

APPENDIX 2: Data of EMI test

**Conducted Emission
(Power Supply: SONY)**

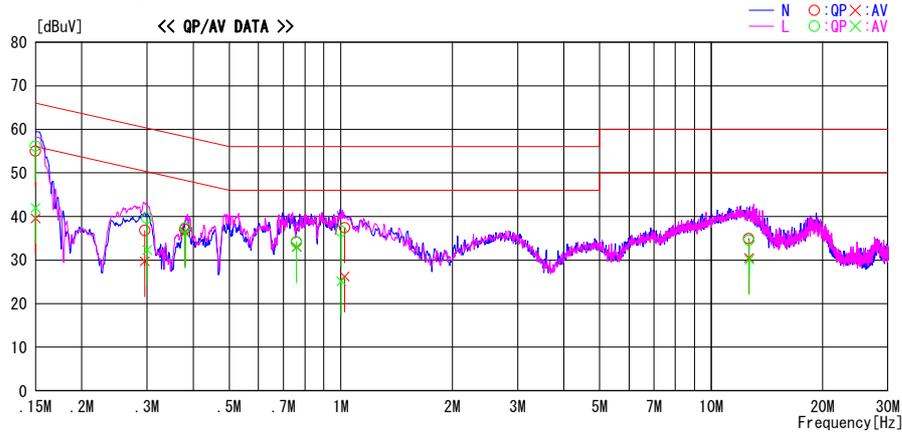
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2011/03/19

Report No. : 31HE0085-HO-01
 Temp./Humi. : 22deg.C / 33% RH
 Engineer : Satofumi Matsuyama

Mode / Remarks : WLAN 11b Tx, 2412MHz, 11Mbps, Antenna 0

LIMIT : FCC15.207 QP
 FCC15.207 AV

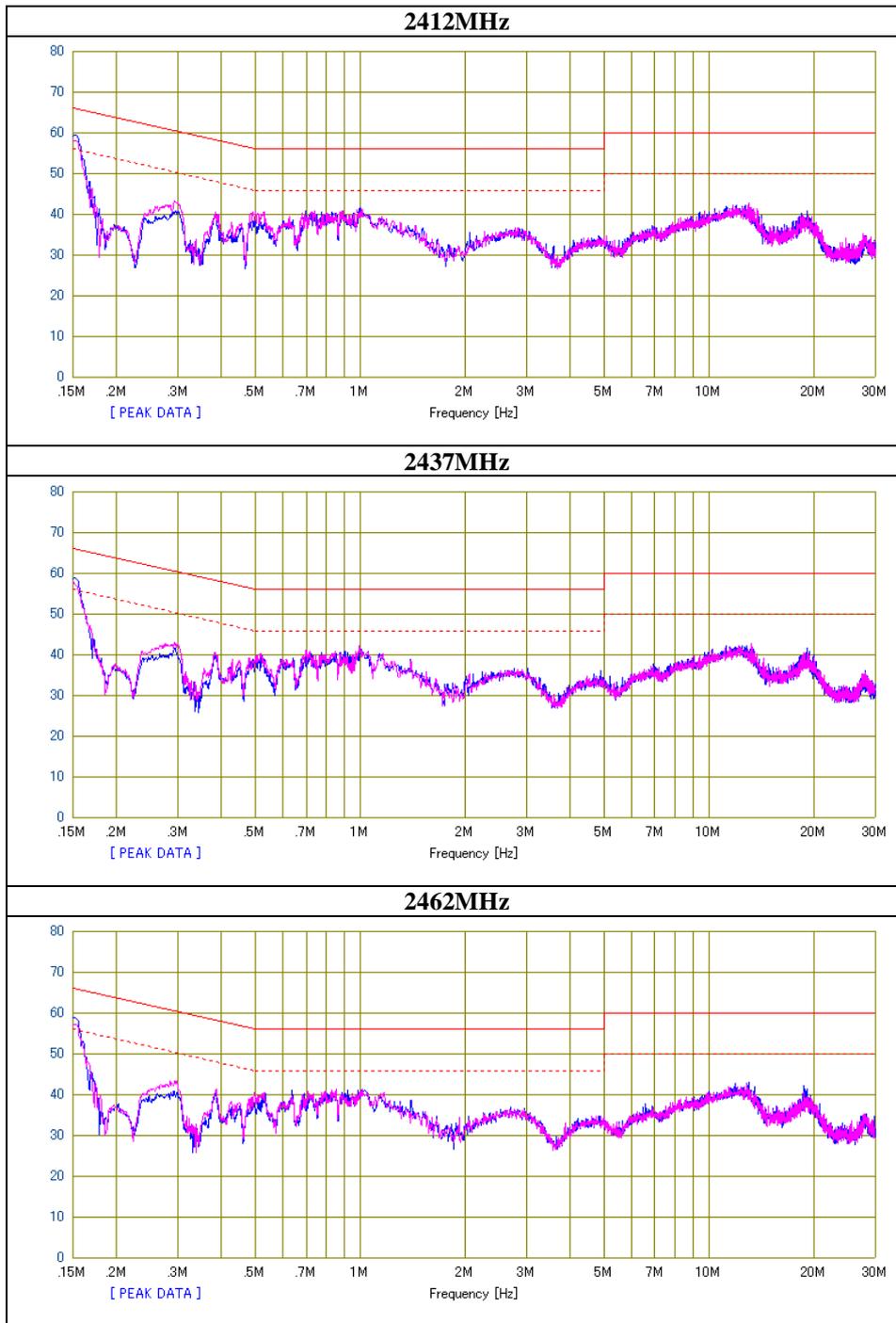


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	41.9	26.5	13.1	55.0	39.6	66.0	56.0	11.0	16.4	N	
0.29583	23.5	16.4	13.3	36.8	29.7	60.4	50.4	23.6	20.7	N	
0.37976	23.7	23.2	13.3	37.0	36.5	58.3	48.3	21.3	11.8	N	
0.75976	20.8	19.7	13.3	34.1	33.0	56.0	46.0	21.9	13.0	N	
1.02480	24.1	12.9	13.3	37.4	26.2	56.0	46.0	18.6	19.8	N	
12.63317	20.8	16.4	14.1	34.9	30.5	60.0	50.0	25.1	19.5	N	
0.15000	43.1	28.9	13.1	56.2	42.0	66.0	56.0	9.8	14.0	L	
0.29992	26.3	19.0	13.3	39.6	32.3	60.2	50.2	20.6	17.9	L	
0.38016	24.1	22.9	13.3	37.4	36.2	58.3	48.3	20.9	12.1	L	
0.75940	20.9	19.6	13.3	34.2	32.9	56.0	46.0	21.8	13.1	L	
1.00271	23.3	11.9	13.3	36.6	25.2	56.0	46.0	19.4	20.8	L	
12.66077	20.4	16.0	14.1	34.5	30.1	60.0	50.0	25.5	19.9	L	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C. F [dB] (L1SN LOSS + CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission
(Power Supply: SONY)

Test place	Head Office EMC Lab. No.3 Semi Anechoic Chamber
Report No.	31HE0085-HO-01
Date	03/19/2011
Temperature/ Humidity	22 deg.C / 33% RH
Engineer	Satofumi Matsuyama
Mode	11b Tx, Antenna 0



Conducted Emission
(Power Supply: SONY)

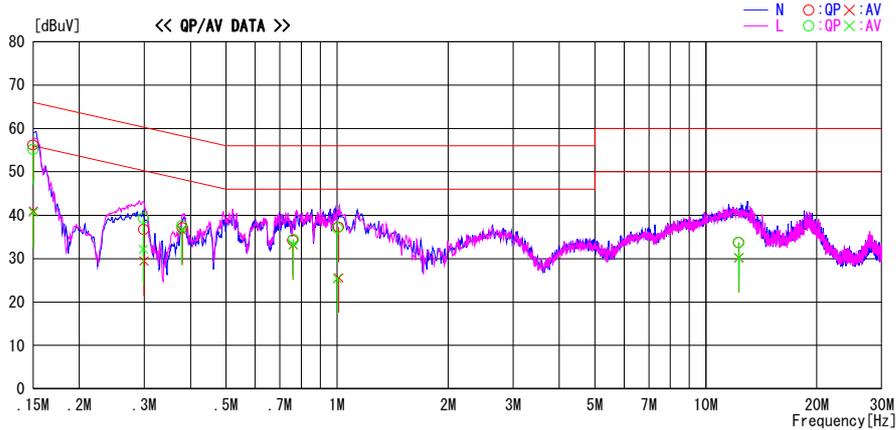
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LIMIT : FCC15.207 QP
 FCC15.207 AV

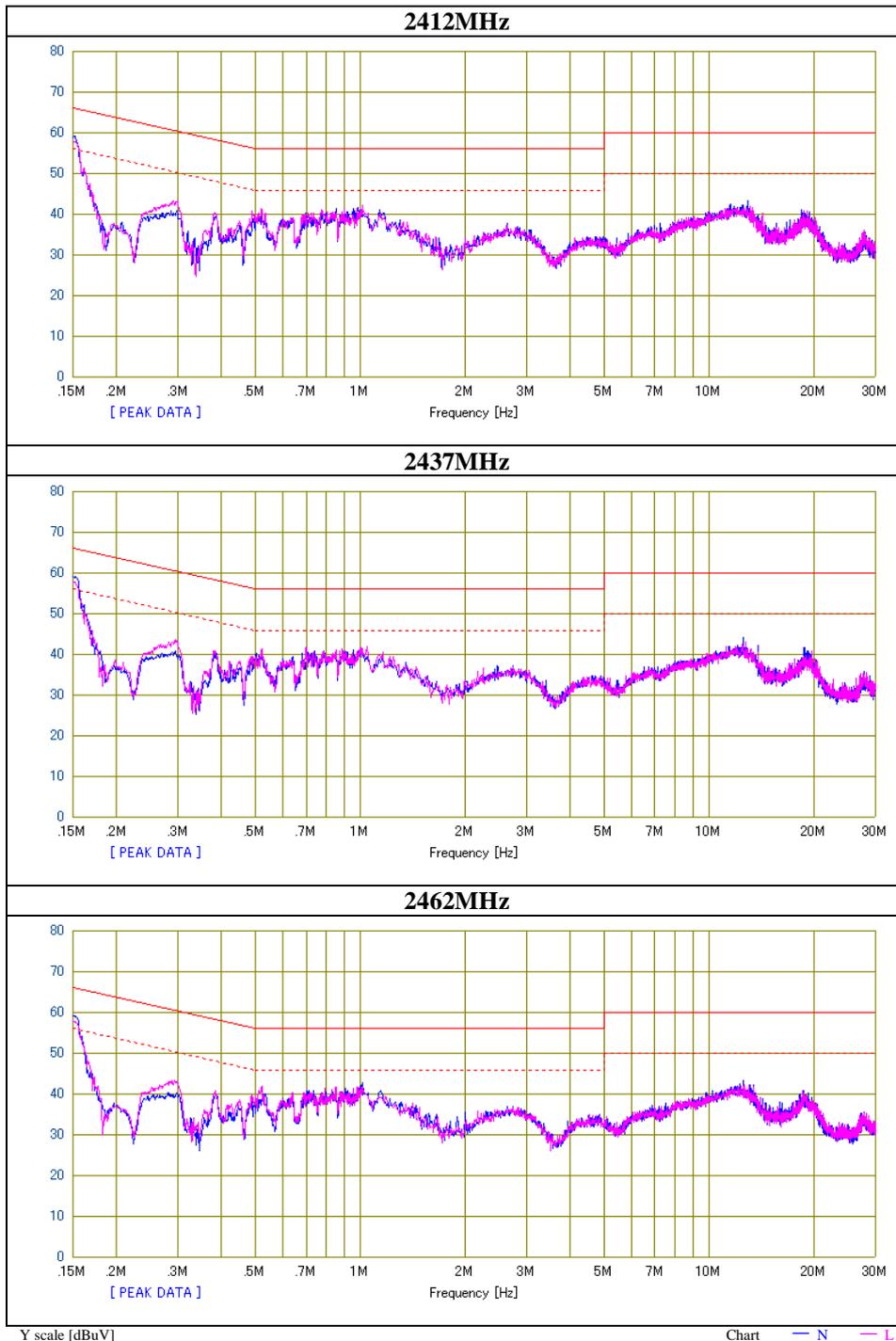


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	43.1	27.8	13.1	56.2	40.9	66.0	56.0	9.8	15.1	N	
0.29937	23.4	16.2	13.3	36.7	29.5	60.3	50.3	23.6	20.8	N	
0.38032	23.8	23.3	13.3	37.1	36.6	58.3	48.3	21.2	11.7	N	
0.75948	20.9	19.9	13.3	34.2	33.2	56.0	46.0	21.8	12.8	N	
1.00952	24.0	12.3	13.3	37.3	25.6	56.0	46.0	18.7	20.4	N	
12.27130	19.6	16.1	14.1	33.7	30.2	60.0	50.0	26.3	19.8	N	
0.15000	42.1	27.6	13.1	55.2	40.7	66.0	56.0	10.8	15.3	L	
0.29837	26.1	18.8	13.3	39.4	32.1	60.3	50.3	20.9	18.2	L	
0.37988	24.3	23.4	13.3	37.6	36.7	58.3	48.3	20.7	11.6	L	
0.76008	21.1	20.0	13.3	34.4	33.3	56.0	46.0	21.6	12.7	L	
1.00224	23.8	12.1	13.3	37.1	25.4	56.0	46.0	18.9	20.6	L	
12.29764	19.6	16.2	14.1	33.7	30.3	60.0	50.0	26.3	19.7	L	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C. F [dB] (LISN LOSS + CABLE LOSS)
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Mode	11b Tx, Antenna 1



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(Power Supply: SONY)

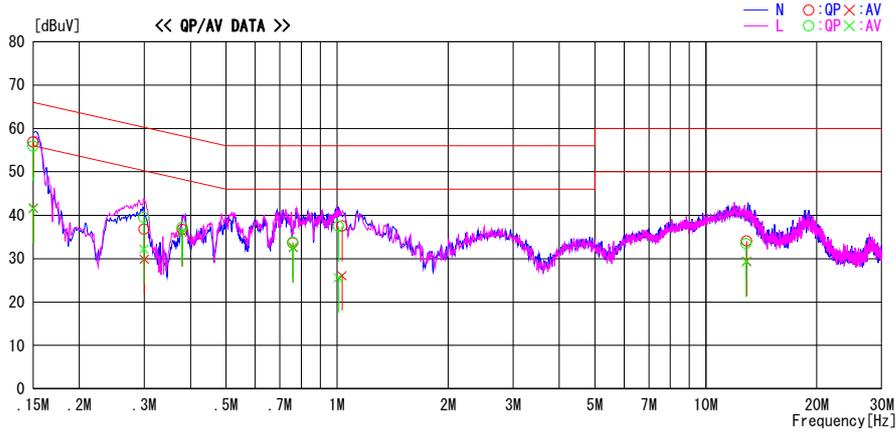
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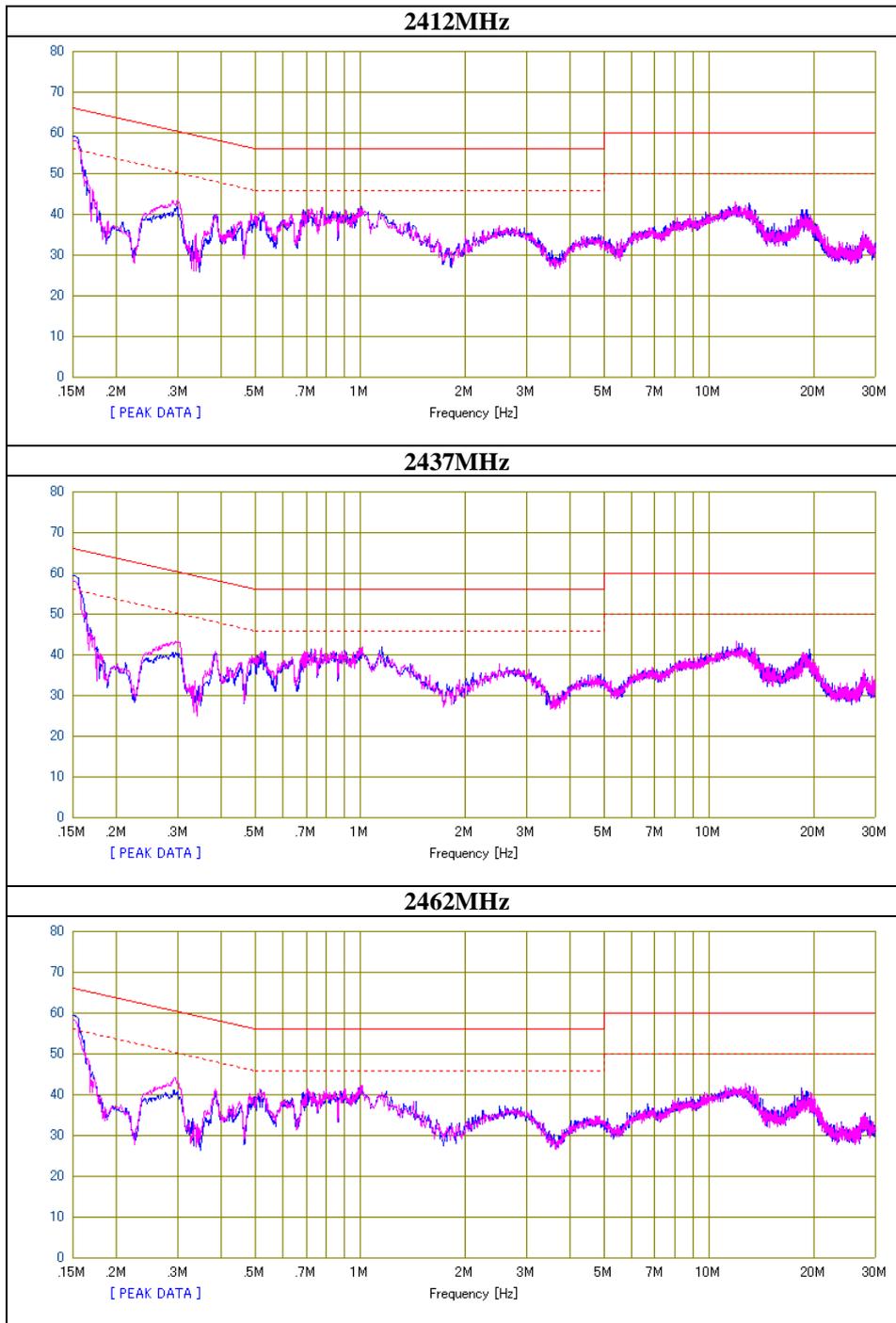


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	43.8	28.6	13.1	56.9	41.7	66.0	56.0	9.1	14.3	N	
0.29997	23.5	16.6	13.3	36.8	29.9	60.2	50.2	23.4	20.3	N	
0.38032	23.4	22.9	13.3	36.7	36.2	58.3	48.3	21.6	12.1	N	
0.75992	20.3	19.3	13.3	33.6	32.6	56.0	46.0	22.4	13.4	N	
1.03160	24.2	12.8	13.3	37.5	26.1	56.0	46.0	18.5	19.9	N	
12.89550	19.9	15.3	14.1	34.0	29.4	60.0	50.0	26.0	20.6	N	
0.15000	42.8	28.5	13.1	55.9	41.6	66.0	56.0	10.1	14.4	L	
0.29945	26.2	18.9	13.3	39.5	32.2	60.3	50.3	20.8	18.1	L	
0.38036	24.0	22.9	13.3	37.3	36.2	58.3	48.3	21.0	12.1	L	
0.75948	20.5	19.2	13.3	33.8	32.5	56.0	46.0	22.2	13.5	L	
1.00846	24.1	12.3	13.3	37.4	25.6	56.0	46.0	18.6	20.4	L	
12.86249	19.4	15.2	14.1	33.5	29.3	60.0	50.0	26.5	20.7	L	

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Conducted Emission
(Power Supply: SONY)

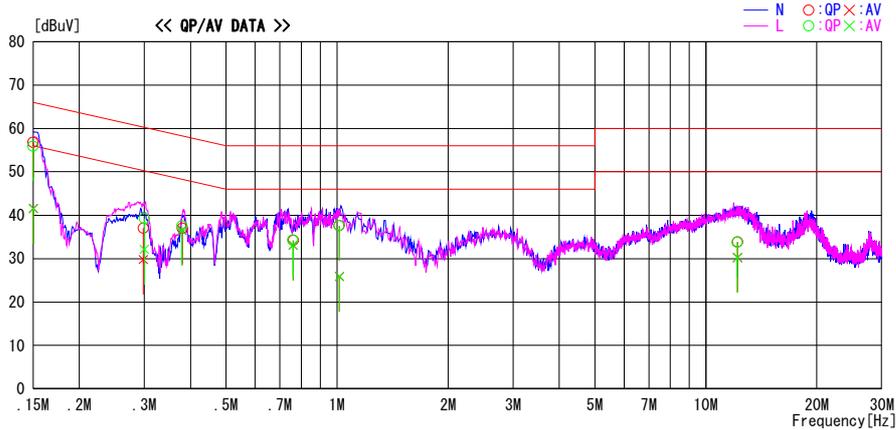
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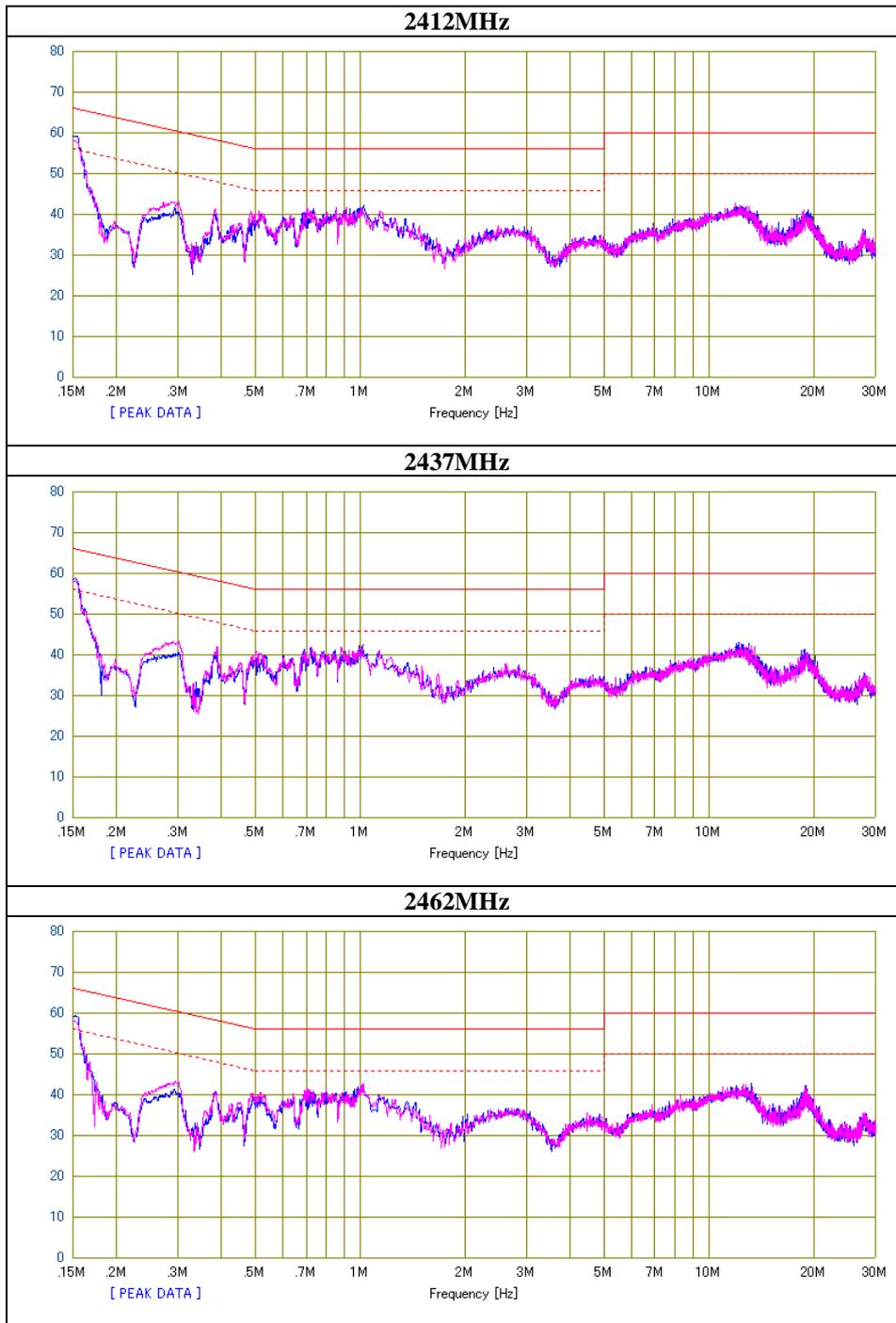


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	43.7	28.5	13.1	56.8	41.6	66.0	56.0	9.2	14.4	N	
0.29845	23.7	16.5	13.3	37.0	29.8	60.3	50.3	23.3	20.5	N	
0.38028	23.7	23.3	13.3	37.0	36.6	58.3	48.3	21.3	11.7	N	
0.76023	20.9	19.8	13.3	34.2	33.1	56.0	46.0	21.8	12.9	N	
1.01416	24.3	12.6	13.3	37.6	25.9	56.0	46.0	18.4	20.1	N	
12.17852	19.8	16.2	14.1	33.9	30.3	60.0	50.0	26.1	19.7	N	
0.15000	42.8	28.4	13.1	55.9	41.5	66.0	56.0	10.1	14.5	L	
0.30020	26.0	18.8	13.3	39.3	32.1	60.2	50.2	20.9	18.1	L	
0.37968	24.2	23.2	13.3	37.5	36.5	58.3	48.3	20.8	11.8	L	
0.75990	21.0	19.8	13.3	34.3	33.1	56.0	46.0	21.7	12.9	L	
1.01464	24.3	12.6	13.3	37.6	25.9	56.0	46.0	18.4	20.1	L	
12.17130	19.7	16.1	14.1	33.8	30.2	60.0	50.0	26.2	19.8	L	

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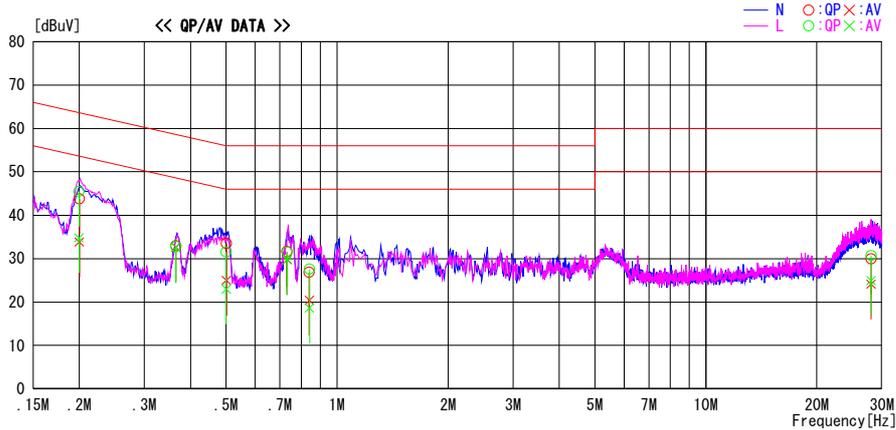
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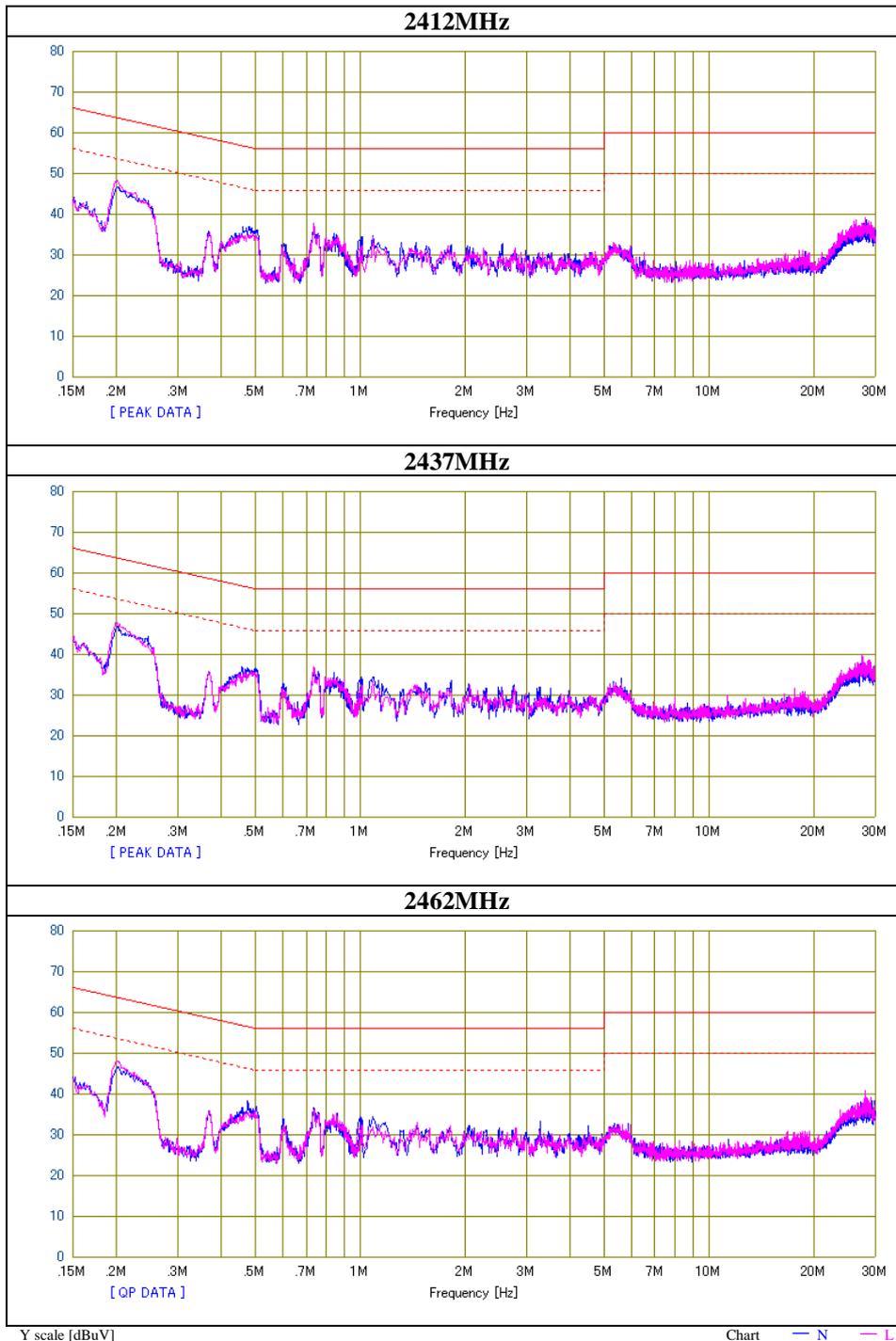


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.20016	30.5	20.5	13.3	43.8	33.8	63.6	53.6	19.8	19.8	N	
0.36544	19.7	19.3	13.3	33.0	32.6	58.6	48.6	25.6	16.0	N	
0.50101	20.2	11.7	13.3	33.5	25.0	56.0	46.0	22.5	21.0	N	
0.73165	18.3	16.5	13.3	31.6	29.8	56.0	46.0	24.4	16.2	N	
0.84086	13.5	7.1	13.3	26.8	20.4	56.0	46.0	29.2	25.6	N	
28.05411	15.1	9.3	14.8	29.9	24.1	60.0	50.0	30.1	25.9	N	
0.19964	32.4	21.7	13.1	45.5	34.8	63.6	53.6	18.1	18.8	L	
0.36589	19.5	19.3	13.3	32.8	32.6	58.6	48.6	25.8	16.0	L	
0.50044	18.2	9.7	13.3	31.5	23.0	56.0	46.0	24.5	23.0	L	
0.73212	18.2	16.4	13.3	31.5	29.7	56.0	46.0	24.5	16.3	L	
0.84146	14.3	5.3	13.3	27.6	18.6	56.0	46.0	28.4	27.4	L	
28.06065	15.9	10.1	14.8	30.7	24.9	60.0	50.0	29.3	25.1	L	

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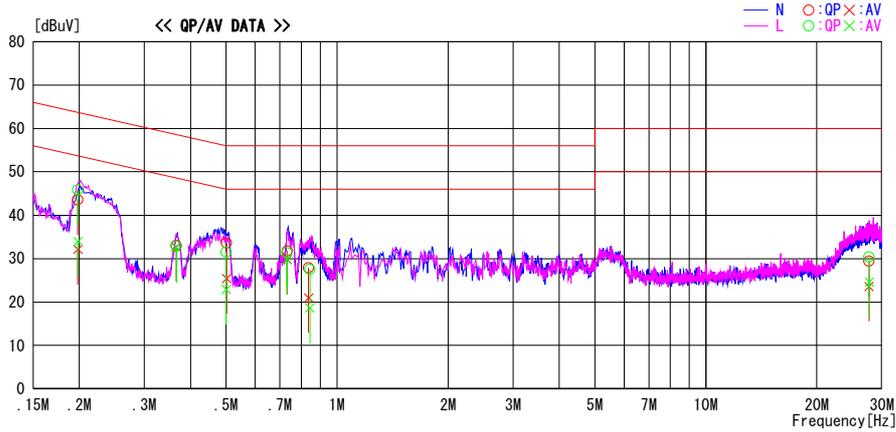
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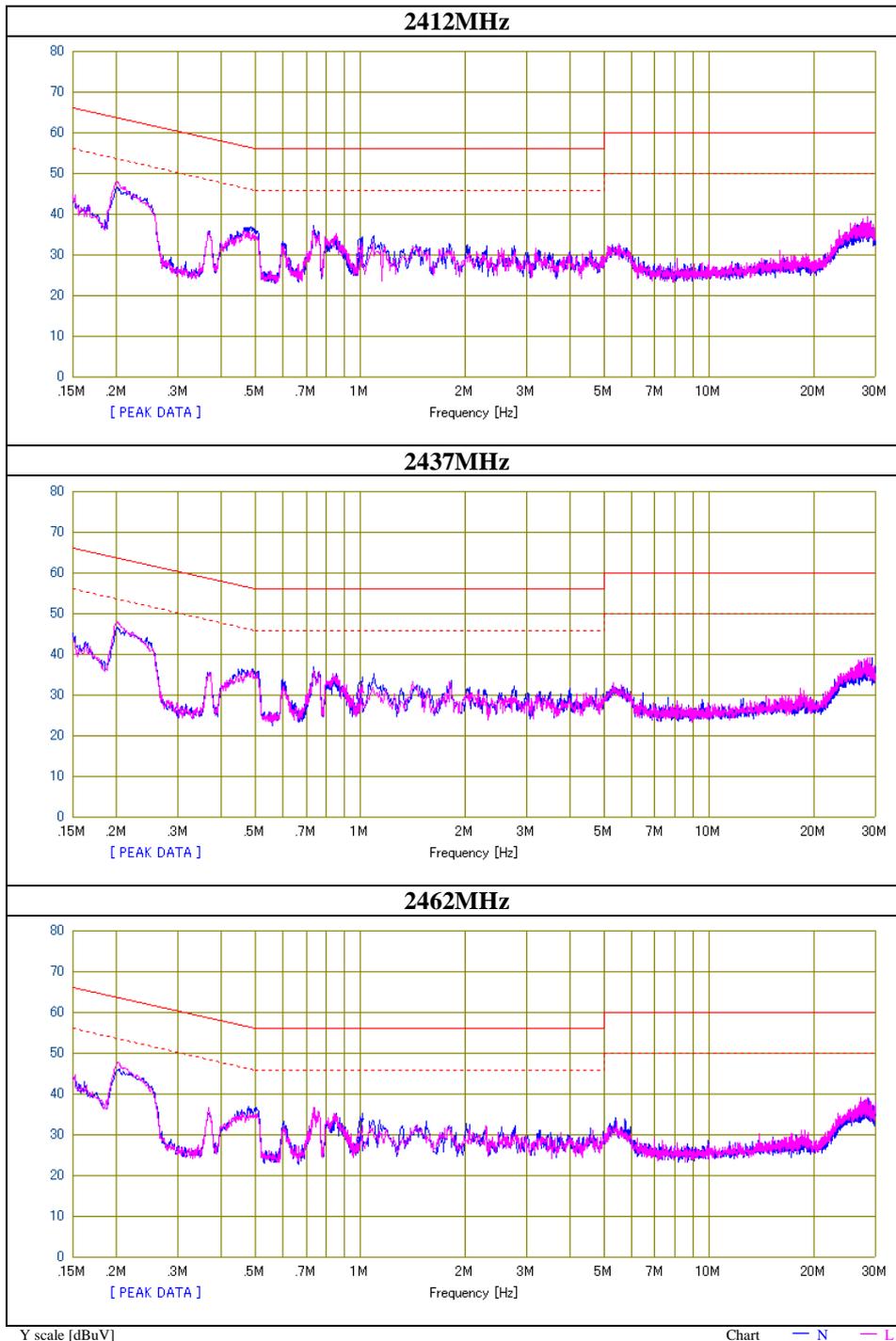


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.19812	30.5	19.0	13.1	43.6	32.1	63.7	53.7	20.1	21.6	N	
0.36617	19.8	19.4	13.3	33.1	32.7	58.6	48.6	25.5	15.9	N	
0.50180	20.3	12.1	13.3	33.6	25.4	56.0	46.0	22.4	20.6	N	
0.73235	18.5	16.5	13.3	31.8	29.8	56.0	46.0	24.2	16.2	N	
0.83750	14.6	7.7	13.3	27.9	21.0	56.0	46.0	28.1	25.0	N	
27.68317	14.6	8.8	14.8	29.4	23.6	60.0	50.0	30.6	26.4	N	
0.19816	32.7	20.9	13.1	45.8	34.0	63.7	53.7	17.9	19.7	L	
0.36628	19.6	19.3	13.3	32.9	32.6	58.6	48.6	25.7	16.0	L	
0.50033	18.2	9.6	13.3	31.5	22.9	56.0	46.0	24.5	23.1	L	
0.73153	18.1	16.5	13.3	31.4	29.8	56.0	46.0	24.6	16.2	L	
0.84399	14.2	5.3	13.3	27.5	18.6	56.0	46.0	28.5	27.4	L	
27.70811	15.6	9.8	14.8	30.4	24.6	60.0	50.0	29.6	25.4	L	

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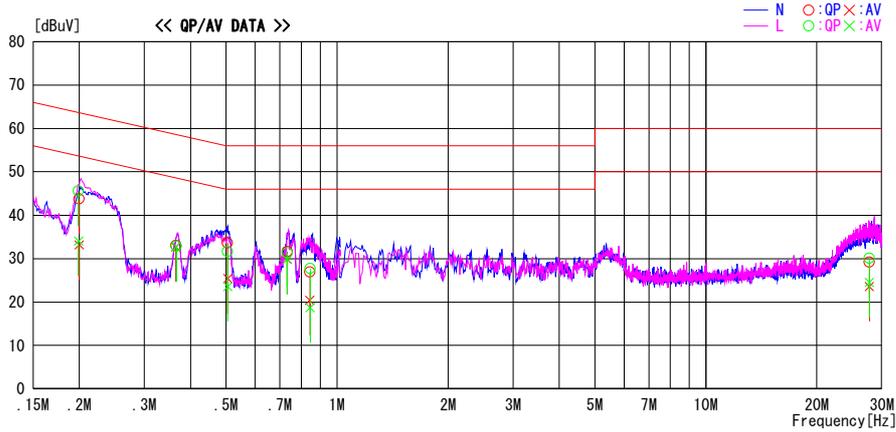
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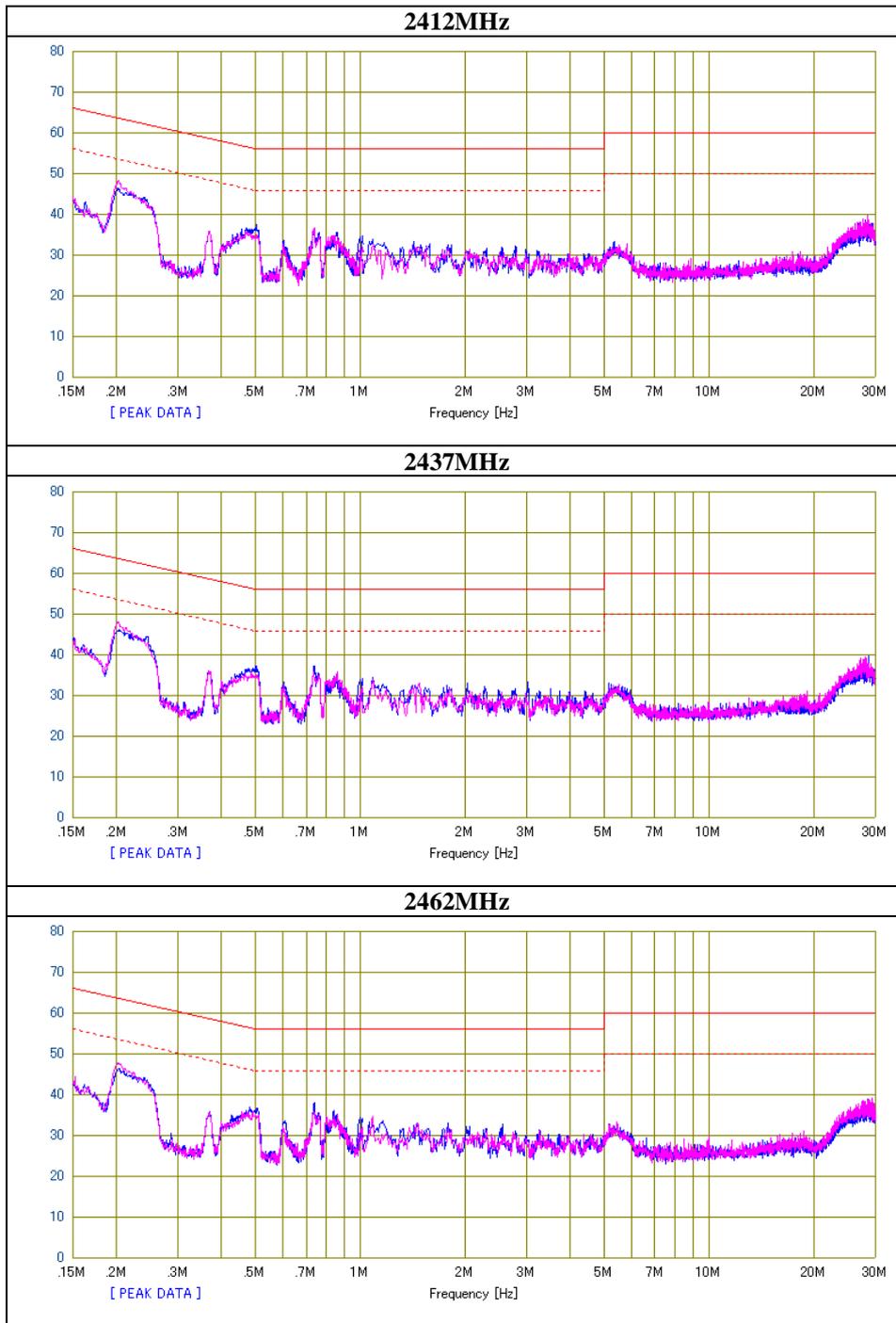


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.19988	30.7	20.1	13.1	43.8	33.2	63.6	53.6	19.8	20.4	N	
0.36567	19.8	19.4	13.3	33.1	32.7	58.6	48.6	25.5	15.9	N	
0.50476	20.3	12.1	13.3	33.6	25.4	56.0	46.0	22.4	20.6	N	
0.73216	18.3	16.6	13.3	31.6	29.9	56.0	46.0	24.4	16.1	N	
0.84385	13.6	7.1	13.3	26.9	20.4	56.0	46.0	29.1	25.6	N	
27.73738	14.4	8.8	14.8	29.2	23.6	60.0	50.0	30.8	26.4	N	
0.19912	32.5	21.0	13.1	45.6	34.1	63.6	53.6	18.0	19.5	L	
0.36645	19.6	19.4	13.3	32.9	32.7	58.6	48.6	25.7	15.9	L	
0.50496	18.3	10.3	13.3	31.6	23.6	56.0	46.0	24.4	22.4	L	
0.73213	18.1	16.5	13.3	31.4	29.8	56.0	46.0	24.6	16.2	L	
0.84565	14.4	5.4	13.3	27.7	18.7	56.0	46.0	28.3	27.3	L	
27.73895	15.3	9.7	14.8	30.1	24.5	60.0	50.0	29.9	25.5	L	

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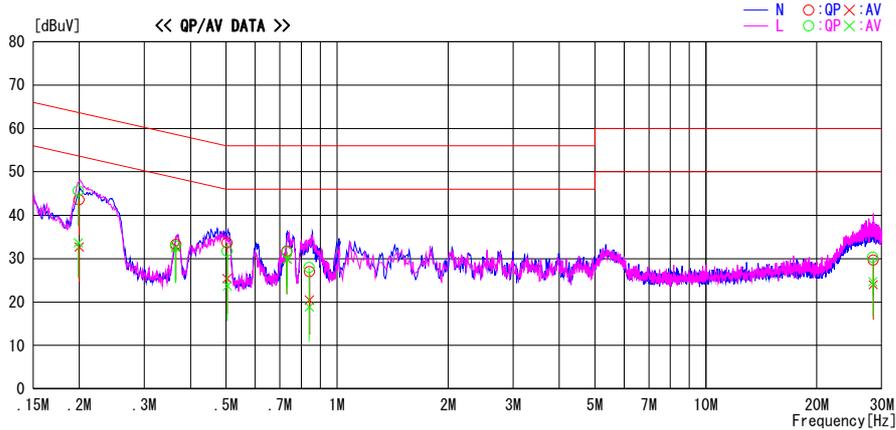
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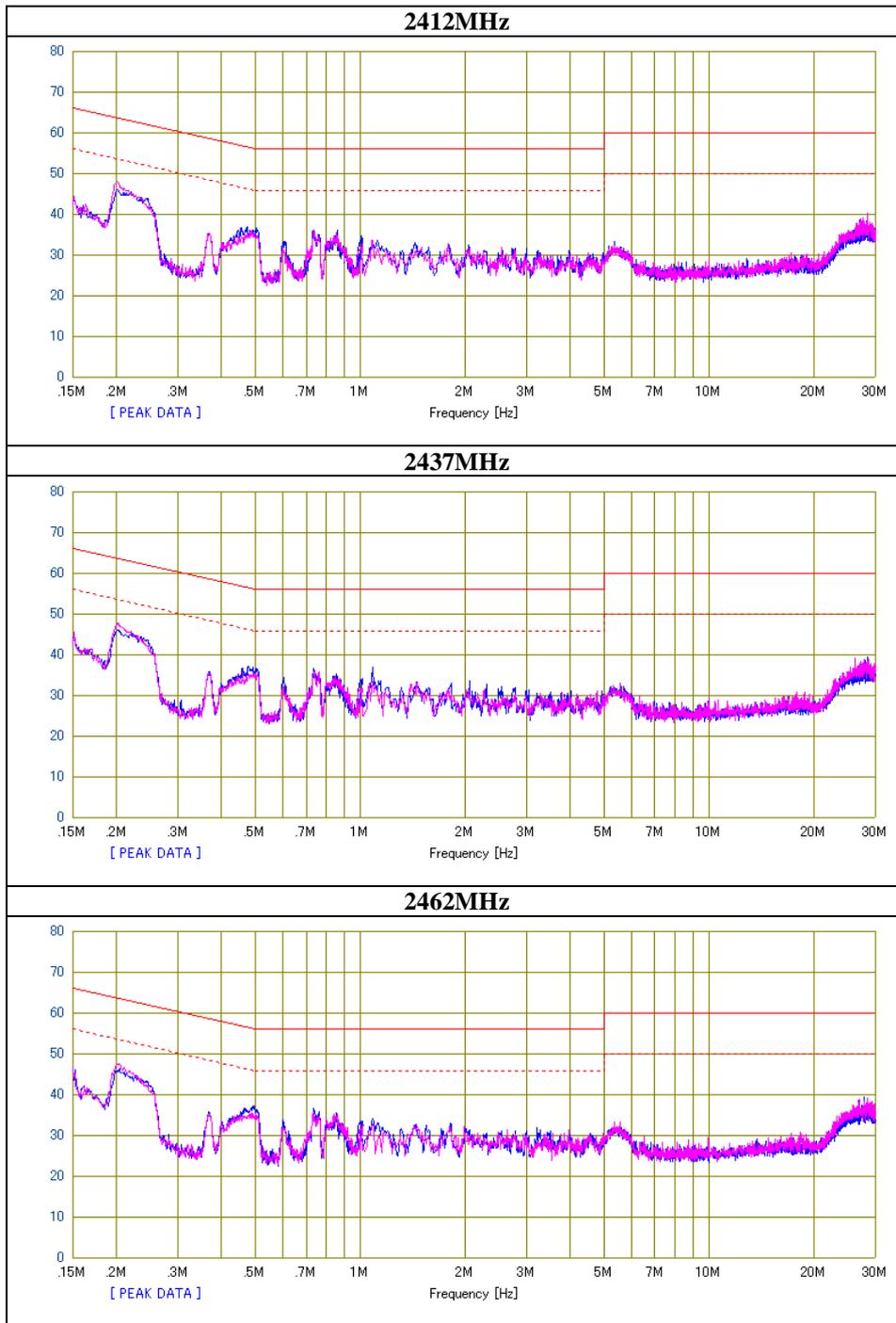


Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.19996	30.5	19.6	13.1	43.6	32.7	63.6	53.6	20.0	20.9	N	
0.36585	19.9	19.5	13.3	33.2	32.8	58.6	48.6	25.4	15.8	N	
0.50345	20.3	12.1	13.3	33.6	25.4	56.0	46.0	22.4	20.6	N	
0.73192	18.4	16.6	13.3	31.7	29.9	56.0	46.0	24.3	16.1	N	
0.84166	13.7	7.2	13.3	27.0	20.5	56.0	46.0	29.0	25.5	N	
28.44284	14.9	9.2	14.8	29.7	24.0	60.0	50.0	30.3	26.0	N	
0.19880	32.5	20.6	13.1	45.6	33.7	63.7	53.7	18.1	20.0	L	
0.36513	19.6	19.2	13.3	32.9	32.5	58.6	48.6	25.7	16.1	L	
0.50375	18.4	10.4	13.3	31.7	23.7	56.0	46.0	24.3	22.3	L	
0.73186	18.2	16.6	13.3	31.5	29.9	56.0	46.0	24.5	16.1	L	
0.84056	14.7	5.6	13.3	28.0	18.9	56.0	46.0	28.0	27.1	L	
28.37570	15.5	9.9	14.8	30.3	24.7	60.0	50.0	29.7	25.3	L	

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

Conducted Emission
(Power Supply: DELTA)

Test place	Head Office EMC Lab. No.3 Semi Anechoic Chamber
Report No.	31HE0085-HO-01
Date	03/19/2011
Temperature/ Humidity	22 deg.C / 33% RH
Engineer	Satofumi Matsuyama
Mode	11g Tx, Antenna 1



6dB Bandwidth

Test place Head Office EMC Lab. No.4 Measurement Room
Head Office EMC Lab. No.6 Measurement Room
Report No. 31HE0085-HO-01
Date 03/17/2011, 3/24/2011
Temperature/ Humidity 23 deg.C / 24% RH 22 deg.C / 38% RH
Engineer Satofumi Matsuyama Hiroshi Kukita
Mode Tx

11b Antenna 0

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	9.527	>500
2437	9.523	>500
2462	9.527	>500

11b Antenna 1

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	9.524	>500
2437	9.528	>500
2462	9.529	>500

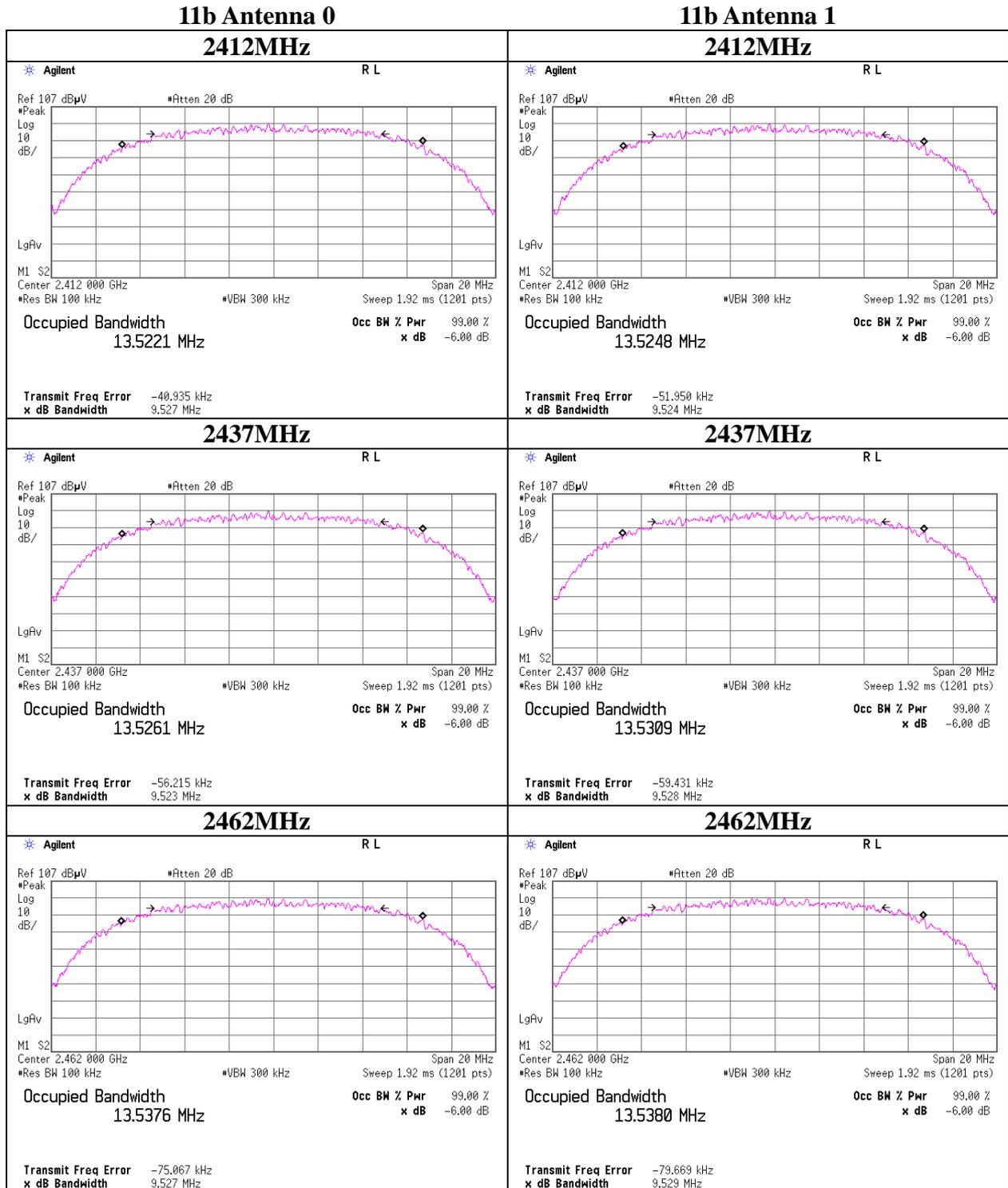
11g Antenna 0

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	16.525	>500
2437	16.515	>500
2462	16.508	>500

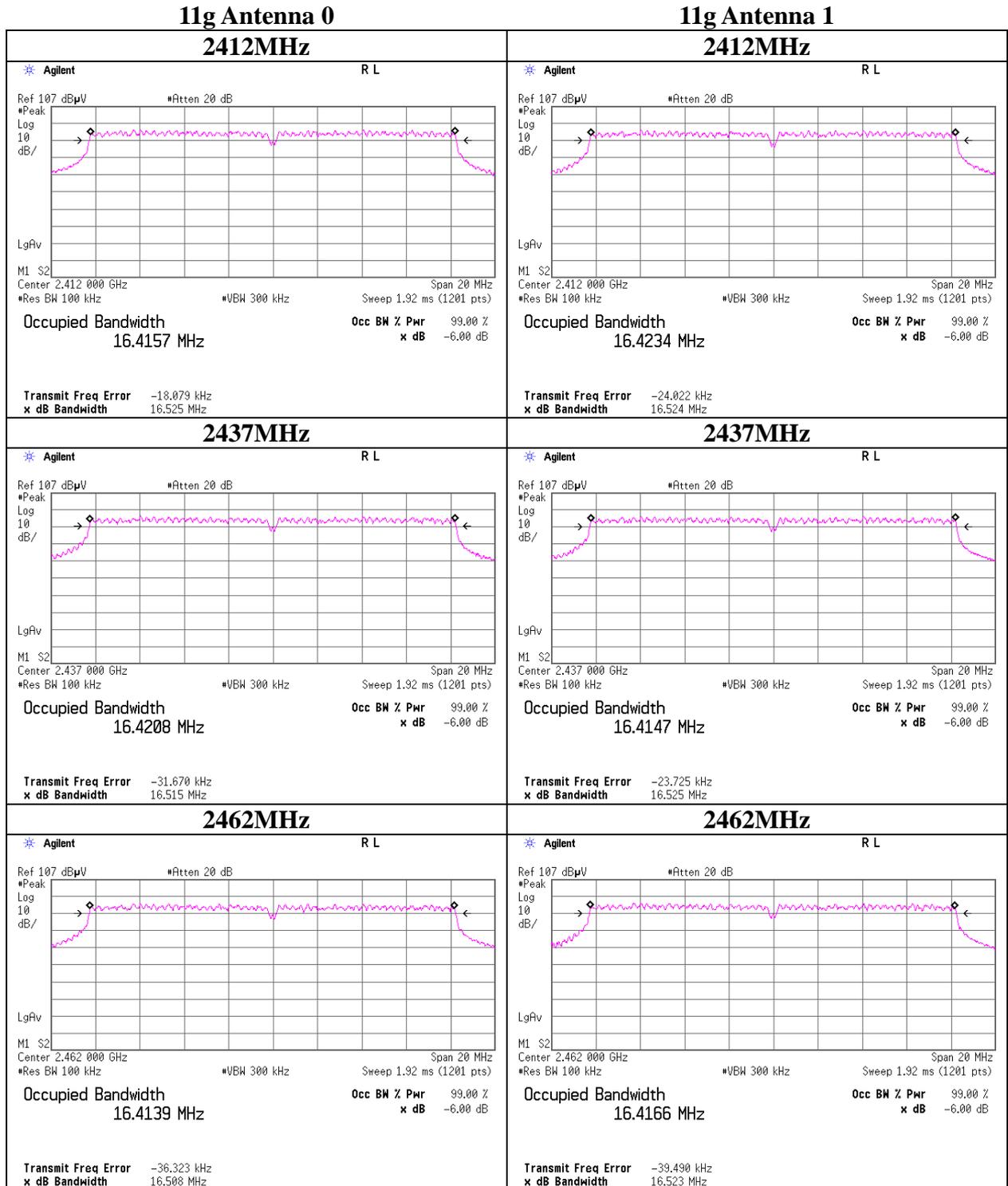
11g Antenna 1

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	16.524	>500
2437	16.525	>500
2462	16.523	>500

6dB Bandwidth



6dB Bandwidth



Maximum Peak Output Power

Test place	Head Office EMC Lab. No.4 Measurement Room
Report No.	31HE0085-HO-01
Date	03/11/2011
Temperature/ Humidity	24 deg.C / 26% RH
Engineer	Satofumi Matsuyama
Mode	11g Tx

Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
				[dBm]	[mW]	[dBm]	[mW]	
2412	10.90	0.80	10.08	21.78	150.66	30.00	1000	8.22
2437	10.56	0.80	10.08	21.44	139.32	30.00	1000	8.56
2462	10.64	0.80	10.08	21.52	141.91	30.00	1000	8.48

Antenna 1

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
				[dBm]	[mW]	[dBm]	[mW]	
2412	10.64	0.80	10.08	21.52	141.91	30.00	1000	8.48
2437	10.59	0.80	10.08	21.47	140.28	30.00	1000	8.53
2462	10.00	0.80	10.08	20.88	122.46	30.00	1000	9.12

Sample Calculation:

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

Antenna 0, 2437MHz

Rate [Mbps]	Reading [dBm]	Remark
6	10.19	
9	10.22	
12	10.07	
18	9.59	
24	10.56	*
36	10.42	
48	10.07	
54	10.40	

Antenna 1, 2437MHz

Rate [Mbps]	Reading [dBm]	Remark
6	10.13	
9	10.15	
12	9.89	
18	9.30	
24	10.59	*
36	10.41	
48	9.06	
54	10.08	

*: Worst Rate

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

UL Japan, Inc.

Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

Radiated Spurious Emission
(Power Supply: SONY)

Test place : Head Office EMC Lab. No.3 and 4 Semi Anechoic Chamber
Report No. : 31HE0085-HO-01
Date : 03/16/2011 03/15/2011 03/16/2011
Temperature/ Humidity : 20 deg.C / 33% RH 22 deg.C / 47% RH 20 deg.C / 33% RH
Engineer : Yutaka Yoshida Takumi Shimada Takumi Shimada
Mode : (1-10GHz) (10-26.5GHz) (30-1000MHz)
1g Tx 2437MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	32.070	QP	23.9	17.3	7.0	32.1	16.1	40.0	23.9	
Hori	72.018	QP	44.2	6.7	7.6	32.0	26.5	40.0	13.5	
Hori	107.997	QP	41.2	11.5	8.0	32.0	28.7	43.5	14.8	
Hori	303.383	QP	40.6	15.8	9.7	31.9	34.2	46.0	11.8	
Hori	576.008	QP	36.6	19.8	11.3	32.1	35.6	46.0	10.4	
Hori	797.105	QP	33.2	23.0	12.5	31.8	36.9	46.0	9.1	
Hori	3190.528	PK	58.0	28.5	2.9	31.9	57.5	73.9	16.4	
Hori	4874.000	PK	42.6	31.0	5.1	31.4	47.3	73.9	26.6	
Hori	7311.000	PK	43.8	35.9	6.3	32.5	53.5	73.9	20.4	
Hori	9748.000	PK	43.2	38.0	7.2	33.2	55.2	73.9	18.7	
Hori	24370.000	PK	45.5	37.9	-1.3	31.4	50.7	73.9	23.2	
Hori	3190.528	AV	40.6	28.5	2.9	31.9	40.1	53.9	13.8	
Hori	4874.000	AV	29.3	31.0	5.1	31.4	34.0	53.9	19.9	
Hori	7311.000	AV	30.6	35.9	6.3	32.5	40.3	53.9	13.6	
Hori	9748.000	AV	29.6	38.0	7.2	33.2	41.6	53.9	12.3	
Hori	24370.000	AV	33.3	37.9	-1.3	31.4	38.5	53.9	15.4	
Vert	32.290	QP	36.8	17.3	7.0	32.1	29.0	40.0	11.0	
Vert	71.998	QP	39.5	6.7	7.6	32.0	21.8	40.0	18.2	
Vert	108.001	QP	47.7	11.5	8.0	32.0	35.2	43.5	8.3	
Vert	303.415	QP	43.9	15.8	9.7	31.9	37.5	46.0	8.5	
Vert	576.000	QP	33.4	19.8	11.3	32.1	32.4	46.0	13.6	
Vert	797.111	QP	31.8	23.0	12.5	31.8	35.5	46.0	10.5	
Vert	3190.528	PK	53.2	28.5	2.9	31.9	52.7	73.9	21.2	
Vert	4874.000	PK	42.4	31.0	5.1	31.4	47.1	73.9	26.8	
Vert	7311.000	PK	43.8	35.9	6.3	32.5	53.5	73.9	20.4	
Vert	9748.000	PK	42.8	38.0	7.2	33.2	54.8	73.9	19.1	
Vert	24370.000	PK	45.7	37.9	-1.3	31.4	50.9	73.9	23.0	
Vert	3190.528	AV	37.1	28.5	2.9	31.9	36.6	53.9	17.3	
Vert	4874.000	AV	29.3	31.0	5.1	31.4	34.0	53.9	19.9	
Vert	7311.000	AV	30.6	35.9	6.3	32.5	40.3	53.9	13.6	
Vert	9748.000	AV	29.6	38.0	7.2	33.2	41.6	53.9	12.3	
Vert	24370.000	AV	33.4	37.9	-1.3	31.4	38.6	53.9	15.3	

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).

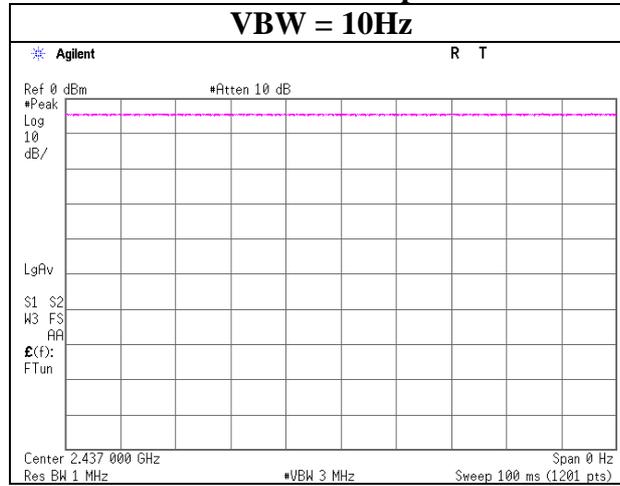
*The 10th harmonic was not seen so the result was its base noise level.

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

VBW (AV) Calculation

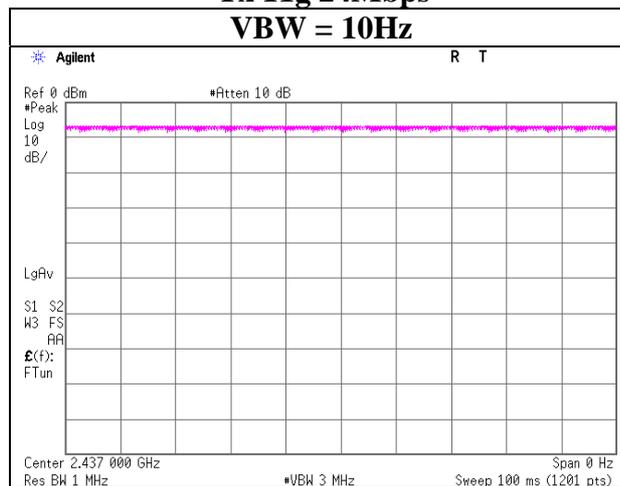
Tx 11b 11Mbps

VBW = 10Hz



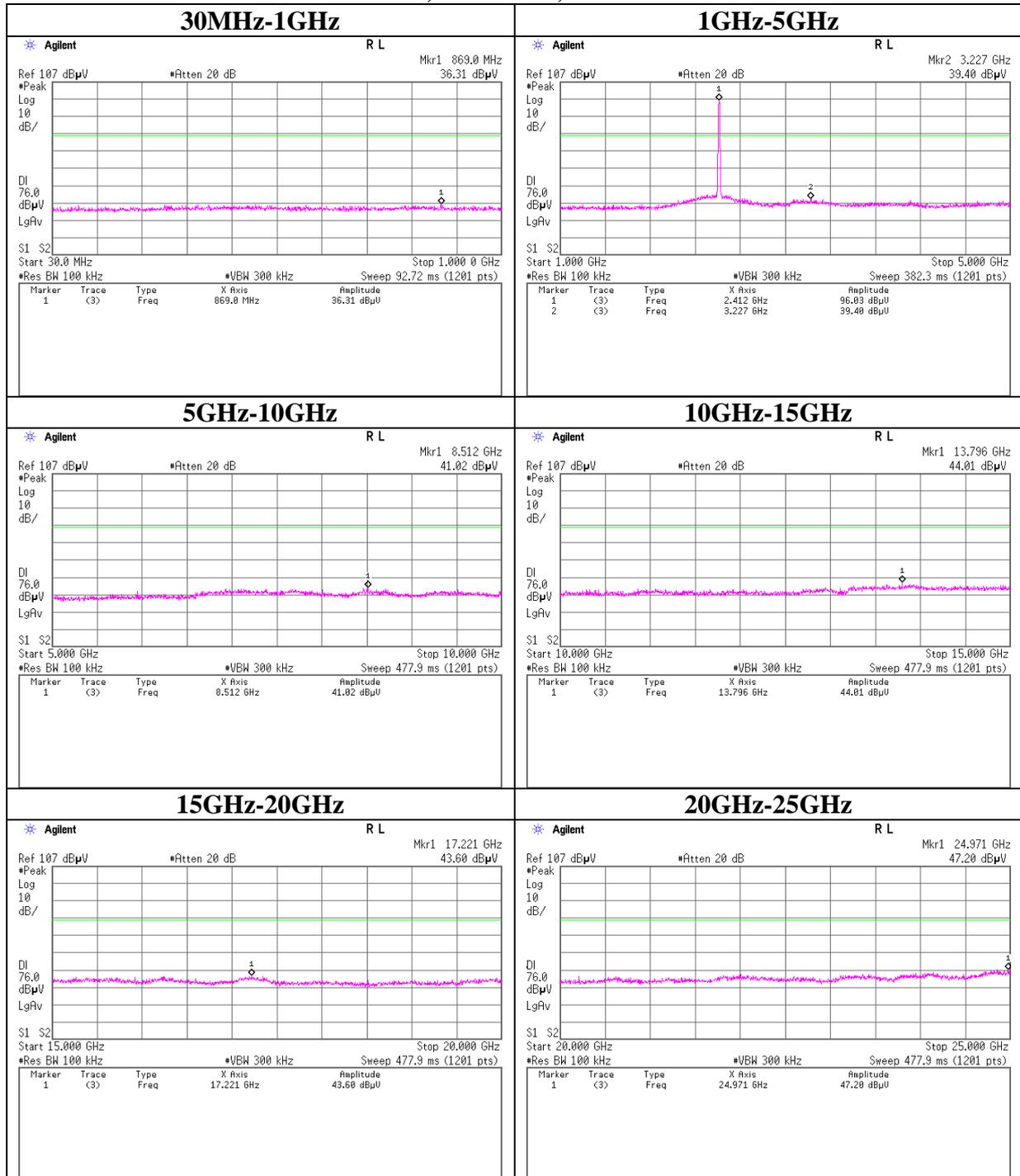
Tx 11g 24Mbps

VBW = 10Hz



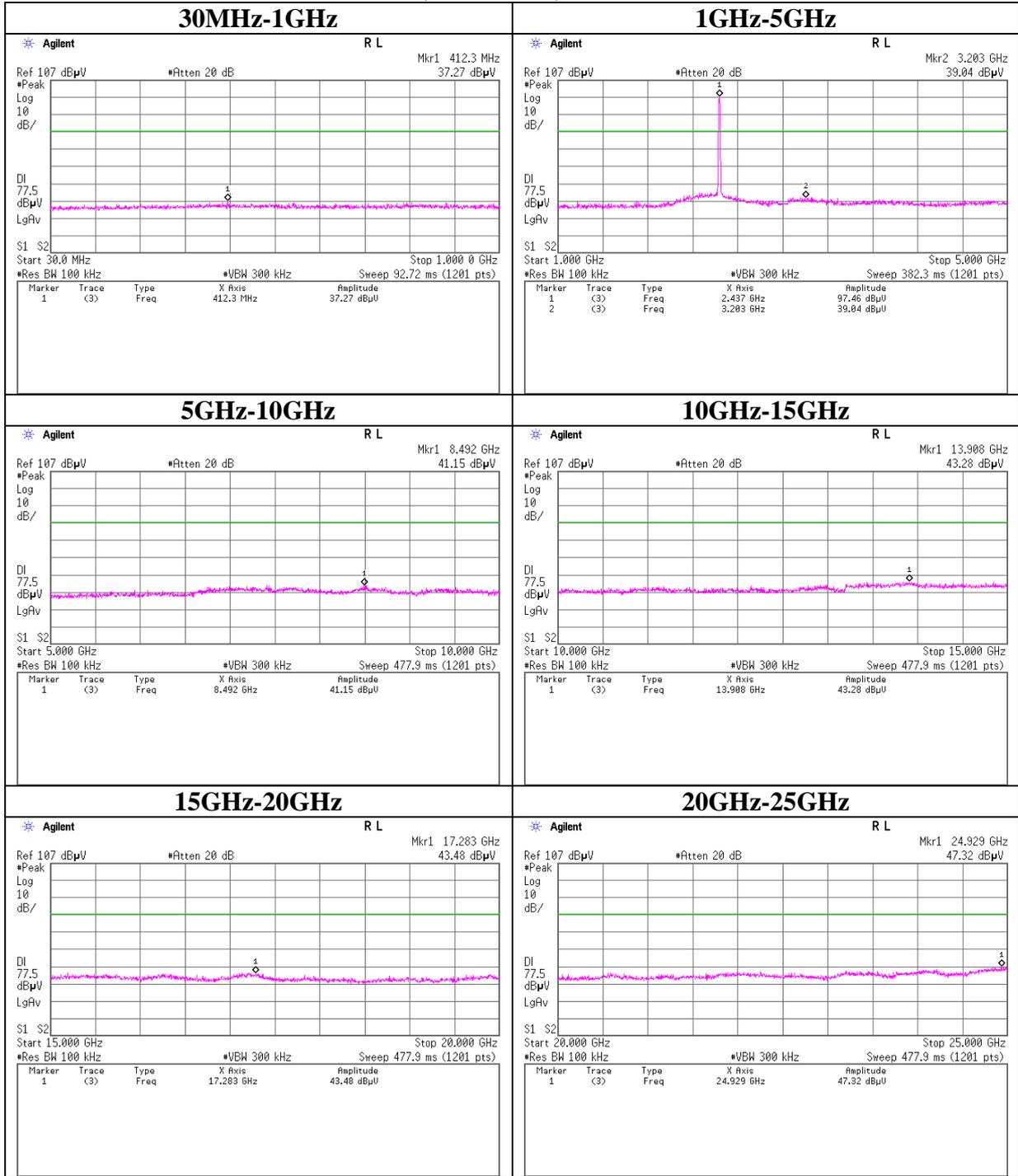
Conducted Spurious Emission

11b Tx, Antenna 0, 2412MHz



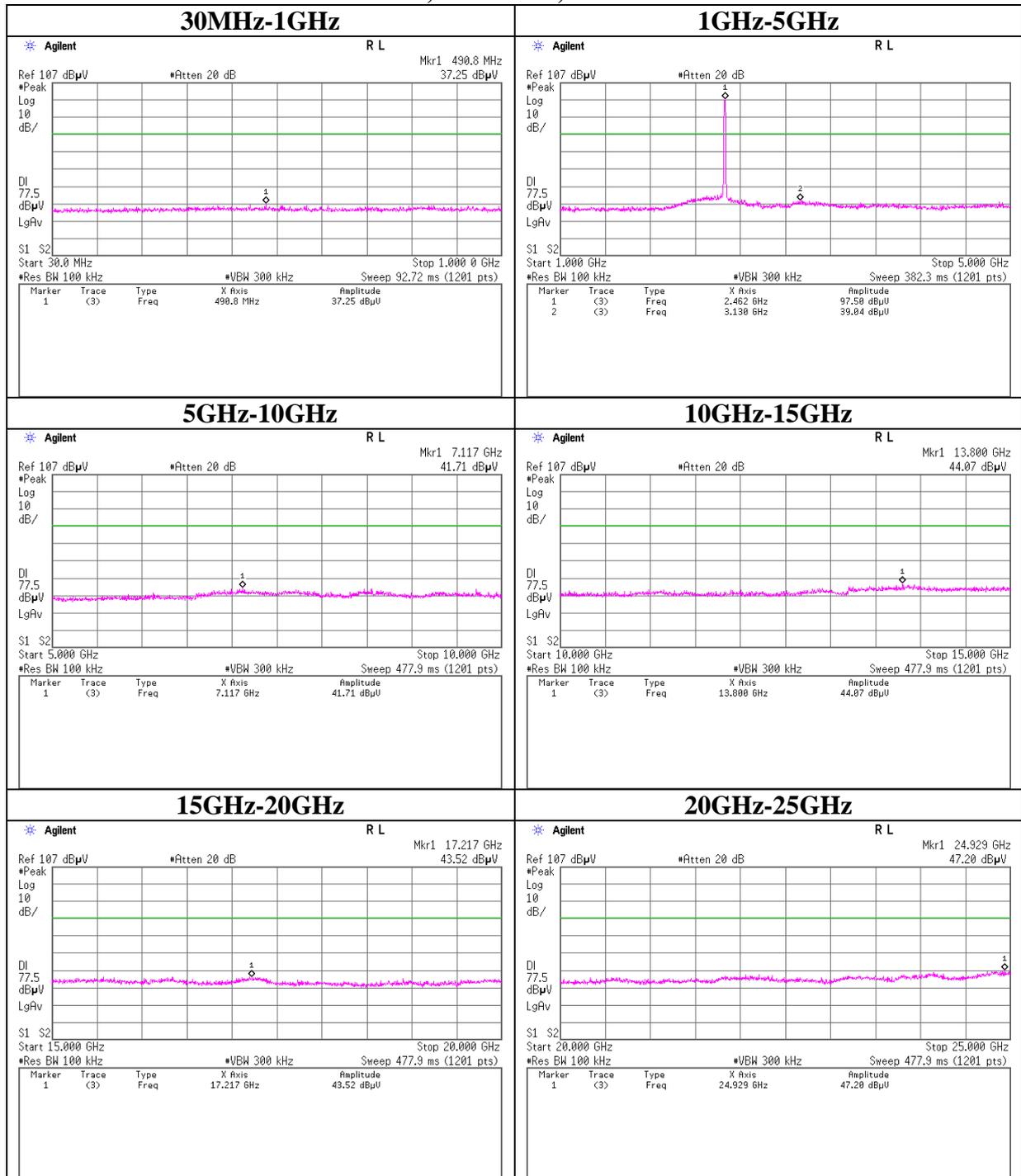
Conducted Spurious Emission

11b Tx, Antenna 0, 2437MHz



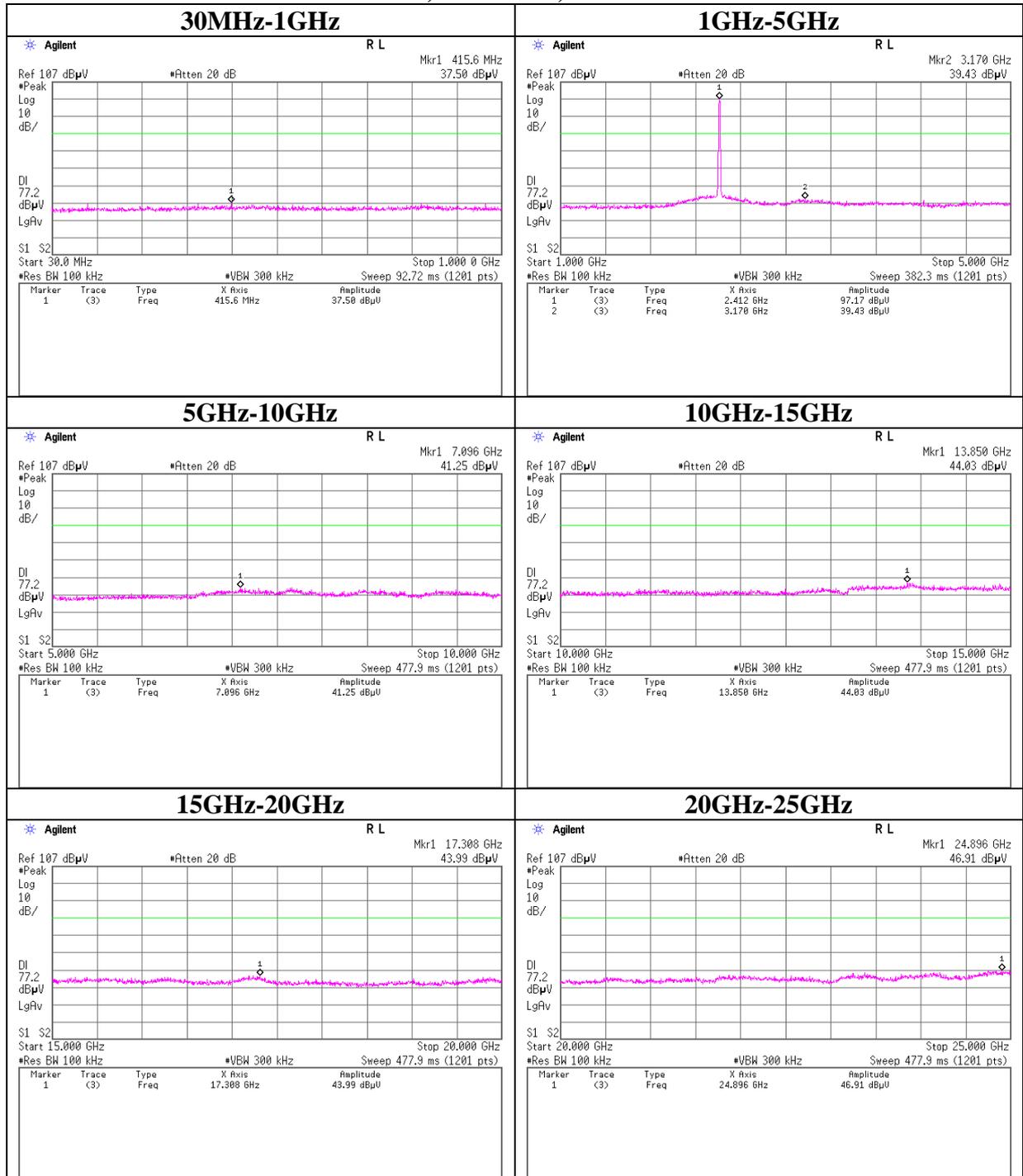
Conducted Spurious Emission

11b Tx, Antenna 0, 2462MHz



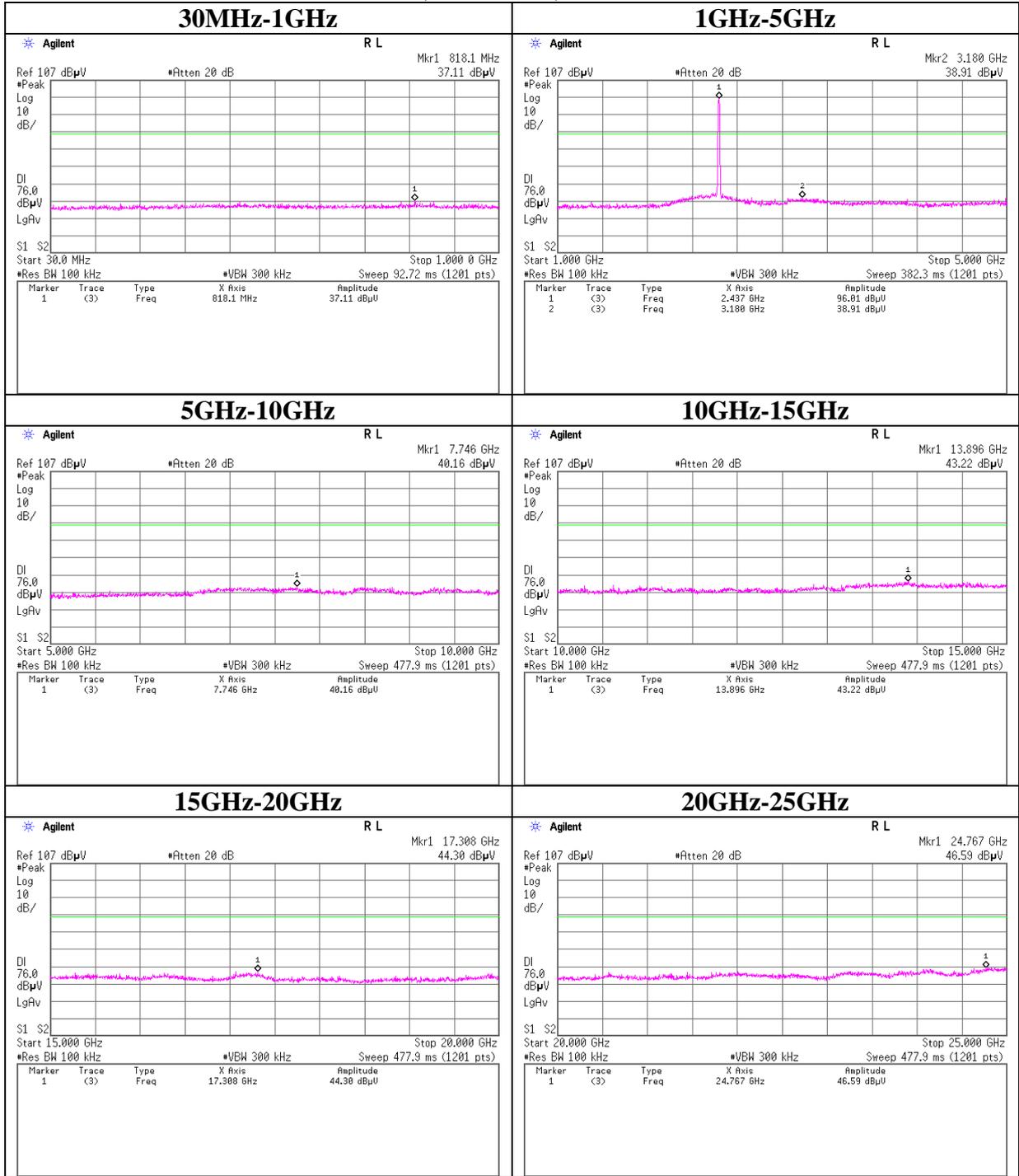
Conducted Spurious Emission

11b Tx, Antenna 1, 2412MHz



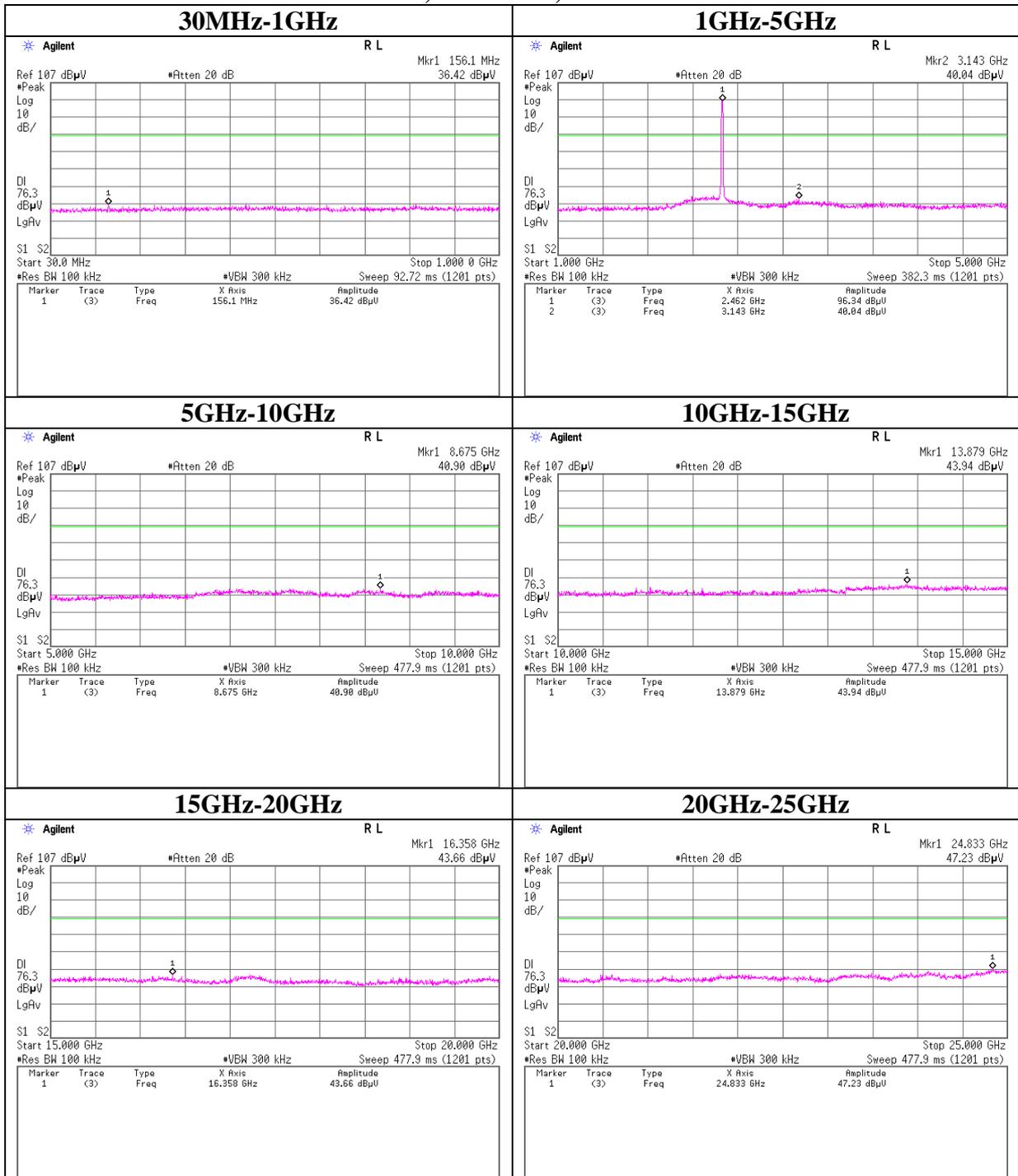
Conducted Spurious Emission

11b Tx, Antenna 1, 2437MHz



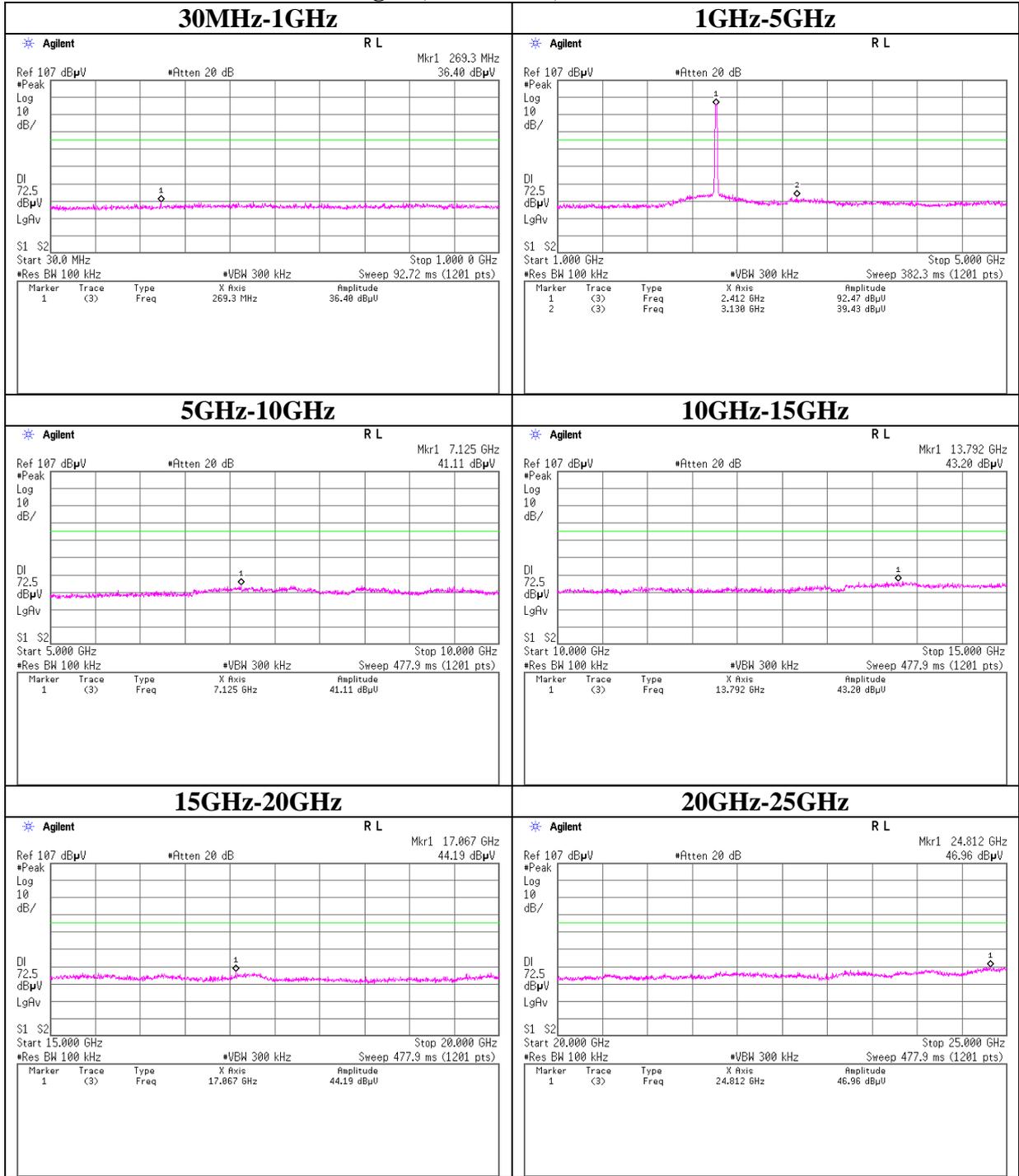
Conducted Spurious Emission

11b Tx, Antenna 1, 2462MHz



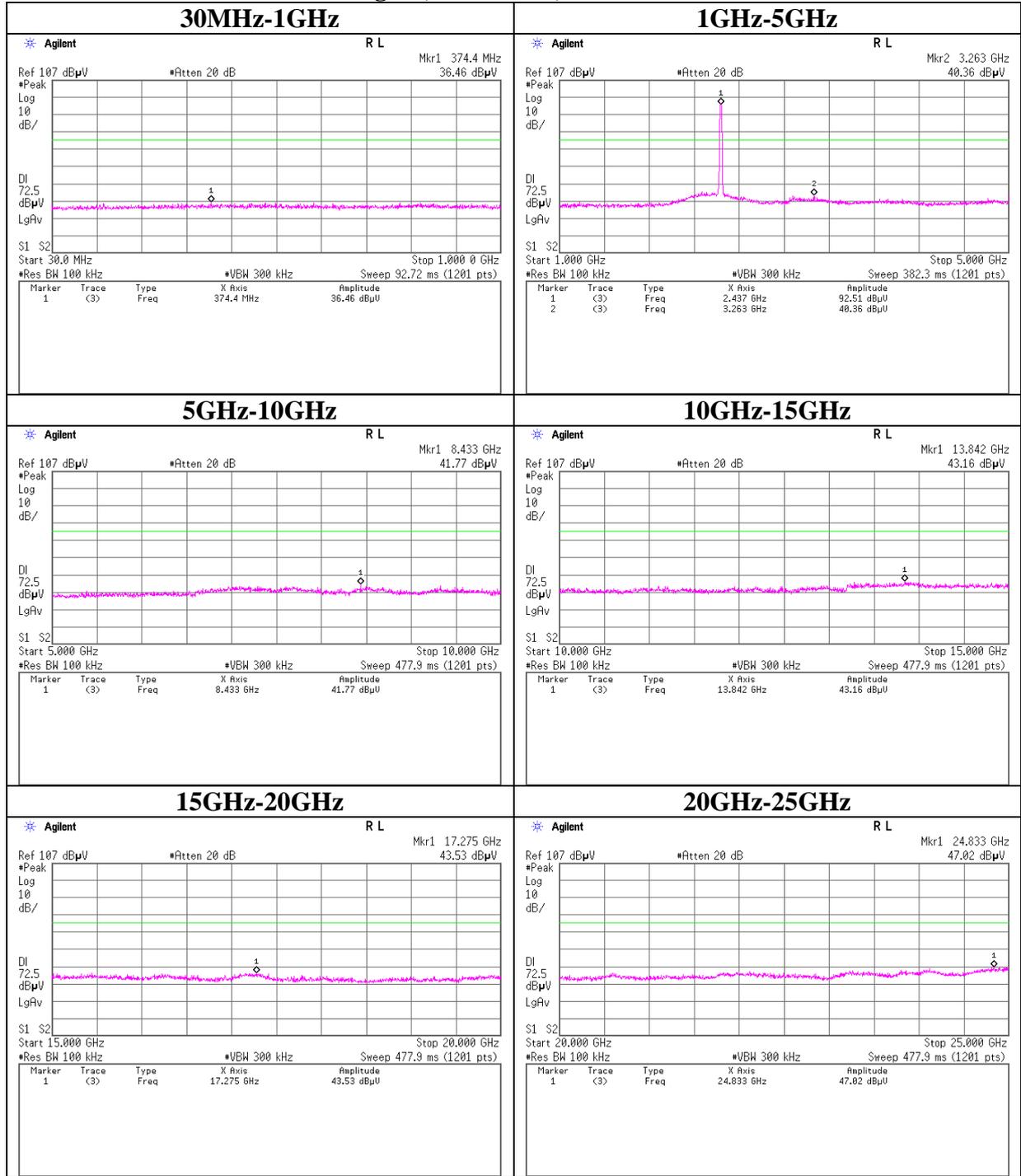
Conducted Spurious Emission

11g Tx, Antenna 0, 2412MHz



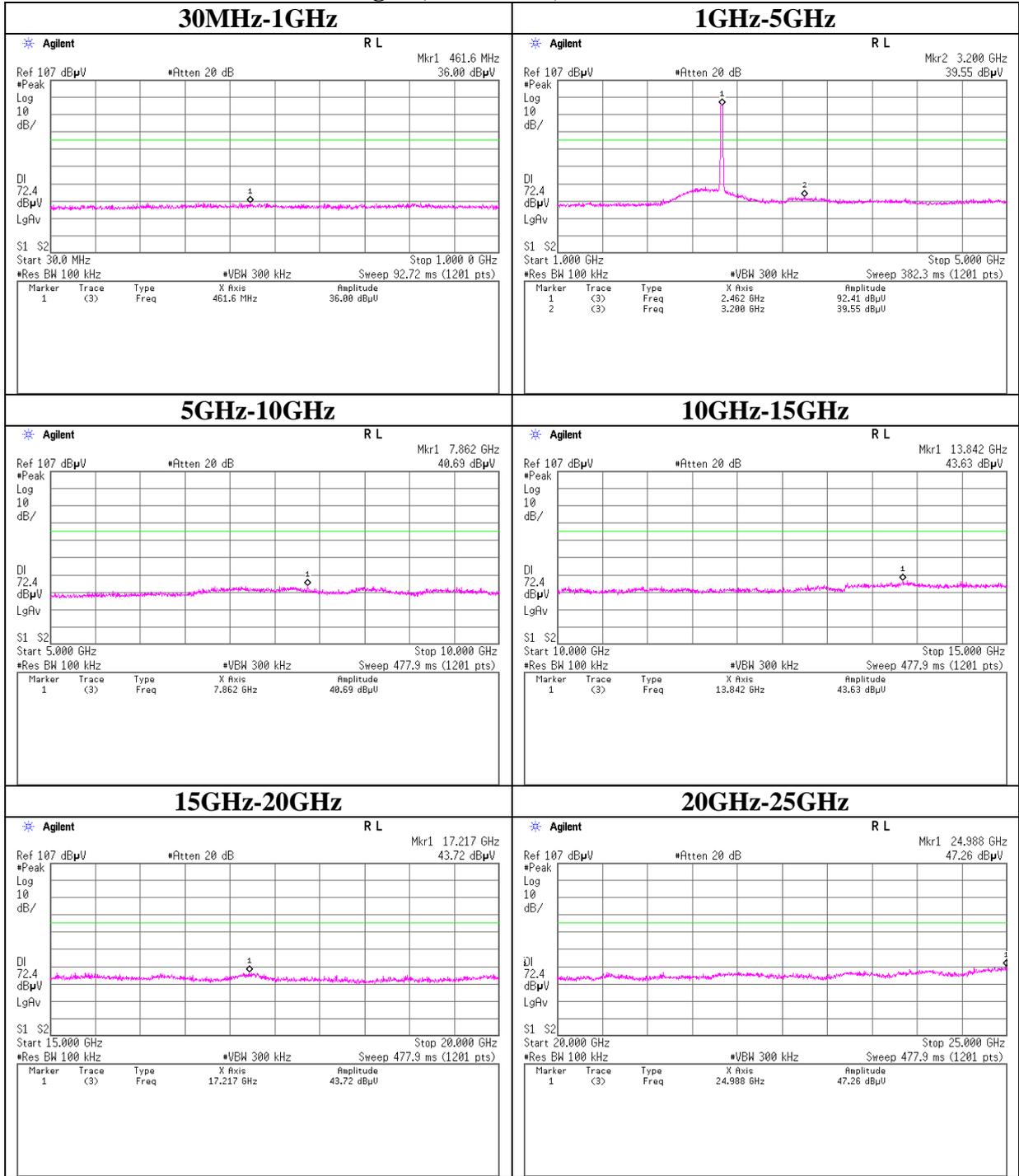
Conducted Spurious Emission

11g Tx, Antenna 0, 2437MHz



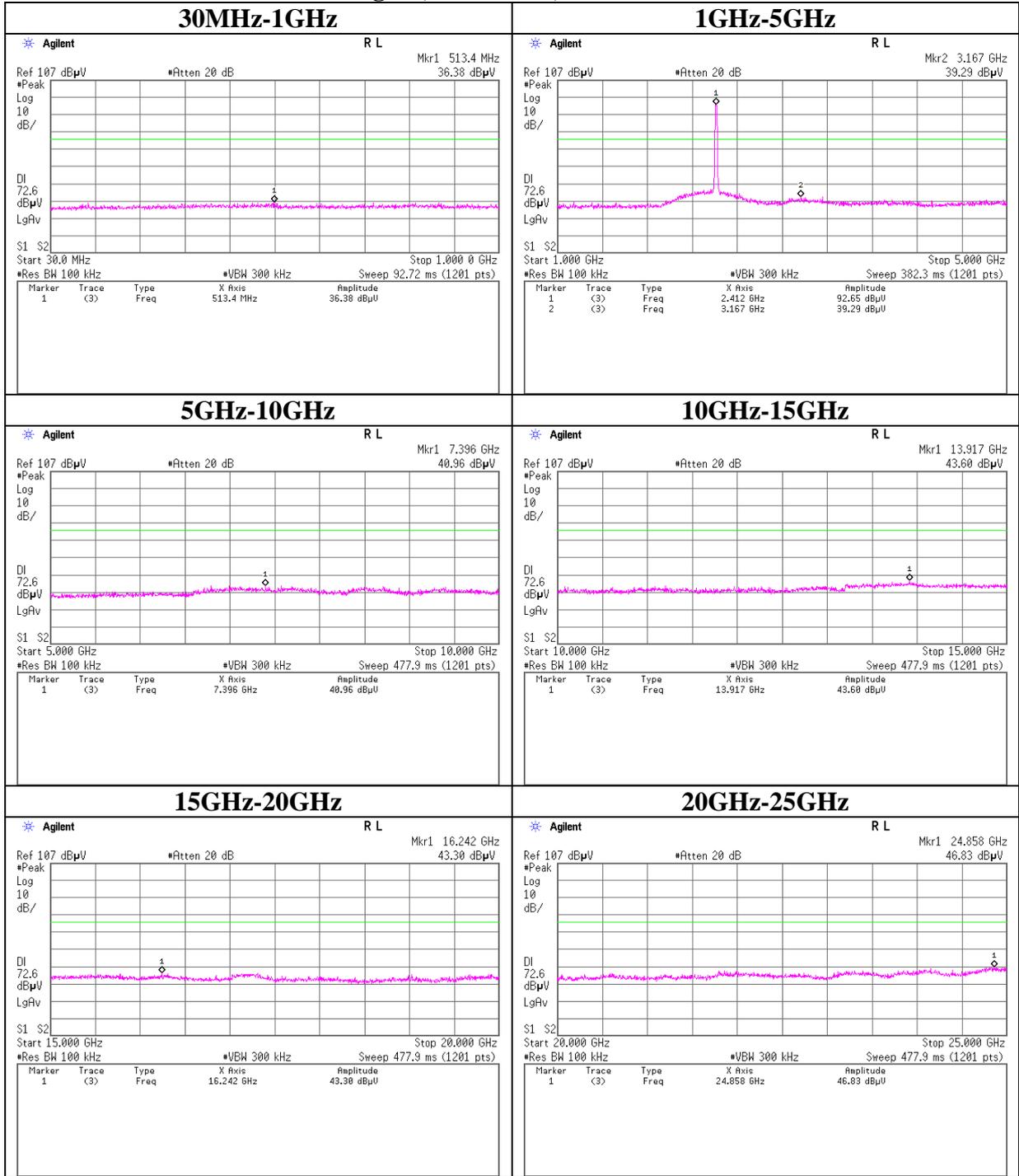
Conducted Spurious Emission

11g Tx, Antenna 0, 2462MHz



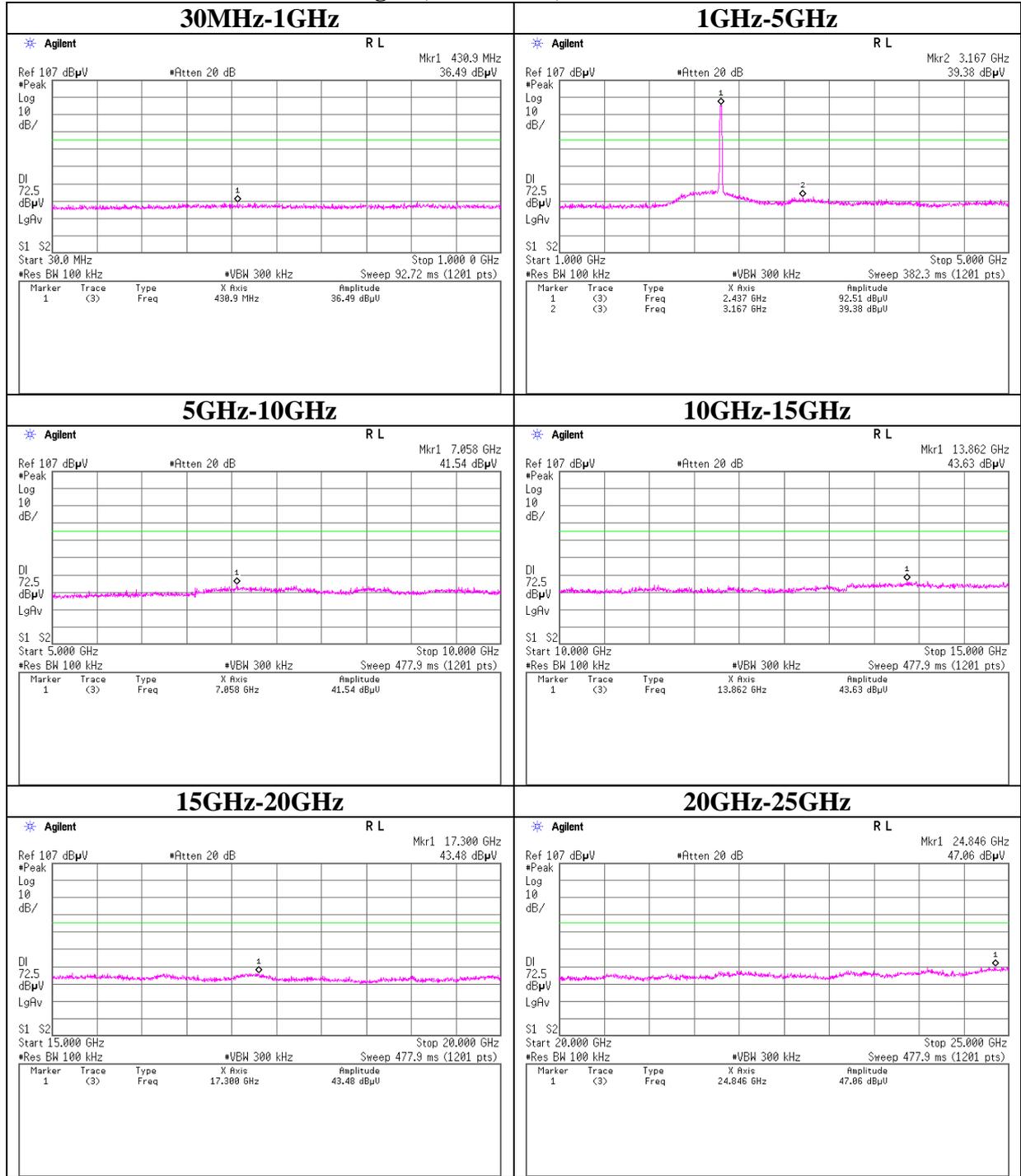
Conducted Spurious Emission

11g Tx, Antenna 1, 2412MHz



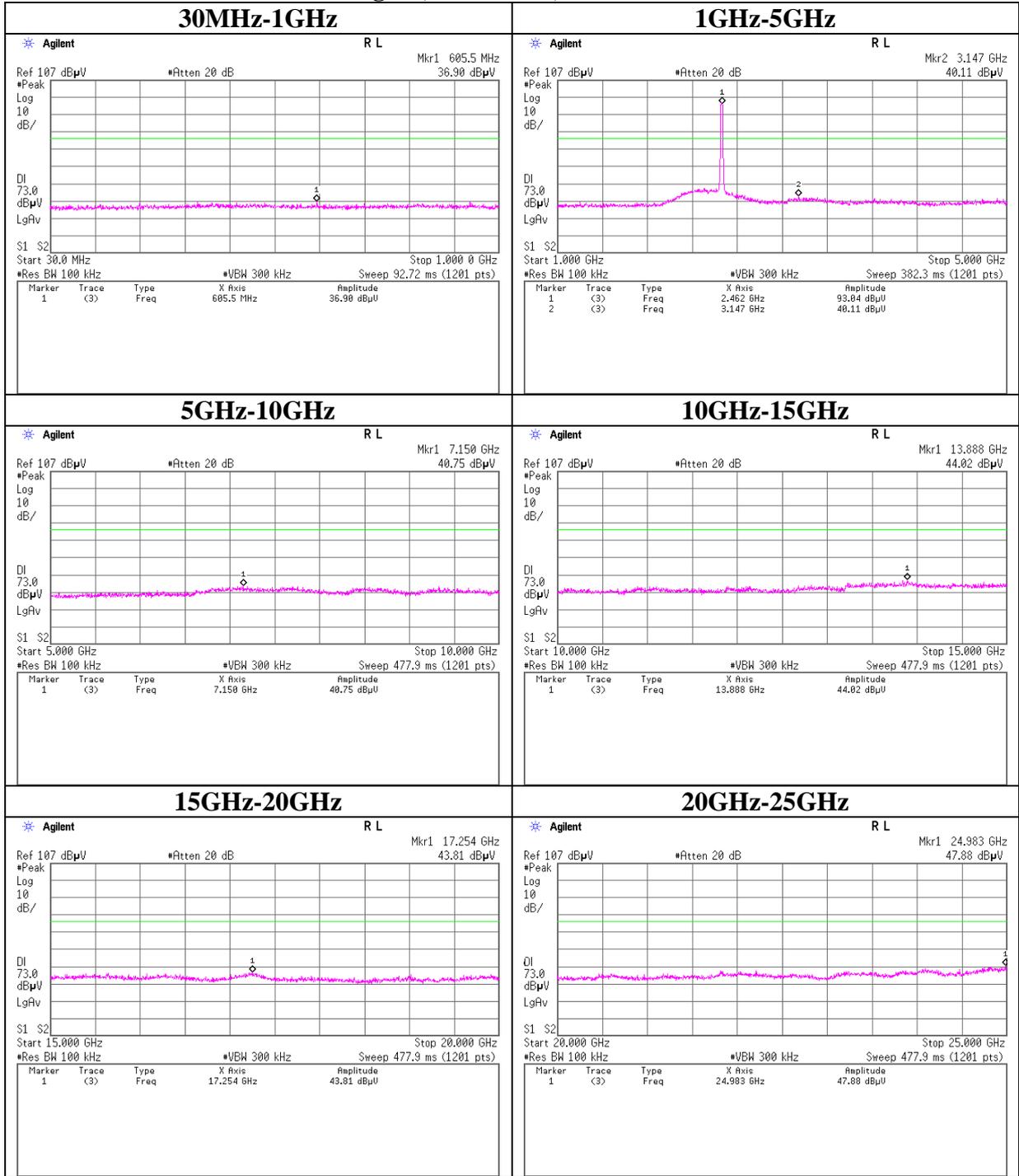
Conducted Spurious Emission

11g Tx, Antenna 1, 2437MHz



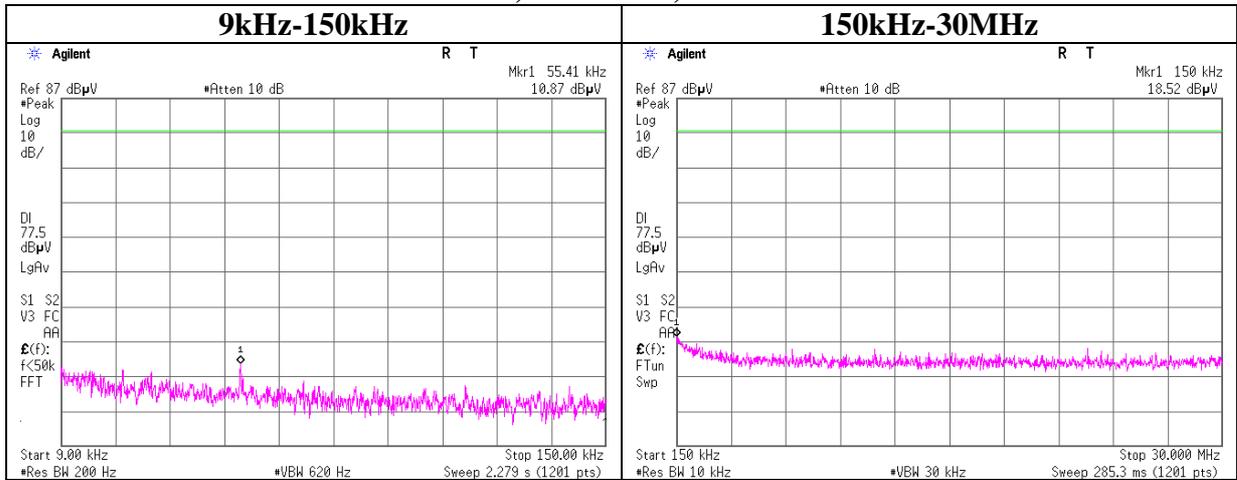
Conducted Spurious Emission

11g Tx, Antenna 1, 2462MHz

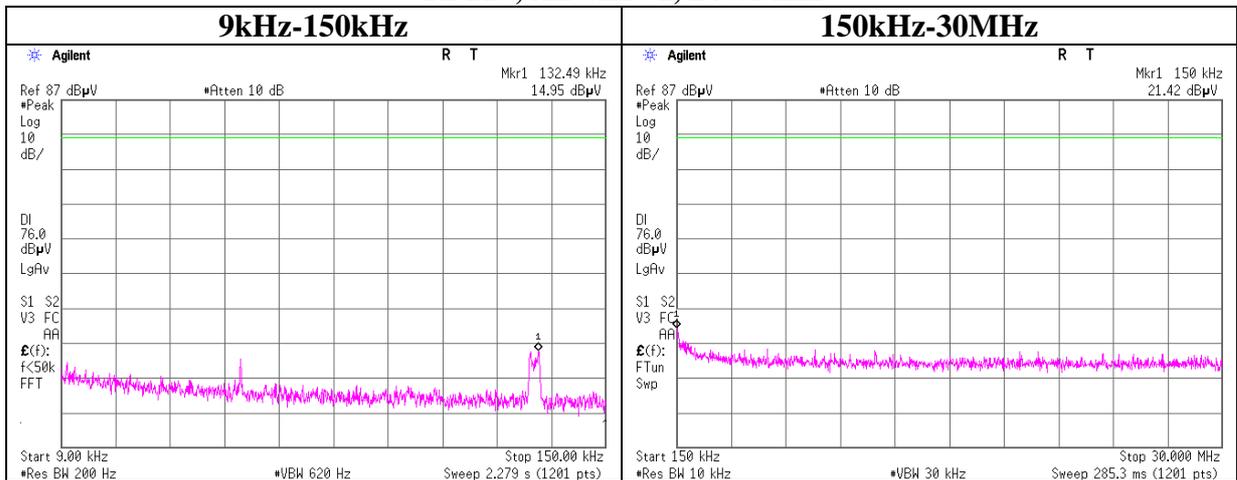


Conducted Spurious Emission(below 30MHz)

Tx 11b, Antenna 0, 2437MHz



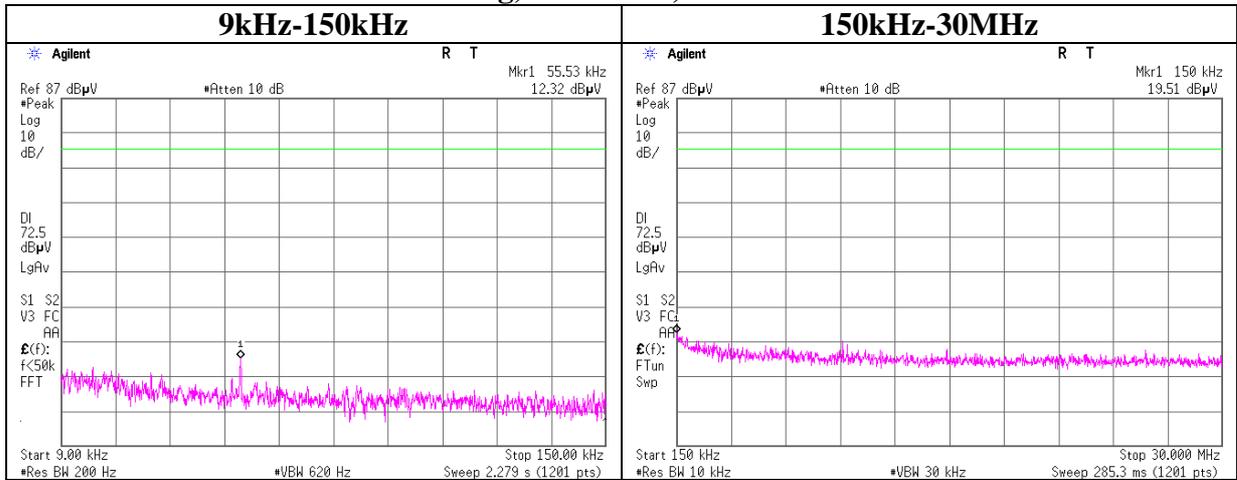
Tx 11b, Antenna 1, 2437MHz



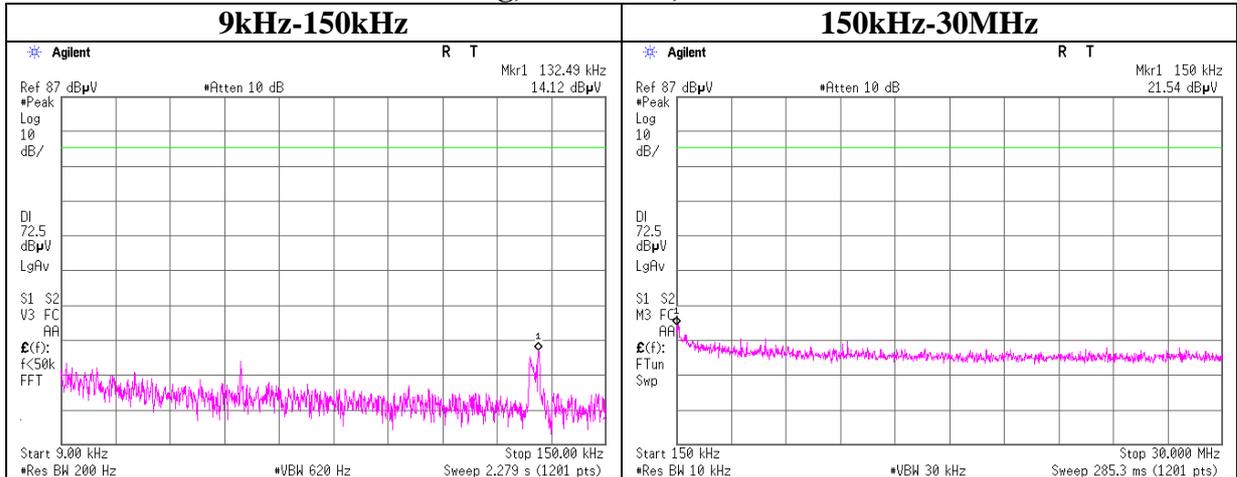
*It was confirmed that there was enough margin to the limit of FCC15.209 at Radiated Spurious emission test.

Conducted Spurious Emission(below 30MHz)

Tx 11g, Antenna 0, 2437MHz



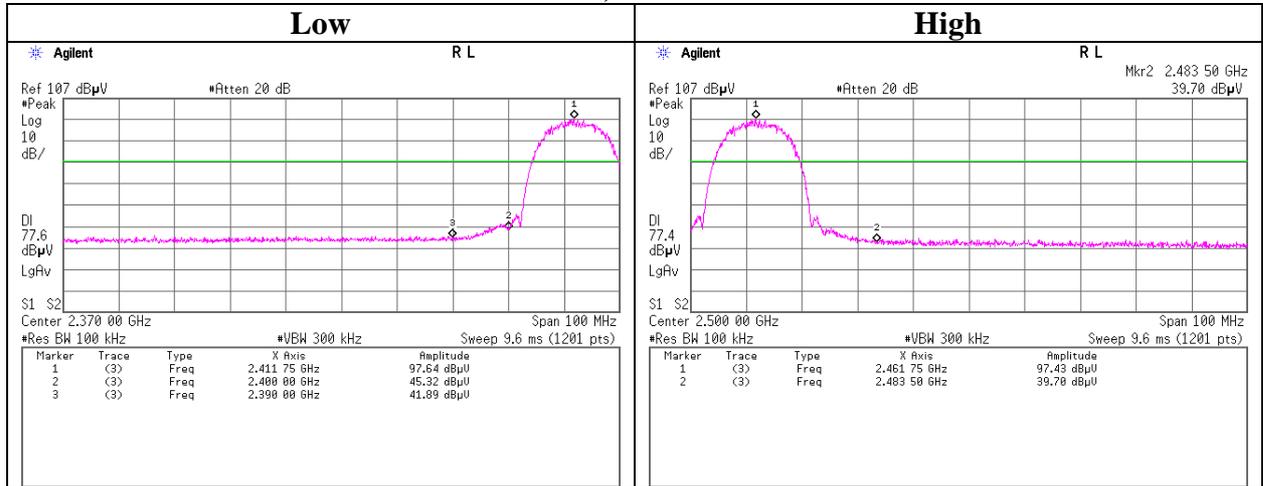
Tx 11g, Antenna 1, 2437MHz



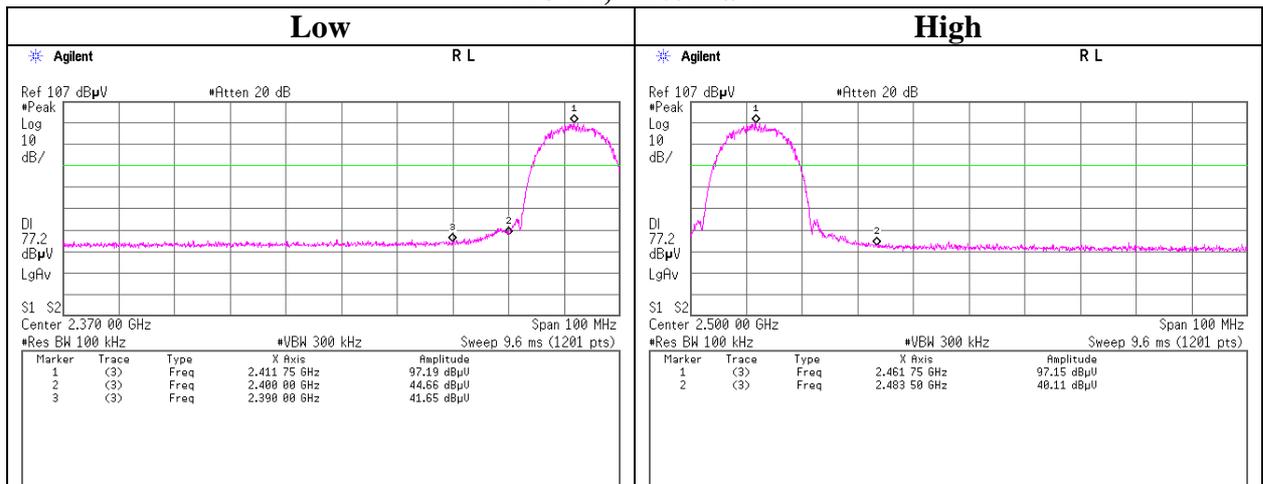
*It was confirmed that there was enough margin to the limit of FCC15.209 at Radiated Spurious emission test.

Conducted Emission Band Edge compliance

11b Tx, Antenna 0

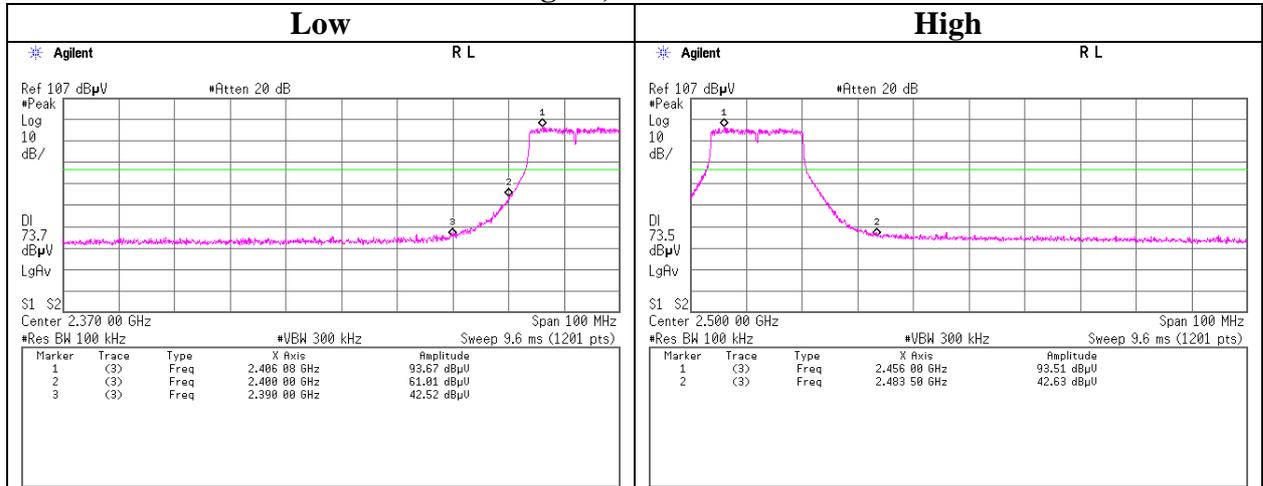


11b Tx, Antenna 1

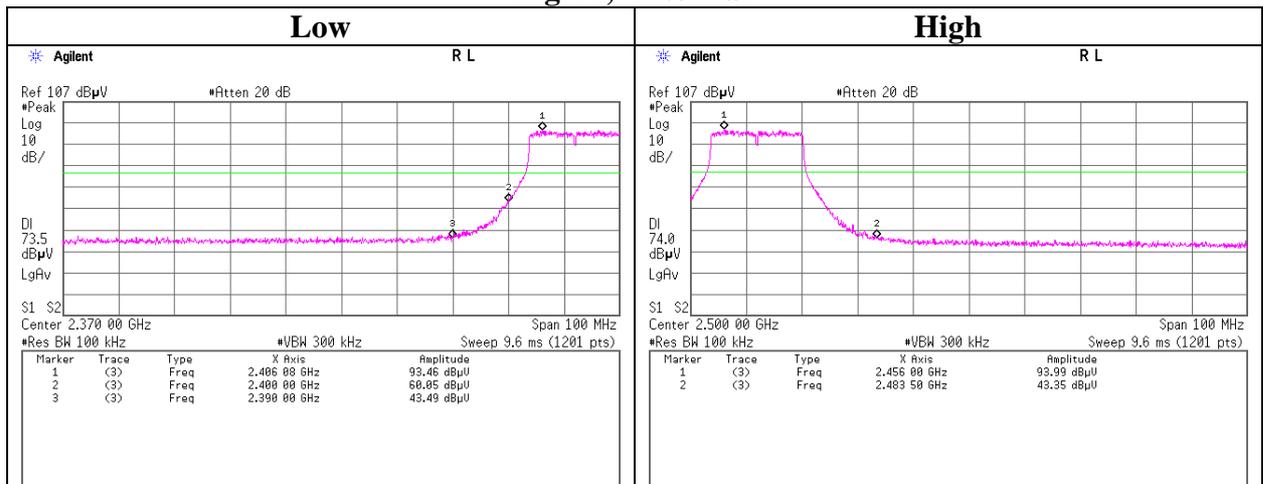


Conducted Emission Band Edge compliance

11g Tx, Antenna 0



11g Tx, Antenna 1



Power Density

Test place Head Office EMC Lab. No.4 Measurement Room
 Head Office EMC Lab. No.6 Measurement Room
Report No. 31HE0085-HO-01
Date 03/17/2011 3/24/2011
Temperature/ Humidity 23 deg.C / 24% RH 22 deg.C / 38% RH
Engineer Satofumi Matsuyama Hiroshi Kukita
Mode 11b Tx,

11b Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.00	-15.98	1.81	10.02	-4.15	8.00	12.15
2437.00	-15.66	1.82	10.02	-3.82	8.00	11.82
2462.00	-15.75	1.82	10.02	-3.91	8.00	11.91

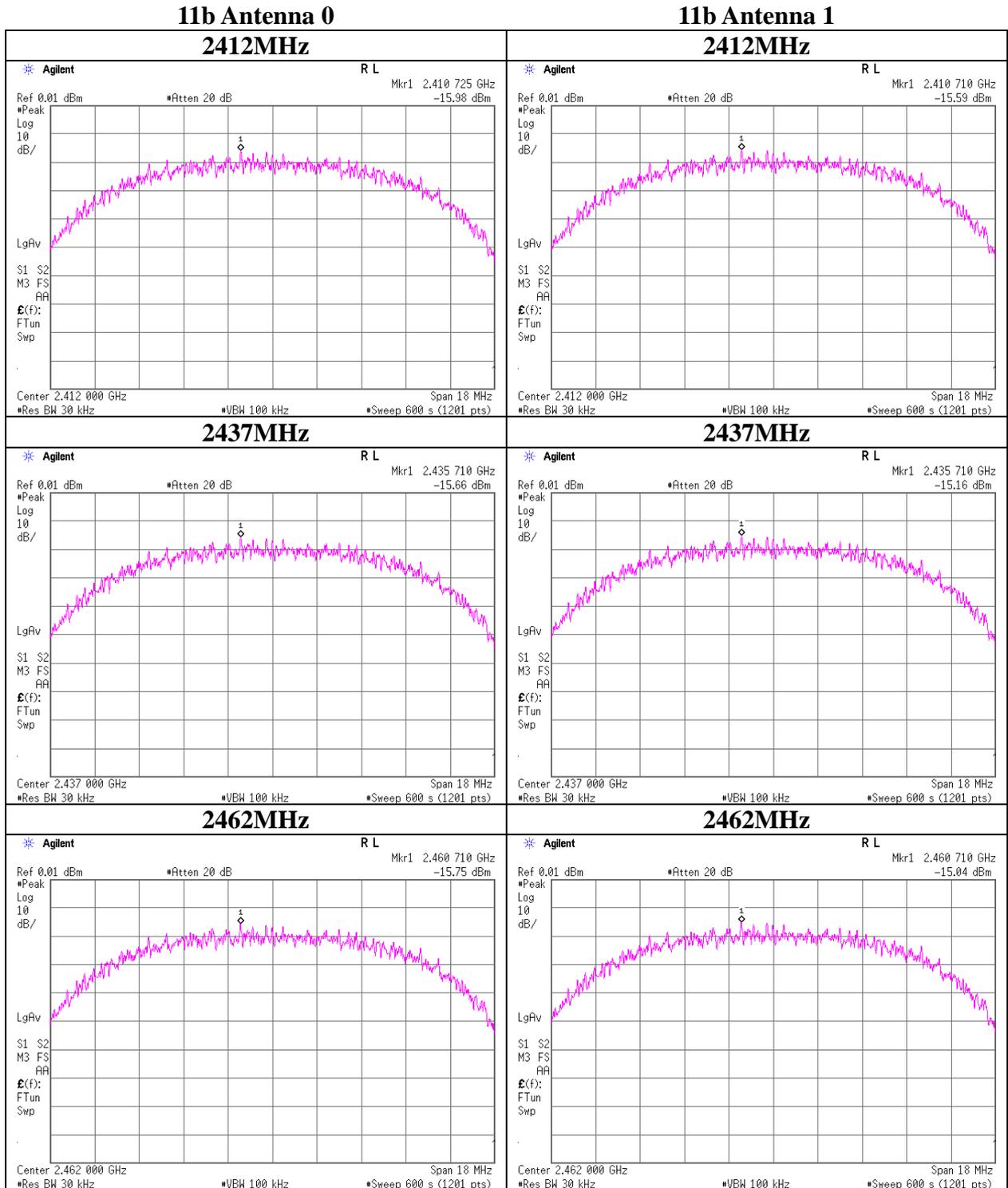
11b Antenna 1

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.00	-15.59	1.81	10.02	-3.76	8.00	11.76
2437.00	-15.16	1.82	10.02	-3.32	8.00	11.32
2462.00	-15.04	1.82	10.02	-3.20	8.00	11.20

Sample Calculation:

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

Power Density



Power Density

Test place Head Office EMC Lab. No.4 Measurement Room
 Head Office EMC Lab. No.6 Measurement Room
Report No. 31HE0085-HO-01
Date 03/17/2011 3/24/2011
Temperature/ Humidity 23 deg.C / 24% RH 22 deg.C / 38% RH
Engineer Satofumi Matsuyama Hiroshi Kukita
Mode 11g Tx

11g Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.00	-18.09	1.81	10.02	-6.26	8.00	14.26
2437.00	-18.68	1.82	10.02	-6.84	8.00	14.84
2462.00	-19.01	1.82	10.02	-7.17	8.00	15.17

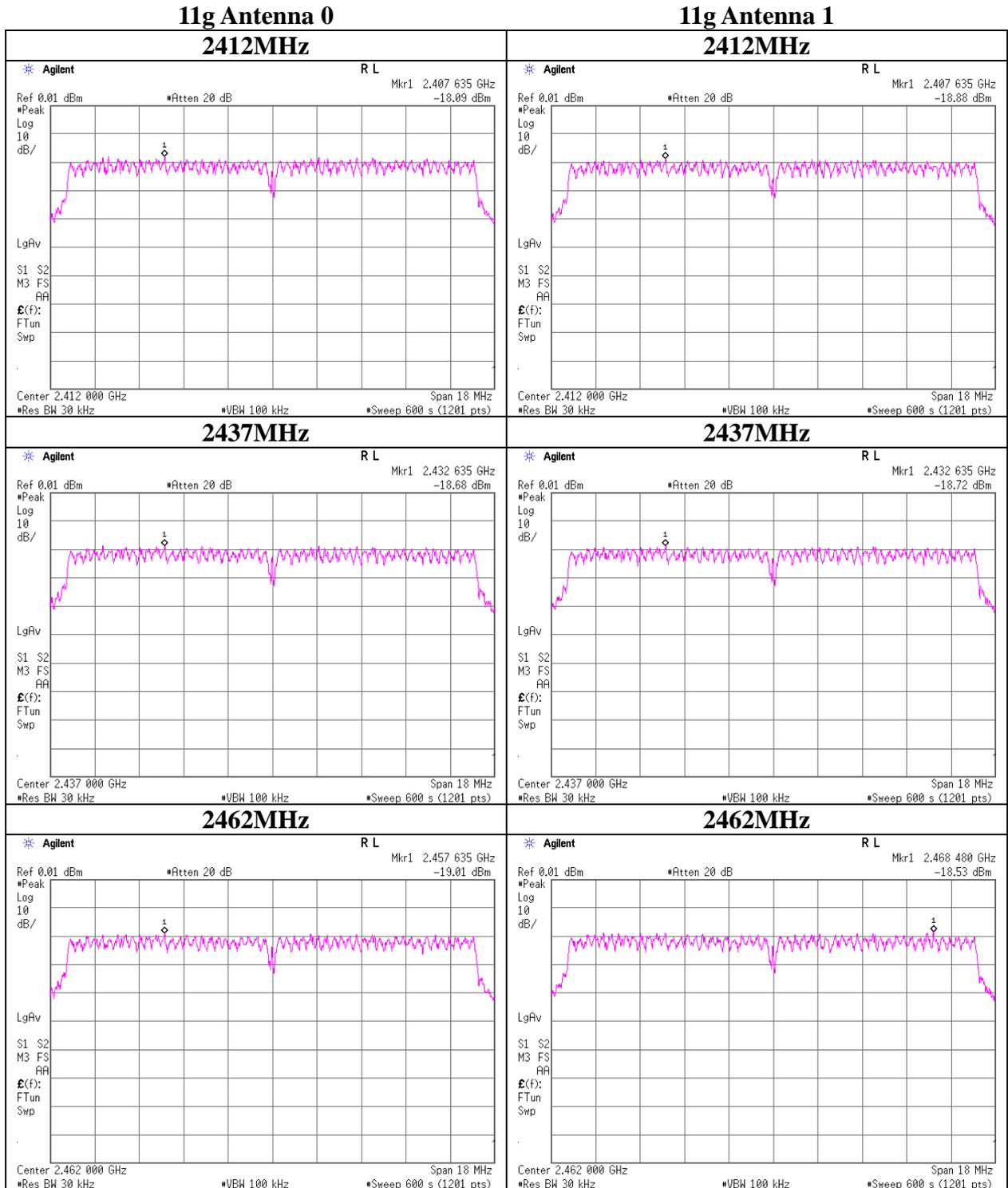
11g Antenna 1

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.00	-18.88	1.81	10.02	-7.05	8.00	15.05
2437.00	-18.72	1.82	10.02	-6.88	8.00	14.88
2462.00	-18.53	1.82	10.02	-6.69	8.00	14.69

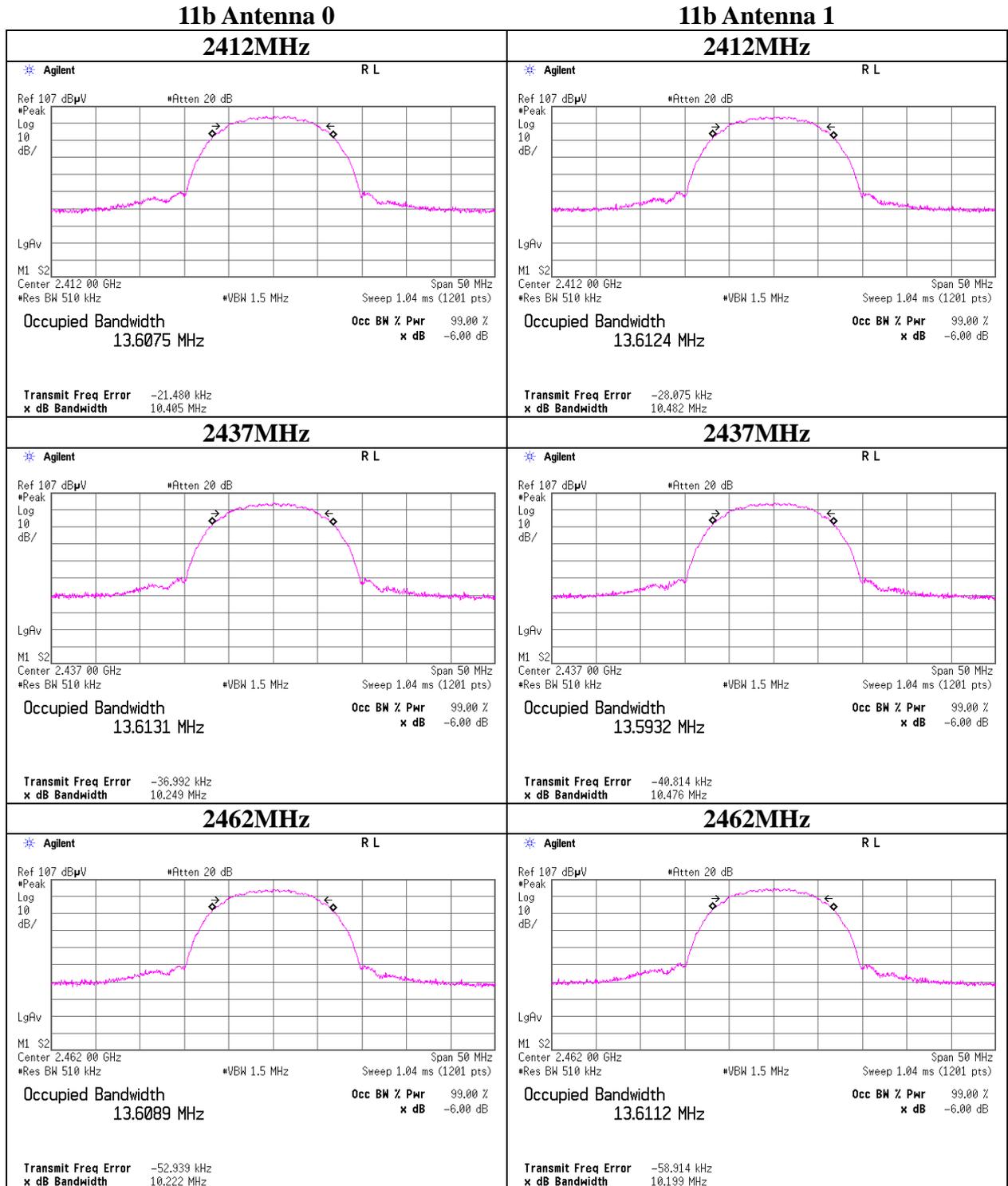
Sample Calculation:

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

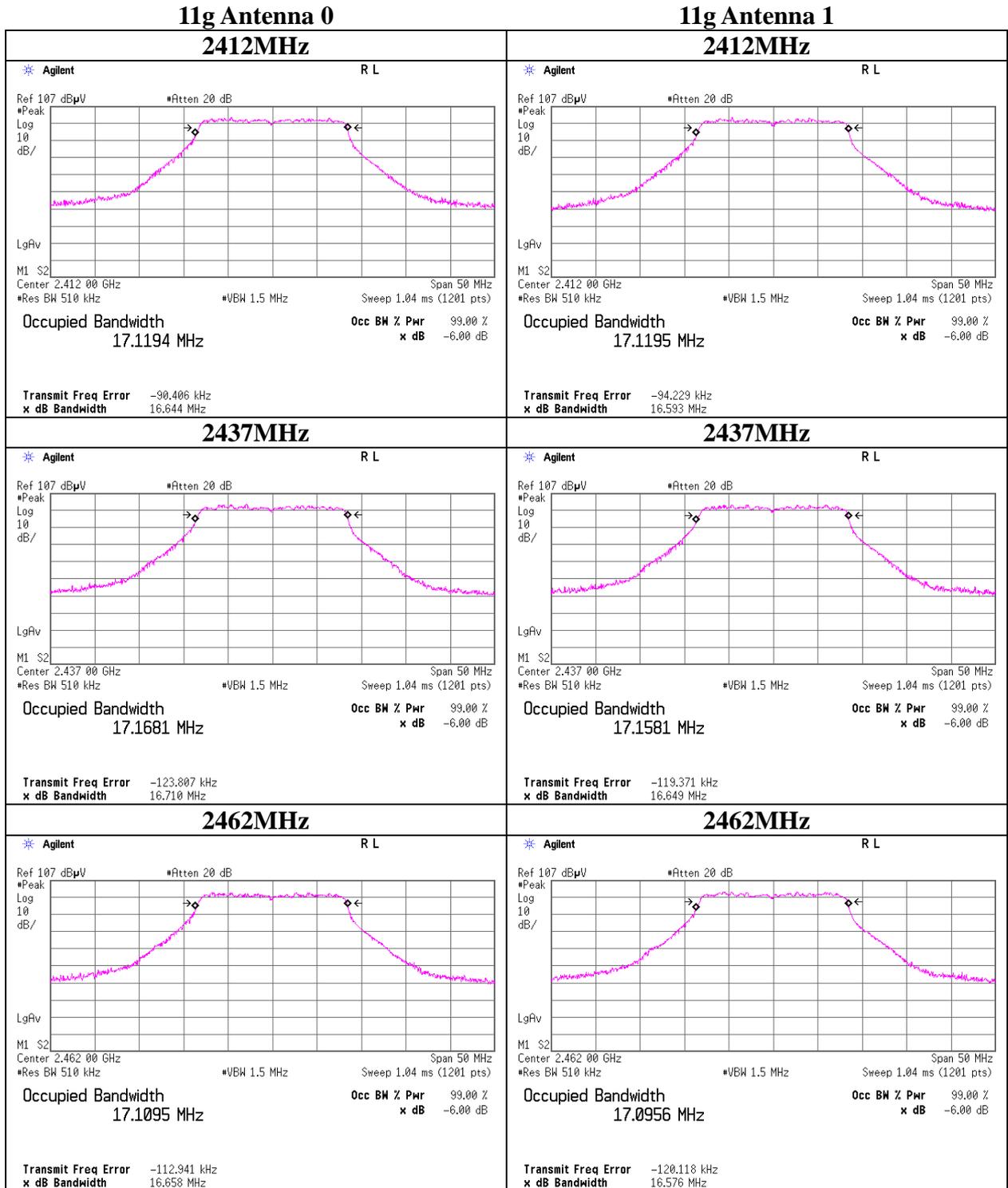
Power Density



99% Occupied Bandwidth



99% Occupied Bandwidth



APPENDIX 3: Test instruments

EMI test equipment(1/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2011/02/22 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2011/02/23 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE/CE	-
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE/AT	2011/02/15 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2010/05/07 * 12
MCC-58	Microwave Cable	Suhner	SUCOFLEX104	246770(1m) / 250655(5m)	RE	2011/03/02 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2011/03/10 * 12
MHF-19	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCA	602	RE	2010/09/21 * 12
MCC-79	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	278923/4	RE	2010/12/02 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	AT	2010/11/30 * 12
MAT-25	Attenuator(10dB)(above 1GHz)	Agilent	8493C	71642	AT	2010/06/22 * 12
MCC-66	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	28636/2	AT	2010/04/27 * 12
MAT-23	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	AT	2011/03/14 * 12
MPM-13	Power Meter	Anritsu	ML2495A	0824014	AT	2010/11/01 * 12
MPSE-18	Power sensor	Anritsu	MA2411B	0738174	AT	2010/11/01 * 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/AT	2011/02/23 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE	-
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE/CE	2010/11/18 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2010/08/08 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	270875/4(1m) / 284655(5m)	RE	2011/03/02 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2011/03/10 * 12
MHF-20	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCC	607	RE	2010/09/21 * 12
MHA-16	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170306	RE	2010/05/07 * 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	2010/03/18 * 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
MCC-116	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290221/4	AT	2010/08/05 * 12

EMI test equipment(2/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	CE	2010/08/23 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(AE)	2011/02/20 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(EUT)	2011/02/22 * 12
MTA-31	Terminator	TME	CT-01	-	CE	2011/01/05 * 12
MCC-112	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(3m)/sucoform141-PE(1m)/421-010(1.5m)/RFM-E321(Switcher)	-/00640	CE	2010/07/23 * 12
MAT-66	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2011/02/22 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-201	-	AT	2011/02/23 * 12
MCC-114	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290212/4	AT	2010/08/05 * 12
MAT-22	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	AT	2011/03/14 * 12
MLPA-01	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100017	RE	2010/10/15 * 12

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 Conducted test**