APPENDIX 2: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

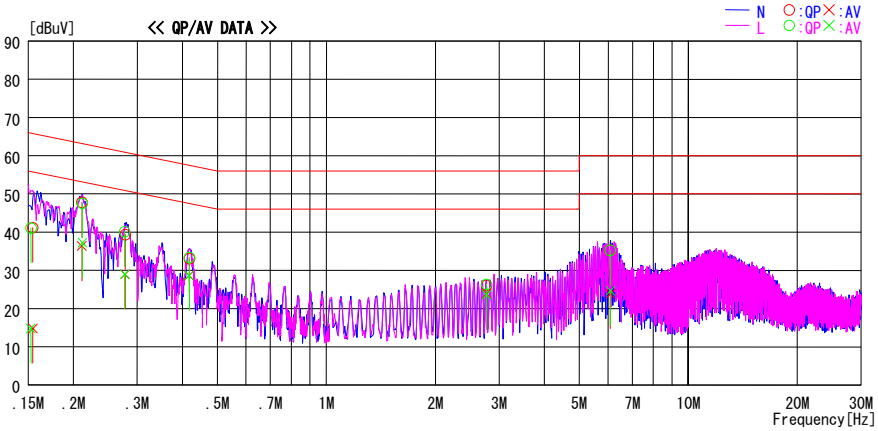
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11b 2412MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level QP	Reading Level AV	Corr. Factor	Results QP	Results AV	Limit QP	Limit AV	Margin QP	Margin AV	Phase	Comment
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15435	40.9	14.5	0.3	41.2	14.8	65.8	55.8	24.6	41.0	N	
0.21090	47.5	36.1	0.3	47.8	36.4	63.2	53.2	15.4	16.8	N	
0.27789	39.1	28.7	0.3	39.4	29.0	60.9	50.9	21.5	21.9	N	
0.41796	32.8	28.4	0.3	33.1	28.7	57.5	47.5	24.4	18.8	N	
2.76679	25.6	23.4	0.5	26.1	23.9	56.0	46.0	29.9	22.1	N	
6.08638	34.5	23.1	0.8	35.3	23.9	60.0	50.0	24.7	26.1	N	
0.15261	40.8	14.5	0.3	41.1	14.8	65.9	55.9	24.8	41.1	L	
0.21177	47.3	36.9	0.3	47.6	37.2	63.1	53.1	15.5	15.9	L	
0.27702	39.8	28.7	0.3	40.1	29.0	60.9	50.9	20.8	21.9	L	
0.41796	33.1	28.4	0.3	33.4	28.7	57.5	47.5	24.1	18.8	L	
2.76679	25.9	23.1	0.5	26.4	23.6	56.0	46.0	29.6	22.4	L	
6.08638	34.5	23.9	0.8	35.3	24.7	60.0	50.0	24.7	25.3	L	

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

Conducted Emission

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DATA OF CONDUCTED EMISSION TEST

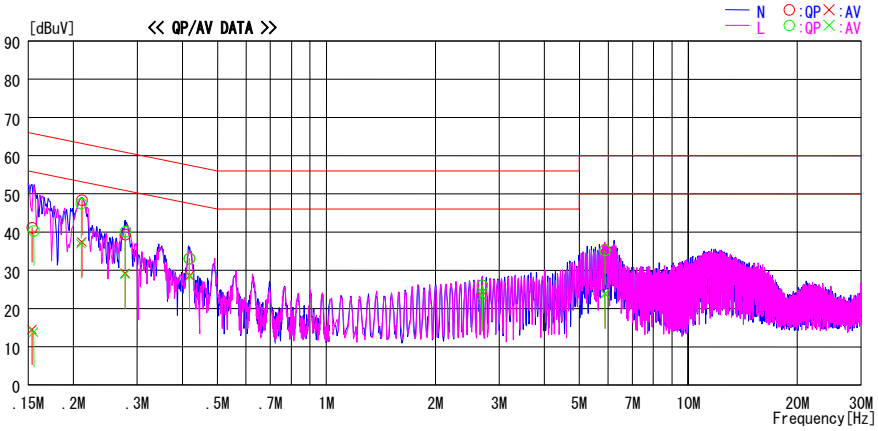
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11g 2412MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



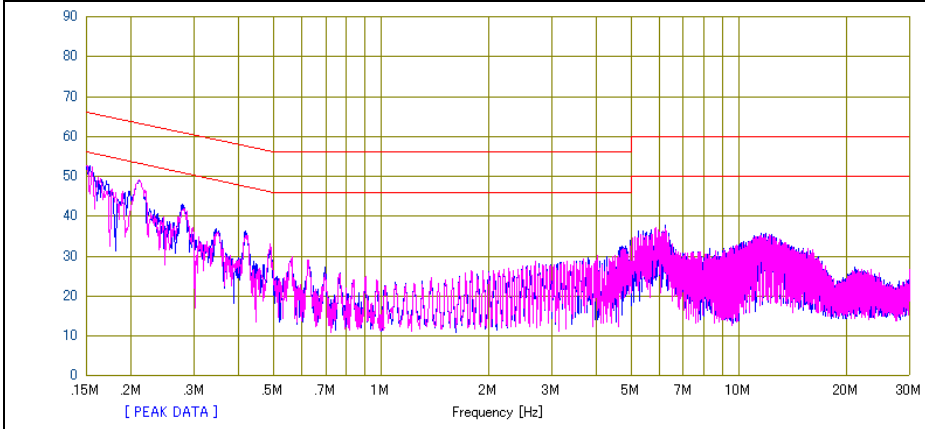
Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15348	40.9	14.2	0.3	41.2	14.5	65.8	55.8	24.6	41.3	N	
0.21090	48.1	37.1	0.3	48.4	37.4	63.2	53.2	14.8	15.8	N	
0.27789	39.1	28.9	0.3	39.4	29.2	60.9	50.9	21.5	21.7	N	
0.41883	32.8	28.4	0.3	33.1	28.7	57.5	47.5	24.4	18.8	N	
2.69423	25.6	22.8	0.5	26.1	23.3	56.0	46.0	29.9	22.7	N	
5.88684	34.5	23.1	0.8	35.3	23.9	60.0	50.0	24.7	26.1	N	
0.15522	40.1	13.5	0.3	40.4	13.8	65.7	55.7	25.3	41.9	L	
0.21003	47.2	36.7	0.3	47.5	37.0	63.2	53.2	15.7	16.2	L	
0.27789	39.8	28.7	0.3	40.1	29.0	60.9	50.9	20.8	21.9	L	
0.41883	32.8	28.1	0.3	33.1	28.4	57.5	47.5	24.4	19.1	L	
2.69423	25.6	22.9	0.5	26.1	23.4	56.0	46.0	29.9	22.6	L	
5.88684	34.5	23.1	0.8	35.3	23.9	60.0	50.0	24.7	26.1	L	

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

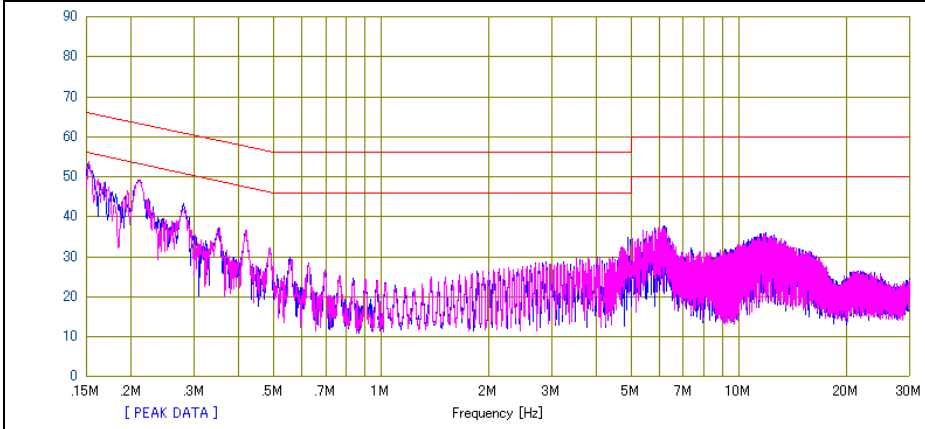
Conducted Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/17/2009
Temperature/ Humidity	24 deg.C./ 45%
Engineer	Tomotaka Sasagawa
Mode	11g Tx

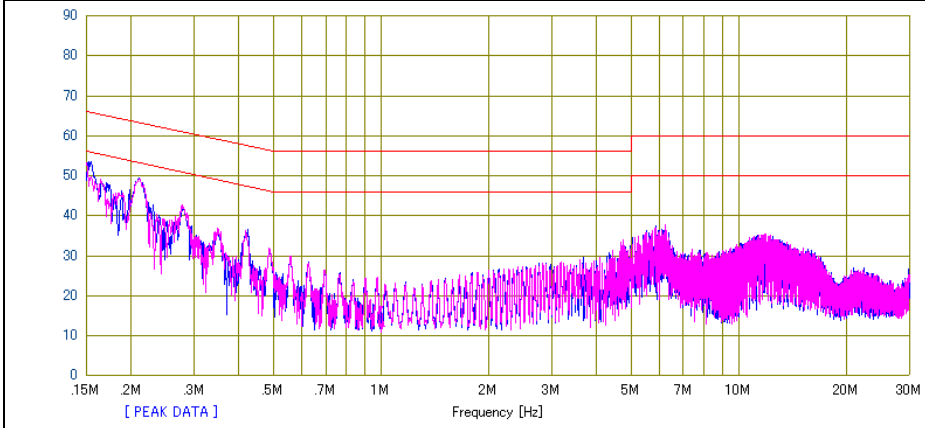
2412MHz



2437MHz



2462MHz



Y scale [dBuV] Chart — N — L

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Conducted Emission

DATA OF CONDUCTED EMISSION TEST

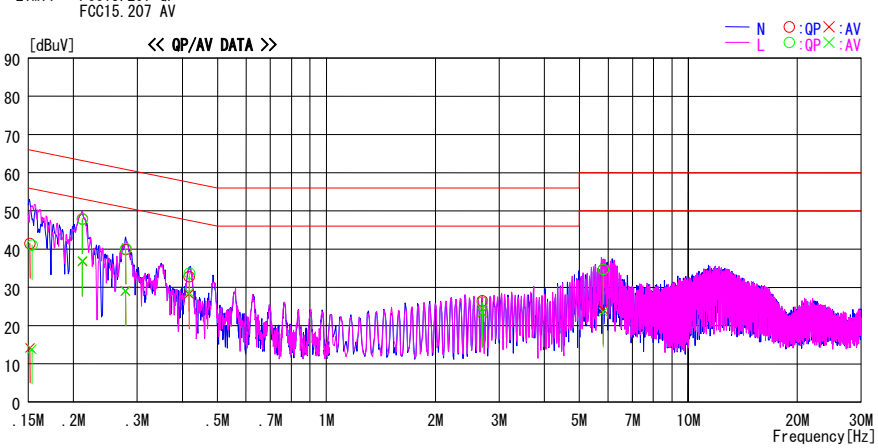
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11n-20 2412MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15174	41.2	13.9	0.3	41.5	14.2	65.9	55.9	24.4	41.7	N	
0.21177	47.6	36.5	0.3	47.9	36.8	63.1	53.1	15.2	16.3	N	
0.27876	39.6	28.8	0.3	39.9	29.1	60.9	50.9	21.0	21.8	N	
0.41709	32.5	27.9	0.3	32.8	28.2	57.5	47.5	24.7	19.3	N	
2.69423	26.0	22.9	0.5	26.5	23.4	56.0	46.0	29.5	22.6	N	
5.81428	33.9	23.4	0.8	34.7	24.2	60.0	50.0	25.3	25.8	N	
0.15348	40.8	13.5	0.3	41.1	13.8	65.8	55.8	24.7	42.0	L	
0.21177	47.6	36.7	0.3	47.9	37.0	63.1	53.1	15.2	16.1	L	
0.27876	39.8	28.7	0.3	40.1	29.0	60.9	50.9	20.8	21.9	L	
0.41796	33.4	28.4	0.3	33.7	28.7	57.5	47.5	23.8	18.8	L	
2.69423	25.6	22.9	0.5	26.1	23.4	56.0	46.0	29.9	22.6	L	
5.81428	33.9	22.7	0.8	34.7	23.5	60.0	50.0	25.3	26.5	L	

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

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Conducted Emission

DATA OF CONDUCTED EMISSION TEST

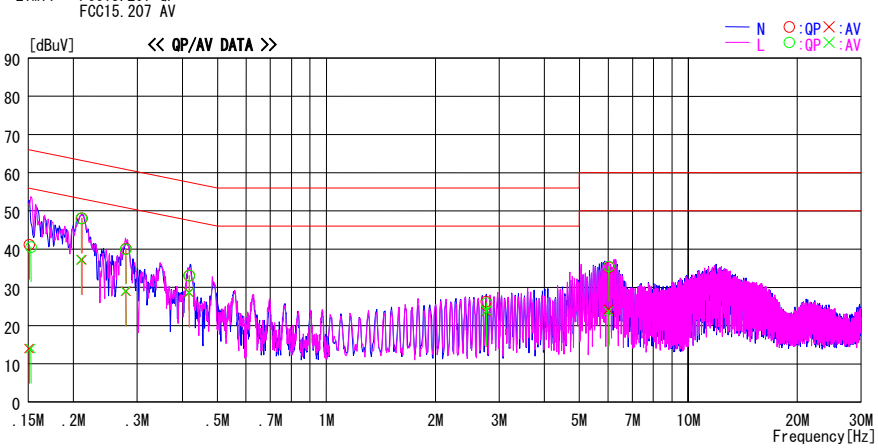
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11n-40 2422MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15087	40.9	13.7	0.3	41.2	14.0	66.0	56.0	24.8	42.0	N	
0.21090	47.8	36.9	0.3	48.1	37.2	63.2	53.2	15.1	16.0	N	
0.27963	39.8	28.7	0.3	40.1	29.0	60.8	50.8	20.7	21.8	N	
0.41709	32.8	28.4	0.3	33.1	28.7	57.5	47.5	24.4	18.8	N	
2.75772	25.8	23.1	0.5	26.3	23.6	56.0	46.0	29.7	22.4	N	
6.02289	34.5	23.4	0.8	35.3	24.2	60.0	50.0	24.7	25.8	N	
0.15261	40.3	13.7	0.3	40.6	14.0	65.9	55.9	25.3	41.9	L	
0.21003	47.8	36.9	0.3	48.1	37.2	63.2	53.2	15.1	16.0	L	
0.27876	39.7	28.7	0.3	40.0	29.0	60.9	50.9	20.9	21.9	L	
0.41796	32.8	28.3	0.3	33.1	28.6	57.5	47.5	24.4	18.9	L	
2.76679	25.4	23.4	0.5	25.9	23.9	56.0	46.0	30.1	22.1	L	
6.02289	34.7	22.9	0.8	35.5	23.7	60.0	50.0	24.5	26.3	L	

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

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

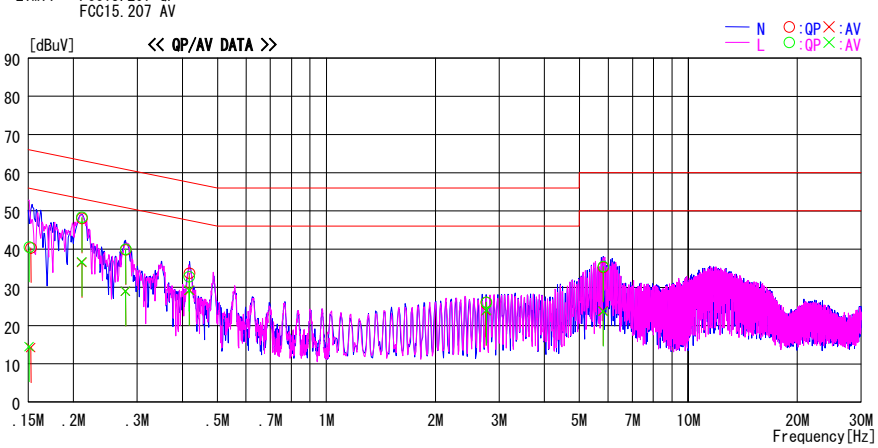
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Rx 11g 2437MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15261	40.1	13.9	0.3	40.4	14.2	65.9	55.9	25.5	41.7	N	
0.21090	47.8	36.2	0.3	48.1	36.5	63.2	53.2	15.1	16.7	N	
0.27876	39.5	28.7	0.3	39.8	29.0	60.9	50.9	21.1	21.9	N	
0.41883	33.4	28.9	0.3	33.7	29.2	57.5	47.5	23.8	18.3	N	
2.75772	25.6	23.4	0.5	26.1	23.9	56.0	46.0	29.9	22.1	N	
5.81428	34.5	23.1	0.8	35.3	23.9	60.0	50.0	24.7	26.1	N	
0.15087	40.3	14.2	0.3	40.6	14.5	66.0	56.0	25.4	41.5	L	
0.21090	48.1	36.4	0.3	48.4	36.7	63.2	53.2	14.8	16.5	L	
0.27876	39.7	28.7	0.3	40.0	29.0	60.9	50.9	20.9	21.9	L	
0.41709	32.5	28.9	0.3	32.8	29.2	57.5	47.5	24.7	18.3	L	
2.76679	25.6	23.6	0.5	26.1	24.1	56.0	46.0	29.9	21.9	L	
5.81428	34.7	22.9	0.8	35.5	23.7	60.0	50.0	24.5	26.3	L	

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

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

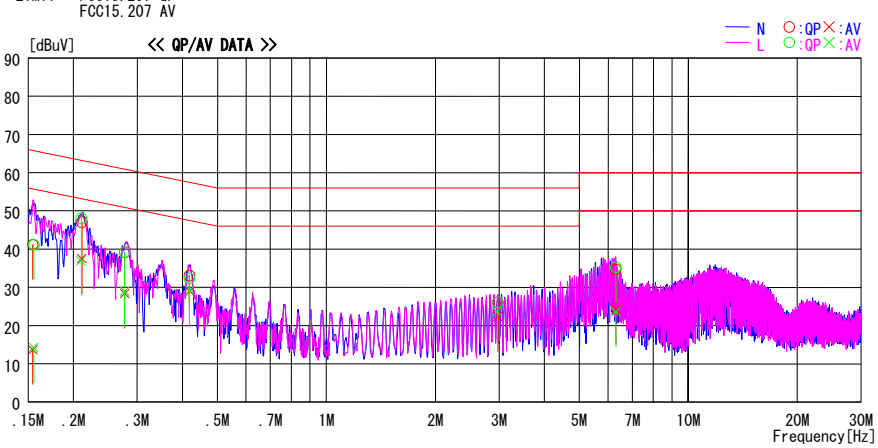
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11a 5745MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15435	40.9	13.4	0.3	41.2	13.7	65.8	55.8	24.6	42.1	N	
0.21090	46.8	37.2	0.3	47.1	37.5	63.2	53.2	16.1	15.7	N	
0.27702	38.9	28.1	0.3	39.2	28.4	60.9	50.9	21.7	22.5	N	
0.41883	32.8	28.7	0.3	33.1	29.0	57.5	47.5	24.4	18.5	N	
2.97540	25.6	21.9	0.5	26.1	22.4	56.0	46.0	29.9	23.6	N	
6.30406	33.9	23.4	0.8	34.7	24.2	60.0	50.0	25.3	25.8	N	
0.15522	40.9	13.9	0.3	41.2	14.2	65.7	55.7	24.5	41.5	L	
0.21003	47.8	36.7	0.3	48.1	37.0	63.2	53.2	15.1	16.2	L	
0.27702	38.9	28.7	0.3	39.2	29.0	60.9	50.9	21.7	21.9	L	
0.41883	32.1	28.9	0.3	32.4	29.2	57.5	47.5	25.1	18.3	L	
2.96633	25.6	23.1	0.5	26.1	23.6	56.0	46.0	29.9	22.4	L	
6.30406	34.5	22.8	0.8	35.3	23.6	60.0	50.0	24.7	26.4	L	

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

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Conducted Emission

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DATA OF CONDUCTED EMISSION TEST

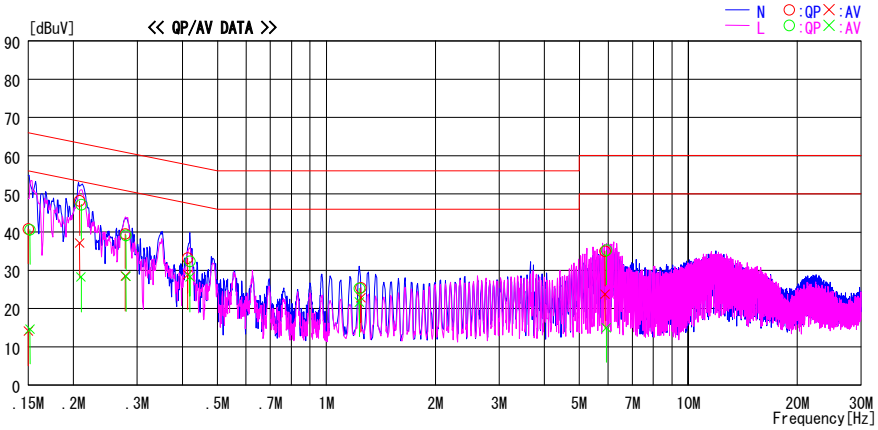
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11n-20 5785MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



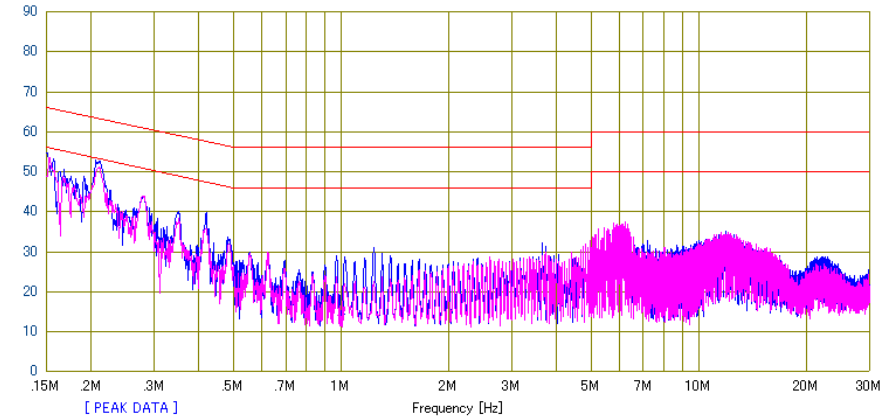
Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	40.5	13.8	0.3	40.8	14.1	66.0	56.0	25.2	41.9	N	
0.20798	47.9	36.8	0.3	48.2	37.1	63.3	53.3	15.1	16.2	N	
0.27820	39.3	28.2	0.3	39.6	28.5	60.9	50.9	21.3	22.4	N	
0.41414	32.9	28.5	0.3	33.2	28.8	57.6	47.6	24.4	18.8	N	
1.24554	25.1	22.5	0.4	25.5	22.9	56.0	46.0	30.5	23.1	N	
5.87905	34.2	23.0	0.8	35.0	23.8	60.0	50.0	25.0	26.2	N	
0.15174	40.3	14.3	0.3	40.6	14.6	65.9	55.9	25.3	41.3	L	
0.21003	46.9	27.9	0.3	47.2	28.2	63.2	53.2	16.0	25.0	L	
0.27963	38.9	28.1	0.3	39.2	28.4	60.8	50.8	21.6	22.4	L	
0.41970	32.1	27.9	0.3	32.4	28.2	57.5	47.5	25.1	19.3	L	
1.23396	24.9	21.3	0.4	25.3	21.7	56.0	46.0	30.7	24.3	L	
5.93219	34.5	14.2	0.8	35.3	15.0	60.0	50.0	24.7	35.0	L	

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

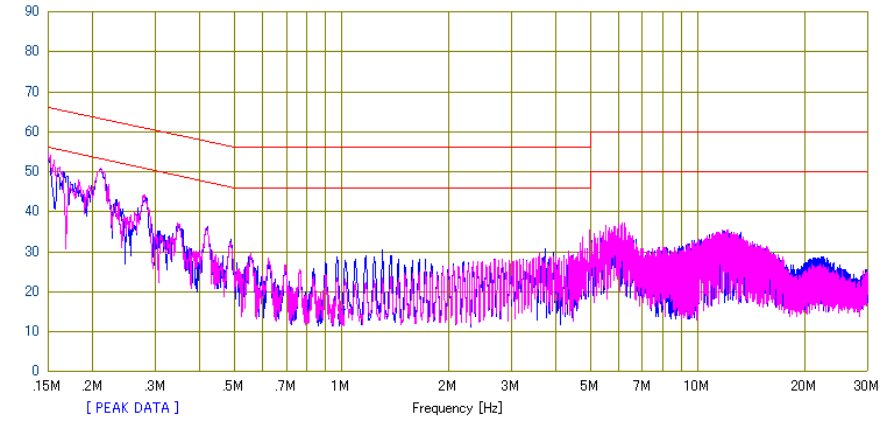
Conducted Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/17/2009
Temperature/ Humidity	24 deg.C./ 45%
Engineer	Tomotaka Sasagawa
Mode	11n-20 Tx

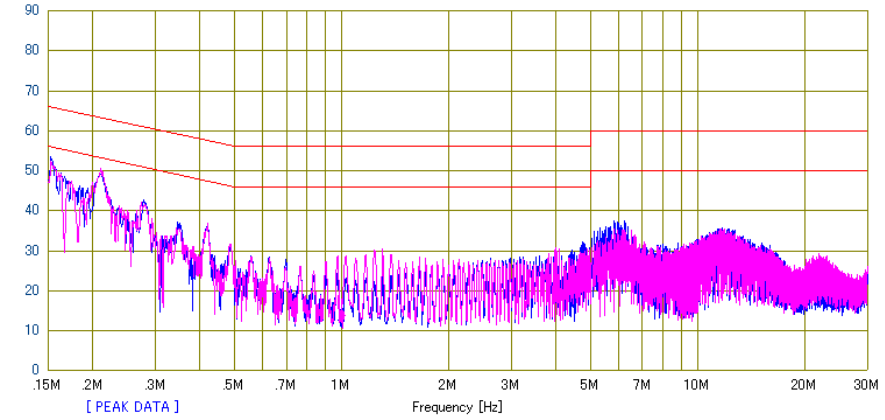
5745MHz



5785MHz



5825MHz



Y scale [dBuV] Chart — N — L

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Facsimile : +81 596 24 8124

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

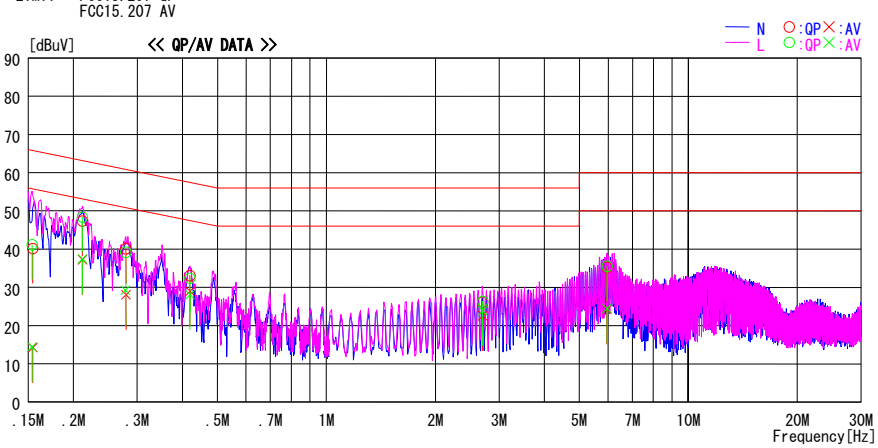
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Tx 11n-40 5755MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15435	39.9	13.9	0.3	40.2	14.2	65.8	55.8	25.6	41.6	N	
0.21177	47.1	36.9	0.3	47.4	37.2	63.1	53.1	15.7	15.9	N	
0.27963	39.8	27.8	0.3	40.1	28.1	60.8	50.8	20.7	22.7	N	
0.41970	32.8	28.7	0.3	33.1	29.0	57.5	47.5	24.4	18.5	N	
2.70330	25.7	22.1	0.5	26.2	22.6	56.0	46.0	29.8	23.4	N	
5.95033	34.5	23.5	0.8	35.3	24.3	60.0	50.0	24.7	25.7	N	
0.15348	40.9	14.1	0.3	41.2	14.4	65.8	55.8	24.6	41.4	L	
0.21177	48.1	37.1	0.3	48.4	37.4	63.1	53.1	14.7	15.7	L	
0.27876	38.9	28.9	0.3	39.2	29.2	60.9	50.9	21.7	21.7	L	
0.41970	32.1	27.8	0.3	32.4	28.1	57.5	47.5	25.1	19.4	L	
2.70330	25.9	23.4	0.5	26.4	23.9	56.0	46.0	29.6	22.1	L	
5.95940	34.8	23.7	0.8	35.6	24.5	60.0	50.0	24.4	25.5	L	

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

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

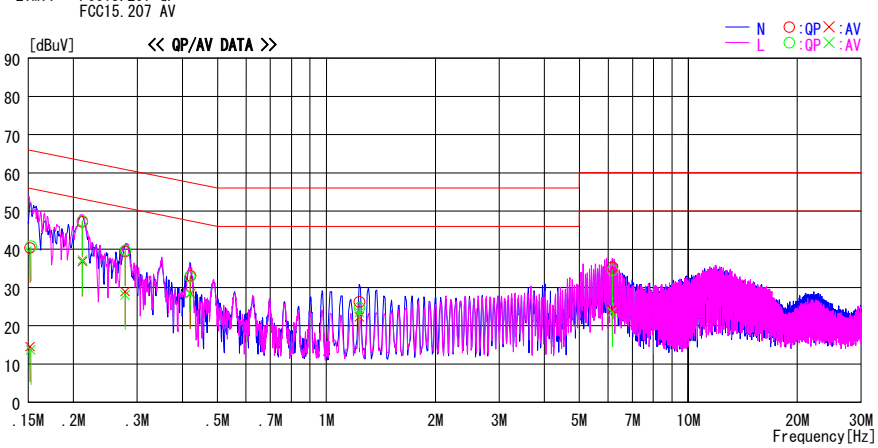
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/10/17

Report No. : 29LE0211-HO-02

Temp./Humi. : 24deg.C. / 45%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Rx 11n-20 5785MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15174	40.1	14.2	0.3	40.4	14.5	65.9	55.9	25.5	41.4	N	
0.21177	46.9	36.5	0.3	47.2	36.8	63.1	53.1	15.9	16.3	N	
0.27789	39.2	28.7	0.3	39.5	29.0	60.9	50.9	21.4	21.9	N	
0.42144	32.8	28.1	0.3	33.1	28.4	57.4	47.4	24.3	19.0	N	
1.23396	25.9	21.9	0.4	26.3	22.3	56.0	46.0	29.7	23.7	N	
6.15894	34.6	23.4	0.8	35.4	24.2	60.0	50.0	24.6	25.8	N	
0.15261	40.5	13.4	0.3	40.8	13.7	65.9	55.9	25.1	42.2	L	
0.21177	47.2	36.9	0.3	47.5	37.2	63.1	53.1	15.6	15.9	L	
0.27789	39.4	27.8	0.3	39.7	28.1	60.9	50.9	21.2	22.8	L	
0.41970	32.5	28.1	0.3	32.8	28.4	57.5	47.5	24.7	19.1	L	
1.23396	24.3	23.1	0.4	24.7	23.5	56.0	46.0	31.3	22.5	L	
6.15894	33.8	22.8	0.8	34.6	23.6	60.0	50.0	25.4	26.4	L	

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

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

6dB Bandwidth

Test place	Head Office EMC Lab. No.4 and 6 Measurement Room		
Report No.	29LE0211-HO-02		
Date	10/16/2009	10/22/2009	10/28/2009
Temperature/ Humidity	24 deg.C./ 50%	25 deg.C./ 41%	23deg.C./ 49%
Engineer	Takumi Shimada	Takumi Shimada	Takeshi Choda
Mode	Tx		

11b

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	11.142	>500
2437	11.140	>500
2462	11.182	>500

11g

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	16.584	>500
2437	16.579	>500
2462	16.588	>500

11n-20

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2412	17.609	>500
2437	17.630	>500
2462	17.633	>500

11n-40

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
2422	36.458	>500
2437	36.466	>500
2452	36.472	>500

11a

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5745	16.425	>500
5785	16.430	>500
5825	16.408	>500

11n-20

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5745	17.407	>500
5785	17.620	>500
5825	17.604	>500

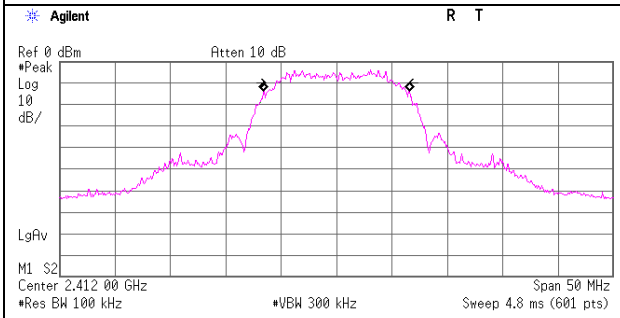
11n-40

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5755	36.127	>500
5795	35.924	>500

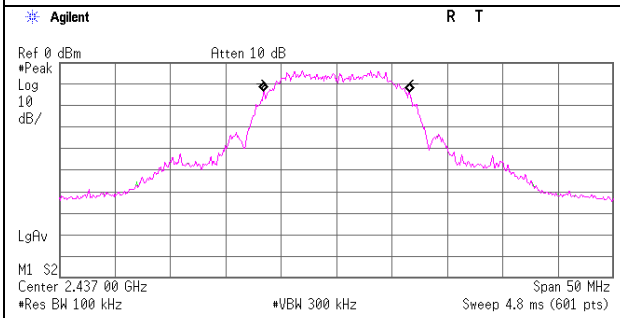
6dB Bandwidth

11b Antenna 0

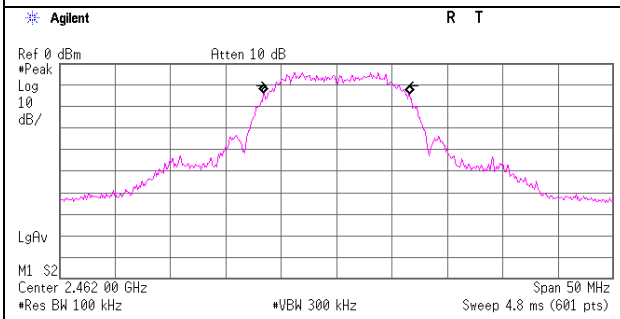
2412MHz



2437MHz

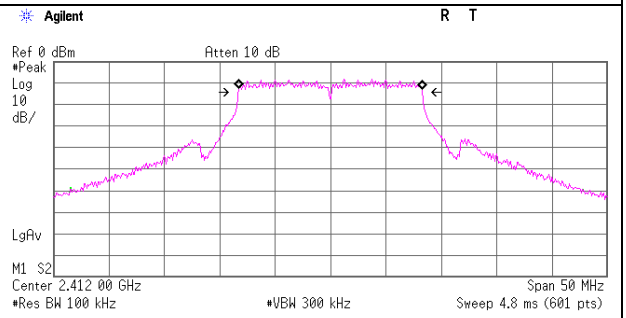


2462MHz

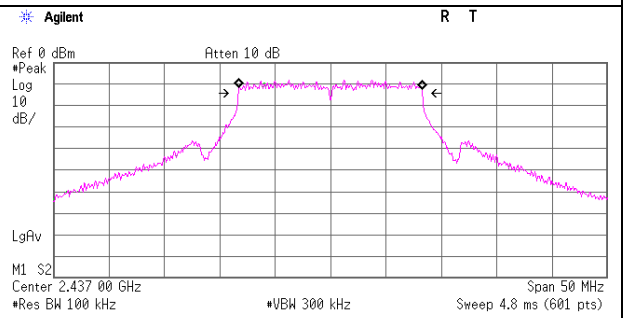


11g Antenna 0

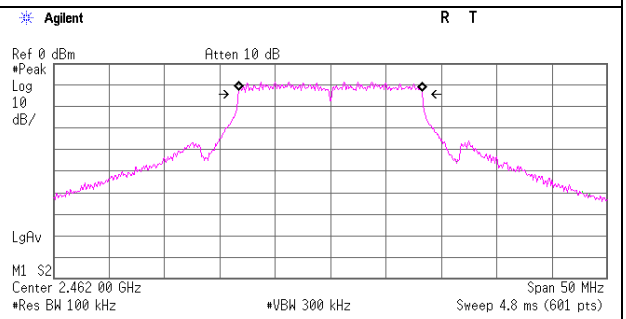
2412MHz



2437MHz



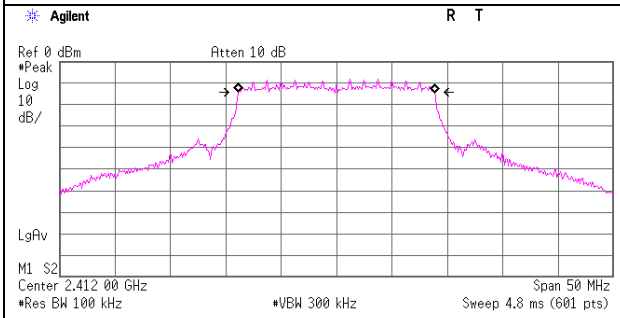
2462MHz



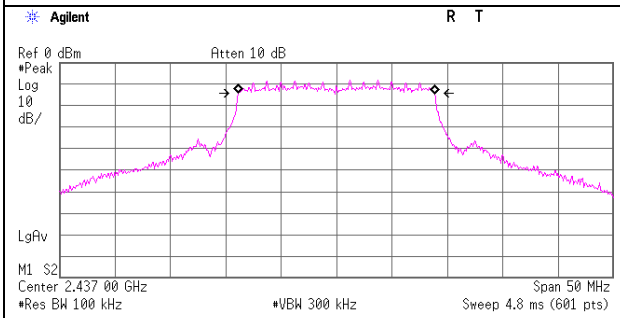
6dB Bandwidth

11n-20 Antenna 1

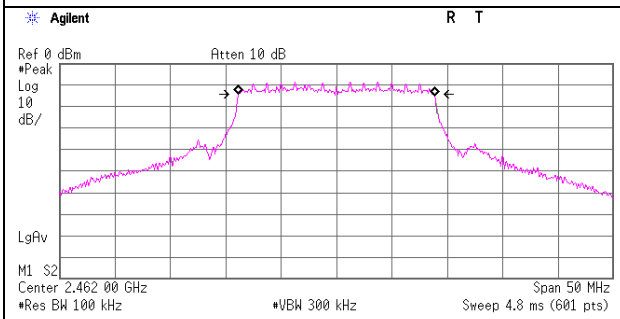
2412MHz



2437MHz

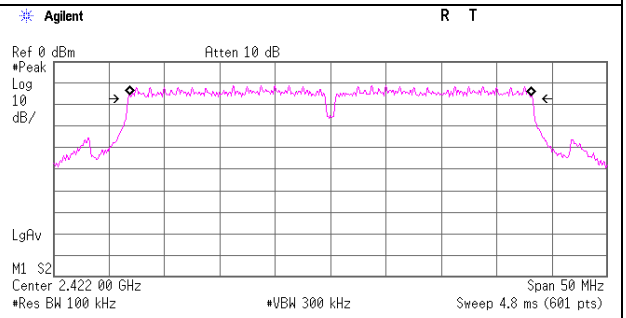


2462MHz

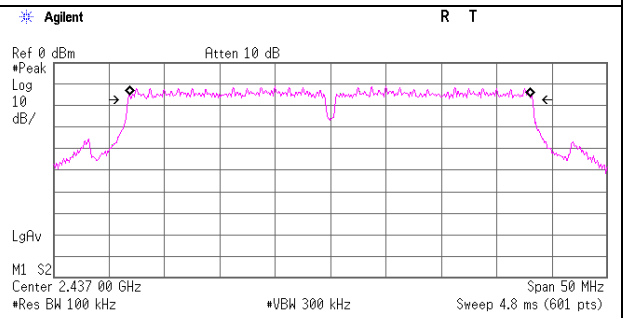


11n-40 Antenna 0

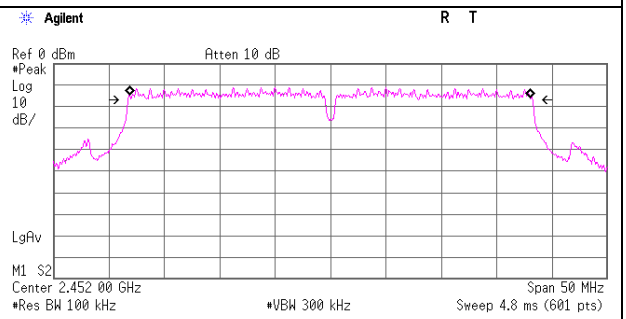
2422MHz



2437MHz



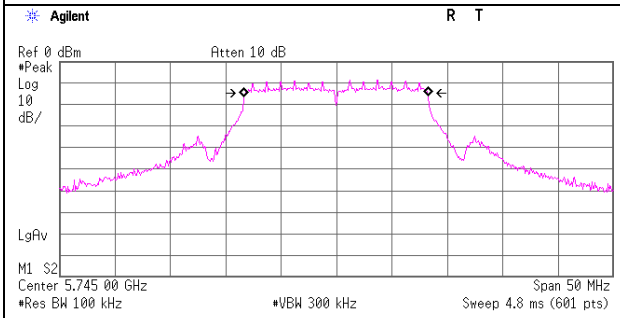
2452MHz



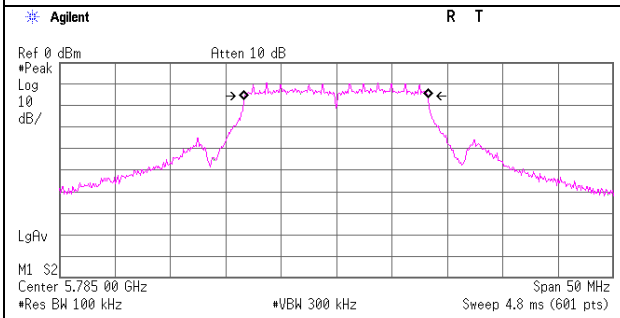
6dB Bandwidth

11a Antenna 0

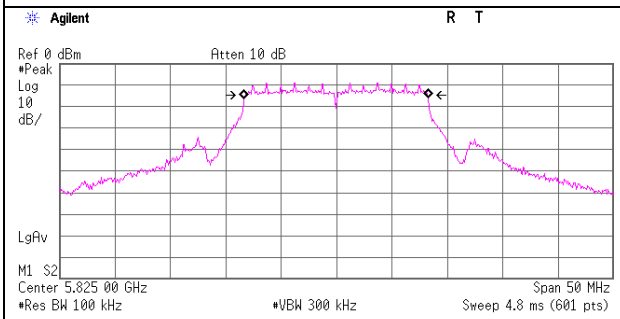
5745MHz



5785MHz

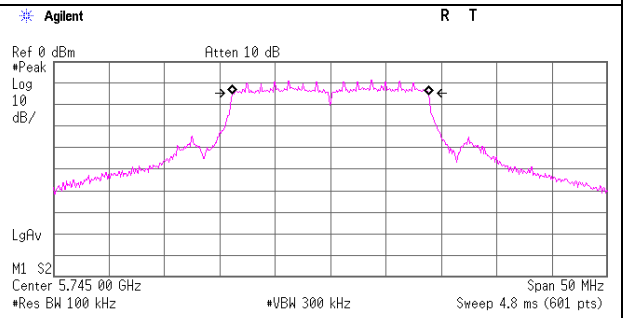


5825MHz

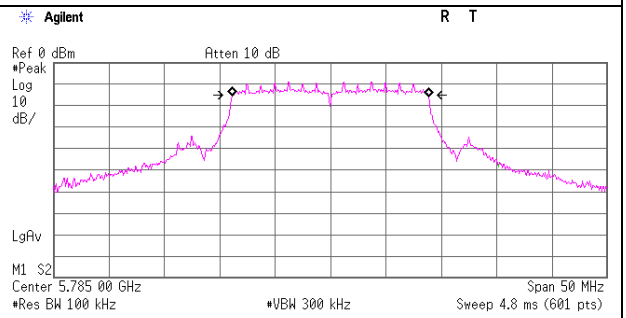


11n-20 Antenna 0

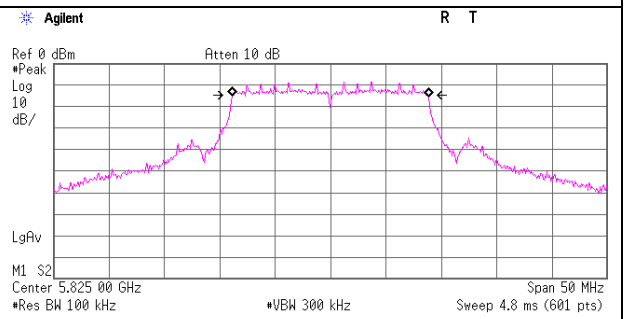
5745MHz



5785MHz



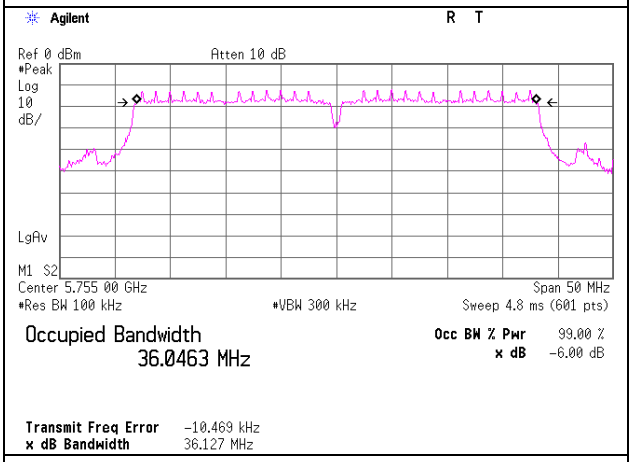
5825MHz



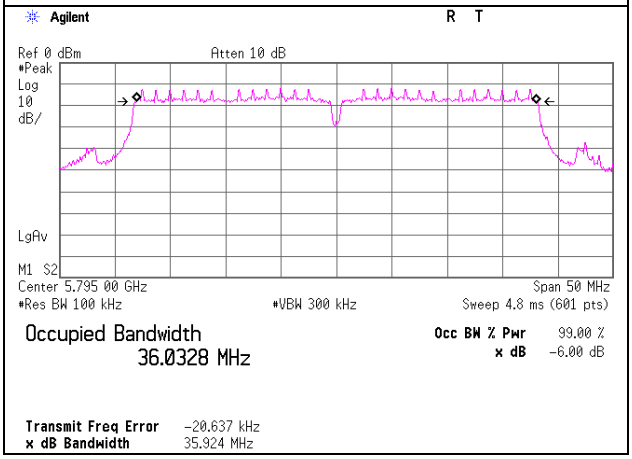
6dB Bandwidth

11n-40 Antenna 0

5755MHz



5795MHz



Maximum Peak Output Power

UL Japan, Inc.
Head Office EMC Lab. No.6 Measurement Room

Company	Panasonic Corporation of North America	Report No.	29LE0211-HO-02
Equipment	WIRELESS LAN ADAPTOR	Regulation	FCC15.247(b)(3)/RSS-210A8.4(4)
Model	DY-WL10	Test Distance	-
S/N	245	Date	10/13/2009
Power	DC 5.0V	Temperature	24 deg.C.
Mode	11b Tx 11Mbps, ant 0 11g Tx 24Mbps , ant 0 11n-20 Tx MCS0, ant 1 11n-40 Tx MCS5, ant 0	Humidity	32 %
		Engineer	Hisayoshi Sato

[11b]

Ch	Freq.	P/M Reading	Cable Loss	Atten.	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	8.63	0.50	10.09	19.22	83.56	30.00	1000	10.78
Mid	2437.0	8.89	0.50	10.09	19.48	88.72	30.00	1000	10.52
High	2462.0	8.18	0.50	10.09	18.77	75.34	30.00	1000	11.23

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

[11g]

Ch	Freq.	P/M Reading	Cable Loss	Atten.	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	12.35	0.50	10.09	22.94	196.79	30.00	1000	7.06
Mid	2437.0	12.28	0.50	10.09	22.87	193.64	30.00	1000	7.13
High	2462.0	12.30	0.50	10.09	22.89	194.54	30.00	1000	7.11

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

[11n-20(2.4GHz)]

Ch	Freq.	P/M Reading	Cable Loss	Atten.	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	11.55	0.50	10.09	22.14	163.68	30.00	1000	7.86
Mid	2437.0	11.71	0.50	10.09	22.30	169.82	30.00	1000	7.70
High	2462.0	11.34	0.50	10.09	21.93	155.96	30.00	1000	8.07

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

[11n-40(2.4GHz)]

Ch	Freq.	P/M Reading	Cable Loss	Atten.	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2422.0	11.60	0.50	10.09	22.19	165.58	30.00	1000	7.81
Mid	2437.0	12.20	0.50	10.09	22.79	190.11	30.00	1000	7.21
High	2452.0	11.70	0.50	10.09	22.29	169.43	30.00	1000	7.71

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

Maximum Peak Output Power

UL Japan, Inc.
Head Office EMC Lab. No.4 and 6 Measurement Room

Company	Panasonic Corporation of North America	Report No.	29LE0211-HO-02
Equipment	WIRELESS LAN ADAPTOR	Regulation	FCC15.247(b)(3)/RSS-210A8.4(4)
Model	DY-WL10	Test Distance	-
S/N	244, 245	Date	10/14/2009 10/28/2009
Power	DC 5.0V	Temperature	23 deg.C. 23 deg.C.
Mode	11a Tx 6Mbps, ant 0 11n-20 Tx MCS0, ant 0 11n-40 Tx MCS0, ant 0	Humidity	43 % 49 %
		Engineer	Takumi Shimada Takeshi Choda

[11a]

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5745.0	10.93	1.00	10.14	22.07	161.06	30.00	1000	7.93
Mid	5785.0	10.97	1.00	10.13	22.10	162.18	30.00	1000	7.90
High	5825.0	11.10	1.00	10.13	22.23	167.11	30.00	1000	7.77

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

[11n-20(5GHz)]

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5745.0	10.83	1.00	10.14	21.97	157.40	30.00	1000	8.03
Mid	5785.0	11.22	1.00	10.13	22.35	171.79	30.00	1000	7.65
High	5825.0	11.04	1.00	10.13	22.17	164.82	30.00	1000	7.83

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

[11n-40(5GHz)]

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5755.0	10.16	1.00	10.14	21.30	134.90	30.00	1000	8.70
High	5795.0	10.22	1.00	10.13	21.35	136.46	30.00	1000	8.65

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

Maximum Peak Output Power
(Worst data rate check, Worst port check)

UL Japan, Inc.
Head Office EMC Lab. No.6 Measurement Room

Company	Panasonic Corporation of North America	Report No.	29LE0211-HO-02
Equipment	WIRELESS LAN ADAPTOR	Regulation	FCC15.247(b)(3)/RSS-210A8.4(4)
Model	DY-WL10	Test Distance	-
S/N	245	Date	10/13/2009
Power	DC 5.0V	Temperature	24 deg.C.
Mode	11b Tx	Humidity	32 %
	11g Tx	Engineer	Hisayoshi Sato

11b Worst data rate check
[11b ant 0] PK

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
1	2437	8.06	0.50	10.09	18.65	73.28
2	2437	8.86	0.50	10.09	19.45	88.10
5.5	2437	6.72	0.50	10.09	17.31	53.83
11	2437	8.89	0.50	10.09	19.48	88.72

11b Worst port check
[11b] PK

Rate [Mbps]	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
11	0	2437	8.89	0.50	10.09	19.48	88.72
11	1	2437	8.21	0.50	10.09	18.80	75.86

11g Worst data rate check
[11g ant 0] PK

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
6	2437	12.10	0.50	10.09	22.69	185.78
9	2437	11.94	0.50	10.09	22.53	179.06
12	2437	12.01	0.50	10.09	22.60	181.97
18	2437	11.50	0.50	10.09	22.09	161.81
24	2437	12.28	0.50	10.09	22.87	193.64
36	2437	11.80	0.50	10.09	22.39	173.38
48	2437	11.64	0.50	10.09	22.23	167.11
54	2437	11.64	0.50	10.09	22.23	167.11

11g Worst port check
[11g] PK

Rate [Mbps]	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
24	0	2437	12.28	0.50	10.09	22.87	193.64
24	1	2437	12.10	0.50	10.09	22.69	185.78

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
: Worst data rate

Maximum Peak Output Power
(Worst data rate check, Worst port check)

UL Japan, Inc.
Head Office EMC Lab. No.6 Measurement Room

Company	Panasonic Corporation of North America	Report No.	29LE0211-HO-02
Equipment	WIRELESS LAN ADAPTOR	Regulation	FCC15.247(b)(3)/RSS-210A8.4(4)
Model	DY-WL10	Test Distance	-
S/N	245	Date	10/13/2009
Power	DC 5.0V	Temperature	24 deg.C.
Mode	11n-20 Tx	Humidity	32 %
	11n-40 Tx	Engineer	Hisayoshi Sato

11n-20 Worst data rate check
[11n-20(2.4GHz), ant 1] PK

MCS Number	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	2437	11.71	0.50	10.09	22.30	169.82
MCS1	2437	11.45	0.50	10.09	22.04	159.96
MCS2	2437	11.45	0.50	10.09	22.04	159.96
MCS3	2437	11.55	0.50	10.09	22.14	163.68
MCS4	2437	11.42	0.50	10.09	22.01	158.85
MCS5	2437	11.36	0.50	10.09	21.95	156.68
MCS6	2437	11.56	0.50	10.09	22.15	164.06
MCS7	2437	11.38	0.50	10.09	21.97	157.40

11n-20 Worst port check
[11n-20(2.4GHz)] PK

MCS Number	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	0	2437	11.38	0.50	10.09	21.97	157.40
MCS0	1	2437	11.71	0.50	10.09	22.30	169.82

11n-40 Worst data rate check
[11n-40(2.4GHz), ant 0] PK

MCS Number	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	2437	11.92	0.50	10.09	22.51	178.24
MCS1	2437	11.69	0.50	10.09	22.28	169.04
MCS2	2437	11.21	0.50	10.09	21.80	151.36
MCS3	2437	12.04	0.50	10.09	22.63	183.23
MCS4	2437	11.81	0.50	10.09	22.40	173.78
MCS5	2437	12.20	0.50	10.09	22.79	190.11
MCS6	2437	11.92	0.50	10.09	22.51	178.24
MCS7	2437	11.33	0.50	10.09	21.92	155.60

11n-40 Worst port check
[11n-40(2.4GHz)] PK

MCS Number	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS5	0	2437	12.20	0.50	10.09	22.79	190.11
MCS5	1	2437	12.18	0.50	10.09	22.77	189.23

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
: Worst data rate

Maximum Peak Output Power
(Worst data rate check, Worst port check)

UL Japan, Inc.
Head Office EMC Lab. No.4 and 6 Measurement Room

Company	Panasonic Corporation of North America	Report No.	29LE0211-HO-02	
Equipment	WIRELESS LAN ADAPTOR	Regulation	FCC15.247(b)(3)/RSS-210A8.4(4)	
Model	DY-WL10	Test Distance	-	
S/N	244, 245	Date	10/14/2009	10/28/2009
Power	DC 5.0V	Temperature	23 deg.C.	23 deg.C.
Mode	11a Tx 6Mbps, ant 0	Humidity	43 %	49 %
	11n-20 Tx	Engineer	Takumi Shimada	Takeshi Choda
	11n-40 Tx			

11a Worst data rate check
[11a, ant 0] PK

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
6	5785	10.97	1.00	10.13	22.10	162.18
9	5785	10.89	1.00	10.13	22.02	159.22
12	5785	10.80	1.00	10.13	21.93	155.96
18	5785	10.72	1.00	10.13	21.85	153.11
24	5785	10.89	1.00	10.13	22.02	159.22
36	5785	10.77	1.00	10.13	21.90	154.88
48	5785	10.79	1.00	10.13	21.92	155.60
54	5785	10.69	1.00	10.13	21.82	152.05

Worst port check
[11a] PK

Rate [Mbps]	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
6	0	5785	10.97	1.00	10.13	22.10	162.18
6	1	5785	10.93	1.00	10.13	22.06	160.69

11n-20 Worst data rate check
[11n-20(5GHz), ant 0] PK

MCS Number	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	5785	11.22	1.00	10.13	22.35	171.79
MCS1	5785	11.16	1.00	10.13	22.29	169.43
MCS2	5785	10.97	1.00	10.13	22.10	162.18
MCS3	5785	10.99	1.00	10.13	22.12	162.93
MCS4	5785	11.08	1.00	10.13	22.21	166.34
MCS5	5785	11.12	1.00	10.13	22.25	167.88
MCS6	5785	11.11	1.00	10.13	22.24	167.49
MCS7	5785	11.10	1.00	10.13	22.23	167.11

Worst port check
[11n-20(5GHz), ant 1] PK

MCS Number	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	0	5785	11.22	1.0	10.13	22.35	171.79
MCS0	1	5785	11.20	1.0	10.13	22.33	171.00

11n-40 Worst data rate check
[11n-40(5GHz), ant 0] PK

MCS Number	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	5755	10.16	1.00	10.13	21.29	134.59
MCS1	5755	9.98	1.00	10.13	21.11	129.12
MCS2	5755	9.86	1.00	10.13	20.99	125.60
MCS3	5755	10.06	1.00	10.13	21.19	131.52
MCS4	5755	9.92	1.00	10.13	21.05	127.35
MCS5	5755	10.06	1.00	10.13	21.19	131.52
MCS6	5755	10.03	1.00	10.13	21.16	130.62
MCS7	5755	9.73	1.00	10.13	20.86	121.90

Worst port check
[11n-40(5GHz), ant1] PK

MCS Number	Antenna port	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]
MCS0	0	5755	10.16	1.00	10.13	21.29	134.59
MCS0	1	5755	10.14	1.00	10.13	21.27	133.97

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
: Worst data rate

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/10/2009	10/15/2009	10/13/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%	21 deg.C./ 50%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)	Seiki Oitani (30-1000MHz)
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	73.566	QP	35.8	6.3	7.8	32.0	17.9	40.0	22.1	
Hori	89.081	QP	33.8	7.7	8.0	32.1	17.4	43.5	26.1	
Hori	130.911	QP	34.1	13.3	8.5	32.1	23.8	43.5	19.7	
Hori	196.604	QP	31.4	16.4	9.1	31.9	25.0	43.5	18.5	
Hori	364.512	QP	41.1	17.3	10.3	32.0	36.7	46.0	9.3	
Hori	729.009	QP	35.0	22.7	12.5	32.0	38.2	46.0	7.8	
Hori	2390.000	PK	52.5	26.7	2.8	32.7	49.3	73.9	24.6	
Hori	2400.000	PK	67.9	26.7	2.8	32.7	64.7	-	-	See 20dBc Data Sheet
Hori	4824.000	PK	44.5	30.9	5.3	31.9	48.8	73.9	25.1	
Hori	24120.000	PK	46.3	38.2	-1.1	32.4	51.0	73.9	22.9	NS
Hori	2390.000	AV	43.4	26.7	2.8	32.7	40.2	53.9	13.7	
Hori	2400.000	AV	59.3	26.7	2.8	32.7	56.1	-	-	See 20dBc Data Sheet
Hori	4824.000	AV	37.9	30.9	5.3	31.9	42.2	53.9	11.7	
Hori	24120.000	AV	37.2	38.2	-1.1	32.4	41.9	53.9	12.0	NS
Vert	74.121	QP	42.9	6.3	7.9	32.0	25.1	40.0	14.9	
Vert	89.131	QP	44.0	7.7	8.0	32.1	27.6	43.5	15.9	
Vert	130.102	QP	41.2	13.3	8.5	32.1	30.9	43.5	12.6	
Vert	196.598	QP	35.6	16.4	9.1	31.9	29.2	43.5	14.3	
Vert	364.505	QP	40.0	17.3	10.3	32.0	35.6	46.0	10.4	
Vert	729.011	QP	35.4	22.7	12.5	32.0	38.6	46.0	7.4	
Vert	2390.000	PK	48.7	26.7	2.8	32.7	45.5	73.9	28.4	
Vert	2400.000	PK	63.5	26.7	2.8	32.7	60.3	-	-	See 20dBc Data Sheet
Vert	4824.000	PK	46.5	30.9	5.3	31.9	50.8	73.9	23.1	
Vert	24120.000	PK	46.5	38.2	-1.1	32.4	51.2	73.9	22.7	NS
Vert	2390.000	AV	39.1	26.7	2.8	32.7	35.9	53.9	18.0	
Vert	2400.000	AV	54.2	26.7	2.8	32.7	51.0	-	-	See 20dBc Data Sheet
Vert	4824.000	AV	40.5	30.9	5.3	31.9	44.8	53.9	9.1	
Vert	24120.000	AV	36.9	38.2	-1.1	32.4	41.6	53.9	12.3	NS

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/10/2009
Temperature/ Humidity	24 deg.C./ 40%
Engineer	Takeshi Choda
	(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	103.6	26.8	2.8	32.7	100.5	-	-	Carrier
Hori	2400.000	PK	60.9	26.7	2.8	32.7	57.7	80.5	22.8	
Vert	2412.000	PK	99.6	26.8	2.8	32.7	96.5	-	-	Carrier
Vert	2400.000	PK	55.7	26.7	2.8	32.7	52.5	76.5	24.0	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)
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	4874.000	PK	43.5	31.0	5.3	31.9	47.9	73.9	26.0	
Hori	24370.000	PK	45.8	38.3	-1.1	32.3	50.7	73.9	23.2	NS
Hori	4874.000	AV	37.4	31.0	5.3	31.9	41.8	53.9	12.1	
Hori	24370.000	AV	36.3	38.3	-1.1	32.3	41.2	53.9	12.7	NS
Vert	4874.000	PK	42.9	31.0	5.3	31.9	47.3	73.9	26.6	
Vert	24370.000	PK	45.9	38.3	-1.1	32.3	50.8	73.9	23.1	NS
Vert	4874.000	AV	36.1	31.0	5.3	31.9	40.5	53.9	13.4	
Vert	24370.000	AV	36.4	38.3	-1.1	32.3	41.3	53.9	12.6	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11b Tx 2412MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)
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	2483.500	PK	54.9	26.9	2.8	32.7	51.9	73.9	22.0	
Hori	4924.000	PK	44.4	31.2	5.3	31.9	49.0	73.9	24.9	
Hori	24620.000	PK	47.3	38.4	-1.0	32.2	52.5	73.9	21.4	NS
Hori	2483.500	AV	44.6	26.9	2.8	32.7	41.6	53.9	12.3	
Hori	4924.000	AV	37.8	31.2	5.3	31.9	42.4	53.9	11.5	
Hori	24620.000	AV	37.2	38.4	-1.0	32.2	42.4	53.9	11.5	NS
Vert	2483.500	PK	51.4	26.9	2.8	32.7	48.4	73.9	25.5	
Vert	4924.000	PK	43.5	31.2	5.3	31.9	48.1	73.9	25.8	
Vert	24620.000	PK	47.6	38.4	-1.0	32.2	52.8	73.9	21.1	NS
Vert	2483.500	AV	41.9	26.9	2.8	32.7	38.9	53.9	15.0	
Vert	4924.000	AV	35.9	31.2	5.3	31.9	40.5	53.9	13.4	
Vert	24620.000	AV	37.4	38.4	-1.0	32.2	42.6	53.9	11.3	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11b Tx 2412MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/10/2009	10/15/2009	10/13/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%	21 deg.C./ 50%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)	Seiki Oitani (30-1000MHz)
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	89.451	QP	32.1	7.8	8.0	32.1	15.8	43.5	27.7	
Hori	151.328	QP	33.2	14.5	8.7	32.0	24.4	43.5	19.1	
Hori	196.612	QP	32.8	16.4	9.1	31.9	26.4	43.5	17.1	
Hori	214.790	QP	29.4	16.8	9.2	31.9	23.5	43.5	20.0	
Hori	364.512	QP	37.6	17.3	10.3	32.0	33.2	46.0	12.8	
Hori	729.017	QP	35.2	22.7	12.5	32.0	38.4	46.0	7.6	
Hori	2390.000	PK	61.1	26.7	2.8	32.7	57.9	73.9	16.0	
Hori	2400.000	PK	81.3	26.7	2.8	32.7	78.1	-	-	See 20dBc Data Sheet
Hori	4824.000	PK	41.7	30.9	5.3	31.9	46.0	73.9	27.9	
Hori	24120.000	PK	46.6	38.2	-1.1	32.4	51.3	73.9	22.6	NS
Hori	2390.000	AV	48.3	26.7	2.8	32.7	45.1	53.9	8.8	
Hori	2400.000	AV	72.7	26.7	2.8	32.7	69.5	-	-	See 20dBc Data Sheet
Hori	4824.000	AV	31.7	30.9	5.3	31.9	36.0	53.9	17.9	
Hori	24120.000	AV	37.5	38.2	-1.1	32.4	42.2	53.9	11.7	NS
Vert	89.898	QP	42.5	7.8	8.0	32.1	26.2	43.5	17.3	
Vert	151.407	QP	38.9	14.5	8.7	32.0	30.1	43.5	13.4	
Vert	196.611	QP	37.7	16.4	9.1	31.9	31.3	43.5	12.2	
Vert	214.769	QP	34.8	16.8	9.2	31.9	28.9	43.5	14.6	
Vert	364.508	QP	38.9	17.3	10.3	32.0	34.5	46.0	11.5	
Vert	729.014	QP	33.4	22.7	12.5	32.0	36.6	46.0	9.4	
Vert	2390.000	PK	55.9	26.7	2.8	32.7	52.7	73.9	21.2	
Vert	2400.000	PK	76.6	26.7	2.8	32.7	73.4	-	-	See 20dBc Data Sheet
Vert	4824.000	PK	41.6	30.9	5.3	31.9	45.9	73.9	28.0	
Vert	24120.000	PK	46.8	38.2	-1.1	32.4	51.5	73.9	22.4	NS
Vert	2390.000	AV	43.6	26.7	2.8	32.7	40.4	53.9	13.5	
Vert	2400.000	AV	67.9	26.7	2.8	32.7	64.7	-	-	See 20dBc Data Sheet
Vert	4824.000	AV	33.2	30.9	5.3	31.9	37.5	53.9	16.4	
Vert	24120.000	AV	37.6	38.2	-1.1	32.4	42.3	53.9	11.6	NS

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/10/2009
Temperature/ Humidity	24 deg.C./ 40%
Engineer	Takeshi Choda
	(1-10GHz)
Mode	11g 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	99.8	26.8	2.8	32.7	96.7	-	-	Carrier
Hori	2400.000	PK	73.6	26.7	2.8	32.7	70.4	76.7	6.3	
Vert	2412.000	PK	95.5	26.8	2.8	32.7	92.4	-	-	Carrier
Vert	2400.000	PK	69.4	26.7	2.8	32.7	66.2	72.4	6.2	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)
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	4874.000	PK	42.1	31.0	5.3	31.9	46.5	73.9	27.4	
Hori	24370.000	PK	46.7	38.3	-1.1	32.3	51.6	73.9	22.3	NS
Hori	4874.000	AV	31.6	31.0	5.3	31.9	36.0	53.9	17.9	
Hori	24370.000	AV	37.0	38.3	-1.1	32.3	41.9	53.9	12.0	NS
Vert	4874.000	PK	40.1	31.0	5.3	31.9	44.5	73.9	29.4	
Vert	24370.000	PK	46.3	38.3	-1.1	32.3	51.2	73.9	22.7	NS
Vert	4874.000	AV	31.2	31.0	5.3	31.9	35.6	53.9	18.3	
Vert	24370.000	AV	36.9	38.3	-1.1	32.3	41.8	53.9	12.1	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11g Tx 2412MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)
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	2483.500	PK	63.1	26.9	2.8	32.7	60.1	73.9	13.8	
Hori	4924.000	PK	41.8	31.2	5.3	31.9	46.4	73.9	27.5	
Hori	24620.000	PK	47.7	38.4	-1.0	32.2	52.9	73.9	21.0	NS
Hori	2483.500	AV	49.3	26.9	2.8	32.7	46.3	53.9	7.6	
Hori	4924.000	AV	31.5	31.2	5.3	31.9	36.1	53.9	17.8	
Hori	24620.000	AV	37.7	38.4	-1.0	32.2	42.9	53.9	11.0	NS
Vert	2483.500	PK	59.1	26.9	2.8	32.7	56.1	73.9	17.8	
Vert	4924.000	PK	39.9	31.2	5.3	31.9	44.5	73.9	29.4	
Vert	24620.000	PK	47.2	38.4	-1.0	32.2	52.4	73.9	21.5	NS
Vert	2483.500	AV	46.4	26.9	2.8	32.7	43.4	53.9	10.5	
Vert	4924.000	AV	30.6	31.2	5.3	31.9	35.2	53.9	18.7	
Vert	24620.000	AV	37.9	38.4	-1.0	32.2	43.1	53.9	10.8	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11g Tx 2412MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/10/2009	10/15/2009	10/13/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%	21 deg.C./ 50%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)	Seiki Oitani (30-1000MHz)
Mode	11n-20 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	73.567	QP	34.4	6.3	7.8	32.0	16.5	40.0	23.5	
Hori	89.301	QP	34.0	7.8	8.0	32.1	17.7	43.5	25.8	
Hori	128.848	QP	34.0	13.3	8.5	32.1	23.7	43.5	19.8	
Hori	196.606	QP	31.6	16.4	9.1	31.9	25.2	43.5	18.3	
Hori	364.501	QP	42.0	17.3	10.3	32.0	37.6	46.0	8.4	
Hori	729.007	QP	36.0	22.7	12.5	32.0	39.2	46.0	6.8	
Hori	2390.000	PK	65.9	26.7	2.8	32.7	62.7	73.9	11.2	
Hori	2400.000	PK	80.1	26.7	2.8	32.7	76.9	-	-	See 20dBc Data Sheet
Hori	4824.000	PK	41.7	30.9	5.3	31.9	46.0	73.9	27.9	
Hori	24120.000	PK	47.1	38.2	-1.1	32.4	51.8	73.9	22.9	NS
Hori	2390.000	AV	50.5	26.7	2.8	32.7	47.3	53.9	6.6	
Hori	2400.000	AV	71.8	26.7	2.8	32.7	68.6	-	-	See 20dBc Data Sheet
Hori	4824.000	AV	30.8	30.9	5.3	31.9	35.1	53.9	18.8	
Hori	24120.000	AV	37.4	38.2	-1.1	32.4	42.1	53.9	11.8	NS
Vert	73.781	QP	43.2	6.3	7.9	32.0	25.4	40.0	14.6	
Vert	88.941	QP	44.4	7.7	8.0	32.1	28.0	43.5	15.5	
Vert	130.110	QP	41.0	13.3	8.5	32.1	30.7	43.5	12.8	
Vert	196.642	QP	34.3	16.4	9.1	31.9	27.9	43.5	15.6	
Vert	364.507	QP	40.0	17.3	10.3	32.0	35.6	46.0	10.4	
Vert	729.011	QP	33.4	22.7	12.5	32.0	36.6	46.0	9.4	
Vert	2390.000	PK	60.3	26.7	2.8	32.7	57.1	73.9	16.8	
Vert	2400.000	PK	75.2	26.7	2.8	32.7	72.0	-	-	See 20dBc Data Sheet
Vert	4824.000	PK	41.8	30.9	5.3	31.9	46.1	73.9	27.8	
Vert	24120.000	PK	46.4	38.2	-1.1	32.4	51.1	73.9	22.7	NS
Vert	2390.000	AV	45.5	26.7	2.8	32.7	42.3	53.9	11.6	
Vert	2400.000	AV	67.4	26.7	2.8	32.7	64.2	-	-	See 20dBc Data Sheet
Vert	4824.000	AV	32.2	30.9	5.3	31.9	36.5	53.9	17.4	
Vert	24120.000	AV	37.7	38.2	-1.1	32.4	42.4	53.9	11.5	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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/10/2009
Temperature/ Humidity	24 deg.C./ 40%
Engineer	Takeshi Choda
	(1-10GHz)
Mode	11n-20 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	99.7	26.8	2.8	32.7	96.6	-	-	Carrier
Hori	2400.000	PK	73.7	26.7	2.8	32.7	70.5	76.6	6.1	
Vert	2412.000	PK	95.6	26.8	2.8	32.7	92.5	-	-	Carrier
Vert	2400.000	PK	69.2	26.7	2.8	32.7	66.0	72.5	6.5	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)
Mode	11n-20 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	4874.000	PK	40.2	31.0	5.3	31.9	44.6	73.9	29.3	
Hori	24370.000	PK	47.5	38.3	-1.1	32.3	52.4	73.9	21.5	NS
Hori	4874.000	AV	30.5	31.0	5.3	31.9	34.9	53.9	19.0	
Hori	24370.000	AV	37.3	38.3	-1.1	32.3	42.2	53.9	11.7	NS
Vert	4874.000	PK	39.9	31.0	5.3	31.9	44.3	73.9	29.6	
Vert	24370.000	PK	47.1	38.3	-1.1	32.3	52.0	73.9	21.9	NS
Vert	4874.000	AV	30.8	31.0	5.3	31.9	35.2	53.9	18.7	
Vert	24370.000	AV	37.1	38.3	-1.1	32.3	42.0	53.9	11.9	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-20 Tx 2412MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda	Takeshi Choda
	(1-10GHz)	(10-26.5GHz)
Mode	11n-20 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	2483.500	PK	65.2	26.9	2.8	32.7	62.2	73.9	11.7	
Hori	4924.000	PK	40.6	31.2	5.3	31.9	45.2	73.9	28.7	
Hori	24620.000	PK	47.7	38.4	-1.0	32.2	52.9	73.9	21.0	NS
Hori	2483.500	AV	51.0	26.9	2.8	32.7	48.0	53.9	5.9	
Hori	4924.000	AV	30.9	31.2	5.3	31.9	35.5	53.9	18.4	
Hori	24620.000	AV	36.9	38.4	-1.0	32.2	42.1	53.9	11.8	NS
Vert	2483.500	PK	62.5	26.9	2.8	32.7	59.5	73.9	14.4	
Vert	4924.000	PK	41.2	31.2	5.3	31.9	45.8	73.9	28.1	
Vert	24620.000	PK	47.6	38.4	-1.0	32.2	52.8	73.9	21.1	NS
Vert	2483.500	AV	48.4	26.9	2.8	32.7	45.4	53.9	8.5	
Vert	4924.000	AV	30.0	31.2	5.3	31.9	34.6	53.9	19.3	
Vert	24620.000	AV	37.2	38.4	-1.0	32.2	42.4	53.9	11.5	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-20 Tx 2412MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/13/2009	10/15/2009	10/13/2009
Temperature/ Humidity	24 deg.C./ 47%	22 deg.C./ 51%	21 deg.C./ 50%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)	Seiki Oitani (30-1000MHz)
Mode	11n-40 Tx 2422MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	90.801	QP	33.4	8.0	8.0	32.1	17.3	43.5	26.2	
Hori	157.381	QP	35.4	14.9	8.8	32.0	27.1	43.5	16.4	
Hori	196.602	QP	32.8	16.4	9.1	31.9	26.4	43.5	17.1	
Hori	214.776	QP	29.8	16.8	9.2	31.9	23.9	43.5	19.6	
Hori	364.505	QP	36.2	17.3	10.3	32.0	31.8	46.0	14.2	
Hori	729.017	QP	35.2	22.7	12.5	32.0	38.4	46.0	7.6	
Hori	2390.000	PK	67.0	26.7	2.8	32.7	63.8	73.9	10.1	
Hori	2400.000	PK	79.2	26.7	2.8	32.7	76.0	-	-	See 20dBc Data Sheet
Hori	4844.000	PK	39.9	30.9	5.3	31.9	44.2	73.9	29.7	
Hori	24220.000	PK	47.4	38.2	-1.1	32.4	52.1	73.9	21.8	NS
Hori	2390.000	AV	56.6	26.7	2.8	32.7	53.4	53.9	0.5	
Hori	2400.000	AV	70.8	26.7	2.8	32.7	67.6	-	-	See 20dBc Data Sheet
Hori	4844.000	AV	31.4	30.9	5.3	31.9	35.7	53.9	18.2	
Hori	24220.000	AV	37.1	38.2	-1.1	32.4	41.8	53.9	12.1	NS
Vert	90.882	QP	42.5	8.0	8.0	32.1	26.4	43.5	17.1	
Vert	157.521	QP	39.7	15.0	8.8	32.0	31.5	43.5	12.0	
Vert	196.603	QP	38.8	16.4	9.1	31.9	32.4	43.5	11.1	
Vert	214.778	QP	35.5	16.8	9.2	31.9	29.6	43.5	13.9	
Vert	364.510	QP	34.9	17.3	10.3	32.0	30.5	46.0	15.5	
Vert	729.018	QP	32.3	22.7	12.5	32.0	35.5	46.0	10.5	
Vert	2390.000	PK	62.6	26.7	2.8	32.7	59.4	73.9	14.5	
Vert	2400.000	PK	75.8	26.7	2.8	32.7	72.6	-	-	See 20dBc Data Sheet
Vert	4844.000	PK	40.4	30.9	5.3	31.9	44.7	73.9	29.2	
Vert	24220.000	PK	47.5	38.2	-1.1	32.4	52.2	73.9	21.7	NS
Vert	2390.000	AV	52.7	26.7	2.8	32.7	49.5	53.9	4.4	
Vert	2400.000	AV	64.7	26.7	2.8	32.7	61.5	-	-	See 20dBc Data Sheet
Vert	4844.000	AV	32.5	30.9	5.3	31.9	36.8	53.9	17.1	
Vert	24220.000	AV	37.5	38.2	-1.1	32.4	42.2	53.9	11.7	NS

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/13/2009
Temperature/ Humidity	24 deg.C./ 47%
Engineer	Takeshi Choda
	(1-10GHz)
Mode	11n-40 Tx 2422MHz

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	98.3	26.8	2.8	32.7	95.2	-	-	Carrier
Hori	2400.000	PK	69.3	26.7	2.8	32.7	66.1	75.2	9.1	
Vert	2412.000	PK	94.3	26.8	2.8	32.7	91.2	-	-	Carrier
Vert	2400.000	PK	65.7	26.7	2.8	32.7	62.5	71.2	8.7	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/13/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 47%	22 deg.C./ 51%
Engineer	Takeshi Choda (1-10GHz)	Takeshi Choda (10-26.5GHz)
Mode	11n-40 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	4874.000	PK	40.0	31.0	5.3	31.9	44.4	73.9	29.5	
Hori	24370.000	PK	47.4	38.3	-1.1	32.3	52.3	73.9	21.6	NS
Hori	4874.000	AV	31.5	31.0	5.3	31.9	35.9	53.9	18.0	
Hori	24370.000	AV	36.9	38.3	-1.1	32.3	41.8	53.9	12.1	NS
Vert	4874.000	PK	40.7	31.0	5.3	31.9	45.1	73.9	28.8	
Vert	24370.000	PK	47.3	38.3	-1.1	32.3	52.2	73.9	21.7	NS
Vert	4874.000	AV	31.8	31.0	5.3	31.9	36.2	53.9	17.7	
Vert	24370.000	AV	36.8	38.3	-1.1	32.3	41.7	53.9	12.2	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-40 Tx 2422MHz and it was verified to be satisfied section 15.209 limit.*

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Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/10/2009	10/15/2009
Temperature/ Humidity	24 deg.C./ 40%	22 deg.C./ 51%
Engineer	Takeshi Choda	Takeshi Choda
	(1-10GHz)	(10-26.5GHz)
Mode	11n-40 Tx 2452MHz	

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	67.0	26.9	2.8	32.7	64.0	73.9	9.9	
Hori	4904.000	PK	39.9	31.1	5.3	31.9	44.4	73.9	29.5	
Hori	24520.000	PK	46.8	38.3	-1.0	32.3	51.8	73.9	22.1	NS
Hori	2483.500	AV	56.1	26.9	2.8	32.7	53.1	53.9	0.8	
Hori	4904.000	AV	31.6	31.1	5.3	31.9	36.1	53.9	17.8	
Hori	24520.000	AV	37.7	38.3	-1.0	32.3	42.7	53.9	11.2	NS
Vert	2483.500	PK	65.1	26.9	2.8	32.7	62.1	73.9	11.8	
Vert	4904.000	PK	39.9	31.1	5.3	31.9	44.4	73.9	29.5	
Vert	24520.000	PK	47.3	38.3	-1.0	32.3	52.3	73.9	21.6	NS
Vert	2483.500	AV	53.0	26.9	2.8	32.7	50.0	53.9	3.9	
Vert	4904.000	AV	31.7	31.1	5.3	31.9	36.2	53.9	17.7	
Vert	24520.000	AV	37.1	38.3	-1.0	32.3	42.1	53.9	11.8	NS

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-40 Tx 2422MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/13/2009	10/16/2009
Temperature/ Humidity	21 deg.C./ 50%	24 deg.C./ 55%
Engineer	Seiki Oitani	Takeshi Choda
	(30-1000MHz)	(1-10GHz)
Mode	11b Rx 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	90.167	QP	33.2	7.9	8.0	32.1	17.0	43.5	26.5	
Hori	157.525	QP	31.4	15.0	8.8	32.0	23.2	43.5	20.3	
Hori	196.595	QP	32.9	16.4	9.1	31.9	26.5	43.5	17.0	
Hori	214.763	QP	29.2	16.8	9.2	31.9	23.3	43.5	20.2	
Hori	364.504	QP	38.0	17.3	10.3	32.0	33.6	46.0	12.4	
Hori	729.018	QP	37.1	22.7	12.5	32.0	40.3	46.0	5.7	
Hori	2437.000	PK	44.4	27.2	2.8	32.3	42.1	73.9	31.8	
Hori	4874.000	PK	42.9	31.8	3.4	31.4	46.7	73.9	27.2	NS
Hori	7311.000	PK	43.4	36.1	4.2	31.9	51.8	73.9	22.1	NS
Hori	2437.000	AV	36.5	27.2	2.8	32.3	34.2	53.9	19.7	
Hori	4874.000	AV	32.6	31.8	3.4	31.4	36.4	53.9	17.5	NS
Hori	7311.000	AV	34.1	36.1	4.2	31.9	42.5	53.9	11.4	NS
Vert	90.180	QP	41.8	7.9	8.0	32.1	25.6	43.5	17.9	
Vert	157.533	QP	35.6	15.0	8.8	32.0	27.4	43.5	16.1	
Vert	196.604	QP	38.2	16.4	9.1	31.9	31.8	43.5	11.7	
Vert	214.766	QP	34.9	16.8	9.2	31.9	29.0	43.5	14.5	
Vert	364.516	QP	34.4	17.3	10.3	32.0	30.0	46.0	16.0	
Vert	729.020	QP	32.2	22.7	12.5	32.0	35.4	46.0	10.6	
Vert	2437.000	PK	44.9	27.2	2.8	32.3	42.6	73.9	31.3	
Vert	4874.000	PK	42.5	31.8	3.4	31.4	46.3	73.9	27.6	NS
Vert	7311.000	PK	43.2	36.1	4.2	31.9	51.6	73.9	22.3	NS
Vert	2437.000	AV	34.1	27.2	2.8	32.3	31.8	53.9	22.1	
Vert	4874.000	AV	33.1	31.8	3.4	31.4	36.9	53.9	17.0	NS
Vert	7311.000	AV	33.5	36.1	4.2	31.9	41.9	53.9	12.0	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 2nd and 3rd harmonics were 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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/13/2009	10/16/2009
Temperature/ Humidity	21 deg.C./ 50%	24 deg.C./ 55%
Engineer	Seiki Oitani	Takeshi Choda
	(30-1000MHz)	(1-10GHz)
Mode	11g Rx 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	90.144	QP	33.0	7.9	8.0	32.1	16.8	43.5	26.7	
Hori	157.523	QP	31.1	15.0	8.8	32.0	22.9	43.5	20.6	
Hori	196.601	QP	32.5	16.4	9.1	31.9	26.1	43.5	17.4	
Hori	214.760	QP	29.0	16.8	9.2	31.9	23.1	43.5	20.4	
Hori	364.498	QP	38.5	17.3	10.3	32.0	34.1	46.0	11.9	
Hori	729.016	QP	36.3	22.7	12.5	32.0	39.5	46.0	6.5	
Hori	2437.000	PK	45.0	27.2	2.8	32.3	42.7	73.9	31.2	
Hori	4874.000	PK	42.8	31.8	3.4	31.4	46.6	73.9	27.3	NS
Hori	7311.000	PK	44.2	36.1	4.2	31.9	52.6	73.9	21.3	NS
Hori	2437.000	AV	37.3	27.2	2.8	32.3	35.0	53.9	18.9	
Hori	4874.000	AV	32.4	31.8	3.4	31.4	36.2	53.9	17.7	NS
Hori	7311.000	AV	33.5	36.1	4.2	31.9	41.9	53.9	12.0	NS
Vert	90.175	QP	41.1	7.9	8.0	32.1	24.9	43.5	18.6	
Vert	157.528	QP	35.4	15.0	8.8	32.0	27.2	43.5	16.3	
Vert	196.602	QP	37.7	16.4	9.1	31.9	31.3	43.5	12.2	
Vert	214.762	QP	34.7	16.8	9.2	31.9	28.8	43.5	14.7	
Vert	364.501	QP	33.9	17.3	10.3	32.0	29.5	46.0	16.5	
Vert	729.022	QP	32.3	22.7	12.5	32.0	35.5	46.0	10.5	
Vert	2437.000	PK	44.1	27.2	2.8	32.3	41.8	73.9	32.1	
Vert	4874.000	PK	43.0	31.8	3.4	31.4	46.8	73.9	27.1	NS
Vert	7311.000	PK	43.7	36.1	4.2	31.9	52.1	73.9	21.8	NS
Vert	2437.000	AV	34.2	27.2	2.8	32.3	31.9	53.9	22.0	
Vert	4874.000	AV	33.0	31.8	3.4	31.4	36.8	53.9	17.1	NS
Vert	7311.000	AV	33.6	36.1	4.2	31.9	42.0	53.9	11.9	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 2nd and 3rd harmonics were 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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/13/2009	10/16/2009
Temperature/ Humidity	21 deg.C./ 50%	24 deg.C./ 55%
Engineer	Seiki Oitani	Takeshi Choda
	(30-1000MHz)	(1-10GHz)
Mode	11n Rx 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	90.177	QP	33.0	7.9	8.0	32.1	16.8	43.5	26.7	
Hori	157.532	QP	31.0	15.0	8.8	32.0	22.8	43.5	20.7	
Hori	196.603	QP	33.3	16.4	9.1	31.9	26.9	43.5	16.6	
Hori	214.771	QP	29.8	16.8	9.2	31.9	23.9	43.5	19.6	
Hori	364.507	QP	38.4	17.3	10.3	32.0	34.0	46.0	12.0	
Hori	729.010	QP	37.5	22.7	12.5	32.0	40.7	46.0	5.3	
Hori	2437.000	PK	45.1	27.2	2.8	32.3	42.8	73.9	31.1	
Hori	4874.000	PK	42.4	31.8	3.4	31.4	46.2	73.9	27.7	NS
Hori	7311.000	PK	43.1	36.1	4.2	31.9	51.5	73.9	22.4	NS
Hori	2437.000	AV	37.5	27.2	2.8	32.3	35.2	53.9	18.7	
Hori	4874.000	AV	32.7	31.8	3.4	31.4	36.5	53.9	17.4	NS
Hori	7311.000	AV	33.0	36.1	4.2	31.9	41.4	53.9	12.5	NS
Vert	90.181	QP	42.0	7.9	8.0	32.1	25.8	43.5	17.7	
Vert	157.535	QP	35.2	15.0	8.8	32.0	27.0	43.5	16.5	
Vert	196.606	QP	38.6	16.4	9.1	31.9	32.2	43.5	11.3	
Vert	214.773	QP	35.3	16.8	9.2	31.9	29.4	43.5	14.1	
Vert	364.511	QP	34.0	17.3	10.3	32.0	29.6	46.0	16.4	
Vert	729.015	QP	32.8	22.7	12.5	32.0	36.0	46.0	10.0	
Vert	2437.000	PK	44.3	27.2	2.8	32.3	42.0	73.9	31.9	
Vert	4874.000	PK	42.3	31.8	3.4	31.4	46.1	73.9	27.8	NS
Vert	7311.000	PK	42.6	36.1	4.2	31.9	51.0	73.9	22.9	NS
Vert	2437.000	AV	34.7	27.2	2.8	32.3	32.4	53.9	21.5	
Vert	4874.000	AV	32.6	31.8	3.4	31.4	36.4	53.9	17.5	NS
Vert	7311.000	AV	33.4	36.1	4.2	31.9	41.8	53.9	12.1	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 2nd and 3rd harmonics were 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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz) (30-1000MHz)
Mode	11a Tx 5745MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	91.462	QP	33.6	7.8	8.0	32.1	17.3	43.5	26.2	
Hori	143.992	QP	36.2	14.2	8.6	32.1	26.9	43.5	16.6	
Hori	196.603	QP	34.4	16.5	9.1	32.1	27.9	43.5	15.6	
Hori	214.767	QP	31.0	16.9	9.2	32.0	25.1	43.5	18.4	
Hori	364.529	QP	36.9	16.4	10.3	32.0	31.6	46.0	14.4	
Hori	729.007	QP	37.3	20.6	12.5	31.9	38.5	46.0	7.5	
Hori	5725.000	PK	62.7	32.4	4.2	32.0	67.3	-	-	See 20dBc Data Sheet
Hori	11490.000	PK	41.3	39.6	-2.2	33.5	45.2	73.9	28.7	
Hori	17235.000	PK	46.7	40.9	-1.2	33.3	53.1	73.9	20.8	
Hori	34470.000	PK	40.1	41.4	-2.6	25.2	53.7	73.9	20.2	NS
Hori	5725.000	AV	44.5	32.4	4.2	32.0	49.1	-	-	See 20dBc Data Sheet
Hori	11490.000	AV	31.9	39.6	-2.2	33.5	35.8	53.9	18.1	
Hori	17235.000	AV	34.9	40.9	-1.2	33.3	41.3	53.9	12.6	
Hori	34470.000	AV	29.3	41.4	-2.6	25.2	42.9	53.9	11.0	NS
Vert	91.683	QP	43.5	7.9	8.0	32.1	27.3	43.5	16.2	
Vert	143.992	QP	39.5	14.2	8.6	32.1	30.2	43.5	13.3	
Vert	196.603	QP	36.9	16.5	9.1	32.1	30.4	43.5	13.1	
Vert	214.767	QP	28.6	16.9	9.2	32.0	22.7	43.5	20.8	
Vert	364.503	QP	35.9	16.4	10.3	32.0	30.6	46.0	15.4	
Vert	729.008	QP	37.3	20.6	12.5	31.9	38.5	46.0	7.5	
Vert	5725.000	PK	65.2	32.4	4.2	32.0	69.8	-	-	See 20dBc Data Sheet
Vert	11490.000	PK	41.4	39.6	-2.2	33.5	45.3	73.9	28.6	
Vert	17235.000	PK	46.0	40.9	-1.2	33.3	52.4	73.9	21.5	
Vert	34470.000	PK	39.8	41.4	-2.6	25.2	53.4	73.9	20.5	NS
Vert	5725.000	AV	47.5	32.4	4.2	32.0	52.1	-	-	See 20dBc Data Sheet
Vert	11490.000	AV	31.3	39.6	-2.2	33.5	35.2	53.9	18.7	
Vert	17235.000	AV	34.5	40.9	-1.2	33.3	40.9	53.9	13.0	
Vert	34470.000	AV	29.2	41.4	-2.6	25.2	42.8	53.9	11.1	NS

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

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

*The 6th 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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/15/2009
Temperature/ Humidity	23 deg.C./ 51%
Engineer	Tomotaka Sasagawa (1-18GHz)
Mode	11a Tx 5745MHz

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	5745.000	PK	95.7	32.5	4.2	32.0	100.4	-	-	Carrier
Hori	5725.000	PK	48.8	32.4	4.2	32.0	53.4	80.4	27.0	
Vert	5745.000	PK	95.8	32.5	4.2	32.0	100.5	-	-	Carrier
Vert	5725.000	PK	51.7	32.4	4.2	32.0	56.3	80.5	24.2	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz)
Mode	11a Tx 5785MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	11570.000	PK	41.9	39.6	-2.3	33.6	45.6	73.9	28.3	
Hori	17355.000	PK	46.5	41.5	-1.1	33.3	53.6	73.9	20.3	
Hori	11570.000	AV	31.4	39.6	-2.3	33.6	35.1	53.9	18.8	
Hori	17355.000	AV	34.5	41.5	-1.1	33.3	41.6	53.9	12.3	
Vert	11570.000	PK	42.1	39.6	-2.3	33.6	45.8	73.9	28.1	
Vert	17355.000	PK	46.9	41.5	-1.1	33.3	54.0	73.9	19.9	
Vert	11570.000	AV	31.2	39.6	-2.3	33.6	34.9	53.9	19.0	
Vert	17355.000	AV	34.8	41.5	-1.1	33.3	41.9	53.9	12.0	

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11a Tx 5745MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz)
Mode	11a Tx 5825MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	5850.000	PK	57.4	32.6	4.2	32.0	62.2	73.9	11.7	
Hori	11650.000	PK	42.1	39.6	-2.2	33.6	45.9	73.9	28.0	
Hori	17475.000	PK	46.7	42.2	-1.1	33.3	54.5	73.9	19.4	
Hori	5850.000	AV	38.1	32.6	4.2	32.0	42.9	53.9	11.0	
Hori	11650.000	AV	31.9	39.6	-2.2	33.6	35.7	53.9	18.2	
Hori	17475.000	AV	34.5	42.2	-1.1	33.3	42.3	53.9	11.6	
Vert	5850.000	PK	56.9	32.6	4.2	32.0	61.7	73.9	12.2	
Vert	11650.000	PK	42.9	39.6	-2.2	33.6	46.7	73.9	27.2	
Vert	17475.000	PK	46.9	42.2	-1.1	33.3	54.7	73.9	19.2	
Vert	5850.000	AV	38.8	32.6	4.2	32.0	43.6	53.9	10.3	
Vert	11650.000	AV	31.7	39.6	-2.2	33.6	35.5	53.9	18.4	
Vert	17475.000	AV	34.1	42.2	-1.1	33.3	41.9	53.9	12.0	

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11a Tx 5745MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz), (30-1000MHz)
Mode	11n-20 Tx 5745MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	91.696	QP	32.6	7.9	8.0	32.1	16.4	43.5	27.1	
Hori	143.992	QP	36.1	14.2	8.6	32.1	26.8	43.5	16.7	
Hori	196.603	QP	34.8	16.5	9.1	32.1	28.3	43.5	15.2	
Hori	214.768	QP	28.6	16.9	9.2	32.0	22.7	43.5	20.8	
Hori	364.503	QP	37.8	16.4	10.3	32.0	32.5	46.0	13.5	
Hori	729.007	QP	37.5	20.6	12.5	31.9	38.7	46.0	7.3	
Hori	5725.000	PK	65.0	32.4	4.2	32.0	69.6	-	-	See 20dBc Data Sheet
Hori	11490.000	PK	41.6	39.6	-2.2	33.5	45.5	73.9	28.4	
Hori	17235.000	PK	46.3	40.9	-1.2	33.3	52.7	73.9	21.2	
Hori	34470.000	PK	41.3	41.4	-2.6	25.2	54.9	73.9	19.0	NS
Hori	5725.000	AV	46.7	32.4	4.2	32.0	51.3	-	-	See 20dBc Data Sheet
Hori	11490.000	AV	31.7	39.6	-2.2	33.5	35.6	53.9	18.3	
Hori	17235.000	AV	34.5	40.9	-1.2	33.3	40.9	53.9	13.0	
Hori	34470.000	AV	29.3	41.4	-2.6	25.2	42.9	53.9	11.0	NS
Vert	91.524	QP	43.1	7.9	8.0	32.1	26.9	43.5	16.6	
Vert	143.992	QP	41.0	14.2	8.6	32.1	31.7	43.5	11.8	
Vert	196.603	QP	37.1	16.5	9.1	32.1	30.6	43.5	12.9	
Vert	214.767	QP	29.2	16.9	9.2	32.0	23.3	43.5	20.2	
Vert	364.503	QP	33.4	16.4	10.3	32.0	28.1	46.0	17.9	
Vert	729.007	QP	37.0	20.6	12.5	31.9	38.2	46.0	7.8	
Vert	5725.000	PK	67.4	32.4	4.2	32.0	72.0	-	-	See 20dBc Data Sheet
Vert	11490.000	PK	41.7	39.6	-2.2	33.5	45.6	73.9	28.3	
Vert	17235.000	PK	45.9	40.9	-1.2	33.3	52.3	73.9	21.6	
Vert	34470.000	PK	39.5	41.4	-2.6	25.2	53.1	73.9	20.8	NS
Vert	5725.000	AV	49.5	32.4	4.2	32.0	54.1	-	-	See 20dBc Data Sheet
Vert	11490.000	AV	31.4	39.6	-2.2	33.5	35.3	53.9	18.6	
Vert	17235.000	AV	34.2	40.9	-1.2	33.3	40.6	53.9	13.3	
Vert	34470.000	AV	29.2	41.4	-2.6	25.2	42.8	53.9	11.1	NS

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

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

*The 6th 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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/15/2009
Temperature/ Humidity	23 deg.C./ 51%
Engineer	Tomotaka Sasagawa (1-18GHz)
Mode	11n-20 Tx 5745MHz

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	5745.000	PK	96.8	32.5	4.2	32.0	101.5	-	-	Carrier
Hori	5725.000	PK	49.3	32.4	4.2	32.0	53.9	81.5	27.6	
Vert	5745.000	PK	95.9	32.5	4.2	32.0	100.6	-	-	Carrier
Vert	5725.000	PK	51.9	32.4	4.2	32.0	56.5	80.6	24.1	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz)
Mode	11n-20 Tx 5785MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	11570.000	PK	42.3	39.6	-2.3	33.6	46.0	73.9	27.9	
Hori	17355.000	PK	46.9	41.5	-1.1	33.3	54.0	73.9	19.9	
Hori	11570.000	AV	30.8	39.6	-2.3	33.6	34.5	53.9	19.4	
Hori	17355.000	AV	34.1	41.5	-1.1	33.3	41.2	53.9	12.7	
Vert	11570.000	PK	41.9	39.6	-2.3	33.6	45.6	73.9	28.3	
Vert	17355.000	PK	47.1	41.5	-1.1	33.3	54.2	73.9	19.7	
Vert	11570.000	AV	30.9	39.6	-2.3	33.6	34.6	53.9	19.3	
Vert	17355.000	AV	34.2	41.5	-1.1	33.3	41.3	53.9	12.6	

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-20 Tx 5745MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz)
Mode	11n-20 Tx 5825MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	5850.000	PK	58.3	32.6	4.2	32.0	63.1	73.9	10.8	
Hori	11650.000	PK	41.8	39.6	-2.2	33.6	45.6	73.9	28.3	
Hori	17475.000	PK	47.1	42.2	-1.1	33.3	54.9	73.9	19.0	
Hori	5850.000	AV	38.5	32.6	4.2	32.0	43.3	53.9	10.6	
Hori	11650.000	AV	32.5	39.6	-2.2	33.6	36.3	53.9	17.6	
Hori	17475.000	AV	34.6	42.2	-1.1	33.3	42.4	53.9	11.5	
Vert	5850.000	PK	57.2	32.6	4.2	32.0	62.0	73.9	11.9	
Vert	11650.000	PK	41.7	39.6	-2.2	33.6	45.5	73.9	28.4	
Vert	17475.000	PK	46.2	42.2	-1.1	33.3	54.0	73.9	19.9	
Vert	5850.000	AV	38.9	32.6	4.2	32.0	43.7	53.9	10.2	
Vert	11650.000	AV	31.9	39.6	-2.2	33.6	35.7	53.9	18.2	

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-20 Tx 5745MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	23 deg.C./ 51%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (18-26.5GHz)	Takeshi Choda (26.5-40GHz)
Mode	11n-40 Tx 5755MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	91.683	QP	32.0	7.9	8.0	32.1	15.8	43.5	27.7	
Hori	143.991	QP	37.7	14.2	8.6	32.1	28.4	43.5	15.1	
Hori	196.603	QP	35.5	16.5	9.1	32.1	29.0	43.5	14.5	
Hori	214.767	QP	29.7	16.9	9.2	32.0	23.8	43.5	19.7	
Hori	364.503	QP	37.7	16.4	10.3	32.0	32.4	46.0	13.6	
Hori	730.665	QP	38.1	20.6	12.5	31.9	39.3	46.0	6.7	
Hori	5725.000	PK	62.2	32.4	4.2	32.0	66.8	-	-	See 20dBc Data Sheet
Hori	11510.000	PK	41.5	39.6	-2.2	33.5	45.4	73.9	28.5	
Hori	17265.000	PK	46.9	41.1	-1.1	33.3	53.6	73.9	20.3	
Hori	34530.000	PK	39.0	41.4	-2.6	25.2	52.6	73.9	21.3	NS
Hori	5725.000	AV	48.4	32.4	4.2	32.0	53.0	-	-	See 20dBc Data Sheet
Hori	11510.000	AV	32.1	39.6	-2.2	33.5	36.0	53.9	17.9	
Hori	17265.000	AV	34.5	41.1	-1.1	33.3	41.2	53.9	12.7	
Hori	34530.000	AV	29.5	41.4	-2.6	25.2	43.1	53.9	10.8	NS
Vert	91.430	QP	44.0	7.8	8.0	32.1	27.7	43.5	15.8	
Vert	143.992	QP	39.8	14.2	8.6	32.1	30.5	43.5	13.0	
Vert	196.603	QP	37.9	16.5	9.1	32.1	31.4	43.5	12.1	
Vert	214.768	QP	37.4	16.9	9.2	32.0	31.5	43.5	12.0	
Vert	364.504	QP	33.8	16.4	10.3	32.0	28.5	46.0	17.5	
Vert	729.007	QP	33.2	20.6	12.5	31.9	34.4	46.0	11.6	
Vert	5725.000	PK	64.2	32.4	4.2	32.0	68.8	-	-	See 20dBc Data Sheet
Vert	11510.000	PK	41.2	39.6	-2.2	33.5	45.1	73.9	28.8	
Vert	17265.000	PK	45.9	41.1	-1.1	33.3	52.6	73.9	21.3	
Vert	34530.000	PK	39.2	41.4	-2.6	25.2	52.8	73.9	21.1	NS
Vert	5725.000	AV	51.0	32.4	4.2	32.0	55.6	-	-	See 20dBc Data Sheet
Vert	11510.000	AV	31.4	39.6	-2.2	33.5	35.3	53.9	18.6	
Vert	17265.000	AV	34.2	41.1	-1.1	33.3	40.9	53.9	13.0	
Vert	34530.000	AV	29.5	41.4	-2.6	25.2	43.1	53.9	10.8	NS

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

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

*The 6th 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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	29LE0211-HO-02
Date	10/15/2009
Temperature/ Humidity	23 deg.C./ 51%
Engineer	Tomotaka Sasagawa (1-18GHz)
Mode	11n-40 Tx 5755MHz

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	5755.000	PK	95.7	32.5	4.2	32.0	100.4	-	-	Carrier
Hori	5725.000	PK	51.5	32.4	4.2	32.0	56.1	80.4	24.3	
Vert	5755.000	PK	94.2	32.5	4.2	32.0	98.9	-	-	Carrier
Vert	5725.000	PK	54.0	32.4	4.2	32.0	58.6	78.9	20.3	

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber	
Report No.	29LE0211-HO-02	
Date	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	23 deg.C./ 51%
Engineer	Tomotaka Sasagawa (1-18GHz)	Takeshi Choda (26.5-40GHz)
Mode	11n-40 Tx 5795MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	5850.000	PK	50.2	32.6	4.2	32.0	55.0	73.9	18.9	
Hori	11590.000	PK	41.9	39.6	-2.3	33.6	45.6	73.9	28.3	
Hori	17385.000	PK	46.5	41.7	-1.1	33.3	53.8	73.9	20.1	
Hori	5850.000	AV	33.7	32.6	4.2	32.0	38.5	53.9	15.4	
Hori	11590.000	AV	31.2	39.6	-2.3	33.6	34.9	53.9	19.0	
Hori	17385.000	AV	33.9	41.7	-1.1	33.3	41.2	53.9	12.7	
Vert	5850.000	PK	50.5	32.6	4.2	32.0	55.3	73.9	18.6	
Vert	11590.000	PK	42.1	39.6	-2.3	33.6	45.8	73.9	28.1	
Vert	17385.000	PK	46.7	41.7	-1.1	33.3	54.0	73.9	19.9	
Vert	5850.000	AV	34.7	32.6	4.2	32.0	39.5	53.9	14.4	
Vert	11590.000	AV	31.6	39.6	-2.3	33.6	35.3	53.9	18.6	
Vert	17385.000	AV	34.5	41.7	-1.1	33.3	41.8	53.9	12.1	

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

*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

** The noise level below 1GHz for this mode was equivalence noise level with 11n-40 Tx 5755MHz and it was verified to be satisfied section 15.209 limit.*

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-10GHz)	Takeshi Choda (10-18GHz)	Takeshi Choda (30-1000MHz)
Mode	11a Rx 5785MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	91.674	QP	32.1	7.9	8.0	32.1	15.9	43.5	27.6	
Hori	143.992	QP	36.4	14.2	8.6	32.1	27.1	43.5	16.4	
Hori	196.603	QP	35.3	16.5	9.1	32.1	28.8	43.5	14.7	
Hori	214.768	QP	28.9	16.9	9.2	32.0	23.0	43.5	20.5	
Hori	364.501	QP	37.8	16.4	10.3	32.0	32.5	46.0	13.5	
Hori	729.008	QP	37.4	20.6	12.5	31.9	38.6	46.0	7.4	
Hori	5785.000	PK	41.2	32.5	4.2	32.0	45.9	73.9	28.0	
Hori	11570.000	PK	42.3	39.6	-3.9	33.6	44.4	73.9	29.5	NS
Hori	17355.000	PK	43.6	41.5	-1.1	33.3	50.7	73.9	23.2	NS
Hori	5785.000	AV	30.8	32.5	4.2	32.0	35.5	53.9	18.4	
Hori	11570.000	AV	31.5	39.6	-3.9	33.6	33.6	53.9	20.3	NS
Hori	17355.000	AV	33.4	41.5	-1.1	33.3	40.5	53.9	13.4	NS
Vert	91.624	QP	42.7	7.9	8.0	32.1	26.5	43.5	17.0	
Vert	143.992	QP	41.9	14.2	8.6	32.1	32.6	43.5	10.9	
Vert	196.603	QP	37.6	16.5	9.1	32.1	31.1	43.5	12.4	
Vert	214.767	QP	29.2	16.9	9.2	32.0	23.3	43.5	20.2	
Vert	364.502	QP	33.4	16.4	10.3	32.0	28.1	46.0	17.9	
Vert	729.007	QP	36.7	20.6	12.5	31.9	37.9	46.0	8.1	
Vert	5785.000	PK	41.5	32.5	4.2	32.0	46.2	73.9	27.7	
Vert	11570.000	PK	42.1	39.6	-3.9	33.6	44.2	73.9	29.7	NS
Vert	17355.000	PK	43.1	41.5	-1.1	33.3	50.2	73.9	23.7	NS
Vert	5785.000	AV	30.5	32.5	4.2	32.0	35.2	53.9	18.7	
Vert	11570.000	AV	31.2	39.6	-3.9	33.6	33.3	53.9	20.6	NS
Vert	17355.000	AV	32.9	41.5	-1.1	33.3	40.0	53.9	13.9	NS

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

*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

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	29LE0211-HO-02		
Date	10/15/2009	10/15/2009	10/16/2009
Temperature/ Humidity	23 deg.C./ 51%	22 deg.C./ 51%	24 deg.C./ 55%
Engineer	Tomotaka Sasagawa (1-10GHz)	Takeshi Choda (10-18GHz)	Takeshi Choda (30-1000MHz)
Mode	11n Rx 5785MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	91.469	QP	33.9	7.9	8.0	32.1	17.7	43.5	25.8	
Hori	143.992	QP	36.1	14.2	8.6	32.1	26.8	43.5	16.7	
Hori	196.603	QP	35.1	16.5	9.1	32.1	28.6	43.5	14.9	
Hori	214.768	QP	31.5	16.9	9.2	32.0	25.6	43.5	17.9	
Hori	364.505	QP	37.2	16.4	10.3	32.0	31.9	46.0	14.1	
Hori	729.006	QP	37.2	20.6	12.5	31.9	38.4	46.0	7.6	
Hori	5785.000	PK	40.9	32.5	4.2	32.0	45.6	73.9	28.3	
Hori	11570.000	PK	41.9	39.6	-3.9	33.6	44.0	73.9	29.9	NS
Hori	17355.000	PK	43.6	41.5	-2.7	33.3	49.1	73.9	24.8	NS
Hori	5785.000	AV	30.2	32.5	4.2	32.0	34.9	53.9	19.0	
Hori	11570.000	AV	31.3	39.6	-3.9	33.6	33.4	53.9	20.5	NS
Hori	17355.000	AV	34.5	41.5	-2.7	33.3	40.0	53.9	13.9	NS
Vert	91.531	QP	43.7	7.9	8.0	32.1	27.5	43.5	16.0	
Vert	143.992	QP	39.4	14.2	8.6	32.1	30.1	43.5	13.4	
Vert	196.603	QP	37.4	16.5	9.1	32.1	30.9	43.5	12.6	
Vert	214.767	QP	29.6	16.9	9.2	32.0	23.7	43.5	19.8	
Vert	364.506	QP	35.7	16.4	10.3	32.0	30.4	46.0	15.6	
Vert	729.006	QP	36.8	20.6	12.5	31.9	38.0	46.0	8.0	
Vert	5785.000	PK	41.1	32.5	4.2	32.0	45.8	73.9	28.1	
Vert	11570.000	PK	42.2	39.6	-3.9	33.6	44.3	73.9	29.6	NS
Vert	17355.000	PK	44.2	41.5	-2.7	33.3	49.7	73.9	24.2	NS
Vert	5785.000	AV	30.2	32.5	4.2	32.0	34.9	53.9	19.0	
Vert	11570.000	AV	31.2	39.6	-3.9	33.6	33.3	53.9	20.6	NS
Vert	17355.000	AV	33.1	41.5	-2.7	33.3	38.6	53.9	15.3	NS

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

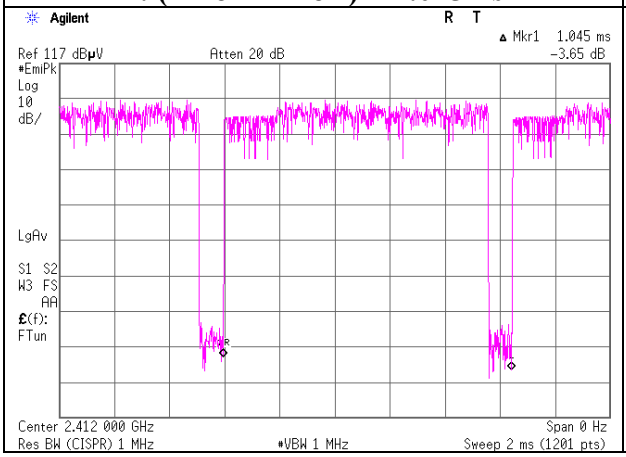
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

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

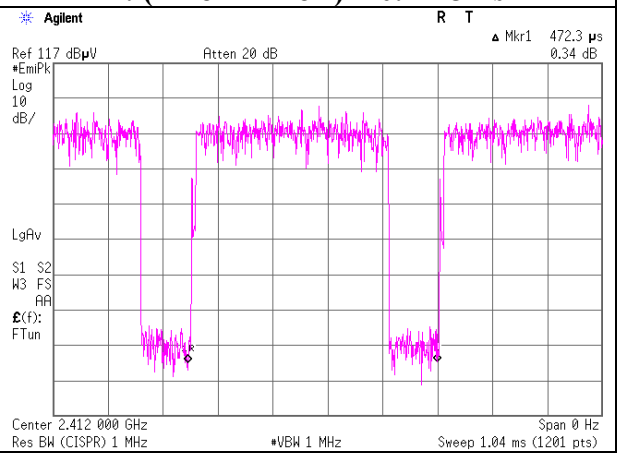
VBW (AV) Calculation

2.4G mode

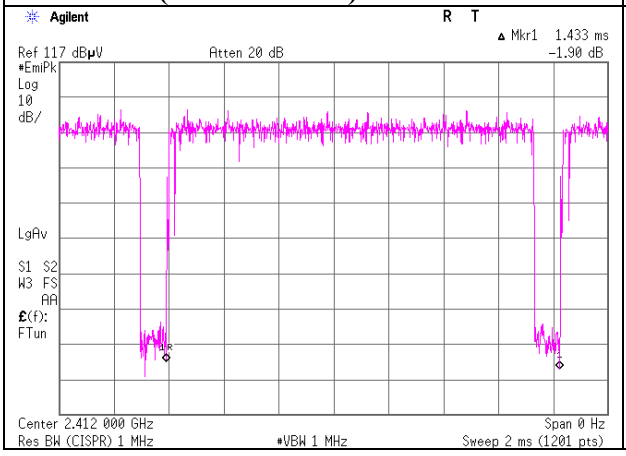
11b VBW: 1/x = 957Hz<1kHz
x: (Tx on+Tx off) = 1.045ms



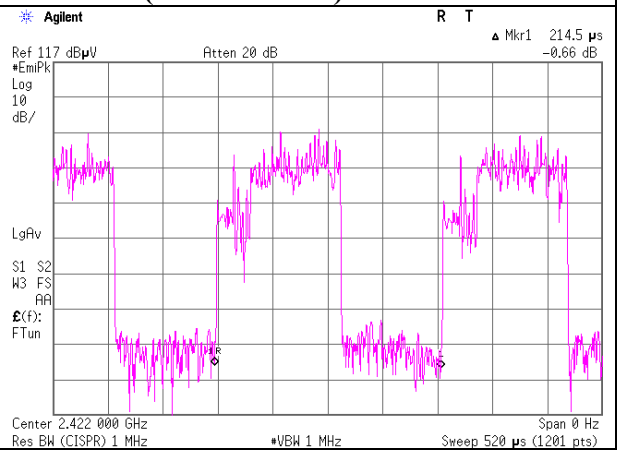
11g VBW: 1/x = 2.12kHz<2.2kHz
x: (Tx on+Tx off) = 0.4723ms



11n-20 VBW: 1/x = 698Hz<750Hz
x: (Tx on+Tx off) = 1.433ms

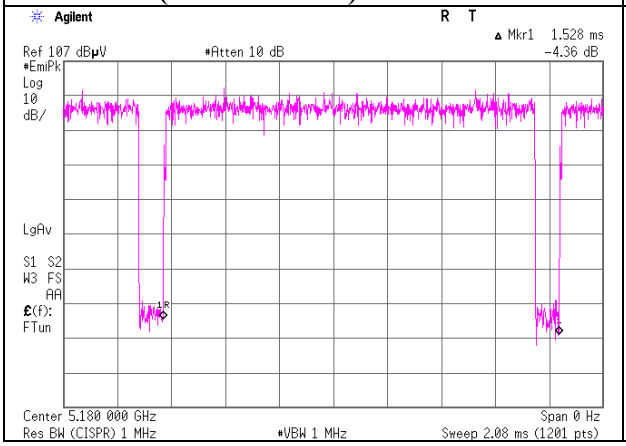


11n-40 VBW: 1/x = 4.66kHz<4.7kHz
x: (Tx on+Tx off) = 0.2145ms

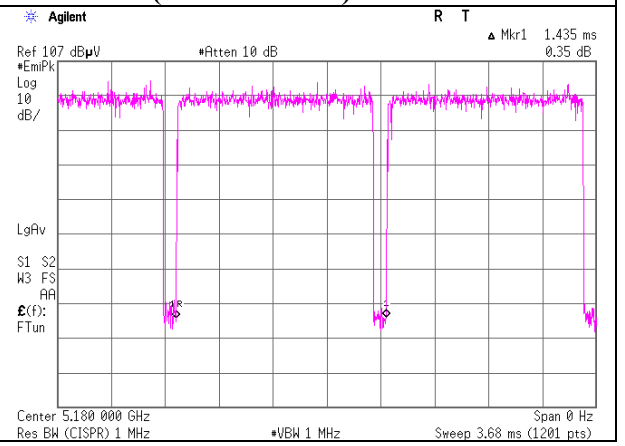


VBW (AV) Calculation
5G mode

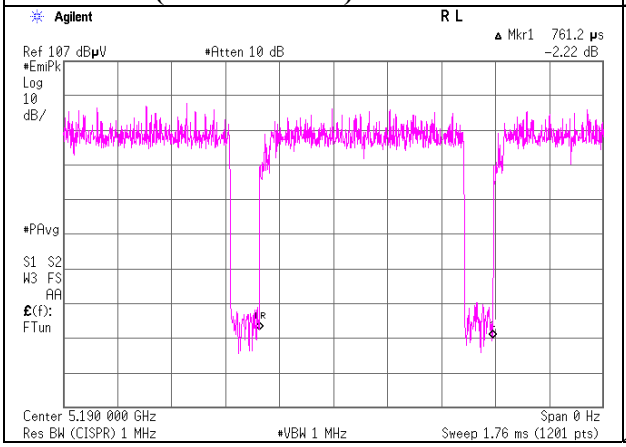
11a VBW: 1/x = 654Hz<680Hz
x: (Tx on+Tx off) = 1.528ms

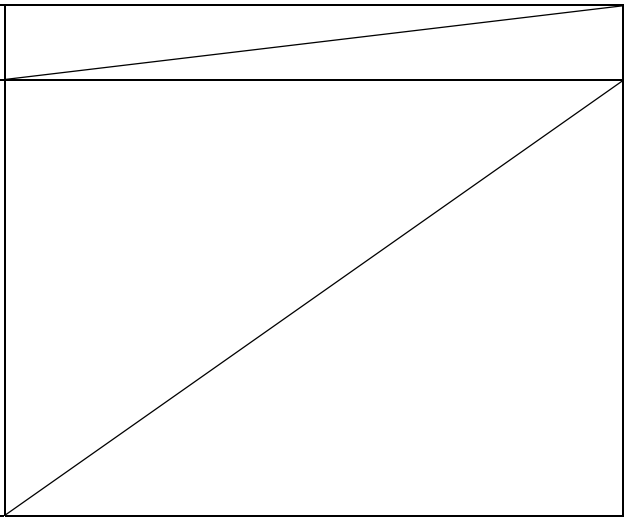


11n-20 VBW: 1/x = 696Hz<750Hz
x: (Tx on+Tx off) = 1.435ms



11n-40 VBW: 1/x = 1313Hz<1500Hz
x: (Tx on+Tx off) =0.7612ms

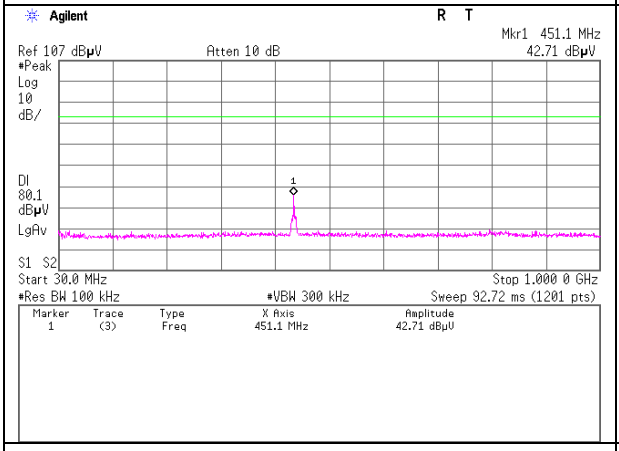




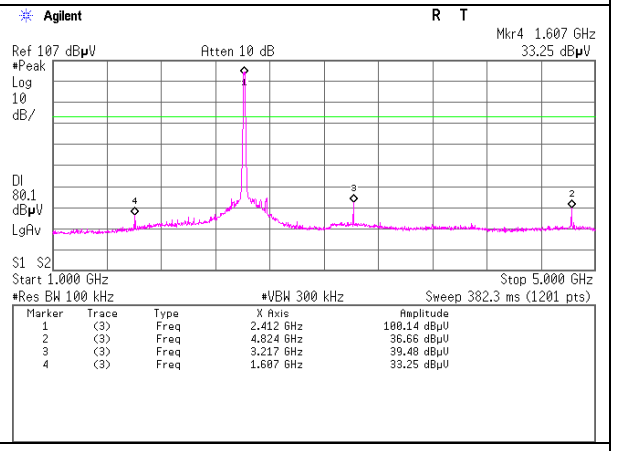
Conducted Spurious Emission

11b Tx 2412MHz

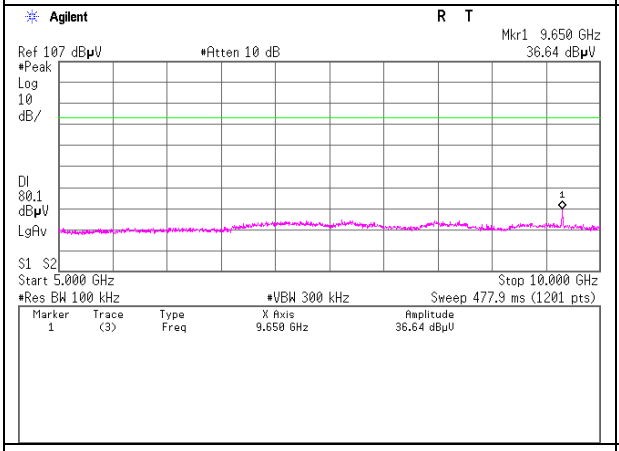
30MHz-1GHz



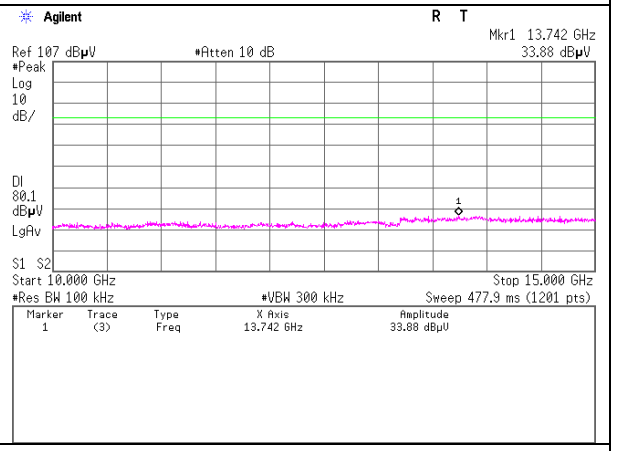
1GHz-5GHz



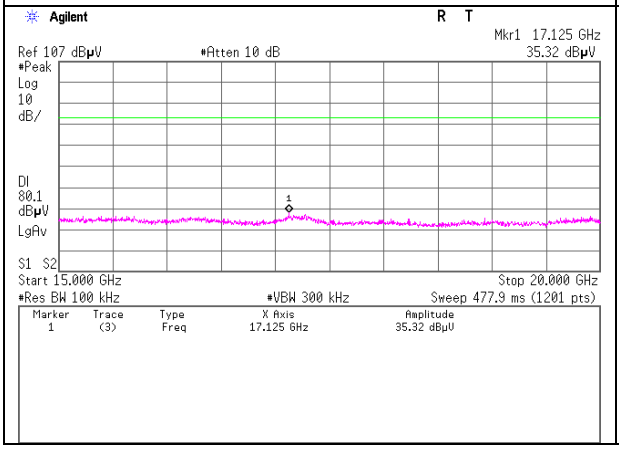
5GHz-10GHz



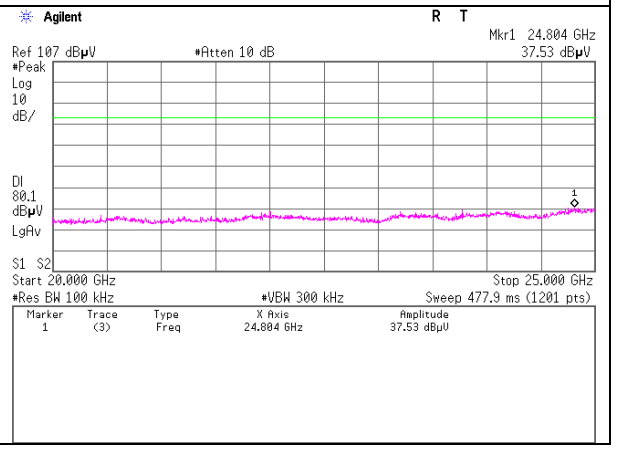
10GHz-15GHz



15GHz-20GHz



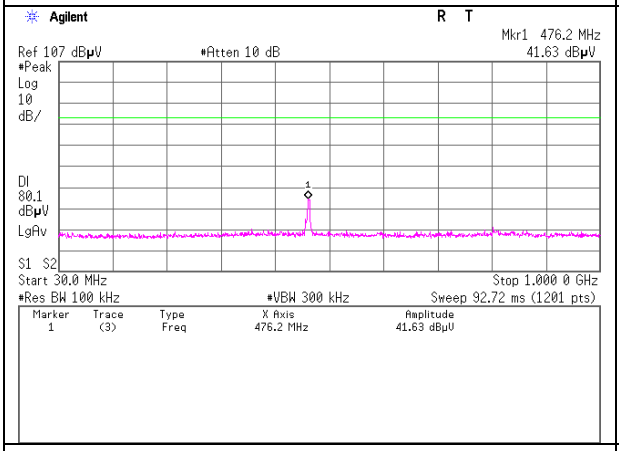
20GHz-25GHz



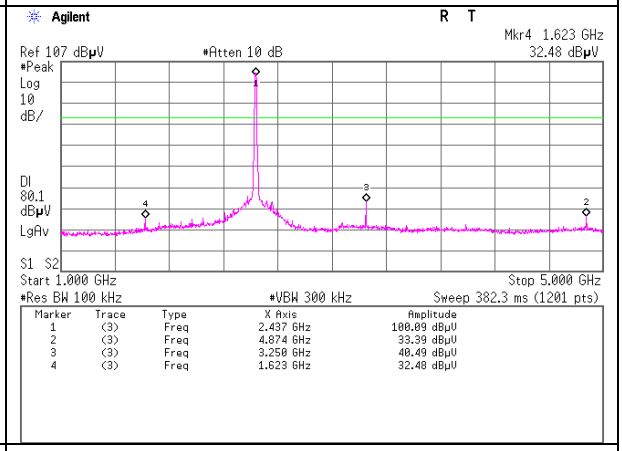
Conducted Spurious Emission

11b Tx 2437MHz

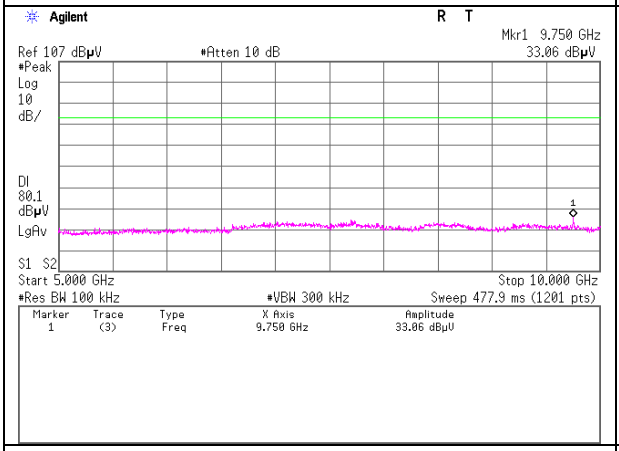
30MHz-1GHz



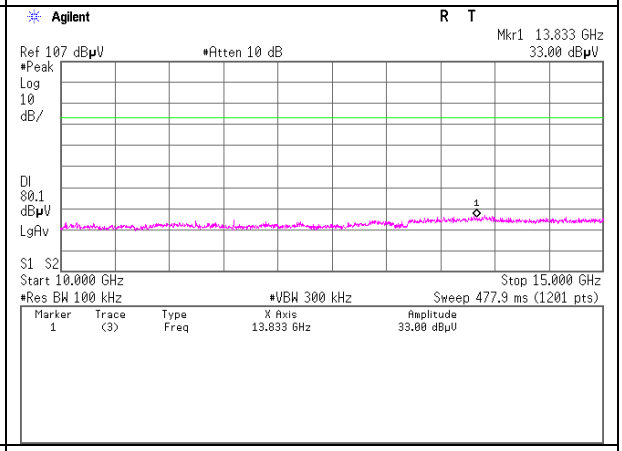
1GHz-5GHz



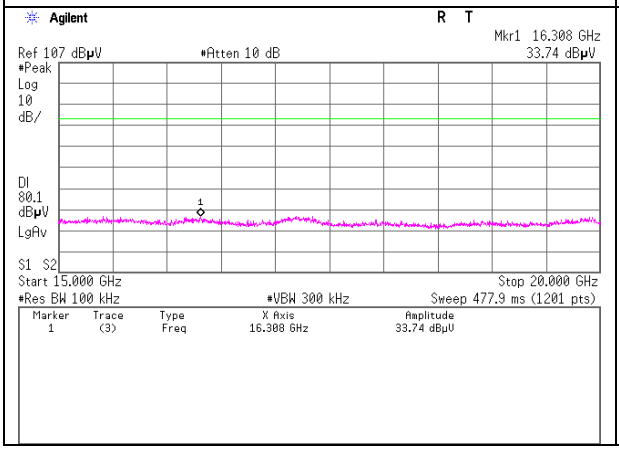
5GHz-10GHz



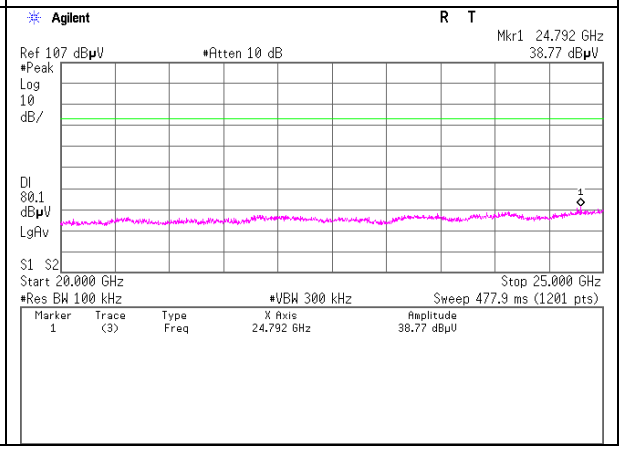
10GHz-15GHz



15GHz-20GHz



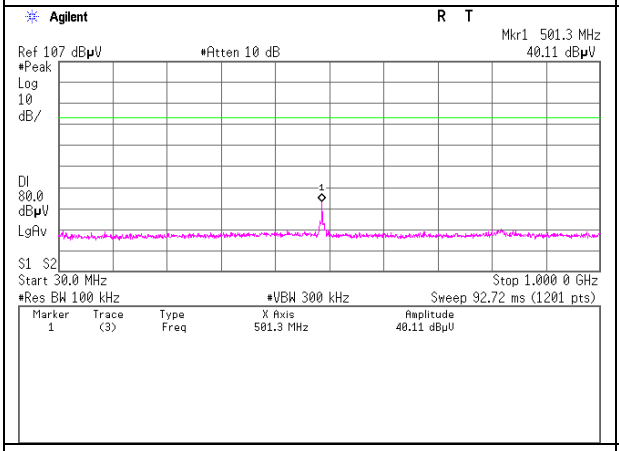
20GHz-25GHz



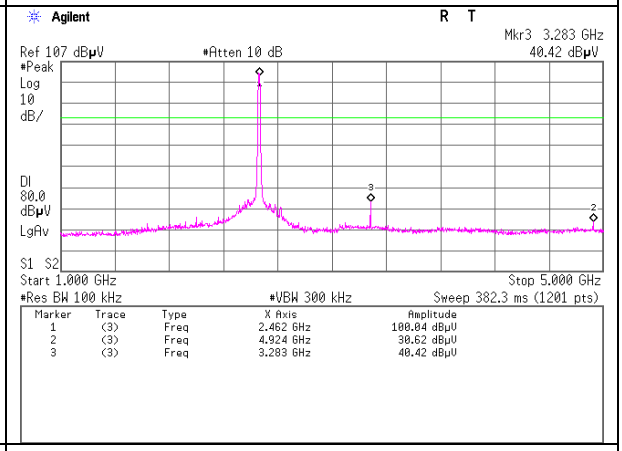
Conducted Spurious Emission

11b Tx 2462MHz

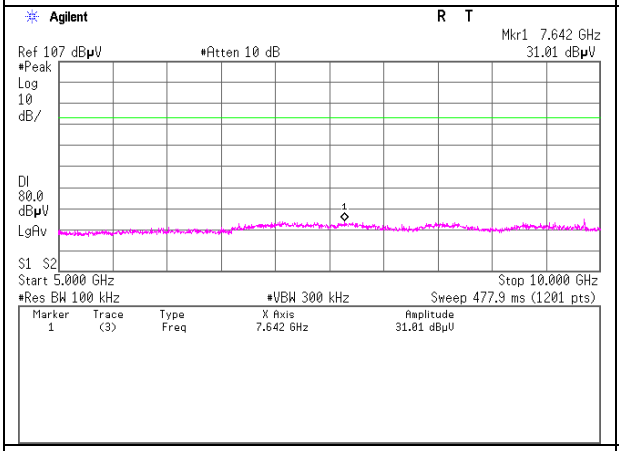
30MHz-1GHz



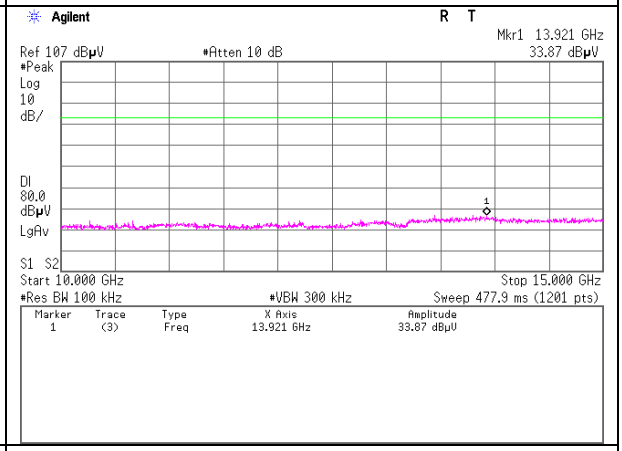
1GHz-5GHz



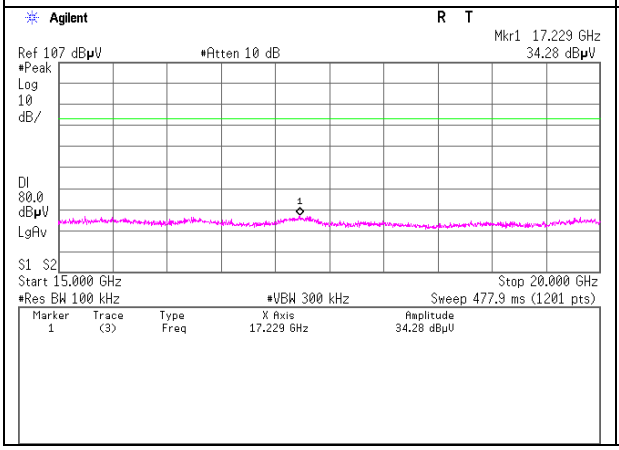
5GHz-10GHz



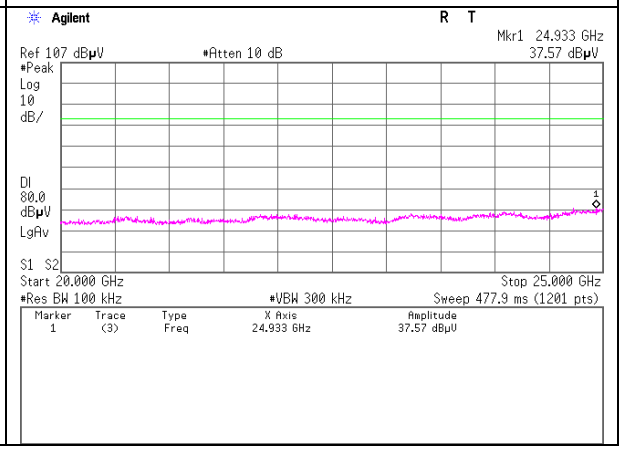
10GHz-15GHz



15GHz-20GHz



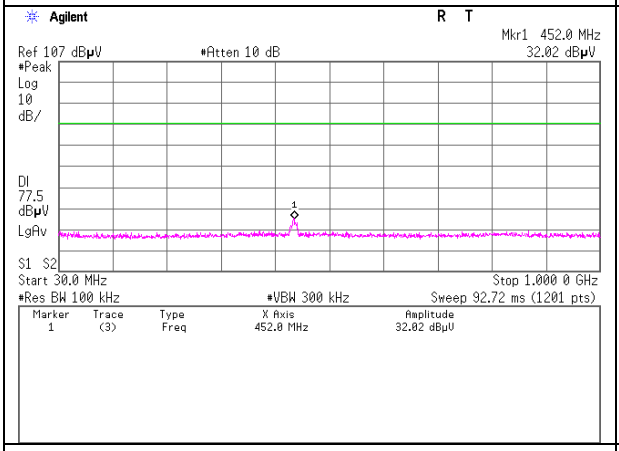
20GHz-25GHz



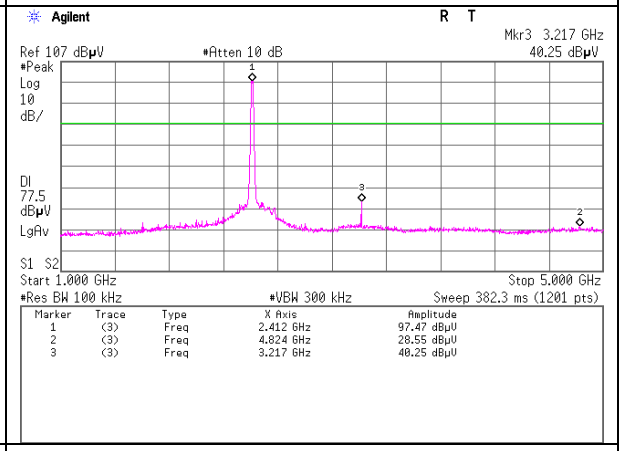
Conducted Spurious Emission

11g Tx 2412MHz

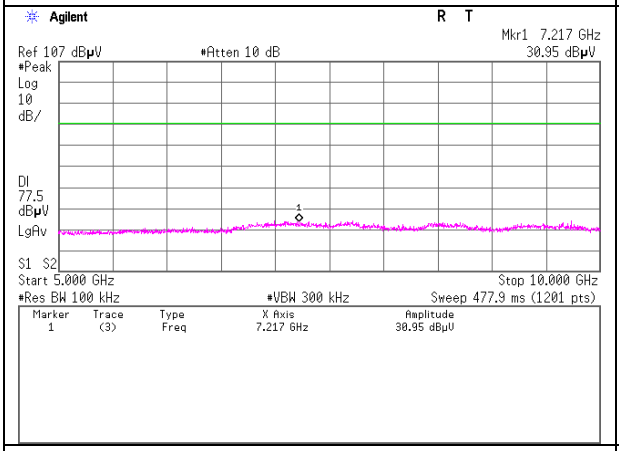
30MHz-1GHz



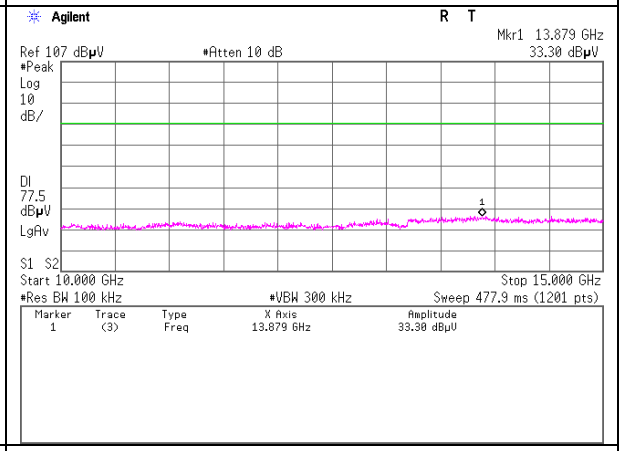
1GHz-5GHz



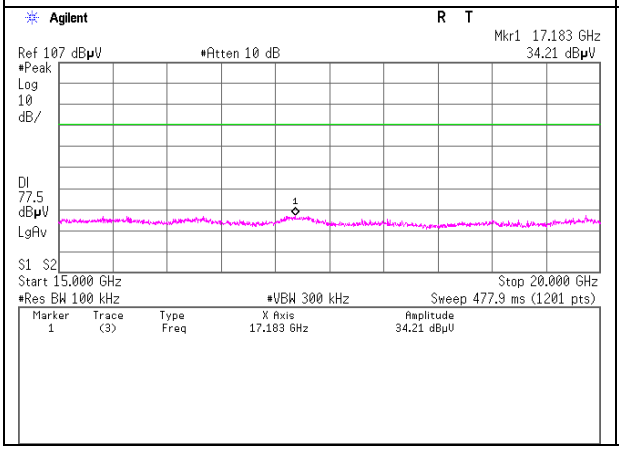
5GHz-10GHz



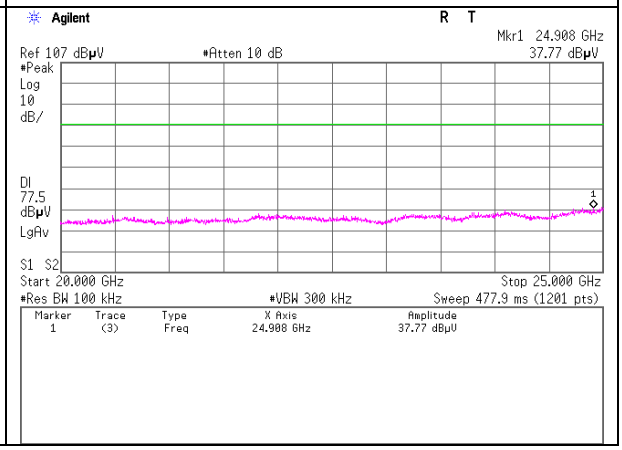
10GHz-15GHz



15GHz-20GHz



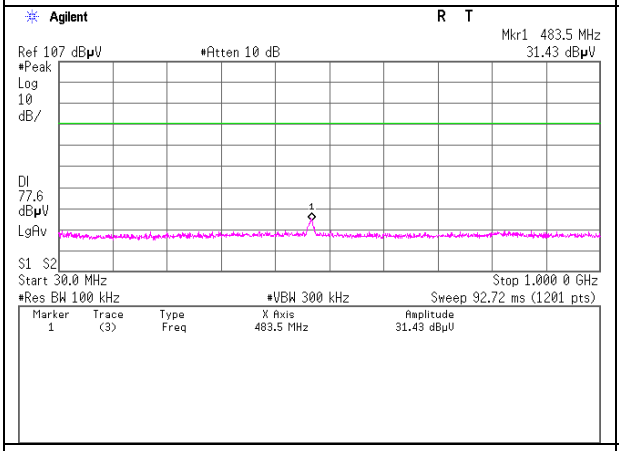
20GHz-25GHz



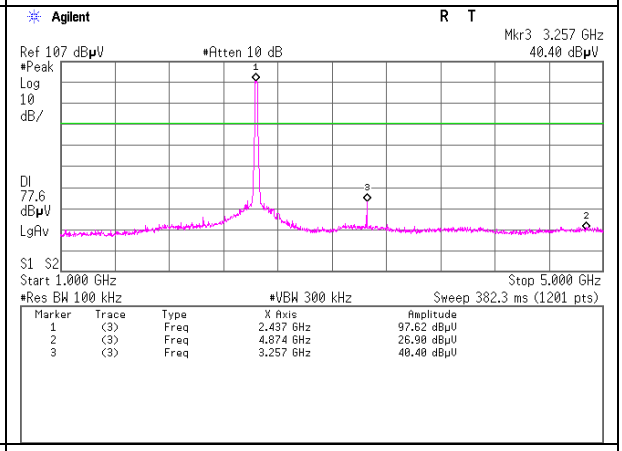
Conducted Spurious Emission

11g Tx 2437MHz

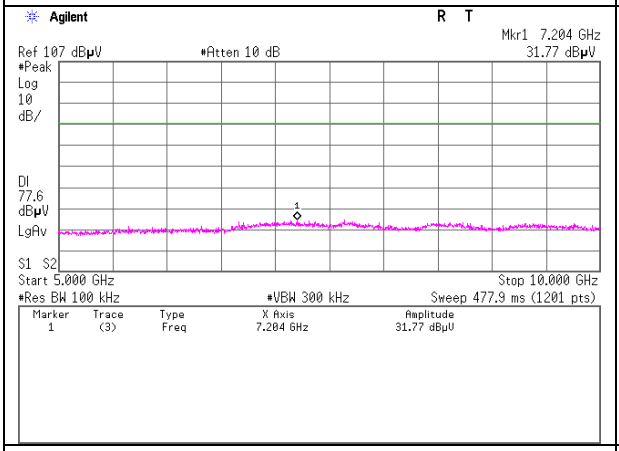
30MHz-1GHz



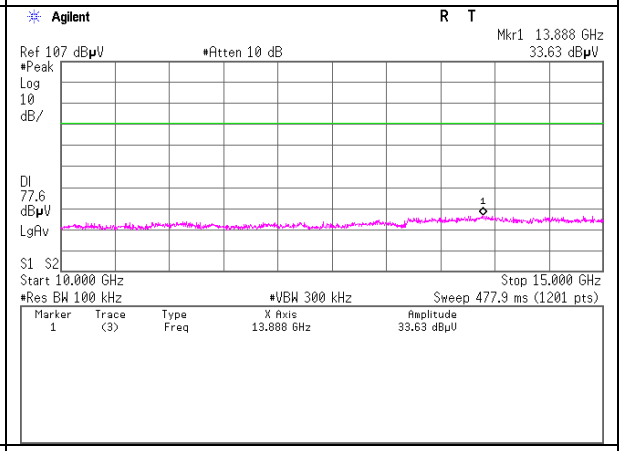
1GHz-5GHz



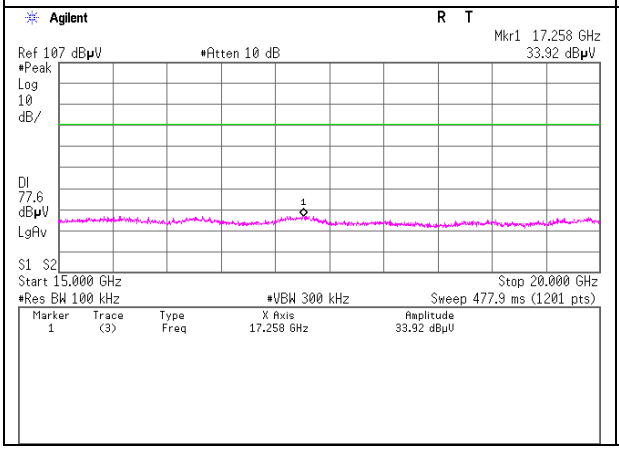
5GHz-10GHz



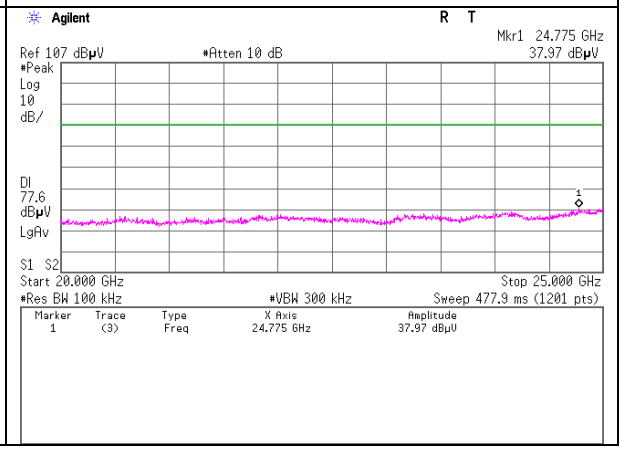
10GHz-15GHz



15GHz-20GHz



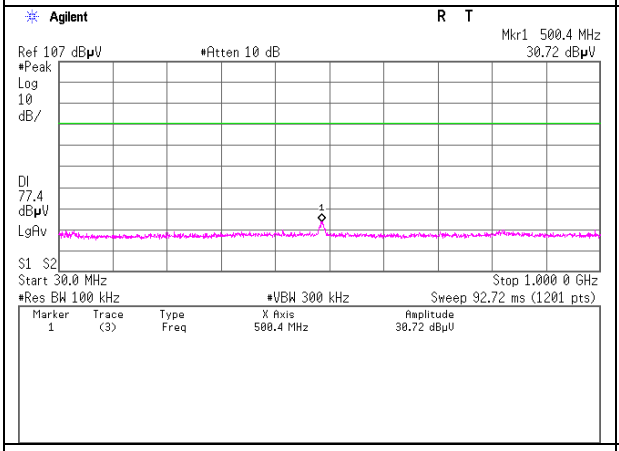
20GHz-25GHz



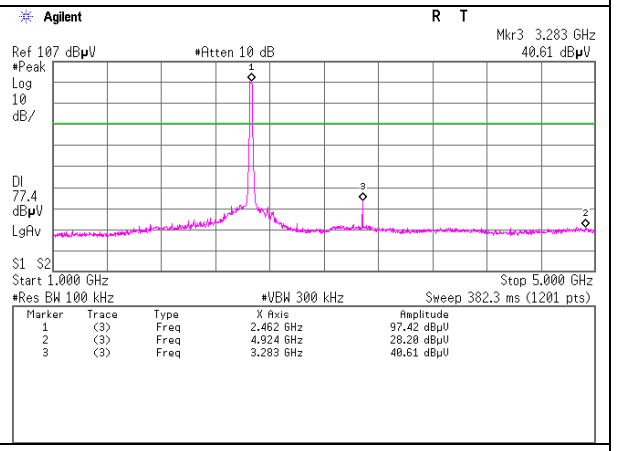
Conducted Spurious Emission

11g Tx 2462MHz

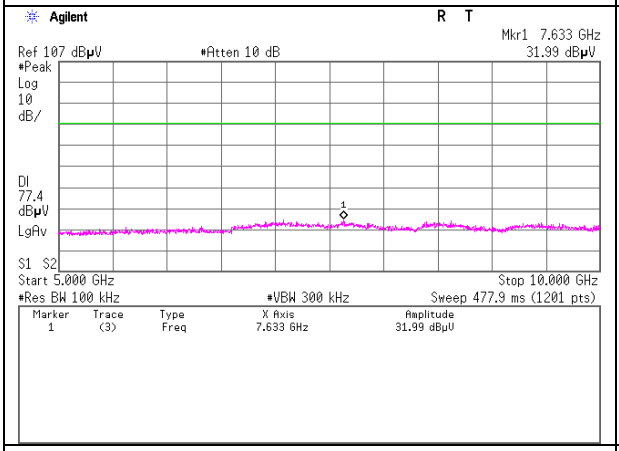
30MHz-1GHz



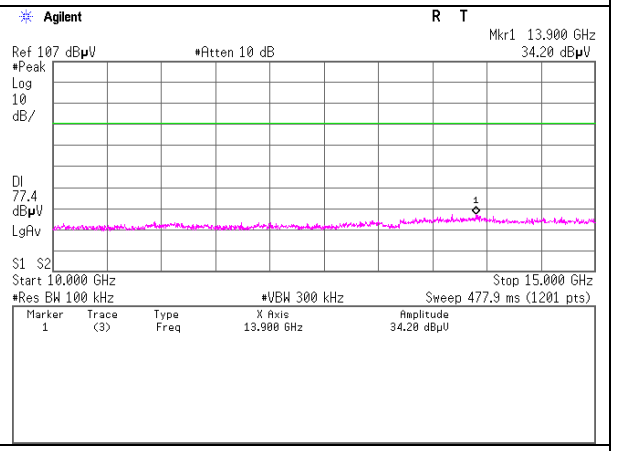
1GHz-5GHz



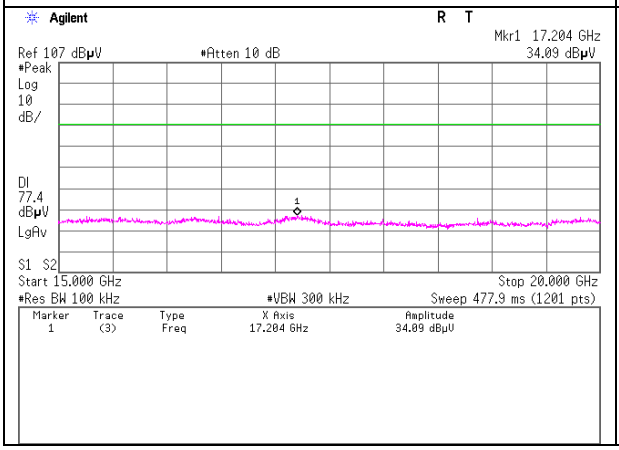
5GHz-10GHz



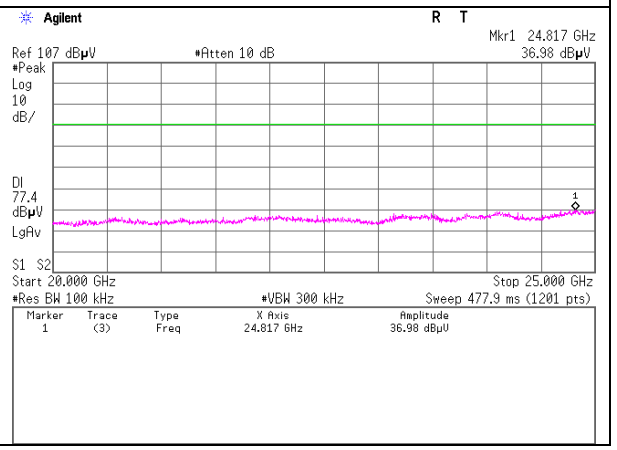
10GHz-15GHz



15GHz-20GHz



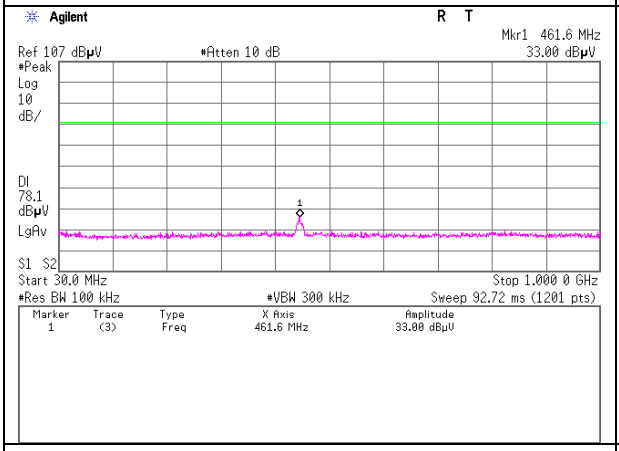
20GHz-25GHz



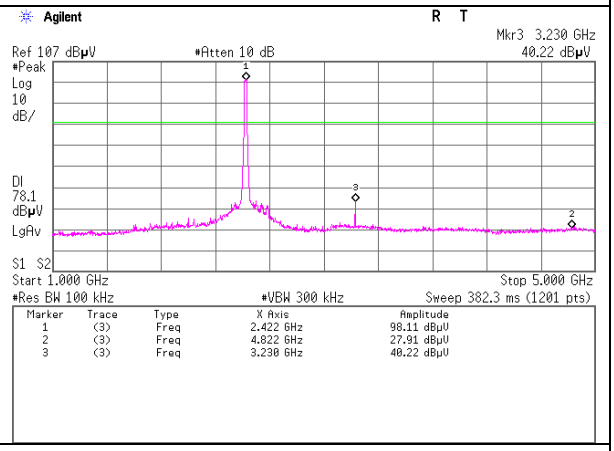
Conducted Spurious Emission

11n-40HT Tx 2422MHz

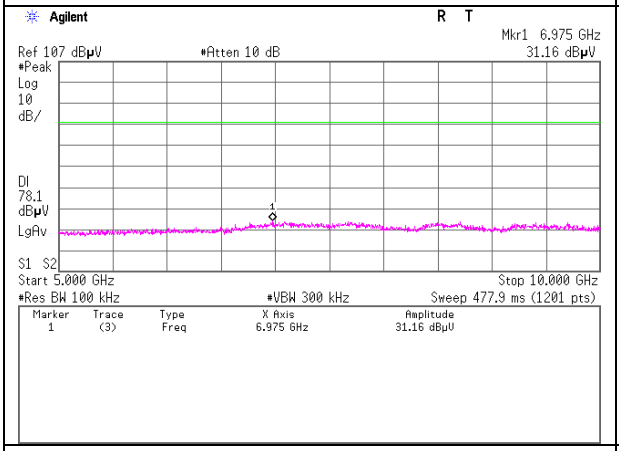
30MHz-1GHz



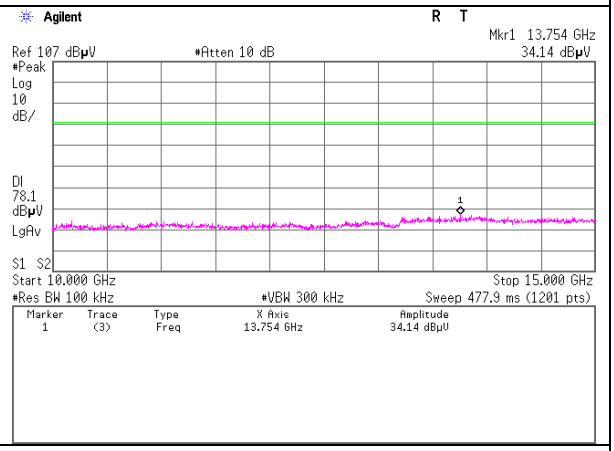
1GHz-5GHz



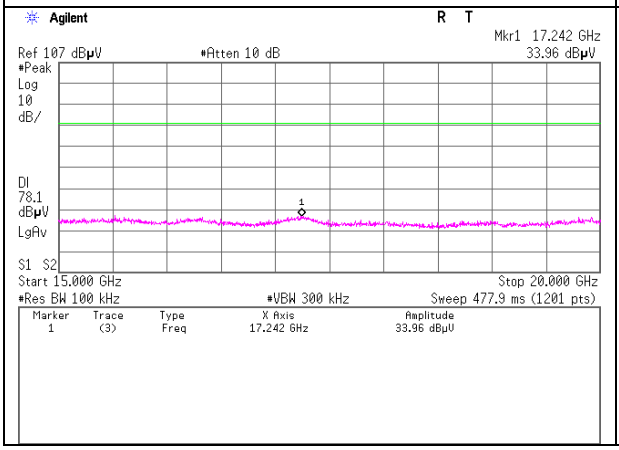
5GHz-10GHz



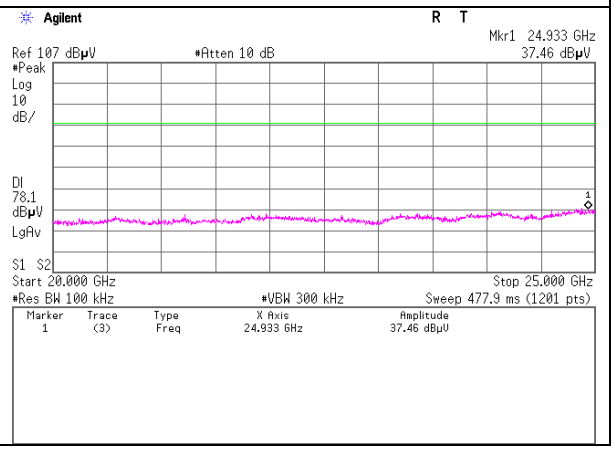
10GHz-15GHz



15GHz-20GHz



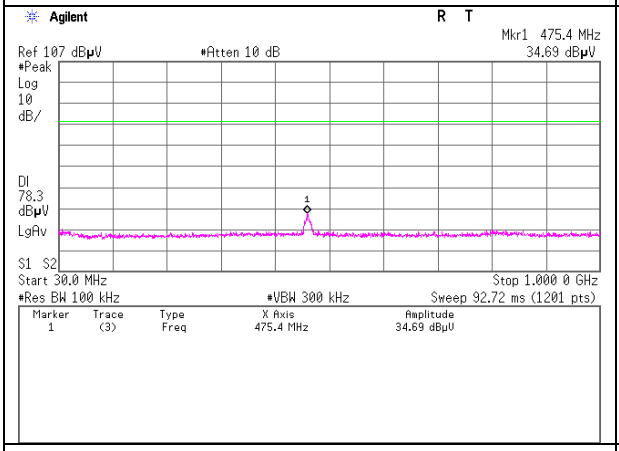
20GHz-25GHz



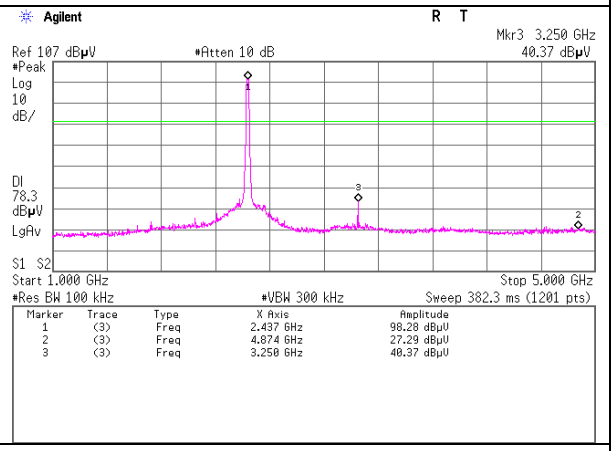
Conducted Spurious Emission

11n-40HT Tx 2437MHz

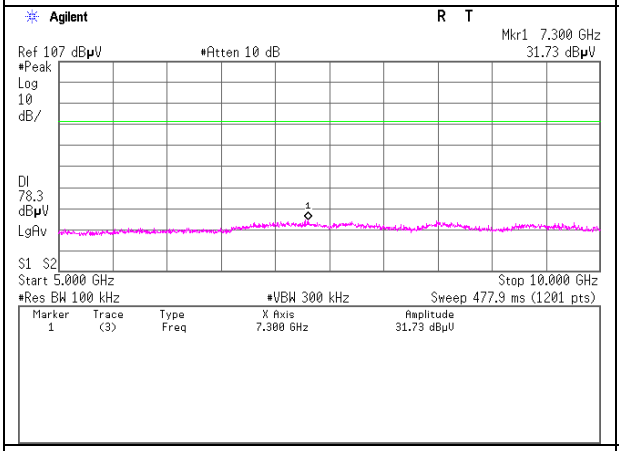
30MHz-1GHz



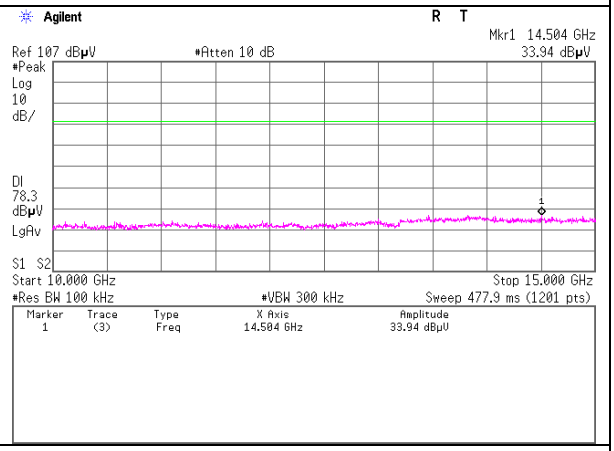
1GHz-5GHz



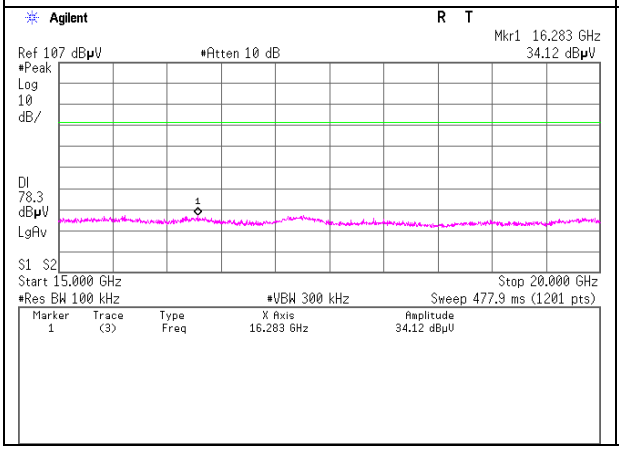
5GHz-10GHz



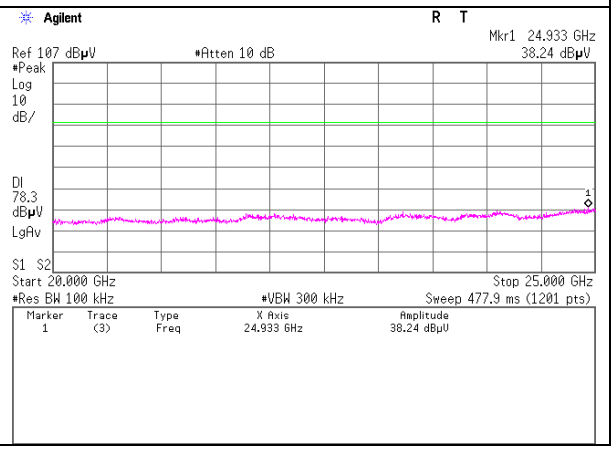
10GHz-15GHz



15GHz-20GHz



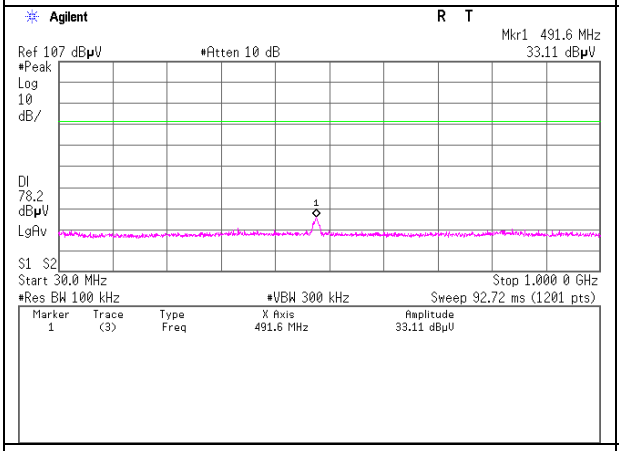
20GHz-25GHz



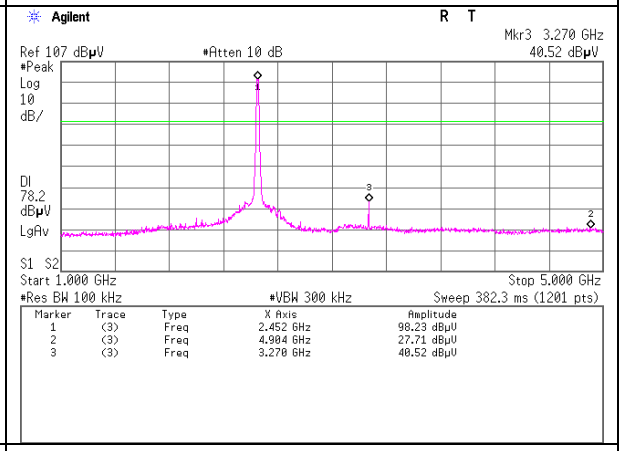
Conducted Spurious Emission

11n-40HT Tx 2452MHz

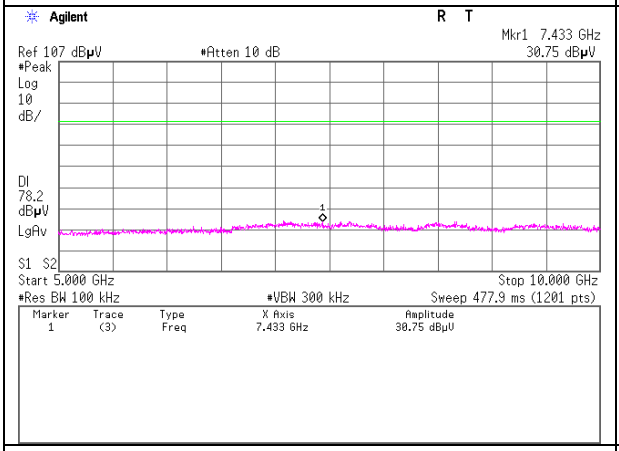
30MHz-1GHz



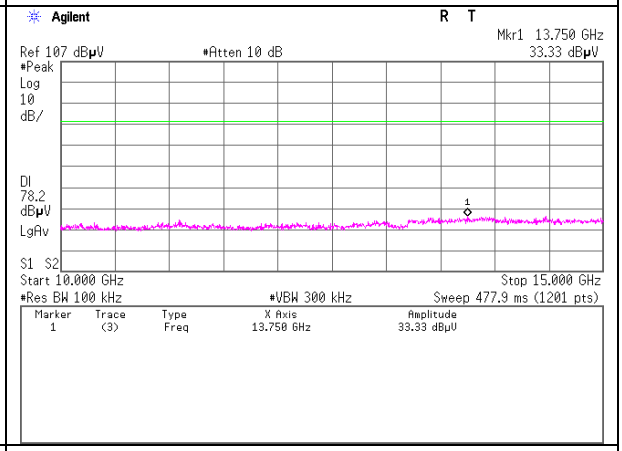
1GHz-5GHz



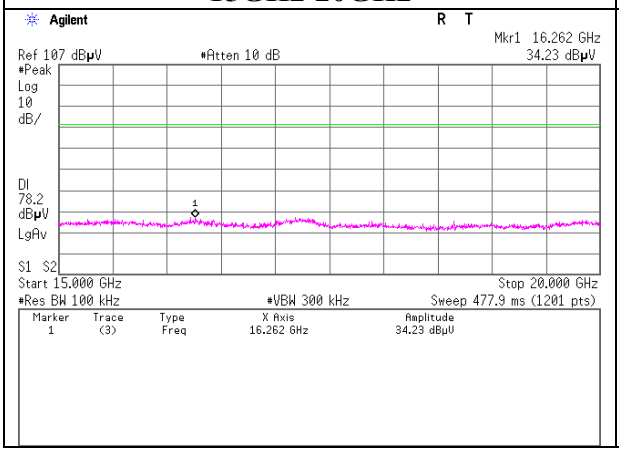
5GHz-10GHz



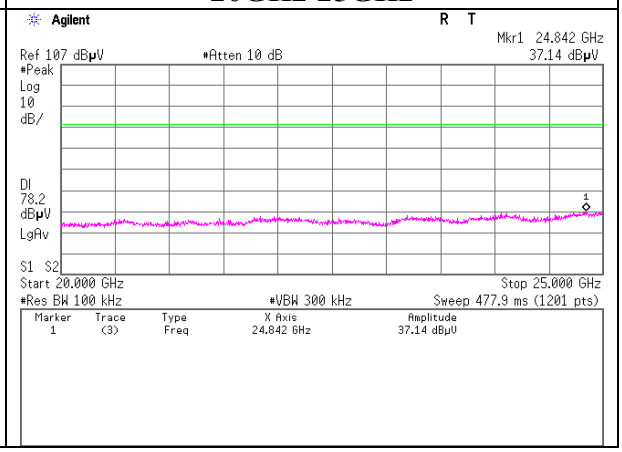
10GHz-15GHz



15GHz-20GHz



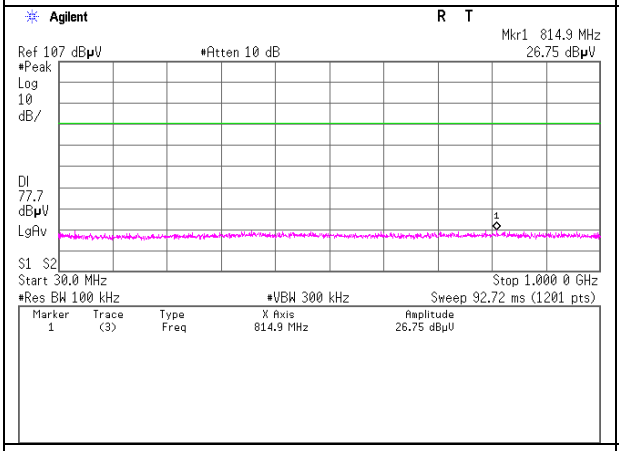
20GHz-25GHz



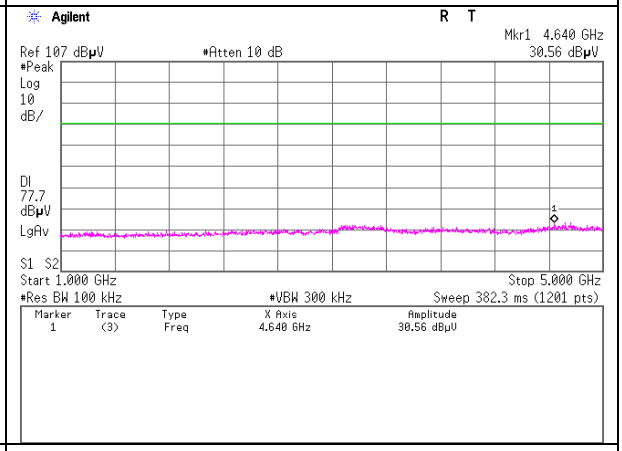
Conducted Spurious Emission

11n-20HT Tx 5745MHz

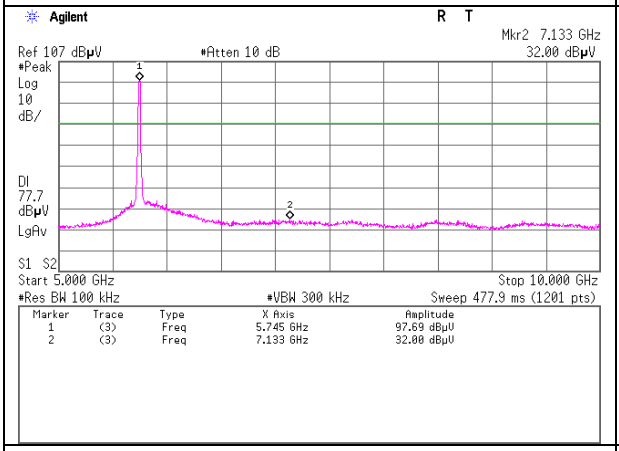
30MHz-1GHz



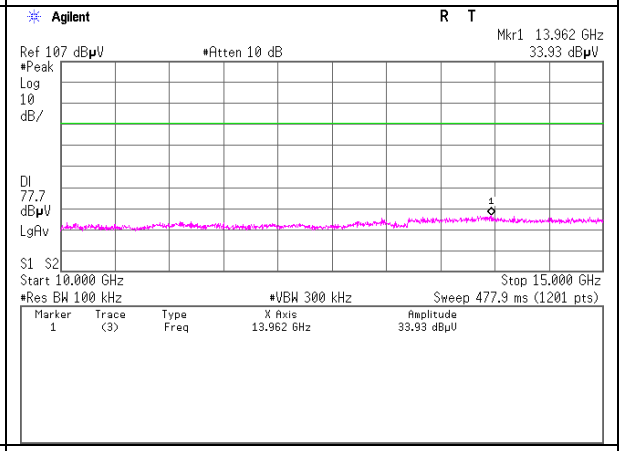
1GHz-5GHz



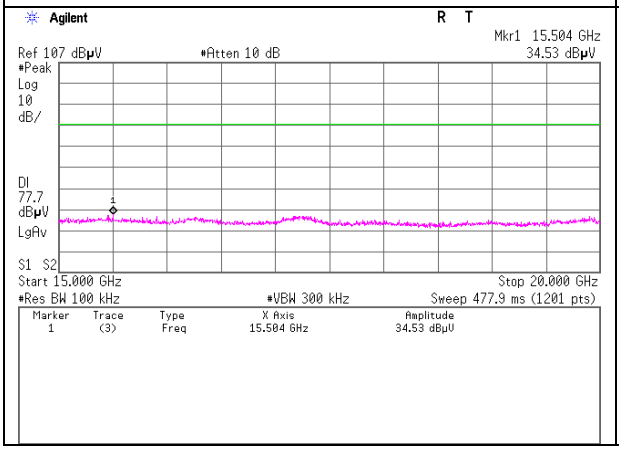
5GHz-10GHz



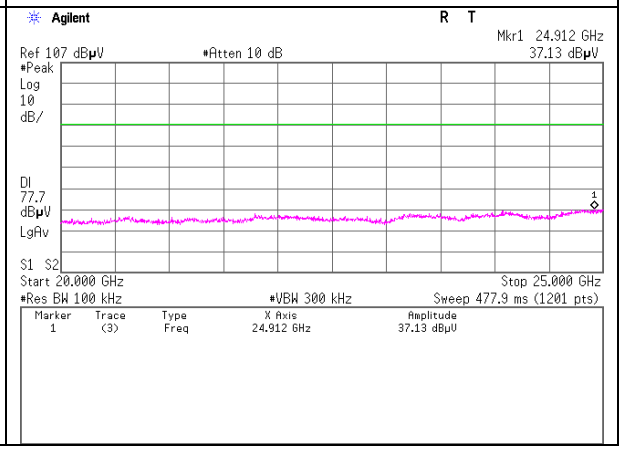
10GHz-15GHz



15GHz-20GHz



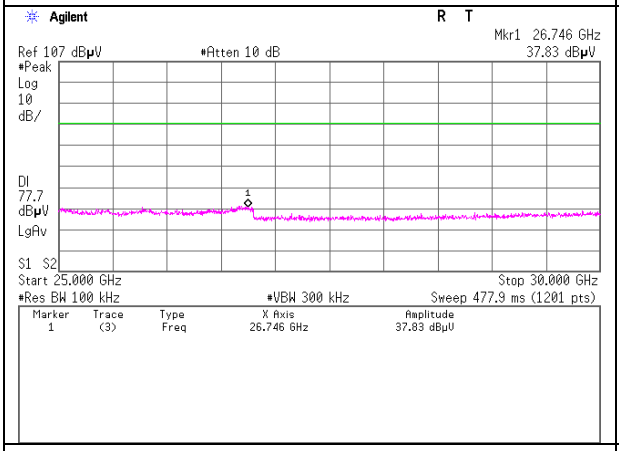
20GHz-25GHz



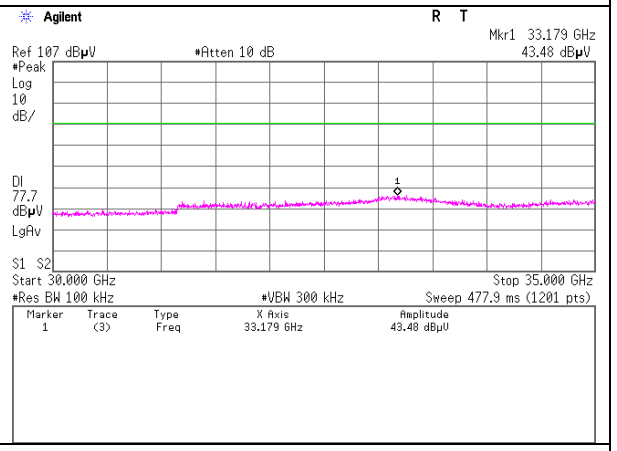
Conducted Spurious Emission

11n-20HT Tx 5745MHz

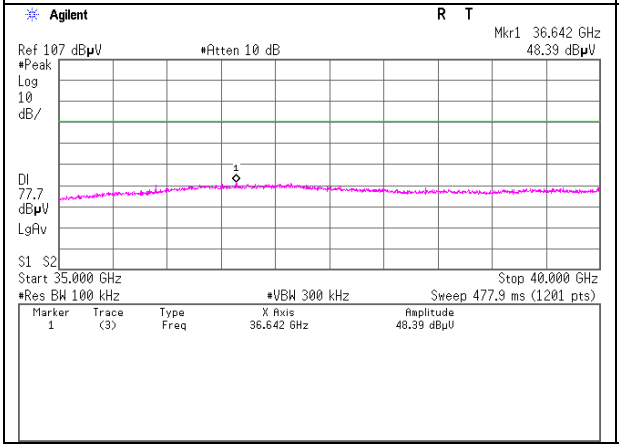
25GHz-30GHz



30GHz-35GHz



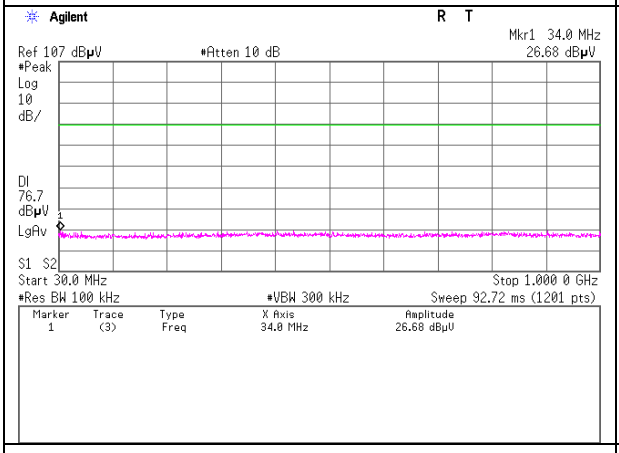
35GHz-40GHz



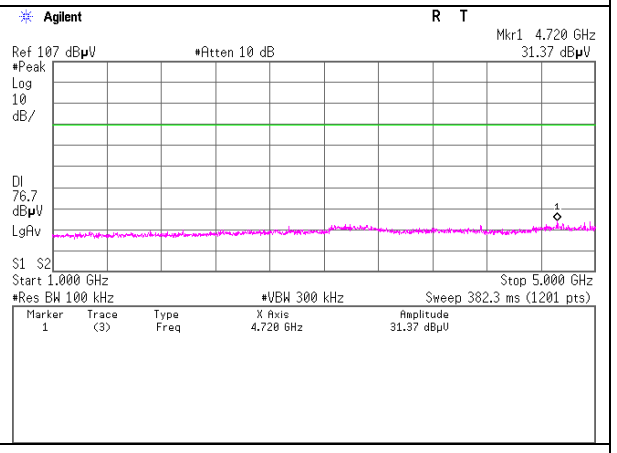
Conducted Spurious Emission

11n-20HT Tx 5785MHz

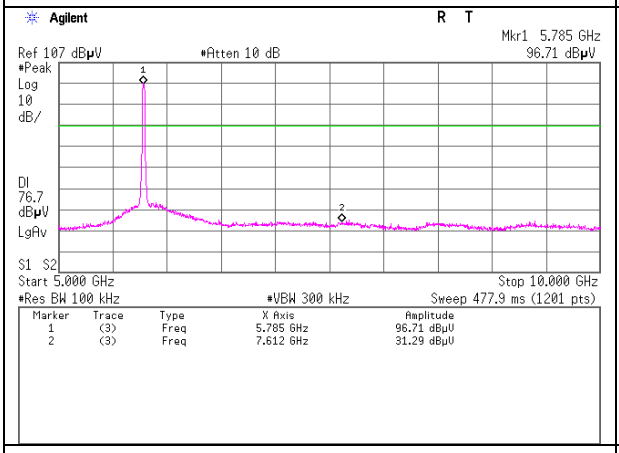
30MHz-1GHz



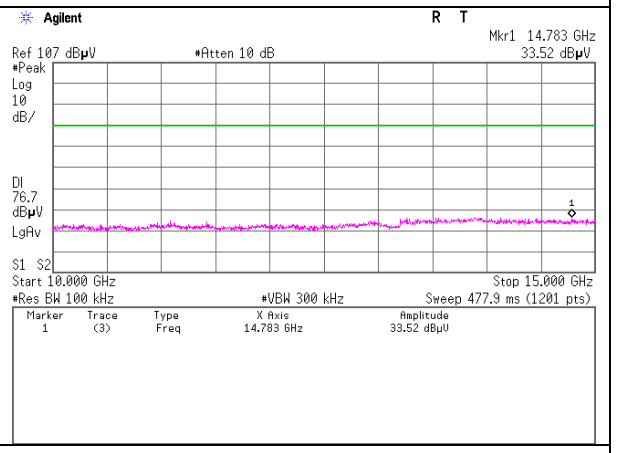
1GHz-5GHz



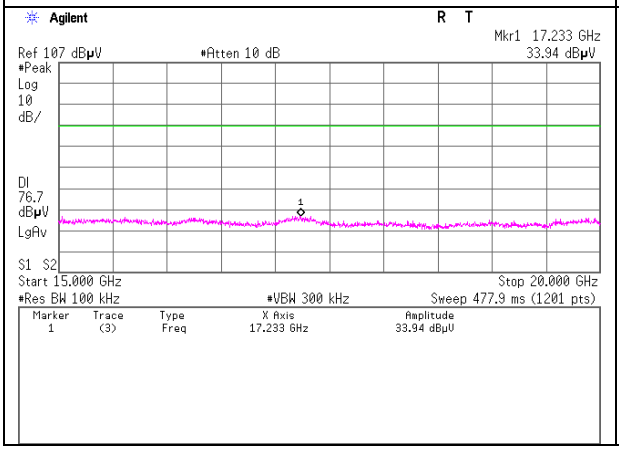
5GHz-10GHz



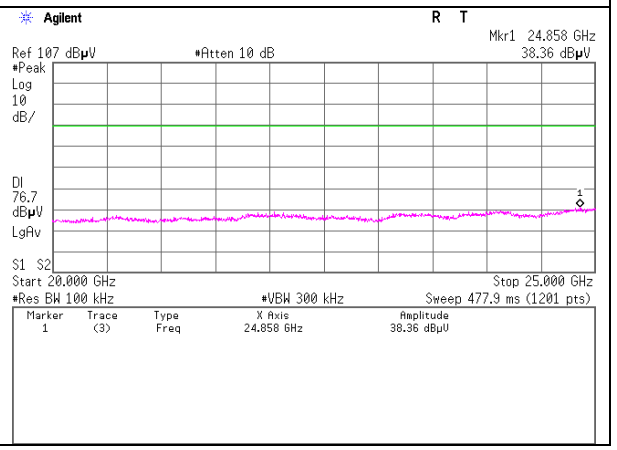
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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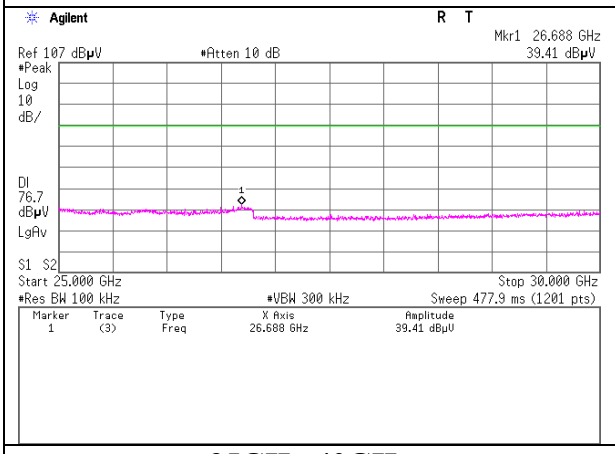
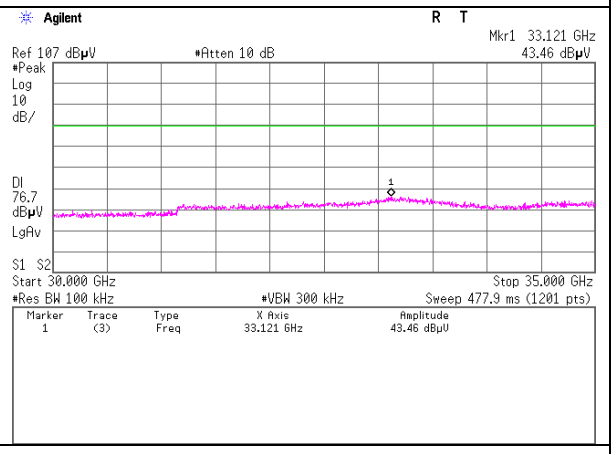
Conducted Spurious Emission

11n-20HT Tx 5785MHz

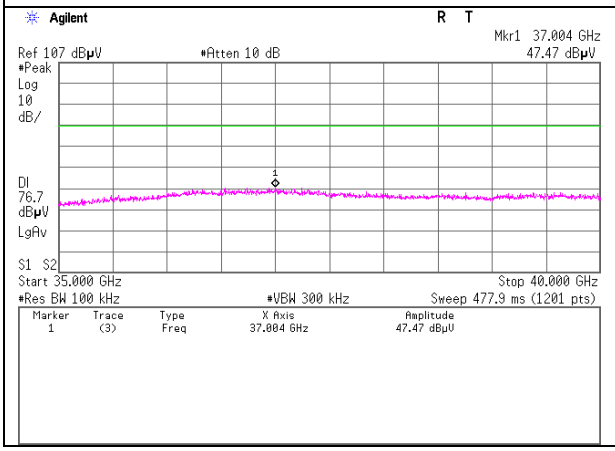
25GHz-30GHz



30GHz-35GHz



35GHz-40GHz



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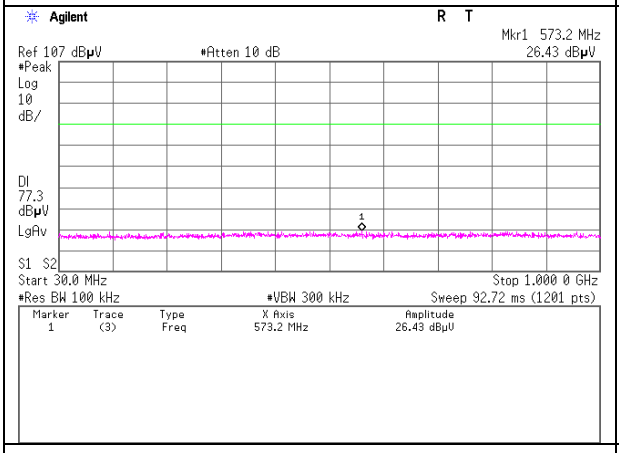
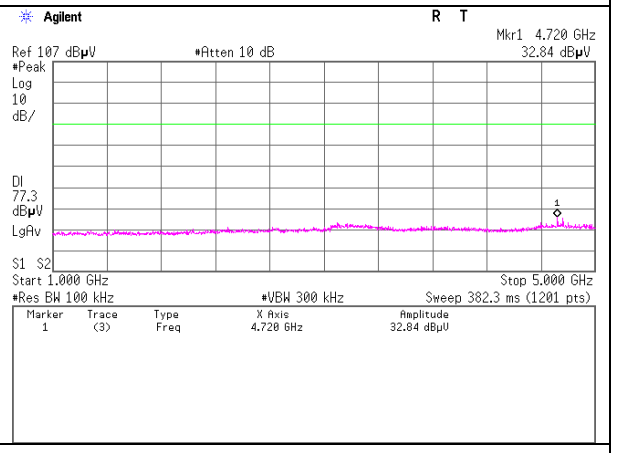
Conducted Spurious Emission

11n-20HT Tx 5825MHz

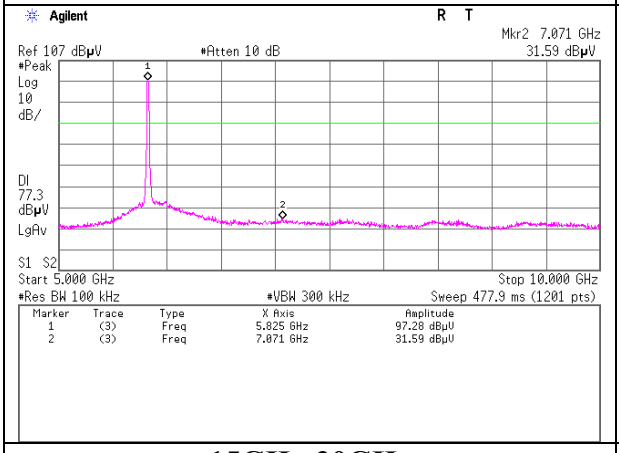
30MHz-1GHz



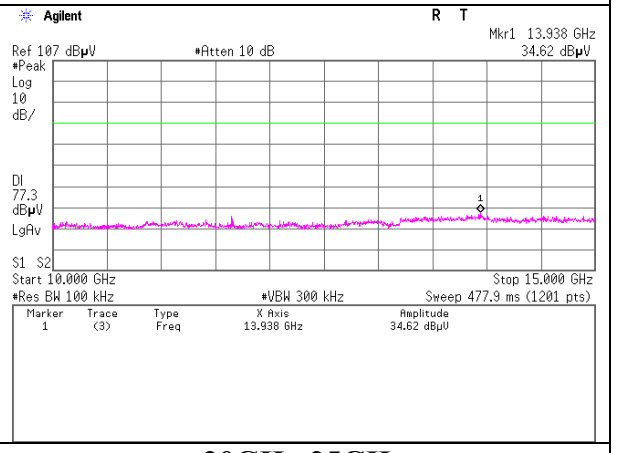
1GHz-5GHz



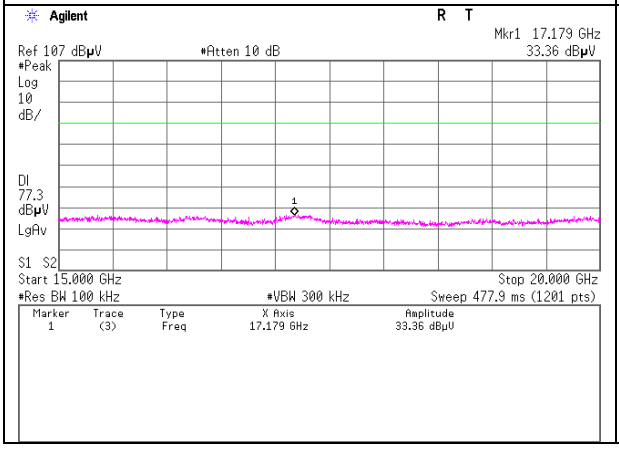
5GHz-10GHz



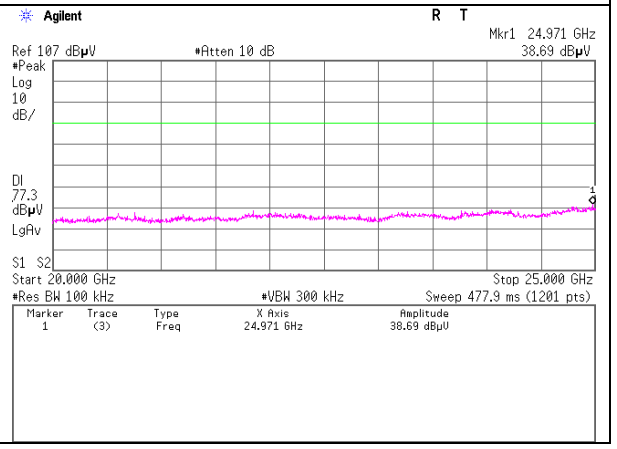
10GHz-15GHz



15GHz-20GHz



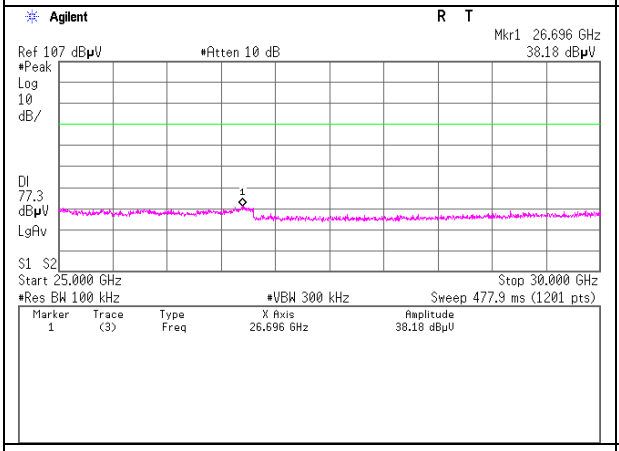
20GHz-25GHz



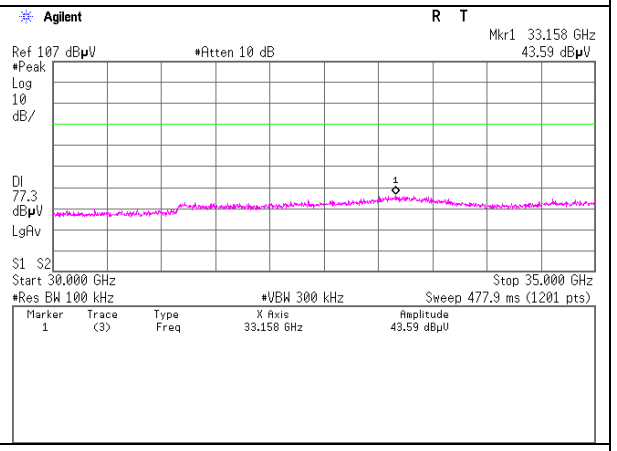
Conducted Spurious Emission

11n-20HT Tx 5825MHz

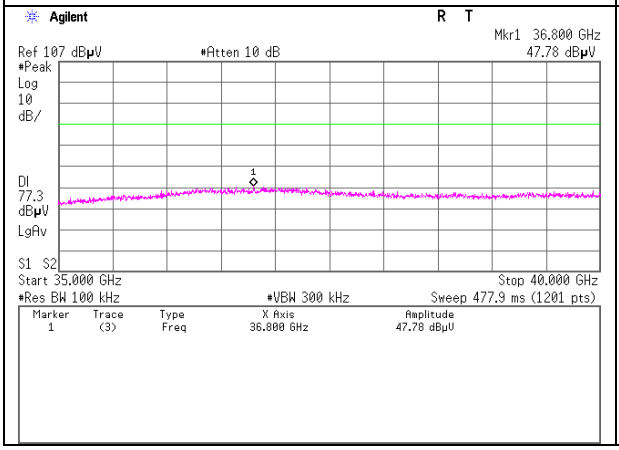
25GHz-30GHz



30GHz-35GHz



35GHz-40GHz



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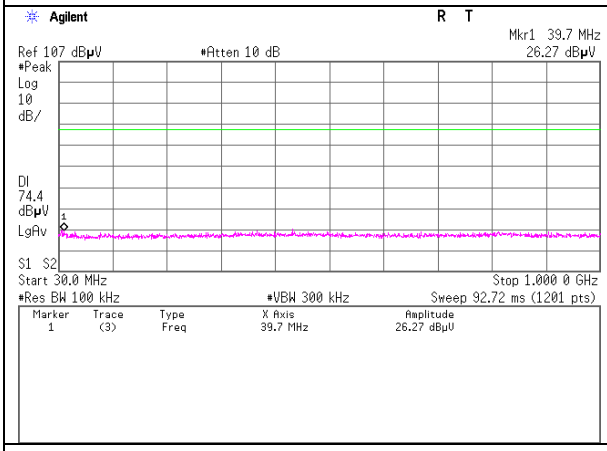
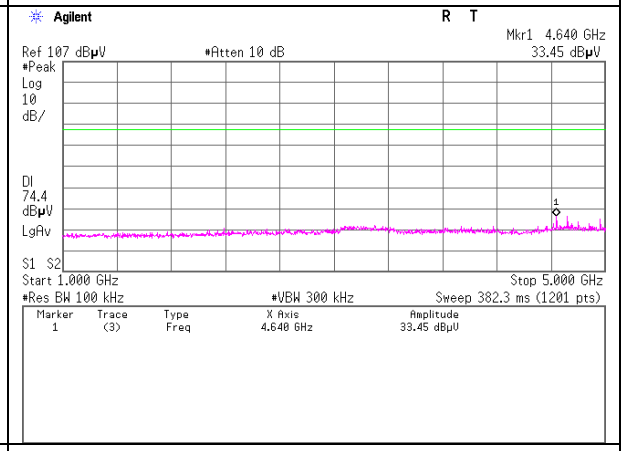
Conducted Spurious Emission

11n-40HT Tx 5755MHz

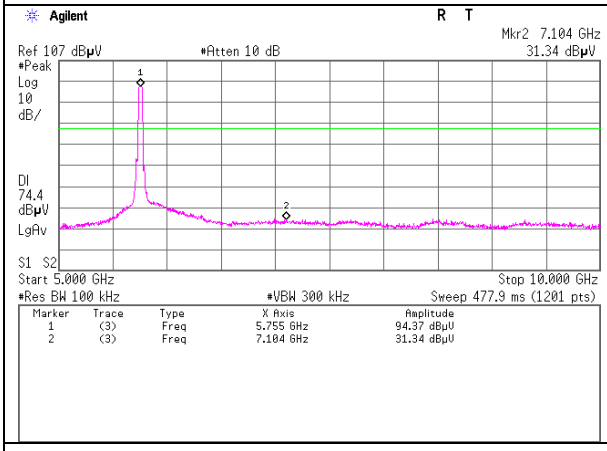
30MHz-1GHz



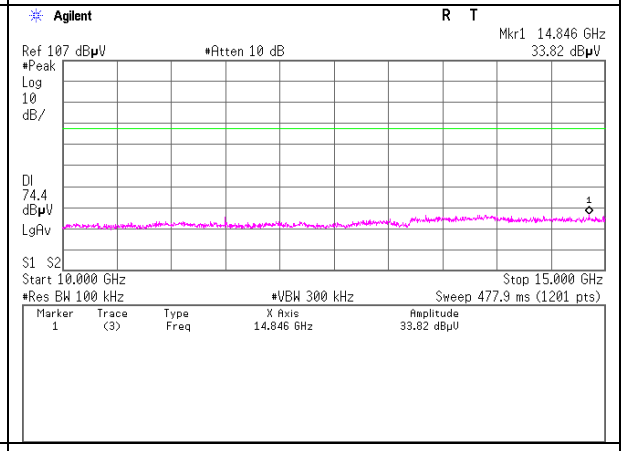
1GHz-5GHz



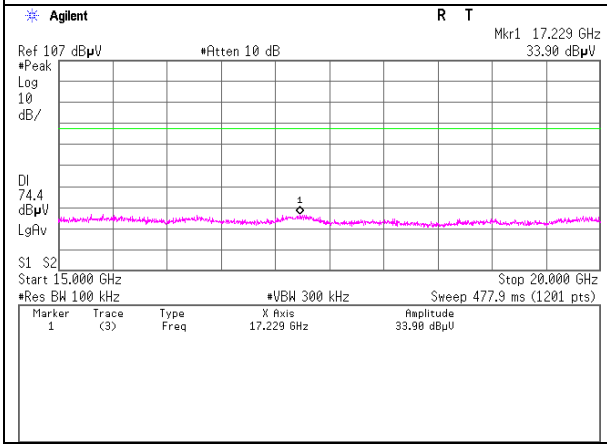
5GHz-10GHz



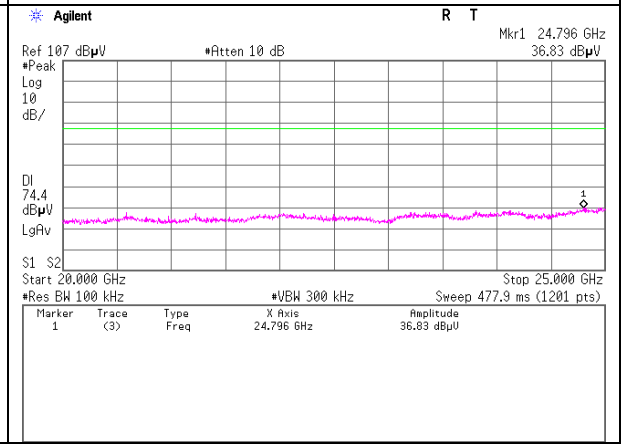
10GHz-15GHz



15GHz-20GHz



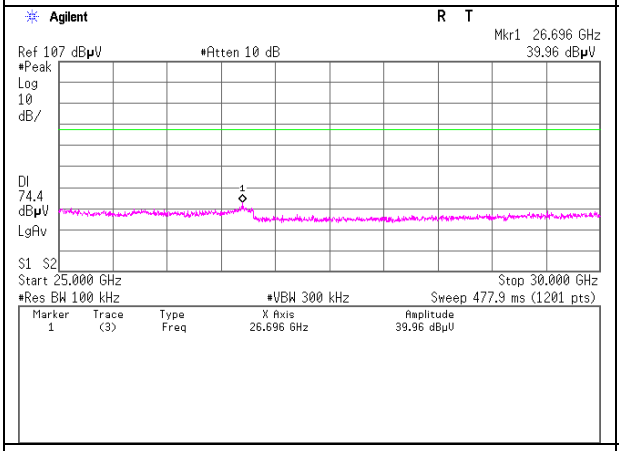
20GHz-25GHz



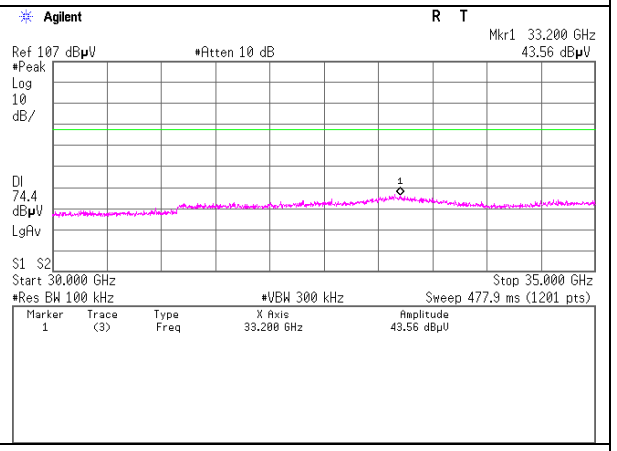
Conducted Spurious Emission

11n-40HT Tx 5755MHz

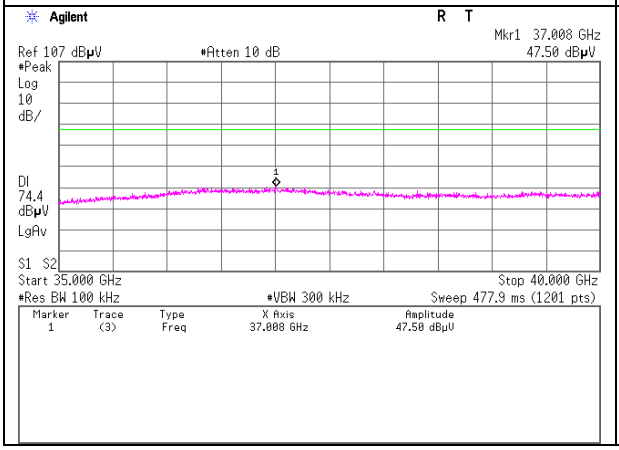
25GHz-30GHz



30GHz-35GHz



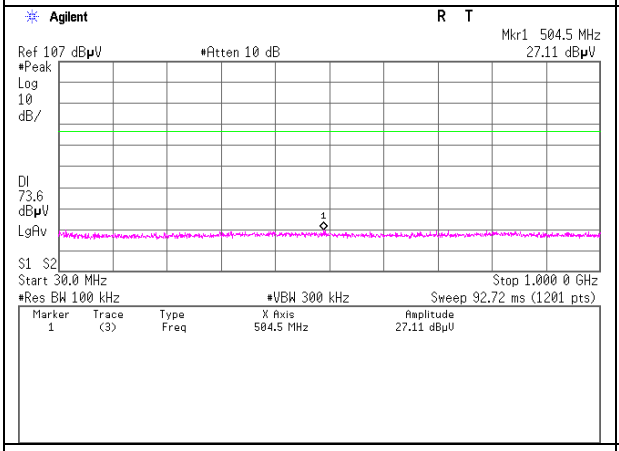
35GHz-40GHz



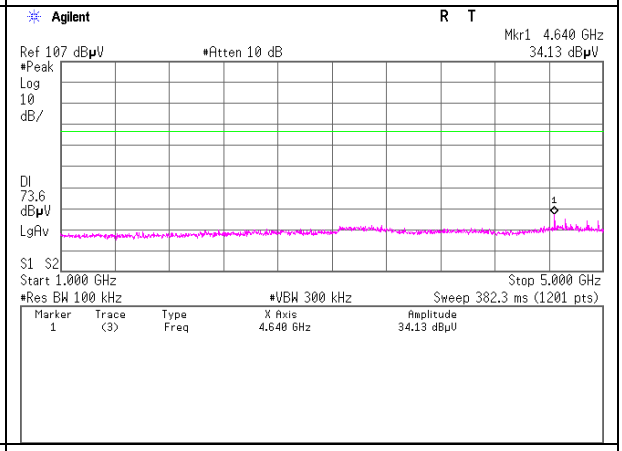
Conducted Spurious Emission

11n-40HT Tx 5795MHz

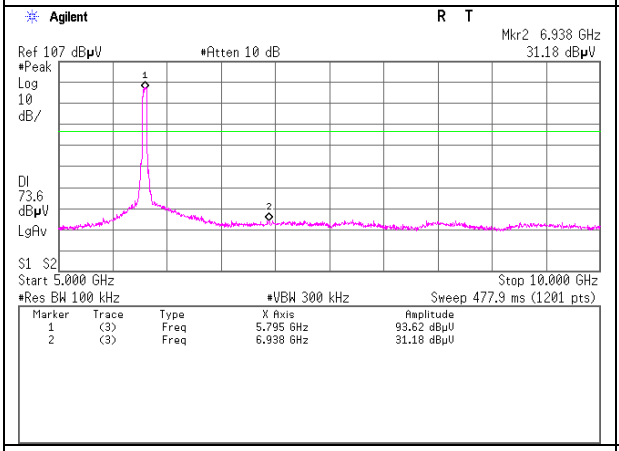
30MHz-1GHz



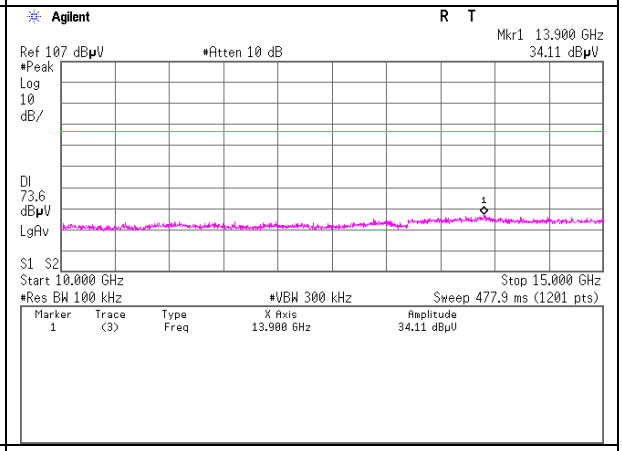
1GHz-5GHz



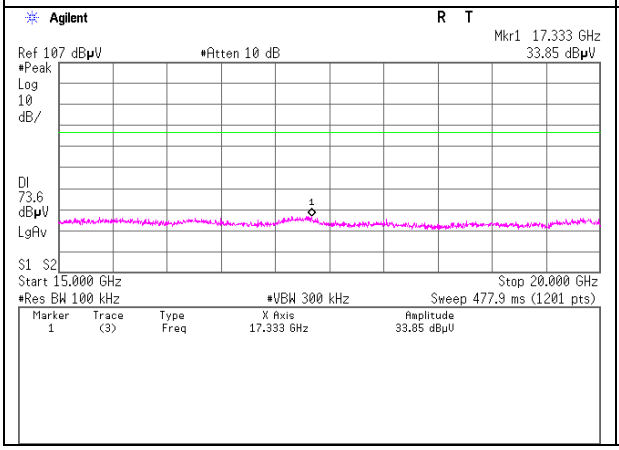
5GHz-10GHz



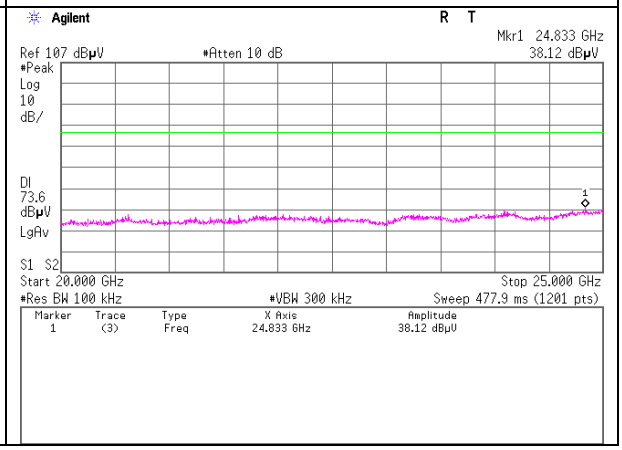
10GHz-15GHz



15GHz-20GHz



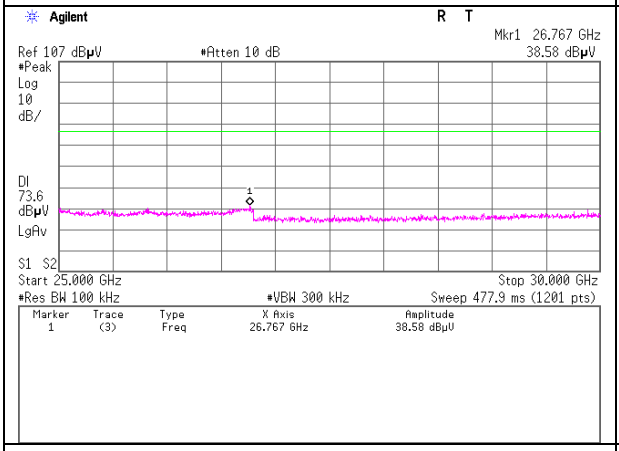
20GHz-25GHz



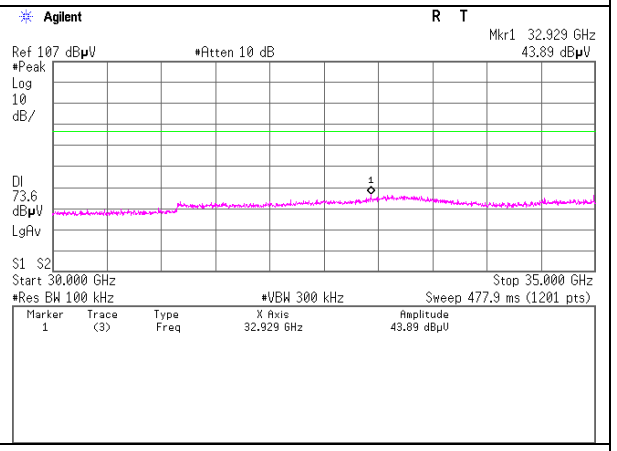
Conducted Spurious Emission

11n-40HT Tx 5795MHz

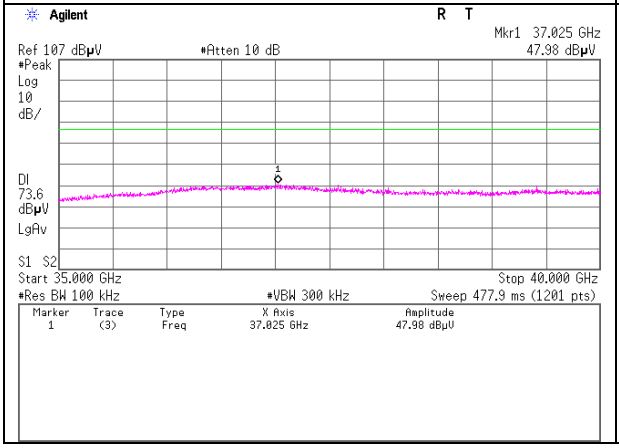
25GHz-30GHz



30GHz-35GHz



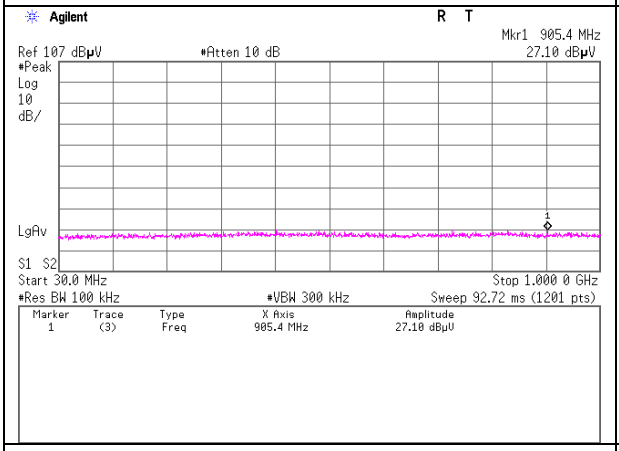
35GHz-40GHz



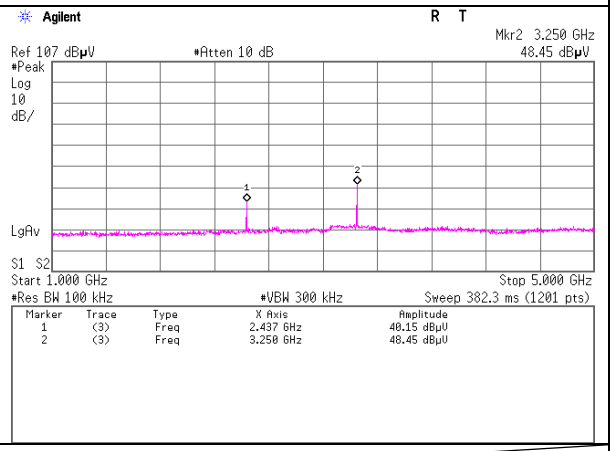
Conducted Spurious Emission

11g Rx 2437MHz

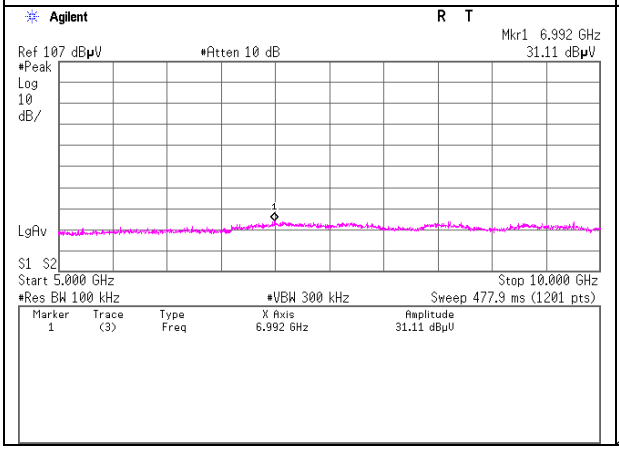
30MHz-1GHz



1GHz-5GHz



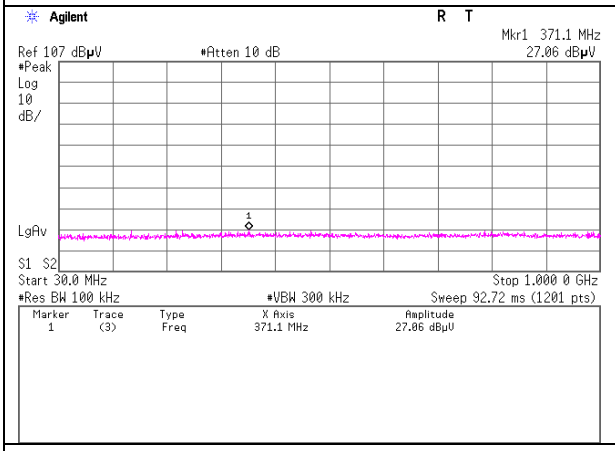
5GHz-10GHz



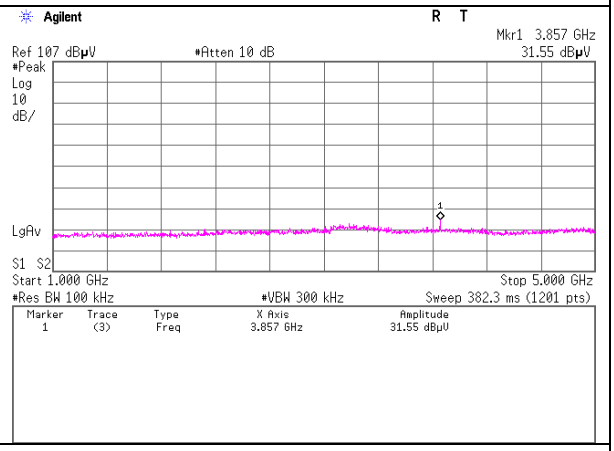
Conducted Spurious Emission

11n-20HT Rx 5785MHz

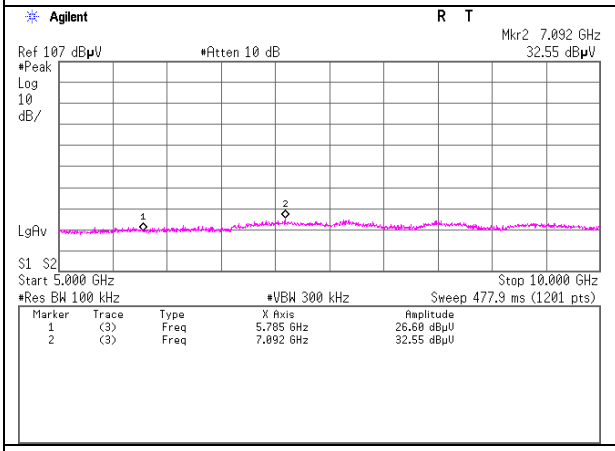
30MHz-1GHz



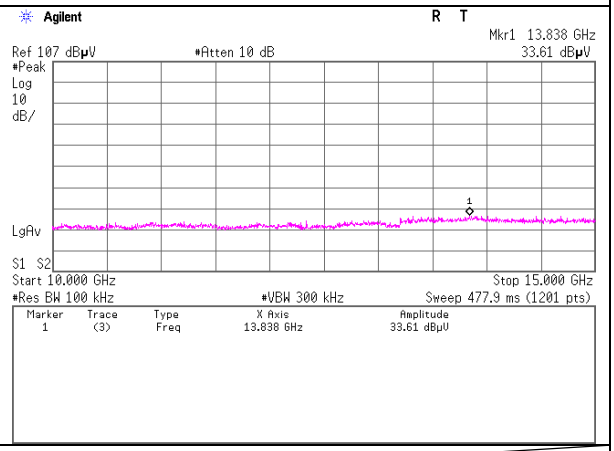
1GHz-5GHz



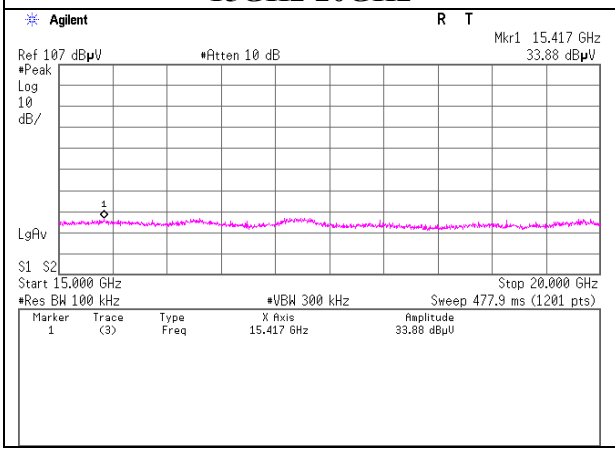
5GHz-10GHz



10GHz-15GHz



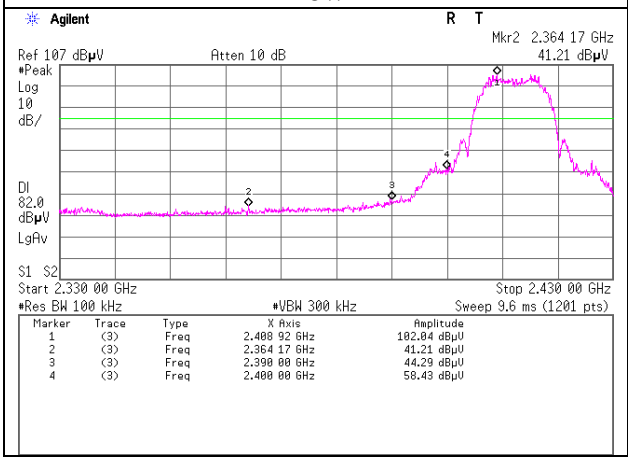
15GHz-20GHz



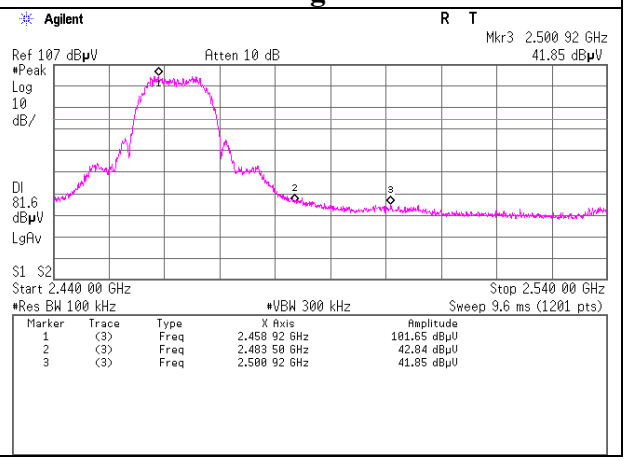
Conducted Emission Band Edge compliance

11b Tx

Low

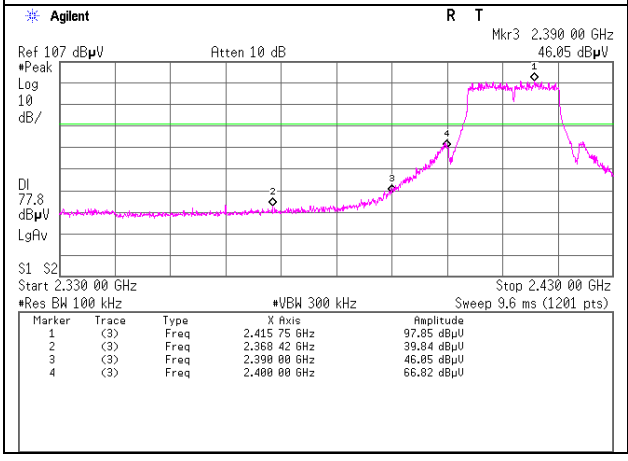


High



11g Tx

Low



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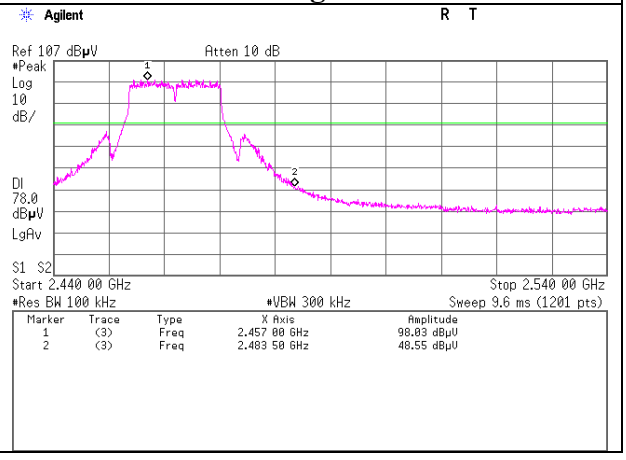
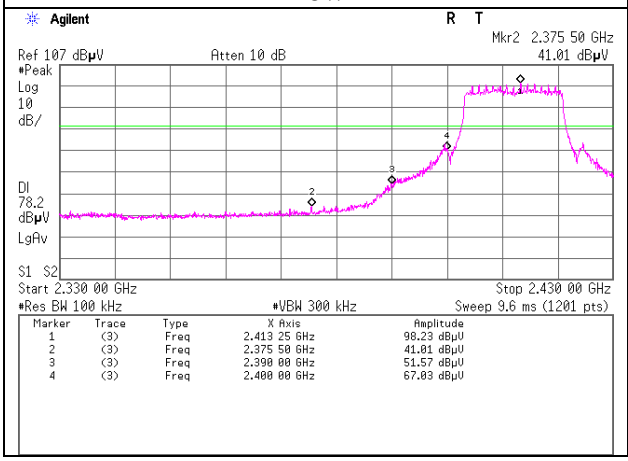


Conducted Emission Band Edge compliance

11n-20 Tx

Low



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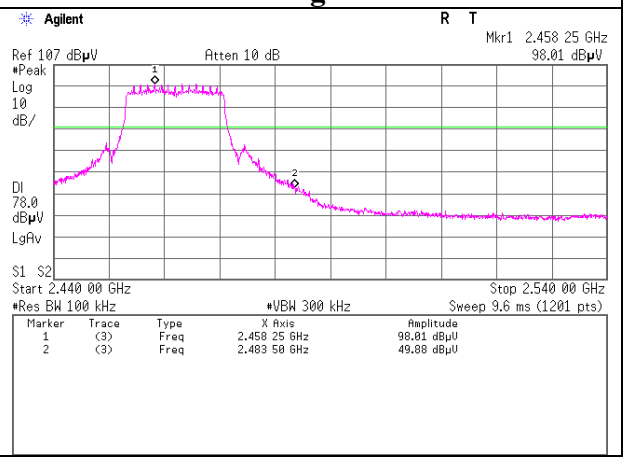
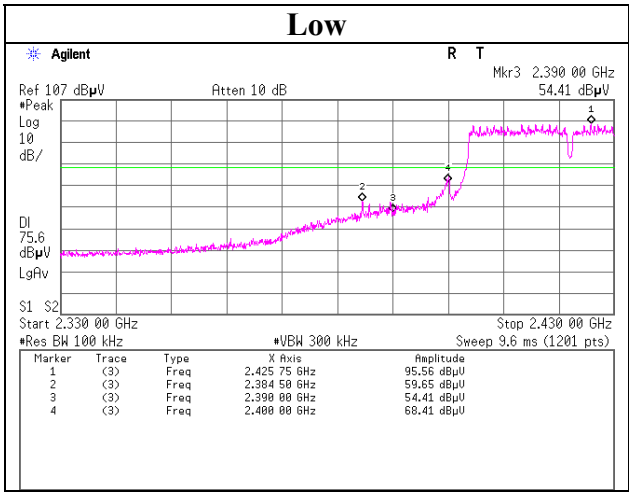


11n-40 Tx

Low



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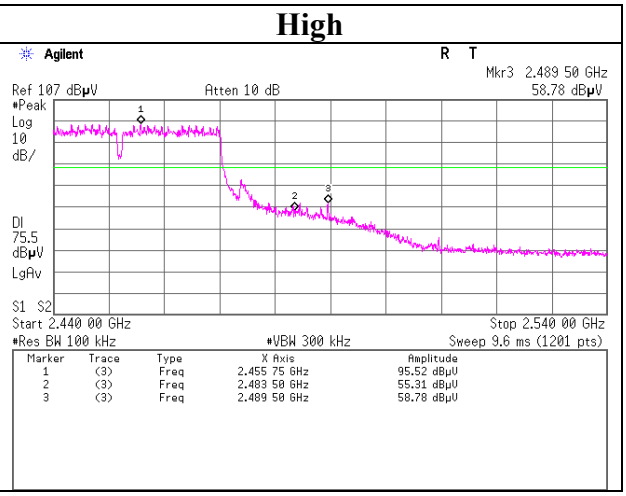
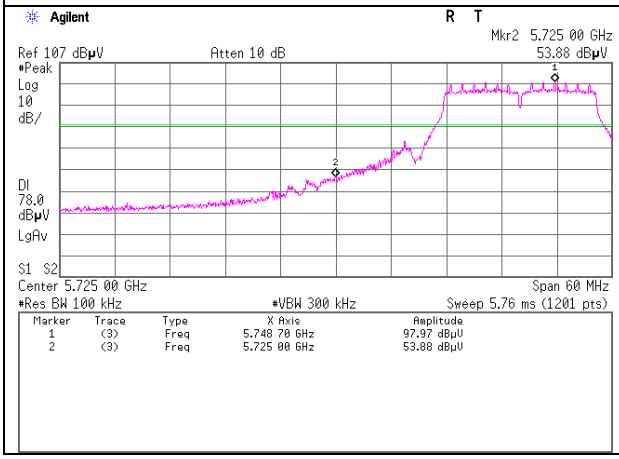


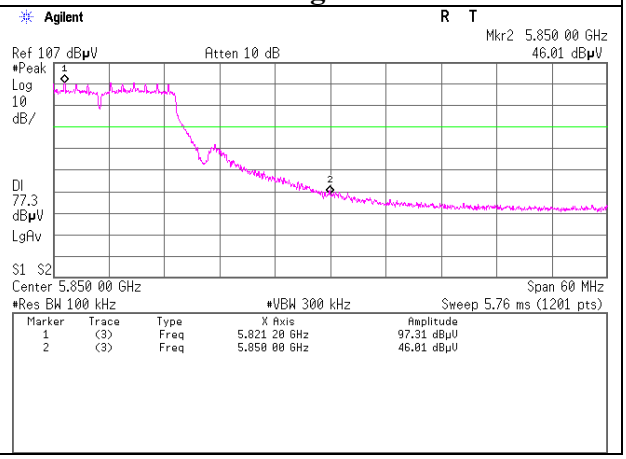
Conducted Emission Band Edge compliance

11a

Low



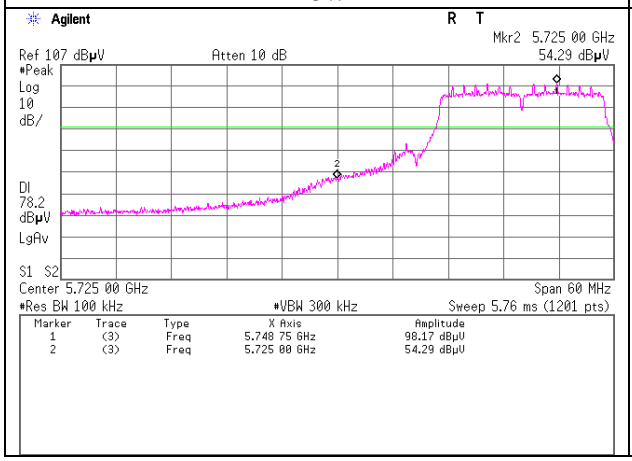
High



Conducted Emission Band Edge compliance

11n-20 Tx

Low



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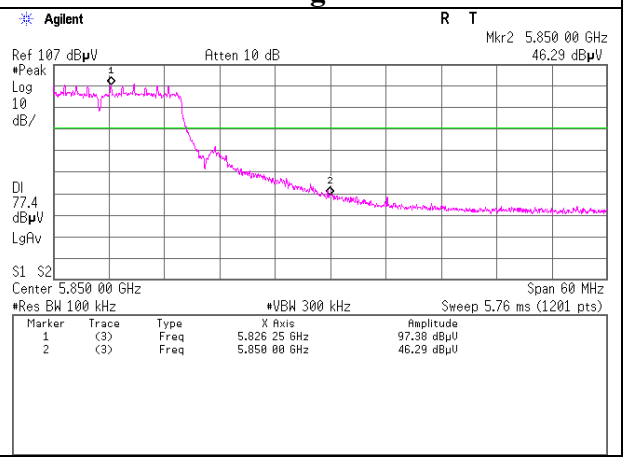
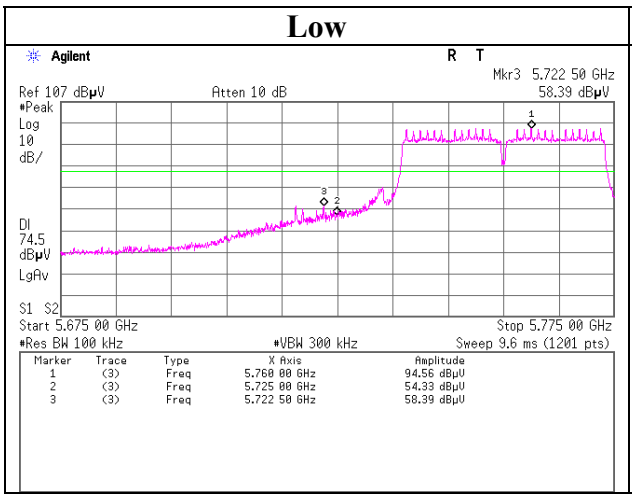
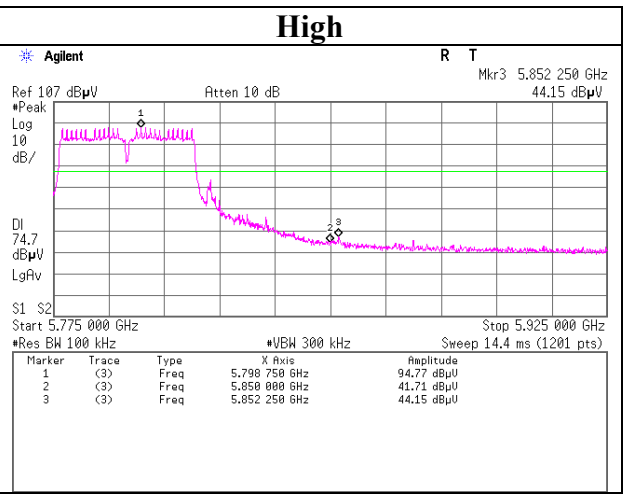


11n-40 Tx

Low



High



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4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

Power Density

Test place	Head Office EMC Lab. No.4 Measurement Room
Report No.	29LE0211-HO-02
Date	10/22/2009
Temperature/ Humidity	25 deg.C./ 41%
Engineer	Takumi Shimada
Mode	11b Tx, 11g Tx

11b Antenna 0

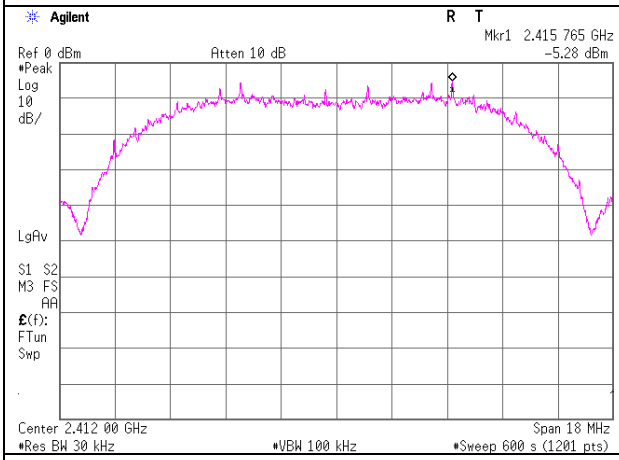
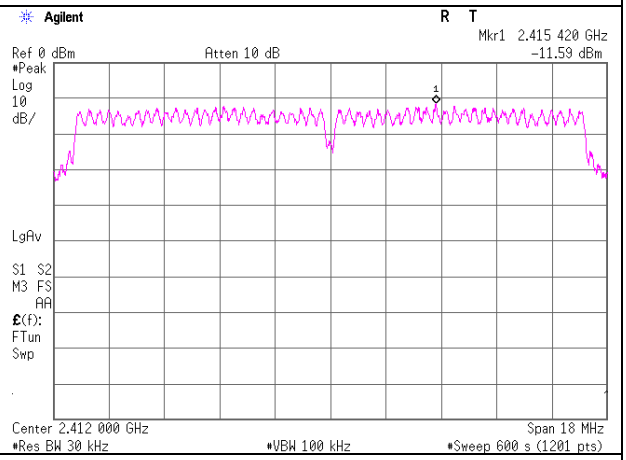
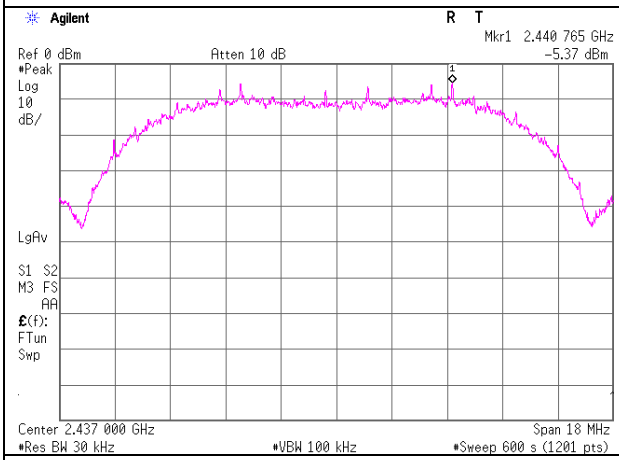
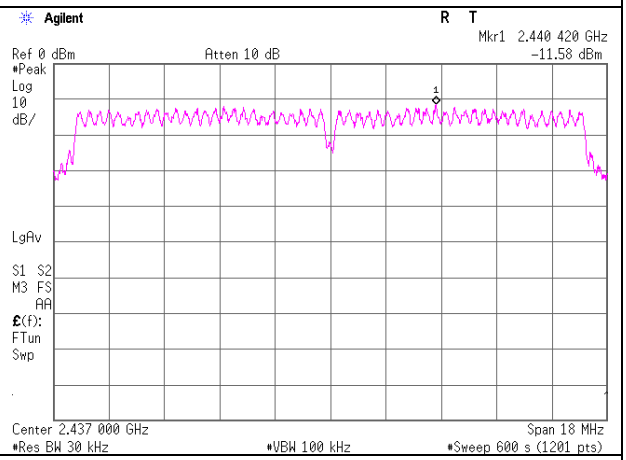
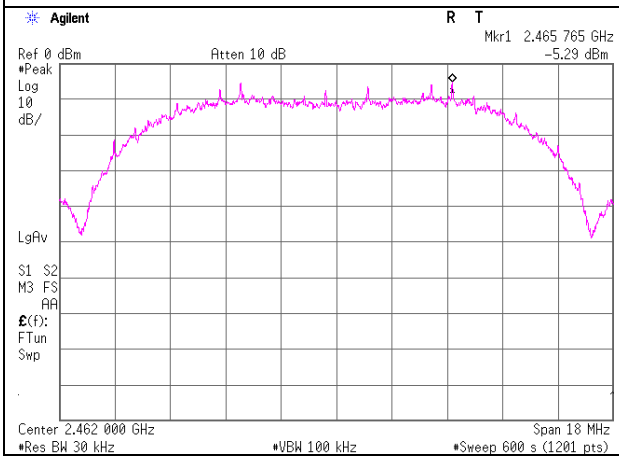
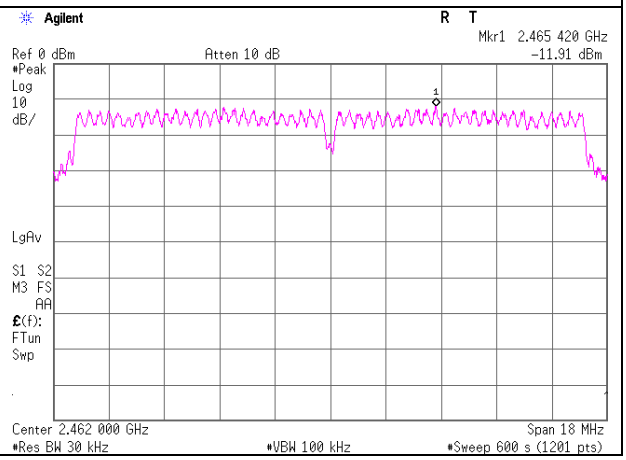
Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.00	-5.28	0.50	10.09	5.31	8.00	2.69
2437.00	-5.37	0.50	10.09	5.22	8.00	2.78
2462.00	-5.29	0.50	10.09	5.30	8.00	2.70

11g Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.00	-11.59	0.50	10.09	-1.00	8.00	9.00
2437.00	-11.58	0.50	10.09	-0.99	8.00	8.99
2462.00	-11.91	0.50	10.09	-1.32	8.00	9.32

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

Power Density

11b	11g
2412MHz	2412MHz
	
2437MHz	2437MHz
	
2462MHz	2462MHz
	

Power Density

Test place	Head Office EMC Lab. No.6 Measurement Room
Report No.	29LE0211-HO-02
Date	10/24/2009
Temperature/ Humidity	23 deg.C./ 53%
Engineer	Satofumi Matsuyama
Mode	11n-20 Tx, 11n-40 Tx

11n-20 Antenna 1

Freq.	Reading	Cable Loss	Atten.	Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[dB]
2412.00	-11.20	0.82	10.02	-0.36	0.92	8.00	8.36
2437.00	-11.12	0.83	10.02	-0.27	0.94	8.00	8.27
2462.00	-11.41	0.83	10.02	-0.56	0.88	8.00	8.56

11n-40 Antenna 0

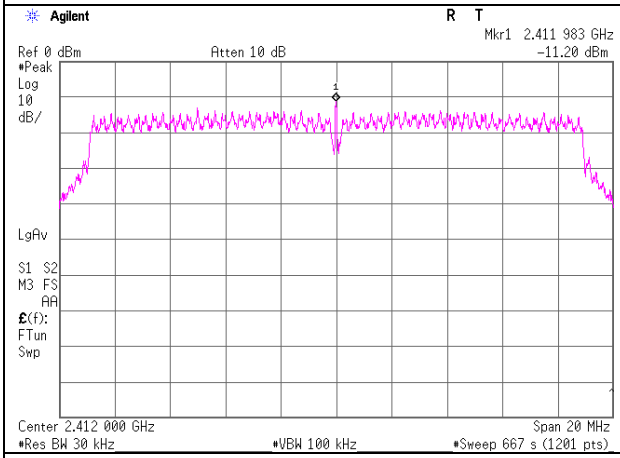
Freq.	Reading	Cable Loss	Atten.	Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[dB]
2422.00	-16.64	0.82	10.02	-5.80	0.26	8.00	13.80
2437.00	-16.66	0.83	10.02	-5.81	0.26	8.00	13.81
2452.00	-16.57	0.83	10.02	-5.72	0.27	8.00	13.72

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

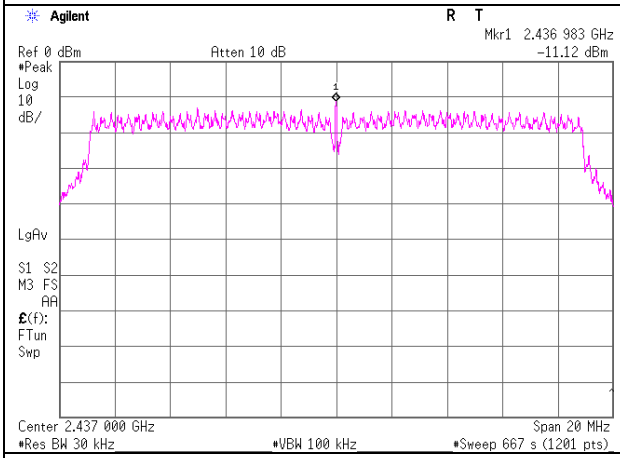
Power Density

11n-20

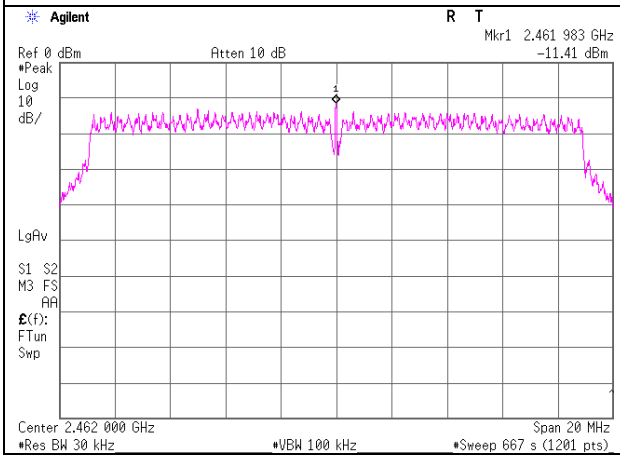
2412MHz



2437MHz

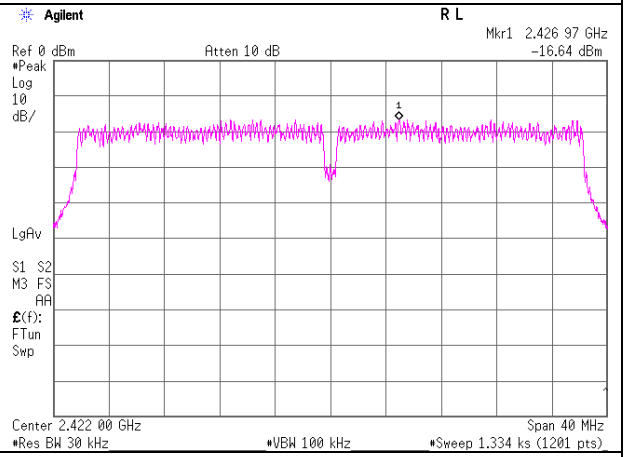


2462MHz

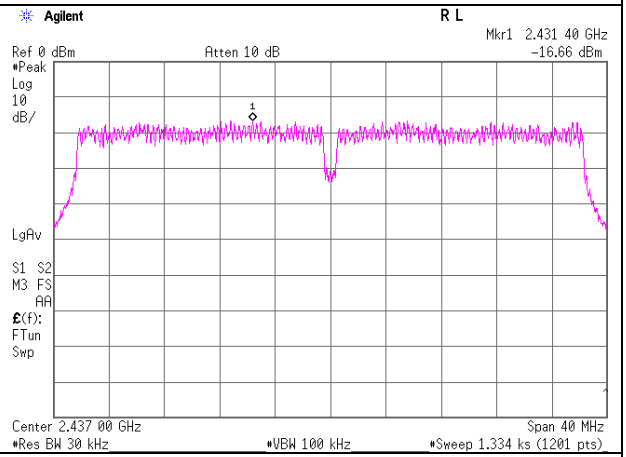


11n-40

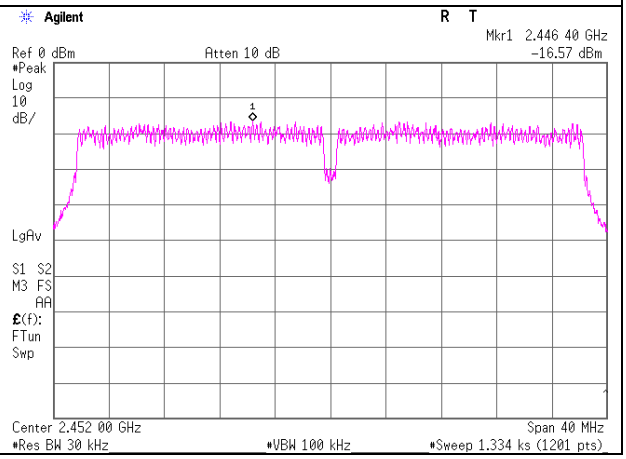
2422MHz



2437MHz



2452MHz



Power Density

Test place	Head Office EMC Lab. No.6 Measurement Room	
Report No.	29LE0211-HO-02	
Date	10/24/2009	10/282009
Temperature/ Humidity	23 deg.C./ 53%	23deg.C./ 49%
Engineer	Satofumi Matsuyama	Takeshi Choda
Mode	11a Tx, 11n-20 Tx, 11n-40 Tx	

11a Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Margin [dB]
5745.00	-13.71	1.46	10.04	-2.21	0.60	8.00	10.21
5785.00	-14.51	1.47	10.04	-3.00	0.50	8.00	11.00
5825.00	-14.25	1.48	10.04	-2.73	0.53	8.00	10.73

11n-20 Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Margin [dB]
5745.00	-14.37	1.46	10.04	-2.87	0.52	8.00	10.87
5785.00	-14.96	1.47	10.04	-3.45	0.45	8.00	11.45
5825.00	-14.90	1.48	10.04	-3.38	0.46	8.00	11.38

11n-40 Antenna 0

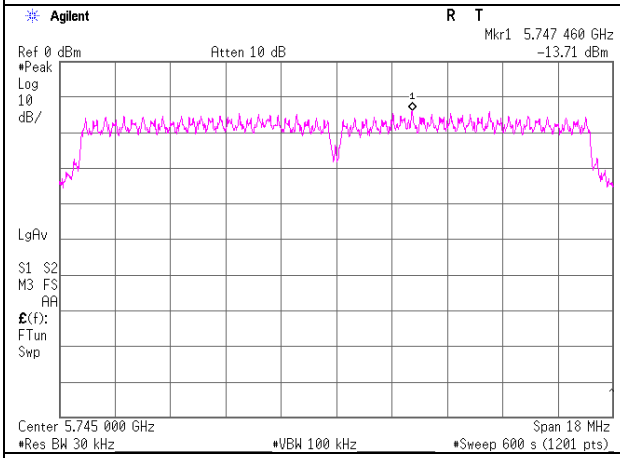
Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Margin [dB]
5755.00	-17.88	1.00	10.14	-6.74	0.21	8.00	14.74
5795.00	-17.56	1.00	10.14	-6.42	0.23	8.00	14.42

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

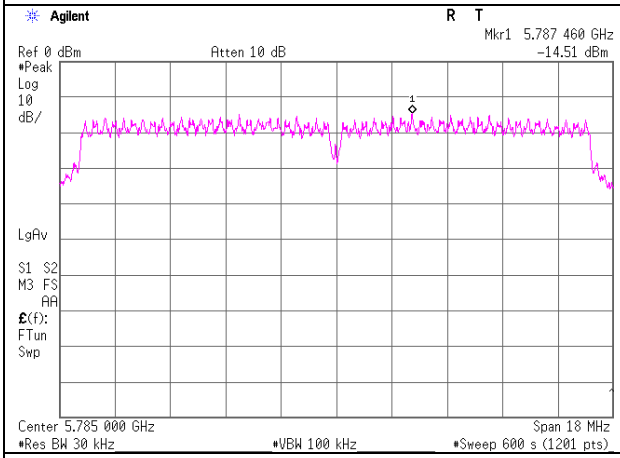
Power Density

11a

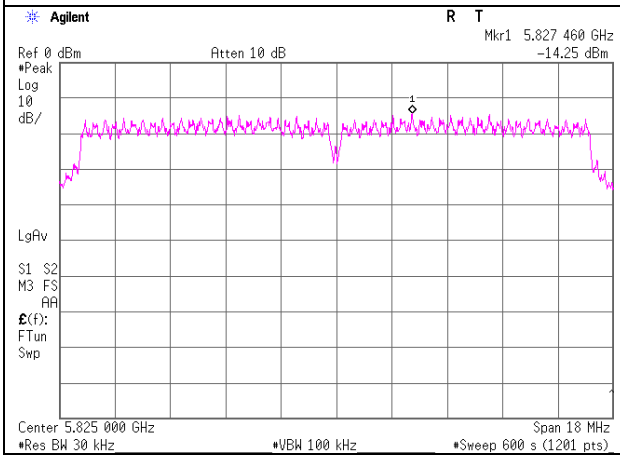
5745MHz



5785MHz

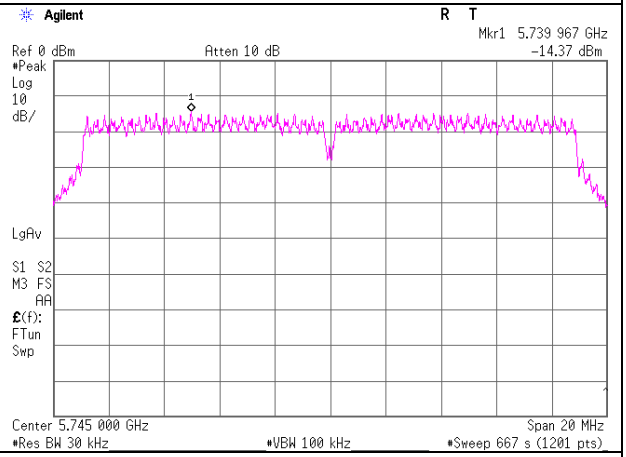


5825MHz

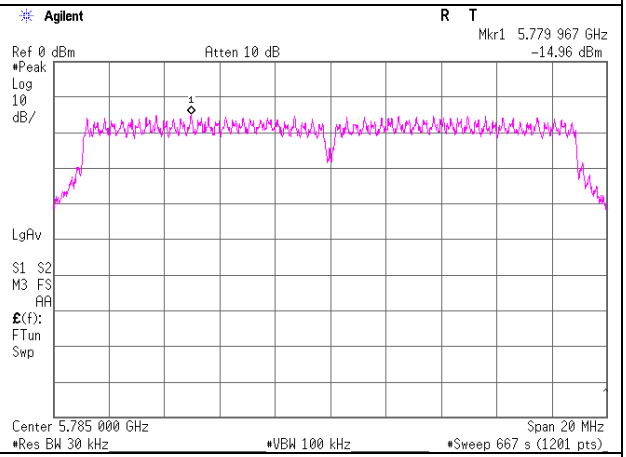


11n-20

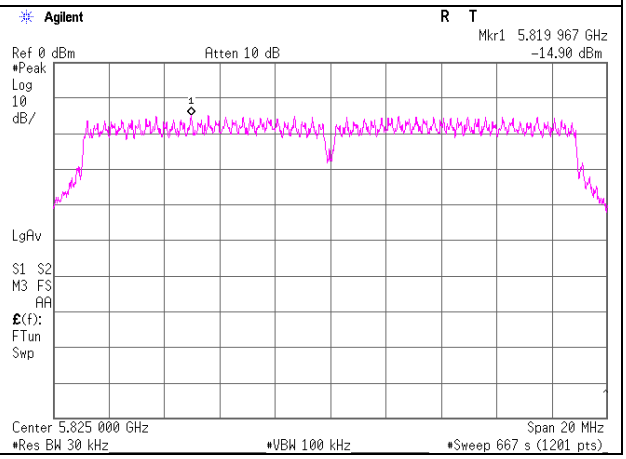
5745MHz



5785MHz



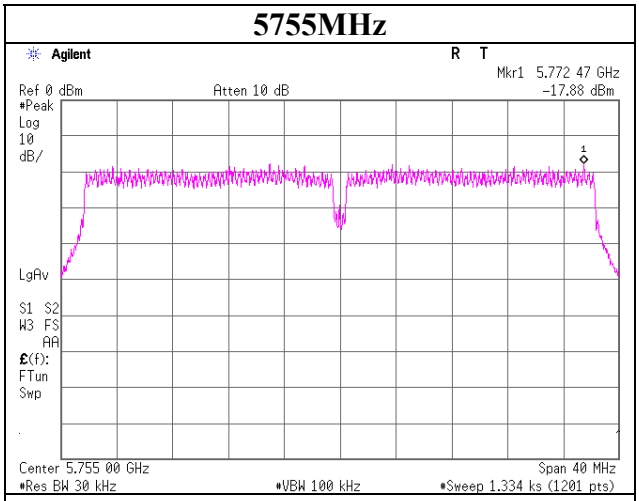
5825MHz



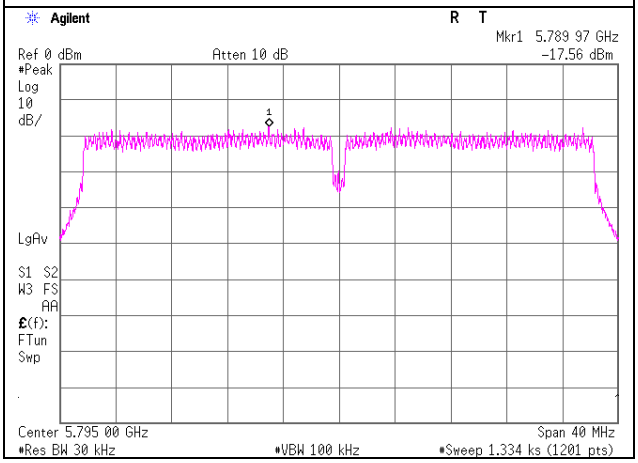
Power Density

11n-40

5755MHz



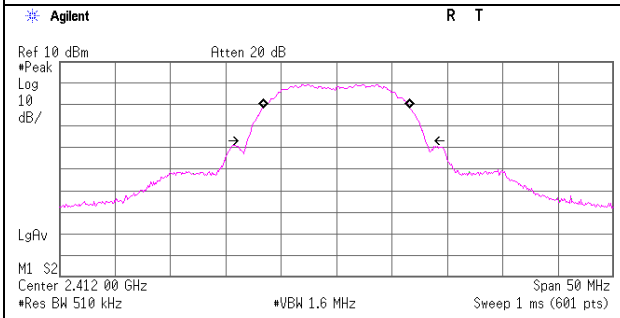
5795MHz



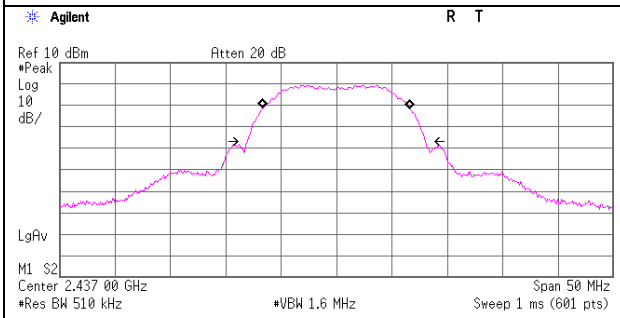
99%Occupied Bandwidth

11b Antenna 0

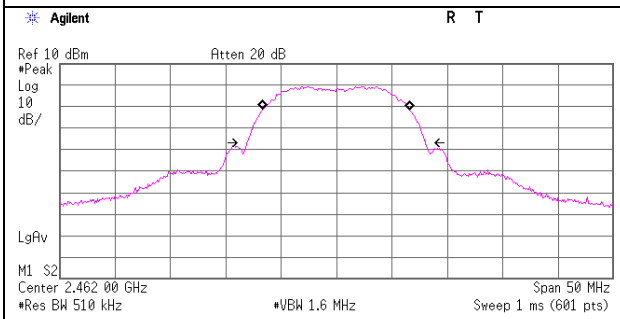
2412MHz



2437MHz

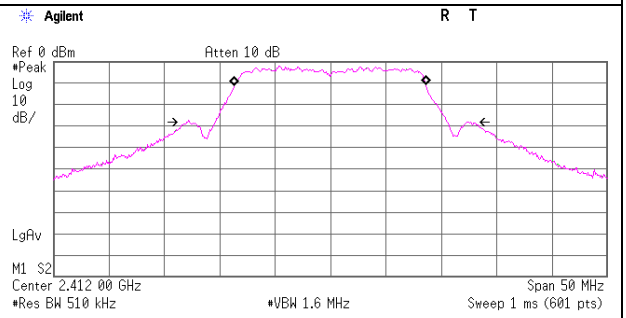


2462MHz

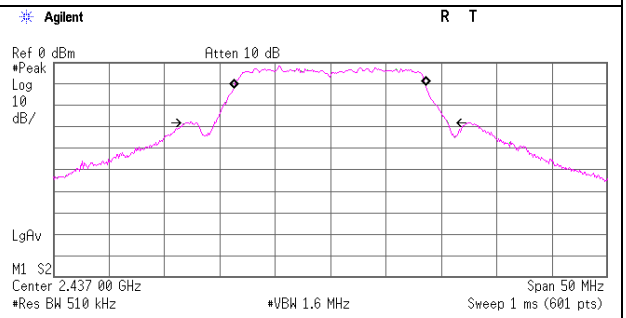


11g Antenna 0

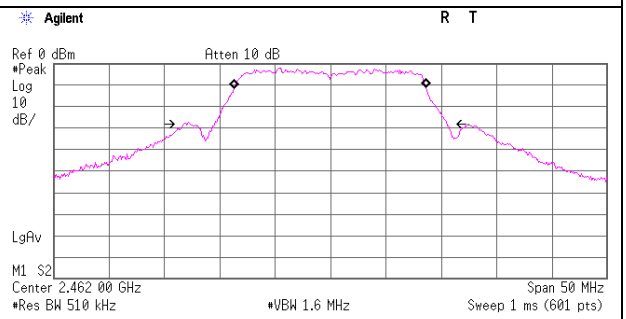
2412MHz



2437MHz



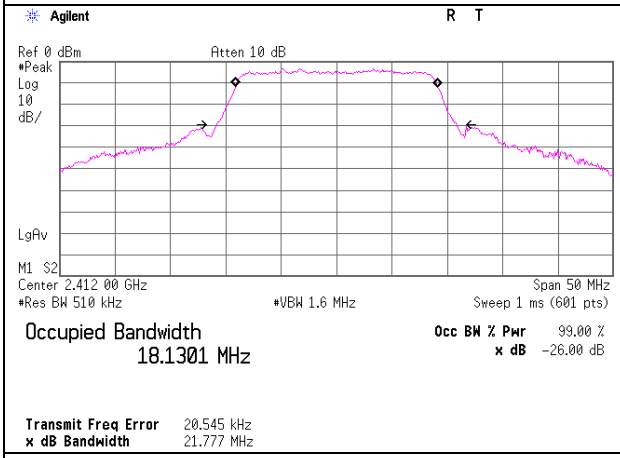
2462MHz



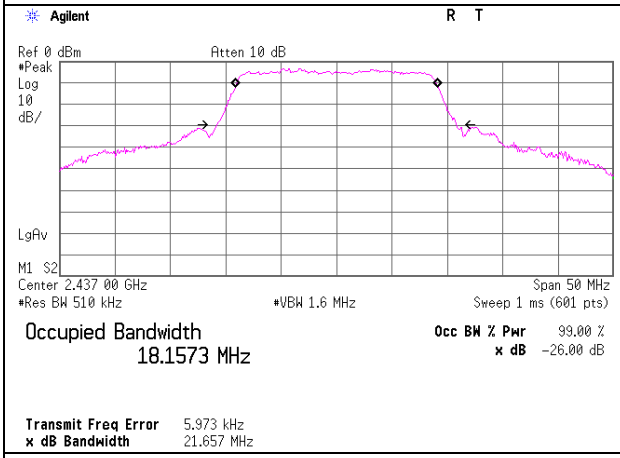
99% Occupied Bandwidth

11n-20 Antenna 1

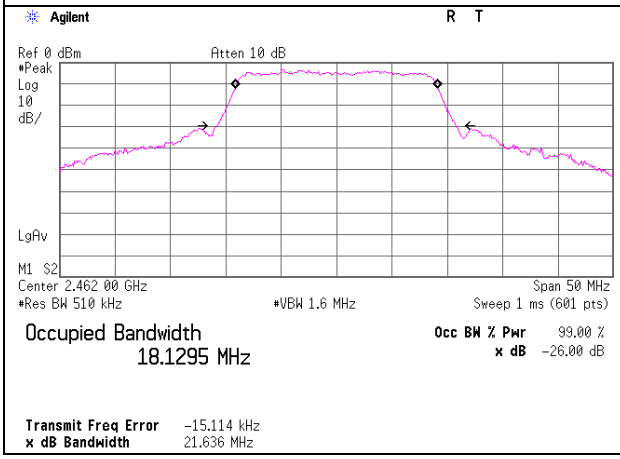
2412MHz



2437MHz

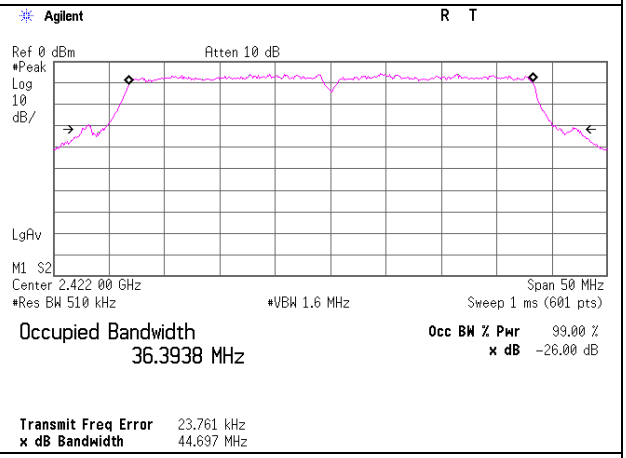


2462MHz

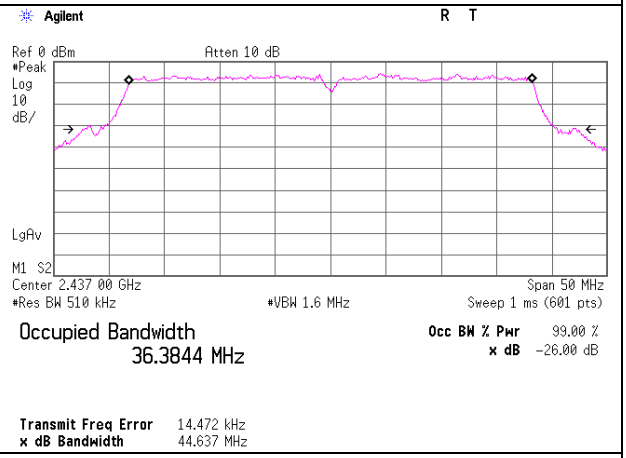


11n-40 Antenna 0

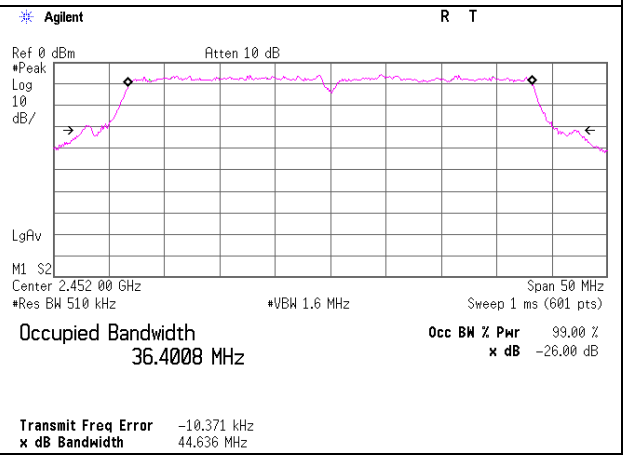
2422MHz



2437MHz



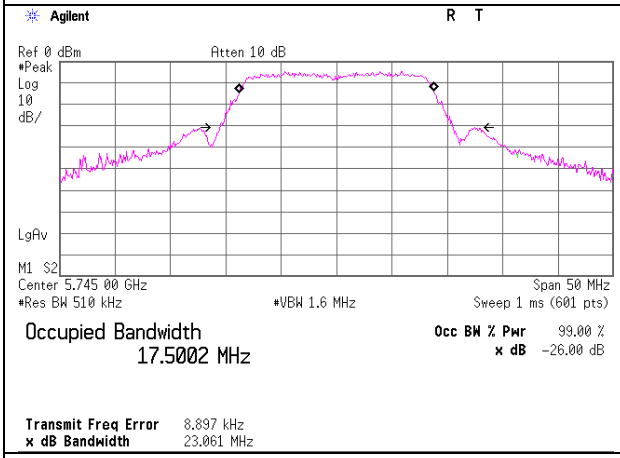
2452MHz



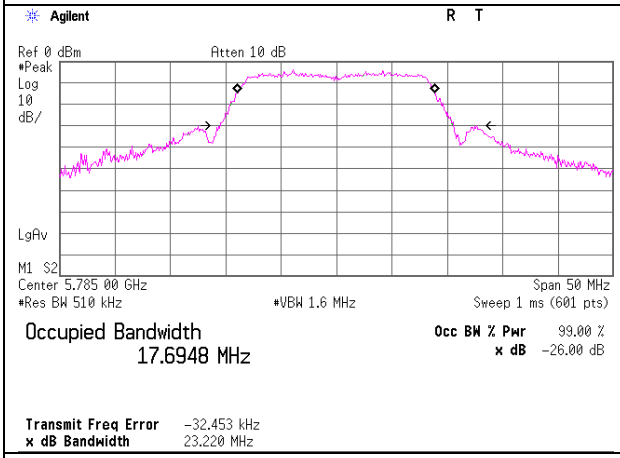
99% Occupied Bandwidth

11a Antenna 0

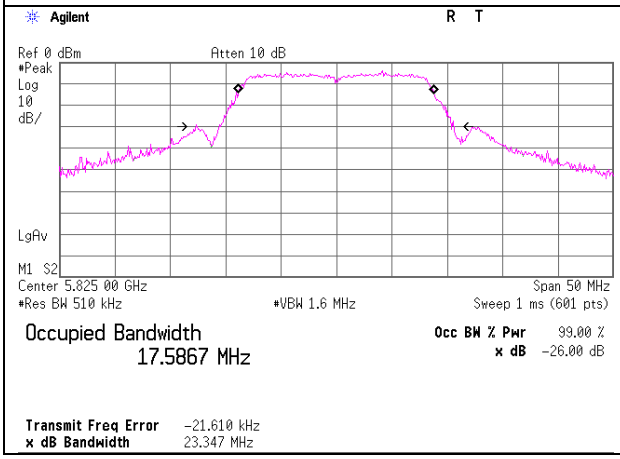
5745MHz



5785MHz

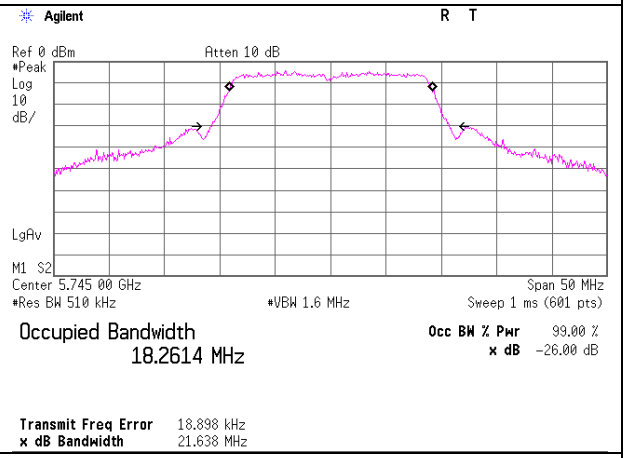


5825MHz

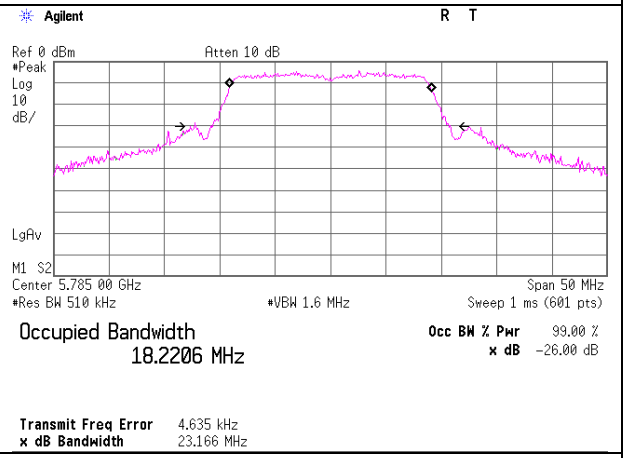


11n-20 Antenna 0

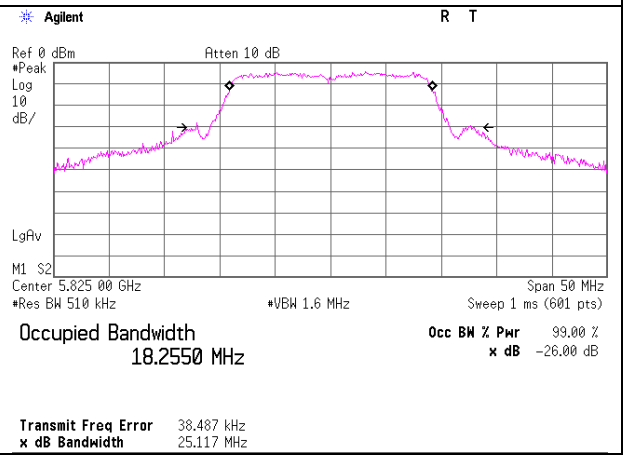
5745MHz



5785MHz



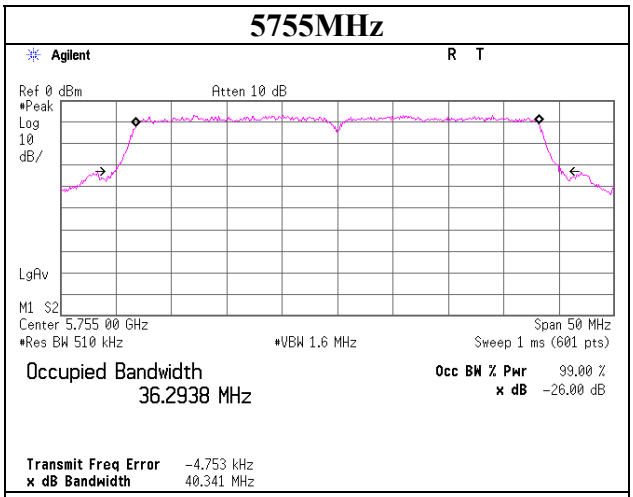
5825MHz



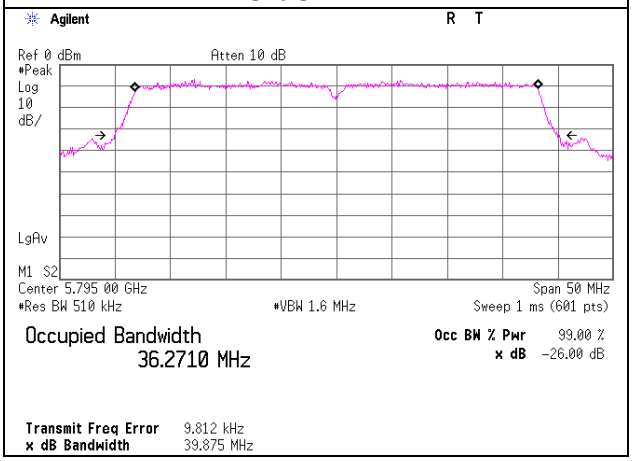
99% Occupied Bandwidth

11n-40 Antenna 0

5755MHz



5795MHz



APPENDIX 3: Test instruments

EMI test equipment [1/2]

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	AT/RE	2009/02/25 * 12
MAT-23	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	-	AT	2009/03/24 * 12
MPM-09	Power Meter	Anritsu	ML2495A	6K00003348	AT	2009/09/09 * 12
MPSE-12	Power sensor	Anritsu	MA2411B	011598	AT	2009/09/09 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	MOS04	AT	2009/02/04 * 12
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE / CE	2009/02/03 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE / CE	2009/02/06 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE / CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE / CE	-
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2009/08/10 * 12
MCC-57	Microwave Cable 1G-26.5GHz 6m	Suhner	SUCOFLEX104	246769(1m) / 292411(5m)	RE	2008/11/05 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2009/03/19 * 12
MHF-20	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCC	607	RE	2008/12/12 * 12
MCC-79	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	278923/4	RE	2008/12/17 * 12
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE/CE	2009/06/29 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	CE/RE	2008/10/03 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2009/01/10 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2009/01/10 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	-	RE	2009/03/03 * 12
MCC-50	Coaxial cable	UL Japan	-	-	RE	2009/03/18 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE / CE	2009/03/18 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE / AT	2008/11/07 * 12
MHA-17	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170307	RE	2009/06/18 * 12
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2009/02/02 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2009/02/06 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
MHA-16	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170306	RE	2009/04/30 * 12
MCC-54	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX101	2873(1m) / 2876(5m)	RE	2009/03/02 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	3950M00205	RE	2009/06/30 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE	2009/08/25 * 12
MAT-22	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	-	AT	2009/03/24 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-180	-	AT	2009/02/04 * 12

EMI test equipment [2/2]

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2009/04/30 * 12
MCC-56	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	174410(1m) / 284655(5m)	RE	2009/01/07 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2009/03/19 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2009/01/19 * 12
MAT-09	Attenuator(6dB)	Weinschel Corp	2	BK7973	RE	2008/11/14 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2009/07/02 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2009/03/18 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2009/01/10 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	2009/06/30 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2009/02/18 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(5m)/421-010(1m)/sucoform141-PE(1m)/RFM-E121(Switcher)	-/04178	CE	2009/07/01 * 12
MCC-35	Microwave Cable	Hirose Electric	U.FL-2LP-066-A-(200)	-	AT	2008/11/18 * 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