

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

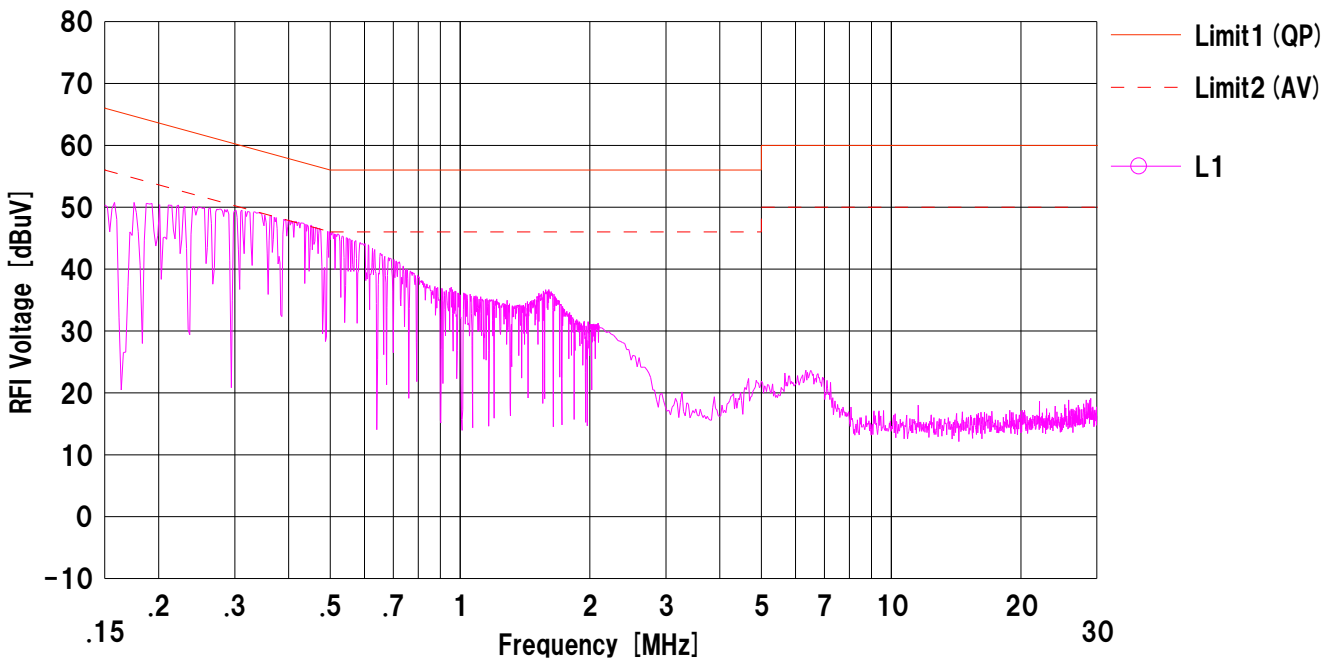
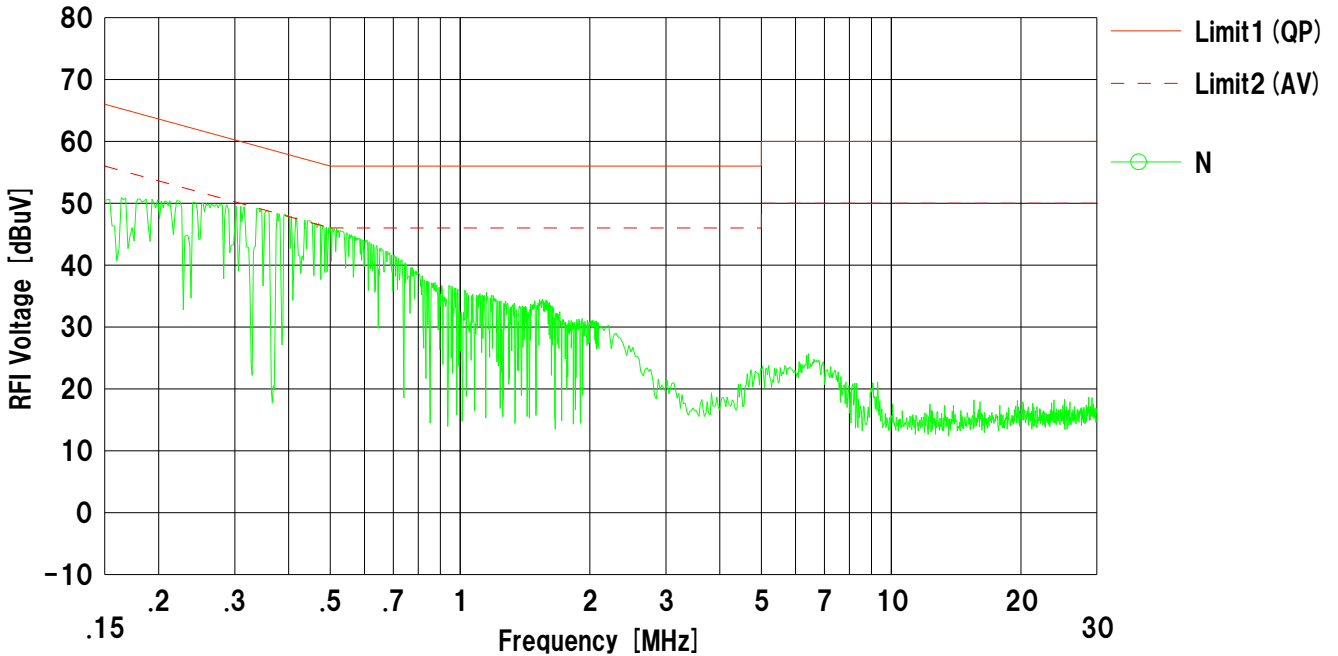
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11b 2412MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



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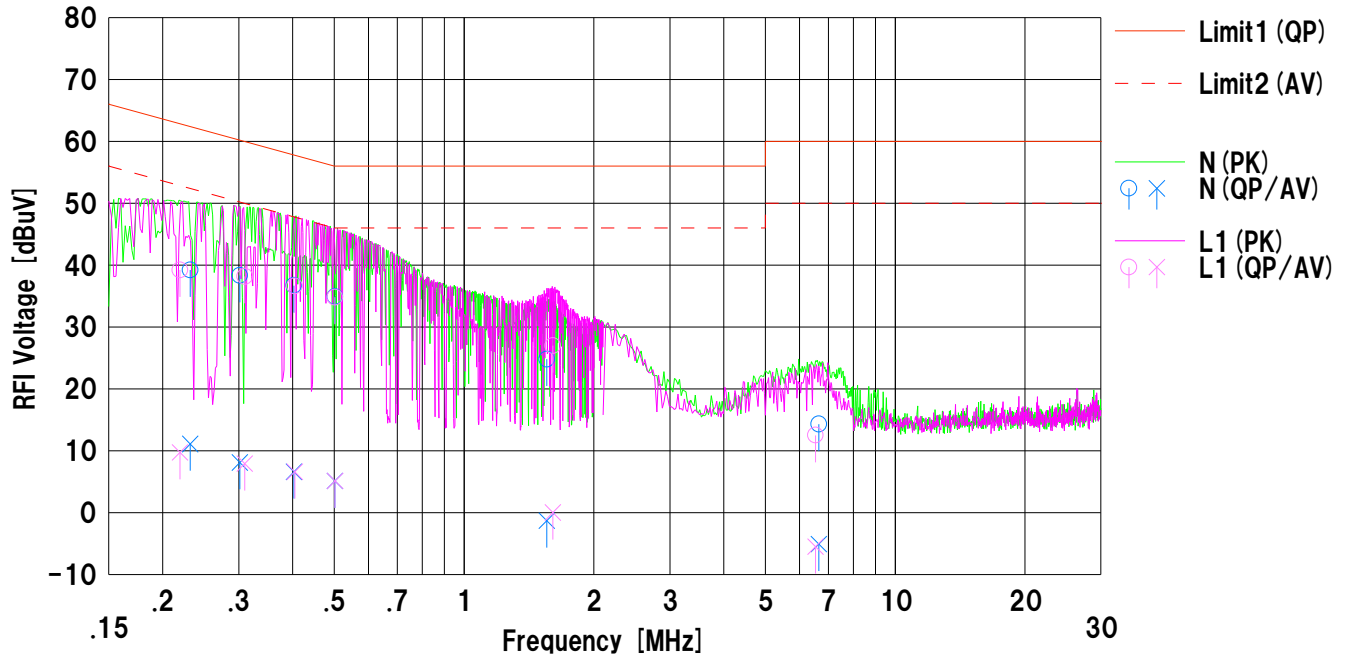
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11b 2437MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23150	26.6	-1.5	12.6	39.2	11.1	62.3	52.3	23.1	41.2	N	
2	0.30180	25.6	-4.6	12.7	38.3	8.1	60.1	50.1	21.8	42.0	N	
3	0.40303	24.0	-6.1	12.7	36.7	6.6	57.7	47.7	21.0	41.1	N	
4	0.50134	22.2	-7.6	12.7	34.9	5.1	56.0	46.0	21.1	40.9	N	
5	1.55555	12.0	-14.1	12.8	24.8	-1.3	56.0	46.0	31.2	47.3	N	
6	6.65145	1.2	-18.2	13.1	14.3	-5.1	60.0	50.0	45.7	55.1	N	
7	0.21920	26.6	-2.9	12.6	39.2	9.7	62.8	52.8	23.6	43.1	L1	
8	0.31040	25.5	-4.8	12.7	38.2	7.9	59.9	49.9	21.7	42.0	L1	
9	0.40472	23.9	-6.1	12.7	36.6	6.6	57.7	47.7	21.1	41.1	L1	
10	0.50185	22.1	-7.6	12.7	34.8	5.1	56.0	46.0	21.2	40.9	L1	
11	1.60618	14.2	-12.8	12.8	27.0	0.0	56.0	46.0	29.0	46.0	L1	
12	6.53500	-0.6	-18.6	13.1	12.5	-5.5	60.0	50.0	47.5	55.5	L1	

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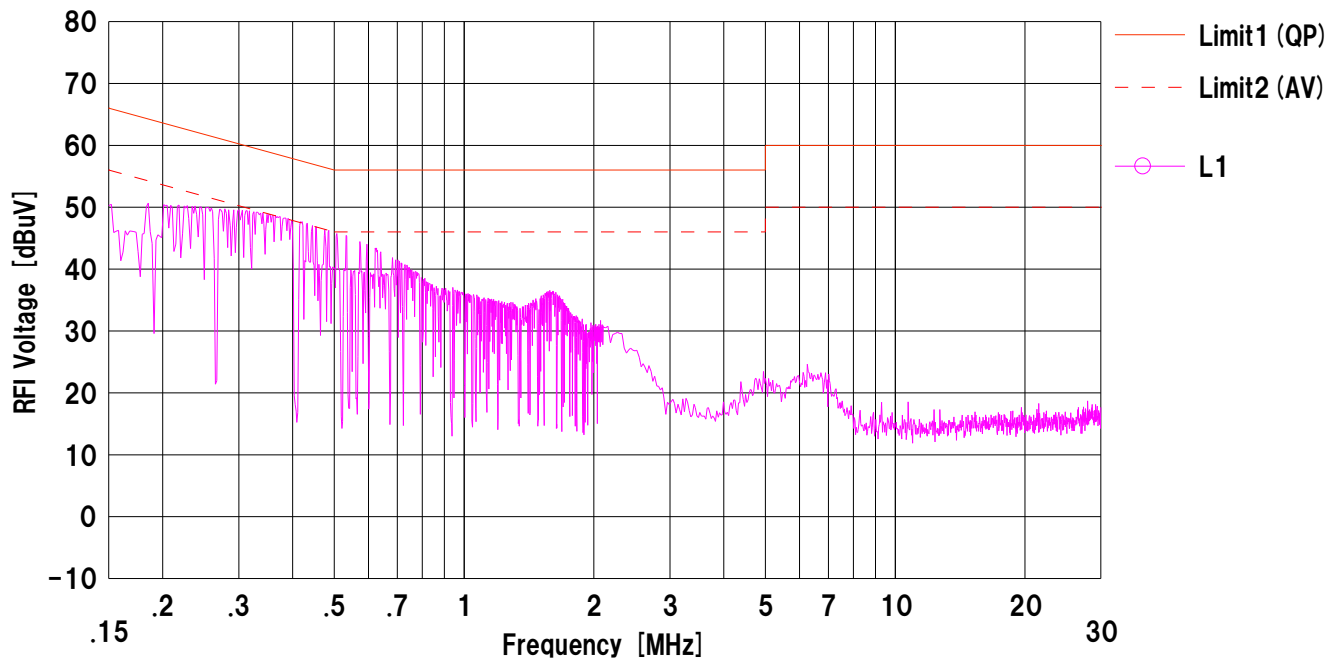
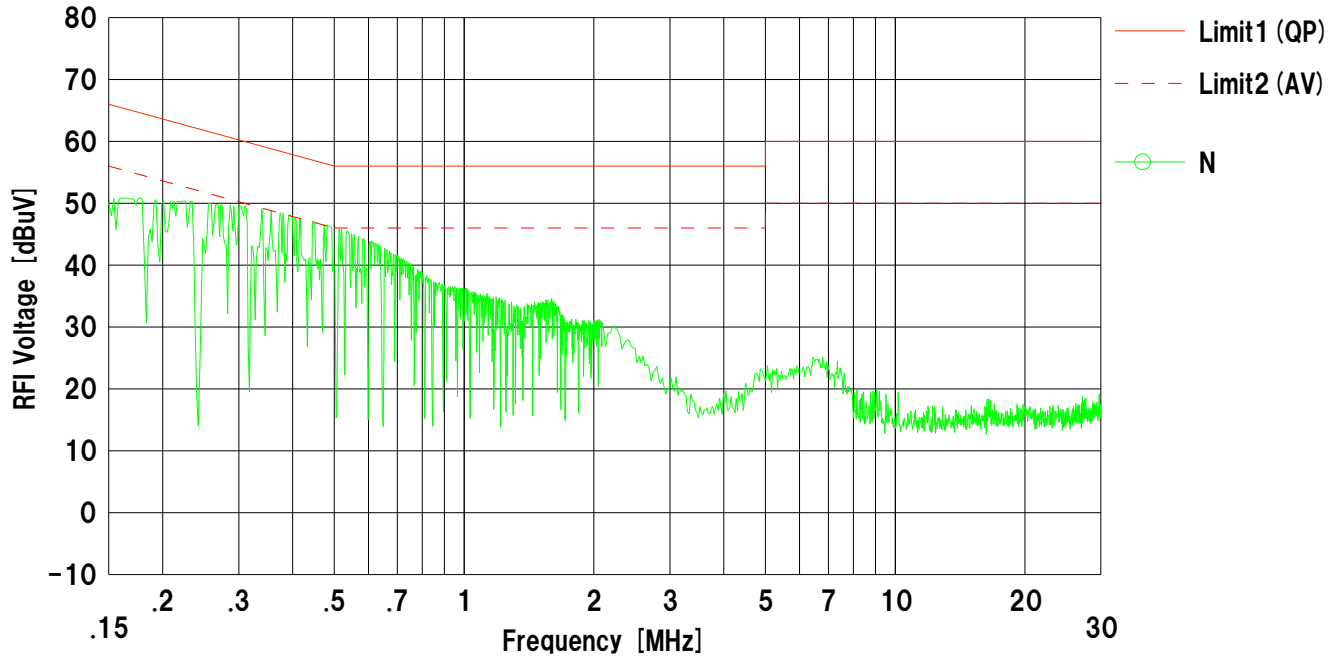
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11b 2462MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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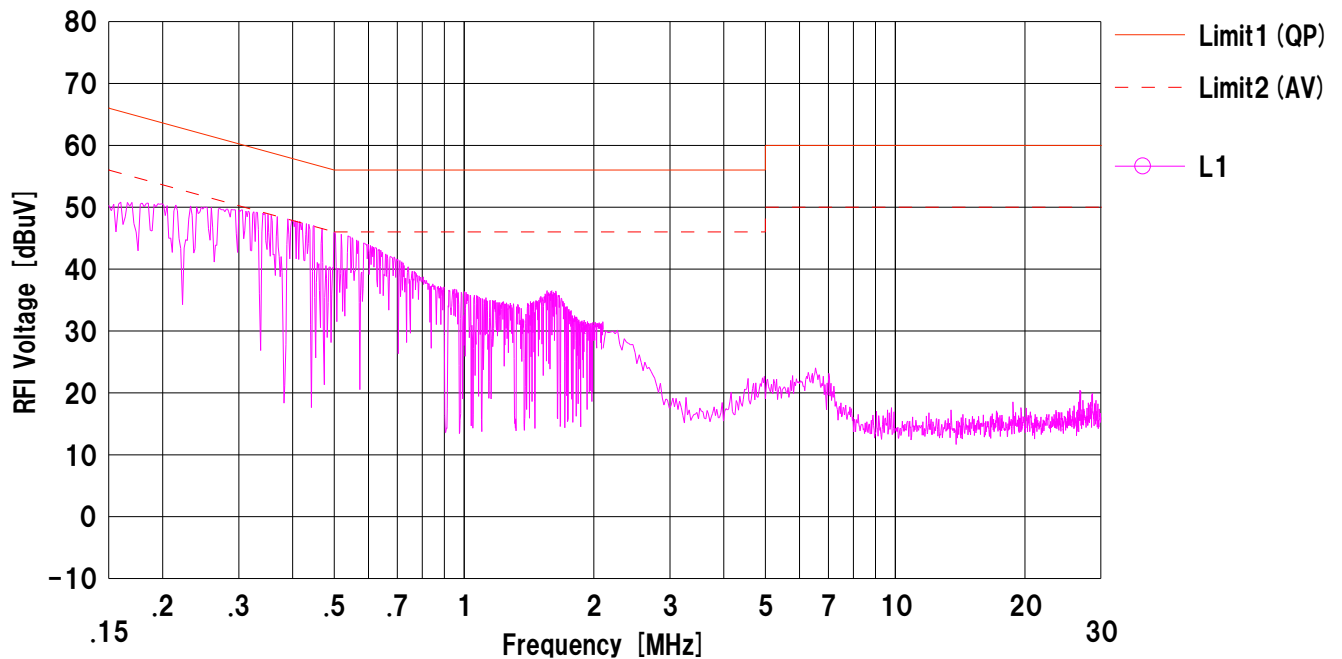
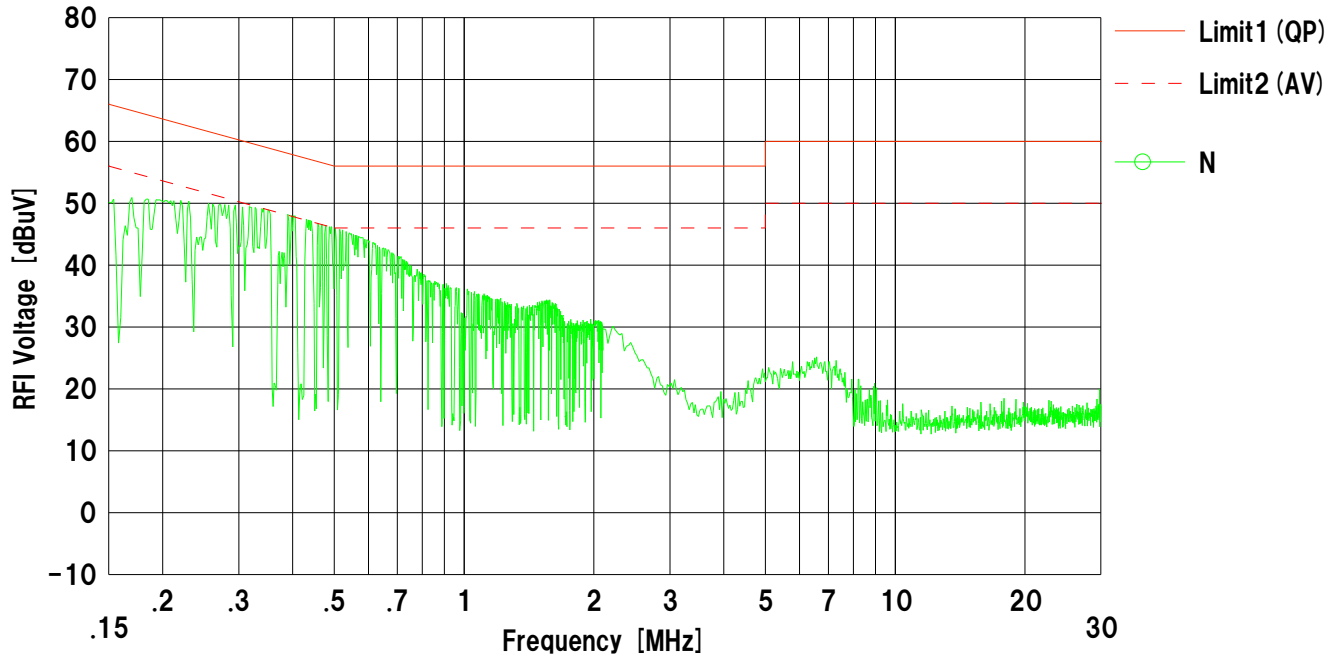
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11g 2412MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

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UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
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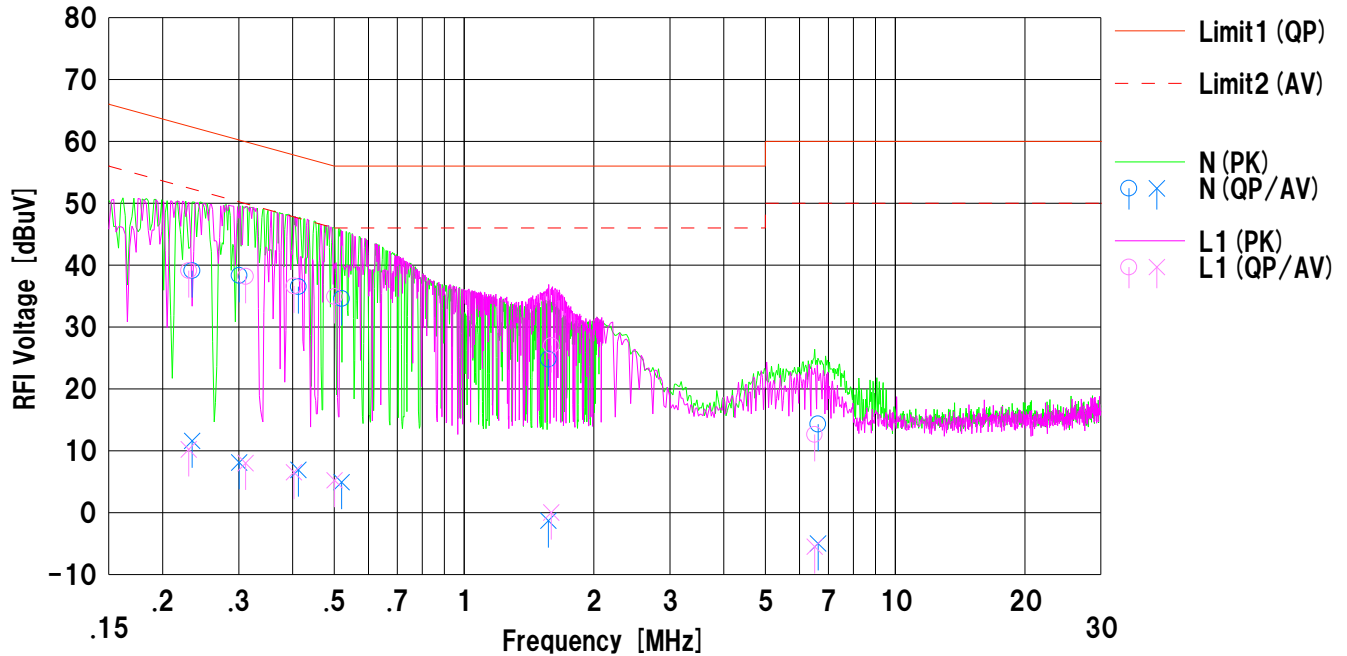
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11g 2437MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23384	26.5	-1.0	12.6	39.1	11.6	62.3	52.3	23.2	40.7	N	
2	0.30082	25.6	-4.6	12.7	38.3	8.1	60.2	50.2	21.9	42.1	N	
3	0.41245	23.8	-5.8	12.7	36.5	6.9	57.5	47.5	21.0	40.6	N	
4	0.51972	21.9	-7.8	12.7	34.6	4.9	56.0	46.0	21.4	41.1	N	
5	1.56924	12.0	-14.1	12.8	24.8	-1.3	56.0	46.0	31.2	47.3	N	
6	6.62426	1.2	-18.1	13.1	14.3	-5.0	60.0	50.0	45.7	55.0	N	
7	0.22981	26.5	-2.4	12.6	39.1	10.2	62.4	52.4	23.3	42.2	L1	
8	0.31150	25.5	-4.7	12.7	38.2	8.0	59.9	49.9	21.7	41.9	L1	
9	0.40330	23.9	-6.2	12.7	36.6	6.5	57.7	47.7	21.1	41.2	L1	
10	0.50051	22.2	-7.5	12.7	34.9	5.2	56.0	46.0	21.1	40.8	L1	
11	1.59150	14.2	-12.8	12.8	27.0	0.0	56.0	46.0	29.0	46.0	L1	
12	6.50303	-0.5	-18.6	13.1	12.6	-5.5	60.0	50.0	47.4	55.5	L1	

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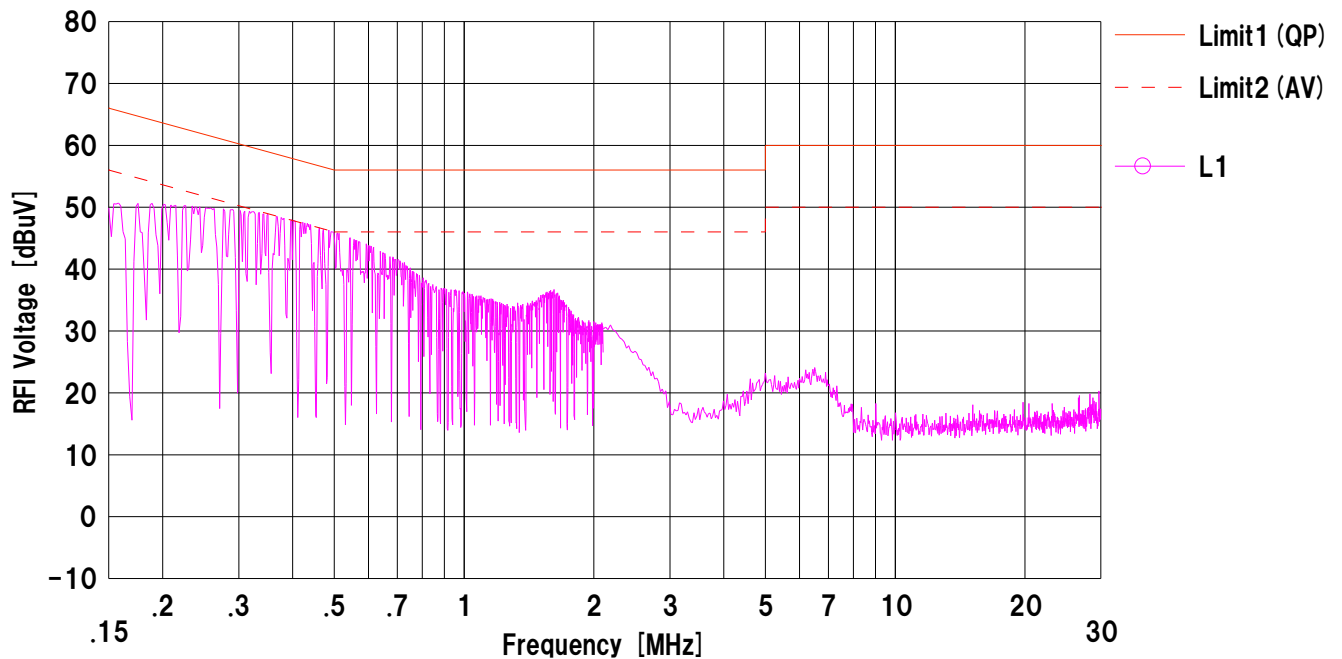
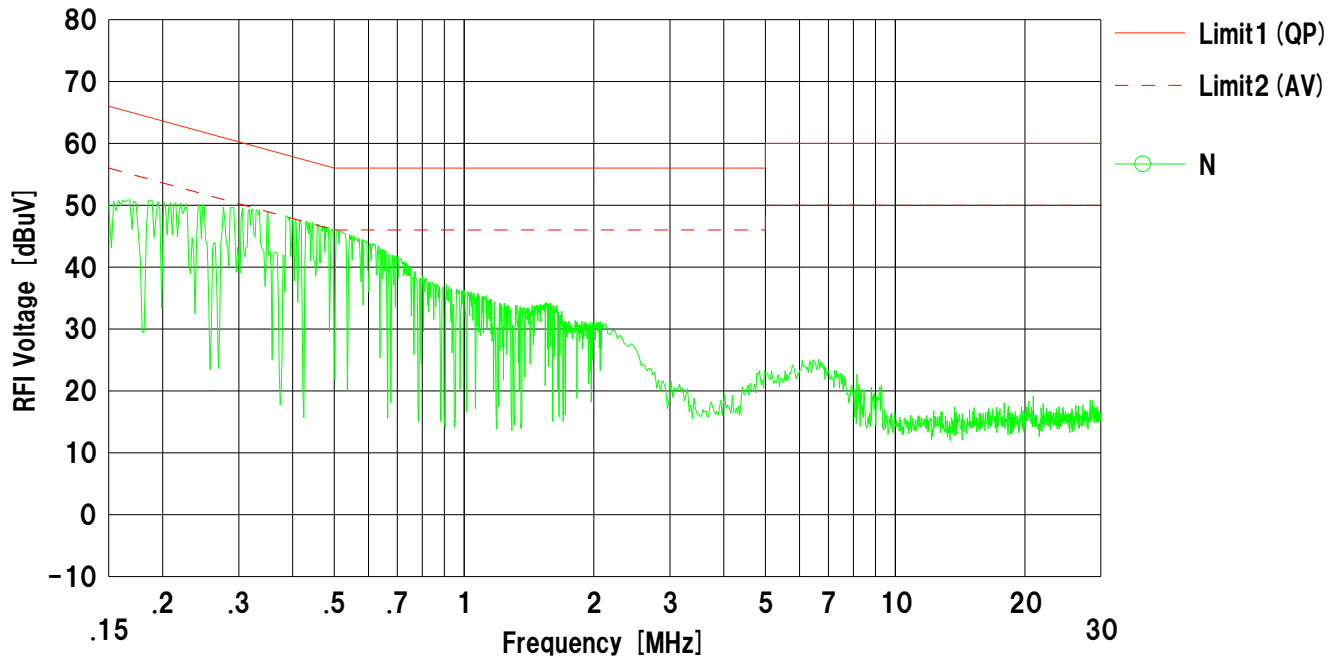
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11g 2462MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
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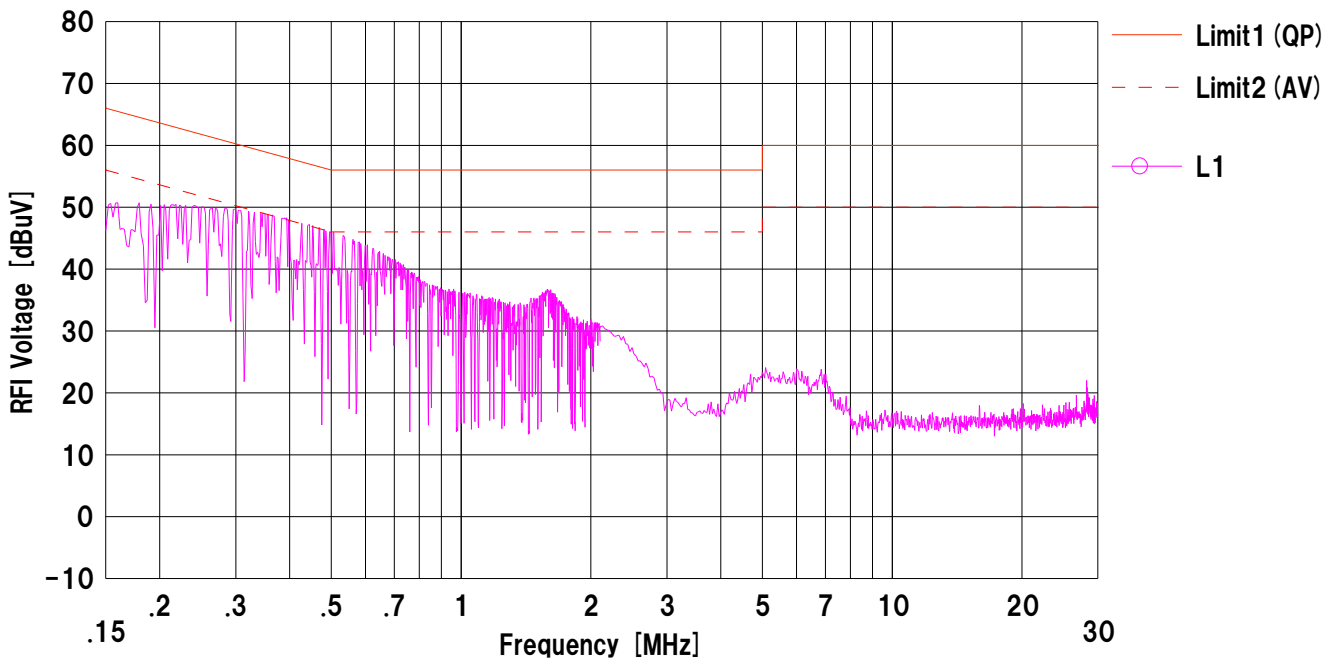
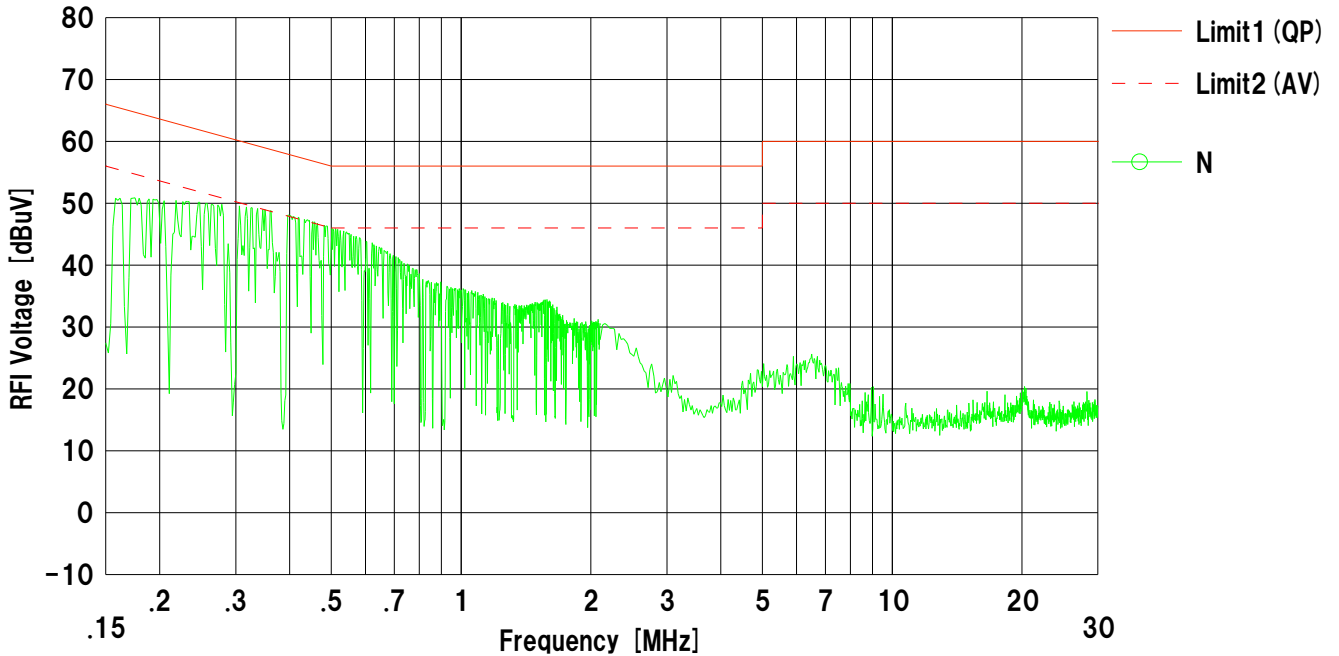
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT20) 2412MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

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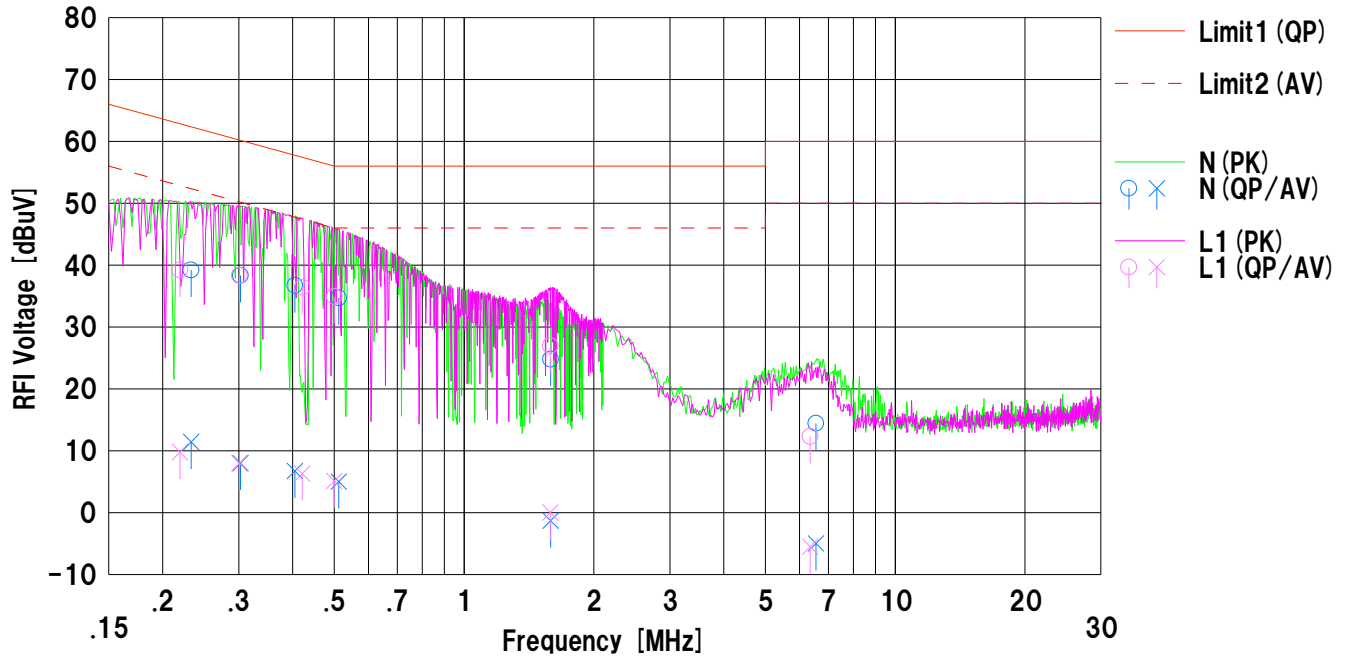
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT20) 2437MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.23263	26.6	-1.2	12.6	39.2	11.4	62.3	52.3	23.1	40.9	N	
2	0.30285	25.6	-4.7	12.7	38.3	8.0	60.1	50.1	21.8	42.1	N	
3	0.40481	24.0	-6.0	12.7	36.7	6.7	57.7	47.7	21.0	41.0	N	
4	0.51182	22.0	-7.7	12.7	34.7	5.0	56.0	46.0	21.3	41.0	N	
5	1.58756	12.0	-14.1	12.8	24.8	-1.3	56.0	46.0	31.2	47.3	N	
6	6.55160	1.3	-18.1	13.1	14.4	-5.0	60.0	50.0	45.6	55.0	N	
7	0.21925	26.6	-2.8	12.6	39.2	9.8	62.8	52.8	23.6	43.0	L1	
8	0.30131	25.6	-4.7	12.7	38.3	8.0	60.2	50.2	21.9	42.2	L1	
9	0.42130	23.7	-6.4	12.7	36.4	6.3	57.4	47.4	21.0	41.1	L1	
10	0.50009	22.2	-7.6	12.7	34.9	5.1	56.0	46.0	21.1	40.9	L1	
11	1.58383	14.2	-12.8	12.8	27.0	0.0	56.0	46.0	29.0	46.0	L1	
12	6.34790	-0.8	-18.6	13.1	12.3	-5.5	60.0	50.0	47.7	55.5	L1	

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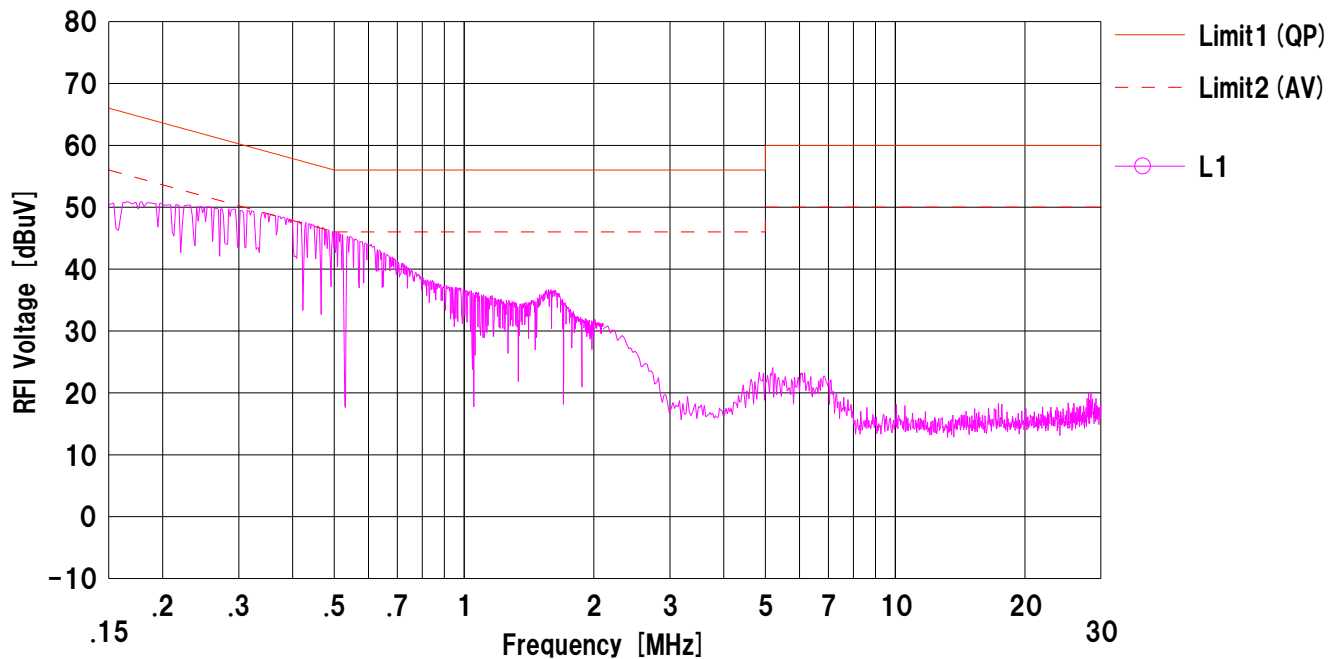
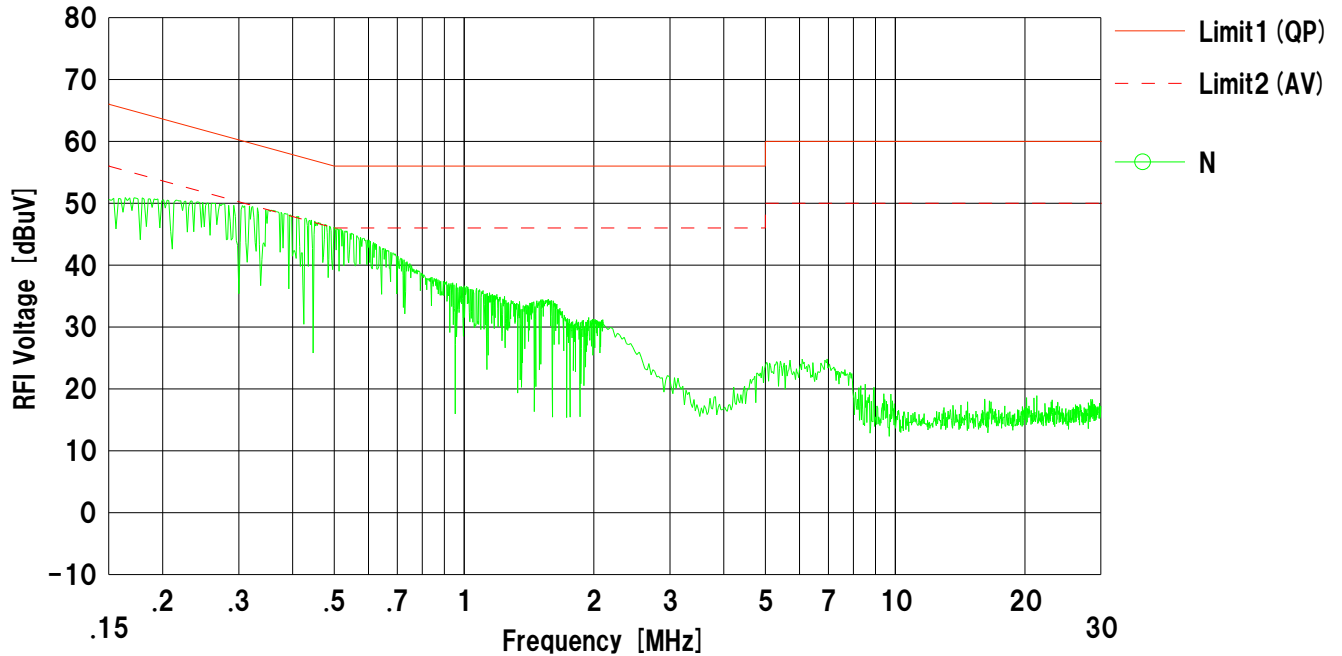
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT20) 2462MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



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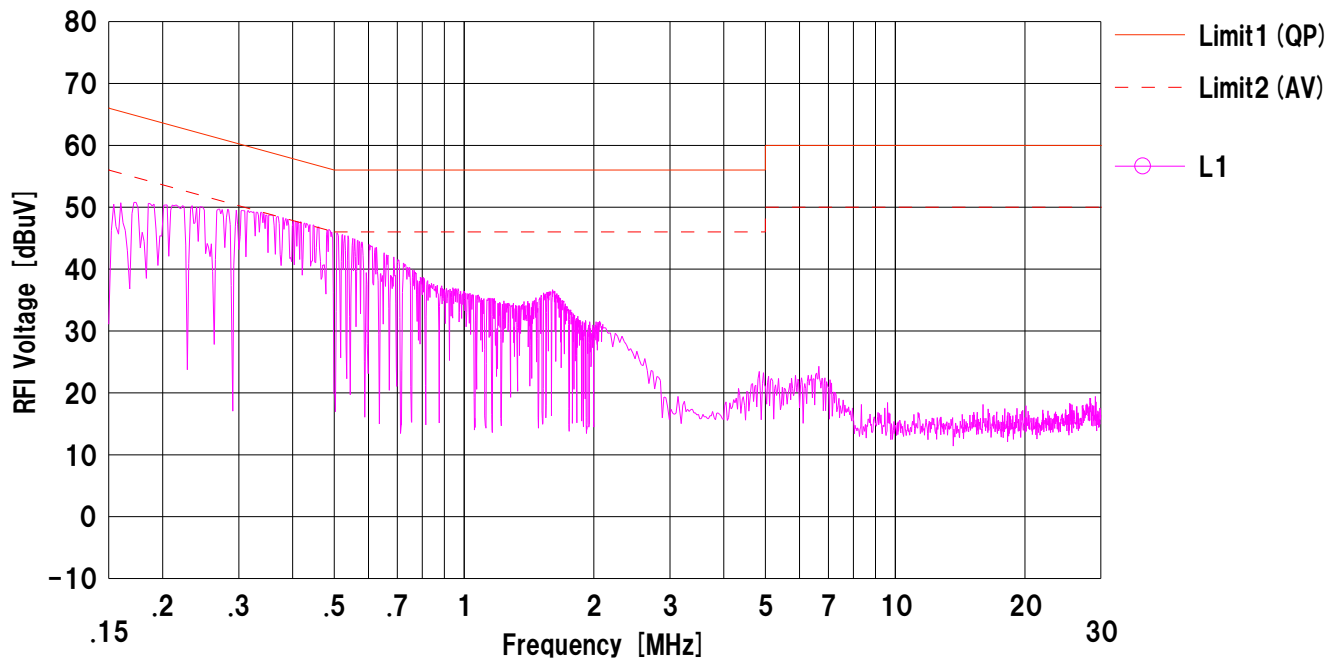
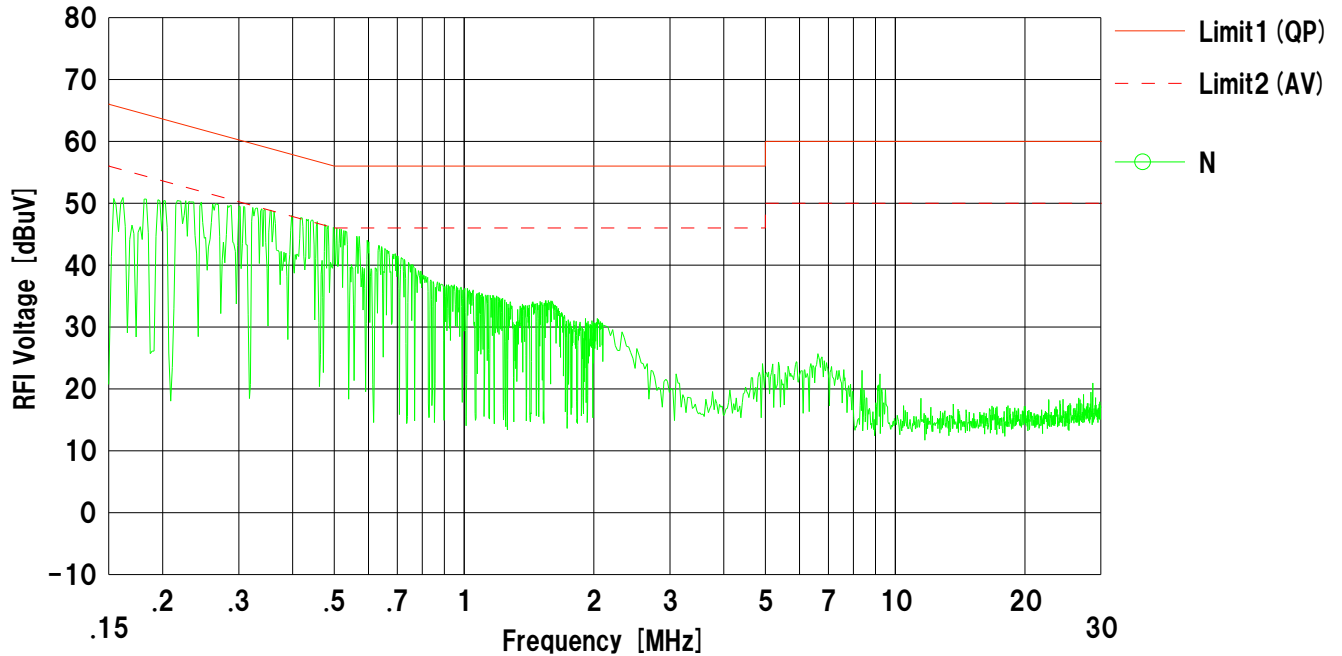
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT40) 2422MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



DATA OF CONDUCTED EMISSION TEST

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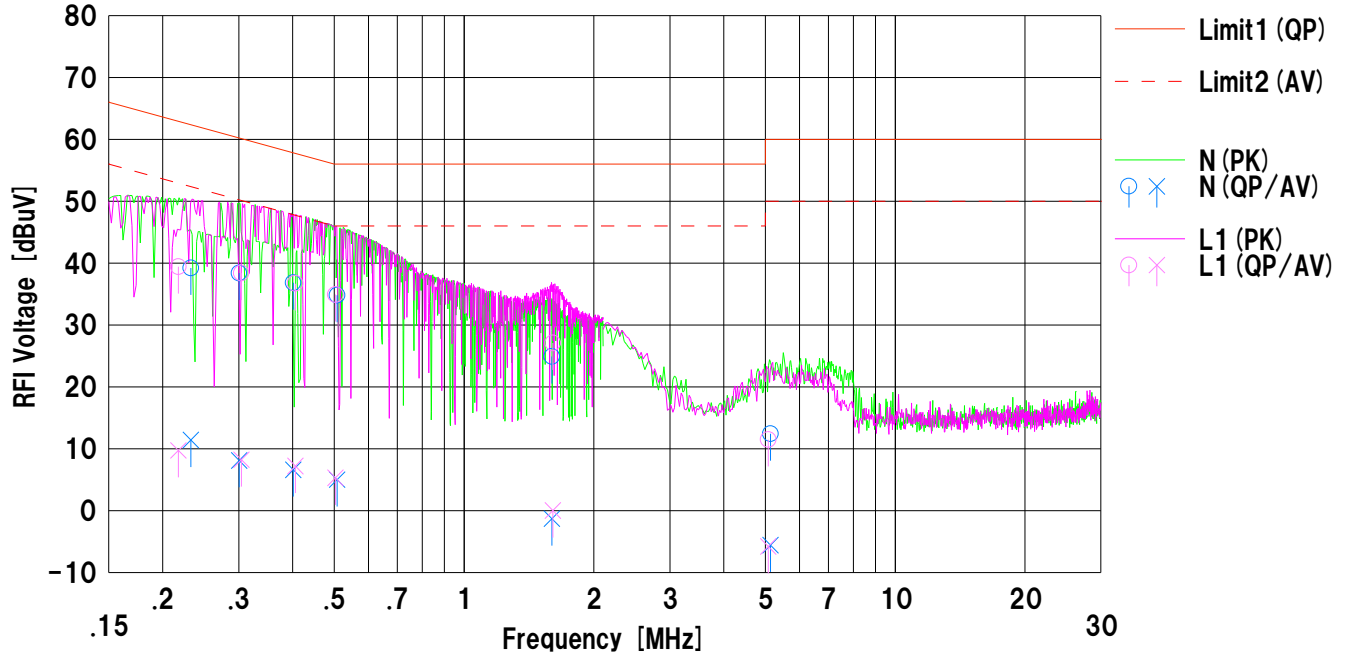
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT40) 2437MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.23226	26.6	-1.2	12.6	39.2	11.4	62.3	52.3	23.1	40.9	N	
2	0.30055	25.7	-4.6	12.7	38.4	8.1	60.2	50.2	21.8	42.1	N	
3	0.40162	24.1	-6.1	12.7	36.8	6.6	57.8	47.8	21.0	41.2	N	
4	0.50740	22.1	-7.7	12.7	34.8	5.0	56.0	46.0	21.2	41.0	N	
5	1.59940	12.1	-14.1	12.8	24.9	-1.3	56.0	46.0	31.1	47.3	N	
6	5.13675	-0.6	-18.6	13.0	12.4	-5.6	60.0	50.0	47.6	55.6	N	
7	0.21744	26.8	-2.9	12.6	39.4	9.7	62.9	52.9	23.5	43.2	L1	
8	0.30412	25.7	-4.5	12.7	38.4	8.2	60.1	50.1	21.7	41.9	L1	
9	0.40606	24.0	-5.5	12.7	36.7	7.2	57.7	47.7	21.0	40.5	L1	
10	0.50283	22.2	-7.4	12.7	34.9	5.3	56.0	46.0	21.1	40.7	L1	
11	1.60530	14.3	-12.8	12.8	27.1	0.0	56.0	46.0	28.9	46.0	L1	
12	5.07634	-1.5	-18.8	13.0	11.5	-5.8	60.0	50.0	48.5	55.8	L1	

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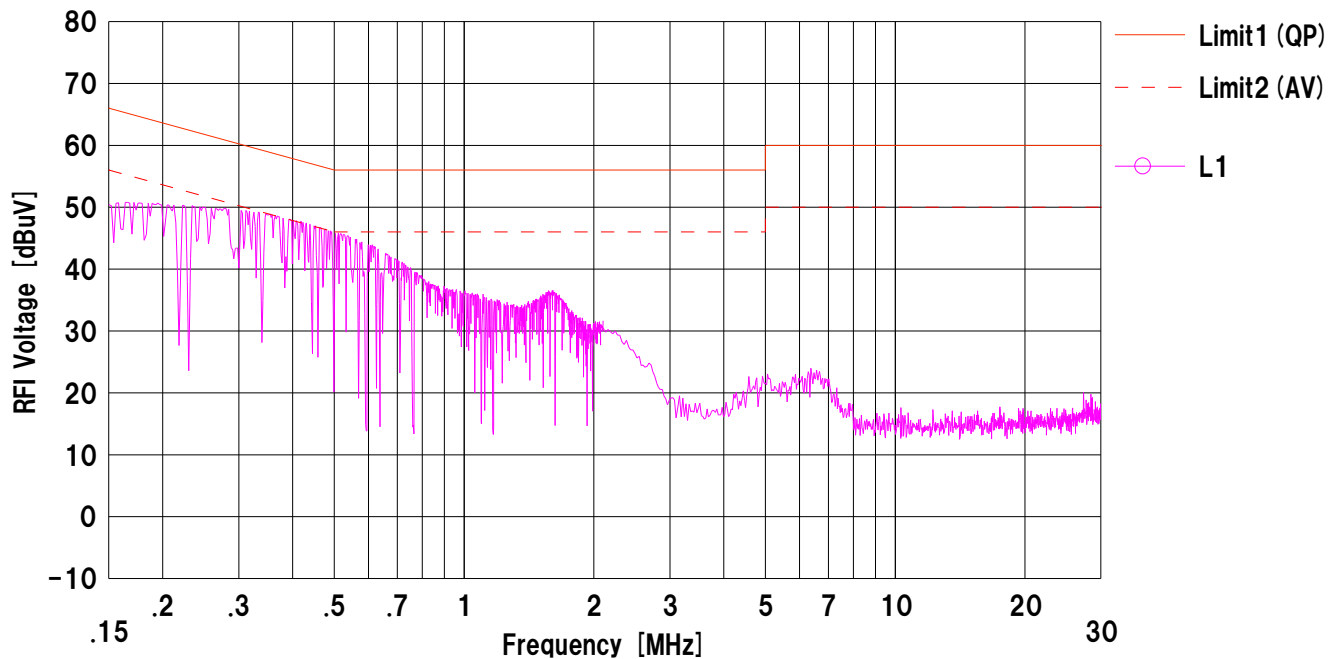
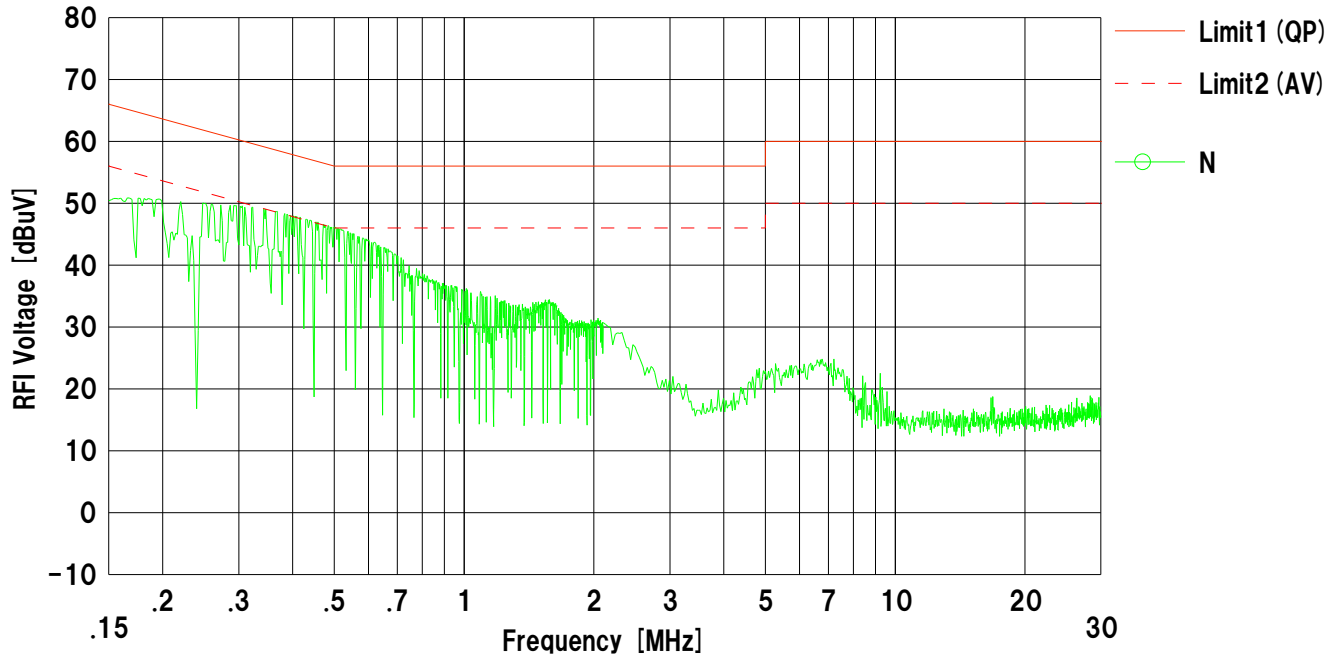
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT40) 2452MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



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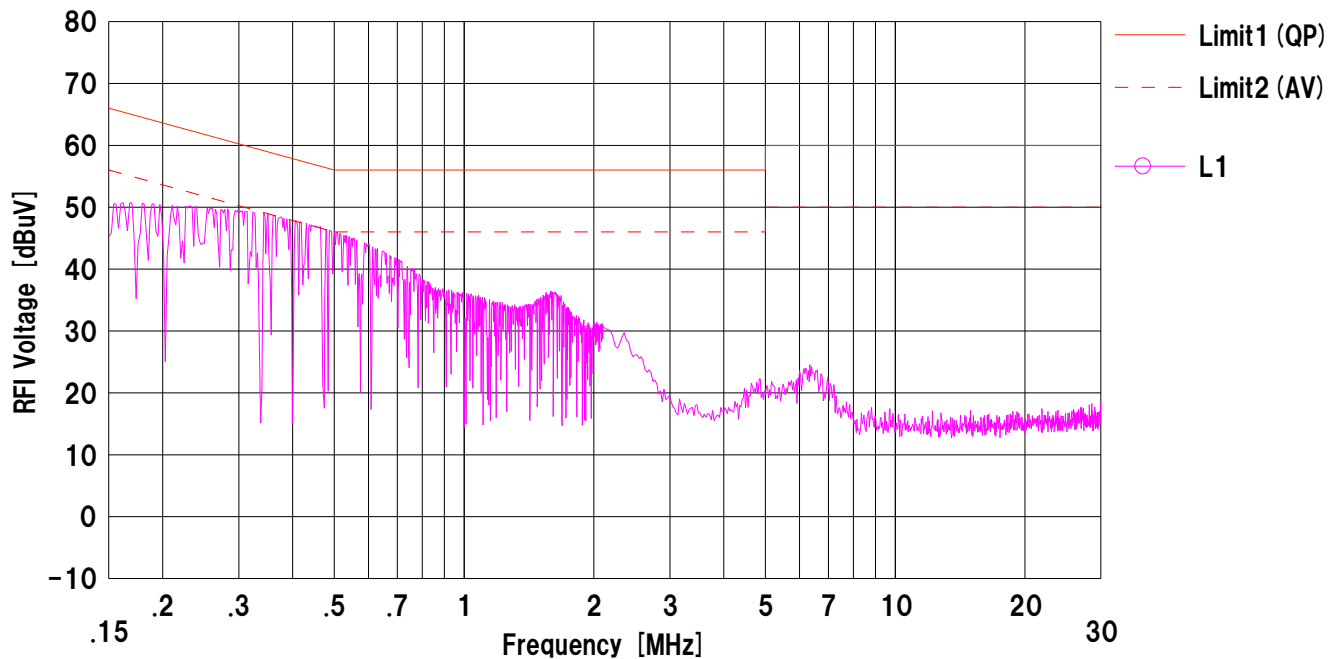
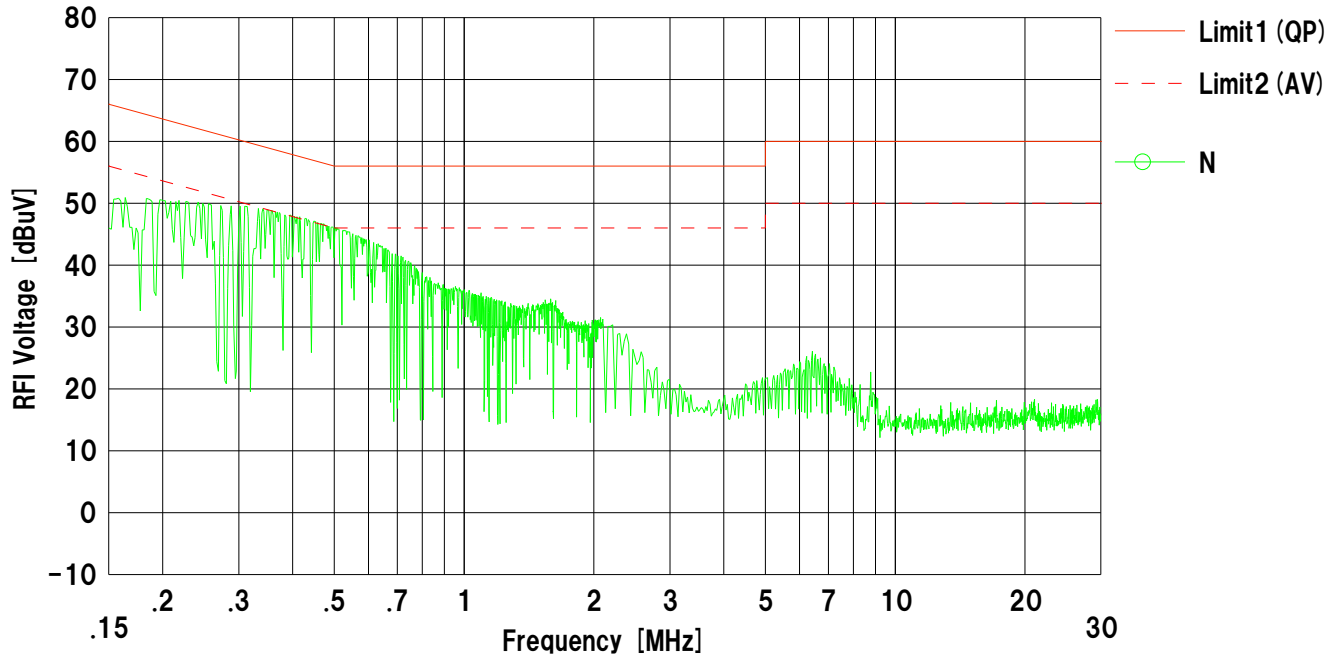
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11a 5745MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



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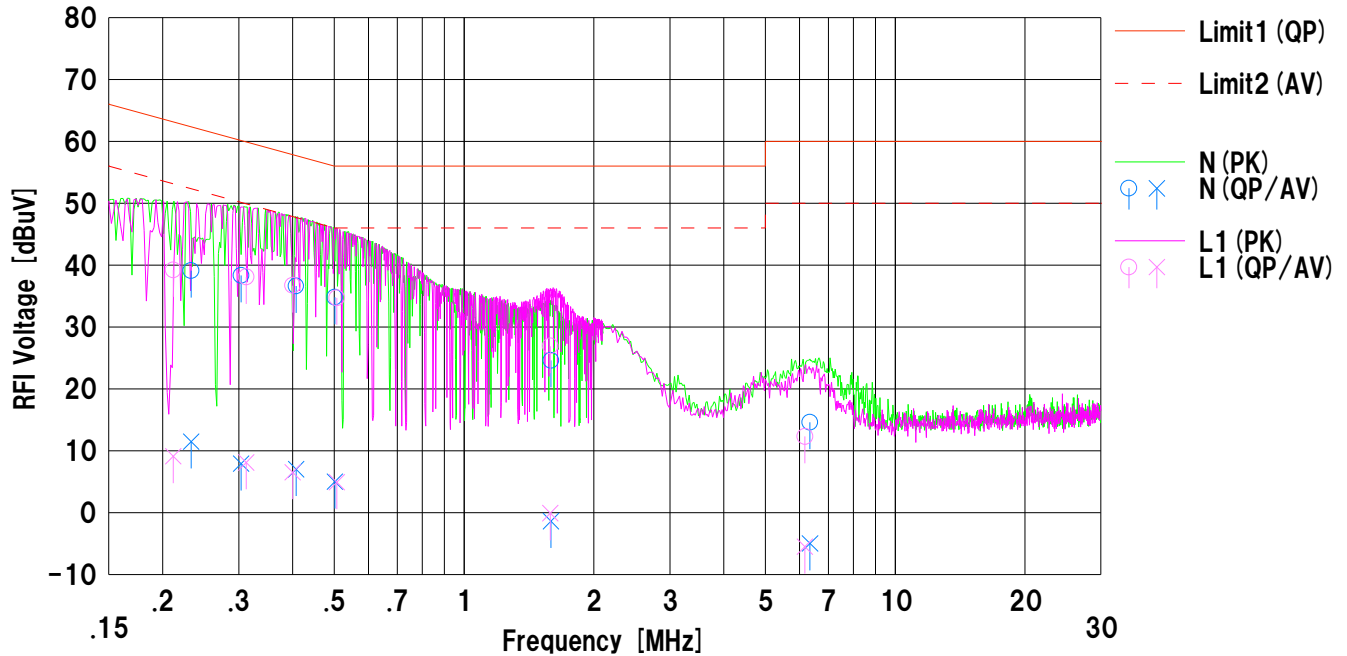
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11a 5785MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23265	26.5	-1.1	12.6	39.1	11.5	62.3	52.3	23.2	40.8	N	
2	0.30382	25.6	-4.8	12.7	38.3	7.9	60.1	50.1	21.8	42.2	N	
3	0.40741	23.9	-5.7	12.7	36.6	7.0	57.7	47.7	21.1	40.7	N	
4	0.50102	22.1	-7.7	12.7	34.8	5.0	56.0	46.0	21.2	41.0	N	
5	1.58987	11.8	-14.2	12.8	24.6	-1.4	56.0	46.0	31.4	47.4	N	
6	6.34350	1.5	-18.1	13.1	14.6	-5.0	60.0	50.0	45.4	55.0	N	
7	0.21155	26.6	-3.5	12.6	39.2	9.1	63.1	53.1	23.9	44.0	L1	
8	0.31238	25.4	-4.6	12.7	38.1	8.1	59.9	49.9	21.8	41.8	L1	
9	0.40000	24.0	-6.2	12.7	36.7	6.5	57.8	47.8	21.1	41.3	L1	
10	0.50673	22.0	-7.8	12.7	34.7	4.9	56.0	46.0	21.3	41.1	L1	
11	1.58434	14.1	-12.9	12.8	26.9	-0.1	56.0	46.0	29.1	46.1	L1	
12	6.18454	-0.8	-18.6	13.1	12.3	-5.5	60.0	50.0	47.7	55.5	L1	

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UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

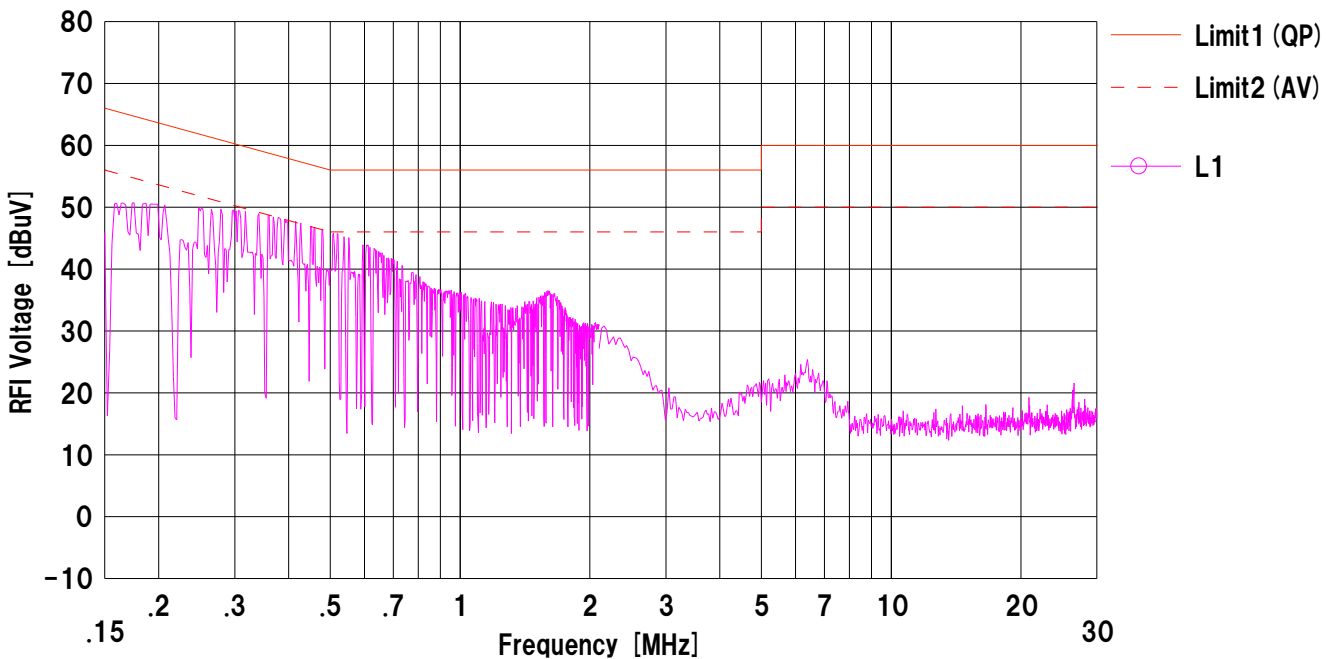
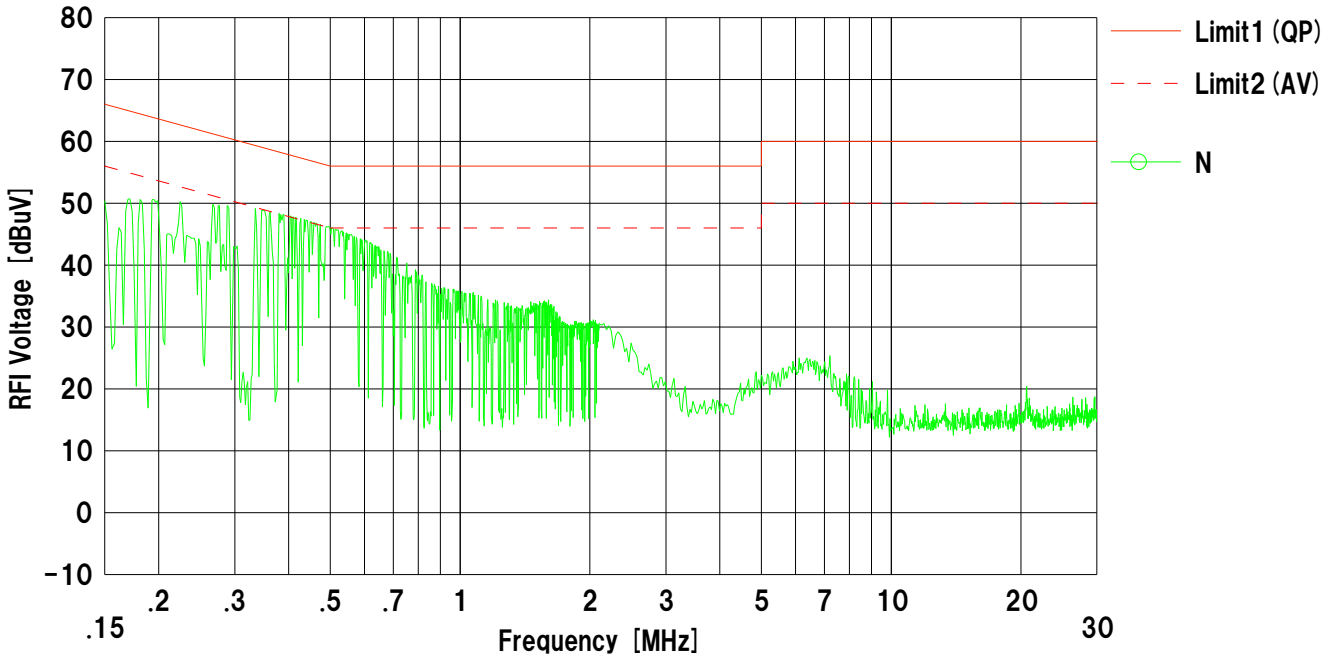
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11a 5825MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]
LISN: SLS-03

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

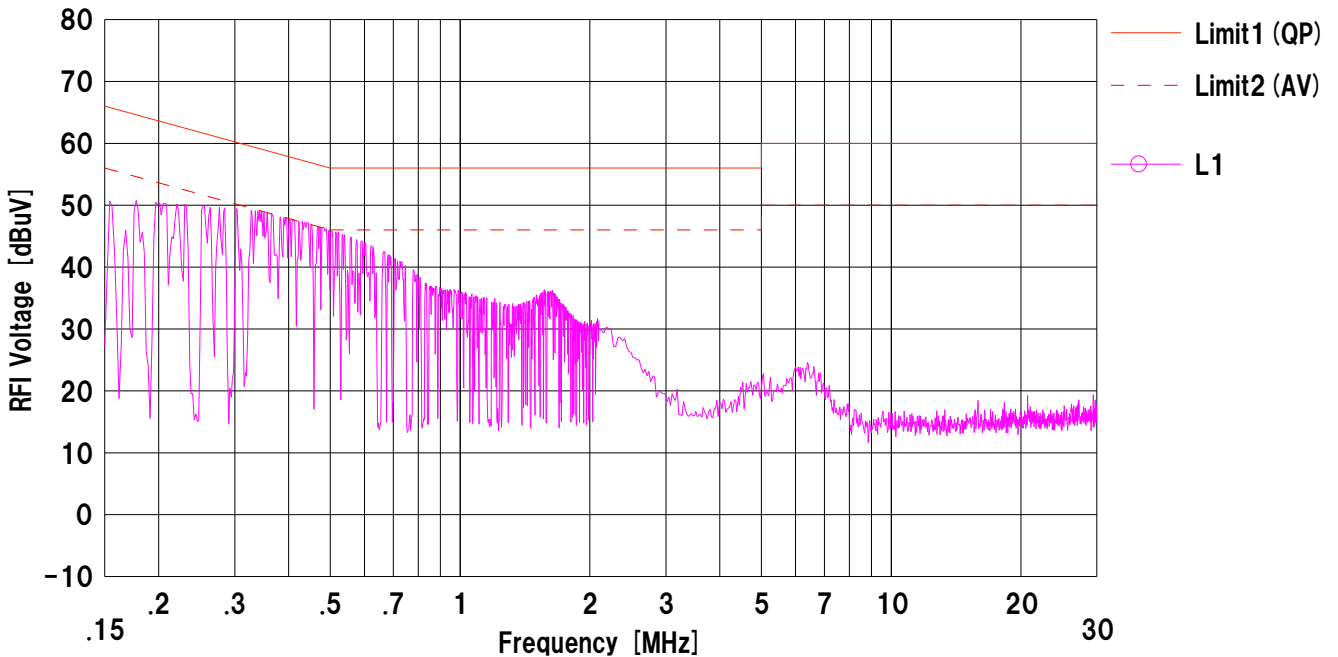
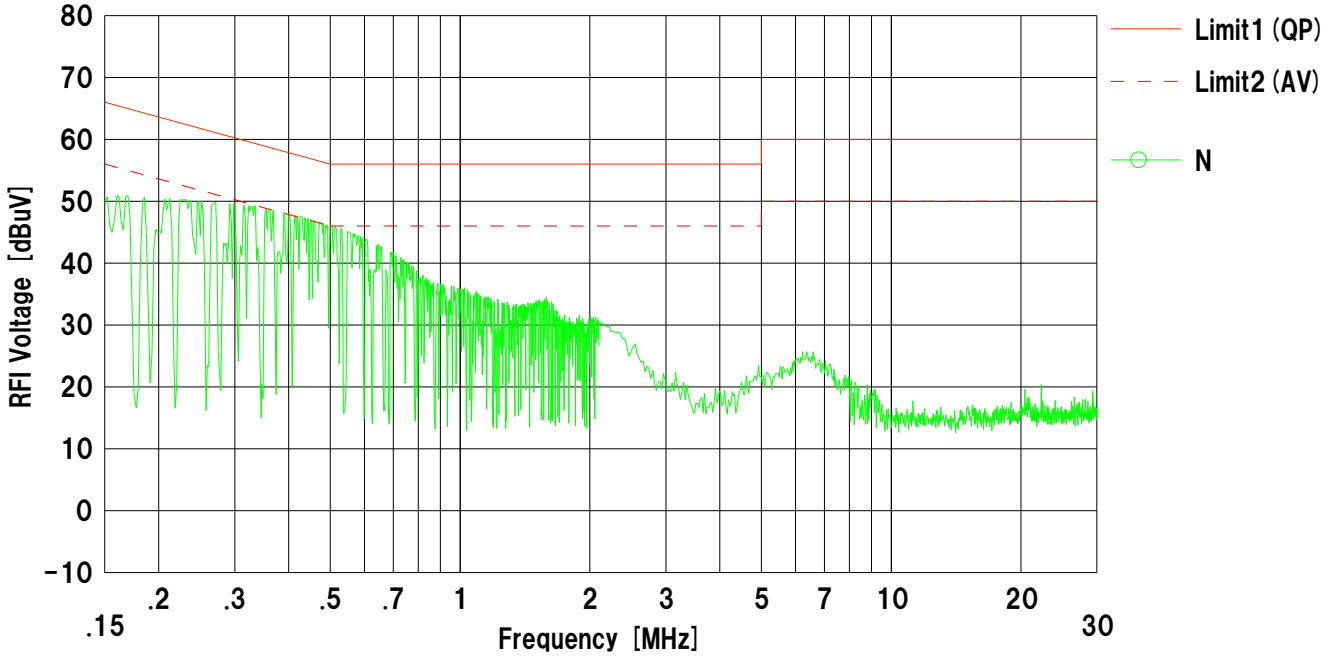
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT20) 5745MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

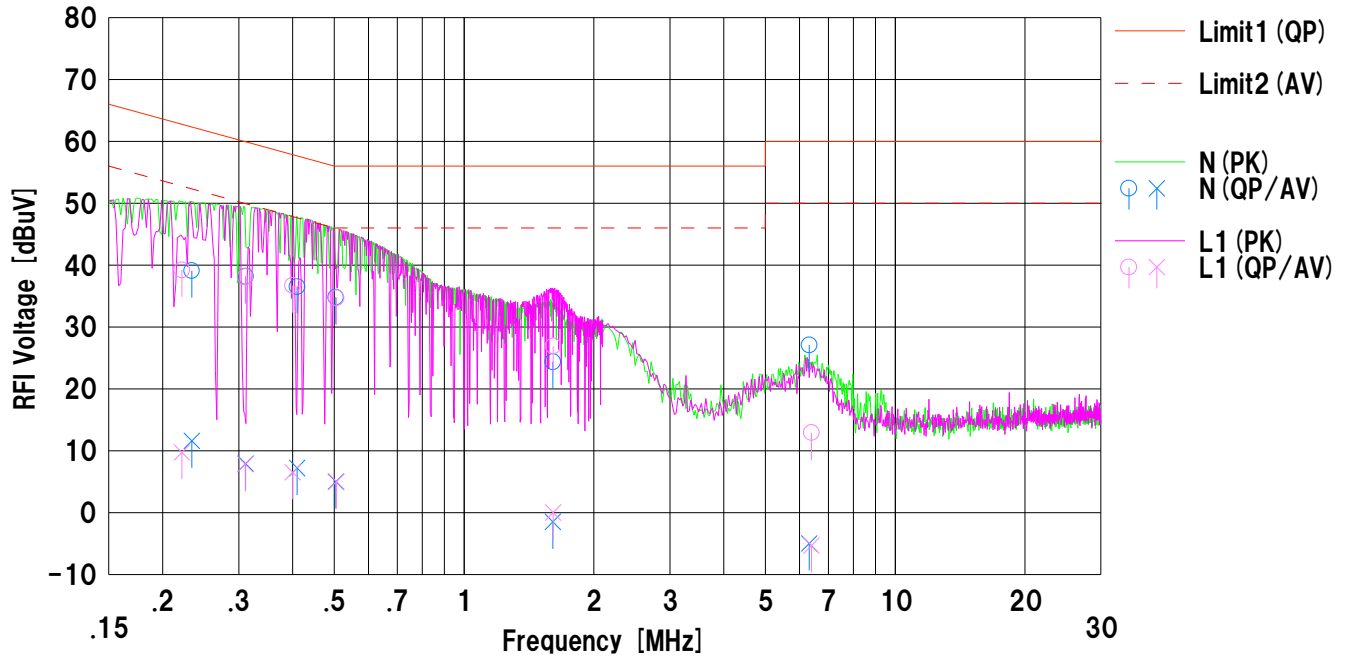
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT20) 5785MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23332	26.5	-1.0	12.6	39.1	11.6	62.3	52.3	23.2	40.7	N	
2	0.31132	25.5	-4.8	12.7	38.2	7.9	59.9	49.9	21.7	42.0	N	
3	0.41023	23.8	-5.5	12.7	36.5	7.2	57.6	47.6	21.1	40.4	N	
4	0.50364	22.1	-7.7	12.7	34.8	5.0	56.0	46.0	21.2	41.0	N	
5	1.60593	11.6	-14.3	12.8	24.4	-1.5	56.0	46.0	31.6	47.5	N	
6	6.32433	14.0	-18.1	13.1	27.1	-5.0	60.0	50.0	32.9	55.0	N	
7	0.22150	26.6	-2.9	12.6	39.2	9.7	62.7	52.7	23.5	43.0	L1	
8	0.31045	25.4	-4.9	12.7	38.1	7.8	59.9	49.9	21.8	42.1	L1	
9	0.40003	24.0	-6.2	12.7	36.7	6.5	57.8	47.8	21.1	41.3	L1	
10	0.50534	22.0	-7.7	12.7	34.7	5.0	56.0	46.0	21.3	41.0	L1	
11	1.61043	14.1	-12.8	12.8	26.9	0.0	56.0	46.0	29.1	46.0	L1	
12	6.39700	-0.2	-18.4	13.1	12.9	-5.3	60.0	50.0	47.1	55.3	L1	

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

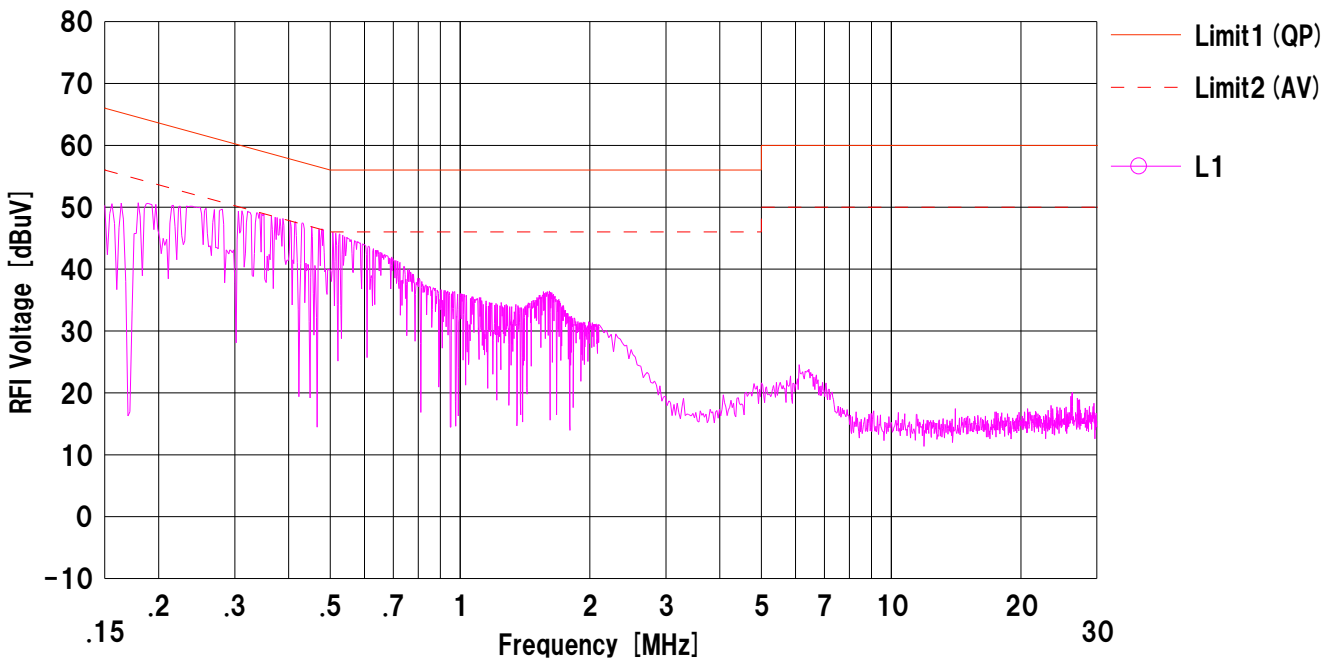
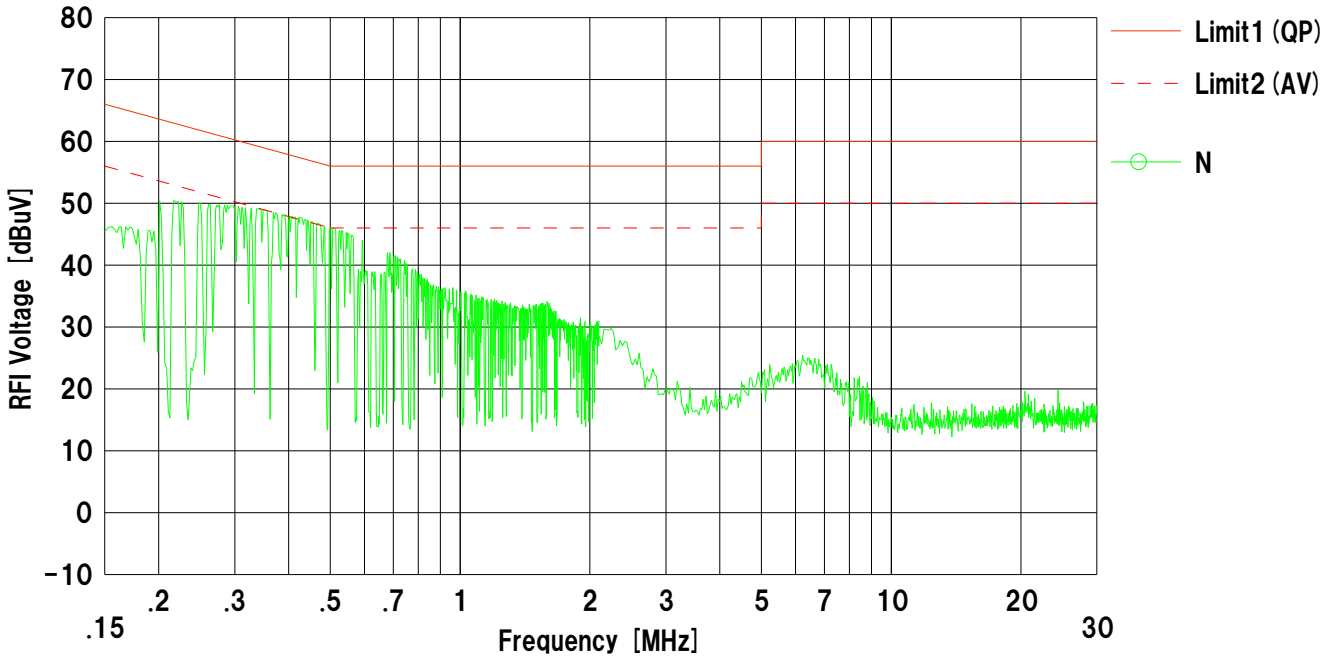
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT20) 5825MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

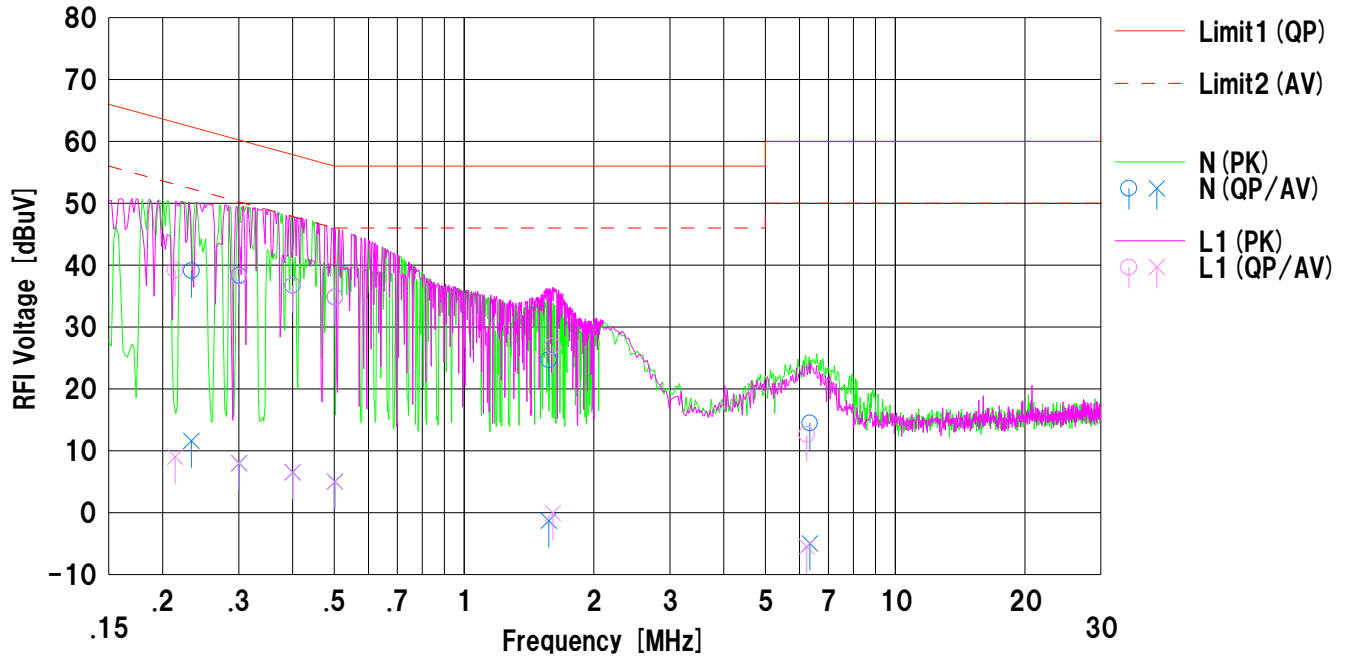
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT40) 5755MHz
Report No. : 31CE0052-HO-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

Engineer : Akio Hayashi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23322	26.5	-1.0	12.6	39.1	11.6	62.3	52.3	23.2	40.7	N	
2	0.30051	25.6	-4.7	12.7	38.3	8.0	60.2	50.2	21.9	42.2	N	
3	0.40034	24.0	-6.2	12.7	36.7	6.5	57.8	47.8	21.1	41.3	N	
4	0.50154	22.1	-7.7	12.7	34.8	5.0	56.0	46.0	21.2	41.0	N	
5	1.57260	11.9	-14.1	12.8	24.7	-1.3	56.0	46.0	31.3	47.3	N	
6	6.33434	1.4	-18.1	13.1	14.5	-5.0	60.0	50.0	45.5	55.0	N	
7	0.21360	26.6	-3.6	12.6	39.2	9.0	63.0	53.0	23.8	44.0	L1	
8	0.30030	25.5	-4.7	12.7	38.2	8.0	60.2	50.2	22.0	42.2	L1	
9	0.40081	24.0	-6.2	12.7	36.7	6.5	57.8	47.8	21.1	41.3	L1	
10	0.50131	22.1	-7.7	12.7	34.8	5.0	56.0	46.0	21.2	41.0	L1	
11	1.60530	14.1	-12.9	12.8	26.9	-0.1	56.0	46.0	29.1	46.1	L1	
12	6.23478	-0.5	-18.6	13.1	12.6	-5.5	60.0	50.0	47.4	55.5	L1	

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2011/06/25

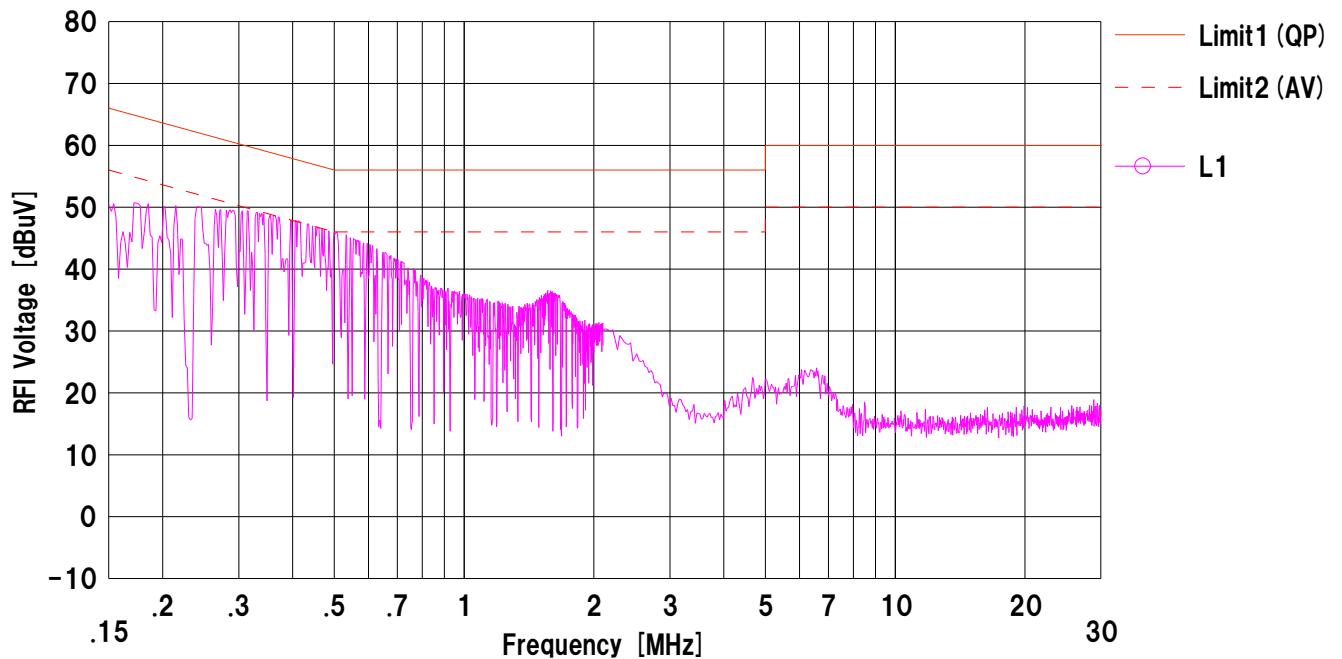
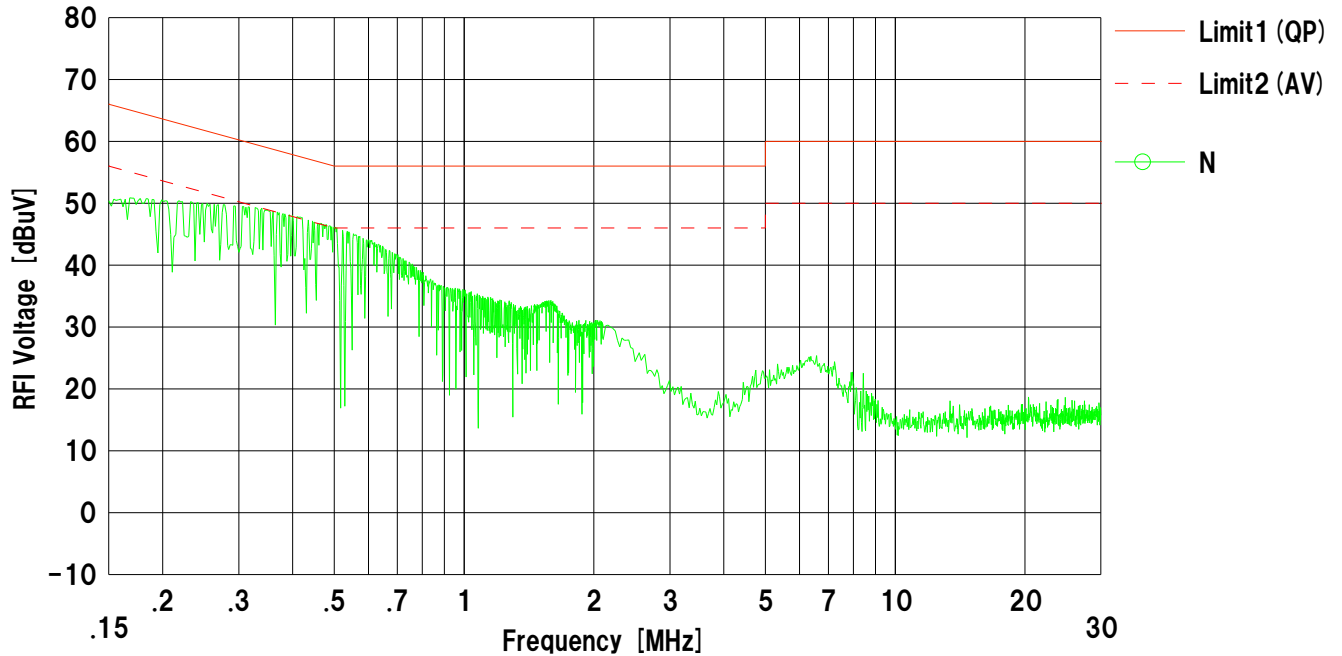
Company : CANON INC.
Kind of EUT : Wireless Module
Model No. : CH9-1225
Serial No. : ES4101

Mode : Tx 11n (HT40) 5795MHz
Report No. : 31CE0052-H0-01-J
Power : DC3.3V (AC120V/60Hz)
Temp./Humi. : 27deg.C. / 56%RH

Remarks : -

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

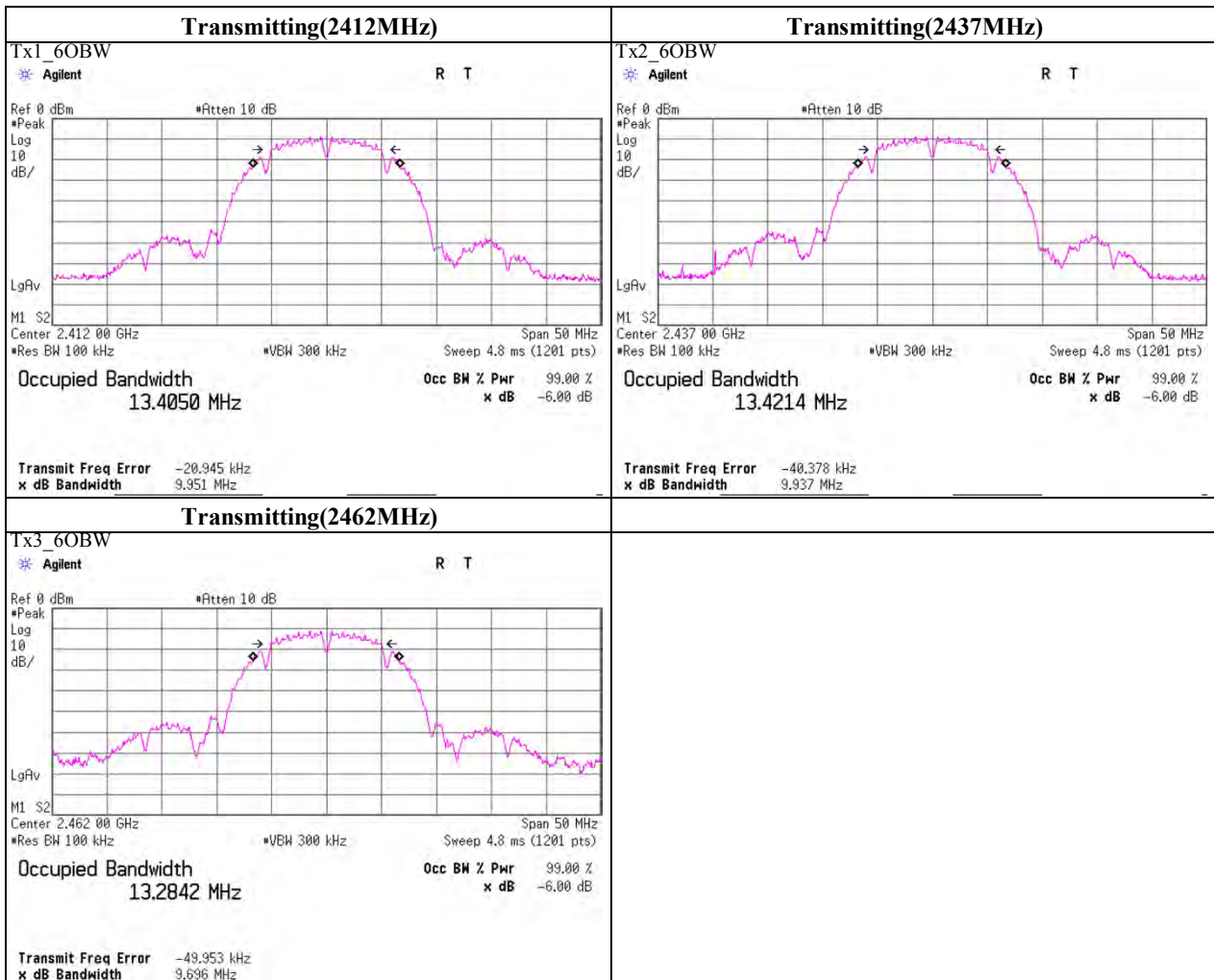
Engineer : Akio Hayashi



-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 14, 2011	
Temperature / Humidity	22deg.C , 46%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11b, PN9, worst data mode 1Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	9.951	> 0.500
2437.0000	9.937	> 0.500
2462.0000	9.696	> 0.500

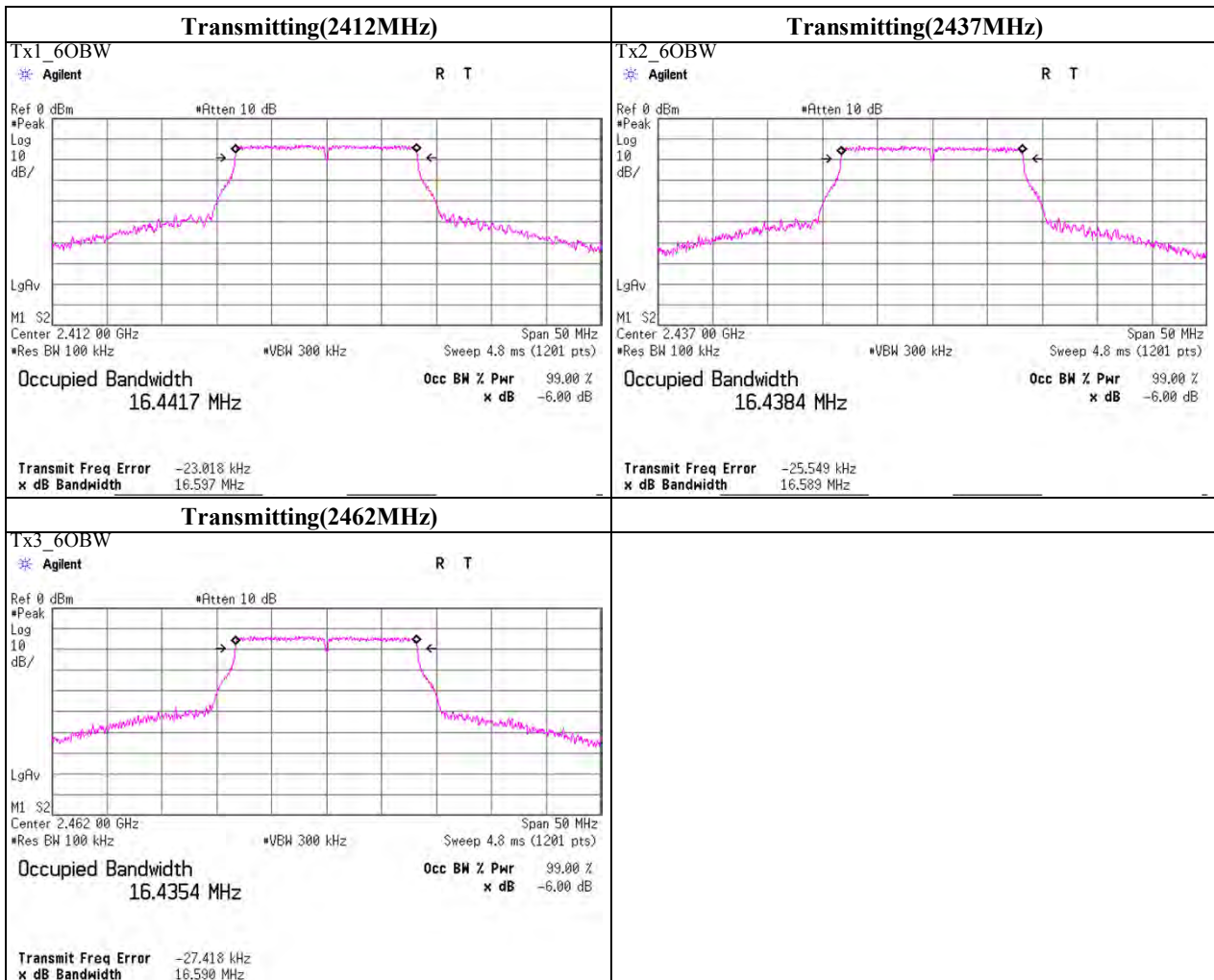


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-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 14, 2011	
Temperature / Humidity	22deg.C , 46%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11g, PN9, worst data mode 6Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	16.597	> 0.500
2437.0000	16.589	> 0.500
2462.0000	16.590	> 0.500

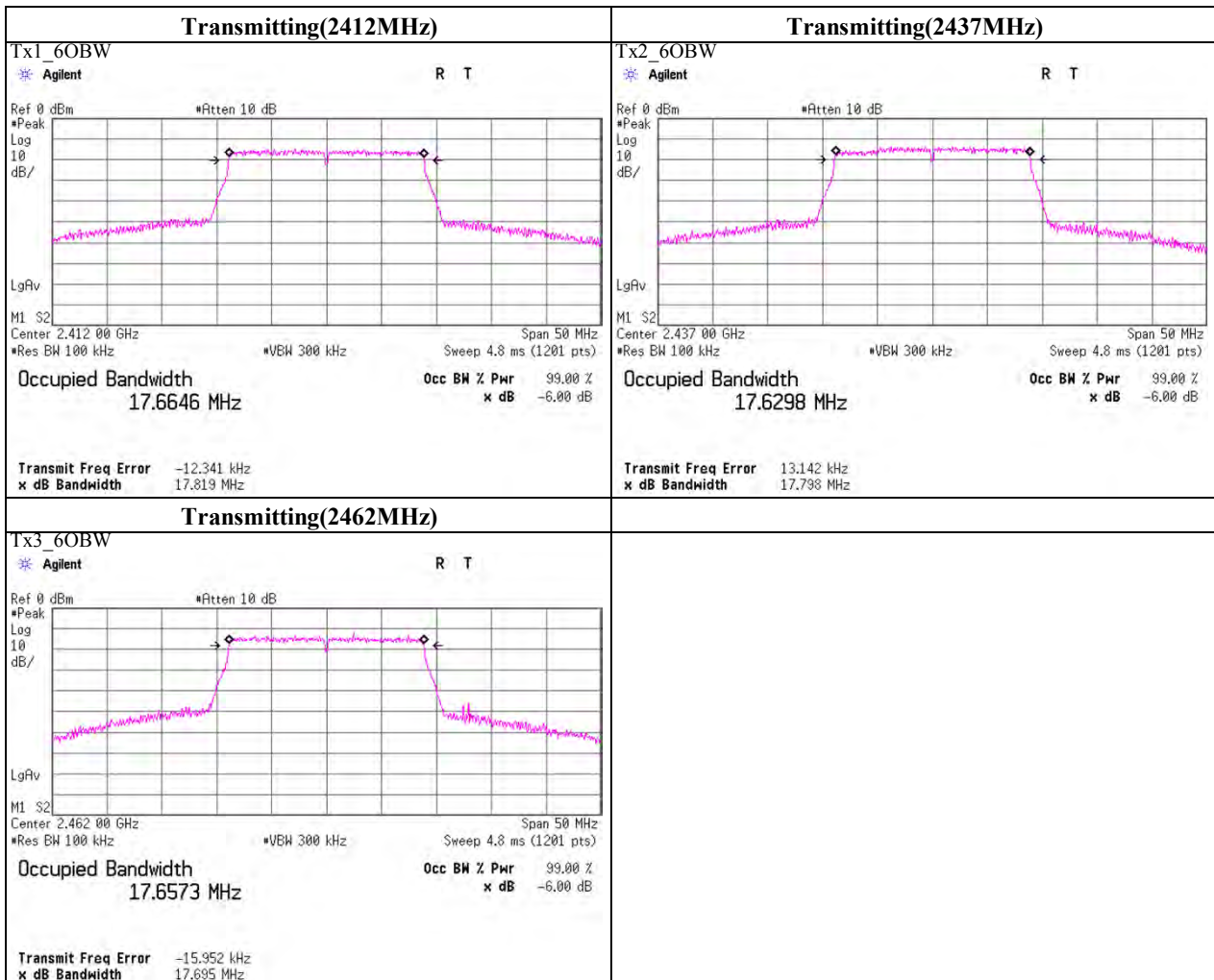


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-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 14, 2011	
Temperature / Humidity	22deg.C , 46%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	17.819	> 0.500
2437.0000	17.798	> 0.500
2462.0000	17.695	> 0.500

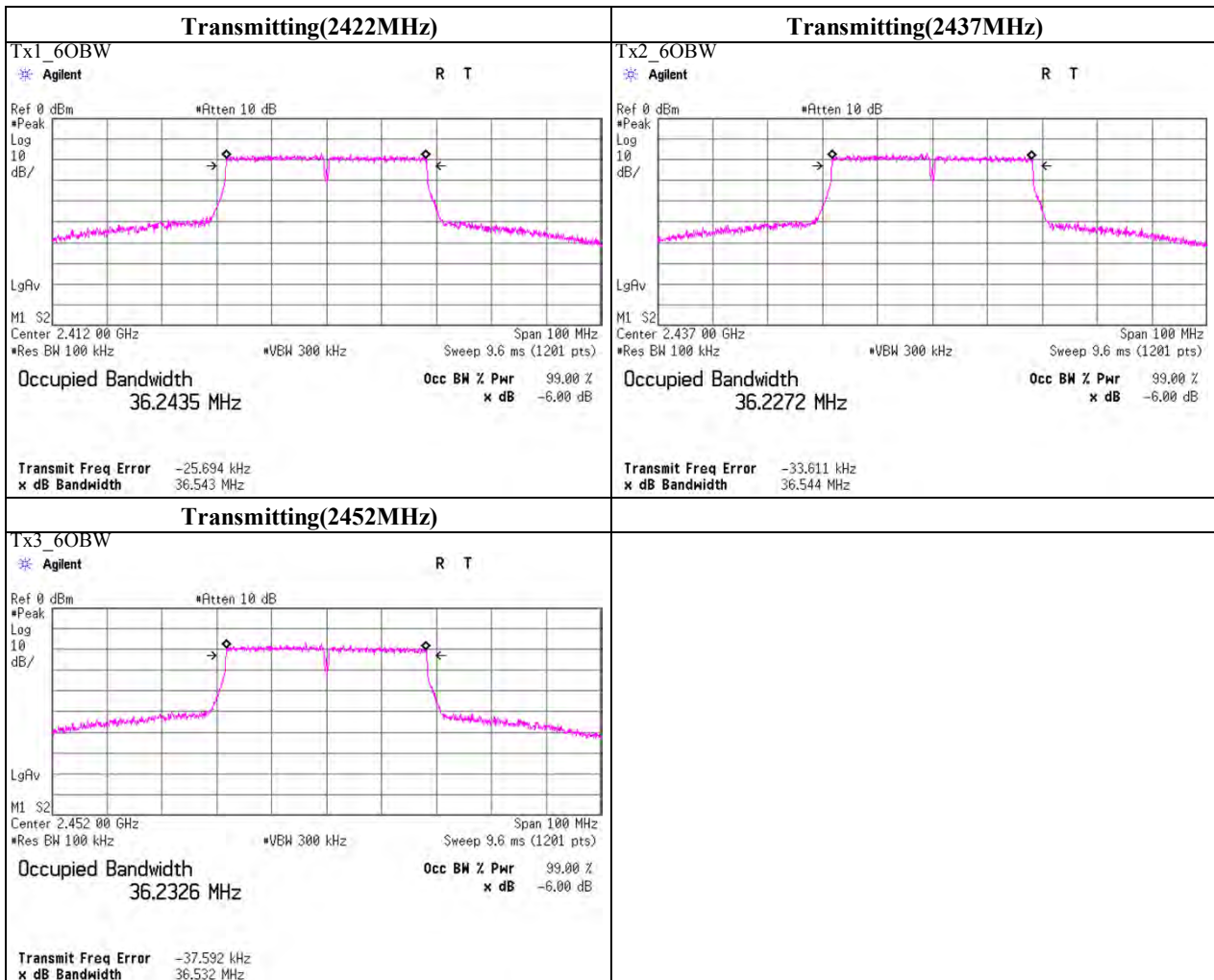


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-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 14, 2011	
Temperature / Humidity	22deg.C , 46%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode MCS5	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2422.0000	36.543	> 0.500
2437.0000	36.544	> 0.500
2452.0000	36.532	> 0.500

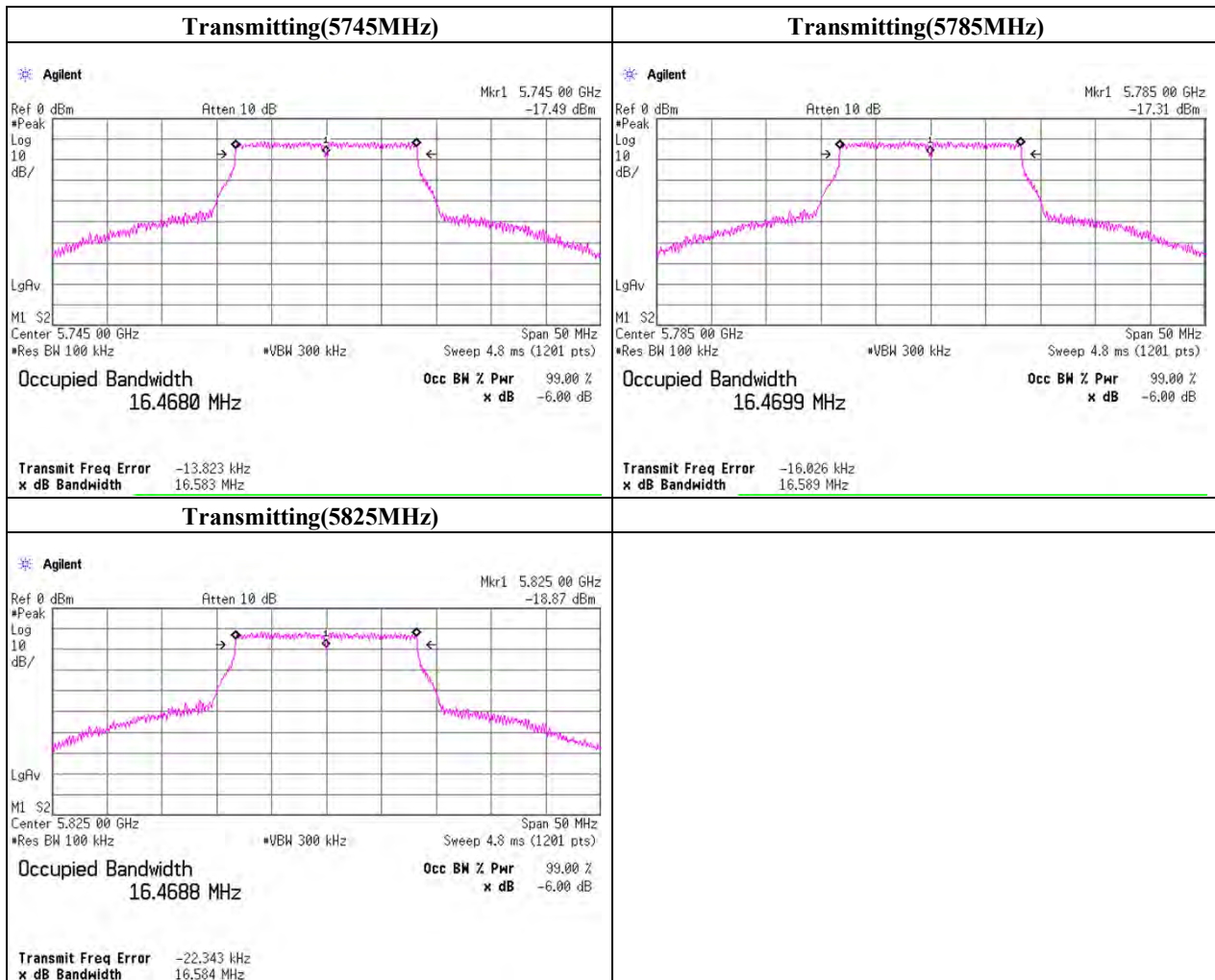


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-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	2011/6/9	
Temperature / Humidity	26deg.C , 62%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11a, PN9, worst antenna port , worst data mode 24Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	16.583	> 0.500
5785.0000	16.589	> 0.500
5825.0000	16.584	> 0.500

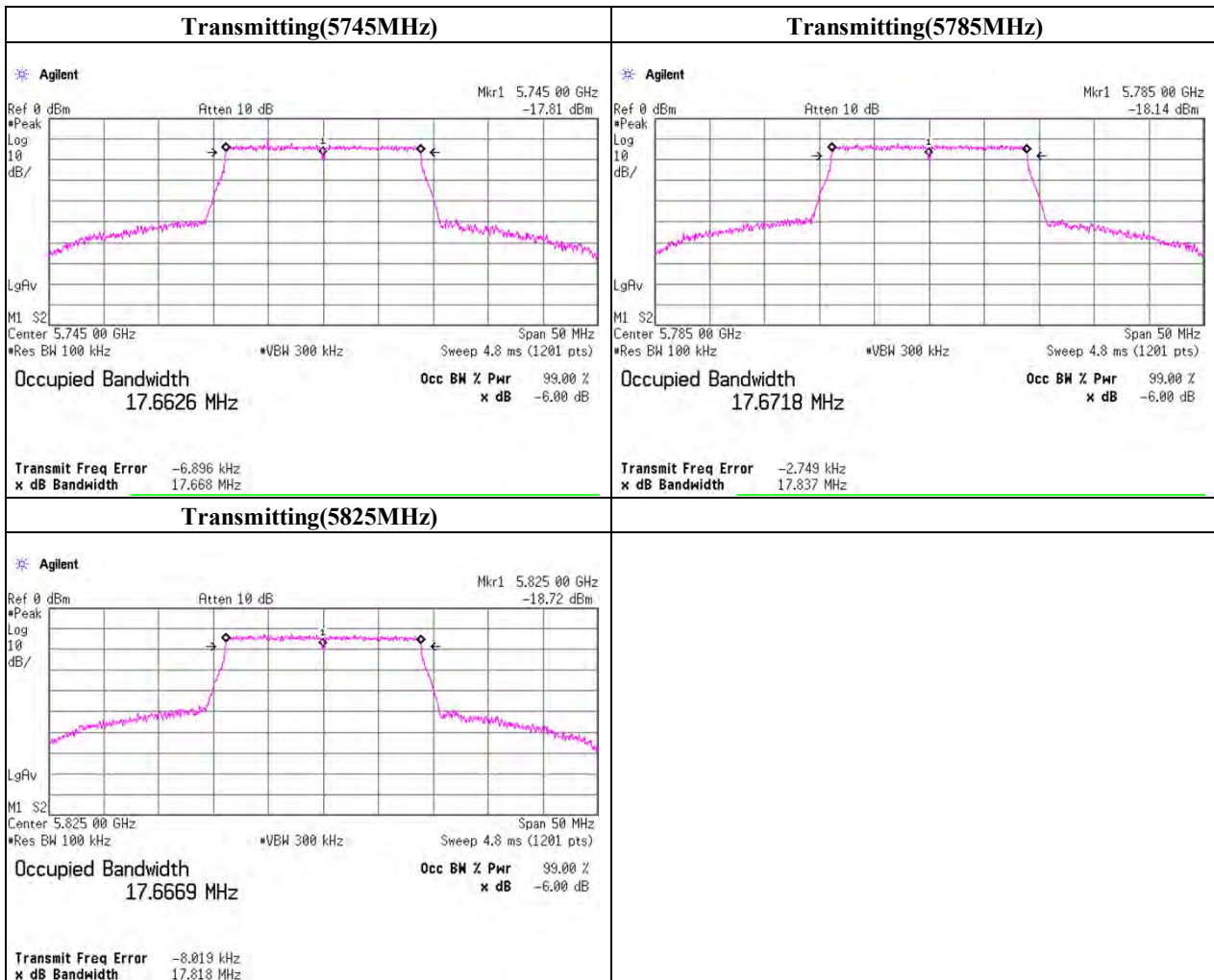


UL Japan, Inc.
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-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	2011/6/9	
Temperature / Humidity	26deg.C. , 62%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port , worst data mode 2(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	17.688	> 0.500
5785.0000	17.837	> 0.500
5825.0000	17.818	> 0.500

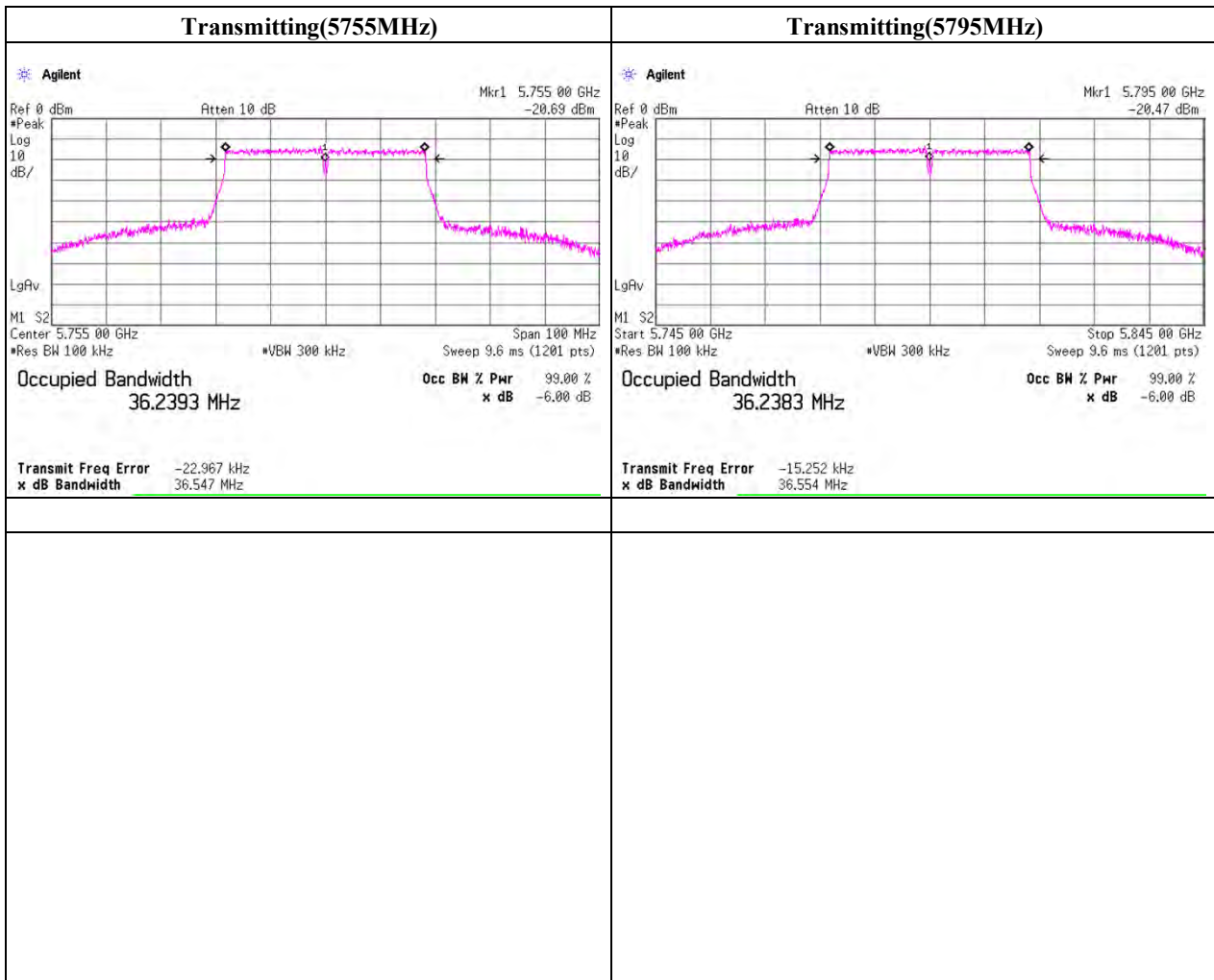


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-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	2011/6/9	
Temperature / Humidity	26deg.C , 62%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port , worst data mode 5(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.547	> 0.500
5795.0000	36.554	> 0.500
-	-	-



Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 18, 2011
 Temperature / Humidity 24deg.C. , 49%RH
 Engineer Tatsuya Arai
 Mode 11b, Tx, Worst rate: 1Mbps

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	5.66	0.60	9.57	15.83	38.30	30.00	1000	14.17
Mid	2437.0	5.70	0.60	9.57	15.87	38.65	30.00	1000	14.13
High	2462.0	5.54	0.60	9.57	15.71	37.25	30.00	1000	14.29

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Data rate [Mbps]	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
1	2437.0	5.70	0.60	9.57	15.87	38.65	30.00	1000	14.13
2	2437.0	5.67	0.60	9.57	15.84	38.38	30.00	1000	14.16
5.5	2437.0	5.25	0.60	9.57	15.42	34.84	30.00	1000	14.58
11	2437.0	5.58	0.60	9.57	15.75	37.59	30.00	1000	14.25

P/M: Power meter with Power sensor

UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
 Telephone : +81 463 50 6400
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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 18, 2011
 Temperature / Humidity 24deg.C. , 49%RH
 Engineer Tatsuya Arai
 Mode Tx, IEEE802.11g, PN9, worst data mode : 6 Mbps

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	11.70	0.60	9.57	21.87	153.88	30.00	1000	8.13
Mid	2437.0	11.72	0.60	9.57	21.89	154.57	30.00	1000	8.11
High	2462.0	11.62	0.60	9.57	21.79	151.03	30.00	1000	8.21

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Data rate [Mbps]	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
6	2437.0	11.72	0.60	9.57	21.89	154.57	30.00	1000	8.11
9	2437.0	11.45	0.60	9.57	21.62	145.25	30.00	1000	8.38
12	2437.0	11.43	0.60	9.57	21.60	144.59	30.00	1000	8.40
18	2437.0	11.40	0.60	9.57	21.57	143.59	30.00	1000	8.43
24	2437.0	11.71	0.60	9.57	21.88	154.21	30.00	1000	8.12
36	2437.0	11.51	0.60	9.57	21.68	147.27	30.00	1000	8.32
48	2437.0	11.61	0.60	9.57	21.78	150.70	30.00	1000	8.22
54	2437.0	11.62	0.60	9.57	21.79	151.05	30.00	1000	8.21

P/M: Power meter with Power sensor

UL Japan, Inc.
Shonan EMC Lab.

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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 18, 2011
 Temperature / Humidity 24deg.C. , 49%RH
 Engineer Tatsuya Arai
 Mode Tx, IEEE802.11n (HT20), PN9, worst data mode : 0 (MCS)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	11.34	0.60	9.57	21.51	141.64	30.00	1000	8.49
Mid	2437.0	11.27	0.60	9.57	21.44	139.36	30.00	1000	8.56
High	2462.0	11.10	0.60	9.57	21.27	133.99	30.00	1000	8.73

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Antenna A

Mode (MCS)	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
0	2437.0	11.27	0.60	9.57	21.44	139.36	30.00	1000	8.56
1	2437.0	11.22	0.60	9.57	21.39	137.76	30.00	1000	8.61
2	2437.0	11.19	0.60	9.57	21.36	136.81	30.00	1000	8.64
3	2437.0	11.05	0.60	9.57	21.22	132.47	30.00	1000	8.78
4	2437.0	11.09	0.60	9.57	21.26	133.70	30.00	1000	8.74
5	2437.0	11.22	0.60	9.57	21.39	137.76	30.00	1000	8.61
6	2437.0	10.12	0.60	9.57	20.29	106.94	30.00	1000	9.71
7	2437.0	11.20	0.60	9.57	21.37	137.13	30.00	1000	8.63

P/M: Power meter with Power sensor

UL Japan, Inc.
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date May 18, 2011
Temperature / Humidity 24deg.C. , 49%RH
Engineer Tatsuya Arai
Mode Tx, IEEE802.11n (HT40), PN9, worst data mode : 5 (MCS)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2422.0	11.45	0.60	9.57	21.62	145.26	30.00	1000	8.38
Mid	2437.0	11.73	0.60	9.57	21.90	154.93	30.00	1000	8.10
High	2452.0	11.33	0.60	9.57	21.50	141.28	30.00	1000	8.50

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Antenna A

Mode (MCS)	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
0	2437.0	11.70	0.60	9.57	21.87	153.86	30.00	1000	8.13
1	2437.0	11.21	0.60	9.57	21.38	137.44	30.00	1000	8.62
2	2437.0	11.25	0.60	9.57	21.42	138.72	30.00	1000	8.58
3	2437.0	11.62	0.60	9.57	21.79	151.05	30.00	1000	8.21
4	2437.0	11.56	0.60	9.57	21.73	148.98	30.00	1000	8.27
5	2437.0	11.73	0.60	9.57	21.90	154.93	30.00	1000	8.10
6	2437.0	11.56	0.60	9.57	21.73	148.98	30.00	1000	8.27
7	2437.0	11.39	0.60	9.57	21.56	143.26	30.00	1000	8.44

P/M: Power meter with Power sensor

UL Japan, Inc.
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 18, 2011
 Temperature / Humidity 25deg.C. , 45%RH
 Engineer Shinichi Takano
 Mode Tx, IEEE802.11a, PN9, worst data mode : 24 Mbps

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	5745.0	11.04	0.90	9.60	21.54	142.56	30.00	1000	8.46
Mid	5785.0	11.23	0.90	9.61	21.74	149.28	30.00	1000	8.26
High	5825.0	10.97	0.90	9.62	21.49	140.93	30.00	1000	8.51

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Data rate [Mbps]	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
6	5785.0	11.06	0.90	9.61	21.57	143.55	30.00	1000	8.43
9	5785.0	10.83	0.90	9.61	21.34	136.14	30.00	1000	8.66
12	5785.0	11.08	0.90	9.61	21.59	144.21	30.00	1000	8.41
18	5785.0	10.66	0.90	9.61	21.17	130.92	30.00	1000	8.83
24	5785.0	11.23	0.90	9.61	21.74	149.28	30.00	1000	8.26
36	5785.0	11.06	0.90	9.61	21.57	143.55	30.00	1000	8.43
48	5785.0	10.74	0.90	9.61	21.25	133.35	30.00	1000	8.75
54	5785.0	11.02	0.90	9.61	21.53	142.23	30.00	1000	8.47

P/M: Power meter with Power sensor

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Shonan EMC Lab.

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

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 18, 2011
 Temperature / Humidity 25deg.C. , 45%RH
 Engineer Shinichi Takano
 Mode Tx, IEEE802.11n (HT20), PN9, worst data mode : 2 (MCS)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	5745.0	10.58	0.90	9.60	21.08	128.23	30.00	1000	8.92
Mid	5785.0	10.67	0.90	9.61	21.18	131.22	30.00	1000	8.82
High	5825.0	10.43	0.90	9.62	20.95	124.45	30.00	1000	9.05

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Mode (MCS)	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
0	5785.0	10.57	0.90	9.61	21.08	128.23	30.00	1000	8.92
1	5785.0	10.61	0.90	9.61	21.12	129.42	30.00	1000	8.88
2	5785.0	10.68	0.90	9.61	21.19	131.52	30.00	1000	8.81
3	5785.0	10.67	0.90	9.61	21.18	131.22	30.00	1000	8.82
4	5785.0	10.59	0.90	9.61	21.10	128.82	30.00	1000	8.90
5	5785.0	10.50	0.90	9.61	21.01	126.18	30.00	1000	8.99
6	5785.0	10.54	0.90	9.61	21.05	127.35	30.00	1000	8.95
7	5785.0	10.61	0.90	9.61	21.12	129.42	30.00	1000	8.88

P/M: Power meter with Power sensor

UL Japan, Inc.
Shonan EMC Lab.

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

Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 18, 2011
 Temperature / Humidity 25deg.C. , 45%RH
 Engineer Shinichi Takano
 Mode Tx, IEEE802.11n (HT40), PN9, worst data mode : 5 (MCS)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	5755.0	11.11	0.90	9.61	21.62	145.21	30.00	1000	8.38
High	5795.0	11.16	0.90	9.61	21.67	146.89	30.00	1000	8.33
-	-	-	-	-	-	-	30.00	1000	-

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

[Pre check]

Mode (MCS)	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
0	5795.0	10.63	0.90	9.61	21.14	130.02	30.00	1000	8.86
1	5795.0	10.66	0.90	9.61	21.17	130.92	30.00	1000	8.83
2	5795.0	10.57	0.90	9.61	21.08	128.23	30.00	1000	8.92
3	5795.0	11.12	0.90	9.61	21.63	145.55	30.00	1000	8.37
4	5795.0	10.75	0.90	9.61	21.26	133.66	30.00	1000	8.74
5	5795.0	11.16	0.90	9.61	21.67	146.89	30.00	1000	8.33
6	5795.0	10.89	0.90	9.61	21.40	138.04	30.00	1000	8.60
7	5795.0	10.67	0.90	9.61	21.18	131.22	30.00	1000	8.82

P/M: Power meter with Power sensor

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Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber				
Date	May 20, 2011	June 6, 2011	June 10, 2011	June 13, 2011	June 16, 2011
Temperature / Humidity	27deg.C. , 47%RH	27deg.C. , 47%RH	25deg.C. , 66%RH	23deg.C. , 64%RH	25deg.C. , 65%RH
Engineer	Shinichi Takano	Tatsuya Arai	Tatsuya Arai	Shinichi Takano	Shinichi Takano
Mode	Tx, 2412 MHz Tx, IEEE802.11b, PN9, worst data mode 1Mbps				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	451.100	QP	23.8	17.3	7.9	31.6	17.4	46.0	28.6	150	0	
Hori.	2390.000	PK	46.9	27.4	13.6	40.6	47.3	73.9	26.6	121	57	
Hori.	2398.383	PK	50.7	27.4	13.6	40.6	51.1	73.9	22.8	121	57	
Hori.	4824.000	PK	45.5	30.6	5.9	36.6	45.4	73.9	28.5	100	6	
Hori.	7236.000	PK	44.6	36.3	7.3	38.4	49.8	73.9	24.1	100	0	
Hori.	9648.000	PK	43.1	38.4	8.6	37.1	53.0	73.9	20.9	100	0	
Hori.	12060.000	PK	44.9	39.4	9.9	37.9	56.3	73.9	17.6	100	0	
Hori.	19296.000	PK	57.8	40.0	-3.2	48.3	46.3	73.9	27.6	105	130	
Hori.	2390.000	AV	35.3	27.4	13.6	40.6	35.7	53.9	18.2	121	57	VBW:10Hz
Hori.	2398.383	AV	44.2	27.4	13.6	40.6	44.6	53.9	9.3	121	57	VBW:10Hz
Hori.	4824.000	AV	38.9	30.6	5.9	36.6	38.8	53.9	15.1	100	6	VBW:10Hz
Hori.	7236.000	AV	34.8	36.3	7.3	38.4	40.0	53.9	13.9	100	0	VBW:10Hz
Hori.	9648.000	AV	32.9	38.4	8.6	37.1	42.8	53.9	11.1	100	0	VBW:10Hz
Hori.	12060.000	AV	34.6	39.4	9.9	37.9	46.0	53.9	7.9	100	0	VBW:10Hz
Hori.	19296.000	AV	55.8	40.0	-3.2	48.3	44.3	53.9	9.6	105	130	VBW:10Hz
Vert.	451.100	QP	23.6	17.3	7.9	31.6	17.2	46.0	28.8	100	0	
Vert.	2390.000	PK	46.4	27.4	13.6	40.6	46.8	73.9	27.1	104	137	
Vert.	2397.233	PK	48.7	27.4	13.6	40.6	49.1	73.9	24.8	104	137	
Vert.	4824.000	PK	44.8	30.6	5.9	36.6	44.7	73.9	29.2	100	28	
Vert.	7236.000	PK	46.4	36.3	7.3	38.4	51.6	73.9	22.3	100	0	
Vert.	9648.000	PK	42.7	38.4	8.6	37.1	52.6	73.9	21.3	100	0	
Vert.	12060.000	PK	45.0	39.4	9.9	37.9	56.4	73.9	17.5	100	0	
Vert.	19296.000	PK	57.0	40.0	-3.2	48.3	45.5	73.9	28.4	103	141	
Vert.	2390.000	AV	35.1	27.4	13.6	40.6	35.5	53.9	18.4	104	137	VBW:10Hz
Vert.	2397.233	AV	40.6	27.4	13.6	40.6	41.0	53.9	12.9	104	137	VBW:10Hz
Vert.	4824.000	AV	36.8	30.6	5.9	36.6	36.7	53.9	17.2	100	28	VBW:10Hz
Vert.	7236.000	AV	34.8	36.3	7.3	38.4	40.0	53.9	13.9	100	0	VBW:10Hz
Vert.	9648.000	AV	32.7	38.4	8.6	37.1	42.6	53.9	11.3	100	0	VBW:10Hz
Vert.	12060.000	AV	34.4	39.4	9.9	37.9	45.8	53.9	8.1	100	0	VBW:10Hz
Vert.	19296.000	AV	55.4	40.0	-3.2	48.3	43.9	53.9	10.0	103	141	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

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	93.1	27.4	13.7	40.6	93.6	-	-	Carrier
Hori.	2400.000	PK	40.6	27.4	13.7	40.6	41.1	73.6	32.5	
Vert.	2412.000	PK	86.0	27.4	13.7	40.6	86.5	-	-	Carrier
Vert.	2400.000	PK	41.9	27.4	13.7	40.6	42.4	66.5	24.1	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
Date June 6, 2011 June 10, 2011 June 13, 2011 June 16, 2011
Temperature / Humidity 27deg.C. , 47%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
Engineer Tatsuya Arai Tatsuya Arai Shinichi Takano Shinichi Takano
Mode Tx, 2437 MHz
 Tx, IEEE802.11b, PN9, worst data mode 1Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	476.200	QP	22.7	17.6	8.0	31.6	16.7	46.0	29.3	100	0	
Hori.	604.517	QP	22.9	19.1	8.6	31.6	19.0	46.0	27.0	150	0	
Hori.	4874.000	PK	42.6	30.7	5.9	36.6	42.6	73.9	31.3	100	0	
Hori.	7311.000	PK	44.7	36.4	7.4	38.4	50.1	73.9	23.8	100	0	
Hori.	9748.000	PK	43.6	38.5	8.6	37.1	53.6	73.9	20.3	100	0	
Hori.	12185.000	PK	44.2	39.4	9.9	38.0	55.5	73.9	18.4	100	0	
Hori.	19496.000	PK	53.8	40.1	-3.1	48.1	42.7	73.9	31.2	106	131	
Hori.	4874.000	AV	33.4	30.7	5.9	36.6	33.4	53.9	20.5	100	0	VBW:10Hz
Hori.	7311.000	AV	34.2	36.4	7.4	38.4	39.6	53.9	14.3	100	0	VBW:10Hz
Hori.	9748.000	AV	32.5	38.5	8.6	37.1	42.5	53.9	11.4	100	0	VBW:10Hz
Hori.	12185.000	AV	33.5	39.4	9.9	38.0	44.8	53.9	9.1	100	0	VBW:10Hz
Hori.	19496.000	AV	50.5	40.1	-3.1	48.1	39.4	53.9	14.5	106	131	VBW:10Hz
Vert.	476.200	QP	22.8	17.6	8.0	31.6	16.8	46.0	29.2	100	0	
Vert.	604.517	QP	22.7	19.1	8.6	31.6	18.8	46.0	27.2	100	0	
Vert.	4874.000	PK	45.6	30.7	5.9	36.6	45.6	73.9	28.3	100	37	
Vert.	7311.000	PK	45.2	36.4	7.4	38.4	50.6	73.9	23.3	100	0	
Vert.	9748.000	PK	42.8	38.5	8.6	37.1	52.8	73.9	21.1	100	0	
Vert.	12185.000	PK	44.0	39.4	9.9	38.0	55.3	73.9	18.6	100	0	
Vert.	19496.000	PK	55.9	40.1	-3.1	48.1	44.8	73.9	29.1	103	141	
Vert.	4874.000	AV	39.0	30.7	5.9	36.6	39.0	53.9	14.9	100	37	VBW:10Hz
Vert.	7311.000	AV	34.0	36.4	7.4	38.4	39.4	53.9	14.5	100	0	VBW:10Hz
Vert.	9748.000	AV	32.7	38.5	8.6	37.1	42.7	53.9	11.2	100	0	VBW:10Hz
Vert.	12185.000	AV	33.5	39.4	9.9	38.0	44.8	53.9	9.1	100	0	VBW:10Hz
Vert.	19496.000	AV	53.1	40.1	-3.1	48.1	42.0	53.9	11.9	103	141	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber				
Date	May 20, 2011	June 6, 2011	June 10, 2011	June 13, 2011	June 16, 2011
Temperature / Humidity	27deg.C. , 47%RH	27deg.C. , 47%RH	25deg.C. , 66%RH	23deg.C. , 64%RH	25deg.C. , 65%RH
Engineer	Shinichi Takano	Tatsuya Arai	Tatsuya Arai	Shinichi Takano	Shinichi Takano
Mode	Tx, 2462 MHz Tx, IEEE802.11b, PN9, worst data mode 1Mbps				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	501.300	QP	23.1	18.0	8.1	31.6	17.6	46.0	28.4	100	0	
Hori.	2483.500	PK	46.7	27.4	13.6	40.5	47.2	73.9	26.7	118	53	
Hori.	2487.670	PK	46.9	27.4	13.6	40.5	47.4	73.9	26.5	118	53	
Hori.	4924.000	PK	43.9	30.9	5.9	36.5	44.2	73.9	29.7	100	0	
Hori.	7386.000	PK	44.6	36.6	7.3	38.4	50.1	73.9	23.8	100	0	
Hori.	9848.000	PK	43.4	38.6	8.6	37.2	53.4	73.9	20.5	100	0	
Hori.	12310.000	PK	43.2	39.4	9.9	38.0	54.5	73.9	19.4	100	0	
Hori.	19696.000	PK	53.0	40.1	-3.0	48.1	42.0	73.9	31.9	108	130	
Hori.	2483.500	AV	35.7	27.4	13.6	40.5	36.2	53.9	17.7	118	53	VBW:10Hz
Hori.	2487.670	AV	35.8	27.4	13.6	40.5	36.3	53.9	17.6	118	53	VBW:10Hz
Hori.	4924.000	AV	33.8	30.9	5.9	36.5	34.1	53.9	19.8	100	0	VBW:10Hz
Hori.	7386.000	AV	33.9	36.6	7.3	38.4	39.4	53.9	14.5	100	0	VBW:10Hz
Hori.	9848.000	AV	32.6	38.6	8.6	37.2	42.6	53.9	11.3	100	0	VBW:10Hz
Hori.	12310.000	AV	32.6	39.4	9.9	38.0	43.9	53.9	10.0	100	0	VBW:10Hz
Hori.	19696.000	AV	48.7	40.1	-3.0	48.1	37.7	53.9	16.2	108	130	VBW:10Hz
Vert.	501.300	QP	22.7	18.0	8.1	31.6	17.2	46.0	28.8	100	0	
Vert.	2483.500	PK	46.0	27.4	13.6	40.5	46.5	73.9	27.4	102	300	
Vert.	2487.670	PK	45.9	27.4	13.6	40.5	46.4	73.9	27.5	102	300	
Vert.	4924.000	PK	45.0	30.9	5.9	36.5	45.3	73.9	28.6	100	9	
Vert.	7386.000	PK	44.3	36.6	7.3	38.4	49.8	73.9	24.1	100	0	
Vert.	9848.000	PK	44.6	38.6	8.6	37.2	54.6	73.9	19.3	113	338	
Vert.	12310.000	PK	44.1	39.4	9.9	38.0	55.4	73.9	18.5	100	0	
Vert.	19696.000	PK	53.5	40.1	-3.0	48.1	42.5	73.9	31.4	101	145	
Vert.	2483.500	AV	34.9	27.4	13.6	40.5	35.4	53.9	18.5	102	300	VBW:10Hz
Vert.	2487.670	AV	34.8	27.4	13.6	40.5	35.3	53.9	18.6	102	300	VBW:10Hz
Vert.	4924.000	AV	37.8	30.9	5.9	36.5	38.1	53.9	15.8	100	9	VBW:10Hz
Vert.	7386.000	AV	34.0	36.6	7.3	38.4	39.5	53.9	14.4	100	0	VBW:10Hz
Vert.	9848.000	AV	37.8	38.6	8.6	37.2	47.8	53.9	6.1	113	338	VBW:10Hz
Vert.	12310.000	AV	32.8	39.4	9.9	38.0	44.1	53.9	9.8	100	0	VBW:10Hz
Vert.	19696.000	AV	50.4	40.1	-3.0	48.1	39.4	53.9	14.5	101	145	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

UL Japan, Inc.

Shonan EMC Lab.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
Date May 20, 2011 June 6, 2011 June 10, 2011 June 13, 2011 June 16, 2011
Temperature / Humidity 27deg.C. , 47%RH 27deg.C. , 47%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
Engineer Shinichi Takano Tatsuya Arai Tatsuya Arai Shinichi Takano Shinichi Takano
Mode Tx, 2412 MHz
 Tx, IEEE802.11g, PN9, worst data mode 6Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	451.100	QP	23.3	17.3	7.9	31.6	16.9	46.0	29.1	100	0	
Hori.	2390.000	PK	57.7	27.4	13.6	40.6	58.1	73.9	15.8	120	61	
Hori.	4824.000	PK	42.6	30.6	5.9	36.6	42.5	73.9	31.4	100	0	
Hori.	7236.000	PK	47.0	36.3	7.3	38.4	52.2	73.9	21.7	100	0	
Hori.	9648.000	PK	45.2	38.4	8.6	37.1	55.1	73.9	18.8	100	0	
Hori.	12060.000	PK	46.9	39.4	9.9	37.9	58.3	73.9	15.6	100	0	
Hori.	19296.000	PK	55.1	40.0	-3.2	48.3	43.6	73.9	30.3	107	130	
Hori.	2390.000	AV	40.9	27.4	13.6	40.6	41.3	53.9	12.6	120	61	VBW:10Hz
Hori.	4824.000	AV	34.1	30.6	5.9	36.6	34.0	53.9	19.9	100	0	VBW:10Hz
Hori.	7236.000	AV	36.4	36.3	7.3	38.4	41.6	53.9	12.3	100	0	VBW:10Hz
Hori.	9648.000	AV	34.2	38.4	8.6	37.1	44.1	53.9	9.8	100	0	VBW:10Hz
Hori.	12060.000	AV	36.2	39.4	9.9	37.9	47.6	53.9	6.3	100	0	VBW:10Hz
Hori.	19296.000	AV	44.9	40.0	-3.2	48.3	33.4	53.9	20.5	107	130	VBW:10Hz
Vert.	451.100	QP	23.1	17.3	7.9	31.6	16.7	46.0	29.3	100	0	
Vert.	2390.000	PK	53.7	27.4	13.6	40.6	54.1	73.9	19.8	104	136	
Vert.	4824.000	PK	45.0	30.6	5.9	36.6	44.9	73.9	29.0	100	0	
Vert.	7236.000	PK	45.2	36.3	7.3	38.4	50.4	73.9	23.5	100	0	
Vert.	9648.000	PK	43.2	38.4	8.6	37.1	53.1	73.9	20.8	100	0	
Vert.	12060.000	PK	45.6	39.4	9.9	37.9	57.0	73.9	16.9	100	0	
Vert.	19296.000	PK	53.6	40.0	-3.2	48.3	42.1	73.9	31.8	101	146	
Vert.	2390.000	AV	37.2	27.4	13.6	40.6	37.6	53.9	16.3	104	136	VBW:10Hz
Vert.	4824.000	AV	32.6	30.6	5.9	36.6	32.5	53.9	21.4	100	0	VBW:10Hz
Vert.	7236.000	AV	34.9	36.3	7.3	38.4	40.1	53.9	13.8	100	0	VBW:10Hz
Vert.	9648.000	AV	32.6	38.4	8.6	37.1	42.5	53.9	11.4	100	0	VBW:10Hz
Vert.	12060.000	AV	34.6	39.4	9.9	37.9	46.0	53.9	7.9	100	0	VBW:10Hz
Vert.	19296.000	AV	42.4	40.0	-3.2	48.3	30.9	53.9	23.0	101	146	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

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	91.2	27.4	13.7	40.6	91.7	-	-	Carrier
Hori.	2400.000	PK	54.0	27.4	13.7	40.6	54.5	71.7	17.2	
Vert.	2412.000	PK	87.0	27.4	13.7	40.6	87.5	-	-	Carrier
Vert.	2400.000	PK	49.0	27.4	13.7	40.6	49.5	67.5	18.0	

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

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Shonan EMC Lab.

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber
 Date June 6, 2011 June 10, 2011 June 13, 2011 June 16, 2011
 Temperature / Humidity 27deg.C. , 47%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
 Engineer Tatsuya Arai Tatsuya Arai Shinichi Takano Shinichi Takano
 Mode Tx, 2437 MHZ
 Tx, IEEE802.11g, PN9, worst data mode 6Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	476.200	QP	22.7	17.6	8.0	31.6	16.7	46.0	29.3	100	0	
Hori.	4874.000	PK	42.1	30.7	5.9	36.6	42.1	73.9	31.8	100	0	
Hori.	7311.000	PK	43.8	36.4	7.4	38.4	49.2	73.9	24.7	100	0	
Hori.	9748.000	PK	42.3	38.5	8.6	37.1	52.3	73.9	21.6	100	0	
Hori.	12185.000	PK	43.7	39.4	9.9	38.0	55.0	73.9	18.9	100	0	
Hori.	19496.000	PK	52.1	40.1	-3.1	48.1	41.0	73.9	32.9	105	129	
Hori.	4874.000	AV	32.3	30.7	5.9	36.6	32.3	53.9	21.6	100	0	VBW:10Hz
Hori.	7311.000	AV	34.0	36.4	7.4	38.4	39.4	53.9	14.5	100	0	VBW:10Hz
Hori.	9748.000	AV	32.3	38.5	8.6	37.1	42.3	53.9	11.6	100	0	VBW:10Hz
Hori.	12185.000	AV	33.6	39.4	9.9	38.0	44.9	53.9	9.0	100	0	VBW:10Hz
Hori.	19496.000	AV	43.9	40.1	-3.1	48.1	32.8	53.9	21.1	105	129	VBW:10Hz
Vert.	476.200	QP	22.3	17.6	8.0	31.6	16.3	46.0	29.7	100	0	
Vert.	4874.000	PK	42.8	30.7	5.9	36.6	42.8	73.9	31.1	100	0	
Vert.	7311.000	PK	44.6	36.4	7.4	38.4	50.0	73.9	23.9	100	0	
Vert.	9748.000	PK	43.0	38.5	8.6	37.1	53.0	73.9	20.9	100	0	
Vert.	12185.000	PK	42.5	39.4	9.9	38.0	53.8	73.9	20.1	100	0	
Vert.	19496.000	PK	51.3	40.1	-3.1	48.1	40.2	73.9	33.7	102	148	
Vert.	4874.000	AV	32.0	30.7	5.9	36.6	32.0	53.9	21.9	100	0	VBW:10Hz
Vert.	7311.000	AV	34.1	36.4	7.4	38.4	39.5	53.9	14.4	100	0	VBW:10Hz
Vert.	9748.000	AV	32.1	38.5	8.6	37.1	42.1	53.9	11.8	100	0	VBW:10Hz
Vert.	12185.000	AV	32.6	39.4	9.9	38.0	43.9	53.9	10.0	100	0	VBW:10Hz
Vert.	19496.000	AV	40.5	40.1	-3.1	48.1	29.4	53.9	24.5	102	148	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab. No.2 Semi Anechoic Chamber				
Date	May 20, 2011	June 6, 2011	June 10, 2011	June 13, 2011	June 16, 2011
Temperature / Humidity	27deg.C. , 47%RH	27deg.C. , 47%RH	25deg.C. , 66%RH	23deg.C. , 64%RH	25deg.C. , 65%RH
Engineer	Shinichi Takano	Tatsuya Arai	Tatsuya Arai	Shinichi Takano	Shinichi Takano
Mode	Tx, 2462 MHz Tx, IEEE802.11g, PN9, worst data mode 6Mbps				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	501.300	QP	23.1	18.0	8.1	31.6	17.6	46.0	28.4	100	0	
Hori.	2483.500	PK	51.6	27.4	13.6	40.5	52.1	73.9	21.8	100	70	
Hori.	4924.000	PK	42.5	30.9	5.9	36.5	42.8	73.9	31.1	100	0	
Hori.	7386.000	PK	44.8	36.6	7.3	38.4	50.3	73.9	23.6	100	0	
Hori.	9848.000	PK	42.9	38.6	8.6	37.2	52.9	73.9	21.0	100	0	
Hori.	12310.000	PK	42.2	39.4	9.9	38.0	53.5	73.9	20.4	100	0	
Hori.	19696.000	PK	49.1	40.1	-3.0	48.1	38.1	73.9	35.8	104	130	
Hori.	2483.500	AV	37.5	27.4	13.6	40.5	38.0	53.9	15.9	100	70	VBW:10Hz
Hori.	4924.000	AV	32.0	30.9	5.9	36.5	32.3	53.9	21.6	100	0	VBW:10Hz
Hori.	7386.000	AV	33.8	36.6	7.3	38.4	39.3	53.9	14.6	100	0	VBW:10Hz
Hori.	9848.000	AV	32.3	38.6	8.6	37.2	42.3	53.9	11.6	100	0	VBW:10Hz
Hori.	12310.000	AV	32.5	39.4	9.9	38.0	43.8	53.9	10.1	100	0	VBW:10Hz
Hori.	19696.000	AV	40.8	40.1	-3.0	48.1	29.8	53.9	24.1	104	130	VBW:10Hz
Vert.	501.300	QP	22.8	18.0	8.1	31.6	17.3	46.0	28.7	100	0	
Vert.	2483.500	PK	48.6	27.4	13.6	40.5	49.1	73.9	24.8	102	316	
Vert.	4924.000	PK	43.9	30.9	5.9	36.5	44.2	73.9	29.7	100	0	
Vert.	7386.000	PK	44.0	36.6	7.3	38.4	49.5	73.9	24.4	100	0	
Vert.	9848.000	PK	42.8	38.6	8.6	37.2	52.8	73.9	21.1	100	0	
Vert.	12310.000	PK	42.5	39.4	9.9	38.0	53.8	73.9	20.1	100	0	
Vert.	19696.000	PK	50.3	40.1	-3.0	48.1	39.3	73.9	34.6	104	147	
Vert.	2483.500	AV	36.3	27.4	13.6	40.5	36.8	53.9	17.1	102	316	VBW:10Hz
Vert.	4924.000	AV	32.0	30.9	5.9	36.5	32.3	53.9	21.6	100	0	VBW:10Hz
Vert.	7386.000	AV	33.5	36.6	7.3	38.4	39.0	53.9	14.9	100	0	VBW:10Hz
Vert.	9848.000	AV	32.1	38.6	8.6	37.2	42.1	53.9	11.8	100	0	VBW:10Hz
Vert.	12310.000	AV	32.4	39.4	9.9	38.0	43.7	53.9	10.2	100	0	VBW:10Hz
Vert.	19696.000	AV	39.7	40.1	-3.0	48.1	28.7	53.9	25.2	104	147	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz $20\log(3.0m/1.0m) = 9.5dB$

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date May 20, 2011 June 7, 2011 June 10, 2011 June 13, 2011 June 16, 2011
 Temperature / Humidity 27deg.C. , 47%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
 Engineer Shinichi Takano Shinichi Takano Tatsuya Arai Shinichi Takano Shinichi Takano
 Mode Tx, 2412 MHz
 Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	191.168	QP	23.0	16.4	9.1	31.8	16.7	43.5	26.8	200	0	
Hori.	451.100	QP	23.2	17.3	7.9	31.6	16.8	46.0	29.2	100	0	
Hori.	2390.000	PK	56.8	27.4	13.6	40.6	57.2	73.9	16.7	123	58	
Hori.	4824.000	PK	45.1	30.6	5.9	36.6	45.0	73.9	28.9	100	0	
Hori.	7236.000	PK	46.5	36.3	7.3	38.4	51.7	73.9	22.2	100	0	
Hori.	9648.000	PK	44.8	38.4	8.6	37.1	54.7	73.9	19.2	100	0	
Hori.	12060.000	PK	45.7	39.4	9.9	37.9	57.1	73.9	16.8	100	0	
Hori.	19296.000	PK	54.6	40.0	-3.2	48.3	43.1	73.9	30.8	107	129	
Hori.	2390.000	AV	41.4	27.4	13.6	40.6	41.8	53.9	12.1	123	58	VBW:10Hz
Hori.	4824.000	AV	34.3	30.6	5.9	36.6	34.2	53.9	19.7	100	0	VBW:10Hz
Hori.	7236.000	AV	35.1	36.3	7.3	38.4	40.3	53.9	13.6	100	0	VBW:10Hz
Hori.	9648.000	AV	34.6	38.4	8.6	37.1	44.5	53.9	9.4	100	0	VBW:10Hz
Hori.	12060.000	AV	35.4	39.4	9.9	37.9	46.8	53.9	7.1	100	0	VBW:10Hz
Hori.	19296.000	AV	44.1	40.0	-3.2	48.3	32.6	53.9	21.3	107	129	VBW:10Hz
Vert.	191.168	QP	23.1	16.4	9.1	31.8	16.8	43.5	26.7	100	0	
Vert.	451.100	QP	22.9	17.3	7.9	31.6	16.5	46.0	29.5	100	0	
Vert.	2390.000	PK	54.0	27.4	13.6	40.6	54.4	73.9	19.5	105	138	
Vert.	4824.000	PK	44.6	30.6	5.9	36.6	44.5	73.9	29.4	100	0	
Vert.	7236.000	PK	46.1	36.3	7.3	38.4	51.3	73.9	22.6	100	0	
Vert.	9648.000	PK	44.6	38.4	8.6	37.1	54.5	73.9	19.4	100	0	
Vert.	12060.000	PK	45.7	39.4	9.9	37.9	57.1	73.9	16.8	100	0	
Vert.	19296.000	PK	53.7	40.0	-3.2	48.3	42.2	73.9	31.7	103	145	
Vert.	2390.000	AV	39.1	27.4	13.6	40.6	39.5	53.9	14.4	105	138	VBW:10Hz
Vert.	4824.000	AV	32.7	30.6	5.9	36.6	32.6	53.9	21.3	100	0	VBW:10Hz
Vert.	7236.000	AV	34.9	36.3	7.3	38.4	40.1	53.9	13.8	100	0	VBW:10Hz
Vert.	9648.000	AV	32.7	38.4	8.6	37.1	42.6	53.9	11.3	100	0	VBW:10Hz
Vert.	12060.000	AV	34.6	39.4	9.9	37.9	46.0	53.9	7.9	100	0	VBW:10Hz
Vert.	19296.000	AV	41.8	40.0	-3.2	48.3	30.3	53.9	23.6	103	145	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

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	91.3	27.4	13.7	40.6	91.8	-	-	Carrier
Hori.	2400.000	PK	50.4	27.4	13.7	40.6	50.9	71.8	20.9	
Vert.	2412.000	PK	85.4	27.4	13.7	40.6	85.9	-	-	Carrier
Vert.	2400.000	PK	46.4	27.4	13.7	40.6	46.9	65.9	19.0	

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

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 7, 2011 June 10, 2011 June 13, 2011 June 16, 2011
Temperature / Humidity 24deg.C. , 60%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
Engineer Shinichi Takano Tatsuya Arai Shinichi Takano Shinichi Takano
Mode Tx, 2437 MHz
Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	474.600	QP	23.2	17.6	8.0	31.6	17.2	46.0	28.8	100	0	
Hori.	4874.000	PK	44.7	30.7	5.9	36.6	44.7	73.9	29.2	100	0	
Hori.	7311.000	PK	45.7	36.4	7.4	38.4	51.1	73.9	22.8	100	0	
Hori.	9748.000	PK	43.6	38.5	8.6	37.1	53.6	73.9	20.3	100	0	
Hori.	12185.000	PK	44.4	39.4	9.9	38.0	55.7	73.9	18.2	100	0	
Hori.	19496.000	PK	51.2	40.1	-3.1	48.1	40.1	73.9	33.8	108	131	
Hori.	4874.000	AV	32.6	30.7	5.9	36.6	32.6	53.9	21.3	100	0	VBW:10Hz
Hori.	7311.000	AV	34.3	36.4	7.4	38.4	39.7	53.9	14.2	100	0	VBW:10Hz
Hori.	9748.000	AV	32.5	38.5	8.6	37.1	42.5	53.9	11.4	100	0	VBW:10Hz
Hori.	12185.000	AV	33.6	39.4	9.9	38.0	44.9	53.9	9.0	100	0	VBW:10Hz
Hori.	19496.000	AV	42.1	40.1	-3.1	48.1	31.0	53.9	22.9	108	131	VBW:10Hz
Vert.	474.600	QP	23.3	17.6	8.0	31.6	17.3	46.0	28.7	100	0	
Vert.	4874.000	PK	44.5	30.7	5.9	36.6	44.5	73.9	29.4	100	0	
Vert.	7311.000	PK	45.0	36.4	7.4	38.4	50.4	73.9	23.5	100	0	
Vert.	9748.000	PK	44.0	38.5	8.6	37.1	54.0	73.9	19.9	100	0	
Vert.	12185.000	PK	45.2	39.4	9.9	38.0	56.5	73.9	17.4	100	0	
Vert.	19496.000	PK	52.6	40.1	-3.1	48.1	41.5	73.9	32.4	105	142	
Vert.	4874.000	AV	32.3	30.7	5.9	36.6	32.3	53.9	21.6	100	0	VBW:10Hz
Vert.	7311.000	AV	34.2	36.4	7.4	38.4	39.6	53.9	14.3	100	0	VBW:10Hz
Vert.	9748.000	AV	32.6	38.5	8.6	37.1	42.6	53.9	11.3	100	0	VBW:10Hz
Vert.	12185.000	AV	33.7	39.4	9.9	38.0	45.0	53.9	8.9	100	0	VBW:10Hz
Vert.	19496.000	AV	39.6	40.1	-3.1	48.1	28.5	53.9	25.4	105	142	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date May 20, 2011 June 7, 2011 June 10, 2011 June 13, 2011 June 16, 2011
Temperature / Humidity 27deg.C. , 47%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
Engineer Shinichi Takano Shinichi Takano Tatsuya Arai Shinichi Takano Shinichi Takano
Mode Tx, 2462 MHz
Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	499.600	QP	23.0	18.0	8.1	31.6	17.5	46.0	28.5	100	0	
Hori.	2483.500	PK	50.6	27.4	13.6	40.5	51.1	73.9	22.8	100	64	
Hori.	4924.000	PK	43.4	30.9	5.9	36.5	43.7	73.9	30.2	100	0	
Hori.	7386.000	PK	45.9	36.6	7.3	38.4	51.4	73.9	22.5	100	0	
Hori.	9848.000	PK	42.8	38.6	8.6	37.2	52.8	73.9	21.1	100	0	
Hori.	12310.000	PK	43.5	39.4	9.9	38.0	54.8	73.9	19.1	100	0	
Hori.	19696.000	PK	49.7	40.1	-3.0	48.1	38.7	73.9	35.2	106	128	
Hori.	2483.500	AV	37.7	27.4	13.6	40.5	38.2	53.9	15.7	100	64	VBW:10Hz
Hori.	4924.000	AV	32.3	30.9	5.9	36.5	32.6	53.9	21.3	100	0	VBW:10Hz
Hori.	7386.000	AV	34.0	36.6	7.3	38.4	39.5	53.9	14.4	100	0	VBW:10Hz
Hori.	9848.000	AV	32.8	38.6	8.6	37.2	42.8	53.9	11.1	100	0	VBW:10Hz
Hori.	12310.000	AV	32.6	39.4	9.9	38.0	43.9	53.9	10.0	100	0	VBW:10Hz
Hori.	19696.000	AV	41.1	40.1	-3.0	48.1	30.1	53.9	23.8	106	128	VBW:10Hz
Vert.	499.600	QP	22.8	18.0	8.1	31.6	17.3	46.0	28.7	100	0	
Vert.	2483.500	PK	50.9	27.4	13.6	40.5	51.4	73.9	22.5	104	311	
Vert.	4924.000	PK	42.9	30.9	5.9	36.5	43.2	73.9	30.7	100	0	
Vert.	7386.000	PK	45.3	36.6	7.3	38.4	50.8	73.9	23.1	100	0	
Vert.	9848.000	PK	43.3	38.6	8.6	37.2	53.3	73.9	20.6	100	0	
Vert.	12310.000	PK	43.9	39.4	9.9	38.0	55.2	73.9	18.7	100	0	
Vert.	19696.000	PK	52.6	40.1	-3.0	48.1	41.6	73.9	32.3	104	147	
Vert.	2483.500	AV	36.8	27.4	13.6	40.5	37.3	53.9	16.6	104	311	VBW:10Hz
Vert.	4924.000	AV	32.1	30.9	5.9	36.5	32.4	53.9	21.5	100	0	VBW:10Hz
Vert.	7386.000	AV	34.1	36.6	7.3	38.4	39.6	53.9	14.3	100	0	VBW:10Hz
Vert.	9848.000	AV	32.3	38.6	8.6	37.2	42.3	53.9	11.6	100	0	VBW:10Hz
Vert.	12310.000	AV	32.7	39.4	9.9	38.0	44.0	53.9	9.9	100	0	VBW:10Hz
Vert.	19696.000	AV	39.0	40.1	-3.0	48.1	28.0	53.9	25.9	104	147	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz $20\log(3.0m/1.0m) = 9.5dB$

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber				
Date	May 20, 2011	June 7, 2011	June 10, 2011	June 13, 2011	June 16, 2011
Temperature / Humidity	27deg.C. , 47%RH	24deg.C. , 60%RH	25deg.C. , 66%RH	23deg.C. , 64%RH	25deg.C. , 65%RH
Engineer	Shinichi Takano	Shinichi Takano	Tatsuya Arai	Shinichi Takano	Shinichi Takano
Mode	Tx, 2422 MHz Tx, IEEE802.11n(HT40), PN9, worst data mode MCS5				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	456.800	QP	22.7	17.3	7.9	31.6	16.3	46.0	29.7	100	0	
Hori.	617.867	QP	23.1	19.3	8.7	31.6	19.5	46.0	26.5	100	0	
Hori.	2390.000	PK	59.0	27.4	13.6	40.6	59.4	73.9	14.5	122	57	
Hori.	4844.000	PK	43.6	30.7	5.9	36.6	43.6	73.9	30.3	100	0	
Hori.	7266.000	PK	46.6	36.3	7.4	38.4	51.9	73.9	22.0	100	0	
Hori.	9688.000	PK	43.6	38.4	8.6	37.1	53.5	73.9	20.4	100	0	
Hori.	12110.000	PK	45.3	39.4	9.9	38.0	56.6	73.9	17.3	100	0	
Hori.	19376.000	PK	51.9	40.1	-3.1	48.2	40.7	73.9	33.2	105	132	
Hori.	2390.000	AV	44.8	27.4	13.6	40.6	45.2	53.9	8.7	122	57	VBW:10Hz
Hori.	4844.000	AV	32.6	30.7	5.9	36.6	32.6	53.9	21.3	100	0	VBW:10Hz
Hori.	7266.000	AV	35.0	36.3	7.4	38.4	40.3	53.9	13.6	100	0	VBW:10Hz
Hori.	9688.000	AV	32.6	38.4	8.6	37.1	42.5	53.9	11.4	100	0	VBW:10Hz
Hori.	12110.000	AV	34.5	39.4	9.9	38.0	45.8	53.9	8.1	100	0	VBW:10Hz
Hori.	19376.000	AV	43.1	40.1	-3.1	48.2	31.9	53.9	22.0	105	132	VBW:10Hz
Vert.	456.800	QP	22.8	17.3	7.9	31.6	16.4	46.0	29.6	100	0	
Vert.	617.867	QP	23.0	19.3	8.7	31.6	19.4	46.0	26.6	100	0	
Vert.	2390.000	PK	52.6	27.4	13.6	40.6	53.0	73.9	20.9	105	139	
Vert.	4844.000	PK	44.8	30.7	5.9	36.6	44.8	73.9	29.1	100	0	
Vert.	7266.000	PK	45.9	36.3	7.4	38.4	51.2	73.9	22.7	100	0	
Vert.	9688.000	PK	44.3	38.4	8.6	37.1	54.2	73.9	19.7	100	0	
Vert.	12110.000	PK	44.8	39.4	9.9	38.0	56.1	73.9	17.8	100	0	
Vert.	19376.000	PK	49.4	40.1	-3.1	48.2	38.2	73.9	35.7	105	141	
Vert.	2390.000	AV	40.4	27.4	13.6	40.6	40.8	53.9	13.1	105	139	VBW:10Hz
Vert.	4844.000	AV	32.4	30.7	5.9	36.6	32.4	53.9	21.5	100	0	VBW:10Hz
Vert.	7266.000	AV	35.2	36.3	7.4	38.4	40.5	53.9	13.4	100	0	VBW:10Hz
Vert.	9688.000	AV	32.6	38.4	8.6	37.1	42.5	53.9	11.4	100	0	VBW:10Hz
Vert.	12110.000	AV	34.2	39.4	9.9	38.0	45.5	53.9	8.4	100	0	VBW:10Hz
Vert.	19376.000	AV	39.4	40.1	-3.1	48.2	28.2	53.9	25.7	105	141	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2422.000	PK	89.6	27.4	13.6	40.6	90.0	-	-	Carrier
Hori.	2400.000	PK	51.6	27.4	13.7	40.6	52.1	70.0	17.9	
Vert.	2422.000	PK	83.8	27.4	13.6	40.6	84.2	-	-	Carrier
Vert.	2400.000	PK	44.8	27.4	13.7	40.6	45.3	64.2	18.9	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 7, 2011 June 10, 2011 June 13, 2011 June 16, 2011
Temperature / Humidity 24deg.C. , 60%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
Engineer Shinichi Takano Tatsuya Arai Shinichi Takano Shinichi Takano
Mode Tx, 2437 MHz
Tx, IEEE802.11n(HT40), PN9, worst data mode MCS5

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	471.400	QP	23.0	17.6	8.0	31.6	17.0	46.0	29.0	100	0	
Hori.	4874.000	PK	43.3	30.7	5.9	36.6	43.3	73.9	30.6	100	0	
Hori.	7311.000	PK	45.7	36.4	7.4	38.4	51.1	73.9	22.8	100	0	
Hori.	9748.000	PK	44.2	38.5	8.6	37.1	54.2	73.9	19.7	100	0	
Hori.	12185.000	PK	44.0	39.4	9.9	38.0	55.3	73.9	18.6	100	0	
Hori.	19496.000	PK	50.5	40.1	-3.1	48.1	39.4	73.9	34.5	106	128	
Hori.	4874.000	AV	32.5	30.7	5.9	36.6	32.5	53.9	21.4	100	0	VBW:10Hz
Hori.	7311.000	AV	34.4	36.4	7.4	38.4	39.8	53.9	14.1	100	0	VBW:10Hz
Hori.	9748.000	AV	32.6	38.5	8.6	37.1	42.6	53.9	11.3	100	0	VBW:10Hz
Hori.	12185.000	AV	33.8	39.4	9.9	38.0	45.1	53.9	8.8	100	0	VBW:10Hz
Hori.	19496.000	AV	42.2	40.1	-3.1	48.1	31.1	53.9	22.8	106	128	VBW:10Hz
Vert.	471.400	QP	22.9	17.6	8.0	31.6	16.9	46.0	29.1	100	0	
Vert.	4874.000	PK	42.8	30.7	5.9	36.6	42.8	73.9	31.1	100	0	
Vert.	7311.000	PK	45.5	36.4	7.4	38.4	50.9	73.9	23.0	100	0	
Vert.	9748.000	PK	43.2	38.5	8.6	37.1	53.2	73.9	20.7	100	0	
Vert.	12185.000	PK	44.9	39.4	9.9	38.0	56.2	73.9	17.7	100	0	
Vert.	19496.000	PK	48.6	40.1	-3.1	48.1	37.5	73.9	36.4	103	144	
Vert.	4874.000	AV	32.2	30.7	5.9	36.6	32.2	53.9	21.7	100	0	VBW:10Hz
Vert.	7311.000	AV	34.3	36.4	7.4	38.4	39.7	53.9	14.2	100	0	VBW:10Hz
Vert.	9748.000	AV	32.6	38.5	8.6	37.1	42.6	53.9	11.3	100	0	VBW:10Hz
Vert.	12185.000	AV	33.8	39.4	9.9	38.0	45.1	53.9	8.8	100	0	VBW:10Hz
Vert.	19496.000	AV	38.2	40.1	-3.1	48.1	27.1	53.9	26.8	103	144	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date May 20, 2011 June 7, 2011 June 10, 2011 June 13, 2011 June 16, 2011
Temperature / Humidity 27deg.C. , 47%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 23deg.C. , 64%RH 25deg.C. , 65%RH
Engineer Shinichi Takano Shinichi Takano Tatsuya Arai Shinichi Takano Shinichi Takano
Mode Tx, 2452 MHz
 Tx, IEEE802.11n(HT40), PN9, worst data mode MCS5

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	491.600	QP	22.4	17.9	8.1	31.6	16.8	46.0	29.2	100	0	
Hori.	2483.500	PK	51.3	27.4	13.6	40.5	51.8	73.9	22.1	100	68	
Hori.	4904.000	PK	43.2	30.8	5.9	36.6	43.3	73.9	30.6	100	0	
Hori.	7356.000	PK	45.4	36.5	7.3	38.4	50.8	73.9	23.1	100	0	
Hori.	9808.000	PK	43.8	38.6	8.6	37.2	53.8	73.9	20.1	100	0	
Hori.	12260.000	PK	44.7	39.4	9.9	38.0	56.0	73.9	17.9	100	0	
Hori.	19616.000	PK	48.4	40.1	-3.0	48.1	37.4	73.9	36.5	105	132	
Hori.	2483.500	AV	37.2	27.4	13.6	40.5	37.7	53.9	16.2	100	68	VBW:10Hz
Hori.	4904.000	AV	32.4	30.8	5.9	36.6	32.5	53.9	21.4	100	0	VBW:10Hz
Hori.	7356.000	AV	34.3	36.5	7.3	38.4	39.7	53.9	14.2	100	0	VBW:10Hz
Hori.	9808.000	AV	32.4	38.6	8.6	37.2	42.4	53.9	11.5	100	0	VBW:10Hz
Hori.	12260.000	AV	33.2	39.4	9.9	38.0	44.5	53.9	9.4	100	0	VBW:10Hz
Hori.	19616.000	AV	40.8	40.1	-3.0	48.1	29.8	53.9	24.1	105	132	VBW:10Hz
Vert.	491.600	QP	22.6	17.9	8.1	31.6	17.0	46.0	29.0	100	0	
Vert.	2483.500	PK	53.1	27.4	13.6	40.5	53.6	73.9	20.3	102	317	
Vert.	4904.000	PK	42.5	30.8	5.9	36.6	42.6	73.9	31.3	100	0	
Vert.	7356.000	PK	45.2	36.5	7.3	38.4	50.6	73.9	23.3	100	0	
Vert.	9808.000	PK	43.6	38.6	8.6	37.2	53.6	73.9	20.3	100	0	
Vert.	12260.000	PK	44.9	39.4	9.9	38.0	56.2	73.9	17.7	100	0	
Vert.	19616.000	PK	47.8	40.1	-3.0	48.1	36.8	73.9	37.1	102	146	
Vert.	2483.500	AV	37.0	27.4	13.6	40.5	37.5	53.9	16.4	102	317	VBW:10Hz
Vert.	4904.000	AV	32.2	30.8	5.9	36.6	32.3	53.9	21.6	100	0	VBW:10Hz
Vert.	7356.000	AV	34.4	36.5	7.3	38.4	39.8	53.9	14.1	100	0	VBW:10Hz
Vert.	9808.000	AV	32.2	38.6	8.6	37.2	42.2	53.9	11.7	100	0	VBW:10Hz
Vert.	12260.000	AV	33.4	39.4	9.9	38.0	44.7	53.9	9.2	100	0	VBW:10Hz
Vert.	19616.000	AV	37.4	40.1	-3.0	48.1	26.4	53.9	27.5	102	146	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz $20\log(3.0m/1.0m) = 9.5dB$

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date June 5, 2011 June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
 Temperature / Humidity 22deg.C. , 65%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
 Engineer Shinichi Takano Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
 Mode Tx, 5745 MHz
 Tx, IEEE802.11a, PN9, worst antenna port , worst data mode 24Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.3	13.0	8.3	31.8	11.8	43.5	31.7	100	0	
Hori.	384.000	QP	21.5	16.1	7.5	31.7	13.4	46.0	32.6	100	0	
Hori.	11490.000	PK	42.7	40.0	8.9	37.7	53.9	73.9	20.0	100	0	
Hori.	17235.000	PK	46.0	41.7	1.6	37.6	51.7	73.9	22.2	100	251	
Hori.	22980.000	PK	48.3	40.1	-2.2	47.5	38.7	73.9	35.2	100	0	
Hori.	28725.000	PK	59.8	43.5	3.6	67.0	39.9	73.9	34.0	100	0	
Hori.	11490.000	AV	32.7	40.0	8.9	37.7	43.9	53.9	10.0	100	0	VBW:10Hz
Hori.	17235.000	AV	34.9	41.7	1.6	37.6	40.6	53.9	13.3	100	251	VBW:10Hz
Hori.	22980.000	AV	37.7	40.1	-2.2	47.5	28.1	53.9	25.8	100	0	VBW:10Hz
Hori.	28725.000	AV	48.6	43.5	3.6	67.0	28.7	53.9	25.2	100	0	VBW:10Hz
Vert.	48.000	QP	22.2	12.2	7.2	31.9	9.7	40.0	30.3	100	0	
Vert.	11490.000	PK	42.6	40.0	8.9	37.7	53.8	73.9	20.1	100	0	
Vert.	17235.000	PK	45.6	41.7	1.6	37.6	51.3	73.9	22.6	100	0	
Vert.	22980.000	PK	48.0	40.1	-2.2	47.5	38.4	73.9	35.5	100	0	
Vert.	28725.000	PK	59.5	43.5	3.6	67.0	39.6	73.9	34.3	100	0	
Vert.	11490.000	AV	32.6	40.0	8.9	37.7	43.8	53.9	10.1	100	0	VBW:10Hz
Vert.	17235.000	AV	34.1	41.7	1.6	37.6	39.8	53.9	14.1	100	0	VBW:10Hz
Vert.	22980.000	AV	38.2	40.1	-2.2	47.5	28.6	53.9	25.3	100	0	VBW:10Hz
Vert.	28725.000	AV	48.5	43.5	3.6	67.0	28.6	53.9	25.3	100	0	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

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	86.5	32.6	15.9	41.1	93.9	-	-	Carrier
Hori.	5725.000	PK	42.0	32.5	15.8	41.1	49.2	73.9	24.7	
Vert.	5745.000	PK	86.9	32.6	15.9	41.1	94.3	-	-	Carrier
Vert.	5725.000	PK	43.5	32.5	15.8	41.1	50.7	74.3	23.6	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
 Temperature / Humidity 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
 Engineer Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
 Mode Tx, 5785 MHz
 Tx, IEEE802.11a, PN9, worst antenna port , worst data mode 24Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.2	13.0	8.3	31.8	11.7	43.5	31.8	100	0	
Hori.	384.000	QP	21.5	16.1	7.5	31.7	13.4	46.0	32.6	100	0	
Hori.	11570.000	PK	42.2	39.9	8.9	37.7	53.3	73.9	20.6	100	0	
Hori.	17355.000	PK	46.0	42.7	1.7	37.7	52.7	73.9	21.2	100	250	
Hori.	23140.000	PK	46.4	40.1	-2.2	47.4	36.9	73.9	37.0	100	0	
Hori.	28925.000	PK	61.2	43.4	3.6	67.0	41.2	73.9	32.7	100	0	
Hori.	11570.000	AV	32.2	39.9	8.9	37.7	43.3	53.9	10.6	100	0	
Hori.	17355.000	AV	35.0	42.7	1.7	37.7	41.7	53.9	12.2	100	250	
Hori.	23140.000	AV	36.2	40.1	-2.2	47.4	26.7	53.9	27.2	100	0	
Hori.	28925.000	AV	48.7	43.4	3.6	67.0	28.7	53.9	25.2	100	0	
Vert.	48.000	QP	22.1	12.2	7.2	31.9	9.6	40.0	30.4	100	0	
Vert.	11570.000	PK	42.6	39.9	8.9	37.7	53.7	73.9	20.2	100	0	
Vert.	17355.000	PK	44.8	42.7	1.7	37.7	51.5	73.9	22.4	100	0	
Vert.	23140.000	PK	47.0	40.1	-2.2	47.4	37.5	73.9	36.4	100	0	
Vert.	28925.000	PK	60.5	43.4	3.6	67.0	40.5	73.9	33.4	100	0	
Vert.	11570.000	AV	32.3	39.9	8.9	37.7	43.4	53.9	10.5	100	0	
Vert.	17355.000	AV	33.9	42.7	1.7	37.7	40.6	53.9	13.3	100	0	
Vert.	23140.000	AV	36.2	40.1	-2.2	47.4	26.7	53.9	27.2	100	0	
Vert.	28925.000	AV	48.7	43.4	3.6	67.0	28.7	53.9	25.2	100	0	

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber				
Date	June 5, 2011	June 7, 2011	June 10, 2011	June 21, 2011	June 24, 2011
Temperature / Humidity	22deg.C. , 65%RH	24deg.C. , 60%RH	25deg.C. , 66%RH	25deg.C. , 57%RH	25deg.C. , 58%RH
Engineer	Shinichi Takano	Tatsuya Arai	Tatsuya Arai	Akio Hayashi	Akio Hayashi
Mode	Tx, 5825 MHz Tx, IEEE802.11a, PN9, worst antenna port , worst data mode 24Mbps				

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.2	13.0	8.3	31.8	11.7	43.5	31.8	100	0	
Hori.	384.000	QP	21.5	16.1	7.5	31.7	13.4	46.0	32.6	100	0	
Hori.	11650.000	PK	42.0	39.8	8.9	37.8	52.9	73.9	21.0	100	0	
Hori.	17475.000	PK	45.0	43.7	1.7	37.7	52.7	73.9	21.2	100	249	
Hori.	23300.000	PK	48.2	40.1	-2.2	47.3	38.8	73.9	35.1	100	0	
Hori.	29125.000	PK	60.2	43.4	3.7	67.1	40.2	73.9	33.7	100	0	
Hori.	11650.000	AV	31.5	39.8	8.9	37.8	42.4	53.9	11.5	100	0	
Hori.	17475.000	AV	34.0	43.7	1.7	37.7	41.7	53.9	12.2	100	249	
Hori.	23300.000	AV	37.1	40.1	-2.2	47.3	27.7	53.9	26.2	100	0	
Hori.	29125.000	AV	49.3	43.4	3.7	67.1	29.3	53.9	24.6	100	0	
Vert.	48.000	QP	22.1	12.2	7.2	31.9	9.6	40.0	30.4	100	0	
Vert.	11650.000	PK	42.3	39.8	8.9	37.8	53.2	73.9	20.7	100	0	
Vert.	17475.000	PK	44.4	43.7	1.7	37.7	52.1	73.9	21.8	100	0	
Vert.	23300.000	PK	48.2	40.1	-2.2	47.3	38.8	73.9	35.1	100	0	
Vert.	29125.000	PK	60.8	43.4	3.7	67.1	40.8	73.9	33.1	100	0	
Vert.	11650.000	AV	31.6	39.8	8.9	37.8	42.5	53.9	11.4	100	0	
Vert.	17475.000	AV	33.6	43.7	1.7	37.7	41.3	53.9	12.6	100	0	
Vert.	23300.000	AV	36.8	40.1	-2.2	47.3	27.4	53.9	26.5	100	0	
Vert.	29125.000	AV	49.1	43.4	3.7	67.1	29.1	53.9	24.8	100	0	

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	5825.000	PK	85.6	32.7	15.9	41.1	93.1	-	-	Carrier
Hori.	5850.000	PK	37.7	32.8	15.9	41.0	45.4	73.1	27.7	
Vert.	5825.000	PK	84.5	32.7	15.9	41.1	92.0	-	-	Carrier
Vert.	5850.000	PK	38.6	32.8	15.9	41.0	46.3	72.0	25.7	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 5, 2011 June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
Temperature / Humidity 22deg.C. , 65%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
Engineer Shinichi Takano Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
Mode Tx, 5745 MHz
Tx, IEEE802.11n (HT20), PN9, worst antenna port , worst data mode 2(MCS)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.1	13.0	8.3	31.8	11.6	43.5	31.9	100	0	
Hori.	384.000	QP	21.6	16.1	7.5	31.7	13.5	46.0	32.5	100	0	
Hori.	11490.000	PK	43.7	40.0	8.9	37.7	54.9	73.9	19.0	100	0	
Hori.	17235.000	PK	45.1	41.7	1.6	37.6	50.8	73.9	23.1	100	250	
Hori.	22980.000	PK	48.1	40.1	-2.2	47.5	38.5	73.9	35.4	100	0	
Hori.	28725.000	PK	58.9	43.5	3.6	67.0	39.0	73.9	34.9	100	0	
Hori.	11490.000	AV	32.8	40.0	8.9	37.7	44.0	53.9	9.9	100	0	VBW:10Hz
Hori.	17235.000	AV	34.4	41.7	1.6	37.6	40.1	53.9	13.8	100	250	VBW:10Hz
Hori.	22980.000	AV	36.1	40.1	-2.2	47.5	26.5	53.9	27.4	100	0	VBW:10Hz
Hori.	28725.000	AV	48.5	43.5	3.6	67.0	28.6	53.9	25.3	100	0	VBW:10Hz
Vert.	48.000	QP	22.1	12.2	7.2	31.9	9.6	40.0	30.4	100	0	
Vert.	11490.000	PK	43.4	40.0	8.9	37.7	54.6	73.9	19.3	100	0	
Vert.	17235.000	PK	43.7	41.7	1.6	37.6	49.4	73.9	24.5	100	0	
Vert.	22980.000	PK	47.9	40.1	-2.2	47.5	38.3	73.9	35.6	100	0	
Vert.	28725.000	PK	58.8	43.5	3.6	67.0	38.9	73.9	35.0	100	0	
Vert.	11490.000	AV	32.9	40.0	8.9	37.7	44.1	53.9	9.8	100	0	VBW:10Hz
Vert.	17235.000	AV	33.8	41.7	1.6	37.6	39.5	53.9	14.4	100	0	VBW:10Hz
Vert.	22980.000	AV	36.2	40.1	-2.2	47.5	26.6	53.9	27.3	100	0	VBW:10Hz
Vert.	28725.000	AV	48.4	43.5	3.6	67.0	28.5	53.9	25.4	100	0	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

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	85.0	32.6	15.9	41.1	92.4	-	-	Carrier
Hori.	5725.000	PK	43.3	32.5	15.8	41.1	50.5	72.4	21.9	
Vert.	5745.000	PK	85.4	32.6	15.9	41.1	92.8	-	-	Carrier
Vert.	5725.000	PK	45.3	32.5	15.8	41.1	52.5	72.8	20.3	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
Temperature / Humidity 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
Engineer Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
Mode Tx, 5785 MHz
Tx, IEEE802.11n (HT20), PN9, worst antenna port , worst data mode 2(MCS)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.3	13.0	8.3	31.8	11.8	43.5	31.7	100	0	
Hori.	384.000	QP	21.7	16.1	7.5	31.7	13.6	46.0	32.4	100	0	
Hori.	11570.000	PK	42.6	39.9	8.9	37.7	53.7	73.9	20.2	100	0	
Hori.	17355.000	PK	44.7	42.7	1.7	37.7	51.4	73.9	22.5	100	252	
Hori.	23140.000	PK	48.6	40.1	-2.2	47.4	39.1	73.9	34.8	100	359	
Hori.	28925.000	PK	60.5	43.4	3.6	67.0	40.5	73.9	33.4	100	0	
Hori.	11570.000	AV	32.2	39.9	8.9	37.7	43.3	53.9	10.6	100	0	VBW:10Hz
Hori.	17355.000	AV	34.6	42.7	1.7	37.7	41.3	53.9	12.6	100	252	VBW:10Hz
Hori.	23140.000	AV	38.7	40.1	-2.2	47.4	29.2	53.9	24.7	100	359	VBW:10Hz
Hori.	28925.000	AV	48.6	43.4	3.6	67.0	28.6	53.9	25.3	100	0	VBW:10Hz
Vert.	48.000	QP	22.2	12.2	7.2	31.9	9.7	40.0	30.3	100	0	
Vert.	11570.000	PK	42.1	39.9	8.9	37.7	53.2	73.9	20.7	100	0	
Vert.	17355.000	PK	45.0	42.7	1.7	37.7	51.7	73.9	22.2	100	0	
Vert.	23140.000	PK	48.4	40.1	-2.2	47.4	38.9	73.9	35.0	100	0	
Vert.	28925.000	PK	61.1	43.4	3.6	67.0	41.1	73.9	32.8	100	0	
Vert.	11570.000	AV	32.3	39.9	8.9	37.7	43.4	53.9	10.5	100	0	VBW:10Hz
Vert.	17355.000	AV	33.9	42.7	1.7	37.7	40.6	53.9	13.3	100	0	VBW:10Hz
Vert.	23140.000	AV	37.1	40.1	-2.2	47.4	27.6	53.9	26.3	100	0	VBW:10Hz
Vert.	28925.000	AV	48.7	43.4	3.6	67.0	28.7	53.9	25.2	100	0	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 5, 2011 June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
Temperature / Humidity 22deg.C. , 65%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
Engineer Shinichi Takano Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
Mode Tx, 5825 MHz
Tx, IEEE802.11n (HT20), PN9, worst antenna port , worst data mode 2(MCS)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.3	13.0	8.3	31.8	11.8	43.5	31.7	100	0	
Hori.	384.000	QP	21.7	16.1	7.5	31.7	13.6	46.0	32.4	100	0	
Hori.	11650.000	PK	42.8	39.8	8.9	37.8	53.7	73.9	20.2	100	0	
Hori.	17475.000	PK	43.9	43.7	1.7	37.7	51.6	73.9	22.3	100	250	
Hori.	23300.000	PK	48.7	40.1	-2.2	47.3	39.3	73.9	34.6	100	0	
Hori.	29125.000	PK	60.4	43.4	3.7	67.1	40.4	73.9	33.5	100	0	
Hori.	11650.000	AV	31.3	39.8	8.9	37.8	42.2	53.9	11.7	100	0	VBW:10Hz
Hori.	17475.000	AV	33.7	43.7	1.7	37.7	41.4	53.9	12.5	100	250	VBW:10Hz
Hori.	23300.000	AV	35.9	40.1	-2.2	47.3	26.5	53.9	27.4	100	0	VBW:10Hz
Hori.	29125.000	AV	49.1	43.4	3.7	67.1	29.1	53.9	24.8	100	0	VBW:10Hz
Vert.	48.000	QP	22.2	12.2	7.2	31.9	9.7	40.0	30.3	100	0	
Vert.	11650.000	PK	41.5	39.8	8.9	37.8	52.4	73.9	21.5	100	0	
Vert.	17475.000	PK	45.0	43.7	1.7	37.7	52.7	73.9	21.2	100	0	
Vert.	23300.000	PK	49.1	40.1	-2.2	47.3	39.7	73.9	34.2	100	0	
Vert.	29125.000	PK	60.9	43.4	3.7	67.1	40.9	73.9	33.0	100	0	
Vert.	11650.000	AV	31.7	39.8	8.9	37.8	42.6	53.9	11.3	100	0	VBW:10Hz
Vert.	17475.000	AV	33.6	43.7	1.7	37.7	41.3	53.9	12.6	100	0	VBW:10Hz
Vert.	23300.000	AV	36.2	40.1	-2.2	47.3	26.8	53.9	27.1	100	0	VBW:10Hz
Vert.	29125.000	AV	49.1	43.4	3.7	67.1	29.1	53.9	24.8	100	0	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	5825.000	PK	88.0	32.7	15.9	41.1	95.5	-	-	Carrier
Hori.	5850.000	PK	38.8	32.8	15.9	41.0	46.5	75.5	29.0	
Vert.	5825.000	PK	82.5	32.7	15.9	41.1	90.0	-	-	Carrier
Vert.	5850.000	PK	38.0	32.8	15.9	41.0	45.7	70.0	24.3	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 5, 2011 June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
Temperature / Humidity 22deg.C. , 65%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
Engineer Shinichi Takano Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
Mode Tx, 5755 MHz
 Tx, IEEE802.11n (HT40), PN9, worst antenna port , worst data mode 5(MCS)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.2	13.0	8.3	31.8	11.7	43.5	31.8	100	0	
Hori.	384.000	QP	21.7	16.1	7.5	31.7	13.6	46.0	32.4	100	0	
Hori.	11510.000	PK	43.5	40.0	8.9	37.7	54.7	73.9	19.2	100	0	
Hori.	17265.000	PK	44.2	41.9	1.6	37.6	50.1	73.9	23.8	100	0	
Hori.	23020.000	PK	48.8	40.1	-2.2	47.5	39.2	73.9	34.7	100	0	
Hori.	28775.000	PK	60.3	43.5	3.6	67.0	40.4	73.9	33.5	100	0	
Hori.	11510.000	AV	32.5	40.0	8.9	37.7	43.7	53.9	10.2	100	0	VBW:10Hz
Hori.	17265.000	AV	33.8	41.9	1.6	37.6	39.7	53.9	14.2	100	0	VBW:10Hz
Hori.	23020.000	AV	38.8	40.1	-2.2	47.5	29.2	53.9	24.7	100	0	VBW:10Hz
Hori.	28775.000	AV	48.6	43.5	3.6	67.0	28.7	53.9	25.2	100	0	VBW:10Hz
Vert.	48.000	QP	22.2	12.2	7.2	31.9	9.7	40.0	30.3	100	0	
Vert.	11510.000	PK	43.8	40.0	8.9	37.7	55.0	73.9	18.9	100	0	
Vert.	17265.000	PK	44.6	41.9	1.6	37.6	50.5	73.9	23.4	100	249	
Vert.	23020.000	PK	50.1	40.1	-2.2	47.5	40.5	73.9	33.4	100	0	
Vert.	28775.000	PK	60.4	43.5	3.6	67.0	40.5	73.9	33.4	100	0	
Vert.	11510.000	AV	32.6	40.0	8.9	37.7	43.8	53.9	10.1	100	0	VBW:10Hz
Vert.	17265.000	AV	34.2	41.9	1.6	37.6	40.1	53.9	13.8	100	249	VBW:10Hz
Vert.	23020.000	AV	37.9	40.1	-2.2	47.5	28.3	53.9	25.6	100	0	VBW:10Hz
Vert.	28775.000	AV	48.6	43.5	3.6	67.0	28.7	53.9	25.2	100	0	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

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	85.8	32.6	15.9	41.1	93.2	-	-	Carrier
Hori.	5725.000	PK	48.0	32.5	15.8	41.1	55.2	73.2	18.0	
Vert.	5755.000	PK	85.1	32.6	15.9	41.1	92.5	-	-	Carrier
Vert.	5725.000	PK	51.2	32.5	15.8	41.1	58.4	72.5	14.1	

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

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date June 5, 2011 June 7, 2011 June 10, 2011 June 21, 2011 June 24, 2011
Temperature / Humidity 22deg.C. , 65%RH 24deg.C. , 60%RH 25deg.C. , 66%RH 25deg.C. , 57%RH 25deg.C. , 58%RH
Engineer Shinichi Takano Tatsuya Arai Tatsuya Arai Akio Hayashi Akio Hayashi
Mode Tx, 5795 MHz
 Tx, IEEE802.11n (HT40), PN9, worst antenna port , worst data mode 5(MCS)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	128.000	QP	22.2	13.0	8.3	31.8	11.7	43.5	31.8	100	0	
Hori.	384.000	QP	21.7	16.1	7.5	31.7	13.6	46.0	32.4	100	0	
Hori.	11590.000	PK	43.4	39.9	8.9	37.7	54.5	73.9	19.4	100	0	
Hori.	17385.000	PK	44.0	42.9	1.7	37.7	50.9	73.9	23.0	100	249	
Hori.	23180.000	PK	48.2	40.1	-2.2	47.4	38.7	73.9	35.2	100	0	
Hori.	28975.000	PK	60.3	43.4	3.6	67.0	40.3	73.9	33.6	100	0	
Hori.	11590.000	AV	32.2	39.9	8.9	37.7	43.3	53.9	10.6	100	0	VBW:10Hz
Hori.	17385.000	AV	33.9	42.9	1.7	37.7	40.8	53.9	13.1	100	249	VBW:10Hz
Hori.	23180.000	AV	36.7	40.1	-2.2	47.4	27.2	53.9	26.7	100	0	VBW:10Hz
Hori.	28975.000	AV	48.7	43.4	3.6	67.0	28.7	53.9	25.2	100	0	VBW:10Hz
Vert.	48.000	QP	22.2	12.2	7.2	31.9	9.7	40.0	30.3	100	0	
Vert.	11590.000	PK	43.0	39.9	8.9	37.7	54.1	73.9	19.8	100	0	
Vert.	17385.000	PK	44.5	42.9	1.7	37.7	51.4	73.9	22.5	100	0	
Vert.	23180.000	PK	48.3	40.1	-2.2	47.4	38.8	73.9	35.1	100	0	
Vert.	28975.000	PK	60.1	43.4	3.6	67.0	40.1	73.9	33.8	100	0	
Vert.	11590.000	AV	32.3	39.9	8.9	37.7	43.4	53.9	10.5	100	0	VBW:10Hz
Vert.	17385.000	AV	33.7	42.9	1.7	37.7	40.6	53.9	13.3	100	0	VBW:10Hz
Vert.	23180.000	AV	36.7	40.1	-2.2	47.4	27.2	53.9	26.7	100	0	VBW:10Hz
Vert.	28975.000	AV	48.7	43.4	3.6	67.0	28.7	53.9	25.2	100	0	VBW:10Hz

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

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

Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

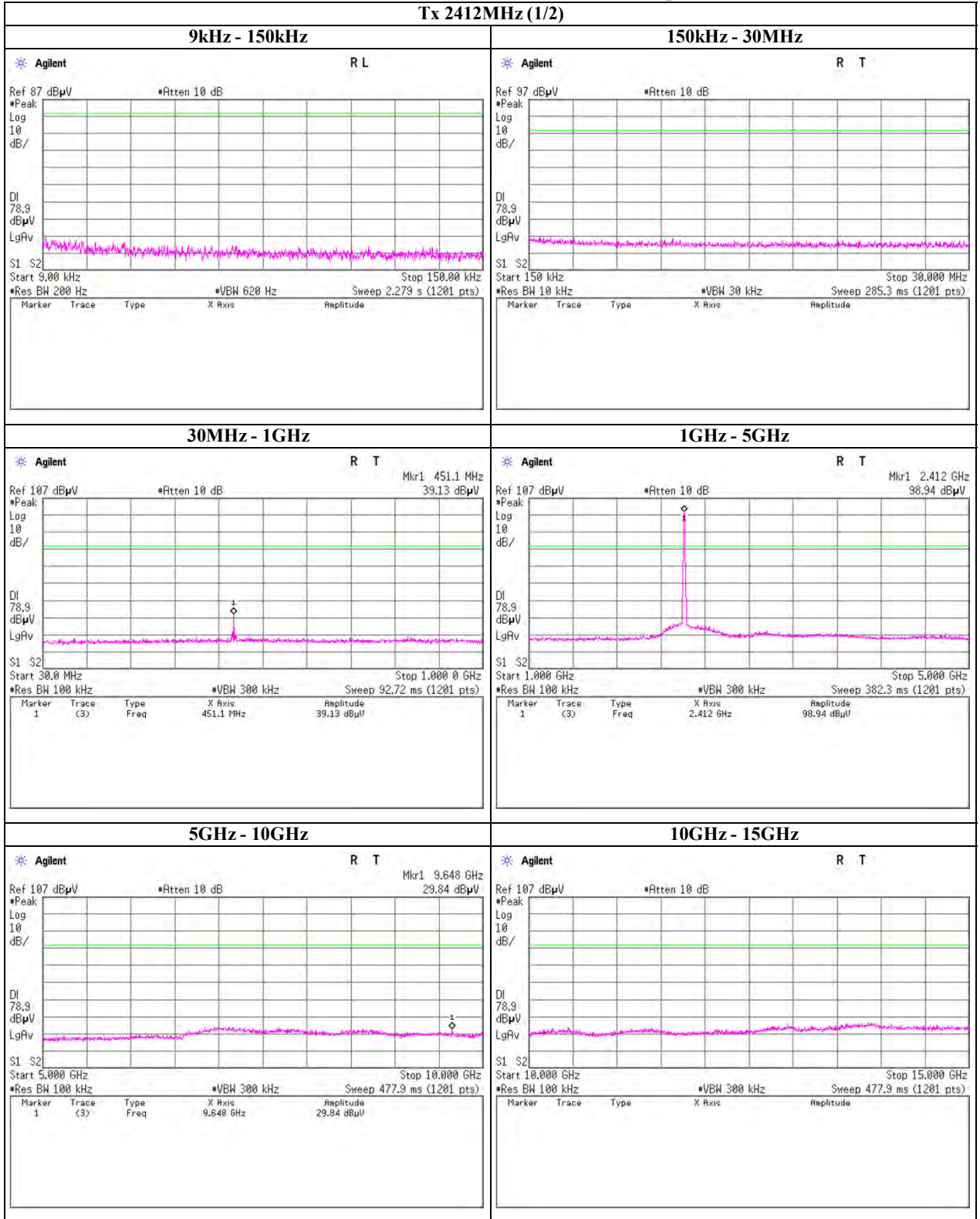
Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	5795.000	PK	86.8	32.7	15.9	41.1	94.3	-	-	Carrier
Hori.	5850.000	PK	38.7	32.8	15.9	41.0	46.4	74.3	27.9	
Vert.	5795.000	PK	84.0	32.7	15.9	41.1	91.5	-	-	Carrier
Vert.	5850.000	PK	37.8	32.8	15.9	41.0	45.5	71.5	26.0	

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

Spurious emission (Conducted)

Tx, IEEE802.11b, PN9, worst data mode 1Mbps

Tx 2412MHz (1/2)



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Spurious emission (Conducted)
Tx, IEEE802.11b, PN9, worst data mode 1Mbps

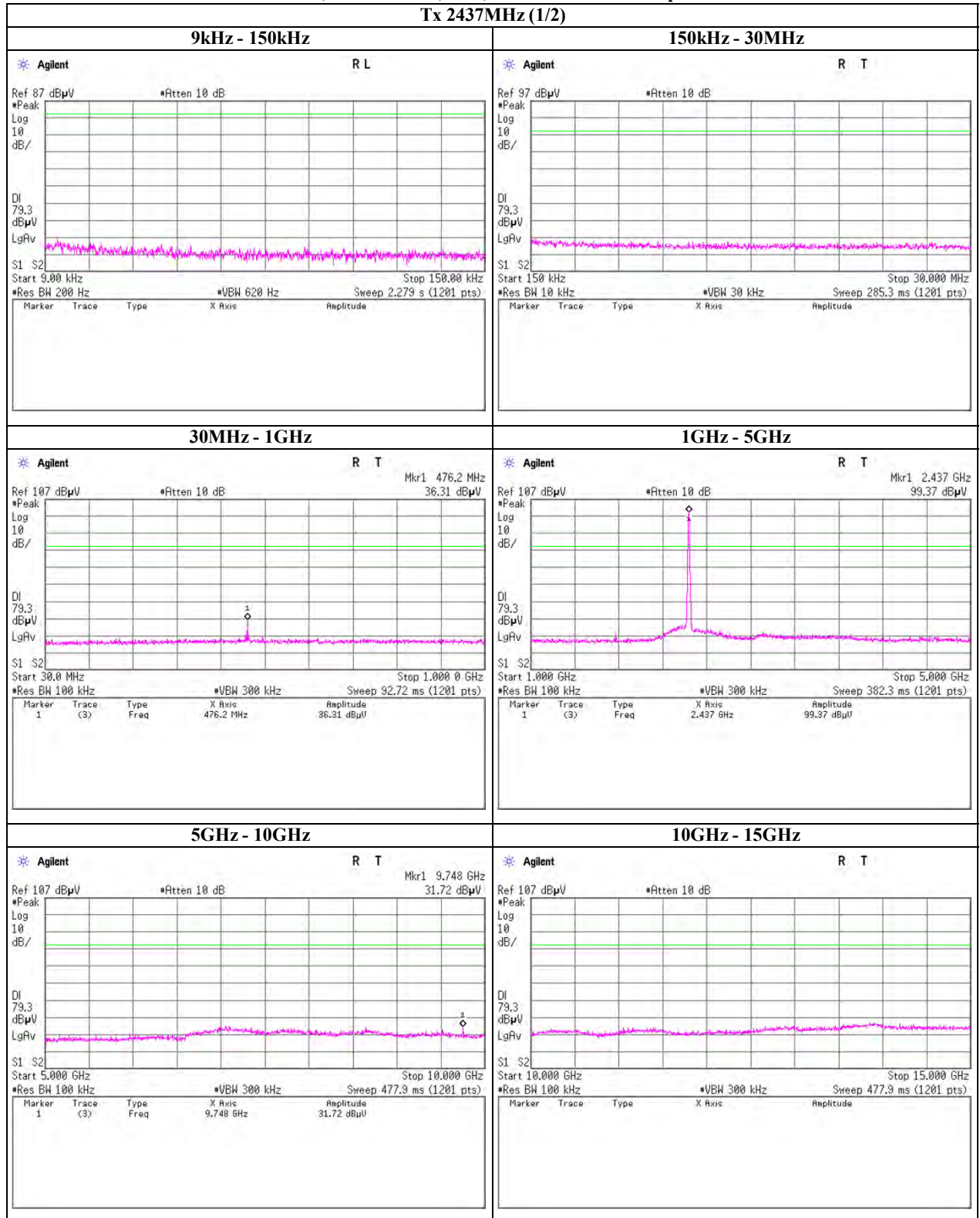


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Spurious emission (Conducted)

Tx, IEEE802.11b, PN9, worst data mode 1Mbps

Tx 2437MHz (1/2)



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Spurious emission (Conducted)
Tx, IEEE802.11b, PN9, worst data mode 1Mbps

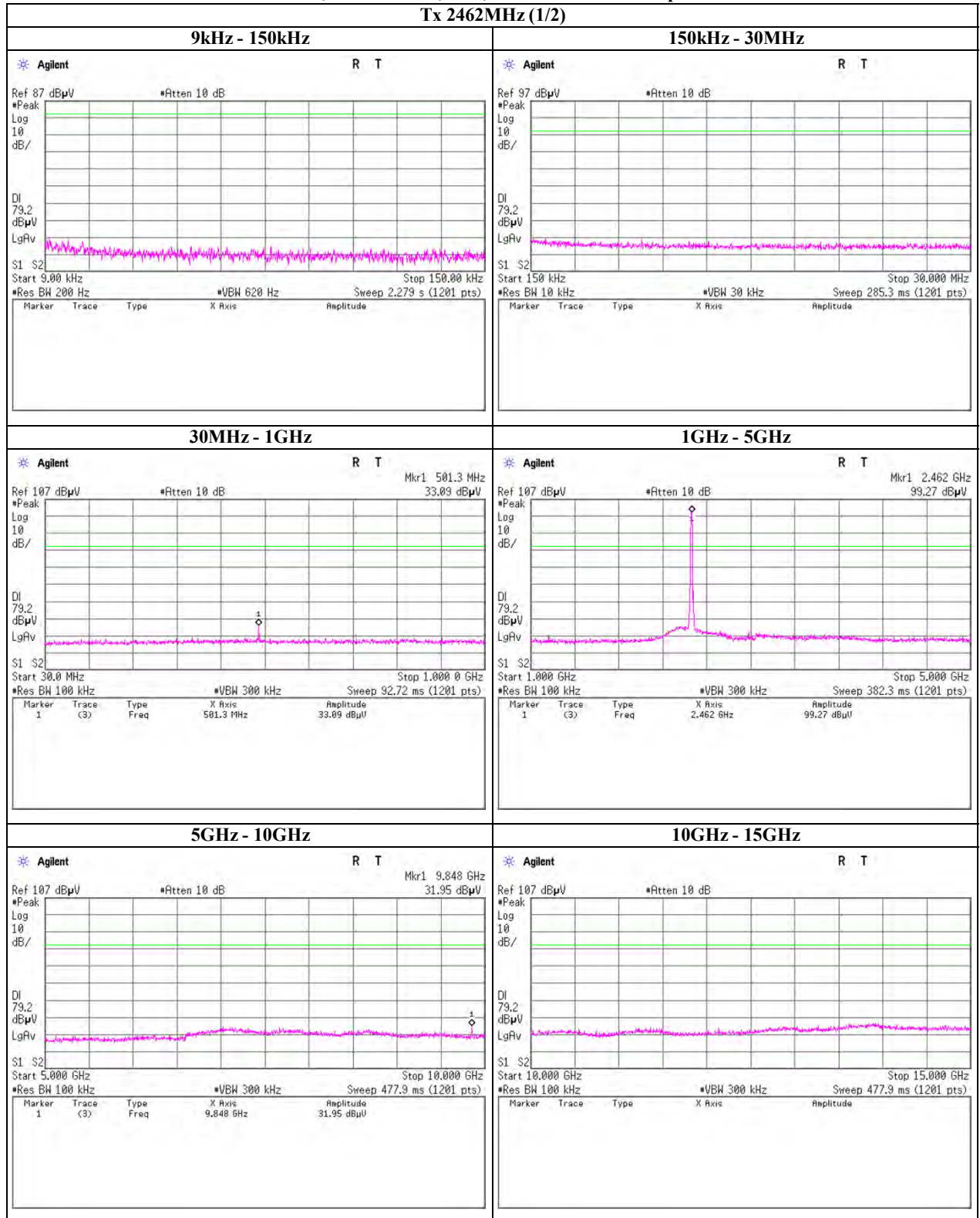


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Spurious emission (Conducted)

Tx, IEEE802.11b, PN9, worst data mode 1Mbps

Tx 2462MHz (1/2)



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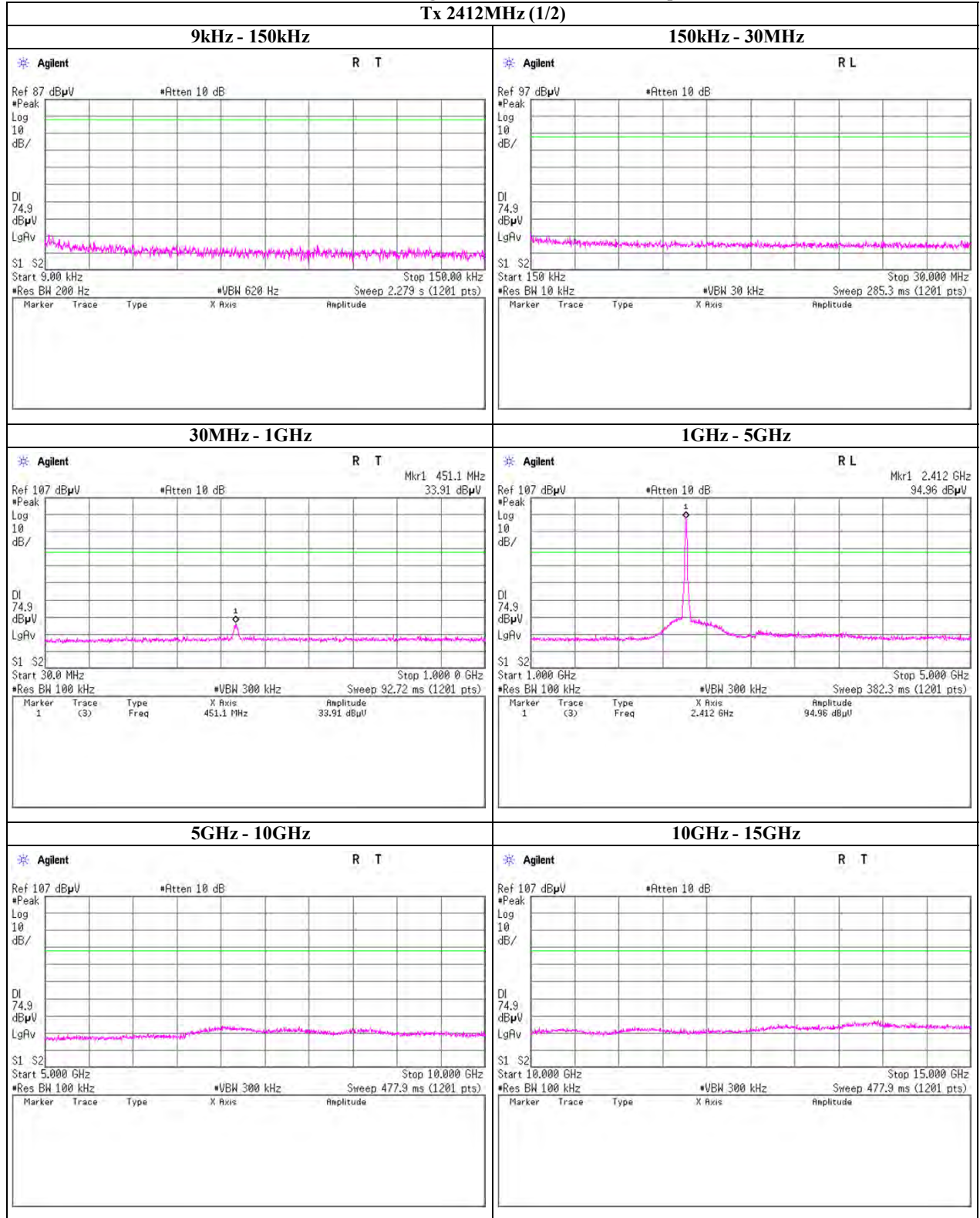
Spurious emission (Conducted)
Tx, IEEE802.11b, PN9, worst data mode 1Mbps

Tx 2462MHz (2/2)



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Spurious emission (Conducted)
Tx, IEEE802.11g, PN9, worst data mode 6Mbps



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Spurious emission (Conducted)

Tx, IEEE802.11g, worst antenna port , worst data mode 6Mbps

Tx 2412MHz (2/2)



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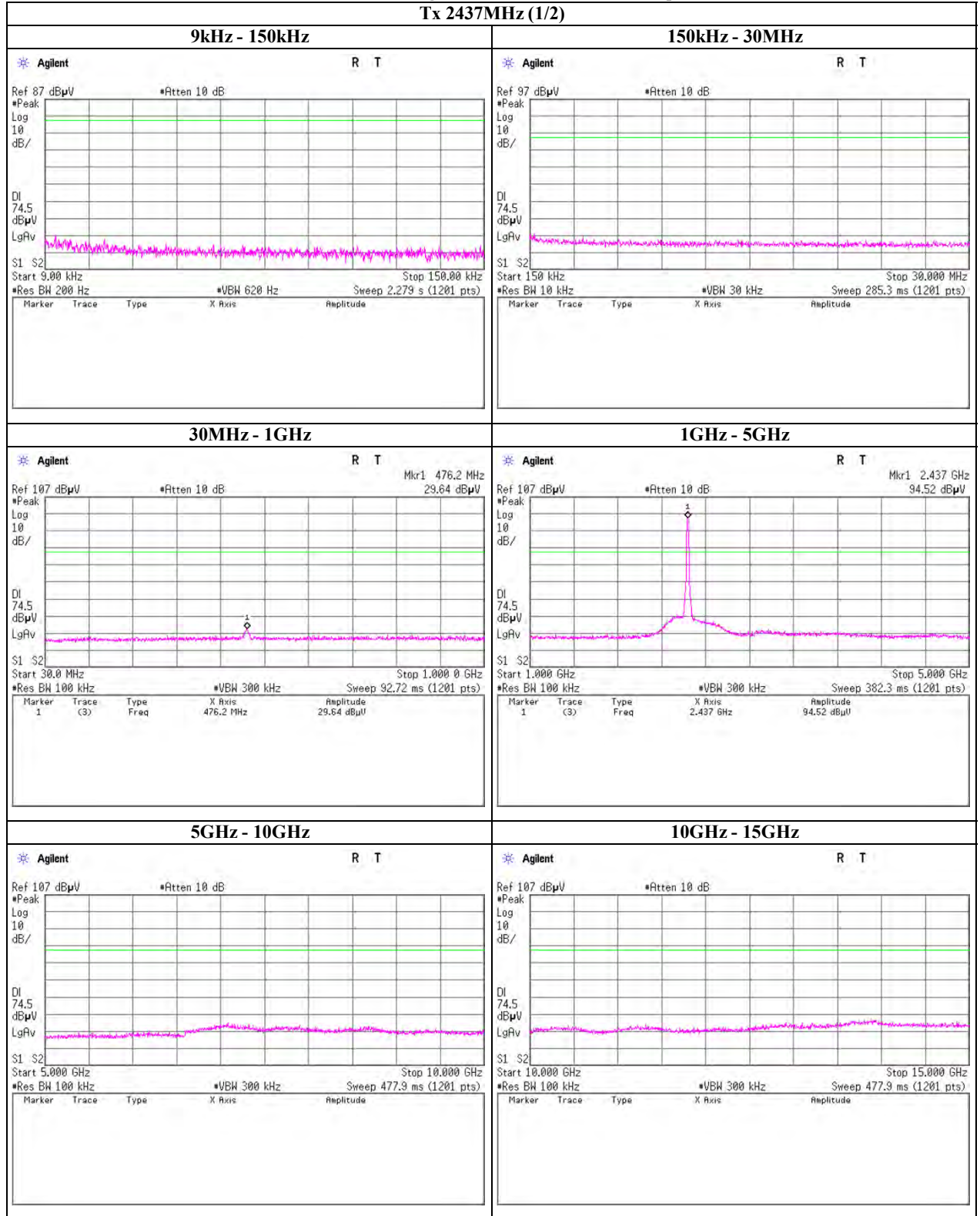
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Facsimile : +81 463 50 6401

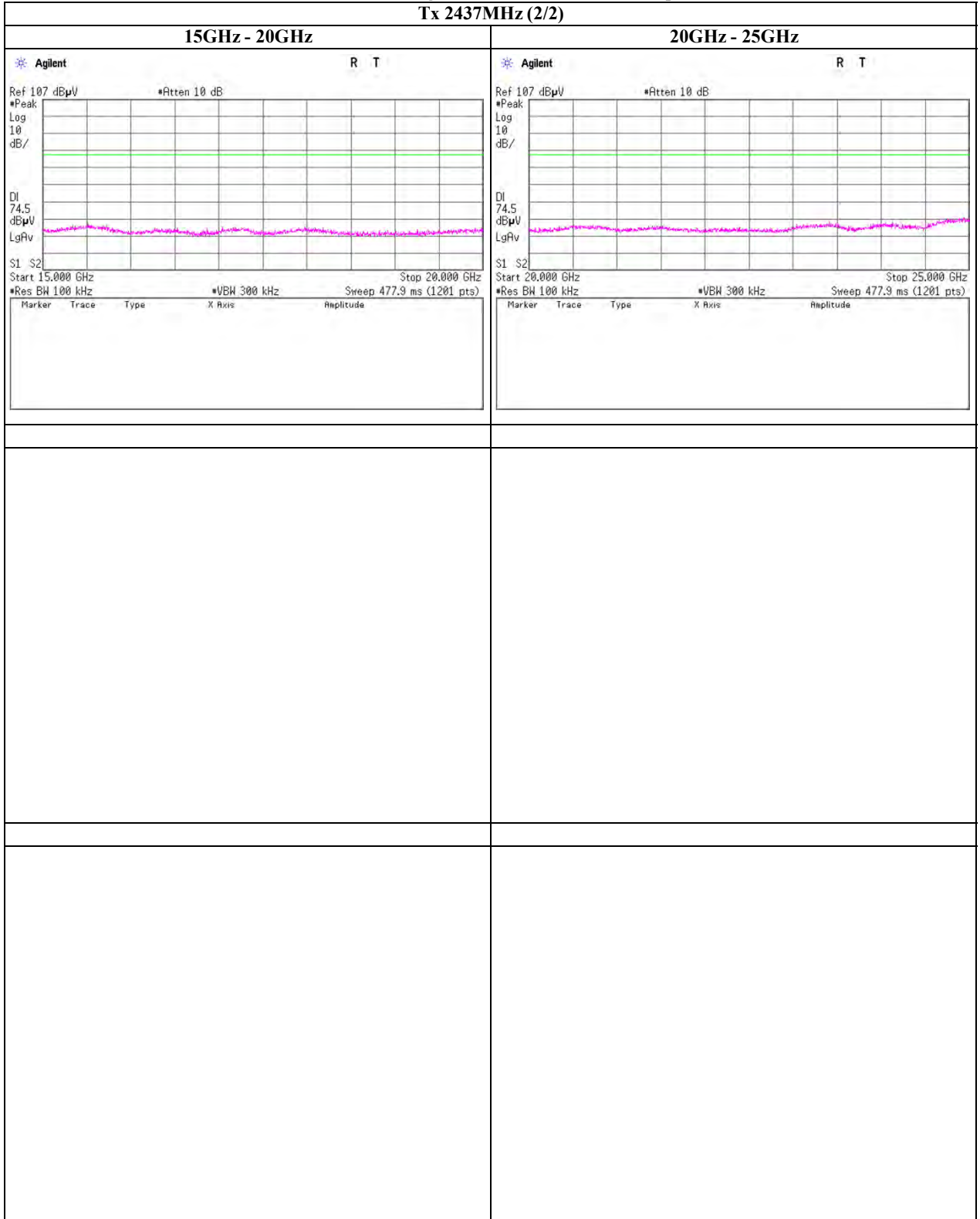
Spurious emission (Conducted)
Tx, IEEE802.11g, PN9, worst data mode 6Mbps



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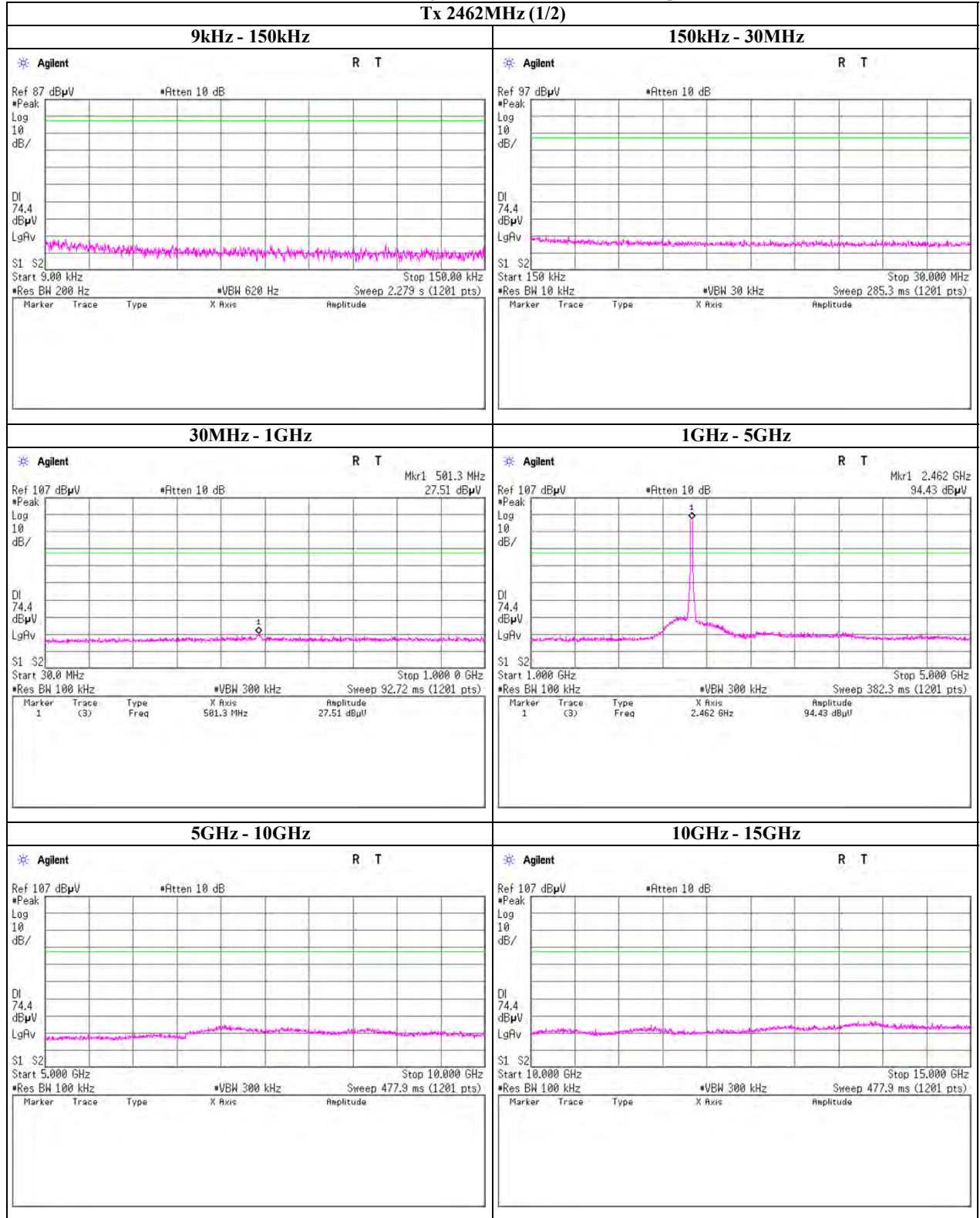
Spurious emission (Conducted)
Tx, IEEE802.11g, PN9, worst data mode 6Mbps

Tx 2437MHz (2/2)



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Spurious emission (Conducted)
Tx, IEEE802.11g, PN9, worst data mode 6Mbps



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Spurious emission (Conducted)
Tx, IEEE802.11g, PN9, worst data mode 6Mbps

Tx 2462MHz (2/2)



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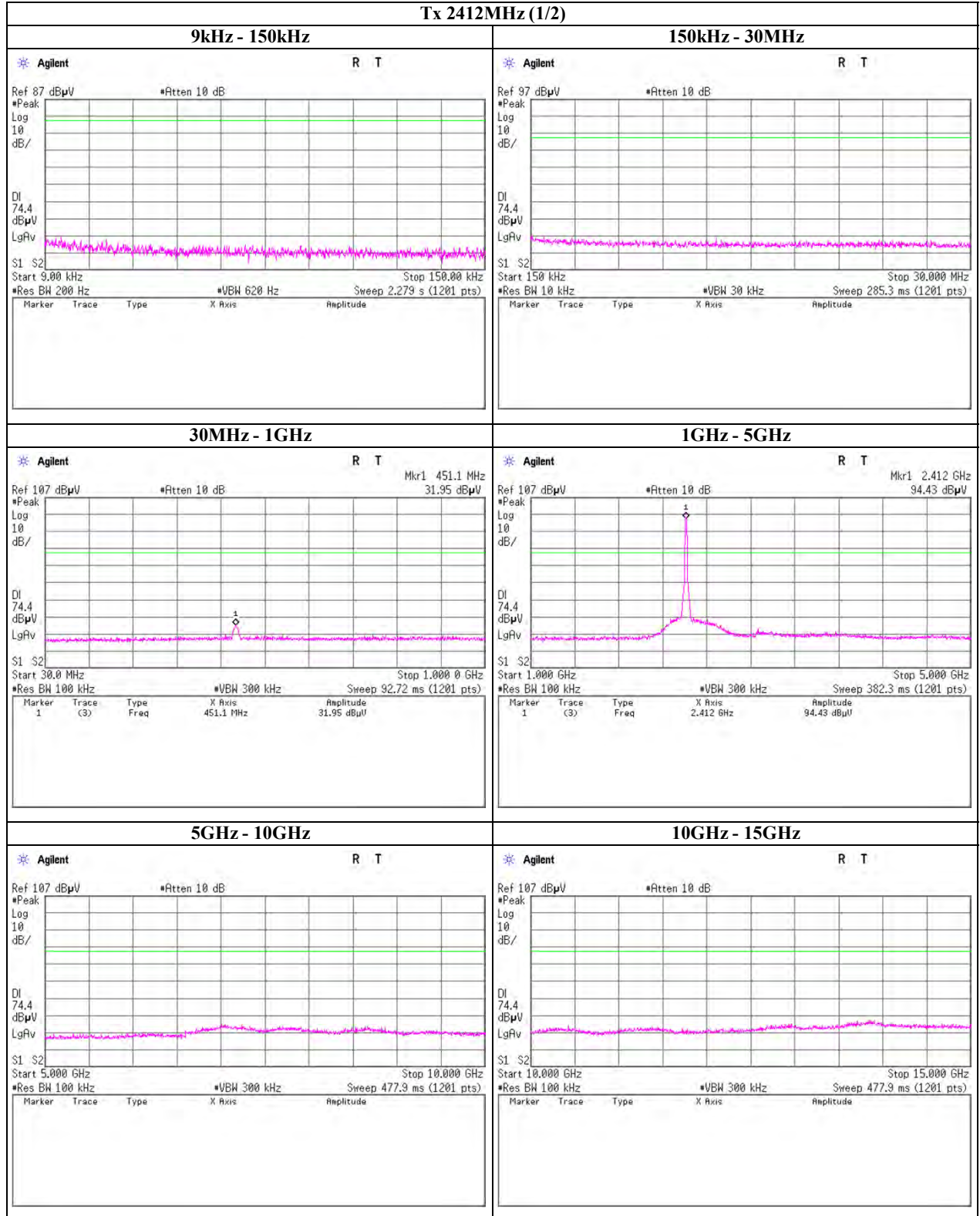
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Spurious emission (Conducted)

Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Tx 2412MHz (1/2)



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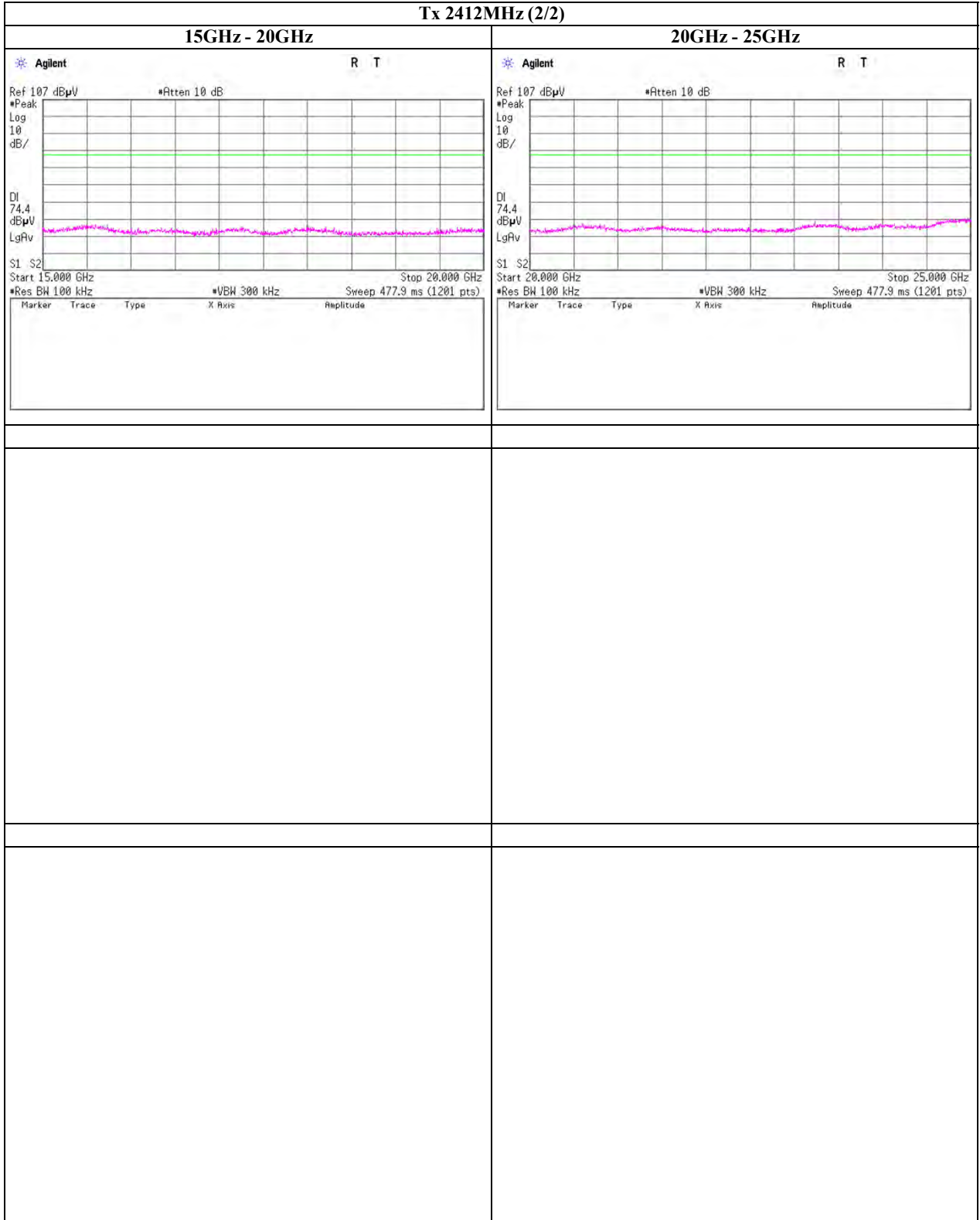
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Spurious emission (Conducted)

Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Tx 2412MHz (2/2)



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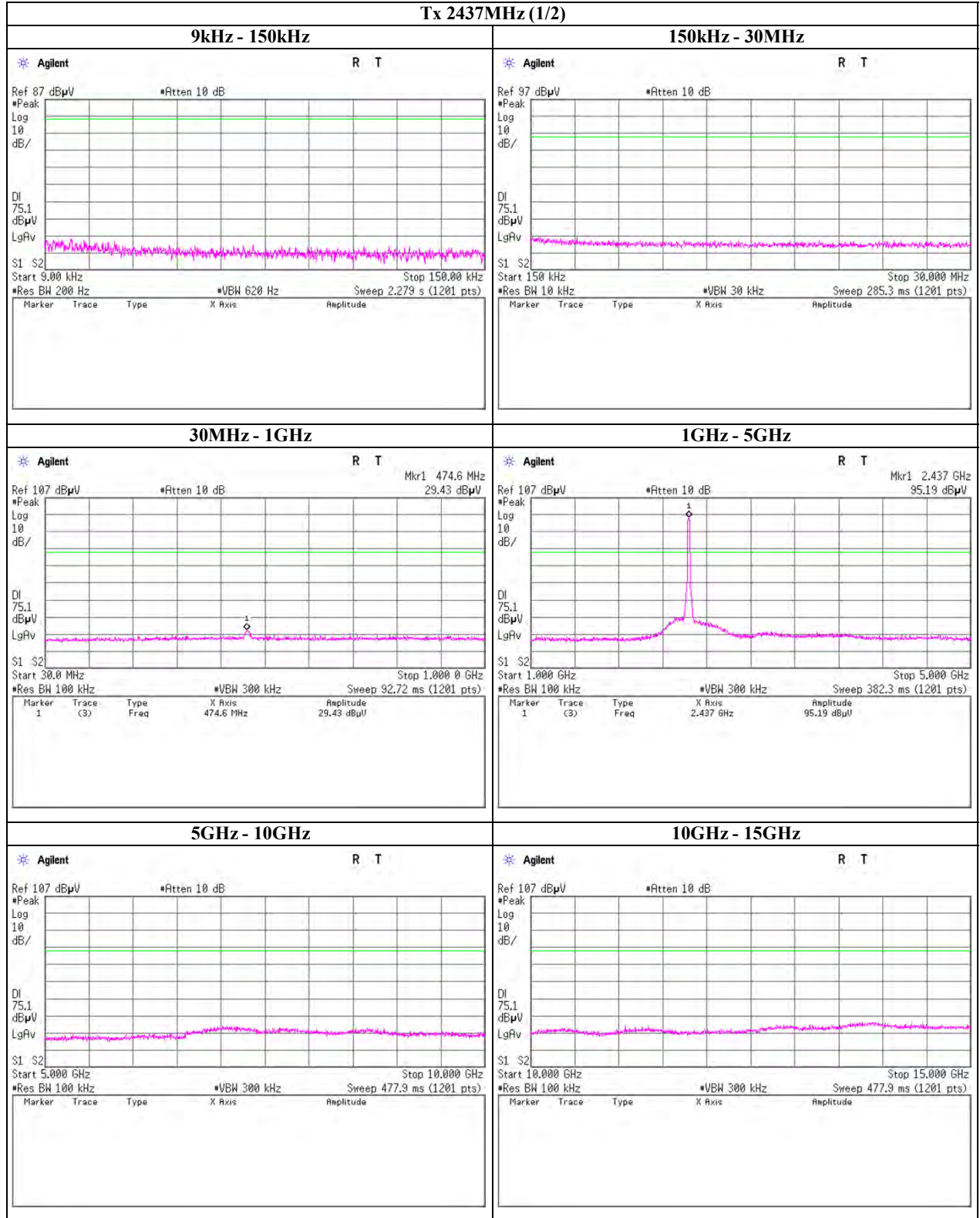
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Spurious emission (Conducted)

Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Tx 2437MHz (1/2)



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Spurious emission (Conducted)

Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Tx 2437MHz (2/2)



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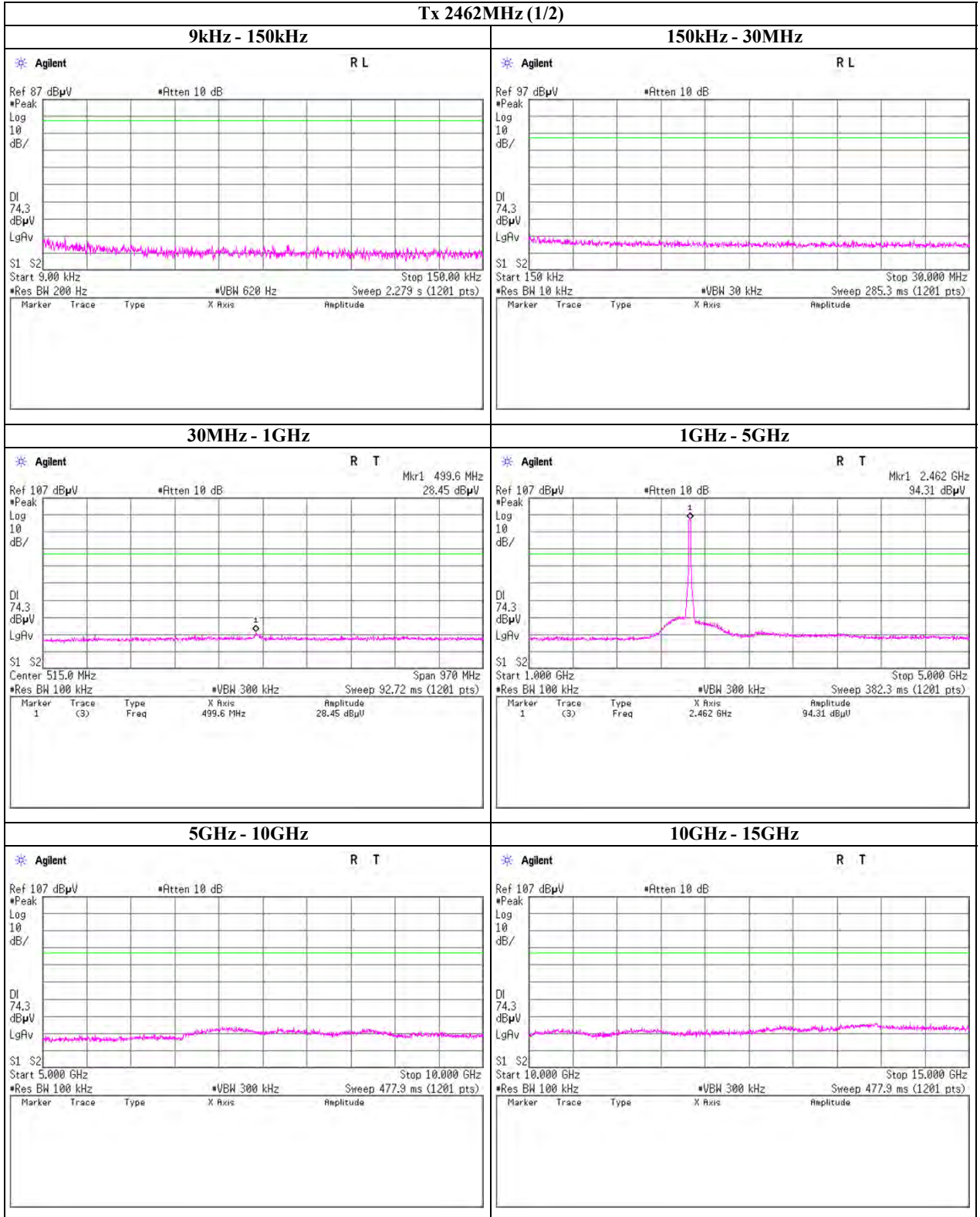
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Tx 2462MHz (1/2)



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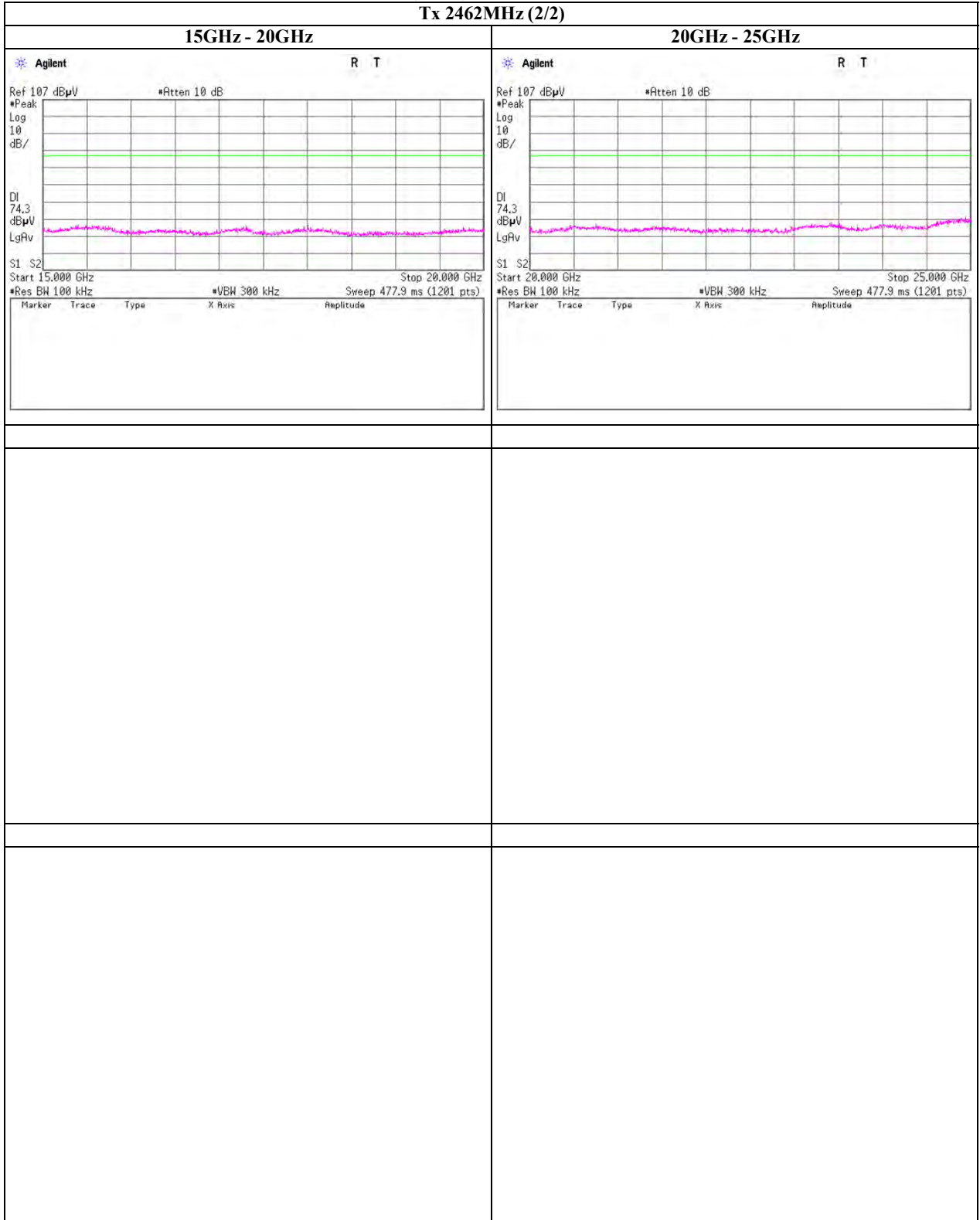
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Tx, IEEE802.11n(HT20), PN9, worst data mode MCS0

Tx 2462MHz (2/2)



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