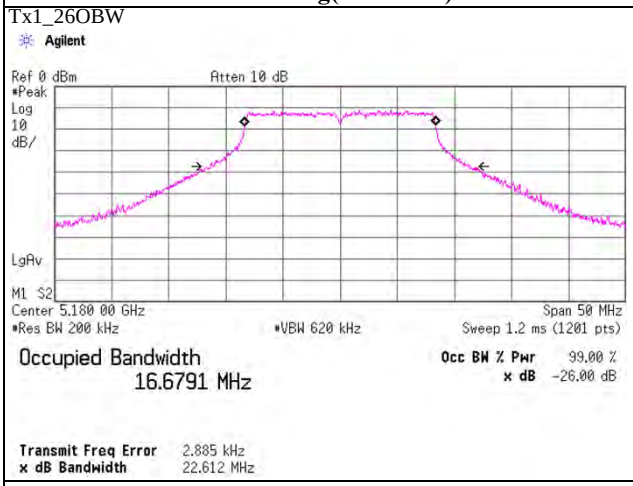
-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	August 25, 2011	
Temperature / Humidity	27deg.C , 60%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	22.612	17.668
5220.0000	23.128	17.645
5240.0000	23.445	17.685

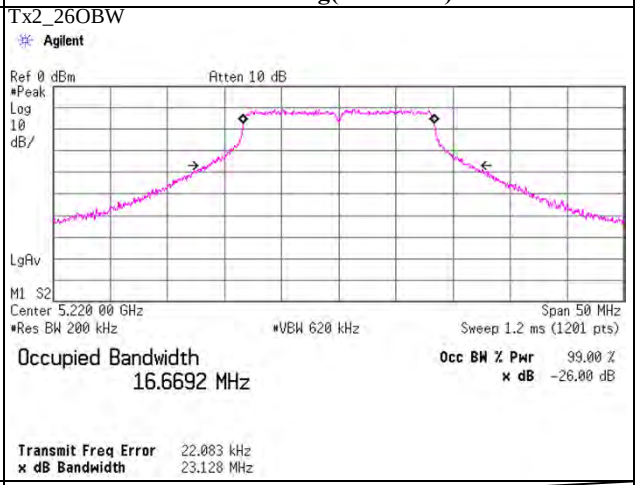
Transmitting(5180MHz)

Tx1_26OBW



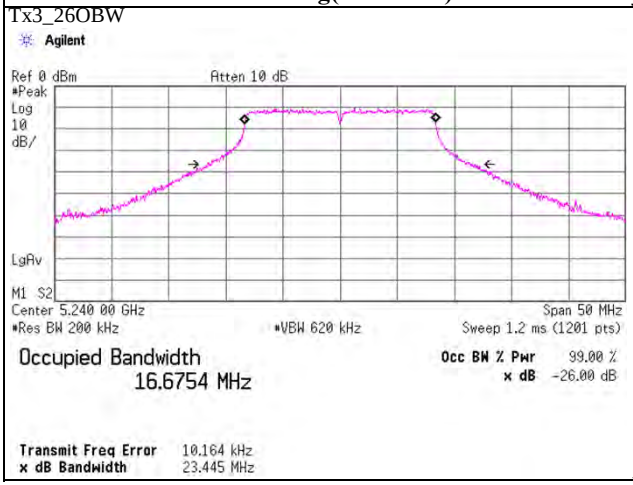
Transmitting(5220MHz)

Tx2_26OBW



Transmitting(5240MHz)

Tx3_26OBW



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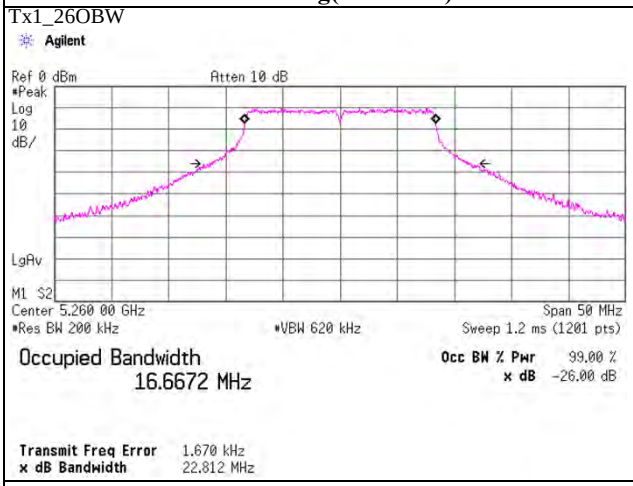
-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	August 25, 2011	
Temperature / Humidity	27deg.C , 60%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	22.812	17.641
5300.0000	22.917	17.653
5320.0000	22.630	17.689

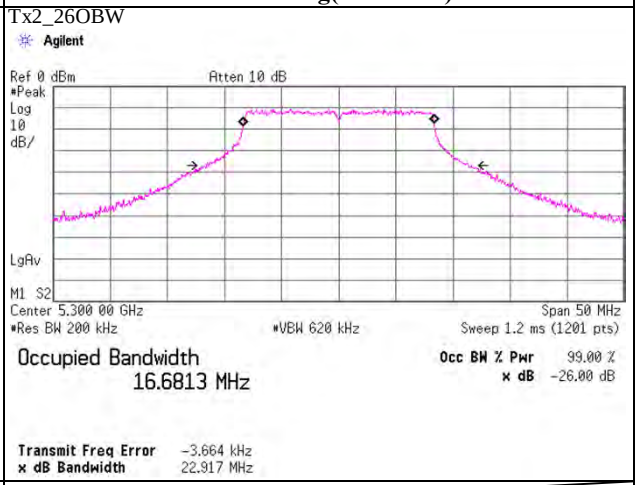
Transmitting(5260MHz)

Tx1_26OBW



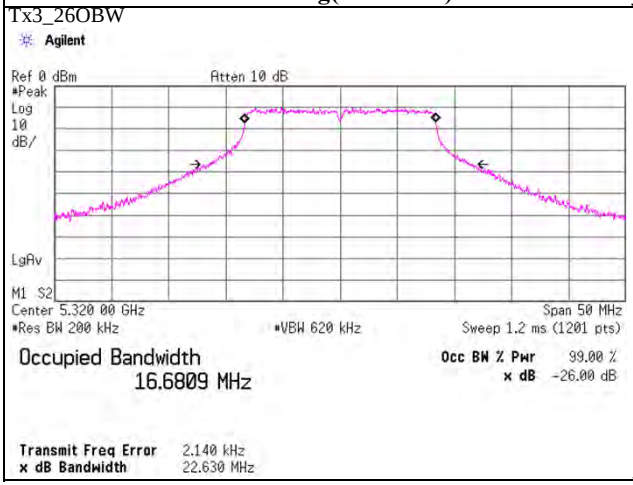
Transmitting(5300MHz)

Tx2_26OBW



Transmitting(5320MHz)

Tx3_26OBW



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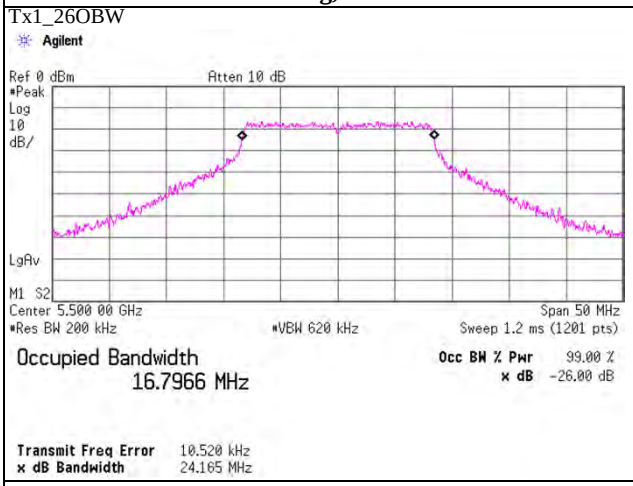
-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 17, 2011	
Temperature / Humidity	23deg.C , 46%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	24.165	17.859
5580.0000	24.144	17.884
5700.0000	24.411	17.897

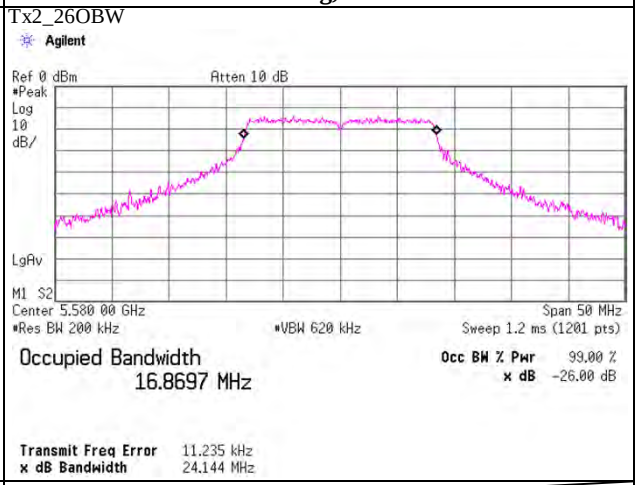
Transmitting, 5500MHz

Tx1_26OBW



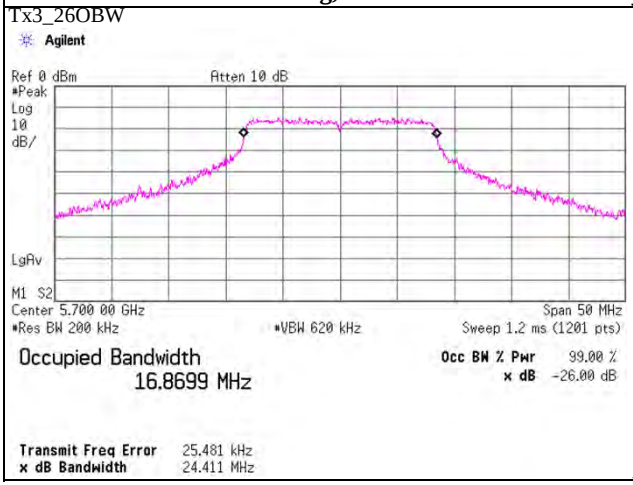
Transmitting, 5580MHz

Tx2_26OBW



Transmitting, 5700MHz

Tx3_26OBW



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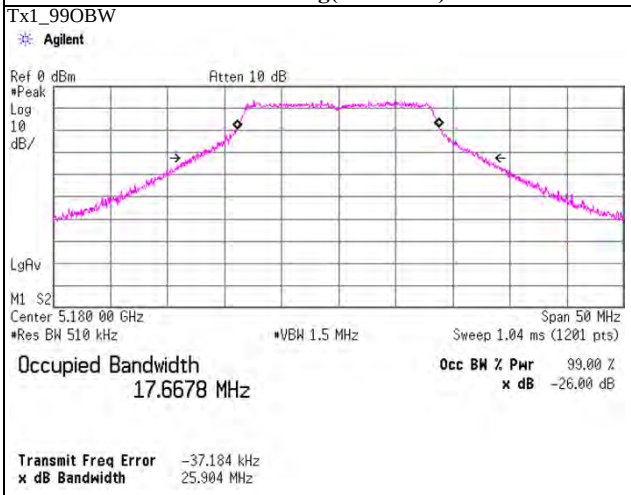
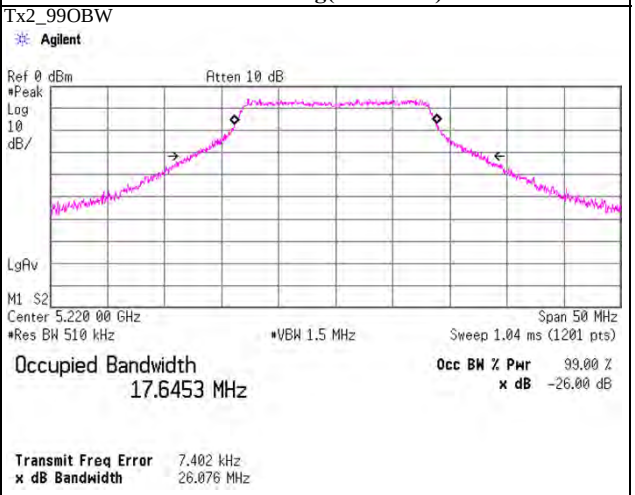
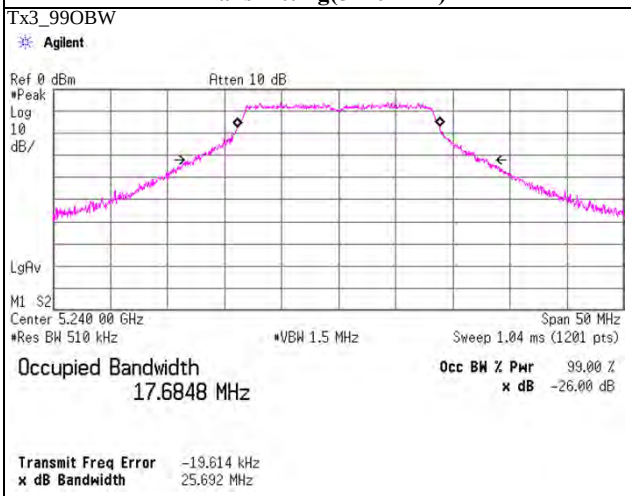
99% Occupied Bandwidth

Tx, IEEE802.11a, worst antenna port Main, worst data mode 24Mbps	
Transmitting(5180MHz)	**Transmitting(5220MHz)**
Tx1_99OBW 	Tx2_99OBW 
Transmitting(5240MHz)	
Tx3_99OBW 	

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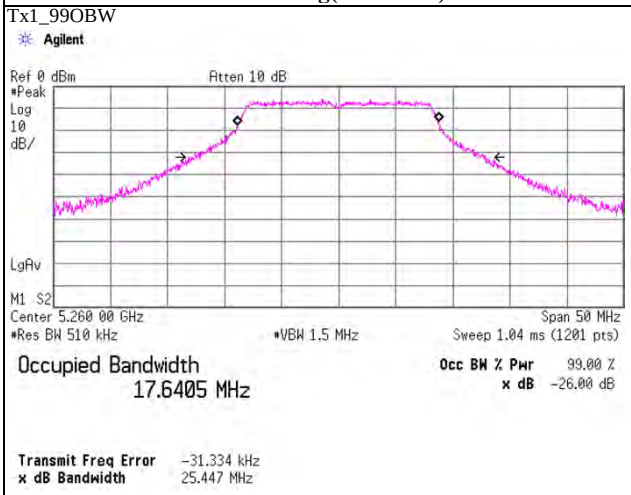
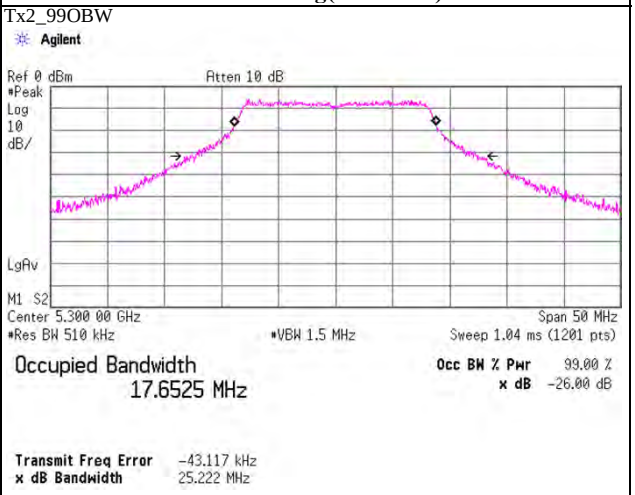
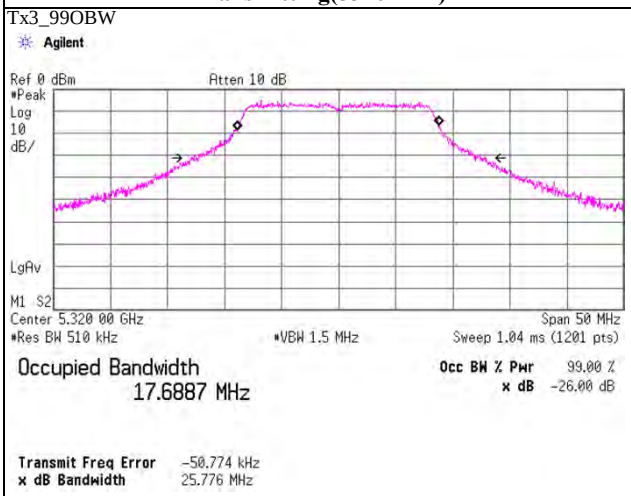
99% Occupied Bandwidth

Tx, IEEE802.11a, worst antenna port Main, worst data mode 24Mbps	
Transmitting(5260MHz)	**Transmitting(5300MHz)**
Tx1_99OBW 	Tx2_99OBW 
Transmitting(5320MHz)	
Tx3_99OBW 	

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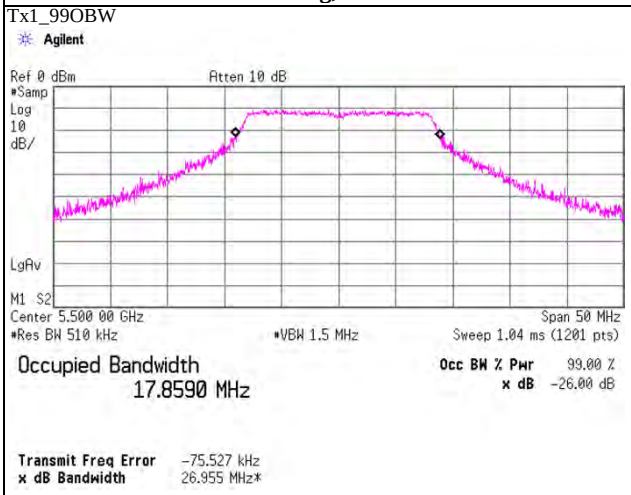
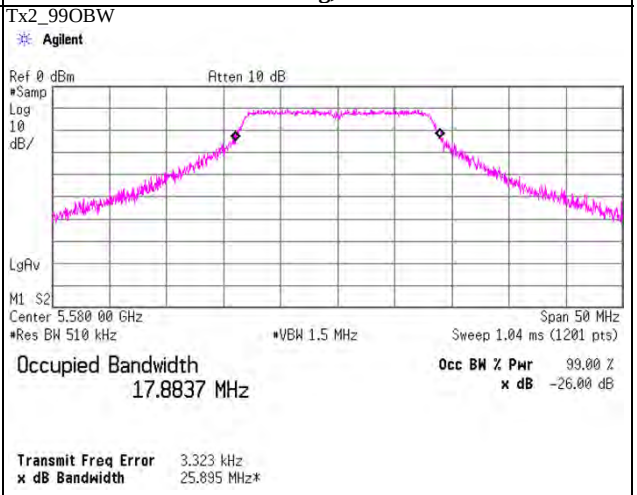
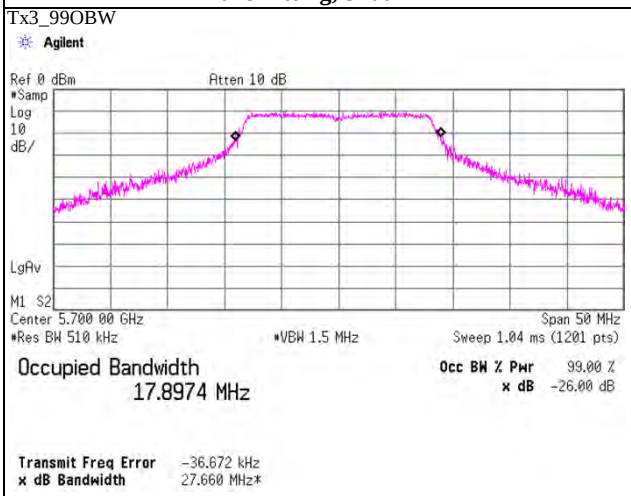
99% Occupied Bandwidth

Tx, IEEE802.11a, worst antenna port Main, worst data mode 6Mbps	
Transmitting, 5500MHz	**Transmitting, 5580MHz**
Tx1_99OBW 	Tx2_99OBW 
Transmitting, 5700MHz	
Tx3_99OBW 	

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Peak Output Power (Conducted)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	August 19, 2011		
Temperature / Humidity	28deg.C , 47%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11a, PN9,	worst antenna : Main	worst data mode : 24 Mbps

(* S/A: Spectrum Analyzer)

Ch	Freq. [MHz]	S/A (Average) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5180.0	-1.10	2.54	9.64	11.08	12.82	16.99	50.00	5.91
Mid	5220.0	-1.15	2.60	9.63	11.08	12.82	16.99	50.00	5.91
High	5240.0	-1.10	2.60	9.62	11.12	12.94	16.99	50.00	5.87
Low	5260.0	-1.14	2.59	9.62	11.07	12.79	23.98	250.00	12.91
Mid	5300.0	-1.21	2.54	9.61	10.94	12.42	23.98	250.00	13.04
High	5320.0	-1.28	2.52	9.60	10.84	12.13	23.98	250.00	13.14

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

[Pre check]

Antenna Main

	Data rate [Mbps]	Freq. [MHz]	S/A (Average) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Main	6	5260.0	-1.21	2.59	9.62	11.00	12.59	23.98	250.00	12.98
Main	9	5260.0	-1.17	2.59	9.62	11.04	12.71	23.98	250.00	12.94
Main	12	5260.0	-1.24	2.59	9.62	10.97	12.50	23.98	250.00	13.01
Main	18	5260.0	-1.19	2.59	9.62	11.02	12.65	23.98	250.00	12.96
Main	24	5260.0	-1.14	2.59	9.62	**11.07**	12.79	23.98	250.00	**12.91**
Main	36	5260.0	-1.27	2.59	9.62	10.94	12.42	23.98	250.00	13.04
Main	48	5260.0	-1.20	2.59	9.62	11.01	12.62	23.98	250.00	12.97
Main	54	5260.0	-1.23	2.59	9.62	10.98	12.53	23.98	250.00	13.00

Antenna Sub

	Data rate [Mbps]	Freq. [MHz]	S/A (Average) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Sub	6	5260.0	-2.20	2.59	9.62	10.01	10.02	23.98	250.00	13.97
Sub	9	5260.0	-2.34	2.59	9.62	9.87	9.71	23.98	250.00	14.11
Sub	12	5260.0	-2.24	2.59	9.62	9.97	9.93	23.98	250.00	14.01
Sub	18	5260.0	-2.32	2.59	9.62	9.89	9.75	23.98	250.00	14.09
Sub	24	5260.0	-2.16	2.59	9.62	10.05	10.12	23.98	250.00	13.93
Sub	36	5260.0	-2.36	2.59	9.62	9.85	9.66	23.98	250.00	14.13
Sub	48	5260.0	-2.32	2.59	9.62	9.89	9.75	23.98	250.00	14.09
Sub	54	5260.0	-2.21	2.59	9.62	10.00	10.00	23.98	250.00	13.98

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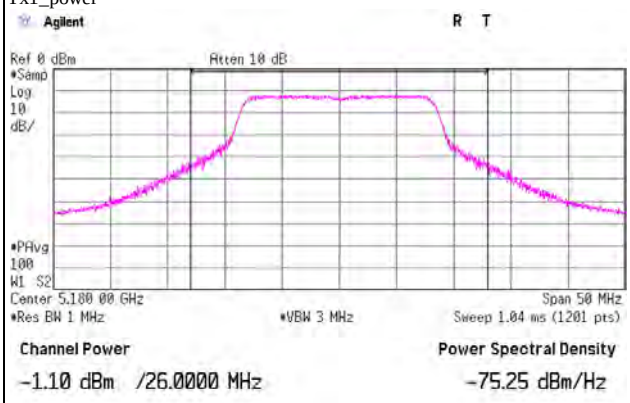
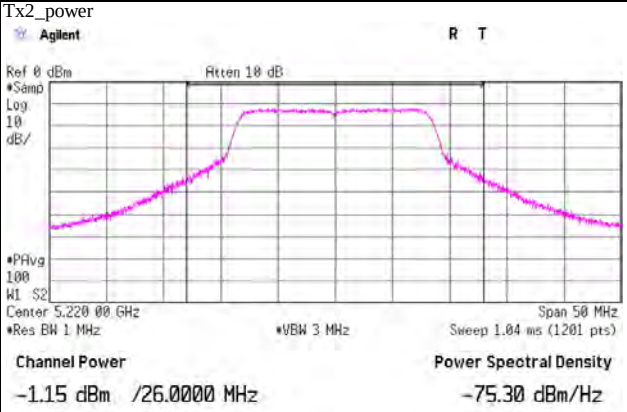
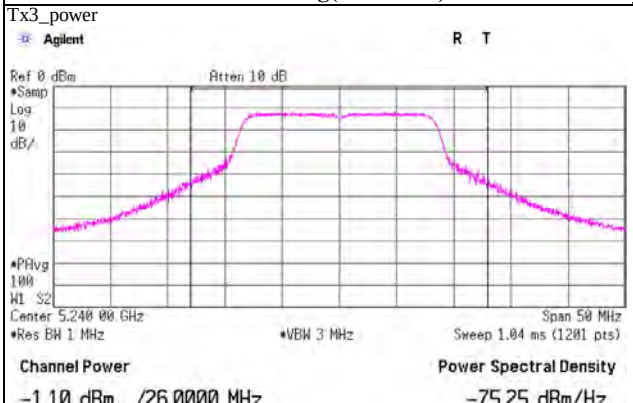
Peak Output Power (Conducted)

Tx, IEEE802.11a, worst antenna port Main, worst data mode 24Mbps	
Transmitting(5180MHz)	**Transmitting(5220MHz)**
Tx1_power 	Tx2_power 
Transmitting(5240MHz)	
Tx3_power 	

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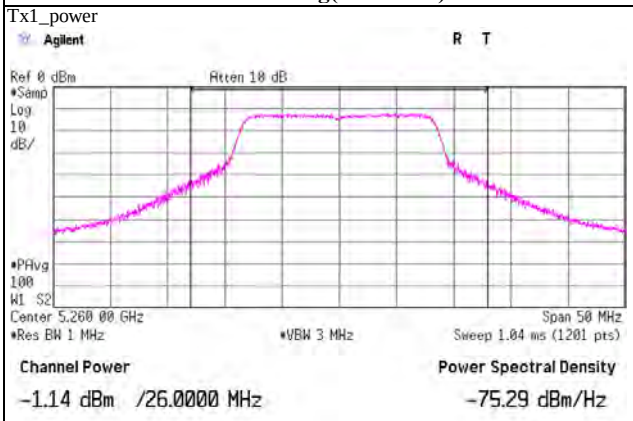
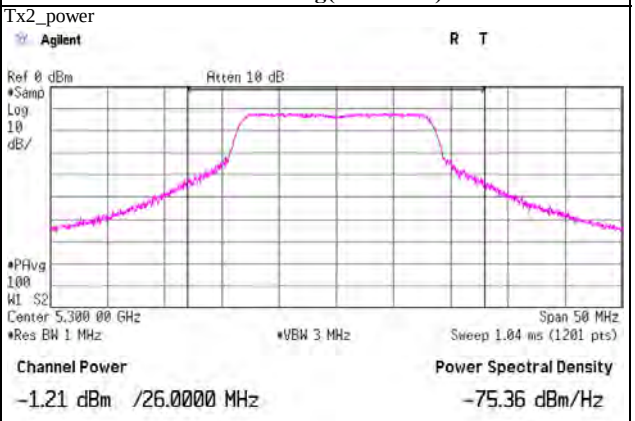
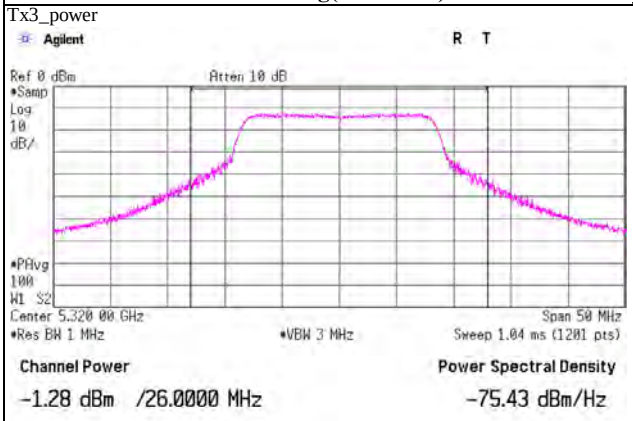
Peak Output Power (Conducted)

Tx, IEEE802.11a, worst antenna port Main, worst data mode 24Mbps	
Transmitting(5260MHz)	**Transmitting(5300MHz)**
Tx1_power 	Tx2_power 
Transmitting(5320MHz)	
Tx3_power 	

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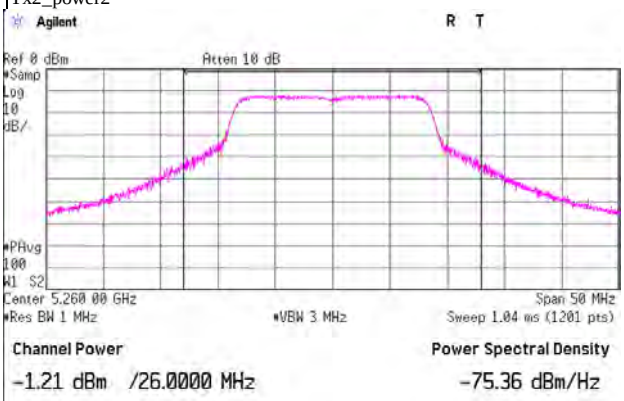
Peak Output Power (Conducted)

(Reference chart)

Tx, IEEE802.11a, antenna port Main,Transmitting(5260MHz)

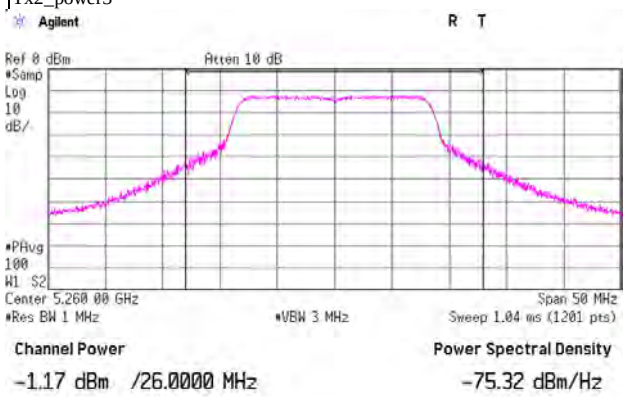
6Mbps

Tx2_power2



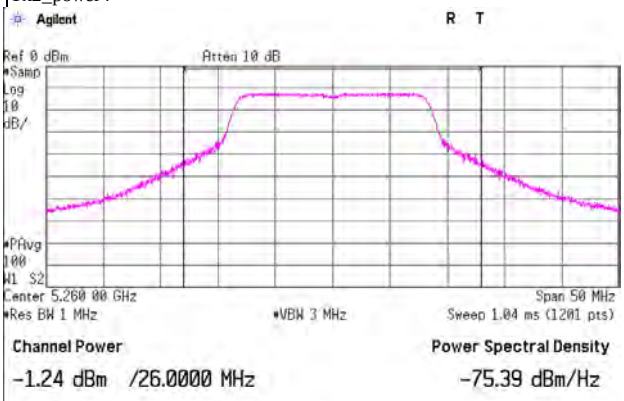
9Mbps

Tx2_power3



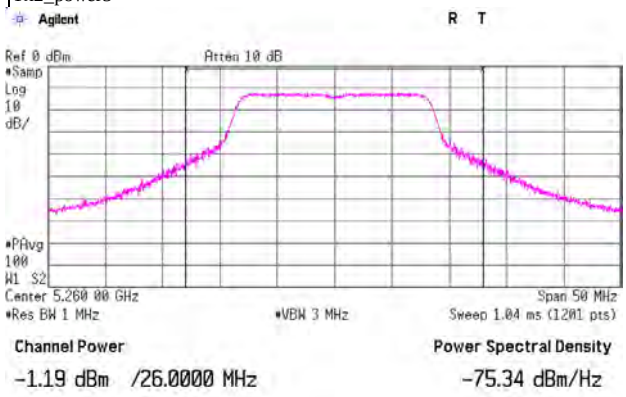
12Mbps

Tx2_power4



18Mbps

Tx2_power5



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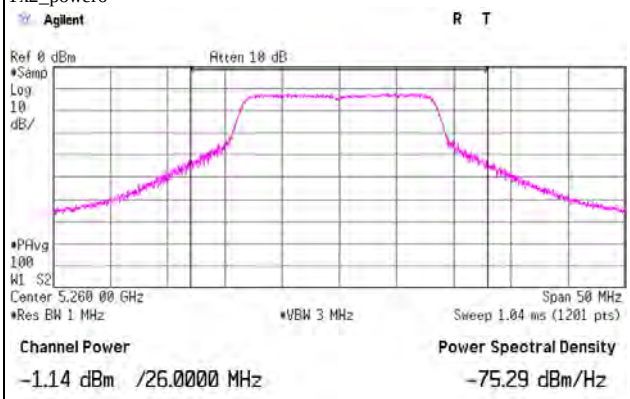
Peak Output Power (Conducted)

(Reference chart)

Tx, IEEE802.11a, antenna port Main,Transmitting(5260MHz)

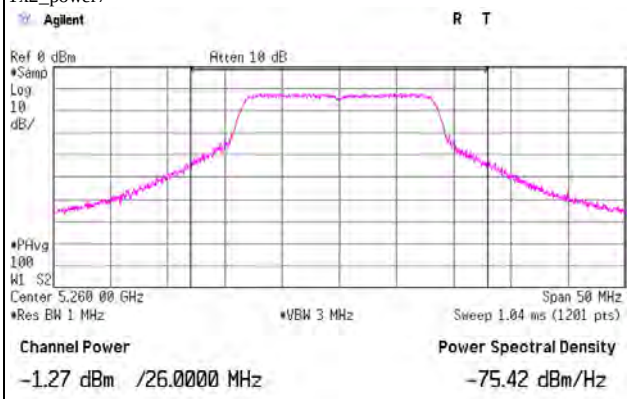
24Mbps

Tx2_power6



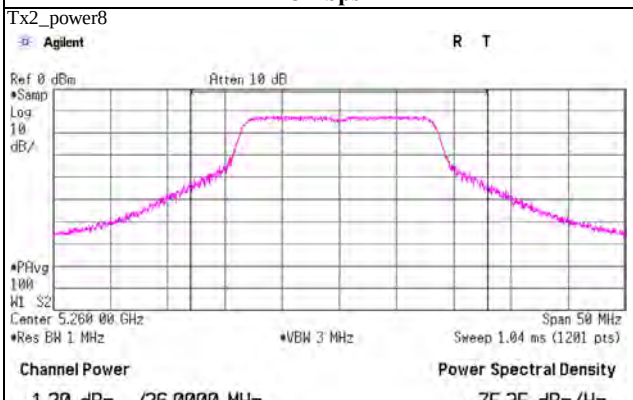
36Mbps

Tx2_power7



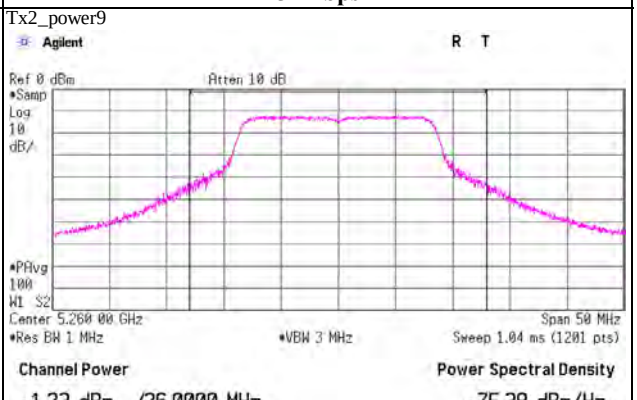
48Mbps

Tx2_power8



54Mbps

Tx2_power9



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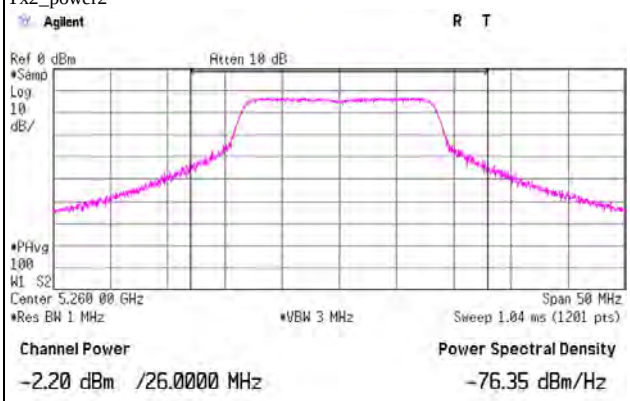
Peak Output Power (Conducted)

(Reference chart)

Tx, IEEE802.11a, antenna port Sub, Transmitting(5260MHz)

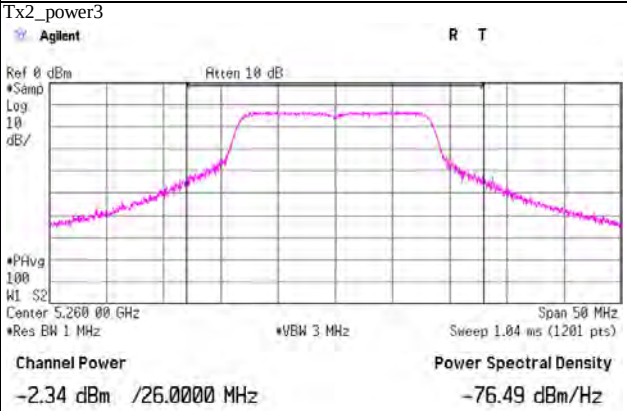
6Mbps

Tx2_power2



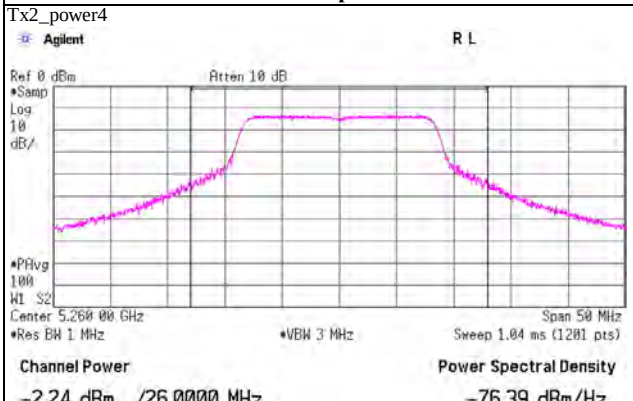
9Mbps

Tx2_power3



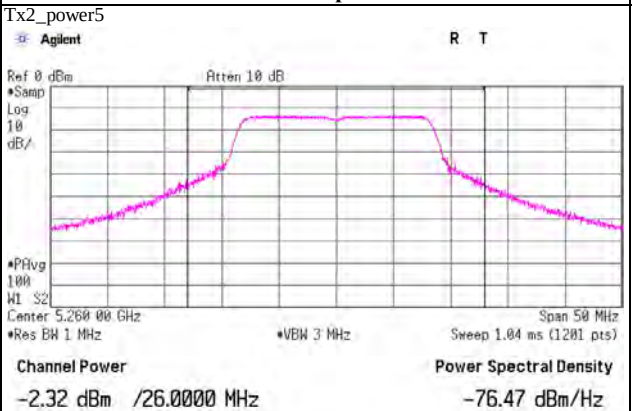
12Mbps

Tx2_power4



18Mbps

Tx2_power5



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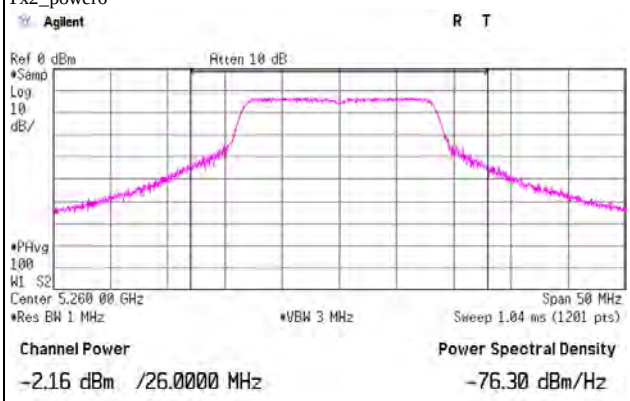
Peak Output Power (Conducted)

(Reference chart)

Tx, IEEE802.11a, antenna port Sub, Transmitting(5260MHz)

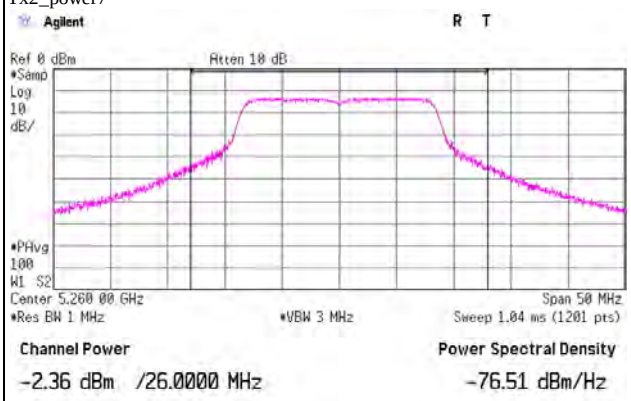
24Mbps

Tx2_power6



36Mbps

Tx2_power7



48Mbps

Tx2_power8

54Mbps

Tx2_power9

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Peak Output Power (Conducted)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	November 02, 2011		
Temperature / Humidity	26deg.C , 48%RH		
Engineer	Tatsuya Arai		
Mode	Tx, IEEE802.11a, PN9,	worst antenna : Main	worst data mode : 6 Mbps

(* S/A: Spectrum Analyzer)

Ch	Freq.	S/A (Average) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-3.25	2.68	9.56	8.99	7.93	23.98	250.00	14.99
Mid	5580.0	-2.92	2.58	9.57	9.23	8.38	23.98	250.00	14.75
High	5700.0	-3.08	2.65	9.60	9.17	8.26	23.98	250.00	14.81

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

[Pre check]
Antenna Main

	Data rate	Freq.	S/A (Average) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Main	6	5580.0	-2.92	2.58	9.57	**9.23**	8.38	23.98	250.00	**14.75**
Main	9	5580.0	-2.98	2.58	9.57	9.17	8.26	23.98	250.00	14.81
Main	12	5580.0	-3.14	2.58	9.57	9.01	7.96	23.98	250.00	14.97
Main	18	5580.0	-3.14	2.58	9.57	9.01	7.96	23.98	250.00	14.97
Main	24	5580.0	-3.08	2.58	9.57	9.07	8.07	23.98	250.00	14.91
Main	36	5580.0	-3.13	2.58	9.57	9.02	7.98	23.98	250.00	14.96
Main	48	5580.0	-3.16	2.58	9.57	8.99	7.93	23.98	250.00	14.99
Main	54	5580.0	-3.05	2.58	9.57	9.10	8.13	23.98	250.00	14.88

Antenna Sub

	Data rate	Freq.	S/A (Average) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Sub	6	5580.0	-3.38	2.62	9.57	8.81	7.60	23.98	250.00	15.17
Sub	9	5580.0	-3.55	2.62	9.57	8.64	7.31	23.98	250.00	15.34
Sub	12	5580.0	-3.41	2.62	9.57	8.78	7.55	23.98	250.00	15.20
Sub	18	5580.0	-3.45	2.62	9.57	8.74	7.48	23.98	250.00	15.24
Sub	24	5580.0	-3.56	2.62	9.57	8.63	7.29	23.98	250.00	15.35
Sub	36	5580.0	-3.46	2.62	9.57	8.73	7.46	23.98	250.00	15.25
Sub	48	5580.0	-3.43	2.62	9.57	8.76	7.52	23.98	250.00	15.22
Sub	54	5580.0	-3.49	2.62	9.57	8.70	7.41	23.98	250.00	15.28

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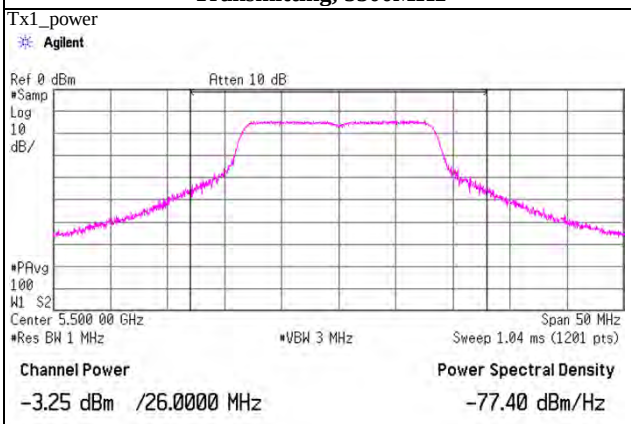
Peak Output Power (Conducted)

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

Transmitting, 5500MHz

Tx1_power

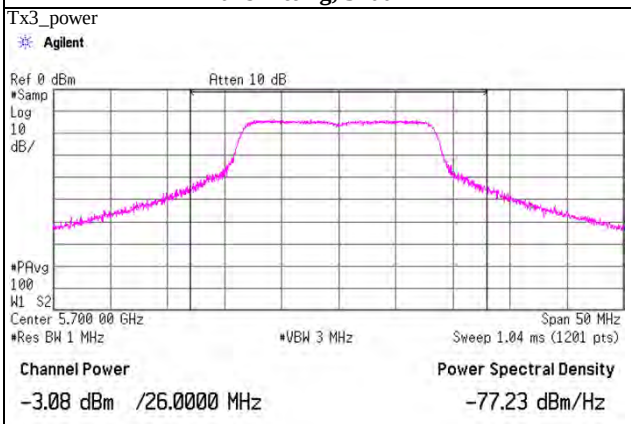


Transmitting, 5580MHz

Tx2_power

Transmitting, 5700MHz

Tx3_power



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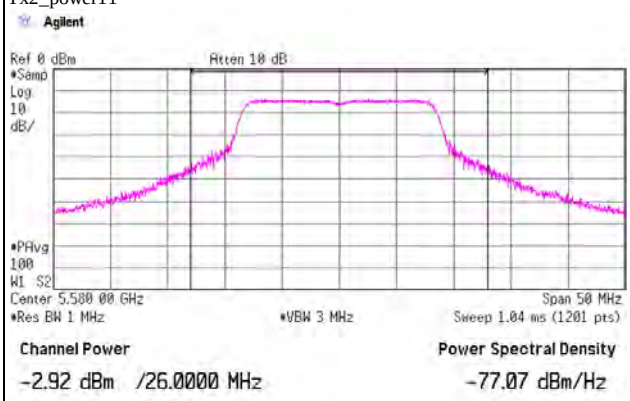
Peak Output Power (Conducted)

(Reference chart)

Tx, IEEE802.11a, antenna port Main, (Tx 5580MHz)

6Mbps

Tx2_power11



9Mbps

Tx2_power12

12Mbps

Tx2_power13

18Mbps

Tx2_power14

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Peak Output Power (Conducted)

(Reference chart)

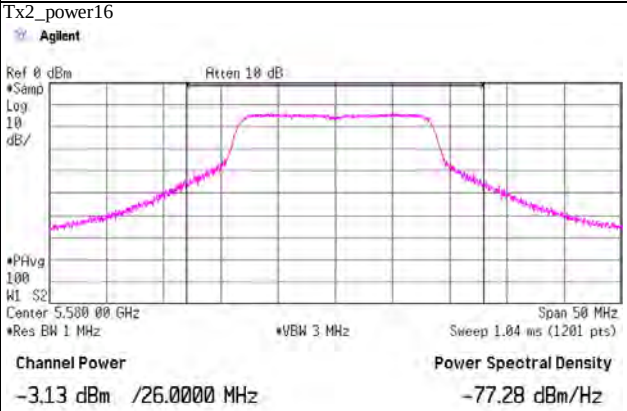
Tx, IEEE802.11a, antenna port Main, (Tx 5580MHz)

24Mbps

Tx2_power15

36Mbps

Tx2_power16



48Mbps

Tx2_power17

54Mbps

Tx2_power18

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Peak Output Power (Conducted)

(Reference chart)

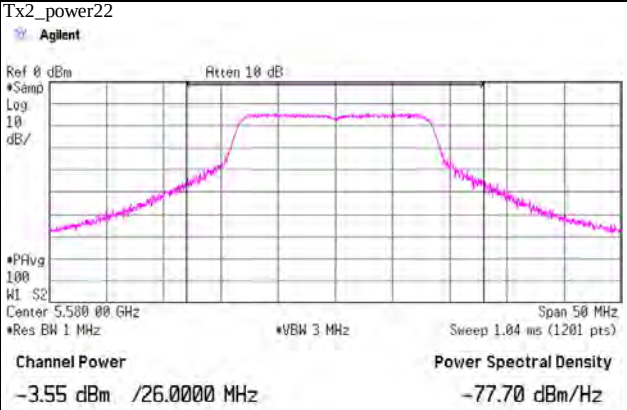
Tx, IEEE802.11a, antenna port Sub, (Tx 5580MHz)

6Mbps

Tx2_power21

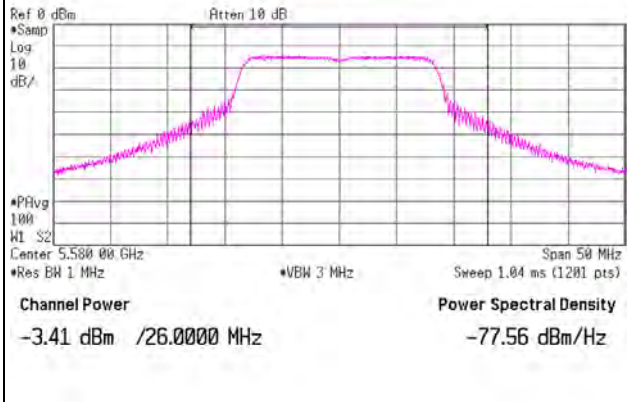
9Mbps

Tx2_power22



12Mbps

Tx2_power23



18Mbps

Tx2_power24

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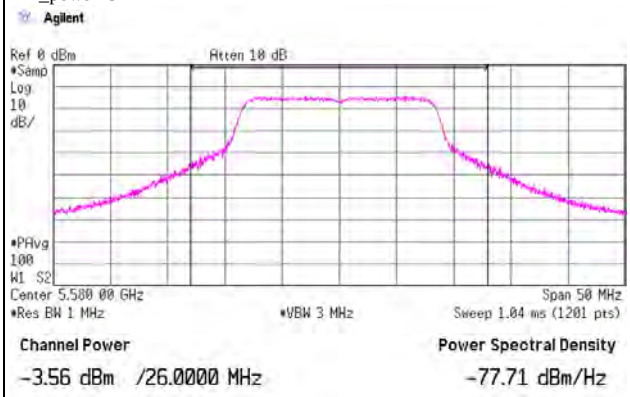
Peak Output Power (Conducted)

(Reference chart)

Tx, IEEE802.11a, antenna port Sub, (Tx 5580MHz)

24Mbps

Tx2_power25



36Mbps

Tx2_power26

48Mbps

Tx2_power27

54Mbps

Tx2_power28

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Peak Output Power (Conducted)

Reference data for SAR testing

Test place	UL Japan, Inc. Shonan EMC Lab.	No.7 Shielded Room
Date	2011/8/22	2011/11/21
Temperature / Humidity	25deg.C. , 60%RH	24deg.C. , 49%RH
Engineer	Hiroshi Naka	Hiroshi Naka
Mode	Tx,	
	11a, 6Mbps	

Main Antenna (* P/M: Power meter)

Ch	Freq.	P/M (Average) Reading	Cable Loss	Atten. Loss	Result	
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
Low	5180.0	-0.31	1.98	10.06	11.73	14.89
Mid	5220.0	-0.57	2.03	10.06	11.52	14.19
High	5240.0	-0.35	2.03	10.06	11.74	14.93
Low	5260.0	-0.39	2.02	10.06	11.69	14.76
Mid	5300.0	-0.21	1.97	10.06	11.82	15.21
High	5320.0	-0.31	1.94	10.06	11.69	14.76
Low	5500.0	-1.13	2.09	10.06	11.02	12.65
Mid	5580.0	-0.65	2.01	10.06	11.42	13.87
High	5700.0	-1.20	2.07	10.06	10.93	12.39

Sub Antenna

Ch	Freq.	P/M (Average) Reading	Cable Loss	Atten. Loss	Result	
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
Low	5180.0	-1.79	2.04	10.06	10.31	10.74
Mid	5220.0	-1.97	2.07	10.06	10.16	10.38
High	5240.0	-1.95	2.08	10.06	10.19	10.45
Low	5260.0	-1.52	2.06	10.06	10.60	11.48
Mid	5300.0	-1.24	2.00	10.06	10.82	12.08
High	5320.0	-1.50	1.97	10.06	10.53	11.30
Low	5500.0	-2.06	2.15	10.06	10.15	10.35
Mid	5580.0	-1.12	2.05	10.06	10.99	12.56
High	5700.0	-1.85	2.12	10.06	10.33	10.79

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Date	August 22, 2011	August 28, 2011	August 29, 2011
Temperature / Humidity	27deg.C , 63%RH	23deg.C , 62%RH	23deg.C , 55%RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5180 MHz		
	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	22.8	10.6	7.3	31.9	8.8	40.0	31.2	200	0	
Hori.	840.390	QP	24.6	21.4	9.7	31.2	24.5	46.0	21.5	100	171	
Hori.	5150.000	PK	49.0	32.1	15.5	40.7	55.9	73.9	18.0	103	0	
Hori.	15540.000	PK	46.8	40.1	0.9	38.7	49.1	73.9	24.8	100	0	
Hori.	20720.000	PK	45.5	40.6	-2.6	43.8	39.7	73.9	34.2	100	0	
Hori.	5150.000	AV	36.5	32.1	15.5	40.7	43.4	53.9	10.5	103	0	
Hori.	15540.000	AV	35.6	40.1	0.9	38.7	37.9	53.9	16.0	100	0	
Hori.	20720.000	AV	35.3	40.6	-2.6	43.8	29.5	53.9	24.4	100	0	
Vert.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	100	0	
Vert.	840.390	QP	23.5	21.4	9.7	31.2	23.4	46.0	22.6	100	0	
Vert.	5150.000	PK	47.8	32.1	15.5	40.7	54.7	73.9	19.2	107	127	
Vert.	15540.000	PK	46.0	40.1	0.9	38.7	48.3	73.9	25.6	100	0	
Vert.	20720.000	PK	46.3	40.6	-2.6	43.8	40.5	73.9	33.4	100	0	
Vert.	5150.000	AV	36.3	32.1	15.5	40.7	43.2	53.9	10.7	107	127	
Vert.	15540.000	AV	35.5	40.1	0.9	38.7	37.8	53.9	16.1	100	0	
Vert.	20720.000	AV	35.8	40.6	-2.6	43.8	30.0	53.9	23.9	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Date	August 22, 2011	August 28, 2011	August 29, 2011
Temperature / Humidity	27deg.C , 63%RH	23deg.C , 62%RH	23deg.C , 55%RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5220 MHz		
	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	200	0	
Hori.	906.985	QP	23.8	22.0	10.0	30.8	25.0	46.0	21.0	100	225	
Hori.	15660.000	PK	45.4	39.9	1.0	38.9	47.4	73.9	26.5	100	0	
Hori.	20880.000	PK	47.5	40.7	-2.5	44.0	41.7	73.9	32.2	100	0	
Hori.	15660.000	AV	34.8	39.9	1.0	38.9	36.8	53.9	17.1	100	0	
Hori.	20880.000	AV	35.5	40.7	-2.5	44.0	29.7	53.9	24.2	100	0	
Vert.	52.000	QP	22.9	10.6	7.3	31.9	8.9	40.0	31.1	100	0	
Vert.	906.985	QP	23.3	22.0	10.0	30.8	24.5	46.0	21.5	100	0	
Vert.	15660.000	PK	46.3	39.9	1.0	38.9	48.3	73.9	25.6	100	0	
Vert.	20880.000	PK	46.8	40.7	-2.5	44.0	41.0	73.9	32.9	100	0	
Vert.	15660.000	AV	34.9	39.9	1.0	38.9	36.9	53.9	17.0	100	0	
Vert.	20880.000	AV	35.6	40.7	-2.5	44.0	29.8	53.9	24.1	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Date	August 22, 2011	August 28, 2011	August 29, 2011
Temperature / Humidity	27deg.C , 63%RH	23deg.C , 62%RH	23deg.C , 55%RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5240 MHz		
	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	200	0	
Hori.	797.668	QP	23.5	21.0	9.5	31.4	22.6	46.0	23.4	100	220	
Hori.	15720.000	PK	45.7	39.7	1.2	39.0	47.6	73.9	26.3	100	0	
Hori.	20960.000	PK	43.4	40.7	-2.5	44.1	37.5	73.9	36.4	100	0	
Hori.	15720.000	AV	35.0	39.7	1.2	39.0	36.9	53.9	17.0	100	0	
Hori.	20960.000	AV	33.5	40.7	-2.5	44.1	27.6	53.9	26.3	100	0	
Vert.	52.000	QP	22.9	10.6	7.3	31.9	8.9	40.0	31.1	100	0	
Vert.	797.668	QP	23.4	21.0	9.5	31.4	22.5	46.0	23.5	100	10	
Vert.	15720.000	PK	46.2	39.7	1.2	39.0	48.1	73.9	25.8	100	0	
Vert.	20960.000	PK	42.7	40.7	-2.5	44.1	36.8	73.9	37.1	100	0	
Vert.	15720.000	AV	34.9	39.7	1.2	39.0	36.8	53.9	17.1	100	0	
Vert.	20960.000	AV	33.6	40.7	-2.5	44.1	27.7	53.9	26.2	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Date	August 22, 2011	August 28, 2011	August 29, 2011
Temperature / Humidity	27deg.C , 63%RH	23deg.C , 62%RH	23deg.C , 55%RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5260 MHz		
	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	200	0	
Hori.	900.640	QP	23.3	22.0	10.0	30.8	24.5	46.0	21.5	100	178	
Hori.	15780.000	PK	45.6	39.6	1.2	39.0	47.4	73.9	26.5	100	0	
Hori.	21040.000	PK	44.9	40.7	-2.5	44.1	39.0	73.9	34.9	100	0	
Hori.	15780.000	AV	35.1	39.6	1.2	39.0	36.9	53.9	17.0	100	0	
Hori.	21040.000	AV	33.5	40.7	-2.5	44.1	27.6	53.9	26.3	100	0	
Vert.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	100	0	
Vert.	900.640	QP	22.9	22.0	10.0	30.8	24.1	46.0	21.9	100	0	
Vert.	15780.000	PK	45.8	39.6	1.2	39.0	47.6	73.9	26.3	100	0	
Vert.	21040.000	PK	44.5	40.7	-2.5	44.1	38.6	73.9	35.3	100	0	
Vert.	15780.000	AV	35.0	39.6	1.2	39.0	36.8	53.9	17.1	100	0	
Vert.	21040.000	AV	33.7	40.7	-2.5	44.1	27.8	53.9	26.1	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Date	August 22, 2011	August 28, 2011	August 29, 2011
Temperature / Humidity	27deg.C , 63%RH	23deg.C , 62%RH	23deg.C , 55%RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5300 MHz		
	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	200	0	
Hori.	910.000	QP	23.4	22.1	10.0	30.8	24.7	46.0	21.3	100	228	
Hori.	10600.000	PK	52.4	40.0	8.9	38.6	62.7	73.9	11.2	100	232	
Hori.	15900.000	PK	46.8	39.4	1.3	39.2	48.3	73.9	25.6	100	0	
Hori.	21040.000	PK	44.1	40.7	-2.5	44.1	38.2	73.9	35.7	100	0	
Hori.	10600.000	AV	39.8	40.0	8.9	38.6	50.1	53.9	3.8	100	232	
Hori.	15900.000	AV	35.2	39.4	1.3	39.2	36.7	53.9	17.2	100	0	
Hori.	21040.000	AV	33.1	40.7	-2.5	44.1	27.2	53.9	26.7	100	0	
Hori.	26500.000	AV	36.9	40.0	-1.6	46.0	29.3	53.9	24.6	100	0	
Vert.	52.000	QP	23.1	10.6	7.3	31.9	9.1	40.0	30.9	100	0	
Vert.	910.000	QP	23.0	22.1	10.0	30.8	24.3	46.0	21.7	100	0	
Vert.	10600.000	PK	56.9	40.0	8.9	38.6	67.2	73.9	6.7	101	54	
Vert.	15900.000	PK	46.0	39.4	1.3	39.2	47.5	73.9	26.4	100	0	
Vert.	21040.000	PK	44.5	40.7	-2.5	44.1	38.6	73.9	35.3	100	0	
Vert.	10600.000	AV	43.1	40.0	8.9	38.6	53.4	53.9	0.5	101	54	
Vert.	15900.000	AV	35.0	39.4	1.3	39.2	36.5	53.9	17.4	100	0	
Vert.	21040.000	AV	33.4	40.7	-2.5	44.1	27.5	53.9	26.4	100	0	
Vert.	26500.000	AV	36.9	40.0	-1.6	46.0	29.3	53.9	24.6	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Date	August 22, 2011	August 28, 2011	August 29, 2011
Temperature / Humidity	27deg.C , 63%RH	23deg.C , 62%RH	23deg.C , 55%RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5320 MHz		
	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 24Mbps		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	200	0	
Hori.	948.984	QP	22.5	22.5	10.2	30.6	24.6	46.0	21.4	100	212	
Hori.	5350.000	PK	51.5	32.3	15.7	40.6	58.9	73.9	15.0	100	4	
Hori.	10640.000	PK	52.9	40.0	9.0	38.7	63.2	73.9	10.7	100	268	
Hori.	15960.000	PK	45.2	39.2	1.3	39.3	46.4	73.9	27.5	100	0	
Hori.	21040.000	PK	44.1	40.7	-2.5	44.1	38.2	73.9	35.7	100	0	
Hori.	5350.000	AV	36.8	32.3	15.7	40.6	44.2	53.9	9.7	100	4	
Hori.	10640.000	AV	39.5	40.0	9.0	38.7	49.8	53.9	4.1	100	268	
Hori.	15960.000	AV	35.2	39.2	1.3	39.3	36.4	53.9	17.5	100	0	
Hori.	21040.000	AV	33.1	40.7	-2.5	44.1	27.2	53.9	26.7	100	0	
Vert.	52.000	QP	23.0	10.6	7.3	31.9	9.0	40.0	31.0	100	0	
Vert.	948.984	QP	22.7	22.5	10.2	30.6	24.8	46.0	21.2	100	6	
Vert.	5350.000	PK	51.6	32.3	15.7	40.6	59.0	73.9	14.9	129	90	
Vert.	10640.000	PK	56.4	40.0	9.0	38.7	66.7	73.9	7.2	100	51	
Vert.	15960.000	PK	45.6	39.2	1.3	39.3	46.8	73.9	27.1	100	0	
Vert.	21040.000	PK	44.5	40.7	-2.5	44.1	38.6	73.9	35.3	100	0	
Vert.	5350.000	AV	36.8	32.3	15.7	40.6	44.2	53.9	9.7	129	90	
Vert.	10640.000	AV	42.9	40.0	9.0	38.7	53.2	53.9	0.7	100	51	
Vert.	15960.000	AV	35.3	39.2	1.3	39.3	36.5	53.9	17.4	100	0	
Vert.	21040.000	AV	33.4	40.7	-2.5	44.1	27.5	53.9	26.4	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 03, 2011	November 04, 2011
Temperature / Humidity	24deg.C , 50%RH	25deg.C
Engineer	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5500 MHz	

Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	22.4	10.4	7.3	31.9	8.2	40.0	31.8	150	0	
Hori.	520.000	QP	21.9	18.8	8.2	31.6	17.3	46.0	28.7	150	0	
Hori.	3667.000	PK	47.0	29.6	14.6	41.7	49.5	73.9	24.4	100	286	
Hori.	5460.000	PK	46.6	31.9	15.7	40.5	53.7	73.9	20.2	100	3	
Hori.	11000.000	PK	44.7	40.4	9.0	39.2	54.9	73.9	19.0	100	0	
Hori.	22000.000	PK	44.5	40.8	-2.3	44.5	38.5	73.9	35.4	100	0	
Hori.	3667.000	AV	37.6	29.6	14.6	41.7	40.1	53.9	13.8	100	286	
Hori.	5460.000	AV	35.4	31.9	15.7	40.5	42.5	53.9	11.4	100	3	
Hori.	11000.000	AV	34.7	40.4	9.0	39.2	44.9	53.9	9.0	100	0	
Hori.	22000.000	AV	34.4	40.8	-2.3	44.5	28.4	53.9	25.5	100	0	
Vert.	52.000	QP	22.3	10.4	7.3	31.9	8.1	40.0	31.9	100	0	
Vert.	520.000	QP	21.5	18.8	8.2	31.6	16.9	46.0	29.1	100	0	
Vert.	3667.000	PK	46.8	29.6	14.6	41.7	49.3	73.9	24.6	100	75	
Vert.	5460.000	PK	45.8	31.9	15.7	40.5	52.9	73.9	21.0	100	146	
Vert.	11000.000	PK	52.5	40.4	9.0	39.2	62.7	73.9	11.2	105	62	
Vert.	22000.000	PK	45.2	40.8	-2.3	44.5	39.2	73.9	34.7	100	0	
Vert.	3667.000	AV	36.5	29.6	14.6	41.7	39.0	53.9	14.9	100	75	
Vert.	5460.000	AV	35.0	31.9	15.7	40.5	42.1	53.9	11.8	100	146	
Vert.	11000.000	AV	38.9	40.4	9.0	39.2	49.1	53.9	4.8	105	62	
Vert.	22000.000	AV	34.7	40.8	-2.3	44.5	28.7	53.9	25.2	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 03, 2011	November 04, 2011
Temperature / Humidity	24deg.C , 50%RH	25deg.C
Engineer	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5580 MHz	

Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	22.4	10.4	7.3	31.9	8.2	40.0	31.8	150	0	
Hori.	520.000	QP	22.0	18.8	8.2	31.6	17.4	46.0	28.6	150	0	
Hori.	3720.000	PK	47.3	29.6	14.7	41.7	49.9	73.9	24.0	100	284	
Hori.	11160.000	PK	46.5	40.3	9.0	39.3	56.5	73.9	17.4	100	357	
Hori.	22320.000	PK	45.9	40.6	-2.3	44.5	39.7	73.9	34.2	100	0	
Hori.	3720.000	AV	39.6	29.6	14.7	41.7	42.2	53.9	11.7	100	284	
Hori.	11160.000	AV	35.9	40.3	9.0	39.3	45.9	53.9	8.0	100	357	
Hori.	22320.000	AV	34.8	40.6	-2.3	44.5	28.6	53.9	25.3	100	0	
Vert.	52.000	QP	22.3	10.4	7.3	31.9	8.1	40.0	31.9	100	0	
Vert.	520.000	QP	21.5	18.8	8.2	31.6	16.9	46.0	29.1	100	0	
Vert.	3720.000	PK	47.0	29.6	14.7	41.7	49.6	73.9	24.3	100	115	
Vert.	11160.000	PK	53.1	40.3	9.0	39.3	63.1	73.9	10.8	100	48	
Vert.	22320.000	PK	46.1	40.6	-2.3	44.5	39.9	73.9	34.0	100	0	
Vert.	3720.000	AV	37.6	29.6	14.7	41.7	40.2	53.9	13.7	100	115	
Vert.	11160.000	AV	41.5	40.3	9.0	39.3	51.5	53.9	2.4	100	48	
Vert.	22320.000	AV	34.9	40.6	-2.3	44.5	28.7	53.9	25.2	100	0	

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

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

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

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

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 03, 2011	November 04, 2011
Temperature / Humidity	24deg.C , 50%RH	25deg.C
Engineer	Tatsuya Arai	Tatsuya Arai
Mode	Tx, 5700 MHz	

Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	52.000	QP	22.4	10.4	7.3	31.9	8.2	40.0	31.8	150	0	
Hori.	520.000	QP	21.8	18.8	8.2	31.6	17.2	46.0	28.8	150	0	
Hori.	3800.000	PK	48.0	29.7	14.7	41.7	50.7	73.9	23.2	100	281	
Hori.	11400.000	PK	44.8	40.2	9.1	39.5	54.6	73.9	19.3	100	359	
Hori.	22800.000	PK	46.9	40.5	-2.2	44.9	40.3	73.9	33.6	100	0	
Hori.	3800.000	AV	41.0	29.7	14.7	41.7	43.7	53.9	10.2	100	281	
Hori.	11400.000	AV	34.7	40.2	9.1	39.5	44.5	53.9	9.4	100	359	
Hori.	22800.000	AV	36.7	40.5	-2.2	44.9	30.1	53.9	23.8	100	0	
Vert.	52.000	QP	22.3	10.4	7.3	31.9	8.1	40.0	31.9	100	0	
Vert.	520.000	QP	21.4	18.8	8.2	31.6	16.8	46.0	29.2	100	0	
Vert.	3800.000	PK	47.2	29.7	14.7	41.7	49.9	73.9	24.0	100	153	
Vert.	11400.000	PK	49.8	40.2	9.1	39.5	59.6	73.9	14.3	100	27	
Vert.	22800.000	PK	47.7	40.5	-2.2	44.9	41.1	73.9	32.8	100	0	
Vert.	3800.000	AV	37.8	29.7	14.7	41.7	40.5	53.9	13.4	100	153	
Vert.	11400.000	AV	38.4	40.2	9.1	39.5	48.2	53.9	5.7	100	27	
Vert.	22800.000	AV	36.7	40.5	-2.2	44.9	30.1	53.9	23.8	100	0	

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

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

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

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE	Tx 5180 MHz				
	11a, 24Mbps, Main Antenna	TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)		
		DATE	August 22, 2011	August 28, 2011	August 29, 2011
		TEMPERATURE	27deg.C	23deg.C	23deg.C
Tx Antenna Height	0.8m	HUMIDITY	63%RH	62%RH	55%RH
		ENGINEER	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
10360.00	55.4	58.4	-30.90	-29.60	12.58	11.22	0.00	-32.26	-30.96	-27.00	5.26	**3.96**	103	230	100	38	
25900.00	43.3	43.9	-69.10	-67.70	21.32	11.87	0.00	-78.55	-77.15	-27.00	51.55	50.15	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5220 MHz
11a, 24Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)		
DATE	August 22, 2011	August 28, 2011	August 29, 2011
TEMPERATURE	27deg.C	23deg.C	23deg.C
HUMIDITY	63%RH	62%RH	55%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
10440.00	56.3	59.1	-29.50	-28.10	12.63	11.19	0.00	-30.94	-29.54	-27.00	3.94	**2.54**	101	267	100	30	
26100.00	47.1	46.8	-65.10	-64.90	21.40	11.72	0.00	-74.78	-74.58	-27.00	47.78	47.58	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5240 MHz
11a, 24Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)		
DATE	August 22, 2011	August 28, 2011	August 29, 2011
TEMPERATURE	27deg.C	23deg.C	23deg.C
HUMIDITY	63%RH	62%RH	55%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
10480.00	55.9	57.1	-31.30	-30.63	12.65	11.18	0.00	-32.77	-32.10	-27.00	5.77	**5.10**	102	231	100	31	
26200.00	46.4	46.9	-67.50	-66.00	21.42	11.70	0.00	-77.22	-75.72	-27.00	50.22	48.72	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5260 MHz
11a, 24Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)		
DATE	August 22, 2011	August 28, 2011	August 29, 2011
TEMPERATURE	27deg.C	23deg.C	23deg.C
HUMIDITY	63%RH	62%RH	55%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
10520.00	54.3	56.3	-32.91	-31.40	12.68	11.17	0.00	-34.42	-32.91	-27.00	7.42	**5.91**	100	231	103	31	
26300.00	46.2	46.8	-66.70	-64.70	21.45	11.69	0.00	-76.46	-74.46	-27.00	49.46	47.46	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5300 MHz
11a, 24Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)		
DATE	August 22, 2011	August 28, 2011	August 29, 2011
TEMPERATURE	27deg.C	23deg.C	23deg.C
HUMIDITY	63%RH	62%RH	55%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
26500.00	46.1	45.3	-67.90	-68.40	21.49	11.65	0.00	-77.74	-78.24	-27.00	**50.74**	51.24	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5320 MHz
11a, 24Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)		
DATE	August 22, 2011	August 28, 2011	August 29, 2011
TEMPERATURE	27deg.C	23deg.C	23deg.C
HUMIDITY	63%RH	62%RH	55%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
26600.00	56.4	55.0	-67.20	-68.40	21.60	11.63	0.00	-77.17	-78.37	-27.00	**50.17**	51.37	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5500 MHz
11a, 6Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)	
DATE	November 03, 2011	November 04, 2011
TEMPERATURE	24deg.C	25deg.C
HUMIDITY	50%RH	51%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
5470.00	46.8	45.5	-47.61	-45.53	9.06	12.34	0.00	-44.33	-42.25	-27.00	17.33	**15.25**	100	3	100	146	
16500.00	45.9	46.2	-48.50	-48.10	16.61	14.19	0.00	-50.92	-50.52	-27.00	23.92	23.52	100	0	100	0	
27500.00	62.5	62.6	-68.20	-68.10	22.14	11.37	0.00	-78.97	-78.87	-27.00	51.97	51.87	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5580 MHz
11a, 6Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)	
DATE	November 03, 2011	November 04, 2011
TEMPERATURE	24deg.C	25deg.C
HUMIDITY	50%RH	51%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
16740.00	45.9	45.5	-47.90	-48.30	16.70	13.55	0.00	-51.05	-51.45	-27.00	**24.05**	24.45	100	0	100	0	
27900.00	62.8	64.1	-67.80	-68.20	22.38	11.21	0.00	-78.97	-79.37	-27.00	51.97	52.37	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)

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

UL Japan, Inc.
Shonan EMC Lab. Semi Anechoic Chamber : No3

MODE Tx 5700 MHz
11a, 6Mbps, Main Antenna

Tx Antenna Height 0.8m

TEST DISTANCE	3m (below13GHz)/ 1m (above13GHz)	
DATE	November 03, 2011	November 04, 2011
TEMPERATURE	24deg.C	25deg.C
HUMIDITY	50%RH	51%RH
ENGINEER	Tatsuya Arai	Tatsuya Arai

(* S/A: Spectrum Analyzer, SG: Signal Generator)

Frequency	Rx, S/A Reading		Tx, SG Reading		Tx Cable	Tx Ant.	Tx, Ant. Atten.	RESULT (EIRP)		LIMIT	MARGIN		Horzontal		Vertical		Remarks
													Rx, Ant.	Turn	Rx, Ant.	Turn	
[MHz]	[dBuV]		[dBm]		Loss	Gain	Loss	[dBm]		[dBm]	[dB]		Height	Table	Height	Table	
	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER	[cm]	[deg.]	[cm]	[deg.]	
5725.00	52.1	52.4	-47.30	-46.40	9.30	12.45	0.00	-44.15	-43.25	-27.00	17.15	**16.25**	100	0	100	84	
17100.00	45.6	46.4	-47.90	-48.30	16.86	12.23	0.00	-52.53	-52.93	-27.00	25.53	25.93	100	0	100	0	
28500.00	61.0	60.9	-68.00	-68.50	22.69	11.85	0.00	-78.84	-79.34	-27.00	51.84	52.34	100	0	100	0	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Horn Antenna(1G-40GHz)
Tx-ANTENNA : Horn Antenna(1G-40GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Above 1GHz : S/A PK(RBW:1MHz/VBW:3MHz)