DATA OF CONDUCTED EMISSION TEST

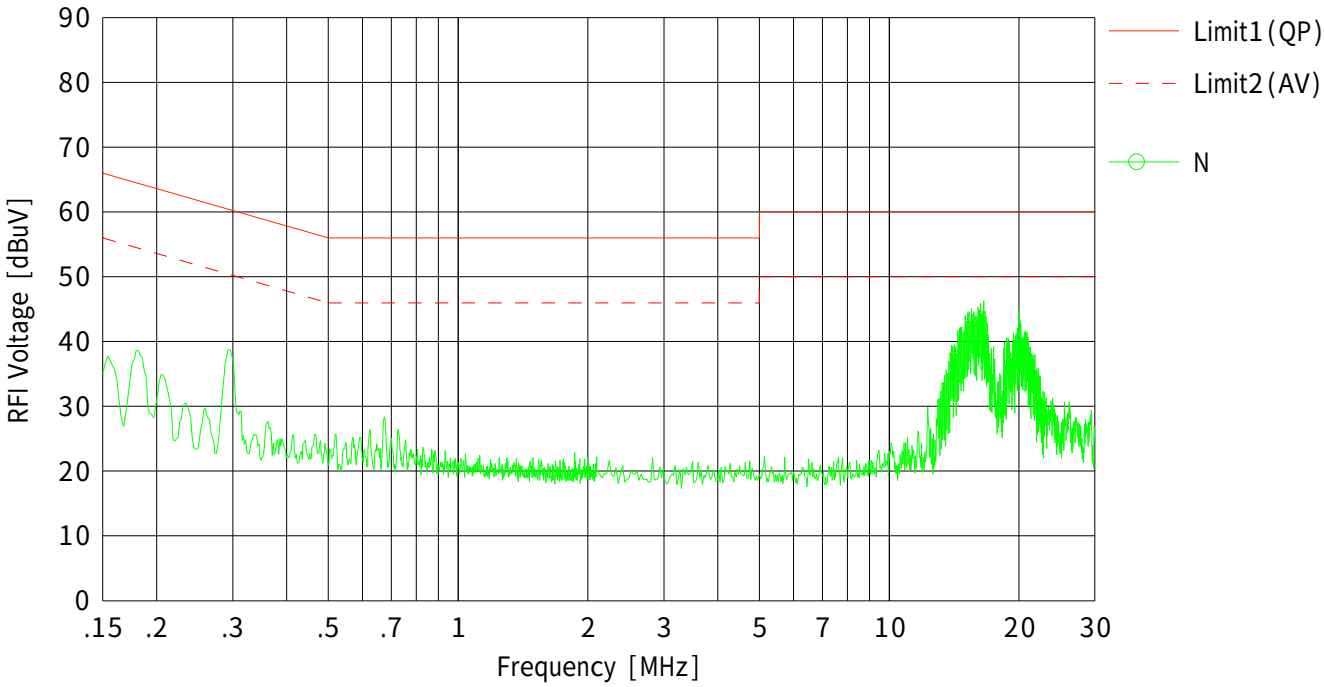
UL Japan, Inc. Shonan EMC Lab. No.1 Shield Room
Date : 2010/03/03

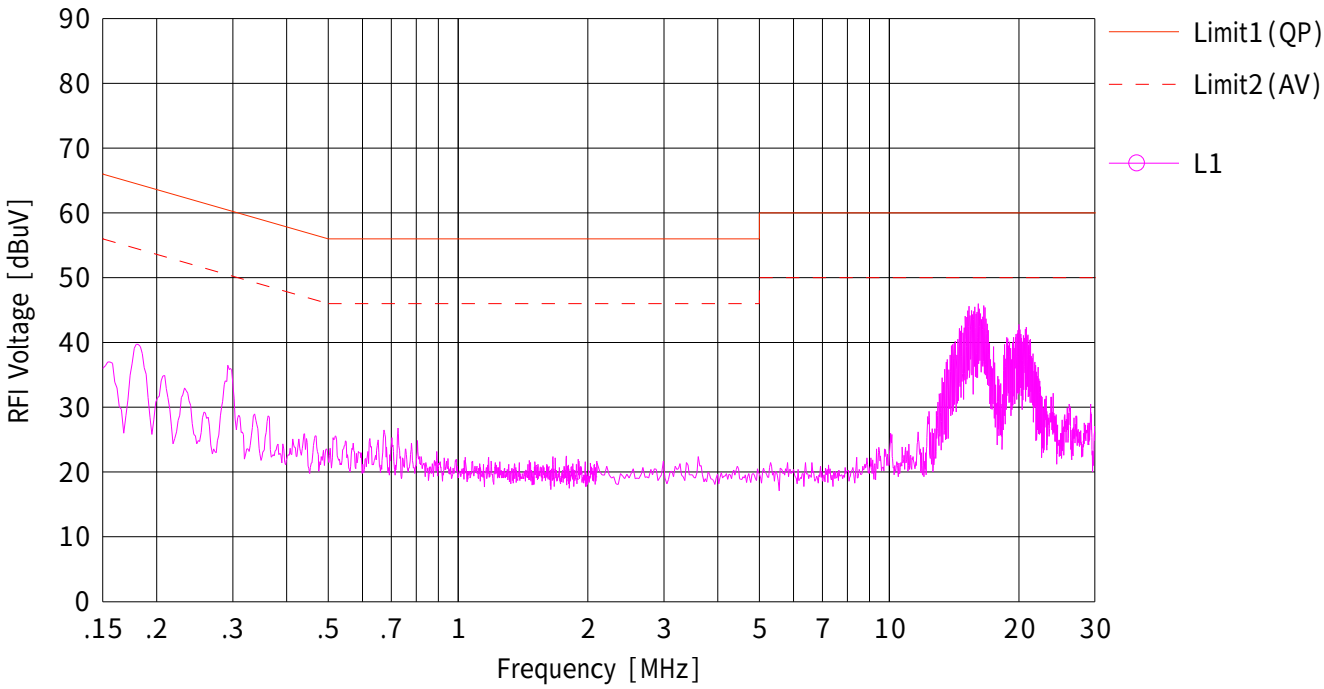
Company	: Ricoh Company, Ltd.	Mode	: IEEE802.11b/Tx.11Mbps,2412MHz
Kind of EUT	: Option(s)for Radiocommunications	Report No.	: 30GE0098-YK-**F-R1**
Model No.	: **R-WL54M1N**	**Power**	: AC120V /60Hz
Serial No.	: 91290017	Temp./Humi.	: 22deg.C./35%

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.1 Shield Room
Date : 2010/03/03

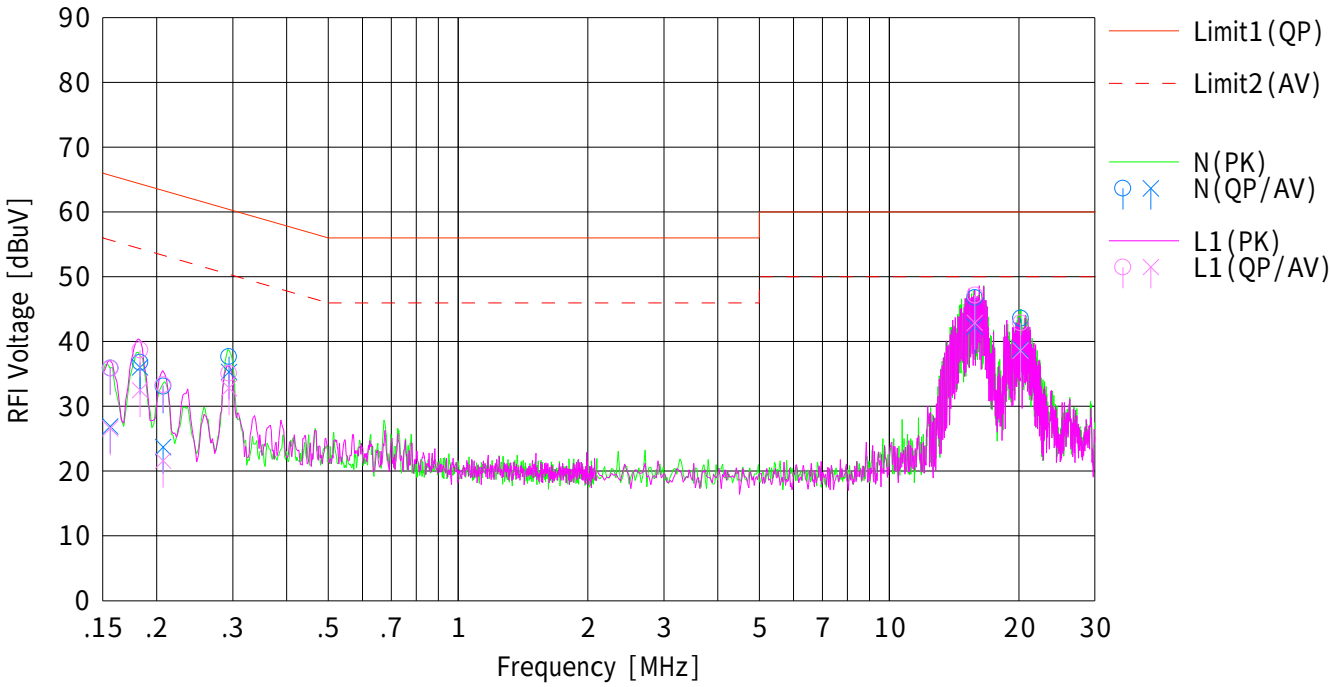
Company : Ricoh Company, Ltd.
Kind of EUT : Option(s)for Radiocommunications
Model No. : **R-WL54M1N**
Serial No. : 91290017

Mode : IEEE802.11b/Tx.11Mbps,2437MHz
Report No. : 30GE0098-YK-**F-R1**
Power : AC120V /60Hz
Temp./Humi. : 22deg.C./35%

Remarks :

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

Engineer : **Tatsuya Arai**



No.	Freq.	Reading <QP>	Reading <AV>	C.Fac	Results <QP>	Results <AV>	Limit <QP>	Limit <AV>	Margin <QP>	Margin <AV>	Phase	Comment
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15600	23.1	14.1	12.8	35.9	26.9	65.7	55.7	29.8	28.8	N	
2	0.18300	24.0	23.2	12.8	36.8	36.0	64.3	54.3	27.5	18.3	N	
3	0.20700	20.3	10.9	12.8	33.1	23.7	63.3	53.3	30.2	29.6	N	
4	0.29400	24.9	22.5	12.8	37.7	35.3	60.4	50.4	22.7	15.1	N	
5	15.80520	33.2	28.7	13.6	46.8	42.3	60.0	50.0	13.2	7.7	N	
6	20.19470	29.8	25.0	13.8	43.6	38.8	60.0	50.0	16.4	11.2	N	
7	0.15600	23.1	13.8	12.8	35.9	26.6	65.7	55.7	29.8	29.1	L1	
8	0.18300	25.9	19.7	12.8	38.7	32.5	64.3	54.3	25.6	21.8	L1	
9	0.20700	20.5	8.8	12.8	33.3	21.6	63.3	53.3	30.0	31.7	L1	
10	0.29400	22.3	20.0	12.8	35.1	32.8	60.4	50.4	25.3	17.6	L1	
11	15.80370	33.6	29.3	13.6	47.2	42.9	60.0	50.0	12.8	7.1	L1	
12	20.19360	29.1	24.8	13.8	42.9	38.6	60.0	50.0	17.1	11.4	L1	

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

DATA OF CONDUCTED EMISSION TEST

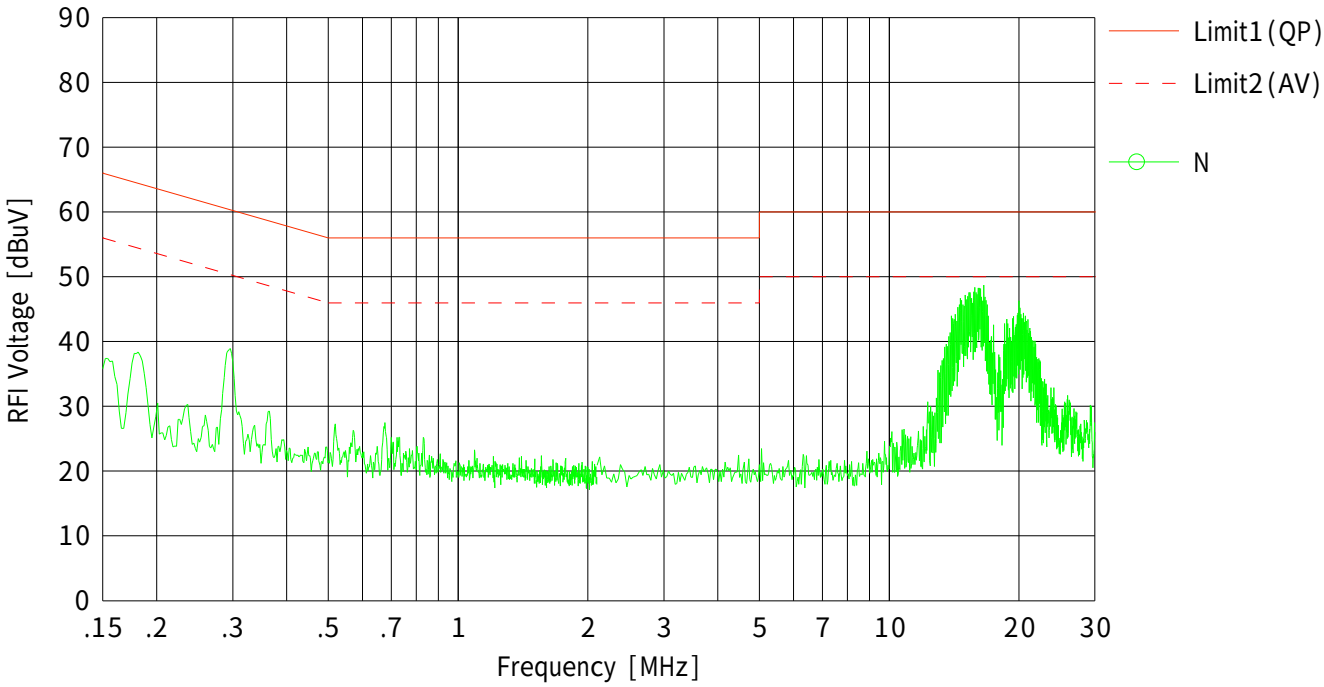
UL Japan, Inc. Shonan EMC Lab. No.1 Shield Room
Date : 2010/03/03

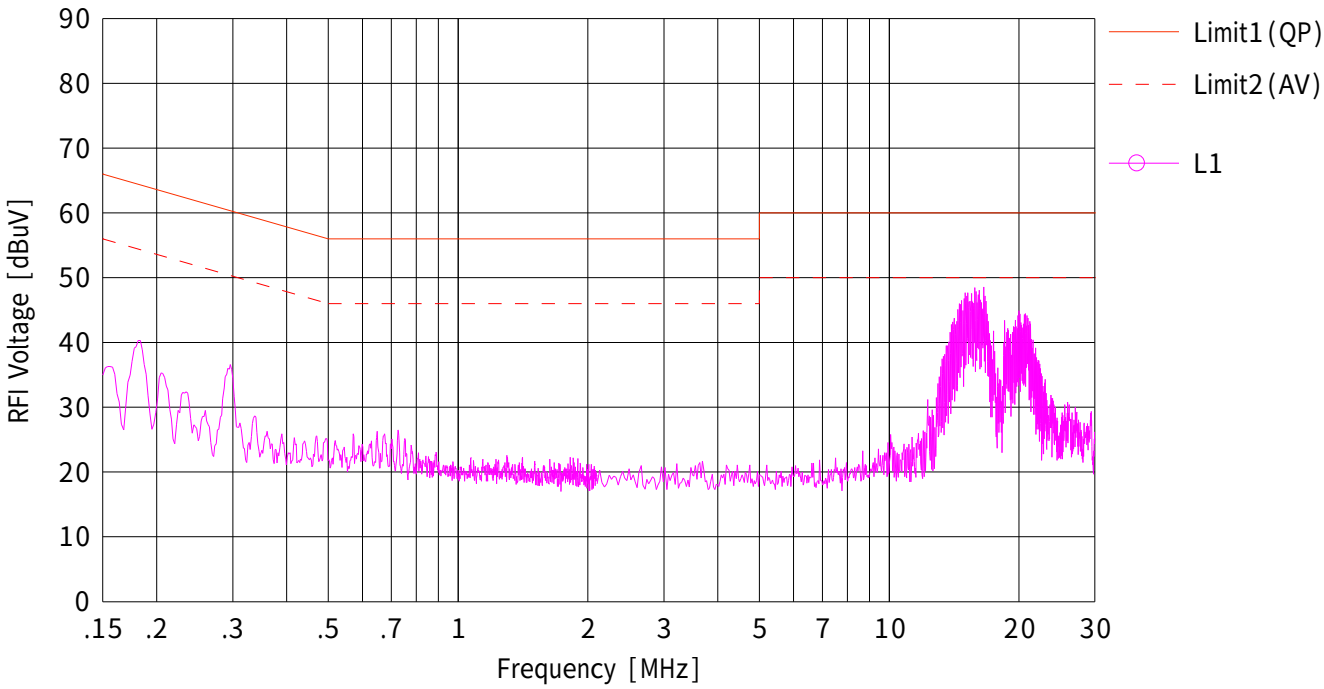
Company	: Ricoh Company, Ltd.	Mode	: IEEE802.11b/Tx.11Mbps,2462MHz
Kind of EUT	: Option(s)for Radiocommunications	Report No.	: 30GE0098-YK-**F-R1**
Model No.	: **R-WL54M1N**	**Power**	: AC120V /60Hz
Serial No.	: 91290017	Temp./Humi.	: 22deg.C./35%

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

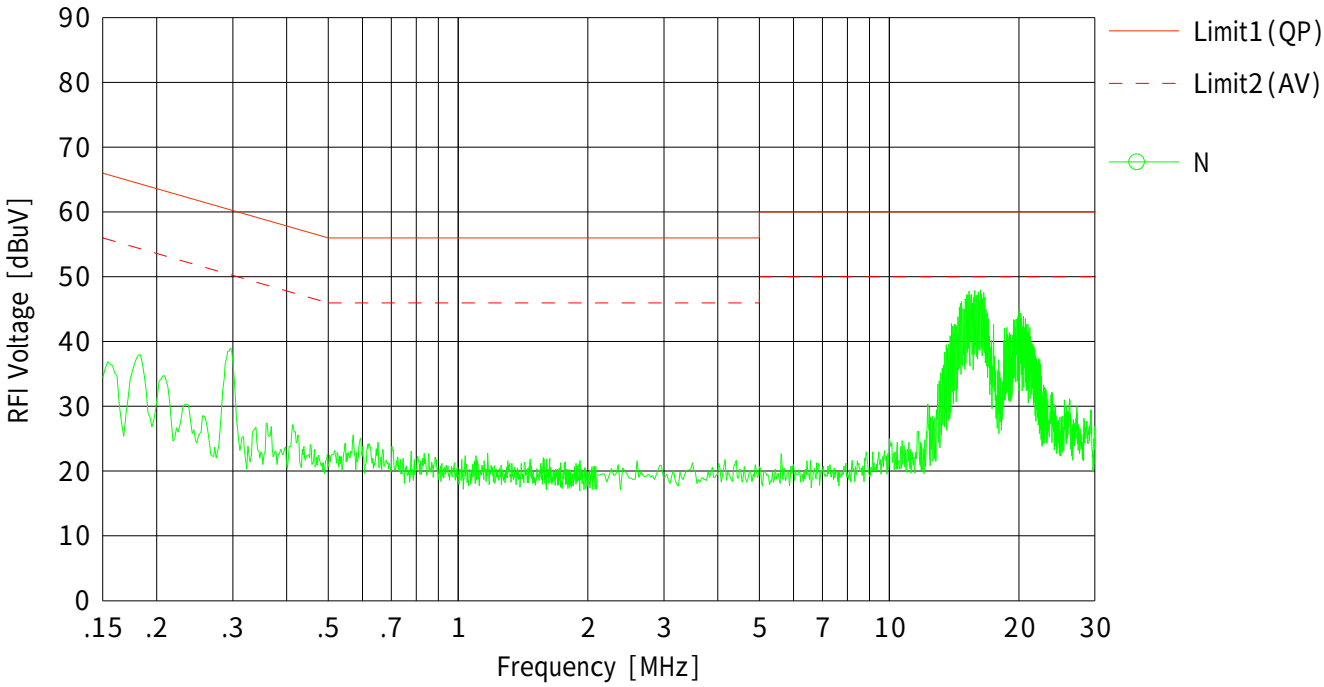
UL Japan, Inc. Shonan EMC Lab. No.1 Shield Room
Date : 2010/03/03

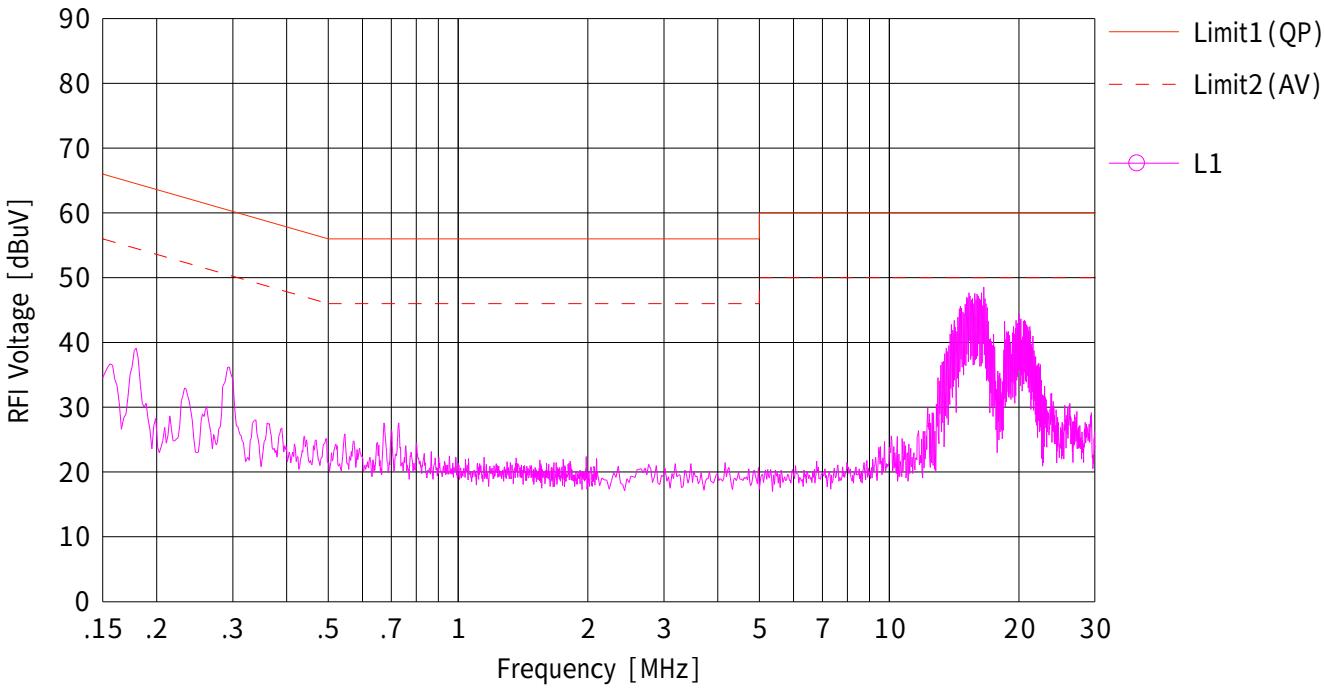
Company	: Ricoh Company, Ltd.	Mode	: IEEE802.11g/Tx.6Mbps,2412MHz
Kind of EUT	: Option(s)for Radiocommunications	Report No.	: 30GE0098-YK-**F-R1**
Model No.	: **R-WL54M1N**	**Power**	: AC120V /60Hz
Serial No.	: 91290017	Temp./Humi.	: 22deg.C./35%

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.1 Shield Room
Date : 2010/03/03

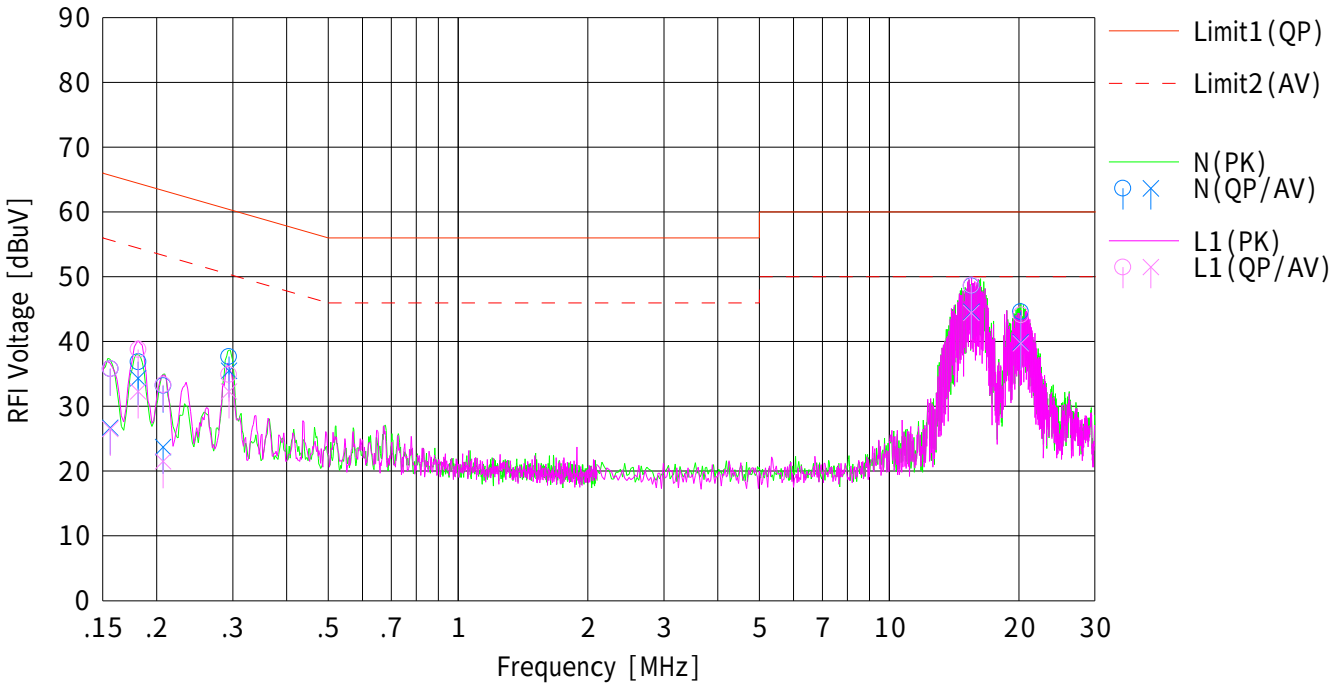
Company : Ricoh Company, Ltd.
Kind of EUT : Option(s)for Radiocommunications
Model No. : **R-WL54M1N**
Serial No. : 91290017

Mode : IEEE802.11g/Tx.6Mbps,2437MHz
Report No. : 30GE0098-YK-**F-R1**
Power : AC120V /60Hz
Temp./Humi. : 22deg.C./35%

Remarks :

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

Engineer : **Tatsuya Arai**



No.	Freq.	Reading <QP>	Reading <AV>	C.Fac	Results <QP>	Results <AV>	Limit <QP>	Limit <AV>	Margin <QP>	Margin <AV>	Phase	Comment
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15600	23.0	13.9	12.8	35.8	26.7	65.7	55.7	29.9	29.0	N	
2	0.18100	24.1	21.5	12.8	36.9	34.3	64.4	54.4	27.5	20.1	N	
3	0.20700	20.4	10.9	12.8	33.2	23.7	63.3	53.3	30.1	29.6	N	
4	0.29400	24.9	22.7	12.8	37.7	35.5	60.4	50.4	22.7	14.9	N	
5	15.51250	35.0	31.0	13.6	48.6	44.6	60.0	50.0	11.4	5.4	N	
6	20.19360	30.8	26.1	13.8	44.6	39.9	60.0	50.0	15.4	10.1	N	
7	0.15600	23.0	13.7	12.8	35.8	26.5	65.7	55.7	29.9	29.2	L1	
8	0.18100	26.0	19.5	12.8	38.8	32.3	64.4	54.4	25.6	22.1	L1	
9	0.20700	20.5	8.7	12.8	33.3	21.5	63.3	53.3	30.0	31.8	L1	
10	0.29400	22.1	19.5	12.8	34.9	32.3	60.4	50.4	25.5	18.1	L1	
11	15.51120	35.1	30.8	13.6	48.7	44.4	60.0	50.0	11.3	5.6	L1	
12	20.19500	30.3	25.9	13.8	44.1	39.7	60.0	50.0	15.9	10.3	L1	

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

DATA OF CONDUCTED EMISSION TEST

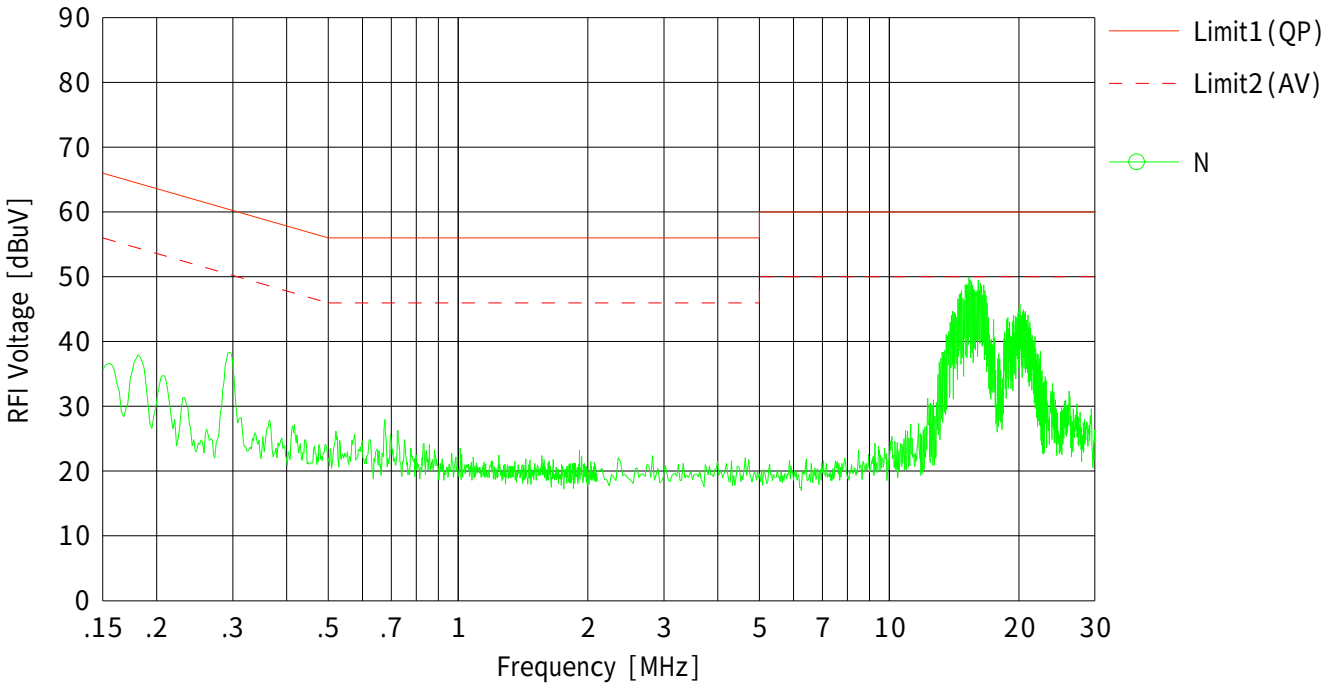
UL Japan, Inc. Shonan EMC Lab. No.1 Shield Room
Date : 2010/03/03

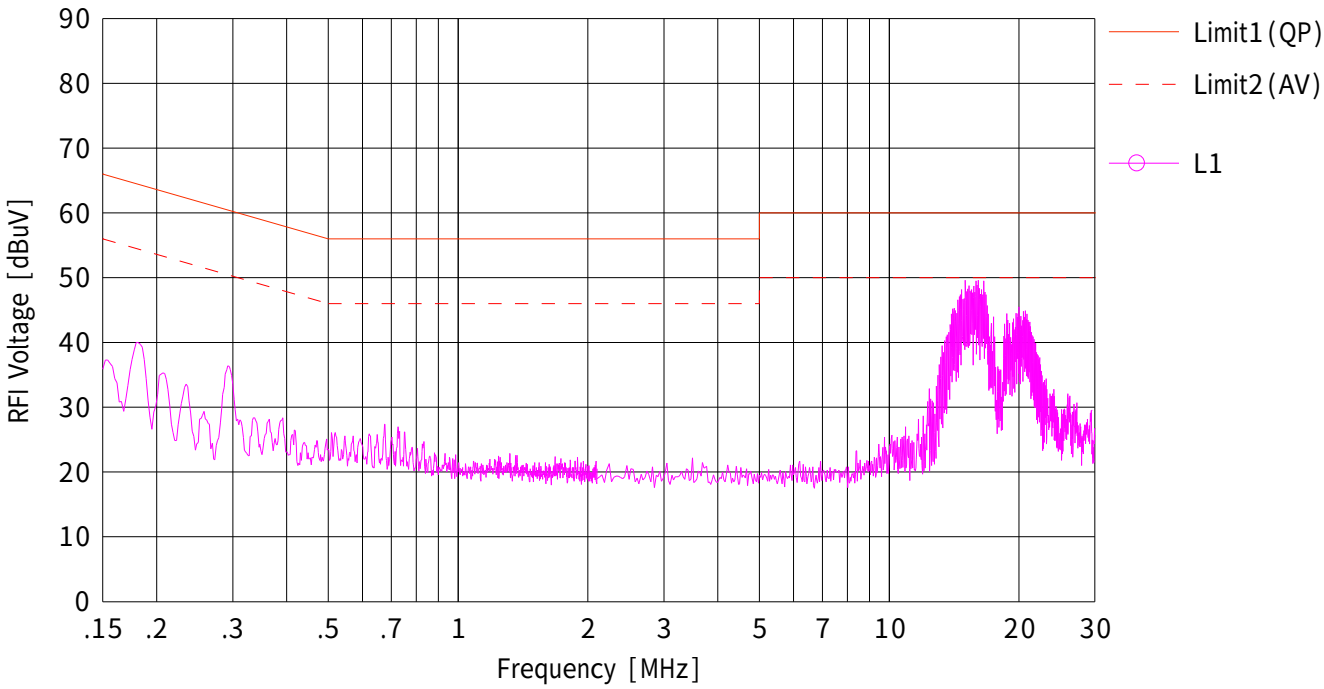
Company	: Ricoh Company, Ltd.	Mode	: IEEE802.11g/Tx.6Mbps,2462MHz
Kind of EUT	: Option(s)for Radiocommunications	Report No.	: 30GE0098-YK-**F-R1**
Model No.	: R-WL54M**1N**	Power	: AC120V /60Hz
Serial No.	: 91290017	Temp./Humi.	: 22deg.C./35%

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.5 Shielded Room
Date	2010/3/3	
Temperature / Humidity	22deg.C. , 37%	
Engineer	Tatsuya Arai	
Mode	Tx,	

11b

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	11.480	>500
2437	11.118	>500
2462	11.399	>500

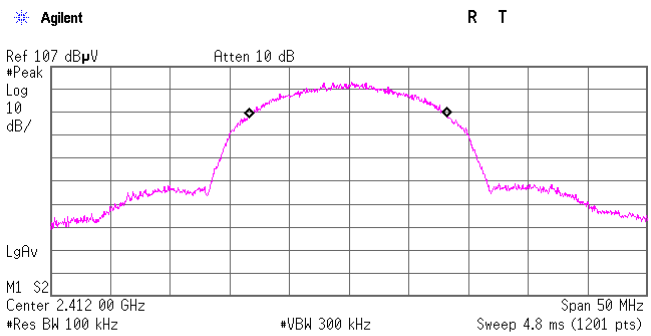
11g

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	16.354	>500
2437	16.364	>500
2462	16.383	>500

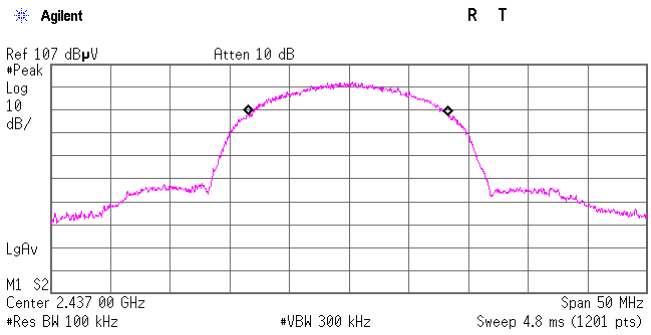
6dB Bandwidth

11b

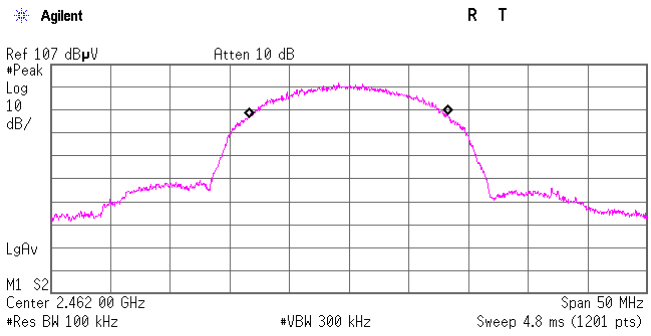
Tx, 2412MHz



Tx, 2437MHz

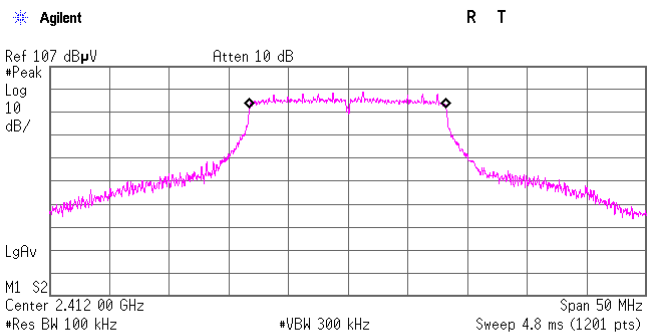


Tx, 2462MHz

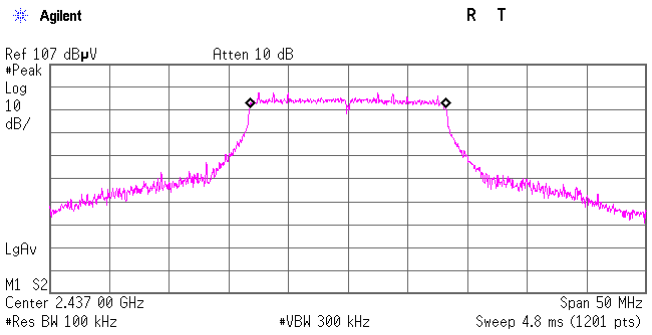


11g

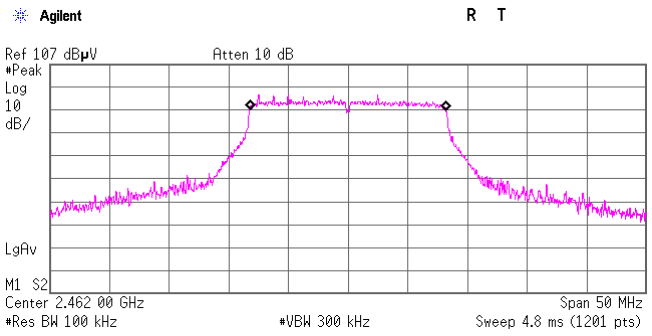
Tx, 2412MHz



Tx, 2437MHz



Tx, 2462MHz



Peak Output Power (Conducted)

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date	2010/2/18
Temperature / Humidity	22deg.C. , 36%
Engineer	Akio Hayashi
Mode	IEEE802.11b / Transmitting, 11Mbps
	IEEE802.11g / Transmitting, 6Mbps

[IEEE802.11b]

Ch	Freq.	P/M Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	15.51	0.94	0.00	16.45	44.16	30.00	1000	13.55
Mid	2437.0	14.56	0.94	0.00	15.50	35.48	30.00	1000	14.50
High	2462.0	13.72	0.94	0.00	14.66	29.24	30.00	1000	15.34

[IEEE802.11g]

Ch	Freq.	P/M Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	19.54	0.94	0.00	20.48	111.69	30.00	1000	9.52
Mid	2437.0	19.02	0.94	0.00	19.96	99.08	30.00	1000	10.04
High	2462.0	18.74	0.94	0.00	19.68	92.90	30.00	1000	10.32

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 / IEEE802.11b]

Data Rate	Freq.	P/M Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
1	2412.0	15.30	0.94	0.00	16.24	42.07	30.00	1000	13.76
2	2412.0	15.26	0.94	0.00	16.20	41.69	30.00	1000	13.80
5.5	2412.0	15.37	0.94	0.00	16.31	42.76	30.00	1000	13.69
11	2412.0	15.51	0.94	0.00	16.45	44.16	30.00	1000	13.55

[Pre check / IEEE802.11g]

Data Rate	Freq.	P/M Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
6	2412.0	19.54	0.94	0.00	20.48	111.69	30.00	1000	9.52
9	2412.0	19.51	0.94	0.00	20.45	110.92	30.00	1000	9.55
12	2412.0	19.42	0.94	0.00	20.36	108.64	30.00	1000	9.64
18	2412.0	19.43	0.94	0.00	20.37	108.89	30.00	1000	9.63
24	2412.0	19.36	0.94	0.00	20.30	107.15	30.00	1000	9.70
36	2412.0	19.46	0.94	0.00	20.40	109.65	30.00	1000	9.60
48	2412.0	19.41	0.94	0.00	20.35	108.39	30.00	1000	9.65
54	2412.0	19.42	0.94	0.00	20.36	108.64	30.00	1000	9.64

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber
Date	2010/2/24	2010/2/25	2010/3/2
Temperature / Humidity	22 deg.C , 34%	17 deg.C , 56%	23 deg.C , 34%
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2412 MHz 11b, 11Mbps		

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.	198.135	QP	48.1	16.7	7.8	32.0	40.6	43.5	2.9	167	177	Module:X, Antenna:X
Hori.	239.975	QP	50.3	17.1	8.0	31.9	43.5	46.0	2.5	139	20	Module:X, Antenna:X
Hori.	319.980	QP	51.9	14.1	8.4	31.9	42.5	46.0	3.5	106	48	Module:X, Antenna:X
Vert.	239.975	QP	46.4	17.1	8.0	31.9	39.6	46.0	6.4	100	31	Module:Z, Antenna:X
Vert.	319.980	QP	41.0	14.1	8.4	31.9	31.6	46.0	14.4	109	62	Module:Z, Antenna:X
Hori.	2390.000	PK	52.7	27.6	23.6	39.8	64.1	74.0	9.9	100	189	Module:Z, Antenna:X
Hori.	3215.986	PK	57.1	28.7	5.0	40.3	50.5	74.0	23.5	109	330	Module:Z, Antenna:X
Hori.	4824.000	PK	60.5	30.7	5.7	39.5	57.4	74.0	16.6	100	323	Module:Z, Antenna:X
Hori.	6431.955	PK	54.0	33.9	6.6	38.0	56.5	74.0	17.5	109	169	Module:Z, Antenna:X
Hori.	7236.000	PK	49.3	36.0	7.1	38.4	54.0	74.0	20.0	108	140	Module:Z, Antenna:X
Hori.	9648.000	PK	44.5	38.4	7.8	36.9	53.8	74.0	20.2	100	37	Module:Z, Antenna:X
Hori.	12060.000	PK	46.4	39.7	9.2	37.9	57.4	74.0	16.6	100	358	Module:Z, Antenna:X
Vert.	2390.000	PK	47.7	27.6	23.6	39.8	59.1	74.0	14.9	100	290	Module:Y, Antenna:Y
Vert.	3215.986	PK	54.4	28.7	5.0	40.3	47.8	74.0	26.2	100	178	Module:Y, Antenna:Y
Vert.	4824.000	PK	61.0	30.7	5.7	39.5	57.9	74.0	16.1	100	315	Module:Y, Antenna:Y
Vert.	6431.955	PK	54.4	33.9	6.6	38.0	56.9	74.0	17.1	100	355	Module:Y, Antenna:Y
Vert.	7236.000	PK	45.7	36.0	7.1	38.4	50.4	74.0	23.6	100	65	Module:Y, Antenna:Y
Vert.	9648.000	PK	43.8	38.4	7.8	36.9	53.1	74.0	20.9	100	0	Module:Y, Antenna:Y
Vert.	12060.000	PK	44.5	39.7	9.2	37.9	55.5	74.0	18.5	100	0	Module:Y, Antenna:Y
Hori.	2390.000	AV	38.1	27.6	23.6	39.8	49.5	54.0	4.5	100	189	Module:Z, Antenna:X
Hori.	3215.986	AV	52.4	28.7	5.0	40.3	45.8	54.0	8.2	109	330	Module:Z, Antenna:X
Hori.	4824.000	AV	48.1	30.7	5.7	39.5	45.0	54.0	9.0	100	323	Module:Z, Antenna:X
Hori.	6431.955	AV	50.3	33.9	6.6	38.0	52.8	54.0	1.2	109	169	Module:Z, Antenna:X
Hori.	7236.000	AV	36.8	36.0	7.1	38.4	41.5	54.0	12.5	108	140	Module:Z, Antenna:X
Hori.	9648.000	AV	32.4	38.4	7.8	36.9	41.7	54.0	12.3	100	37	Module:Z, Antenna:X
Hori.	12060.000	AV	33.9	39.7	9.2	37.9	44.9	54.0	9.1	100	358	Module:Z, Antenna:X
Vert.	2390.000	AV	34.4	27.6	23.6	39.8	45.8	54.0	8.2	100	290	Module:Y, Antenna:Y
Vert.	3215.986	AV	51.6	28.7	5.0	40.3	45.0	54.0	9.0	100	178	Module:Y, Antenna:Y
Vert.	4824.000	AV	48.9	30.7	5.7	39.5	45.8	54.0	8.2	100	315	Module:Y, Antenna:Y
Vert.	6431.955	AV	50.7	33.9	6.6	38.0	53.2	54.0	**0.8**	100	355	Module:Y, Antenna:Y
Vert.	7236.000	AV	34.7	36.0	7.1	38.4	39.4	54.0	14.6	100	65	Module:Y, Antenna:Y
Vert.	9648.000	AV	31.9	38.4	7.8	36.9	41.2	54.0	12.8	100	0	Module:Y, Antenna:Y
Vert.	12060.000	AV	34.3	39.7	9.2	37.9	45.3	54.0	8.7	100	0	Module:Y, Antenna:Y

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

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

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber
Date	2010/2/24	2010/2/25	2010/3/2
Temperature / Humidity	22 deg.C , 34%	17 deg.C , 56%	23 deg.C , 34%
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2437 MHz 11b, 11Mbps		

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.	198.155	QP	47.6	16.7	7.8	32.0	40.1	43.5	3.4	170	163	Module:X, Antenna:X
Hori.	239.975	QP	51.1	17.1	8.0	31.9	44.3	46.0	1.7	136	20	Module:X, Antenna:X
Hori.	319.980	QP	51.3	14.1	8.4	31.9	41.9	46.0	4.1	102	58	Module:X, Antenna:X
Vert.	239.975	QP	47.4	17.1	8.0	31.9	40.6	46.0	5.4	100	40	Module:Z, Antenna:X
Vert.	319.980	QP	40.0	14.1	8.4	31.9	30.6	46.0	15.4	226	63	Module:Z, Antenna:X
Hori.	3249.297	PK	57.2	28.7	4.9	40.3	50.5	74.0	23.5	110	339	Module:Z, Antenna:X
Hori.	4874.000	PK	61.8	30.8	5.7	39.5	58.8	74.0	15.2	100	340	Module:Z, Antenna:X
Hori.	6498.627	PK	52.6	34.0	6.6	38.0	55.2	74.0	18.8	109	135	Module:Z, Antenna:X
Hori.	7311.000	PK	46.2	36.0	7.2	38.4	51.0	74.0	23.0	108	30	Module:Z, Antenna:X
Hori.	9748.000	PK	43.5	38.4	7.9	37.0	52.8	74.0	21.2	100	38	Module:Z, Antenna:X
Hori.	12185.000	PK	45.0	39.7	9.3	37.7	56.3	74.0	17.7	100	357	Module:Z, Antenna:X
Vert.	3249.297	PK	54.7	28.7	4.9	40.3	48.0	74.0	26.0	100	175	Module:Y, Antenna:Y
Vert.	4874.000	PK	61.2	30.8	5.7	39.5	58.2	74.0	15.8	100	278	Module:Y, Antenna:Y
Vert.	6498.627	PK	54.3	34.0	6.6	38.0	56.9	74.0	17.1	109	1	Module:Y, Antenna:Y
Vert.	7311.000	PK	46.4	36.0	7.2	38.4	51.2	74.0	22.8	100	179	Module:Y, Antenna:Y
Vert.	9748.000	PK	43.9	38.4	7.9	37.0	53.2	74.0	20.9	100	159	Module:Y, Antenna:Y
Vert.	12185.000	PK	45.3	39.7	9.3	37.7	56.6	74.0	17.4	100	171	Module:Y, Antenna:Y
Hori.	3249.297	AV	54.5	28.7	4.9	40.3	47.8	54.0	6.2	110	339	Module:Z, Antenna:X
Hori.	4874.000	AV	49.6	30.8	5.7	39.5	46.6	54.0	7.4	100	340	Module:Z, Antenna:X
Hori.	6498.627	AV	49.2	34.0	6.6	38.0	51.8	54.0	2.2	109	135	Module:Z, Antenna:X
Hori.	7311.000	AV	34.2	36.0	7.2	38.4	39.0	54.0	15.0	108	30	Module:Z, Antenna:X
Hori.	9748.000	AV	32.3	38.4	7.9	37.0	41.6	54.0	12.5	100	38	Module:Z, Antenna:X
Hori.	12185.000	AV	33.6	39.7	9.3	37.7	44.9	54.0	9.1	100	357	Module:Z, Antenna:X
Vert.	3249.297	AV	50.8	28.7	4.9	40.3	44.1	54.0	9.9	100	175	Module:Y, Antenna:Y
Vert.	4874.000	AV	49.1	30.8	5.7	39.5	46.1	54.0	7.9	100	278	Module:Y, Antenna:Y
Vert.	6498.627	AV	51.0	34.0	6.6	38.0	53.6	54.0	**0.4**	109	1	Module:Y, Antenna:Y
Vert.	7311.000	AV	34.6	36.0	7.2	38.4	39.4	54.0	14.6	100	179	Module:Y, Antenna:Y
Vert.	9748.000	AV	32.5	38.4	7.9	37.0	41.8	54.0	12.2	100	159	Module:Y, Antenna:Y
Vert.	12185.000	AV	33.9	39.7	9.3	37.7	45.2	54.0	8.8	100	171	Module:Y, Antenna:Y

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

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

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

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber
Date	2010/2/24	2010/2/25	2010/3/2
Temperature / Humidity	22 deg.C , 34%	17 deg.C , 56%	23 deg.C , 34%
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2462 MHz 11b, 11Mbps		

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.	198.155	QP	48.4	16.7	7.8	32.0	40.9	43.5	2.6	168	176	Module:X, Antenna:X
Hori.	239.975	QP	51.5	17.1	8.0	31.9	44.7	46.0	**1.3**	140	18	Module:X, Antenna:X
Hori.	319.980	QP	51.5	14.1	8.4	31.9	42.1	46.0	3.9	102	46	Module:X, Antenna:X
Vert.	239.975	QP	47.4	17.1	8.0	31.9	40.6	46.0	5.4	100	36	Module:Z, Antenna:X
Vert.	319.980	QP	41.0	14.1	8.4	31.9	31.6	46.0	14.4	222	58	Module:Z, Antenna:X
Hori.	2483.500	PK	52.2	27.9	23.8	39.8	64.1	74.0	9.9	126	189	Module:Z, Antenna:X
Hori.	3282.638	PK	56.9	28.8	5.0	40.3	50.4	74.0	23.6	109	338	Module:Z, Antenna:X
Hori.	4924.000	PK	56.8	31.0	5.9	39.4	54.3	74.0	19.7	100	330	Module:Z, Antenna:X
Hori.	6565.298	PK	53.6	34.3	6.6	38.0	56.5	74.0	17.5	108	163	Module:Z, Antenna:X
Hori.	7386.000	PK	46.8	35.9	7.3	38.5	51.5	74.0	22.5	108	34	Module:Z, Antenna:X
Hori.	9848.000	PK	45.0	38.3	8.0	37.0	54.3	74.0	19.7	100	32	Module:Z, Antenna:X
Hori.	12310.000	PK	45.8	39.7	9.6	37.5	57.6	74.0	16.4	100	358	Module:Z, Antenna:X
Vert.	2483.500	PK	50.7	27.9	23.8	39.8	62.6	74.0	11.4	100	169	Module:Y, Antenna:Y
Vert.	3282.638	PK	53.8	28.8	5.0	40.3	47.3	74.0	26.7	100	358	Module:Y, Antenna:Y
Vert.	4924.000	PK	57.7	31.0	5.9	39.4	55.2	74.0	18.8	100	250	Module:Y, Antenna:Y
Vert.	6565.298	PK	53.6	34.3	6.6	38.0	56.5	74.0	17.6	113	304	Module:Y, Antenna:Y
Vert.	7386.000	PK	46.2	35.9	7.3	38.5	50.9	74.0	23.1	100	168	Module:Y, Antenna:Y
Vert.	9848.000	PK	44.5	38.3	8.0	37.0	53.8	74.0	20.2	100	158	Module:Y, Antenna:Y
Vert.	12310.000	PK	45.5	39.7	9.6	37.5	57.3	74.0	16.7	100	167	Module:Y, Antenna:Y
Hori.	2483.500	AV	39.4	27.9	23.8	39.8	51.3	54.0	2.7	126	189	Module:Z, Antenna:X
Hori.	3282.638	AV	53.5	28.8	5.0	40.3	47.0	54.0	7.0	109	338	Module:Z, Antenna:X
Hori.	4924.000	AV	44.6	31.0	5.9	39.4	42.1	54.0	11.9	100	330	Module:Z, Antenna:X
Hori.	6565.298	AV	49.7	34.3	6.6	38.0	52.6	54.0	1.4	108	163	Module:Z, Antenna:X
Hori.	7386.000	AV	35.2	35.9	7.3	38.5	39.9	54.0	14.1	108	34	Module:Z, Antenna:X
Hori.	9848.000	AV	32.8	38.3	8.0	37.0	42.1	54.0	11.9	100	32	Module:Z, Antenna:X
Hori.	12310.000	AV	33.9	39.7	9.6	37.5	45.7	54.0	8.3	100	358	Module:Z, Antenna:X
Vert.	2483.500	AV	38.7	27.9	23.8	39.8	50.6	54.0	3.4	100	169	Module:Y, Antenna:Y
Vert.	3282.638	AV	49.7	28.8	5.0	40.3	43.2	54.0	10.9	100	358	Module:Y, Antenna:Y
Vert.	4924.000	AV	45.0	31.0	5.9	39.4	42.5	54.0	11.5	100	250	Module:Y, Antenna:Y
Vert.	6565.298	AV	49.8	34.3	6.6	38.0	52.7	54.0	**1.3**	113	304	Module:Y, Antenna:Y
Vert.	7386.000	AV	34.5	35.9	7.3	38.5	39.2	54.0	14.8	100	168	Module:Y, Antenna:Y
Vert.	9848.000	AV	33.0	38.3	8.0	37.0	42.3	54.0	11.7	100	158	Module:Y, Antenna:Y
Vert.	12310.000	AV	34.0	39.7	9.6	37.5	45.8	54.0	8.2	100	167	Module:Y, Antenna:Y

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

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

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber
Date	2010/2/24	2010/2/25	2010/3/2
Temperature / Humidity	22 deg.C , 34%	17 deg.C , 56%	23 deg.C , 34%
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2412 MHz 11g, 6Mbps		

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.	198.210	QP	47.6	16.7	7.8	32.0	40.1	43.5	3.4	167	182	Module:X, Antenna:X
Hori.	239.975	QP	51.9	17.1	8.0	31.9	45.1	46.0	0.9	142	38	Module:X, Antenna:X
Hori.	319.980	QP	51.8	14.1	8.4	31.9	42.4	46.0	3.6	103	35	Module:X, Antenna:X
Vert.	239.975	QP	47.0	17.1	8.0	31.9	40.2	46.0	5.8	100	30	Module:Z, Antenna:X
Vert.	319.980	QP	41.2	14.1	8.4	31.9	31.8	46.0	14.2	220	64	Module:Z, Antenna:X
Hori.	2390.000	PK	60.2	27.6	23.6	39.8	71.6	74.0	2.4	100	177	Module:Z, Antenna:X
Hori.	3215.986	PK	57.0	28.7	5.0	40.3	50.4	74.0	23.6	108	340	Module:Z, Antenna:X
Hori.	4824.000	PK	58.1	30.7	5.7	39.5	55.0	74.0	19.0	100	340	Module:Z, Antenna:X
Hori.	6431.955	PK	55.6	33.9	6.6	38.0	58.1	74.0	15.9	108	163	Module:Z, Antenna:X
Hori.	7236.000	PK	49.2	36.0	7.1	38.4	53.9	74.0	20.2	103	321	Module:Z, Antenna:X
Hori.	9648.000	PK	42.6	38.4	7.8	36.9	51.9	74.0	22.1	100	0	Module:Z, Antenna:X
Hori.	12060.000	PK	45.8	39.7	9.2	37.9	56.8	74.0	17.2	100	0	Module:Z, Antenna:X
Vert.	2390.000	PK	57.4	27.6	23.6	39.8	68.8	74.0	5.3	100	169	Module:Y, Antenna:Y
Vert.	3215.986	PK	56.3	28.7	5.0	40.3	49.7	74.0	24.3	100	181	Module:Y, Antenna:Y
Vert.	4824.000	PK	58.4	30.7	5.7	39.5	55.3	74.0	18.7	100	252	Module:Y, Antenna:Y
Vert.	6431.955	PK	55.8	33.9	6.6	38.0	58.3	74.0	15.7	108	346	Module:Y, Antenna:Y
Vert.	7236.000	PK	46.9	36.0	7.1	38.4	51.6	74.0	22.4	100	0	Module:Y, Antenna:Y
Vert.	9648.000	PK	43.5	38.4	7.8	36.9	52.8	74.0	21.2	100	0	Module:Y, Antenna:Y
Vert.	12060.000	PK	50.9	39.7	9.2	37.9	61.9	74.0	12.1	100	175	Module:Y, Antenna:Y
Hori.	2390.000	AV	39.4	27.6	23.6	39.8	50.8	54.0	3.2	100	177	Module:Z, Antenna:X
Hori.	3215.986	AV	54.6	28.7	5.0	40.3	48.0	54.0	6.0	108	340	Module:Z, Antenna:X
Hori.	4824.000	AV	44.9	30.7	5.7	39.5	41.8	54.0	12.2	100	340	Module:Z, Antenna:X
Hori.	6431.955	AV	50.4	33.9	6.6	38.0	52.9	54.0	1.1	108	163	Module:Z, Antenna:X
Hori.	7236.000	AV	36.0	36.0	7.1	38.4	40.7	54.0	13.3	103	321	Module:Z, Antenna:X
Hori.	9648.000	AV	31.5	38.4	7.8	36.9	40.8	54.0	13.2	100	0	Module:Z, Antenna:X
Hori.	12060.000	AV	32.4	39.7	9.2	37.9	43.4	54.0	10.6	100	0	Module:Z, Antenna:X
Vert.	2390.000	AV	37.3	27.6	23.6	39.8	48.7	54.0	5.3	100	169	Module:Y, Antenna:Y
Vert.	3215.986	AV	53.0	28.7	5.0	40.3	46.4	54.0	7.6	100	181	Module:Y, Antenna:Y
Vert.	4824.000	AV	44.8	30.7	5.7	39.5	41.7	54.0	12.3	100	252	Module:Y, Antenna:Y
Vert.	6431.955	AV	51.3	33.9	6.6	38.0	53.8	54.0	**0.2**	108	346	Module:Y, Antenna:Y
Vert.	7236.000	AV	34.0	36.0	7.1	38.4	38.7	54.0	15.3	100	0	Module:Y, Antenna:Y
Vert.	9648.000	AV	31.7	38.4	7.8	36.9	41.0	54.0	13.0	100	0	Module:Y, Antenna:Y
Vert.	12060.000	AV	33.9	39.7	9.2	37.9	44.9	54.0	9.1	100	175	Module:Y, Antenna:Y

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

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

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber
Date	2010/2/24	2010/2/25	2010/3/2
Temperature / Humidity	22 deg.C , 34%	17 deg.C , 56%	23 deg.C , 34%
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2437 MHz 11g, 6Mbps		

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.	198.230	QP	48.2	16.7	7.8	32.0	40.7	43.5	2.8	169	183	Module:X, Antenna:X
Hori.	239.980	QP	51.6	17.1	8.0	31.9	44.8	46.0	1.2	137	11	Module:X, Antenna:X
Hori.	319.972	QP	51.5	14.1	8.4	31.9	42.1	46.0	3.9	102	42	Module:X, Antenna:X
Vert.	239.980	QP	47.2	17.1	8.0	31.9	40.4	46.0	5.6	100	37	Module:Z, Antenna:X
Vert.	319.972	QP	40.6	14.1	8.4	31.9	31.2	46.0	14.8	218	68	Module:Z, Antenna:X
Hori.	3249.297	PK	56.8	28.7	4.9	40.3	50.1	74.0	23.9	109	333	Module:Z, Antenna:X
Hori.	4874.000	PK	59.0	30.8	5.7	39.5	56.0	74.0	18.0	111	5	Module:Z, Antenna:X
Hori.	6498.627	PK	53.1	34.0	6.6	38.0	55.7	74.0	18.3	109	120	Module:Z, Antenna:X
Hori.	7311.000	PK	45.9	36.0	7.2	38.4	50.7	74.0	23.3	100	0	Module:Z, Antenna:X
Hori.	9748.000	PK	43.8	38.4	7.9	37.0	53.1	74.0	20.9	100	0	Module:Z, Antenna:X
Hori.	12185.000	PK	48.3	39.7	9.3	37.7	59.6	74.0	14.4	100	20	Module:Z, Antenna:X
Vert.	3249.297	PK	56.4	28.7	4.9	40.3	49.7	74.0	24.3	100	175	Module:Y, Antenna:Y
Vert.	4874.000	PK	58.3	30.8	5.7	39.5	55.3	74.0	18.7	100	286	Module:Y, Antenna:Y
Vert.	6498.627	PK	54.5	34.0	6.6	38.0	57.1	74.0	16.9	108	1	Module:Y, Antenna:Y
Vert.	7311.000	PK	46.9	36.0	7.2	38.4	51.7	74.0	22.3	100	179	Module:Y, Antenna:Y
Vert.	9748.000	PK	43.8	38.4	7.9	37.0	53.1	74.0	20.9	100	0	Module:Y, Antenna:Y
Vert.	12185.000	PK	48.6	39.7	9.3	37.7	59.9	74.0	14.1	100	168	Module:Y, Antenna:Y
Hori.	3249.297	AV	53.7	28.7	4.9	40.3	47.0	54.0	7.0	109	333	Module:Z, Antenna:X
Hori.	4874.000	AV	44.8	30.8	5.7	39.5	41.8	54.0	12.3	111	5	Module:Z, Antenna:X
Hori.	6498.627	AV	49.0	34.0	6.6	38.0	51.6	54.0	2.5	109	120	Module:Z, Antenna:X
Hori.	7311.000	AV	34.2	36.0	7.2	38.4	39.0	54.0	15.0	100	0	Module:Z, Antenna:X
Hori.	9748.000	AV	31.7	38.4	7.9	37.0	41.0	54.0	13.0	100	0	Module:Z, Antenna:X
Hori.	12185.000	AV	33.6	39.7	9.3	37.7	44.9	54.0	9.2	100	20	Module:Z, Antenna:X
Vert.	3249.297	AV	53.0	28.7	4.9	40.3	46.3	54.0	7.7	100	175	Module:Y, Antenna:Y
Vert.	4874.000	AV	44.3	30.8	5.7	39.5	41.3	54.0	12.7	100	286	Module:Y, Antenna:Y
Vert.	6498.627	AV	50.8	34.0	6.6	38.0	53.4	54.0	**0.6**	108	1	Module:Y, Antenna:Y
Vert.	7311.000	AV	34.3	36.0	7.2	38.4	39.1	54.0	14.9	100	179	Module:Y, Antenna:Y
Vert.	9748.000	AV	31.8	38.4	7.9	37.0	41.1	54.0	12.9	100	0	Module:Y, Antenna:Y
Vert.	12185.000	AV	33.4	39.7	9.3	37.7	44.7	54.0	9.3	100	168	Module:Y, Antenna:Y

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

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

Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber
Date	2010/2/24	2010/2/25	2010/3/2
Temperature / Humidity	22 deg.C , 34%	17 deg.C , 56%	23 deg.C , 34%
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2462 MHz 11g, 6Mbps		

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.	198.221	QP	47.9	16.7	7.8	32.0	40.4	43.5	3.1	173	167	Module:X, Antenna:X
Hori.	239.975	QP	51.0	17.1	8.0	31.9	44.2	46.0	1.8	141	13	Module:X, Antenna:X
Hori.	319.980	QP	52.0	14.1	8.4	31.9	42.6	46.0	3.4	104	45	Module:X, Antenna:X
Vert.	239.975	QP	47.6	17.1	8.0	31.9	40.8	46.0	5.2	100	35	Module:Z, Antenna:X
Vert.	319.980	QP	40.2	14.1	8.4	31.9	30.8	46.0	15.2	224	64	Module:Z, Antenna:X
Hori.	2483.500	PK	57.3	27.9	23.8	39.8	69.2	74.0	4.8	100	177	Module:Z, Antenna:X
Hori.	3282.638	PK	57.6	28.8	5.0	40.3	51.1	74.0	22.9	108	338	Module:Z, Antenna:X
Hori.	4924.000	PK	55.8	31.0	5.9	39.4	53.3	74.0	20.7	100	318	Module:Z, Antenna:X
Hori.	6565.298	PK	54.7	34.3	6.6	38.0	57.6	74.0	16.4	103	181	Module:Z, Antenna:X
Hori.	7386.000	PK	46.9	35.9	7.3	38.5	51.6	74.0	22.4	100	329	Module:Z, Antenna:X
Hori.	9848.000	PK	43.9	38.3	8.0	37.0	53.2	74.0	20.8	100	0	Module:Z, Antenna:X
Hori.	12310.000	PK	50.1	39.7	9.6	37.5	61.9	74.0	12.1	100	350	Module:Z, Antenna:X
Vert.	2483.500	PK	57.7	27.9	23.8	39.8	69.6	74.0	4.4	100	167	Module:Y, Antenna:Y
Vert.	3282.638	PK	55.4	28.8	5.0	40.3	48.9	74.0	25.1	100	167	Module:Y, Antenna:Y
Vert.	4924.000	PK	54.9	31.0	5.9	39.4	52.4	74.0	21.6	100	282	Module:Y, Antenna:Y
Vert.	6565.298	PK	53.4	34.3	6.6	38.0	56.3	74.0	17.7	103	304	Module:Y, Antenna:Y
Vert.	7386.000	PK	46.4	35.9	7.3	38.5	51.1	74.0	22.9	100	0	Module:Y, Antenna:Y
Vert.	9848.000	PK	44.3	38.3	8.0	37.0	53.6	74.0	20.4	100	0	Module:Y, Antenna:Y
Vert.	12310.000	PK	44.8	39.7	9.6	37.5	56.6	74.0	17.4	100	0	Module:Y, Antenna:Y
Hori.	2483.500	AV	38.1	27.9	23.8	39.8	50.0	54.0	4.0	100	177	Module:Z, Antenna:X
Hori.	3282.638	AV	55.1	28.8	5.0	40.3	48.6	54.0	5.4	108	338	Module:Z, Antenna:X
Hori.	4924.000	AV	42.5	31.0	5.9	39.4	40.0	54.0	14.0	100	318	Module:Z, Antenna:X
Hori.	6565.298	AV	50.7	34.3	6.6	38.0	53.6	54.0	**0.4**	103	181	Module:Z, Antenna:X
Hori.	7386.000	AV	34.6	35.9	7.3	38.5	39.3	54.0	14.7	100	329	Module:Z, Antenna:X
Hori.	9848.000	AV	32.1	38.3	8.0	37.0	41.4	54.0	12.7	100	0	Module:Z, Antenna:X
Hori.	12310.000	AV	33.9	39.7	9.6	37.5	45.7	54.0	8.3	100	350	Module:Z, Antenna:X
Vert.	2483.500	AV	37.9	27.9	23.8	39.8	49.8	54.0	4.2	100	167	Module:Y, Antenna:Y
Vert.	3282.638	AV	52.0	28.8	5.0	40.3	45.5	54.0	8.5	100	167	Module:Y, Antenna:Y
Vert.	4924.000	AV	40.9	31.0	5.9	39.4	38.4	54.0	15.6	100	282	Module:Y, Antenna:Y
Vert.	6565.298	AV	50.0	34.3	6.6	38.0	52.9	54.0	1.1	103	304	Module:Y, Antenna:Y
Vert.	7386.000	AV	34.3	35.9	7.3	38.5	39.0	54.0	15.0	100	0	Module:Y, Antenna:Y
Vert.	9848.000	AV	32.0	38.3	8.0	37.0	41.3	54.0	12.7	100	0	Module:Y, Antenna:Y
Vert.	12310.000	AV	32.9	39.7	9.6	37.5	44.7	54.0	9.3	100	0	Module:Y, Antenna:Y

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

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

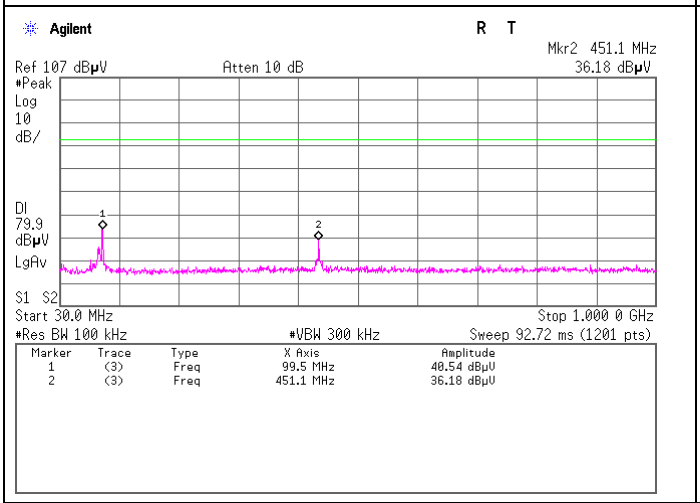
Distance factor: 13GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

Spurious emission (Conducted)

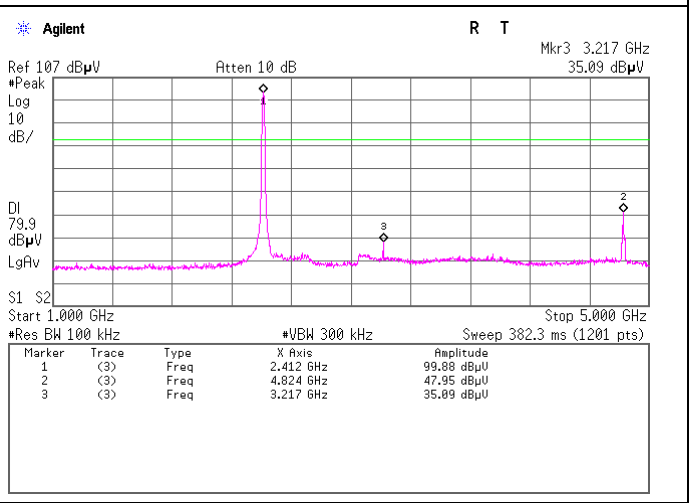
11b,

Tx, 2412MHz

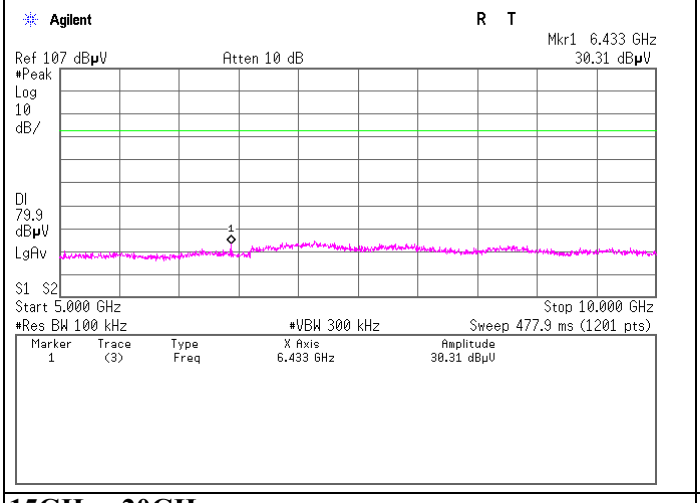
30MHz - 1GHz



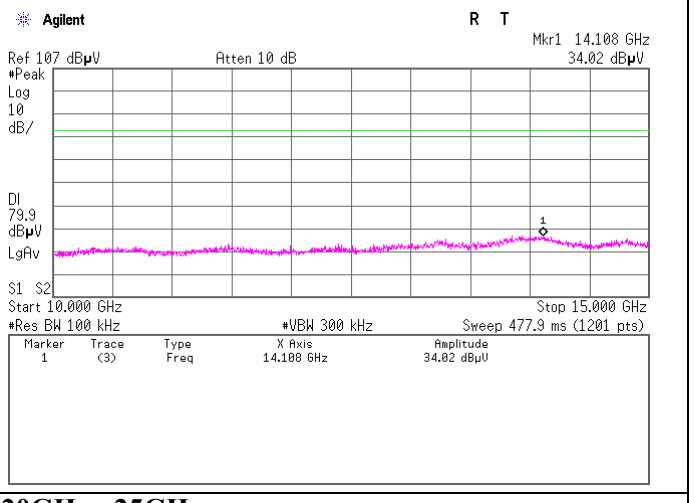
1GHz - 5GHz



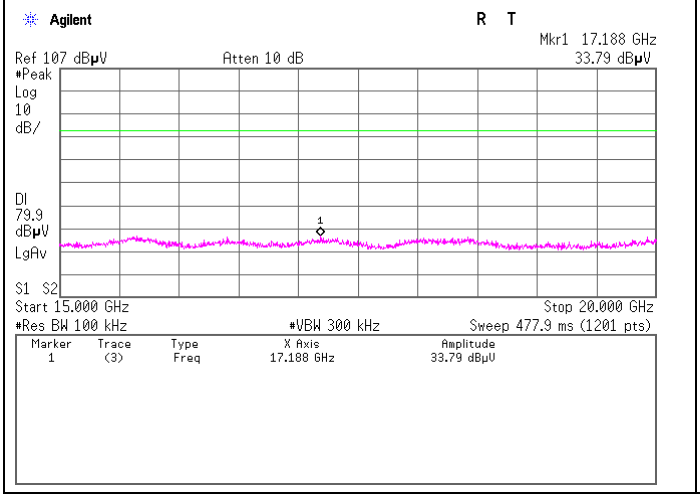
5GHz - 10GHz



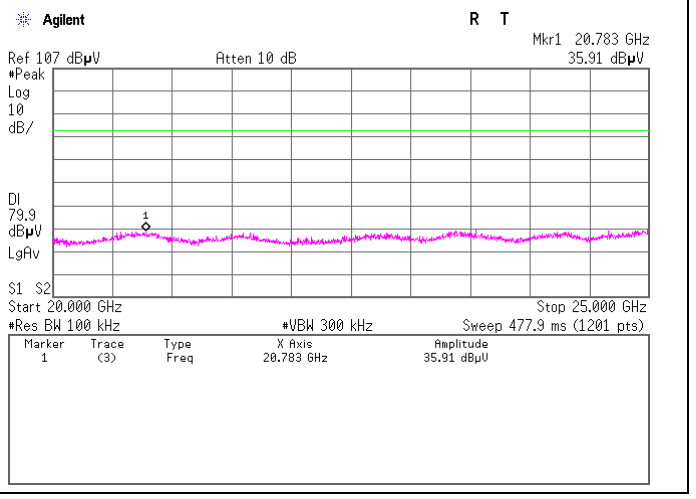
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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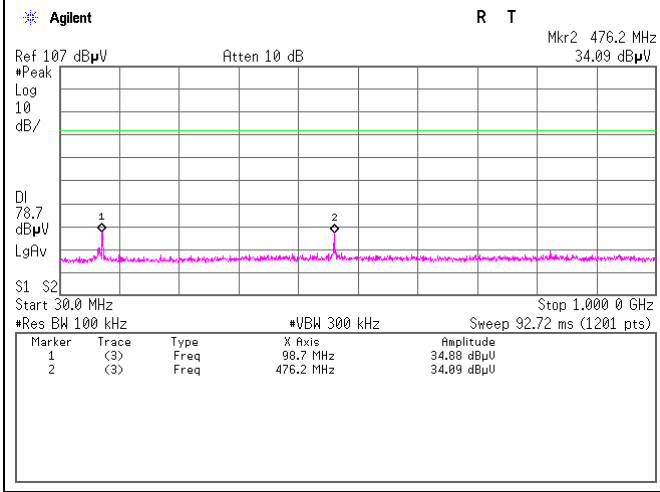
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

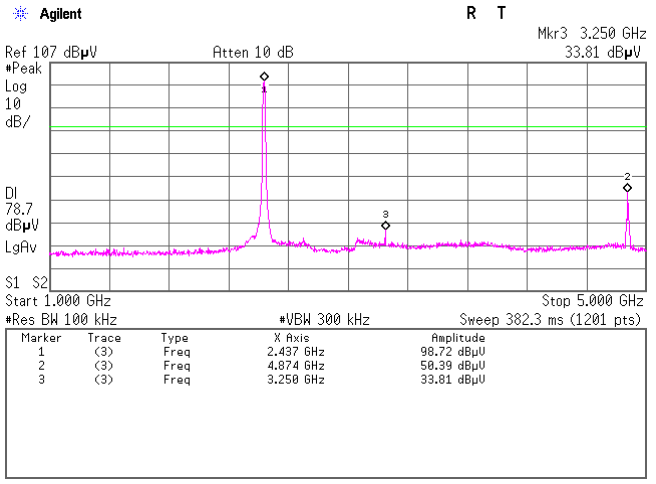
11b,

Tx, 2437MHz

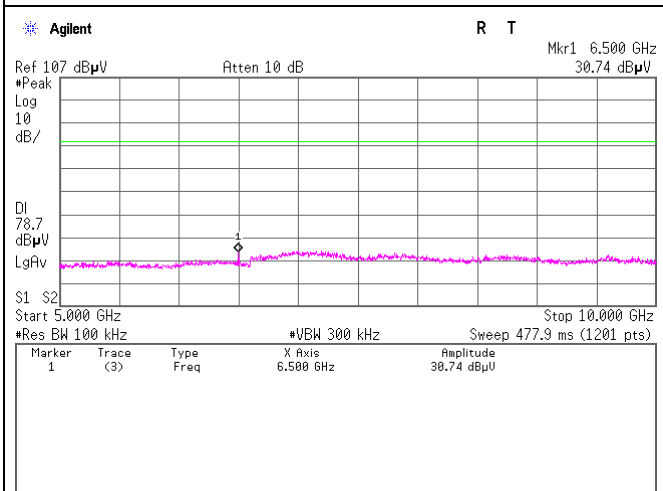
30MHz - 1GHz



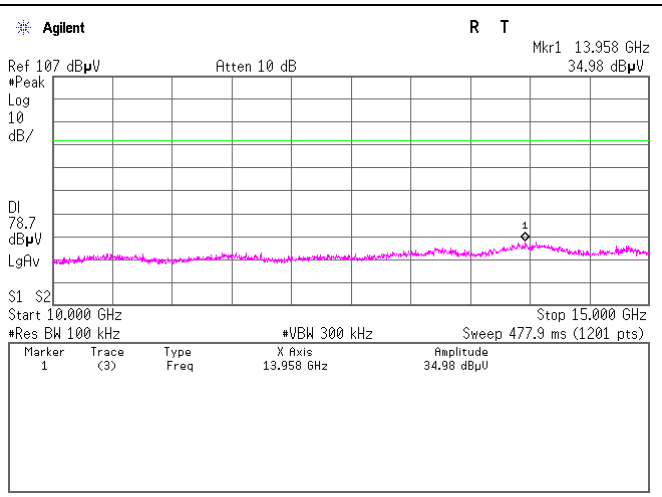
1GHz - 5GHz



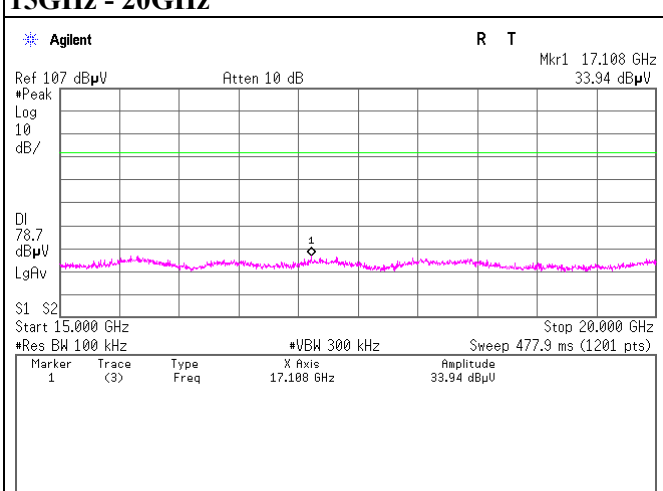
5GHz - 10GHz



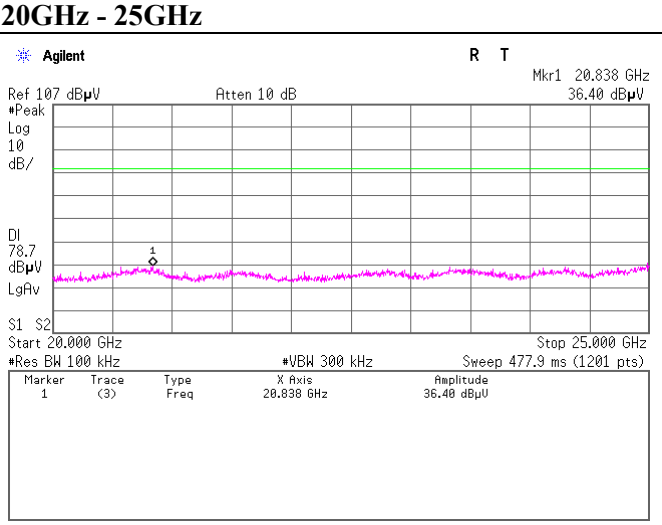
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz

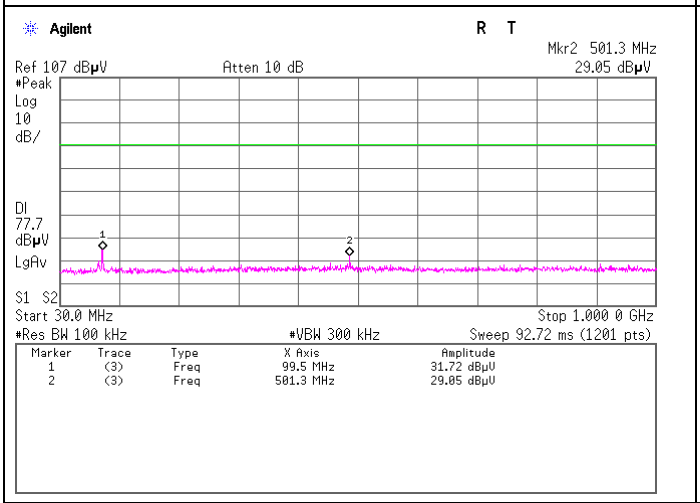


Spurious emission (Conducted)

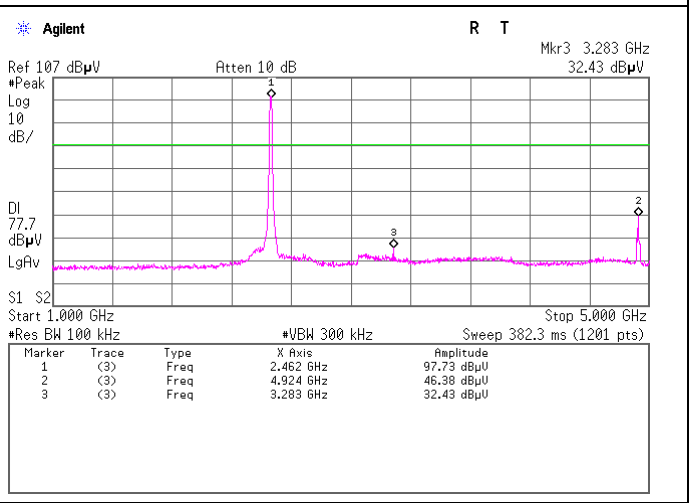
11b,

Tx, 2462MHz

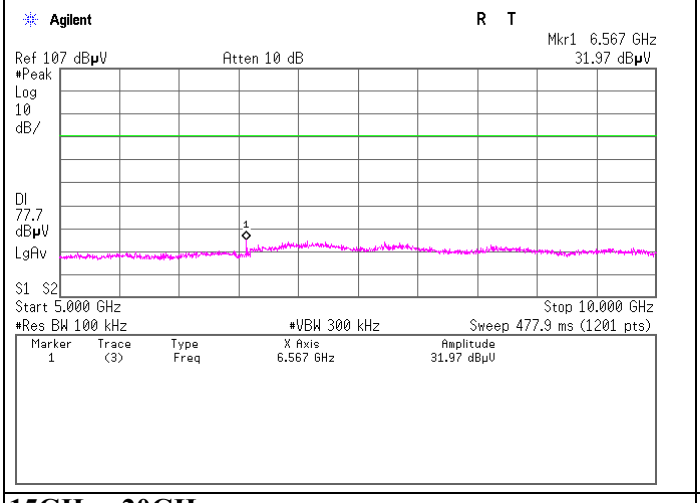
30MHz - 1GHz



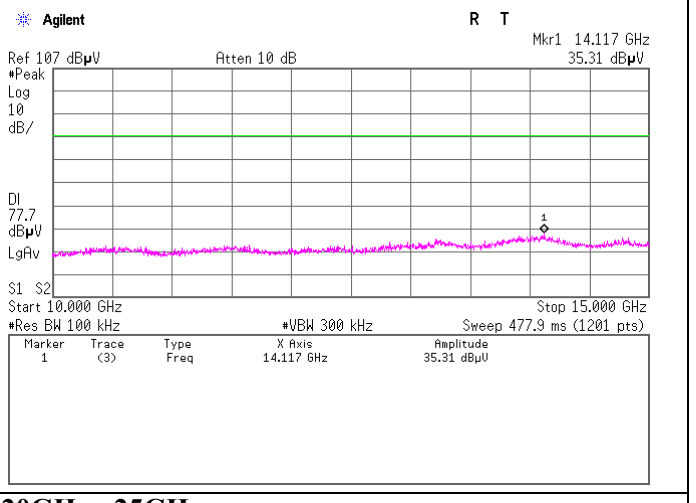
1GHz - 5GHz



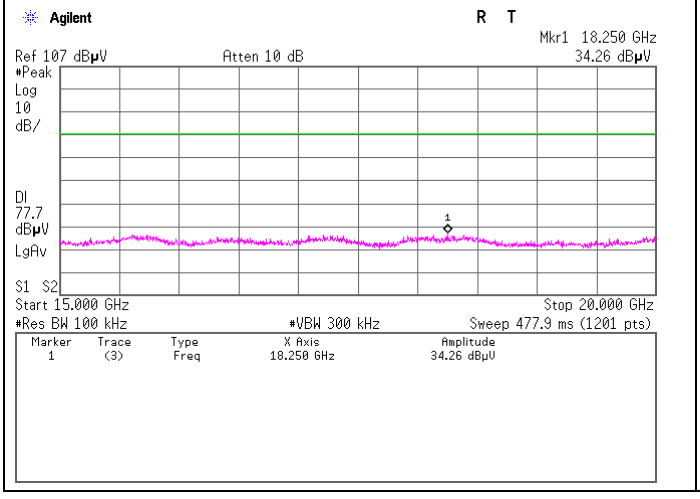
5GHz - 10GHz



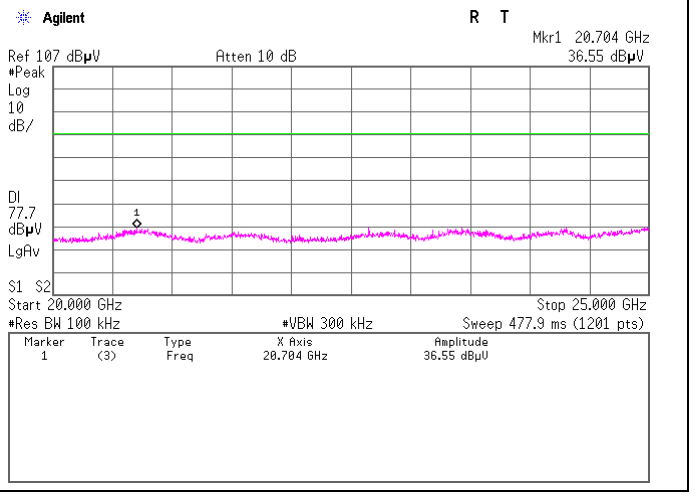
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz

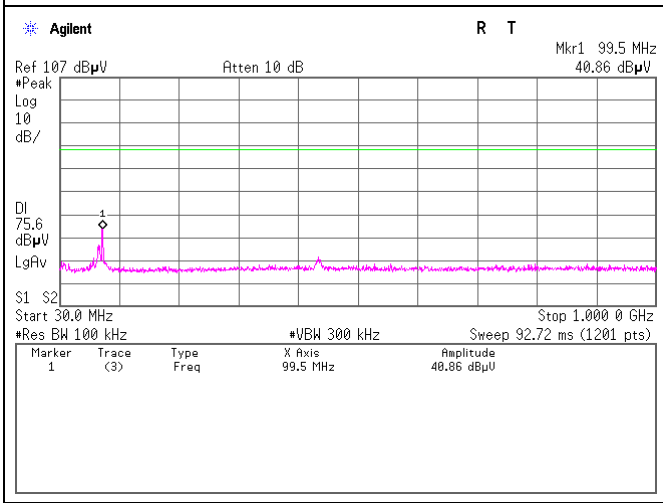


Spurious emission (Conducted)

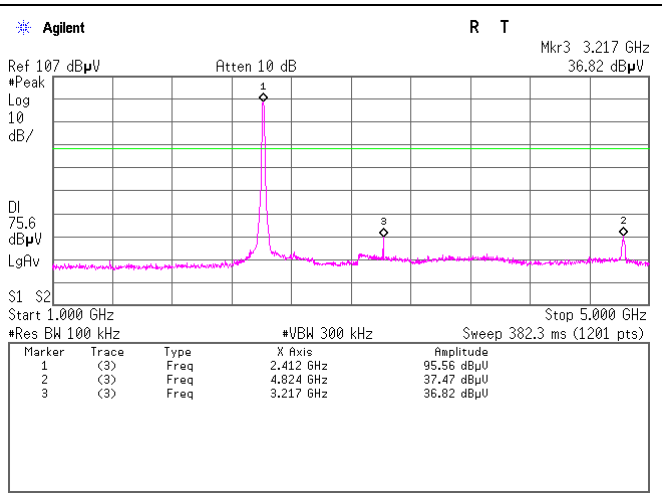
11g,

Tx, 2412MHz

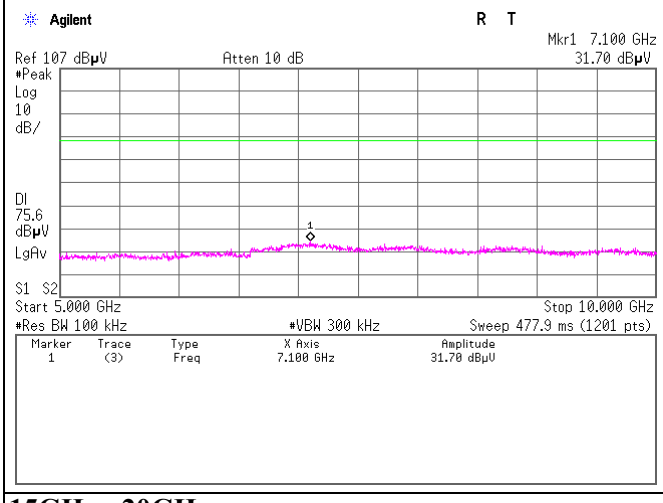
30MHz - 1GHz



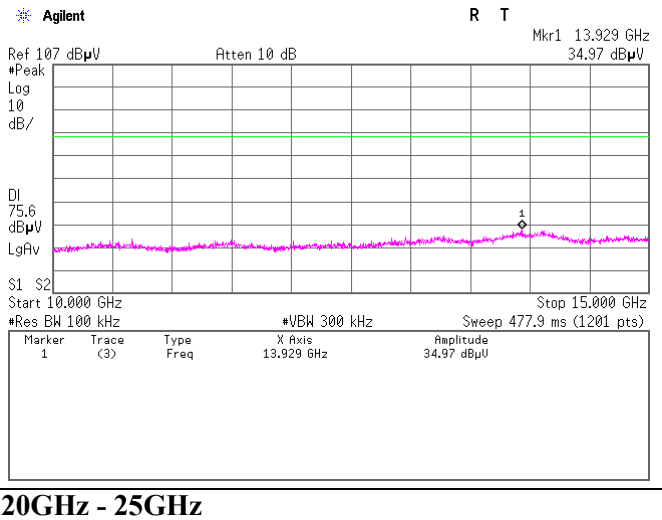
1GHz - 5GHz



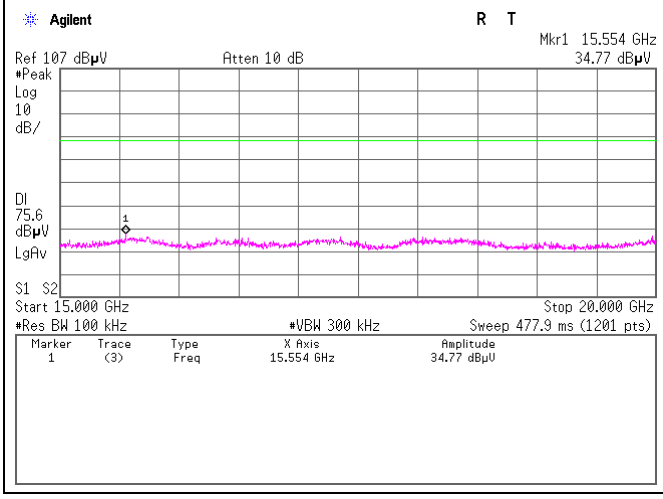
5GHz - 10GHz



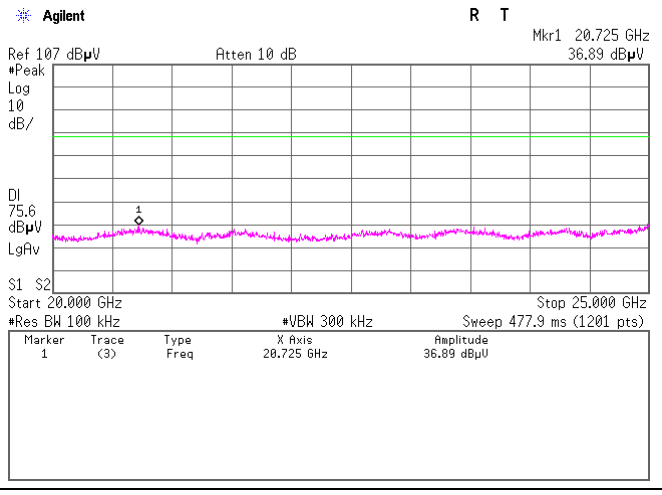
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz

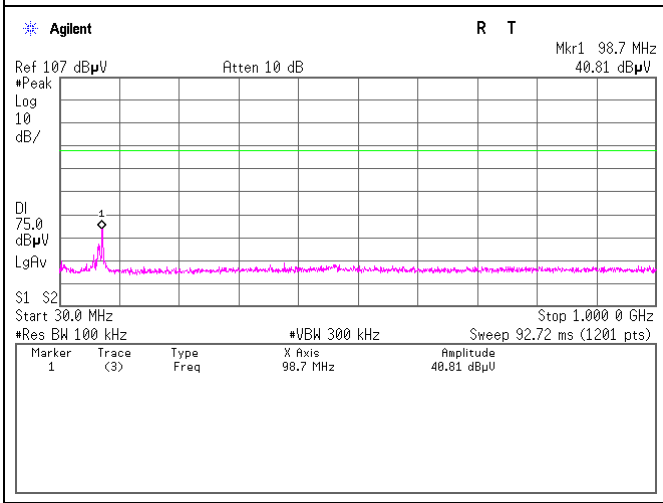


Spurious emission (Conducted)

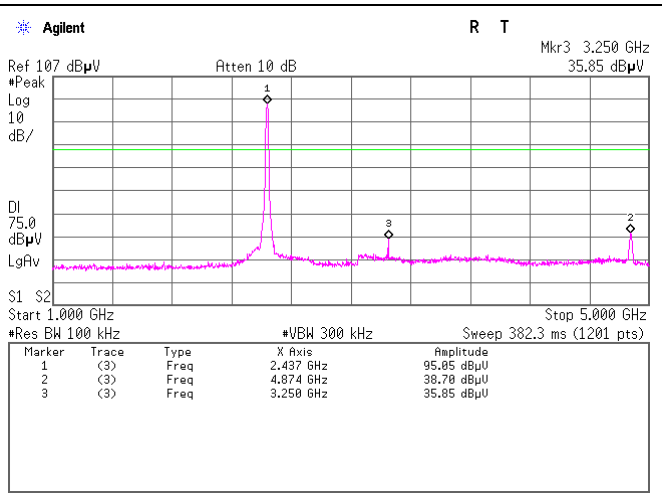
11g,

Tx, 2437MHz

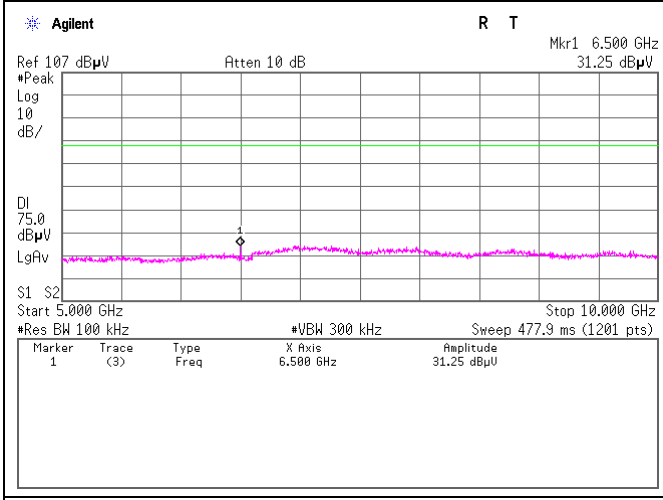
30MHz - 1GHz



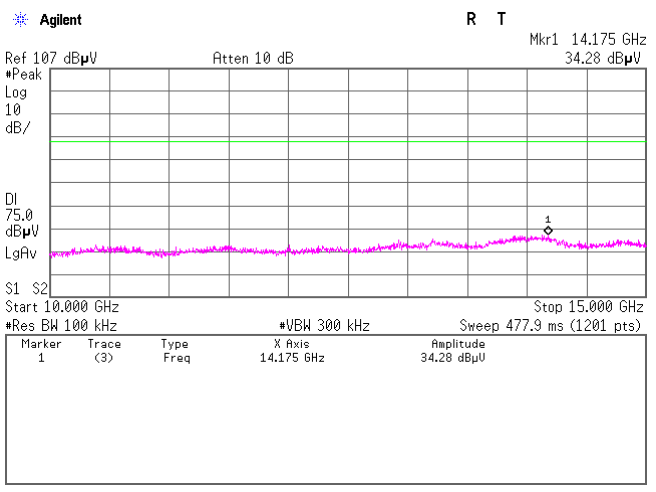
1GHz - 5GHz



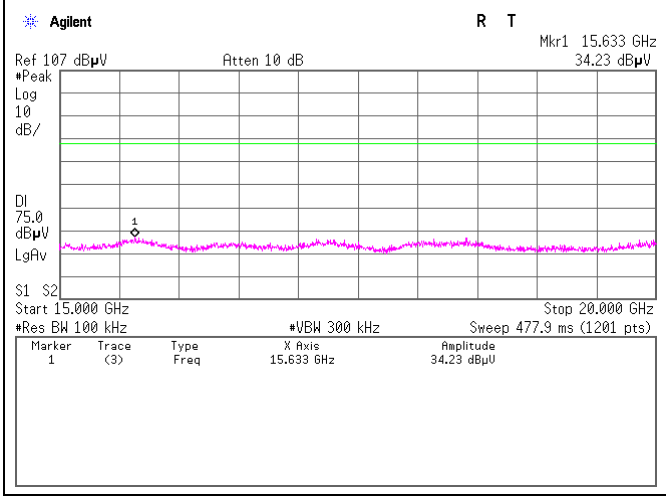
5GHz - 10GHz



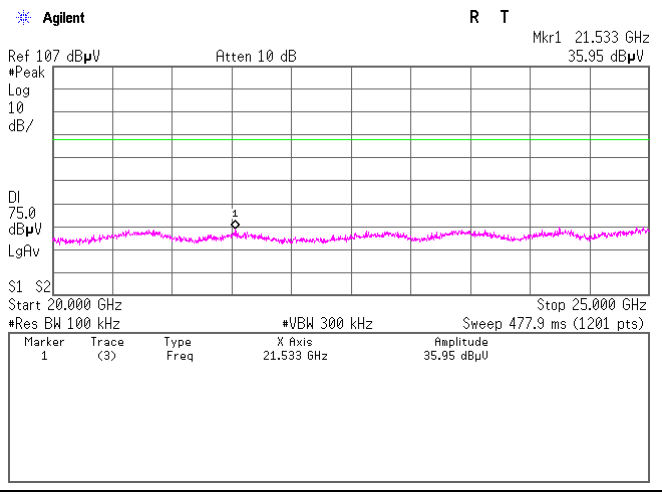
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz

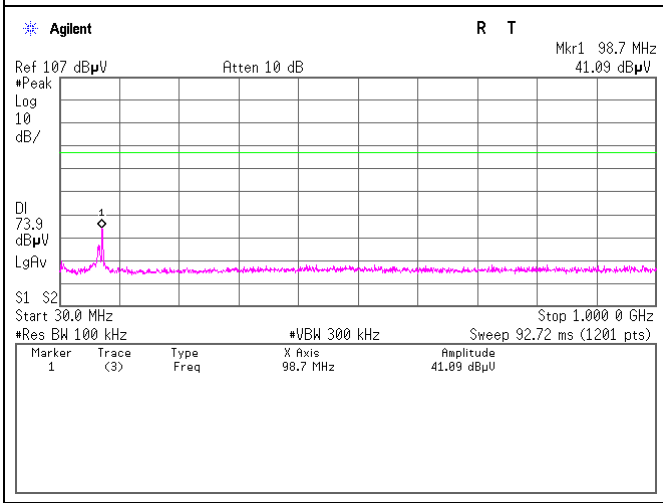


Spurious emission (Conducted)

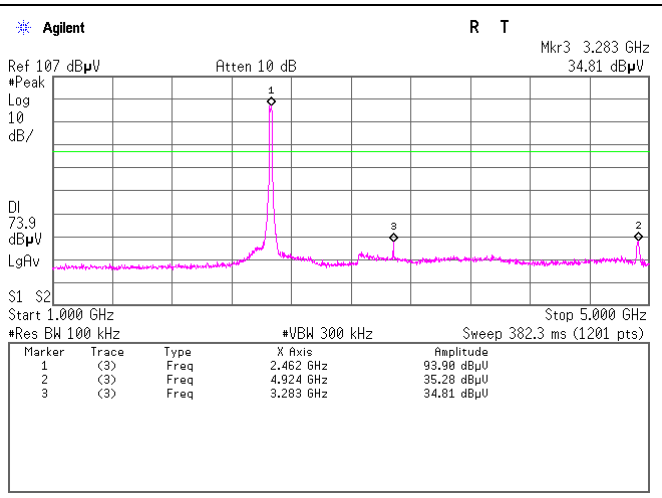
11g,

Tx, 2462MHz

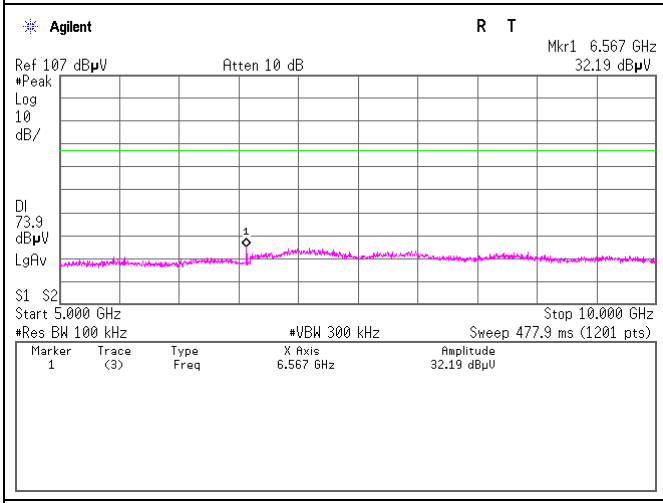
30MHz - 1GHz



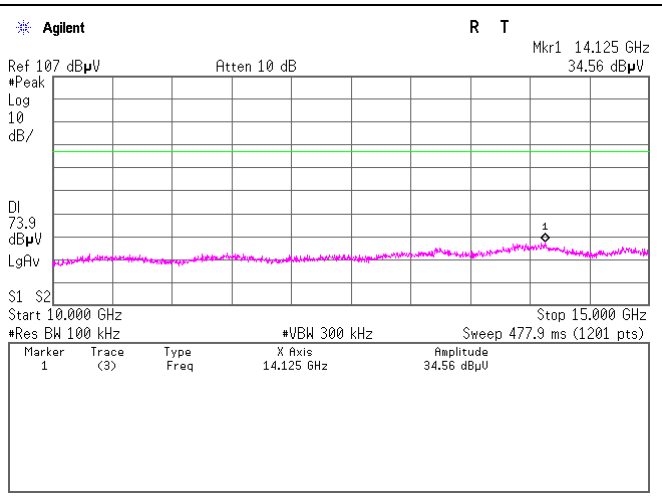
1GHz - 5GHz



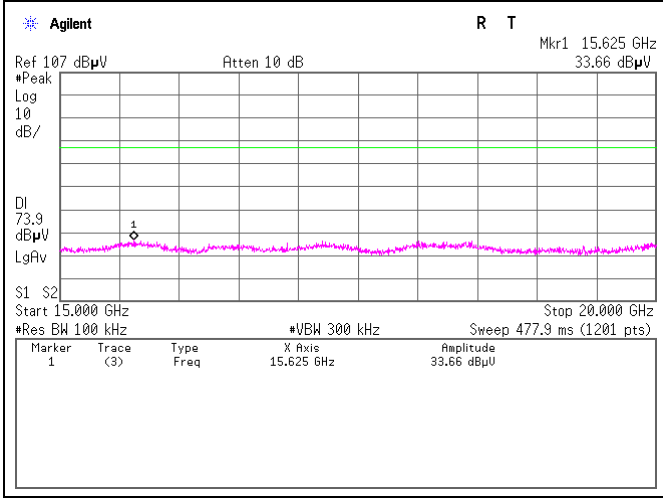
5GHz - 10GHz



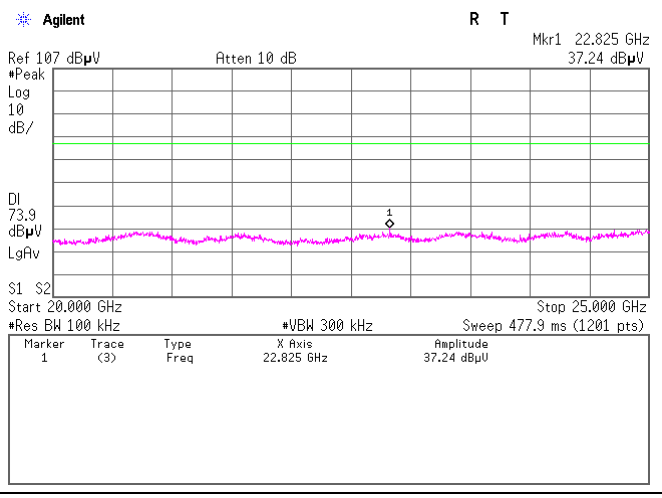
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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Shonan EMC Lab.

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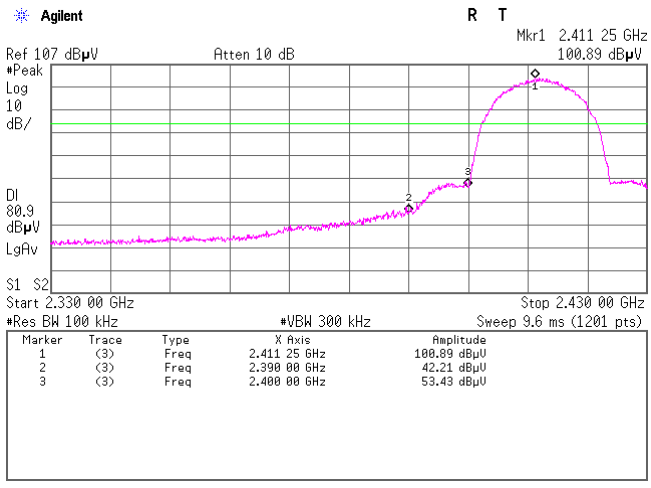
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

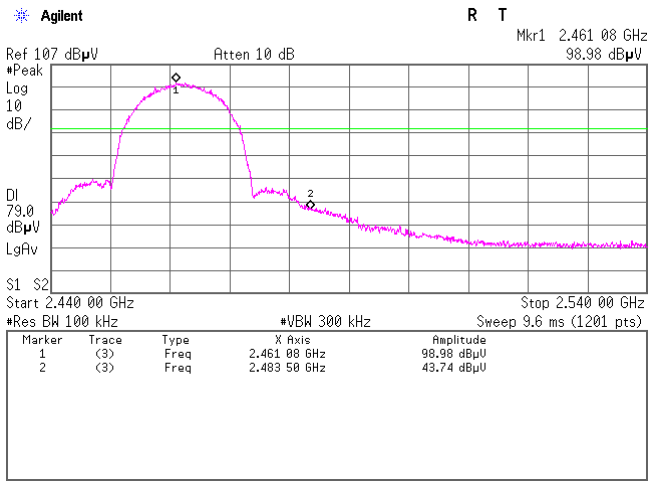
Band Edge compliance

11b,

Tx, 2412MHz

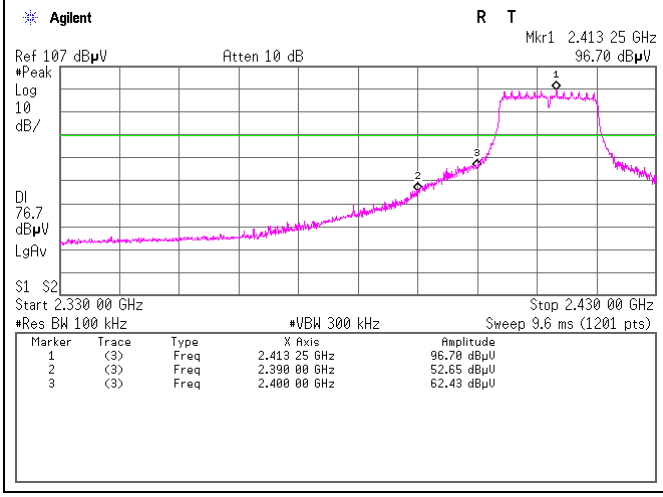


Tx, 2462MHz

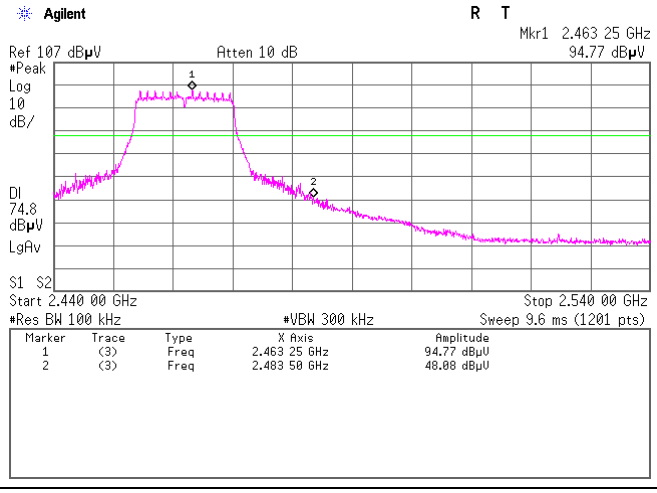


11g,

Tx, 2412MHz



Tx, 2462MHz



Power Density

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2010/3/3
Temperature / Humidity 22℃ , 37%
Engineer Tatsuya Arai
Mode Tx,

11b,

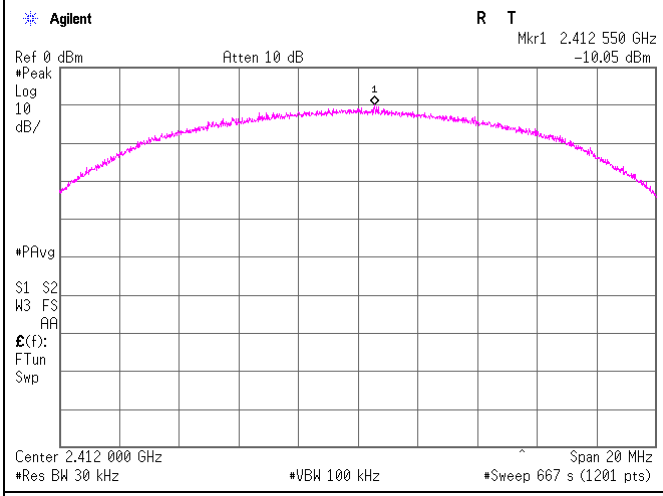
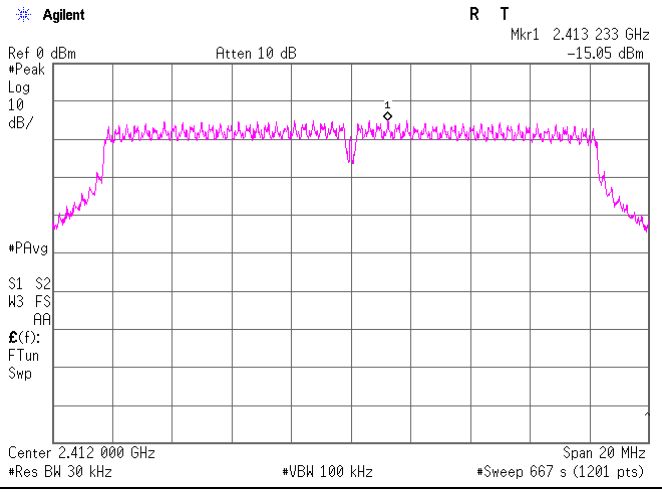
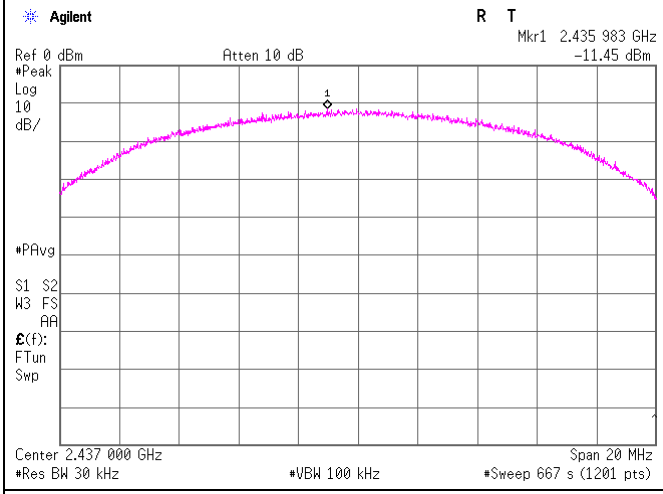
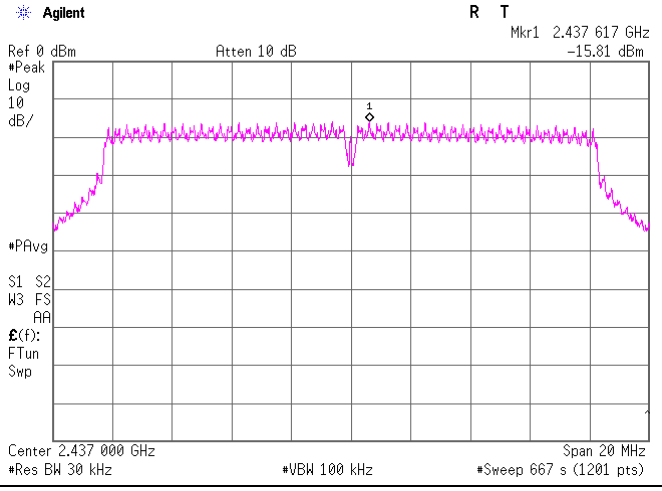
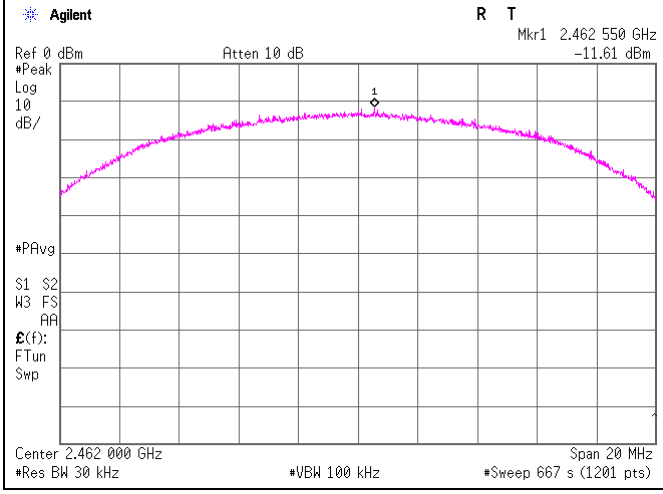
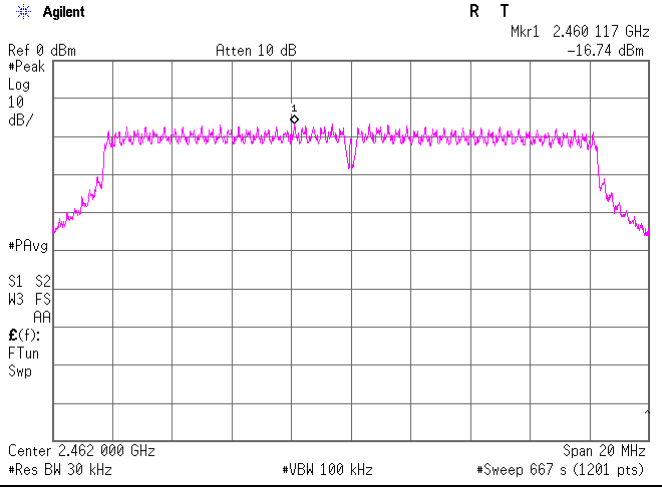
Ch. Freq. [MHz]	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412	2412.55	-10.05	1.51	9.99	1.45	8.00	6.55
2437	2435.98	-11.45	1.51	9.99	0.05	8.00	7.95
2462	2462.55	-11.61	1.51	9.99	-0.11	8.00	8.11

11g,

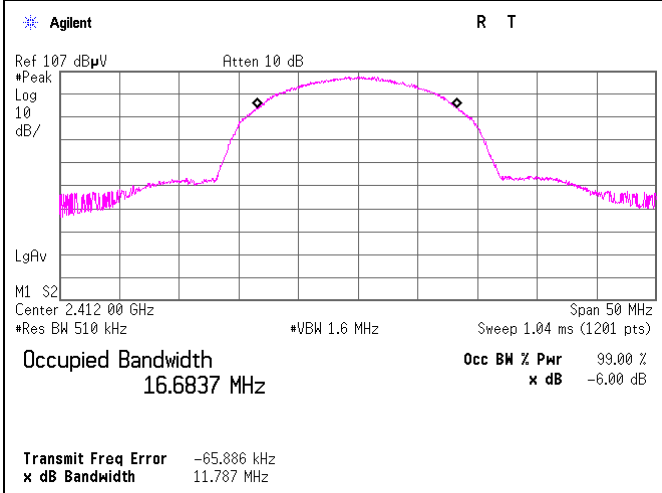
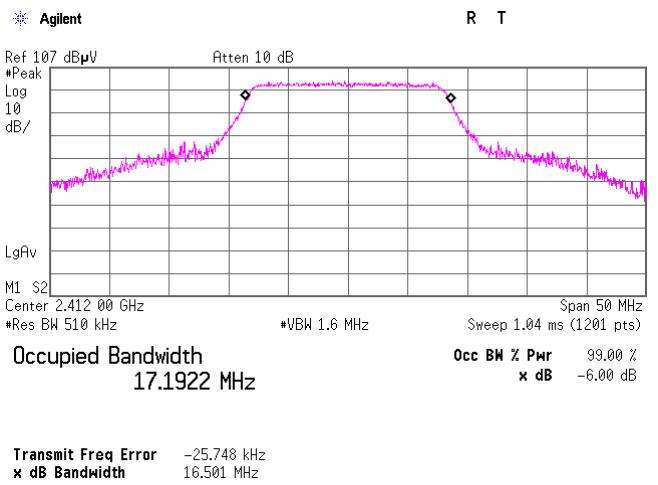
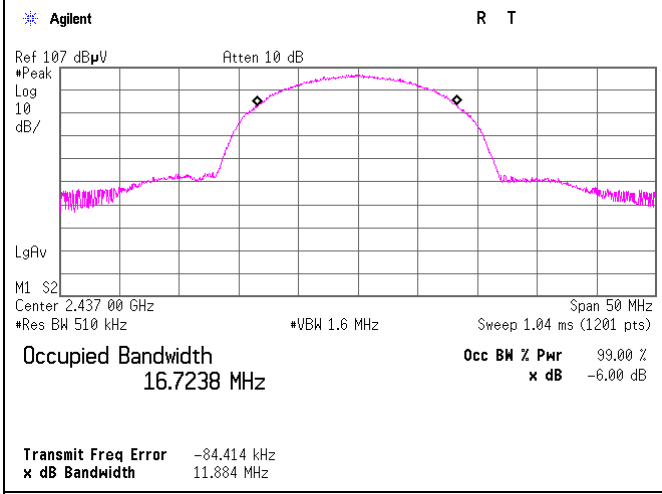
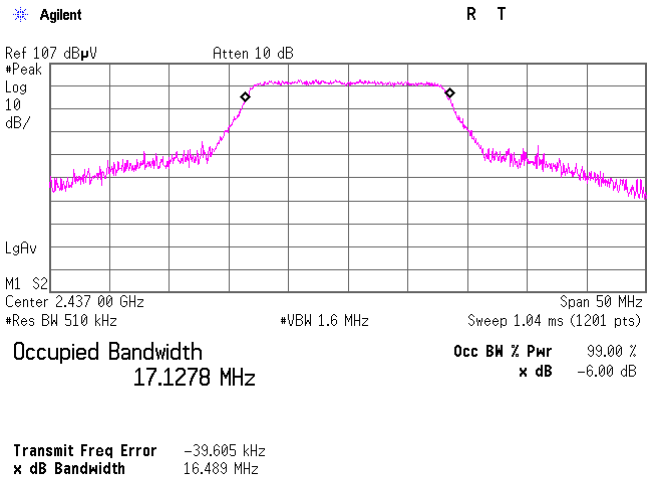
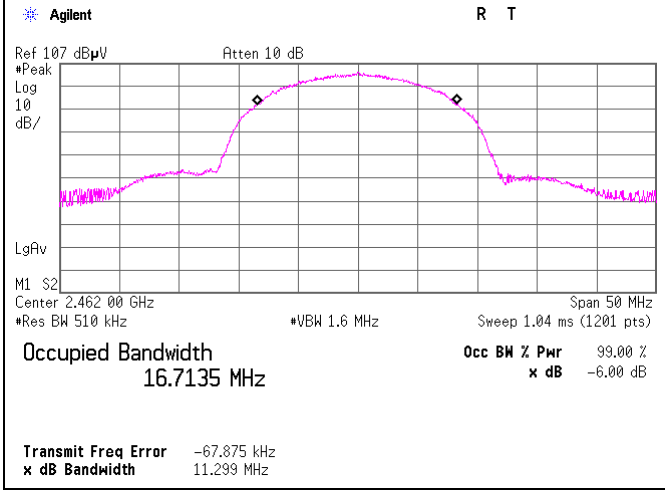
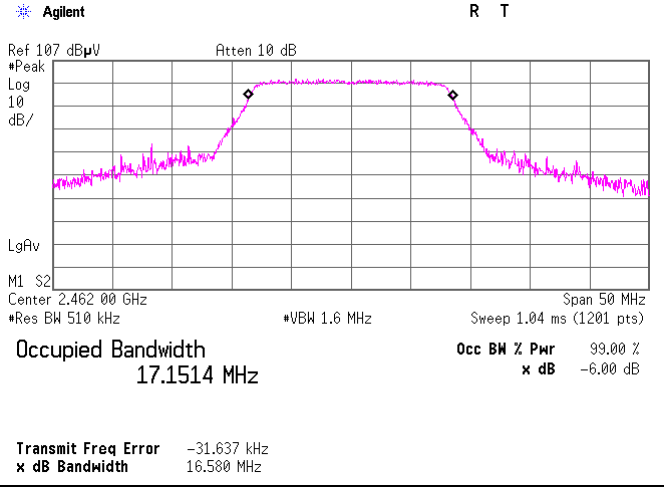
Ch. Freq. [MHz]	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412	2413.23	-15.05	1.51	9.99	-3.55	8.00	11.55
2437	2437.62	-15.81	1.51	9.99	-4.31	8.00	12.31
2462	2460.12	-16.74	1.51	9.99	-5.24	8.00	13.24

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

Power Density

11b	11g
Tx, 2412MHz	**Tx, 2412MHz**
	
Tx, 2437MHz	**Tx, 2437MHz**
	
Tx, 2462MHz	**Tx, 2462MHz**
	

99% Occupied Bandwidth

11b	11g
Tx, 2412MHz	**Tx, 2412MHz**
	
Tx, 2437MHz	**Tx, 2437MHz**
	
Tx, 2462MHz	**Tx, 2462MHz**
	

APPENDIX 3:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No.	Serial No.	Test Item	Calibration Date * Interval(month)
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	AT2/RE	2010/02/17 * 12
KPM-08	Power meter	Anritsu	ML2495A	6K00003356	AT2	2009/10/30 * 12
KPSS-04	Power sensor	Anritsu	MA2411B	12088	AT2	2009/10/30 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2010/02/06 * 12
SAT6-05	Attenuator	JFW	50HF-006N	-	RE	2010/02/06 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2009/03/20 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/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
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2010/02/09 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2009/04/08 * 12
SJM-03	Measure	KOMELON	KMC-36	-	RE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2009/09/18 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	-	RE	-
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2010/03/09 * 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
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2010/02/02 * 12
SAF-09	Pre Amplifier	TOYO Corporation	HAP18-26W	18	RE	2010/03/02 * 12
SHA-05	Horn Antenna	ETS LINDGREN	Sep-60	LM4210	RE	2009/04/09 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	51	RE	2009/12/04 * 12
SAT20-01	Attenuator(above1GHz)	Agilent	8493C-020	74889	RE	2010/03/05 * 12
SCC-G18	Coaxial Cable	Suhner	SUCOFLEX 104A	46292/4A	RE	2010/03/02 * 12
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	AT1,3,4	2010/03/05 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT1,3,4	2009/06/09 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT1,3,4	2010/03/09 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT1,3,4	2010/02/17 * 12
SCC-A12/A13/SRSE-	Coaxial Cable&RF	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-269(RF Selector)	CE	2009/04/06 * 12
SLS-01	LISN	Rohde & Schwarz	ENV216	100511	CE	2010/02/09 * 12
SAT3-03	Attenuator	JFW	50HF-003N	-	CE	2010/02/06 * 12
SOS-02	Humidity Indicator	A&D	AD-5681	4063343	CE	2010/02/17 * 12
STM-01	Terminator	TME	CT-01 BP	-	CE	2010/01/08 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	CE	2009/04/02 * 12
SJM-01	Measure	KOMELON	KMC-36	-	CE	-

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

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

Test Item:
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: Power density