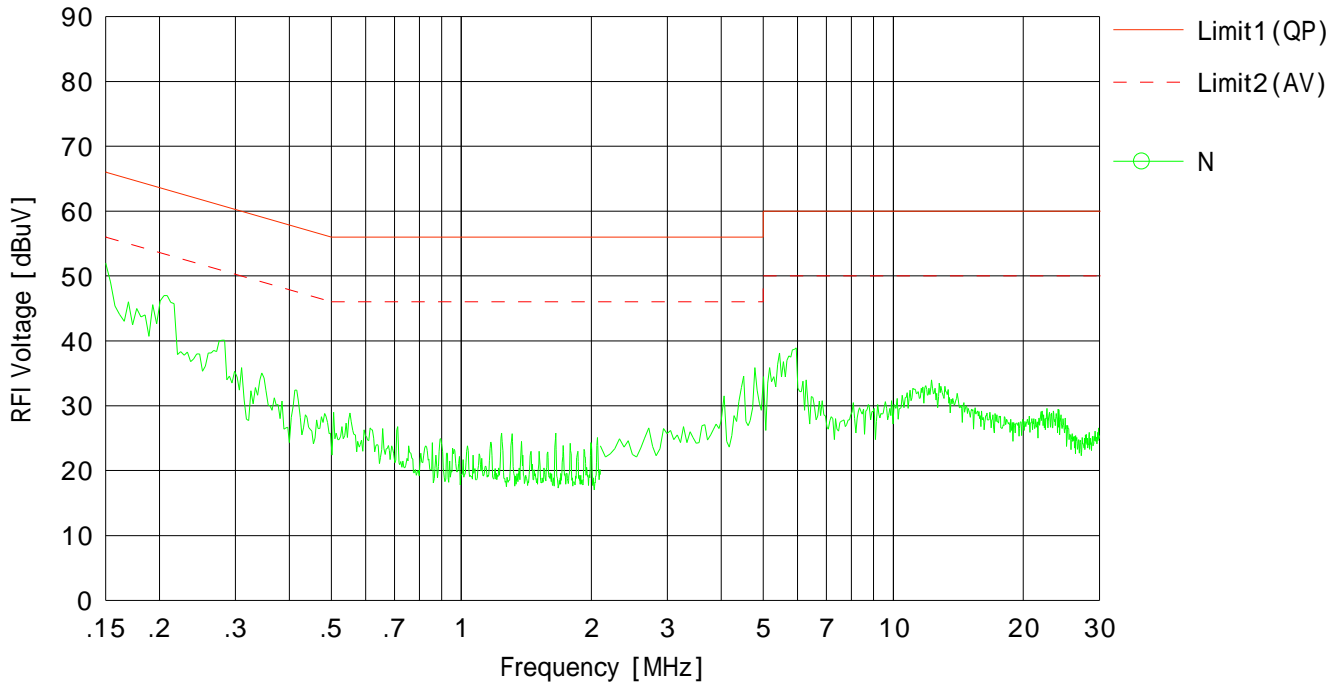
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11n-40 Tx 2422MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2010/02/03

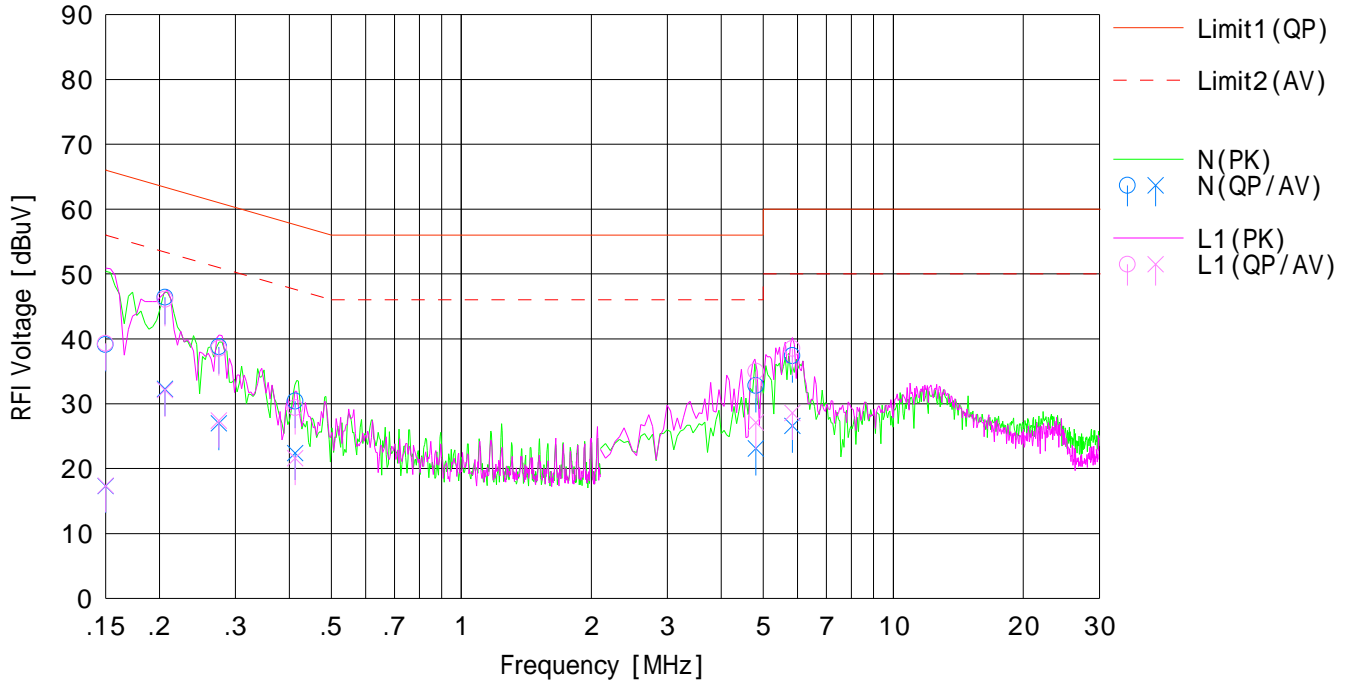
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11n-40 Tx 2437MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	29.4	7.6	9.7	39.1	17.3	66.0	56.0	26.9	38.7	N	
2	0.20609	36.7	22.6	9.7	46.4	32.3	63.4	53.4	17.0	21.1	N	
3	0.27458	29.1	17.3	9.7	38.8	27.0	61.0	51.0	22.2	24.0	N	
4	0.41226	20.7	12.7	9.7	30.4	22.4	57.6	47.6	27.2	25.2	N	
5	4.80680	22.8	13.1	10.0	32.8	23.1	56.0	46.0	23.2	22.9	N	
6	5.83677	27.4	16.6	10.0	37.4	26.6	60.0	50.0	22.6	23.4	N	
7	0.15000	29.6	7.7	9.7	39.3	17.4	66.0	56.0	26.7	38.6	L1	
8	0.20609	36.4	22.4	9.7	46.1	32.1	63.4	53.4	17.3	21.3	L1	
9	0.27458	28.8	17.7	9.7	38.5	27.4	61.0	51.0	22.5	23.6	L1	
10	0.41226	19.7	11.9	9.7	29.4	21.6	57.6	47.6	28.2	26.0	L1	
11	4.80680	25.0	17.1	10.0	35.0	27.1	56.0	46.0	21.0	18.9	L1	
12	5.83677	28.5	18.6	10.0	38.5	28.6	60.0	50.0	21.5	21.4	L1	

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

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Date : 2010/02/03

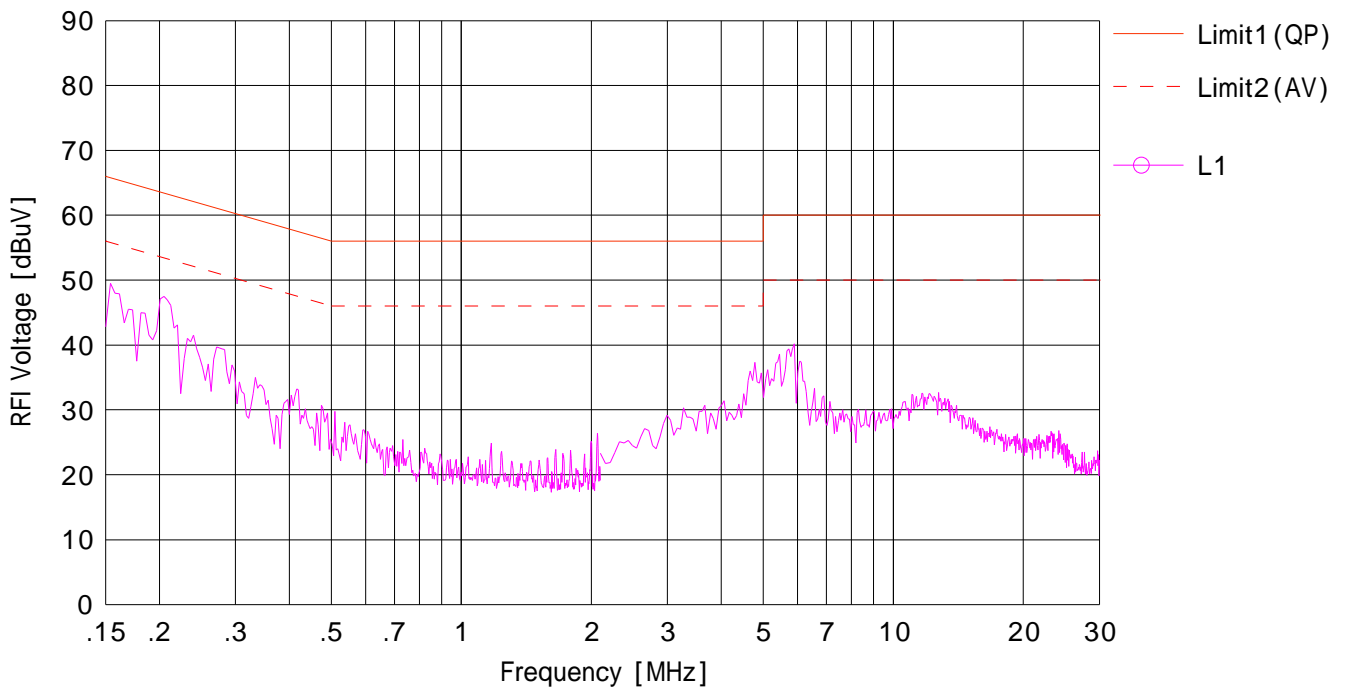
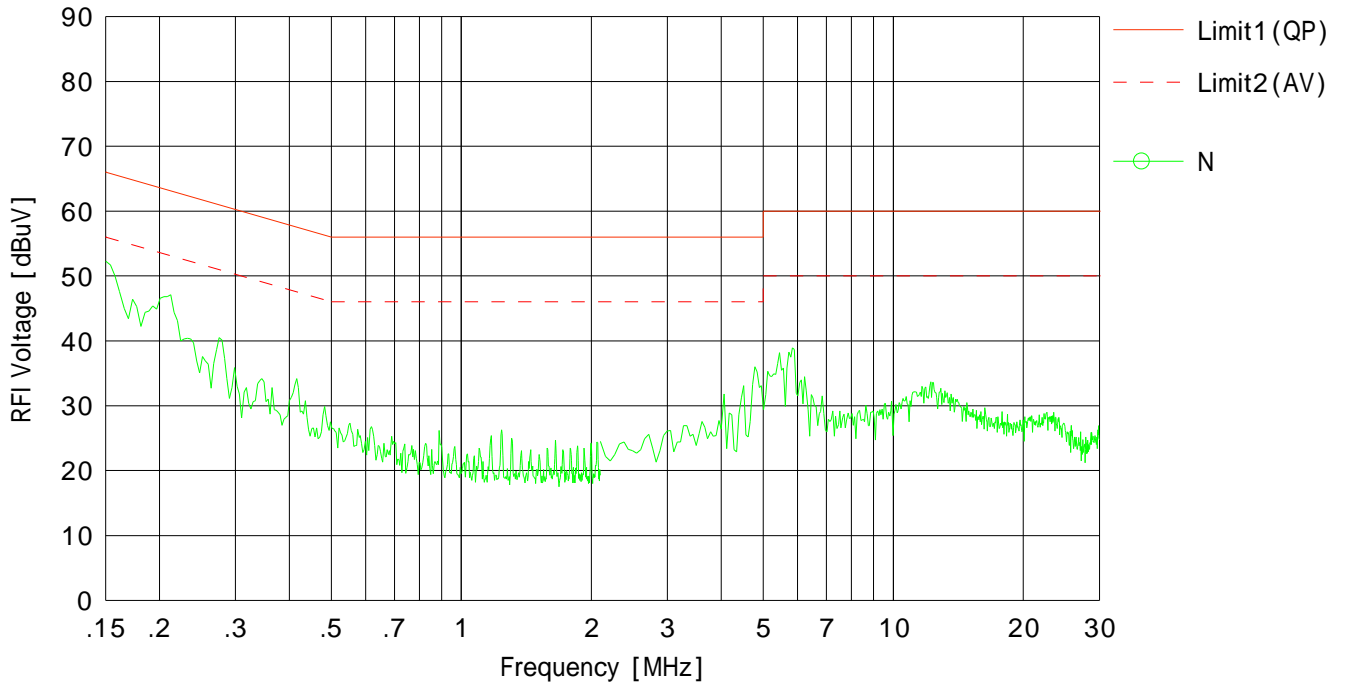
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30326
Serial No. : A0011

Mode : 11n-40 Tx 2452MHz
Report No. : 30FE0016-SH-01-A
Power : AC120V/60Hz
Temp./Humi. : 20deg.C/30%

Remarks : -

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

Engineer : Tatsuya Arai



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

6dB Bandwidth

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2010/2/2
Temperature / Humidity 23deg.C. , 35%
Engineer Tatsuya Arai
Mode Tx,

11b

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	9.593	>500
2437	9.597	>500
2462	9.570	>500

11g

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	16.446	>500
2437	16.440	>500
2462	16.459	>500

11n-20

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	16.446	>500
2437	17.678	>500
2462	17.690	>500

11n-40

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2422	36.420	>500
2437	36.420	>500
2452	36.405	>500

UL Japan, Inc.

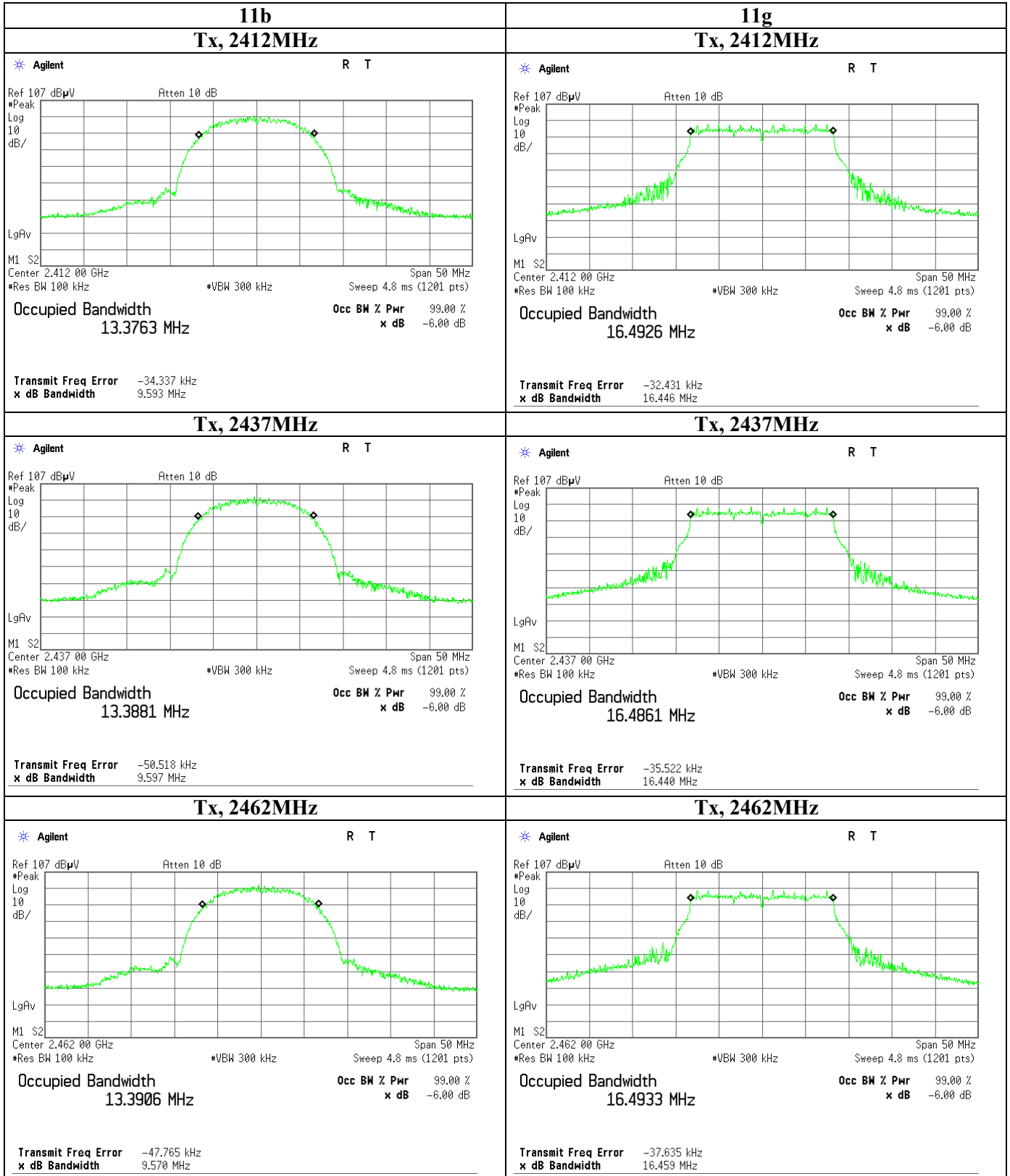
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

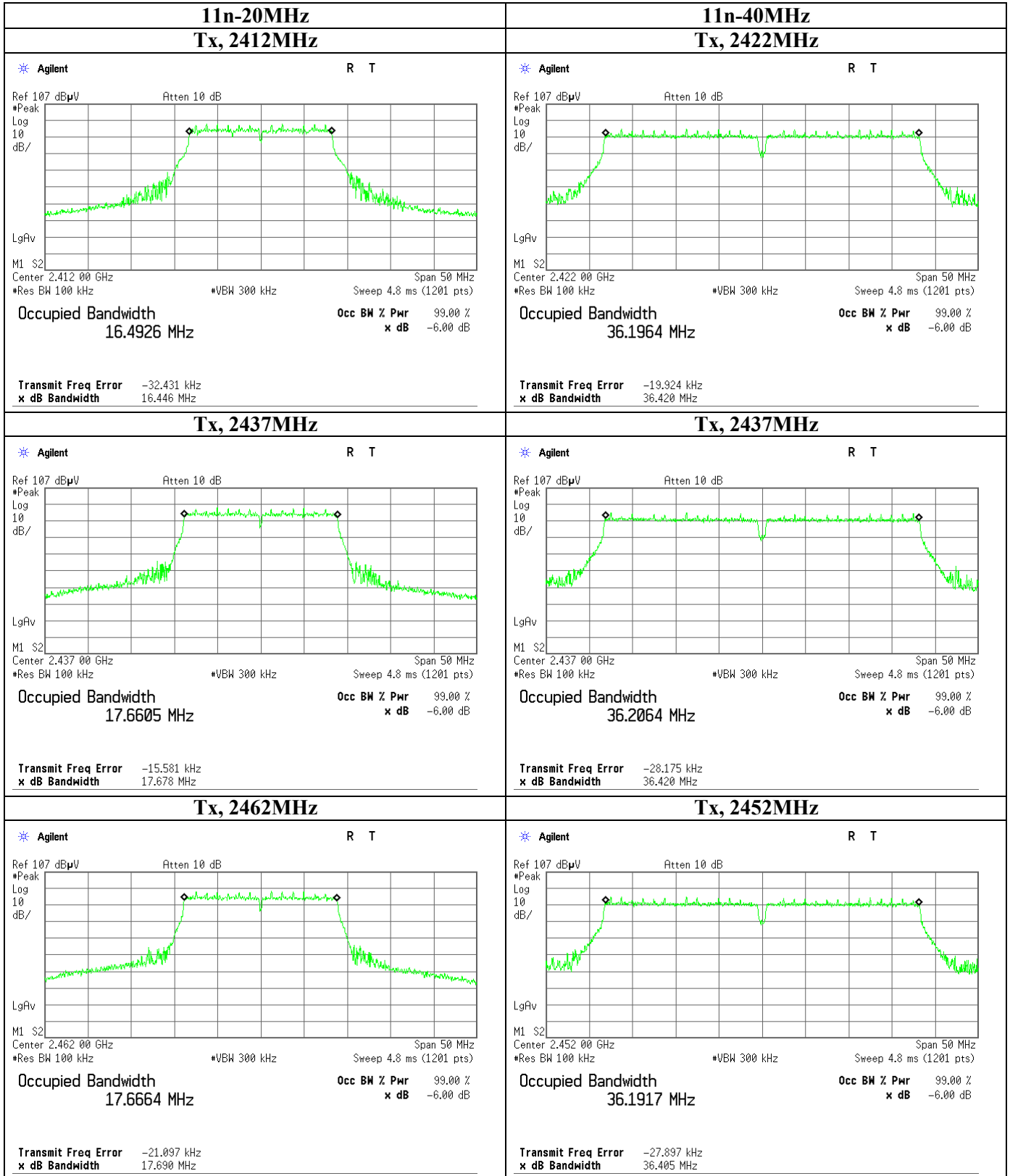
6dB Bandwidth



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 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

6dB Bandwidth



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Shonan EMC Lab.

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 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2010/2/1
Temperature / Humidity 24deg.C. , 31%
Engineer Tatsuya Arai
Mode Tx,
 11b,

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	3.20	1.05	9.99	14.24	26.55	30.00	1000	15.76
Mid	2437.0	4.51	1.05	10.00	15.56	35.97	30.00	1000	14.44
High	2462.0	4.44	1.04	10.00	15.48	35.32	30.00	1000	14.52

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.

[Pre check]

Data Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
1	2412.0	3.11	1.05	9.99	14.15	26.00	30.00	1000	15.85
2	2412.0	3.16	1.05	9.99	14.20	26.30	30.00	1000	15.80
5.5	2412.0	3.15	1.05	9.99	14.19	26.24	30.00	1000	15.81
11	2412.0	3.20	1.05	9.99	14.24	26.55	30.00	1000	15.76

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

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2010/2/1
Temperature / Humidity 24deg.C. , 31%
Engineer Tatsuya Arai
Mode Tx,
 11g,

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	10.21	1.05	9.99	21.25	133.35	30.00	1000	8.75
Mid	2437.0	10.57	1.05	10.00	21.62	145.21	30.00	1000	8.38
High	2462.0	10.43	1.04	10.00	21.47	140.28	30.00	1000	8.53

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.

[Pre check]

Data Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
6	2412.0	9.95	1.05	9.99	20.99	125.60	30.00	1000	9.01
9	2412.0	10.21	1.05	9.99	21.25	133.35	30.00	1000	8.75
12	2412.0	10.08	1.05	9.99	21.12	129.42	30.00	1000	8.88
18	2412.0	9.65	1.05	9.99	20.69	117.22	30.00	1000	9.31
24	2412.0	10.12	1.05	9.99	21.16	130.62	30.00	1000	8.84
36	2412.0	10.04	1.05	9.99	21.08	128.23	30.00	1000	8.92
48	2412.0	9.89	1.05	9.99	20.93	123.88	30.00	1000	9.07
54	2412.0	9.64	1.05	9.99	20.68	116.95	30.00	1000	9.32

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

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2010/2/1
Temperature / Humidity 24deg.C. , 31%
Engineer Tatsuya Arai
Mode Tx,
 11n-20MHz,

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	9.82	1.05	9.99	20.86	121.90	30.00	1000	9.14
Mid	2437.0	10.26	1.05	10.00	21.31	135.21	30.00	1000	8.69
High	2462.0	10.43	1.04	10.00	21.47	140.28	30.00	1000	8.53

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.

[Pre check]

Data Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
MCS0	2412.0	9.82	1.05	9.99	20.86	121.90	30.00	1000	9.14
MCS1	2412.0	9.15	1.05	9.99	20.19	104.47	30.00	1000	9.81
MCS2	2412.0	9.52	1.05	9.99	20.56	113.76	30.00	1000	9.44
MCS3	2412.0	9.18	1.05	9.99	20.22	105.20	30.00	1000	9.78
MCS4	2412.0	9.39	1.05	9.99	20.43	110.41	30.00	1000	9.57
MCS5	2412.0	9.26	1.05	9.99	20.30	107.15	30.00	1000	9.70
MCS6	2412.0	9.65	1.05	9.99	20.69	117.22	30.00	1000	9.31
MCS7	2412.0	9.35	1.05	9.99	20.39	109.40	30.00	1000	9.61

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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2010/2/1
Temperature / Humidity 24deg.C. , 31%
Engineer Tatsuya Arai
Mode Tx,
 11n-40MHz,

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2422.0	10.40	1.05	10.00	21.45	139.64	30.00	1000	8.55
Mid	2437.0	10.53	1.05	10.00	21.58	143.88	30.00	1000	8.42
High	2452.0	10.45	1.04	10.00	21.49	140.93	30.00	1000	8.51

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.

[Pre check]

Data Rate	Freq.	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[Mbps]	[MHz]	[dBm]	[mW]	
MCS0	2422.0	10.40	1.05	10.00	21.45	139.64	30.00	1000	8.55
MCS1	2422.0	10.17	1.05	10.00	21.22	132.43	30.00	1000	8.78
MCS2	2422.0	10.04	1.05	10.00	21.09	128.53	30.00	1000	8.91
MCS3	2422.0	10.19	1.05	10.00	21.24	133.05	30.00	1000	8.76
MCS4	2422.0	10.11	1.05	10.00	21.16	130.62	30.00	1000	8.84
MCS5	2422.0	10.14	1.05	10.00	21.19	131.52	30.00	1000	8.81
MCS6	2422.0	9.97	1.05	10.00	21.02	126.47	30.00	1000	8.98
MCS7	2422.0	10.02	1.05	10.00	21.07	127.94	30.00	1000	8.93

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Facsimile : +81 463 50 6401

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2412 MHz
 11b

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.	130.167	QP	41.2	13.7	7.3	32.0	30.2	43.5	13.3	239	84	
Hori.	215.975	QP	40.3	16.9	7.9	32.0	33.1	43.5	10.4	161	94	
Hori.	320.001	QP	39.8	14.2	8.4	31.9	30.5	46.0	15.5	102	227	
Hori.	2390.000	PK	53.4	27.6	13.4	39.8	54.6	74.0	19.4	100	129	
Hori.	4824.000	PK	56.4	30.7	5.7	39.5	53.3	74.0	20.7	102	191	
Hori.	7236.000	PK	47.2	36.0	7.1	38.4	51.9	74.0	22.1	100	0	
Hori.	9648.000	PK	49.1	38.4	7.8	36.9	58.4	74.0	15.6	102	272	
Hori.	12060.000	PK	45.9	39.7	9.2	37.9	56.9	74.0	17.1	100	0	
Hori.	19296.000	PK	57.7	40.5	-2.9	47.8	47.5	74.0	26.5	100	10	
Hori.	2390.000	AV	41.1	27.6	13.4	39.8	42.3	54.0	11.7	100	129	VBW : 500Hz
Hori.	4824.000	AV	47.0	30.7	5.7	39.5	43.9	54.0	10.1	102	191	VBW : 500Hz
Hori.	7236.000	AV	35.5	36.0	7.1	38.4	40.2	54.0	13.8	100	0	VBW : 500Hz
Hori.	9648.000	AV	41.9	38.4	7.8	36.9	51.2	54.0	2.8	102	272	VBW : 500Hz
Hori.	12060.000	AV	34.1	39.7	9.2	37.9	45.1	54.0	8.9	100	0	VBW : 500Hz
Hori.	19296.000	AV	55.3	40.5	-2.9	47.8	45.1	54.0	8.9	100	10	VBW : 10Hz
Vert.	51.831	QP	47.3	11.1	6.7	32.1	33.0	40.0	7.0	100	176	
Vert.	128.920	QP	41.7	13.6	7.3	32.0	30.6	43.5	12.9	100	17	
Vert.	2390.000	PK	53.8	27.6	13.4	39.8	55.0	74.0	19.0	103	152	
Vert.	4824.000	PK	57.5	30.7	5.7	39.5	54.4	74.0	19.6	102	84	
Vert.	7236.000	PK	47.1	36.0	7.1	38.4	51.8	74.0	22.2	100	0	
Vert.	9648.000	PK	48.4	38.4	7.8	36.9	57.7	74.0	16.3	118	69	
Vert.	12060.000	PK	45.9	39.7	9.2	37.9	56.9	74.0	17.1	100	0	
Vert.	19296.000	PK	56.1	40.5	-2.9	47.8	45.9	74.0	28.2	103	93	
Vert.	2390.000	AV	41.4	27.6	13.4	39.8	42.6	54.0	11.4	103	152	VBW : 500Hz
Vert.	4824.000	AV	47.7	30.7	5.7	39.5	44.6	54.0	9.4	102	84	VBW : 500Hz
Vert.	7236.000	AV	35.4	36.0	7.1	38.4	40.1	54.0	13.9	100	0	VBW : 500Hz
Vert.	9648.000	AV	40.2	38.4	7.8	36.9	49.5	54.0	4.5	118	69	VBW : 500Hz
Vert.	12060.000	AV	34.0	39.7	9.2	37.9	45.0	54.0	9.0	100	0	VBW : 500Hz
Vert.	19296.000	AV	53.2	40.5	-2.9	47.8	43.0	54.0	11.0	103	93	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Shonan EMC Lab.

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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2437 MHz
 11b

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.	130.167	QP	39.0	13.7	7.3	32.0	28.0	43.5	15.5	231	241	
Hori.	216.047	QP	39.2	16.9	7.9	32.0	32.0	46.0	14.0	170	94	
Hori.	319.998	QP	39.8	14.1	8.4	31.9	30.4	46.0	15.6	100	232	
Hori.	4874.000	PK	58.9	30.8	5.7	39.5	55.9	74.0	18.1	100	171	
Hori.	7311.000	PK	47.6	36.0	7.2	38.4	52.4	74.0	21.6	100	0	
Hori.	9748.000	PK	48.4	38.4	7.9	37.0	57.7	74.0	16.3	108	256	
Hori.	12185.000	PK	46.3	39.7	9.3	37.7	57.6	74.0	16.4	100	0	
Hori.	19496.000	PK	60.4	40.5	-2.9	47.8	50.2	74.0	23.8	102	47	
Hori.	4874.000	AV	50.3	30.8	5.7	39.5	47.3	54.0	6.7	100	171	VBW : 500Hz
Hori.	7311.000	AV	35.9	36.0	7.2	38.4	40.7	54.0	13.3	100	0	VBW : 500Hz
Hori.	9748.000	AV	41.8	38.4	7.9	37.0	51.1	54.0	2.9	108	256	VBW : 500Hz
Hori.	12185.000	AV	34.2	39.7	9.3	37.7	45.5	54.0	8.5	100	0	VBW : 500Hz
Hori.	19496.000	AV	58.7	40.5	-2.9	47.8	48.5	54.0	5.5	102	47	VBW : 10Hz
Vert.	51.658	QP	47.0	11.1	6.7	32.1	32.7	40.0	7.3	100	164	
Vert.	128.342	QP	39.6	13.6	7.3	32.0	28.5	43.5	15.0	100	358	
Vert.	4874.000	PK	60.8	30.8	5.7	39.5	57.8	74.0	16.2	100	86	
Vert.	7311.000	PK	48.0	36.0	7.2	38.4	52.8	74.0	21.2	100	0	
Vert.	9748.000	PK	46.6	38.4	7.9	37.0	55.9	74.0	18.1	141	31	
Vert.	12185.000	PK	46.3	39.7	9.3	37.7	57.6	74.0	16.4	100	0	
Vert.	19496.000	PK	57.2	40.5	-2.9	47.8	47.0	74.0	27.0	100	5	
Vert.	4874.000	AV	52.0	30.8	5.7	39.5	49.0	54.0	5.0	100	86	VBW : 500Hz
Vert.	7311.000	AV	35.2	36.0	7.2	38.4	40.0	54.0	14.0	100	0	VBW : 500Hz
Vert.	9748.000	AV	38.0	38.4	7.9	37.0	47.3	54.0	6.7	141	31	VBW : 500Hz
Vert.	12185.000	AV	34.3	39.7	9.3	37.7	45.6	54.0	8.4	100	0	VBW : 500Hz
Vert.	19496.000	AV	54.9	40.5	-2.9	47.8	44.7	54.0	9.3	100	5	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2462 MHz
 11b

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.	130.167	QP	39.4	13.7	7.3	32.0	28.4	43.5	15.1	246	84	
Hori.	215.978	QP	43.6	16.9	7.9	32.0	36.4	43.5	7.1	155	103	
Hori.	320.000	QP	40.3	14.2	8.4	31.9	31.0	46.0	15.0	102	210	
Hori.	2483.500	PK	55.9	27.9	13.6	39.8	57.6	74.0	16.4	116	81	
Hori.	4924.000	PK	51.0	31.0	5.9	39.4	48.5	74.0	25.5	133	85	
Hori.	7386.000	PK	47.1	35.9	7.3	38.5	51.8	74.0	22.2	100	0	
Hori.	9848.000	PK	48.4	38.3	8.0	37.0	57.7	74.0	16.3	102	255	
Hori.	12310.000	PK	45.0	39.7	9.6	37.5	56.8	74.0	17.2	100	0	
Hori.	19696.000	PK	63.1	40.5	-2.8	47.7	53.1	74.0	20.9	101	46	
Hori.	2483.500	AV	41.4	27.9	13.6	39.8	43.1	54.0	10.9	116	81	VBW : 500Hz
Hori.	4924.000	AV	41.5	31.0	5.9	39.4	39.0	54.0	15.0	133	85	VBW : 500Hz
Hori.	7386.000	AV	35.3	35.9	7.3	38.5	40.0	54.0	14.0	100	0	VBW : 500Hz
Hori.	9848.000	AV	42.8	38.3	8.0	37.0	52.1	54.0	1.9	102	255	VBW : 500Hz
Hori.	12310.000	AV	34.2	39.7	9.6	37.5	46.0	54.0	8.0	100	0	VBW : 500Hz
Hori.	19696.000	AV	60.8	40.5	-2.8	47.7	50.8	54.0	3.2	101	46	VBW : 10Hz
Vert.	51.660	QP	47.0	11.1	6.7	32.1	32.7	40.0	7.3	100	177	
Vert.	128.587	QP	40.0	13.6	7.3	32.0	28.9	43.5	14.6	100	359	
Vert.	2483.500	PK	53.5	27.9	13.6	39.8	55.2	74.0	18.8	100	150	
Vert.	4924.000	PK	60.9	31.0	5.9	39.4	58.4	74.0	15.6	100	93	
Vert.	7386.000	PK	47.1	35.9	7.3	38.5	51.8	74.0	22.2	100	0	
Vert.	9848.000	PK	50.1	38.3	8.0	37.0	59.4	74.0	14.6	122	77	
Vert.	12310.000	PK	45.6	39.7	9.6	37.5	57.4	74.0	16.6	100	0	
Vert.	19696.000	PK	58.6	40.5	-2.8	47.7	48.6	74.0	25.4	100	2	
Vert.	2483.500	AV	39.4	27.9	13.6	39.8	41.1	54.0	12.9	100	150	VBW : 500Hz
Vert.	4924.000	AV	52.4	31.0	5.9	39.4	49.9	54.0	4.1	100	93	VBW : 500Hz
Vert.	7386.000	AV	35.1	35.9	7.3	38.5	39.8	54.0	14.2	100	0	VBW : 500Hz
Vert.	9848.000	AV	43.1	38.3	8.0	37.0	52.4	54.0	1.6	122	77	VBW : 500Hz
Vert.	12310.000	AV	34.2	39.7	9.6	37.5	46.0	54.0	8.0	100	0	VBW : 500Hz
Vert.	19696.000	AV	56.6	40.5	-2.8	47.7	46.6	54.0	7.4	100	2	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2412 MHz
 11g

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.	130.100	QP	37.8	13.7	7.3	32.0	26.8	43.5	16.7	132	233	
Hori.	218.381	QP	38.4	16.9	7.9	32.0	31.2	46.0	14.8	154	99	
Hori.	320.003	QP	40.7	14.2	8.4	31.9	31.4	46.0	14.6	102	234	
Hori.	2390.000	PK	64.2	27.6	13.4	39.8	65.4	74.0	8.6	118	79	
Hori.	4824.000	PK	55.3	30.7	5.7	39.5	52.2	74.0	21.8	100	173	
Hori.	7236.000	PK	47.6	36.0	7.1	38.4	52.3	74.0	21.7	100	0	
Hori.	9648.000	PK	48.2	38.4	7.8	36.9	57.5	74.0	16.5	116	265	
Hori.	12060.000	PK	45.6	39.7	9.2	37.9	56.6	74.0	17.4	100	0	
Hori.	19296.000	PK	58.4	40.5	-2.9	47.8	48.2	74.0	25.8	101	11	
Hori.	2390.000	AV	49.1	27.6	13.4	39.8	50.3	54.0	3.7	118	79	VBW : 500Hz
Hori.	4824.000	AV	41.2	30.7	5.7	39.5	38.1	54.0	15.9	100	173	VBW : 500Hz
Hori.	7236.000	AV	35.5	36.0	7.1	38.4	40.2	54.0	13.8	100	0	VBW : 500Hz
Hori.	9648.000	AV	41.4	38.4	7.8	36.9	50.7	54.0	3.3	116	265	VBW : 500Hz
Hori.	12060.000	AV	33.9	39.7	9.2	37.9	44.9	54.0	9.1	100	0	VBW : 500Hz
Hori.	19296.000	AV	55.9	40.5	-2.9	47.8	45.7	54.0	8.3	101	11	VBW : 10Hz
Vert.	51.974	QP	47.1	11.0	6.7	32.1	32.7	40.0	7.3	100	171	
Vert.	130.301	QP	38.4	13.7	7.3	32.0	27.4	43.5	16.1	100	71	
Vert.	2390.000	PK	62.1	27.6	13.4	39.8	63.3	74.0	10.7	102	152	
Vert.	4824.000	PK	58.7	30.7	5.7	39.5	55.6	74.0	18.4	104	84	
Vert.	7236.000	PK	47.7	36.0	7.1	38.4	52.4	74.0	21.6	100	0	
Vert.	9648.000	PK	49.9	38.4	7.8	36.9	59.2	74.0	14.8	158	59	
Vert.	12060.000	PK	46.6	39.7	9.2	37.9	57.6	74.0	16.4	100	0	
Vert.	19296.000	PK	56.6	40.5	-2.9	47.8	46.4	74.0	27.6	103	90	
Vert.	2390.000	AV	47.4	27.6	13.4	39.8	48.6	54.0	5.4	102	152	VBW : 500Hz
Vert.	4824.000	AV	44.5	30.7	5.7	39.5	41.4	54.0	12.6	104	84	VBW : 500Hz
Vert.	7236.000	AV	35.6	36.0	7.1	38.4	40.3	54.0	13.7	100	0	VBW : 500Hz
Vert.	9648.000	AV	43.1	38.4	7.8	36.9	52.4	54.0	1.6	158	59	VBW : 500Hz
Vert.	12060.000	AV	33.9	39.7	9.2	37.9	44.9	54.0	9.1	100	0	VBW : 500Hz
Vert.	19296.000	AV	53.3	40.5	-2.9	47.8	43.1	54.0	10.9	103	90	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-26.5GHz 20log(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. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2437 MHz
 11g

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.	130.159	QP	39.2	13.7	7.3	32.0	28.2	43.5	15.3	141	241	
Hori.	216.662	QP	39.7	16.9	7.9	32.0	32.5	46.0	13.5	140	102	
Hori.	319.989	QP	40.5	14.1	8.4	31.9	31.1	46.0	14.9	100	219	
Hori.	4874.000	PK	59.0	30.8	5.7	39.5	56.0	74.0	18.0	101	191	
Hori.	7311.000	PK	48.0	36.0	7.2	38.4	52.8	74.0	21.2	100	0	
Hori.	9748.000	PK	48.6	38.4	7.9	37.0	57.9	74.0	16.1	124	140	
Hori.	12185.000	PK	45.6	39.7	9.3	37.7	56.9	74.0	17.1	100	0	
Hori.	19496.000	PK	60.4	40.5	-2.9	47.8	50.2	74.0	23.8	102	46	
Hori.	4874.000	AV	45.4	30.8	5.7	39.5	42.4	54.0	11.6	101	191	VBW : 500Hz
Hori.	7311.000	AV	35.4	36.0	7.2	38.4	40.2	54.0	13.8	100	0	VBW : 500Hz
Hori.	9748.000	AV	41.8	38.4	7.9	37.0	51.1	54.0	2.9	124	140	VBW : 500Hz
Hori.	12185.000	AV	34.2	39.7	9.3	37.7	45.5	54.0	8.5	100	0	VBW : 500Hz
Hori.	19496.000	AV	58.6	40.5	-2.9	47.8	48.4	54.0	5.6	102	46	VBW : 10Hz
Vert.	51.998	QP	47.4	11.0	6.7	32.1	33.0	40.0	7.0	100	151	
Vert.	130.323	QP	39.8	13.7	7.4	32.0	28.9	43.5	14.6	100	90	
Vert.	4874.000	PK	57.8	30.8	5.7	39.5	54.8	74.0	19.2	105	33	
Vert.	7311.000	PK	47.9	36.0	7.2	38.4	52.7	74.0	21.3	100	0	
Vert.	9748.000	PK	48.4	38.4	7.9	37.0	57.7	74.0	16.3	145	35	
Vert.	12185.000	PK	45.7	39.7	9.3	37.7	57.0	74.0	17.0	100	0	
Vert.	19496.000	PK	57.6	40.5	-2.9	47.8	47.4	74.0	26.6	103	95	
Vert.	4874.000	AV	45.3	30.8	5.7	39.5	42.3	54.0	11.7	105	33	VBW : 500Hz
Vert.	7311.000	AV	35.9	36.0	7.2	38.4	40.7	54.0	13.3	100	0	VBW : 500Hz
Vert.	9748.000	AV	41.6	38.4	7.9	37.0	50.9	54.0	3.1	145	35	VBW : 500Hz
Vert.	12185.000	AV	34.1	39.7	9.3	37.7	45.4	54.0	8.6	100	0	VBW : 500Hz
Vert.	19496.000	AV	54.8	40.5	-2.9	47.8	44.6	54.0	9.4	103	95	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Shonan EMC Lab.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2462 MHz
 11g

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.	130.147	QP	38.9	13.7	7.3	32.0	27.9	43.5	15.6	160	257	
Hori.	216.402	QP	39.8	16.9	7.9	32.0	32.6	46.0	13.4	150	97	
Hori.	320.000	QP	40.1	14.2	8.4	31.9	30.8	46.0	15.2	103	220	
Hori.	2483.500	PK	65.8	27.9	13.6	39.8	67.5	74.0	6.5	114	80	
Hori.	4924.000	PK	57.6	31.0	5.9	39.4	55.1	74.0	18.9	100	275	
Hori.	7386.000	PK	46.9	35.9	7.3	38.5	51.6	74.0	22.4	100	0	
Hori.	9848.000	PK	48.0	38.3	8.0	37.0	57.3	74.0	16.7	116	255	
Hori.	12310.000	PK	45.4	39.7	9.6	37.5	57.2	74.0	16.8	100	0	
Hori.	19696.000	PK	63.1	40.5	-2.8	47.7	53.1	74.0	20.9	102	45	
Hori.	2483.500	AV	51.9	27.9	13.6	39.8	53.6	54.0	0.4	114	80	VBW : 500Hz
Hori.	4924.000	AV	44.3	31.0	5.9	39.4	41.8	54.0	12.2	100	275	VBW : 500Hz
Hori.	7386.000	AV	35.1	35.9	7.3	38.5	39.8	54.0	14.2	100	0	VBW : 500Hz
Hori.	9848.000	AV	42.4	38.3	8.0	37.0	51.7	54.0	2.3	116	255	VBW : 500Hz
Hori.	12310.000	AV	33.9	39.7	9.6	37.5	45.7	54.0	8.3	100	0	VBW : 500Hz
Hori.	19696.000	AV	60.5	40.5	-2.8	47.7	50.5	54.0	3.5	102	45	VBW : 10Hz
Vert.	51.699	QP	47.2	11.1	6.7	32.1	32.9	40.0	7.1	100	139	
Vert.	130.320	QP	39.8	13.7	7.4	32.0	28.9	43.5	14.6	100	90	
Vert.	2483.500	PK	62.5	27.9	13.6	39.8	64.2	74.0	9.8	100	272	
Vert.	4924.000	PK	58.8	31.0	5.9	39.4	56.3	74.0	17.7	100	87	
Vert.	7386.000	PK	46.3	35.9	7.3	38.5	51.0	74.0	23.0	100	0	
Vert.	9848.000	PK	48.5	38.3	8.0	37.0	57.8	74.0	16.2	104	56	
Vert.	12310.000	PK	45.3	39.7	9.6	37.5	57.1	74.0	16.9	100	0	
Vert.	19696.000	PK	58.8	40.5	-2.8	47.7	48.8	74.0	25.2	104	87	
Vert.	2483.500	AV	48.6	27.9	13.6	39.8	50.3	54.0	3.7	100	272	VBW : 500Hz
Vert.	4924.000	AV	45.3	31.0	5.9	39.4	42.8	54.0	11.2	100	87	VBW : 500Hz
Vert.	7386.000	AV	35.2	35.9	7.3	38.5	39.9	54.0	14.1	100	0	VBW : 500Hz
Vert.	9848.000	AV	38.3	38.3	8.0	37.0	47.6	54.0	6.4	104	56	VBW : 500Hz
Vert.	12310.000	AV	34.5	39.7	9.6	37.5	46.3	54.0	7.7	100	0	VBW : 500Hz
Vert.	19696.000	AV	57.0	40.5	-2.8	47.7	47.0	54.0	7.0	104	87	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Facsimile : +81 463 50 6401

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/29
 Temperature / Humidity 22deg.C. , 35%
 Engineer Tatsuya Arai
 Mode Tx, 2412 MHz
 11n-20

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.	216.112	QP	41.4	16.9	7.9	32.0	34.2	46.0	11.8	154	111	
Hori.	319.999	QP	40.3	14.1	8.4	31.9	30.9	46.0	15.1	100	113	
Hori.	2390.000	PK	69.0	27.6	13.4	39.8	70.2	74.0	3.8	119	82	
Hori.	4824.000	PK	52.6	30.7	5.7	39.5	49.5	74.0	24.5	117	143	
Hori.	7236.000	PK	47.7	36.0	7.1	38.4	52.4	74.0	21.6	100	0	
Hori.	9648.000	PK	49.8	38.4	7.8	36.9	59.1	74.0	14.9	112	286	
Hori.	12060.000	PK	46.9	39.7	9.2	37.9	57.9	74.0	16.1	100	0	
Hori.	19296.000	PK	58.8	40.5	-2.9	47.8	48.6	74.0	25.4	100	12	
Hori.	2390.000	AV	49.6	27.6	13.4	39.8	50.8	54.0	3.2	119	82	VBW : 200Hz
Hori.	4824.000	AV	39.4	30.7	5.7	39.5	36.3	54.0	17.7	117	143	VBW : 200Hz
Hori.	7236.000	AV	35.6	36.0	7.1	38.4	40.3	54.0	13.8	100	0	VBW : 200Hz
Hori.	9648.000	AV	42.9	38.4	7.8	36.9	52.2	54.0	1.8	112	286	VBW : 200Hz
Hori.	12060.000	AV	34.4	39.7	9.2	37.9	45.4	54.0	8.6	100	0	VBW : 200Hz
Hori.	19296.000	AV	56.2	40.5	-2.9	47.8	46.0	54.0	8.0	100	12	VBW : 10Hz
Vert.	51.799	QP	47.3	11.1	6.7	32.1	33.0	40.0	7.0	100	141	
Vert.	130.100	QP	40.4	13.7	7.3	32.0	29.4	43.5	14.1	100	77	
Vert.	216.092	QP	39.5	16.9	7.9	32.0	32.3	46.0	13.7	100	275	
Vert.	2390.000	PK	67.7	27.6	13.4	39.8	68.9	74.0	5.1	104	160	
Vert.	4824.000	PK	55.2	30.7	5.7	39.5	52.1	74.0	21.9	101	93	
Vert.	7236.000	PK	48.5	36.0	7.1	38.4	53.2	74.0	20.8	100	0	
Vert.	9648.000	PK	49.0	38.4	7.8	36.9	58.3	74.0	15.7	109	106	
Vert.	12060.000	PK	46.5	39.7	9.2	37.9	57.5	74.0	16.5	100	0	
Vert.	19296.000	PK	56.1	40.5	-2.9	47.8	45.9	74.0	28.1	100	0	
Vert.	2390.000	AV	48.8	27.6	13.4	39.8	50.0	54.0	4.0	104	160	VBW : 200Hz
Vert.	4824.000	AV	41.8	30.7	5.7	39.5	38.7	54.0	15.3	101	93	VBW : 200Hz
Vert.	7236.000	AV	35.6	36.0	7.1	38.4	40.3	54.0	13.7	100	0	VBW : 200Hz
Vert.	9648.000	AV	40.7	38.4	7.8	36.9	50.0	54.0	4.0	109	106	VBW : 200Hz
Vert.	12060.000	AV	34.5	39.7	9.2	37.9	45.5	54.0	8.5	100	0	VBW : 200Hz
Vert.	19296.000	AV	53.0	40.5	-2.9	47.8	42.8	54.0	11.2	100	0	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/29
 Temperature / Humidity 22deg.C. , 35%
 Engineer Tatsuya Arai
 Mode Tx, 2437 MHz
 11n-20

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.	216.100	QP	40.9	16.9	7.9	32.0	33.7	46.0	12.3	140	89	
Hori.	320.001	QP	40.8	14.2	8.4	31.9	31.5	46.0	14.5	110	99	
Hori.	4874.000	PK	56.0	30.8	5.7	39.5	53.0	74.0	21.0	101	184	
Hori.	7311.000	PK	48.3	36.0	7.2	38.4	53.1	74.0	20.9	100	0	
Hori.	9748.000	PK	49.3	38.4	7.9	37.0	58.6	74.0	15.4	108	270	
Hori.	12185.000	PK	47.2	39.7	9.3	37.7	58.5	74.0	15.5	100	0	
Hori.	19496.000	PK	60.7	40.5	-2.9	47.8	50.5	74.0	23.5	103	44	
Hori.	4874.000	AV	41.9	30.8	5.7	39.5	38.9	54.0	15.1	101	184	VBW : 200Hz
Hori.	7311.000	AV	35.5	36.0	7.2	38.4	40.3	54.0	13.7	100	0	VBW : 200Hz
Hori.	9748.000	AV	41.9	38.4	7.9	37.0	51.2	54.0	2.8	108	270	VBW : 200Hz
Hori.	12185.000	AV	34.2	39.7	9.3	37.7	45.5	54.0	8.5	100	0	VBW : 200Hz
Hori.	19496.000	AV	58.7	40.5	-2.9	47.8	48.5	54.0	5.5	103	44	VBW : 10Hz
Vert.	51.832	QP	47.2	11.1	6.7	32.1	32.9	40.0	7.1	100	165	
Vert.	130.323	QP	41.0	13.7	7.4	32.0	30.1	43.5	13.4	100	78	
Vert.	216.311	QP	39.9	16.9	7.9	32.0	32.7	46.0	13.3	100	220	
Vert.	4874.000	PK	57.3	30.8	5.7	39.5	54.3	74.0	19.7	102	86	
Vert.	7311.000	PK	47.6	36.0	7.2	38.4	52.4	74.0	21.6	100	0	
Vert.	9748.000	PK	48.2	38.4	7.9	37.0	57.5	74.0	16.5	101	115	
Vert.	12185.000	PK	46.3	39.7	9.3	37.7	57.6	74.0	16.4	100	0	
Vert.	19496.000	PK	57.2	40.5	-2.9	47.8	47.0	74.0	27.0	100	0	
Vert.	4874.000	AV	43.3	30.8	5.7	39.5	40.3	54.0	13.7	102	86	VBW : 200Hz
Vert.	7311.000	AV	35.4	36.0	7.2	38.4	40.2	54.0	13.8	100	0	VBW : 200Hz
Vert.	9748.000	AV	38.7	38.4	7.9	37.0	48.0	54.0	6.0	101	115	VBW : 200Hz
Vert.	12185.000	AV	34.2	39.7	9.3	37.7	45.5	54.0	8.5	100	0	VBW : 200Hz
Vert.	19496.000	AV	54.5	40.5	-2.9	47.8	44.3	54.0	9.7	100	0	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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 Temperature / Humidity 22deg.C. , 35%
 Engineer Tatsuya Arai
 Mode Tx, 2462 MHz
 11n-20

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.	216.088	QP	39.9	16.9	7.9	32.0	32.7	46.0	13.3	153	107	
Hori.	319.999	QP	40.2	14.1	8.4	31.9	30.8	46.0	15.2	100	231	
Hori.	2483.500	PK	65.1	27.9	13.6	39.8	66.8	74.0	7.2	125	127	
Hori.	4924.000	PK	56.6	31.0	5.9	39.4	54.1	74.0	19.9	100	162	
Hori.	7386.000	PK	46.9	35.9	7.3	38.5	51.6	74.0	22.4	100	0	
Hori.	9848.000	PK	50.1	38.3	8.0	37.0	59.4	74.0	14.6	115	256	
Hori.	12310.000	PK	46.0	39.7	9.6	37.5	57.8	74.0	16.2	100	0	
Hori.	19696.000	PK	62.6	40.5	-2.8	47.7	52.6	74.0	21.4	104	46	
Hori.	2483.500	AV	48.6	27.9	13.6	39.8	50.3	54.0	3.7	125	127	VBW : 200Hz
Hori.	4924.000	AV	42.5	31.0	5.9	39.4	40.0	54.0	14.0	100	162	VBW : 200Hz
Hori.	7386.000	AV	35.0	35.9	7.3	38.5	39.7	54.0	14.3	100	0	VBW : 200Hz
Hori.	9848.000	AV	42.3	38.3	8.0	37.0	51.6	54.0	2.4	115	256	VBW : 200Hz
Hori.	12310.000	AV	33.9	39.7	9.6	37.5	45.7	54.0	8.3	100	0	VBW : 200Hz
Hori.	19696.000	AV	60.8	40.5	-2.8	47.7	50.8	54.0	3.2	104	46	VBW : 10Hz
Vert.	51.702	QP	47.1	11.1	6.7	32.1	32.8	40.0	7.2	100	151	
Vert.	128.697	QP	40.8	13.6	7.3	32.0	29.7	43.5	13.8	100	9	
Vert.	216.088	QP	37.6	16.9	7.9	32.0	30.4	46.0	15.6	100	271	
Vert.	2483.500	PK	66.4	27.9	13.6	39.8	68.1	74.0	5.9	100	276	
Vert.	4924.000	PK	58.2	31.0	5.9	39.4	55.7	74.0	18.3	100	85	
Vert.	7386.000	PK	47.8	35.9	7.3	38.5	52.5	74.0	21.6	100	0	
Vert.	9848.000	PK	47.6	38.3	8.0	37.0	56.9	74.0	17.1	100	114	
Vert.	12310.000	PK	46.1	39.7	9.6	37.5	57.9	74.0	16.1	100	0	
Vert.	19696.000	PK	59.2	40.5	-2.8	47.7	49.2	74.0	24.8	104	88	
Vert.	2483.500	AV	49.8	27.9	13.6	39.8	51.5	54.0	2.5	100	276	VBW : 200Hz
Vert.	4924.000	AV	44.6	31.0	5.9	39.4	42.1	54.0	11.9	100	85	VBW : 200Hz
Vert.	7386.000	AV	35.2	35.9	7.3	38.5	39.9	54.0	14.2	100	0	VBW : 200Hz
Vert.	9848.000	AV	38.5	38.3	8.0	37.0	47.8	54.0	6.2	100	114	VBW : 200Hz
Vert.	12310.000	AV	33.9	39.7	9.6	37.5	45.7	54.0	8.3	100	0	VBW : 200Hz
Vert.	19696.000	AV	56.9	40.5	-2.8	47.7	46.9	54.0	7.1	104	88	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-26.5GHz 20log(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. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2422 MHz
 11n-40

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.	130.892	QP	39.8	13.7	7.4	32.0	28.9	43.5	14.6	240	85	
Hori.	218.356	QP	39.3	16.9	7.9	32.0	32.1	46.0	13.9	154	96	
Hori.	320.002	QP	40.4	14.2	8.4	31.9	31.1	46.0	14.9	100	124	
Hori.	2390.000	PK	66.7	27.6	13.4	39.8	67.9	74.0	6.1	100	130	
Hori.	4844.000	PK	53.2	30.7	5.7	39.5	50.1	74.0	23.9	100	276	
Hori.	7266.000	PK	46.7	36.0	7.1	38.4	51.4	74.0	22.6	100	0	
Hori.	9688.000	PK	47.8	38.4	7.8	36.9	57.1	74.0	16.9	108	266	
Hori.	12110.000	PK	45.0	39.7	9.3	37.8	56.2	74.0	17.8	100	0	
Hori.	19376.000	PK	58.8	40.5	-2.9	47.8	48.6	74.0	25.4	100	11	
Hori.	2390.000	AV	52.0	27.6	13.4	39.8	53.2	54.0	0.8	100	130	VBW : 200Hz
Hori.	4844.000	AV	40.6	30.7	5.7	39.5	37.5	54.0	16.5	100	276	VBW : 200Hz
Hori.	7266.000	AV	35.3	36.0	7.1	38.4	40.0	54.0	14.0	100	0	VBW : 200Hz
Hori.	9688.000	AV	40.6	38.4	7.8	36.9	49.9	54.0	4.1	108	266	VBW : 200Hz
Hori.	12110.000	AV	34.0	39.7	9.3	37.8	45.2	54.0	8.8	100	0	VBW : 200Hz
Hori.	19376.000	AV	56.6	40.5	-2.9	47.8	46.3	54.0	7.7	100	11	VBW : 10Hz
Vert.	51.919	QP	47.2	11.0	6.7	32.1	32.8	40.0	7.2	100	143	
Vert.	128.868	QP	40.7	13.6	7.3	32.0	29.6	43.5	13.9	100	359	
Vert.	2390.000	PK	67.9	27.6	13.4	39.8	69.1	74.0	4.9	100	151	
Vert.	4844.000	PK	53.8	30.7	5.7	39.5	50.7	74.0	23.3	100	94	
Vert.	7266.000	PK	47.5	36.0	7.1	38.4	52.2	74.0	21.8	100	0	
Vert.	9688.000	PK	48.0	38.4	7.8	36.9	57.3	74.0	16.7	108	105	
Vert.	12110.000	PK	46.8	39.7	9.3	37.8	58.0	74.0	16.0	100	0	
Vert.	19376.000	PK	56.9	40.5	-2.9	47.8	46.6	74.0	27.4	100	0	
Vert.	2390.000	AV	52.2	27.6	13.4	39.8	53.4	54.0	0.6	100	151	VBW : 200Hz
Vert.	4844.000	AV	40.6	30.7	5.7	39.5	37.5	54.0	16.5	100	94	VBW : 200Hz
Vert.	7266.000	AV	35.0	36.0	7.1	38.4	39.7	54.0	14.3	100	0	VBW : 200Hz
Vert.	9688.000	AV	39.1	38.4	7.8	36.9	48.4	54.0	5.6	108	105	VBW : 200Hz
Vert.	12110.000	AV	33.8	39.7	9.3	37.8	45.0	54.0	9.0	100	0	VBW : 200Hz
Vert.	19376.000	AV	53.7	40.5	-2.9	47.8	43.5	54.0	10.5	100	0	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Facsimile : +81 463 50 6401

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29 2010/2/1
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35% 25deg.C. , 28%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2437 MHz
 11n-40

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.	130.853	QP	37.4	13.7	7.4	32.0	26.5	43.5	17.0	229	258	
Hori.	218.239	QP	37.2	16.9	7.9	32.0	30.0	46.0	16.0	150	277	
Hori.	319.996	QP	39.0	14.1	8.4	31.9	29.6	46.0	16.4	100	246	
Hori.	4874.000	PK	53.2	30.8	5.7	39.5	50.2	74.0	23.8	100	171	
Hori.	7311.000	PK	48.2	36.0	7.2	38.4	53.0	74.0	21.0	100	0	
Hori.	9748.000	PK	48.0	38.4	7.9	37.0	57.3	74.0	16.7	112	138	
Hori.	12185.000	PK	46.2	39.7	9.3	37.7	57.5	74.0	16.5	100	0	
Hori.	19496.000	PK	60.3	40.5	-2.9	47.8	50.1	74.0	23.9	102	46	
Hori.	4874.000	AV	39.9	30.8	5.7	39.5	36.9	54.0	17.1	100	171	VBW : 200Hz
Hori.	7311.000	AV	35.6	36.0	7.2	38.4	40.4	54.0	13.6	100	0	VBW : 200Hz
Hori.	9748.000	AV	42.3	38.4	7.9	37.0	51.6	54.0	2.4	112	138	VBW : 200Hz
Hori.	12185.000	AV	34.1	39.7	9.3	37.7	45.4	54.0	8.6	100	0	VBW : 200Hz
Hori.	19496.000	AV	58.2	40.5	-2.9	47.8	48.0	54.0	6.0	102	46	VBW : 10Hz
Vert.	52.282	QP	45.9	10.9	6.7	32.1	31.4	40.0	8.6	100	188	
Vert.	128.860	QP	43.2	13.6	7.3	32.0	32.1	43.5	11.4	100	184	
Vert.	4874.000	PK	52.2	30.8	5.7	39.5	49.2	74.0	24.8	121	158	
Vert.	7311.000	PK	47.1	36.0	7.2	38.4	51.9	74.0	22.1	100	0	
Vert.	9748.000	PK	47.0	38.4	7.9	37.0	56.3	74.0	17.7	123	76	
Vert.	12185.000	PK	46.0	39.7	9.3	37.7	57.3	74.0	16.7	100	0	
Vert.	19496.000	PK	57.0	40.5	-2.9	47.8	46.8	74.0	27.2	100	0	
Vert.	4874.000	AV	40.3	30.8	5.7	39.5	37.3	54.0	16.7	121	158	VBW : 200Hz
Vert.	7311.000	AV	35.4	36.0	7.2	38.4	40.2	54.0	13.8	100	0	VBW : 200Hz
Vert.	9748.000	AV	39.0	38.4	7.9	37.0	48.3	54.0	5.7	123	76	VBW : 200Hz
Vert.	12185.000	AV	34.0	39.7	9.3	37.7	45.3	54.0	8.7	100	0	VBW : 200Hz
Vert.	19496.000	AV	54.3	40.5	-2.9	47.8	44.1	54.0	9.9	100	0	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

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Facsimile : +81 463 50 6401

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date 2010/1/28 2010/1/29 2010/2/1
 Temperature / Humidity 25deg.C. , 23% 22deg.C. , 35% 25deg.C. , 28%
 Engineer Tatsuya Arai Tatsuya Arai
 Mode Tx, 2452 MHz
 11n-40

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.	130.867	QP	37.6	13.7	7.4	32.0	26.7	43.5	16.8	227	270	
Hori.	218.249	QP	36.3	16.9	7.9	32.0	29.1	46.0	16.9	155	254	
Hori.	319.993	QP	39.2	14.1	8.4	31.9	29.8	46.0	16.2	100	244	
Hori.	2483.500	PK	63.0	27.9	13.6	39.8	64.7	74.0	9.3	128	136	
Hori.	4904.000	PK	50.7	30.9	5.8	39.4	48.0	74.0	26.0	116	155	
Hori.	7356.000	PK	46.6	36.0	7.3	38.5	51.4	74.0	22.6	100	0	
Hori.	9808.000	PK	48.1	38.3	7.9	37.0	57.3	74.0	16.7	124	138	
Hori.	12260.000	PK	45.4	39.7	9.6	37.6	57.1	74.0	16.9	100	0	
Hori.	19616.000	PK	62.6	40.5	-2.8	47.7	52.6	74.0	21.4	103	44	
Hori.	2483.500	AV	48.5	27.9	13.6	39.8	50.2	54.0	3.8	128	136	VBW : 200Hz
Hori.	4904.000	AV	37.9	30.9	5.8	39.4	35.2	54.0	18.8	116	155	VBW : 200Hz
Hori.	7356.000	AV	34.8	36.0	7.3	38.5	39.6	54.0	14.4	100	0	VBW : 200Hz
Hori.	9808.000	AV	41.5	38.3	7.9	37.0	50.7	54.0	3.3	124	138	VBW : 200Hz
Hori.	12260.000	AV	33.8	39.7	9.6	37.6	45.5	54.0	8.5	100	0	VBW : 200Hz
Hori.	19616.000	AV	60.8	40.5	-2.8	47.7	50.8	54.0	3.2	103	44	VBW : 10Hz
Vert.	52.293	QP	46.0	10.9	6.7	32.1	31.5	40.0	8.5	100	192	
Vert.	128.859	QP	43.4	13.6	7.3	32.0	32.3	43.5	11.2	100	178	
Vert.	2483.500	PK	64.1	27.9	13.6	39.8	65.8	74.0	8.2	100	151	
Vert.	4904.000	PK	54.3	30.9	5.8	39.4	51.6	74.0	22.4	102	39	
Vert.	7356.000	PK	46.7	36.0	7.3	38.5	51.5	74.0	22.5	100	0	
Vert.	9808.000	PK	48.2	38.3	7.9	37.0	57.4	74.0	16.6	141	19	
Vert.	12260.000	PK	45.7	39.7	9.6	37.6	57.4	74.0	16.6	100	0	
Vert.	19616.000	PK	58.6	40.5	-2.8	47.7	48.6	74.0	25.4	100	0	
Vert.	2483.500	AV	51.0	27.9	13.6	39.8	52.7	54.0	1.3	100	151	VBW : 200Hz
Vert.	4904.000	AV	41.4	30.9	5.8	39.4	38.7	54.0	15.3	102	39	VBW : 200Hz
Vert.	7356.000	AV	35.4	36.0	7.3	38.5	40.2	54.0	13.8	100	0	VBW : 200Hz
Vert.	9808.000	AV	40.9	38.3	7.9	37.0	50.1	54.0	3.9	141	19	VBW : 200Hz
Vert.	12260.000	AV	33.8	39.7	9.6	37.6	45.5	54.0	8.5	100	0	VBW : 200Hz
Vert.	19616.000	AV	56.2	40.5	-2.8	47.7	46.2	54.0	7.8	100	0	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-26.5GHz 20log(3.0m/1.0m)= 9.5dB

UL Japan, Inc.

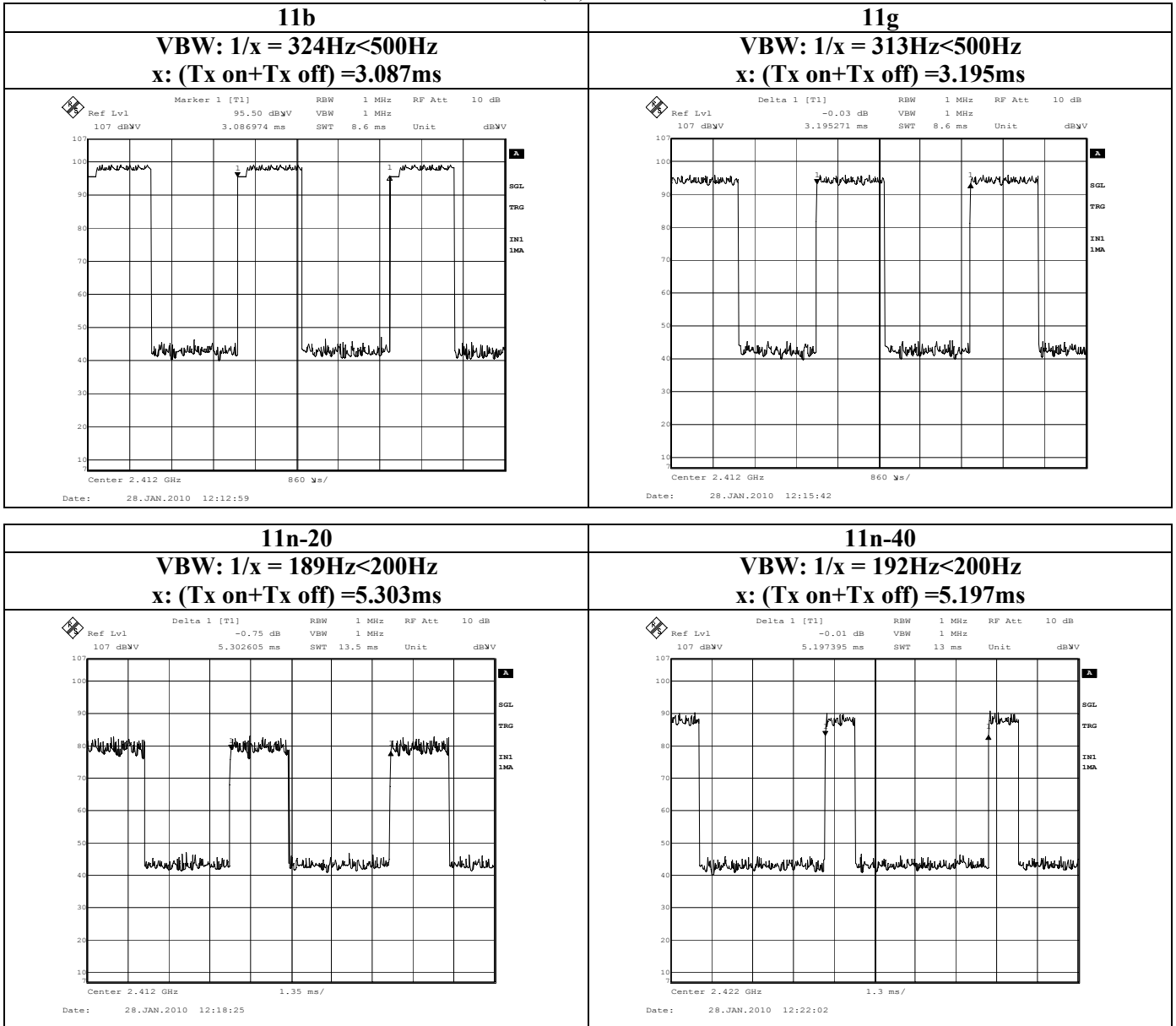
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Radiated)
 VBW (AV) Calculation



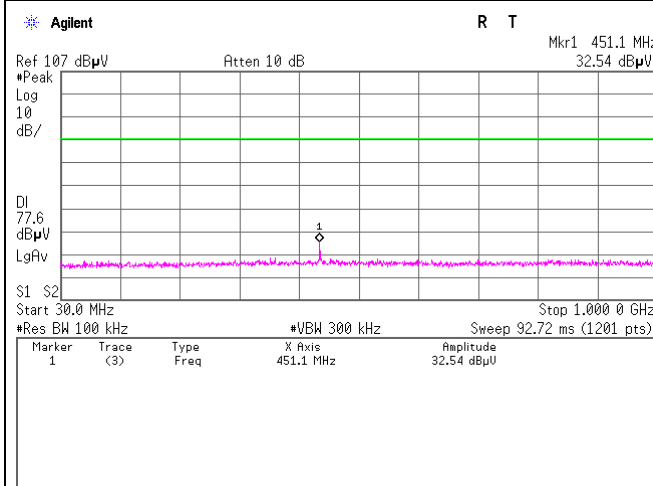
This purpose of the Duty Cycle calculation measures the pulse timing that we ensure Spectrum Analyzer can detect the pulse emission correctly. Therefore, if that pulse emission has the intervals during which the transmitter is off for the burst rate, we need to avoid the overlooking at the average value measurement as the similarly when the pulse is less than 20Hz. So if pulse cycle is every 10 msec, we set VBW=100Hz(=1000/10) in order not to overlook a pulse unexpectedly.

Spurious emission (Conducted)

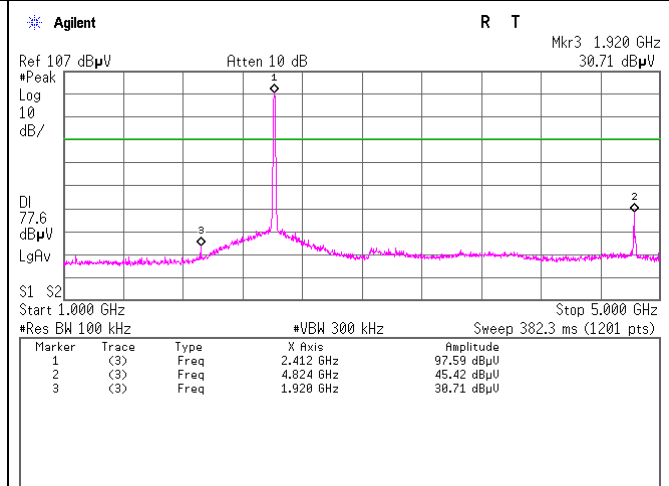
11b

Tx, 2412MHz

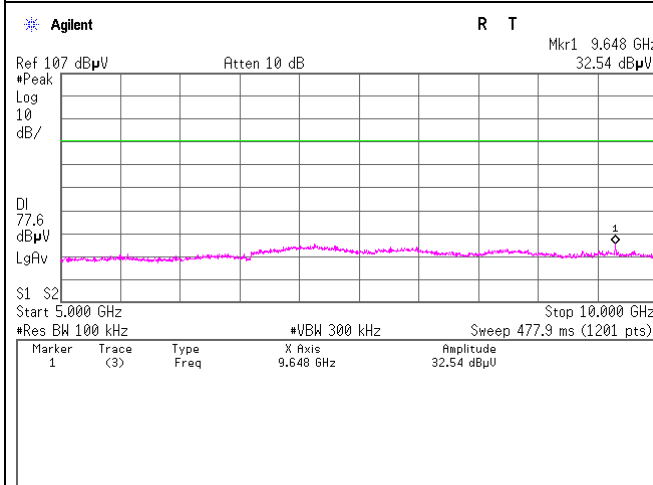
30MHz - 1GHz



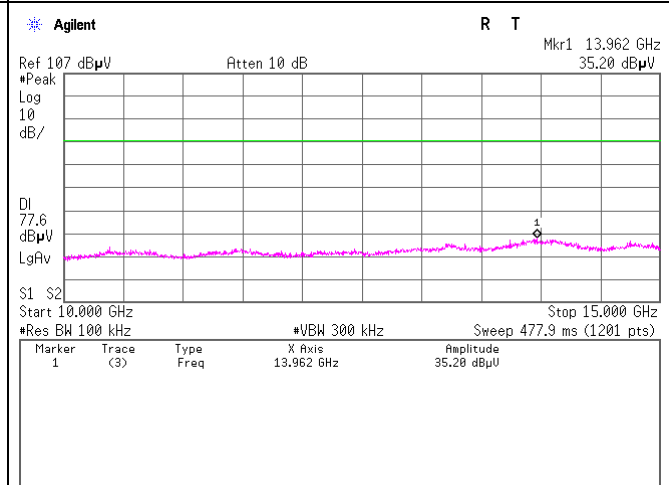
1GHz - 5GHz



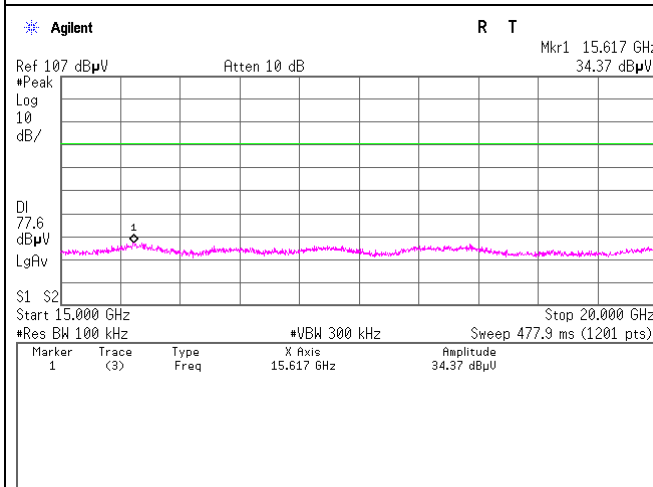
5GHz - 10GHz



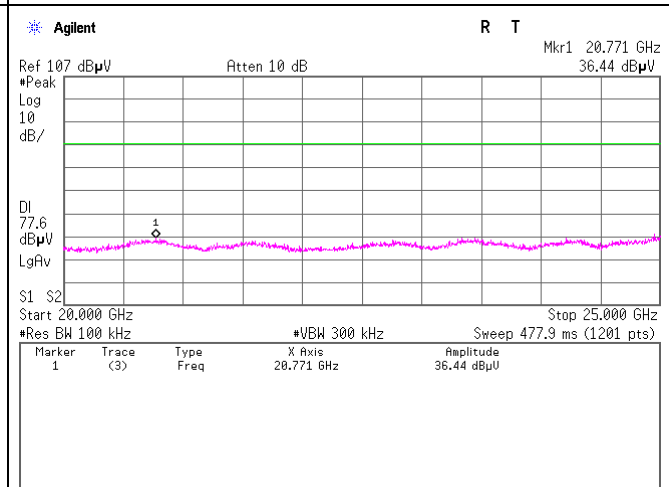
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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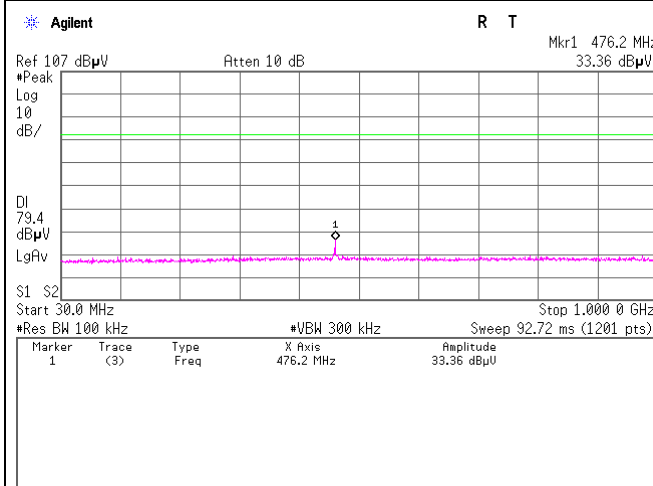
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

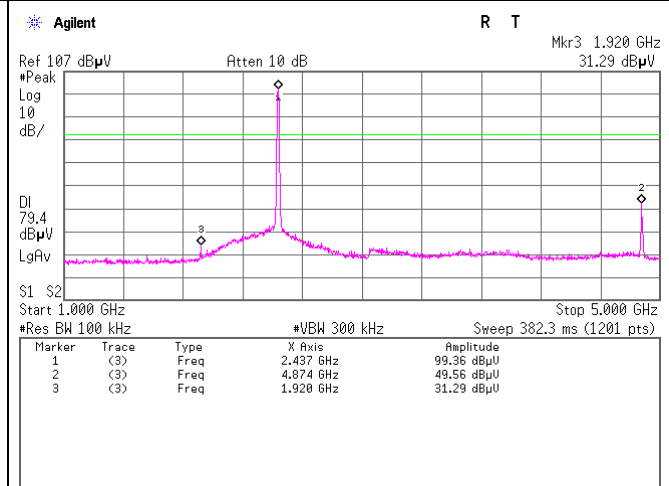
11b

Tx, 2437MHz

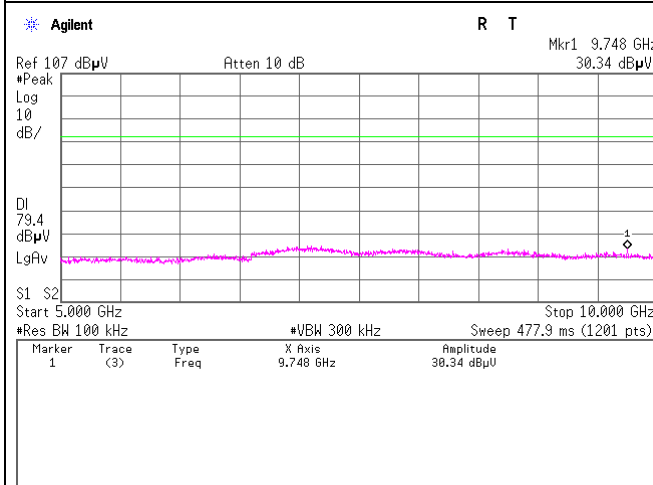
30MHz - 1GHz



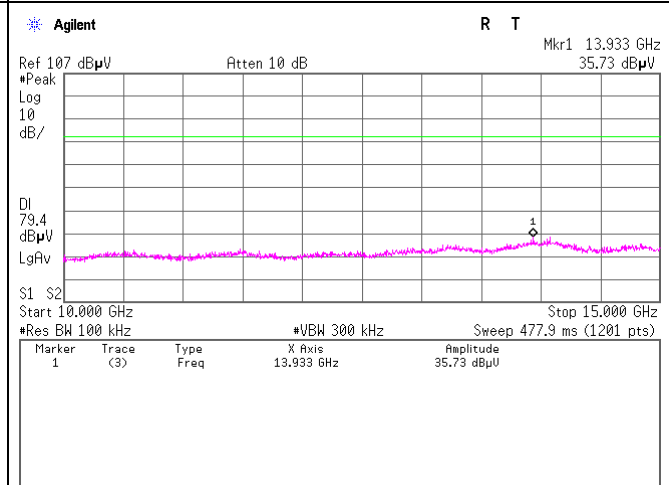
1GHz - 5GHz



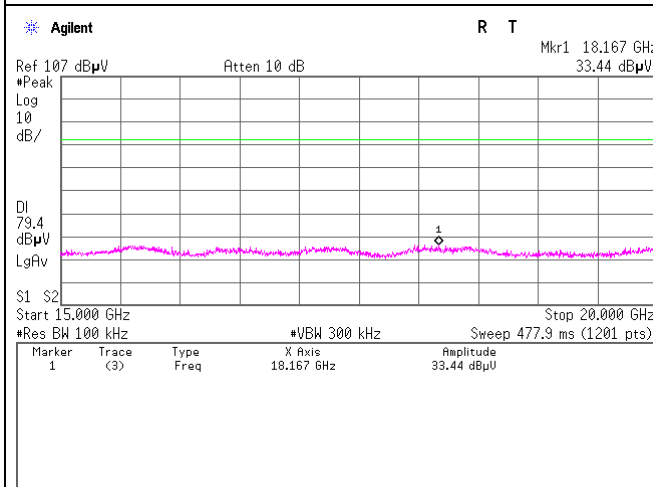
5GHz - 10GHz



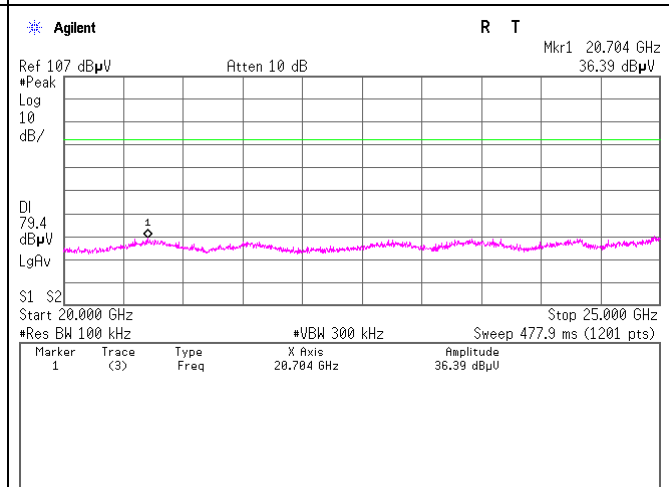
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



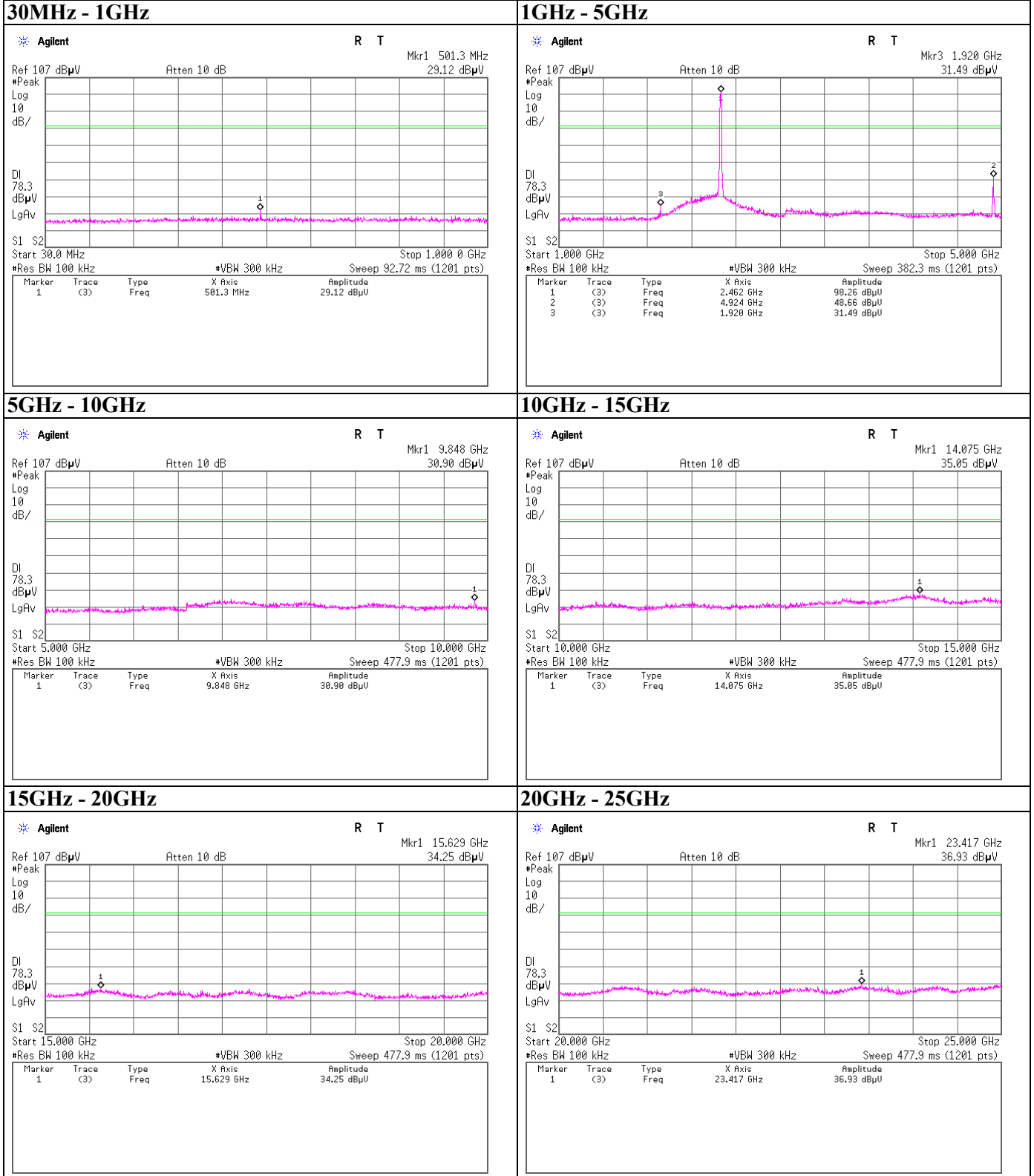
UL Japan, Inc.
Shonan EMC Lab.

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

Spurious emission (Conducted)

11b

Tx, 2462MHz

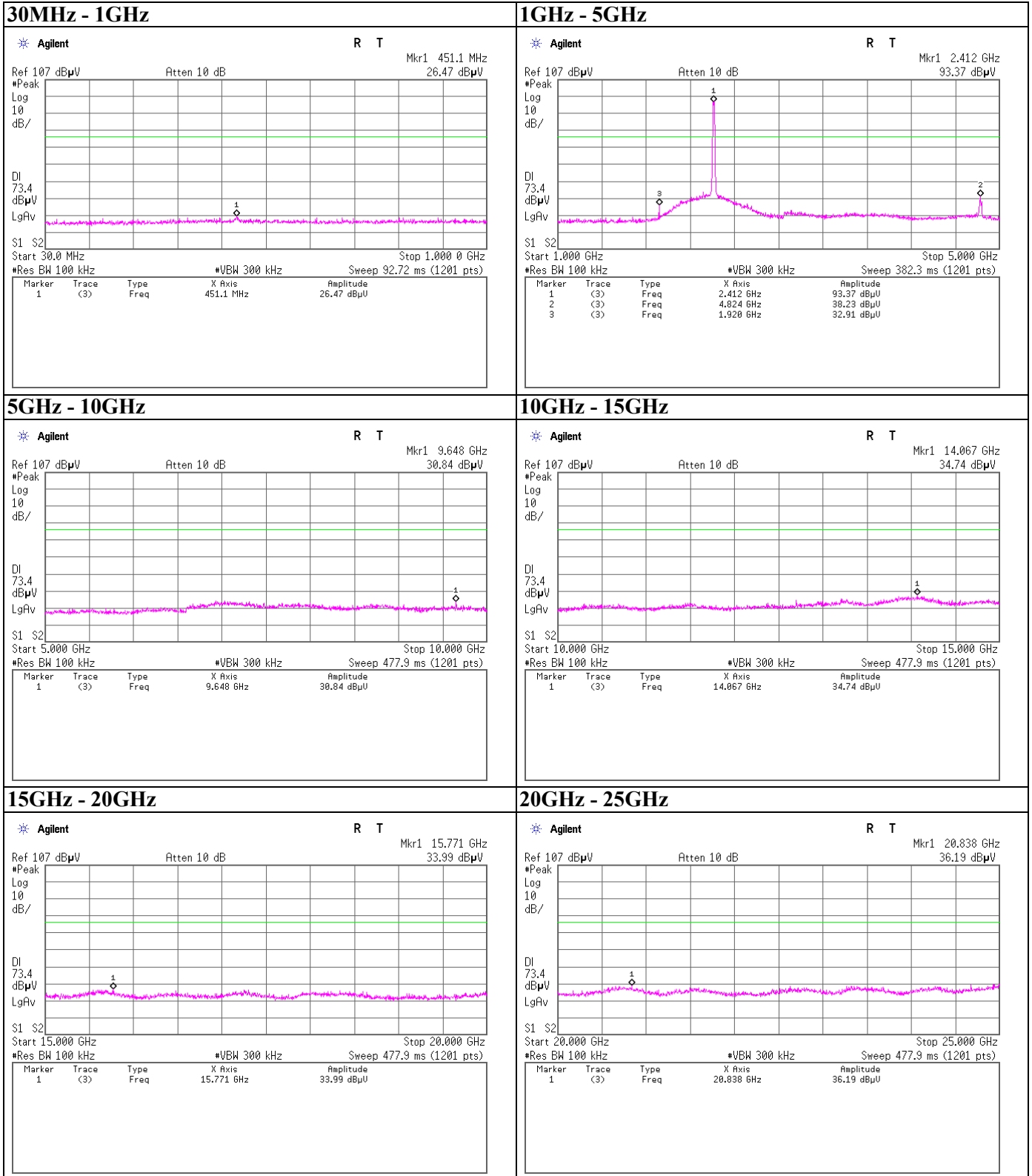


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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
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Spurious emission (Conducted)

11g
 Tx, 2412MHz



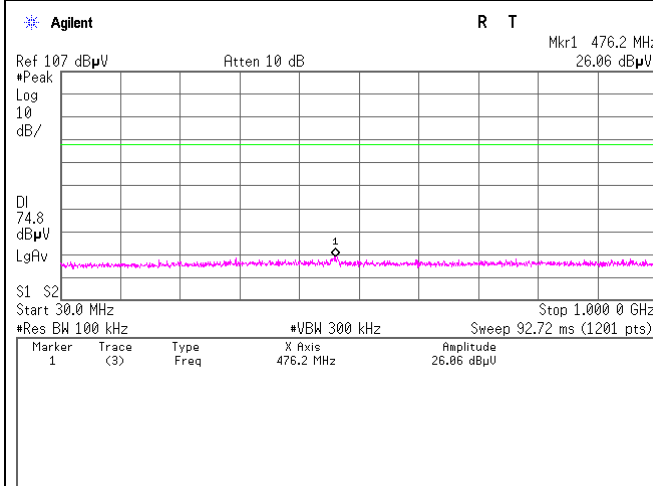
UL Japan, Inc.
Shonan EMC Lab.

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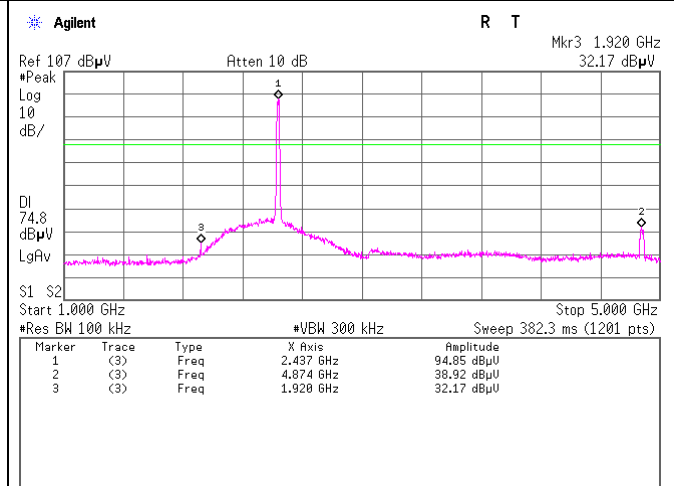
Spurious emission (Conducted)

11g
 Tx, 2437MHz

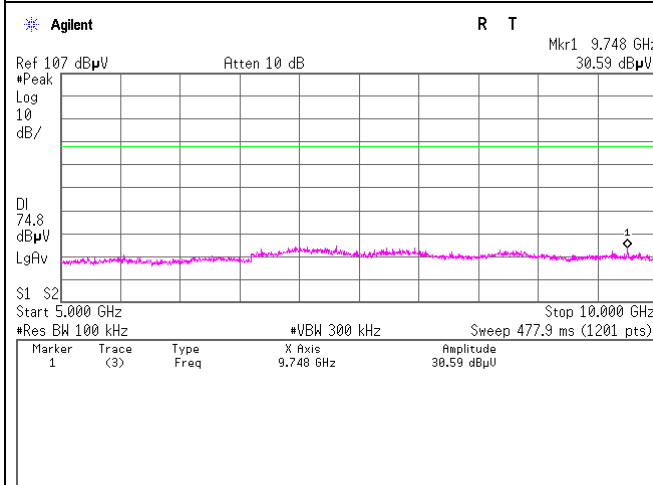
30MHz - 1GHz



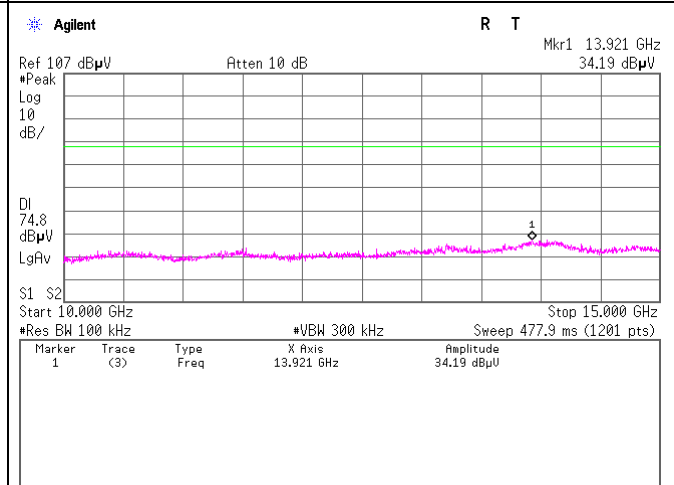
1GHz - 5GHz



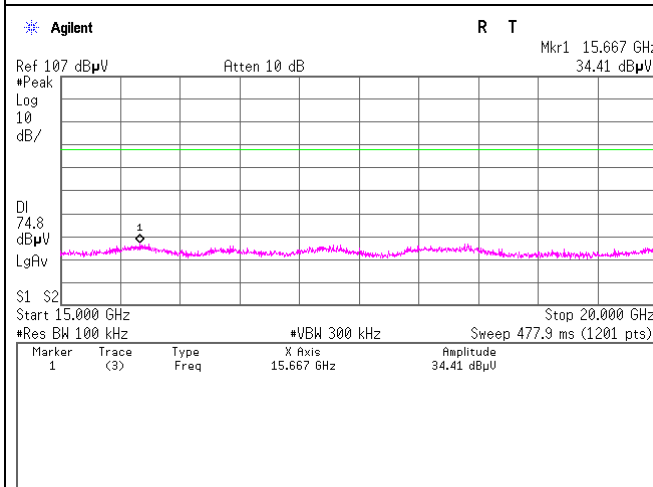
5GHz - 10GHz



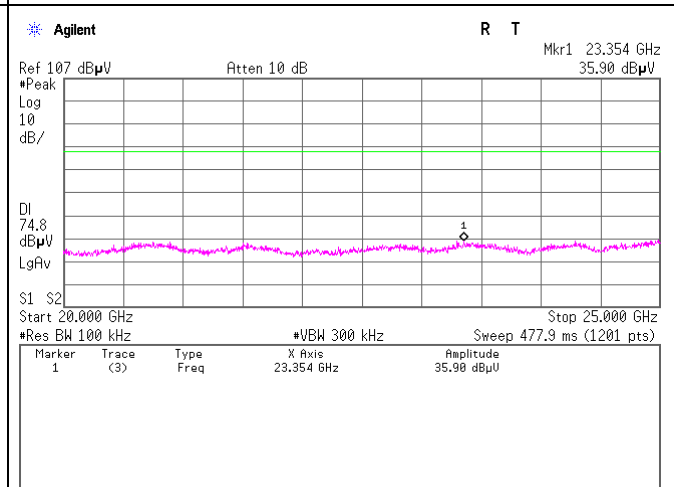
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz

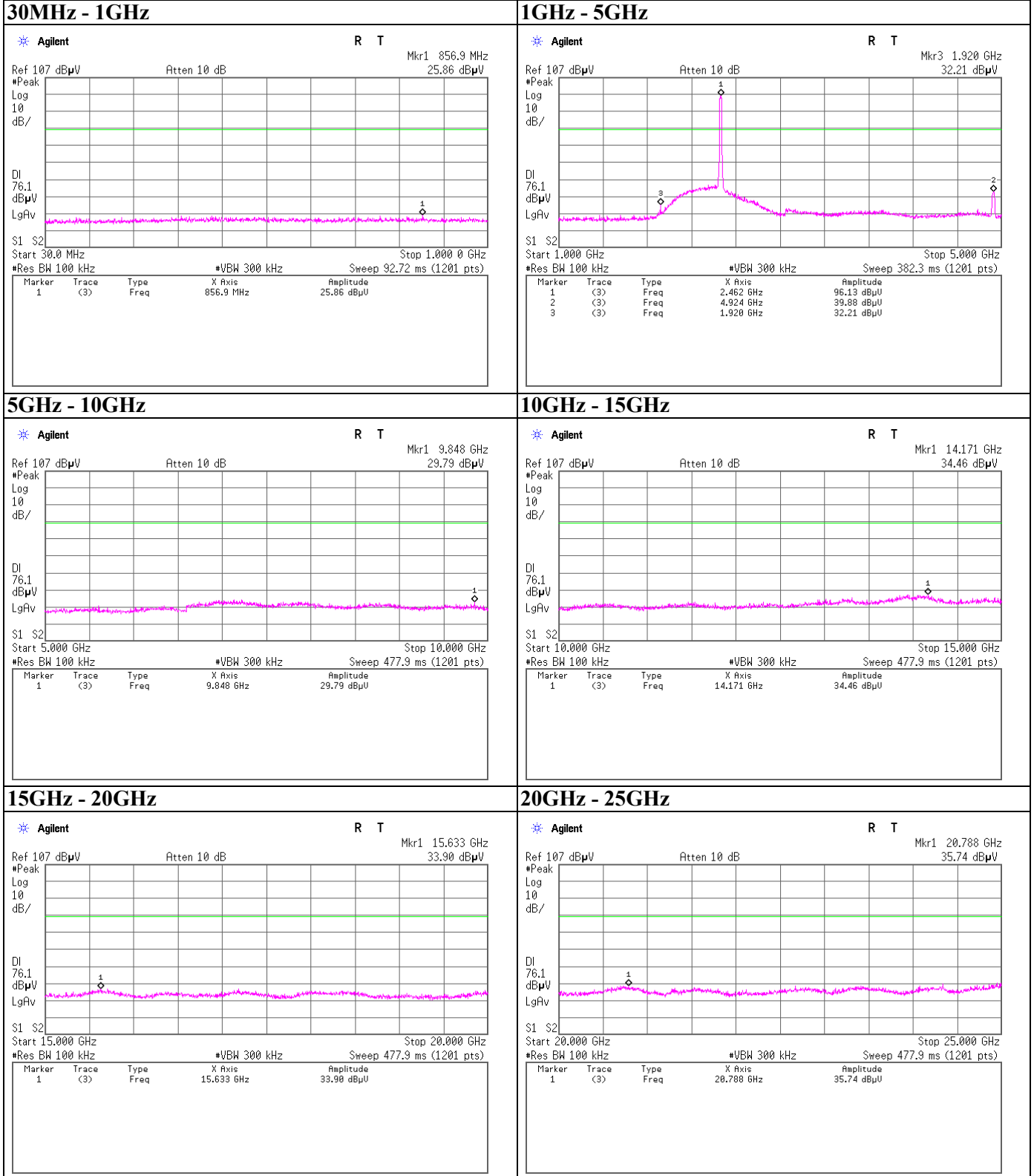


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Spurious emission (Conducted)

11g
 Tx, 2462MHz



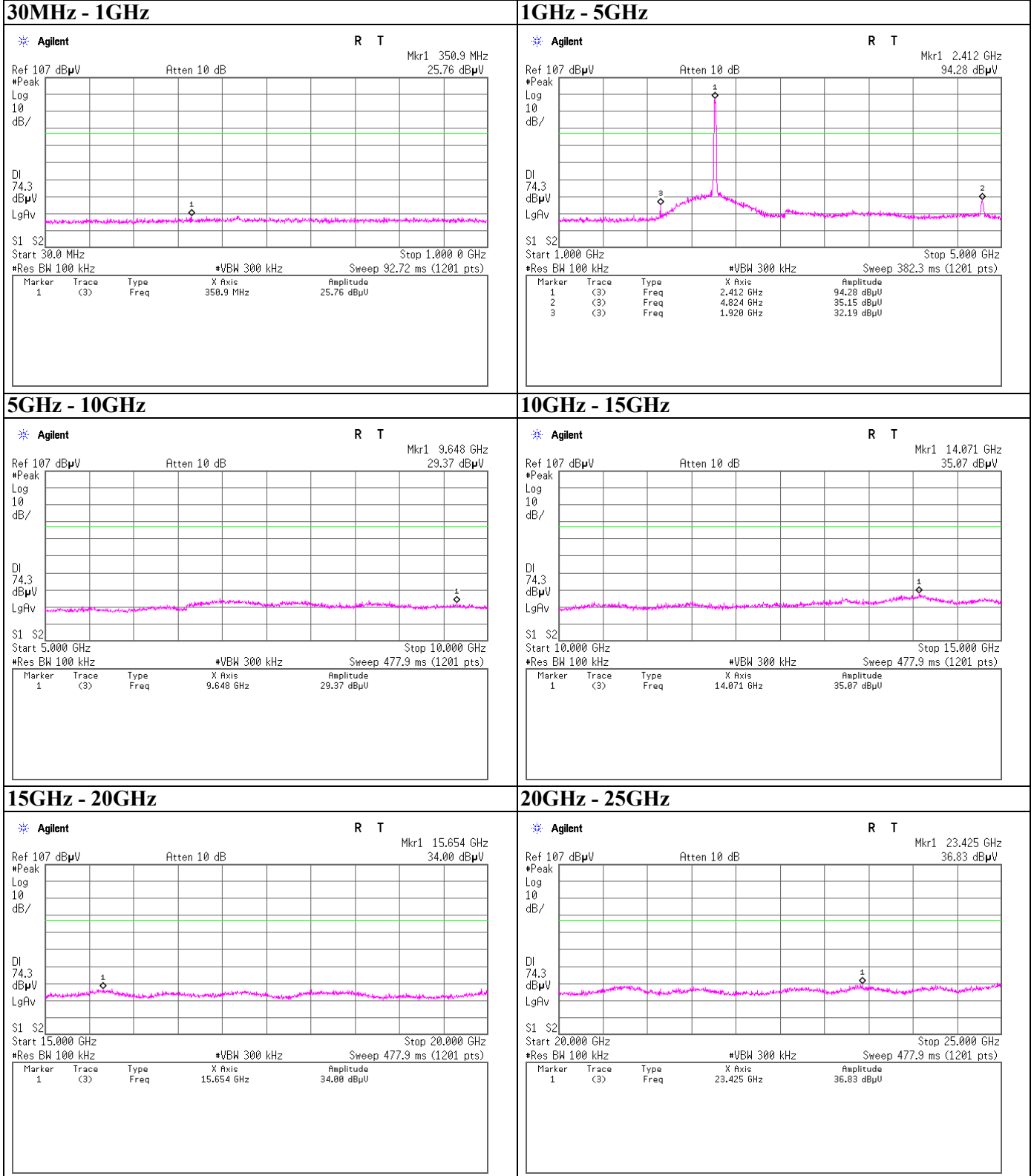
UL Japan, Inc.
Shonan EMC Lab.

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

Spurious emission (Conducted)

11n-20

Tx, 2412MHz



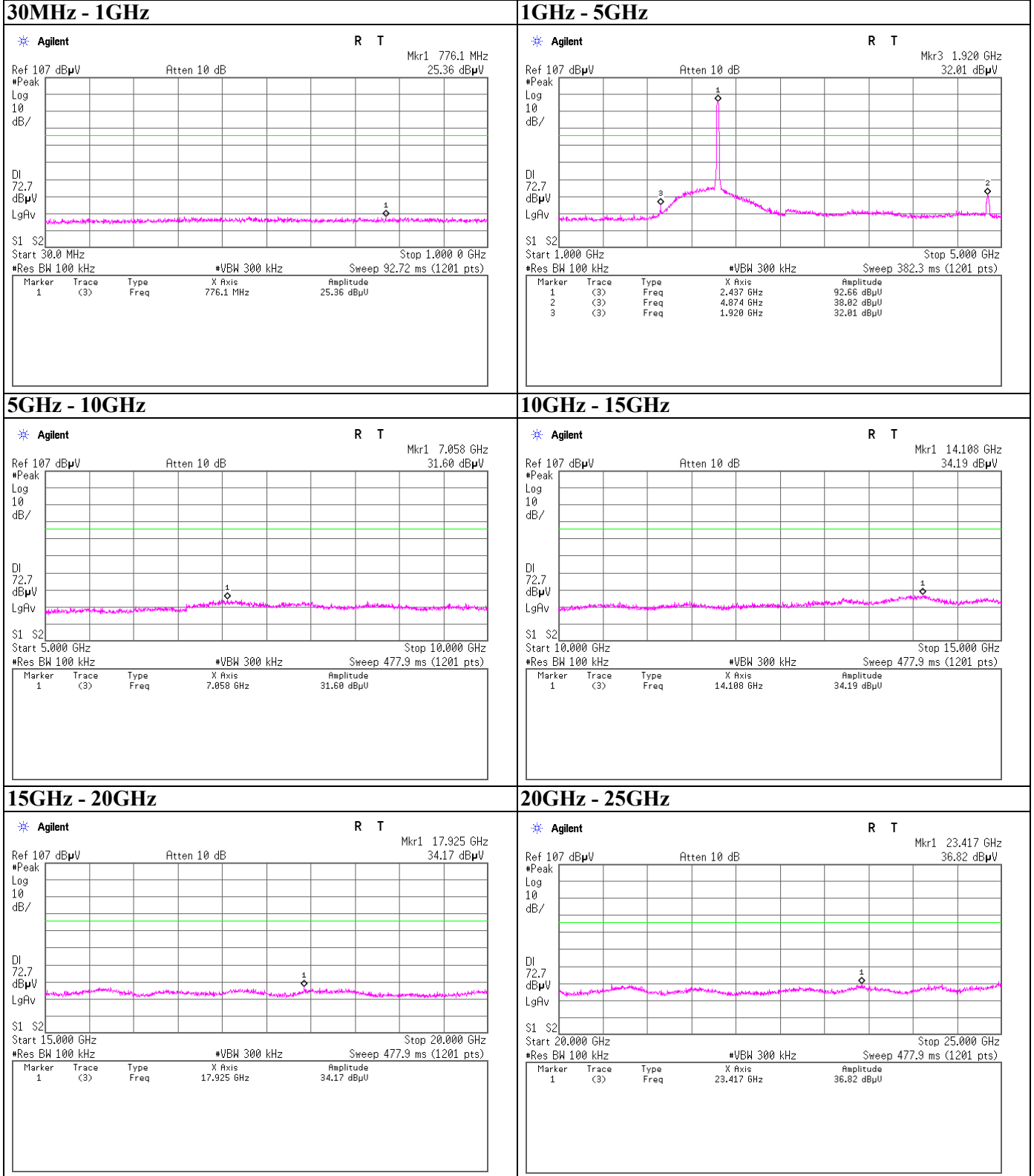
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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
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Spurious emission (Conducted)

11n-20

Tx, 2437MHz



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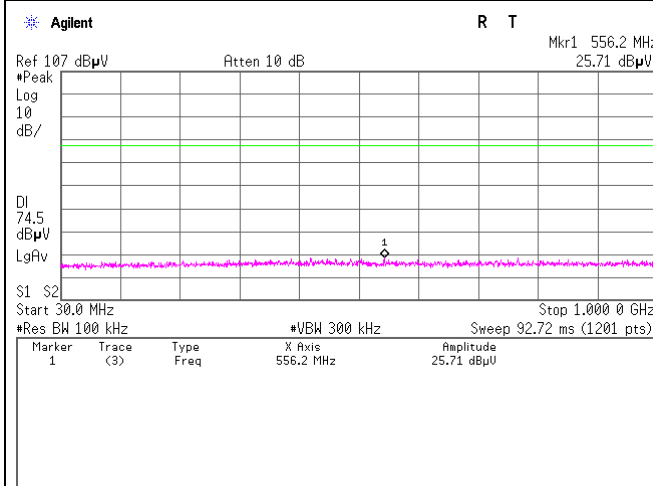
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 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

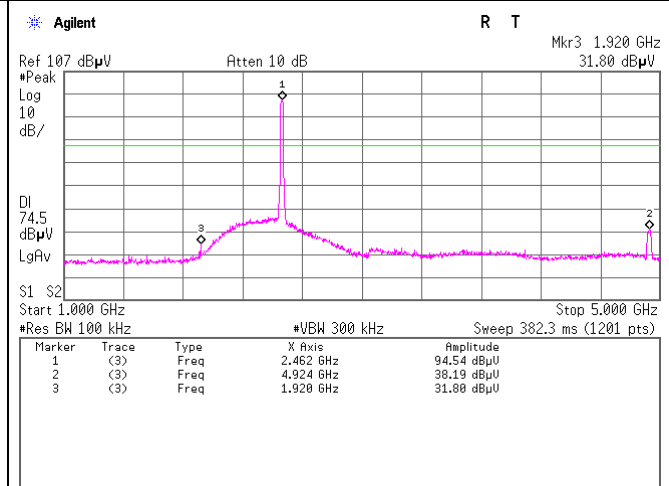
11n-20

Tx, 2462MHz

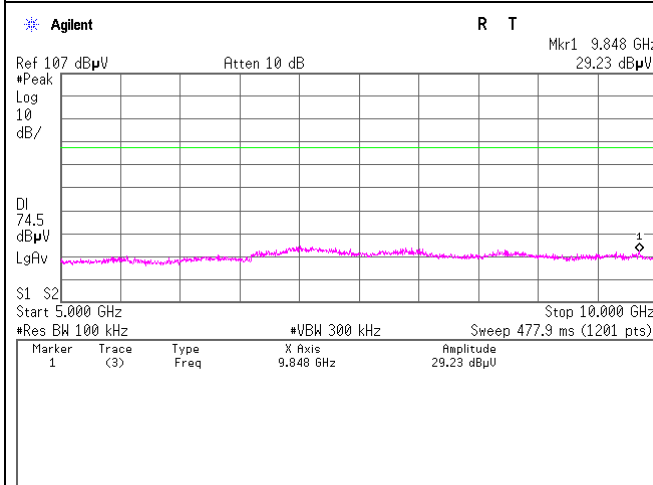
30MHz - 1GHz



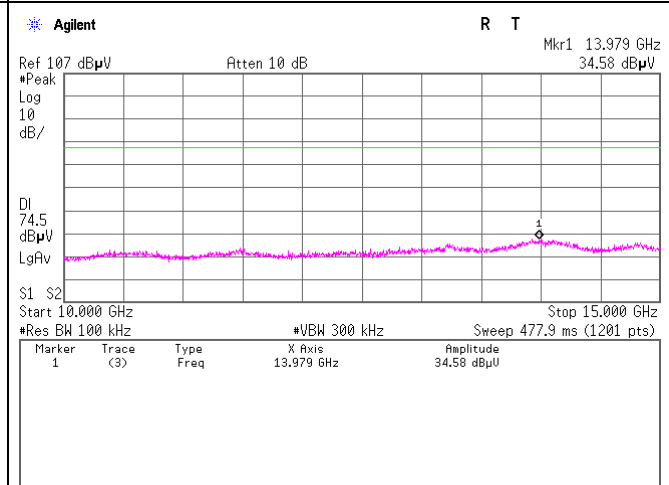
1GHz - 5GHz



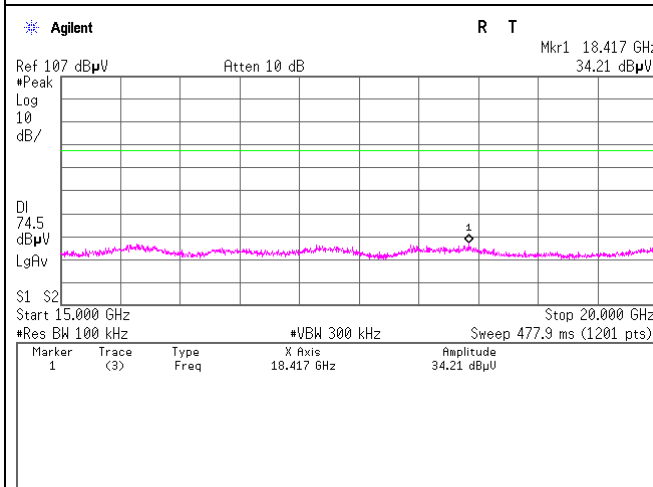
5GHz - 10GHz



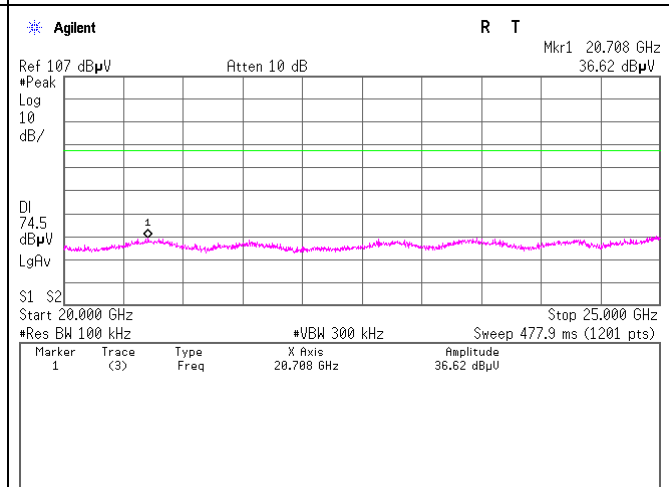
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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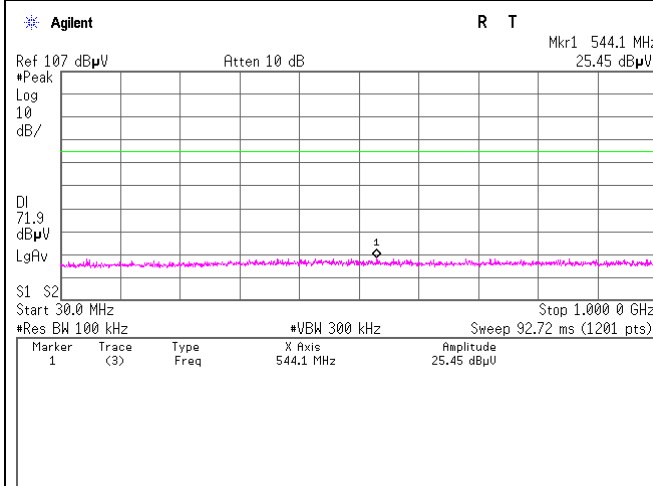
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Spurious emission (Conducted)

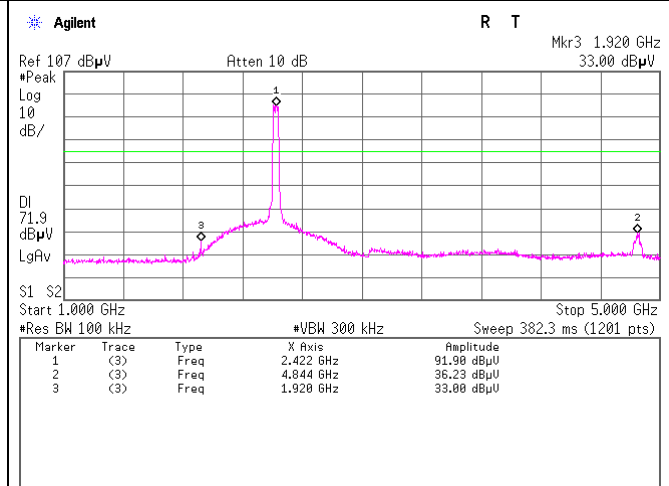
11n-40

Tx, 2422MHz

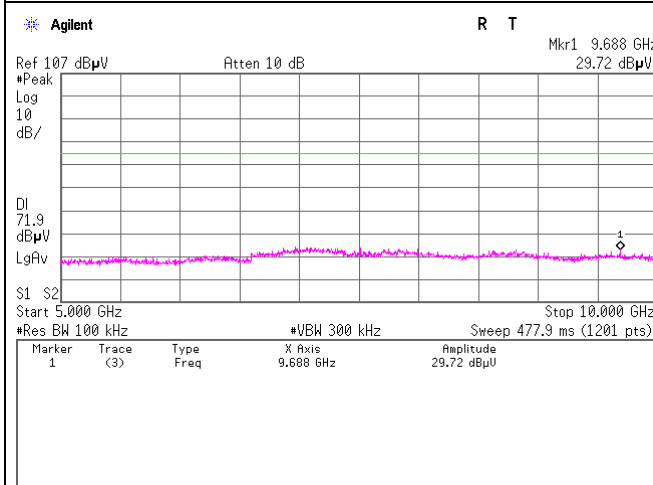
30MHz - 1GHz



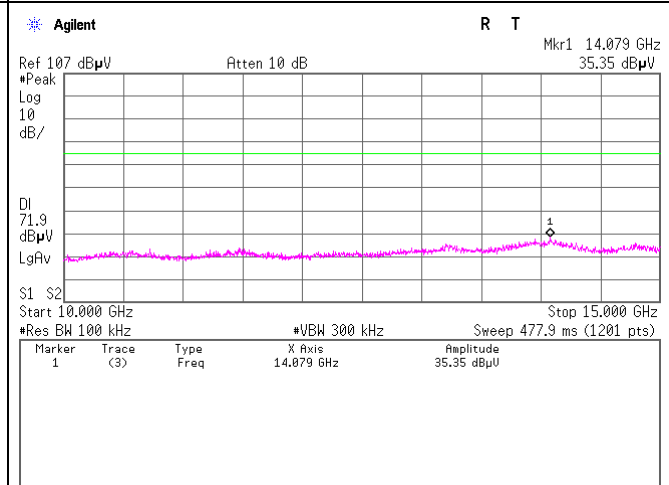
1GHz - 5GHz



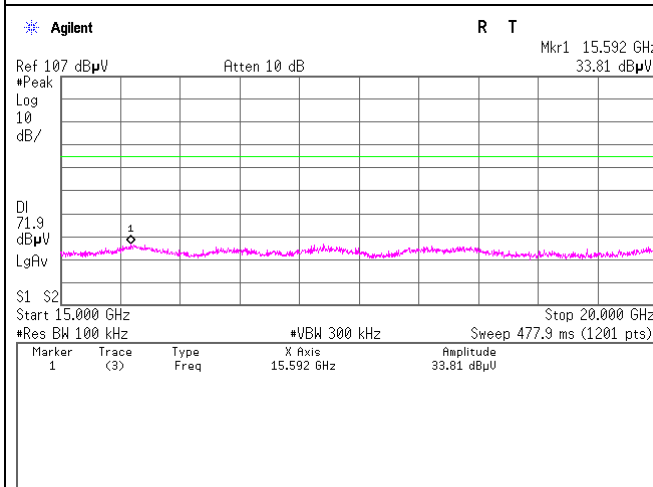
5GHz - 10GHz



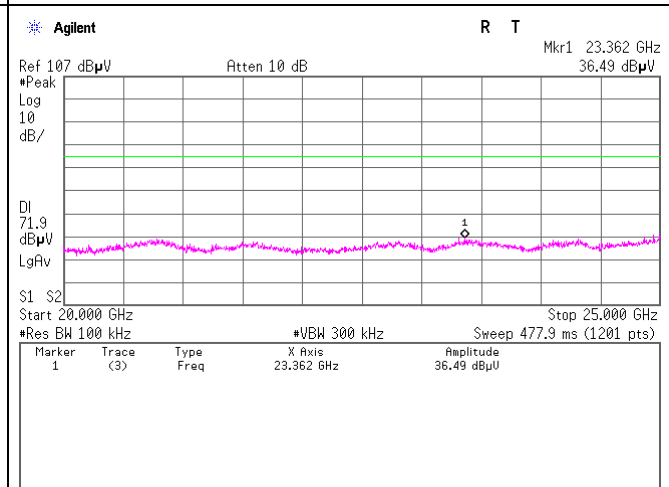
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



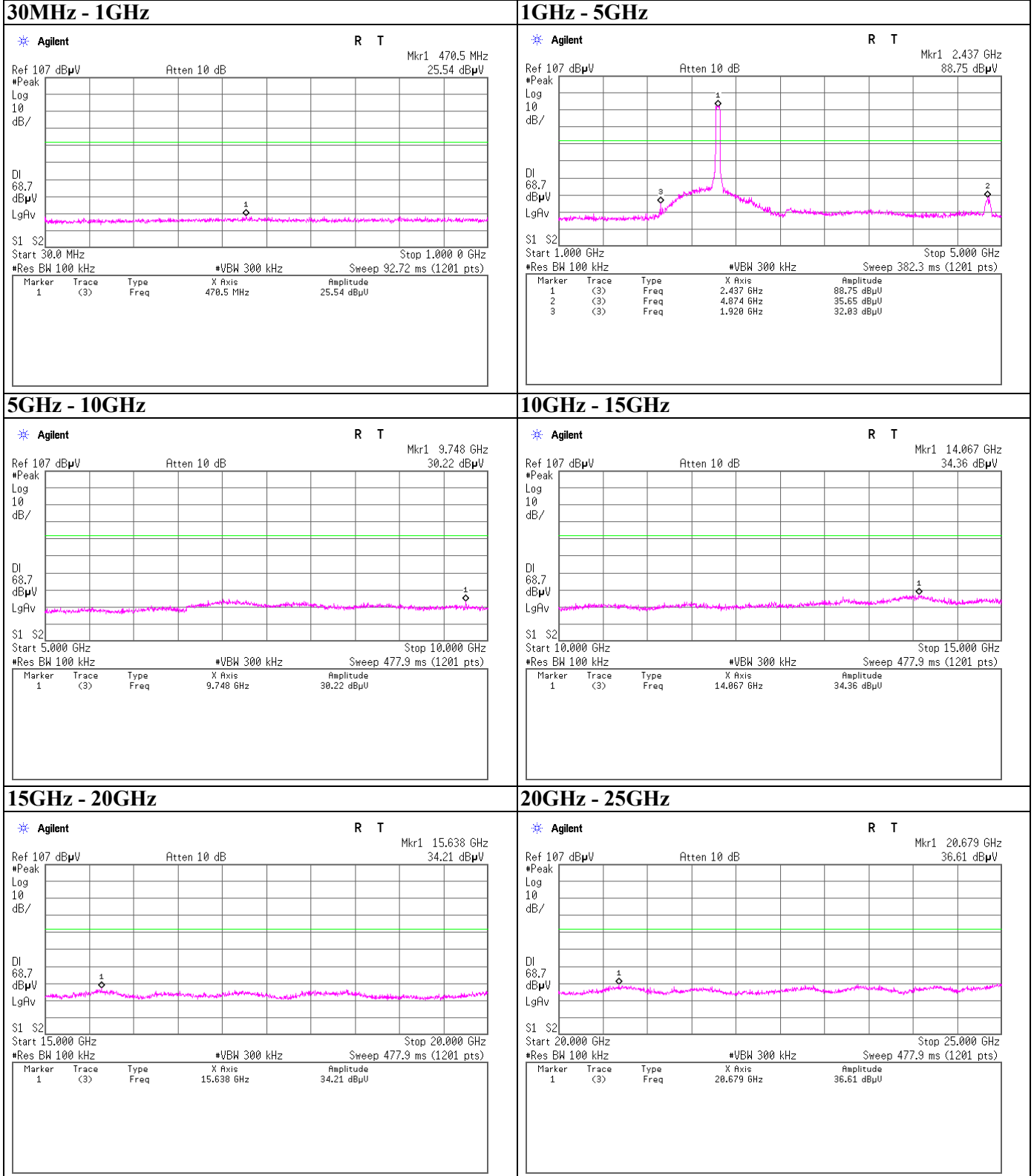
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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

11n-40

Tx, 2437MHz



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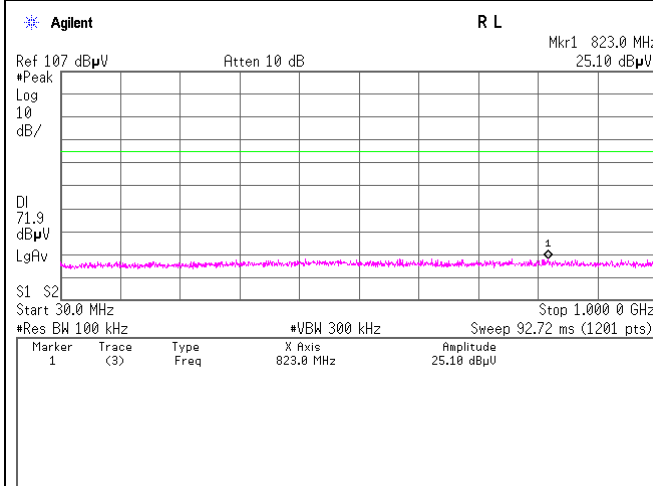
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

Spurious emission (Conducted)

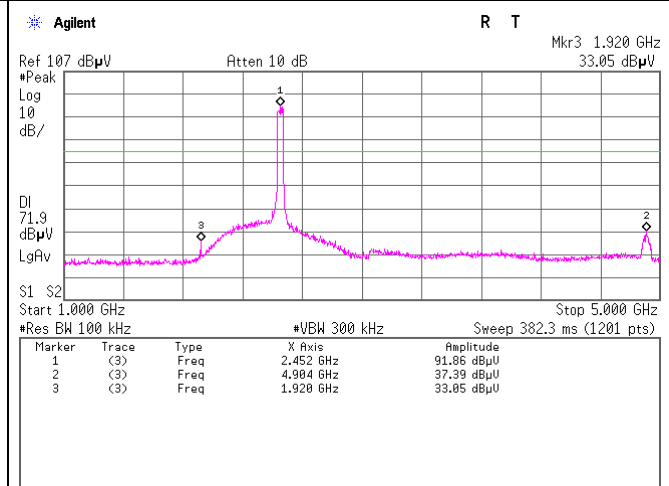
11n-40

Tx, 2452MHz

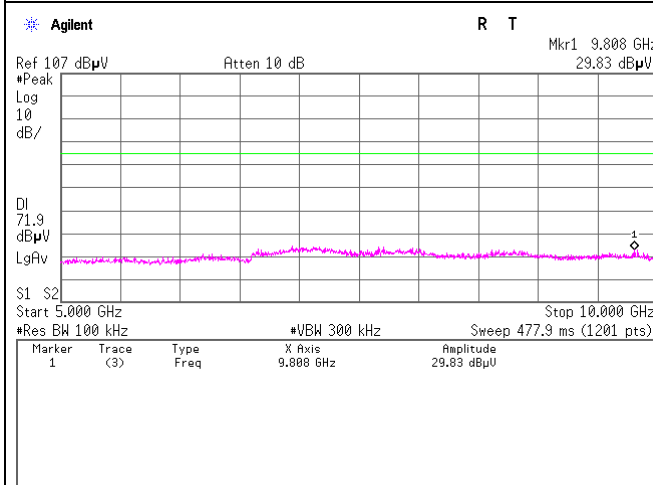
30MHz - 1GHz



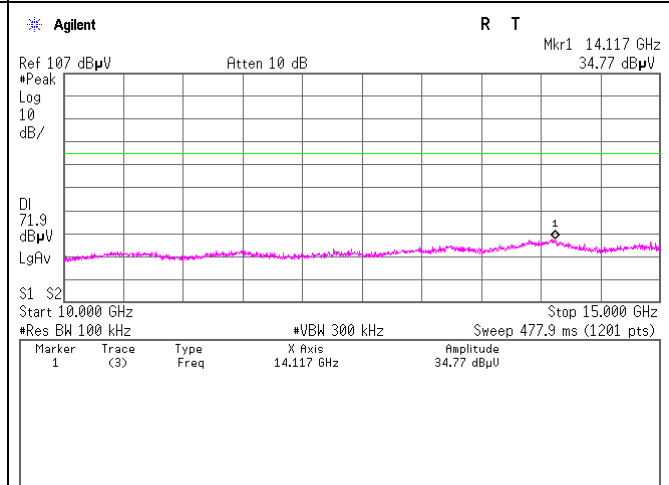
1GHz - 5GHz



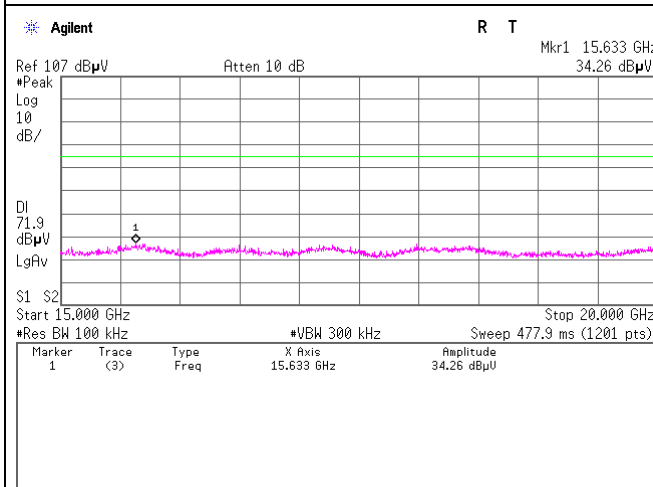
5GHz - 10GHz



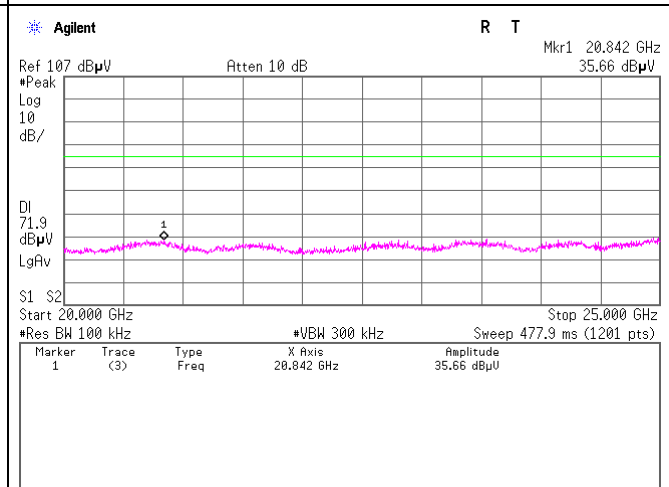
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



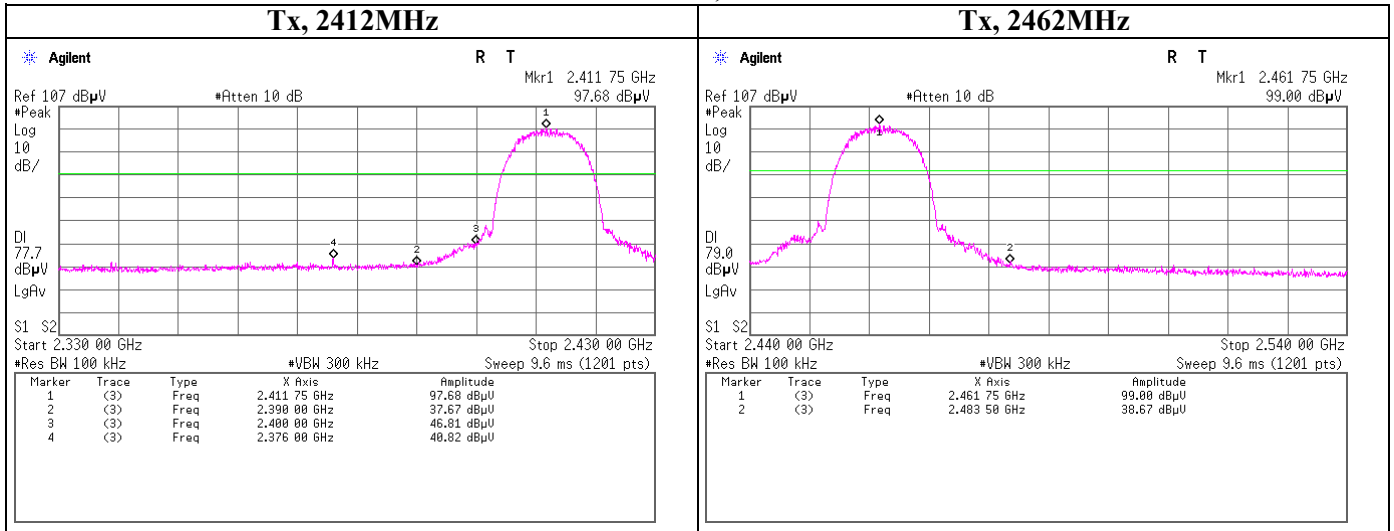
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 Telephone : +81 463 50 6400
 Facsimile : +81 463 50 6401

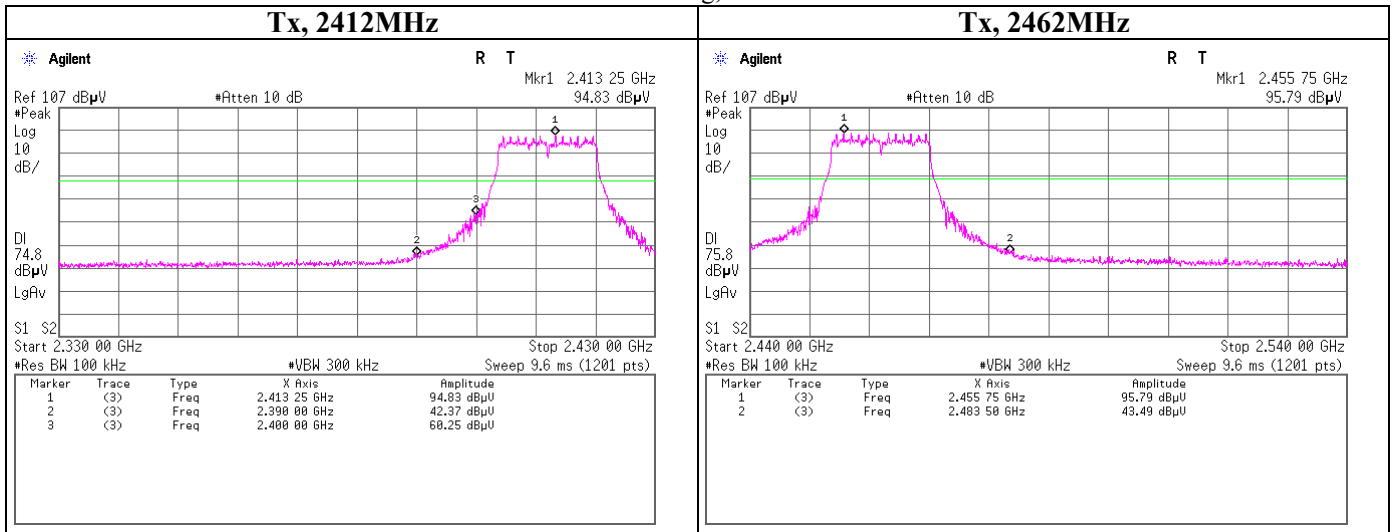
Spurious emission (Conducted)

Band Edge compliance

11b,



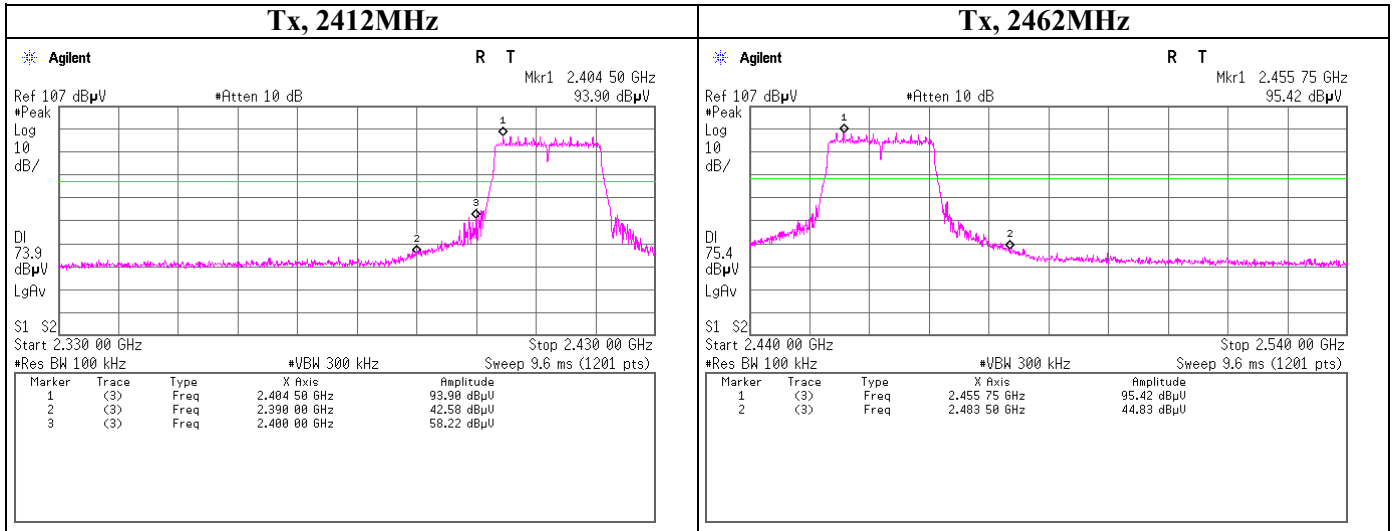
11g,



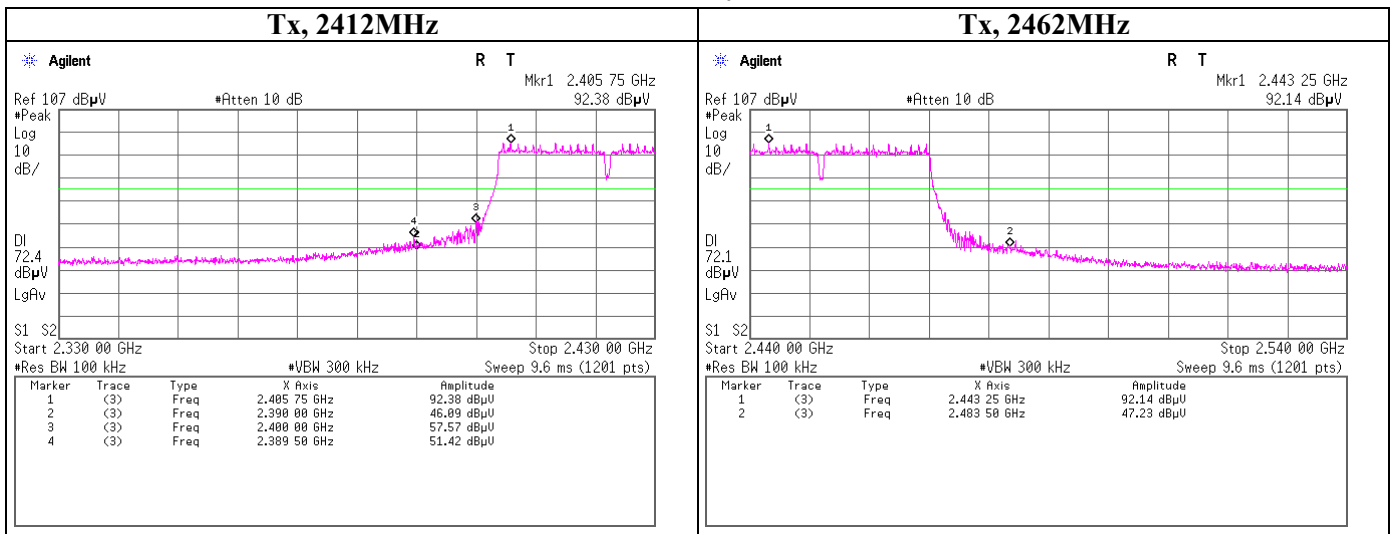
Spurious emission (Conducted)

Band Edge compliance

11n-20



11n-40



Power Density

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date 2010/2/2
Temperature / Humidity 23deg.C. , 35%
Engineer Tatsuya Arai
Mode Tx,

11b,

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
2412	2410.70	-14.61	1.05	9.99	-3.57	8.00	11.57
2437	2435.72	-13.17	1.05	9.99	-2.13	8.00	10.13
2462	2460.72	-13.36	1.05	10.00	-2.31	8.00	10.31

11g,

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
2412	2419.47	-16.79	1.05	9.99	-5.75	8.00	13.75
2437	2444.47	-15.85	1.05	9.99	-4.81	8.00	12.81
2462	2454.48	-15.84	1.05	10.00	-4.79	8.00	12.79

11n-20,

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
2412	2410.72	-17.76	1.05	9.99	-6.72	8.00	14.72
2437	2435.10	-16.74	1.05	9.99	-5.70	8.00	13.70
2462	2469.48	-16.50	1.05	10.00	-5.45	8.00	13.45

11n-40,

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
2422	2419.47	-19.48	1.05	9.99	-8.44	8.00	16.44
2437	2452.60	-19.54	1.05	9.99	-8.50	8.00	16.50
2452	2444.10	-19.60	1.05	10.00	-8.55	8.00	16.55

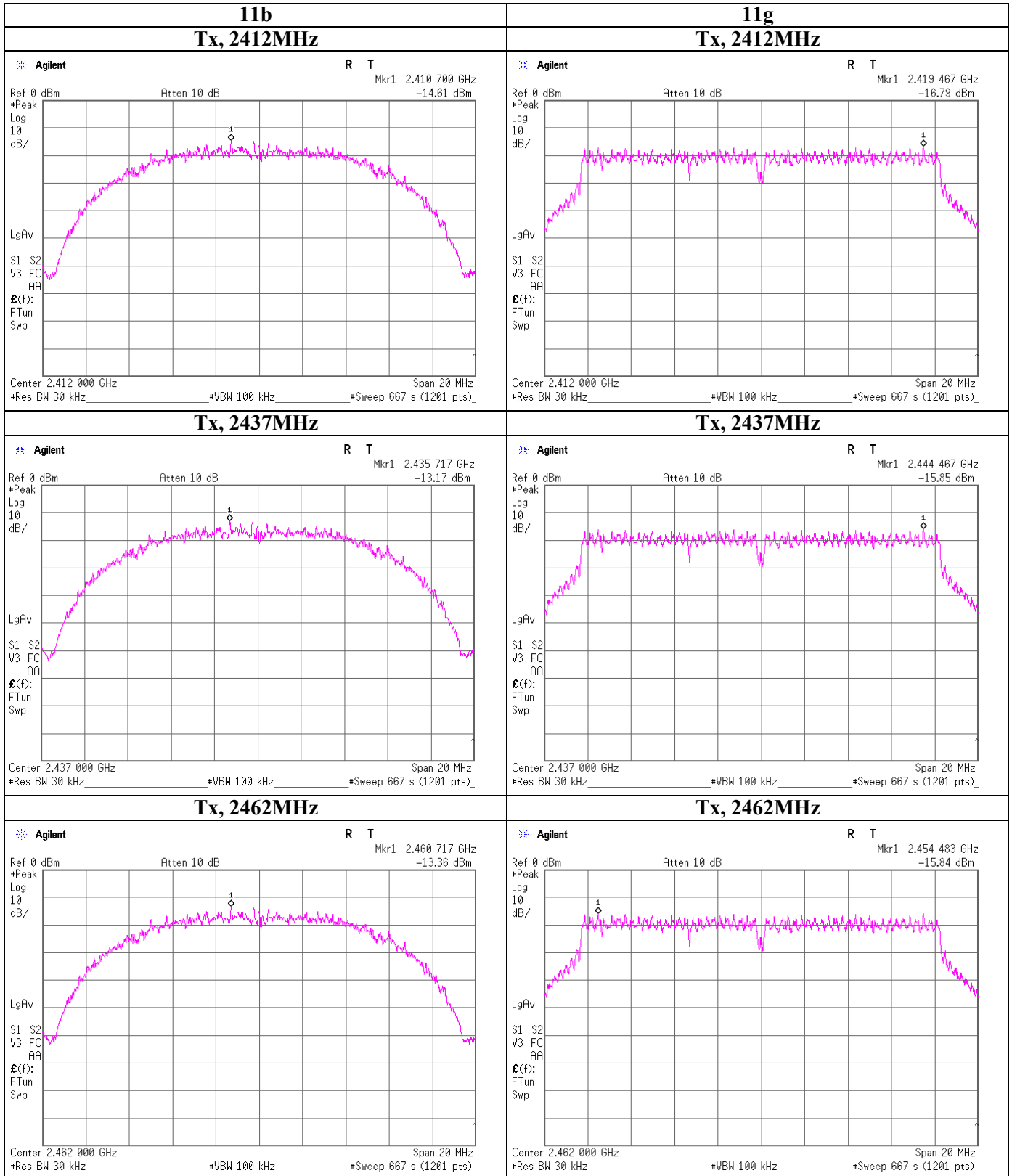
Sample Calculation:

Result = Reading + Cable Loss (Including customer's cable loss)+ Attenuator

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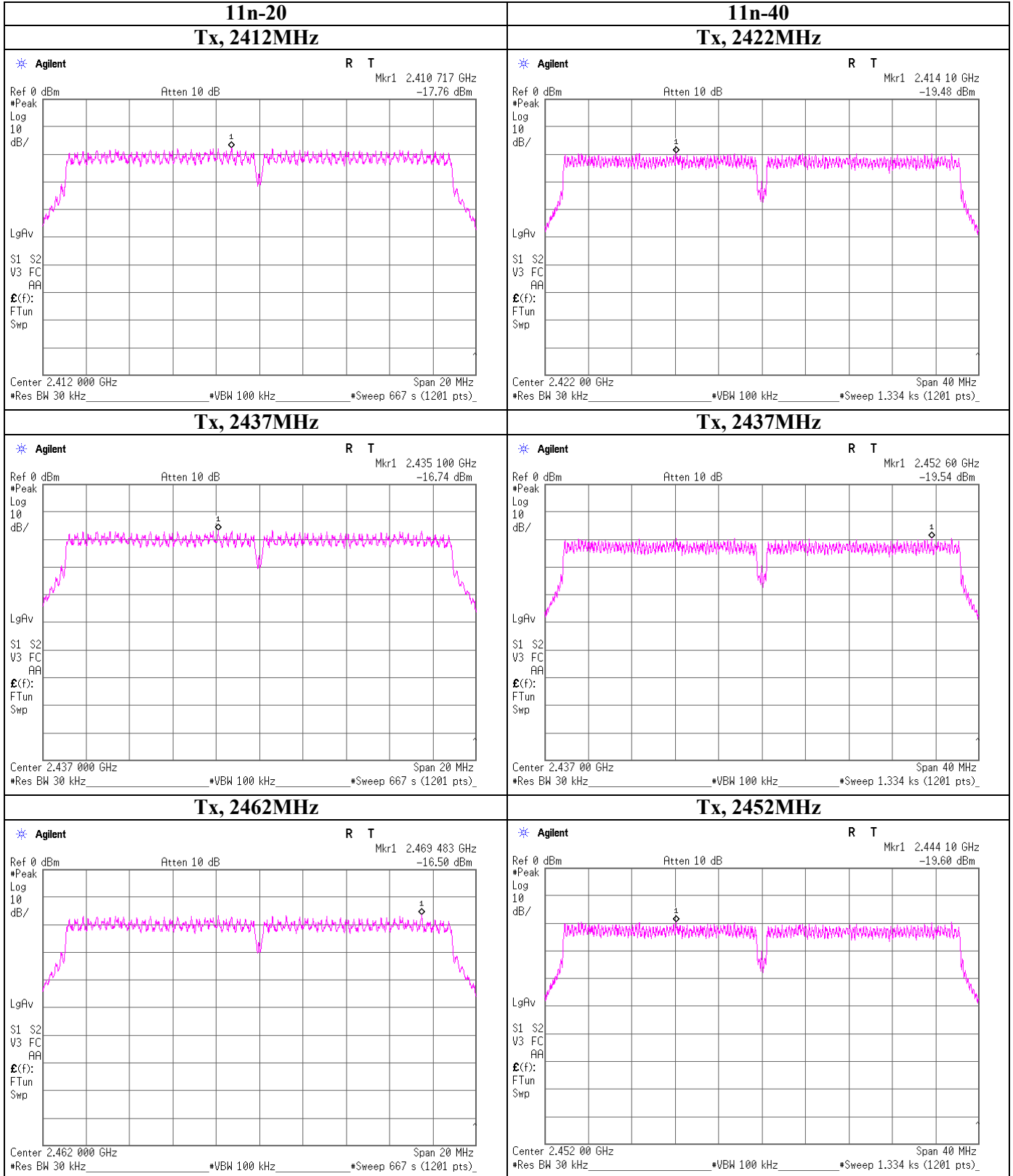
Power Density



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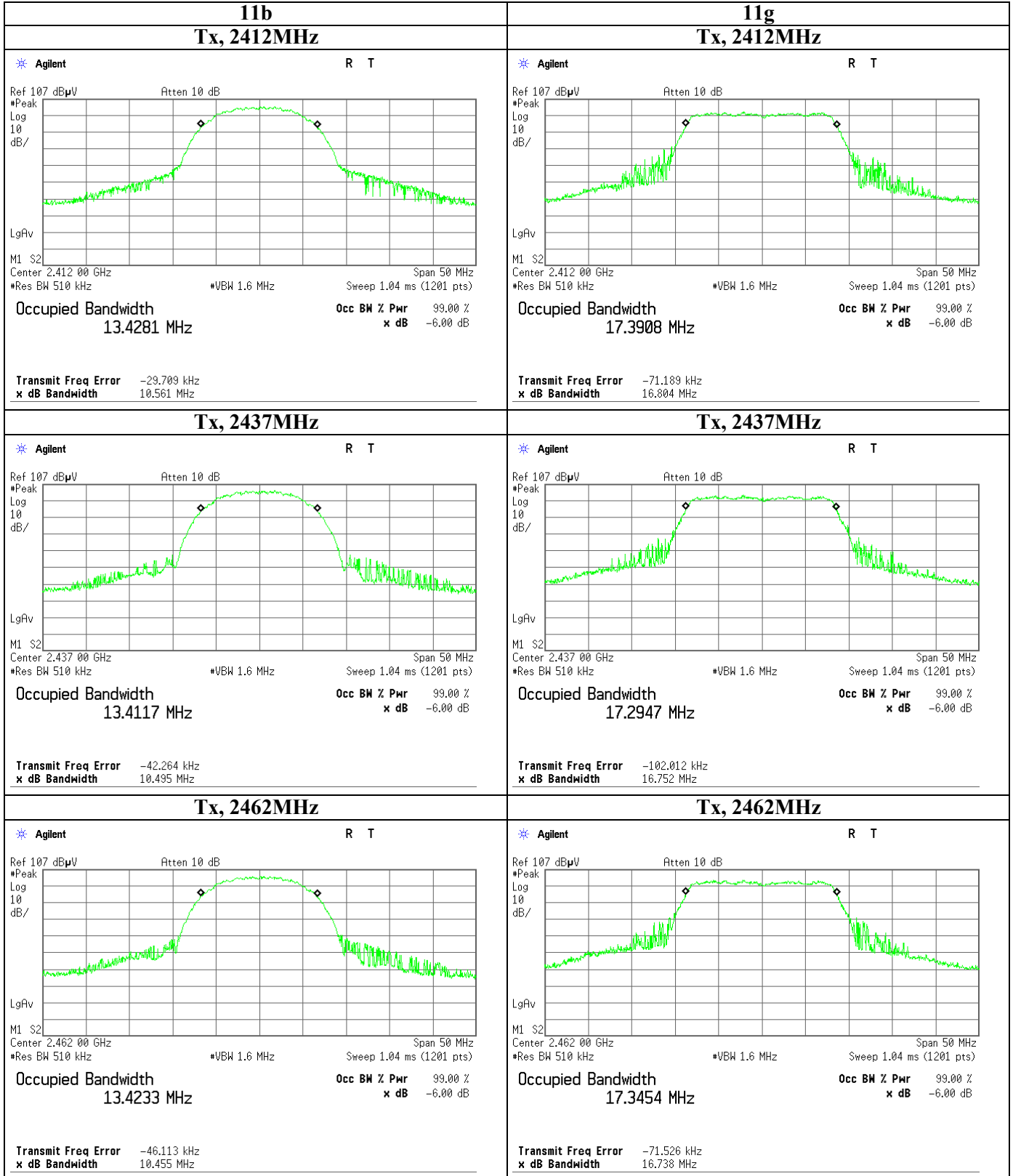
Power Density



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99% Occupied Bandwidth



99% Occupied Bandwidth

<p style="text-align: center;">11n-20 Tx, 2412MHz</p> <p>Agilent R T</p> <p> Ref 107 dBμV #Peak Log 10 dB/ LgAv M1 S2 Center 2.412 00 GHz Span 50 MHz #Res BW 510 kHz #VBW 1.6 MHz Sweep 1.04 ms (1201 pts) </p> <p> Occupied Bandwidth 18.1828 MHz </p> <p> Occ BW % Pwr 99.00 % x dB -6.00 dB </p> <p> Transmit Freq Error -23.216 kHz x dB Bandwidth 17.860 MHz </p>	<p style="text-align: center;">11n-40 Tx, 2422MHz</p> <p>Agilent R T</p> <p> Ref 107 dBμV #Peak Log 10 dB/ LgAv M1 S2 Center 2.422 00 GHz Span 50 MHz #Res BW 510 kHz #VBW 1.6 MHz Sweep 1.04 ms (1201 pts) </p> <p> Occupied Bandwidth 36.6301 MHz </p> <p> Occ BW % Pwr 99.00 % x dB -6.00 dB </p> <p> Transmit Freq Error 20.810 kHz x dB Bandwidth 36.662 MHz </p>
<p style="text-align: center;">Tx, 2437MHz</p> <p>Agilent R T</p> <p> Ref 107 dBμV #Peak Log 10 dB/ LgAv M1 S2 Center 2.437 00 GHz Span 50 MHz #Res BW 510 kHz #VBW 1.6 MHz Sweep 1.04 ms (1201 pts) </p> <p> Occupied Bandwidth 18.1659 MHz </p> <p> Occ BW % Pwr 99.00 % x dB -6.00 dB </p> <p> Transmit Freq Error -28.378 kHz x dB Bandwidth 17.814 MHz </p>	<p style="text-align: center;">Tx, 2437MHz</p> <p>Agilent R T</p> <p> Ref 107 dBμV #Peak Log 10 dB/ LgAv M1 S2 Center 2.437 00 GHz Span 50 MHz #Res BW 510 kHz #VBW 1.6 MHz Sweep 1.04 ms (1201 pts) </p> <p> Occupied Bandwidth 36.5644 MHz </p> <p> Occ BW % Pwr 99.00 % x dB -6.00 dB </p> <p> Transmit Freq Error -18.365 kHz x dB Bandwidth 36.584 MHz </p>
<p style="text-align: center;">Tx, 2462MHz</p> <p>Agilent R T</p> <p> Ref 107 dBμV #Peak Log 10 dB/ LgAv M1 S2 Center 2.462 00 GHz Span 50 MHz #Res BW 510 kHz #VBW 1.6 MHz Sweep 1.04 ms (1201 pts) </p> <p> Occupied Bandwidth 18.1781 MHz </p> <p> Occ BW % Pwr 99.00 % x dB -6.00 dB </p> <p> Transmit Freq Error -24.036 kHz x dB Bandwidth 17.910 MHz </p>	<p style="text-align: center;">Tx, 2452MHz</p> <p>Agilent R T</p> <p> Ref 107 dBμV #Peak Log 10 dB/ LgAv M1 S2 Center 2.452 00 GHz Span 50 MHz #Res BW 510 kHz #VBW 1.6 MHz Sweep 1.04 ms (1201 pts) </p> <p> Occupied Bandwidth 36.5941 MHz </p> <p> Occ BW % Pwr 99.00 % x dB -6.00 dB </p> <p> Transmit Freq Error -37.629 kHz x dB Bandwidth 36.564 MHz </p>

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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)
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
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2009/02/04 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE/CE	2009/04/08 * 12
SJM-03	Measure	KOMELON	KMC-36	-	RE/CE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	-	RE/CE	-
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	RE	2009/03/24 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2009/12/04 * 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
SRE-18	Laptop Computer	IBM	ThinkPad T42(2373-T49)	L3-64H12	RE	
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/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-A 0901	RE	2009/03/20 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2009/09/18 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT1,3,4	2009/06/09 * 12
MPM-13	Power Meter	Anritsu	ML2495A	0824014	AT2	2009/11/25 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT1,3,4	2009/03/11 * 12
MPSE-18	Power sensor	Anritsu	MA2411B	0738174	AT2	2009/11/25 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	AT1-4	2009/03/24 * 12
SCC-C9/C10/SRSE-03	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271(RF Selector)	CE	2009/04/06 * 12
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE	2009/02/25 * 12
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	CE	2009/02/04 * 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 :

- CE: Conducted emission,
- RE: Radiated emission,
- AT: Antenna terminal disturbance voltage
 - 1: 6dB bandwidth & Occupied bandwidth (99%)
 - 2: Maximum peak output power
 - 3: Out of band emissions (Antenna port conducted)
 - 4: Peak power density