

APPENDIX 2: Data of EMI test

Conducted Emission

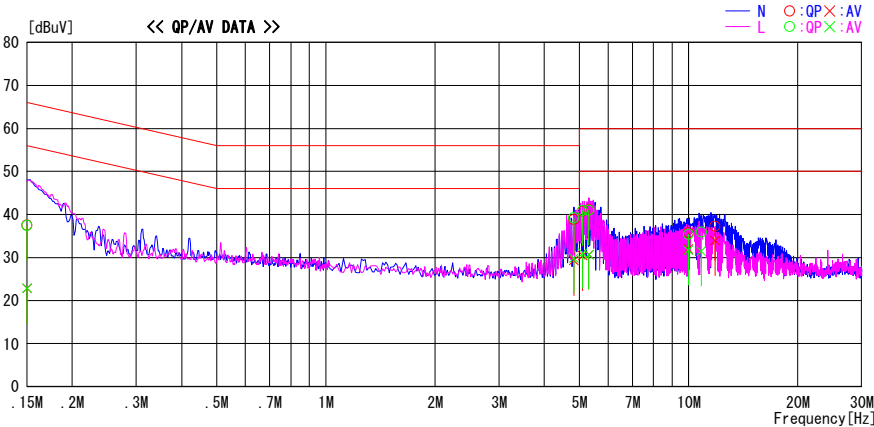
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2011/07/21

Report No. : 31KE0354-HO-01
Temp./Humi. : 24deg. C / 62% RH
Engineer : Takayuki Shimada

Mode / Remarks : Tx 11g, 9Mbps, 2437MHz, Power Supply:3.6V

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	24.3	9.6	13.2	37.5	22.8	66.0	56.0	28.5	33.2	N	
4.81989	25.0	15.5	13.8	38.8	29.3	56.0	46.0	17.2	16.7	N	
5.09954	26.8	16.5	13.9	40.7	30.4	60.0	50.0	19.3	19.6	N	
5.30857	27.2	16.8	13.9	41.1	30.7	60.0	50.0	18.9	19.3	N	
9.99007	21.5	17.8	14.2	35.7	32.0	60.0	50.0	24.3	18.0	N	
11.80706	22.8	19.4	14.5	37.3	33.9	60.0	50.0	22.7	16.1	N	
0.15000	24.2	9.6	13.2	37.4	22.8	66.0	56.0	28.6	33.2	L	
4.81988	25.4	16.1	13.8	39.2	29.9	56.0	46.0	16.8	16.1	L	
5.09894	27.0	17.1	13.9	40.9	31.0	60.0	50.0	19.1	19.0	L	
5.30877	27.1	16.8	13.9	41.0	30.7	60.0	50.0	19.0	19.3	L	
9.98935	21.2	17.5	14.2	35.4	31.7	60.0	50.0	24.6	18.3	L	
10.83280	21.6	17.2	14.3	35.9	31.5	60.0	50.0	24.1	18.5	L	

CHART:WITH FACTOR,Peak hold data. CALCULATION:RESULT=READING+C.F(LISN LOSS+ATT LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

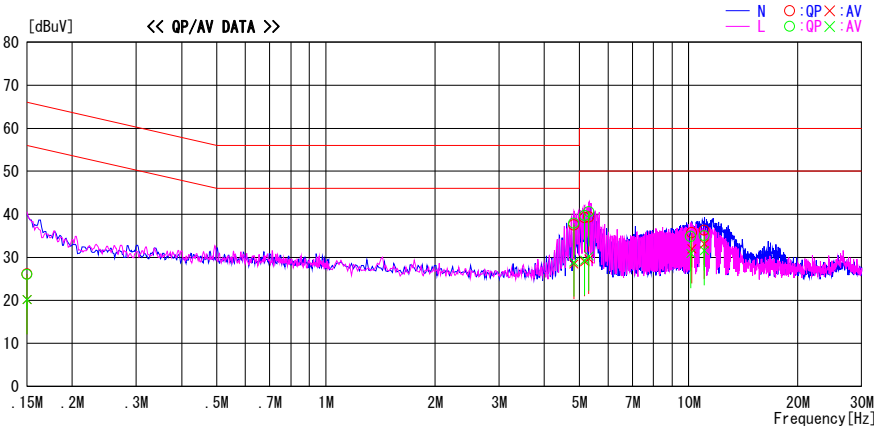
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2011/07/21

Report No. : 31KE0354-HO-01
Temp./Humi. : 24deg. C / 62% RH
Engineer : Takayuki Shimada

Mode / Remarks : Tx 11g, 9Mbps, 2437MHz, Power Supply:1.8V

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	12.9	7.0	13.2	26.1	20.2	66.0	56.0	39.9	35.8	N	
4.82188	23.7	14.6	13.8	37.5	28.4	56.0	46.0	18.5	17.6	N	
5.17136	25.3	15.1	13.9	39.2	29.0	60.0	50.0	20.8	21.0	N	
5.31081	25.5	15.7	13.9	39.4	29.6	60.0	50.0	20.6	20.4	N	
10.20252	21.4	17.7	14.3	35.7	32.0	60.0	50.0	24.3	18.0	N	
11.04145	21.9	18.7	14.4	36.3	33.1	60.0	50.0	23.7	16.9	N	
0.15000	12.8	7.0	13.2	26.0	20.2	66.0	56.0	40.0	35.8	L	
4.82200	24.1	15.1	13.8	37.9	28.9	56.0	46.0	18.1	17.1	L	
5.17094	25.8	15.4	13.9	39.7	29.3	60.0	50.0	20.3	20.7	L	
5.31069	26.7	16.4	13.9	40.6	30.3	60.0	50.0	19.4	19.7	L	
10.13240	20.6	16.7	14.2	34.8	30.9	60.0	50.0	25.2	19.1	L	
11.04145	20.6	17.2	14.4	35.0	31.6	60.0	50.0	25.0	18.4	L	

CHART:WITH FACTOR,Peak hold data. CALCULATION:RESULT=READING+C.F(LISN LOSS+ATT LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

6dB Bandwidth

Test place Head Office EMC Lab. No.6 Measurement Room
Report No. 31KE0354-HO-01
Date 07/12/2011
Temperature/ Humidity 22 deg.C / 58% RH
Engineer Hiroshi Kukita
Mode Tx

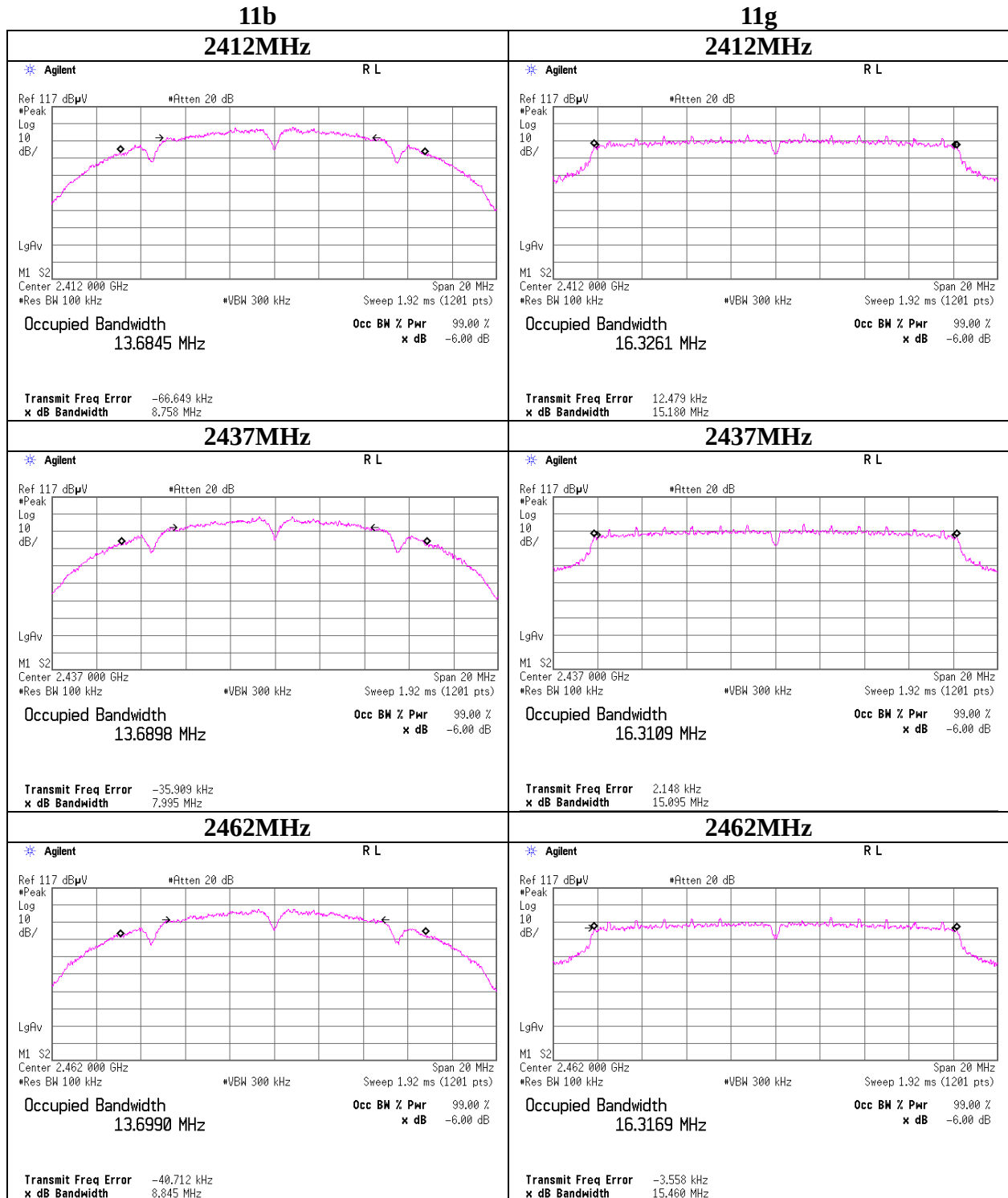
11b

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	8.758	>500
2437	7.995	>500
2462	8.845	>500

11g

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	15.180	>500
2437	15.095	>500
2462	15.460	>500

6dB Bandwidth



Maximum Peak Output Power

Test place : Head Office EMC Lab. No.2 Measurement Room
Report No. : 31KE0354-HO-01
Date : 07/11/2011
Temperature/ Humidity : 20 deg. C / 68% RH
Engineer : Katsunori Okai
Mode : 11b Tx

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
				[dBm]	[mW]	[dBm]	[mW]	
2412	9.94	0.50	10.07	20.51	112.46	30.00	1000	9.49
2437	10.09	0.50	10.07	20.66	116.41	30.00	1000	9.34
2462	10.08	0.50	10.07	20.65	116.14	30.00	1000	9.35

Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator

2437MHz

Rate	Reading	Remark
[Mbps]	[dBm]	
1	9.48	
2	10.09	*
5.5	9.74	
11	9.62	

*: Worst Rate

All comparizon were carried out on same frequency and measurement factors.

Maximum Peak Output Power

Test place	Head Office EMC Lab. No.2 Measurement Room
Report No.	31KE0354-HO-01
Date	07/11/2011
Temperature/ Humidity	20 deg.C / 68% RH
Engineer	Katsunori Okai
Mode	11g/n-20 Tx

11g

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
				[dBm]	[mW]	[dBm]	[mW]	
2412	13.01	0.50	10.07	23.58	228.03	30.00	1000	6.42
2437	13.65	0.50	10.07	24.22	264.24	30.00	1000	5.78
2462	12.87	0.50	10.07	23.44	220.80	30.00	1000	6.56

11n-20

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
				[dBm]	[mW]	[dBm]	[mW]	
2412	12.98	0.50	10.07	23.55	226.46	30.00	1000	6.45
2437	13.61	0.50	10.07	24.18	261.82	30.00	1000	5.82
2462	12.78	0.50	10.07	23.35	216.27	30.00	1000	6.65

Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator

11g 2437MHz

Rate [Mbps]	Reading [dBm]	Remark
6	13.63	
9	13.65	*
12	13.61	
18	13.54	
24	13.45	
36	13.23	
48	12.68	
54	12.67	

11n-20 2437MHz

MCS Number	Reading [dBm]	Remark
0	13.61	(*)
1	13.59	
2	13.56	
3	13.31	
4	13.26	
5	12.96	
6	12.65	
7	11.91	

*: Worst Rate

All comparison were carried out on same frequency and measurement factors.

Radiated Spurious Emission

Test place : Head Office EMC Lab. No.2 and 4 Semi Anechoic Chamber
Report No. : 31KE0354-HO-01
Date : 07/11/2011 07/12/2011
Temperature/ Humidity : 20 deg.C / 68% 25 deg.C / 56% RH
Engineer : Tomotaka Sasagawa Takeshi Choda
(Above 1GHz) (Below 1GHz)
Mode : 11b Tx 2412MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	30.237	QP	23.3	17.8	7.0	32.1	16.0	40.0	24.0	
Hori	67.335	QP	32.3	7.2	7.6	32.2	14.9	40.0	25.1	
Hori	73.828	QP	37.3	6.6	7.6	32.2	19.3	40.0	20.7	
Hori	172.845	QP	30.5	15.9	8.7	32.0	23.1	43.5	20.4	
Hori	336.930	QP	39.6	16.5	10.0	32.1	34.0	46.0	12.0	
Hori	381.743	QP	39.0	17.2	10.3	32.1	34.4	46.0	11.6	
Hori	2387.150	PK	56.3	27.4	2.6	32.4	53.9	73.9	20.0	
Hori	2390.000	PK	55.2	27.4	2.6	32.4	52.8	73.9	21.1	
Hori	2397.452	PK	67.3	27.4	2.6	32.4	64.9	-	-	- See 20dBc Data Sheet
Hori	2400.000	PK	63.8	27.4	2.6	32.4	61.4	-	-	- See 20dBc Data Sheet
Hori	2490.000	PK	55.0	27.6	2.7	32.4	52.9	73.9	21.0	
Hori	2547.322	PK	58.0	27.7	2.7	32.4	56.0	73.9	17.9	
Hori	4824.000	PK	42.1	31.4	4.4	31.3	46.6	73.9	27.3	NS
Hori	7236.000	PK	42.7	35.5	5.3	31.6	51.9	73.9	22.0	NS
Hori	9648.000	PK	44.0	38.4	6.2	31.9	56.7	73.9	17.2	NS
Hori	24120.000	PK	46.5	40.4	-1.0	29.6	56.3	73.9	17.6	NS
Hori	2387.150	AV	48.2	27.4	2.6	32.4	45.8	53.9	8.1	
Hori	2390.000	AV	43.7	27.4	2.6	32.4	41.3	53.9	12.6	
Hori	2397.452	AV	62.2	27.4	2.6	32.4	59.8	-	-	- See 20dBc Data Sheet
Hori	2400.000	AV	55.9	27.4	2.6	32.4	53.5	-	-	- See 20dBc Data Sheet
Hori	2490.000	AV	32.9	27.6	2.7	32.4	30.8	53.9	23.2	
Hori	2547.322	AV	34.6	27.7	2.7	32.4	32.6	53.9	21.3	
Hori	4824.000	AV	29.9	31.4	4.4	31.3	34.4	53.9	19.5	NS
Hori	7236.000	AV	31.0	35.5	5.3	31.6	40.2	53.9	13.7	NS
Hori	9648.000	AV	32.4	38.4	6.2	31.9	45.1	53.9	8.8	NS
Hori	24120.000	AV	34.5	40.4	-1.0	29.6	44.3	53.9	9.6	NS
Vert	30.237	QP	39.9	17.8	7.0	32.1	32.6	40.0	7.4	
Vert	67.335	QP	49.7	7.2	7.6	32.2	32.3	40.0	7.7	
Vert	73.828	QP	53.5	6.6	7.6	32.2	35.5	40.0	4.5	
Vert	172.845	QP	32.9	15.9	8.7	32.0	25.5	43.5	18.0	
Vert	336.930	QP	42.0	16.5	10.0	32.1	36.4	46.0	9.6	
Vert	381.743	QP	35.8	17.2	10.3	32.1	31.2	46.0	14.8	
Vert	2387.150	PK	53.7	27.4	2.6	32.4	51.3	73.9	22.6	
Vert	2390.000	PK	53.4	27.4	2.6	32.4	51.0	73.9	23.0	
Vert	2397.452	PK	65.6	27.4	2.6	32.4	63.2	-	-	- See 20dBc Data Sheet
Vert	2400.000	PK	62.0	27.4	2.6	32.4	59.6	-	-	- See 20dBc Data Sheet
Vert	2490.000	PK	52.1	27.6	2.7	32.4	50.0	73.9	23.9	
Vert	2551.667	PK	55.3	27.7	2.7	32.4	53.3	73.9	20.6	
Vert	4824.000	PK	42.3	31.4	4.4	31.3	46.8	73.9	27.1	NS
Vert	7236.000	PK	43.1	35.5	5.3	31.6	52.3	73.9	21.6	NS
Vert	9648.000	PK	43.9	38.4	6.2	31.9	56.6	73.9	17.3	NS
Vert	24120.000	PK	47.0	40.4	-1.0	29.6	56.8	73.9	17.1	NS
Vert	2387.150	AV	45.9	27.4	2.6	32.4	43.5	53.9	10.4	
Vert	2390.000	AV	40.7	27.4	2.6	32.4	38.3	53.9	15.6	
Vert	2397.452	AV	60.3	27.4	2.6	32.4	57.9	-	-	- See 20dBc Data Sheet
Vert	2400.000	AV	54.4	27.4	2.6	32.4	52.0	-	-	- See 20dBc Data Sheet
Vert	2490.000	AV	32.3	27.6	2.7	32.4	30.2	53.9	23.7	
Vert	2551.667	AV	34.2	27.7	2.7	32.4	32.2	53.9	21.7	
Vert	4824.000	AV	31.1	31.4	4.4	31.3	35.6	53.9	18.3	NS
Vert	7236.000	AV	30.8	35.5	5.3	31.6	40.0	53.9	13.9	NS
Vert	9648.000	AV	33.4	38.4	6.2	31.9	46.1	53.9	7.8	NS
Vert	24120.000	AV	34.4	40.4	-1.0	29.6	44.2	53.9	9.7	NS

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

NS: No Signal detected

Radiated Spurious Emission 20dBc Data Sheet

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. 31KE0354-HO-01
Date 07/11/2011
Temperature/ Humidity 20 deg.C / 68% RH
Engineer Tomotaka Sasagawa
(1-10GHz)
Mode 11b Tx 2412MHz

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2412.000	PK	108.6	27.4	2.6	32.4	106.2	-	-	Carrier
Hori	2397.452	PK	61.9	27.4	2.6	32.4	59.5	86.2	26.7	
Hori	2400.000	PK	56.1	27.4	2.6	32.4	53.7	86.2	32.5	
Vert	2412.000	PK	103.7	27.4	2.6	32.4	101.3	-	-	Carrier
Vert	2397.452	PK	59.4	27.4	2.6	32.4	57.0	81.3	24.3	
Vert	2400.000	PK	54.0	27.4	2.6	32.4	51.6	81.3	29.7	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

Radiated Spurious Emission

Test place : Head Office EMC Lab. No.2 and 4 Semi Anechoic Chamber
Report No. : 31KE0354-HO-01
Date : 07/11/2011 07/12/2011
Temperature/ Humidity : 20 deg.C / 68% RH 25 deg.C / 56% RH
Engineer : Tomotaka Sasagawa Takeshi Choda
(Above 1GHz) (Below 1GHz)
Mode : 11b Tx 2437MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	34.977	QP	22.9	16.5	7.1	32.2	14.3	40.0	25.7	
Hori	67.335	QP	33.4	7.2	7.6	32.2	16.0	40.0	24.0	
Hori	73.828	QP	36.7	6.6	7.6	32.2	18.7	40.0	21.3	
Hori	178.525	QP	33.0	16.1	8.8	32.0	25.9	43.5	17.6	
Hori	336.930	QP	37.0	16.5	10.0	32.1	31.4	46.0	14.6	
Hori	382.433	QP	35.5	17.2	10.3	32.1	30.9	46.0	15.1	
Hori	2514.231	PK	52.3	27.6	2.7	32.4	50.2	73.9	23.7	
Hori	2593.000	PK	47.6	27.7	2.7	32.4	45.6	73.9	28.3	
Hori	4874.000	PK	41.8	31.5	4.4	31.3	46.4	73.9	27.5	NS
Hori	7311.000	PK	42.1	35.6	5.3	31.6	51.4	73.9	22.5	NS
Hori	9748.000	PK	43.1	38.5	6.2	31.8	56.0	73.9	17.9	NS
Hori	24370.000	PK	47.2	40.4	-1.0	29.5	57.1	73.9	16.8	NS
Hori	2514.231	AV	33.8	27.6	2.7	32.4	31.7	53.9	22.2	
Hori	2593.000	AV	31.4	27.7	2.7	32.4	29.4	53.9	24.5	
Hori	4874.000	AV	30.2	31.5	4.4	31.3	34.8	53.9	19.1	NS
Hori	7311.000	AV	30.9	35.6	5.3	31.6	40.2	53.9	13.7	NS
Hori	9748.000	AV	31.7	38.5	6.2	31.8	44.6	53.9	9.3	NS
Hori	24370.000	AV	35.4	40.4	-1.0	29.5	45.3	53.9	8.6	NS
Vert	34.977	QP	34.4	16.5	7.1	32.2	25.8	40.0	14.2	
Vert	67.335	QP	50.7	7.2	7.6	32.2	33.3	40.0	6.7	
Vert	73.828	QP	54.3	6.6	7.6	32.2	36.3	40.0	3.7	
Vert	178.525	QP	33.7	16.1	8.8	32.0	26.6	43.5	16.9	
Vert	336.930	QP	42.4	16.5	10.0	32.1	36.8	46.0	9.2	
Vert	382.943	QP	32.7	17.2	10.3	32.1	28.1	46.0	17.9	
Vert	2515.310	PK	54.3	27.6	2.7	32.4	52.2	73.9	21.7	
Vert	2593.000	PK	41.9	27.7	2.7	32.4	39.9	73.9	34.0	
Vert	4874.000	PK	42.1	31.5	4.4	31.3	46.7	73.9	27.2	NS
Vert	7311.000	PK	42.8	35.6	5.3	31.6	52.1	73.9	21.8	NS
Vert	9748.000	PK	43.5	38.5	6.2	31.8	56.4	73.9	17.5	NS
Vert	24370.000	PK	47.0	40.4	-1.0	29.5	56.9	73.9	17.0	NS
Vert	2515.310	AV	33.9	27.6	2.7	32.4	31.8	53.9	22.1	
Vert	2593.000	AV	30.5	27.7	2.7	32.4	28.5	53.9	25.4	
Vert	4874.000	AV	30.4	31.5	4.4	31.3	35.0	53.9	18.9	NS
Vert	7311.000	AV	30.0	35.6	5.3	31.6	39.3	53.9	14.6	NS
Vert	9748.000	AV	32.1	38.5	6.2	31.8	45.0	53.9	8.9	NS
Vert	24370.000	AV	35.2	40.4	-1.0	29.5	45.1	53.9	8.8	NS

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

NS: No Signal detected

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 and 4 Semi Anechoic Chamber	
Report No.	31KE0354-HO-01	
Date	07/11/2011	07/12/2011
Temperature/ Humidity	20 deg.C / 68% RH	25 deg.C / 56% RH
Engineer	Katsunori Okai (1-10GHz)	Takeshi Choda (Below 1GHz)
Mode	11b Tx 2462MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	34.977	QP	23.4	16.5	7.1	32.2	14.8	40.0	25.2	
Hori	64.065	QP	36.2	7.7	7.5	32.2	19.2	40.0	20.8	
Hori	72.688	QP	36.1	6.7	7.6	32.2	18.2	40.0	21.8	
Hori	172.265	QP	33.5	15.9	8.7	32.1	26.0	43.5	17.5	
Hori	336.930	QP	37.2	16.5	10.0	32.1	31.6	46.0	14.4	
Hori	382.433	QP	36.7	17.2	10.3	32.1	32.1	46.0	13.9	
Hori	2483.500	PK	60.0	27.6	2.7	32.4	57.9	73.9	16.0	
Hori	2483.994	PK	56.8	27.6	2.7	32.4	54.7	73.9	19.2	
Hori	2488.750	PK	51.9	27.6	2.7	32.4	49.8	73.9	24.2	
Hori	2547.000	PK	49.2	27.7	2.7	32.4	47.2	73.9	26.7	
Hori	4924.000	PK	41.7	31.6	4.5	31.3	46.5	73.9	27.4	NS
Hori	7386.000	PK	41.7	35.7	5.3	31.6	51.1	73.9	22.8	NS
Hori	9848.000	PK	43.2	38.6	6.2	31.8	56.2	73.9	17.7	NS
Hori	24620.000	PK	47.5	40.3	-1.0	29.4	57.4	73.9	16.5	NS
Hori	2483.500	AV	44.8	27.6	2.7	32.4	42.7	53.9	11.2	
Hori	2483.994	AV	45.6	27.6	2.7	32.4	43.5	53.9	10.4	
Hori	2488.750	AV	40.3	27.6	2.7	32.4	38.2	53.9	15.7	
Hori	2547.000	AV	32.8	27.7	2.7	32.4	30.8	53.9	23.1	
Hori	4924.000	AV	29.5	31.6	4.5	31.3	34.3	53.9	19.6	NS
Hori	7386.000	AV	29.5	35.7	5.3	31.6	38.9	53.9	15.0	NS
Hori	9848.000	AV	31.6	38.6	6.2	31.8	44.6	53.9	9.3	NS
Hori	24620.000	AV	35.7	40.3	-1.0	29.4	45.6	53.9	8.3	NS
Vert	34.977	QP	32.5	16.5	7.1	32.2	23.9	40.0	16.1	
Vert	64.065	QP	52.1	7.7	7.5	32.2	35.1	40.0	4.9	
Vert	72.688	QP	53.1	6.7	7.6	32.2	35.2	40.0	4.8	
Vert	172.265	QP	35.9	15.9	8.7	32.1	28.4	43.5	15.1	
Vert	336.930	QP	41.8	16.5	10.0	32.1	36.2	46.0	9.8	
Vert	382.943	QP	32.6	17.2	10.3	32.1	28.0	46.0	18.0	
Vert	2483.500	PK	56.9	27.6	2.7	32.4	54.8	73.9	19.1	
Vert	2483.996	PK	56.3	27.6	2.7	32.4	54.2	73.9	19.7	
Vert	2488.750	PK	47.3	27.6	2.7	32.4	45.2	73.9	28.7	
Vert	2547.000	PK	43.3	27.7	2.7	32.4	41.3	73.9	32.6	
Vert	4924.000	PK	42.2	31.6	4.5	31.3	47.0	73.9	26.9	NS
Vert	7386.000	PK	42.6	35.7	5.3	31.6	52.0	73.9	21.9	NS
Vert	9848.000	PK	45.0	38.6	6.2	31.8	58.0	73.9	15.9	NS
Vert	24620.000	PK	47.2	40.3	-1.0	29.4	57.1	73.9	16.8	NS
Vert	2483.500	AV	46.1	27.6	2.7	32.4	44.0	53.9	9.9	
Vert	2483.996	AV	45.7	27.6	2.7	32.4	43.6	53.9	10.3	
Vert	2488.750	AV	35.6	27.6	2.7	32.4	33.5	53.9	20.4	
Vert	2547.000	AV	30.5	27.7	2.7	32.4	28.5	53.9	25.4	
Vert	4924.000	AV	29.5	31.6	4.5	31.3	34.3	53.9	19.6	NS
Vert	7386.000	AV	29.5	35.7	5.3	31.6	38.9	53.9	15.0	NS
Vert	9848.000	AV	34.5	38.6	6.2	31.8	47.5	53.9	6.4	NS
Vert	24620.000	AV	34.8	40.3	-1.0	29.4	44.7	53.9	9.2	NS

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

NS: No Signal detected

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 and 4 Semi Anechoic Chamber	
Report No.	31KE0354-HO-01	
Date	07/11/2011	07/12/2011
Temperature/ Humidity	20 deg.C / 68% RH	25 deg.C / 56% RH
Engineer	Katsunori Okai	Takeshi Choda
	(1-10GHz)	(Below 1GHz)
Mode	11g Tx 2412MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	34.977	QP	23.0	16.5	7.1	32.2	14.4	40.0	25.6	
Hori	64.065	QP	29.0	7.7	7.5	32.2	12.0	40.0	28.0	
Hori	72.688	QP	29.3	6.7	7.6	32.2	11.4	40.0	28.6	
Hori	167.285	QP	36.0	15.7	8.7	32.1	28.3	43.5	15.2	
Hori	336.930	QP	37.2	16.5	10.0	32.1	31.6	46.0	14.4	
Hori	380.943	QP	30.6	17.2	10.3	32.1	26.0	46.0	20.0	
Hori	438.980	QP	38.8	18.2	10.6	32.1	35.5	46.0	10.5	
Hori	2390.000	PK	72.2	27.4	2.6	32.4	69.8	73.9	4.1	See 20dBc Data Sheet
Hori	2400.000	PK	86.6	27.4	2.6	32.4	84.2	-	-	
Hori	2570.000	PK	43.3	27.7	2.7	32.4	41.3	73.9	32.6	
Hori	4824.000	PK	42.1	31.4	3.8	31.3	46.0	73.9	27.9	
Hori	7236.000	PK	42.3	35.5	4.8	31.6	51.0	73.9	22.9	
Hori	9648.000	PK	43.9	38.4	5.5	31.9	55.9	73.9	18.0	
Hori	24120.000	PK	46.8	40.4	-1.0	29.6	56.6	73.9	17.3	NS
Hori	2390.000	AV	51.5	27.4	2.6	32.4	49.1	53.9	4.8	See 20dBc Data Sheet
Hori	2400.000	AV	68.1	27.4	2.6	32.4	65.7	-	-	
Hori	2570.000	AV	31.6	27.7	2.7	32.4	29.6	53.9	24.3	
Hori	4824.000	AV	30.9	31.4	3.8	31.3	34.8	53.9	19.1	
Hori	7236.000	AV	31.0	35.5	4.8	31.6	39.7	53.9	14.2	
Hori	9648.000	AV	33.2	38.4	5.5	31.9	45.2	53.9	8.7	
Hori	24120.000	AV	35.1	40.4	-1.0	29.6	44.9	53.9	9.0	NS
Vert	34.297	QP	37.7	16.7	7.0	32.2	29.2	40.0	10.8	
Vert	64.065	QP	44.4	7.7	7.5	32.2	27.4	40.0	12.6	
Vert	72.688	QP	47.0	6.7	7.6	32.2	29.1	40.0	10.9	
Vert	167.285	QP	41.1	15.7	8.7	32.1	33.4	43.5	10.1	
Vert	336.930	QP	42.1	16.5	10.0	32.1	36.5	46.0	9.5	
Vert	380.943	QP	30.8	17.2	10.3	32.1	26.2	46.0	19.8	
Vert	438.980	QP	39.8	18.2	10.6	32.1	36.5	46.0	9.5	
Vert	2390.000	PK	73.3	27.4	2.6	32.4	70.9	73.9	3.0	See 20dBc Data Sheet
Vert	2400.000	PK	88.5	27.4	2.6	32.4	86.1	-	-	
Vert	2570.000	PK	42.2	27.7	2.7	32.4	40.2	73.9	33.7	
Vert	4824.000	PK	42.3	31.4	4.4	31.3	46.8	73.9	27.1	
Vert	7236.000	PK	41.8	35.5	5.3	31.6	51.0	73.9	22.9	
Vert	9648.000	PK	43.1	38.4	6.2	31.9	55.8	73.9	18.1	
Vert	24120.000	PK	46.9	40.4	-1.0	29.6	56.7	73.9	17.2	NS
Vert	2390.000	AV	54.0	27.4	2.6	32.4	51.6	53.9	2.3	See 20dBc Data Sheet
Vert	2400.000	AV	69.7	27.4	2.6	32.4	67.3	-	-	
Vert	2570.000	AV	30.2	27.7	2.7	32.4	28.2	53.9	25.7	
Vert	4824.000	AV	31.2	31.4	4.4	31.3	35.7	53.9	18.2	
Vert	7236.000	AV	31.1	35.5	5.3	31.6	40.3	53.9	13.6	
Vert	9648.000	AV	32.1	38.4	6.2	31.9	44.8	53.9	9.1	
Vert	24120.000	AV	34.6	40.4	-1.0	29.6	44.4	53.9	9.5	NS

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

NS: No Signal detected

Radiated Spurious Emission 20dBc Data Sheet

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. 31KE0354-HO-01
Date 07/11/2011
Temperature/ Humidity 20 deg.C / 68% RH
Engineer Katsunori Okai
(1-10GHz)
Mode 11g Tx 2412MHz

20dBc Data Sheet

Polarity	Frequency	Detector	Reading	Ant Factor	Loss	Gain	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	2412.000	PK	103.0	27.4	2.6	32.4	100.6	-	-	Carrier
Hori	2400.000	PK	73.5	27.4	2.6	32.4	71.1	80.6	9.5	
Vert	2412.000	PK	105.1	27.4	2.6	32.4	102.7	-	-	Carrier
Vert	2400.000	PK	75.0	27.4	2.6	32.4	72.6	82.7	10.1	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

Radiated Spurious Emission

Test place : Head Office EMC Lab. No.2 and 4 Semi Anechoic Chamber
Report No. : 31KE0354-HO-01
Date : 07/11/2011 07/12/2011
Temperature/ Humidity : 20 deg.C / 68% RH 25 deg.C / 56% RH
Engineer : Tomotaka Sasagawa Takeshi Choda
(Above 1GHz) (Below 1GHz)
Mode : 11g Tx 2437MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	31.569	QP	23.1	17.5	7.0	32.2	15.4	40.0	24.6	
Hori	64.065	QP	28.8	7.7	7.5	32.2	11.8	40.0	28.2	
Hori	72.688	QP	29.3	6.7	7.6	32.2	11.4	40.0	28.6	
Hori	167.285	QP	35.6	15.7	8.7	32.1	27.9	43.5	15.6	
Hori	336.930	QP	38.5	16.5	10.0	32.1	32.9	46.0	13.1	
Hori	380.943	QP	30.8	17.2	10.3	32.1	26.2	46.0	19.8	
Hori	438.980	QP	39.2	18.2	10.6	32.1	35.9	46.0	10.1	
Hori	2353.000	PK	47.9	27.4	2.6	32.4	45.5	73.9	28.4	
Hori	2560.000	PK	50.7	27.7	2.7	32.4	48.7	73.9	25.2	
Hori	4874.000	PK	42.5	31.5	4.4	31.3	47.1	73.9	26.8	NS
Hori	7311.000	PK	42.8	35.6	5.3	31.6	52.1	73.9	21.8	NS
Hori	9748.000	PK	43.5	38.5	6.2	31.8	56.4	73.9	17.5	NS
Hori	24370.000	PK	47.4	40.4	-1.0	29.5	57.3	73.9	16.6	NS
Hori	2353.000	AV	33.5	27.4	2.6	32.4	31.1	53.9	22.8	
Hori	2560.000	AV	32.0	27.7	2.7	32.4	30.0	53.9	23.9	
Hori	4874.000	AV	30.5	31.5	4.4	31.3	35.1	53.9	18.8	NS
Hori	7311.000	AV	31.5	35.6	5.3	31.6	40.8	53.9	13.1	NS
Hori	9748.000	AV	32.9	38.5	6.2	31.8	45.8	53.9	8.1	NS
Hori	24370.000	AV	35.1	40.4	-1.0	29.5	45.0	53.9	8.9	NS
Vert	31.569	QP	37.7	17.5	7.0	32.2	30.0	40.0	10.0	
Vert	64.065	QP	45.0	7.7	7.5	32.2	28.0	40.0	12.0	
Vert	72.688	QP	47.6	6.7	7.6	32.2	29.7	40.0	10.3	
Vert	167.285	QP	41.3	15.7	8.7	32.1	33.6	43.5	9.9	
Vert	336.930	QP	41.9	16.5	10.0	32.1	36.3	46.0	9.7	
Vert	380.943	QP	32.1	17.2	10.3	32.1	27.5	46.0	18.5	
Vert	438.980	QP	40.1	18.2	10.6	32.1	36.8	46.0	9.2	
Vert	2353.000	PK	47.6	27.4	2.6	32.4	45.2	73.9	28.7	
Vert	2560.000	PK	41.8	27.7	2.7	32.4	39.8	73.9	34.1	
Vert	4874.000	PK	42.7	31.5	4.4	31.3	47.3	73.9	26.6	NS
Vert	7311.000	PK	42.9	35.6	5.3	31.6	52.2	73.9	21.7	NS
Vert	9748.000	PK	43.5	38.5	6.2	31.8	56.4	73.9	17.5	NS
Vert	24370.000	PK	47.1	40.4	-1.0	29.5	57.0	73.9	16.9	NS
Vert	2353.000	AV	32.6	27.4	2.6	32.4	30.2	53.9	23.8	
Vert	2560.000	AV	30.0	27.7	2.7	32.4	28.0	53.9	25.9	
Vert	4874.000	AV	30.5	31.5	4.4	31.3	35.1	53.9	18.8	NS
Vert	7311.000	AV	31.0	35.6	5.3	31.6	40.3	53.9	13.6	NS
Vert	9748.000	AV	32.9	38.5	6.2	31.8	45.8	53.9	8.1	NS
Vert	24370.000	AV	35.4	40.4	-1.0	29.5	45.3	53.9	8.6	NS

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

NS: No Signal detected

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 and 4 Semi Anechoic Chamber	
Report No.	31KE0354-HO-01	
Date	07/11/2011	07/12/2011
Temperature/ Humidity	20 deg.C / 68% RH	25 deg.C / 56% RH
Engineer	Katsunori Okai	Takeshi Choda
	(1-10GHz)	(Below 1GHz)
Mode	11g Tx 2462MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	31.569	QP	22.9	17.5	7.0	32.2	15.2	40.0	24.8	
Hori	64.065	QP	29.3	7.7	7.5	32.2	12.3	40.0	27.7	
Hori	72.688	QP	30.7	6.7	7.6	32.2	12.8	40.0	27.2	
Hori	167.285	QP	36.6	15.7	8.7	32.1	28.9	43.5	14.6	
Hori	336.930	QP	36.9	16.5	10.0	32.1	31.3	46.0	14.7	
Hori	380.943	QP	29.3	17.2	10.3	32.1	24.7	46.0	21.3	
Hori	439.880	QP	38.5	18.2	10.6	32.1	35.2	46.0	10.8	
Hori	2383.000	PK	49.5	27.4	2.6	32.4	47.1	73.9	26.9	
Hori	2483.500	PK	70.8	27.6	2.7	32.4	68.7	73.9	5.2	
Hori	2540.000	PK	54.6	27.6	2.7	32.4	52.5	73.9	21.4	
Hori	4924.000	PK	42.1	31.6	4.5	31.3	46.9	73.9	27.0	NS
Hori	7386.000	PK	43.1	35.7	5.3	31.6	52.5	73.9	21.4	NS
Hori	9848.000	PK	43.9	38.6	6.2	31.8	56.9	73.9	17.0	NS
Hori	24620.000	PK	47.4	40.3	-1.0	29.4	57.3	73.9	16.6	NS
Hori	2383.000	AV	34.2	27.4	2.6	32.4	31.8	53.9	22.1	
Hori	2483.500	AV	48.8	27.6	2.7	32.4	46.7	53.9	7.2	
Hori	2540.000	AV	33.7	27.6	2.7	32.4	31.6	53.9	22.3	
Hori	4924.000	AV	32.0	31.6	4.5	31.3	36.8	53.9	17.1	NS
Hori	7386.000	AV	31.8	35.7	5.3	31.6	41.2	53.9	12.7	NS
Hori	9848.000	AV	33.0	38.6	6.2	31.8	46.0	53.9	7.9	NS
Hori	24620.000	AV	35.1	40.3	-1.0	29.4	45.0	53.9	8.9	NS
Vert	31.569	QP	34.3	17.5	7.0	32.2	26.6	40.0	13.4	
Vert	64.065	QP	44.7	7.7	7.5	32.2	27.7	40.0	12.3	
Vert	72.688	QP	47.4	6.7	7.6	32.2	29.5	40.0	10.5	
Vert	167.285	QP	40.8	15.7	8.7	32.1	33.1	43.5	10.4	
Vert	336.930	QP	42.5	16.5	10.0	32.1	36.9	46.0	9.1	
Vert	380.943	QP	30.4	17.2	10.3	32.1	25.8	46.0	20.2	
Vert	439.880	QP	39.8	18.2	10.6	32.1	36.5	46.0	9.5	
Vert	2383.000	PK	45.7	27.4	2.6	32.4	43.3	73.9	30.7	
Vert	2483.500	PK	73.5	27.6	2.7	32.4	71.4	73.9	2.5	
Vert	2540.000	PK	46.8	27.6	2.7	32.4	44.7	73.9	29.2	
Vert	4924.000	PK	41.9	31.6	4.5	31.3	46.7	73.9	27.2	NS
Vert	7386.000	PK	42.8	35.7	5.3	31.6	52.2	73.9	21.7	NS
Vert	9848.000	PK	44.1	38.6	6.2	31.8	57.1	73.9	16.8	NS
Vert	24620.000	PK	47.1	40.3	-1.0	29.4	57.0	73.9	16.9	NS
Vert	2383.000	AV	32.0	27.4	2.6	32.4	29.6	53.9	24.3	
Vert	2483.500	AV	49.9	27.6	2.7	32.4	47.8	53.9	6.1	
Vert	2540.000	AV	30.8	27.6	2.7	32.4	28.7	53.9	25.3	
Vert	4924.000	AV	32.3	31.6	4.5	31.3	37.1	53.9	16.8	NS
Vert	7386.000	AV	31.7	35.7	5.3	31.6	41.1	53.9	12.8	NS
Vert	9848.000	AV	32.5	38.6	6.2	31.8	45.5	53.9	8.4	NS
Vert	24620.000	AV	35.4	40.3	-1.0	29.4	45.3	53.9	8.6	NS

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

NS: No Signal detected

Radiated Spurious Emission

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. 31KE0354-HO-01
Date 07/11/2011
Temperature/ Humidity 20 deg.C / 68% RH
Engineer Katsunori Okai
(1-10GHz)
Mode 11n20 Tx 2412MHz / 2462MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2390.000	PK	72.1	27.4	2.6	32.4	69.7	73.9	4.2	
Hori	2400.000	PK	87.8	27.4	2.6	32.4	85.4	-	-	See 20dBc Data Sheet
Hori	2390.000	AV	51.9	27.4	2.6	32.4	49.5	53.9	4.4	
Hori	2400.000	AV	67.8	27.4	2.6	32.4	65.4	-	-	See 20dBc Data Sheet
Vert	2390.000	PK	75.0	27.4	2.6	32.4	72.6	73.9	1.3	
Vert	2400.000	PK	90.3	27.4	2.6	32.4	87.9	-	-	See 20dBc Data Sheet
Vert	2390.000	AV	54.6	27.4	2.6	32.4	52.2	53.9	1.7	
Vert	2400.000	AV	70.3	27.4	2.6	32.4	67.9	-	-	See 20dBc Data Sheet

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2412.000	PK	102.6	27.4	2.6	32.4	100.2	-	-	Carrier
Hori	2400.000	PK	72.5	27.4	2.6	32.4	70.1	80.2	10.1	
Vert	2412.000	PK	104.5	27.4	2.6	32.4	102.1	-	-	Carrier
Vert	2400.000	PK	75.8	27.4	2.6	32.4	73.4	82.1	8.7	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2483.500	PK	72.9	27.6	2.7	32.4	70.8	73.9	3.1	
Hori	2483.500	AV	50.6	27.6	2.7	32.4	48.5	53.9	5.4	
Vert	2483.500	PK	74.2	27.6	2.7	32.4	72.1	73.9	1.8	
Vert	2483.500	AV	51.6	27.6	2.7	32.4	49.5	53.9	4.4	

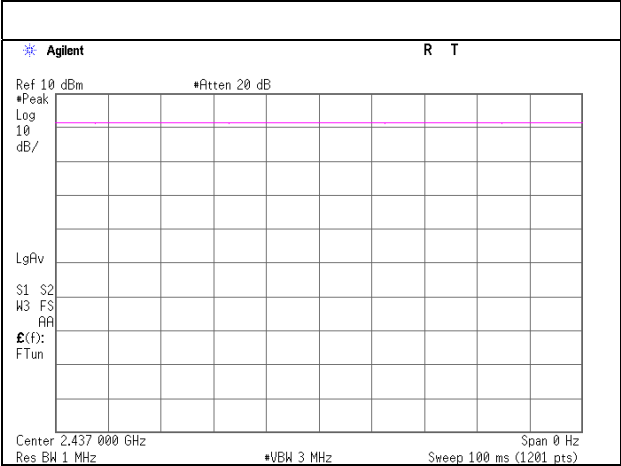
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

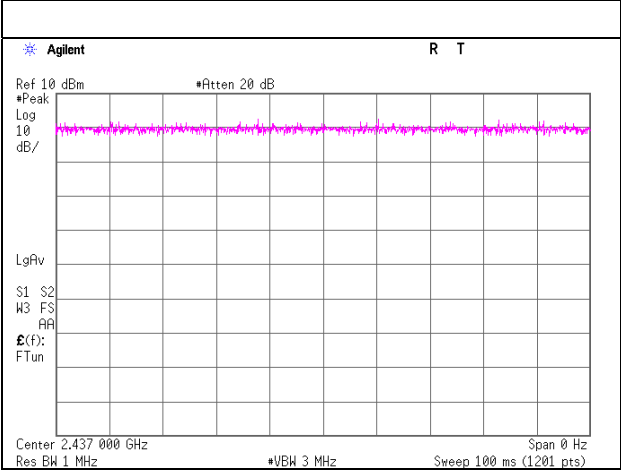
Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

VBW (AV) Calculation

Tx 11b 2Mbps

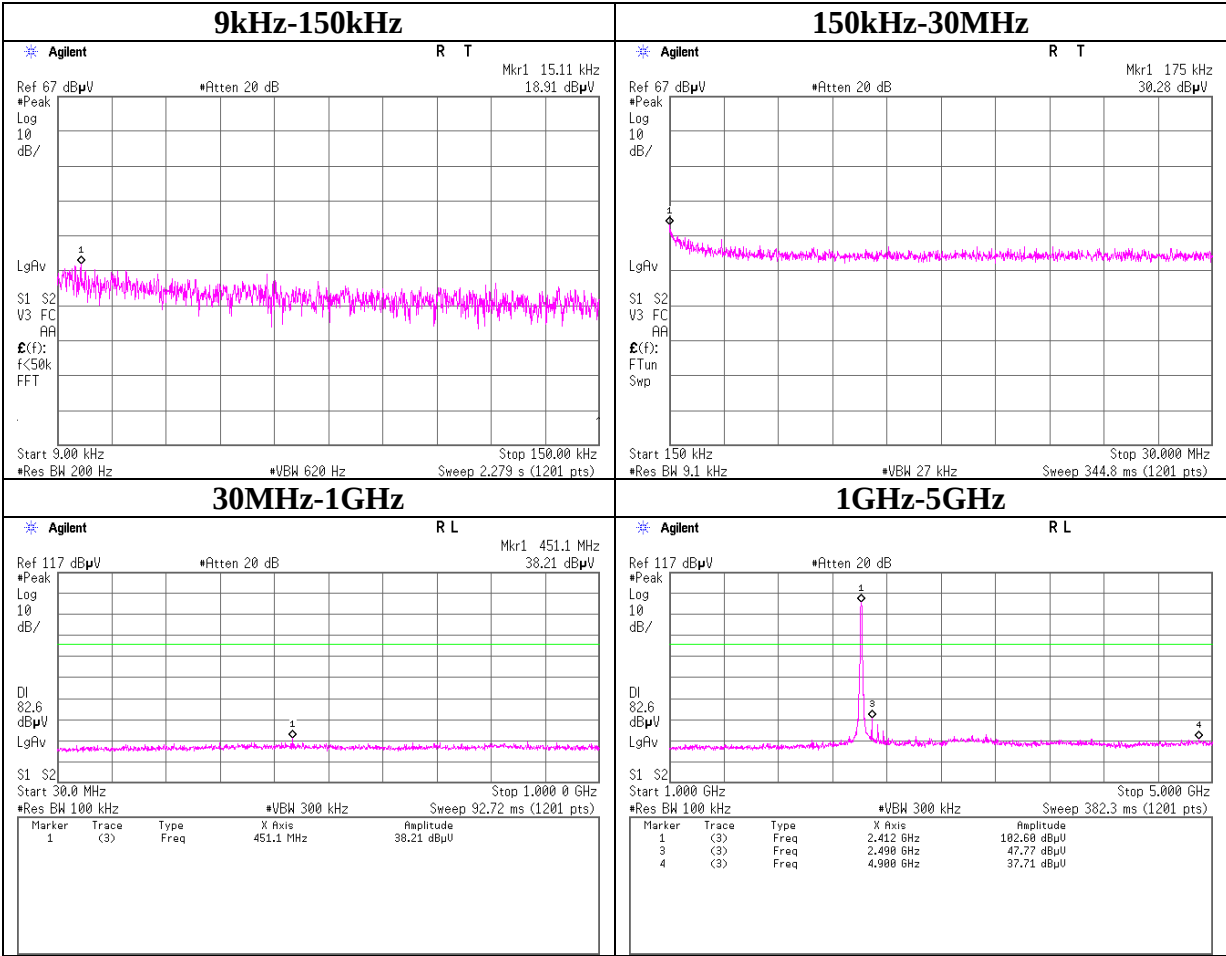


Tx 11g 9Mbps



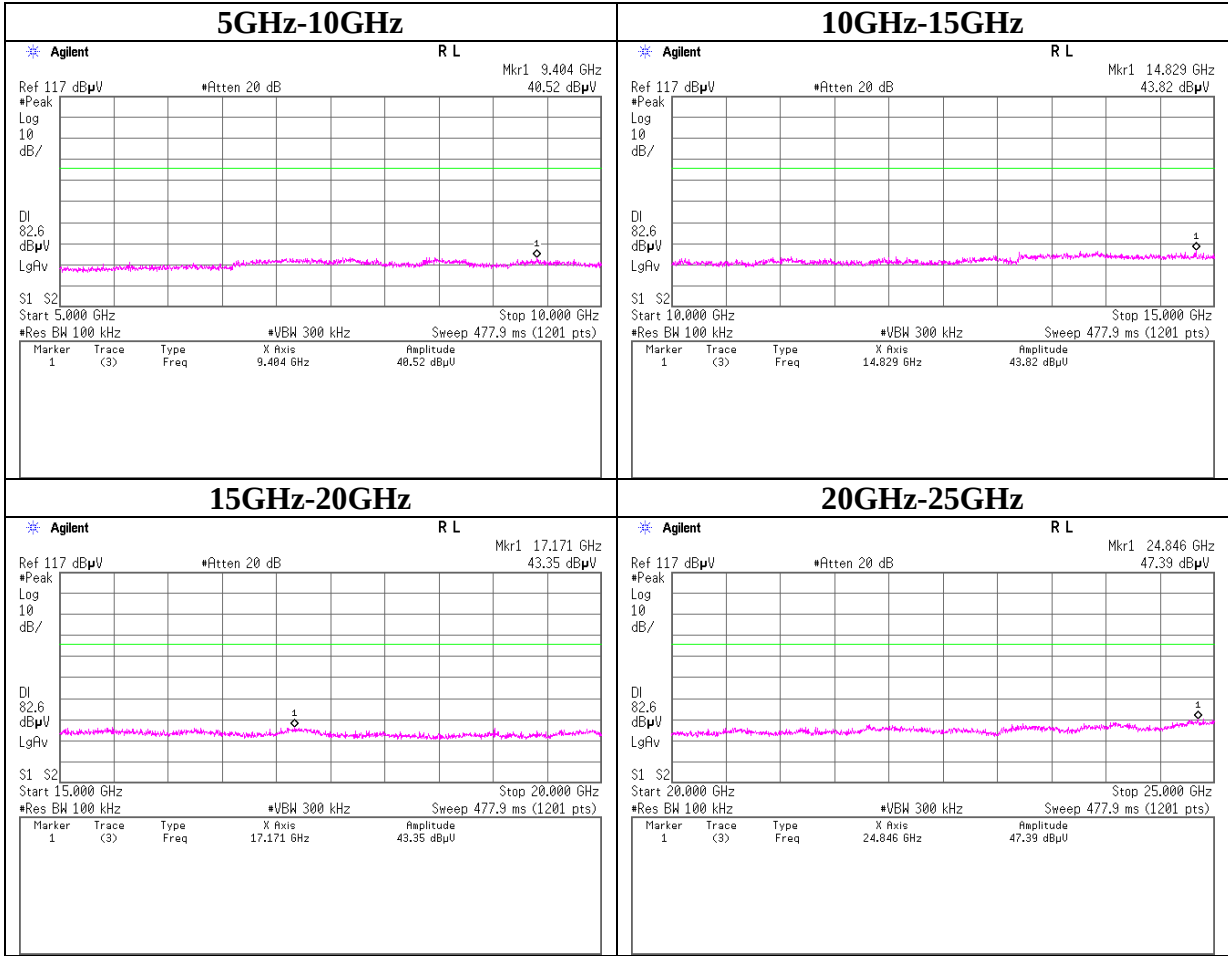
Conducted Spurious Emission

11b Tx 2412MHz



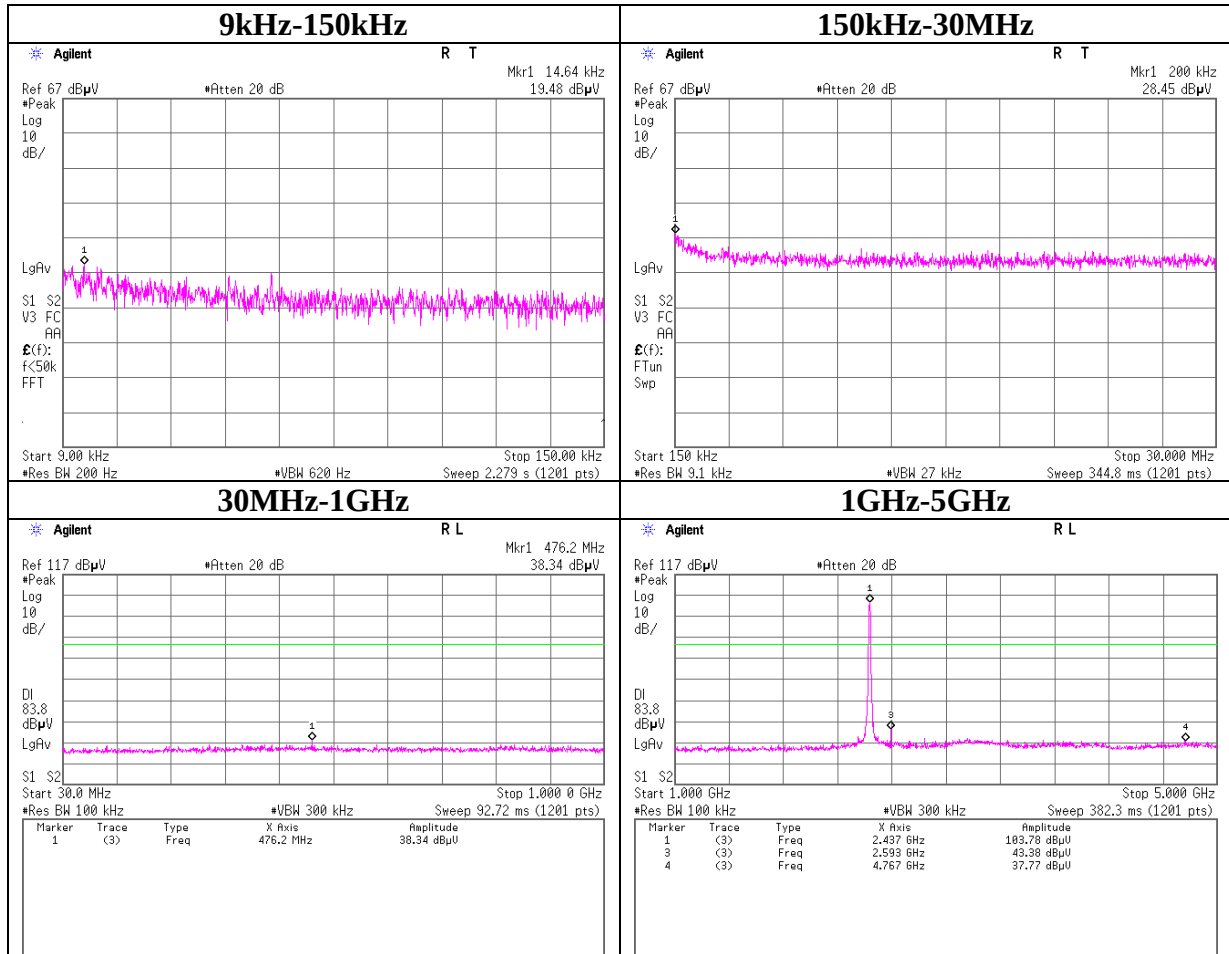
Conducted Spurious Emission

11b Tx 2412MHz



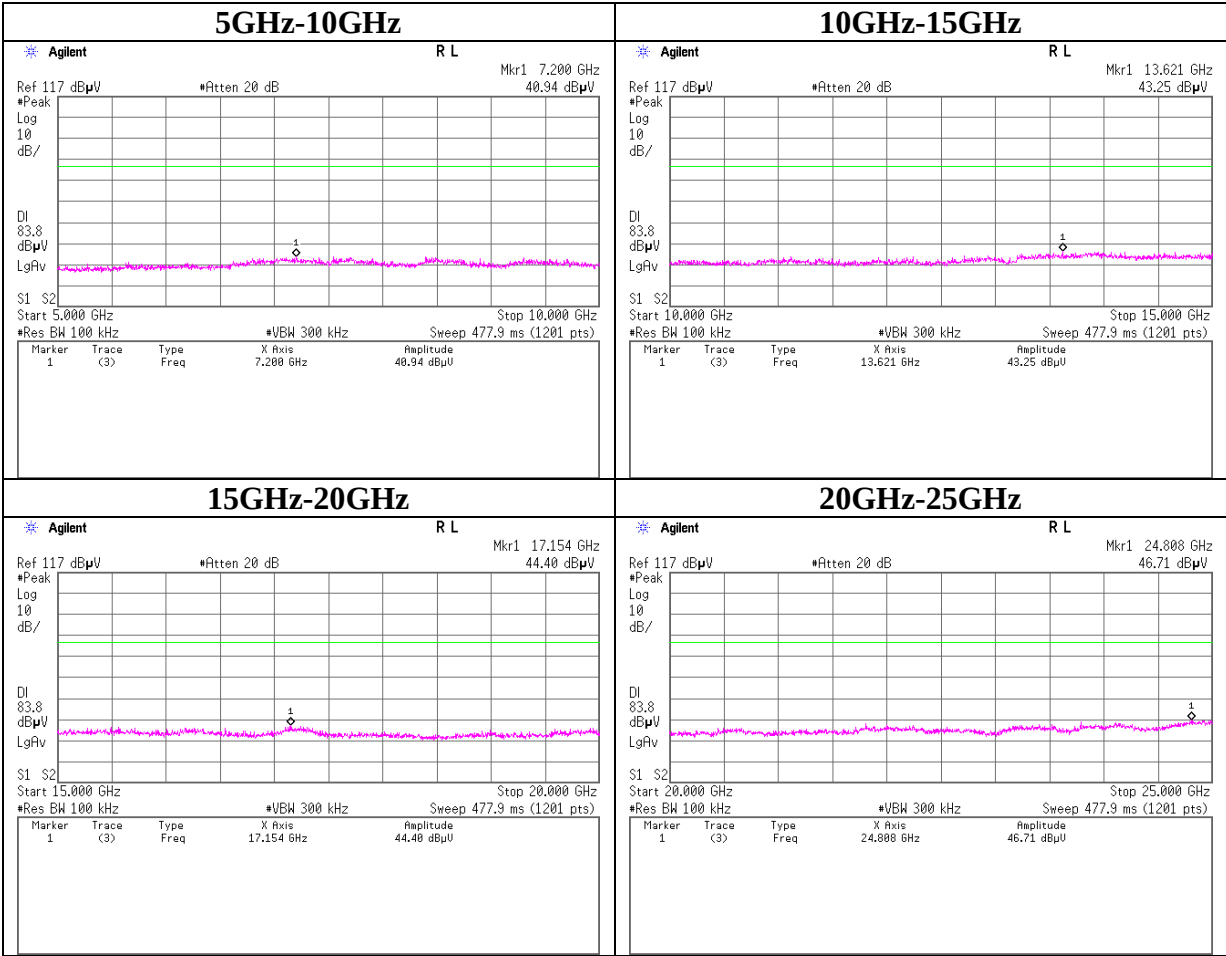
Conducted Spurious Emission

11b Tx 2437MHz



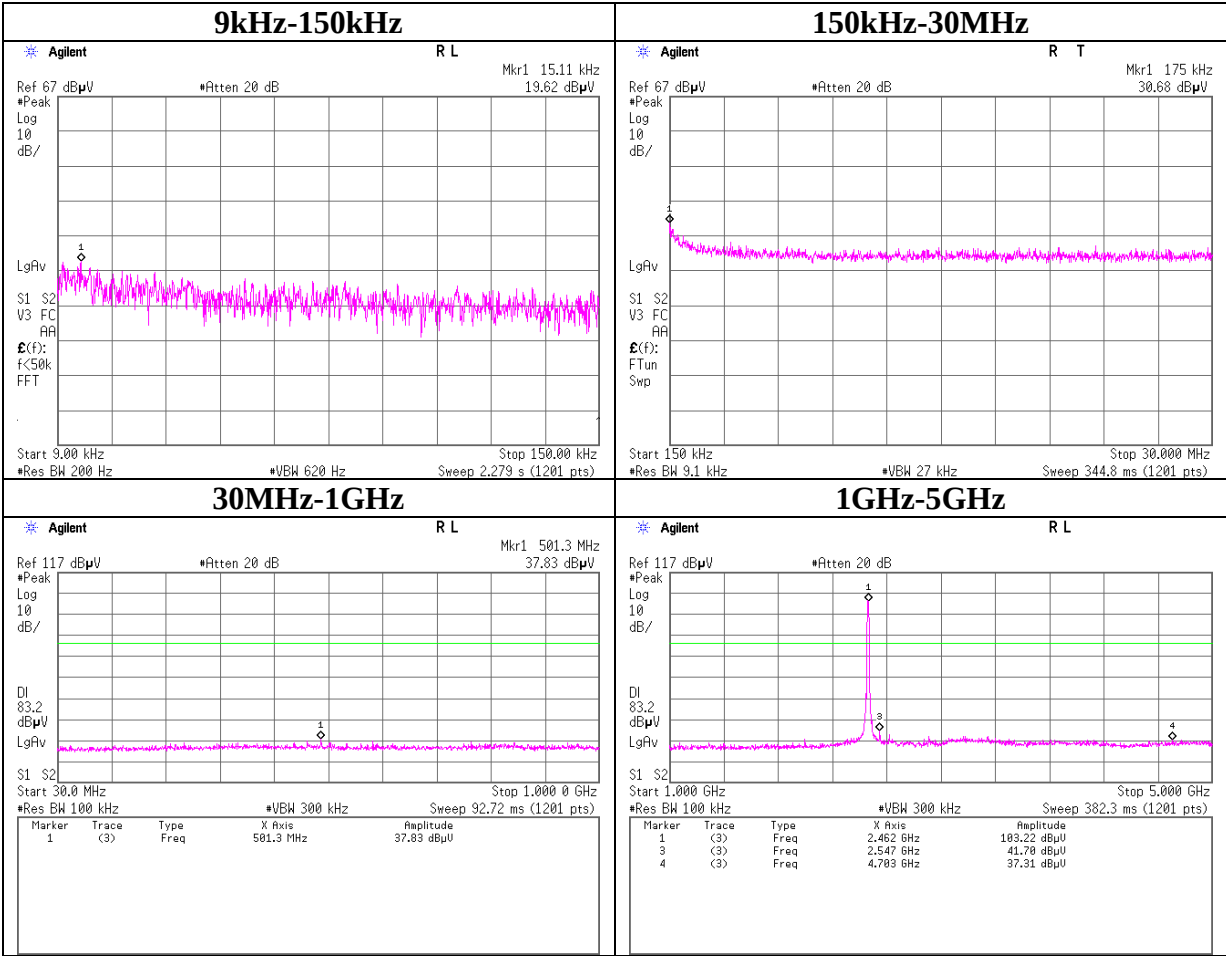
Conducted Spurious Emission

11b Tx 2437MHz



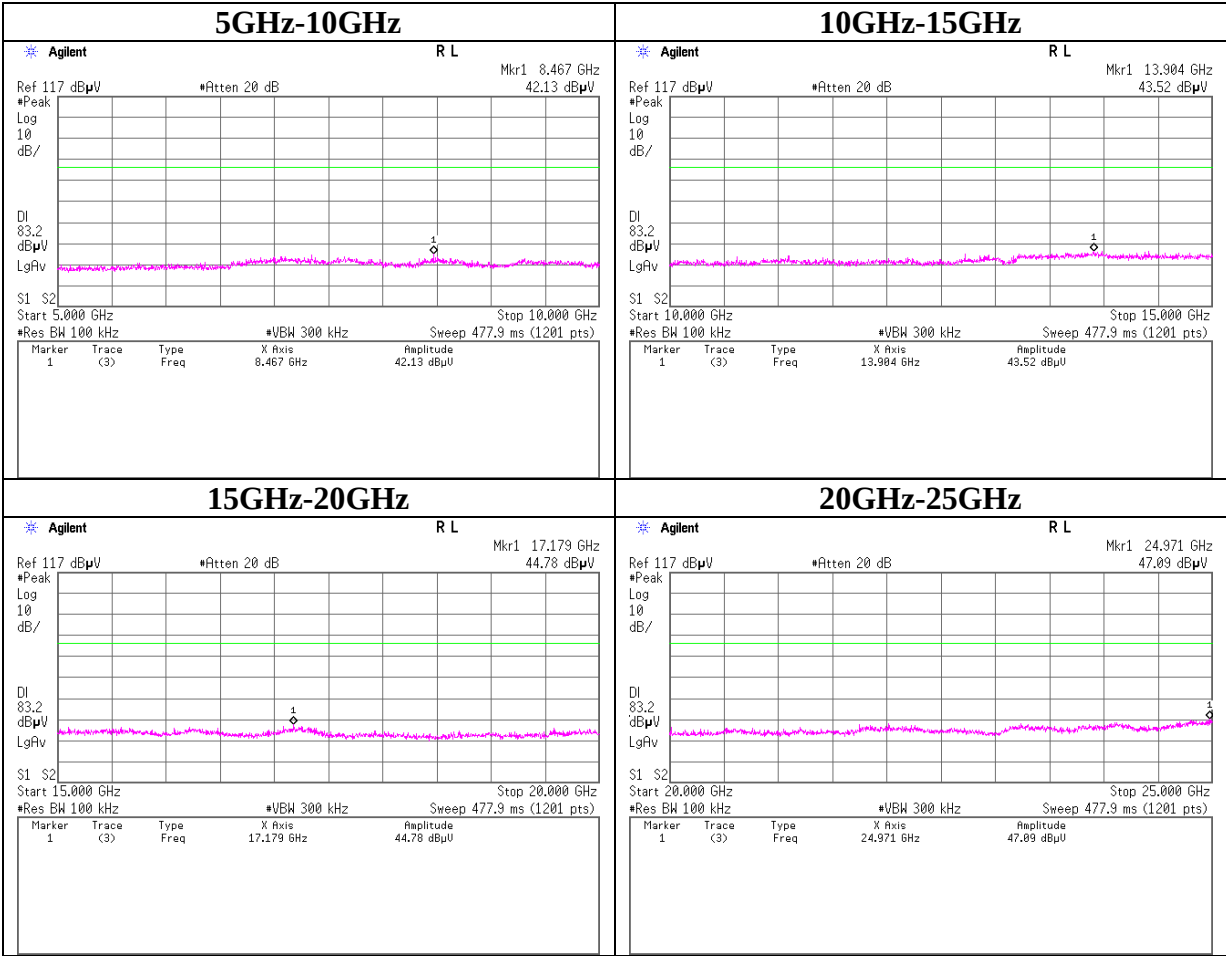
Conducted Spurious Emission

11b Tx 2462MHz



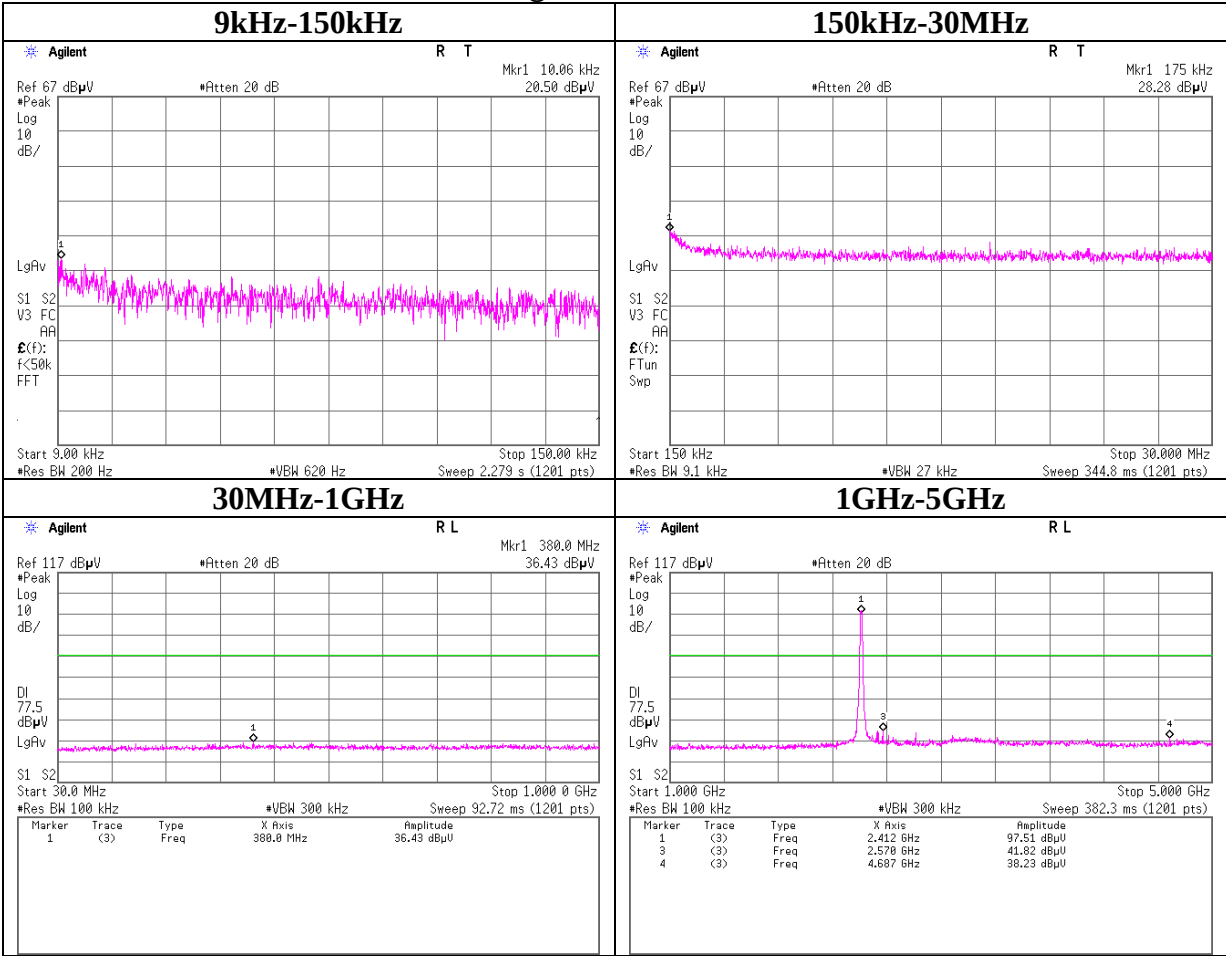
Conducted Spurious Emission

11b Tx 2462MHz



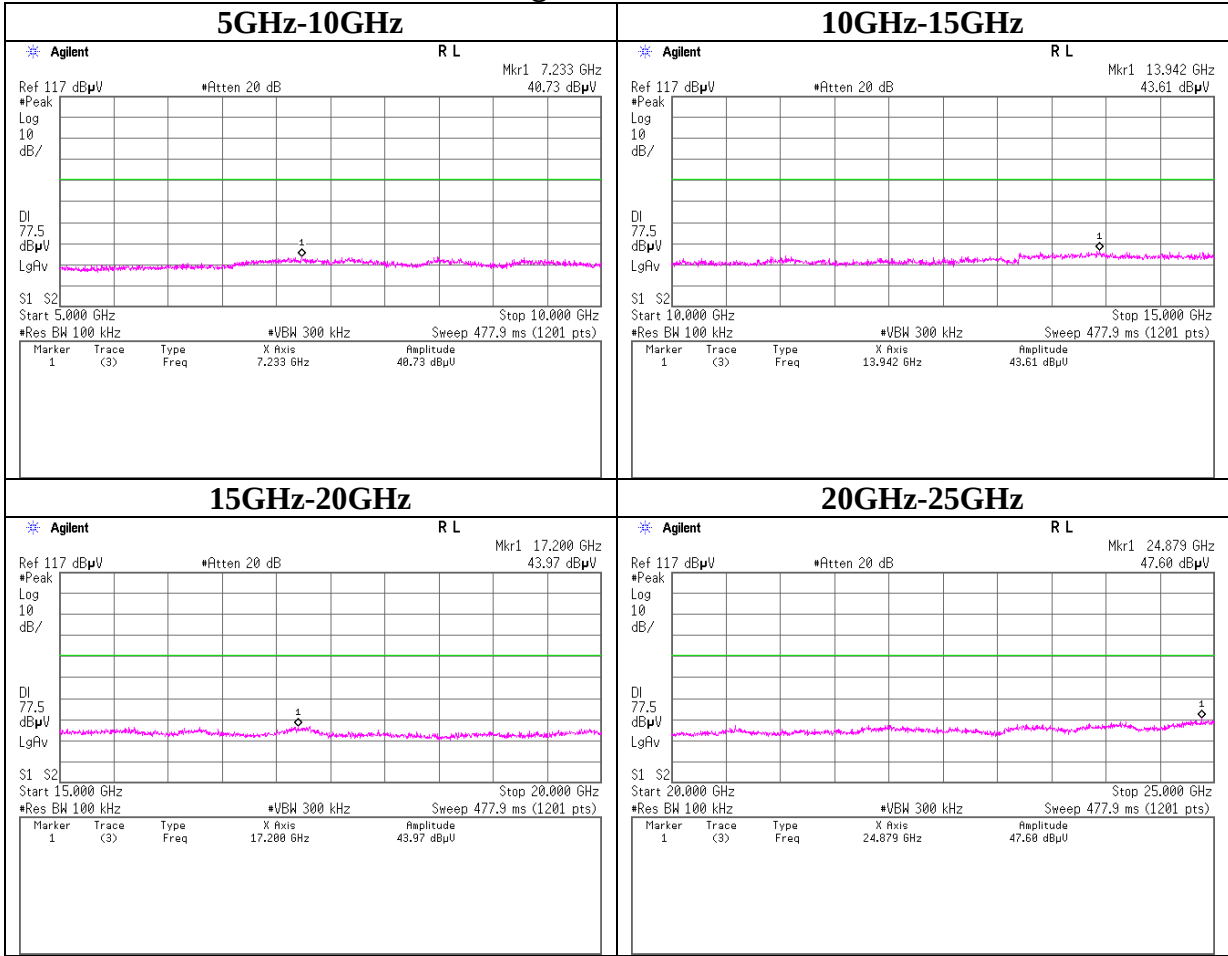
Conducted Spurious Emission

11g Tx 2412MHz



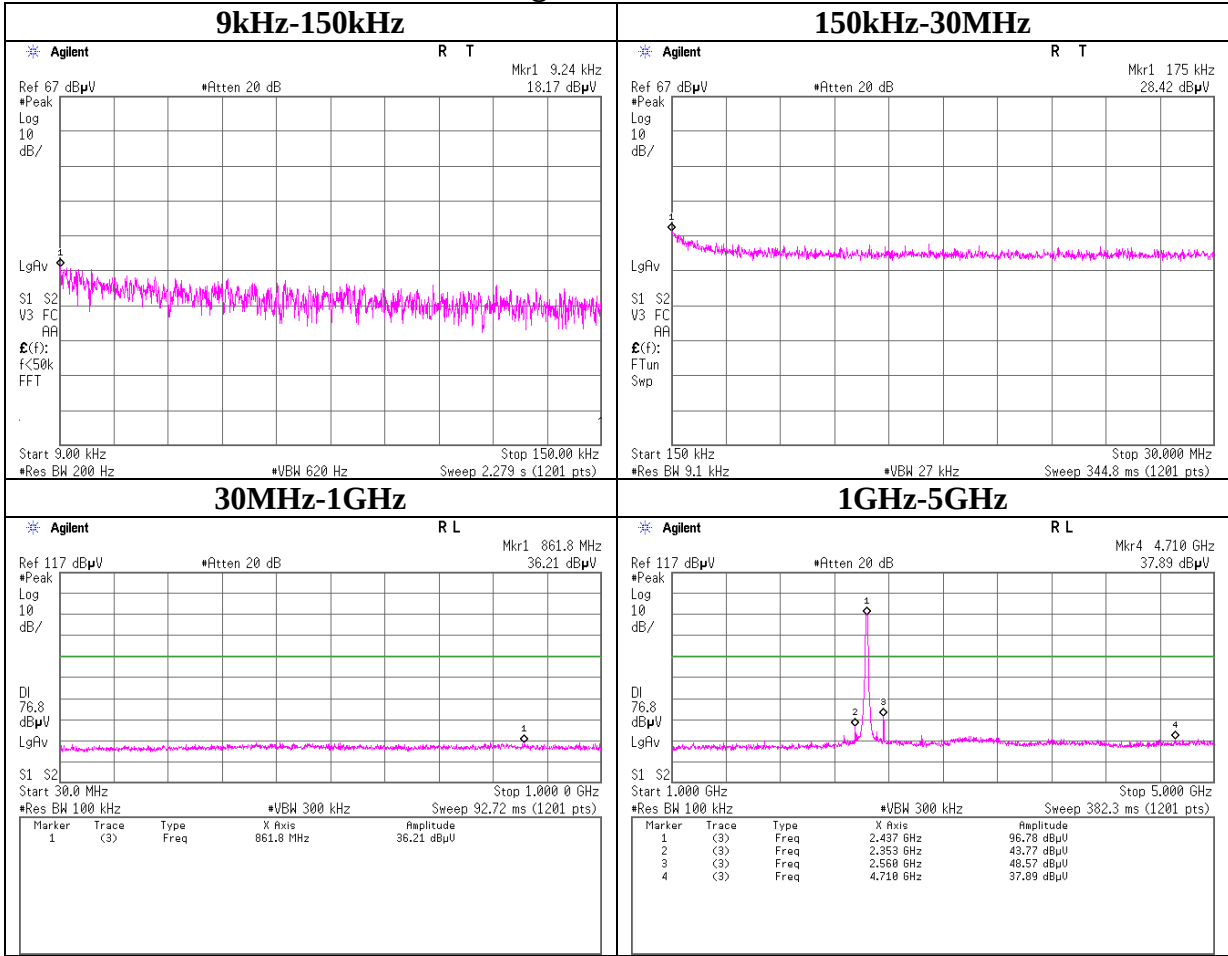
Conducted Spurious Emission

11g Tx 2412MHz



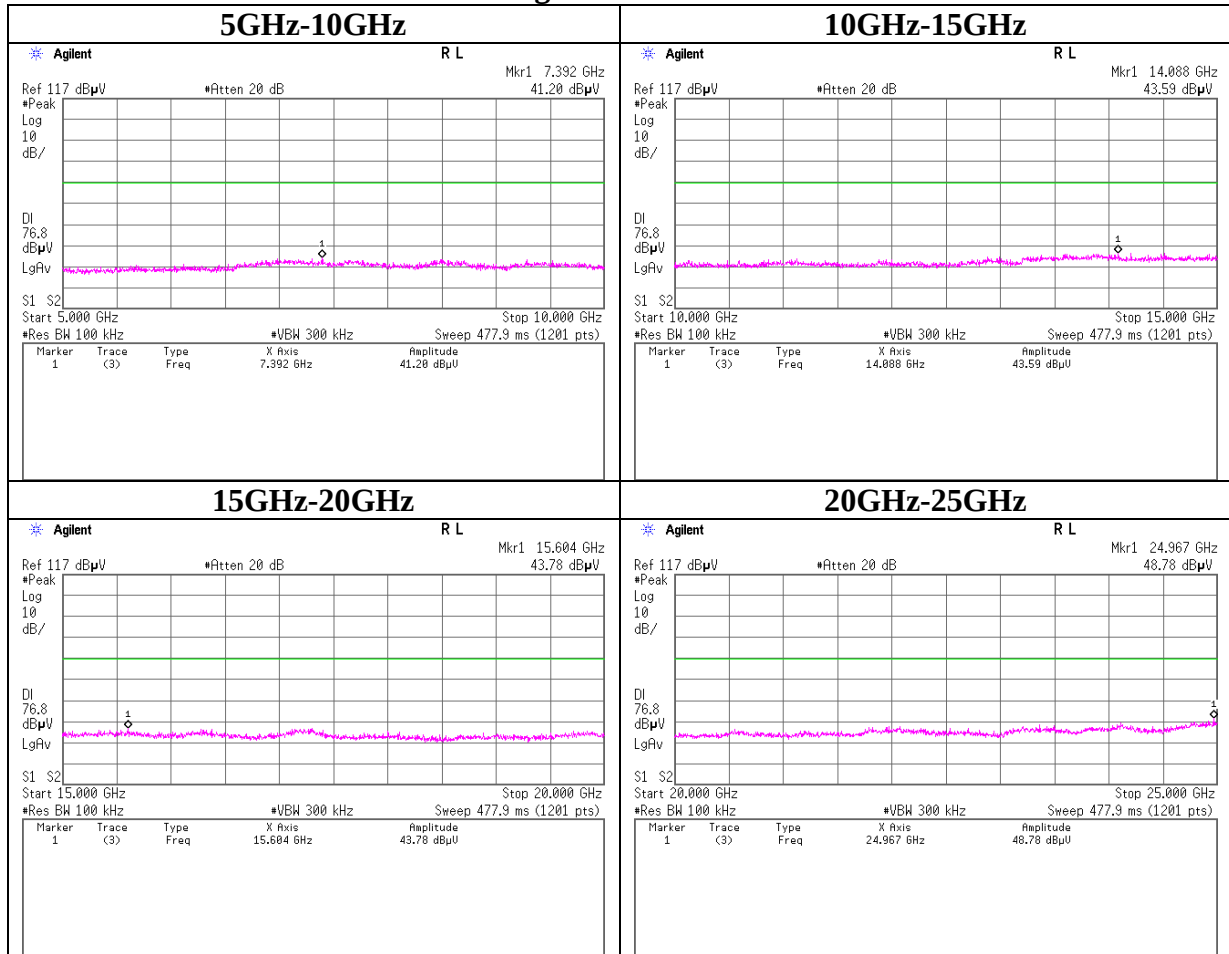
Conducted Spurious Emission

11g Tx 2437MHz



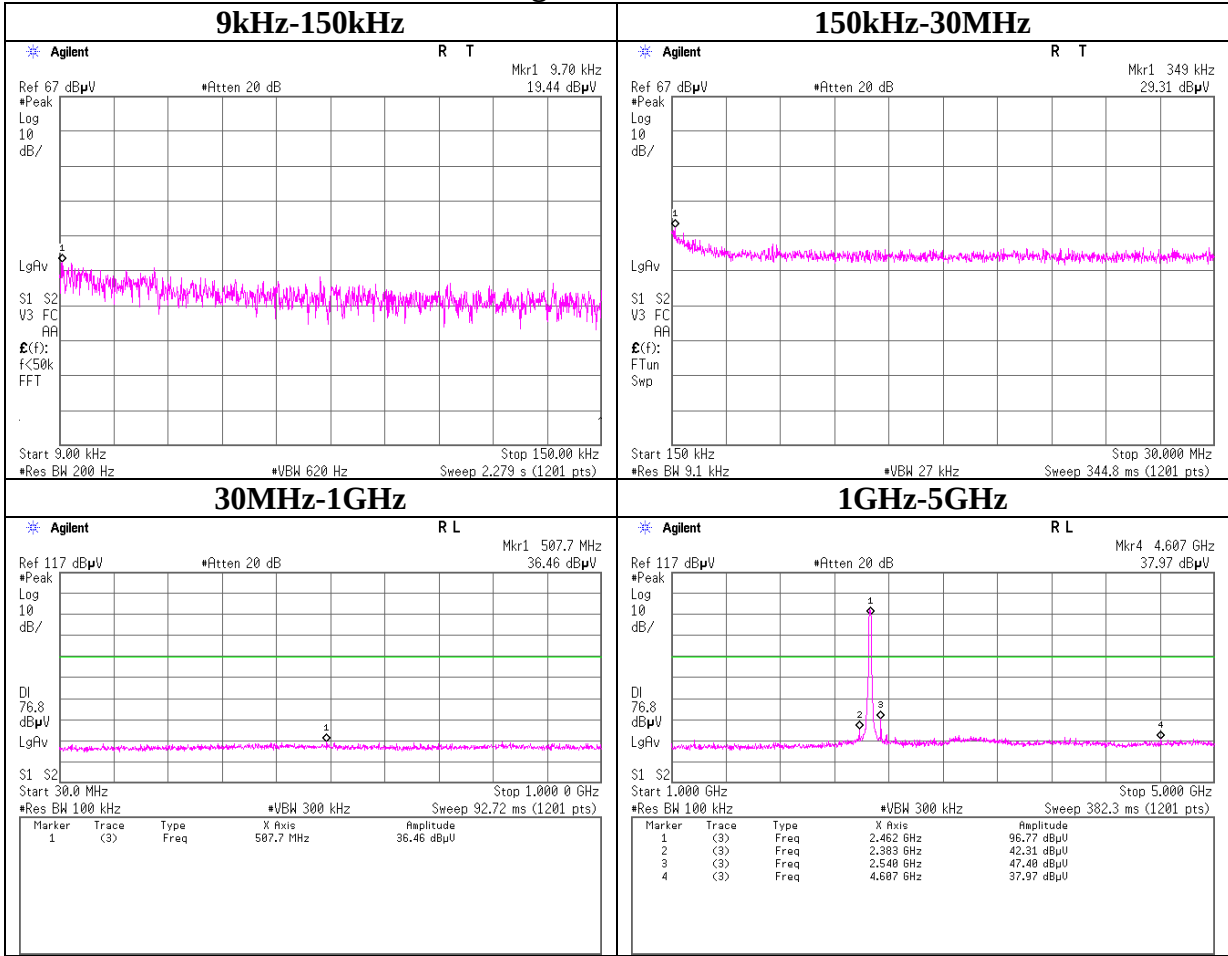
Conducted Spurious Emission

11g Tx 2437MHz



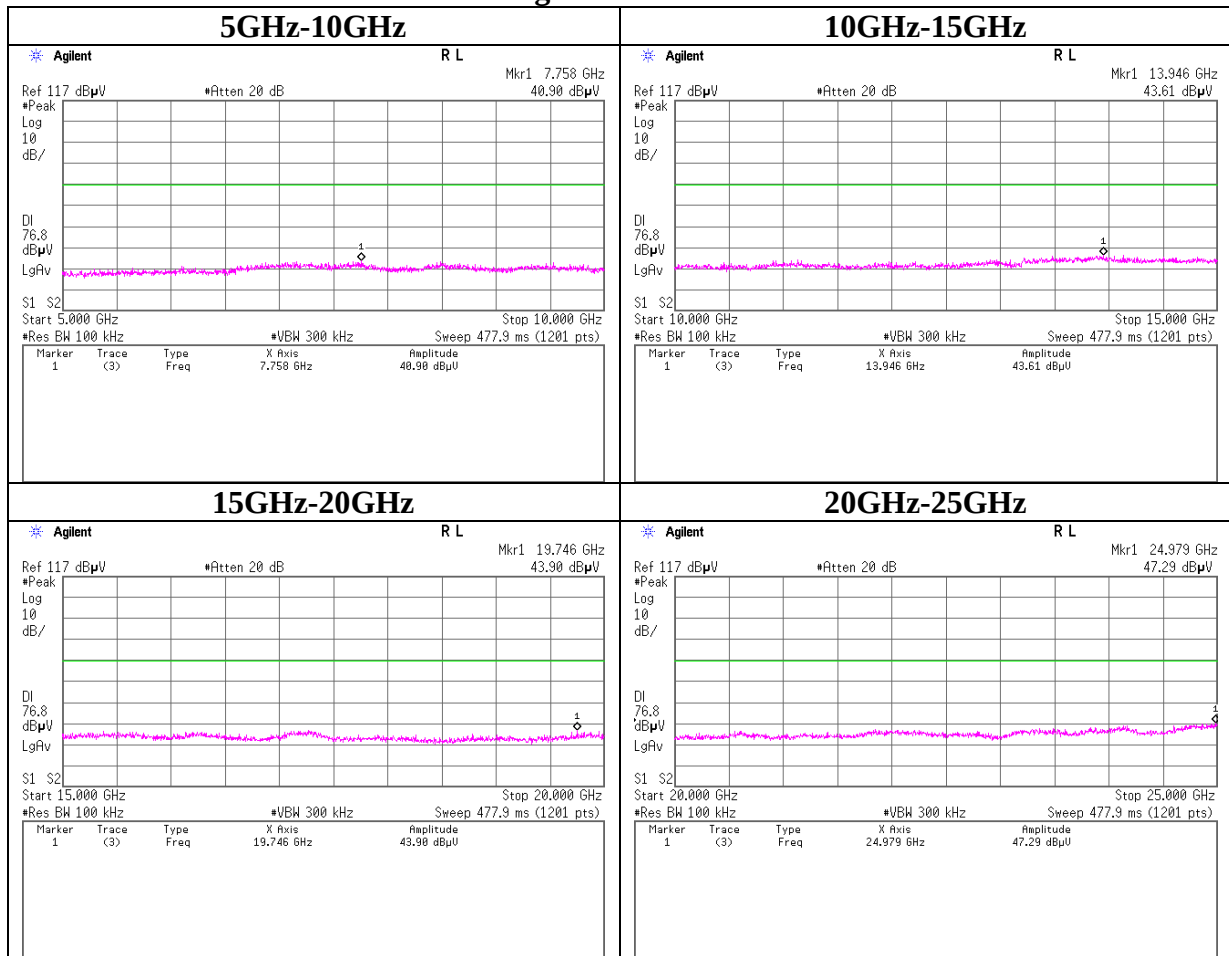
Conducted Spurious Emission

11g Tx 2462MHz



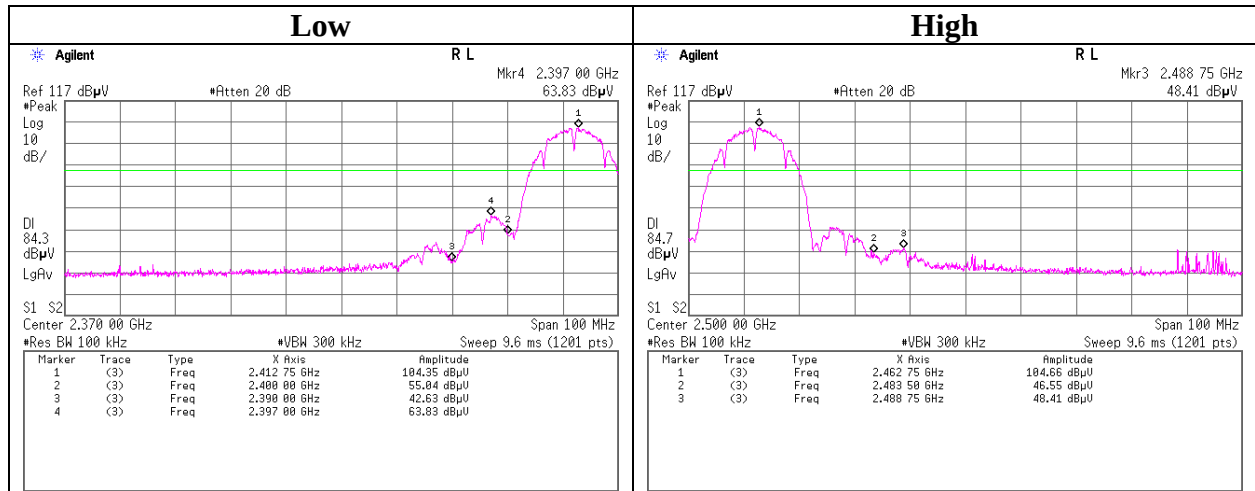
Conducted Spurious Emission

11g Tx 2462MHz

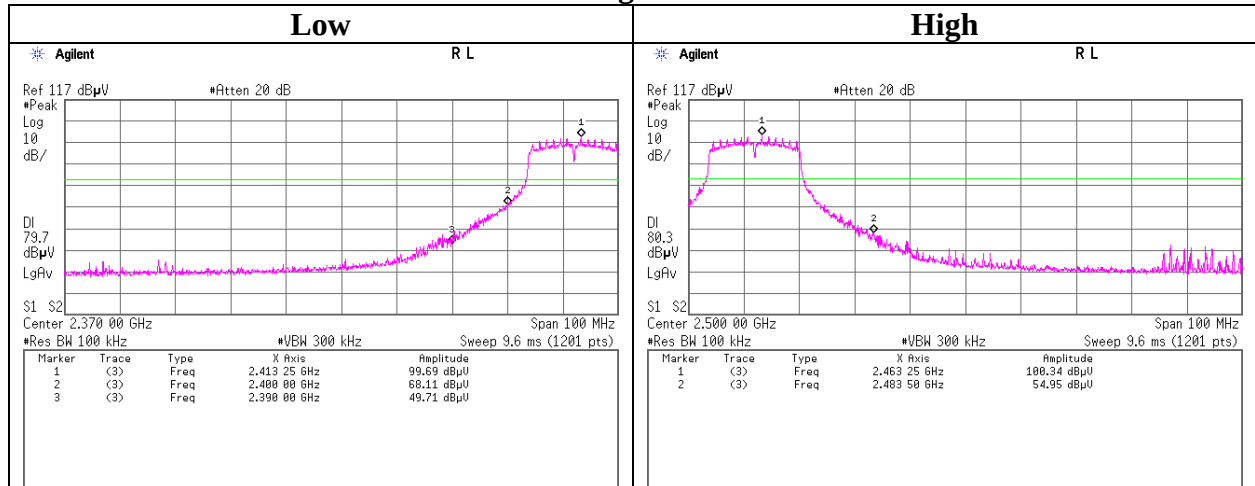


Conducted Emission Band Edge compliance

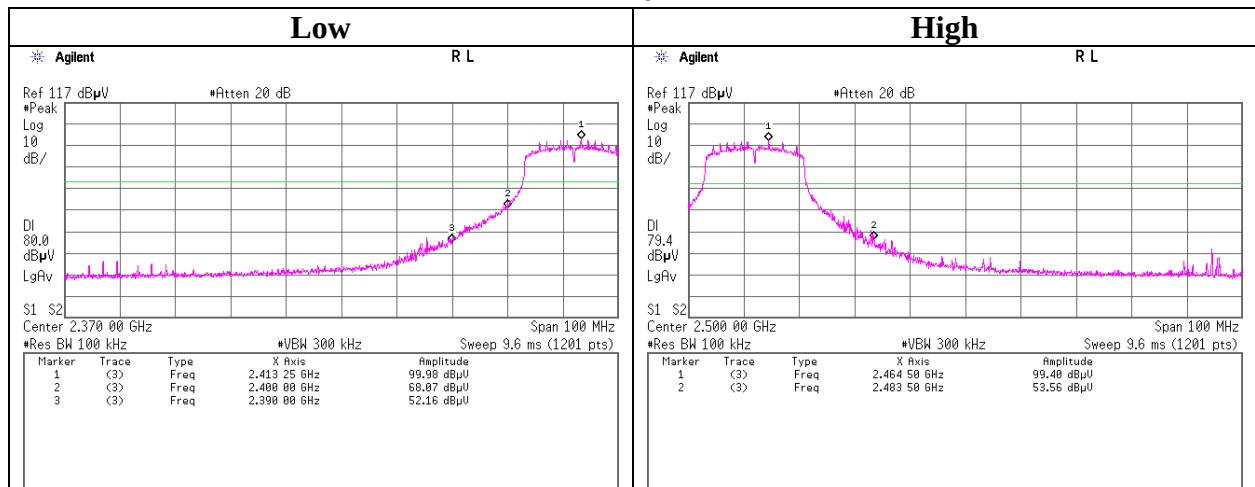
11b Tx



11g Tx



11n-20 Tx



Power Density

Test place Head Office EMC Lab. No.6 Measurement Room
Report No. 31KE0354-HO-01
Date 07/12/2011
Temperature/ Humidity 22 deg. C / 58% RH
Engineer Hiroshi Kukita
Mode Tx

11b

Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
2412.00	-4.43	1.44	10.07	7.08	8.00	0.92
2437.00	-4.54	1.45	10.07	6.98	8.00	1.02
2462.00	-4.84	1.45	10.07	6.68	8.00	1.32

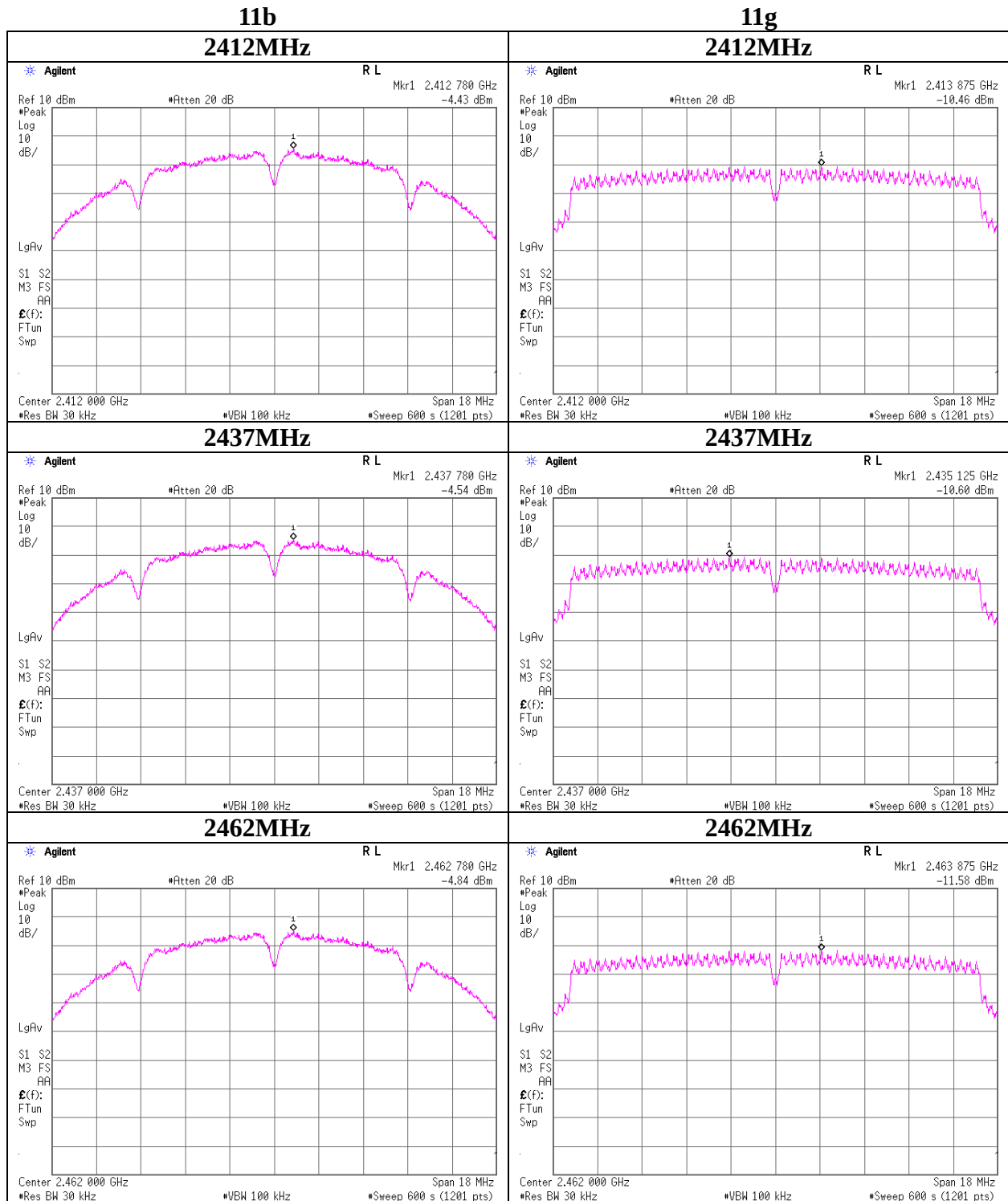
11g

Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
2412.00	-10.46	1.44	10.07	1.05	8.00	6.95
2437.00	-10.60	1.45	10.07	0.92	8.00	7.08
2462.00	-11.58	1.45	10.07	-0.06	8.00	8.06

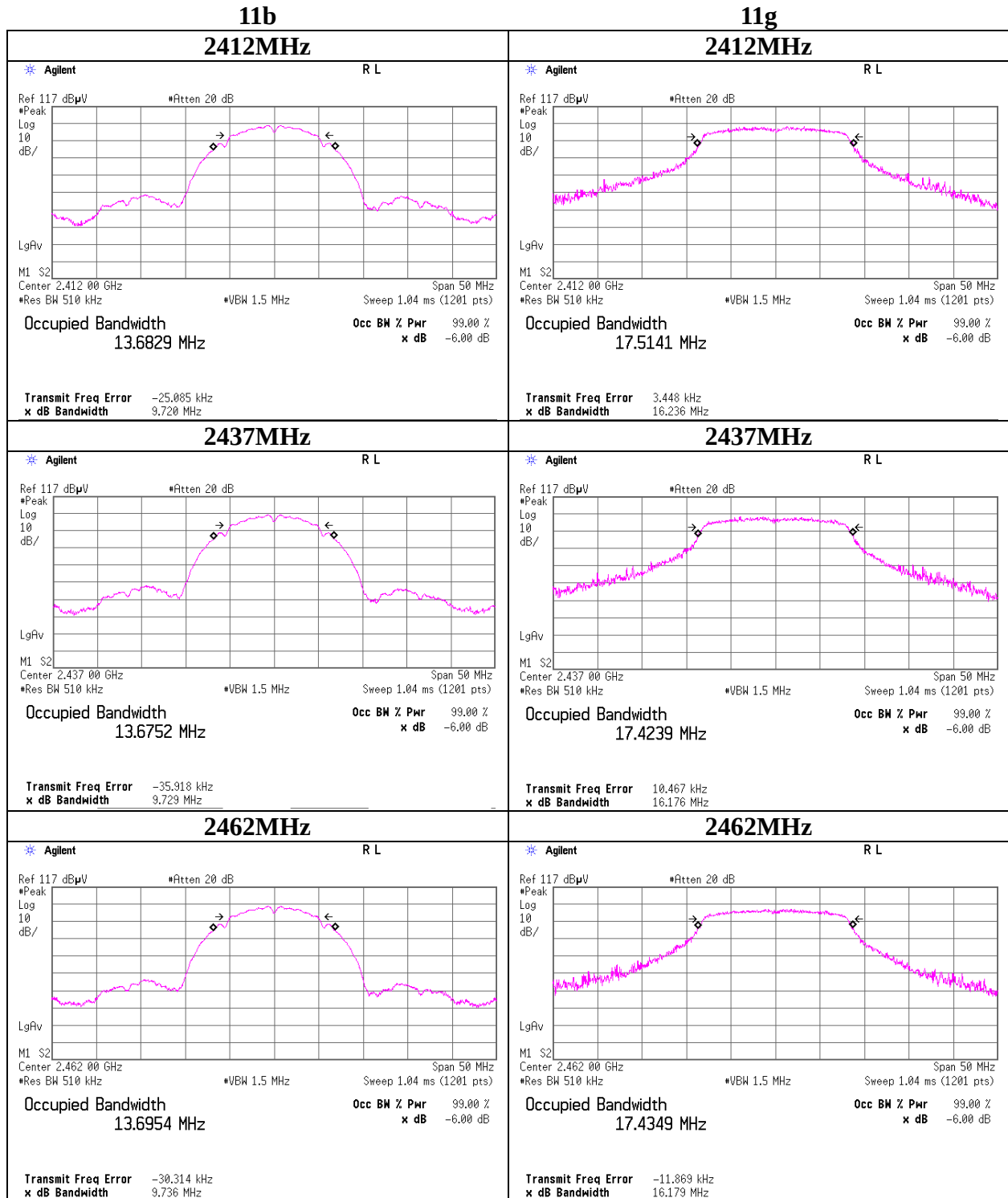
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator

Power Density



99% Occupied Bandwidth



APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	CE	2011/04/15 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2011/02/20 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(AE)	2011/02/22 * 12
MTA-31	Terminator	TME	CT-01	-	CE	2011/01/05 * 12
MCC-13	Coaxial Cable	Fujikura	3D-2W(12m)/5D-2W(5m)/5D-2W(0.8m)/5D-2W(1m)	-	CE	2011/02/18 * 12
MAT-65	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2011/02/21 * 12
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE/CE	2010/09/01 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE/AT/CE	2011/02/23 * 12
MJM-14	Measure	KOMELON	KMC-36	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE/CE	2011/04/08 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2011/01/16 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2010/09/30 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	148048-143(1m) / 292410(5m)	RE	2010/09/30 * 12
MHF-06	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	RE	2011/05/16 * 12
MAT-23	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	AT	2011/03/14 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	AT	2010/09/10 * 12
MPSE-11	Power sensor	Anritsu	MA2411B	011737	AT	2010/09/10 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	2011/01/16 * 12
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2011/03/01 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE	2011/02/23 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE	-
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE	2010/11/18 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE	2010/10/27 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2010/10/11 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2010/10/11 * 12
MCC-50	Coaxial Cable	UL Japan	-	-	RE	2011/03/25 * 12
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	RE	2011/01/14 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2011/03/04 * 12
MRENT-95	Spectrum Analyzer	Agilent	E4440A	MY45305081	AT	2011/06/30 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	MOS04	AT	2011/02/23 * 12
MCC-115	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290211/4	AT	2010/08/05 * 12

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

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

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Facsimile : +81 596 24 8124

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

Test Item: CE: Conducted Emission
RE: Radiated Emission
AT: Antenna Terminal Conducted test