

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/24

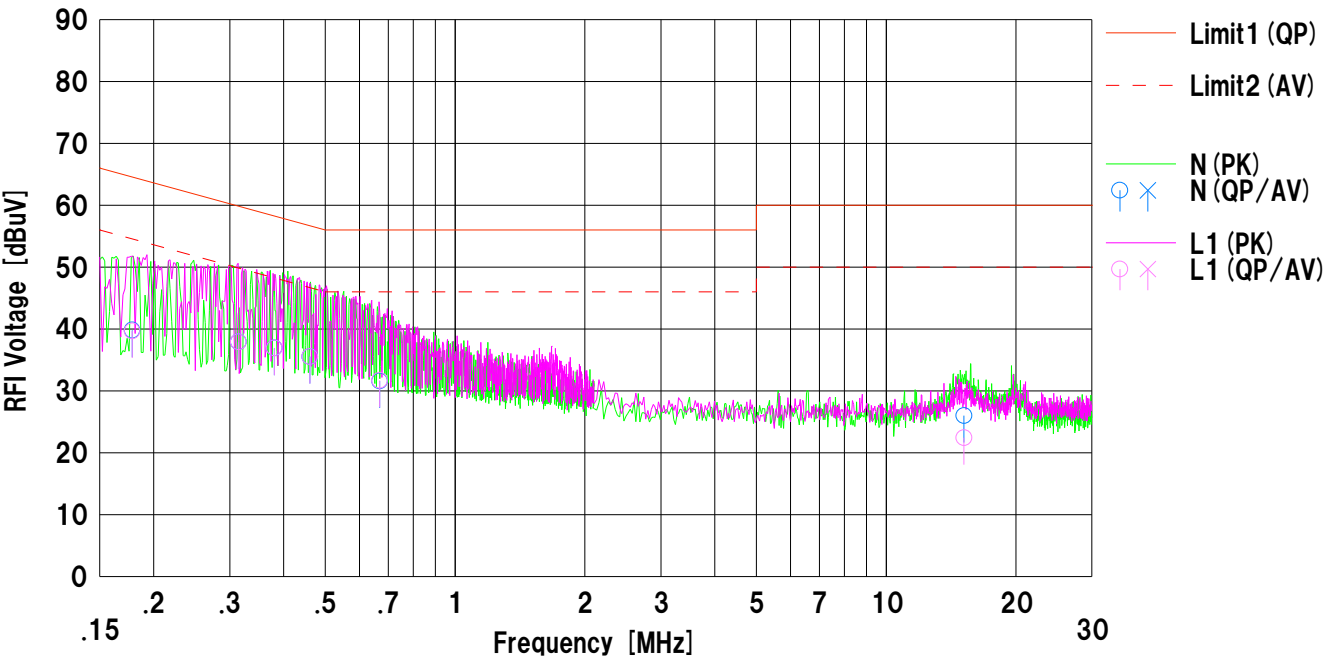
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : BM70659
Serial No. : DE2-17

Mode : Tx 11a 5200MHz 24Mbps
Report No. : 311E0161-SH-02-B
Power : DC3.5V (AC120V/60Hz)
Temp./Humi. : 24deg.C. / 56%RH

Remarks : -

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

Engineer : Hikaru Shirasawa



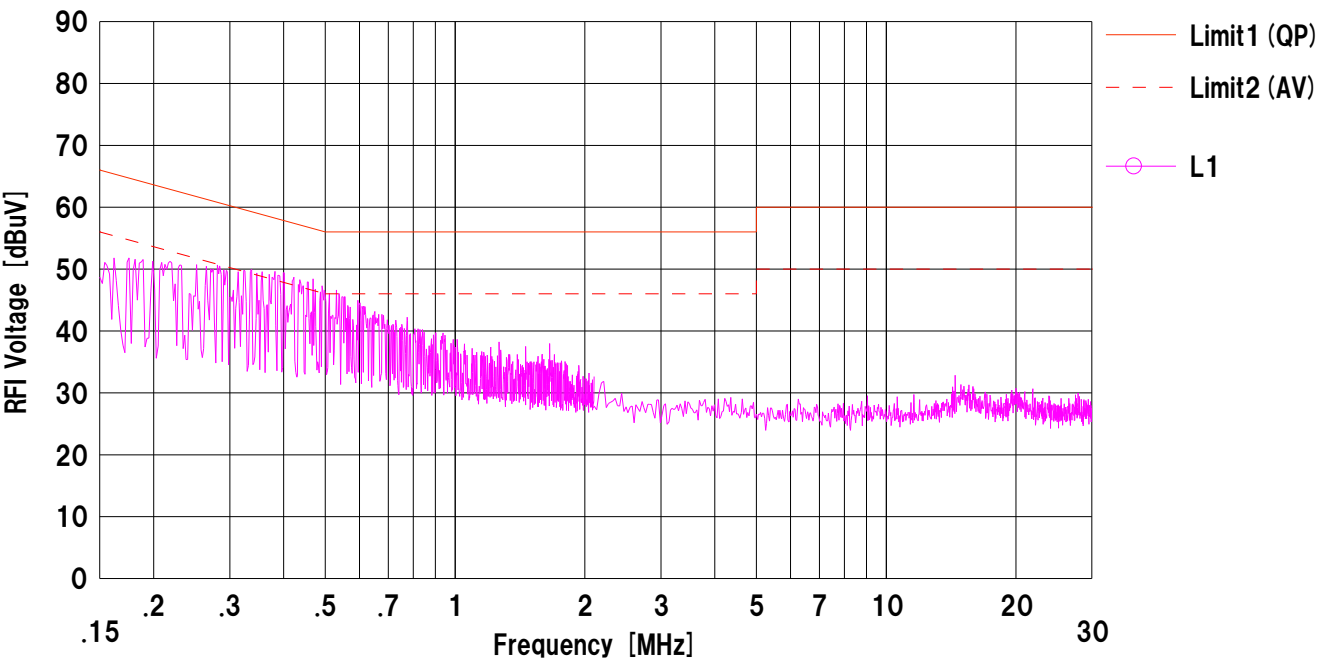
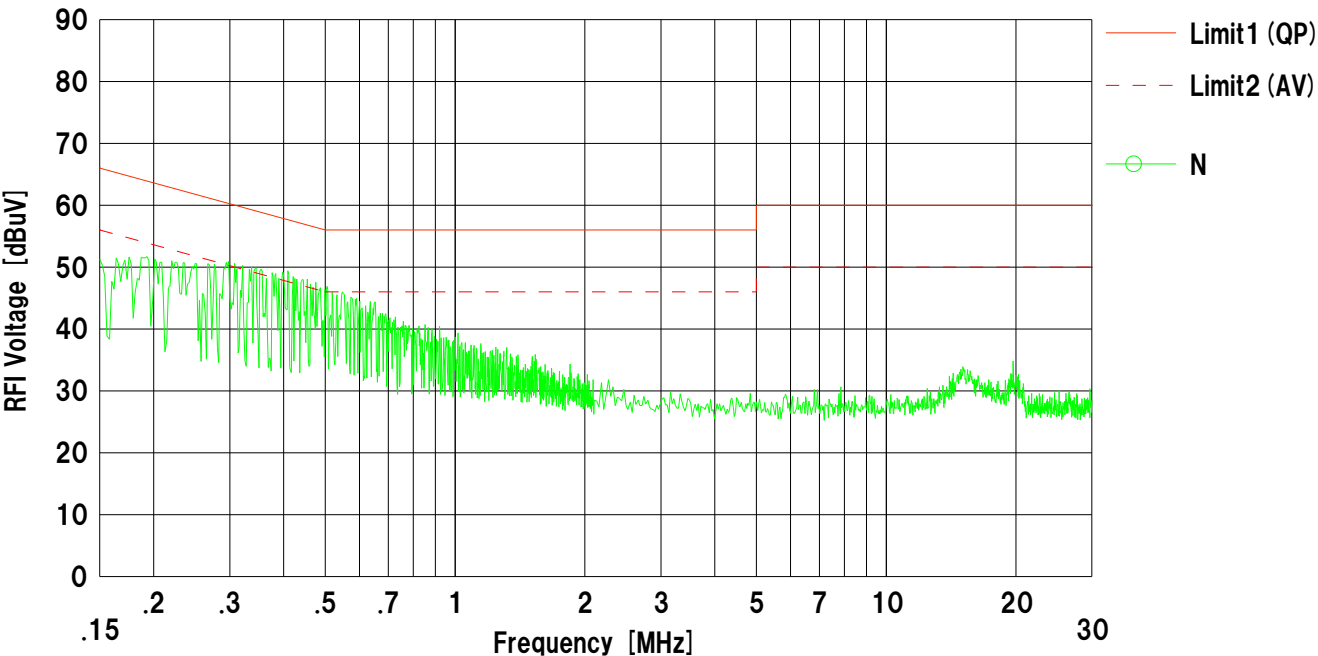
No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.17831	27.1	---	12.7	39.8	---	64.5	54.5	24.7	---	N	
2	0.31427	25.2	---	12.7	37.9	---	59.8	49.8	21.9	---	N	
3	0.38071	24.2	---	12.7	36.9	---	58.2	48.2	21.3	---	N	
4	0.46044	22.8	---	12.7	35.5	---	56.6	46.6	21.1	---	N	
5	0.66772	18.9	---	12.7	31.6	---	56.0	46.0	24.4	---	N	
6	15.16474	12.7	---	13.3	26.0	---	60.0	50.0	34.0	---	N	
7	0.17831	27.0	---	12.7	39.7	---	64.5	54.5	24.8	---	L1	
8	0.31427	25.2	---	12.7	37.9	---	59.8	49.8	21.9	---	L1	
9	0.38071	24.2	---	12.7	36.9	---	58.2	48.2	21.3	---	L1	
10	0.46044	22.8	---	12.7	35.5	---	56.6	46.6	21.1	---	L1	
11	0.66772	19.0	---	12.7	31.7	---	56.0	46.0	24.3	---	L1	
12	15.16474	9.1	---	13.3	22.4	---	60.0	50.0	37.6	---	L1	

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/24

Company	: CANON INC.	Mode	: Tx 11a 5180MHz 24Mbps
Kind of EUT	: Wireless LAN Module	Report No.	: 31IE0161-SH-02-B
Model No.	: BM70659	Power	: DC3.5V (AC120V/60Hz)
Serial No.	: DE2-17	Temp./Humi.	: 24deg.C. / 56%RH
Remarks	: -		

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV
Engineer : Hikaru Shirasawa

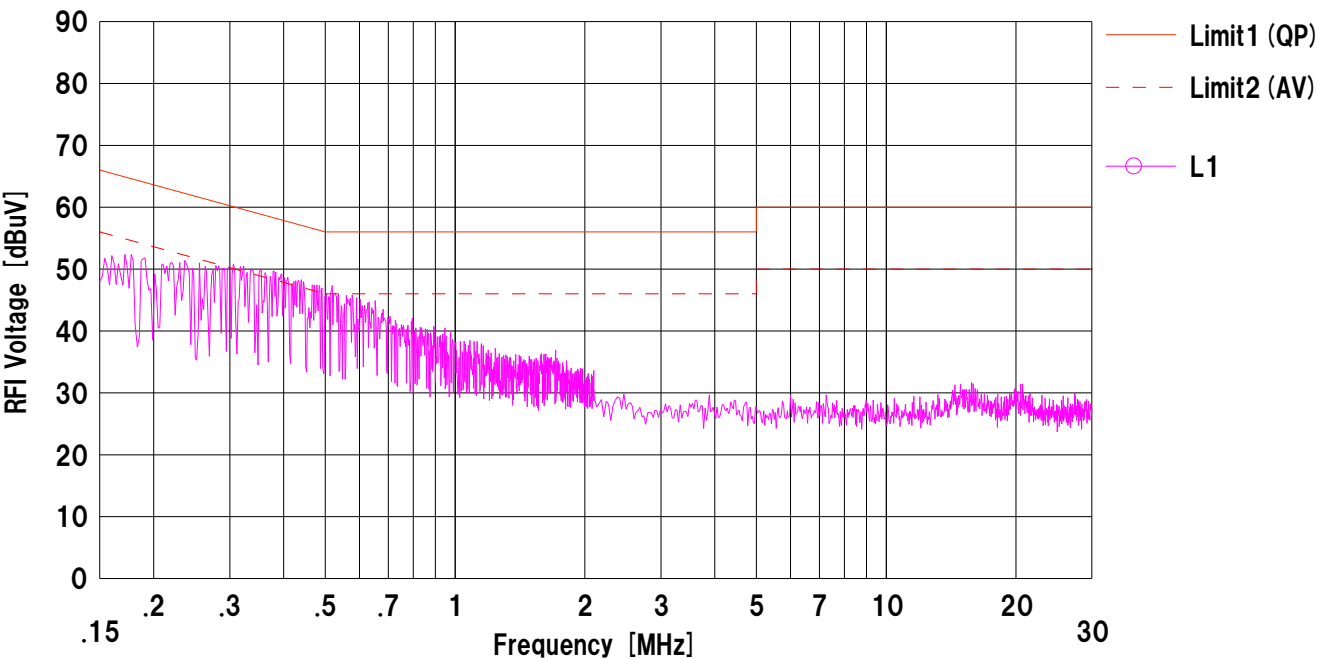
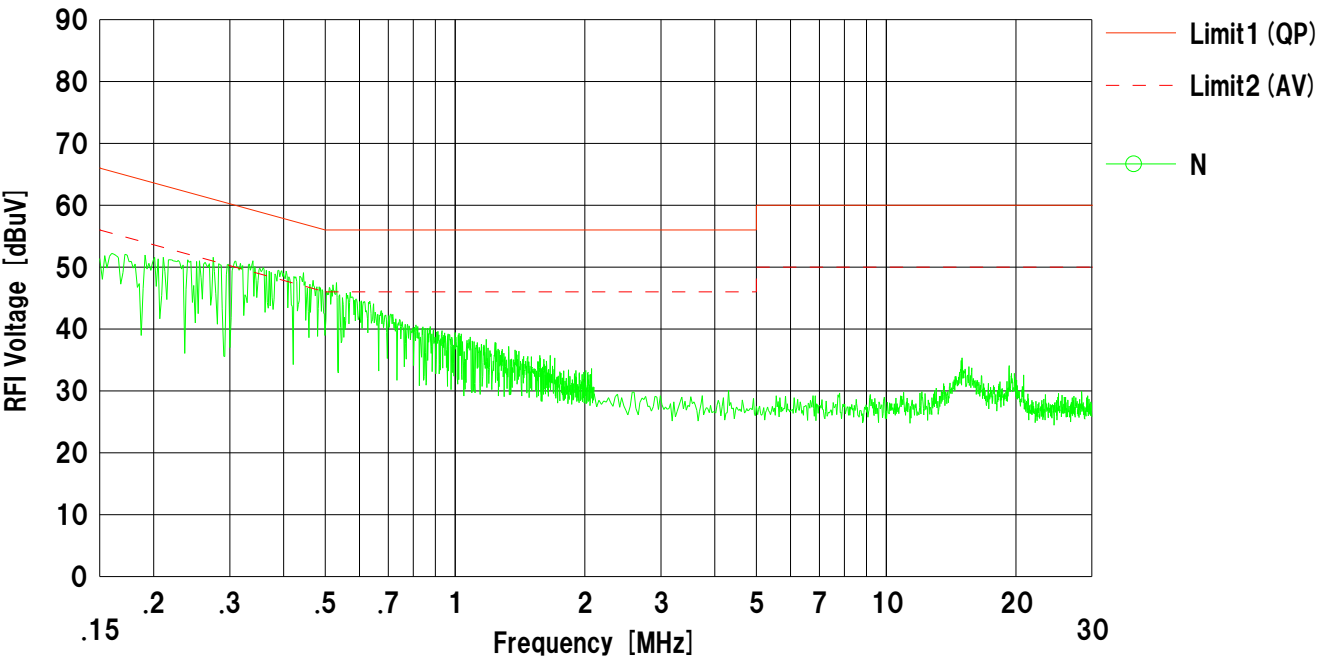


DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/24

Company	: CANON INC.	Mode	: Tx 11a 5240MHz 24Mbps
Kind of EUT	: Wireless LAN Module	Report No.	: 31IE0161-SH-02-B
Model No.	: BM70659	Power	: DC3.5V (AC120V/60Hz)
Serial No.	: DE2-17	Temp./Humi.	: 24deg.C. / 56%RH
Remarks	: -		

Limit1 : FCC 15C (15.207) QP	Engineer	: Hikaru Shirasawa
Limit2 : FCC 15C (15.207) AV		



DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/25

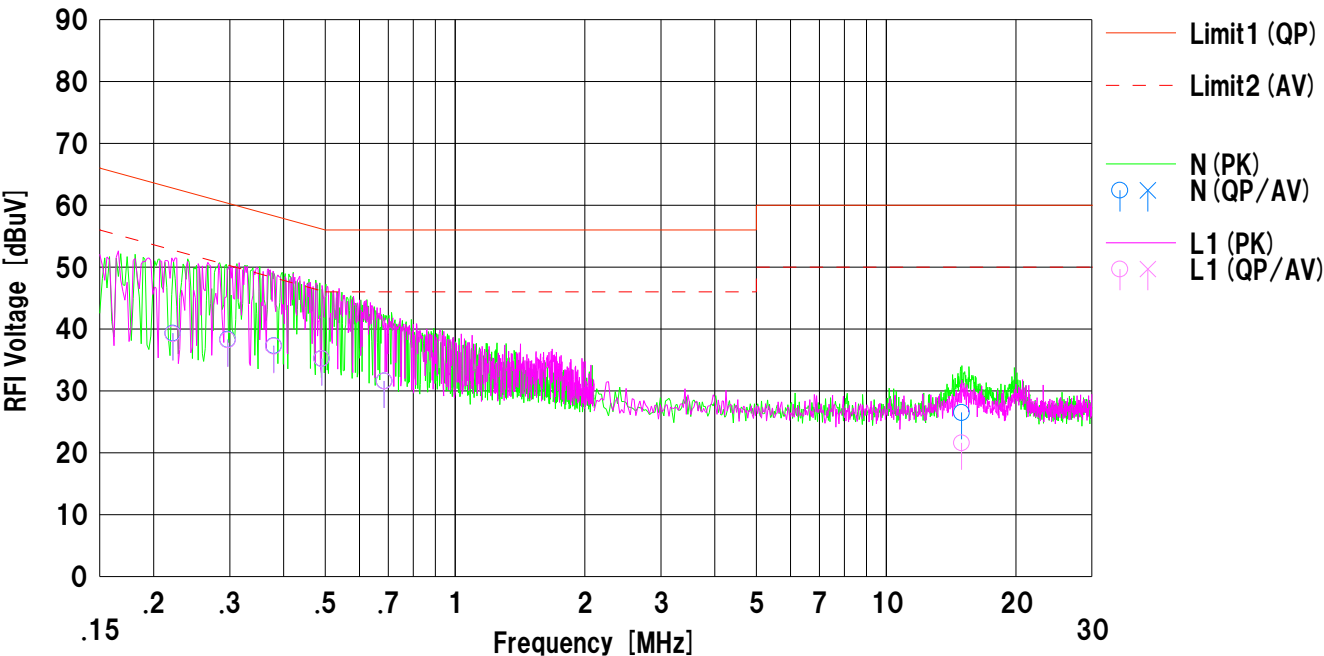
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : BM70659
Serial No. : DE2-17

Mode : Tx 11n (20HT) 5200MHz MCS0
Report No. : 311E0161-SH-02-B
Power : DC3.5V (AC120V/60Hz)
Temp./Humi. : 24deg.C. / 56%RH

Remarks : -

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

Engineer : Hikaru Shirasawa



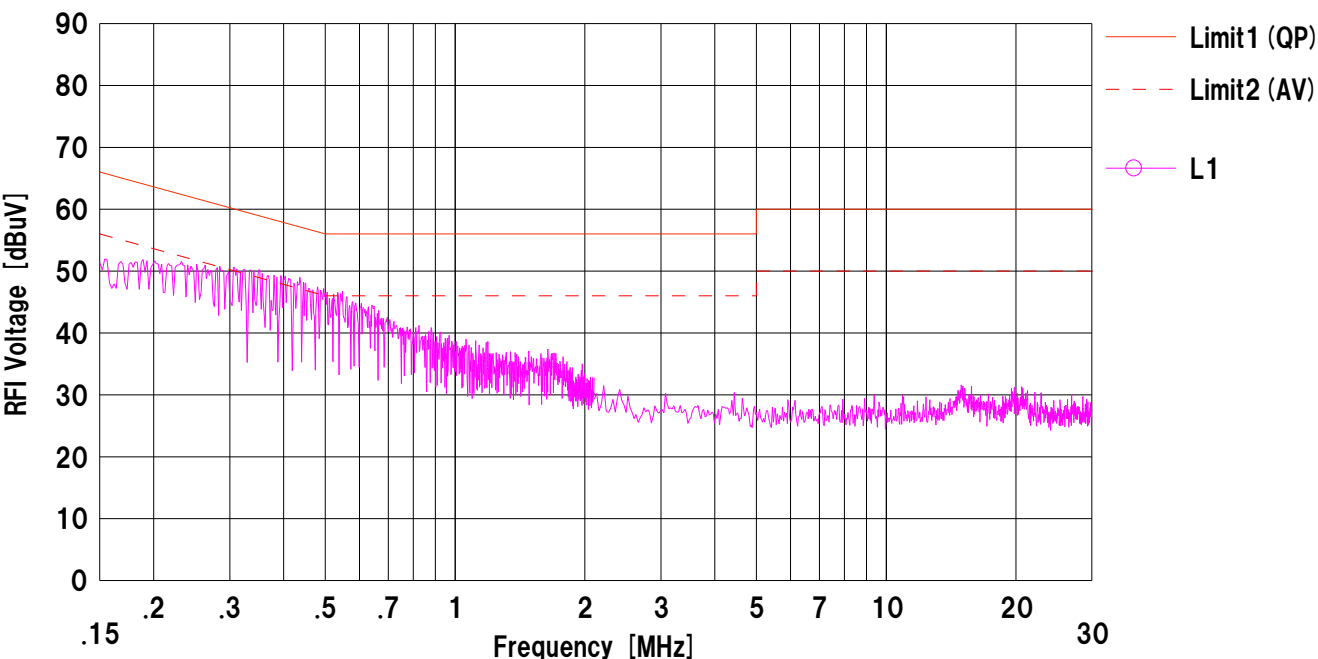
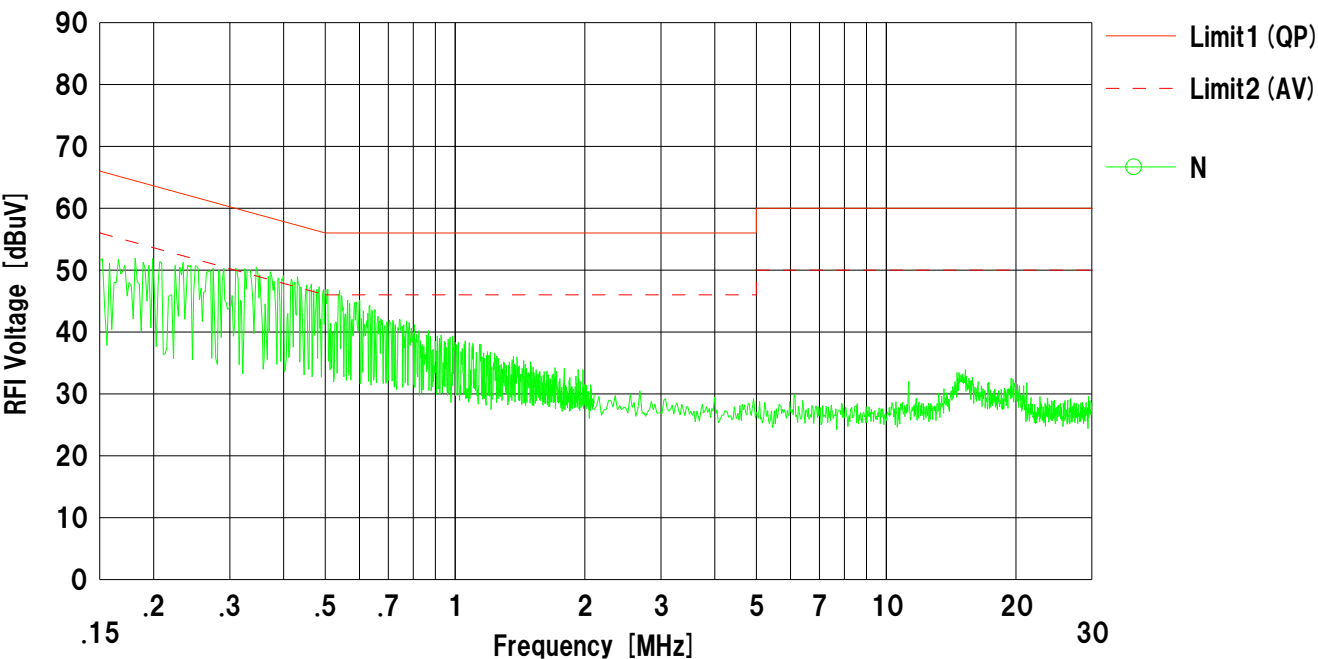
No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.22135	26.7	---	12.6	39.3	---	62.7	52.7	23.4	---	N	
2	0.29683	25.7	---	12.6	38.3	---	60.3	50.3	22.0	---	N	
3	0.37939	24.6	---	12.7	37.3	---	58.2	48.2	20.9	---	N	
4	0.49025	22.5	---	12.7	35.2	---	56.1	46.1	20.9	---	N	
5	0.68484	18.9	---	12.7	31.6	---	56.0	46.0	24.4	---	N	
6	14.95509	13.2	---	13.3	26.5	---	60.0	50.0	33.5	---	N	
7	0.22135	26.6	---	12.6	39.2	---	62.7	52.7	23.5	---	L1	
8	0.29683	25.6	---	12.6	38.2	---	60.3	50.3	22.1	---	L1	
9	0.37939	24.5	---	12.7	37.2	---	58.2	48.2	21.0	---	L1	
10	0.49025	22.5	---	12.7	35.2	---	56.1	46.1	20.9	---	L1	
11	0.68484	18.9	---	12.7	31.6	---	56.0	46.0	24.4	---	L1	
12	14.95509	8.3	---	13.3	21.6	---	60.0	50.0	38.4	---	L1	

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/25

Company	: CANON INC.	Mode	: Tx 11n (20HT) 5180MHz MCS0
Kind of EUT	: Wireless LAN Module	Report No.	: 31IE0161-SH-02-B
Model No.	: BM70659	Power	: DC3.5V (AC120V/60Hz)
Serial No.	: DE2-17	Temp./Humi.	: 24deg.C. / 56%RH
Remarks	: -		

Limit1 : FCC 15C (15.207) QP	Engineer	: Hikaru Shirasawa
Limit2 : FCC 15C (15.207) AV		

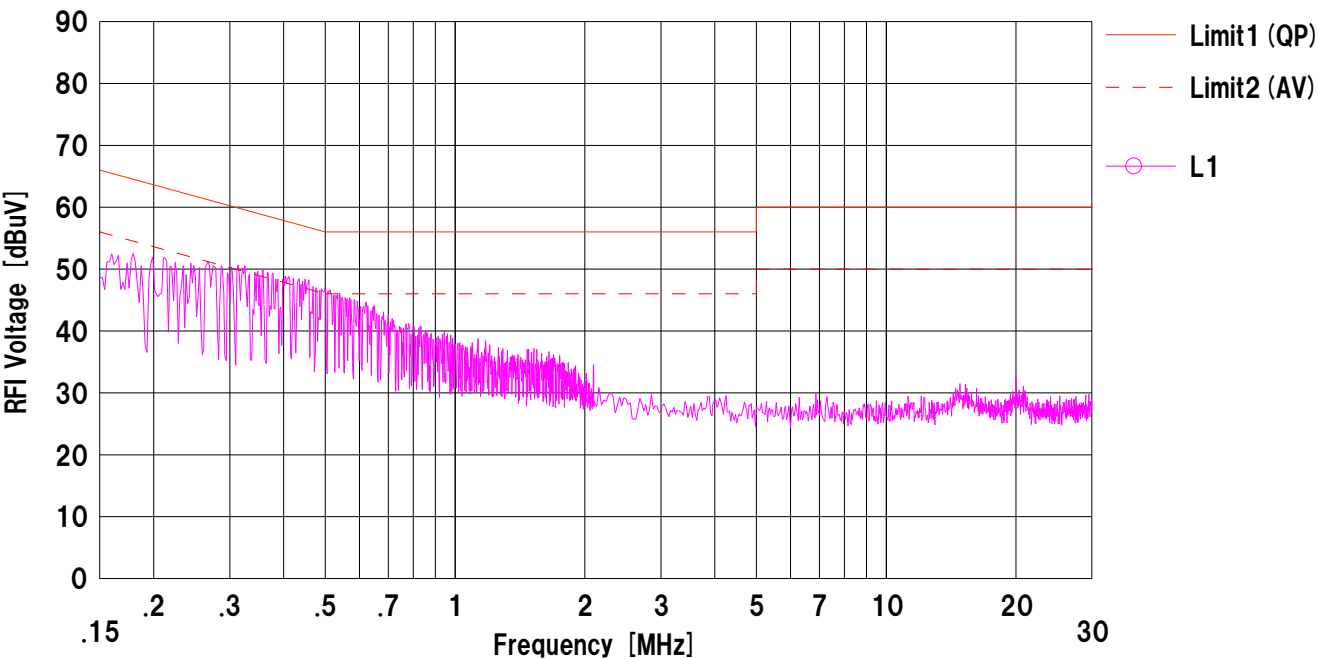
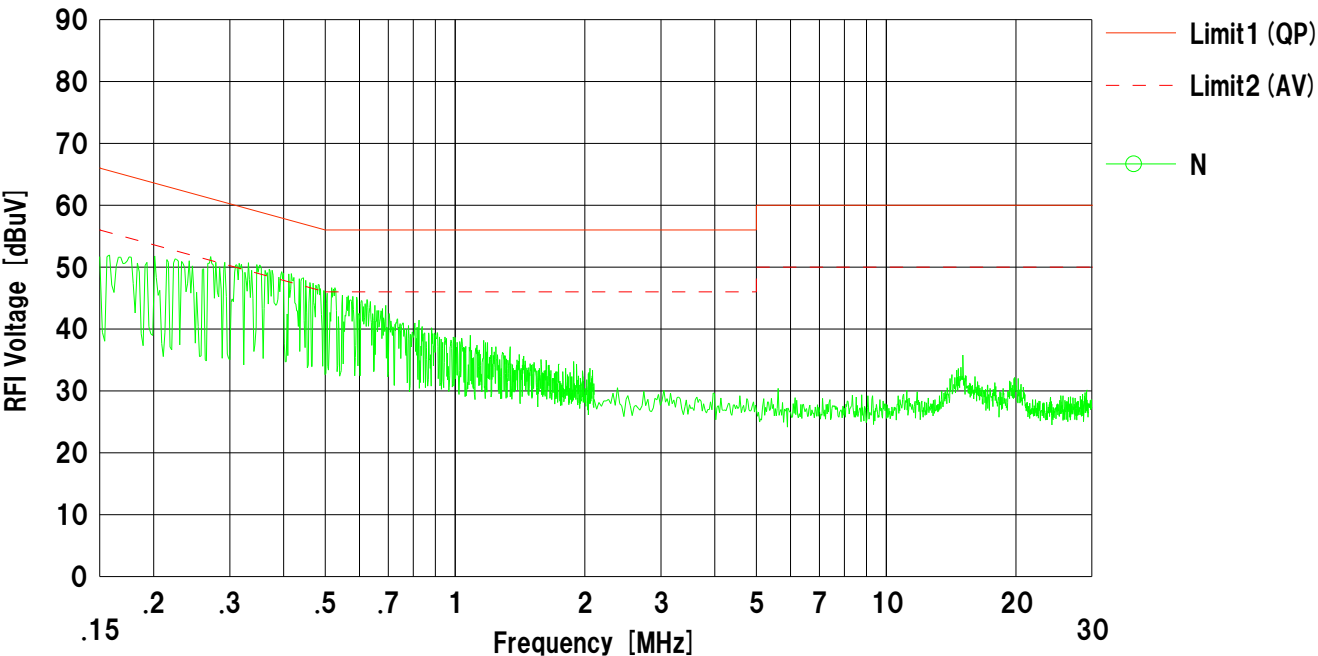


DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/25

Company	: CANON INC.	Mode	: Tx 11n (20HT) 5240MHz MCS0
Kind of EUT	: Wireless LAN Module	Report No.	: 31IE0161-SH-02-B
Model No.	: BM70659	Power	: DC3.5V (AC120V/60Hz)
Serial No.	: DE2-17	Temp./Humi.	: 24deg.C. / 56%RH
Remarks	: -		

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV
Engineer : Hikaru Shirasawa



DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/25

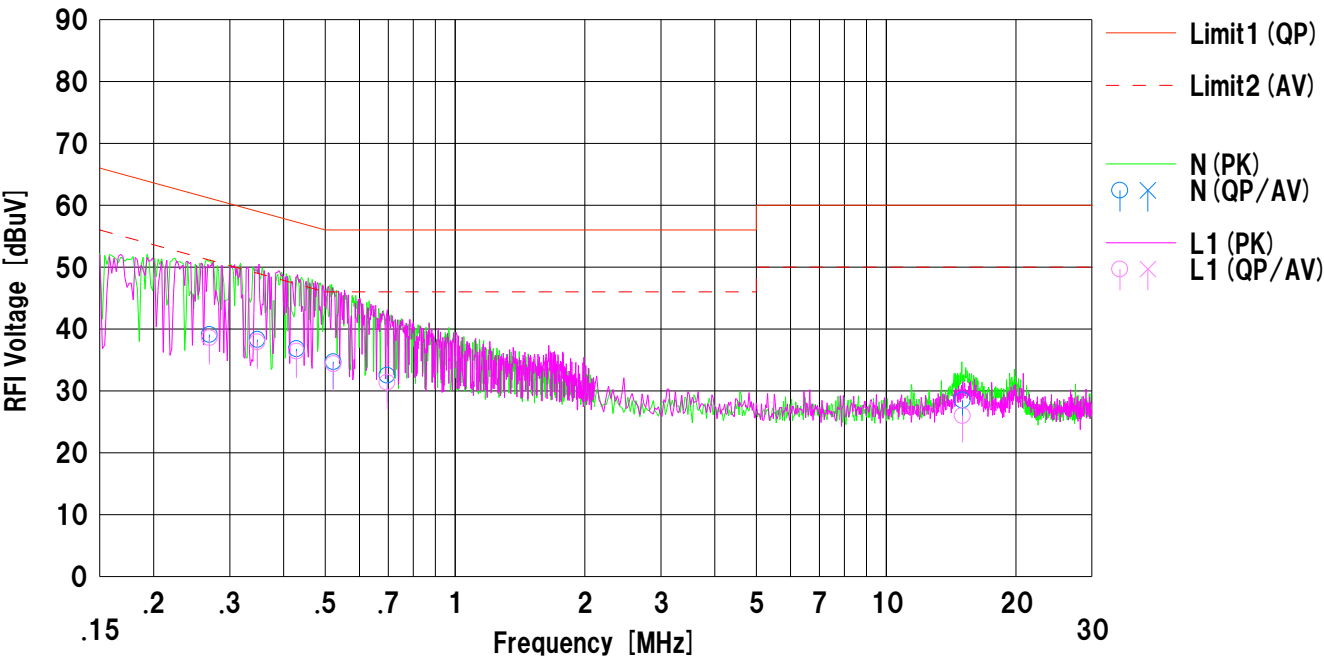
Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : BM70659
Serial No. : DE2-17

Mode : Tx 11n (40HT) 5190MHz MCS6
Report No. : 311E0161-SH-02-B
Power : DC3.5V (AC120V/60Hz)
Temp./Humi. : 24deg.C. / 56%RH

Remarks : -

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

Engineer : Hikaru Shirasawa



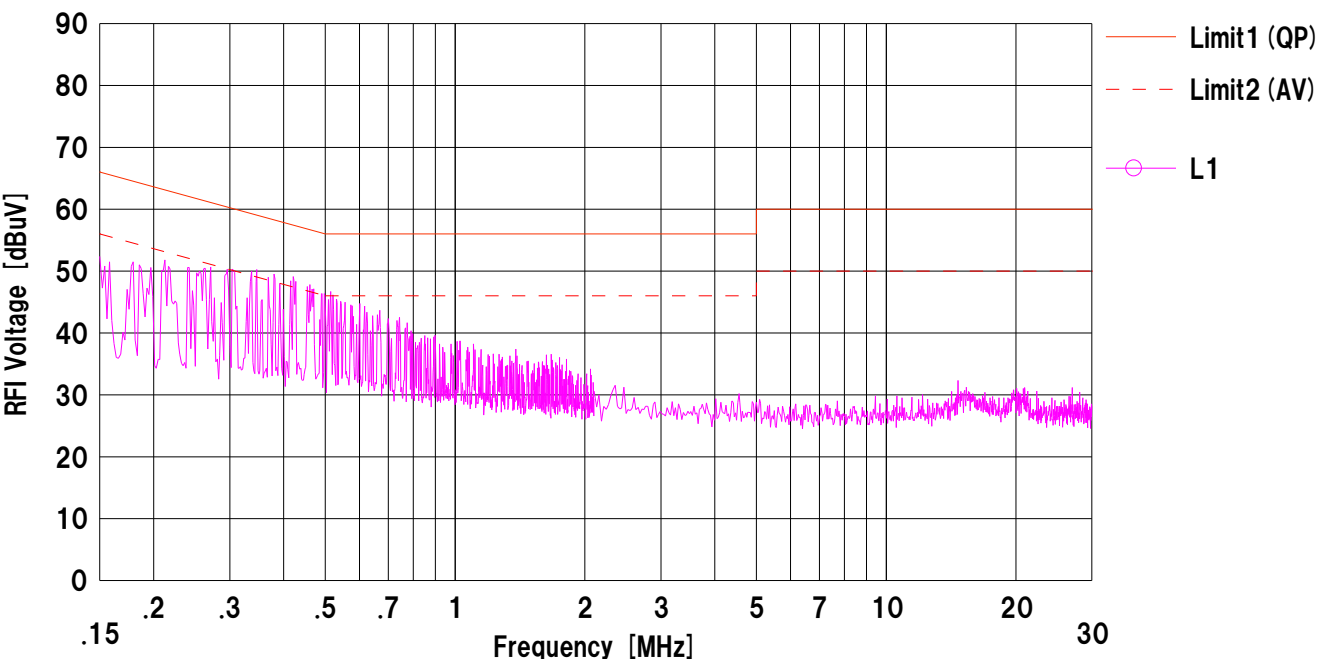
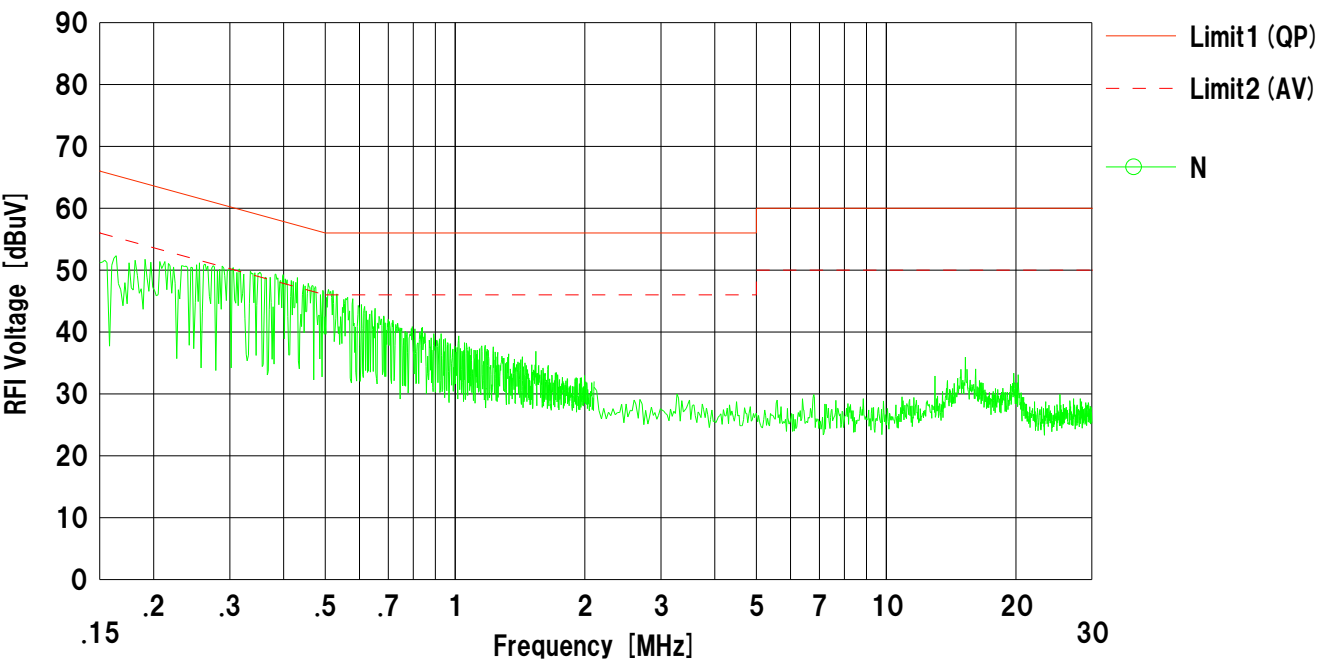
No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.26912	26.5	---	12.6	39.1	---	61.1	51.1	22.0	---	N	
2	0.34771	25.6	---	12.7	38.3	---	59.0	49.0	20.7	---	N	
3	0.42862	24.1	---	12.7	36.8	---	57.2	47.2	20.4	---	N	
4	0.52166	22.1	---	12.6	34.7	---	56.0	46.0	21.3	---	N	
5	0.69560	19.8	---	12.7	32.5	---	56.0	46.0	23.5	---	N	
6	15.02398	15.2	---	13.3	28.5	---	60.0	50.0	31.5	---	N	
7	0.26912	26.0	---	12.6	38.6	---	61.1	51.1	22.5	---	L1	
8	0.34771	25.2	---	12.7	37.9	---	59.0	49.0	21.1	---	L1	
9	0.42862	23.7	---	12.7	36.4	---	57.2	47.2	20.8	---	L1	
10	0.52166	21.8	---	12.6	34.4	---	56.0	46.0	21.6	---	L1	
11	0.69560	18.7	---	12.7	31.4	---	56.0	46.0	24.6	---	L1	
12	15.02398	12.7	---	13.3	26.0	---	60.0	50.0	34.0	---	L1	

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2011/05/25

Company	: CANON INC.	Mode	: Tx 11n (40HT) 5230MHz MCS6
Kind of EUT	: Wireless LAN Module	Report No.	: 31IE0161-SH-02-B
Model No.	: BM70659	Power	: DC3.5V (AC120V/60Hz)
Serial No.	: DE2-17	Temp./Humi.	: 24deg.C. / 56%RH
Remarks	: -		

Limit1 : FCC 15C (15.207) QP	Engineer	: Hikaru Shirasawa
Limit2 : FCC 15C (15.207) AV		



26dB Bandwidth and 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Shielded Room
Date	May 19, 2011	
Temperature / Humidity	24deg.C. , 44%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, 11a,	

Frequency [MHz]	26dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
5180	19.686	16.994
5200	19.712	16.989
5240	19.737	16.984

UL Japan, Inc.

Shonan EMC Lab.

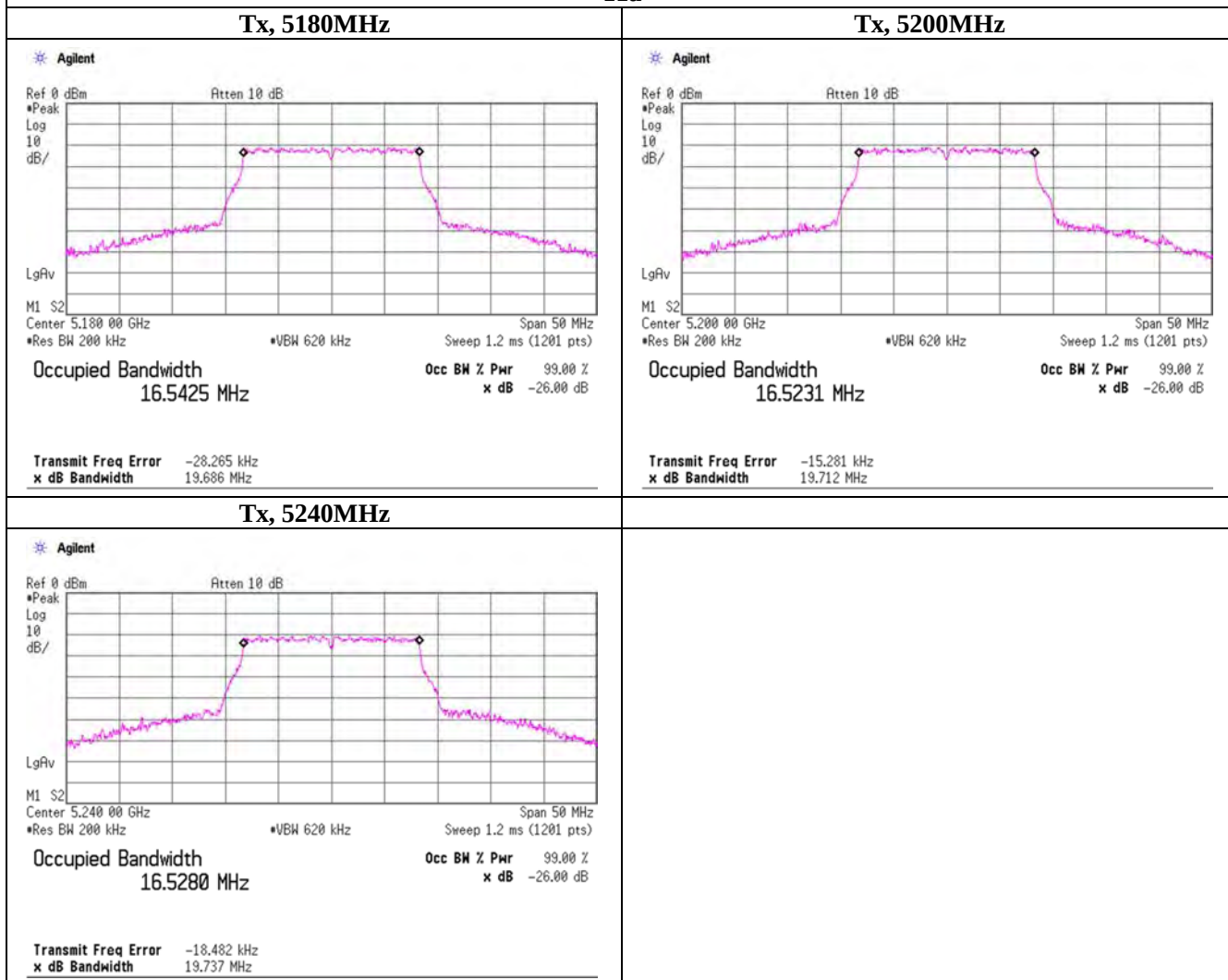
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

26dB Bandwidth

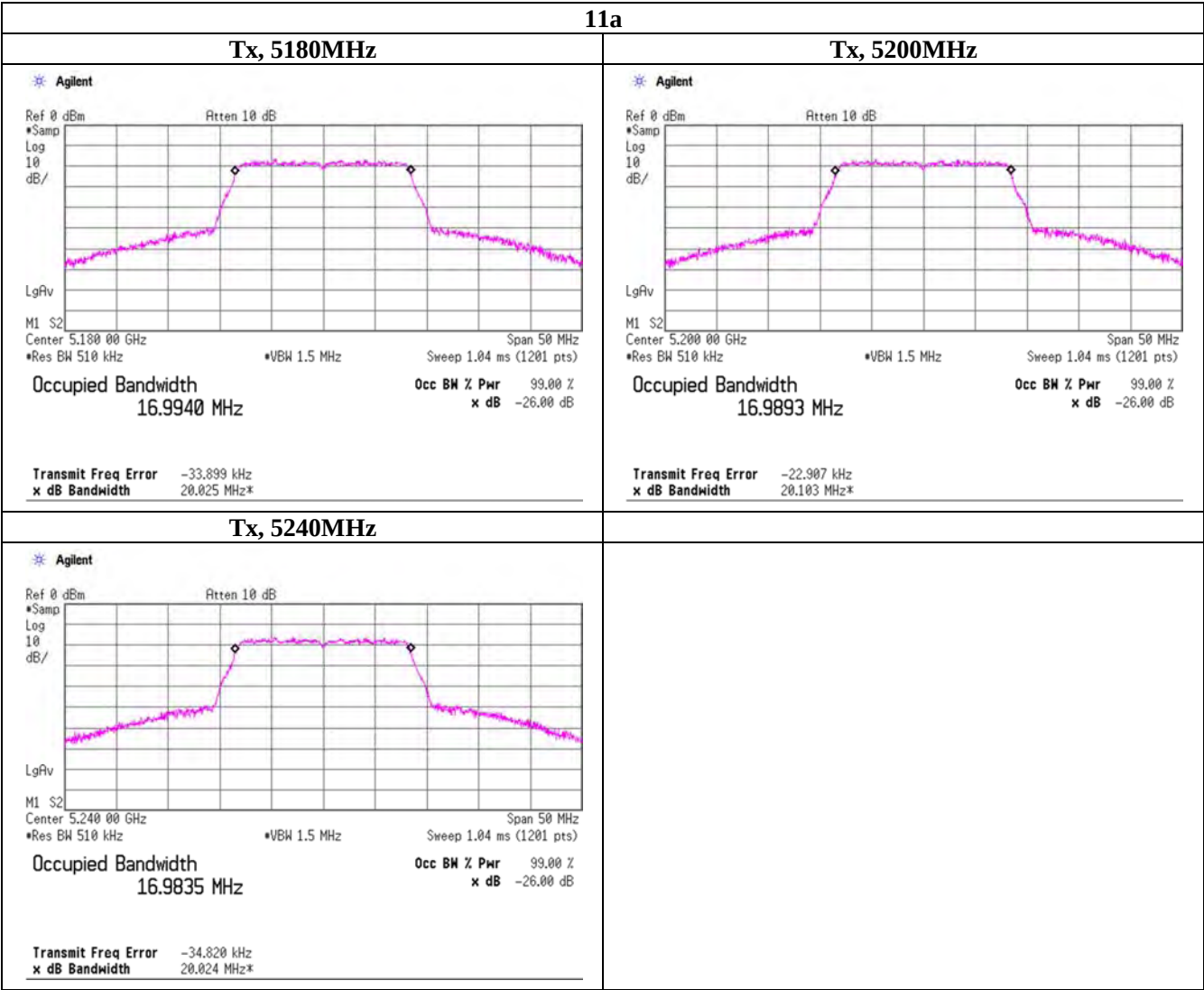
11a



UL Japan, Inc.
Shonan EMC Lab.

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

99% Occupied Bandwidth



UL Japan, Inc.
Shonan EMC Lab.

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

26dB Bandwidth and 99% Occupied Bandwidth

Test place	UL Japan, Inc.	Shonan EMC Lab.	No.3 Shielded Room
Date	May 19, 2011		
Temperature / Humidity	24deg.C.	, 44%RH	
Engineer	Hikaru Shirasawa		
Mode	Tx, 11n(20HT),		

Frequency [MHz]	26dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
5180	20.139	18.065
5200	20.137	18.038
5240	20.067	18.062

UL Japan, Inc.

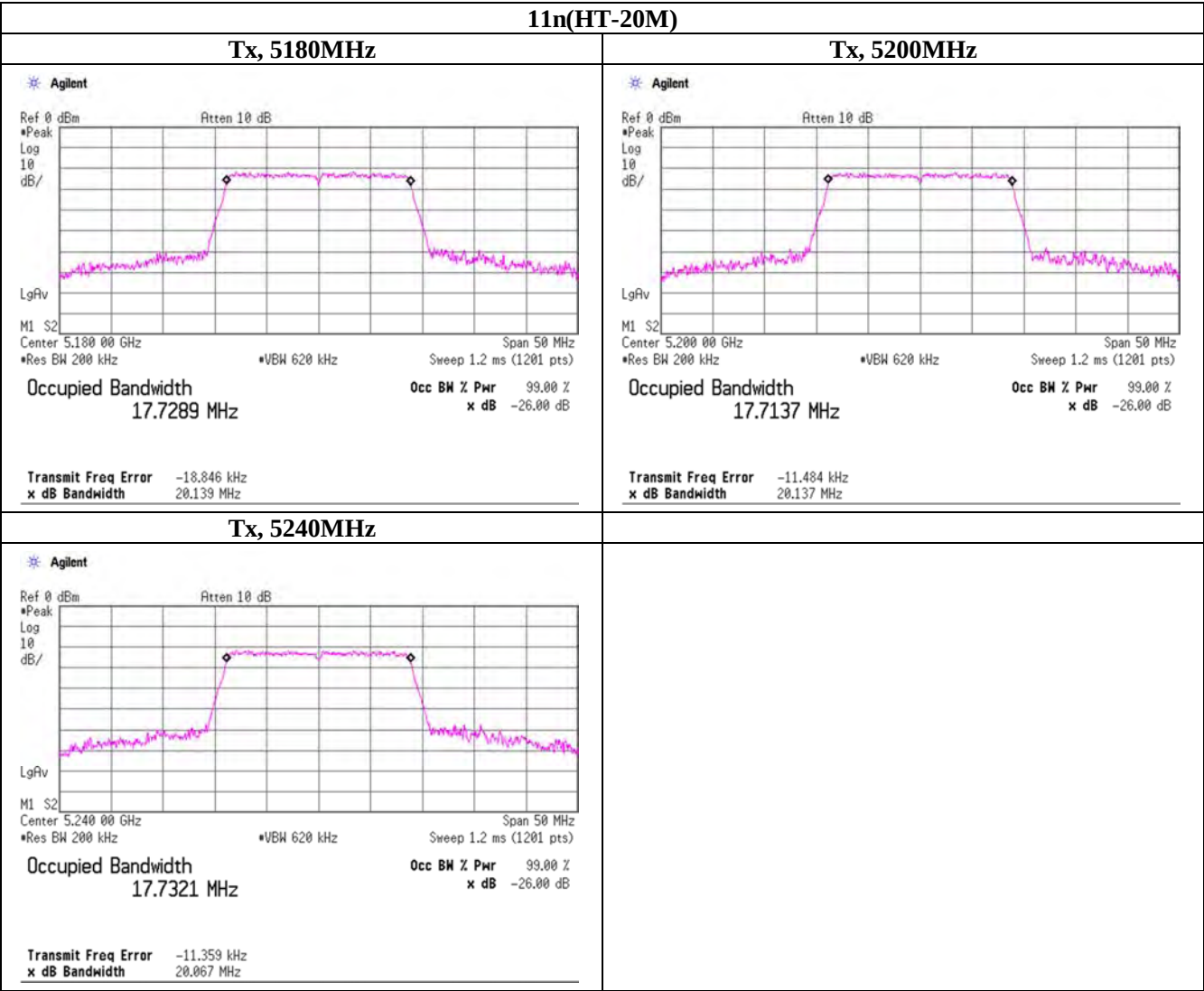
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

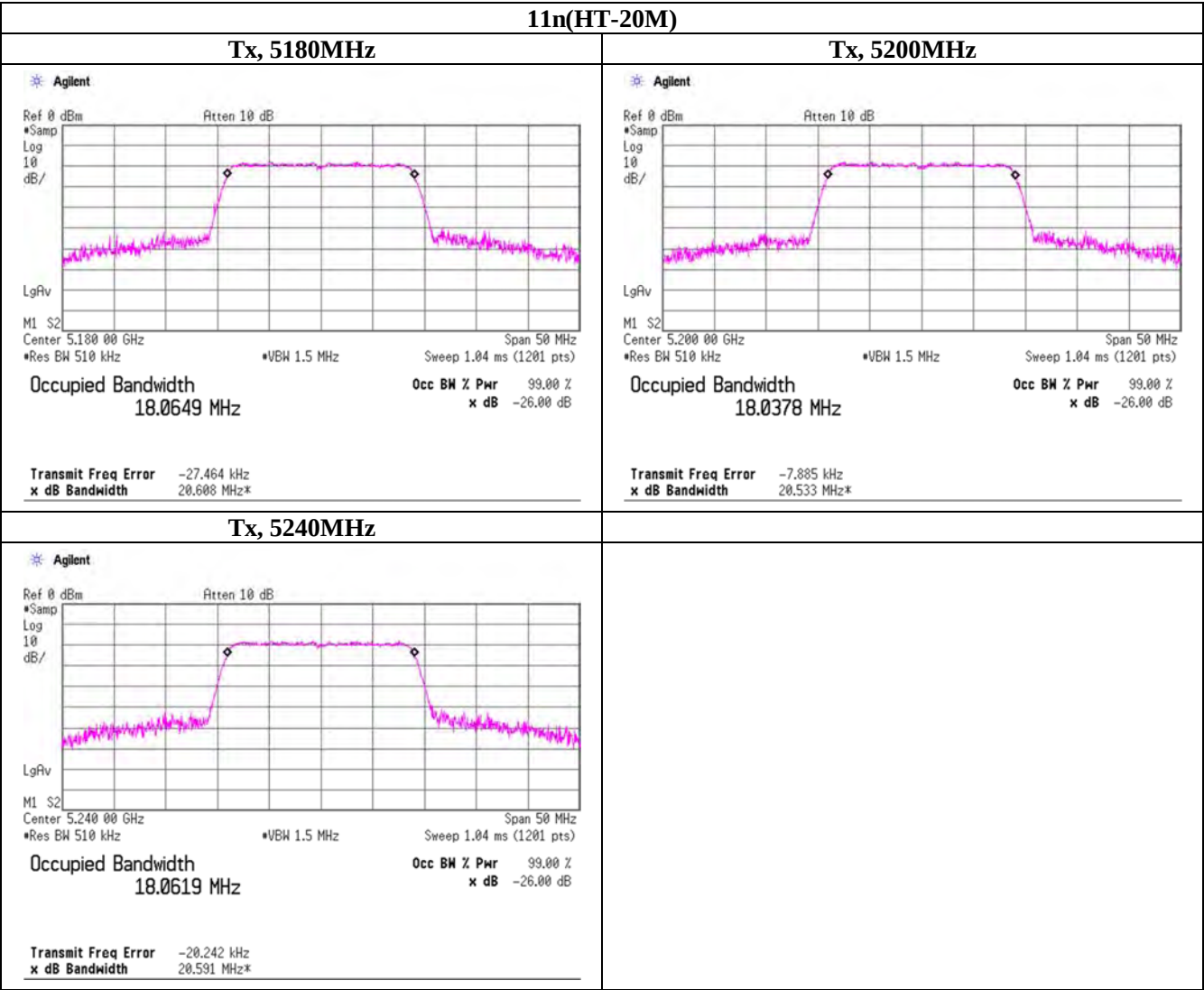
26dB Bandwidth



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Shonan EMC Lab.

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99% Occupied Bandwidth



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Shonan EMC Lab.

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Facsimile : +81 463 50 6401

26dB Bandwidth and 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Shielded Room
Date	May 19, 2011	
Temperature / Humidity	24deg.C. , 44%RH	
Engineer	Hikaru Shirasawa	
Mode	11n(HT-40M), Tx	

Frequency [MHz]	26dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
5190	40.547	36.663
5230	40.610	36.762

UL Japan, Inc.

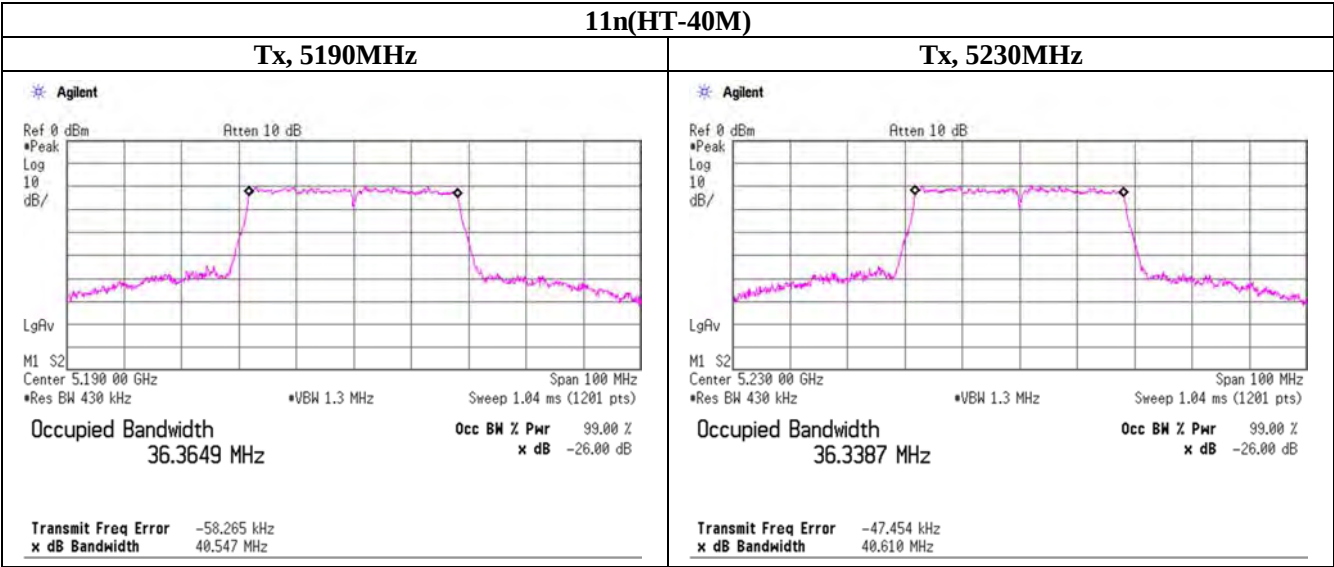
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

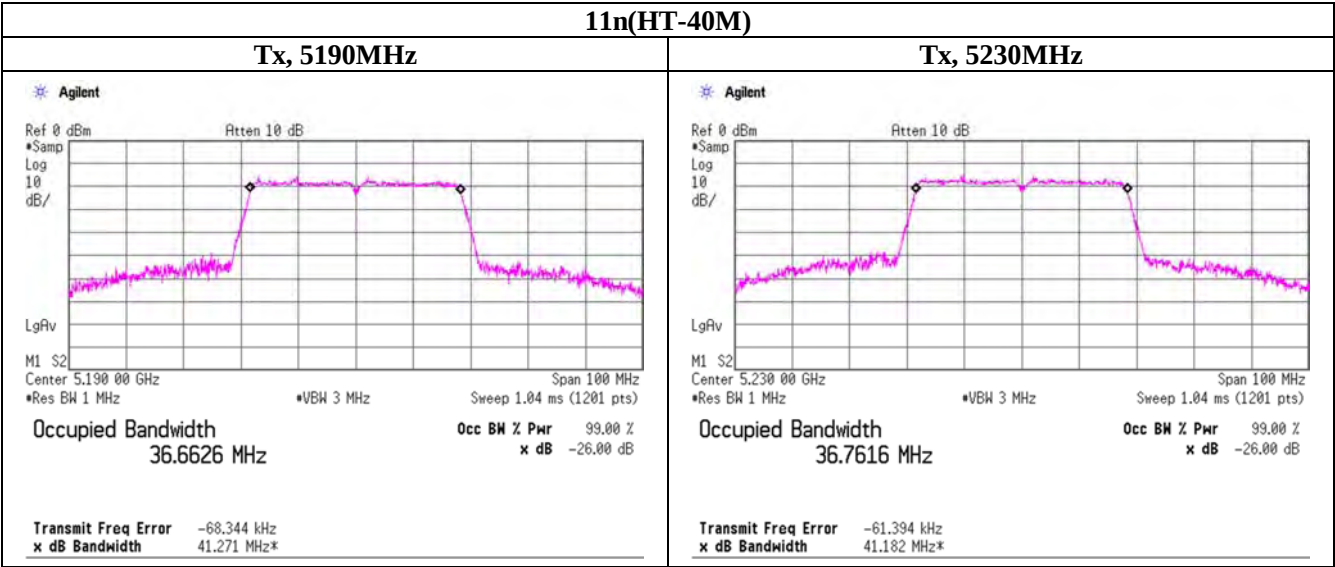
26dB Bandwidth



UL Japan, Inc.
Shonan EMC Lab.

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99% Occupied Bandwidth



UL Japan, Inc.
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Peak Output Power (Conducted)

Test place

UL Japan, Inc. Shonan EMC Lab.

No.3 Shielded Room

Date

May 15, 2011

Temperature / Humidity

24deg.C. , 34%RH

Engineer

Kenichi Adachi

Mode

Tx, IEEE802.11a, PN9,
(Power setting: 11dBm)

worst data mode : 24 Mbps

Ch	Freq.	S/A (AV) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-9.65	1.12	20.15	11.62	14.53	16.94	49.45	5.32
Mid	5200.0	-9.27	1.18	20.15	12.06	16.07	16.95	49.51	4.89
High	5240.0	-8.96	1.30	20.15	12.49	17.73	16.95	49.58	4.46

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Limit: 4dBm + 10logB (B = 26dB Bandwidth)

[Pre check]

Data Rate	Freq.	S/A (AV) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[Mbps]	[MHz]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
6	5200.0	-9.29	1.18	20.15	12.04	16.00	16.95	49.51	4.91
9	5200.0	-9.33	1.18	20.15	12.00	15.85	16.95	49.51	4.95
12	5200.0	-9.36	1.18	20.15	11.97	15.74	16.95	49.51	4.98
18	5200.0	-9.28	1.18	20.15	12.05	16.03	16.95	49.51	4.90
24	5200.0	-9.27	1.18	20.15	12.06	16.07	16.95	49.51	4.89
36	5200.0	-9.34	1.18	20.15	11.99	15.81	16.95	49.51	4.96
48	5200.0	-9.40	1.18	20.15	11.93	15.60	16.95	49.51	5.02
54	5200.0	-9.41	1.18	20.15	11.92	15.56	16.95	49.51	5.03

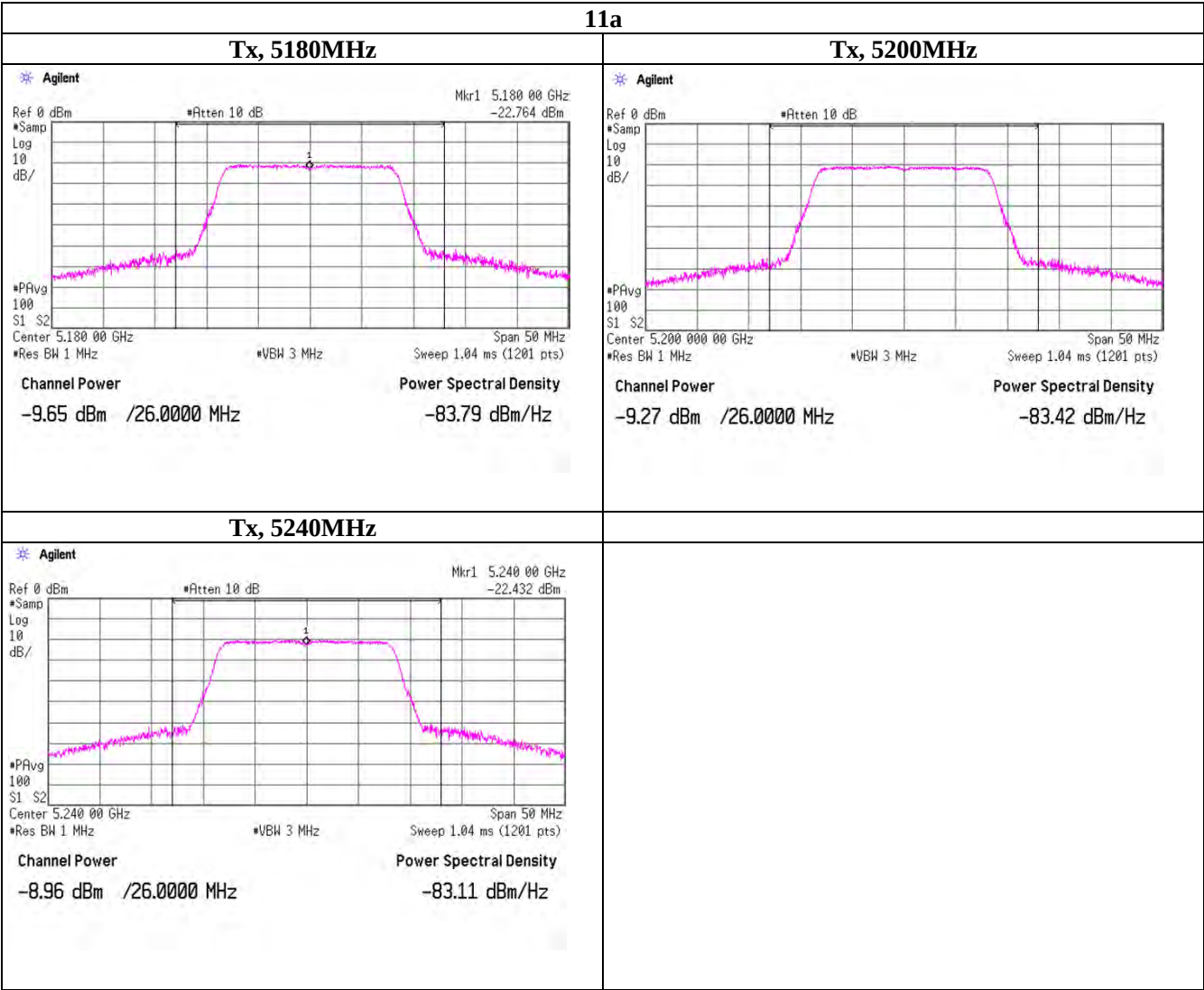
Reference data for SAR testing

Data Rate	Freq.	P/M (PK) Reading	P/M (AV) Reading	loss	Result	
	[Mbps]	[MHz]	[dBm]	[dB]	PK [dBm]	AV [dBm]
6	5200.0	-0.14	-9.45	21.33	21.19	11.88
9	5200.0	-0.67	-9.61	21.33	20.66	11.72
12	5200.0	-0.40	-9.62	21.33	20.93	11.71
18	5200.0	-0.84	-9.66	21.33	20.49	11.67
24	5200.0	-0.12	-9.35	21.33	21.21	11.98
36	5200.0	-0.23	-9.46	21.33	21.10	11.87
48	5200.0	-0.43	-9.41	21.33	20.90	11.92
54	5200.0	-0.22	-9.44	21.33	21.11	11.89

UL Japan, Inc.
Shonan EMC Lab.

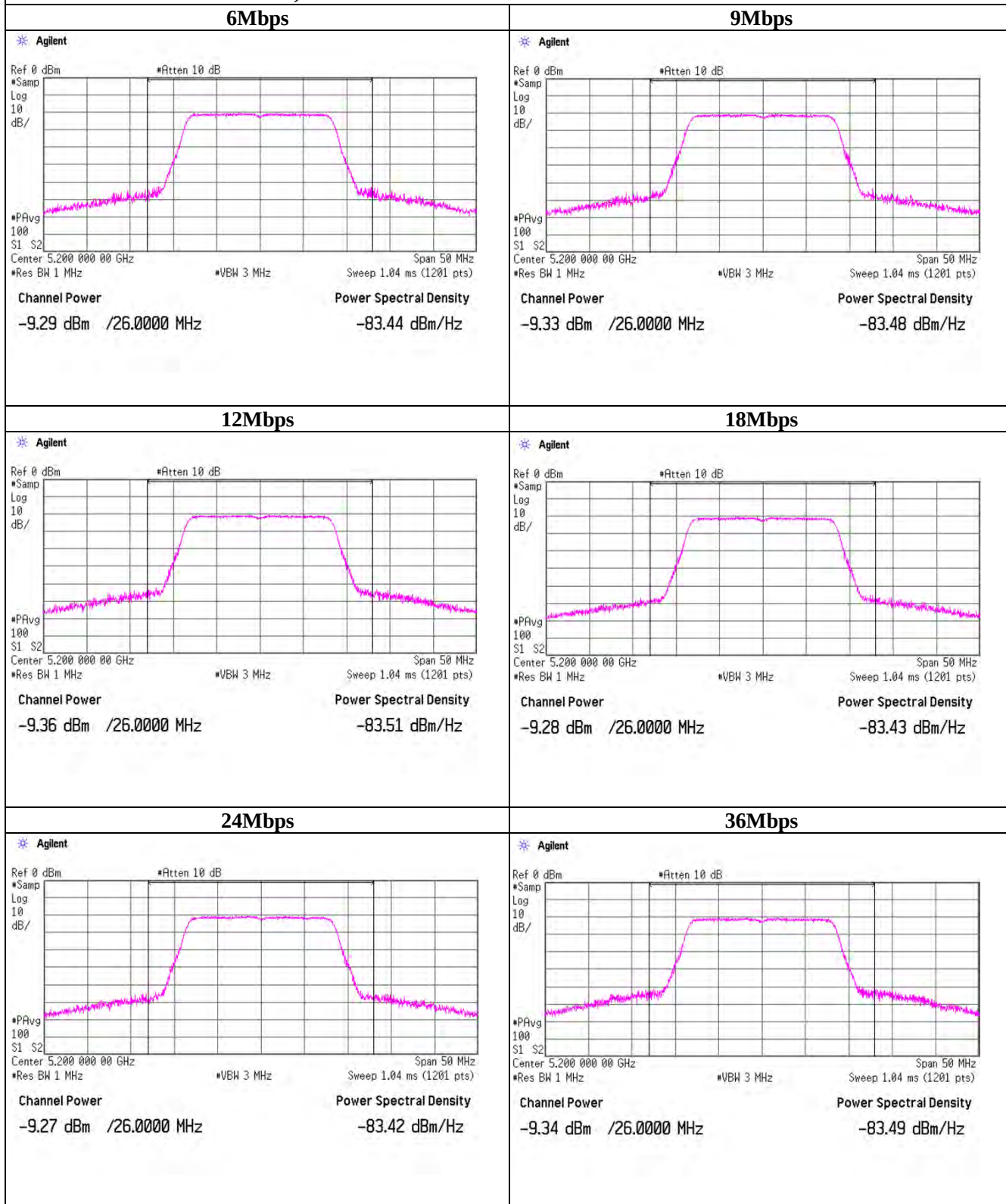
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Peak Output Power (Conducted)



Peak Output Power (Conducted)

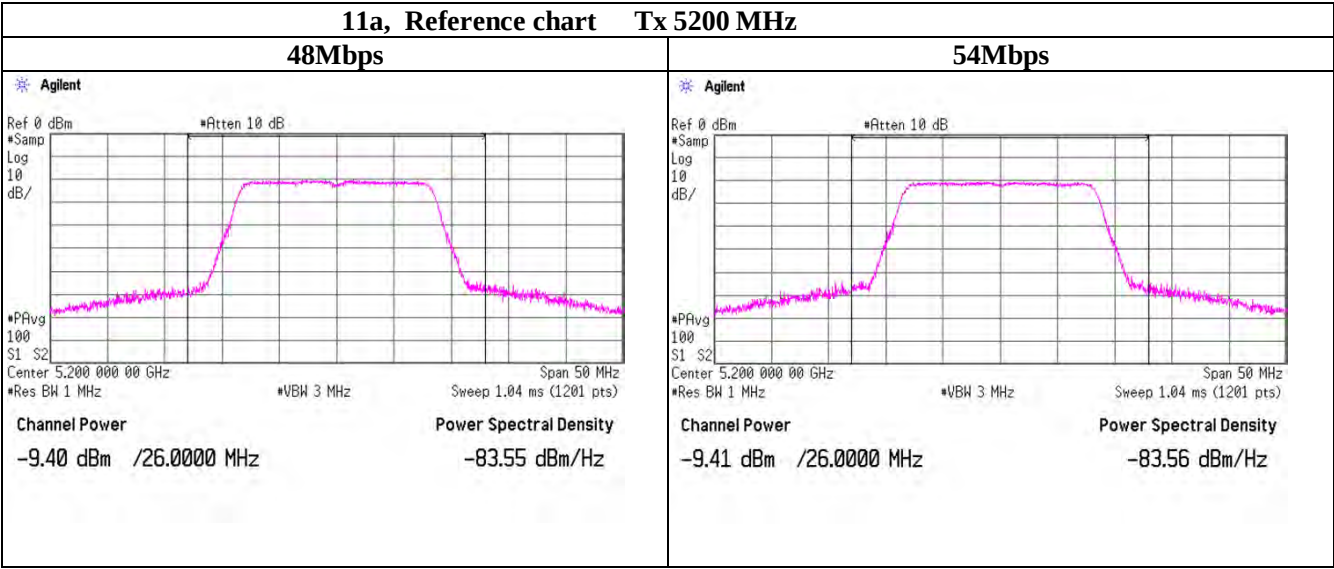
11a, Reference chart Tx 5200 MHz



UL Japan, Inc.
Shonan EMC Lab.

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Peak Output Power (Conducted)



UL Japan, Inc.
Shonan EMC Lab.

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Facsimile : +81 463 50 6401

Peak Output Power (Conducted)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Shielded Room
Date	May 15, 2011	
Temperature / Humidity	24deg.C. , 34%RH	
Engineer	Kenichi Adachi	
Mode	Tx, IEEE802.11n(HT-20M), PN9, (Power setting: 11dBm)	worst data mode : 0 (MCS)

Ch	Freq.	S/A (AV)	Cable	Atten.	Result		Limit		Margin
	[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-9.40	1.12	20.15	11.87	15.39	16.99	50	5.12
Mid	5200.0	-9.14	1.18	20.15	12.19	16.56	16.99	50	4.80
High	5240.0	-8.81	1.30	20.15	12.64	18.36	16.99	50	4.35

Sample Calculation:

$$\text{Result} = \text{Reading} + \text{Cable Loss} + \text{Atten. Loss}$$

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

[Pre check]

Data Rate	Freq.	S/A (AV) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
0	5200.0	-9.14	1.18	20.15	12.19	16.56	16.99	50	4.80
1	5200.0	-9.20	1.18	20.15	12.13	16.33	16.99	50	4.86
2	5200.0	-9.28	1.18	20.15	12.05	16.03	16.99	50	4.94
3	5200.0	-9.15	1.18	20.15	12.18	16.52	16.99	50	4.81
4	5200.0	-9.25	1.18	20.15	12.08	16.14	16.99	50	4.91
5	5200.0	-9.31	1.18	20.15	12.02	15.92	16.99	50	4.97
6	5200.0	-9.25	1.18	20.15	12.08	16.14	16.99	50	4.91
7	5200.0	-9.34	1.18	20.15	11.99	15.81	16.99	50	5.00

Reference data for SAR testing

Data mode	Freq. [MHz]	P/M (PK)	P/M (AV)	loss [dB]	Result	
		Reading [dBm]	Reading [dBm]		PK [dBm]	AV [dBm]
MCS 0	5200.0	-0.83	-9.48	21.33	20.50	11.85
MCS 1	5200.0	-0.68	-9.77	21.33	20.65	11.56
MCS 2	5200.0	-0.77	-9.59	21.33	20.56	11.74
MCS 3	5200.0	-0.67	-9.33	21.33	20.66	12.00
MCS 4	5200.0	-0.72	-9.41	21.33	20.61	11.92
MCS 5	5200.0	-0.84	-9.36	21.33	20.49	11.97
MCS 6	5200.0	-0.73	-9.47	21.33	20.60	11.86
MCS 7	5200.0	-0.75	-9.48	21.33	20.58	11.85

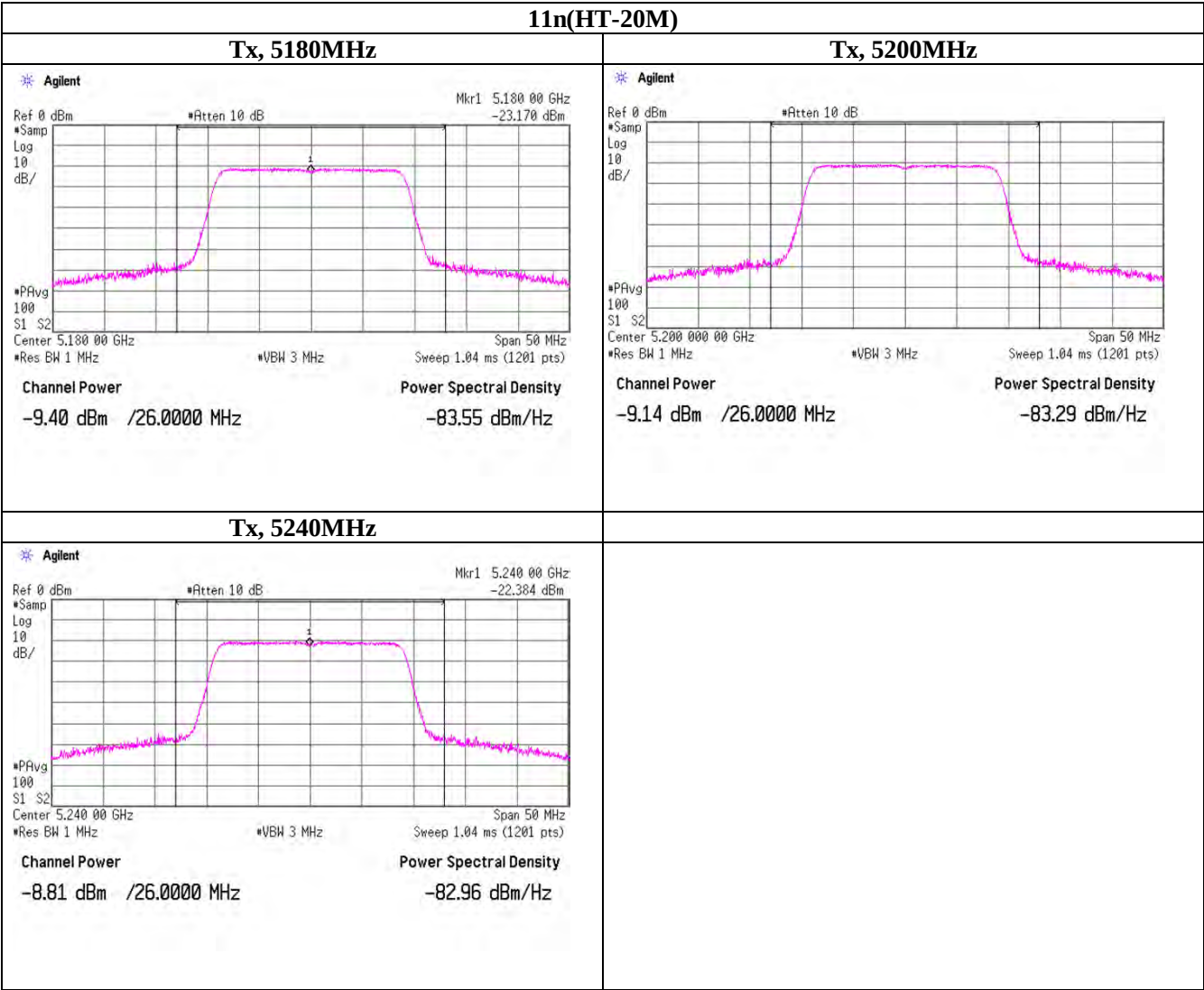
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Shonan EMC Lab.

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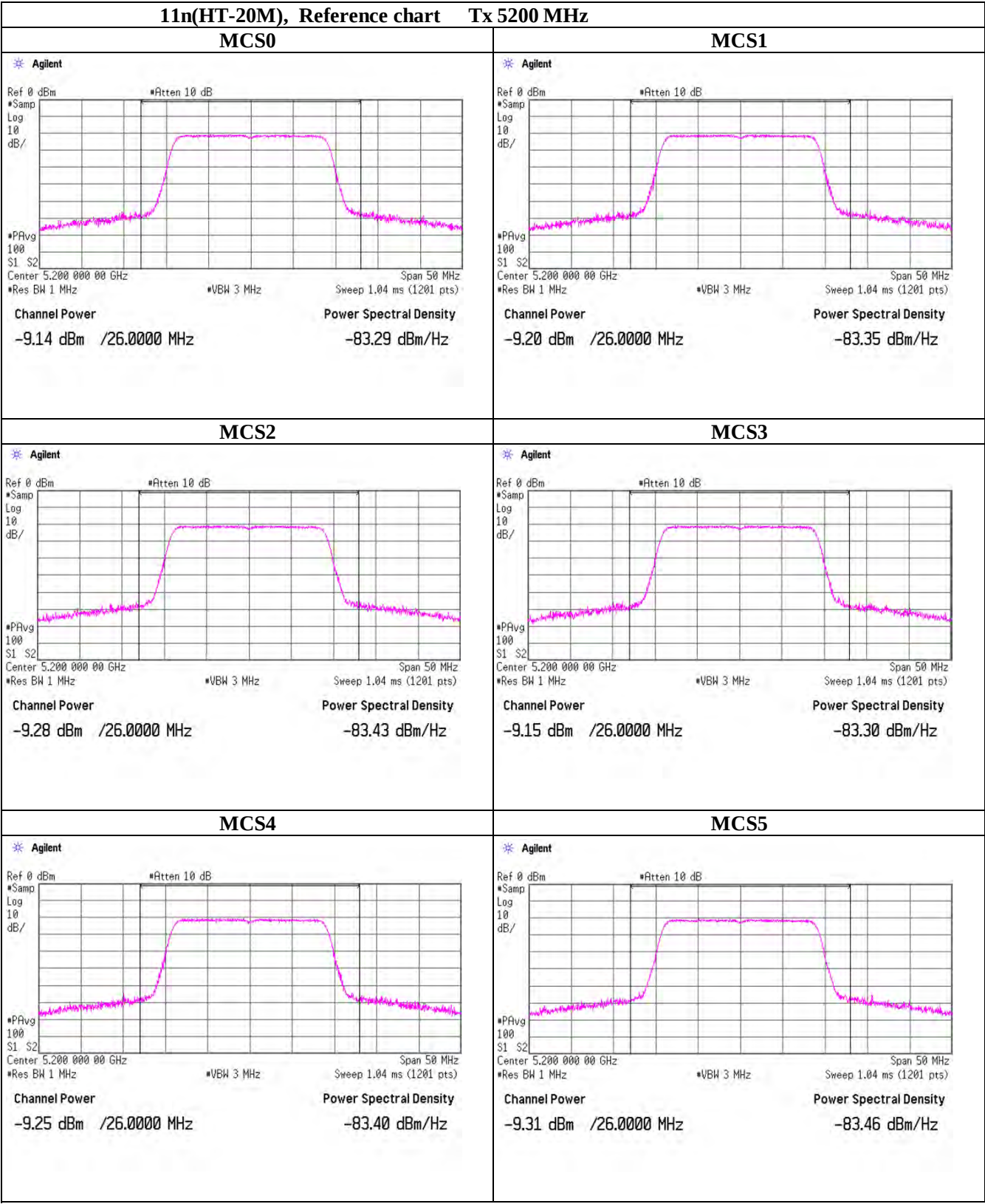
Telephone : +81 463 50 6400

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Peak Output Power (Conducted)



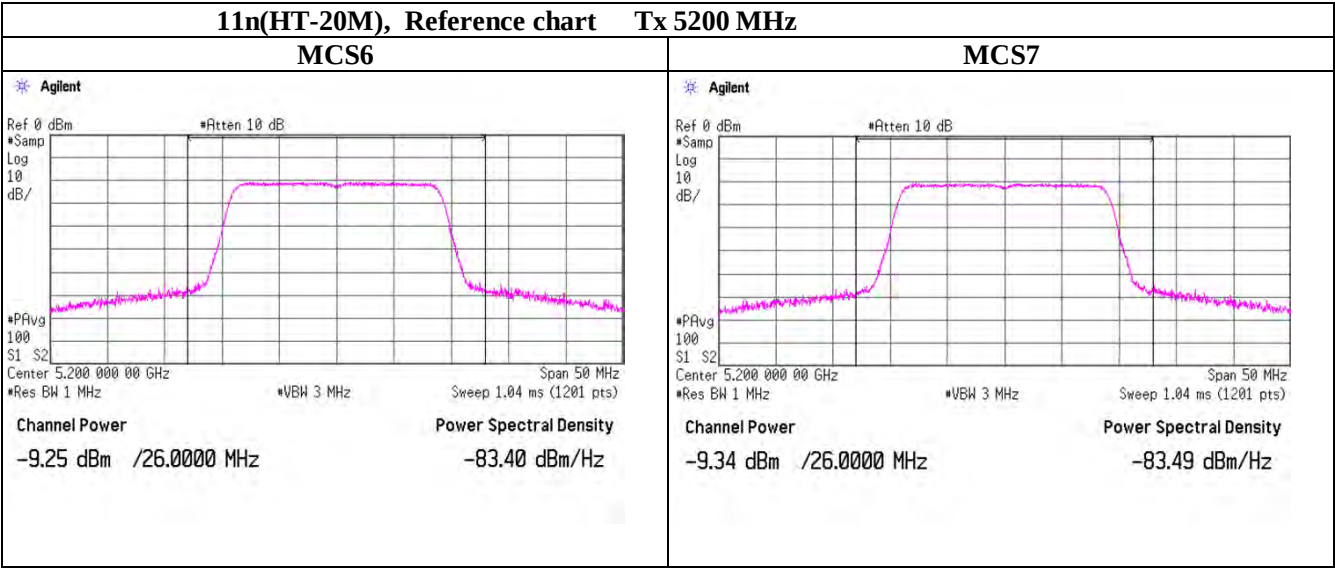
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Peak Output Power (Conducted)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Shielded Room
Date	May 15, 2011	
Temperature / Humidity	24deg.C. , 34%RH	
Engineer	Kenichi Adachi	
Mode	Tx, IEEE802.11n(HT-40M), PN9, (Power setting: 11dBm)	worst data mode : 6 (MCS)

Ch	Freq.	S/A (AV) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5190.0	-9.46	1.15	20.15	11.84	15.28	16.99	50	5.15
Mid	-	-	-	-	-	-	-	-	-
High	5230.0	-9.59	1.27	20.15	11.83	15.24	16.99	50	5.16

Sample Calculation:

$$\text{Result} = \text{Reading} + \text{Cable Loss} + \text{Atten. Loss}$$

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

[Pre check]

Data Rate	Freq.	S/A (AV) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
0	5190.0	-9.81	1.15	20.15	11.49	14.10	16.99	50	5.50
1	5190.0	-9.67	1.15	20.15	11.63	14.56	16.99	50	5.36
2	5190.0	-9.68	1.15	20.15	11.62	14.52	16.99	50	5.37
3	5190.0	-9.48	1.15	20.15	11.82	15.21	16.99	50	5.17
4	5190.0	-9.60	1.15	20.15	11.70	14.79	16.99	50	5.29
5	5190.0	-9.62	1.15	20.15	11.68	14.73	16.99	50	5.31
6	5190.0	-9.46	1.15	20.15	11.84	15.28	16.99	50	5.15
7	5190.0	-9.76	1.15	20.15	11.54	14.26	16.99	50	5.45

Reference data for SAR testing

Data mode	Freq. [MHz]	P/M (PK)	P/M (AV)	loss [dB]	Result	
		Reading [dBm]	Reading [dBm]		PK [dBm]	AV [dBm]
MCS 0	5190.0	-0.96	-9.76	21.30	20.34	11.54
MCS 1	5190.0	-0.93	-9.75	21.30	20.37	11.55
MCS 2	5190.0	-0.89	-9.84	21.30	20.41	11.46
MCS 3	5190.0	-0.43	-9.75	21.30	20.87	11.55
MCS 4	5190.0	-0.45	-9.79	21.30	20.85	11.51
MCS 5	5190.0	-0.48	-9.82	21.30	20.82	11.48
MCS 6	5190.0	-0.53	-9.88	21.30	20.77	11.42
MCS 7	5190.0	-1.21	-9.94	21.30	20.09	11.36

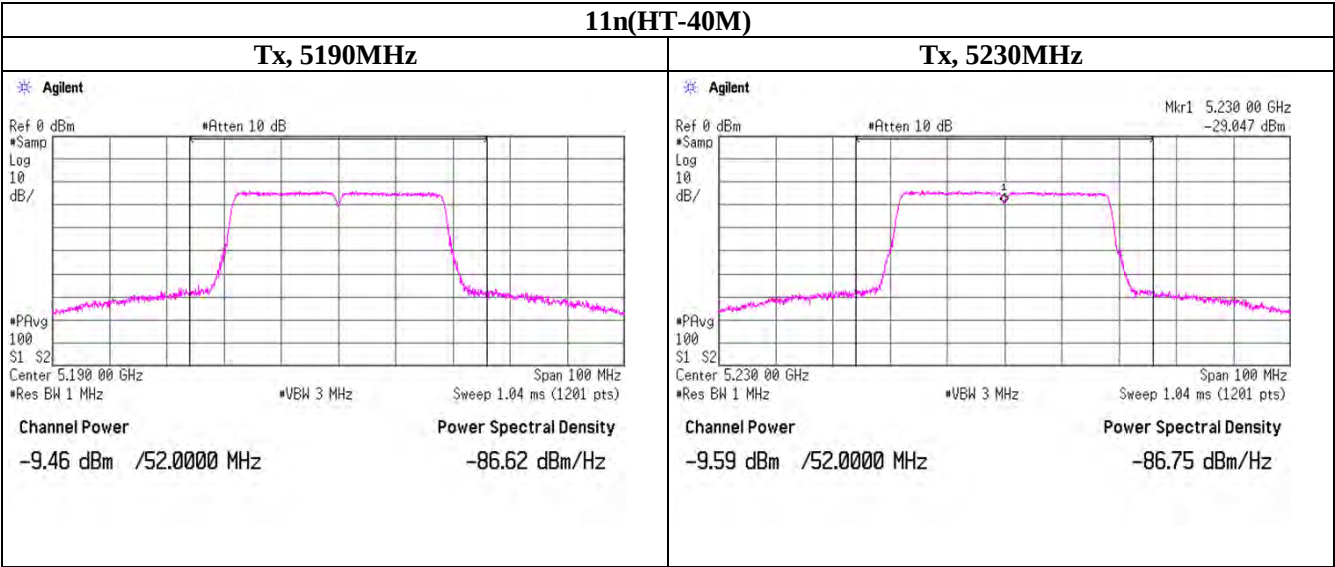
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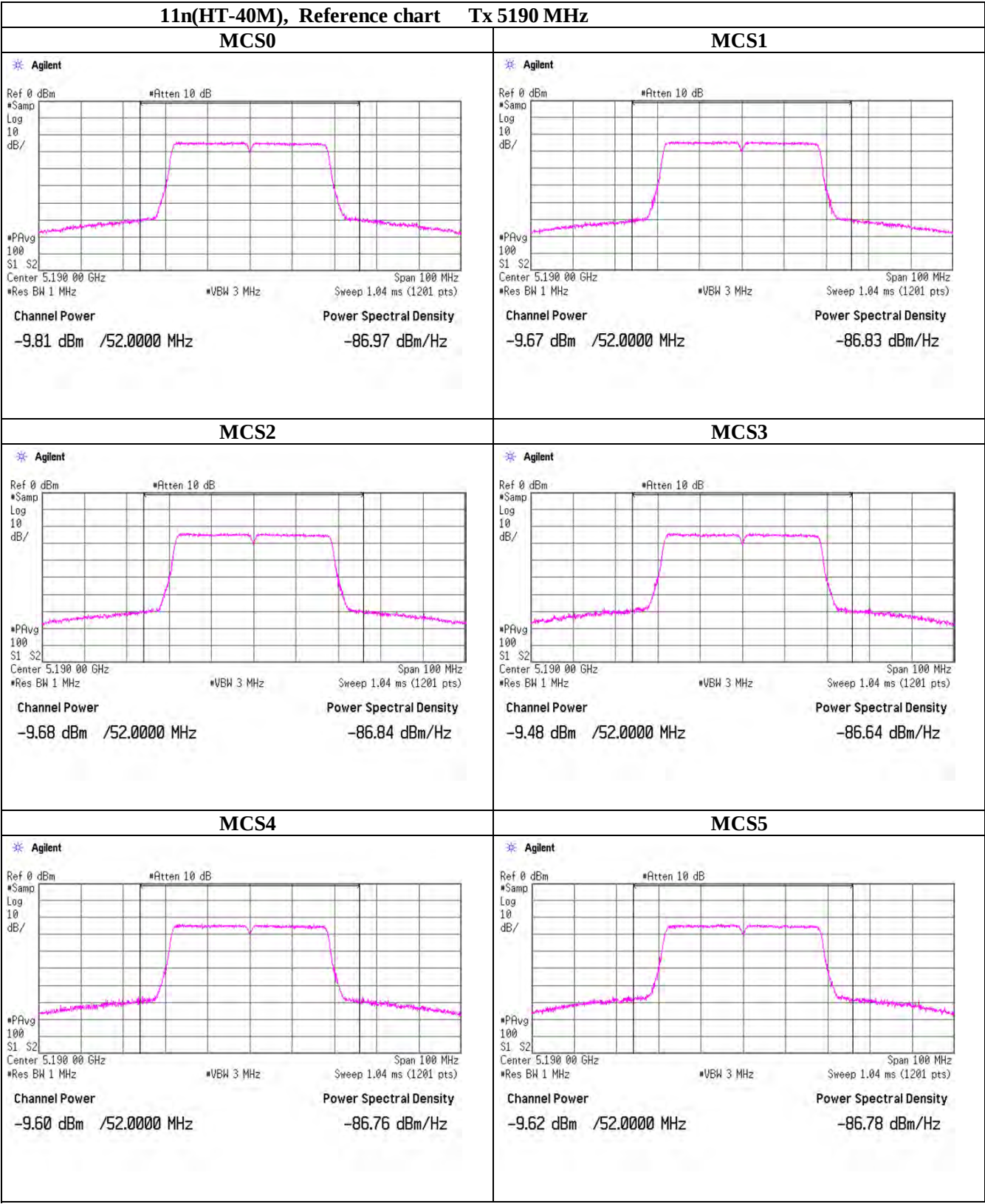
Peak Output Power (Conducted)



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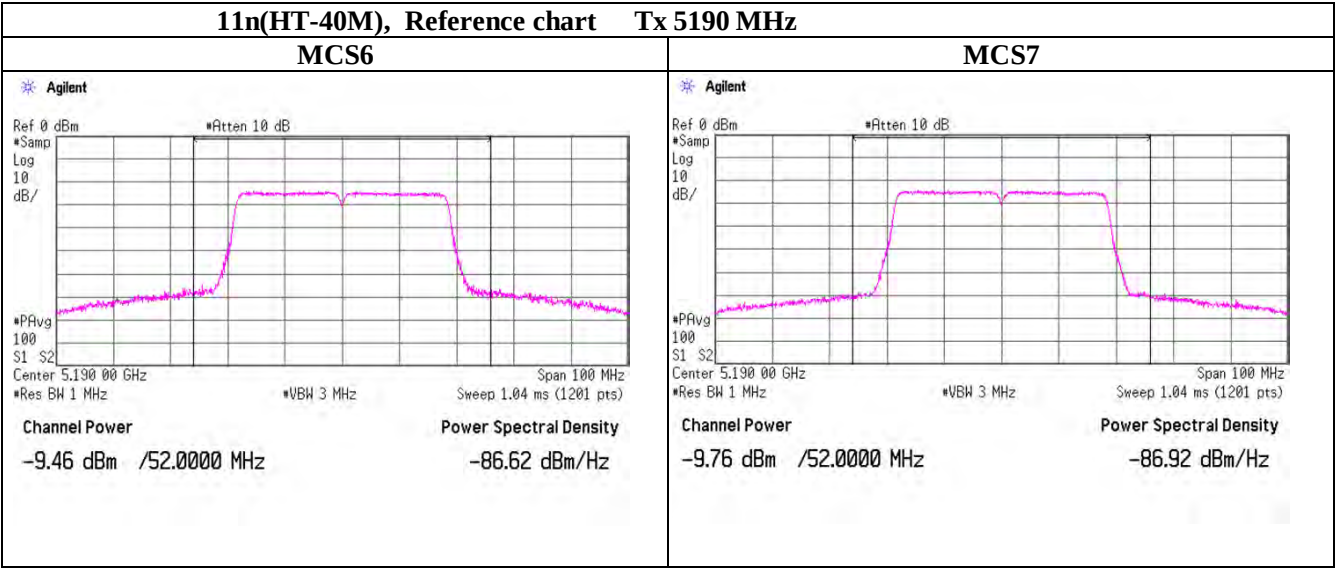
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Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.		
Semi Anechoic Chamber	No.3	No.3	No.3
Date	2011/5/16	2011/5/20	2011/5/22
Temperature / Humidity	23deg.C , 45%RH	25deg.C , 47%RH	25deg.C , 43%RH
Engineer	Akio Hayashi	Akio Hayashi	Minoru Nakatake
Frequency Band	(1-18GHz)	(18-40GHz)	(30M-1GHz)
Mode	Tx, 5180 MHz 11a, 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.	942.711	QP	22.8	21.1	10.8	30.7	24.0	46.0	22.0	100	353	Ant:Z, Mod:X
Hori.	5150.000	PK	45.2	32.1	15.6	36.7	56.2	73.9	17.7	106	222	Ant:Z, Mod:Y
Hori.	15540.000	PK	51.2	40.3	1.1	37.1	55.5	73.9	18.4	100	326	Ant:Z, Mod:Y
Hori.	20720.000	PK	58.6	40.3	-2.7	47.4	48.8	73.9	25.1	100	67	Ant:Y, Mod:Y
Hori.	5150.000	AV	32.9	32.1	15.6	36.7	43.9	53.9	10.0	106	222	Ant:Z, Mod:Y
Hori.	15540.000	AV	37.7	40.3	1.1	37.1	42.0	53.9	11.9	100	326	Ant:Z, Mod:Y
Hori.	20720.000	AV	44.4	40.3	-2.7	47.4	34.6	53.9	19.3	100	67	Ant:Y, Mod:Y
Vert.	942.725	QP	22.8	21.1	10.8	30.7	24.0	46.0	22.0	100	93	Ant:X, Mod:X
Vert.	5150.000	PK	44.8	32.1	15.6	36.7	55.8	73.9	18.1	108	199	Ant:Z, Mod:X
Vert.	15540.000	PK	52.9	40.3	1.1	37.1	57.2	73.9	16.7	100	28	Ant:Z, Mod:X
Vert.	20720.000	PK	58.5	40.3	-2.7	47.4	48.7	73.9	25.2	100	109	Ant:Y, Mod:Y
Vert.	5150.000	AV	31.9	32.1	15.6	36.7	42.9	53.9	11.0	108	199	Ant:Z, Mod:X
Vert.	15540.000	AV	38.3	40.3	1.1	37.1	42.5	53.9	11.4	100	28	Ant:Z, Mod:X
Vert.	20720.000	AV	43.0	40.3	-2.7	47.4	33.2	53.9	20.7	100	109	Ant:Y, Mod:Y

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).

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

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

UL Japan, Inc.**Shonan EMC Lab.**

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Telephone : +81 463 50 6400

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Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.						
Semi Anechoic Chamber	No.3	,	No.3	,	No.3	,	No.3
Date	2011/5/16	,	2011/5/20	,	2011/5/20	,	2011/5/22
Temperature / Humidity	23deg.C , 45%RH	,	26deg.C , 40%RH	,	25deg.C , 47%RH	,	25deg.C , 43%RH
Engineer	Akio Hayashi	,	Akio Hayashi	,	Akio Hayashi	,	Minoru Nakatake
Frequency Band	(1-13GHz)	,	(13-18GHz)	,	(18-40GHz)	,	(30M-1GHz)
Mode	Tx, 5200 MHz 11a,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.	928.240	QP	22.8	20.9	10.8	30.8	23.7	46.0	22.3	100	265	Ant:Z, Mod:X
Hori.	15600.000	PK	52.8	40.1	1.2	37.1	57.0	73.9	16.9	100	325	Ant:Z, Mod:Y
Hori.	20800.000	PK	58.4	40.3	-2.7	47.3	48.7	73.9	25.2	100	68	Ant:Y, Mod:Y
Hori.	15600.000	AV	40.0	40.1	1.2	37.1	44.2	53.9	9.7	100	325	Ant:Z, Mod:Y
Hori.	20800.000	AV	44.0	40.3	-2.7	47.3	34.3	53.9	19.6	100	68	Ant:Y, Mod:Y
Vert.	928.819	QP	22.8	20.9	10.8	30.8	23.7	46.0	22.3	100	315	Ant:X, Mod:X
Vert.	15600.000	PK	51.0	40.1	1.2	37.1	55.1	73.9	18.8	100	36	Ant:Z, Mod:X
Vert.	20800.000	PK	58.1	40.3	-2.7	47.3	48.4	73.9	25.5	100	110	Ant:Y, Mod:Y
Vert.	15600.000	AV	37.9	40.1	1.2	37.1	42.1	53.9	11.8	100	36	Ant:Z, Mod:X
Vert.	20800.000	AV	42.8	40.3	-2.7	47.3	33.1	53.9	20.8	100	110	Ant:Y, Mod:Y

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).

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

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

Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.						
Semi Anechoic Chamber	No.3	,	No.3	,	No.3	,	No.3
Date	2011/5/16	,	2011/5/20	,	2011/5/20	,	2011/5/22
Temperature / Humidity	23deg.C , 45%RH	,	26deg.C , 40%RH	,	25deg.C , 47%RH	,	25deg.C , 43%RH
Engineer	Akio Hayashi	,	Akio Hayashi	,	Akio Hayashi	,	Minoru Nakatake
Frequency Band	(1-13GHz)	,	(13-18GHz)	,	(18-40GHz)	,	(30M-1GHz)
Mode	Tx, 5240 MHz 11a, 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.	949.416	QP	23.0	21.2	10.8	30.6	24.4	46.0	21.6	100	258	Ant:Z, Mod:X
Hori.	5350.000	PK	43.0	32.3	15.8	37.0	54.1	73.9	20.2	105	220	Ant:Z, Mod:Y
Hori.	15720.000	PK	52.2	39.7	1.3	37.2	56.0	73.9	17.9	100	330	Ant:Z, Mod:Y
Hori.	20960.000	PK	55.6	40.3	-2.6	47.1	46.2	73.9	27.7	100	61	Ant:Y, Mod:Y
Hori.	5350.000	AV	32.0	32.3	15.8	37.0	43.1	53.9	10.8	105	220	Ant:Z, Mod:Y
Hori.	15720.000	AV	39.0	39.7	1.3	37.2	42.8	53.9	11.1	100	330	Ant:Z, Mod:Y
Hori.	20960.000	AV	41.2	40.3	-2.6	47.1	31.8	53.9	22.1	100	61	Ant:Y, Mod:Y
Vert.	949.155	QP	22.9	21.2	10.8	30.6	24.3	46.0	21.7	100	357	Ant:X, Mod:X
Vert.	5350.000	PK	42.5	32.3	15.8	37.0	53.6	73.9	20.1	112	214	Ant:Z, Mod:X
Vert.	15720.000	PK	49.5	39.7	1.3	37.2	53.3	73.9	20.6	100	36	Ant:Z, Mod:X
Vert.	20960.000	PK	53.9	40.3	-2.6	47.1	44.5	73.9	29.4	100	111	Ant:Y, Mod:Y
Vert.	5350.000	AV	32.2	32.3	15.8	37.0	43.3	53.9	11.2	112	214	Ant:Z, Mod:X
Vert.	15720.000	AV	36.1	39.7	1.3	37.2	39.9	53.9	14.0	100	36	Ant:Z, Mod:X
Vert.	20960.000	AV	40.3	40.3	-2.6	47.1	30.9	53.9	23.0	100	111	Ant:Y, Mod:Y

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).

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

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

Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	,	No.3	,
Date	2011/5/16	,	2011/5/20	,
Temperature / Humidity	23deg.C , 45%RH	,	26deg.C , 40%RH	,
Engineer	Akio Hayashi	,	Akio Hayashi	,
Frequency Band	(1-13GHz)	,	(13-18GHz)	,
Mode	Tx, 5180 MHz 11n(HT20), 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.	943.319	QP	23.1	22.3	10.2	31.1	24.5	46.0	21.5	204	14	Ant:Z, Mod:X
Hori.	5150.000	PK	45.2	32.1	15.6	36.7	56.2	73.9	17.7	106	221	Ant:Z, Mod:Y
Hori.	15540.000	PK	54.3	40.3	1.1	37.1	58.6	73.9	15.3	100	330	Ant:Z, Mod:Y
Hori.	20720.000	PK	53.3	40.3	-2.7	47.4	43.5	73.9	30.4	100	37	Ant:Y, Mod:Y
Hori.	5150.000	AV	33.0	32.1	15.6	36.7	44.0	53.9	9.9	106	221	Ant:Z, Mod:Y
Hori.	15540.000	AV	39.0	40.3	1.1	37.1	43.3	53.9	10.6	100	330	Ant:Z, Mod:Y
Hori.	20720.000	AV	42.8	40.3	-2.7	47.4	33.0	53.9	20.9	100	37	Ant:Y, Mod:Y
Vert.	950.655	QP	20.9	22.3	10.2	31.0	22.4	46.0	23.6	100	93	Ant:X, Mod:X
Vert.	5150.000	PK	43.2	32.1	15.6	36.7	54.2	73.9	19.7	119	119	Ant:Z, Mod:X
Vert.	15540.000	PK	50.4	40.3	1.1	37.1	54.7	73.9	19.2	100	38	Ant:Z, Mod:X
Vert.	20720.000	PK	53.7	40.3	-2.7	47.4	43.9	73.9	30.0	100	125	Ant:Y, Mod:Y
Vert.	5150.000	AV	31.6	32.1	15.6	36.7	42.6	53.9	11.3	119	119	Ant:Z, Mod:X
Vert.	15540.000	AV	35.7	40.3	1.1	37.1	40.0	53.9	13.9	100	38	Ant:Z, Mod:X
Vert.	20720.000	AV	40.2	40.3	-2.7	47.4	30.4	53.9	23.5	100	125	Ant:Y, Mod:Y

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).

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

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

Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.						
Semi Anechoic Chamber	No.3	,	No.3	,	No.3	,	No.1
Date	2011/5/17	,	2011/5/20	,	2011/5/20	,	2011/5/23
Temperature / Humidity	27deg.C , 43%RH	,	26deg.C , 40%RH	,	25deg.C , 47%RH	,	24deg.C , 51%RH
Engineer	Akio Hayashi	,	Akio Hayashi	,	Akio Hayashi	,	Hikaru Shirasawa
Frequency Band	(1-13GHz)	,	(13-18GHz)	,	(18-40GHz)	,	(30M-1GHz)
Mode	Tx, 5200 MHz 11n(HT20), 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.	943.305	QP	23.1	22.3	10.2	31.1	24.5	46.0	21.5	127	21	Ant:Z, Mod:X
Hori.	15600.000	PK	54.5	40.1	1.2	37.1	58.7	73.9	15.2	100	332	Ant:Z, Mod:Y
Hori.	20800.000	PK	52.6	40.3	-2.7	47.3	42.9	73.9	31.0	100	37	Ant:Y, Mod:Y
Hori.	15600.000	AV	38.4	40.1	1.2	37.1	42.6	53.9	11.3	100	332	Ant:Z, Mod:Y
Hori.	20800.000	AV	42.0	40.3	-2.7	47.3	32.3	53.9	21.6	100	37	Ant:Y, Mod:Y
Vert.	950.655	QP	23.0	22.3	10.2	31.0	24.5	46.0	21.5	100	91	Ant:X, Mod:X
Vert.	15600.000	PK	50.6	40.1	1.2	37.1	54.8	73.9	19.1	100	31	Ant:Z, Mod:X
Vert.	20800.000	PK	55.6	40.3	-2.7	47.3	45.9	73.9	28.0	100	128	Ant:Y, Mod:Y
Vert.	15600.000	AV	35.6	40.1	1.2	37.1	39.8	53.9	14.1	100	31	Ant:Z, Mod:X
Vert.	20800.000	AV	40.4	40.3	-2.7	47.3	30.6	53.9	23.3	100	128	Ant:Y, Mod:Y

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).

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

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

Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	,	No.3	,
Date	2011/5/17	,	2011/5/20	,
Temperature / Humidity	27deg.C , 43%RH	,	26deg.C , 40%RH	,
Engineer	Akio Hayashi	,	Akio Hayashi	,
Frequency Band	(1-13GHz)	,	(13-18GHz)	,
Mode	Tx, 5240 MHz			
	11n(HT20), 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.	944.164	QP	23.1	22.3	10.2	31.1	24.5	46.0	21.5	190	136	Ant:Z, Mod:X
Hori.	5350.000	PK	42.6	32.3	15.8	37.0	53.7	73.9	20.2	103	223	Ant:Z, Mod:Y
Hori.	15720.000	PK	53.4	39.7	1.3	37.2	57.2	73.9	16.7	100	329	Ant:Z, Mod:Y
Hori.	20960.000	PK	49.6	40.3	-2.6	47.1	40.2	73.9	33.7	100	39	Ant:Y, Mod:Y
Hori.	5350.000	AV	32.0	32.3	15.8	37.0	43.1	53.9	10.8	103	223	Ant:Z, Mod:Y
Hori.	15720.000	AV	37.3	39.7	1.3	37.2	41.1	53.9	12.8	100	329	Ant:Z, Mod:Y
Hori.	20960.000	AV	40.2	40.3	-2.6	47.1	27.7	53.9	23.1	100	39	Ant:Y, Mod:Y
Vert.	950.844	QP	23.0	22.3	10.2	31.0	24.5	46.0	21.5	100	96	Ant:X, Mod:X
Vert.	5350.000	PK	42.7	32.3	15.8	37.0	53.8	73.9	20.1	159	216	Ant:Z, Mod:X
Vert.	15720.000	PK	50.4	39.7	1.3	37.2	54.2	73.9	19.7	100	32	Ant:Z, Mod:X
Vert.	20960.000	PK	50.2	40.3	-2.6	47.1	40.8	73.9	33.1	100	111	Ant:Y, Mod:Y
Vert.	5350.000	AV	31.6	32.3	15.8	37.0	42.7	53.9	11.2	159	216	Ant:Z, Mod:X
Vert.	15720.000	AV	34.9	39.7	1.3	37.2	38.7	53.9	15.2	100	32	Ant:Z, Mod:X
Vert.	20960.000	AV	38.5	40.3	-2.6	47.1	29.1	53.9	24.8	100	111	Ant:Y, Mod:Y

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).

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

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

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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Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	,	No.3	,
Date	2011/5/16	,	2011/5/20	,
Temperature / Humidity	23deg.C , 45%RH	,	26deg.C , 40%RH	,
Engineer	Akio Hayashi	,	Akio Hayashi	,
Frequency Band	(1-13GHz)	,	(13-18GHz)	,
Mode	Tx, 5190 MHz 11n(HT40), MCS6			
	No.1	,	No.3	,
	2011/5/23	,	2011/5/20	,
	24deg.C , 51%RH	,	25deg.C , 47%RH	,
	Hikaru Shirasawa	,	Akio Hayashi	,
	(30M-1GHz)	,	(18-40GHz)	,

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.	935.485	QP	21.1	22.2	10.2	31.1	22.4	46.0	23.6	100	2	Ant:Z, Mod:X
Hori.	5150.000	PK	53.7	32.1	15.6	36.7	64.7	73.9	9.2	107	207	Ant:Z, Mod:Y
Hori.	15570.000	PK	48.9	40.2	1.1	37.1	53.1	73.9	20.8	100	328	Ant:Z, Mod:Y
Hori.	20760.000	PK	52.1	40.3	-2.7	47.4	42.3	73.9	31.6	100	39	Ant:Y, Mod:Y
Hori.	5150.000	AV	38.7	32.1	15.6	36.7	49.7	53.9	4.2	107	207	Ant:Z, Mod:Y
Hori.	15570.000	AV	36.8	40.2	1.1	37.1	41.0	53.9	12.9	100	328	Ant:Z, Mod:Y
Hori.	20760.000	AV	41.9	40.3	-2.7	47.4	32.1	53.9	21.8	100	39	Ant:Y, Mod:Y
Vert.	934.620	QP	21.1	22.2	10.2	31.1	22.4	46.0	23.6	100	359	Ant:X, Mod:X
Vert.	5150.000	PK	48.4	32.1	15.6	36.7	59.4	73.9	14.5	130	174	Ant:Z, Mod:X
Vert.	15570.000	PK	46.6	40.2	1.1	37.1	50.8	73.9	23.1	100	31	Ant:Z, Mod:X
Vert.	20760.000	PK	52.4	40.3	-2.7	47.4	42.6	73.9	31.3	100	112	Ant:Y, Mod:Y
Vert.	5150.000	AV	35.6	32.1	15.6	36.7	46.6	53.9	7.3	130	174	Ant:Z, Mod:X
Vert.	15570.000	AV	34.3	40.2	1.1	37.1	38.5	53.9	15.4	100	31	Ant:Z, Mod:X
Vert.	20760.000	AV	38.9	40.3	-2.7	47.4	29.1	53.9	24.8	100	112	Ant:Y, Mod:Y

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).

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

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

Radiated Emission (below 1GHz and above 1GHz Inside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	,	No.3	,
Date	2011/5/17	,	2011/5/20	,
Temperature / Humidity	27deg.C , 43%RH	,	26deg.C , 40%RH	,
Engineer	Akio Hayashi	,	Akio Hayashi	,
Frequency Band	(1-13GHz)	,	(13-18GHz)	,
Mode	Tx, 5230 MHz 11n(HT40), MCS6			
	No.3	,	No.3	,
	2011/5/23	,	2011/5/20	,
	24deg.C , 51%RH	,	25deg.C , 47%RH	,
	Hikaru Shirasawa	,	Akio Hayashi	,
	(30M-1GHz)	,	(18-40GHz)	,

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.	935.029	QP	21.0	22.2	10.2	31.1	22.3	46.0	23.7	100	10	Ant:Z, Mod:X
Hori.	5350.000	PK	43.4	32.3	15.8	37.0	54.5	73.9	19.4	103	209	Ant:Z, Mod:Y
Hori.	15690.000	PK	49.8	39.8	1.3	37.2	53.7	73.9	20.2	100	330	Ant:Z, Mod:Y
Hori.	20920.000	PK	49.6	40.3	-2.6	47.2	40.1	73.9	33.8	100	37	Ant:Y, Mod:Y
Hori.	5350.000	AV	31.9	32.3	15.8	37.0	43.0	53.9	10.9	103	209	Ant:Z, Mod:Y
Hori.	15690.000	AV	35.4	39.8	10.8	37.2	39.3	53.9	14.6	100	330	Ant:Z, Mod:Y
Hori.	20920.000	AV	39.5	40.3	6.9	47.2	30.0	53.9	23.9	100	37	Ant:Y, Mod:Y
Vert.	934.955	QP	21.0	22.2	10.2	31.1	22.3	46.0	23.7	100	0	Ant:X, Mod:X
Vert.	5350.000	PK	43.6	32.3	15.8	37.0	54.7	73.9	19.2	105	349	Ant:Z, Mod:X
Vert.	15690.000	PK	48.2	39.8	1.3	37.2	52.1	73.9	21.8	100	32	Ant:Z, Mod:X
Vert.	20920.000	PK	51.3	40.3	-2.6	47.2	41.8	73.9	32.1	100	108	Ant:Y, Mod:Y
Vert.	5350.000	AV	32.1	32.3	15.8	37.0	43.2	53.9	10.7	105	349	Ant:Z, Mod:X
Vert.	15690.000	AV	33.8	39.8	10.8	37.2	37.7	53.9	16.2	100	32	Ant:Z, Mod:X
Vert.	20920.000	AV	37.4	40.3	6.9	47.2	27.9	53.9	26.0	100	108	Ant:Y, Mod:Y

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).

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

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

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.				
Semi Anechoic Chamber	No.3	,	No.3	,	No.3
Date	2011/5/16	,	2011/5/20	,	2011/5/22
Temperature / Humidity	23deg.C , 45%RH	,	25deg.C , 47%RH	,	25deg.C , 43%RH
Engineer	Akio Hayashi	,	Akio Hayashi	,	Minoru Nakatake
Frequency Band	(1-18GHz)	,	(18-40GHz)	,	(30M-1GHz)
Mode	Tx, 5180 MHz 11a, 24Mbps				

[illegible]
$$\text{Result[dBuV/m]} = \text{Reading} + \text{Ant Factor} + \text{Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz))} - \text{Gain(Amplifier)}$$
$$\text{Result(EIRP[dBm])} = 10 * \text{LOG}((10^{(\text{Electric Field Strength [dBuV/m] / 20)} * 10^{(-6)} * \text{Distance:3[m]})^2 / 30) * 10^3)$$

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

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

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

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	No.3	No.3	No.3
Date	2011/5/16	2011/5/20	2011/5/20	2011/5/22
Temperature / Humidity	23deg.C , 45%RH	26deg.C , 40%RH	25deg.C , 47%RH	25deg.C , 43%RH
Engineer	Akio Hayashi	Akio Hayashi	Akio Hayashi	Minoru Nakatake
Frequency Band	(1-13GHz)	(13-18GHz)	(18-40GHz)	(30M-1GHz)
Mode	Tx, 5200 MHz 11a, 24Mbps			

[illegible]
$$\text{Result[dBuV/m]} = \text{Reading} + \text{Ant Factor} + \text{Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz))} - \text{Gain(Amplifier)}$$
$$\text{Result(EIRP[dBm])} = 10 * \text{LOG}(\{ 10^{(\text{Electric Field Strength [dBuV/m]} / 20)} * 10^{(-6)} * \text{Distance:3[m]} \} / 30) * 10^3$$

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

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

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

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Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	No.3	No.3	No.3
Date	2011/5/16	2011/5/20	2011/5/20	2011/5/22
Temperature / Humidity	23deg.C , 45%RH	26deg.C , 40%RH	25deg.C , 47%RH	25deg.C , 43%RH
Engineer	Akio Hayashi	Akio Hayashi	Akio Hayashi	Minoru Nakatake
Frequency Band	(1-13GHz)	(13-18GHz)	(18-40GHz)	(30M-1GHz)
Mode	Tx, 5240 MHz 11a, 24Mbps			

[illegible]
$$\text{Result[dBuV/m]} = \text{Reading} + \text{Ant Factor} + \text{Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz))} - \text{Gain(Amplifier)}$$
$$\text{Result(EIRP[dBm])} = 10 * \text{LOG}(\{ 10^{(\text{Electric Field Strength [dBuV/m]} / 20)} * 10^{(-6)} * \text{Distance:3[m]} \} / 30) * 10^3$$

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

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

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

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.							
Semi Anechoic Chamber	No.3	,	No.3	,	No.3	,	No.1	
Date	2011/5/16	,	2011/5/20	,	2011/5/20	,	2011/5/23	
Temperature / Humidity	23deg.C , 45%RH	,	26deg.C , 40%RH	,	25deg.C , 47%RH	,	24deg.C , 51%RH	
Engineer	Akio Hayashi	,	Akio Hayashi	,	Akio Hayashi	,	Hikaru Shirasawa	
Frequency Band	(1-13GHz)	,	(13-18GHz)	,	(18-40GHz)	,	(30M-1GHz)	
Mode	Tx, 5180 MHz							
	11n(HT20), MCS0							

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP [dBm])	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10360.000	PK	54.8	39.5	8.9	36.7	66.5	-28.73	-7.00	21.7	105	289	Ant:Z, Mod:Z
Hori.	25900.000	PK	45.7	40.7	-1.4	46.8	38.2	-57.03	-7.00	50.0	100	0	Ant:Y, Mod:Y
Hori.	10360.000	AV	43.7	39.5	8.9	36.7	55.4	-39.83	-27.00	12.8	105	289	Ant:Z, Mod:Z
Hori.	25900.000	AV	34.7	40.7	-1.4	46.8	27.2	-68.03	-27.00	41.0	100	0	Ant:Y, Mod:Y
Vert.	10360.000	PK	49.1	39.5	8.9	36.7	60.8	-34.43	-7.00	27.4	106	320	Ant:Z, Mod:X
Vert.	25900.000	PK	44.6	40.7	-1.4	46.8	37.1	-58.13	-7.00	51.1	100	0	Ant:Y, Mod:Y
Vert.	10360.000	AV	39.3	39.5	8.9	36.7	51	-44.23	-27.00	17.2	106	320	Ant:Z, Mod:X
Vert.	25900.000	AV	34.1	40.7	-1.4	46.8	26.6	-68.63	-27.00	41.6	100	0	Ant:Y, Mod:Y

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)
Result(EIRP[dBm])=10*LOG(({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	No.3	No.3	No.1
Date	2011/5/17	2011/5/20	2011/5/20	2011/5/23
Temperature / Humidity	27deg.C , 43%RH	26deg.C , 40%RH	25deg.C , 47%RH	24deg.C , 51%RH
Engineer	Akio Hayashi	Akio Hayashi	Akio Hayashi	Hikaru Shirasawa
Frequency Band	(1-13GHz)	(13-18GHz)	(18-40GHz)	(30M-1GHz)
Mode	Tx, 5200 MHz 11n(HT20), MCS0			

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP [dBm])	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10400.000	PK	54.2	39.6	8.9	36.7	66	-29.23	-7.00	22.2	113	42	Ant:Z, Mod:Z
Hori.	26000.000	PK	45.2	40.7	-1.4	46.8	37.7	-57.53	-7.00	50.5	100	0	Ant:Y, Mod:Y
Hori.	10400.000	AV	44.6	39.6	8.9	36.7	56.4	-38.83	-27.00	11.8	113	42	Ant:Z, Mod:Z
Hori.	26000.000	AV	34.5	40.7	-1.4	46.8	27	-68.23	-27.00	41.2	100	0	Ant:Y, Mod:Y
Vert.	10400.000	PK	52.5	39.6	8.9	36.7	64.3	-30.93	-7.00	23.9	100	302	Ant:Z, Mod:X
Vert.	26000.000	PK	46.5	40.7	-1.4	46.8	39	-56.23	-7.00	49.2	100	0	Ant:Y, Mod:Y
Vert.	10400.000	AV	42.6	39.6	8.9	36.7	54.4	-40.83	-27.00	13.8	100	302	Ant:Z, Mod:X
Vert.	26000.000	AV	34	40.7	-1.4	46.8	26.5	-68.73	-27.00	41.7	100	0	Ant:Y, Mod:Y

$$\text{Result[dBuV/m]} = \text{Reading} + \text{Ant Factor} + \text{Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz))} - \text{Gain(Amplifier)}$$
$$\text{Result(EIRP[dBm])} = 10 * \text{LOG}((10^{(\text{Electric Field Strength [dBuV/m]} / 20)} * 10^{(-6)} * \text{Distance:3[m]})^2 / 30) * 10^3$$

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

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

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

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.							
Semi Anechoic Chamber	No.3	,	No.3	,	No.3	,	No.1	
Date	2011/5/17	,	2011/5/20	,	2011/5/20	,	2011/5/23	
Temperature / Humidity	27deg.C , 43%RH	,	26deg.C , 40%RH	,	25deg.C , 47%RH	,	24deg.C , 51%RH	
Engineer	Akio Hayashi	,	Akio Hayashi	,	Akio Hayashi	,	Hikaru Shirasawa	
Frequency Band	(1-13GHz)	,	(13-18GHz)	,	(18-40GHz)	,	(30M-1GHz)	
Mode	Tx, 5240 MHz							
	11n(HT20), MCS0							

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP [dBm])	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6986.671	PK	46.1	36	7.1	38.4	50.8	-44.43	-7.00	37.4	123	301	Ant:Z, Mod:Z
Hori.	10480.000	PK	50.3	39.8	9.1	36.6	62.6	-32.63	-7.00	25.6	103	72	Ant:Z, Mod:Z
Hori.	26200.000	PK	48.8	40.4	-1.4	46.9	40.9	-54.33	-7.00	47.3	100	0	Ant:Y, Mod:Y
Hori.	6986.671	AV	37.7	36	7.1	38.4	42.4	-52.83	-27.00	25.8	123	301	Ant:Z, Mod:Z
Hori.	10480.000	AV	40.6	39.8	9.1	36.6	52.9	-42.33	-27.00	15.3	103	72	Ant:Z, Mod:Z
Hori.	26200.000	AV	35.6	40.4	-1.4	46.9	27.7	-67.53	-27.00	40.5	100	0	Ant:Y, Mod:Y
Vert.	6986.671	PK	48.7	36	7.1	38.4	53.4	-41.83	-7.00	34.8	157	305	Ant:Z, Mod:X
Vert.	10480.000	PK	47.9	39.8	9.1	36.6	60.2	-35.03	-7.00	28.0	157	305	Ant:Z, Mod:X
Vert.	26200.000	PK	47.9	40.4	-1.4	46.9	40	-55.23	-7.00	48.2	100	0	Ant:Y, Mod:Y
Vert.	6986.671	AV	41.1	36	7.1	38.4	45.8	-49.43	-27.00	22.4	157	305	Ant:Z, Mod:X
Vert.	10480.000	AV	38.9	39.8	9.1	36.6	51.2	-44.03	-27.00	17.0	157	305	Ant:Z, Mod:X
Vert.	26200.000	AV	36.5	40.4	-1.4	46.9	28.6	-66.63	-27.00	39.6	100	0	Ant:Y, Mod:Y

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)
Result(EIRP[dBm])=10*LOG(({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.			
Semi Anechoic Chamber	No.3	No.3	No.3	No.1
Date	2011/5/16	2011/5/20	2011/5/20	2011/5/23
Temperature / Humidity	23deg.C , 45%RH	26deg.C , 40%RH	25deg.C , 47%RH	24deg.C , 51%RH
Engineer	Akio Hayashi	Akio Hayashi	Akio Hayashi	Hikaru Shirasawa
Frequency Band	(1-13GHz)	(13-18GHz)	(18-40GHz)	(30M-1GHz)
Mode	Tx, 5190 MHz 11n(HT40), MCS6			

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP [dBm])	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10380.000	PK	49.4	39.6	8.9	36.7	61.2	-34.03	-7.00	27.0	102	284	Ant:Z, Mod:Z
Hori.	25950.000	PK	45.7	40.7	8.1	46.8	38.2	-57.03	-7.00	50.0	100	0	Ant:Y, Mod:Y
Hori.	10380.000	AV	39.7	39.6	8.9	36.7	51.5	-43.73	-27.00	16.7	102	284	Ant:Z, Mod:Z
Hori.	25950.000	AV	34.6	40.7	8.1	46.8	27.1	-68.13	-27.00	41.1	100	0	Ant:Y, Mod:Y
Vert.	10380.000	PK	48.8	39.6	8.9	36.7	60.6	-34.63	-7.00	27.6	100	317	Ant:Z, Mod:X
Vert.	25950.000	PK	45.6	40.7	8.1	46.8	38.1	-57.13	-7.00	50.1	100	0	Ant:Y, Mod:Y
Vert.	10380.000	AV	39.3	39.6	8.9	36.7	51.1	-44.13	-27.00	17.1	100	317	Ant:Z, Mod:X
Vert.	25950.000	AV	34.4	40.7	8.1	46.8	26.9	-68.33	-27.00	41.3	100	0	Ant:Y, Mod:Y

$$\text{Result[dBuV/m]} = \text{Reading} + \text{Ant Factor} + \text{Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz))} - \text{Gain(Amplifier)}$$
$$\text{Result(EIRP[dBm])} = 10 * \text{LOG}((10^{(\text{Electric Field Strength [dBuV/m]} / 20)} * 10^{(-6)} * \text{Distance:3[m]})^2 / 30) * 10^3$$

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

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

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

Data of Spurious Emissions (Calculation)(above 1GHz Outside of the restricted band)

Test place	UL Japan, Inc. Shonan EMC Lab.							
Semi Anechoic Chamber	No.3	,	No.3	,	No.3	,	No.1	
Date	2011/5/17	,	2011/5/20	,	2011/5/20	,	2011/5/23	
Temperature / Humidity	27deg.C , 43%RH	,	26deg.C , 40%RH	,	25deg.C , 47%RH	,	24deg.C , 51%RH	
Engineer	Akio Hayashi	,	Akio Hayashi	,	Akio Hayashi	,	Hikaru Shirasawa	
Frequency Band	(1-13GHz)	,	(13-18GHz)	,	(18-40GHz)	,	(30M-1GHz)	
Mode	Tx, 5230 MHz							
	11n(HT40), MCS6							

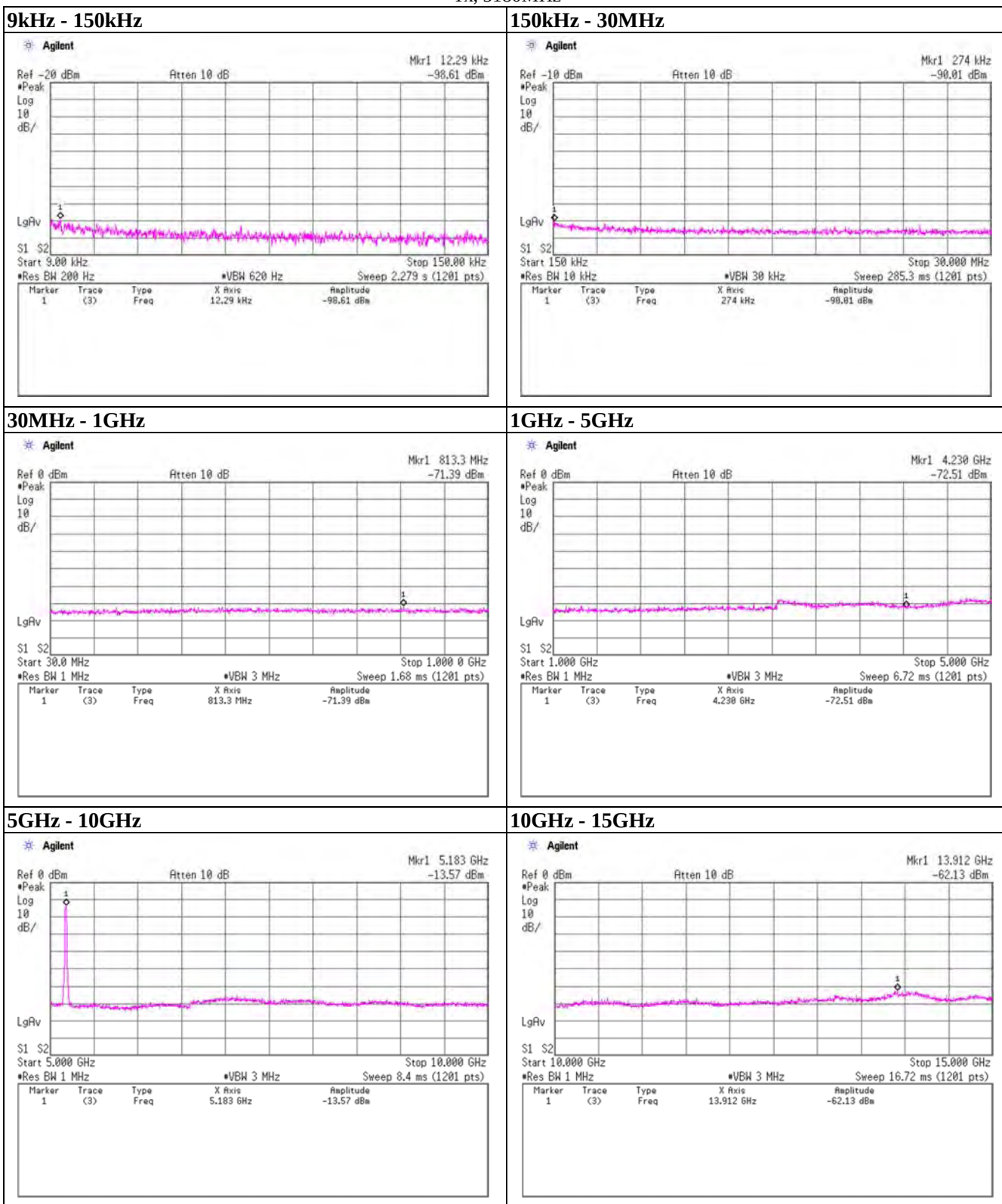
Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP [dBm])	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6973.335	PK	45.8	35.9	7.1	38.4	50.4	-44.83	-7.00	37.8	103	300	Ant:Z, Mod:Z
Hori.	10460.000	PK	50.5	39.8	9.1	36.6	62.8	-32.43	-7.00	25.4	104	73	Ant:Z, Mod:Z
Hori.	26150.000	PK	46.2	40.5	8.1	46.8	38.5	-56.73	-7.00	49.7	100	0	Ant:Y, Mod:Y
Hori.	6973.335	AV	37.8	35.9	7.1	38.4	42.4	-52.83	-27.00	25.8	103	300	Ant:Z, Mod:Z
Hori.	10460.000	AV	40.7	39.8	9.1	36.6	53	-42.23	-27.00	15.2	104	73	Ant:Z, Mod:Z
Hori.	26150.000	AV	35.5	40.5	8.1	46.8	27.8	-67.43	-27.00	40.4	100	0	Ant:Y, Mod:Y
Vert.	6973.335	PK	48.4	35.9	7.1	38.4	53	-42.23	-7.00	35.2	174	0	Ant:Z, Mod:X
Vert.	10460.000	PK	46.8	39.8	9.1	36.6	59.1	-36.13	-7.00	29.1	157	304	Ant:Z, Mod:X
Vert.	26150.000	PK	45.7	40.5	8.1	46.8	38	-57.23	-7.00	50.2	100	0	Ant:Y, Mod:Y
Vert.	6973.335	AV	41.7	35.9	7.1	38.4	46.3	-48.93	-27.00	21.9	174	0	Ant:Z, Mod:X
Vert.	10460.000	AV	38.1	39.8	9.1	36.6	50.4	-44.83	-27.00	17.8	157	304	Ant:Z, Mod:X
Vert.	26150.000	AV	35.4	40.5	8.1	46.8	27.7	-67.53	-27.00	40.5	100	0	Ant:Y, Mod:Y

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)
Result(EIRP[dBm])=10*LOG(({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
Distance factor: 13GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Spurious emission (Conducted)

11a

Tx, 5180MHz



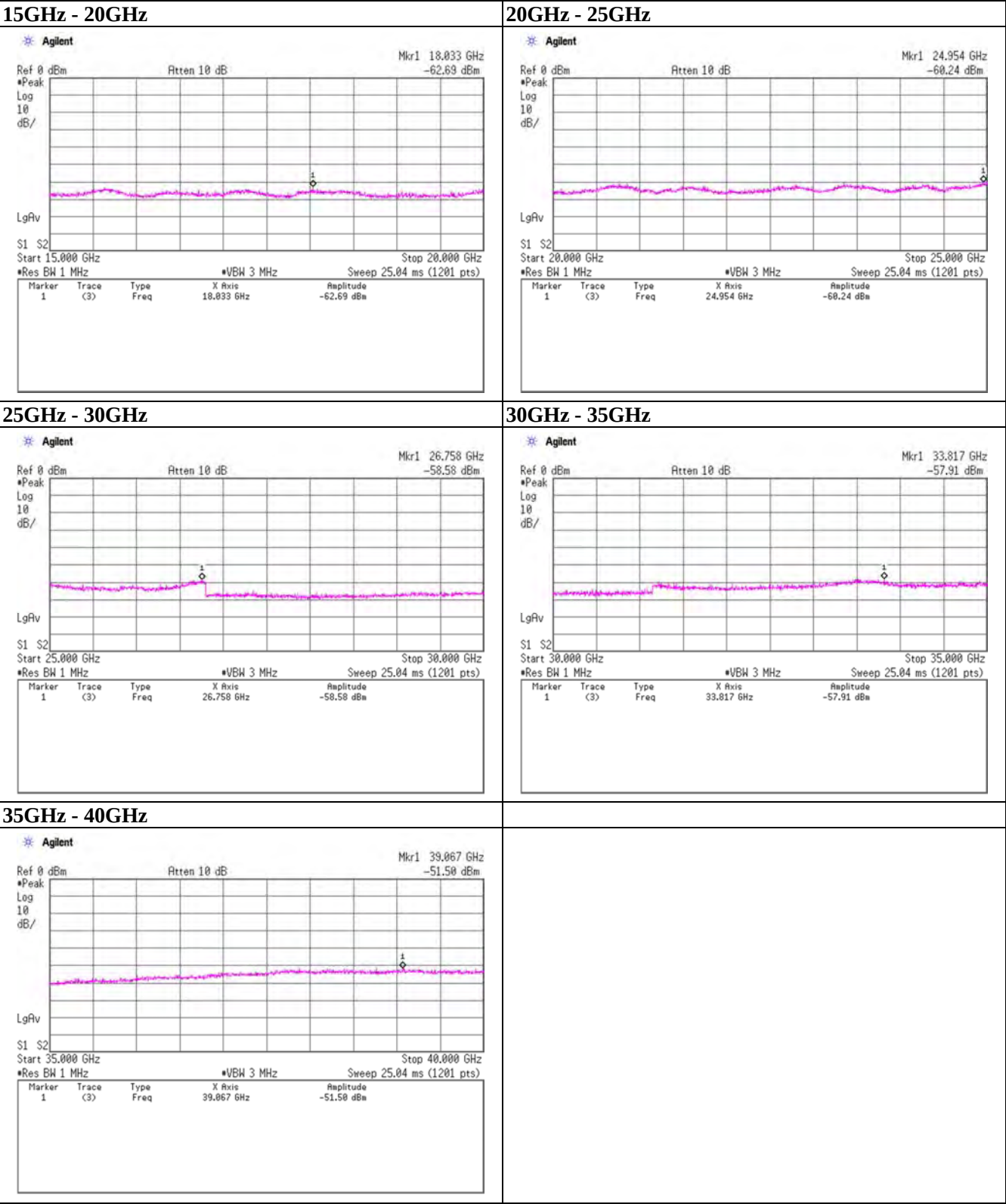
UL Japan, Inc.
Shonan EMC Lab.

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

Spurious emission (Conducted)

11a

Tx, 5180MHz



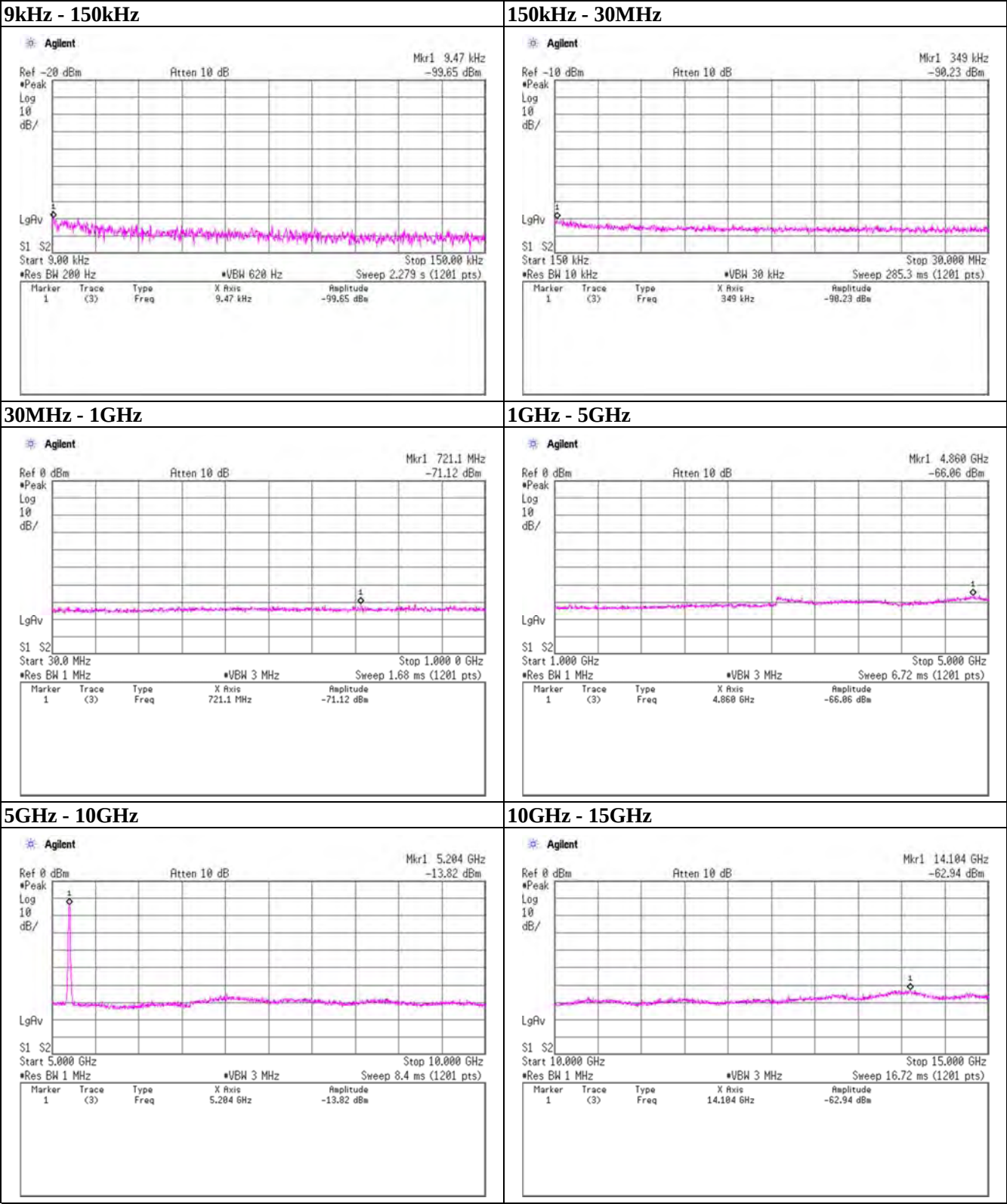
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Spurious emission (Conducted)

11a

Tx, 5200MHz



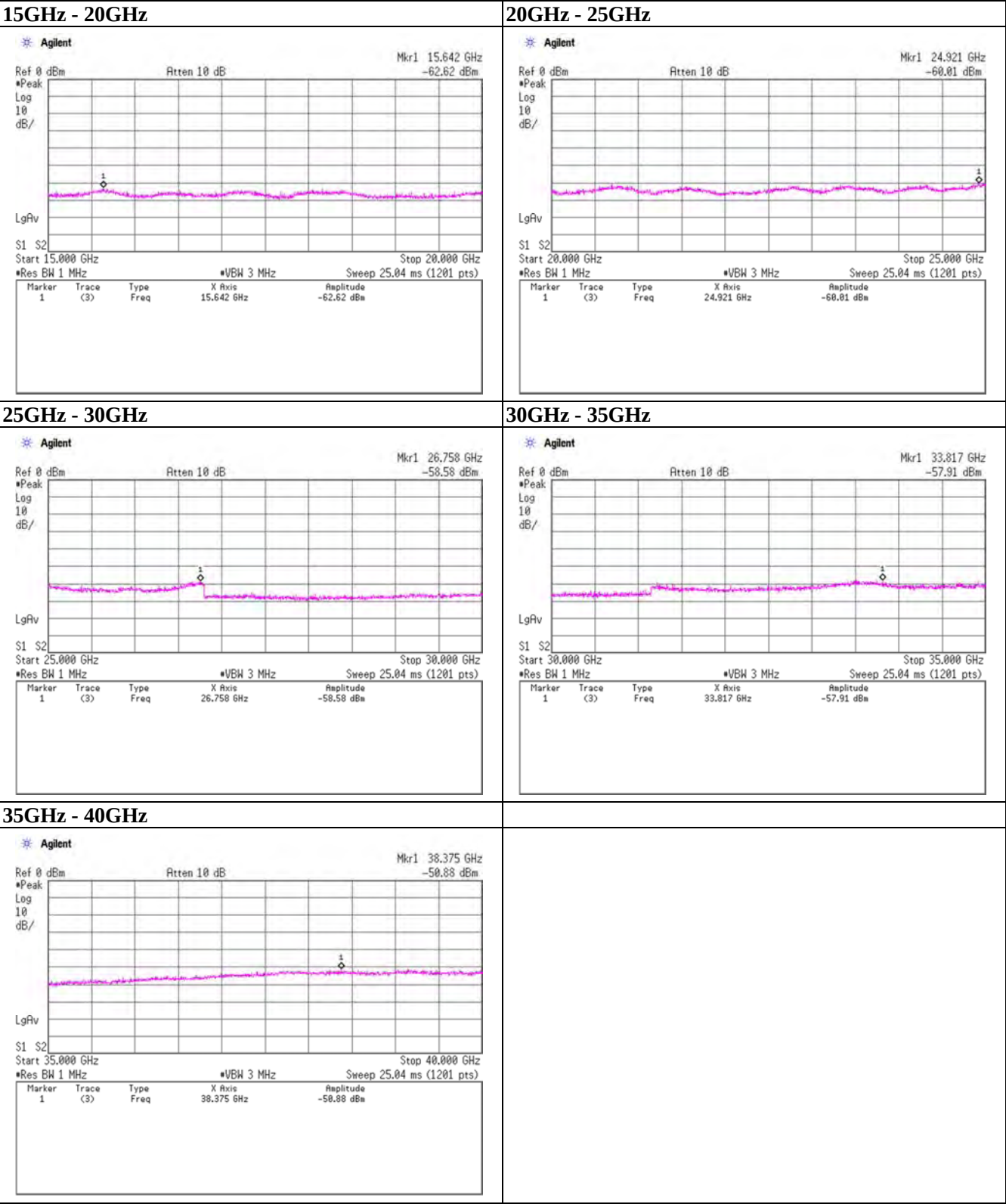
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Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

11a

Tx, 5200MHz



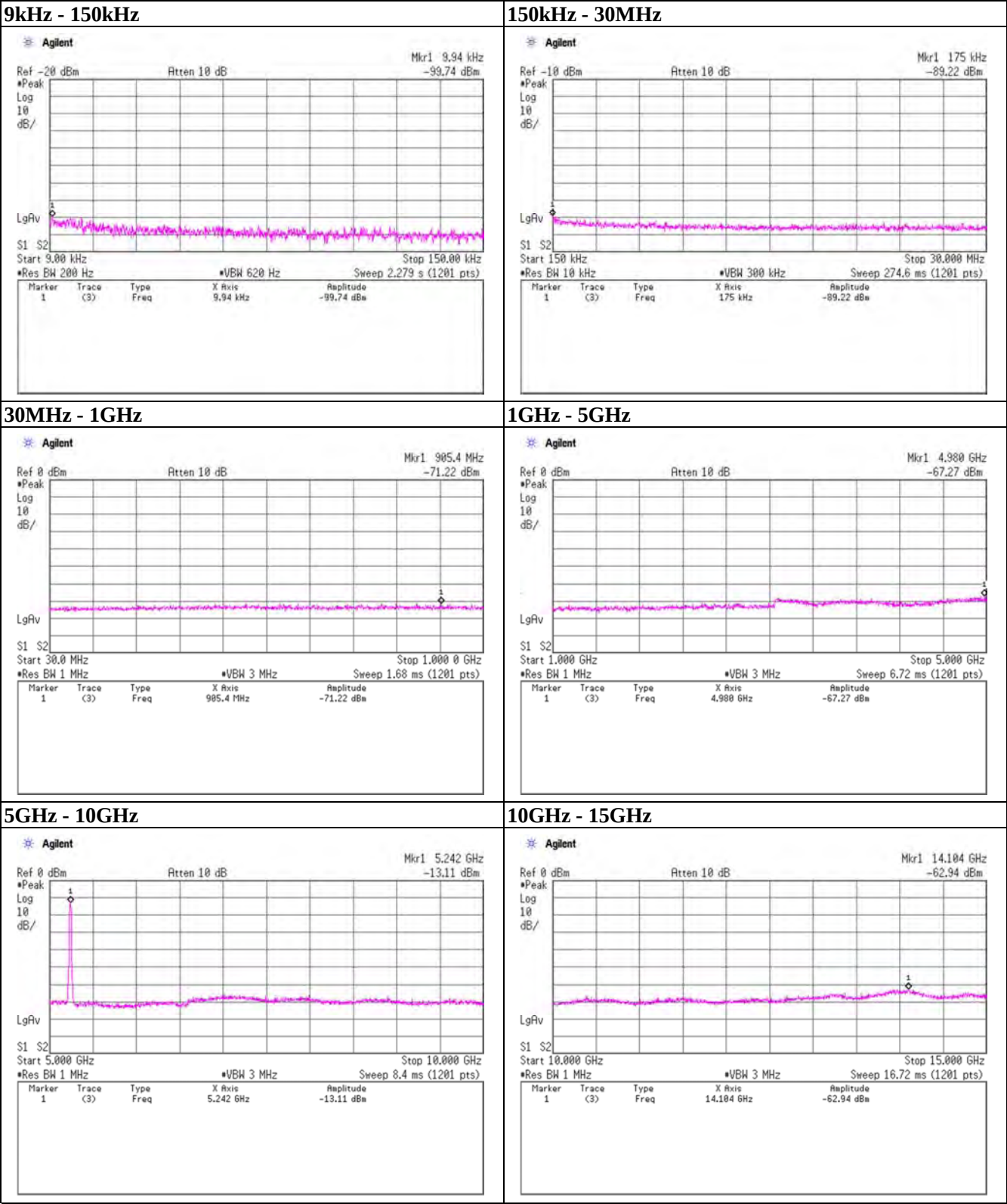
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Spurious emission (Conducted)

11a

Tx, 5240MHz



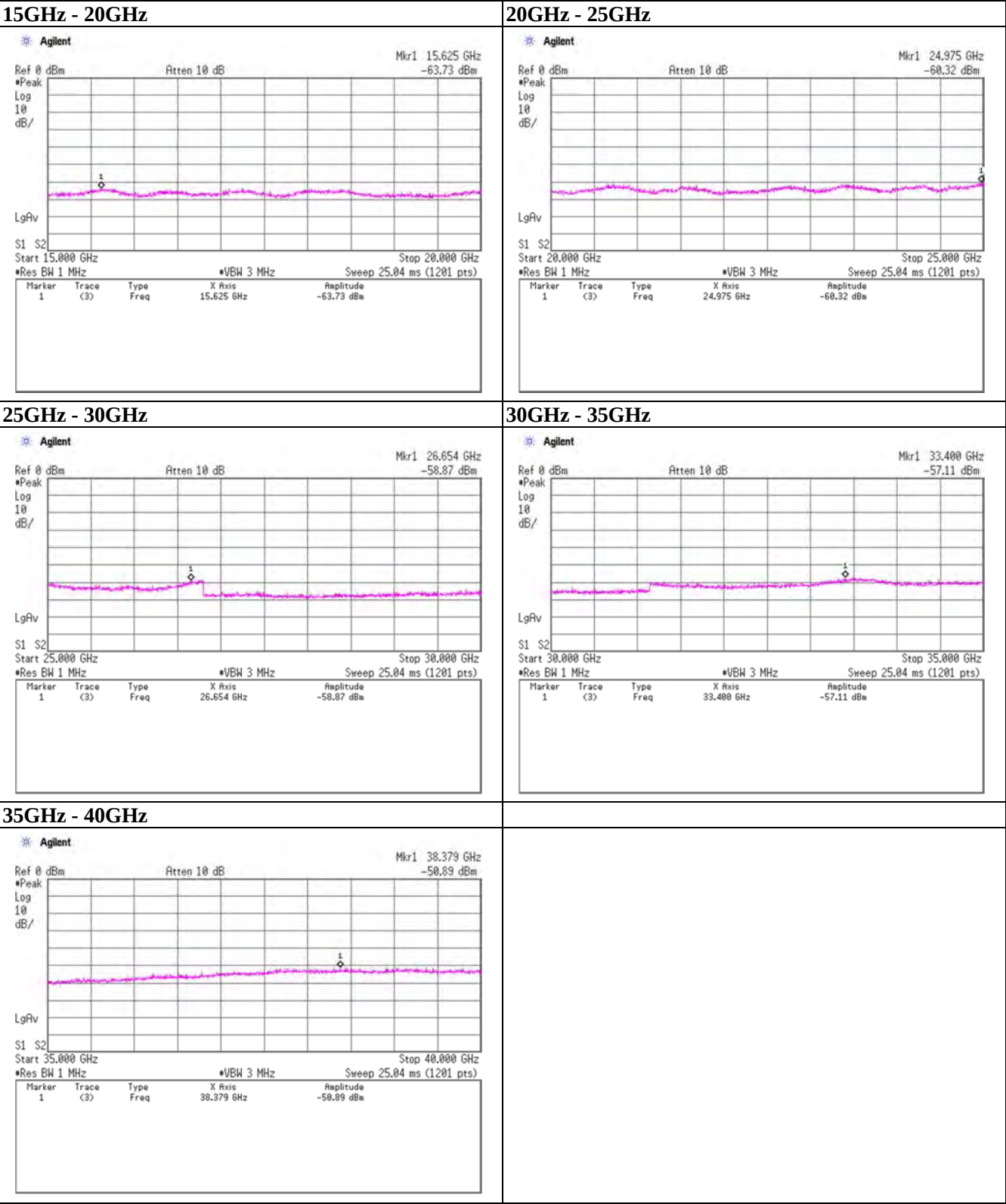
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Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

11a

Tx, 5240MHz

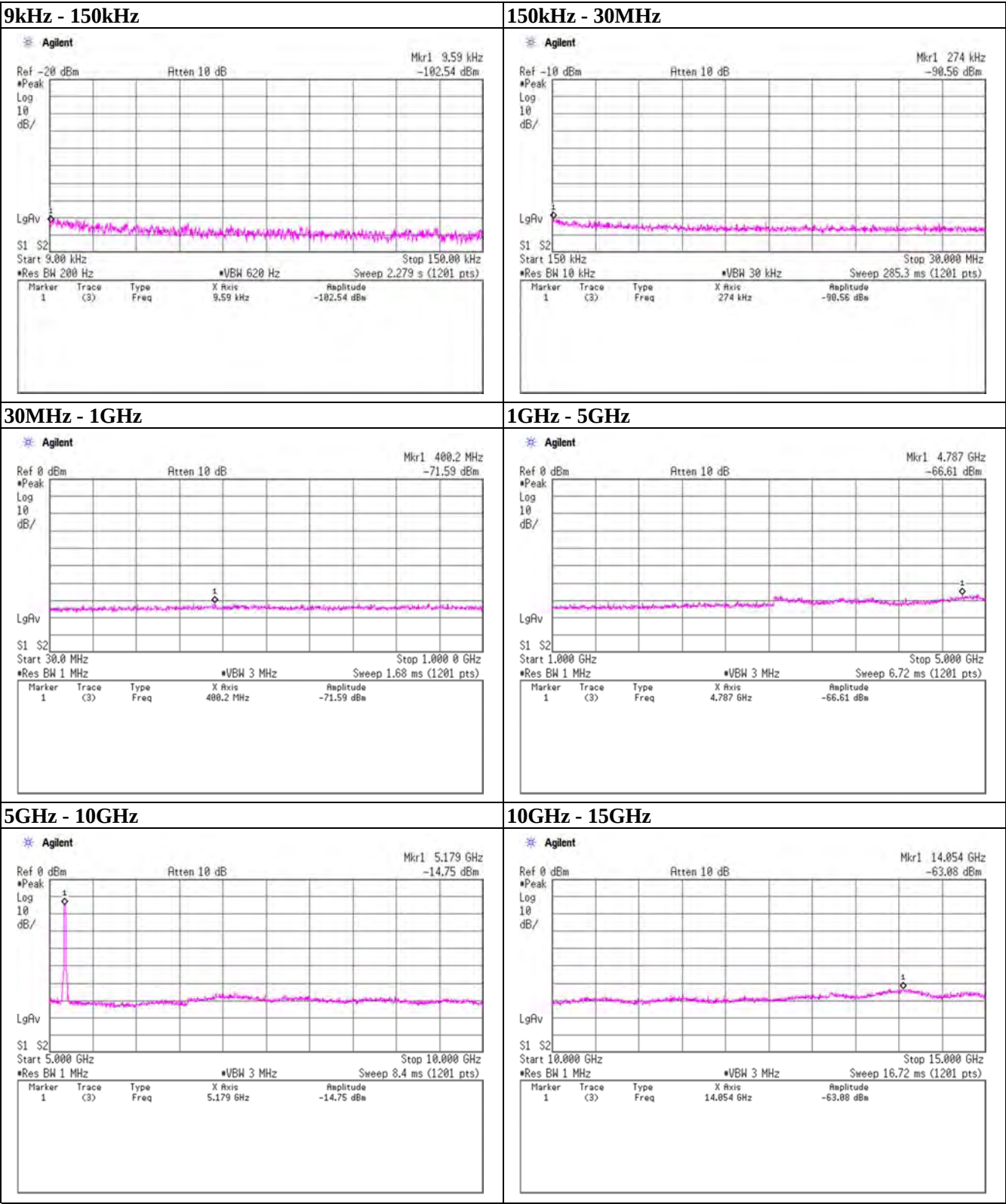


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Spurious emission (Conducted)

11n(HT-20M)
Tx, 5180MHz



UL Japan, Inc.
Shonan EMC Lab.

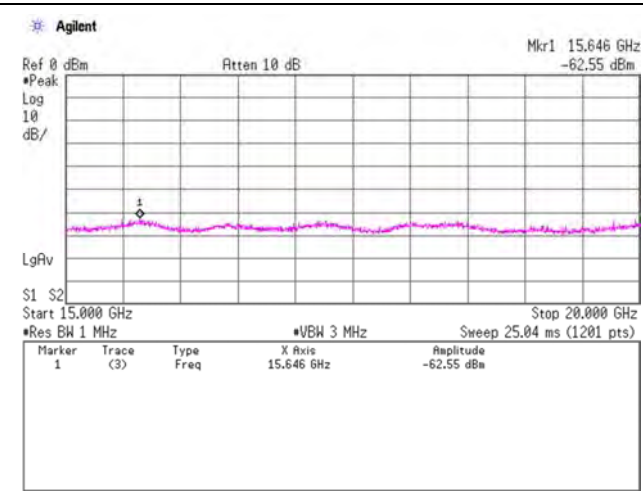
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Spurious emission (Conducted)

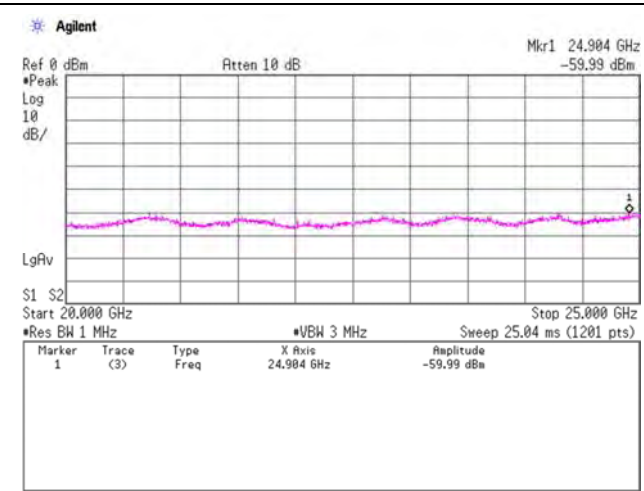
11n(HT-20M)

Tx, 5180MHz

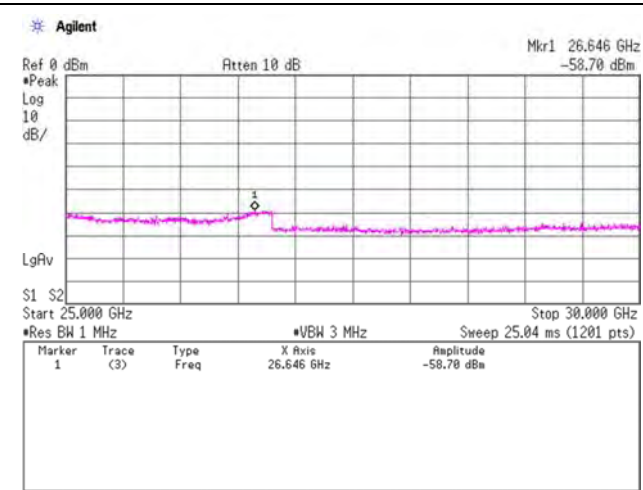
15GHz - 20GHz



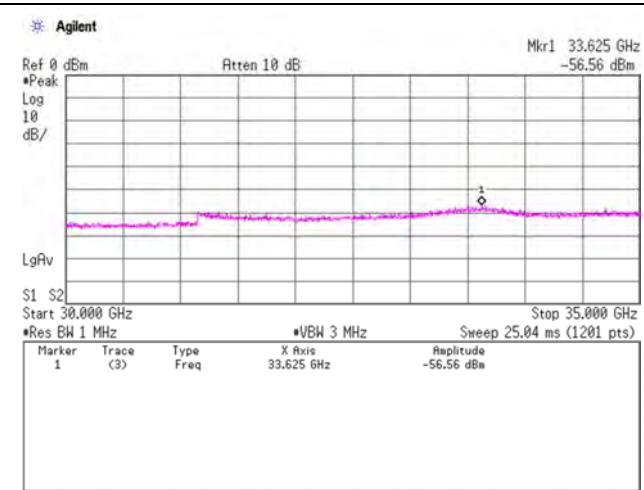
20GHz - 25GHz



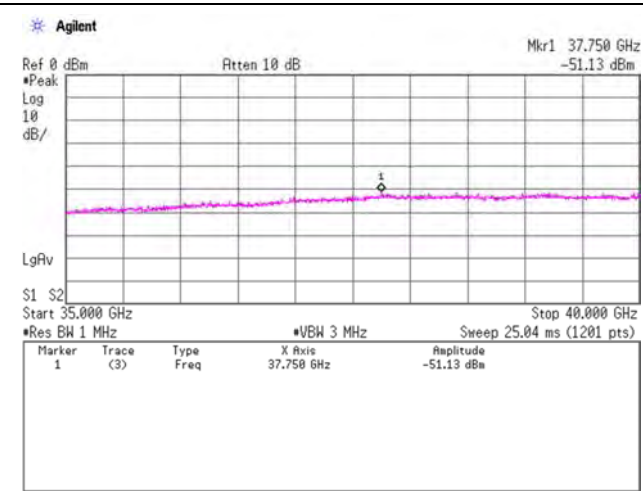
25GHz - 30GHz



30GHz - 35GHz



35GHz - 40GHz



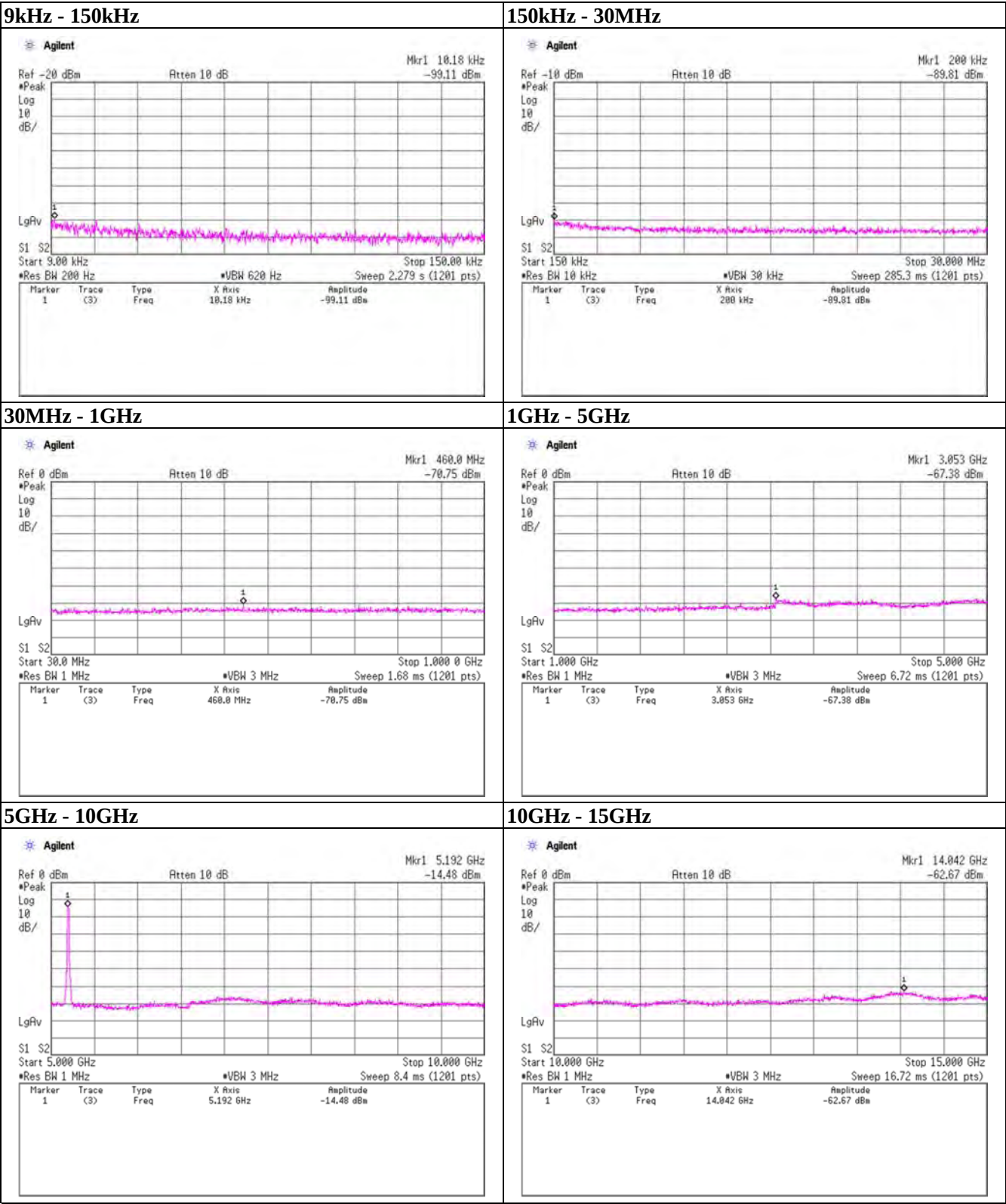
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Spurious emission (Conducted)

11n(HT-20M)

Tx, 5200MHz



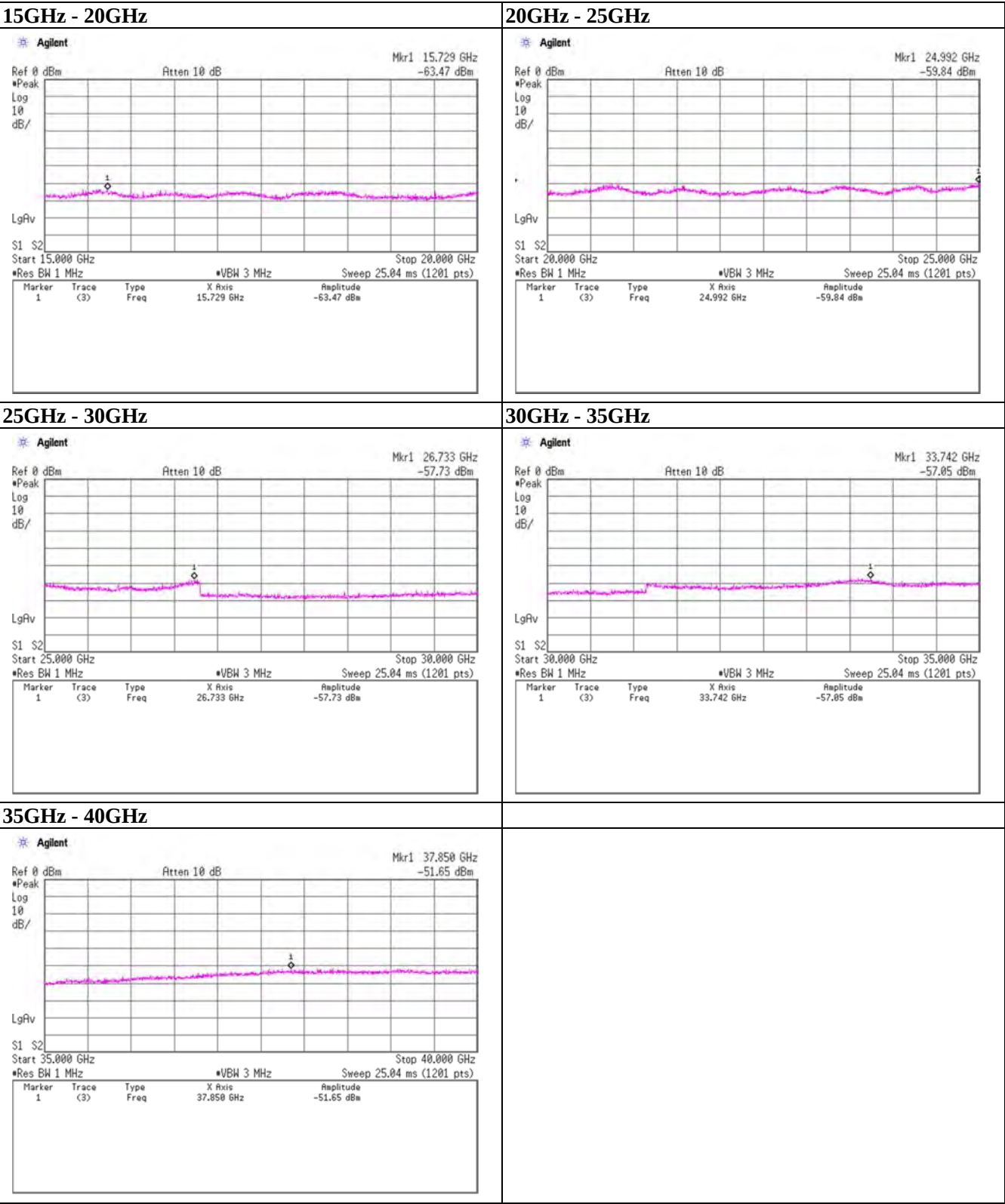
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Spurious emission (Conducted)

11n(HT-20M)

Tx, 5200MHz



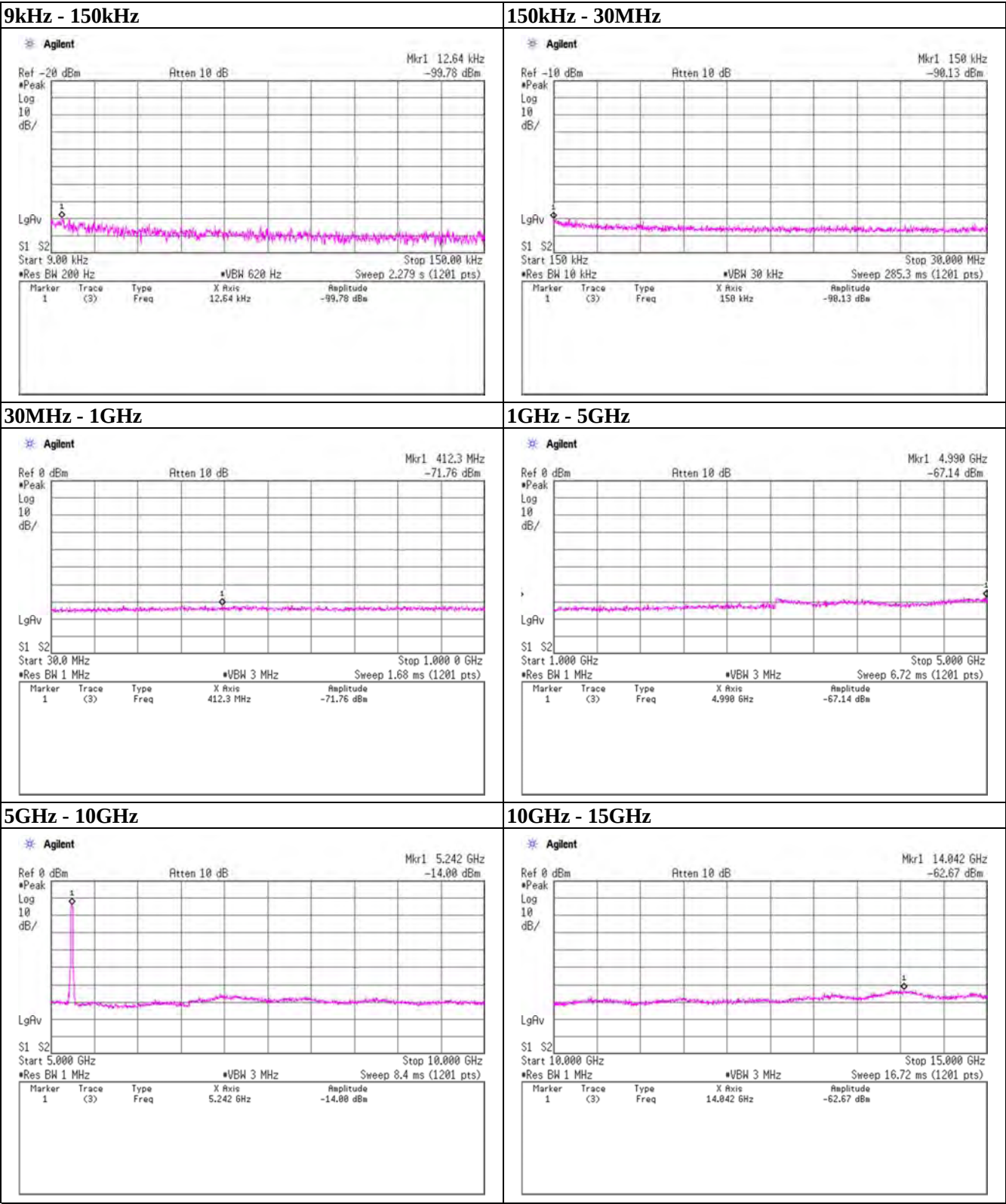
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Spurious emission (Conducted)

11n(HT-20M)

Tx, 5240MHz



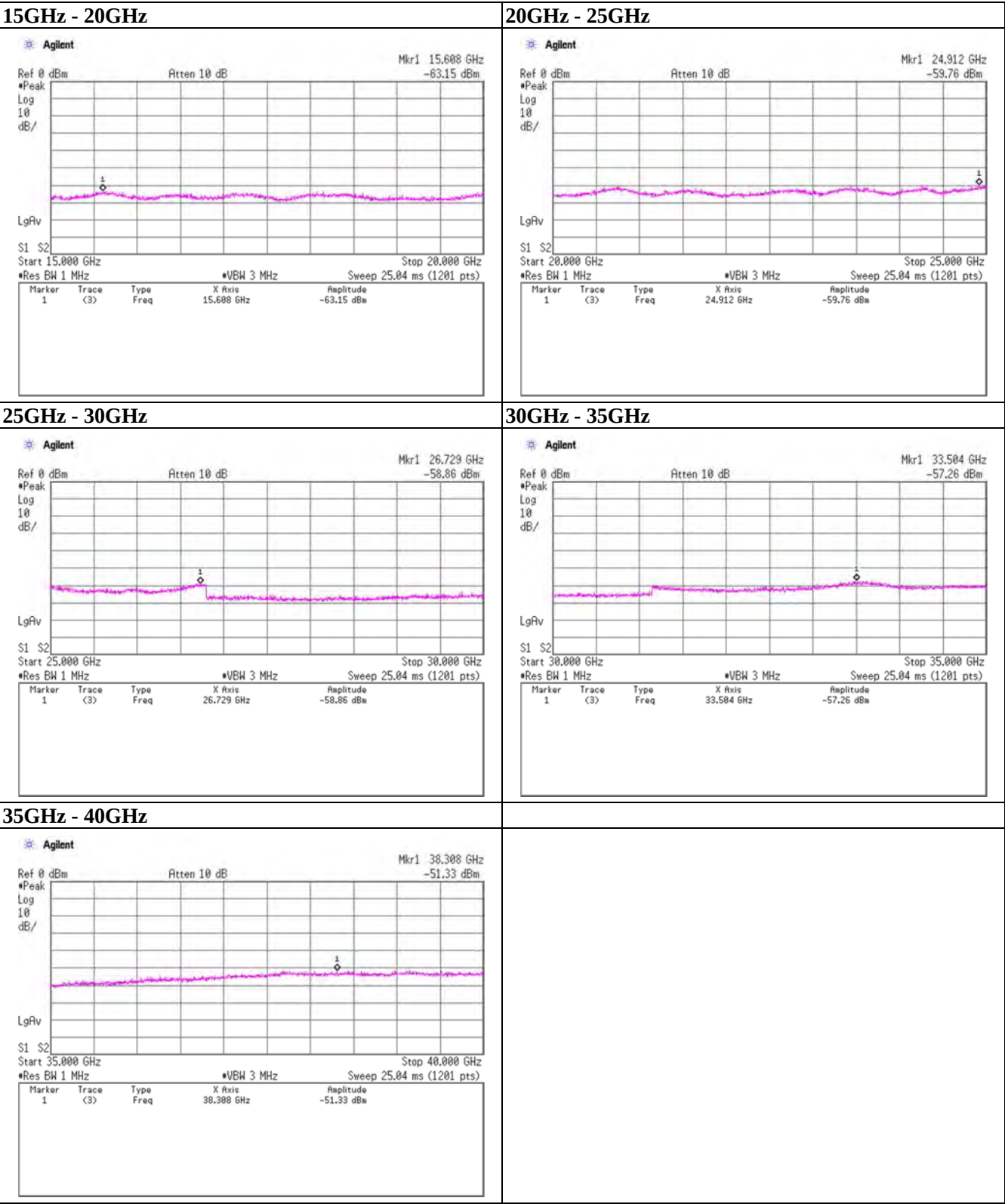
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Spurious emission (Conducted)

11n(HT-20M)

Tx, 5240MHz



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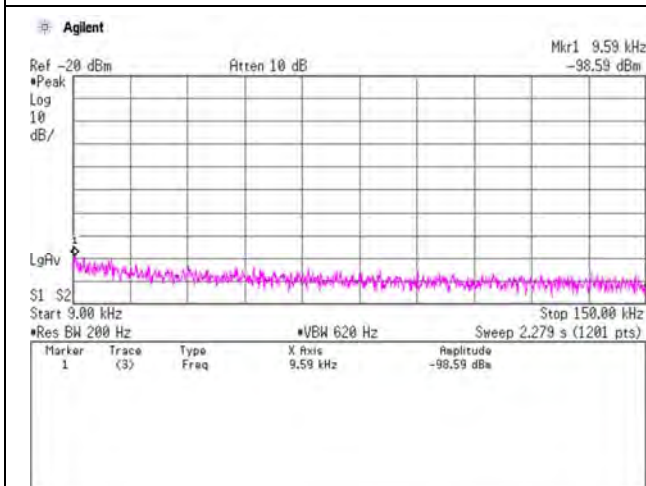
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Facsimile : +81 463 50 6401

Spurious emission (Conducted)

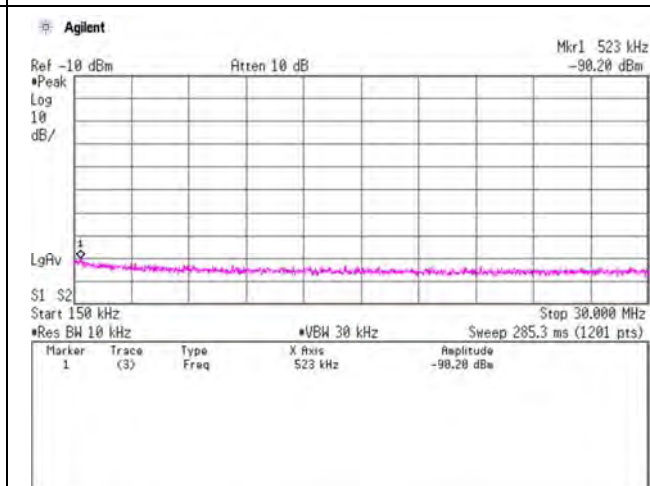
11n(HT-40M)

Tx, 5190MHz

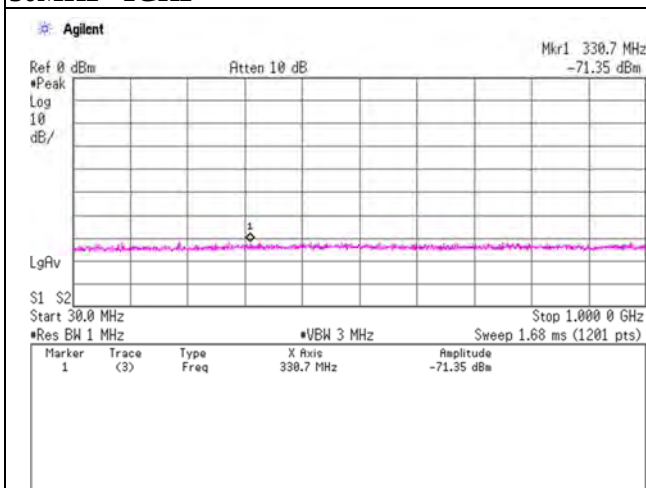
9kHz - 150kHz



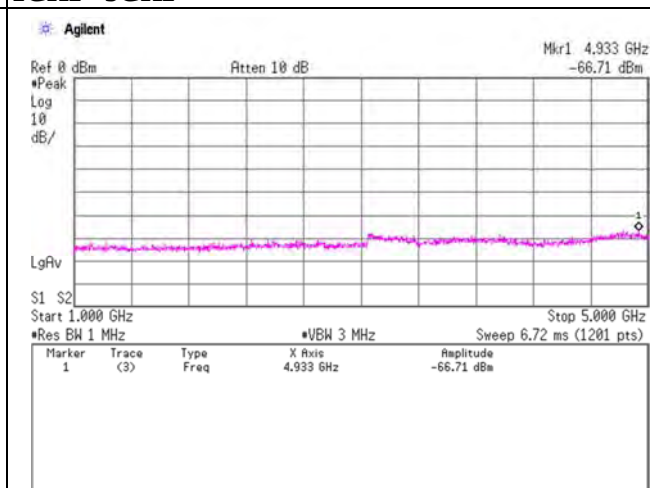
150kHz - 30MHz



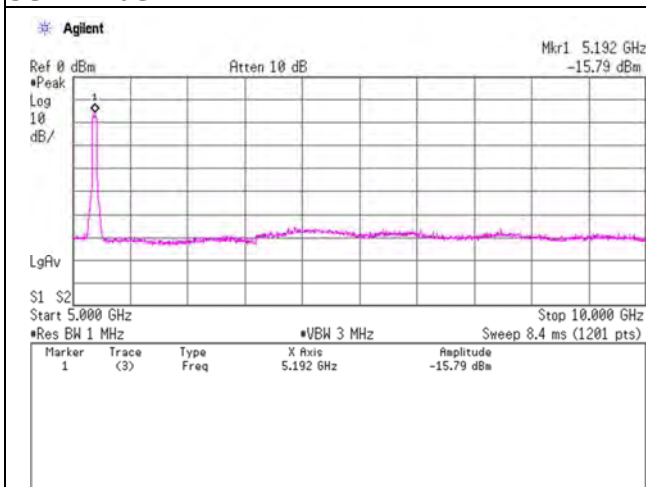
30MHz - 1GHz



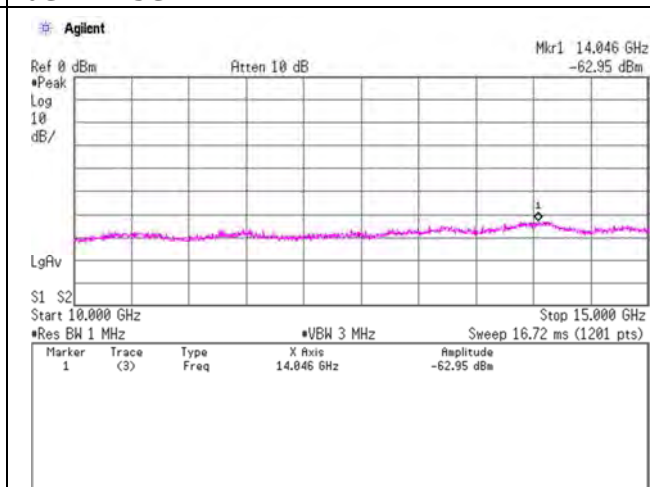
1GHz - 5GHz



5GHz - 10GHz



10GHz - 15GHz

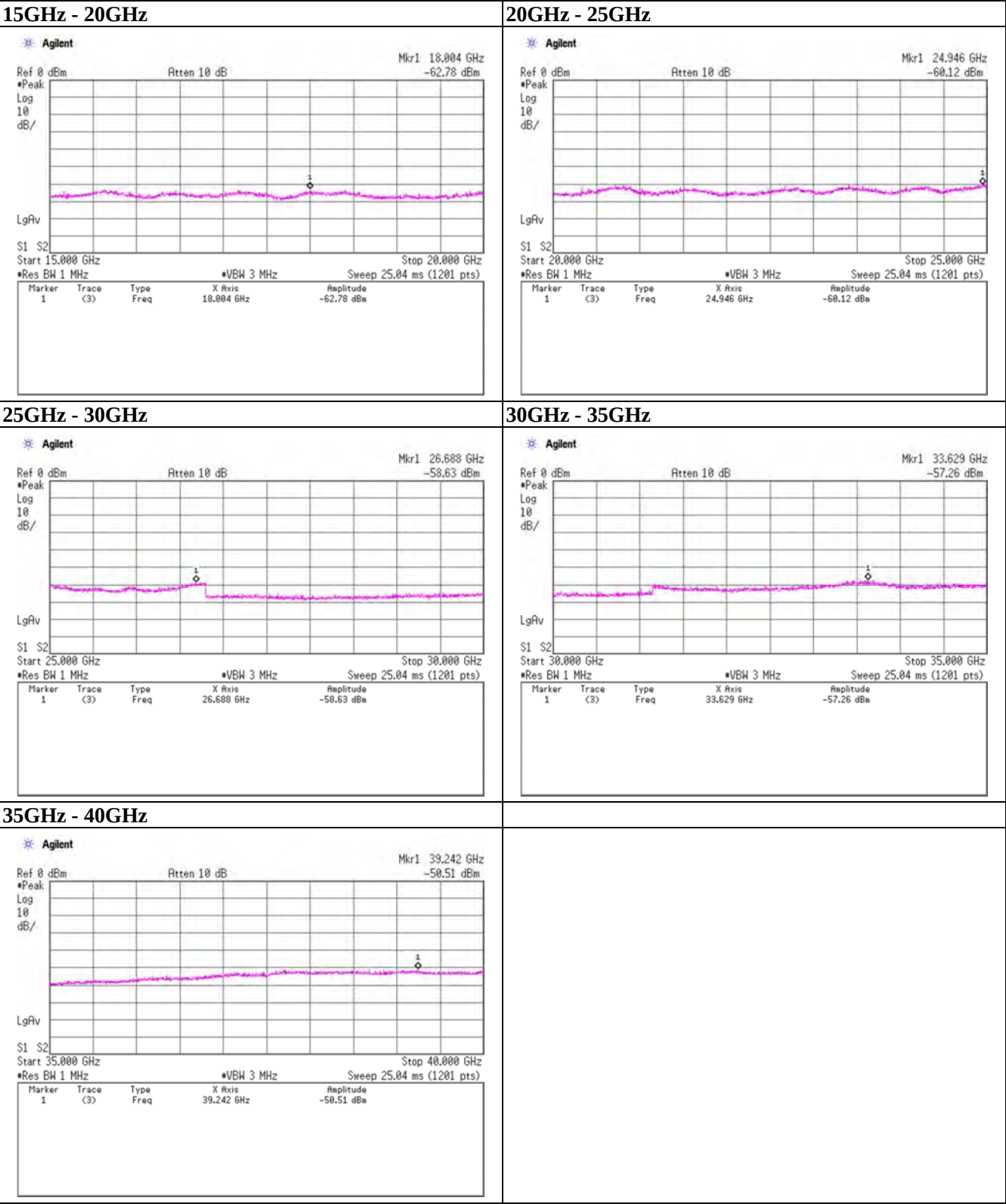


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Spurious emission (Conducted)

11n(HT-40M)
Tx, 5190MHz



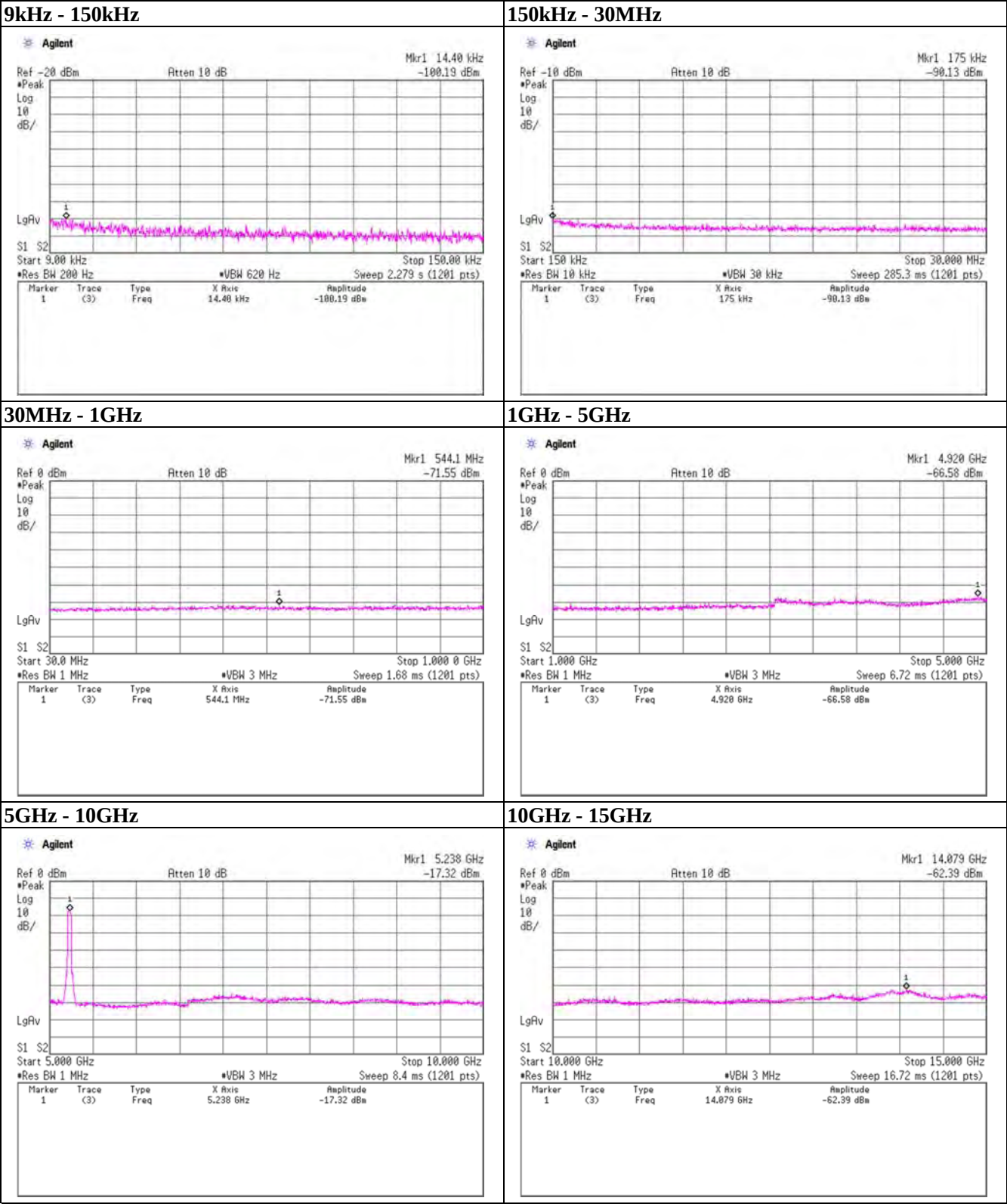
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Facsimile : +81 463 50 6401

Spurious emission (Conducted)

11n(HT-40M)

Tx, 5230MHz

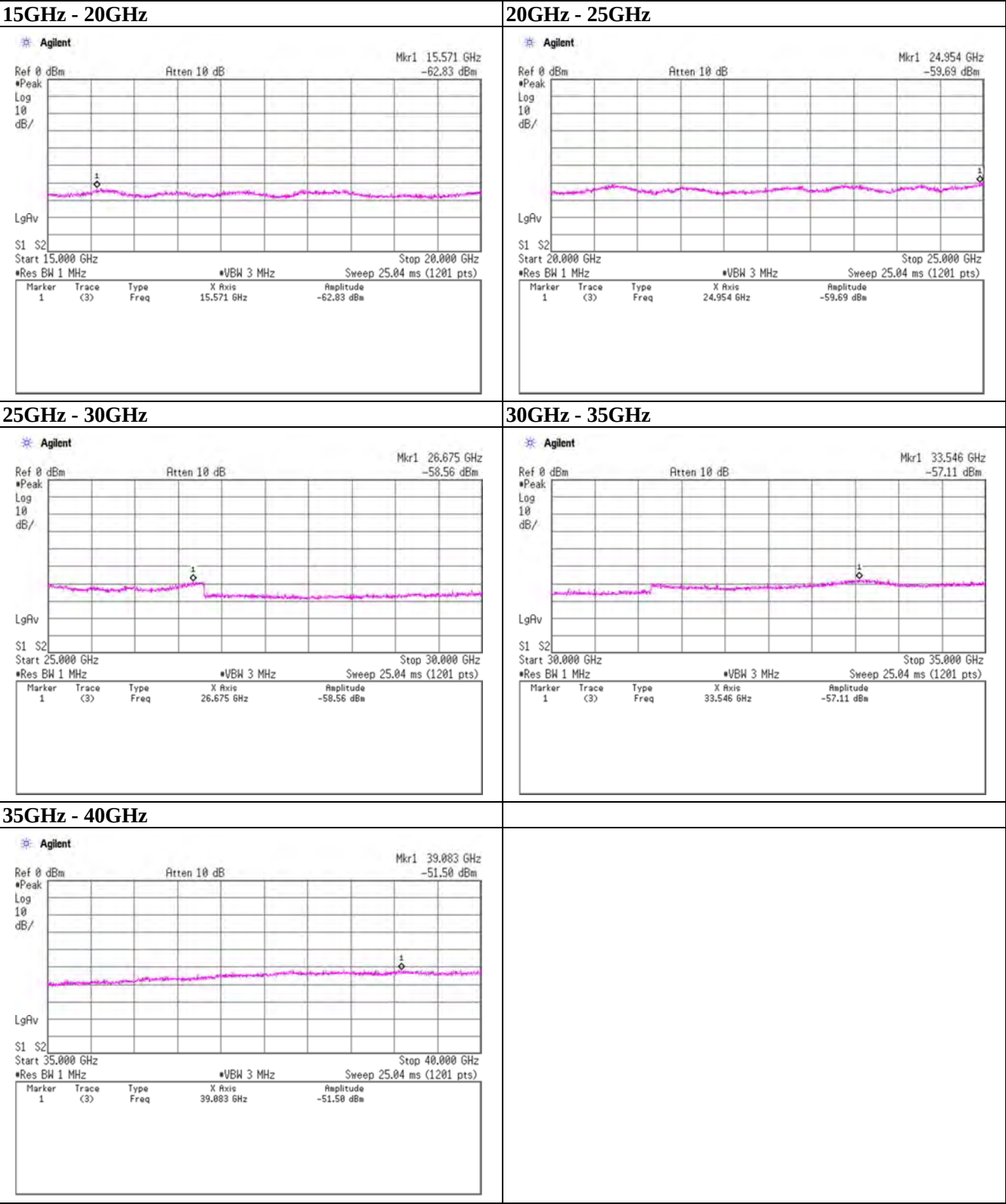


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Spurious emission (Conducted)

11n(HT-40M)
Tx, 5230MHz



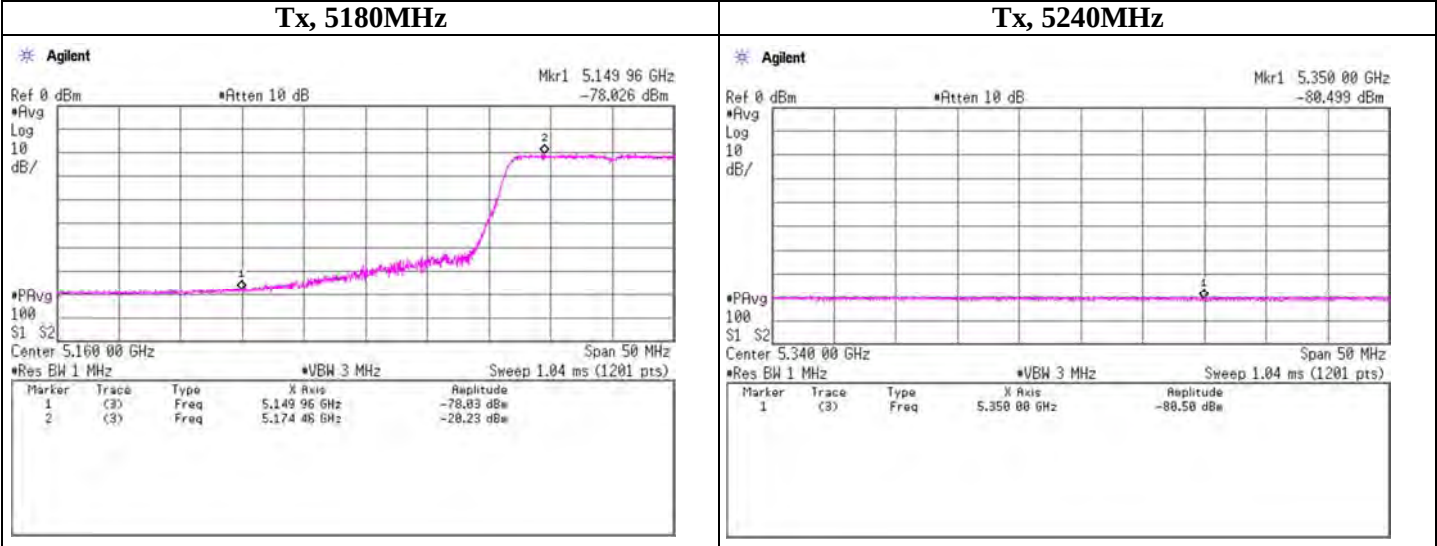
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Telephone : +81 463 50 6400
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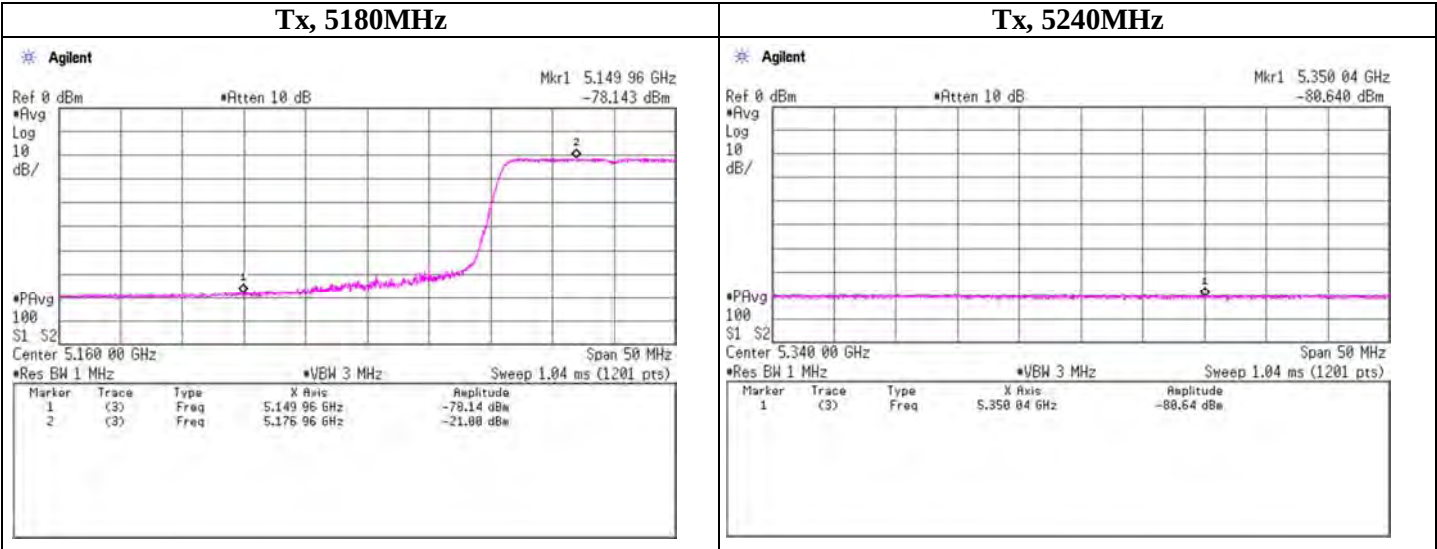
Spurious emission (Conducted)

Band Edge compliance

11a



11n(20HT)



11a

Freq.	Reading	Cable loss	ATT.loss	Ant.Gain	Result	Limit
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5150	-78.03	1.52	20.15	3.71	-52.65	-27.00
5350	-80.50	1.58	20.15	3.71	-55.06	-27.00

11n(20HT)

Freq.	Reading	Cable loss	ATT.loss	Ant.Gain	Result	Limit
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5150	-78.14	1.52	20.15	3.71	-52.76	-27.00
5350	-80.64	1.58	20.15	3.71	-55.20	-27.00

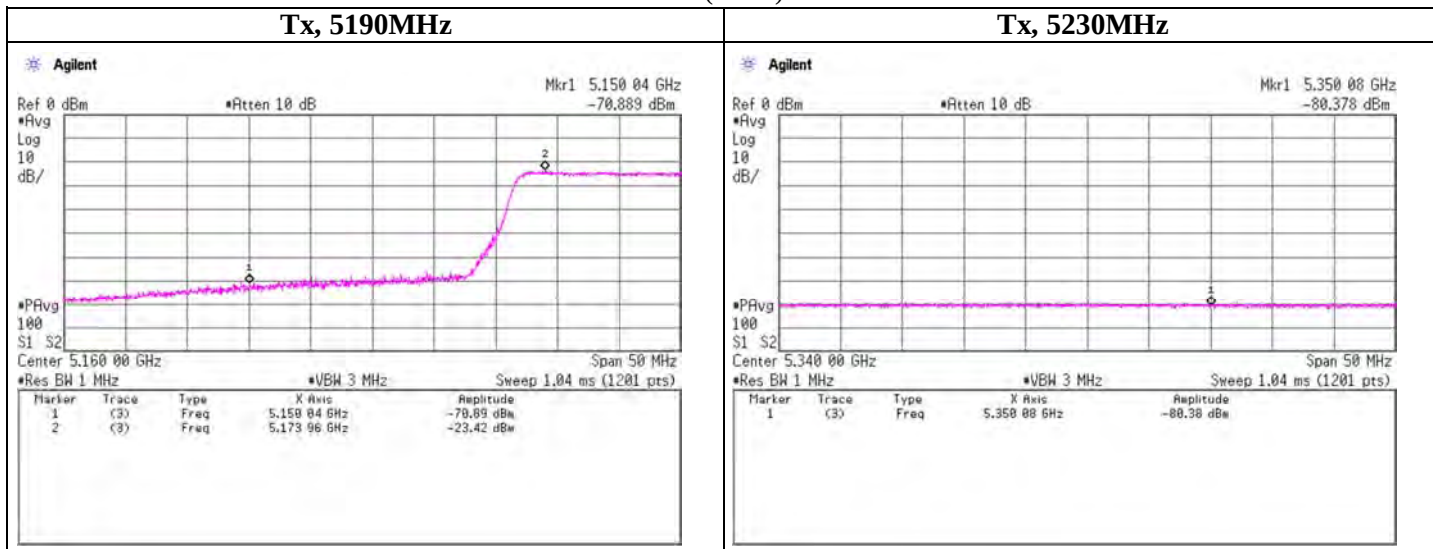
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Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Band Edge compliance

11n(40HT)



11n(40HT)						
Freq.	Reading	Cable loss	ATT.loss	Ant.Gain	Result	Limit
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5150	-70.89	1.52	20.15	3.71	-45.51	-27.00
5350	-80.38	1.58	20.15	3.71	-54.94	-27.00

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Telephone : +81 463 50 6400
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Peak Power Spectral Density

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date May 19, 2011
Temperature / Humidity 24deg.C. , 44%RH
Engineer Hikaru Shirasawa
Mode 11a, Tx

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
5180	5177.71	-23.70	1.70	20.15	-1.85	4.00	5.85
5200	5198.21	-22.84	1.72	20.15	-0.97	4.00	4.97
5240	5239.08	-22.89	1.77	20.15	-0.97	4.00	4.97

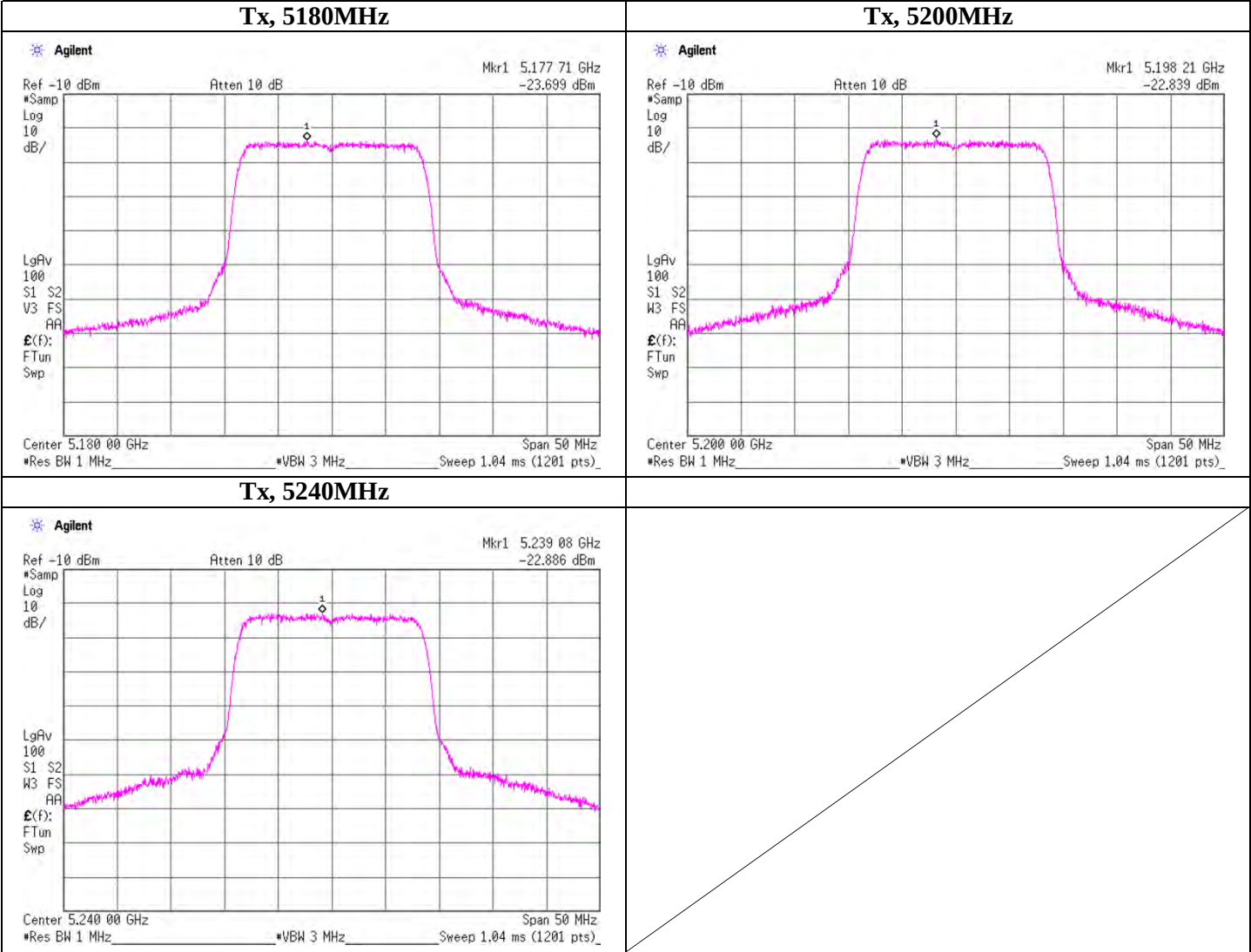
Sample Calculation:
Result = Reading + Cable Loss + Attenuator

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 Power Spectral Density

11a



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 Power Spectral Density

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date May 19, 2011
Temperature / Humidity 24deg.C. , 44%RH
Engineer Hikaru Shirasawa
Mode 11n(HT-20M), Tx

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
5180	5182.50	-23.42	1.70	20.15	-1.57	4.00	5.57
5200	5201.75	-23.70	1.72	20.15	-1.83	4.00	5.83
5240	5234.33	-23.51	1.77	20.15	-1.59	4.00	5.59

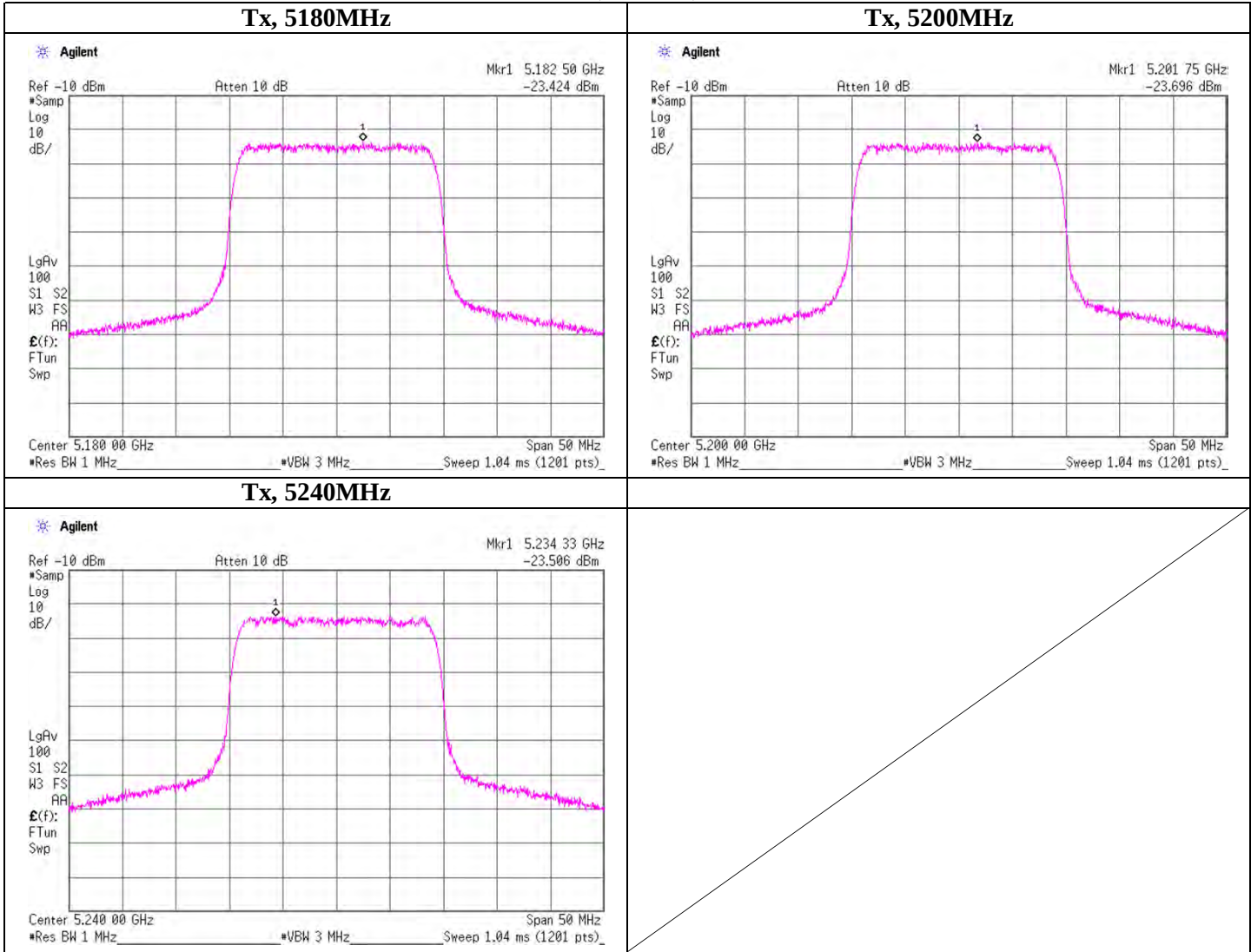
Sample Calculation:
Result = Reading + Cable Loss + Attenuator

UL Japan, Inc.
Shonan EMC Lab.

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Peak Power Spectral Density

11n(HT-20M)



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Peak Power Spectral Density

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date May 19, 2011
Temperature / Humidity 24deg.C. , 44%RH
Engineer Hikaru Shirasawa
Mode 11n(HT-40M), Tx

Ch. Freq.	Freq.	Reading	Cable Loss	Atten.	Result	Limit	Margin
[MHz]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]
5190	5175.75	-27.12	1.70	20.15	-5.27	4.00	9.27
-	-	-	-	-	-	-	-
5230	5223.17	-26.26	1.76	20.15	-4.35	4.00	8.35

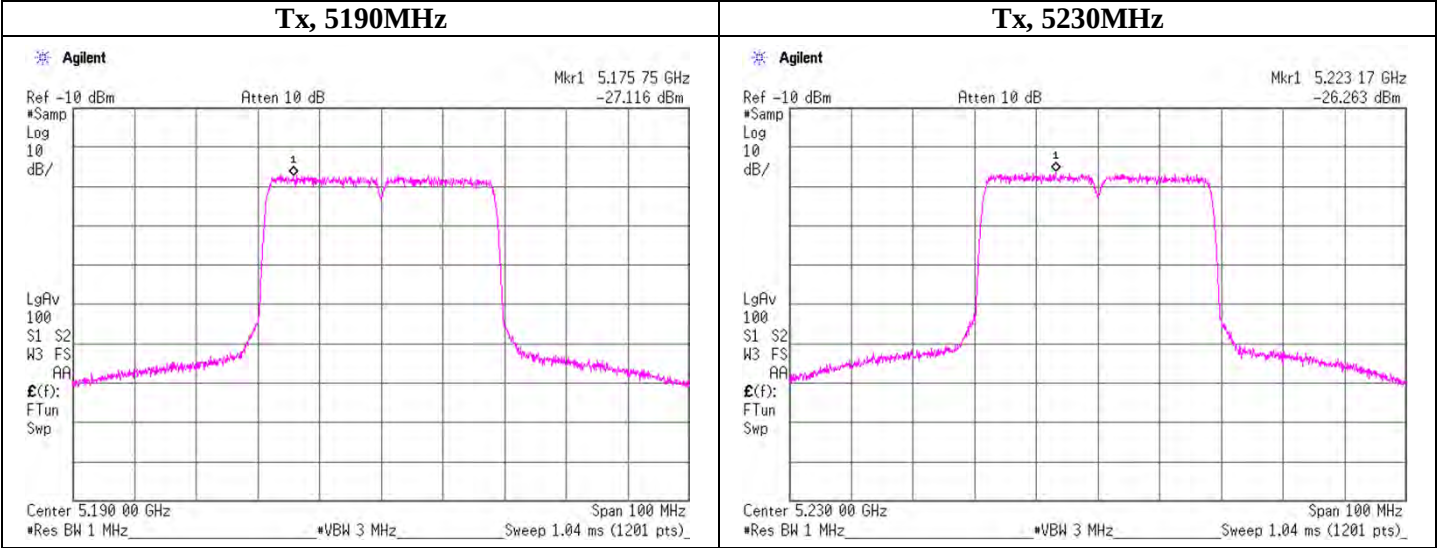
Sample Calculation:
Result = Reading + Cable Loss + Attenuator

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Shonan EMC Lab.

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Peak Power Spectral Density

11n(HT-40M)



UL Japan, Inc.
Shonan EMC Lab.

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Peak Excursion Ratio

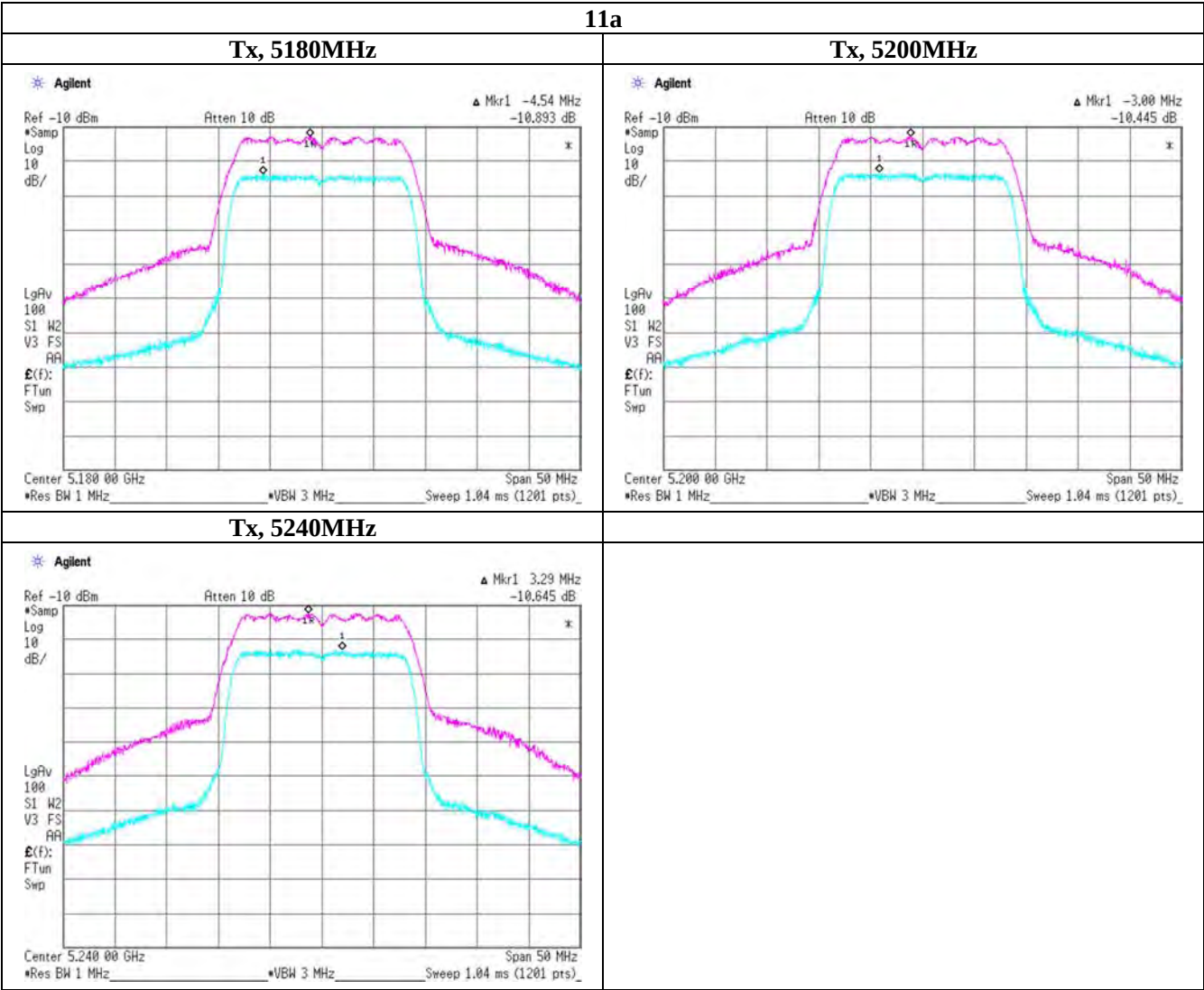
Test place UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date May 19, 2011
Temperature / Humidity 24deg.C. , 44%RH
Engineer Hikaru Shirasawa
Mode 11a, Tx

Freq. [MHz]	Peak Power Excursion [dB]	Limit [dB]
5180.0	10.893	=< 13.0
5200.0	10.445	=< 13.0
5240.0	10.645	=< 13.0

UL Japan, Inc.
Shonan EMC Lab.

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Facsimile : +81 463 50 6401

Peak Excursion Ratio



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 Excursion Ratio

Test place

UL Japan, Inc. Shonan EMC Lab.

No.3 Shielded Room

Date

May 19, 2011

Temperature / Humidity

24deg.C. , 44%RH

Engineer

Hikaru Shirasawa

Mode

11n(HT-20M), Tx

Freq. [MHz]	Peak Power Excursion [dB]	Limit [dB]
5180.0	9.191	=< 13.0
5200.0	9.232	=< 13.0
5240.0	9.410	=< 13.0

UL Japan, Inc.

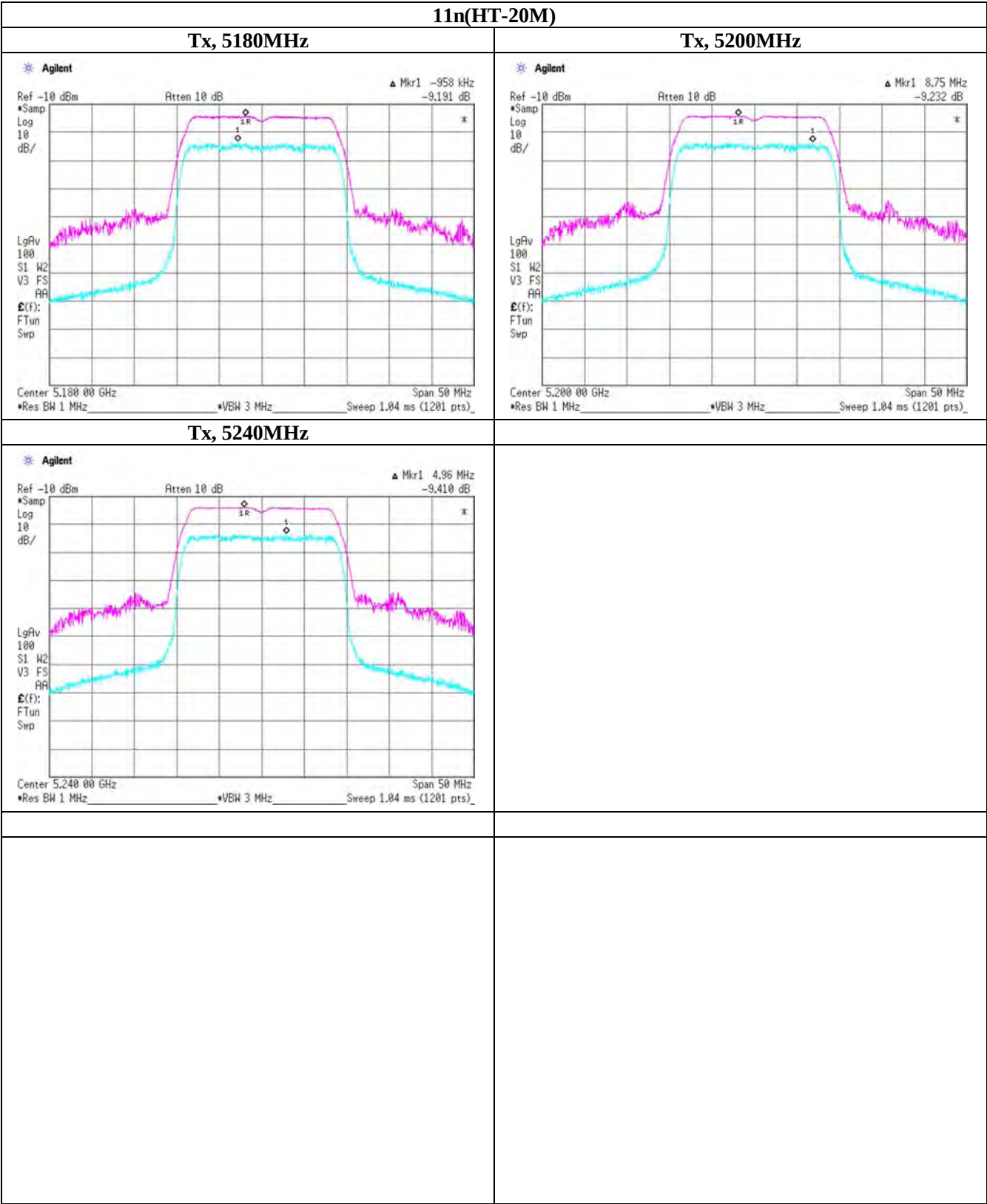
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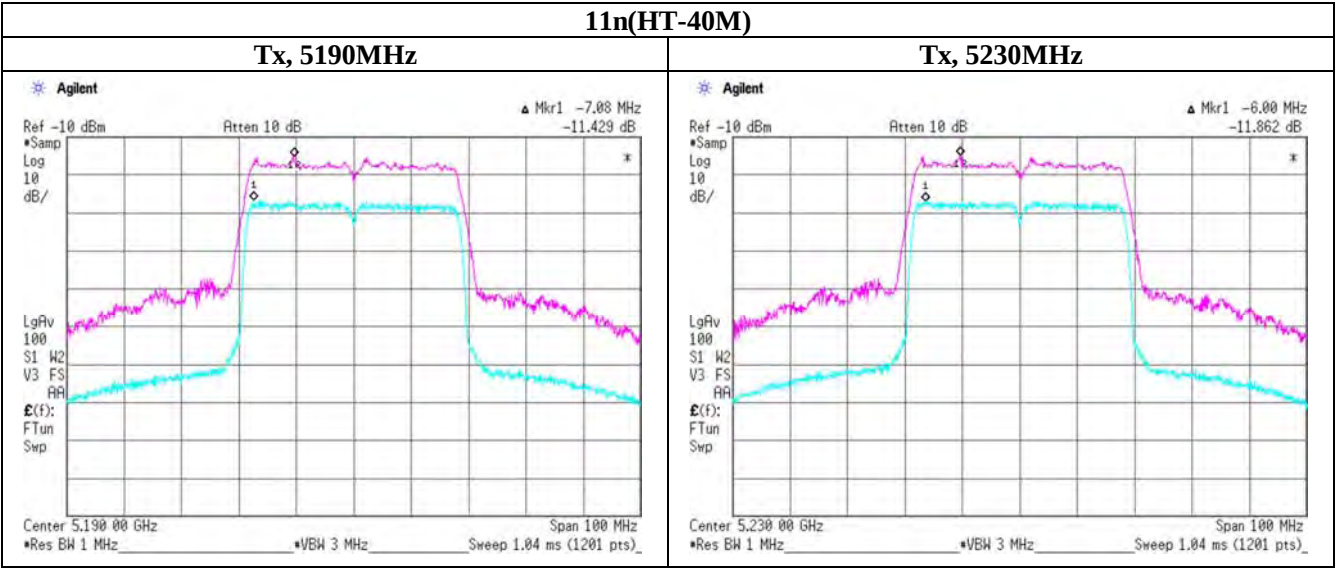
Test place UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date May 19, 2011
Temperature / Humidity 24deg.C. , 44%RH
Engineer Hikaru Shirasawa
Mode 11n(HT-40M), Tx

Freq. [MHz]	Peak Power Excursion [dB]	Limit [dB]
5190.0	11.429	=< 13.0
-	-	-
5230.0	11.862	=< 13.0

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APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2011/04/12 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2011/04/12 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2010/11/16 * 12
SAT20-01	Attenuator(above1GHz)	Agilent	8493C-020	74889	AT	2010/12/15 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	AT, RE	2010/05/27 * 12
SCC-H3	Microwave cable	Hirose Electric	U.FL-2LP-066J1-A-(200)	-	AT	Pre Check
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	AT	2011/03/02 * 12
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2011/03/23 * 12
SCC-G03	Coaxial Cable	Suhner	SUCOFLEX 104A	46499/4A	RE	2011/04/28 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2010/08/17 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2011/02/23 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE,AT	2011/03/07 * 12
SJM-10	Measure	PROMART	SEN1935	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RF,LF)	-	RE,CE	-
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2010/12/15 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2010/12/15 * 12
SAT20-05	Attenuator	Weinschel Corp.	54A-20	Y5649	AT	2010/11/24 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2011/03/15 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2011/03/16 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2011/03/16 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2011/03/15 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2011/03/16 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2011/03/16 * 12
SAF-01	Pre Amplifier	SONOMA	310N	290211	RE	2011/02/17 * 12
SAT6-01	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SAT3-04	Attenuator	JFW	50HF-003N	-	RE	2011/02/17 * 12
SBA-01	Biconical Antenna	Schwarzbeck	BBA9106	91032664	RE	2010/10/11 * 12
SCC-A1/A3/A5/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2011/04/28 * 12
SCC-A2/A4/A6/A7/A8/A13/SRSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2011/04/28 * 12
SLA-01	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0888	RE	2010/10/11 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2011/02/23 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE,CE	2010/10/29 * 12
SJM-12	Measure	PROMART	SEN1935	-	RE,CE	-
SAEC-01(NSA)	Semi-Anechoic Chamber	TDK	SAEC-01(NSA)	1	RE	2010/09/11 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

CE: Conducted emission ,
RE: Radiated emission ,
AT: Antenna terminal disturbance voltage

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Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2011/02/17 * 12
SAT6-03	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2010/10/15 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271 (RF Selector)	RE	2011/04/28 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2010/10/15 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2010/07/21 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2010/09/13 * 12
SCC-A12/A13/SRSE-01	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-269 (RF Selector)	CE	2011/04/28 * 12
SLS-01	LISN	Rohde & Schwarz	ENV216	100511	CE(EUT)	2011/02/22 * 12
SLS-02	LISN	Rohde & Schwarz	ENV216	100512	CE(AE)	2011/02/22 * 12
SAT3-03	Attenuator	JFW	50HF-003N	-	CE	2011/02/17 * 12
SOS-02	Humidity Indicator	A&D	AD-5681	4063343	CE	2011/03/02 * 12
STM-01	Terminator	TME	CT-01 BP	-	CE	2011/01/07 * 12

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

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

All equipment is calibrated with traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

CE: Conducted emission ,

RE: Radiated emission ,

AT: Antenna terminal disturbance voltage