

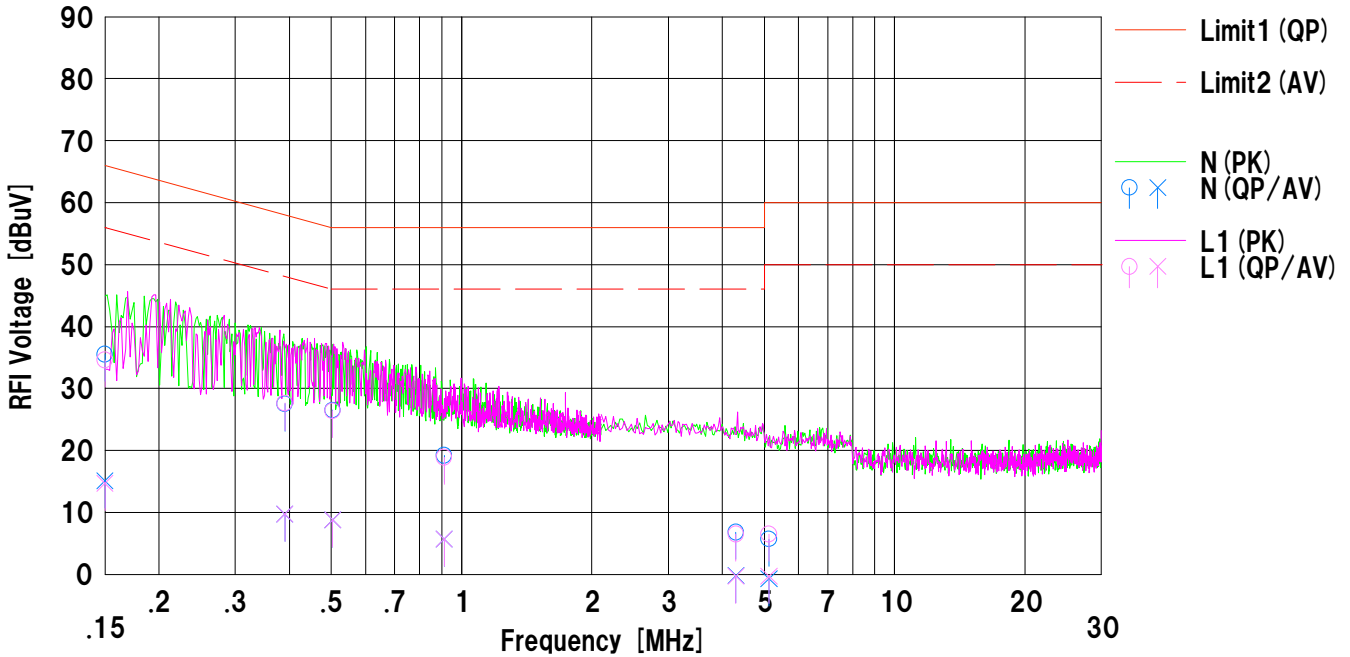
# DATA OF CONDUCTED EMISSION TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room  
Date : 2012/06/26

Company : SMK Corporation  
 Kind of EUT : WLAN Complete Module  
 Model No. : VRL4149-0601F  
 Serial No. : 1  
 Mode : Tx 11a 5260MHz  
 Report No. : 32FE0117-SH-02-B  
 Power : DC3.3V/DC1.8V  
 Temp./Humi. : 25deg.C / 48%RH  
 Remarks : DC power supply input: AC120V/60Hz, DC3.3V line,

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

Engineer : Kenichi Adachi



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	0.15000	22.9	2.5	12.6	35.5	15.1	66.0	56.0	30.5	40.9	N	
2	0.39058	14.9	-2.9	12.6	27.5	9.7	58.0	48.0	30.5	38.3	N	
3	0.50366	13.9	-3.8	12.6	26.5	8.8	56.0	46.0	29.5	37.2	N	
4	0.91145	6.6	-6.9	12.6	19.2	5.7	56.0	46.0	36.8	40.3	N	
5	4.30295	-6.0	-13.0	12.8	6.8	-0.2	56.0	46.0	49.2	46.2	N	
6	5.12518	-7.2	-13.6	12.9	5.7	-0.7	60.0	50.0	54.3	50.7	N	
7	0.15000	22.0	2.1	12.6	34.6	14.7	66.0	56.0	31.4	41.3	L1	
8	0.39058	15.0	-2.9	12.6	27.6	9.7	58.0	48.0	30.4	38.3	L1	
9	0.50366	13.8	-3.8	12.6	26.4	8.8	56.0	46.0	29.6	37.2	L1	
10	0.91145	6.3	-6.9	12.6	18.9	5.7	56.0	46.0	37.1	40.3	L1	
11	4.30295	-6.3	-13.1	12.8	6.5	-0.3	56.0	46.0	49.5	46.3	L1	
12	5.12518	-6.4	-13.2	12.9	6.5	-0.3	60.0	50.0	53.5	50.3	L1	

Calculation:Result [dBuV] =Reading [dBuV] +C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-01

# DATA OF CONDUCTED EMISSION TEST

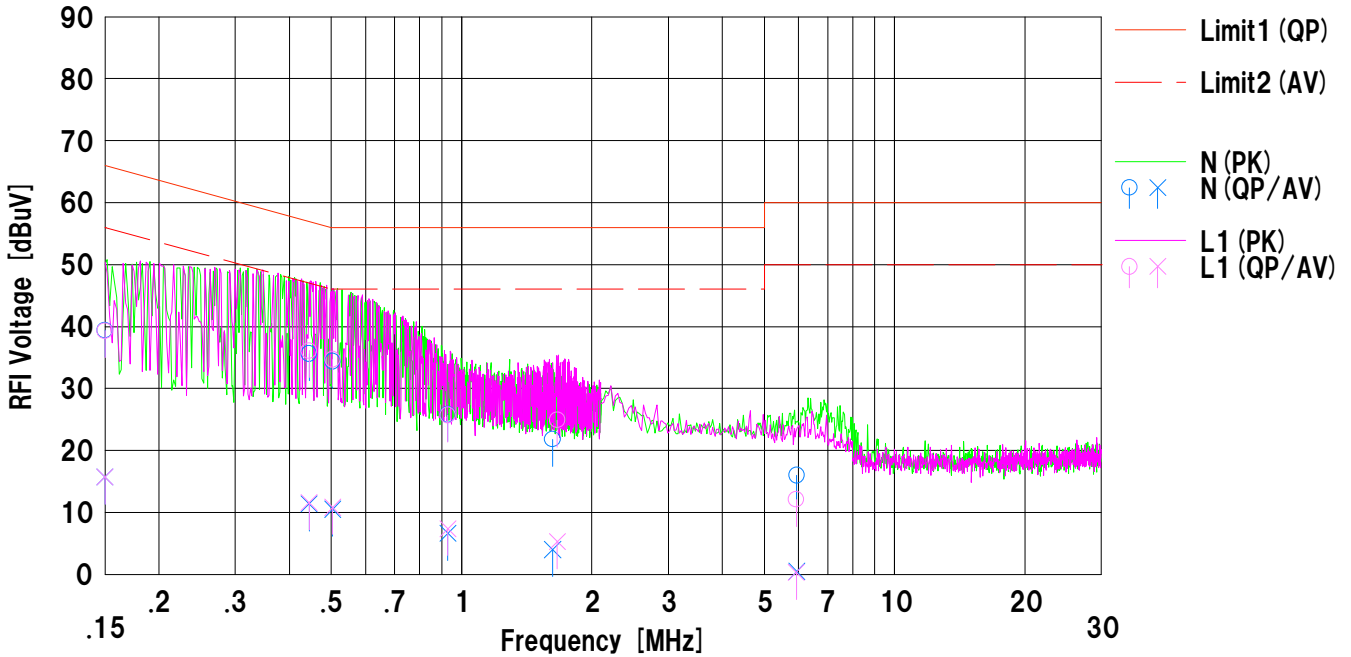
UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room  
Date : 2012/06/26

Company : SMK Corporation	Mode : Tx 11a 5260MHz
Kind of EUT : WLAN Complete Module	Report No. : 32FE0117-SH-02-B
Model No. : VRL4149-0601F	Power : DC3.3V/DC1.8V
Serial No. : 1	Temp./Humi. : 25deg.C / 48%RH

Remarks : DC power supply input: AC120V/60Hz, DC1.8V line,

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

Engineer : Kenichi Adachi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]		
1	0.15000	26.8	3.1	12.6	39.4	15.7	66.0	56.0	26.6	40.3	N	
2	0.44478	23.0	-1.2	12.6	35.6	11.4	56.9	46.9	21.3	35.5	N	
3	0.50359	21.8	-2.1	12.6	34.4	10.5	56.0	46.0	21.6	35.5	N	
4	0.92936	13.2	-6.0	12.6	25.8	6.6	56.0	46.0	30.2	39.4	N	
5	1.62339	9.1	-8.7	12.7	21.8	4.0	56.0	46.0	34.2	42.0	N	
6	5.94158	3.1	-12.4	12.9	16.0	0.5	60.0	50.0	44.0	49.5	N	
7	0.15000	26.7	3.1	12.6	39.3	15.7	66.0	56.0	26.7	40.3	L1	
8	0.44478	23.5	-1.0	12.6	36.1	11.8	56.9	46.9	20.8	35.3	L1	
9	0.50359	22.1	-1.8	12.6	34.7	10.8	56.0	46.0	21.3	35.2	L1	
10	0.92936	13.1	-5.2	12.6	25.7	7.4	56.0	46.0	30.3	38.6	L1	
11	1.66431	12.2	-7.4	12.7	24.9	5.3	56.0	46.0	31.1	40.7	L1	
12	5.92451	-0.8	-12.6	12.9	12.1	0.3	60.0	50.0	47.9	49.7	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
LISN: SLS-01

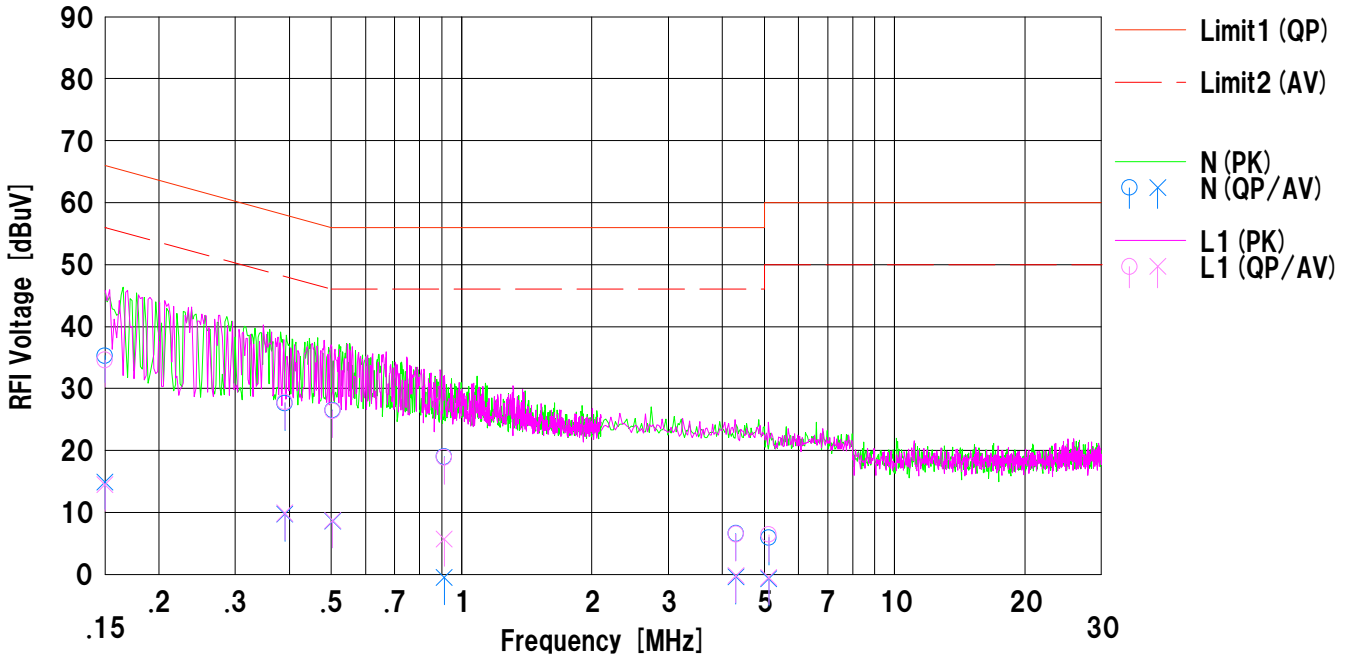
# DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room  
Date : 2012/06/26

Company : SMK Corporation Kind of EUT : WLAN Complete Module Model No. : VRL4149-0601F Serial No. : 1	Mode : Tx 11a 5580MHz Report No. : 32FE0117-SH-02-B Power : DC3.3V/DC1.8V Temp./Humi. : 25deg.C / 48%RH
Remarks : DC power supply input: AC120V/60Hz, DC3.3V line,	

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

Engineer : Kenichi Adachi



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]		
1	0.15000	22.7	2.3	12.6	35.3	14.9	66.0	56.0	30.7	41.1	N	
2	0.39079	15.0	-2.9	12.6	27.6	9.7	58.0	48.0	30.4	38.3	N	
3	0.50377	13.9	-4.0	12.6	26.5	8.6	56.0	46.0	29.5	37.4	N	
4	0.91148	6.4	-13.1	12.6	19.0	-0.5	56.0	46.0	37.0	46.5	N	
5	4.30304	-6.2	-13.2	12.8	6.6	-0.4	56.0	46.0	49.4	46.4	N	
6	5.12499	-7.0	-13.6	12.9	5.9	-0.7	60.0	50.0	54.1	50.7	N	
7	0.15000	22.0	1.9	12.6	34.6	14.5	66.0	56.0	31.4	41.5	L1	
8	0.39079	15.2	-2.7	12.6	27.8	9.9	58.0	48.0	30.2	38.1	L1	
9	0.50377	13.8	-3.9	12.6	26.4	8.7	56.0	46.0	29.6	37.3	L1	
10	0.91148	6.3	-6.9	12.6	18.9	5.7	56.0	46.0	37.1	40.3	L1	
11	4.30304	-6.3	-13.0	12.8	6.5	-0.2	56.0	46.0	49.5	46.2	L1	
12	5.12499	-6.5	-13.4	12.9	6.4	-0.5	60.0	50.0	53.6	50.5	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-01

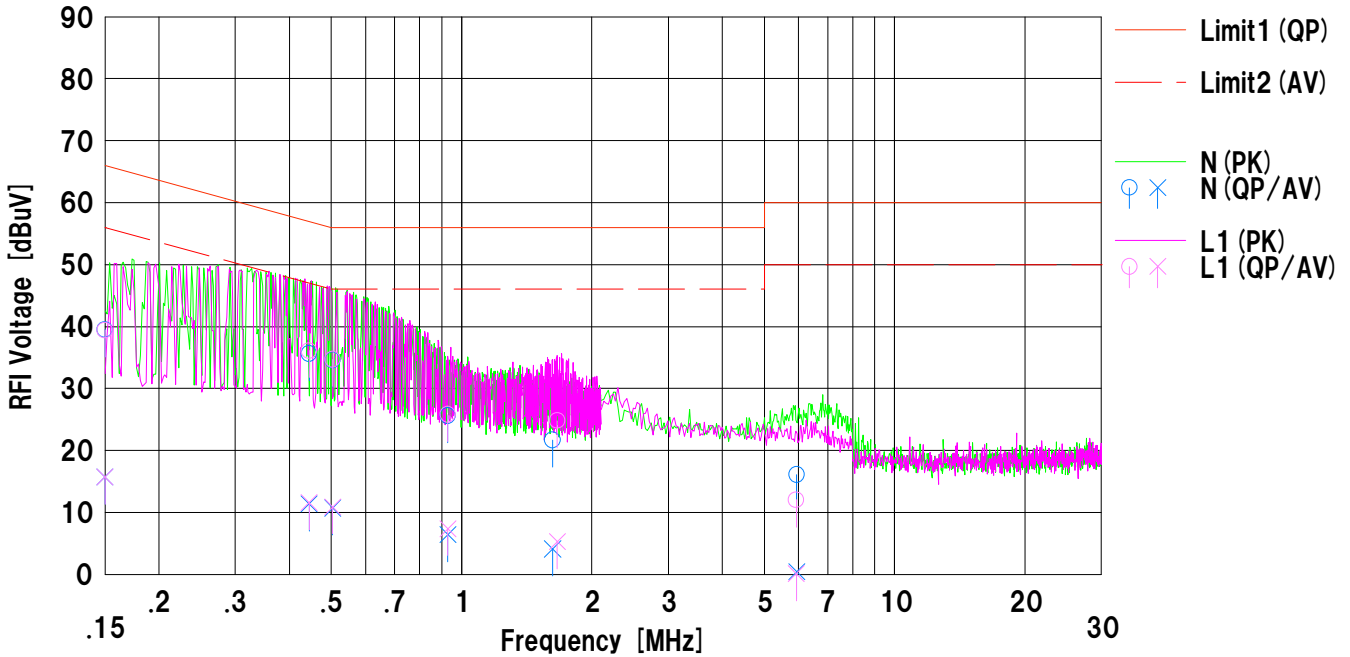
# DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room  
Date : 2012/06/26

Company : SMK Corporation Kind of EUT : WLAN Complete Module Model No. : VRL4149-0601F Serial No. : 1	Mode : Tx 11a 5580MHz Report No. : 32FE0117-SH-02-B Power : DC3.3V/DC1.8V Temp./Humi. : 25deg.C / 48%RH
Remarks : DC power supply input: AC120V/60Hz, DC1.8V line,	

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

Engineer : Kenichi Adachi



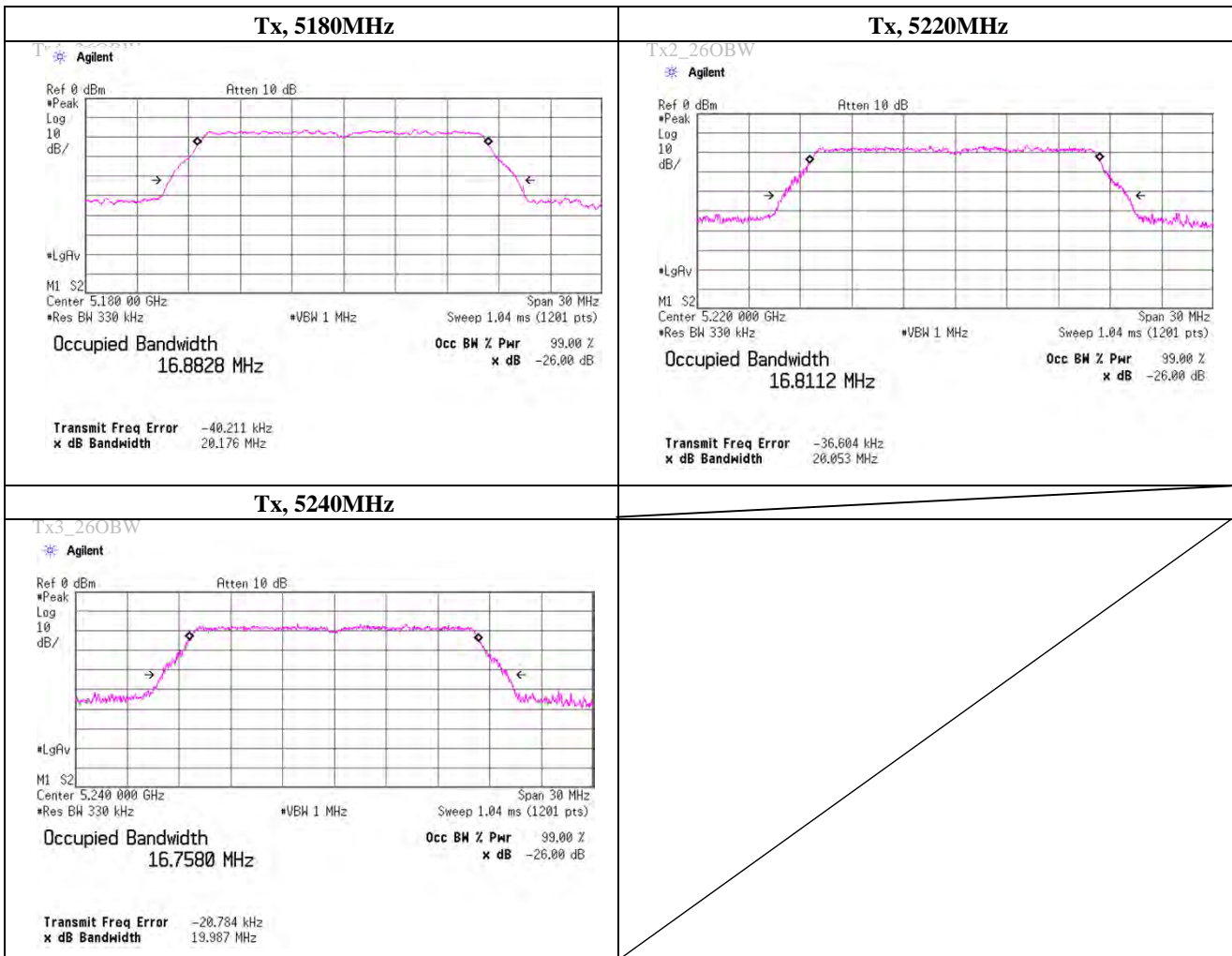
No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]		
1	0.15000	26.9	3.1	12.6	39.5	15.7	66.0	56.0	26.5	40.3	N	
2	0.44466	23.0	-1.2	12.6	35.6	11.4	56.9	46.9	21.3	35.5	N	
3	0.50361	22.0	-1.9	12.6	34.6	10.7	56.0	46.0	21.4	35.3	N	
4	0.92928	13.0	-6.2	12.6	25.6	6.4	56.0	46.0	30.4	39.6	N	
5	1.62335	9.0	-8.6	12.7	21.7	4.1	56.0	46.0	34.3	41.9	N	
6	5.94167	3.2	-12.5	12.9	16.1	0.4	60.0	50.0	43.9	49.6	N	
7	0.15000	26.8	3.1	12.6	39.4	15.7	66.0	56.0	26.6	40.3	L1	
8	0.44466	23.5	-1.0	12.6	36.1	11.8	56.9	46.9	20.8	35.3	L1	
9	0.50361	22.1	-1.7	12.6	34.7	10.9	56.0	46.0	21.3	35.1	L1	
10	0.92928	13.2	-5.2	12.6	25.8	7.4	56.0	46.0	30.2	38.6	L1	
11	1.66419	12.1	-7.4	12.7	24.8	5.3	56.0	46.0	31.2	40.7	L1	
12	5.92489	-0.9	-12.8	12.9	12.0	0.1	60.0	50.0	48.0	49.9	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-01

### -26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W52), PN9, worst data mode 6Mbps	

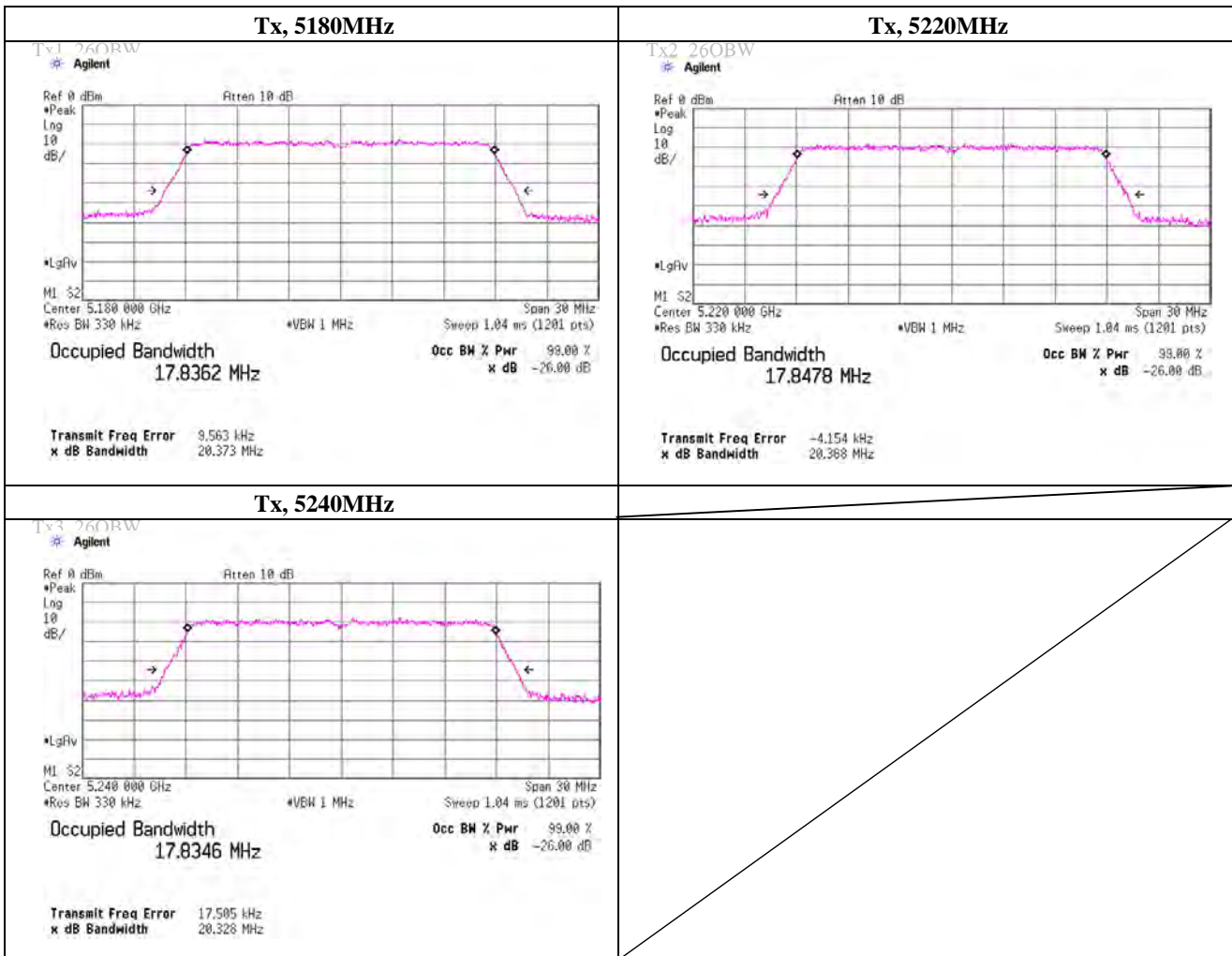
Freq. [MHz]	-26dB Bandwidth [MHz]
5180.0000	20.176
5220.0000	20.053
5240.0000	19.987



## -26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W52), PN9, worst data mode 3(MCS)	

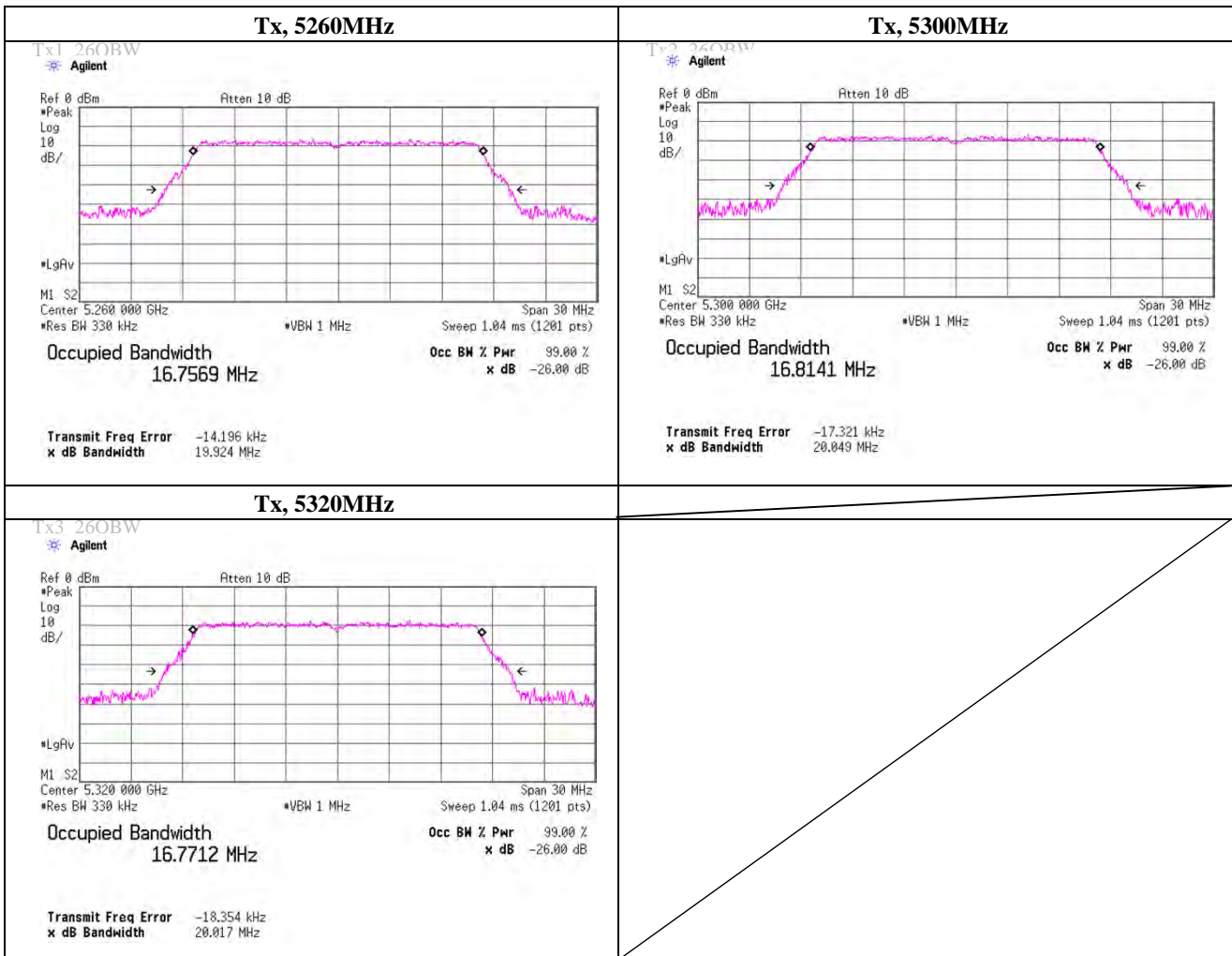
Freq. [MHz]	-26dB Bandwidth [MHz]
5180.0000	20.373
5220.0000	20.368
5240.0000	20.328



## -26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W53), PN9, worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]
5260.0000	19.924
5300.0000	20.049
5320.0000	20.017

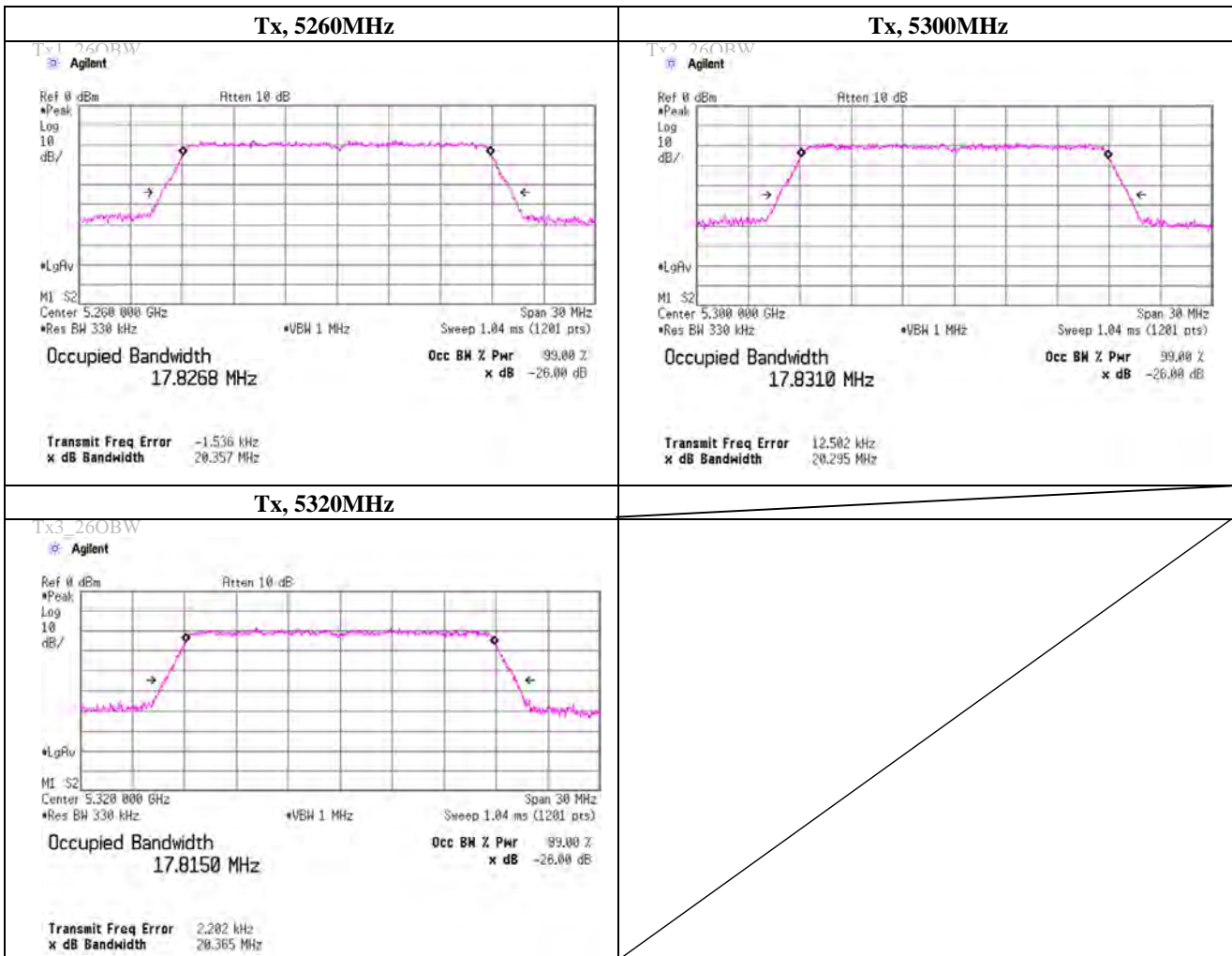




### -26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W53), PN9, worst data mode 3(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5260.0000	20.357
5300.0000	20.295
5320.0000	20.365

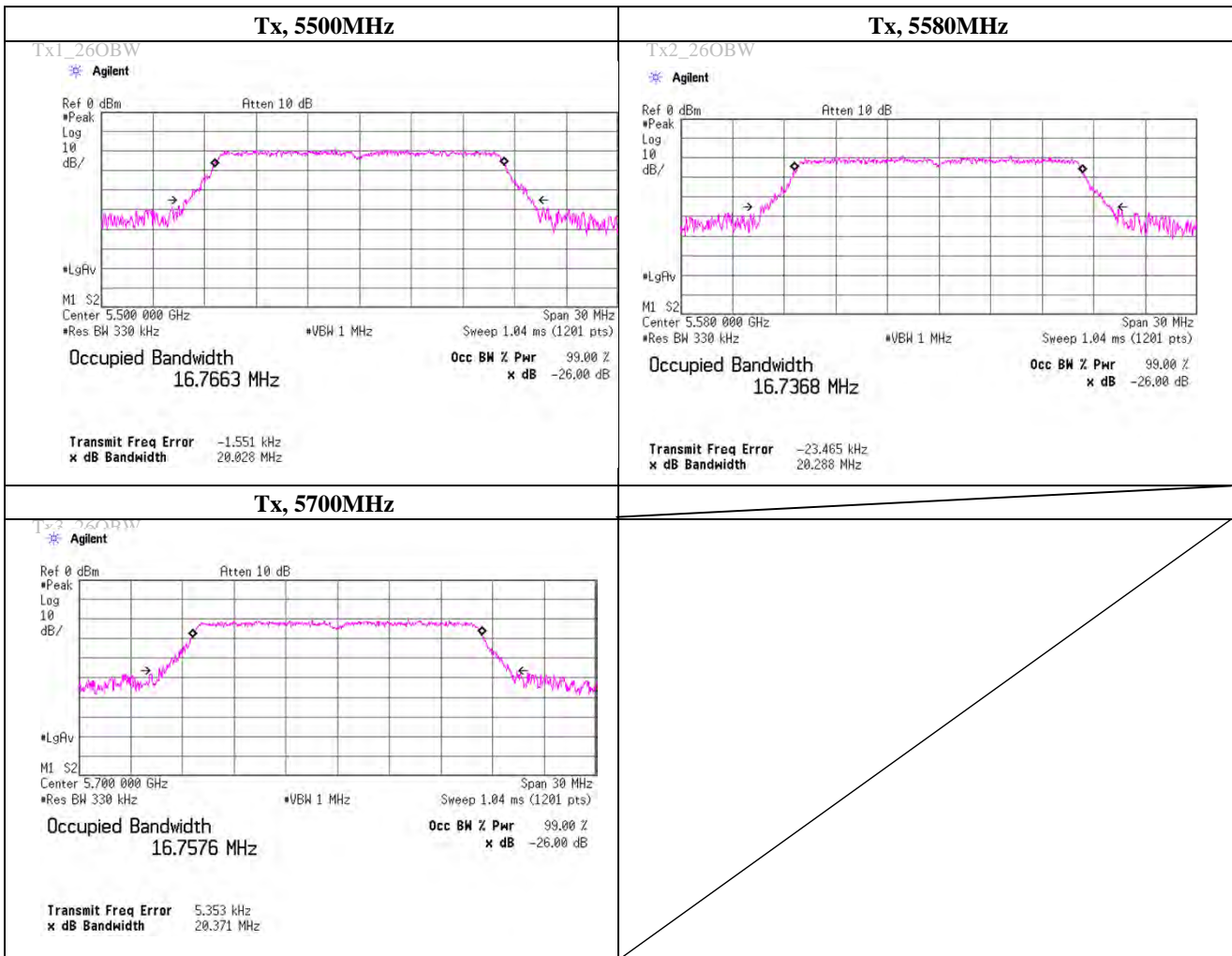




## -26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W56), PN9, worst data mode 6Mbps	

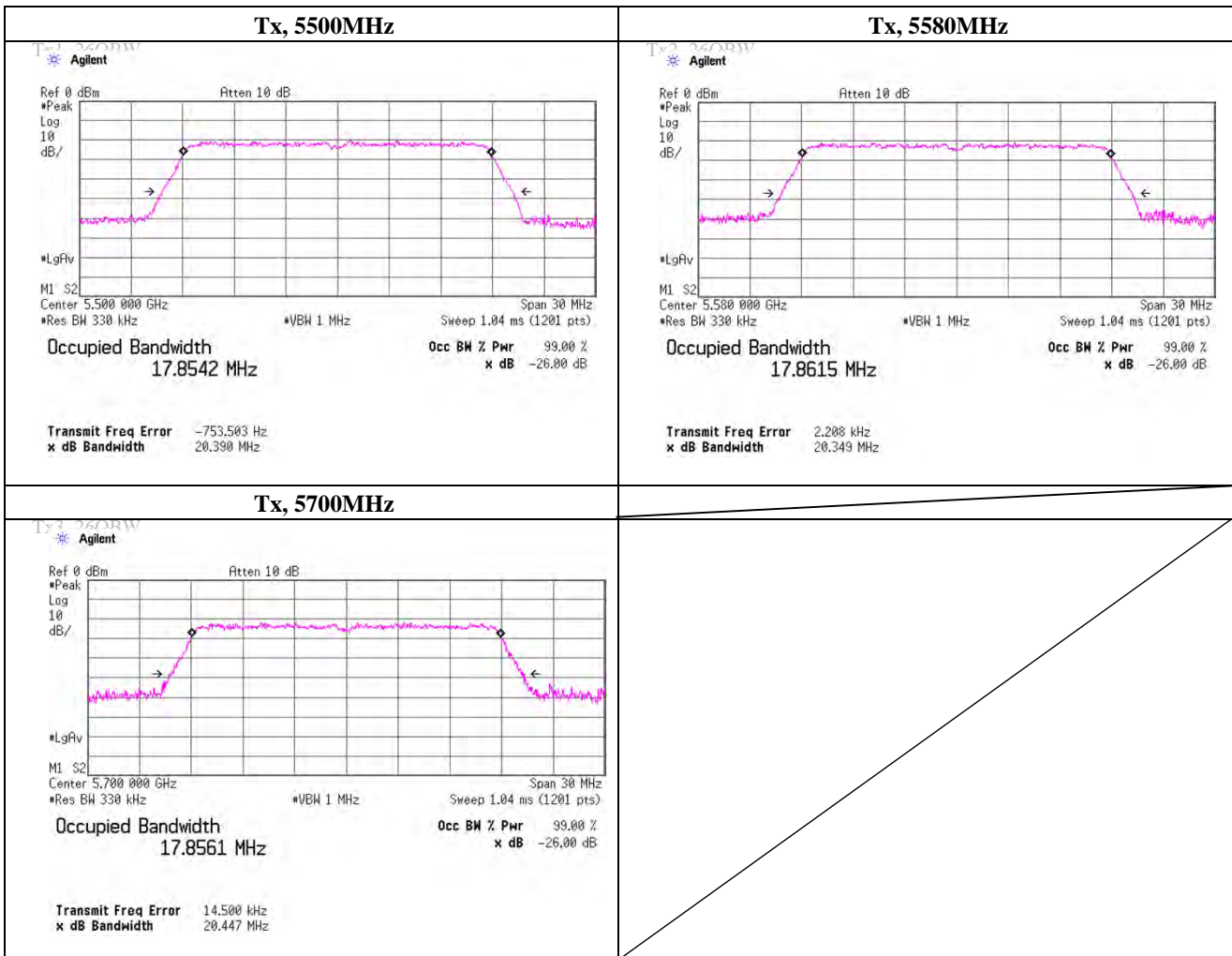
Freq. [MHz]	-26dB Bandwidth [MHz]
5500.0000	20.028
5580.0000	20.288
5700.0000	20.371



### -26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode 3(MCS)	

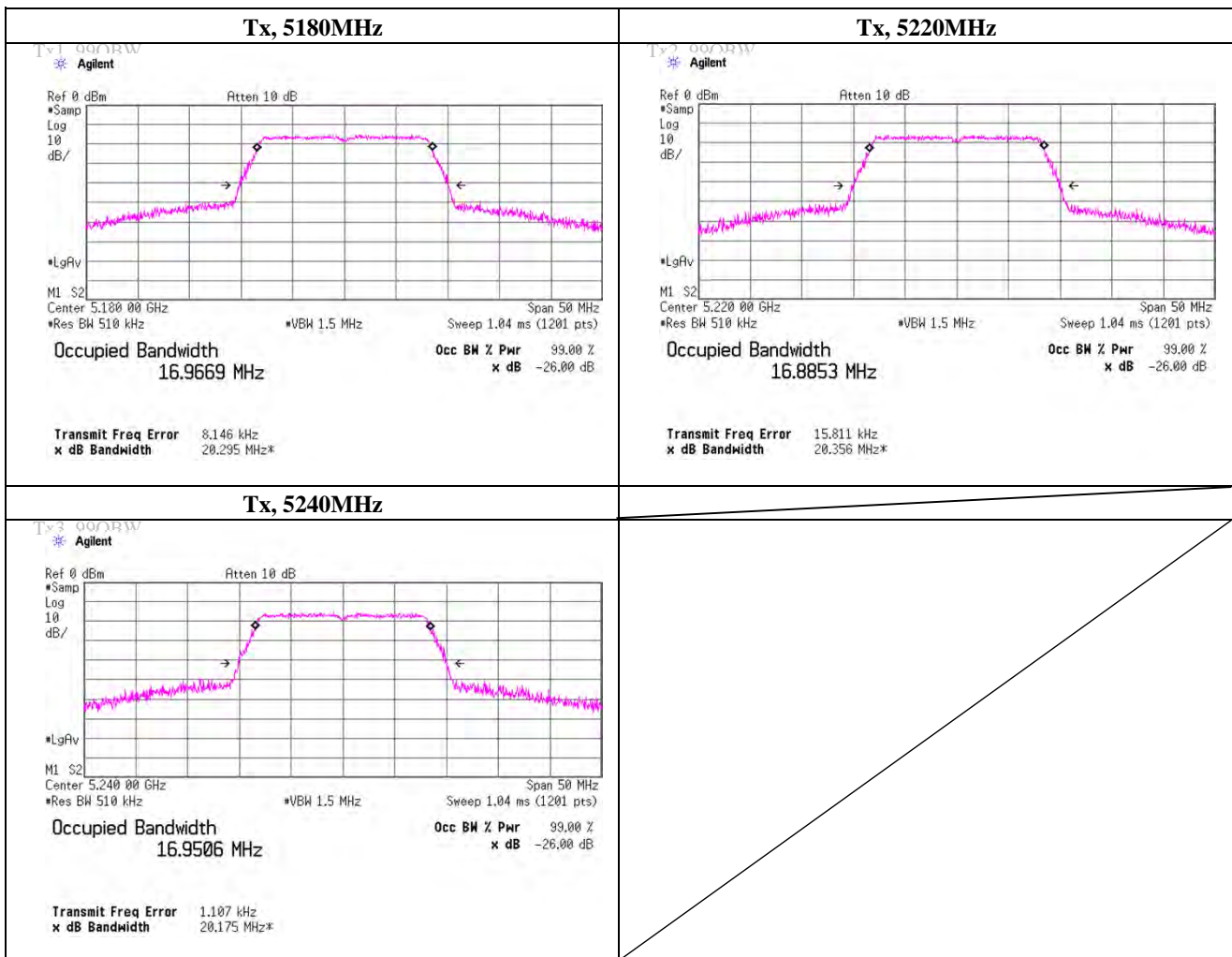
Freq. [MHz]	-26dB Bandwidth [MHz]
5500.0000	20.390
5580.0000	20.349
5700.0000	20.447



## 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W52), PN9, worst data mode 6Mbps	

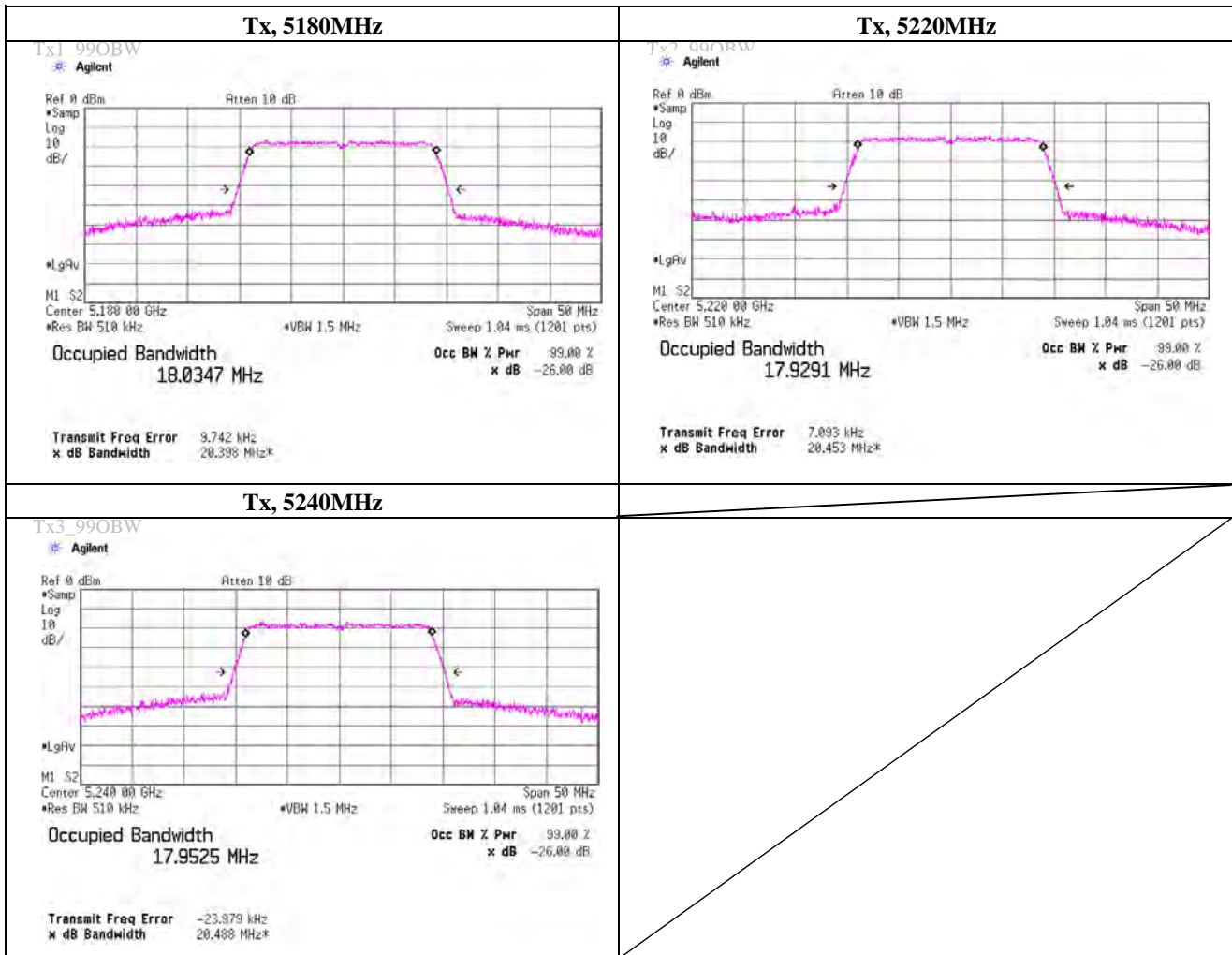
Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	16.967
5220.0000	16.885
5240.0000	16.951



## 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W52), PN9, worst data mode 3(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	18.035
5220.0000	17.929
5240.0000	17.959

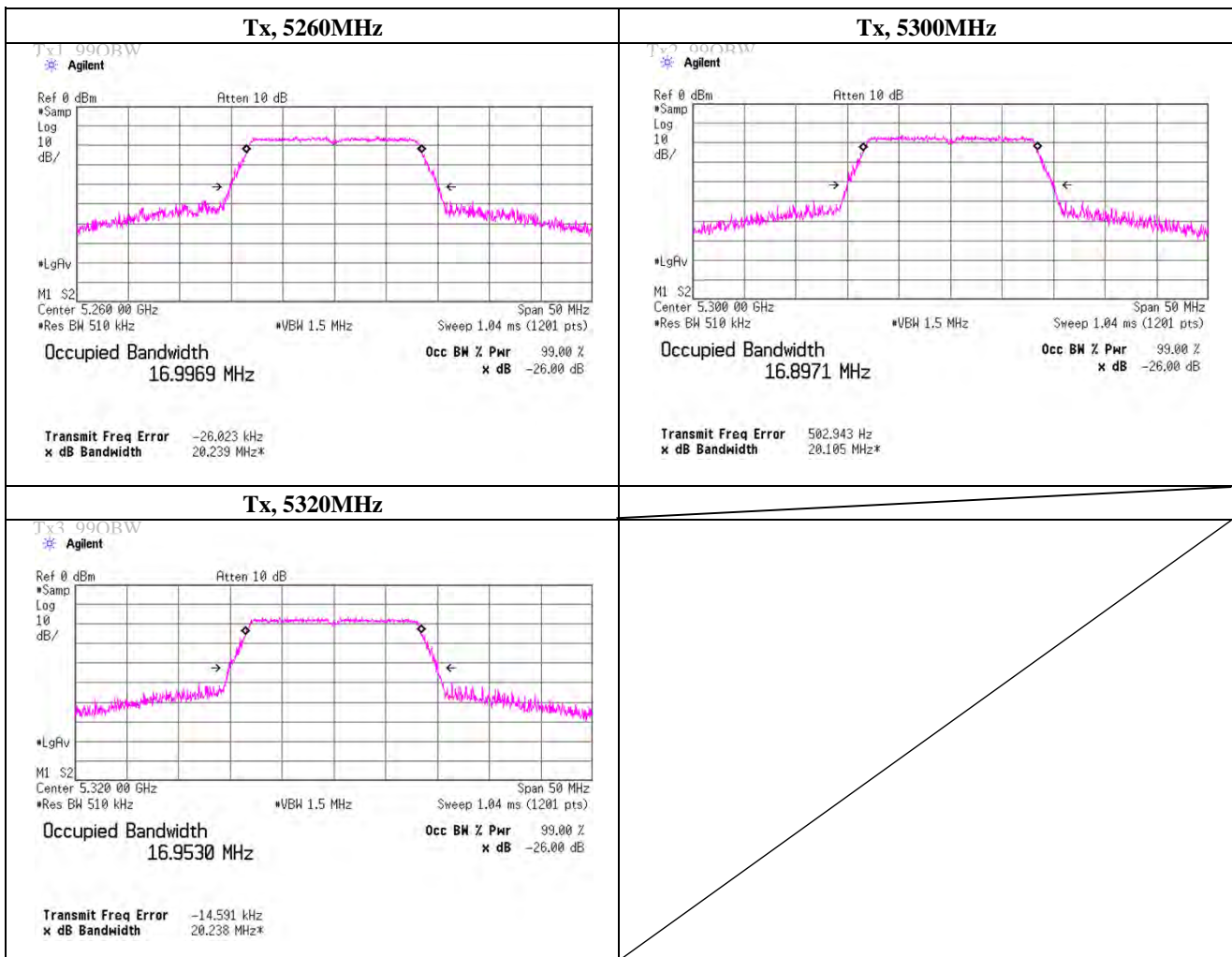


**UL Japan, Inc.**  
**Shonan EMC Lab.**  
 1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN  
 Telephone : +81 463 50 6400  
 Facsimile : +81 463 50 6401

## 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W53), PN9, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	16.997
5300.0000	16.897
5320.0000	16.953

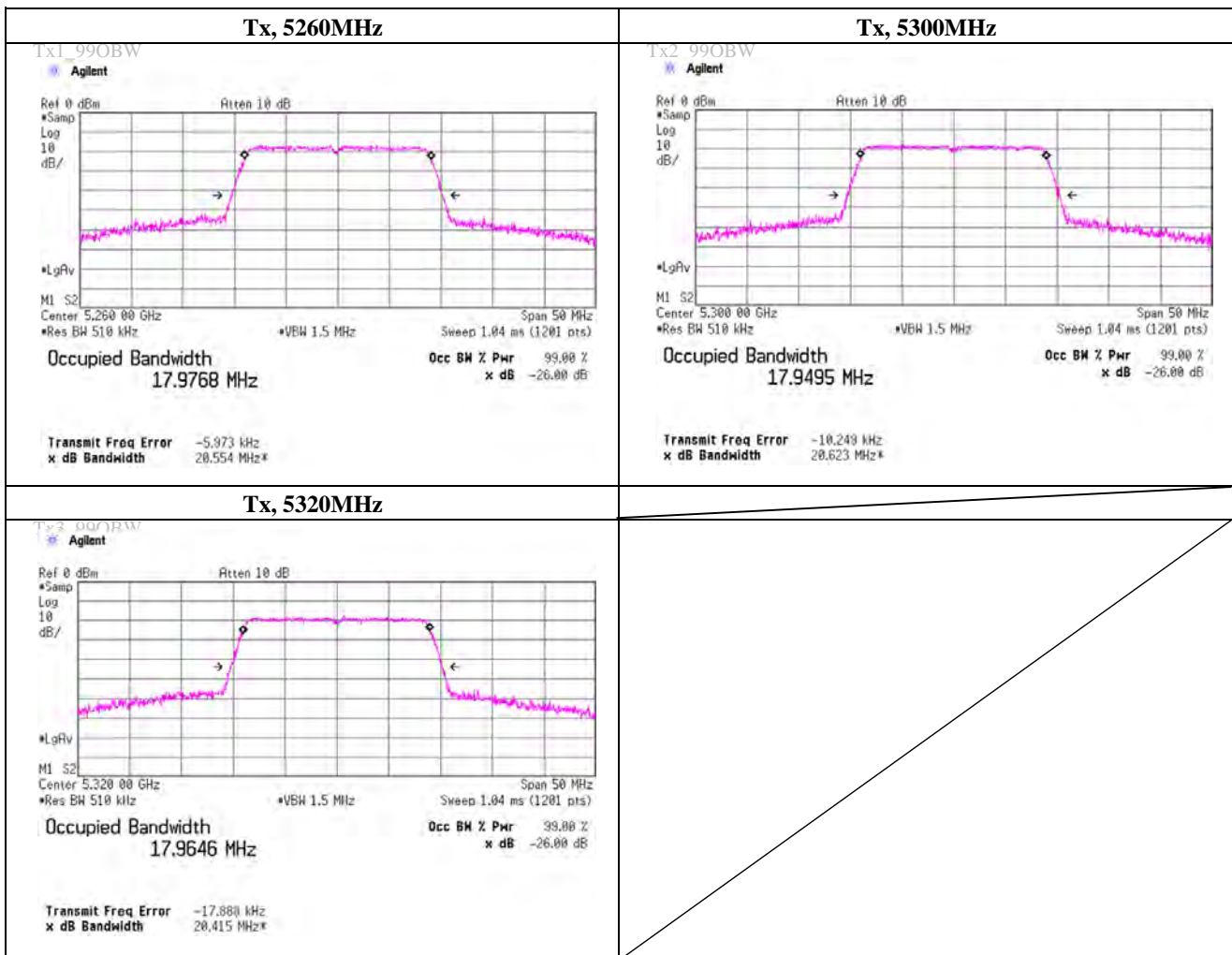




## 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W53), PN9, worst data mode 3(MCS)	

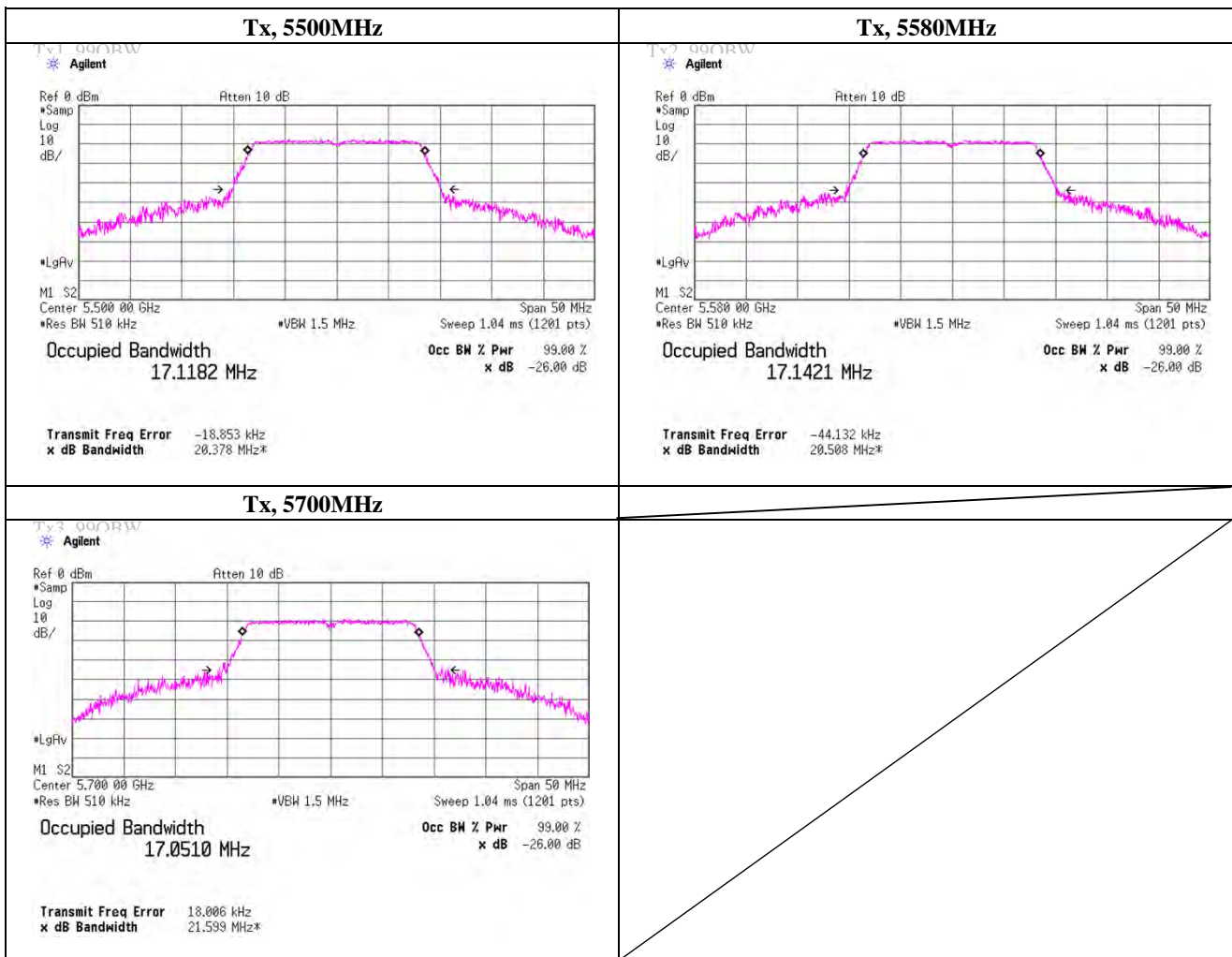
Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	17.977
5300.0000	17.950
5320.0000	17.965



## 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W56), PN9, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	17.118
5580.0000	17.142
5700.0000	17.051

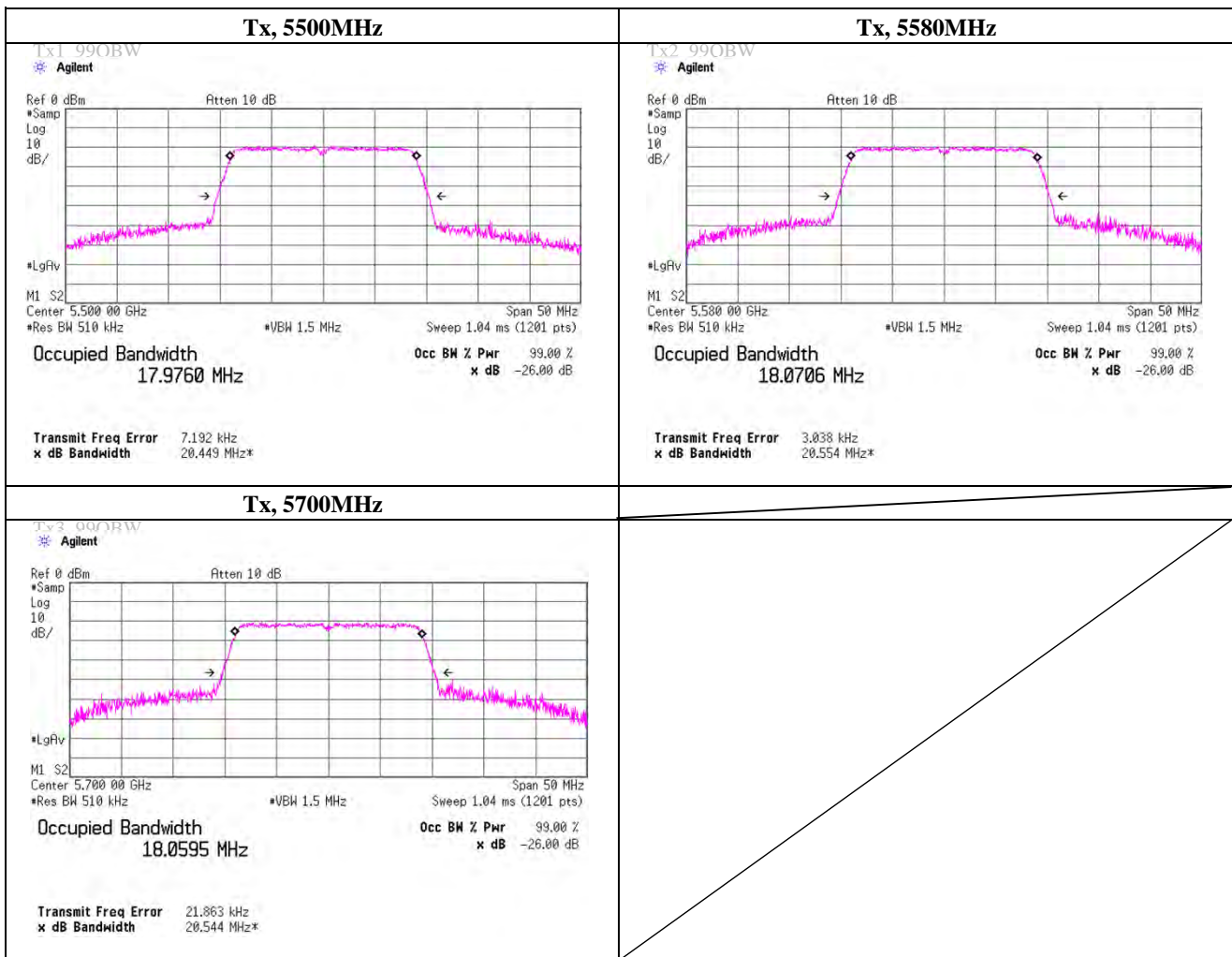




## 99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode 3(MCS)	

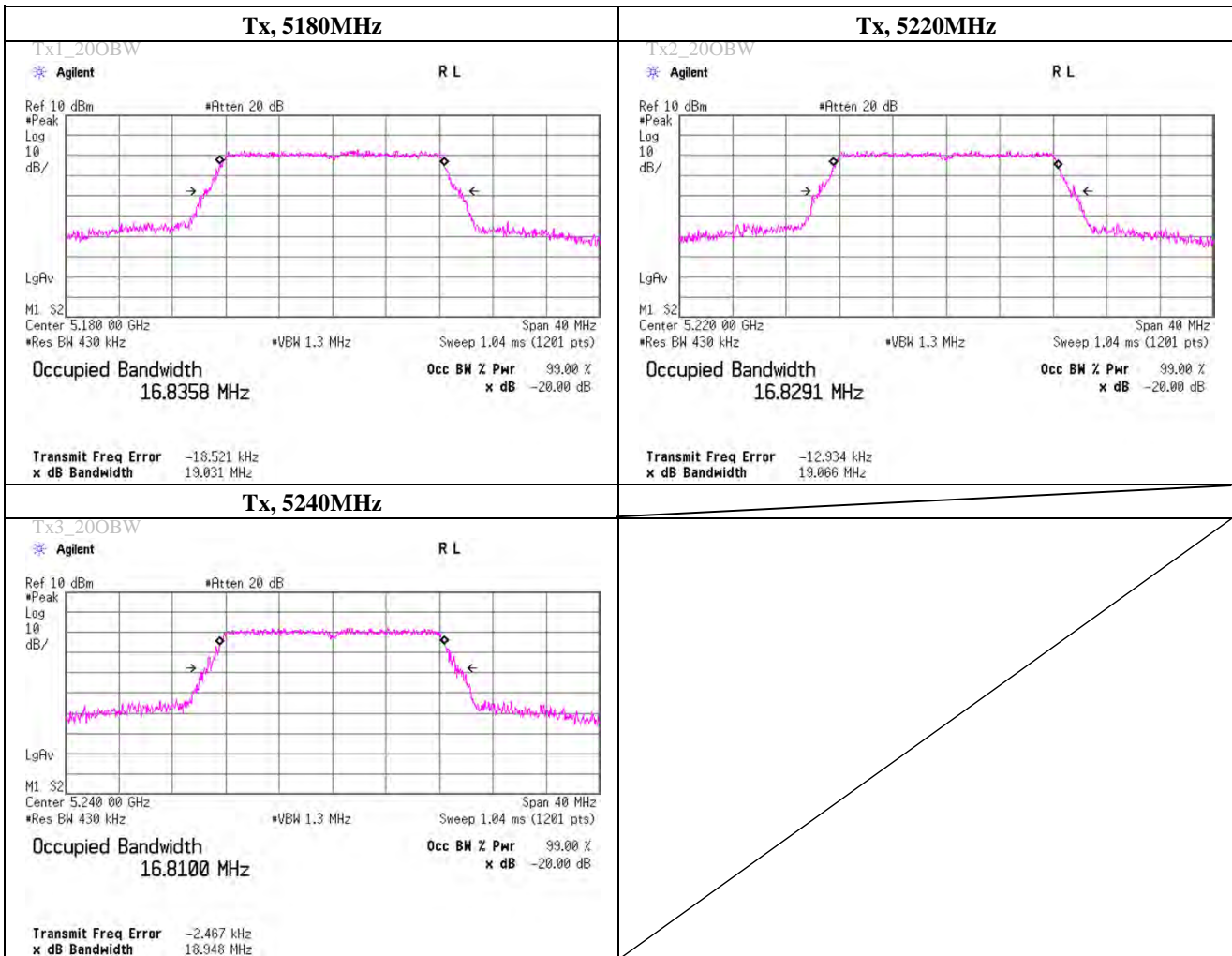
Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	17.976
5580.0000	18.071
5700.0000	18.060



## -20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W52), PN9, worst data mode 6Mbps	

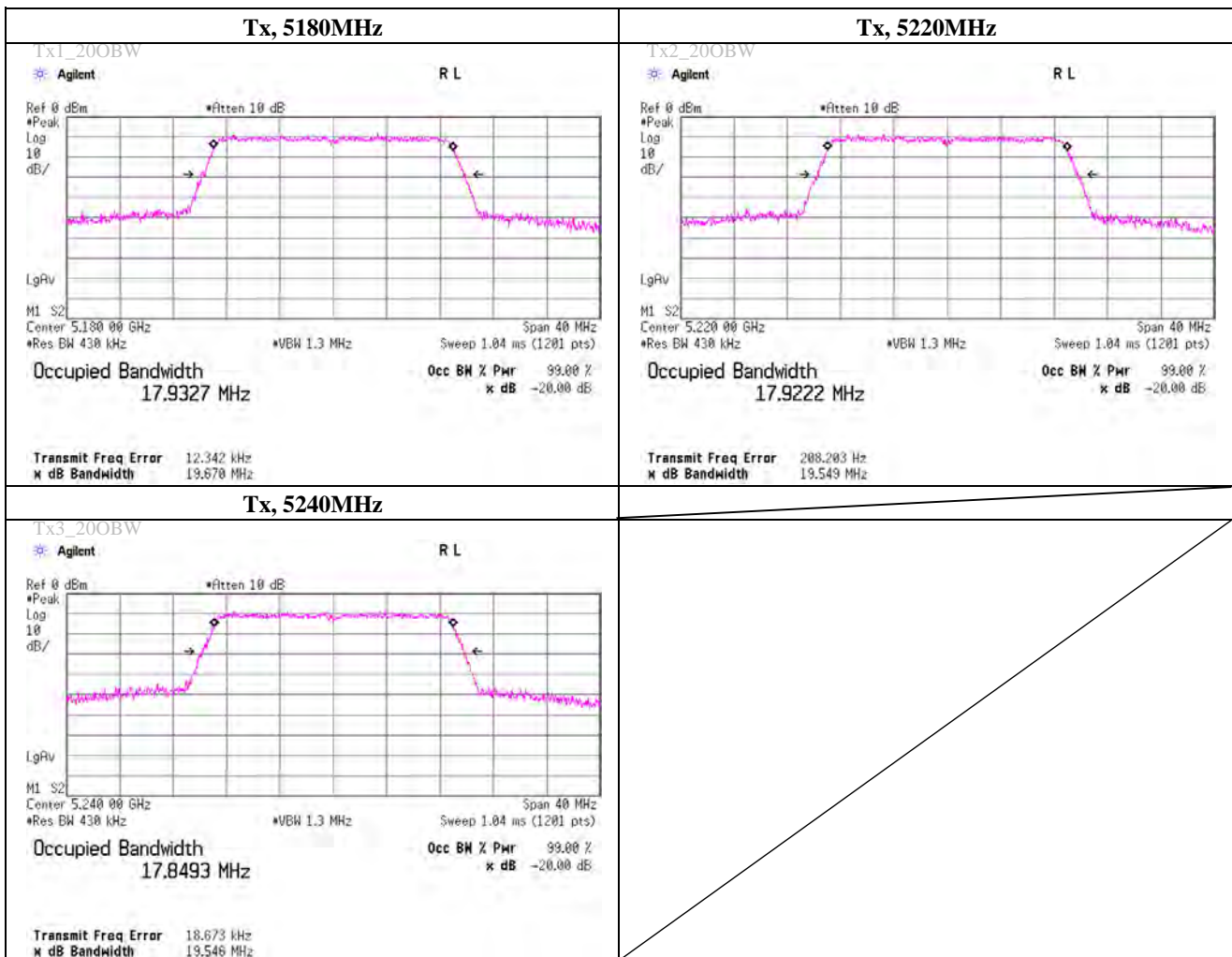
Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.031
5220.0000	19.066
5240.0000	18.948



## -20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W52), PN9, worst data mode 3(MCS)	

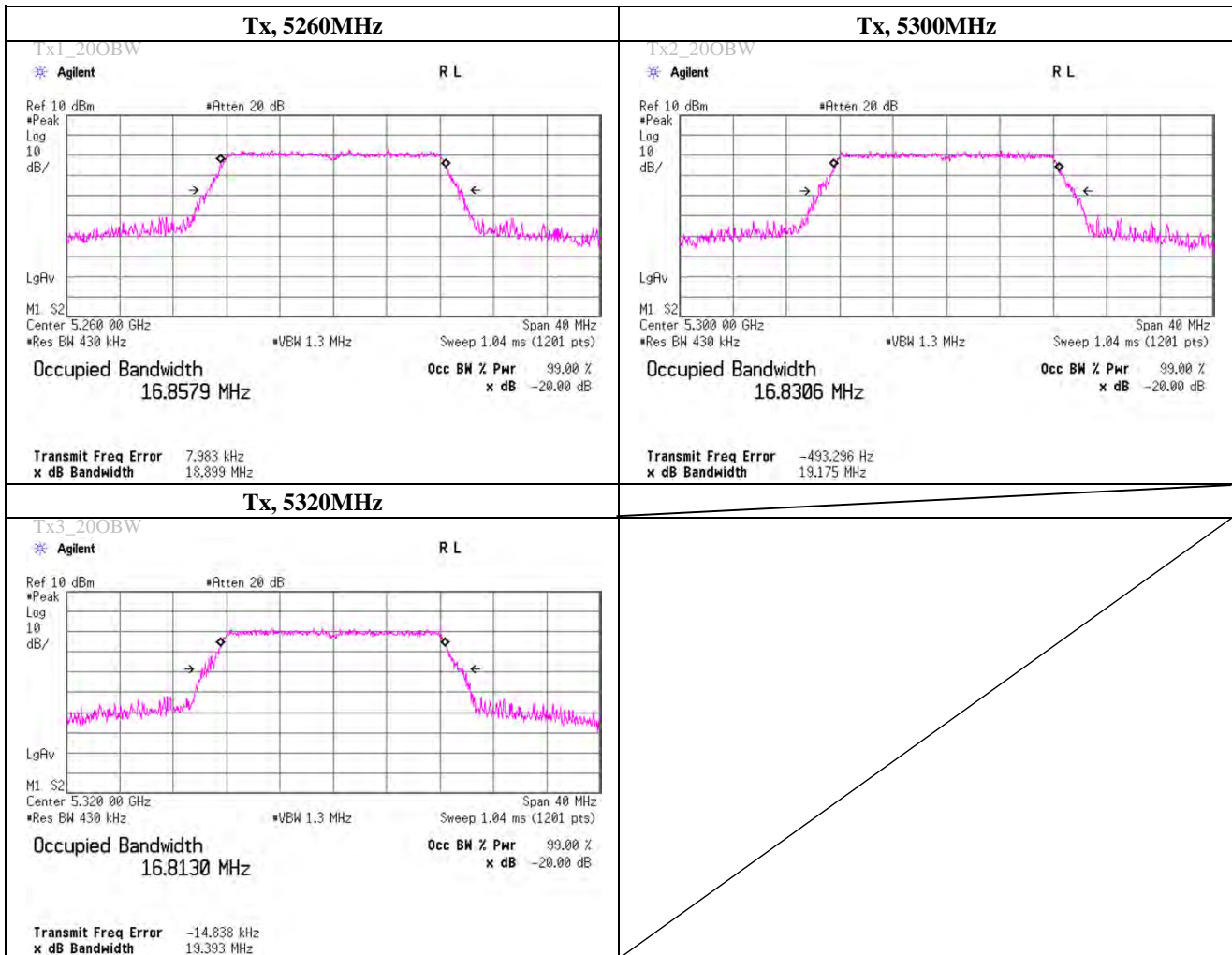
Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.670
5220.0000	19.549
5240.0000	19.546



## -20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W53), PN9, worst data mode 6Mbps	

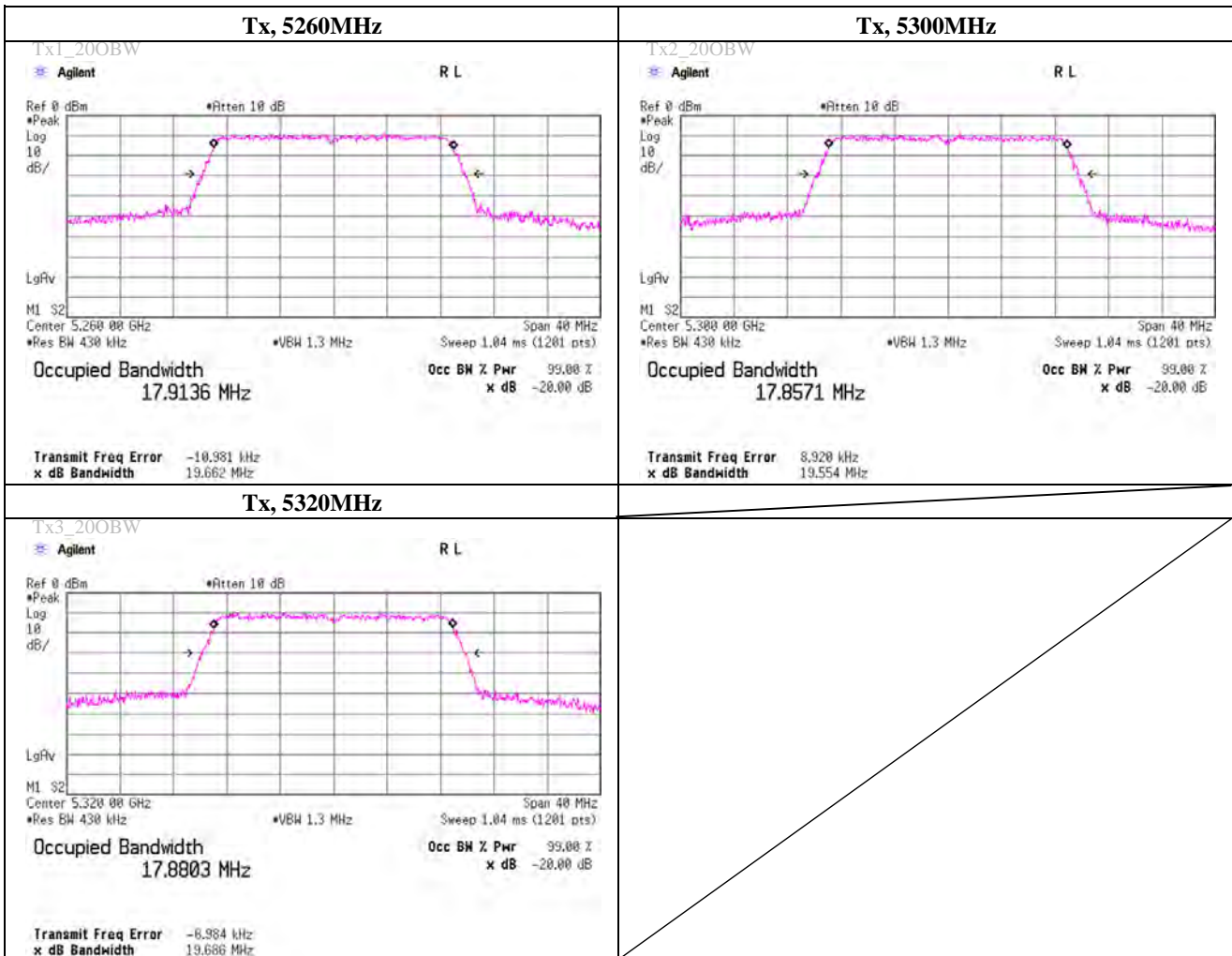
Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	18.899
5300.0000	19.175
5320.0000	19.393



## -20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W53), PN9, worst data mode 3(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	19.662
5300.0000	19.554
5320.0000	19.686

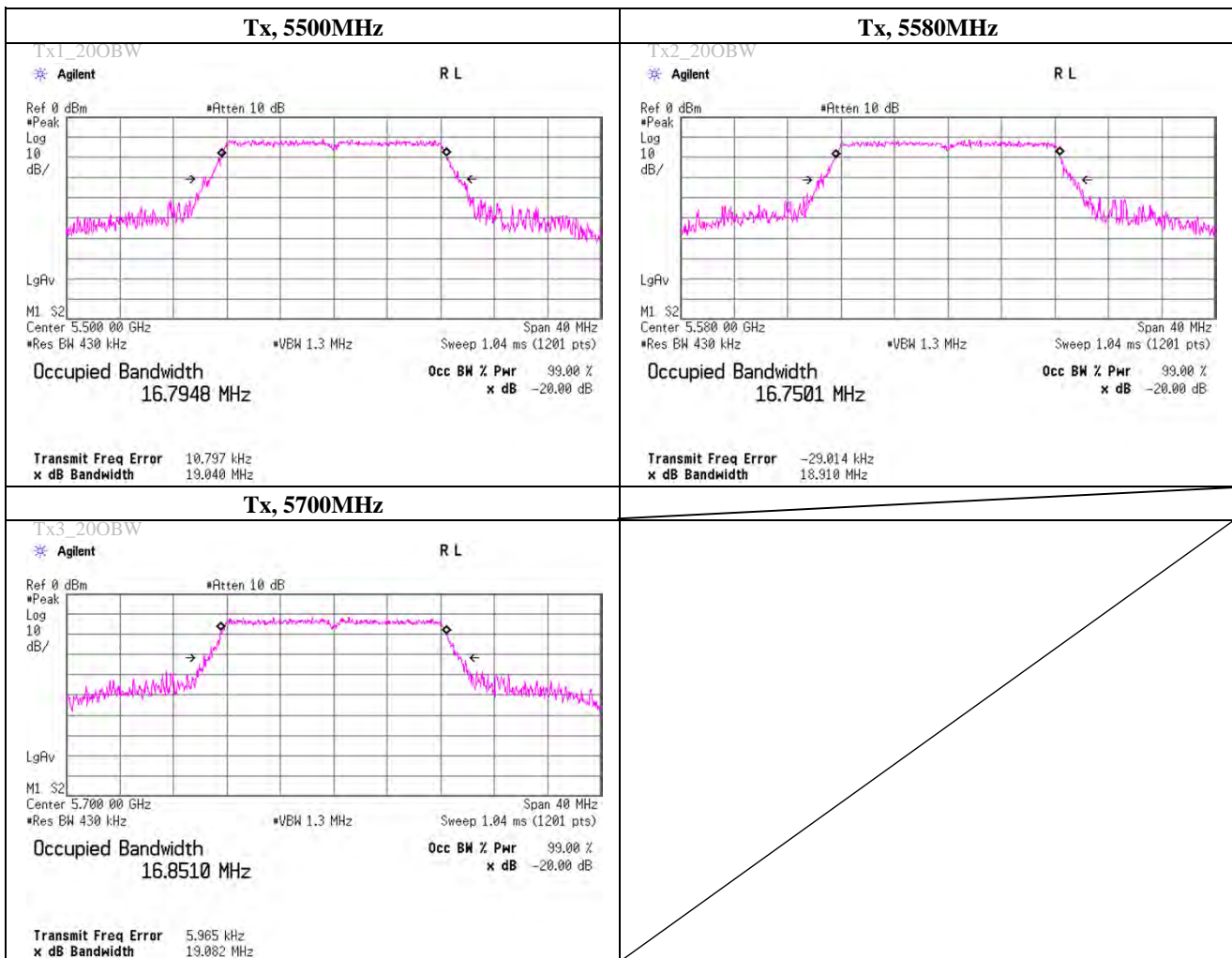




## -20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11a (W56), PN9, worst data mode 6Mbps	

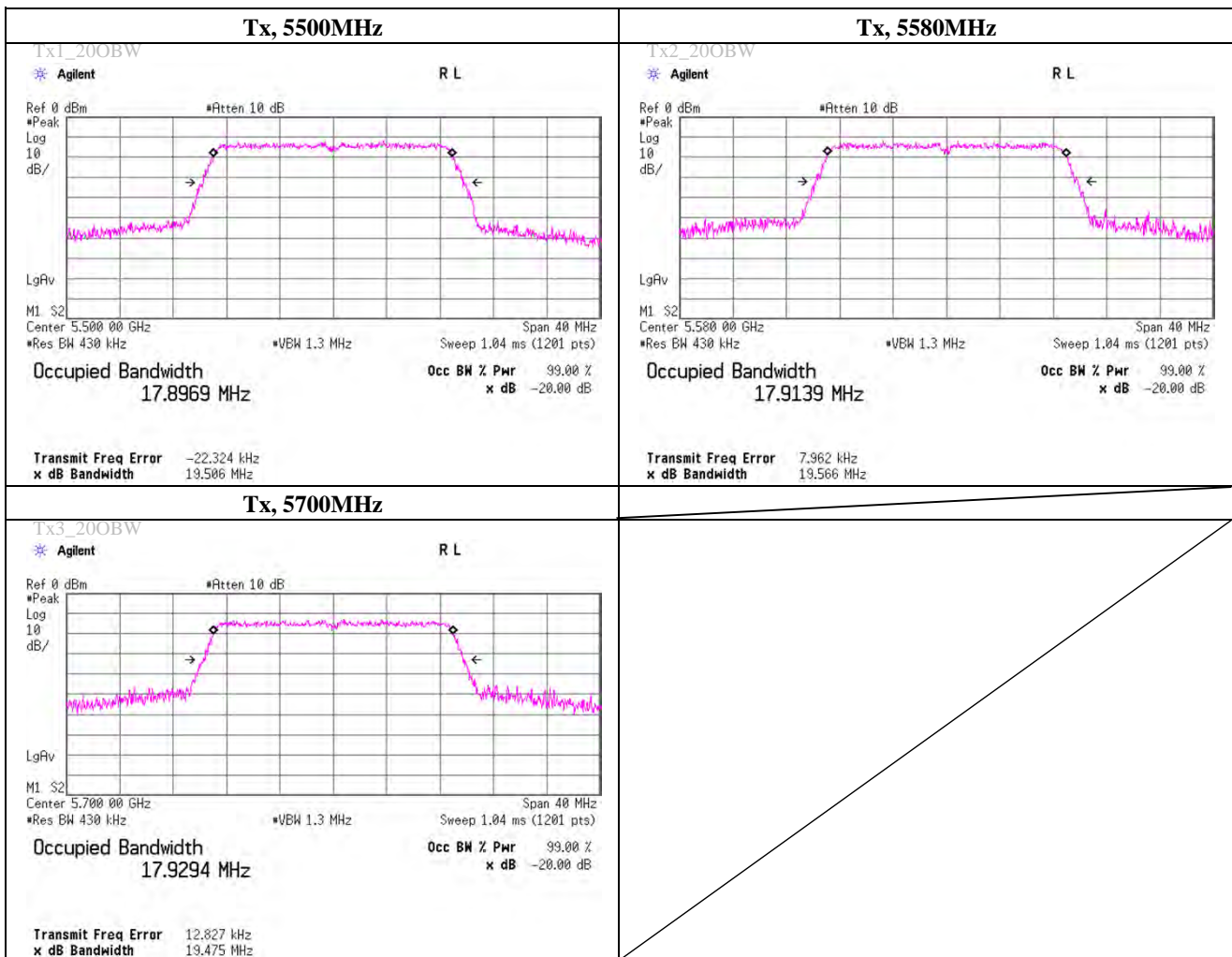
Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	19.040
5580.0000	18.910
5700.0000	19.082



## -20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 20, 2012	
Temperature / Humidity	25deg.C , 60%RH	
Engineer	Wataru Kojima	
Mode	Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode 3(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	19.506
5580.0000	19.566
5700.0000	19.475







## Maximum Conducted Output Power (Conducted)

Test place                              UL Japan, Inc. Shonan EMC Lab.    No.5 Shielded Room  
Date    June 14, 2012  
Temperature / Humidity                  26deg.C                      , 48%RH  
Engineer                                       Kenichi Adachi  
Mode    Tx, IEEE802.11n (HT20) (W52), PN9,    worst data mode :                      3 (MCS)

**Antenna terminal power**                              (\* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result		Limit		Margin [dB]
						[dBm]	[mW]	[dBm]	[mW]	
Low	5180.0	-0.54	1.59	10.02	0.00	11.07	12.80	16.99	50.00	5.92
Mid	5220.0	-0.41	1.59	10.02	0.00	11.20	13.20	16.99	50.00	5.79
High	5240.0	-0.68	1.59	10.02	0.00	10.93	12.40	16.99	50.00	6.06

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

**EIRP**    (\* P/M: Power Meter with power sensor, AV: Average)

**Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5180.0	-0.54	1.59	10.02	0.00	-0.50	10.57	11.41	-	-	-
Mid	5220.0	-0.41	1.59	10.02	0.00	-0.50	10.70	11.76	-	-	-
High	5240.0	-0.68	1.59	10.02	0.00	-0.50	10.43	11.05	-	-	-

Sample Calculation:    Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

**[Pre check]**

**Antenna**

Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
0	5220.0	-0.44	1.59	10.02	0.00	11.17
1	5220.0	-0.42	1.59	10.02	0.00	11.19
2	5220.0	-0.47	1.59	10.02	0.00	11.14
3	5220.0	-0.41	1.59	10.02	0.00	11.20
4	5220.0	-0.42	1.59	10.02	0.00	11.19
5	5220.0	-0.44	1.59	10.02	0.00	11.17
6	5220.0	-0.42	1.59	10.02	0.00	11.19
7	5220.0	-0.43	1.59	10.02	0.00	11.18

**Worst**


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Revised date : July 24, 2012

## Maximum Conducted Output Power (Conducted)

Test place: UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room  
 Date: June 18, 2012  
 Temperature / Humidity: 26 deg.C , 58 %RH  
 Engineer: Shinichi Takano  
 Mode: Tx, IEE802.11a (W53), PN9, worst data mode : 6 Mbps

**Antenna terminal power** (\* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result		Limit		Margin [dB]
						[dBm]	[mW]	[dBm]	[mW]	
Low	5260.0	1.53	1.06	10.03	0.00	12.62	18.26	23.98	250.00	11.36
Mid	5300.0	0.81	1.06	10.03	0.00	11.90	15.47	23.98	250.00	12.08
High	5320.0	0.49	1.06	10.03	0.00	11.58	14.38	23.98	250.00	12.40

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

**EIRP** (\* P/M: Power Meter with power sensor, AV: Average)

**Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5260.0	1.53	1.06	10.03	0.00	1.15	13.77	23.80	-	-	-
Mid	5300.0	0.81	1.06	10.03	0.00	1.15	13.05	20.17	-	-	-
High	5320.0	0.49	1.06	10.03	0.00	1.15	12.73	18.73	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

**[Pre check]**

**Antenna**

Data rate [Mbps]	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
6	5300.0	0.81	1.06	10.03	0.00	11.90
9	5300.0	0.75	1.06	10.03	0.00	11.84
12	5300.0	0.78	1.06	10.03	0.00	11.87
18	5300.0	0.76	1.06	10.03	0.00	11.85
24	5300.0	0.75	1.06	10.03	0.00	11.84
36	5300.0	0.67	1.06	10.03	0.00	11.76
48	5300.0	0.74	1.06	10.03	0.00	11.83
54	5300.0	0.69	1.06	10.03	0.00	11.78

**Worst**

Data rate [Mbps]	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]

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Revised date : July 24, 2012

## Maximum Conducted Output Power (Conducted)

Test place: UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room  
 Date: June 18, 2012  
 Temperature / Humidity: 26 deg.C , 58 %RH  
 Engineer: Shinichi Takano  
 Mode: Tx, IEEE802.11n (HT20) (W53), PN9, worst data mode : 3 (MCS)

**Antenna terminal power** (\* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result		Limit		Margin [dB]
						[dBm]	[mW]	[dBm]	[mW]	
Low	5260.0	0.43	1.06	10.03	0.00	11.52	14.17	23.98	250.00	12.46
Mid	5300.0	-0.28	1.06	10.03	0.00	10.81	12.04	23.98	250.00	13.17
High	5320.0	-0.69	1.06	10.03	0.00	10.40	10.96	23.98	250.00	13.58

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

**EIRP** (\* P/M: Power Meter with power sensor, AV: Average)

**Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5260.0	0.43	1.06	10.03	0.00	1.15	12.67	18.47	-	-	-
Mid	5300.0	-0.28	1.06	10.03	0.00	1.15	11.96	15.69	-	-	-
High	5320.0	-0.69	1.06	10.03	0.00	1.15	11.55	14.28	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

**[Pre check]**

**Antenna**

Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
0	5300.0	-0.30	1.06	10.03	0.00	10.79
1	5300.0	-0.27	1.06	10.03	0.00	10.82
2	5300.0	-0.31	1.06	10.03	0.00	10.78
3	5300.0	-0.25	1.06	10.03	0.00	10.84
4	5300.0	-0.29	1.06	10.03	0.00	10.80
5	5300.0	-0.31	1.06	10.03	0.00	10.78
6	5300.0	-0.29	1.06	10.03	0.00	10.80
7	5300.0	-0.33	1.06	10.03	0.00	10.76

**Worst**


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Revised date : July 24, 2012

## Maximum Conducted Output Power (Conducted)

Test place                      UL Japan, Inc. Shonan EMC Lab.    No.5 Shielded Room  
 Date                                June 18, 2012  
 Temperature / Humidity       26 deg.C                      , 58 %RH  
 Engineer                         Shinichi Takano  
 Mode                                Tx, IEEE802.11a (W56), PN9,    worst data mode :                      6 Mbps

**Antena terminal power**                      (\* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result		Limit		Margin [dB]
						[dBm]	[mW]	[dBm]	[mW]	
Low	5500.0	-1.11	1.06	10.03	0.00	9.98	9.95	23.98	250.00	14.00
Mid	5580.0	-0.95	1.06	10.02	0.00	10.13	10.31	23.98	250.00	13.85
High	5700.0	-2.38	1.05	10.01	0.00	8.68	7.39	23.98	250.00	15.30

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

**EIRP**    (\* P/M: Power Meter with power sensor, AV: Average)    **Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5500.0	-1.11	1.06	10.03	0.00	-0.20	9.78	9.51	-	-	-
Mid	5580.0	-0.95	1.06	10.02	0.00	-0.20	9.93	9.85	-	-	-
High	5700.0	-2.38	1.05	10.01	0.00	-0.20	8.48	7.05	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

**[Pre check]**

**Antenna**

	Data rate [Mbps]	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
	6	5580.0	-0.95	1.06	10.02	0.00	10.13
	9	5580.0	-1.02	1.06	10.02	0.00	10.06
	12	5580.0	-1.03	1.06	10.02	0.00	10.05
	18	5580.0	-0.98	1.06	10.02	0.00	10.10
	24	5580.0	-1.03	1.06	10.02	0.00	10.05
	36	5580.0	-1.09	1.06	10.02	0.00	9.99
	48	5580.0	-1.06	1.06	10.02	0.00	10.02
	54	5580.0	-1.07	1.06	10.02	0.00	10.01

**Worst**


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Revised date : July 24, 2012

## Maximum Conducted Output Power (Conducted)

Test place: UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room  
 Date: June 18, 2012  
 Temperature / Humidity: 26 deg.C , 58 %RH  
 Engineer: Shinichi Takano  
 Mode: Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode : 3 (MCS)

**Antenna terminal power** (\* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result		Limit		Margin [dB]
						[dBm]	[mW]	[dBm]	[mW]	
Low	5500.0	-1.98	1.06	10.03	0.00	9.11	8.15	23.98	250.00	14.87
Mid	5580.0	-1.89	1.06	10.02	0.00	9.19	8.31	23.98	250.00	14.79
High	5700.0	-3.30	1.05	10.01	0.00	7.76	5.98	23.98	250.00	16.22

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

**EIRP** (\* P/M: Power Meter with power sensor, AV: Average)

**Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5500.0	-1.98	1.06	10.03	0.00	-0.20	8.91	7.78	-	-	-
Mid	5580.0	-1.89	1.06	10.02	0.00	-0.20	8.99	7.93	-	-	-
High	5700.0	-3.30	1.05	10.01	0.00	-0.20	7.56	5.71	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

**[Pre check]**

**Antenna**

Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
0	5580.0	-1.91	1.06	10.02	0.00	9.17
1	5580.0	-1.92	1.06	10.02	0.00	9.16
2	5580.0	-1.95	1.06	10.02	0.00	9.13
3	5580.0	-1.89	1.06	10.02	0.00	9.19
4	5580.0	-1.93	1.06	10.02	0.00	9.15
5	5580.0	-1.93	1.06	10.02	0.00	9.15
6	5580.0	-1.94	1.06	10.02	0.00	9.14
7	5580.0	-1.97	1.06	10.02	0.00	9.11

**Worst**


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## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5180 MHz  
                              Tx, IEEE802.11a (W52), PN9, worst data mode 6Mbps

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5150.000	PK	44.3	31.8	16	41.1	51	73.9	22.9	100	342	
Hori.	5150.000	AV	38.7	31.8	16	41.1	45.4	53.9	8.5	100	342	
Vert.	5150.000	PK	45.7	31.8	16	41.1	52.4	73.9	21.5	100	32	
Vert.	5150.000	AV	38.6	31.8	16	41.1	45.3	53.9	8.6	100	32	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3454.000	PK	46.7	28.9	14.5	41.5	48.6	-46.63	-27.00	19.6	100	0	
Hori.	6908.240	PK	58.1	35.6	7.2	41.1	59.8	-35.43	-27.00	8.4	100	0	
Hori.	10360.000	PK	44.6	40	8.8	40.2	53.2	-42.03	-27.00	15.0	100	0	
Vert.	3454.000	PK	46.2	28.9	14.5	41.5	48.1	-47.13	-27.00	20.1	100	0	
Vert.	6906.740	PK	59.8	35.6	7.2	41.1	61.5	-33.73	-27.00	6.7	100	297	
Vert.	10360.000	PK	45.6	40	8.8	40.2	54.2	-41.03	-27.00	14.0	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB



## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012     June 21, 2012     June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                 5240 MHz  
                              Tx, IEEE802.11a (W52), PN9, worst data mode 6Mbps

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3497.000	PK	47.6	28.9	14.5	41.5	49.5	-45.73	-27.00	18.7	100	0	
Hori.	6986.620	PK	58.9	35.8	7.2	41.2	60.7	-34.53	-27.00	7.5	100	295	
Hori.	10480.000	PK	46.7	40.3	8.9	40.2	55.7	-39.53	-27.00	12.5	100	0	
Vert.	3497.000	PK	45.5	28.9	14.5	41.5	47.4	-47.83	-27.00	20.8	100	0	
Vert.	6986.750	PK	59.3	35.8	7.2	41.2	61.1	-34.13	-27.00	7.1	186	331	
Vert.	10480.000	PK	46.7	40.3	8.9	40.2	55.7	-39.53	-27.00	12.5	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5260 MHz  
                              Tx, IEEE802.11a (W53), PN9, worst data mode 6Mbps

### Below 1GHz

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	153.936	QP	22.5	14.8	8.6	31.8	14.1	43.5	29.4	150	5	
Hori.	260.295	QP	21.7	17.6	9.9	31.7	17.5	46	28.5	221	279	
Hori.	640.010	QP	29.5	19.4	9	32	25.9	46	20.1	151	141	
Hori.	910.300	QP	21.5	22	10.1	31.2	22.4	46	23.6	100	109	
Hori.	936.095	QP	21.2	22.3	10.2	31	22.7	46	23.3	100	21	
Vert.	209.122	QP	21.9	16.5	9.3	31.7	16	43.5	27.5	100	353	
Vert.	425.309	QP	21.8	16.4	7.9	31.8	14.3	46	31.7	100	60	
Vert.	910.300	QP	21.2	22	10.1	31.2	22.1	46	23.9	100	309	
Vert.	936.095	QP	21.1	22.3	10.2	31	22.6	46	23.4	100	146	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                           June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                   Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                        Tx,                   5320 MHz  
Tx, IEEE802.11a (W53), PN9, worst data mode 6Mbps

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5350.000	PK	45.8	31.9	16.1	40.7	53.1	73.9	20.8	100	135	
Hori.	10640.000	PK	44.6	40.4	8.9	40.1	53.8	73.9	20.1	100	0	
Hori.	5350.000	AV	37.7	31.9	16.1	40.7	45	53.9	8.9	100	135	
Hori.	10640.000	AV	37.6	40.4	8.9	40.1	46.8	53.9	7.1	100	0	
Vert.	5350.000	PK	45.7	31.9	16.1	40.7	53	73.9	20.9	100	58	
Vert.	10640.000	PK	45.4	40.4	8.9	40.1	54.6	73.9	19.3	100	0	
Vert.	5350.000	AV	37.6	31.9	16.1	40.7	44.9	53.9	9.0	100	58	
Vert.	10640.000	AV	36.4	40.4	8.9	40.1	45.6	53.9	8.3	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3543.000	PK	47.8	29	14.5	41.6	49.7	-45.53	-27.00	18.5	100	0	
Hori.	7093.330	PK	57.6	35.9	7.3	41.2	59.6	-35.63	-27.00	8.6	170	318	
Vert.	3543.000	PK	48.9	29	14.5	41.6	50.8	-44.43	-27.00	17.4	100	0	
Vert.	7093.290	PK	57.6	36	7.3	41.2	59.7	-35.53	-27.00	8.5	192	341	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5180 MHz  
                              Tx, IEEE802.11n (HT20) (W52), PN9, worst data mode 3(MCS)

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5150.000	PK	44.1	31.8	16	41.1	50.8	73.9	23.1	100	342	
Hori.	5150.000	AV	38.4	31.8	16	41.1	45.1	53.9	8.8	100	342	
Vert.	5150.000	PK	45.9	31.8	16	41.1	52.6	73.9	21.3	100	32	
Vert.	5150.000	AV	38.1	31.8	16	41.1	44.8	53.9	9.1	100	32	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3453.000	PK	46.2	28.9	14.5	41.5	48.1	-47.13	-27.00	20.1	100	0	
Hori.	6908.230	PK	58	35.6	7.2	41.1	59.7	-35.53	-27.00	8.5	100	0	
Hori.	10360.000	PK	44.1	40	8.8	40.2	52.7	-42.53	-27.00	15.5	100	0	
Vert.	3453.000	PK	46	28.9	14.5	41.5	47.9	-47.33	-27.00	20.3	100	0	
Vert.	6908.710	PK	60	35.6	7.2	41.1	61.7	-33.53	-27.00	6.5	100	297	
Vert.	10360.000	PK	45.2	40	8.8	40.2	53.8	-41.43	-27.00	14.4	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5240 MHz  
                              Tx, IEEE802.11n (HT20) (W52), PN9, worst data mode 3(MCS)

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3493.000	PK	46.5	28.9	14.5	41.5	48.4	-46.83	-27.00	19.8	100	0	
Hori.	6986.620	PK	59.5	35.8	7.2	41.2	61.3	-33.93	-27.00	6.9	100	299	
Hori.	10480.000	PK	45.3	40.3	8.9	40.2	54.3	-40.93	-27.00	13.9	100	0	
Vert.	3493.000	PK	47.8	28.9	14.5	41.5	49.7	-45.53	-27.00	18.5	100	0	
Vert.	6986.660	PK	59.3	35.8	7.2	41.2	61.1	-34.13	-27.00	7.1	189	300	
Vert.	10480.000	PK	46.7	40.3	8.9	40.2	55.7	-39.53	-27.00	12.5	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5320 MHz  
                              Tx, IEEE802.11n (HT20) (W53), PN9, worst data mode 3(MCS)

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5350.000	PK	46.4	31.9	16.1	40.7	53.7	73.9	20.2	100	143	
Hori.	10640.000	PK	44.6	40.4	8.9	40.1	53.8	73.9	20.1	100	0	
Hori.	5350.000	AV	38.2	31.9	16.1	40.7	45.5	53.9	8.4	100	143	
Hori.	10640.000	AV	37.6	40.4	8.9	40.1	46.8	53.9	7.1	100	0	
Vert.	5350.000	PK	46.1	31.9	16.1	40.7	53.4	73.9	20.5	100	44	
Vert.	10640.000	PK	45.8	40.4	8.9	40.1	55	73.9	18.9	100	0	
Vert.	5350.000	AV	37.4	31.9	16.1	40.7	44.7	53.9	9.2	100	44	
Vert.	10640.000	AV	36.6	40.4	8.9	40.1	45.8	53.9	8.1	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3547.000	PK	47.6	29	14.5	41.6	49.5	-45.73	-27.00	18.7	100	0	
Hori.	7093.220	PK	57.3	35.9	7.3	41.2	59.3	-35.93	-27.00	8.9	186	308	
Vert.	3547.000	PK	48.9	29	14.5	41.6	50.8	-44.43	-27.00	17.4	100	0	
Vert.	7092.465	PK	57.4	35.9	7.3	41.2	59.4	-35.83	-27.00	8.8	197	340	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012     June 21, 2012     June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                      Tx,                 5500 MHz  
                              Tx, IEEE802.11a (W56), PN9, worst data mode 6Mbps

### Below 1GHz and above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3670.000	PK	47.5	29.2	14.8	41.7	49.8	73.9	24.1	100	0	
Hori.	5460.000	PK	45.8	32	16.2	40.5	53.5	73.9	20.4	100	351	
Hori.	7333.370	PK	51.8	36.2	7.6	41.2	54.4	73.9	19.5	142	10	
Hori.	11000.000	PK	46.8	40.4	9	40.1	56.1	73.9	17.8	100	0	
Hori.	3670.000	AV	37	29.2	14.8	41.7	39.3	53.9	14.6	100	0	
Hori.	5460.000	AV	37.1	32	16.2	40.5	44.8	53.9	9.1	100	351	
Hori.	7333.370	AV	47	36.2	7.6	41.2	49.6	53.9	4.3	142	10	
Hori.	11000.000	AV	35.8	40.4	9	40.1	45.1	53.9	8.8	100	0	
Vert.	3670.000	PK	47.6	29.2	14.8	41.7	49.9	73.9	24.0	100	0	
Vert.	5460.000	PK	46.5	32	16.2	40.5	54.2	73.9	19.7	100	12	
Vert.	7333.390	PK	51.6	36.2	7.6	41.2	54.2	73.9	19.7	192	314	
Vert.	11000.000	PK	46.2	40.4	9	40.1	55.5	73.9	18.4	100	0	
Vert.	3670.000	AV	36.5	29.2	14.8	41.7	38.8	53.9	15.1	100	0	
Vert.	5460.000	AV	37.6	32	16.2	40.5	45.3	53.9	8.6	100	12	
Vert.	7333.390	AV	46.2	36.2	7.6	41.2	48.8	53.9	5.1	192	314	
Vert.	11000.000	AV	36.8	40.4	9	40.1	46.1	53.9	7.8	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5470.000	PK	45.6	32	16.2	40.5	53.3	-41.93	-27.00	14.9	100	351	
Vert.	5470.000	PK	47.8	32	16.2	40.5	55.5	-39.73	-27.00	12.7	100	12	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB



## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.    No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH       23 , 40%RH       22 , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                      Tx,                    5580 MHz  
                              Tx, IEEE802.11a (W56), PN9, worst data mode 6Mbps

### Below 1GHz and above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3723.000	PK	47.6	29.3	14.8	41.7	50	73.9	23.9	100	0	
Hori.	7439.880	PK	51.3	36.3	7.7	41.3	54	73.9	19.9	100	296	
Hori.	11160.000	PK	45.6	40.3	9.1	40.1	54.9	73.9	19.0	100	0	
Hori.	3723.000	AV	35.6	29.3	14.8	41.7	38	53.9	15.9	100	0	
Hori.	7439.880	AV	46.8	36.3	7.7	41.3	49.5	53.9	4.4	100	296	
Hori.	11160.000	AV	36.9	40.3	9.1	40.1	46.2	53.9	7.7	100	0	
Vert.	3723.000	PK	47.3	29.3	14.8	41.7	49.7	73.9	24.2	100	0	
Vert.	7439.880	PK	52.5	36.3	7.7	41.3	55.2	73.9	18.7	209	320	
Vert.	11160.000	PK	46.8	40.3	9.1	40.1	56.1	73.9	17.8	100	0	
Vert.	3723.000	AV	34.7	29.3	14.8	41.7	37.1	53.9	16.8	100	0	
Vert.	7439.880	AV	49.2	36.3	7.7	41.3	51.9	53.9	2.0	209	320	
Vert.	11160.000	AV	37.6	40.3	9.1	40.1	46.9	53.9	7.0	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.    No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                      Tx,                    5700 MHz  
                              Tx, IEEE802.11a (W56), PN9, worst data mode 6Mbps

### Below 1GHz and above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3807.000	PK	45.6	29.5	14.9	41.8	48.2	73.9	25.7	100	0	
Hori.	7600.060	PK	51.9	36.8	7.8	41.2	55.3	73.9	18.6	158	12	
Hori.	11400.000	PK	46.2	40.2	9.5	40	55.9	73.9	18.0	100	0	
Hori.	3807.000	AV	35.6	29.5	14.9	41.8	38.2	53.9	15.7	100	0	
Hori.	7600.060	AV	48.7	36.8	7.8	41.2	52.1	53.9	1.8	158	12	
Hori.	11400.000	AV	36.1	40.2	9.5	40	45.8	53.9	8.1	100	0	
Vert.	3807.000	PK	45.3	29.5	14.9	41.8	47.9	73.9	26.0	100	0	
Vert.	7600.160	PK	50.6	36.8	7.8	41.2	54	73.9	19.9	100	346	
Vert.	11400.000	PK	46.5	40.2	9.5	40	56.2	73.9	17.7	100	0	
Vert.	3807.000	AV	36.7	29.5	14.9	41.8	39.3	53.9	14.6	100	0	
Vert.	7600.160	AV	44.6	36.8	7.8	41.2	48	53.9	5.9	100	346	
Vert.	11400.000	AV	36.7	40.2	9.5	40	46.4	53.9	7.5	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5725.000	PK	44.2	32.3	16.3	40.5	52.3	-42.93	-27.00	15.9	100	324	
Vert.	5725.000	PK	47.6	32.3	16.3	40.5	55.7	-39.53	-27.00	12.5	100	17	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5500 MHz  
                              Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode 3(MCS)

### Above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3670.000	PK	47.2	29.2	14.8	41.7	49.5	73.9	24.4	100	0	
Hori.	5460.000	PK	45.6	32	16.2	40.5	53.3	73.9	20.6	100	342	
Hori.	7333.330	PK	52	36.2	7.6	41.3	54.5	73.9	19.4	164	33	
Hori.	11000.000	PK	47	40.4	9	40.1	56.3	73.9	17.6	100	0	
Hori.	3670.000	AV	36.9	29.2	14.8	41.7	39.2	53.9	14.7	100	0	
Hori.	5460.000	AV	37.3	32	16.2	40.5	45	53.9	8.9	100	342	
Hori.	7333.330	AV	46.4	36.2	7.6	41.3	48.9	53.9	5.0	164	33	
Hori.	11000.000	AV	35.3	40.4	9	40.1	44.6	53.9	9.3	100	0	
Vert.	3670.000	PK	47.1	29.2	14.8	41.7	49.4	73.9	24.5	100	0	
Vert.	5460.000	PK	46.4	32	16.2	40.5	54.1	73.9	19.8	100	23	
Vert.	7333.310	PK	51.8	36.2	7.6	41.3	54.3	73.9	19.6	167	280	
Vert.	11000.000	PK	46.7	40.4	9	40.1	56	73.9	17.9	100	0	
Vert.	3670.000	AV	36.2	29.2	14.8	41.7	38.5	53.9	15.4	100	0	
Vert.	5460.000	AV	37.9	32	16.2	40.5	45.6	53.9	8.3	100	23	
Vert.	7333.310	AV	46.1	36.2	7.6	41.3	48.6	53.9	5.3	167	280	
Vert.	11000.000	AV	36.3	40.4	9	40.1	45.6	53.9	8.3	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5470.000	PK	45.3	32	16.2	40.5	53	-42.23	-27.00	15.2	100	342	
Vert.	5470.000	PK	47.3	32	16.2	40.5	55	-40.23	-27.00	13.2	100	23	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.     No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                     Tx,                   5580 MHz  
                              Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode 3(MCS)

### Below 1GHz and above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	233.842	QP	21.7	17	9.6	31.7	16.6	46	29.4	280	274	
Hori.	639.999	QP	30.2	19.4	9	32	26.6	46	19.4	139	129	
Hori.	775.289	QP	21.9	20.7	9.5	31.8	20.3	46	25.7	100	197	
Hori.	910.300	QP	21.5	22	10.1	31.2	22.4	46	23.6	150	14	
Hori.	936.100	QP	21.3	22.3	10.2	31	22.8	46	23.2	100	285	
Vert.	161.375	QP	22	15.1	8.7	31.8	14	43.5	29.5	100	167	
Vert.	318.900	QP	21.7	14.5	7.1	31.7	11.6	46	34.4	100	280	
Vert.	910.300	QP	21.5	22	10.1	31.2	22.4	46	23.6	100	351	
Vert.	936.100	QP	21.1	22.3	10.2	31	22.6	46	23.4	100	357	
Hori.	3717.000	PK	47.6	29.3	14.8	41.7	50	73.9	23.9	100	0	
Hori.	7439.880	PK	51	36.3	7.7	41.3	53.7	73.9	20.2	100	307	
Hori.	11160.000	PK	44.9	40.3	9.1	40.1	54.2	73.9	19.7	100	0	
Hori.	3717.000	AV	35.2	29.3	14.8	41.7	37.6	53.9	16.3	100	0	
Hori.	7439.880	AV	46.4	36.3	7.7	41.3	49.1	53.9	4.8	100	307	
Hori.	11160.000	AV	36.6	40.3	9.1	40.1	45.9	53.9	8.0	100	0	
Vert.	3717.000	PK	47	29.3	14.8	41.7	49.4	73.9	24.5	100	0	
Vert.	7439.880	PK	52.2	36.3	7.7	41.3	54.9	73.9	19.0	187	287	
Vert.	11160.000	PK	46.8	40.3	9.1	40.1	56.1	73.9	17.8	100	0	
Vert.	3717.000	AV	34.2	29.3	14.8	41.7	36.6	53.9	17.3	100	0	
Vert.	7439.880	AV	48.8	36.3	7.7	41.3	51.5	53.9	2.4	187	287	
Vert.	11160.000	AV	37.3	40.3	9.1	40.1	46.6	53.9	7.3	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - 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).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Radiated Emission

Test place                   UL Japan, Inc. Shonan EMC Lab.    No.1 Semi Anechoic Chamber  
Date                         June 20, 2012           June 21, 2012           June 22, 2012  
Temperature / Humidity   24deg.C , 43%RH   23deg.C , 40%RH   22deg.C , 46%RH  
Engineer                 Kenichi Adachi   Kenichi Adachi   Kenichi Adachi  
Mode                      Tx,                    5700 MHz  
                              Tx, IEEE802.11n (HT20) (W56), PN9, worst data mode 3(MCS)

### Below 1GHz and above 1GHz Inside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	3793.000	PK	45.3	29.5	14.9	41.8	47.9	73.9	26.0	100	0	
Hori.	7599.835	PK	51.3	36.8	7.8	41.2	54.7	73.9	19.2	100	33	
Hori.	11400.000	PK	46	40.2	9.5	40	55.7	73.9	18.2	100	0	
Hori.	3793.000	AV	35.2	29.5	14.9	41.8	37.8	53.9	16.1	100	0	
Hori.	7599.835	AV	48.4	36.8	7.8	41.2	51.8	53.9	2.1	100	33	
Hori.	11400.000	AV	35.8	40.2	9.5	40	45.5	53.9	8.4	100	0	
Vert.	3793.000	PK	45.6	29.5	14.9	41.8	48.2	73.9	25.7	100	0	
Vert.	7599.835	PK	49.9	36.8	7.8	41.2	53.3	73.9	20.6	100	324	
Vert.	11400.000	PK	46.1	40.2	9.5	40	55.8	73.9	18.1	100	0	
Vert.	3793.000	AV	36.9	29.5	14.9	41.8	39.5	53.9	14.4	100	0	
Vert.	7599.835	AV	44.8	36.8	7.8	41.2	48.2	53.9	5.7	100	324	
Vert.	11400.000	AV	36.1	40.2	9.5	40	45.8	53.9	8.1	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

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

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

### Above 1GHz Outside of the restricted band

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

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.	5725.000	PK	44.1	32.3	16.3	40.5	52.2	-43.03	-27.00	16.0			
Vert.	5725.000	PK	47	32.3	16.3	40.5	55.1	-40.13	-27.00	13.1			

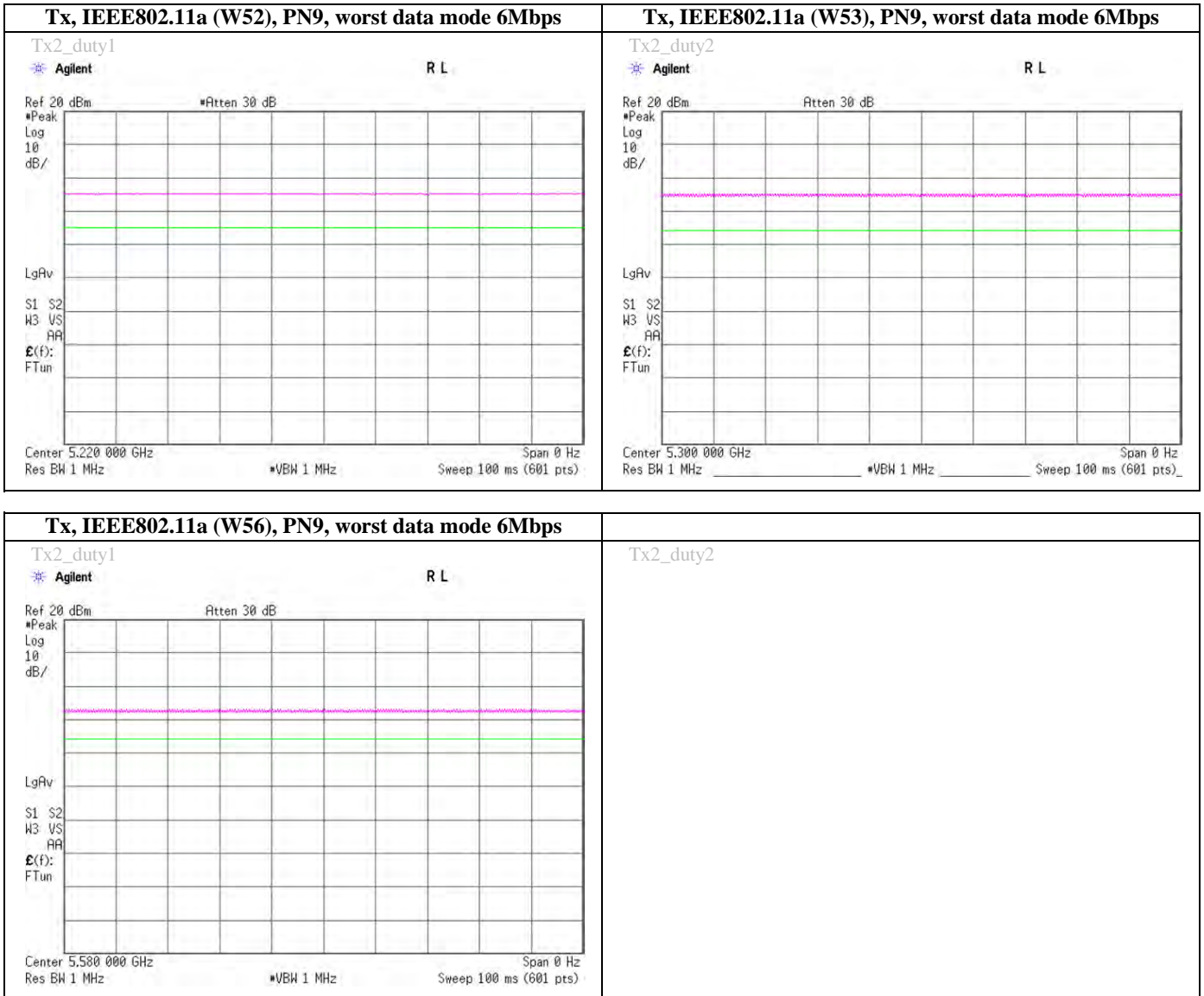
Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

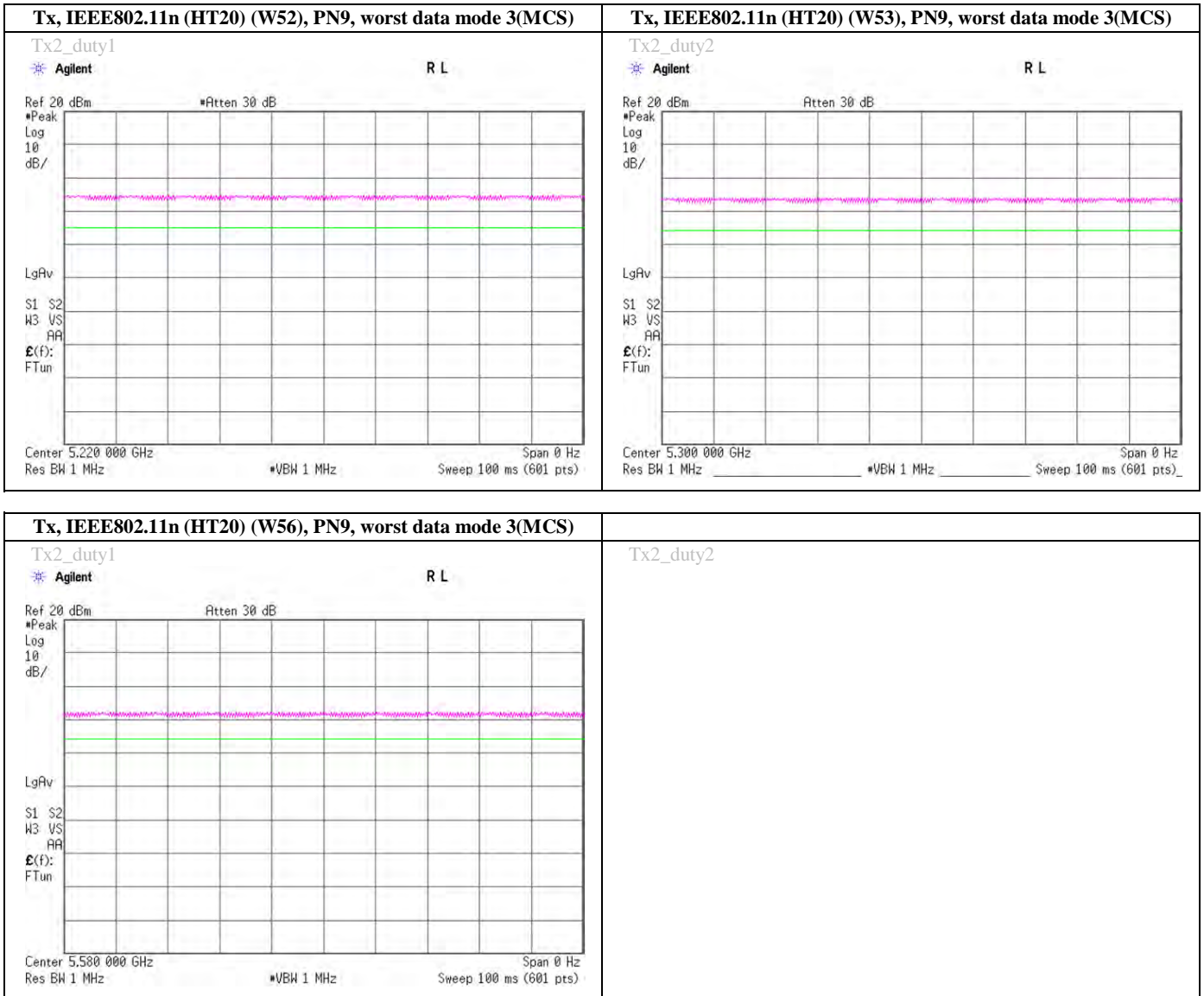
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Distance factor:           15GHz-40GHz           20log(3.0m/1.0m)= 9.5dB

## Burst rate confirmation



## Burst rate confirmation



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