Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n-HT20, PN9,		worst data mode : 8 (MCS)

Antenna Main + Aux

Ch	Freq.	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.)	Margin (e.i.r.p.)	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]	
Low	5180.0	16.54	45.13	20.18	104.34	16.97	49.77	-	-	0.43	-	Worst Data
Mid	5220.0	16.28	42.43	19.92	98.10	16.99	50.00	-	-	0.71	-	
High	5240.0	16.12	40.91	19.76	94.58	16.98	49.88	-	-	0.86	-	

Sample Calculation: Result [mW] = Antenna Main Result [mW] + Antenna Aux Result [mW]

Antenna Main (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5180.0	2.31	2.03	9.61	0.10	14.05	25.43	3.64	17.69	58.80
Mid	5220.0	2.33	2.03	9.61	0.10	14.07	25.55	3.64	17.71	59.07
High	5240.0	1.92	2.18	9.61	0.10	13.81	24.07	3.64	17.45	55.64

Antenna Aux (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5180.0	1.20	2.03	9.61	0.10	12.94	19.70	3.64	16.58	45.54
Mid	5220.0	0.53	2.03	9.61	0.10	12.27	16.88	3.64	15.91	39.03
High	5240.0	0.37	2.18	9.61	0.10	12.26	16.84	3.64	15.90	38.94

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor

(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode	Freq.	Duty factor	Antenna Main Reading	Antenna Main Result		Antenna Aux Reading	Antenna Aux Result		Antenna Main + Aux Result		
(MCS)	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dBm]	[mW]	[dBm]	[mW]	
8	5220.0	0.10	2.33	2.43	1.75	0.53	0.63	1.16	4.64	2.91	Worst Rate
9	5220.0	0.19	2.07	2.26	1.68	0.43	0.62	1.15	4.53	2.84	
10	5220.0	0.29	1.88	2.17	1.65	0.42	0.71	1.18	4.51	2.83	
11	5220.0	0.37	1.91	2.28	1.69	0.35	0.72	1.18	4.58	2.87	
12	5220.0	0.50	1.71	2.21	1.66	0.33	0.83	1.21	4.58	2.87	
13	5220.0	0.63	1.61	2.24	1.67	0.26	0.89	1.23	4.63	2.90	
14	5220.0	0.66	1.58	2.24	1.67	0.24	0.90	1.23	4.63	2.90	
15	5220.0	0.68	1.54	2.22	1.67	0.24	0.92	1.24	4.63	2.91	

Sample Calculation: Result = Duty factor + Reading

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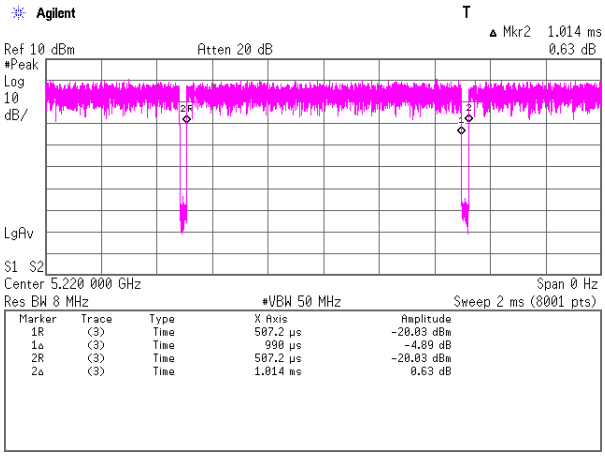
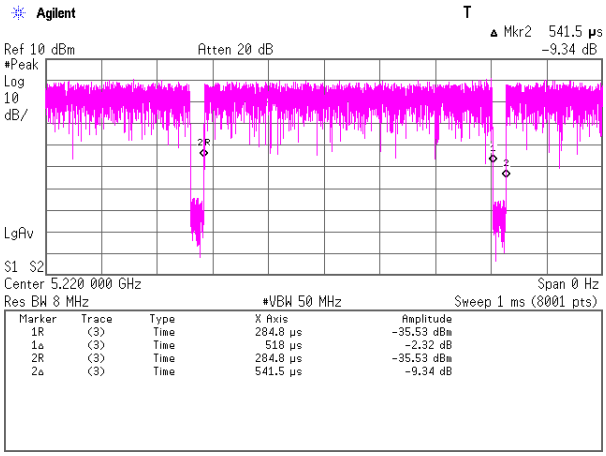
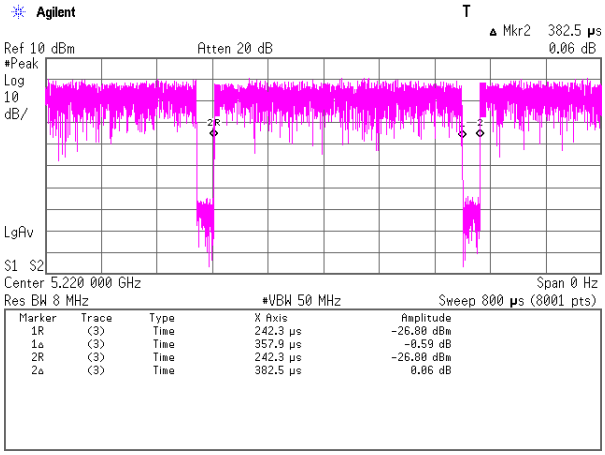
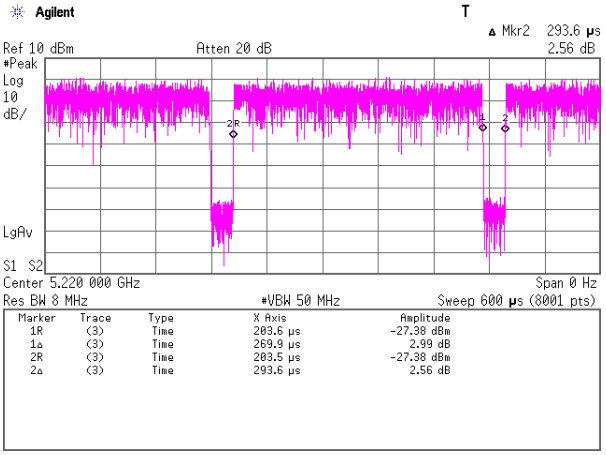
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT20, (Tx 5220MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (1.014 / 0.99) = 0.10 [dB]	duty factor [dB] = 10 x log (0.5415 / 0.518) = 0.19 [dB]
	
MCS10	**MCS11**
duty factor [dB] = 10 x log (0.3825 / 0.3579) = 0.29 [dB]	duty factor [dB] = 10 x log (0.2936 / 0.2699) = 0.37 [dB]
	

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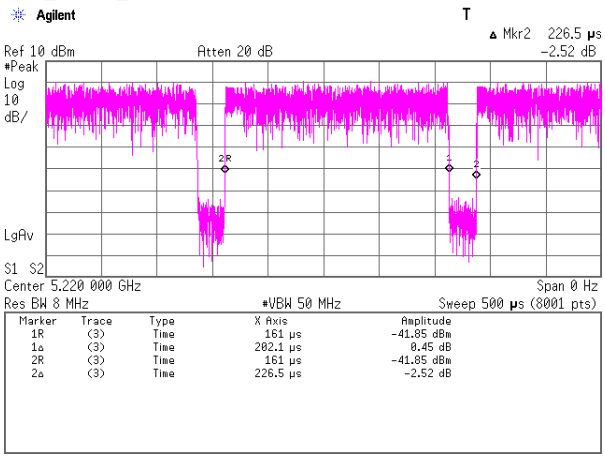
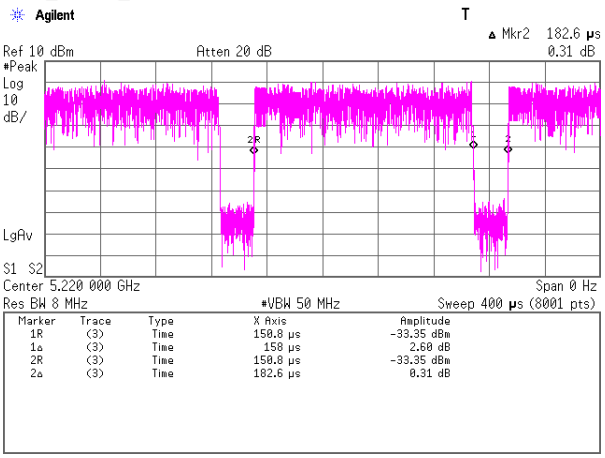
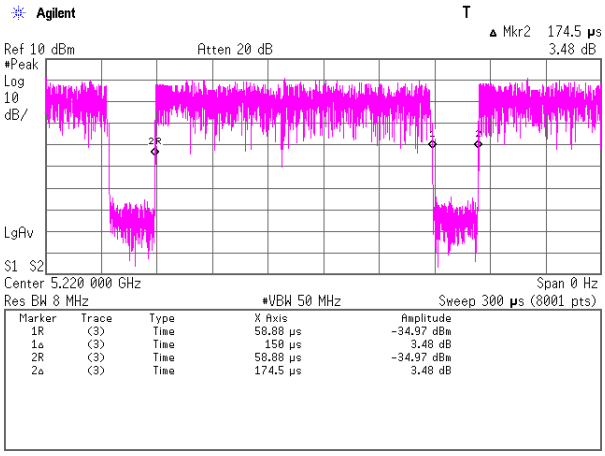
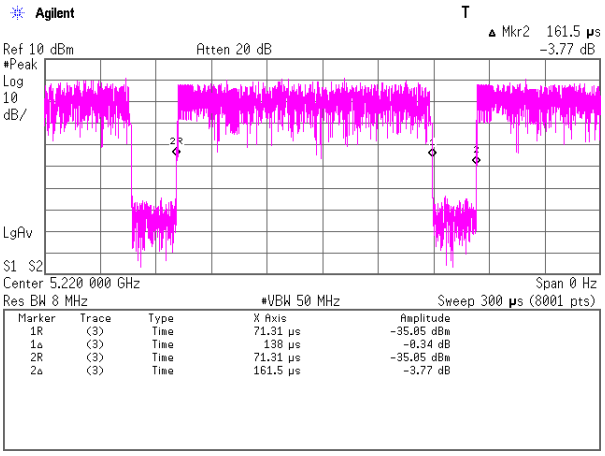
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT20, (Tx 5220MHz)

MCS12	MCS13
duty factor [dB] = 10 x log (0.2265 / 0.2021) = 0.50 [dB]	duty factor [dB] = 10 x log (0.1826 / 0.158) = 0.63 [dB]
	
MCS14	**MCS15**
duty factor [dB] = 10 x log (0.1745 / 0.15) = 0.66 [dB]	duty factor [dB] = 10 x log (0.1615 / 0.138) = 0.68 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n-HT20, PN9,		worst data mode : 8 (MCS)

Antenna Main + Aux

Ch	Freq.	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.)	Margin (e.i.r.p.)	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]	
Low	5260.0	15.93	39.19	19.66	92.51	23.91	246.03	-	-	7.98	-	
Mid	5300.0	16.07	40.50	19.80	95.60	23.96	248.88	-	-	7.89	-	
High	5320.0	16.00	39.84	19.73	94.04	23.89	244.90	-	-	7.89	-	Worst Data

Sample Calculation: Result [mW] = Antenna Main Result [mW] + Antenna Aux Result [mW]

Antenna Main (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5260.0	1.55	2.17	9.60	0.11	13.43	22.02	3.73	17.16	51.98
Mid	5300.0	1.63	2.18	9.60	0.11	13.52	22.48	3.73	17.25	53.06
High	5320.0	1.61	2.07	9.60	0.11	13.39	21.82	3.73	17.12	51.50

Antenna Aux (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5260.0	0.47	2.17	9.60	0.11	12.35	17.17	3.73	16.08	40.53
Mid	5300.0	0.67	2.18	9.60	0.11	12.56	18.02	3.73	16.29	42.54
High	5320.0	0.78	2.07	9.60	0.11	12.56	18.02	3.73	16.29	42.54

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor

(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode	Freq.	Duty factor	Antenna Main Reading	Antenna Main Result		Antenna Aux Reading	Antenna Aux Result		Antenna Main + Aux Result		
(MCS)	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dBm]	[mW]	[dBm]	[mW]	
8	5300.0	0.11	1.63	1.74	1.49	0.67	0.78	1.20	4.29	2.69	Worst Rate
9	5300.0	0.20	1.50	1.70	1.48	0.48	0.68	1.17	4.23	2.65	
10	5300.0	0.29	1.45	1.74	1.49	0.39	0.68	1.17	4.25	2.66	
11	5300.0	0.38	1.39	1.77	1.50	0.22	0.60	1.15	4.23	2.65	
12	5300.0	0.50	1.29	1.79	1.51	0.15	0.65	1.16	4.26	2.67	
13	5300.0	0.63	1.14	1.77	1.50	0.04	0.67	1.17	4.26	2.67	
14	5300.0	0.66	1.13	1.79	1.51	0.00	0.66	1.16	4.27	2.67	
15	5300.0	0.71	1.12	1.83	1.52	-0.05	0.66	1.16	4.28	2.68	

Sample Calculation: Result = Duty factor + Reading

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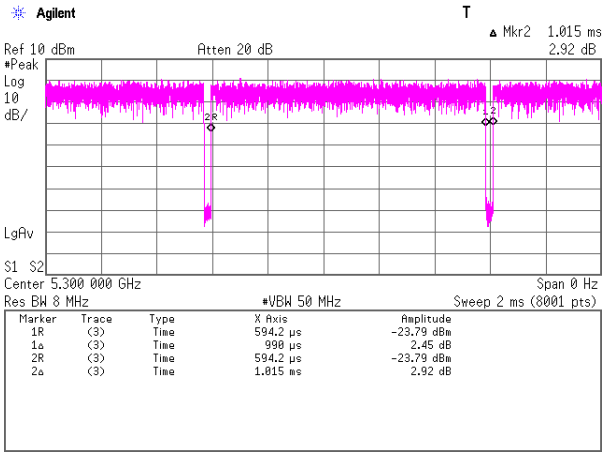
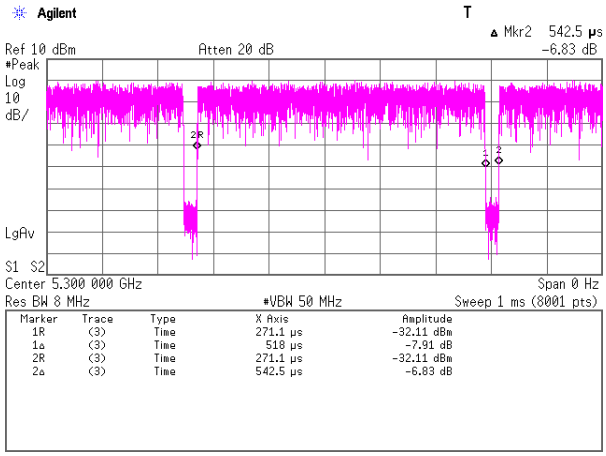
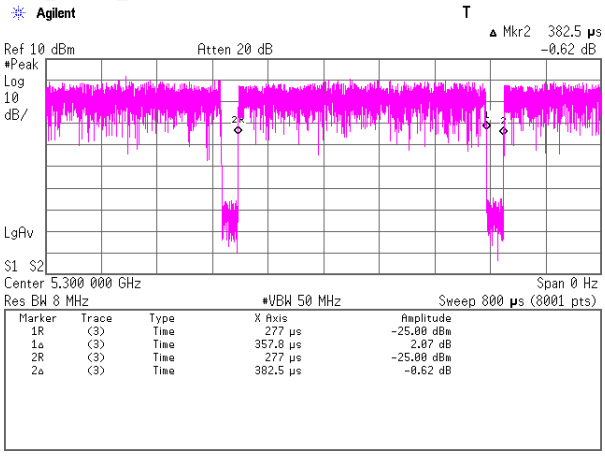
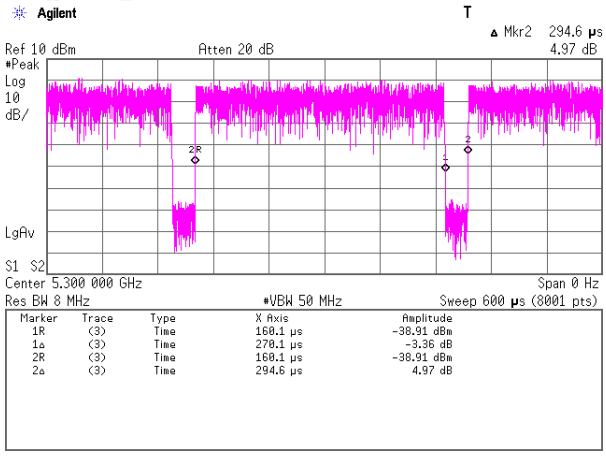
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT20, (Tx 5300MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (1.015 / 0.99) = 0.11 [dB]	duty factor [dB] = 10 x log (0.5425 / 0.518) = 0.20 [dB]
	
MCS10	**MCS11**
duty factor [dB] = 10 x log (0.3825 / 0.3578) = 0.29 [dB]	duty factor [dB] = 10 x log (0.2946 / 0.2701) = 0.38 [dB]
	

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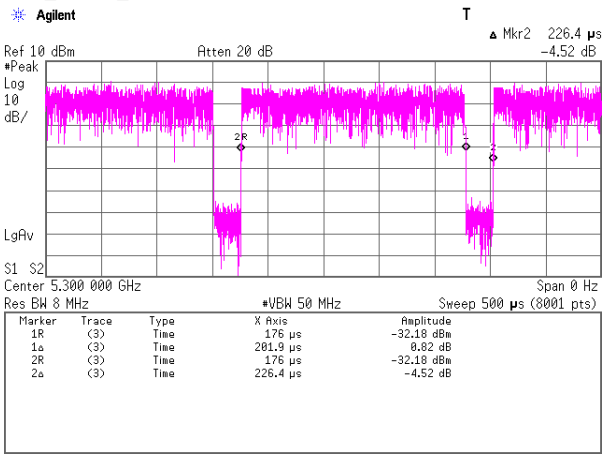
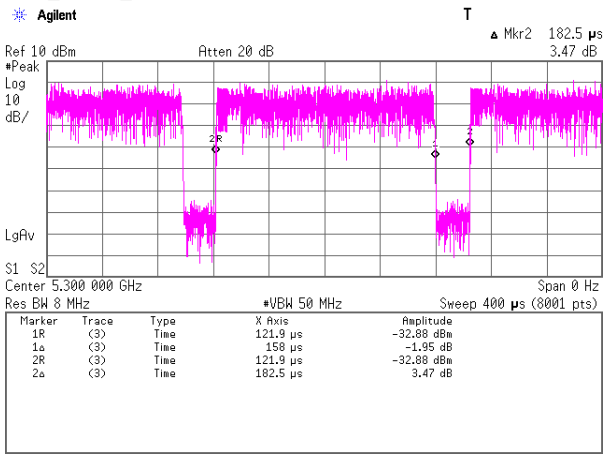
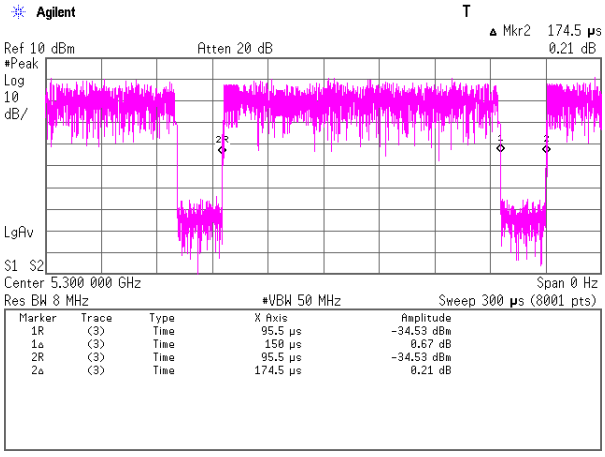
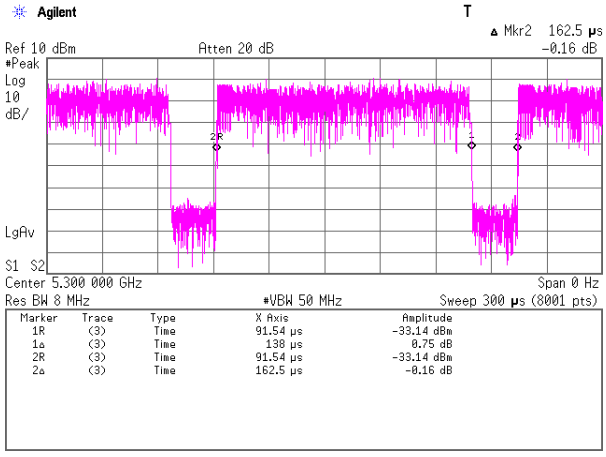
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT20, (Tx 5300MHz)	
MCS12	**MCS13**
duty factor [dB] = 10 x log (0.2264 / 0.2019) = 0.50 [dB]	duty factor [dB] = 10 x log (0.1825 / 0.158) = 0.63 [dB]
	
MCS14	**MCS15**
duty factor [dB] = 10 x log (0.1745 / 0.15) = 0.66 [dB]	duty factor [dB] = 10 x log (0.1625 / 0.138) = 0.71 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n-HT20, PN9,		worst data mode : 8 (MCS)

Antenna Main + Aux

Ch	Freq.	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.)	Margin (e.i.r.p.)	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]	
Low	5500.0	18.35	68.44	23.12	205.25	23.98	250.00	-	-	5.63	-	Worst Data
Mid	5580.0	18.20	66.08	22.97	198.18	23.98	250.00	-	-	5.78	-	
High	5700.0	18.31	67.83	23.08	203.42	23.98	250.00	-	-	5.67	-	

Sample Calculation: Result [mW] = Antenna Main Result [mW] + Antenna Aux Result [mW]

Antenna Main (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5500.0	3.81	2.05	9.59	0.11	15.56	35.95	4.77	20.33	107.82
Mid	5580.0	3.58	2.07	9.60	0.11	15.36	34.33	4.77	20.13	102.97
High	5700.0	3.69	2.13	9.61	0.11	15.54	35.78	4.77	20.31	107.32

Antenna Aux (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5500.0	3.37	2.05	9.59	0.11	15.12	32.49	4.77	19.89	97.43
Mid	5580.0	3.24	2.07	9.60	0.11	15.02	31.75	4.77	19.79	95.21
High	5700.0	3.21	2.13	9.61	0.11	15.06	32.04	4.77	19.83	96.09

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor

(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode	Freq.	Duty factor	Antenna Main Reading	Antenna Main Result		Antenna Aux Reading	Antenna Aux Result		Antenna Main + Aux Result		
(MCS)	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dBm]	[mW]	[dBm]	[mW]	
8	5580.0	0.11	3.58	3.69	2.34	3.24	3.35	2.16	6.53	4.50	Worst Rate
9	5580.0	0.20	3.30	3.50	2.24	2.79	2.99	1.99	6.26	4.23	
10	5580.0	0.29	3.15	3.44	2.21	2.74	3.03	2.01	6.25	4.21	
11	5580.0	0.38	3.23	3.61	2.30	2.61	2.99	1.99	6.32	4.29	
12	5580.0	0.50	3.05	3.55	2.26	2.45	2.95	1.97	6.27	4.23	
13	5580.0	0.63	3.06	3.69	2.34	2.41	3.04	2.01	6.38	4.35	
14	5580.0	0.66	3.03	3.69	2.34	2.44	3.10	2.04	6.41	4.38	
15	5580.0	0.68	3.00	3.68	2.34	2.45	3.13	2.06	6.43	4.39	

Sample Calculation: Result = Duty factor + Reading

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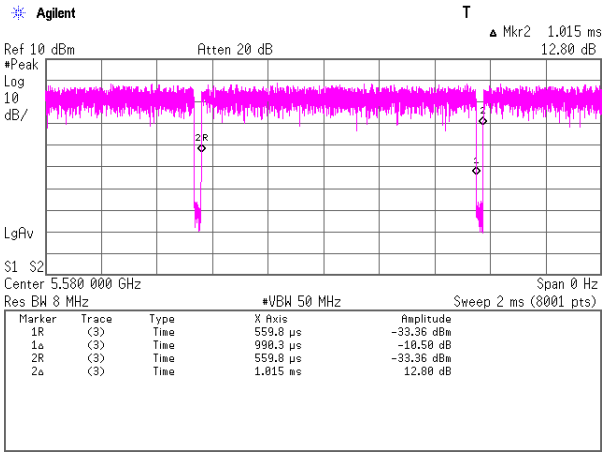
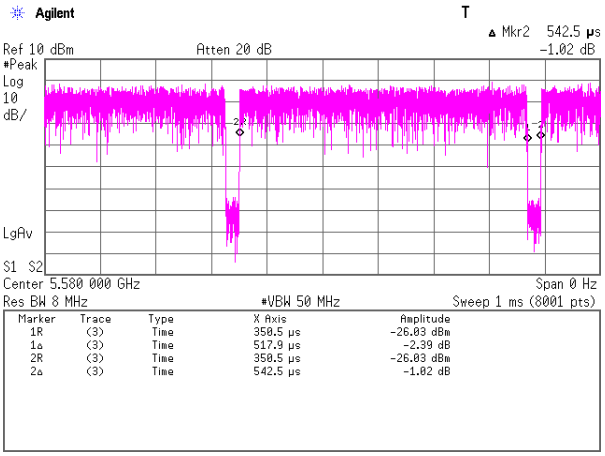
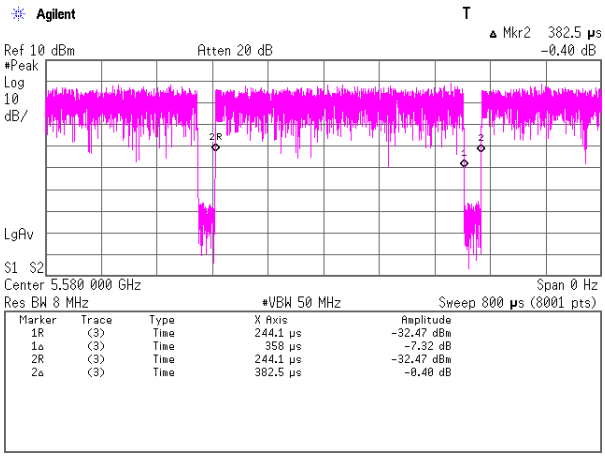
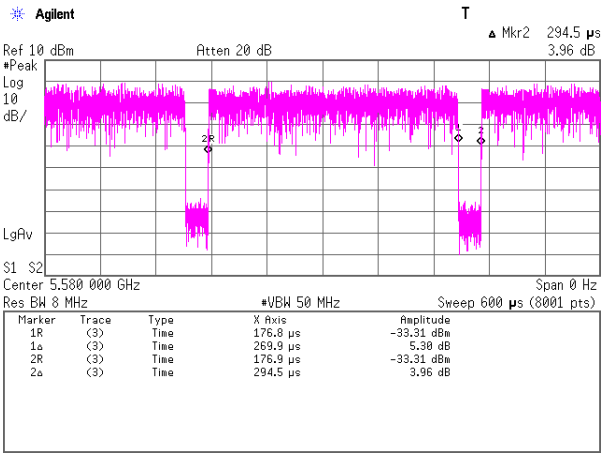
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT20, (Tx 5580MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (1.015 / 0.9903) = 0.11 [dB]	duty factor [dB] = 10 x log (0.5425 / 0.5179) = 0.20 [dB]
	
MCS10	**MCS11**
duty factor [dB] = 10 x log (0.3825 / 0.358) = 0.29 [dB]	duty factor [dB] = 10 x log (0.2945 / 0.2699) = 0.38 [dB]
	

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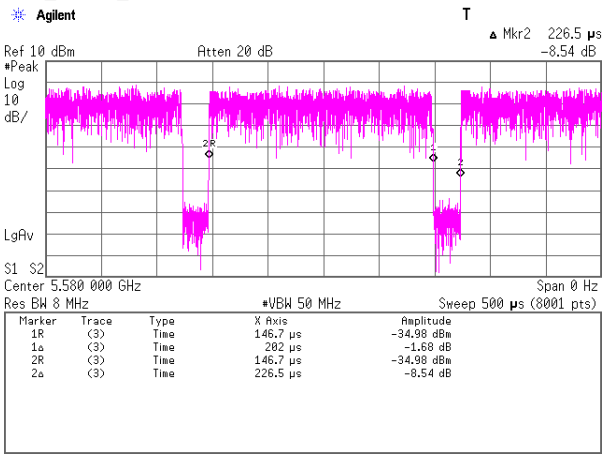
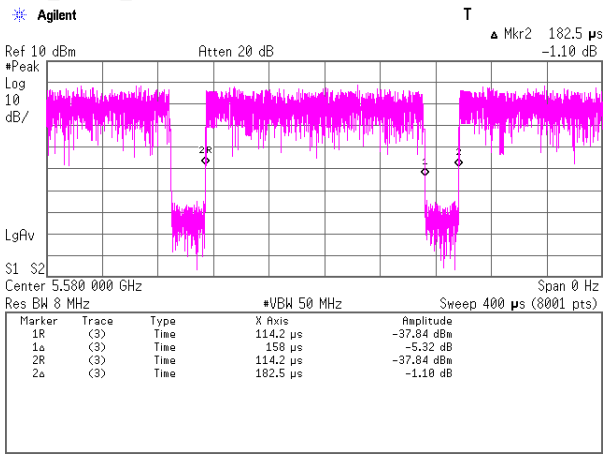
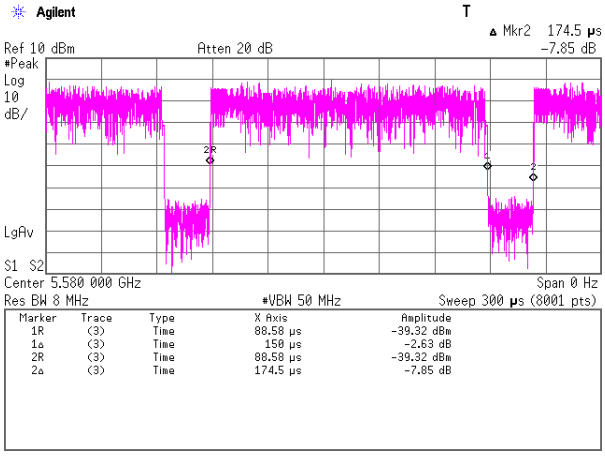
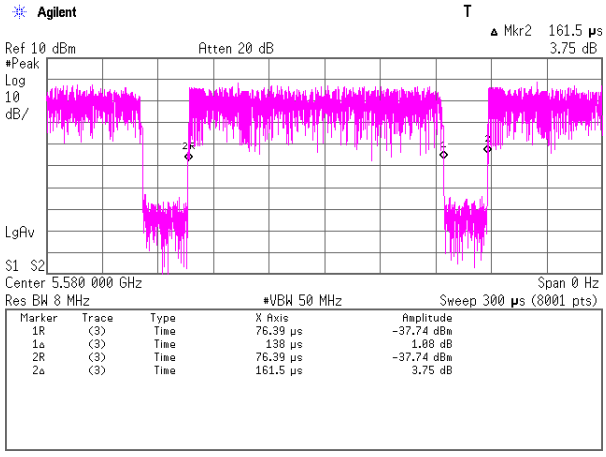
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT20, (Tx 5580MHz)	
MCS12	**MCS13**
duty factor [dB] = 10 x log (0.2265 / 0.202) = 0.50 [dB]	duty factor [dB] = 10 x log (0.1825 / 0.158) = 0.63 [dB]
	
MCS14	**MCS15**
duty factor [dB] = 10 x log (0.1745 / 0.15) = 0.66 [dB]	duty factor [dB] = 10 x log (0.1615 / 0.138) = 0.68 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n (HT40), PN9,	worst antenna : Main	worst data mode : 0 (MCS)

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

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]	
Low	5190.0	1.02	2.03	9.61	0.11		12.77	18.91	16.99	50.00	4.22	
High	5230.0	4.48	2.04	9.61	0.11		16.24	42.05	16.99	50.00	0.75	Worst Data

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

EIRP (* P/M: Power Meter with power senser, 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 (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5190.0	1.02	2.03	9.61	0.11	3.64	16.41	43.73	-	-	-
									-	-	-
High	5230.0	4.48	2.04	9.61	0.11	3.64	19.88	97.23	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Duty + Antenna Gain

[Pre check]

Antenna Main

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
Main	0	5190.0	1.02	2.03	9.61	0.11	12.77	Worst Rate
Main	1	5190.0	0.89	2.03	9.61	0.21	12.74	
Main	2	5190.0	0.68	2.03	9.61	0.29	12.61	
Main	3	5190.0	0.61	2.03	9.61	0.36	12.61	
Main	4	5190.0	0.46	2.03	9.61	0.52	12.62	
Main	5	5190.0	0.40	2.03	9.61	0.65	12.69	
Main	6	5190.0	0.37	2.03	9.61	0.68	12.69	
Main	7	5190.0	0.27	2.03	9.61	0.74	12.65	

Antenna Aux

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
Aux	0	5190.0	0.92	2.03	9.61	0.11	12.67
Aux	0	5230.0	4.19	2.04	9.61	0.11	15.95

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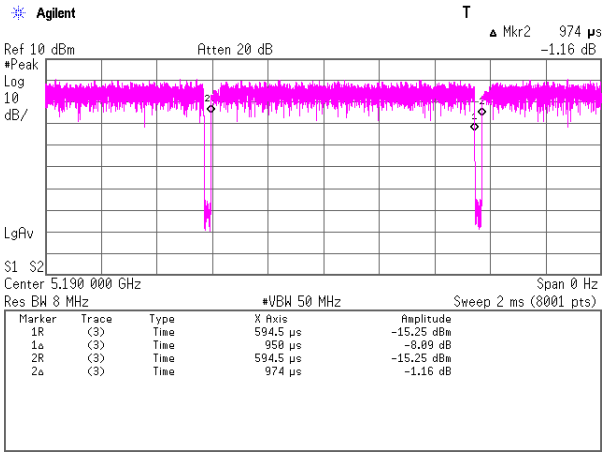
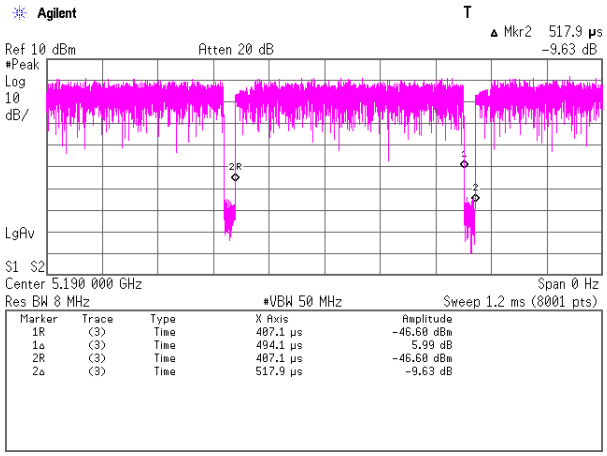
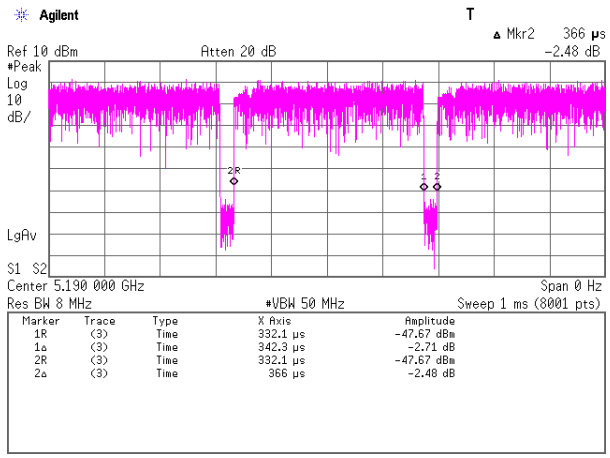
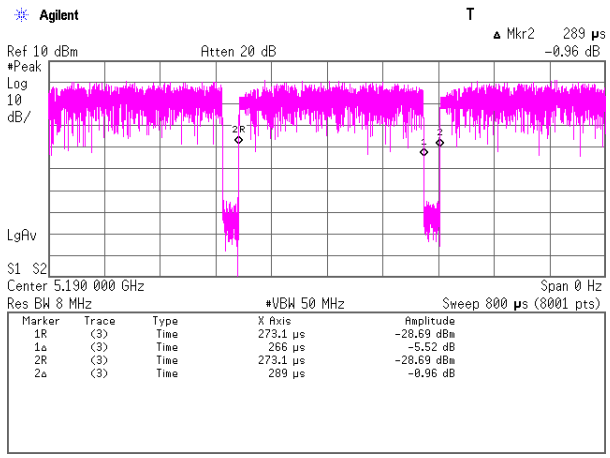
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), antenna port Main, (Tx 5190MHz)

MCS0	MCS1
duty factor [dB] = 10 x log (0.974 / 0.95) = 0.11 [dB]	duty factor [dB] = 10 x log (0.518 / 0.494) = 0.21 [dB]
	
MCS2	**MCS3**
duty factor [dB] = 10 x log (0.366 / 0.342) = 0.29 [dB]	duty factor [dB] = 10 x log (0.289 / 0.266) = 0.36 [dB]
	

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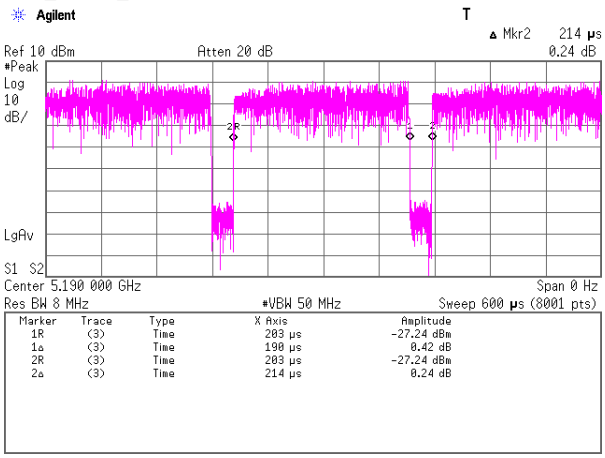
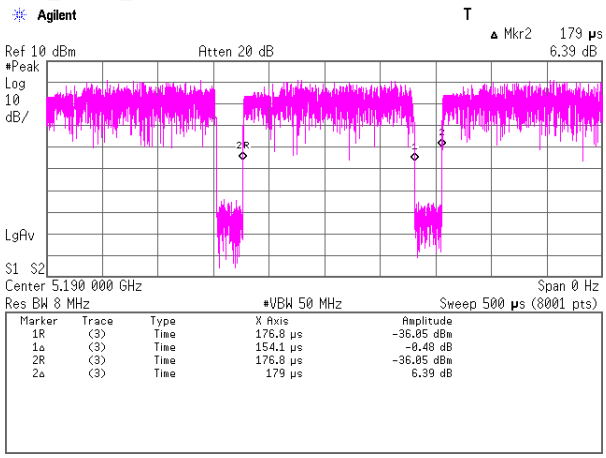
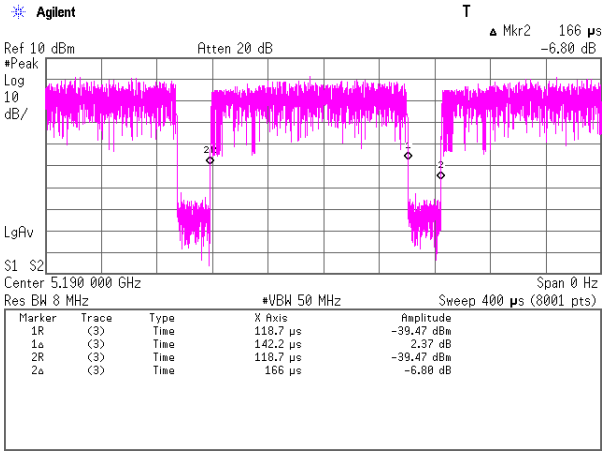
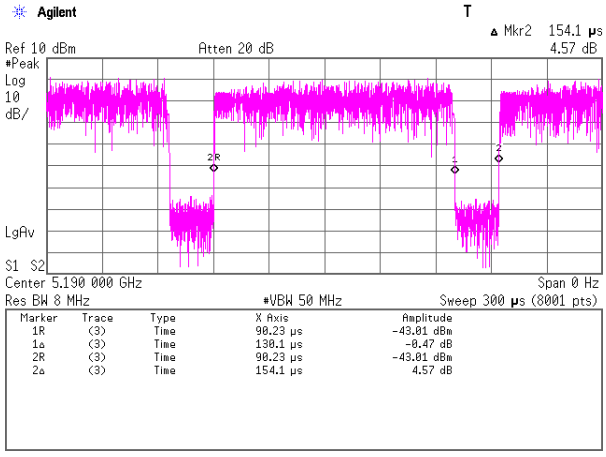
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), antenna port Main, (Tx 5190MHz)

MCS4	MCS5
duty factor [dB] = 10 x log (0.214 / 0.19) = 0.52 [dB]	duty factor [dB] = 10 x log (0.179 / 0.154) = 0.65 [dB]
	
MCS6	**MCS7**
duty factor [dB] = 10 x log (0.166 / 0.142) = 0.68 [dB]	duty factor [dB] = 10 x log (0.154 / 0.13) = 0.74 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n (HT40), PN9,	worst antenna : Main	worst data mode : 0 (MCS)

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

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]	
Low	5270.0	4.11	2.17	9.60	0.11		15.99	39.69	23.98	250.00	7.99	Worst Data
High	5310.0	-0.05	2.18	9.60	0.11		11.84	15.27	23.98	250.00	12.14	

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

EIRP (* P/M: Power Meter with power senser, 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 (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5270.0	4.11	2.17	9.60	0.11	3.73	19.72	93.69	-	-	-
									-	-	-
High	5310.0	-0.05	2.18	9.60	0.11	3.73	15.57	36.03	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss +Duty factor + Antenna Gain

[Pre check]

Antenna Main

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
Main	0	5270.0	4.11	2.17	9.60	0.11	15.99	Worst Rate
Main	1	5270.0	3.92	2.17	9.60	0.21	15.90	
Main	2	5270.0	3.83	2.17	9.60	0.28	15.88	
Main	3	5270.0	3.66	2.17	9.60	0.38	15.81	
Main	4	5270.0	3.60	2.17	9.60	0.52	15.89	
Main	5	5270.0	3.52	2.17	9.60	0.63	15.92	
Main	6	5270.0	3.50	2.17	9.60	0.68	15.95	
Main	7	5270.0	3.46	2.17	9.60	0.74	15.97	

Antenna Aux

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
Aux	0	5270.0	3.40	2.17	9.60	0.11	15.28
Aux	0	5310.0	0.18	2.18	9.60	0.11	12.07

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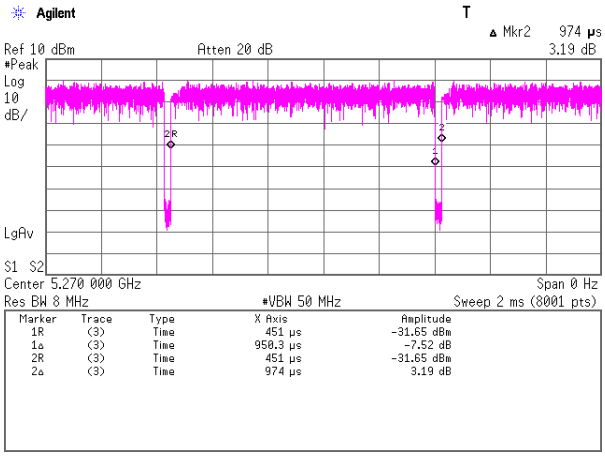
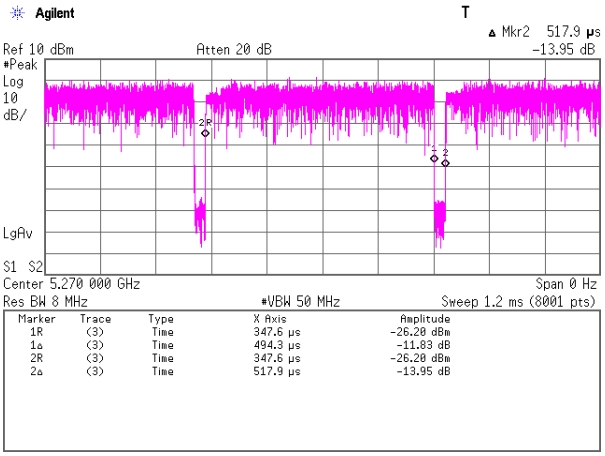
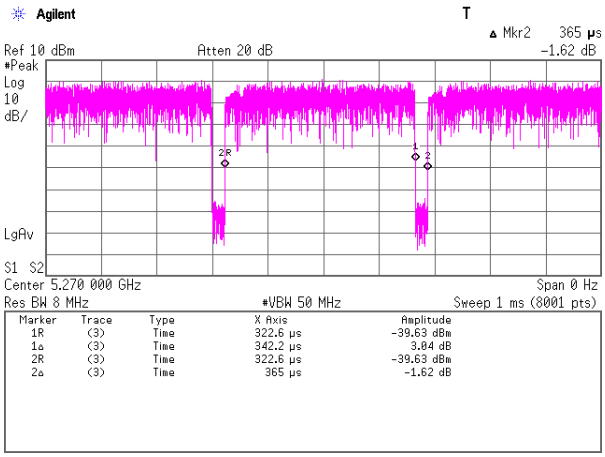
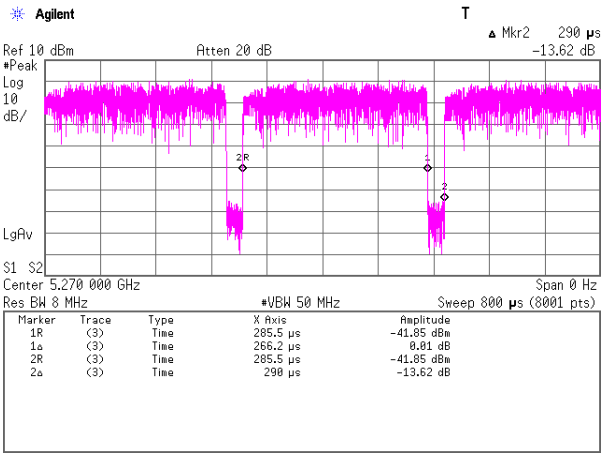
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), antenna port Main, (Tx 5270MHz)

MCS0	MCS1
duty factor [dB] = 10 x log (0.974 / 0.95) = 0.11 [dB]	duty factor [dB] = 10 x log (0.518 / 0.494) = 0.21 [dB]
	
MCS2	**MCS3**
duty factor [dB] = 10 x log (0.365 / 0.342) = 0.28 [dB]	duty factor [dB] = 10 x log (0.29[ms] / 0.27[ms 0.38 [dB]
	

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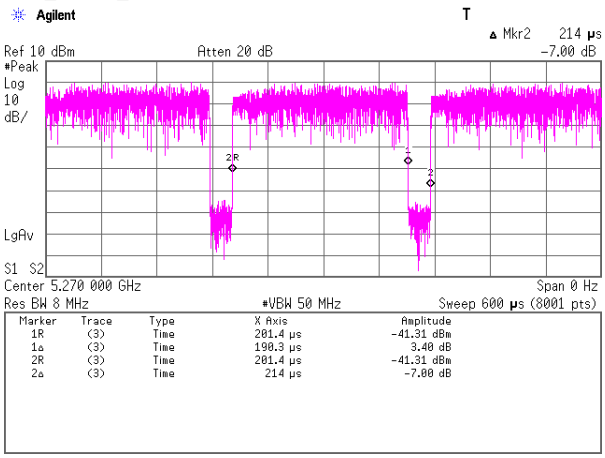
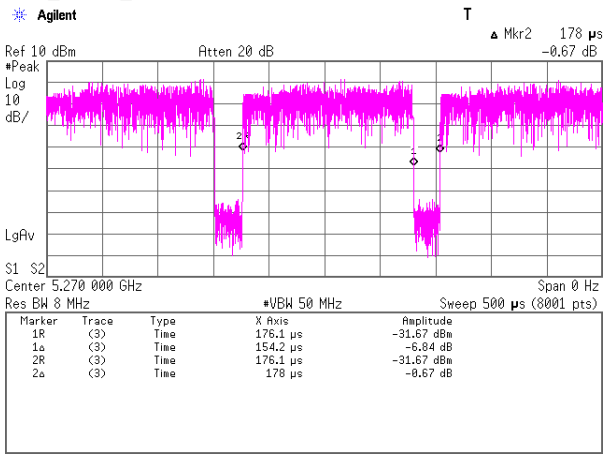
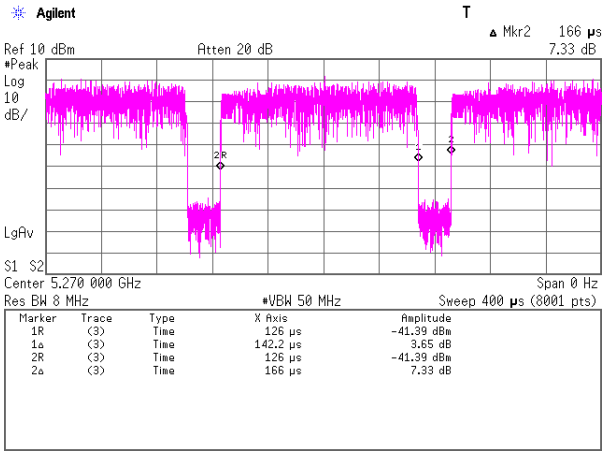
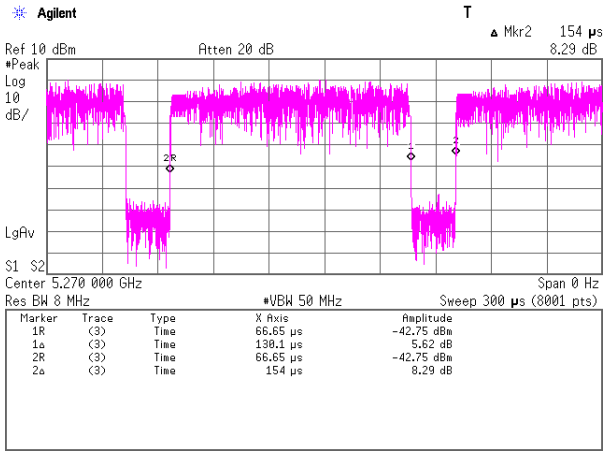
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), antenna port Main, (Tx 5270MHz)	
MCS4	**MCS5**
duty factor [dB] = 10 x log (0.214 / 0.19) = 0.52 [dB]	duty factor [dB] = 10 x log (0.18[ms] / 0.15[ms 0.63 [dB]
	
MCS6	**MCS7**
duty factor [dB] = 10 x log (0.166 / 0.142) = 0.68 [dB]	duty factor [dB] = 10 x log (0.154 / 0.13) = 0.74 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n (HT40), PN9,	worst antenna : Main	worst data mode : 0 (MCS)

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

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]	
Low	5510.0	5.50	2.05	9.59	0.11		17.25	53.06	23.98	250.00	6.73	
Mid	5550.0	6.28	2.07	9.60	0.11		18.06	63.94	23.98	250.00	5.92	
High	5670.0	6.22	2.27	9.61	0.11		18.21	66.19	23.98	250.00	5.77	Worst Data

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

EIRP (* P/M: Power Meter with power senser, 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 (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5510.0	5.50	2.05	9.59	0.11	4.77	22.02	159.15	-	-	-
Mid	5550.0	6.28	2.07	9.60	0.11	4.77	22.83	191.78	-	-	-
High	5670.0	6.22	2.27	9.61	0.11	4.77	22.98	198.52	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Antenna Main

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
Main	0	5550.0	6.28	2.07	9.60	0.11	18.06	Worst Rate
Main	1	5550.0	6.06	2.07	9.60	0.21	17.94	
Main	2	5550.0	5.99	2.07	9.60	0.29	17.95	
Main	3	5550.0	5.82	2.07	9.60	0.38	17.87	
Main	4	5550.0	5.75	2.07	9.60	0.52	17.94	
Main	5	5550.0	5.67	2.07	9.60	0.60	17.94	
Main	6	5550.0	5.70	2.07	9.60	0.68	18.05	
Main	7	5550.0	5.63	2.07	9.60	0.74	18.04	

Antenna Aux

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
Aux	0	5510.0	5.39	2.05	9.59	0.11	17.14
Aux	0	5550.0	6.14	2.07	9.60	0.11	17.92
Aux	0	5670.0	6.02	2.27	9.61	0.11	18.01

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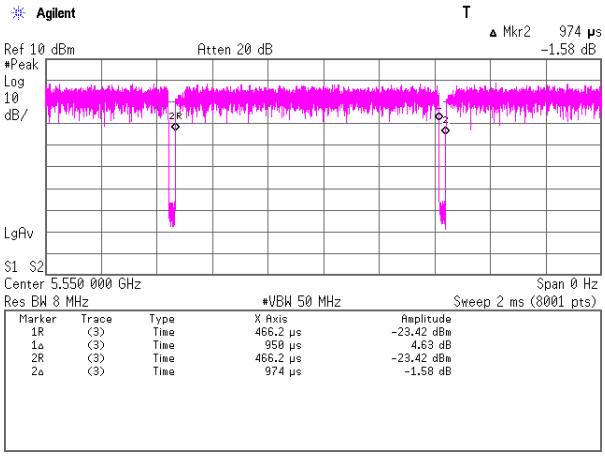
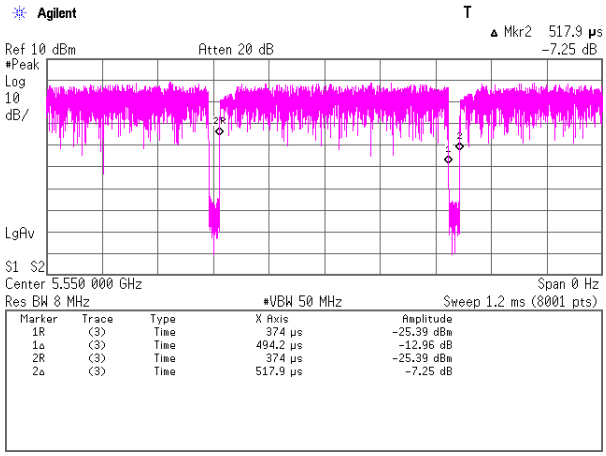
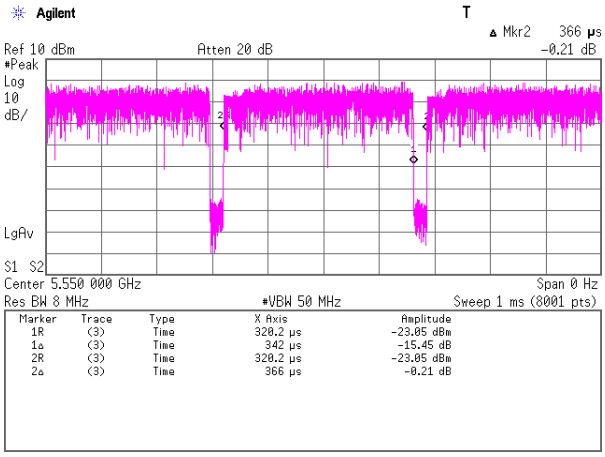
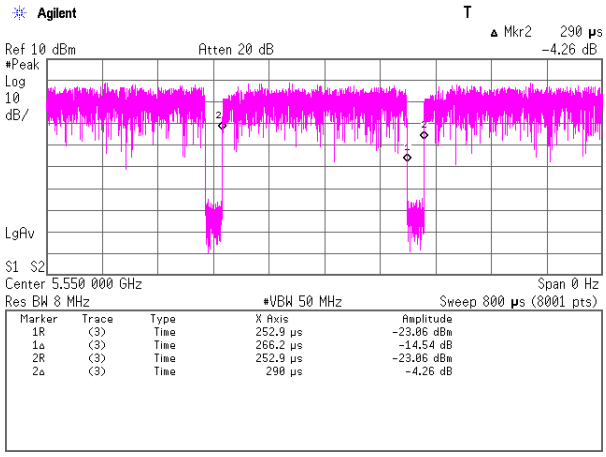
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), antenna port Main, (Tx 5550MHz)

MCS0	MCS1
duty factor [dB] = 10 x log (0.974 / 0.95) = 0.11 [dB]	duty factor [dB] = 10 x log (0.518 / 0.494) = 0.21 [dB]
	
MCS2	**MCS3**
duty factor [dB] = 10 x log (0.366 / 0.342) = 0.29 [dB]	duty factor [dB] = 10 x log (0.29 / 0.266) = 0.38 [dB]
	

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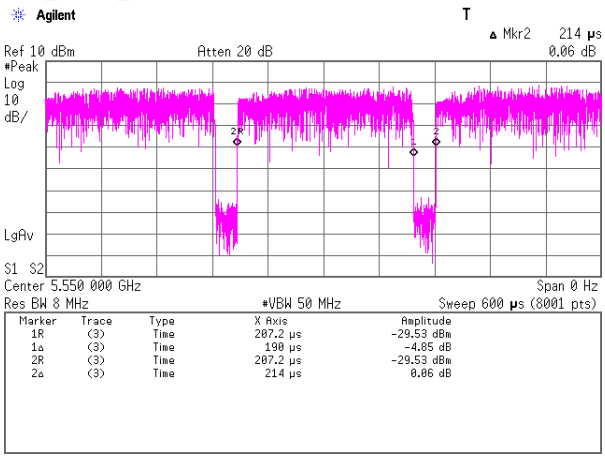
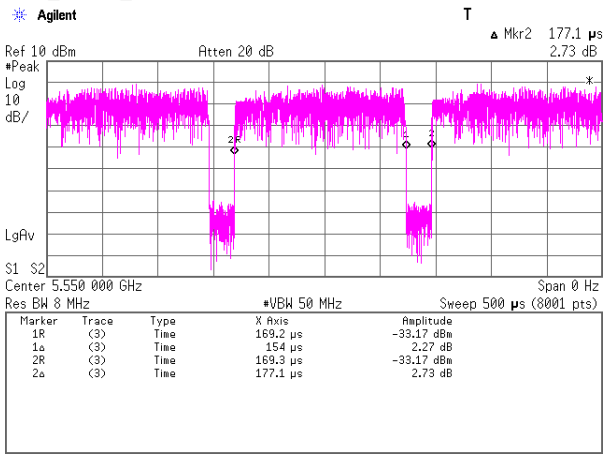
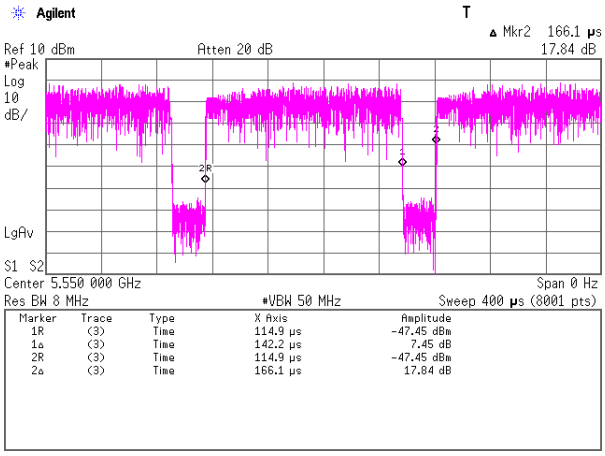
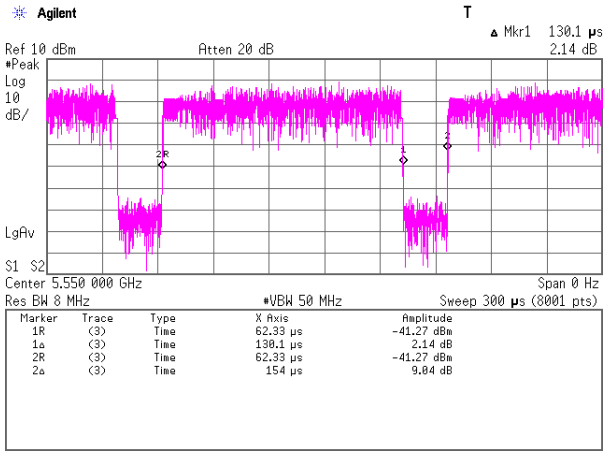
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), antenna port Main, (Tx 5550MHz)

MCS4	MCS5
duty factor [dB] = 10 x log (0.214 / 0.19) = 0.52 [dB]	duty factor [dB] = 10 x log (0.177 / 0.154) = 0.60 [dB]
	
MCS6	**MCS7**
duty factor [dB] = 10 x log (0.166 / 0.142) = 0.68 [dB]	duty factor [dB] = 10 x log (0.15[ms] / 0.13[ms]) = 0.74 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n-HT40, PN9,		worst data mode : 8 (MCS)

Antenna Main + Aux

Ch	Freq.	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.)	Margin (e.i.r.p.)	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]	
Low	5190.0	13.42	21.97	17.06	50.81	16.99	50.00	-	-	3.57	-	
High	5230.0	16.38	43.43	20.02	100.42	16.99	50.00	-	-	0.61	-	Worst Data

Sample Calculation: Result [mW] = Antenna Main Result [mW] + Antenna Aux Result [mW]

Antenna Main (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5190.0	-1.18	2.03	9.61	0.20	10.66	11.64	3.64	14.30	26.92
High	5230.0	2.11	2.04	9.61	0.20	13.96	24.89	3.64	17.60	57.56

Antenna Aux (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5190.0	-1.70	2.03	9.61	0.20	10.14	10.33	3.64	13.78	23.88
High	5230.0	0.83	2.04	9.61	0.20	12.68	18.54	3.64	16.32	42.86

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor

(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode	Freq.	Duty factor	Antenna Main Reading	Antenna Main Result		Antenna Aux Reading	Antenna Aux Result		Antenna Main + Aux Result		
(MCS)	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dBm]	[mW]	[dBm]	[mW]	
8	5190.0	0.20	-1.18	-0.98	0.80	-1.70	-1.50	0.71	1.78	1.51	Worst Rate
9	5190.0	0.38	-1.29	-0.91	0.81	-2.15	-1.77	0.66	1.69	1.47	
10	5190.0	0.53	-1.34	-0.81	0.83	-2.24	-1.71	0.67	1.77	1.50	
11	5190.0	0.67	-1.58	-0.91	0.81	-2.35	-1.68	0.68	1.73	1.49	
12	5190.0	0.82	-1.70	-0.88	0.82	-2.56	-1.74	0.67	1.72	1.49	
13	5190.0	0.97	-1.80	-0.83	0.83	-2.66	-1.69	0.68	1.77	1.50	
14	5190.0	1.00	-1.82	-0.82	0.83	-2.70	-1.70	0.68	1.77	1.50	
15	5190.0	1.08	-1.89	-0.81	0.83	-2.80	-1.72	0.67	1.77	1.50	

Sample Calculation: Result = Duty factor + Reading

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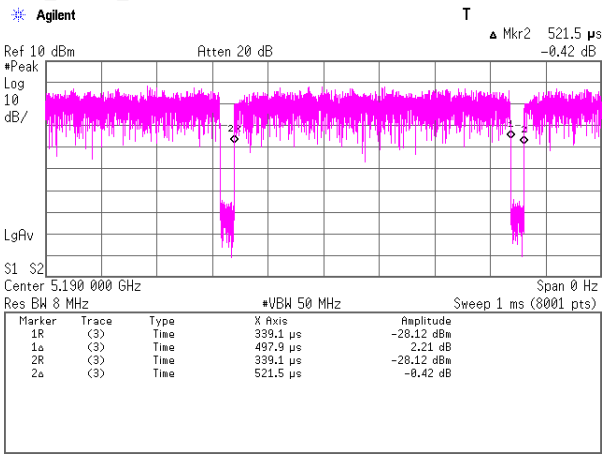
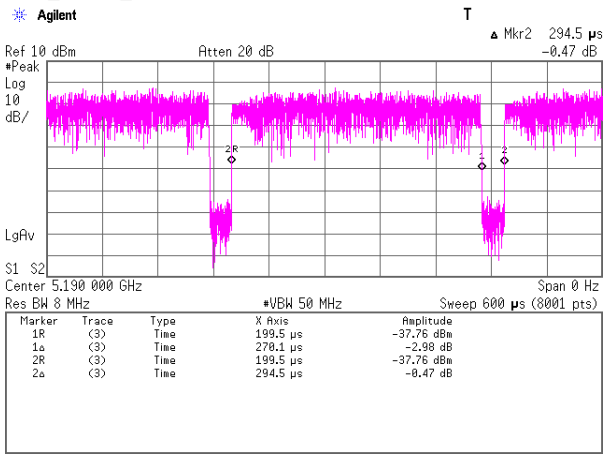
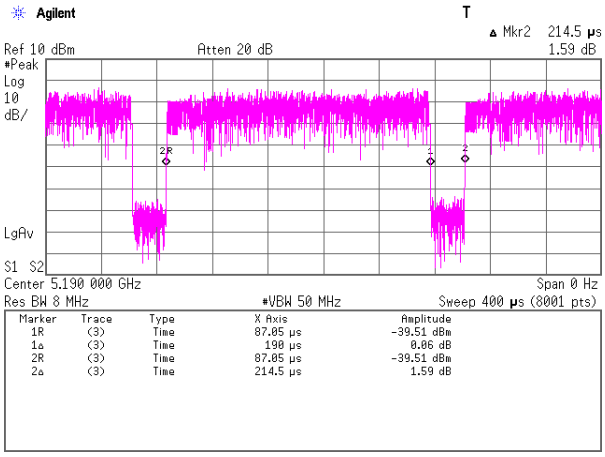
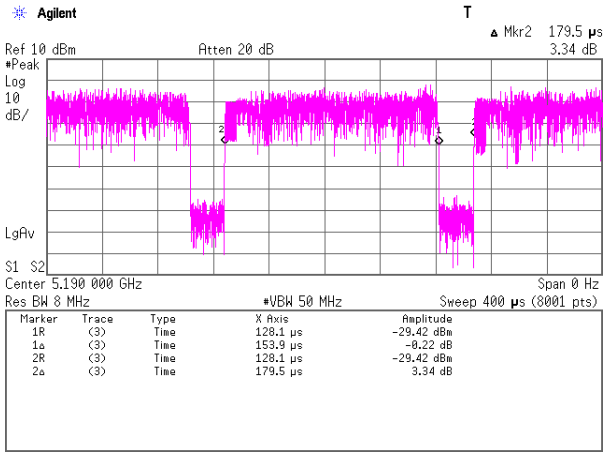
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT40, (Tx 5190MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (0.5215 / 0.4979) = 0.20 [dB]	duty factor [dB] = 10 x log (0.2945 / 0.2701) = 0.38 [dB]
	
MCS10	**MCS11**
duty factor [dB] = 10 x log (0.2145 / 0.19) = 0.53 [dB]	duty factor [dB] = 10 x log (0.1795 / 0.1539) = 0.67 [dB]
	

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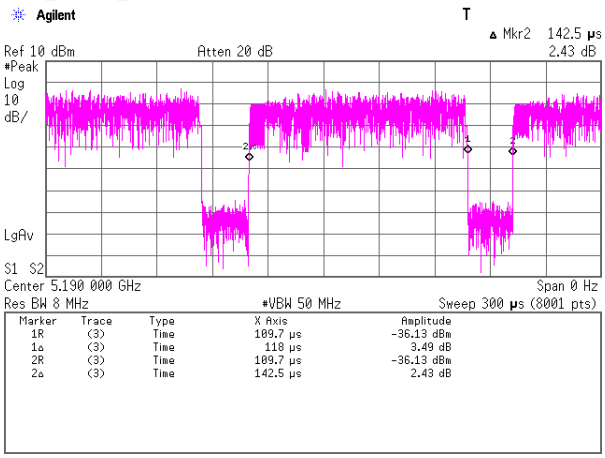
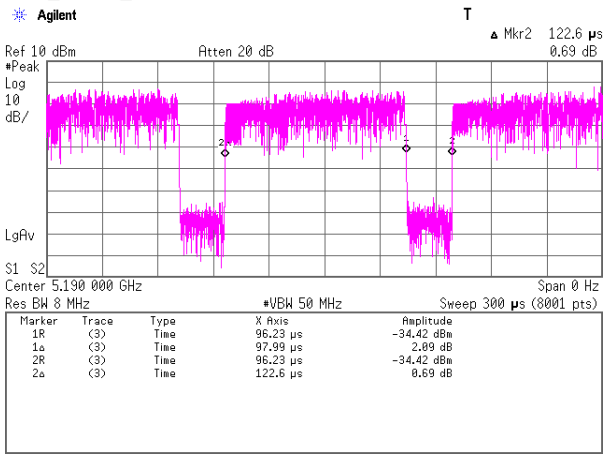
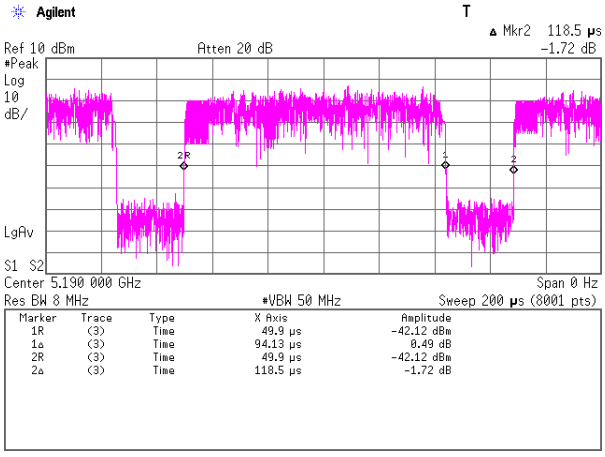
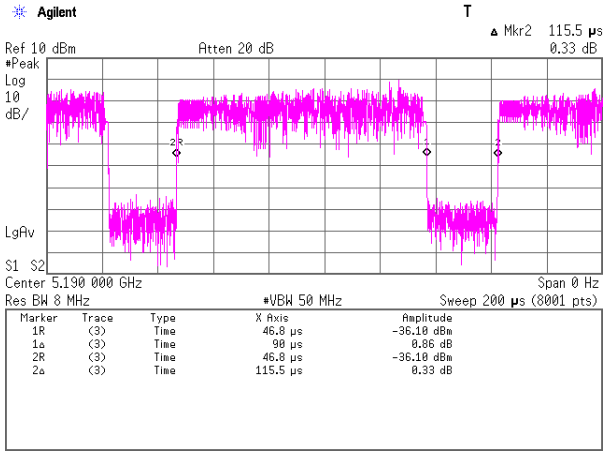
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT40, (Tx 5190MHz)	
MCS12	**MCS13**
duty factor [dB] = 10 x log (0.1425 / 0.118) = 0.82 [dB]	duty factor [dB] = 10 x log (0.1226 / 0.098) = 0.97 [dB]
	
MCS14	**MCS15**
duty factor [dB] = 10 x log (0.1185 / 0.0941) = 1.00 [dB]	duty factor [dB] = 10 x log (0.1155 / 0.09) = 1.08 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n-HT40, PN9,		worst data mode : 8 (MCS)

Antenna Main + Aux

Ch	Freq.	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.)	Margin (e.i.r.p.)	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]	
Low	5270.0	15.56	35.98	19.29	84.93	23.98	250.00	-	-	8.42	-	Worst Data
High	5310.0	15.36	34.35	19.09	81.08	23.98	250.00	-	-	8.62	-	

Sample Calculation: Result [mW] = Antenna Main Result [mW] + Antenna Aux Result [mW]

Antenna Main (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5270.0	1.16	2.17	9.60	0.21	13.14	20.60	3.73	16.87	48.63
High	5310.0	0.91	2.18	9.60	0.21	12.90	19.49	3.73	16.63	46.02

Antenna Aux (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5270.0	-0.11	2.17	9.60	0.21	11.87	15.38	3.73	15.60	36.30
High	5310.0	-0.27	2.18	9.60	0.21	11.72	14.86	3.73	15.45	35.07

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor

(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode	Freq.	Duty factor	Antenna Main Reading	Antenna Main Result		Antenna Aux Reading	Antenna Aux Result		Antenna Main + Aux Result		
(MCS)	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dBm]	[mW]	[dBm]	[mW]	
8	5270.0	0.21	1.16	1.37	1.37	-0.11	0.10	1.02	3.79	2.39	Worst Rate
9	5270.0	0.36	0.92	1.28	1.34	-0.38	-0.02	1.00	3.69	2.34	
10	5270.0	0.51	0.61	1.12	1.29	-0.50	0.01	1.00	3.61	2.29	
11	5270.0	0.64	0.55	1.19	1.32	-0.57	0.07	1.02	3.68	2.33	
12	5270.0	0.85	0.45	1.30	1.35	-0.69	0.16	1.04	3.78	2.39	
13	5270.0	0.97	0.33	1.30	1.35	-0.81	0.16	1.04	3.78	2.39	
14	5270.0	0.97	0.29	1.26	1.34	-0.86	0.11	1.03	3.73	2.36	
15	5270.0	1.05	0.21	1.26	1.34	-0.94	0.11	1.03	3.73	2.36	

Sample Calculation: Result = Duty factor + Reading

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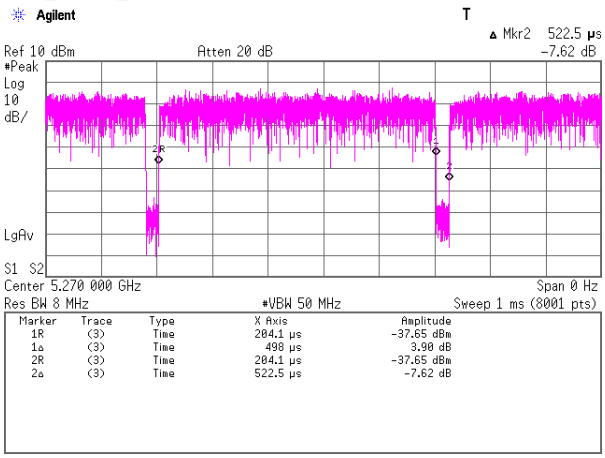
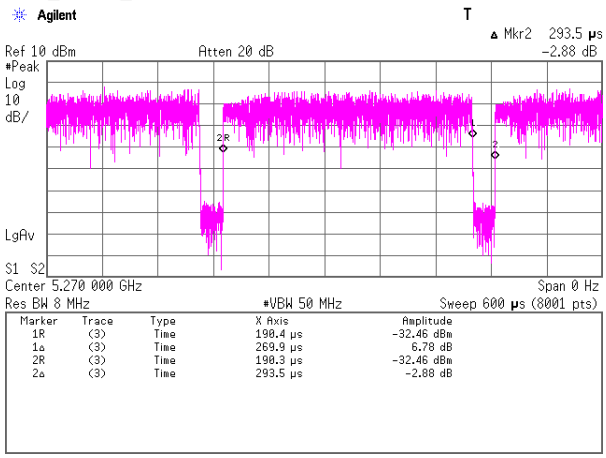
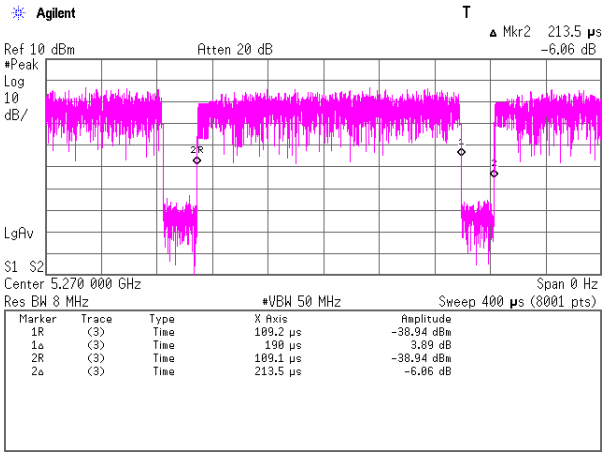
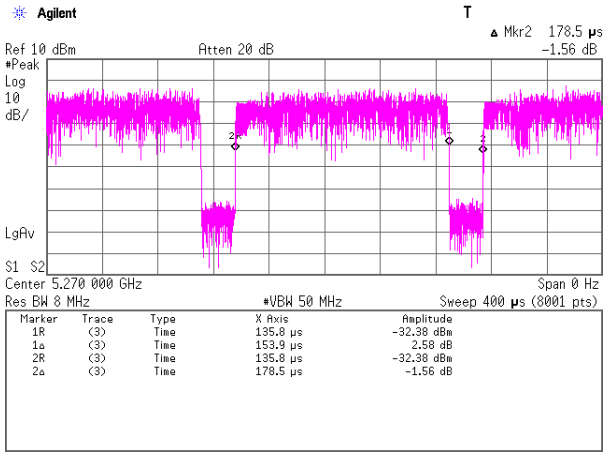
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT40, (Tx 5270MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (0.5225 / 0.498) = 0.21 [dB]	duty factor [dB] = 10 x log (0.2935 / 0.2699) = 0.36 [dB]
	
MCS10	**MCS11**
duty factor [dB] = 10 x log (0.2135 / 0.19) = 0.51 [dB]	duty factor [dB] = 10 x log (0.1785 / 0.1539) = 0.64 [dB]
	

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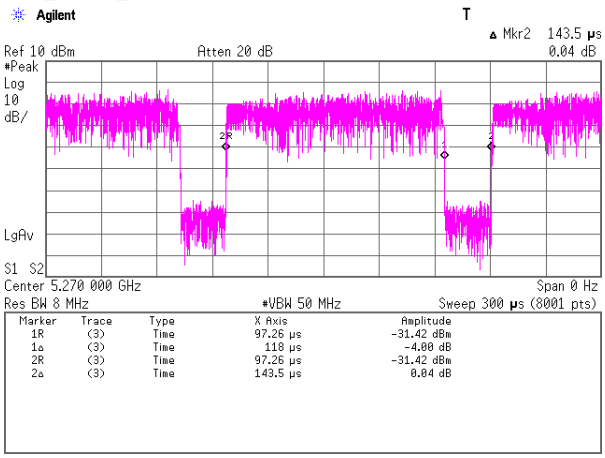
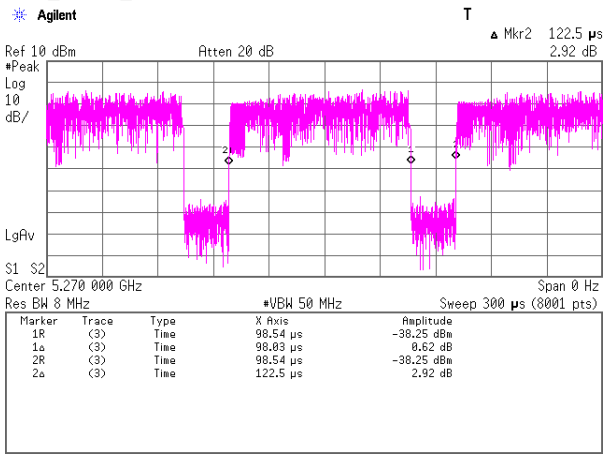
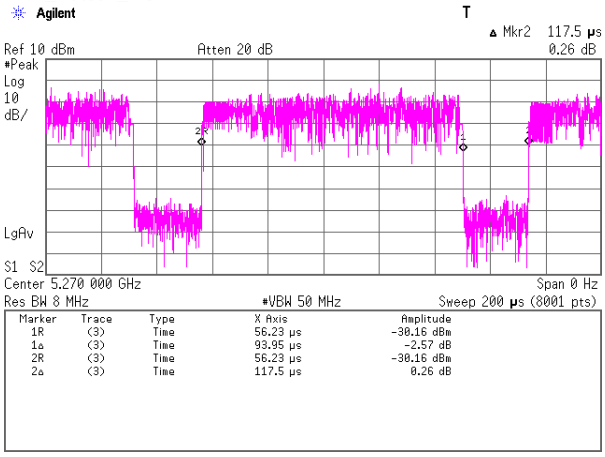
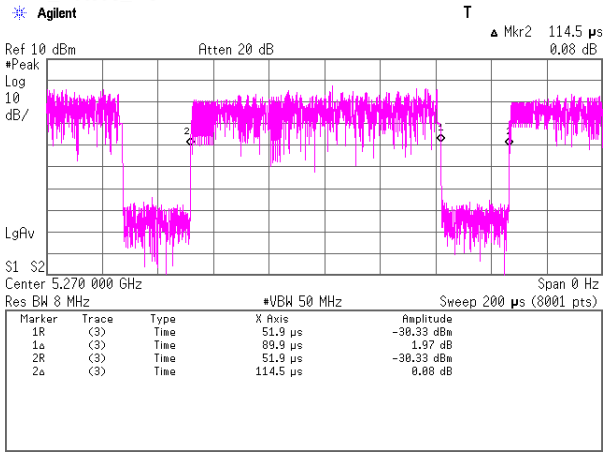
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT40, (Tx 5270MHz)

MCS12	MCS13
duty factor [dB] = 10 x log (0.1435 / 0.118) = 0.85 [dB]	duty factor [dB] = 10 x log (0.1225 / 0.098) = 0.97 [dB]
	
MCS14	**MCS15**
duty factor [dB] = 10 x log (0.1175 / 0.094) = 0.97 [dB]	duty factor [dB] = 10 x log (0.1145 / 0.0899) = 1.05 [dB]
	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.		No.5 Shielded Room
Date	November 21, 2012	November 22, 2012	November 26, 2012
Temperature / Humidity	22 deg.C , 38 %RH	22 deg.C , 46 %RH	20 deg.C , 30 %RH
Engineer	Hikaru Shirasawa	Hikaru Shirasawa	Akio Hayashi
Mode	Tx, IEEE802.11n-HT40, PN9,		worst data mode : 8 (MCS)

Antenna Main + Aux

Ch	Freq.	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.)	Margin (e.i.r.p.)	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]	
Low	5510.0	19.06	80.60	23.83	241.74	23.98	250.00	-	-	4.92	-	Worst Data
Mid	5550.0	19.03	79.90	23.80	239.62	23.98	250.00	-	-	4.95	-	
High	5670.0	18.87	77.10	23.64	231.22	23.98	250.00	-	-	5.11	-	

Sample Calculation: Result [mW] = Antenna Main Result [mW] + Antenna Aux Result [mW]

Antenna Main (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5510.0	4.87	2.05	9.59	0.21	16.72	46.97	4.77	21.49	140.86
Mid	5550.0	4.81	2.07	9.60	0.21	16.69	46.64	4.77	21.46	139.89
High	5670.0	4.47	2.27	9.61	0.21	16.56	45.27	4.77	21.33	135.77

Antenna Aux (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result (Cond.)		Antenna Gain	Result (e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	[mW]	[dBi]	[dBm]	[mW]
Low	5510.0	3.42	2.05	9.59	0.21	15.27	33.64	4.77	20.04	100.88
Mid	5550.0	3.34	2.07	9.60	0.21	15.22	33.25	4.77	19.99	99.72
High	5670.0	2.94	2.27	9.61	0.21	15.03	31.83	4.77	19.80	95.46

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor

(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode	Freq.	Duty factor	Antenna Main Reading	Antenna Main Result		Antenna Aux Reading	Antenna Aux Result		Antenna Main + Aux Result		
(MCS)	[MHz]	[dB]	[dBm]	[dBm]	[mW]	[dBm]	[dBm]	[mW]	[dBm]	[mW]	
8	5550.0	0.21	4.81	5.02	3.18	3.34	3.55	2.26	7.36	5.44	Worst Rate
9	5550.0	0.36	4.55	4.91	3.10	2.73	3.09	2.04	7.11	5.14	
10	5550.0	0.53	4.32	4.85	3.05	2.51	3.04	2.01	7.05	5.07	
11	5550.0	0.62	4.29	4.91	3.10	2.41	3.03	2.01	7.08	5.10	
12	5550.0	0.82	4.15	4.97	3.14	2.25	3.07	2.03	7.13	5.17	
13	5550.0	0.97	4.00	4.97	3.14	2.19	3.16	2.07	7.17	5.21	
14	5550.0	1.01	3.94	4.95	3.13	2.24	3.25	2.11	7.19	5.24	
15	5550.0	1.01	3.89	4.90	3.09	2.16	3.17	2.07	7.13	5.17	

Sample Calculation: Result = Duty factor + Reading

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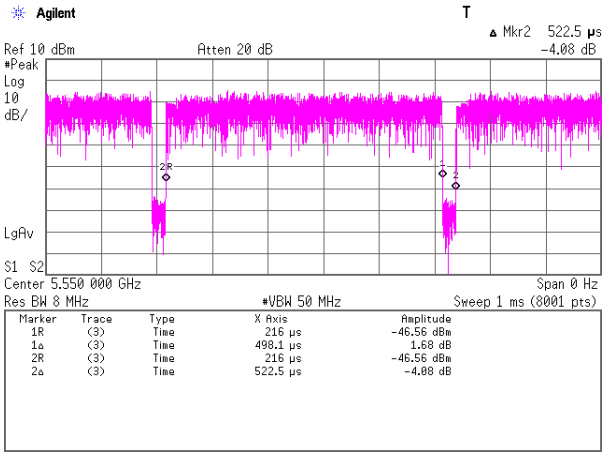
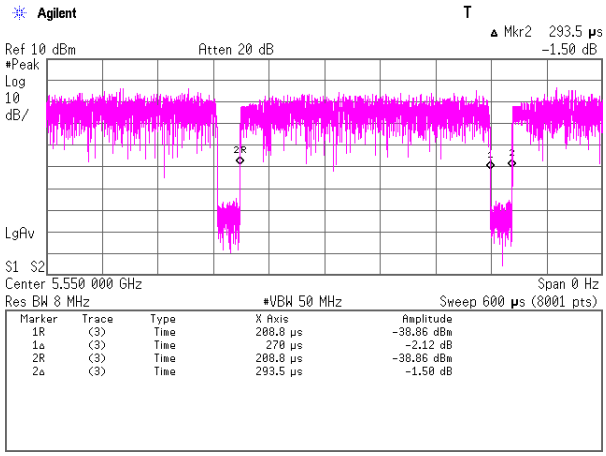
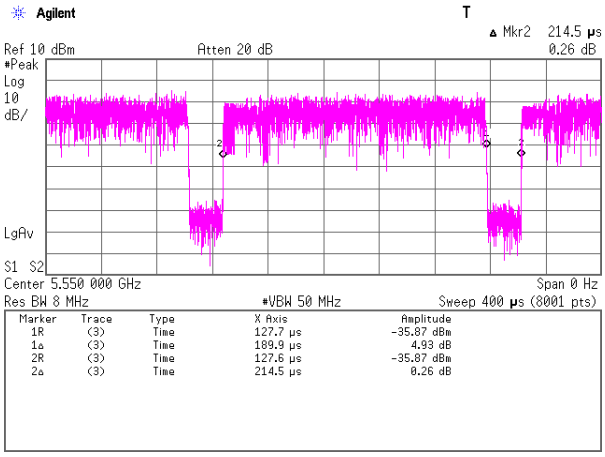
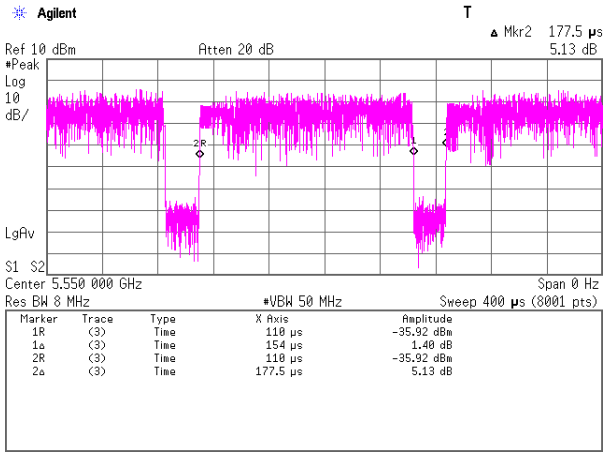
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT40, (Tx 5550MHz)	
MCS8	**MCS9**
duty factor [dB] = 10 x log (0.5225 / 0.4981) = 0.21 [dB]	duty factor [dB] = 10 x log (0.29[ms] / 0.27[ms 0.36 [dB]
	
MCS10	**MCS11**
duty factor [dB] = 10 x log (0.2145 / 0.1899) = 0.53 [dB]	duty factor [dB] = 10 x log (0.1775 / 0.154) = 0.62 [dB]
	

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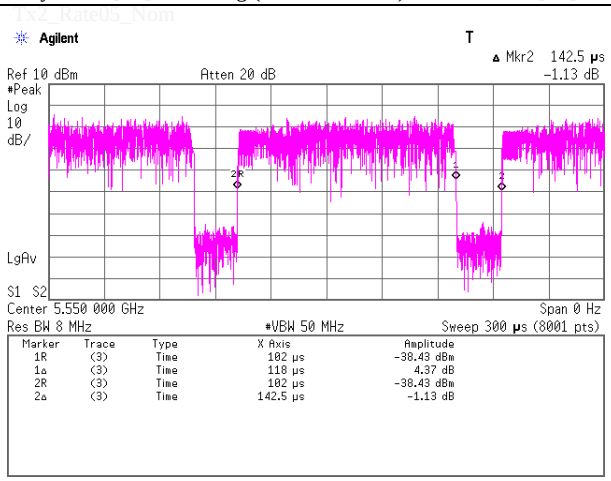
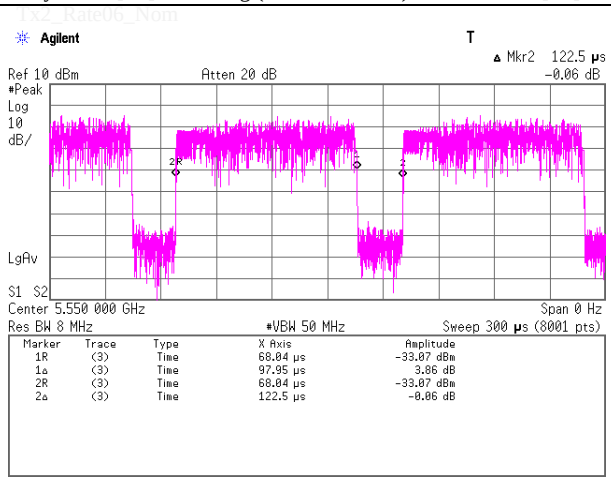
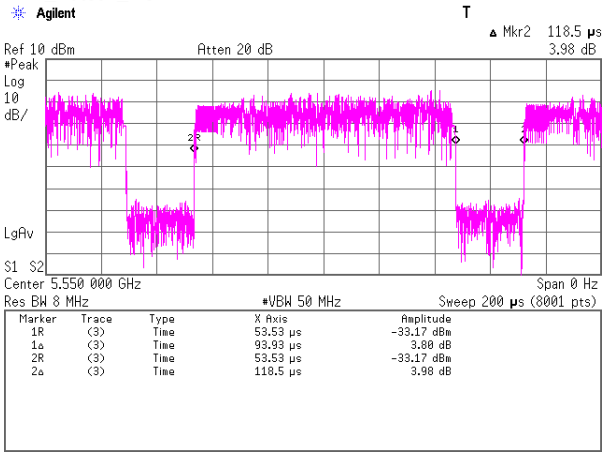
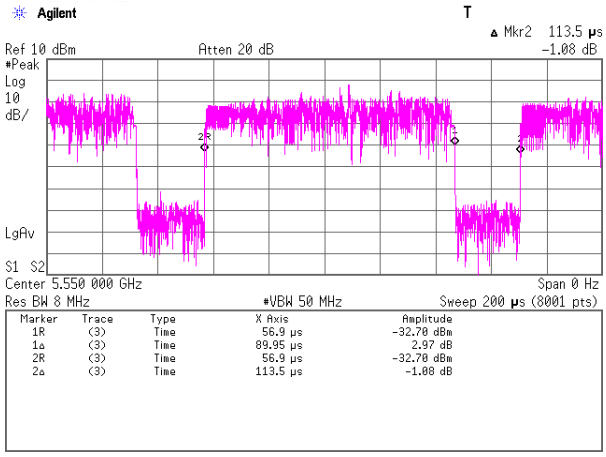
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n-HT40, (Tx 5550MHz)	
MCS12	**MCS13**
duty factor [dB] = 10 x log (0.1425 / 0.118) = 0.82 [dB]	duty factor [dB] = 10 x log (0.1225 / 0.098) = 0.97 [dB]
	
MCS14	**MCS15**
duty factor [dB] = 10 x log (0.1185 / 0.0939) = 1.01 [dB]	duty factor [dB] = 10 x log (0.1135 / 0.09) = 1.01 [dB]
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 23, 2012	November 26, 2012
Temperature / Humidity	23deg.C, 38 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5180 MHz	

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(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	55.5	31.8	16.4	40.6	63.1	73.9	10.8	207	75	
Hori.	15540.000	PK	44.6	40.0	1.9	39.2	47.3	73.9	26.6	100	0	
Hori.	5150.000	AV	40.2	31.8	16.4	40.6	47.8	53.9	**6.1**	207	75	
Hori.	15540.000	AV	33.8	40.0	1.9	39.2	36.5	53.9	17.4	100	0	
Vert.	5150.000	PK	54.8	31.8	16.4	40.6	62.4	73.9	11.5	100	214	
Vert.	15540.000	PK	45.2	40.0	1.9	39.2	47.9	73.9	26.0	100	0	
Vert.	5150.000	AV	39.5	31.8	16.4	40.6	47.1	53.9	6.8	100	214	
Vert.	15540.000	AV	34.1	40.0	1.9	39.2	36.8	53.9	17.1	100	0	

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

*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

(Calculation) (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.	10360.000	PK	43.8	38.9	9.4	38.7	53.4	-41.83	-27.00	14.8	100	0	
Vert.	10360.000	PK	45.5	38.9	9.4	38.7	55.1	-40.13	-27.00	13.1	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 23, 2012	November 26, 2012
Temperature / Humidity	23deg.C, 38 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5260 MHz	

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(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.	15780.000	PK	44.5	39.5	1.8	39.2	46.6	73.9	27.3	100	0	
Hori.	15780.000	AV	33.4	39.5	1.8	39.2	35.5	53.9	18.4	100	0	
Vert.	15780.000	PK	45.4	39.5	1.8	39.2	47.5	73.9	26.4	100	0	
Vert.	15780.000	AV	33.6	39.5	1.8	39.2	35.7	53.9	18.2	100	0	

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

*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

(Calculation) (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.	10520.000	PK	44.6	38.9	9.4	38.7	54.2	-41.03	-27.00	14.0	100	0	
Vert.	10520.000	PK	45.7	38.9	9.4	38.7	55.3	-39.93	-27.00	**12.9**	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 23, 2012	November 26, 2012
Temperature / Humidity	23deg.C, 38 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5320 MHz	

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(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	53.0	31.9	16.5	40.3	61.1	73.9	12.8	115	280	
Hori.	10640.000	PK	45.5	39.2	9.5	38.8	55.4	73.9	18.5	100	0	
Hori.	15960.000	PK	45.3	39.0	1.9	39.3	46.9	73.9	27.0	100	0	
Hori.	5350.000	AV	37.1	31.9	16.5	40.3	45.2	53.9	8.7	115	280	
Hori.	10640.000	AV	34.3	39.2	9.5	38.8	44.2	53.9	9.7	100	0	
Hori.	15960.000	AV	33.8	39.0	1.9	39.3	35.4	53.9	18.5	100	0	
Vert.	5350.000	PK	53.7	31.9	16.5	40.3	61.8	73.9	12.1	100	183	
Vert.	10640.000	PK	44.9	39.2	9.5	38.8	54.8	73.9	19.1	100	0	
Vert.	15960.000	PK	43.7	39.0	1.9	39.3	45.3	73.9	28.6	100	0	
Vert.	5350.000	AV	37.3	31.9	16.5	40.3	45.4	53.9	**8.5**	100	183	
Vert.	10640.000	AV	34.4	39.2	9.5	38.8	44.3	53.9	9.6	100	0	
Vert.	15960.000	AV	33.9	39.0	1.9	39.3	35.5	53.9	18.4	100	0	

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

*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

(Calculation) (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(Amprifier)

Resrult(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

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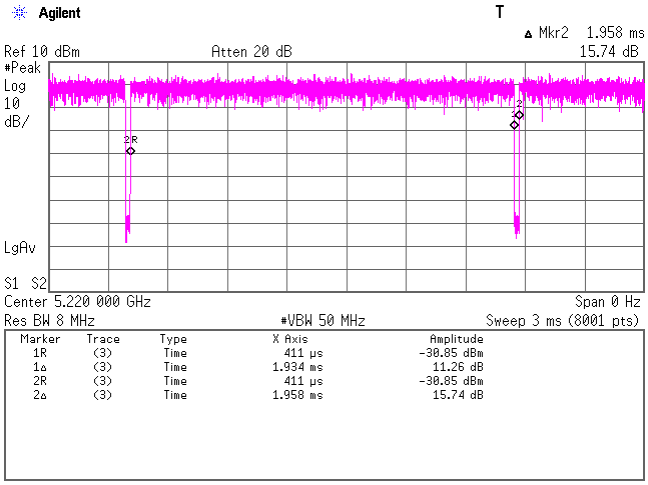
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)

VBW: 1/（On time) = 517.06Hz<560Hz **On time =1.934ms**	
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5180 MHz	
	Tx, IEEE802.11n (HT20), PN9, worst data mode 8(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	51.5	31.8	16.4	40.6	59.1	73.9	14.8	206	71	
Hori.	15540.000	PK	48.0	40.0	1.9	39.2	50.7	73.9	23.2	100	0	
Hori.	5150.000	AV	38.5	31.8	16.4	40.6	46.1	53.9	7.8	206	71	
Hori.	15540.000	AV	36.6	40.0	1.9	39.2	39.3	53.9	14.6	100	0	
Vert.	5150.000	PK	53.1	31.8	16.4	40.6	60.7	73.9	13.2	100	189	
Vert.	15540.000	PK	47.6	40.0	1.9	39.2	50.3	73.9	23.6	100	0	
Vert.	5150.000	AV	40.2	31.8	16.4	40.6	47.8	53.9	**6.1**	100	189	
Vert.	15540.000	AV	36.7	40.0	1.9	39.2	39.4	53.9	14.5	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

(Calculation) (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.	10360.000	PK	45.0	38.9	9.4	38.7	54.6	-40.63	-27.00	13.6	100	0	
Vert.	10360.000	PK	45.5	38.9	9.4	38.7	55.1	-40.13	-27.00	13.1	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5260 MHz	
	Tx, IEEE802.11n (HT20), PN9, worst data mode 8(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.	15780.000	PK	47.0	39.5	1.8	39.2	49.1	73.9	24.8	100	0	
Hori.	15780.000	AV	35.1	39.5	1.8	39.2	37.2	53.9	16.7	100	0	
Vert.	15780.000	PK	46.8	39.5	1.8	39.2	48.9	73.9	25.0	100	0	
Vert.	15780.000	AV	35.1	39.5	1.8	39.2	37.2	53.9	16.7	100	0	

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

*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

(Calculation) (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.	10520.000	PK	44.9	38.9	9.4	38.7	54.5	-40.73	-27.00	**13.7**	100	0	
Vert.	10520.000	PK	44.1	38.9	9.4	38.7	53.7	-41.53	-27.00	14.5	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5320 MHz	
	Tx, IEEE802.11n (HT20), PN9, worst data mode 8(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	48.4	31.9	16.5	40.3	56.5	73.9	17.4	120	69	
Hori.	10640.000	PK	44.8	39.2	9.5	38.8	54.7	73.9	19.2	100	0	
Hori.	15960.000	PK	45.7	39.0	1.9	39.3	47.3	73.9	26.6	100	0	
Hori.	5350.000	AV	35.7	31.9	16.5	40.3	43.8	53.9	10.1	120	69	
Hori.	10640.000	AV	34.6	39.2	9.5	38.8	44.5	53.9	9.4	100	0	
Hori.	15960.000	AV	35.5	39.0	1.9	39.3	37.1	53.9	16.8	100	0	
Vert.	5350.000	PK	49.4	31.9	16.5	40.3	57.5	73.9	16.4	100	156	
Vert.	10640.000	PK	45.4	39.2	9.5	38.8	55.3	73.9	18.6	100	0	
Vert.	15960.000	PK	47.1	39.0	1.9	39.3	48.7	73.9	25.2	100	0	
Vert.	5350.000	AV	36.7	31.9	16.5	40.3	44.8	53.9	**9.1**	100	156	
Vert.	10640.000	AV	34.6	39.2	9.5	38.8	44.5	53.9	9.4	100	0	
Vert.	15960.000	AV	35.8	39.0	1.9	39.3	37.4	53.9	16.5	100	0	

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

*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

(Calculation) (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(Amprifier)

Resrult(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

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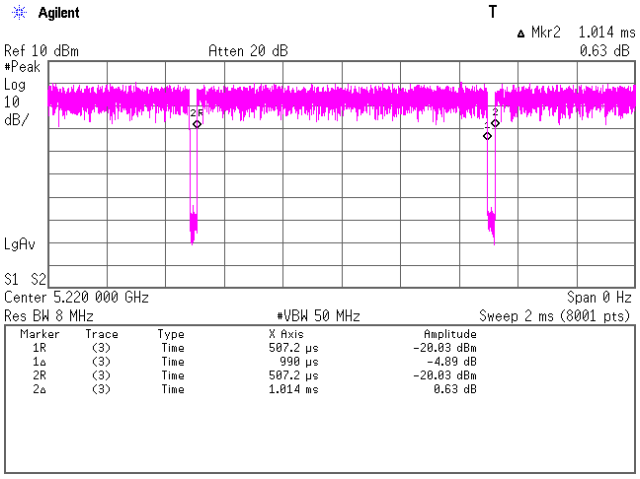
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 8(MCS)

VBW: 1/（On time) = 1010.1Hz<1.1kHz On time =0.99ms	
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5190 MHz	

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(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	55.4	31.8	16.4	40.6	63.0	73.9	10.9	204	71	
Hori.	15570.000	PK	44.4	39.9	1.9	39.2	47.0	73.9	26.9	100	0	
Hori.	5150.000	AV	41.5	31.8	16.4	40.6	49.1	53.9	4.8	204	71	
Hori.	15570.000	AV	33.9	39.9	1.9	39.2	36.5	53.9	17.4	100	0	
Vert.	5150.000	PK	56.1	31.8	16.4	40.6	63.7	73.9	10.2	100	213	
Vert.	15570.000	PK	44.9	39.9	1.9	39.2	47.5	73.9	26.4	100	0	
Vert.	5150.000	AV	42.1	31.8	16.4	40.6	49.7	53.9	**4.2**	100	213	
Vert.	15570.000	AV	34.0	39.9	1.9	39.2	36.6	53.9	17.3	100	0	

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

*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

(Calculation) (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.	10380.000	PK	45.8	38.9	9.4	38.7	55.4	-39.83	-27.00	12.8	100	0	
Vert.	10380.000	PK	45.3	38.9	9.4	38.7	54.9	-40.33	-27.00	13.3	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5270 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(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.	15810.000	PK	34.0	39.4	1.9	39.2	36.1	73.9	37.8	100	0	
Hori.	15810.000	AV	44.2	39.4	1.9	39.2	46.3	53.9	7.6	100	0	
Vert.	15810.000	PK	34.1	39.4	1.9	39.2	36.2	73.9	37.7	100	0	
Vert.	15810.000	AV	45.5	39.4	1.9	39.2	47.6	53.9	**6.3**	100	0	

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

*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

(Calculation) (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.	10540.000	PK	44.4	38.9	9.4	38.7	54.0	-41.23	-27.00	14.2	100	0	
Vert.	10540.000	PK	45.1	38.9	9.4	38.7	54.7	-40.53	-27.00	13.5	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5310 MHz	

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(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	52.3	31.9	16.5	40.3	60.4	73.9	13.5	114	71	
Hori.	10620.000	PK	44.4	39.1	9.5	38.8	54.2	73.9	19.7	100	0	
Hori.	15930.000	PK	44.0	39.1	1.9	39.3	45.7	73.9	28.2	100	0	
Hori.	5350.000	AV	39.2	31.9	16.5	40.3	47.3	53.9	6.6	114	71	
Hori.	10620.000	AV	34.4	39.1	9.5	38.8	44.2	53.9	9.7	100	0	
Hori.	15930.000	AV	33.9	39.1	1.9	39.3	35.6	53.9	18.3	100	0	
Vert.	5350.000	PK	52.8	31.9	16.5	40.3	60.9	73.9	13.0	100	156	
Vert.	10620.000	PK	45.8	39.1	9.5	38.8	55.6	73.9	18.3	100	0	
Vert.	15930.000	PK	44.5	39.1	1.9	39.3	46.2	73.9	27.7	100	0	
Vert.	5350.000	AV	39.5	31.9	16.5	40.3	47.6	53.9	**6.3**	100	156	
Vert.	10620.000	AV	34.5	39.1	9.5	38.8	44.3	53.9	9.6	100	0	
Vert.	15930.000	AV	33.9	39.1	1.9	39.3	35.6	53.9	18.3	100	0	

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

*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

(Calculation) (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(Amprifier)

Resrult(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

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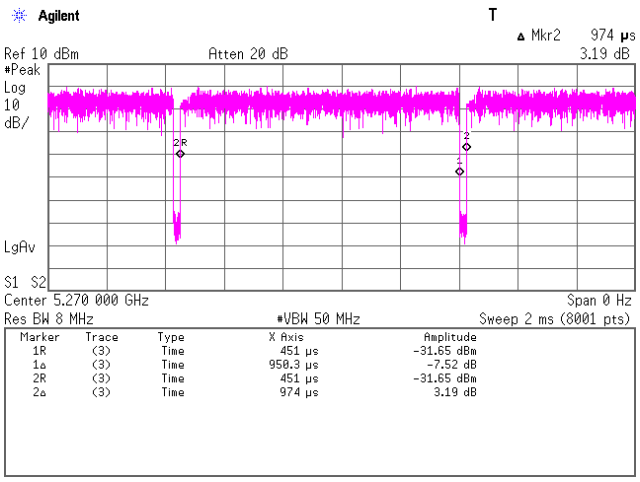
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)

VBW: 1/（On time) = 1052.3Hz<1.1kHz **On time =0.9503ms**	
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5190 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst data mode 8(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	54.1	31.8	16.4	40.6	61.7	73.9	12.2	200	71	
Hori.	15570.000	PK	44.7	39.9	1.9	39.2	47.3	73.9	26.6	100	0	
Hori.	5150.000	AV	41.1	31.8	16.4	40.6	48.7	53.9	5.2	200	71	
Hori.	15570.000	AV	34.9	39.9	1.9	39.2	37.5	53.9	16.4	100	0	
Vert.	5150.000	PK	54.8	31.8	16.4	40.6	62.4	73.9	11.5	100	188	
Vert.	15570.000	PK	45.9	39.9	1.9	39.2	48.5	73.9	25.4	100	0	
Vert.	5150.000	AV	43.0	31.8	16.4	40.6	50.6	53.9	**3.3**	100	188	
Vert.	15570.000	AV	35.1	39.9	1.9	39.2	37.7	53.9	16.2	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).

*No noise was detected other than listed points.

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

(Calculation) (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.	10380.000	PK	45.3	38.9	9.4	38.7	54.9	-40.33	-27.00	13.3	100	0	
Vert.	10380.000	PK	45.1	38.9	9.4	38.7	54.7	-40.53	-27.00	13.5	100	0	

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

Resrult(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

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Radiated Emission

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Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5270 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst data mode 8(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.	15810.000	PK	45.1	39.4	1.9	39.2	47.2	73.9	26.7	100	0	
Hori.	15810.000	AV	34.6	39.4	1.9	39.2	36.7	53.9	17.2	100	0	
Vert.	15810.000	PK	45.5	39.4	1.9	39.2	47.6	73.9	26.3	100	0	
Vert.	15810.000	AV	35.1	39.4	1.9	39.2	37.2	53.9	16.7	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

(Calculation) (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.	10540.000	PK	45.1	38.9	9.4	38.7	54.7	-40.53	-27.00	13.5	100	0	
Vert.	10540.000	PK	45.4	38.9	9.4	38.7	55.0	-40.23	-27.00	**13.2**	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5310 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst data mode 8(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	53.6	31.9	16.5	40.3	61.7	73.9	12.2	112	70	
Hori.	10620.000	PK	45.1	39.1	9.5	38.8	54.9	73.9	19.0	100	0	
Hori.	15930.000	PK	46.2	39.1	1.9	39.3	47.9	73.9	26.0	100	0	
Hori.	5350.000	AV	41.2	31.9	16.5	40.3	49.3	53.9	4.6	112	70	
Hori.	10620.000	AV	34.7	39.1	9.5	38.8	44.5	53.9	9.4	100	0	
Hori.	15930.000	AV	34.9	39.1	1.9	39.3	36.6	53.9	17.3	100	0	
Vert.	5350.000	PK	55.8	31.9	16.5	40.3	63.9	73.9	10.0	100	155	
Vert.	10620.000	PK	44.8	39.1	9.5	38.8	54.6	73.9	19.3	100	0	
Vert.	15930.000	PK	46.3	39.1	1.9	39.3	48	73.9	25.9	100	0	
Vert.	5350.000	AV	43.4	31.9	16.5	40.3	51.5	53.9	**2.4**	100	155	
Vert.	10620.000	AV	34.6	39.1	9.5	38.8	44.4	53.9	9.5	100	0	
Vert.	15930.000	AV	34.6	39.1	1.9	39.3	36.3	53.9	17.6	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

(Calculation) (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)

Resrult(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

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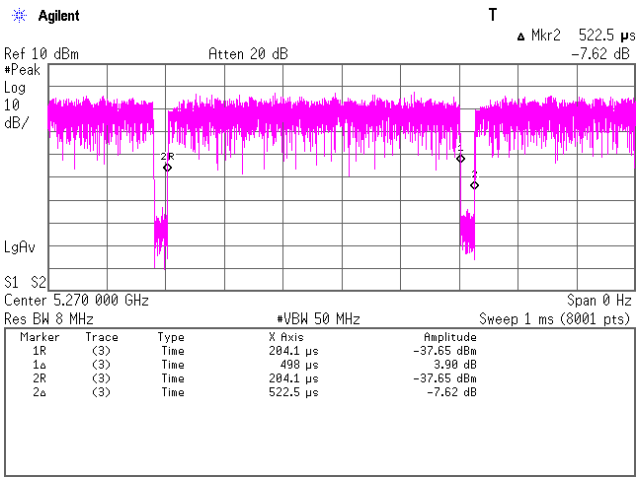
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 8(MCS)

VBW: 1/（On time) = 2008.03Hz<2.2kHz **On time =0.498ms**	
	

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5500 MHz	

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(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.	5460.000	PK	50.8	32.0	16.7	40.1	59.4	73.9	14.5	127	70	
Hori.	11000.000	PK	44.6	40.0	9.6	39.2	55.0	73.9	18.9	100	0	
Hori.	5460.000	AV	36.1	32.0	16.7	40.1	44.7	53.9	9.2	127	70	
Hori.	11000.000	AV	33.6	40.0	9.6	39.2	44.0	53.9	9.9	100	0	
Vert.	5460.000	PK	51.2	32.0	16.7	40.1	59.8	73.9	14.1	100	152	
Vert.	11000.000	PK	44.4	40.0	9.6	39.2	54.8	73.9	19.1	100	0	
Vert.	5460.000	AV	36.3	32.0	16.7	40.1	44.9	53.9	9.0	100	152	
Vert.	11000.000	AV	33.8	40.0	9.6	39.2	44.2	53.9	9.7	100	0	

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

*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

(Calculation) (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	53.7	32.0	16.7	40.1	62.3	-32.93	-27.00	5.9	127	70	
Hori.	16500.000	PK	45.3	40.0	2.1	39.6	47.8	-47.43	-27.00	20.4	100	0	
Vert.	5470.000	PK	55.7	32.0	16.7	40.1	64.3	-30.93	-27.00	**3.9**	100	152	
Vert.	16500.000	PK	45.7	40.0	2.1	39.6	48.2	-47.03	-27.00	20.0	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5580 MHz	

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(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.	11160.000	PK	45.5	40.1	9.7	39.3	56.0	73.9	17.9	100	0	
Hori.	11160.000	AV	34.6	40.1	9.7	39.3	45.1	53.9	**8.8**	100	0	
Vert.	11160.000	PK	45.5	40.1	9.7	39.3	56.0	73.9	17.9	100	0	
Vert.	11160.000	AV	34.4	40.1	9.7	39.3	44.9	53.9	9.0	100	0	

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

*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

(Calculation) (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.	16740.000	PK	45.3	40.6	2.4	39.5	48.8	-46.43	-27.00	19.4	100	0	
Vert.	16740.000	PK	44.7	40.6	2.4	39.5	48.2	-47.03	-27.00	20.0	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5700 MHz	

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(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.	11400.000	PK	45.9	40.1	9.8	39.5	56.3	73.9	17.6	100	0	
Hori.	11400.000	AV	34.4	40.1	9.8	39.5	44.8	53.9	9.1	100	0	
Vert.	11400.000	PK	45.7	40.1	9.8	39.5	56.1	73.9	17.8	100	0	
Vert.	11400.000	AV	34.3	40.1	9.8	39.5	44.7	53.9	9.2	100	0	

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

*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

(Calculation) (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	55.2	32.6	16.7	40.2	64.3	-30.93	-27.00	3.9	198	74	
Hori.	17100.000	PK	44.9	41.7	2.8	39.5	49.9	-45.33	-27.00	18.3	100	0	
Vert.	5725.000	PK	58.1	32.6	16.7	40.2	67.2	-28.03	-27.00	**1.0**	100	153	
Vert.	17100.000	PK	45.7	41.7	2.8	39.5	50.7	-44.53	-27.00	17.5	100	0	

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

Resrult(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

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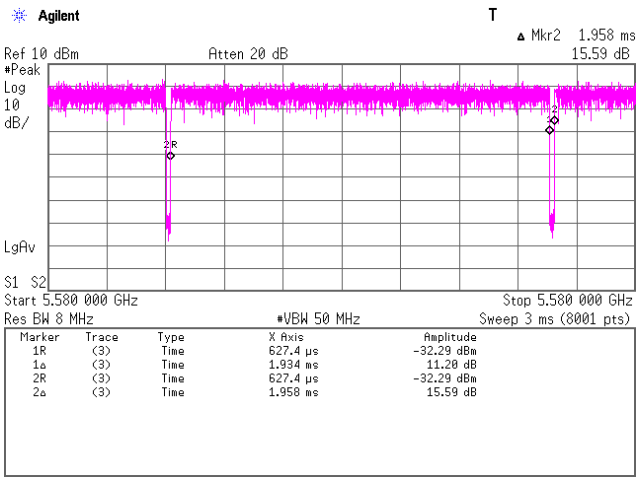
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)

VBW: 1/（On time) = 517.06Hz<560Hz **On time =1.934ms**	
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5500 MHz	
	Tx, IEEE802.11n (HT20), PN9, worst data mode 8(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.	5460.000	PK	47.9	32.0	16.7	40.1	56.5	73.9	17.4	100	279	
Hori.	11000.000	PK	44.2	40.0	9.6	39.2	54.6	73.9	19.3	100	0	
Hori.	5460.000	AV	35.6	32.0	16.7	40.1	44.2	53.9	9.7	100	279	
Hori.	11000.000	AV	33.7	40.0	9.6	39.2	44.1	53.9	9.8	100	0	
Vert.	5460.000	PK	48.2	32.0	16.7	40.1	56.8	73.9	17.1	122	142	
Vert.	11000.000	PK	44.8	40.0	9.6	39.2	55.2	73.9	18.7	100	0	
Vert.	5460.000	AV	36.0	32.0	16.7	40.1	44.6	53.9	9.3	122	142	
Vert.	11000.000	AV	33.9	40.0	9.6	39.2	44.3	53.9	9.6	100	0	

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

*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

(Calculation) (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	50.3	32.0	16.7	40.1	58.9	-36.33	-27.00	9.3	100	279	
Hori.	16500.000	PK	46.1	40.0	2.1	39.6	48.6	-46.63	-27.00	19.6	100	0	
Vert.	5470.000	PK	52.2	32.0	16.7	40.1	60.8	-34.43	-27.00	**7.4**	122	142	
Vert.	16500.000	PK	46.2	40.0	2.1	39.6	48.7	-46.53	-27.00	19.5	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5580 MHz	
	Tx, IEEE802.11n (HT20), PN9, worst data mode 8(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.	11160.000	PK	45.4	40.1	9.7	39.3	55.9	73.9	18.0	100	0	
Hori.	11160.000	AV	34.7	40.1	9.7	39.3	45.2	53.9	8.7	100	0	
Vert.	11160.000	PK	45.5	40.1	9.7	39.3	56.0	73.9	17.9	100	0	
Vert.	11160.000	AV	35.2	40.1	9.7	39.3	45.7	53.9	**8.2**	100	0	

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

*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

(Calculation) (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.	16740.000	PK	44.8	40.6	2.4	39.5	48.3	-46.93	-27.00	19.9	100	0	
Vert.	16740.000	PK	45.3	40.6	2.4	39.5	48.8	-46.43	-27.00	19.4	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5700 MHz	
	Tx, IEEE802.11n (HT20), PN9, worst data mode 8(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.	11400.000	PK	46.1	40.1	9.8	39.5	56.5	73.9	17.4	100	0	
Hori.	11400.000	AV	34.9	40.1	9.8	39.5	45.3	53.9	8.6	100	0	
Vert.	11400.000	PK	46.5	40.1	9.8	39.5	56.9	73.9	17.0	100	0	
Vert.	11400.000	AV	35.7	40.1	9.8	39.5	46.1	53.9	**7.8**	100	0	

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

*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

(Calculation) (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	50.4	32.6	16.7	40.2	59.5	-35.73	-27.00	8.7	120	114	
Hori.	17100.000	PK	44.2	41.7	2.8	39.5	49.2	-46.03	-27.00	19.0	100	0	
Vert.	5725.000	PK	50.9	32.6	16.7	40.2	60.0	-35.23	-27.00	8.2	100	126	
Vert.	17100.000	PK	45.2	41.7	2.8	39.5	50.2	-45.03	-27.00	18.0	100	0	

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

Resrult(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

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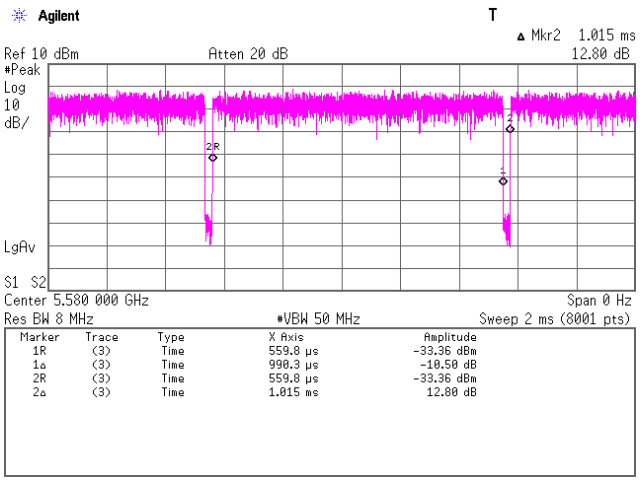
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 8(MCS)

VBW: 1/（On time) = 1009.8Hz<1.1kHz **On time =0.9903ms**	
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5510 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(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.	5460.000	PK	53.4	32.0	16.7	40.1	62.0	73.9	11.9	128	70	
Hori.	11020.000	PK	44.1	40.0	9.6	39.2	54.5	73.9	19.4	100	0	
Hori.	5460.000	AV	40.1	32.0	16.7	40.1	48.7	53.9	5.2	128	70	
Hori.	11020.000	AV	34.0	40.0	9.6	39.2	44.4	53.9	9.5	100	0	
Vert.	5460.000	PK	54.0	32.0	16.7	40.1	62.6	73.9	11.3	100	154	
Vert.	11020.000	PK	44.7	40.0	9.6	39.2	55.1	73.9	18.8	100	0	
Vert.	5460.000	AV	41.2	32.0	16.7	40.1	49.8	53.9	4.1	100	154	
Vert.	11020.000	AV	34.0	40.0	9.6	39.2	44.4	53.9	9.5	100	0	

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

*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

(Calculation) (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	57.7	32.0	16.7	40.1	66.3	-28.93	-27.00	1.9	128	70	
Hori.	16530.000	PK	45.3	40.1	2.1	39.6	47.9	-47.33	-27.00	20.3	100	0	
Vert.	5470.000	PK	59.2	32.0	16.7	40.1	67.8	-27.43	-27.00	**0.4**	100	154	
Vert.	16530.000	PK	45.5	40.1	2.1	39.6	48.1	-47.13	-27.00	20.1	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5550 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(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.	11100.000	PK	44.5	40.1	9.6	39.3	54.9	73.9	19.0	100	0	
Hori.	11100.000	AV	34.4	40.1	9.6	39.3	44.8	53.9	9.1	100	0	
Vert.	11100.000	PK	45	40.1	9.6	39.3	55.4	73.9	18.5	100	0	
Vert.	11100.000	AV	34.5	40.1	9.6	39.3	44.9	53.9	**9.0**	100	0	

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

*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

(Calculation) (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.	16650.000	PK	46.1	40.4	2.3	39.6	49.2	-46.03	-27.00	19.0	100	0	
Vert.	16650.000	PK	45.7	40.4	2.3	39.6	48.8	-46.43	-27.00	19.4	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.3 Semi Anechoic Chamber	
Date	November 24, 2012	November 26, 2012	December 2, 2012	December 3, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH	23deg.C, 30 %RH	25deg.C, 35 %RH
Engineer	Tatsuya Arai	Shinichi Takano	Kenichi Adachi	Tatsuya Arai
Mode	Tx, 5670 MHz			

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(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.	0.545	QP	36.5	19.2	5.9	32.2	29.4	72.8	43.4	-	188	
Hori.	82.114	QP	43.7	6.8	7.5	32.2	25.8	40.0	14.2	233	219	
Hori.	149.255	QP	43.4	14.8	7.7	32.1	33.8	43.5	9.7	196	317	
Hori.	179.258	QP	41.2	15.8	7.8	32.1	32.7	43.5	10.8	192	174	
Hori.	313.430	QP	32.7	14.3	8.6	32.0	23.6	46.0	22.4	100	282	
Hori.	11340.000	PK	45.3	40.1	9.7	39.4	55.7	73.9	18.2	100	0	
Hori.	11340.000	AV	34.8	40.1	9.7	39.4	45.2	53.9	8.7	100	0	
Vert.	0.545	QP	41.2	19.2	5.9	32.2	34.1	72.8	38.7	-	182	
Vert.	32.264	QP	34.4	17.1	6.5	32.2	25.8	40.0	14.2	100	70	
Vert.	82.114	QP	50.6	6.8	7.5	32.2	32.7	40.0	**7.3**	100	258	
Vert.	149.255	QP	42.9	14.8	7.7	32.1	33.3	43.5	10.2	100	66	
Vert.	179.258	QP	40.0	15.8	7.8	32.1	31.5	43.5	12.0	100	338	
Vert.	313.430	QP	31.5	14.3	8.6	32.0	22.4	46.0	23.6	100	293	
Vert.	11340.000	PK	46.2	40.1	9.7	39.4	56.6	73.9	17.3	100	0	
Vert.	11340.000	AV	34.7	40.1	9.7	39.4	45.1	53.9	8.8	100	0	

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

*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

(Calculation) (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	49.1	32.6	16.7	40.2	58.2	-37.03	-27.00	10.0	213	77	
Hori.	17010.000	PK	44.1	41.2	2.8	39.5	48.6	-46.63	-27.00	19.6	100	0	
Vert.	5725.000	PK	50.8	32.6	16.7	40.2	59.9	-35.33	-27.00	8.3	100	150	
Vert.	17010.000	PK	45.0	41.2	2.8	39.5	49.5	-45.73	-27.00	18.7	100	0	

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

Resrult(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

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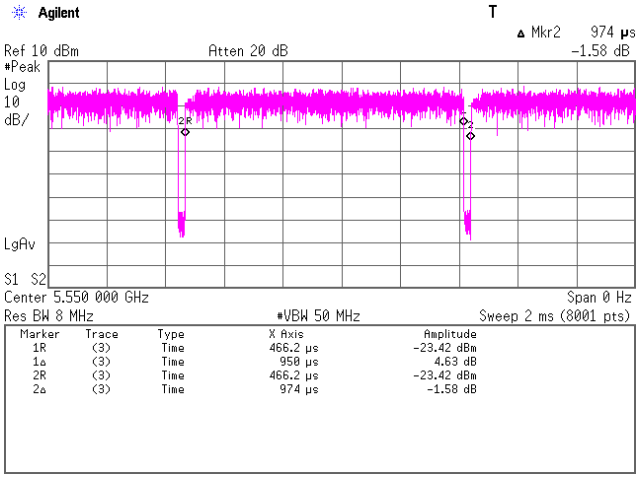
VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)

VBW: 1/（On time) = 1052.63Hz<1.1kHz On time =0.95ms	
	

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5510 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst data mode 8(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.	5460.000	PK	51.6	32.0	16.7	40.1	60.2	73.9	13.7	100	280	
Hori.	11020.000	PK	44.4	40.0	9.6	39.2	54.8	73.9	19.1	100	0	
Hori.	5460.000	AV	40.7	32.0	16.7	40.1	49.3	53.9	4.6	100	280	
Hori.	11020.000	AV	34.0	40.0	9.6	39.2	44.4	53.9	9.5	100	0	
Vert.	5460.000	PK	52.4	32.0	16.7	40.1	61.0	73.9	12.9	100	139	
Vert.	11020.000	PK	44.8	40.0	9.6	39.2	55.2	73.9	18.7	100	0	
Vert.	5460.000	AV	41.0	32.0	16.7	40.1	49.6	53.9	4.3	100	139	
Vert.	11020.000	AV	34.1	40.0	9.6	39.2	44.5	53.9	9.4	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

(Calculation) (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	56.7	32.0	16.7	40.1	65.3	-29.93	-27.00	2.9	100	280	
Hori.	16530.000	PK	45.5	40.1	2.1	39.6	48.1	-47.13	-27.00	20.1	100	0	
Vert.	5470.000	PK	57.3	32.0	16.7	40.1	65.9	-29.33	-27.00	**2.3**	100	139	
Vert.	16530.000	PK	46.9	40.1	2.1	39.6	49.5	-45.73	-27.00	18.7	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5550 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst data mode 8(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.	11100.000	PK	43.9	40.1	9.6	39.3	54.3	73.9	19.6	100	0	
Hori.	11100.000	AV	34.8	40.1	9.6	39.3	45.2	53.9	**8.7**	100	0	
Vert.	11100.000	PK	45.1	40.1	9.6	39.3	55.5	73.9	18.4	100	0	
Vert.	11100.000	AV	34.8	40.1	9.6	39.3	45.2	53.9	**8.7**	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

(Calculation) (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.	16650.000	PK	47.1	40.4	2.3	39.6	50.2	-45.03	-27.00	18.0	100	0	
Vert.	16650.000	PK	45.9	40.4	2.3	39.6	49.0	-46.23	-27.00	19.2	100	0	

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

Resrult(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

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	November 24, 2012	November 26, 2012
Temperature / Humidity	22deg.C, 36 %RH	26deg.C, 38 %RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, 5670 MHz	
	Tx, IEEE802.11n (HT40), PN9, worst data mode 8(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.	0.545	QP	36.1	19.2	5.9	32.2	29.0	72.8	43.8	-	186	
Hori.	82.128	QP	43.6	6.8	7.5	32.2	25.7	40.0	14.3	234	214	
Hori.	149.254	QP	43.1	14.8	7.7	32.1	33.5	43.5	10.0	204	318	
Hori.	179.243	QP	41.5	15.8	7.8	32.1	33.0	43.5	10.5	190	182	
Hori.	313.643	QP	32.6	14.3	8.6	32.0	23.5	46.0	22.5	100	289	
Hori.	11340.000	PK	45.4	40.1	9.7	39.4	55.8	73.9	18.1	100	0	
Hori.	11340.000	AV	34.9	40.1	9.7	39.4	45.3	53.9	8.6	100	0	
Vert.	0.545	QP	41.0	19.2	5.9	32.2	33.9	72.8	38.9	-	186	
Vert.	32.242	QP	34.4	17.1	6.5	32.2	25.8	40.0	14.2	100	83	
Vert.	82.128	QP	50.2	6.8	7.5	32.2	32.3	40.0	**7.7**	100	257	
Vert.	149.254	QP	42.5	14.8	7.7	32.1	32.9	43.5	10.6	100	66	
Vert.	179.243	QP	40.1	15.8	7.8	32.1	31.6	43.5	11.9	100	336	
Vert.	313.643	QP	31.6	14.3	8.6	32.0	22.5	46.0	23.5	100	288	
Vert.	11340.000	PK	45.2	40.1	9.7	39.4	55.6	73.9	18.3	100	0	
Vert.	11340.000	AV	34.6	40.1	9.7	39.4	45.0	53.9	8.9	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

(Calculation) (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	47.4	32.6	16.7	40.2	56.5	-38.73	-27.00	11.7	100	114	
Hori.	17010.000	PK	44.7	41.2	2.8	39.5	49.2	-46.03	-27.00	19.0	100	0	
Vert.	5725.000	PK	46.9	32.6	16.7	40.2	56.0	-39.23	-27.00	12.2	100	133	
Vert.	17010.000	PK	44.4	41.2	2.8	39.5	48.9	-46.33	-27.00	19.3	100	0	

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

Resrult(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).

*No noise was detected other than listed points.

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

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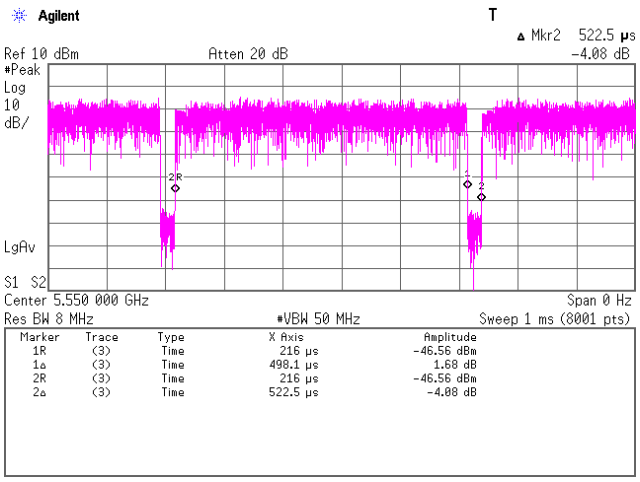
Burst rate confirmation

Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 8(MCS)

VBW: 1/（On time) = 2007.63Hz<2.2kHz On time =0.4981ms	
	

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Power Density

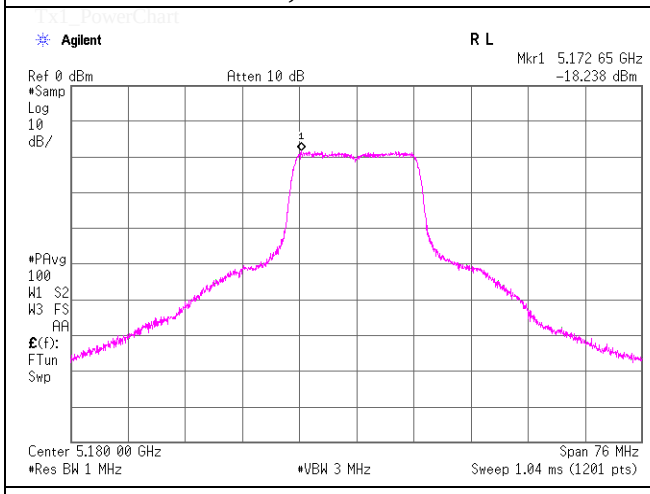
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39 %RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

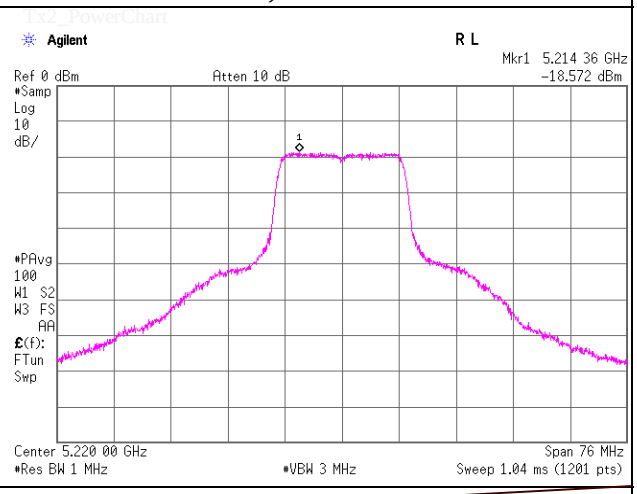
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5180.0000	5172.65	-18.23	2.03	20.10	0.05		3.95	4.00	0.05
5220.0000	5214.36	-18.57	2.03	20.09	0.05		3.60	4.00	0.40
5240.0000	5235.06	-18.77	2.18	20.09	0.05		3.55	4.00	0.45

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

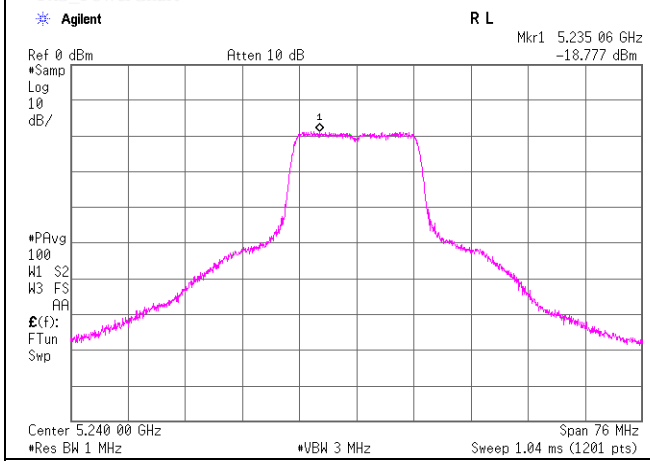
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Power Density

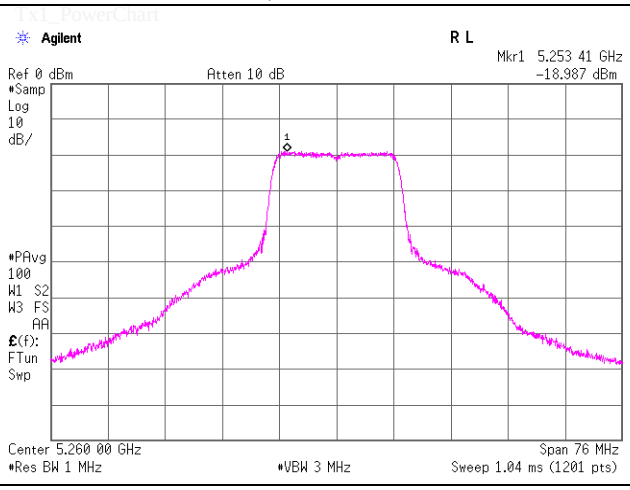
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39 %RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

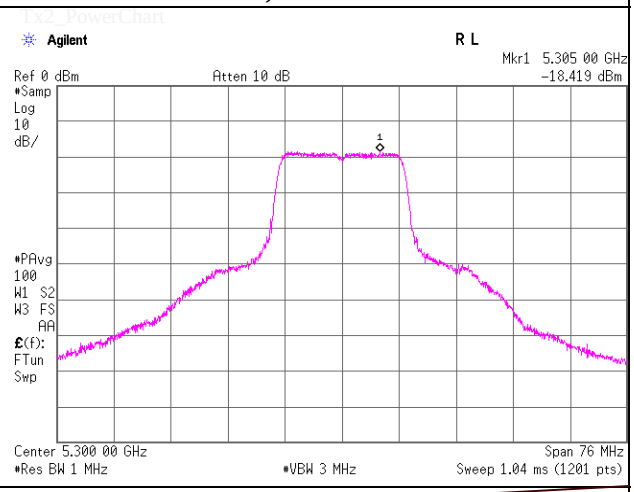
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5260.0000	5253.41	-18.98	2.17	20.09	0.05		3.33	11.00	7.67
5300.0000	5305.00	-18.41	2.18	20.09	0.05		3.91	11.00	7.09
5320.0000	5313.22	-18.25	2.07	20.08	0.05		3.95	11.00	7.05

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

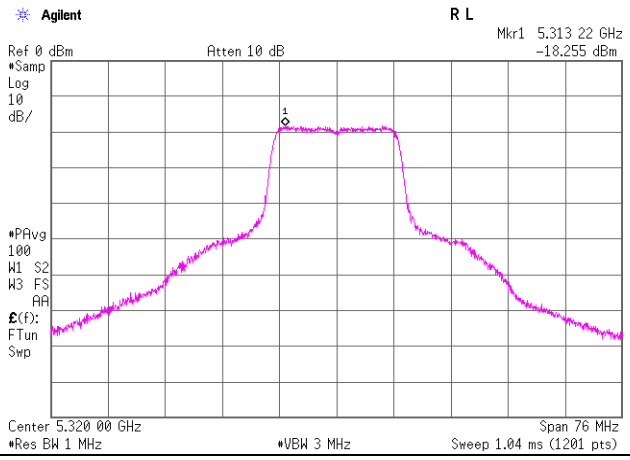
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Power Density

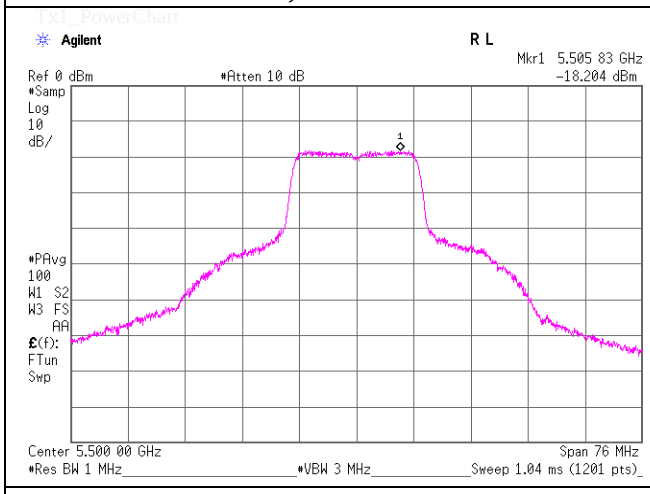
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23deg.C , 54%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

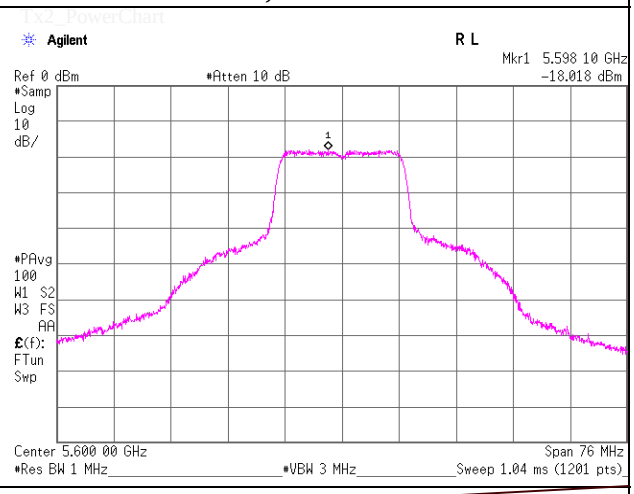
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5500.0000	5505.83	-18.20	2.05	20.07	0.05		3.97	11.00	7.03
5580.0000	5598.10	-18.01	2.07	20.08	0.05		4.19	11.00	6.81
5700.0000	5705.83	-17.51	2.13	20.09	0.05		4.76	11.00	6.24

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

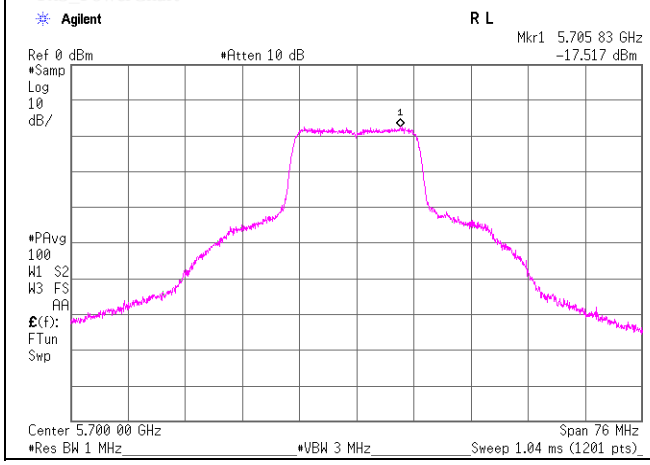
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Power Density

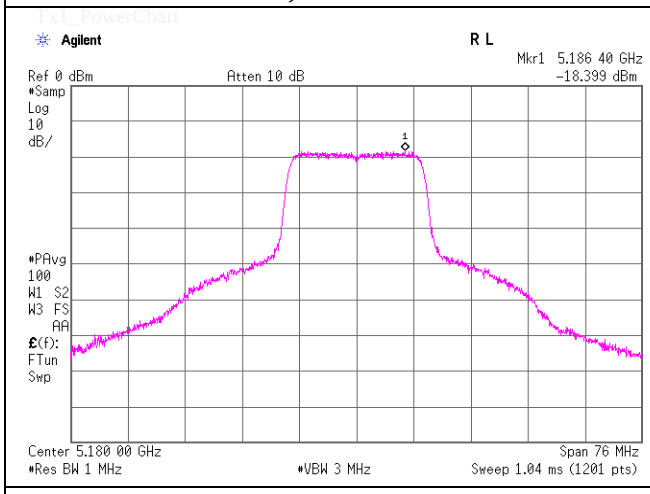
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	25deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)	

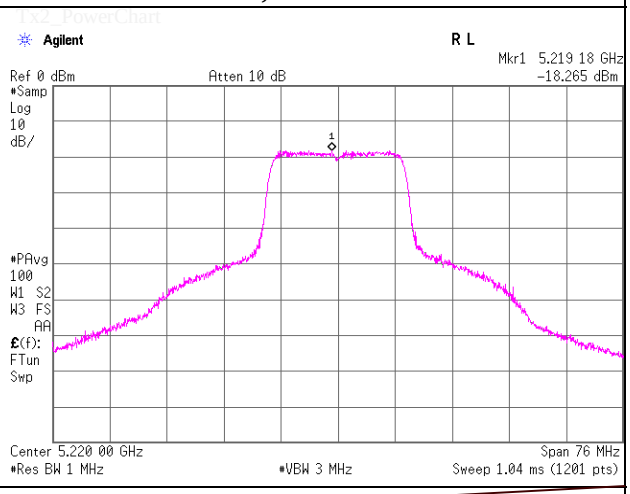
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5180.0000	5186.40	-18.39	2.03	20.10	0.05		3.79	4.00	0.21
5220.0000	5219.18	-18.26	2.03	20.09	0.05		3.91	4.00	0.09
5240.0000	5245.45	-18.40	2.18	20.09	0.05		3.92	4.00	0.08

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

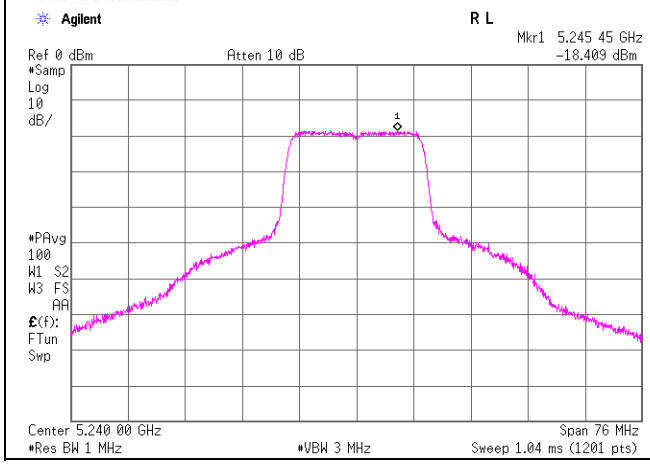
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Power Density

(Method: SA-2)

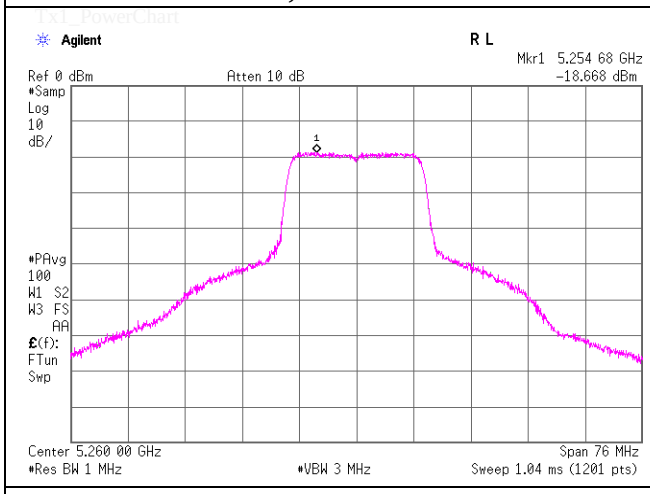
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)	

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5260.0000	5254.68	-18.66	2.17	20.09	0.05		3.65	11.00	7.35
5300.0000	5293.16	-18.52	2.18	20.09	0.05		3.80	11.00	7.20
5320.0000	5314.24	-18.45	2.07	20.08	0.05		3.75	11.00	7.25

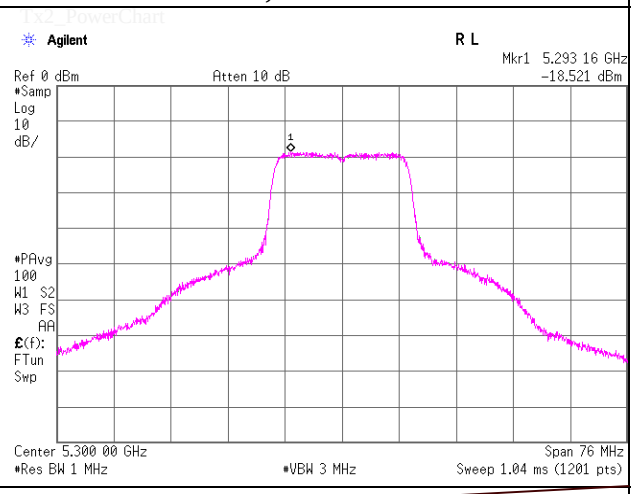
Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor

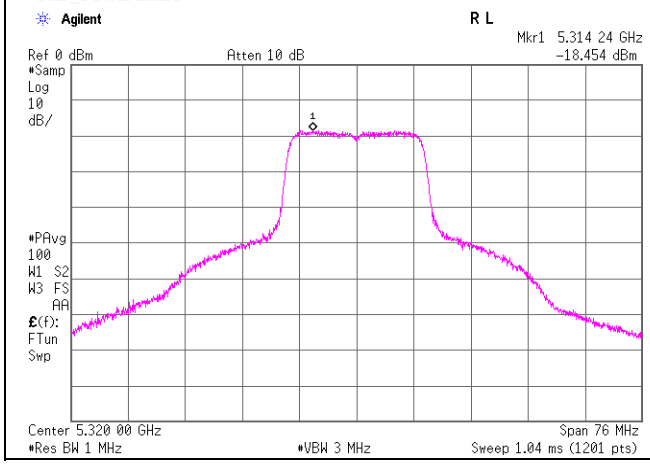
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Power Density

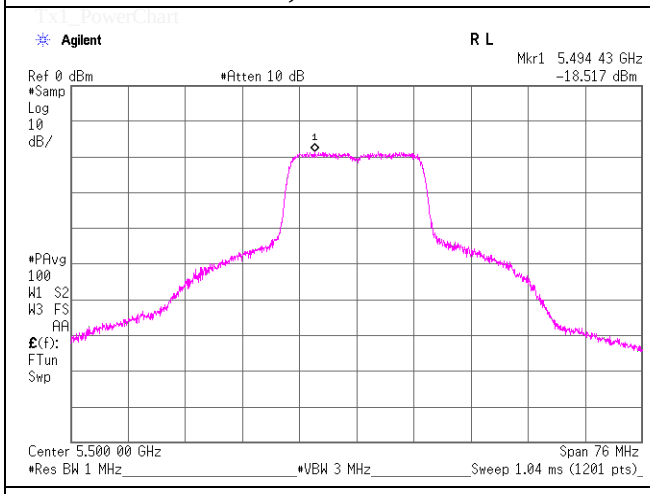
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23 deg.C , 54 %RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)	

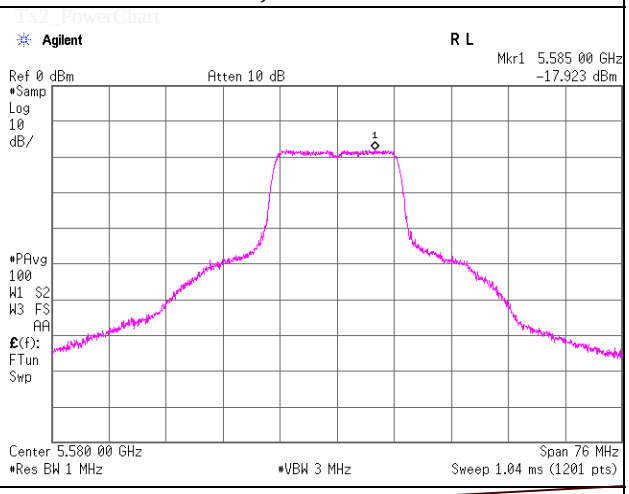
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5500.0000	5494.43	-18.51	2.05	20.07	0.05		3.66	11.00	7.34
5580.0000	5585.00	-17.92	2.07	20.08	0.05		4.28	11.00	6.72
5700.0000	5696.01	-17.98	2.13	20.09	0.05		4.29	11.00	6.71

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

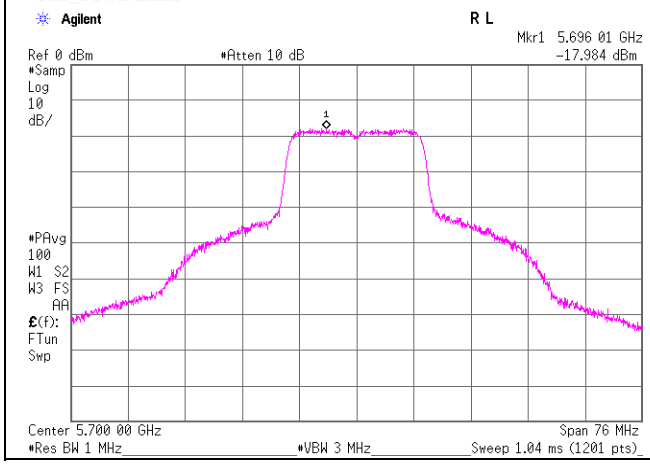
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Power Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, worst data mode 8 (MCS)	

Antenna Main

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0000	5181.90	-21.49	2.03	20.10	0.10		3.01	3.75	4.00	0.25
5220.0000	5226.33	-21.54	2.03	20.09	0.10		3.01	3.69	4.00	0.31
5240.0000	5234.62	-22.15	2.18	20.09	0.10		3.01	3.23	4.00	0.77

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna Aux

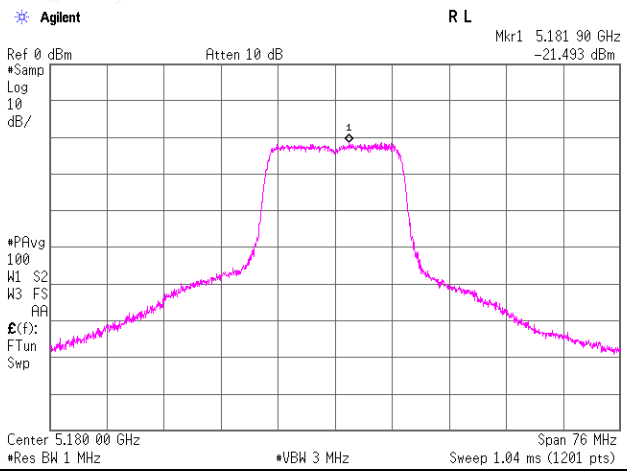
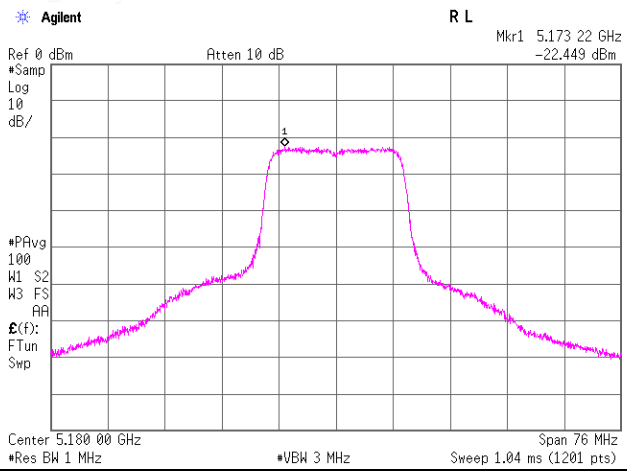
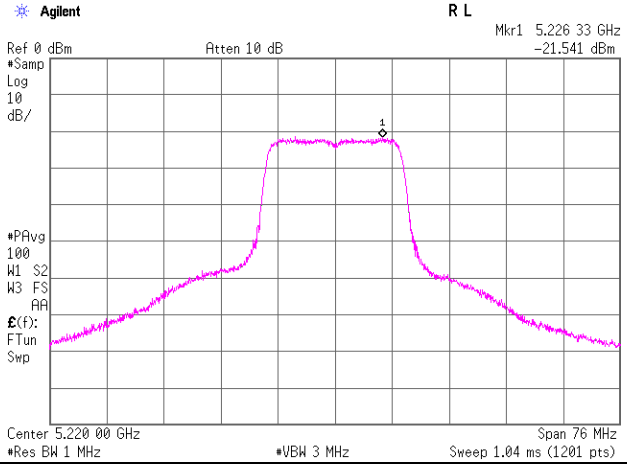
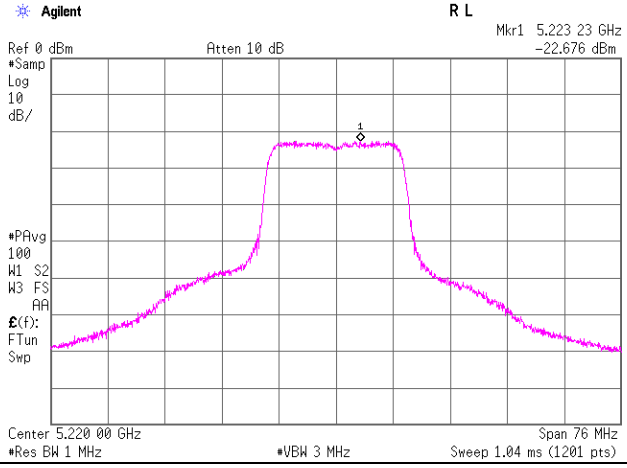
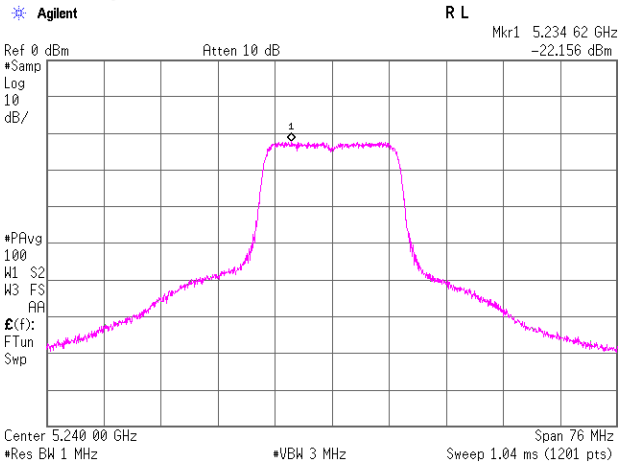
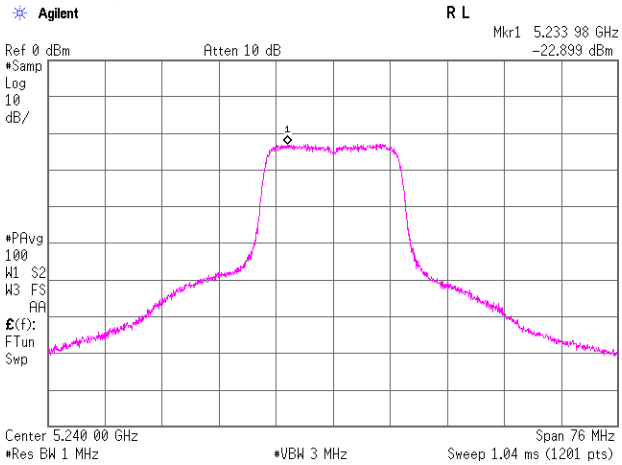
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0000	5173.22	-22.44	2.03	20.10	0.10		3.01	2.80	4.00	1.20
5220.0000	5223.23	-22.67	2.03	20.09	0.10		3.01	2.56	4.00	1.44
5240.0000	5233.98	-22.89	2.18	20.09	0.10		3.01	2.49	4.00	1.51

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements (2) of "Emissions Testing of Transmitters with Multiple Outputs in the Same Band (KDB662911 D1)"

Power Density

Antenna Main	Antenna Aux
Tx, 5180MHz	**Tx, 5180MHz**
	
Tx, 5220MHz	**Tx, 5220MHz**
	
Tx, 5240MHz	**Tx, 5240MHz**
	

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Power Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, worst data mode 8 (MCS)	

Antenna Main

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5260.0000	5253.98	-21.39	2.17	20.09	0.11		3.01	3.99	11.00	7.01
5300.0000	5293.86	-21.66	2.18	20.09	0.11		3.01	3.73	11.00	7.27
5320.0000	5323.61	-21.72	2.07	20.08	0.11		3.01	3.55	11.00	7.45

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna Aux

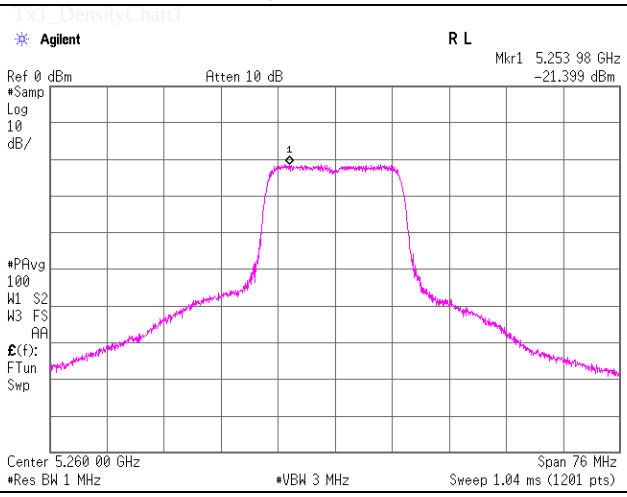
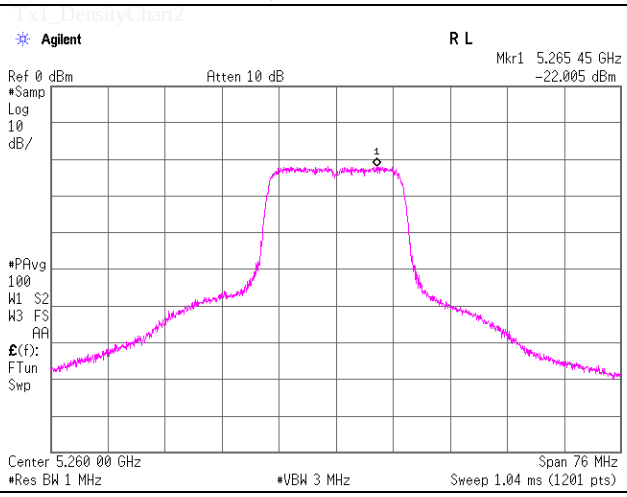
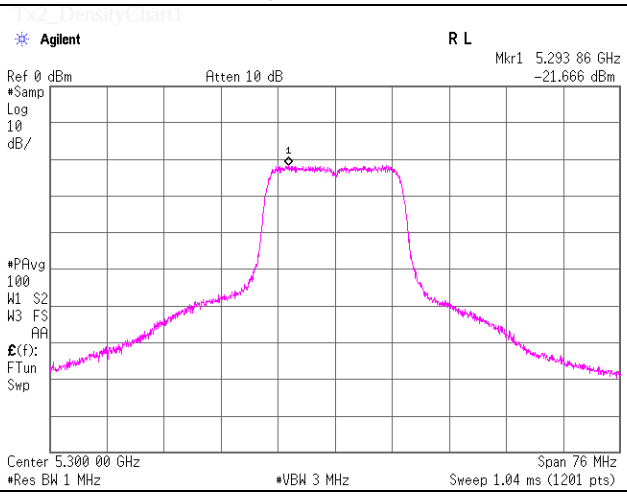
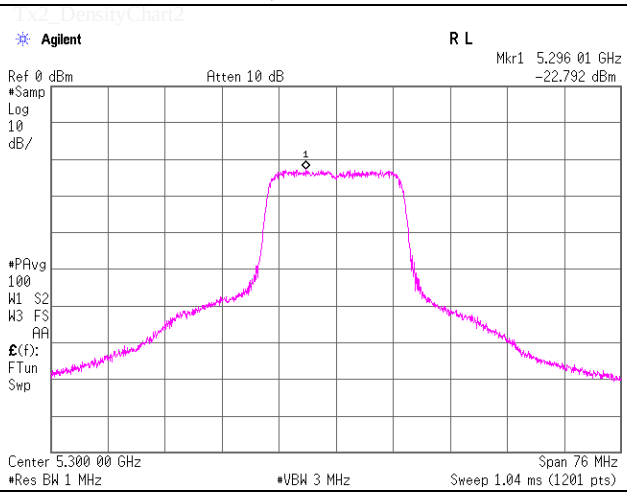
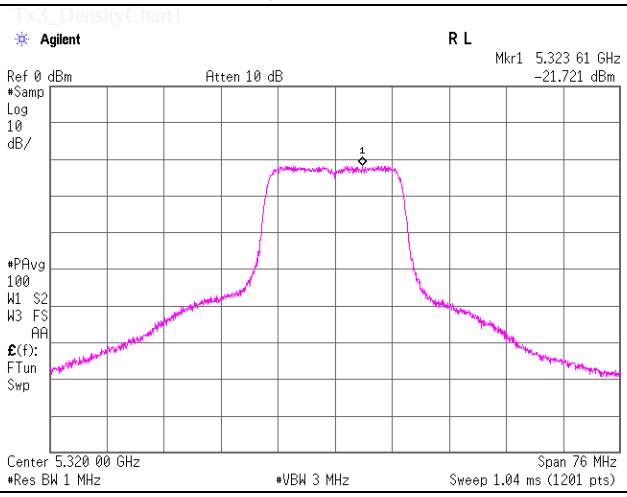
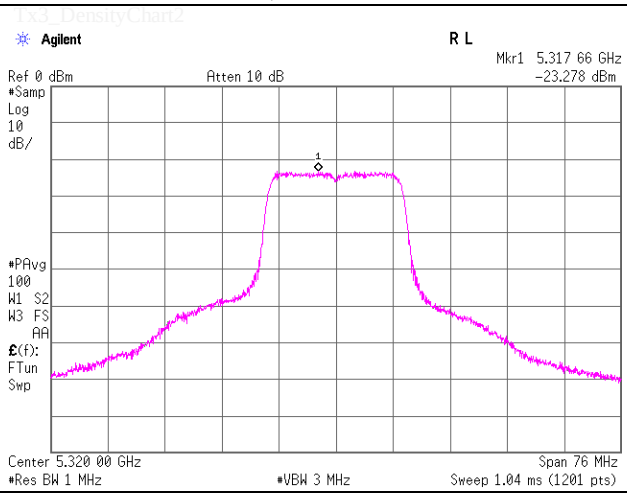
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5260.0000	5265.45	-22.00	2.17	20.09	0.11		3.01	3.38	11.00	7.62
5300.0000	5296.01	-22.79	2.18	20.09	0.11		3.01	2.60	11.00	8.40
5320.0000	5317.66	-23.27	2.07	20.08	0.11		3.01	2.00	11.00	9.00

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements (2) of "Emissions Testing of Transmitters with Multiple Outputs in the Same Band (KDB662911 D1)"

Power Density

Antenna Main	Antenna Aux
Tx, 5260MHz	**Tx, 5260MHz**
	
Tx, 5300MHz	**Tx, 5300MHz**
	
Tx, 5320MHz	**Tx, 5320MHz**
	

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Power Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, worst data mode 8 (MCS)	

Antenna Main

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5500.0000	5492.72	-19.52	2.05	20.07	0.11		3.01	5.72	11.00	5.28
5580.0000	5577.47	-19.22	2.07	20.08	0.11		3.01	6.05	11.00	4.95
5700.0000	5705.89	-18.95	2.13	20.09	0.11		3.01	6.39	11.00	4.61

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna Aux

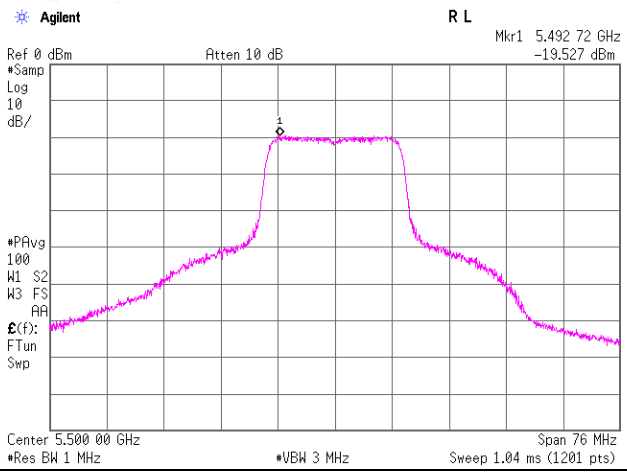
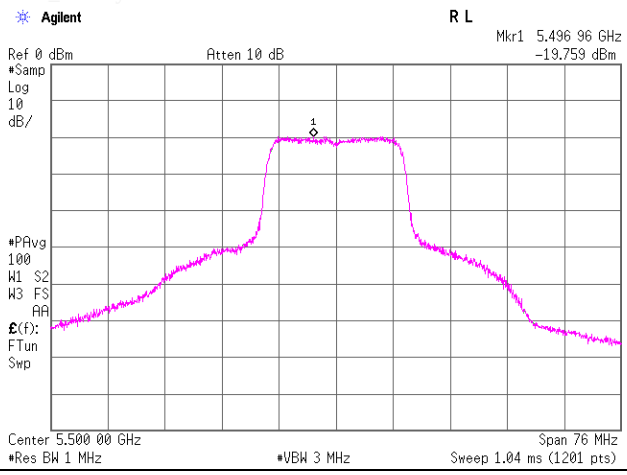
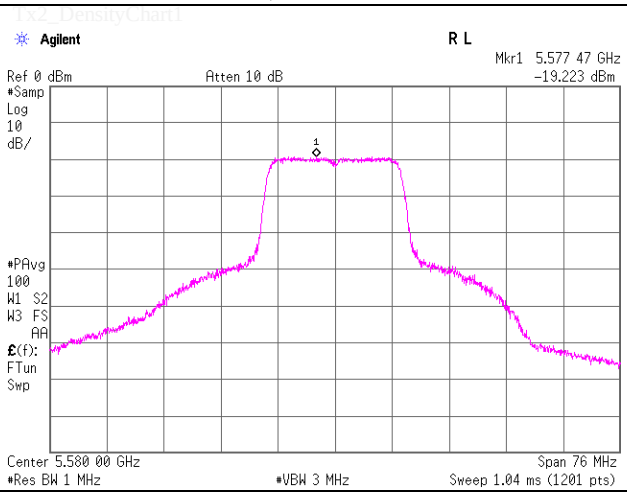
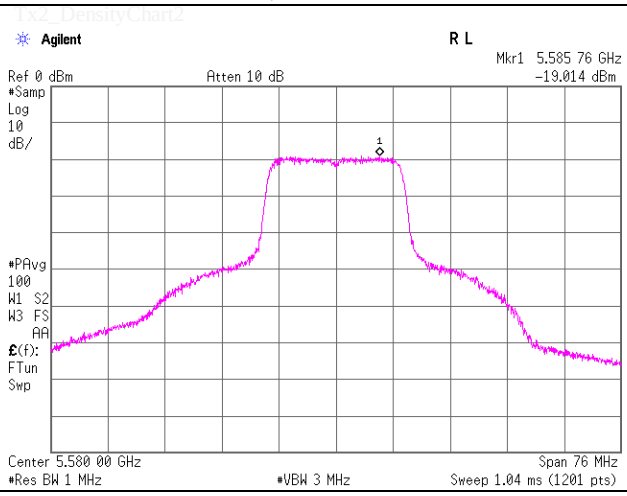
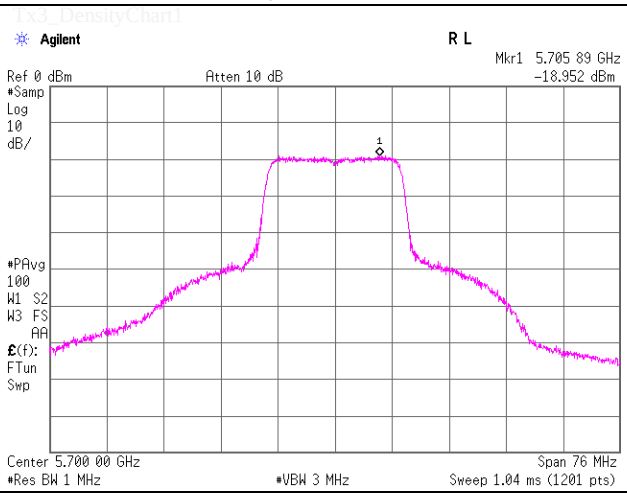
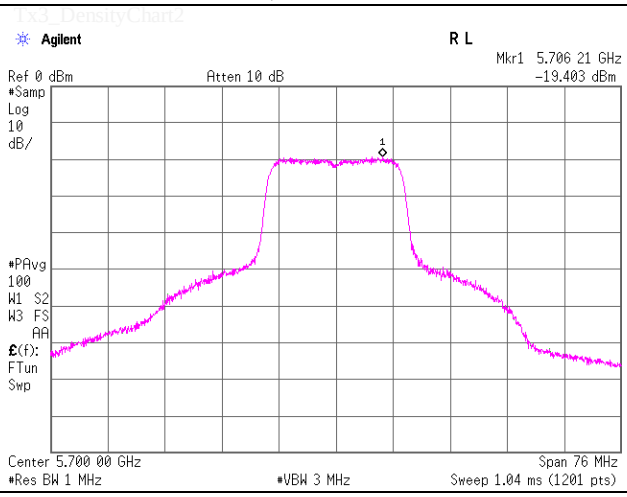
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5500.0000	5496.96	-19.75	2.05	20.07	0.11		3.01	5.49	11.00	5.51
5580.0000	5585.76	-19.01	2.07	20.08	0.11		3.01	6.26	11.00	4.74
5700.0000	5706.21	-19.40	2.13	20.09	0.11		3.01	5.94	11.00	5.06

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements (2) of "Emissions Testing of Transmitters with Multiple Outputs in the Same Band (KDB662911 D1)"

Power Density

Antenna Main	Antenna Aux
Tx, 5500MHz	**Tx, 5500MHz**
	
Tx, 5580MHz	**Tx, 5580MHz**
	
Tx, 5700MHz	**Tx, 5700MHz**
	

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Power Density

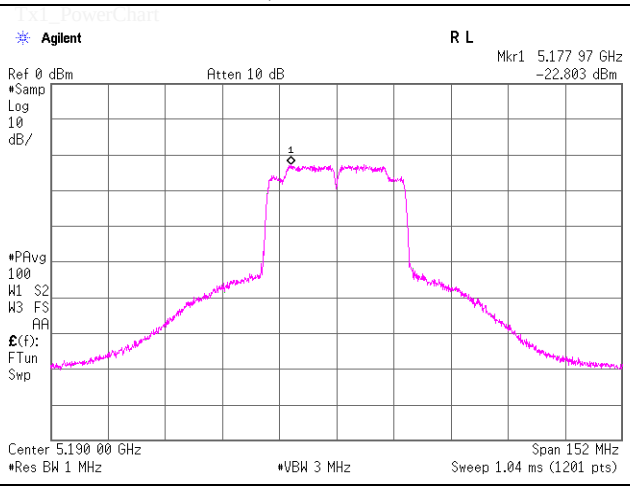
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23 deg.C , 39 %RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)	

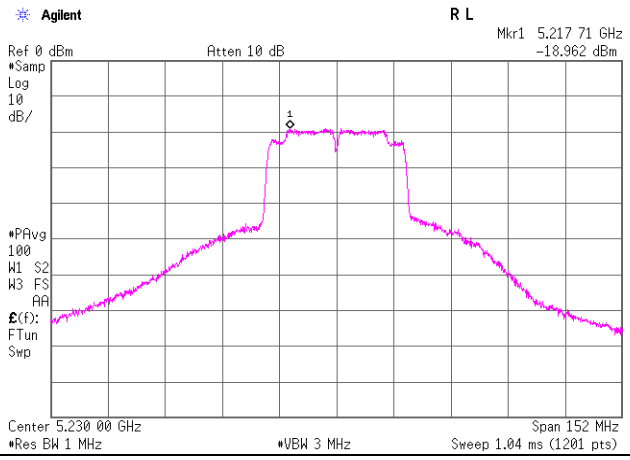
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5190.0000	5177.97	-22.80	2.03	20.09	0.11		-0.57	4.00	4.57
5230.0000	5217.71	-18.96	2.04	20.09	0.11		3.28	4.00	0.72

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

Tx, 5190MHz



Tx, 5230MHz



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Power Density

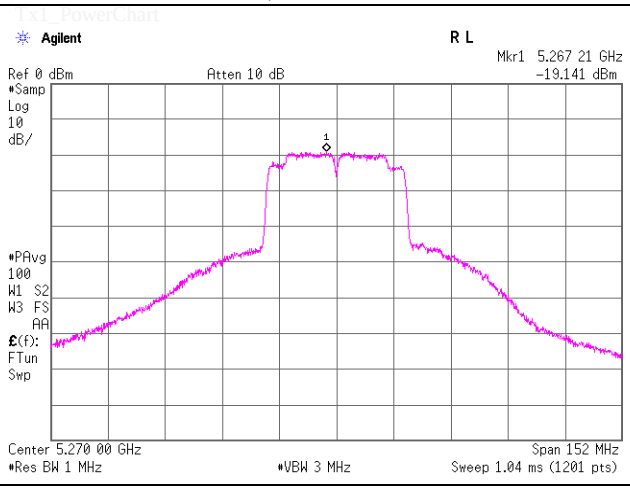
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23 deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)	

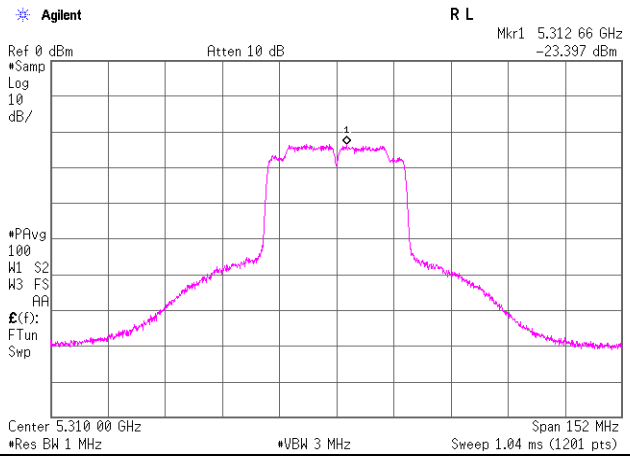
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5270.0000	5267.21	-19.14	2.17	20.09	0.11		3.23	11.00	7.77
5310.0000	5312.66	-23.39	2.18	20.09	0.11		-1.01	11.00	12.01

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

Tx, 5270MHz



Tx, 5310MHz



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Power Density

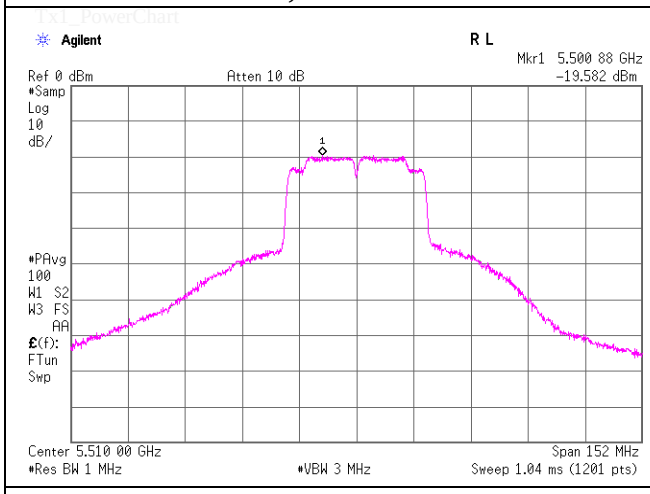
(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23 deg.C , 39 %RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)	

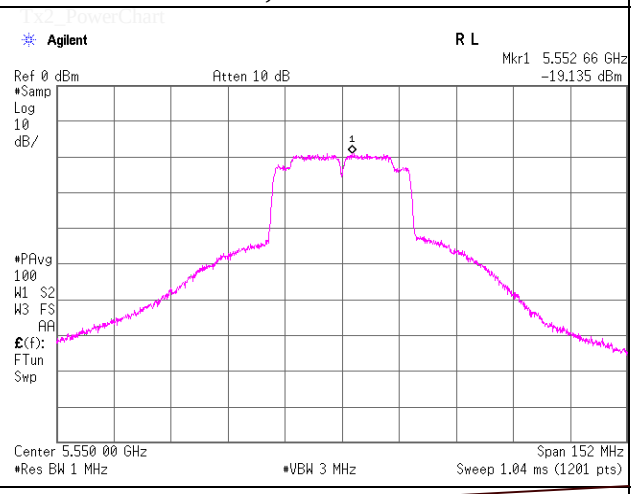
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm]	Margin [dB]
5510.0000	5500.88	-19.58	2.05	20.07	0.11		2.65	11.00	8.35
5550.0000	5552.66	-19.13	2.07	20.07	0.11		3.12	11.00	7.88
5670.0000	5657.21	-19.27	2.27	20.08	0.11		3.19	11.00	7.81

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

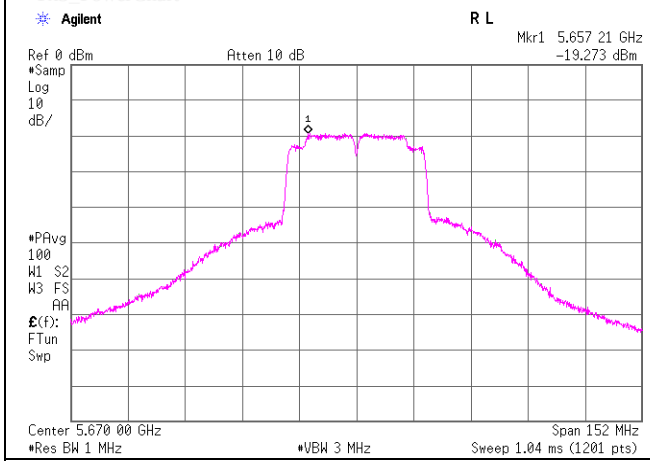
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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Power Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, worst data mode 8 (MCS)	

Antenna Main

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0000	5187.47	-25.37	2.03	20.09	0.20		3.01	-0.04	4.00	4.04
5230.0000	5233.55	-22.03	2.04	20.09	0.20		3.01	3.31	4.00	0.69

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna Aux

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0000	5182.91	-26.00	2.03	20.09	0.20		3.01	-0.67	4.00	4.67
5230.0000	5227.34	-23.12	2.04	20.09	0.20		3.01	2.22	4.00	1.78

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements (2) of "Emissions Testing of Transmitters with Multiple Outputs in the Same Band (KDB662911 D1)"

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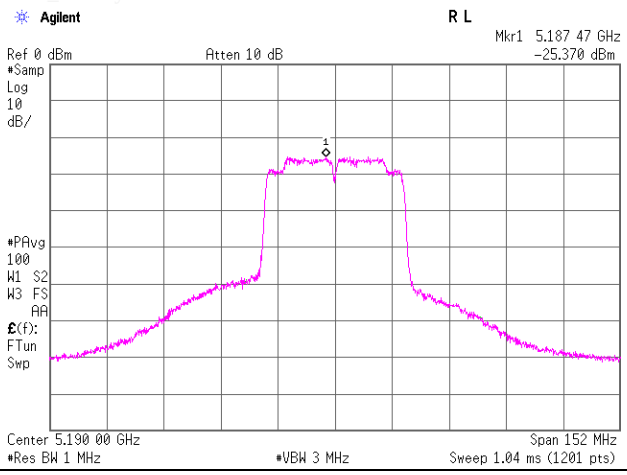
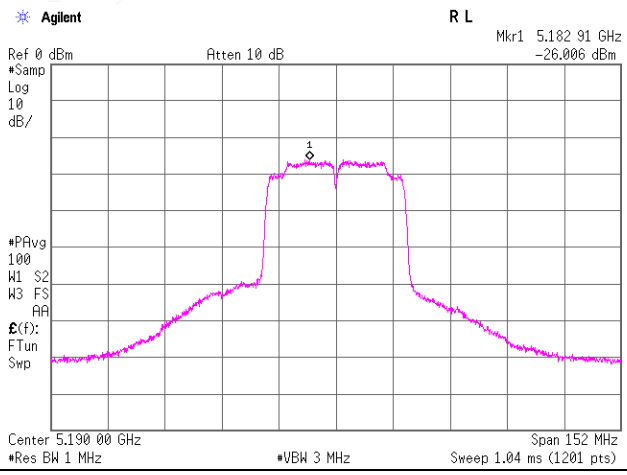
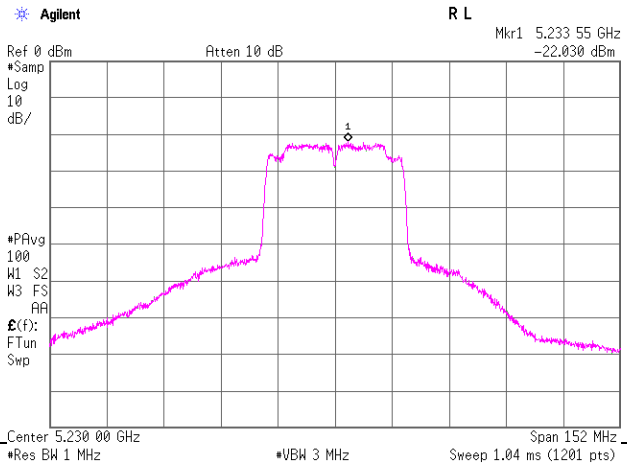
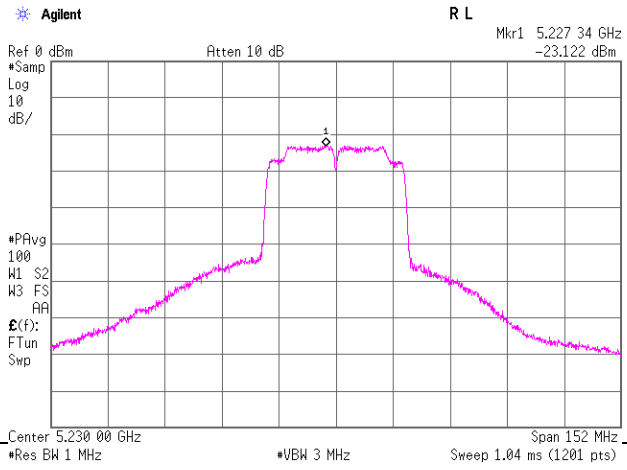
Power Density

Antenna Main	Antenna Aux
Tx, 5190MHz	**Tx, 5190MHz**
	
Tx, 5230MHz	**Tx, 5230MHz**
	

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Power Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, worst data mode 8 (MCS)	

Antenna Main

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5270.0000	5272.79	-22.66	2.17	20.09	0.21		3.01	2.82	11.00	8.18
								-	11.00	-
5310.0000	5298.09	-23.26	2.18	20.09	0.21		3.01	2.23	11.00	8.77

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

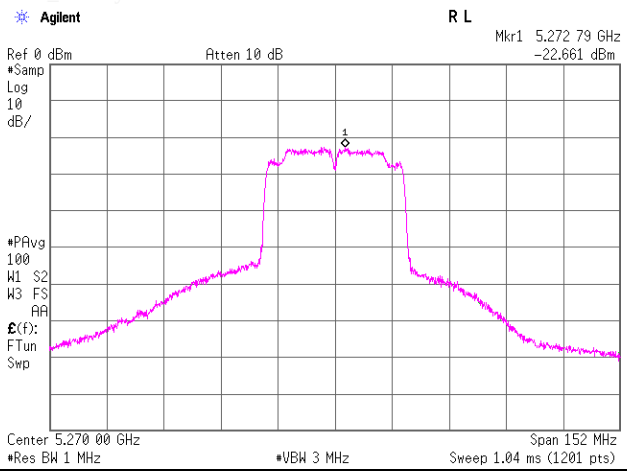
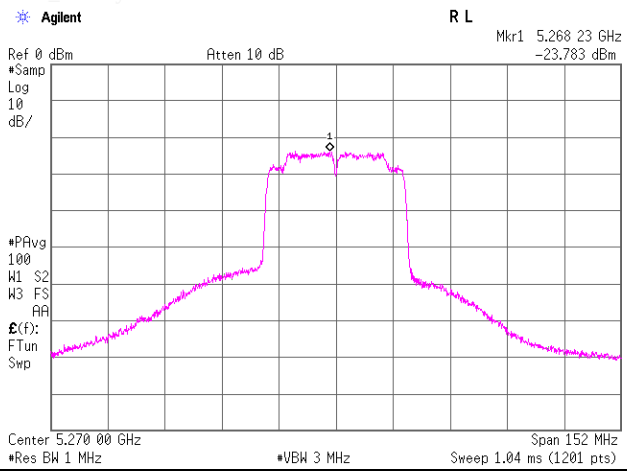
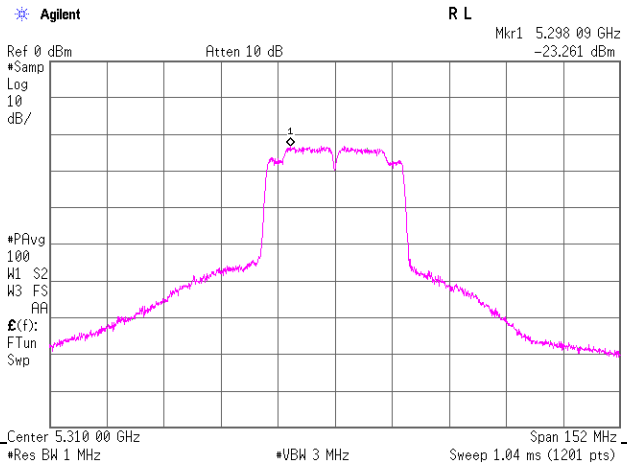
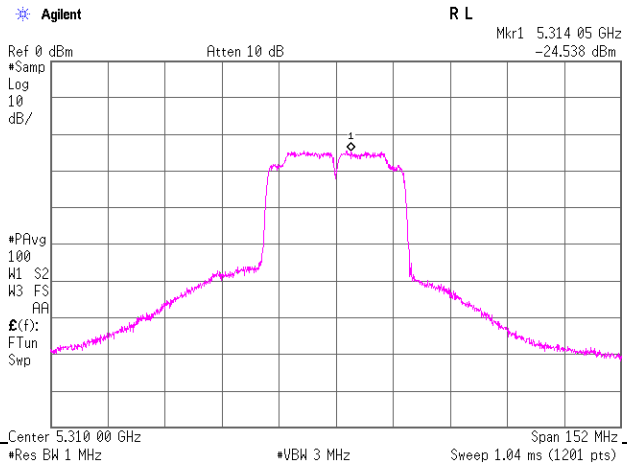
Antenna Aux

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5270.0000	5268.23	-23.78	2.17	20.09	0.21		3.01	1.70	11.00	9.30
								-	11.00	-
5310.0000	5314.05	-24.53	2.18	20.09	0.21		3.01	0.96	11.00	10.04

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements (2) of "Emissions Testing of Transmitters with Multiple Outputs in the Same Band (KDB662911 D1)"

Power Density

Antenna Main	Antenna Aux
Tx, 5270MHz	**Tx, 5270MHz**
	
Tx, 5310MHz	**Tx, 5310MHz**
	

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Power Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, worst data mode 8 (MCS)	

Antenna Main

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5510.0000	5521.65	-21.74	2.05	20.07	0.21		3.01	3.60	11.00	7.40
5550.0000	5537.46	-21.49	2.07	20.07	0.21		3.01	3.87	11.00	7.13
5670.0000	5658.35	-21.48	2.27	20.08	0.21		3.01	4.09	11.00	6.91

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna Aux

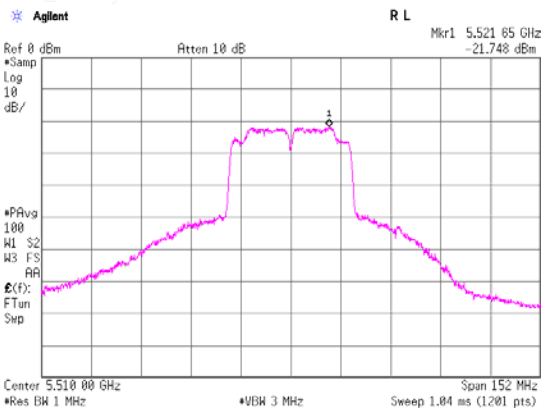
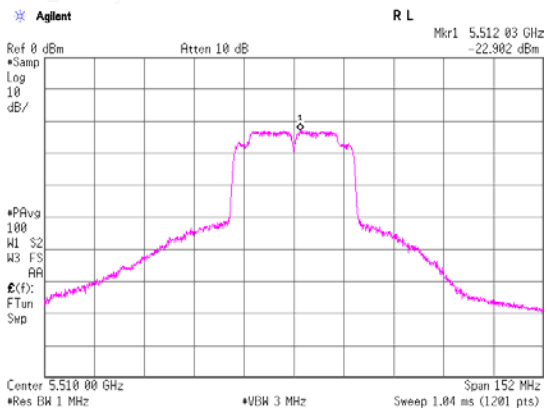
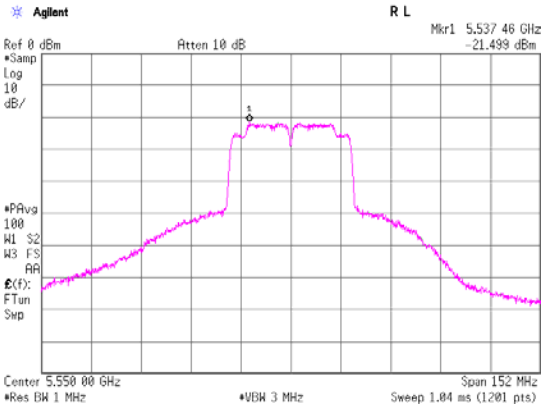
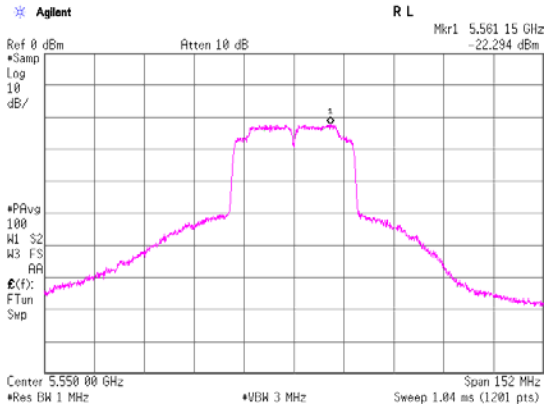
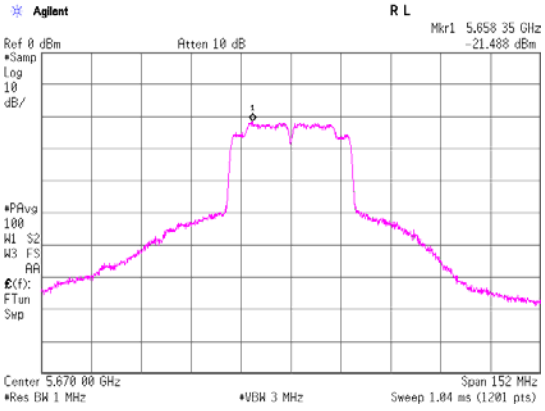
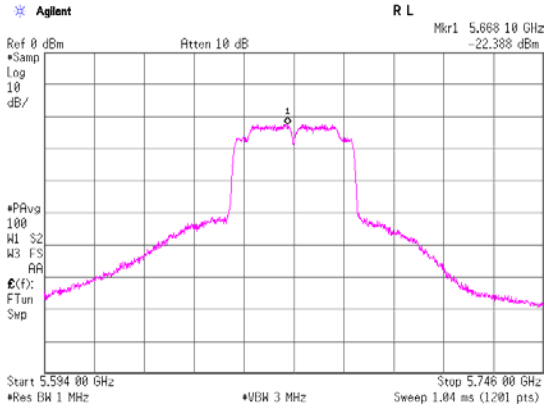
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N_{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5510.0000	5512.03	-22.90	2.05	20.07	0.21		3.01	2.44	11.00	8.56
5550.0000	5561.15	-22.29	2.07	20.07	0.21		3.01	3.07	11.00	7.93
5670.0000	5668.10	-22.38	2.27	20.08	0.21		3.01	3.19	11.00	7.81

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements (2) of "Emissions Testing of Transmitters with Multiple Outputs in the Same Band (KDB662911 D1)"

Power Density

Antenna Main	Antenna Aux
Tx, 5510MHz	**Tx, 5510MHz**
	
Tx, 5550MHz	**Tx, 5550MHz**
	
Tx, 5670MHz	**Tx, 5670MHz**
	

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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23deg.C , 54 %RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

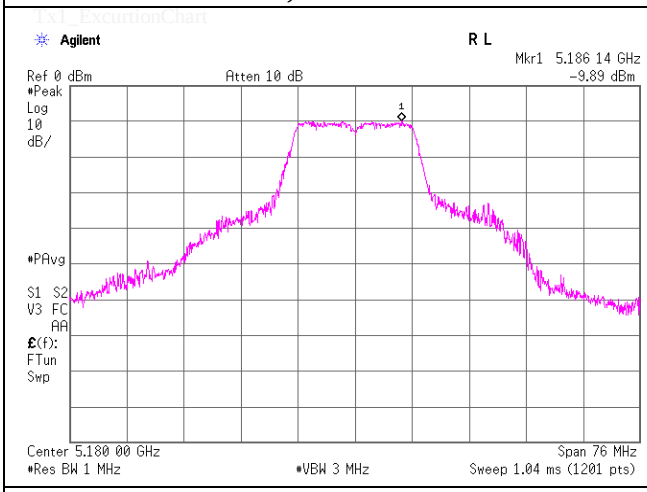
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5180.0000	-9.89	12.24	-18.23	3.95	8.29	=<13.0	4.71
5220.0000	-10.61	11.51	-18.57	3.60	7.91	=<13.0	5.09
5240.0000	-10.74	11.53	-18.77	3.55	7.98	=<13.0	5.02

*Peak Power Excursion = Peak Result - PPSD Result

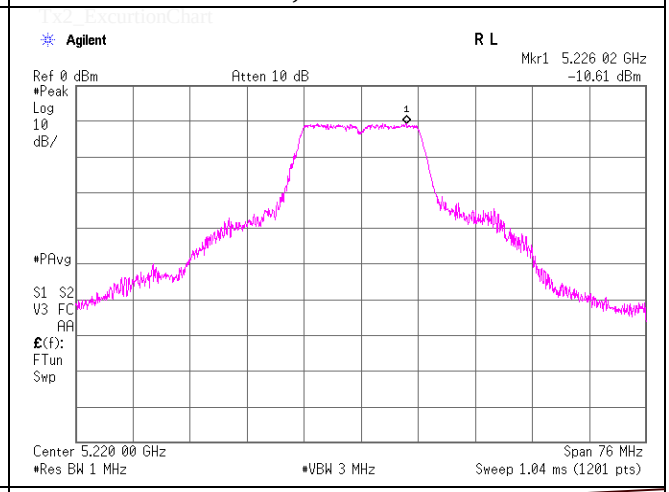
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

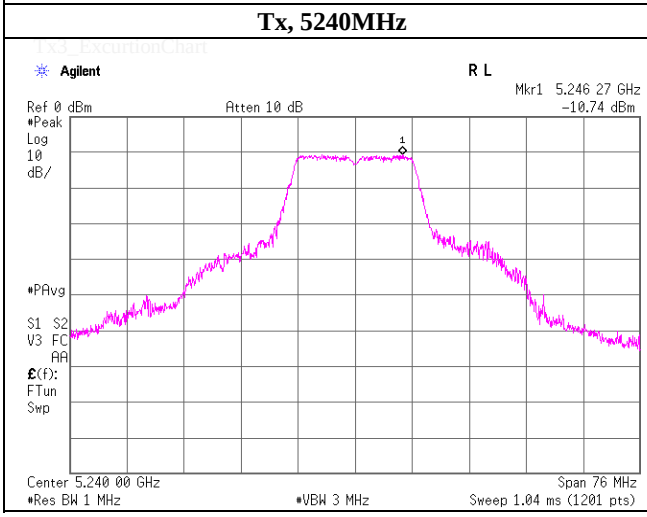
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23deg.C , 54 %RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

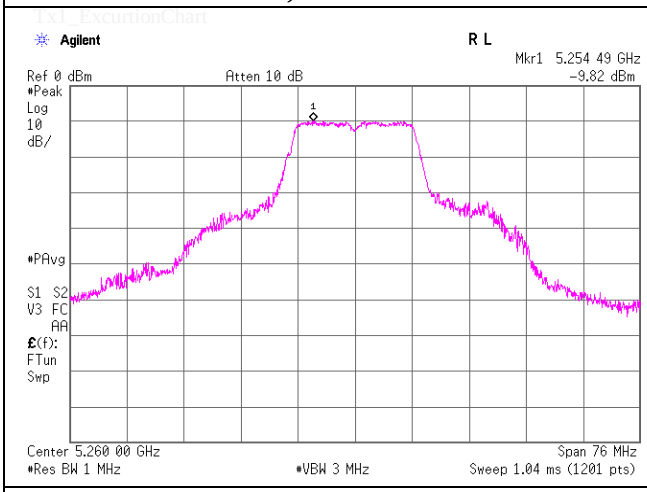
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5260.0000	-9.82	12.44	-18.98	3.33	9.11	=<13.0	3.89
5300.0000	-10.27	12.00	-18.41	3.91	8.09	=<13.0	4.91
5320.0000	-10.45	11.70	-18.25	3.95	7.75	=<13.0	5.25

*Peak Power Excursion = Peak Result - PPSD Result

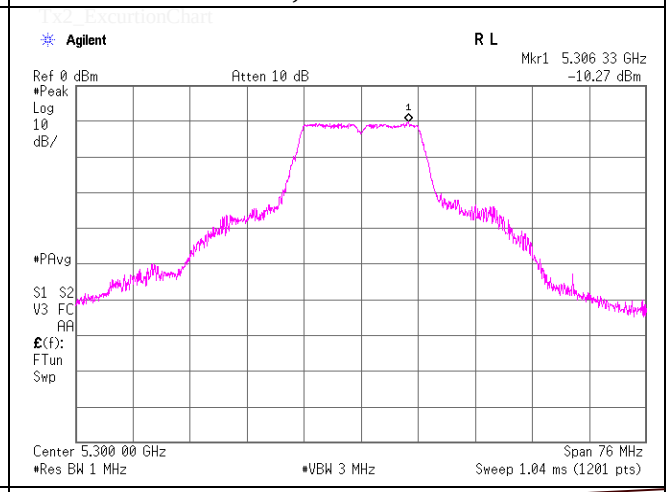
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

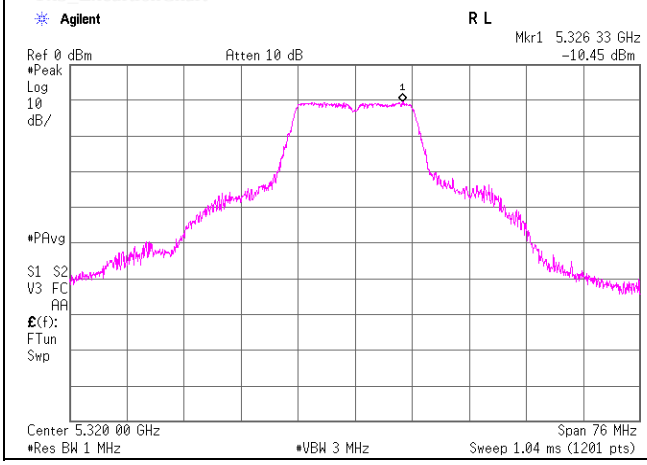
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23deg.C , 54%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11a, PN9, worst antenna port Main, worst data mode 6Mbps	

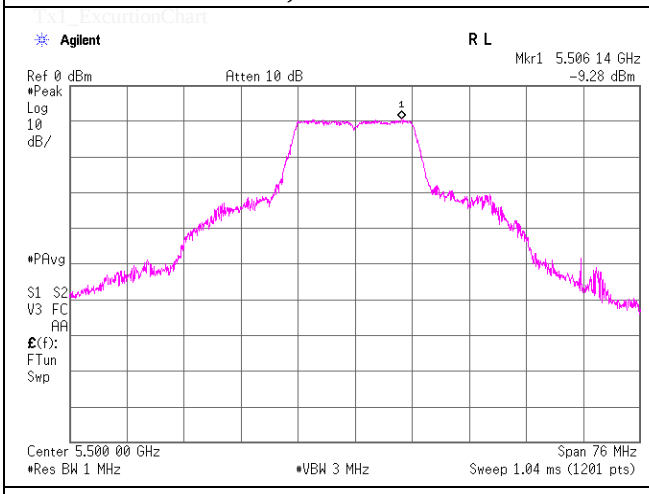
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5500.0000	-9.28	12.84	-18.20	3.97	8.87	=<13.0	4.13
5580.0000	-9.35	12.80	-18.01	4.19	8.61	=<13.0	4.39
5700.0000	-9.12	13.10	-17.51	4.76	8.34	=<13.0	4.66

*Peak Power Excursion = Peak Result - PPSD Result

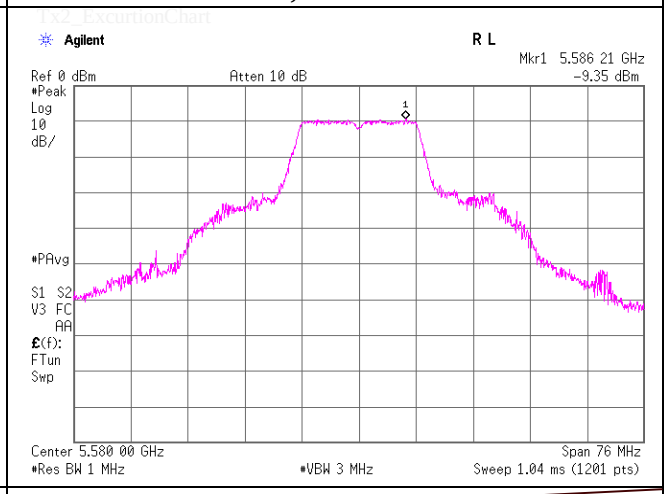
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

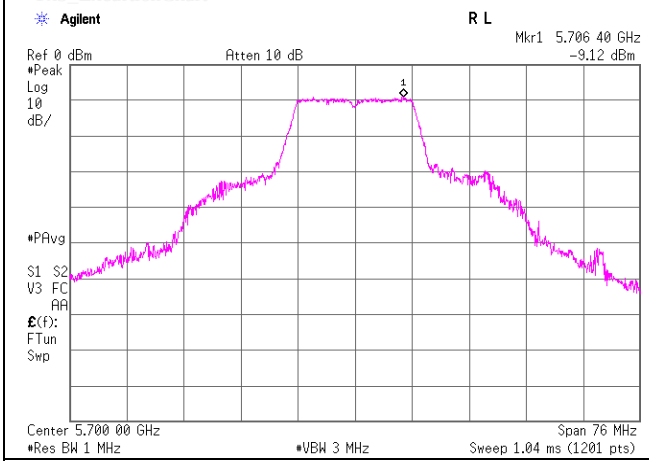
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23deg.C , 54 %RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)	

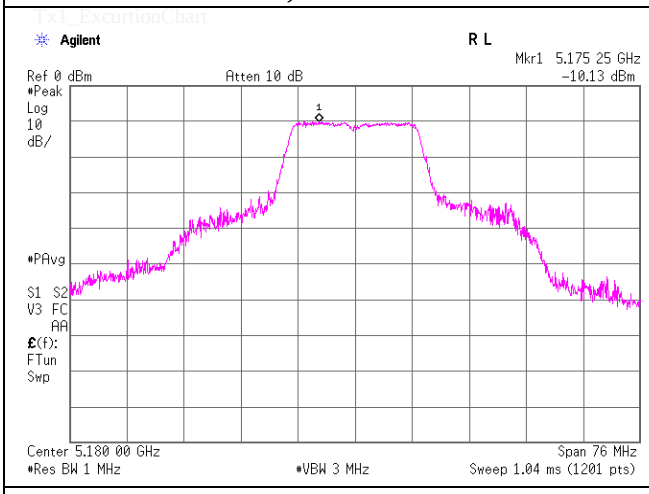
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5180.0000	-10.13	12.00	-18.39	3.79	8.21	=<13.0	4.79
5220.0000	-10.51	11.61	-18.26	3.91	7.70	=<13.0	5.30
5240.0000	-10.15	12.12	-18.40	3.92	8.20	=<13.0	4.80

*Peak Power Excursion = Peak Result - PPSD Result

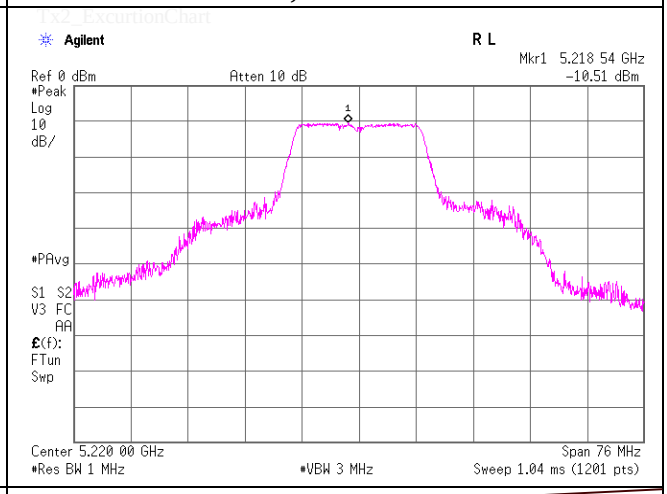
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

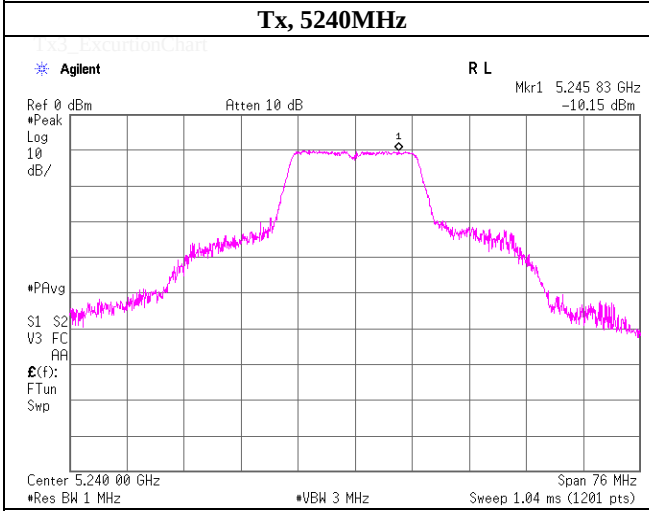
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23 deg.C , 54 %RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)	

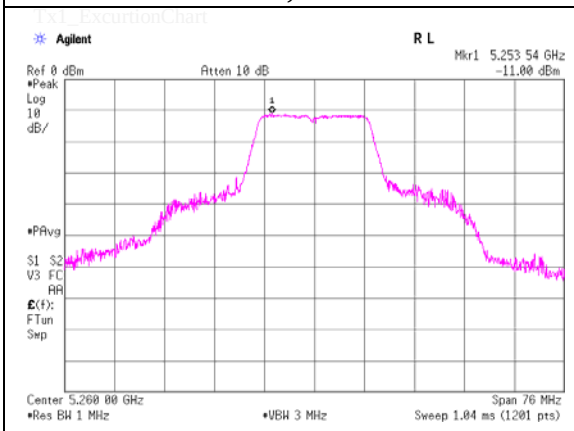
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5260.0000	-11.00	11.26	-18.66	3.65	7.61	=<13.0	5.39
5300.0000	-10.74	11.53	-18.52	3.80	7.73	=<13.0	5.27
5320.0000	-10.85	11.30	-18.45	3.75	7.55	=<13.0	5.45

*Peak Power Excursion = Peak Result - PPSD Result

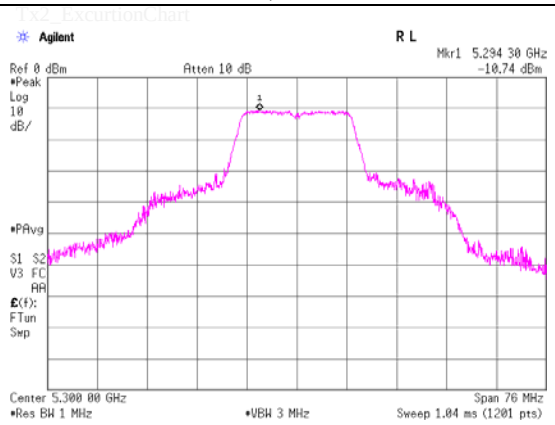
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

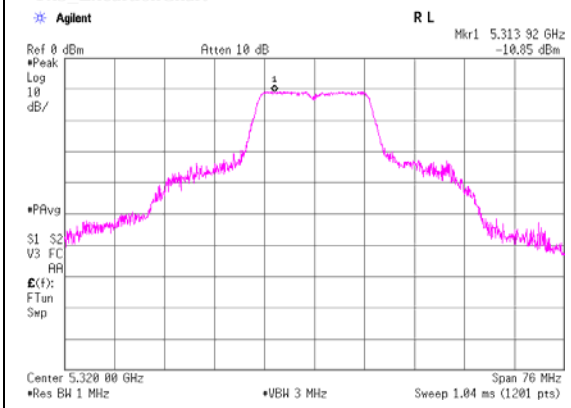
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	November 30, 2012	
Temperature / Humidity	23 deg.C , 54 %RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11n (HT20), PN9, worst antenna port Main, worst data mode 0(MCS)	

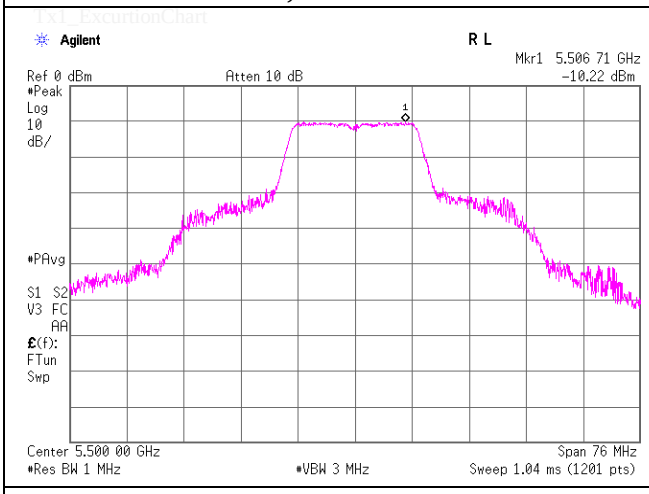
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5500.0000	-10.22	11.90	-18.51	3.66	8.24	=<13.0	4.76
5580.0000	-9.93	12.22	-17.92	4.28	7.94	=<13.0	5.06
5700.0000	-9.69	12.53	-17.98	4.29	8.24	=<13.0	4.76

*Peak Power Excursion = Peak Result - PPSD Result

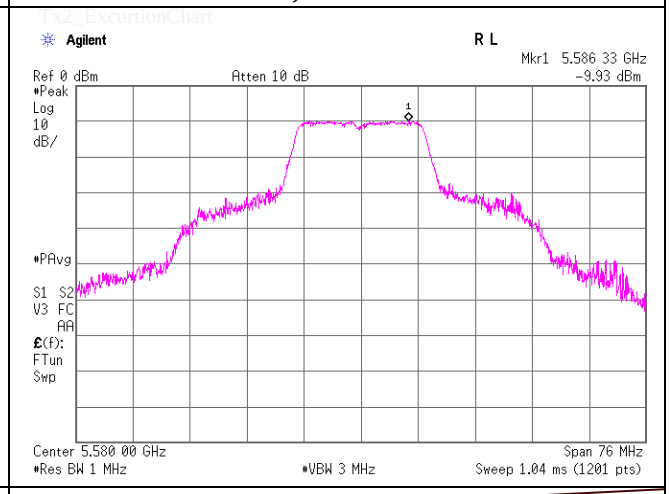
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

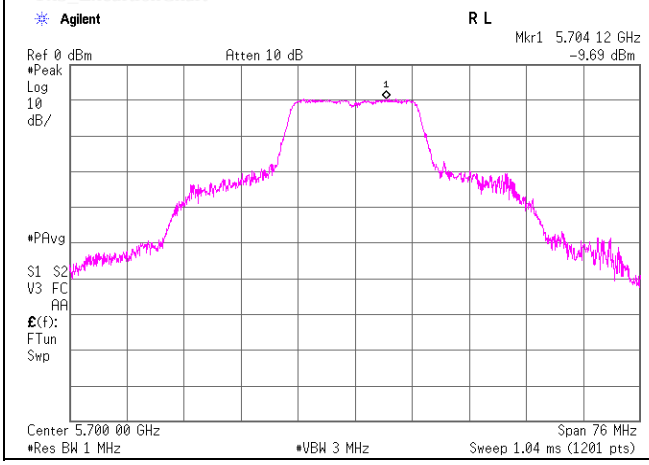
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Excursion Ratio

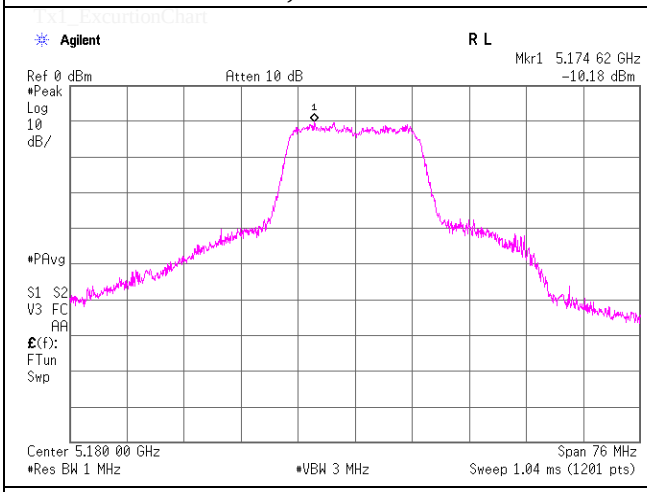
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, Antenna port Main, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5180.0000	-10.18	14.96	-21.49	3.75	11.21	=<13.0	1.79
5220.0000	-11.10	14.03	-21.54	3.69	10.34	=<13.0	2.66
5240.0000	-11.70	13.58	-22.15	3.23	10.35	=<13.0	2.65

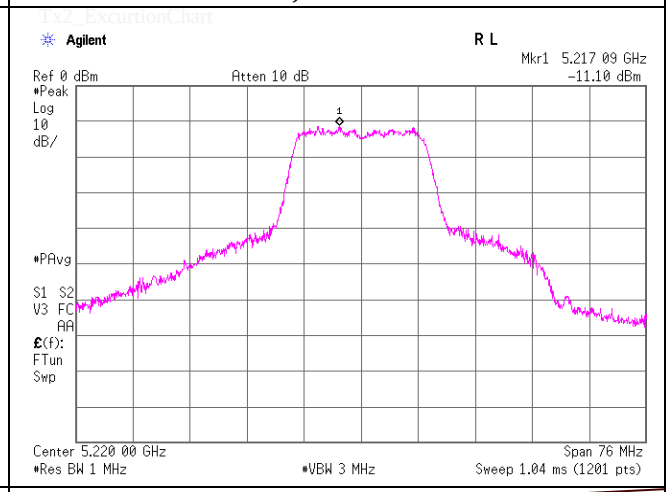
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

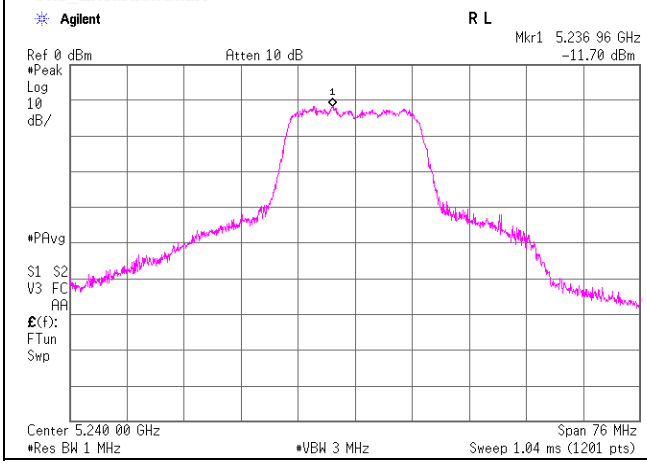
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Excursion Ratio

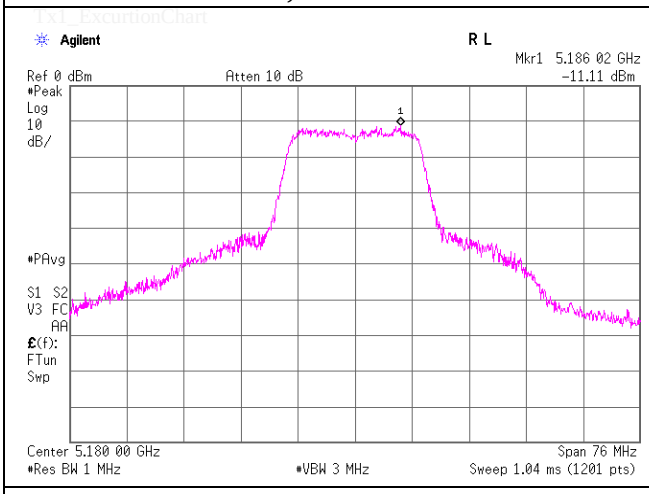
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, Antenna port Aux, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5180.0000	-11.11	14.03	-22.44	2.80	11.23	=<13.0	1.77
5220.0000	-12.03	13.10	-22.67	2.56	10.54	=<13.0	2.46
5240.0000	-12.20	13.08	-22.89	2.49	10.59	=<13.0	2.41

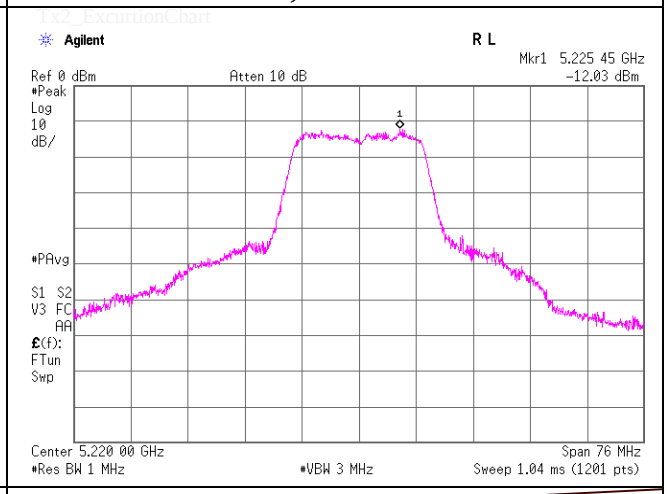
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

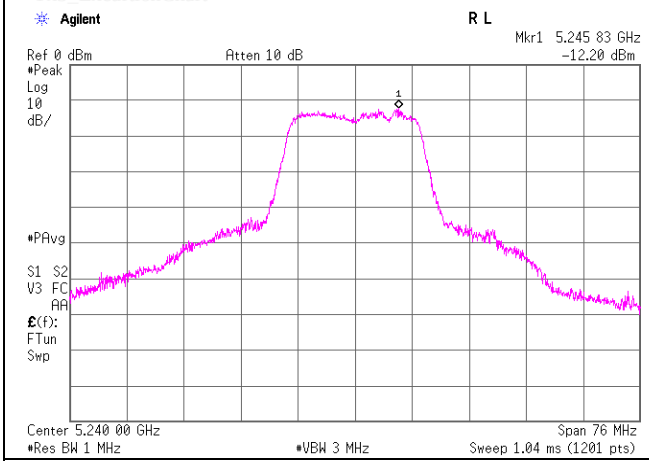
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Excursion Ratio

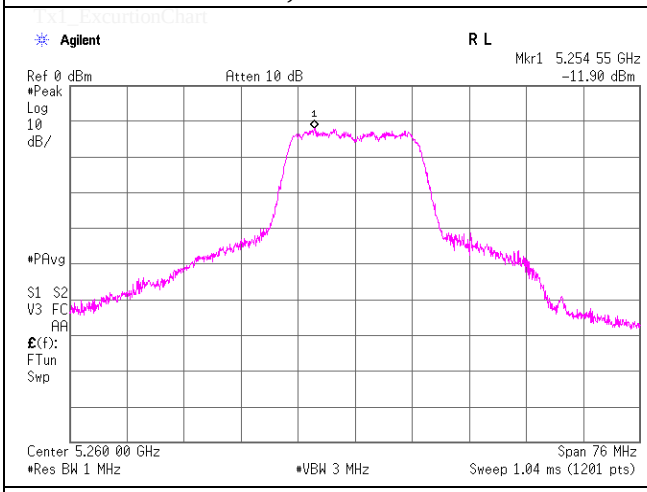
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, Antenna port Main, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5260.0000	-11.90	13.37	-21.39	3.99	9.38	=<13.0	3.62
5300.0000	-12.15	13.13	-21.66	3.73	9.40	=<13.0	3.60
5320.0000	-11.88	13.28	-21.72	3.55	9.73	=<13.0	3.27

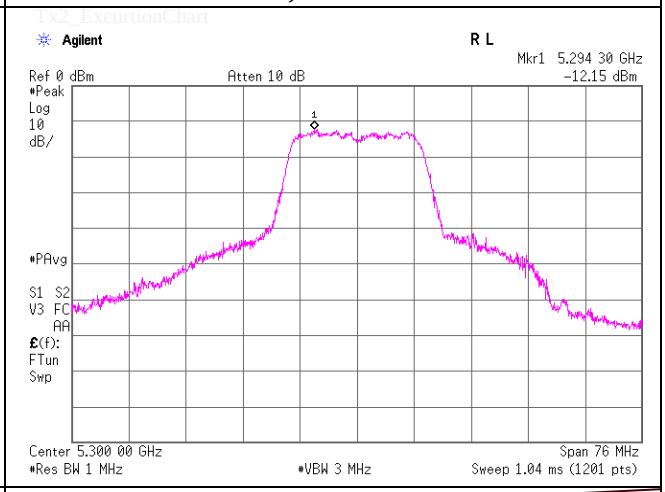
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

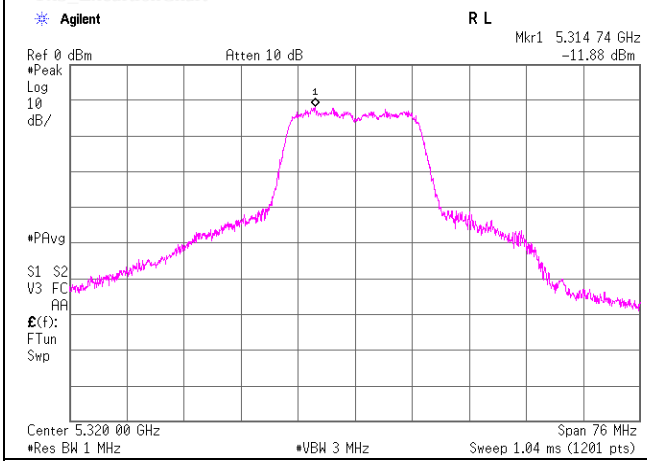
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Excursion Ratio

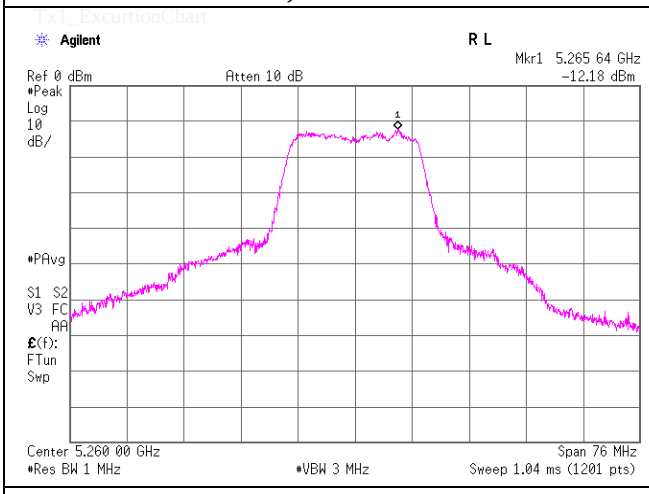
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, Antenna port Aux, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5260.0000	-12.18	13.09	-22.00	3.38	9.71	=<13.0	3.29
5300.0000	-12.51	12.77	-22.79	2.60	10.17	=<13.0	2.83
5320.0000	-12.52	12.64	-23.27	2.00	10.64	=<13.0	2.36

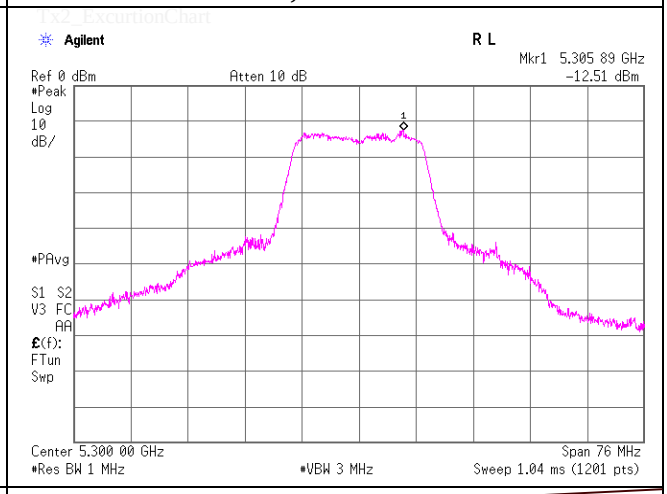
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

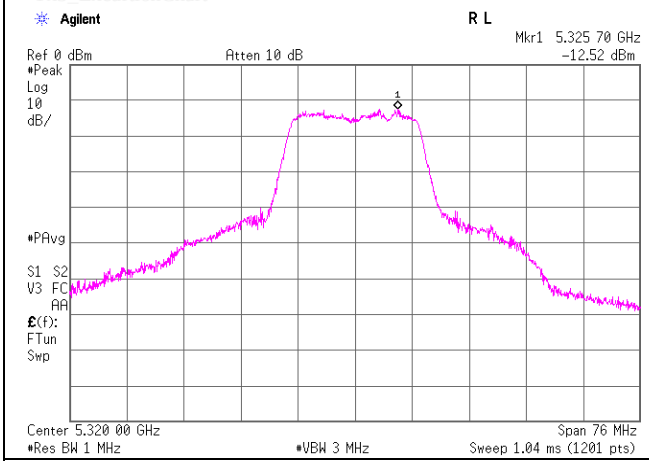
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Excursion Ratio

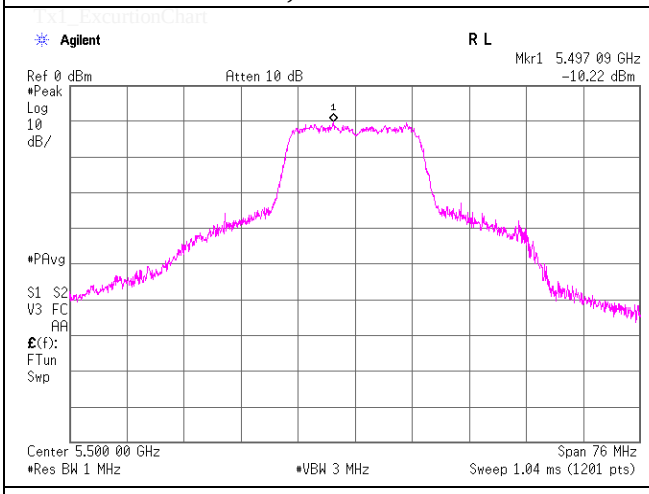
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, Antenna port Main, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5500.0000	-10.22	14.91	-19.52	5.72	9.19	=<13.0	3.81
5580.0000	-10.23	14.93	-19.22	6.05	8.88	=<13.0	4.12
5700.0000	-10.11	15.12	-18.95	6.39	8.73	=<13.0	4.27

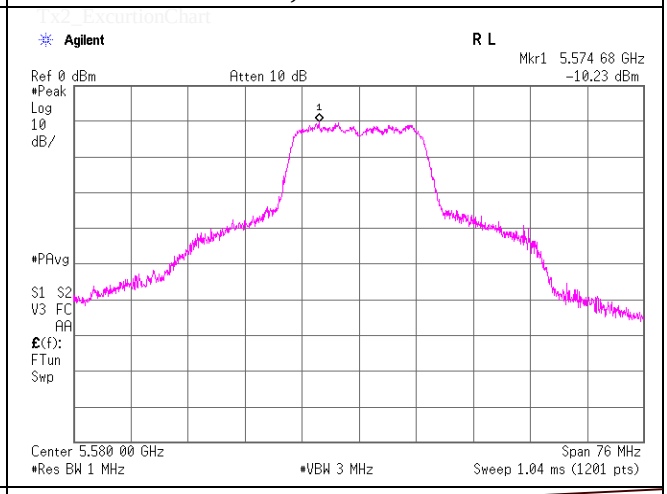
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

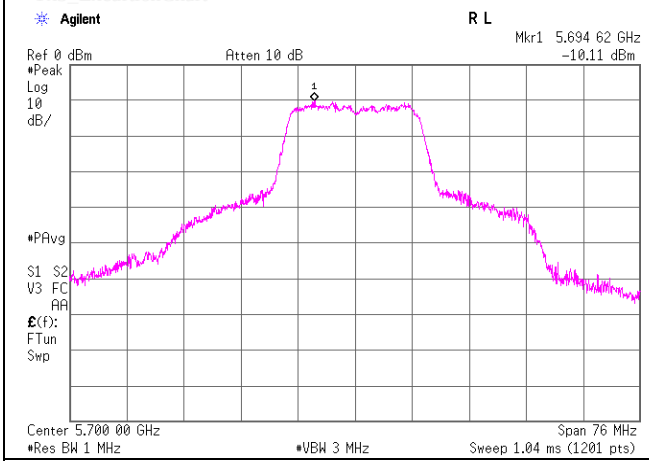
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Excursion Ratio

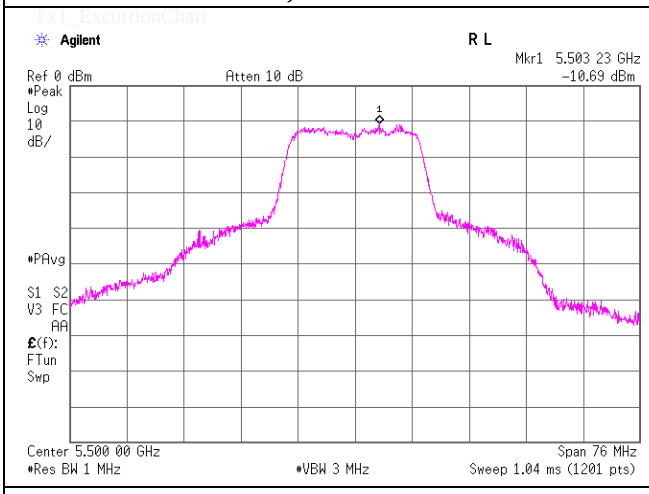
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT20, PN9, Antenna port Aux, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5500.0000	-10.69	14.44	-19.75	5.49	8.95	=<13.0	4.05
5580.0000	-10.64	14.52	-19.01	6.26	8.26	=<13.0	4.74
5700.0000	-10.72	14.51	-19.40	5.94	8.57	=<13.0	4.43

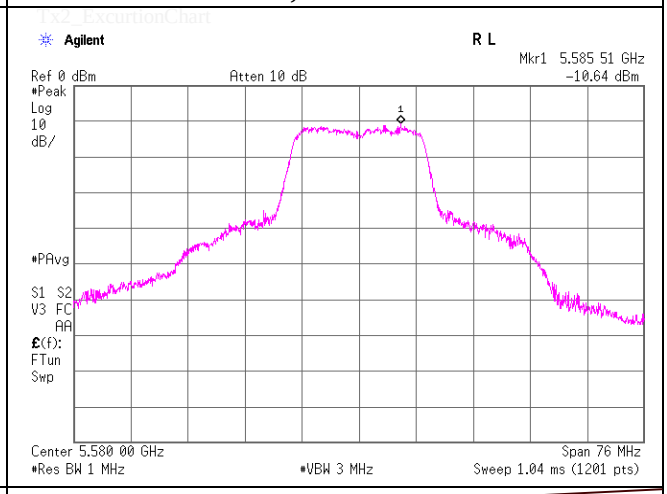
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

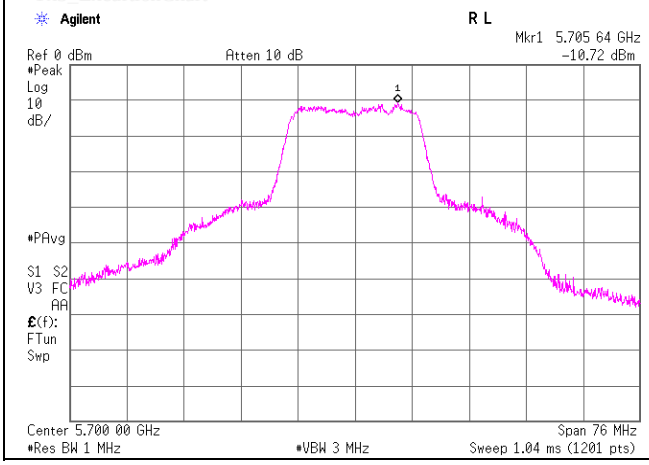
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23 deg.C , 39 %RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)	

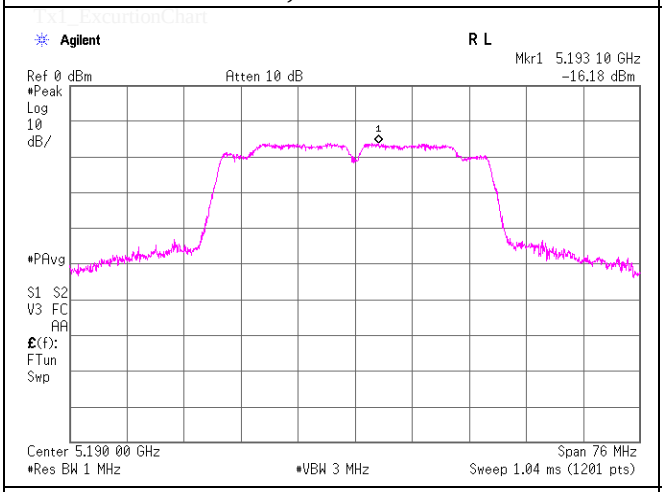
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5190.0000	-16.18	5.94	-22.80	-0.57	6.51	=<13.0	6.49
5230.0000	-12.74	9.39	-18.96	3.28	6.11	=<13.0	6.89

*Peak Power Excursion = Peak Result - PPSD Result

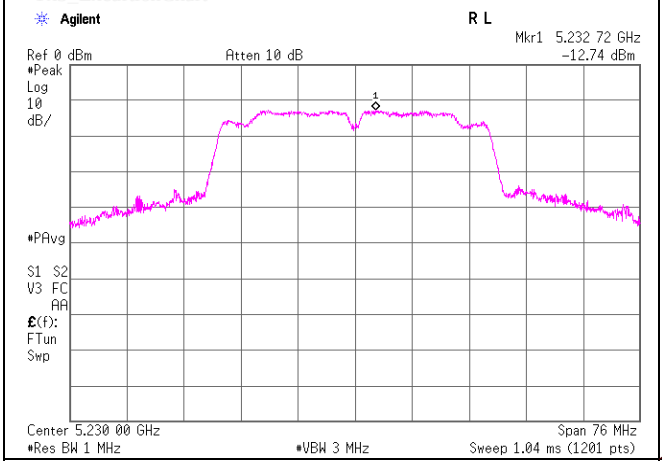
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

Tx, 5190MHz



Tx, 5230MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23 deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)	

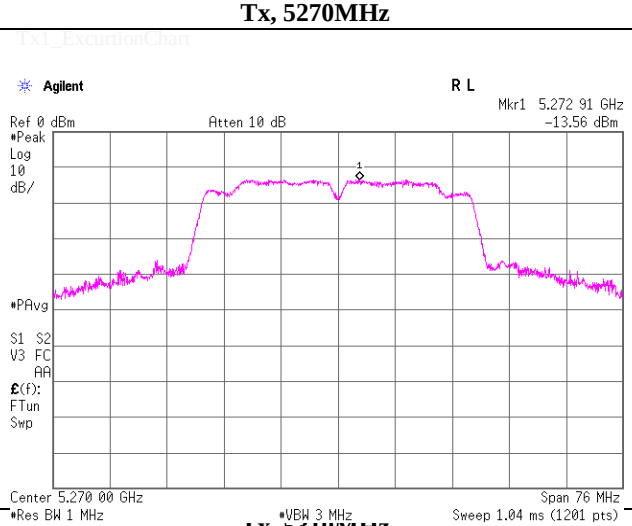
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5270.0000	-13.56	8.70	-19.14	3.23	5.47	=<13.0	7.53
5310.0000	-17.61	4.66	-23.39	-1.01	5.67	=<13.0	7.33

*Peak Power Excursion = Peak Result - PPSD Result

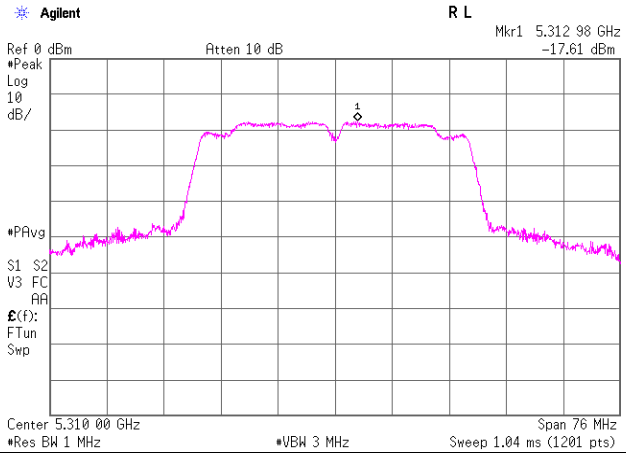
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

Tx, 5270MHz



Tx, 5310MHz



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Peak Excursion Ratio

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23 deg.C , 39 %RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n (HT40), PN9, worst antenna port Main, worst data mode 0(MCS)	

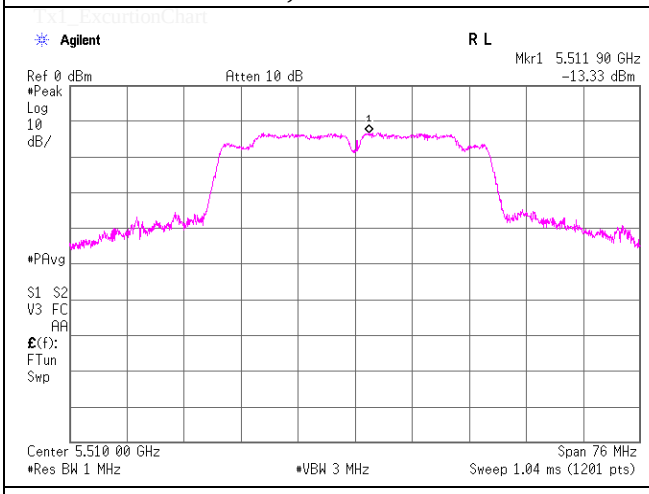
Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5510.0000	-13.33	8.79	-19.58	2.65	6.14	=<13.0	6.86
5550.0000	-12.06	10.08	-19.13	3.12	6.96	=<13.0	6.04
5670.0000	-11.67	10.68	-19.27	3.19	7.49	=<13.0	5.51

*Peak Power Excursion = Peak Result - PPSD Result

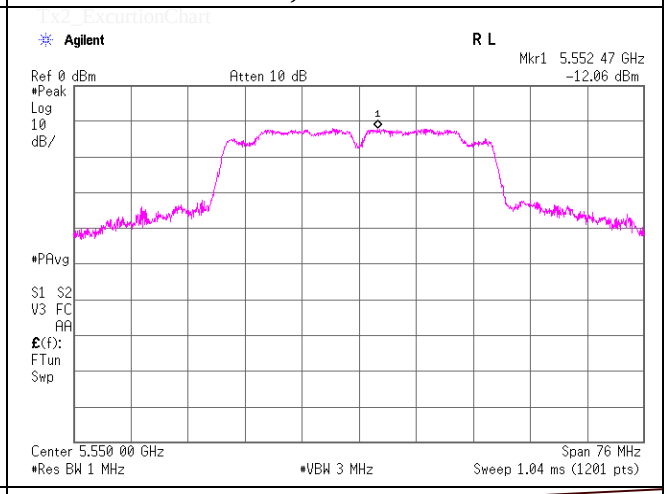
*Peak Result = Peak Reading + Cable Loss + Atten. Loss, PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor

*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

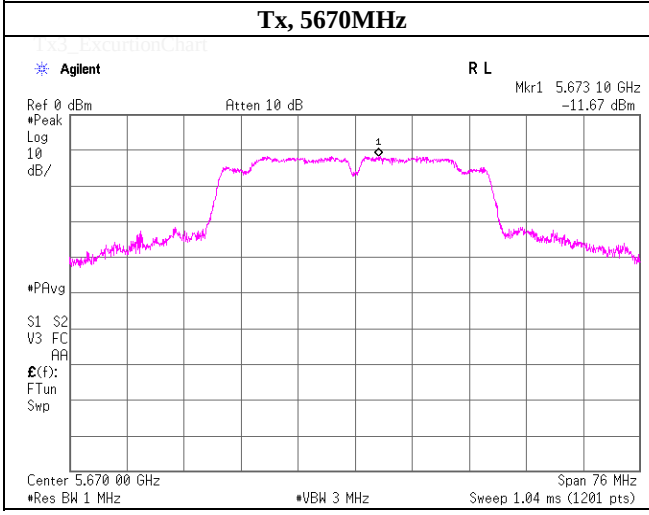
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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Peak Excursion Ratio

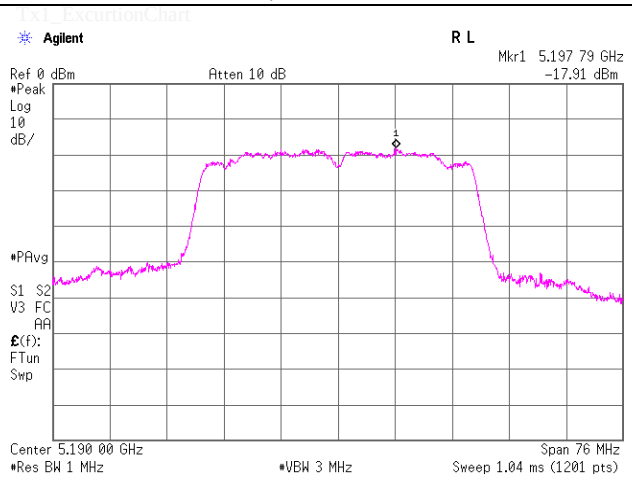
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, Antenna port Main, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5190.0000	-17.91	7.22	-25.37	-0.04	7.26	=<13.0	5.74
5230.0000	-14.02	11.12	-22.03	3.31	7.81	=<13.0	5.19

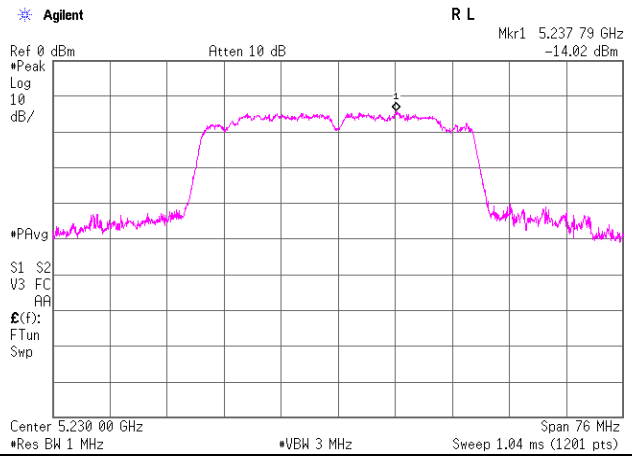
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

Tx, 5190MHz



Tx, 5230MHz



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Peak Excursion Ratio

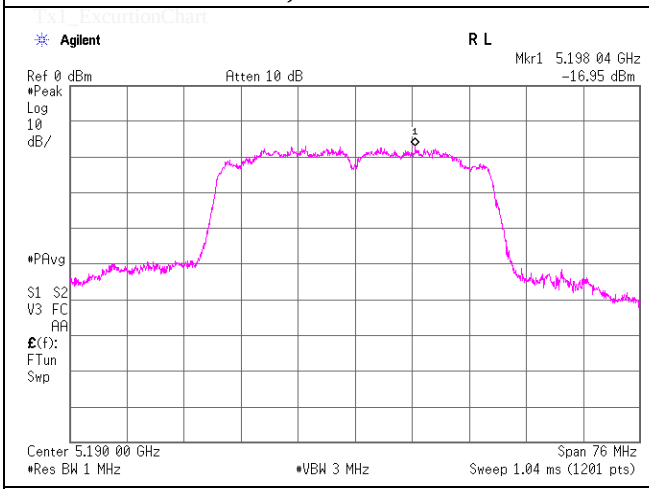
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, Antenna port Aux, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5190.0000	-16.95	5.17	-26.00	-0.67	5.84	=<13.0	7.16
5230.0000	-14.91	7.22	-23.12	2.22	5.00	=<13.0	8.00

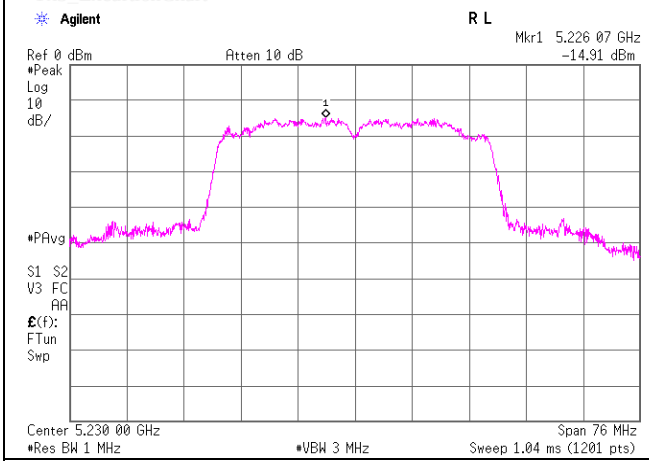
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

Tx, 5190MHz



Tx, 5230MHz



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Peak Excursion Ratio

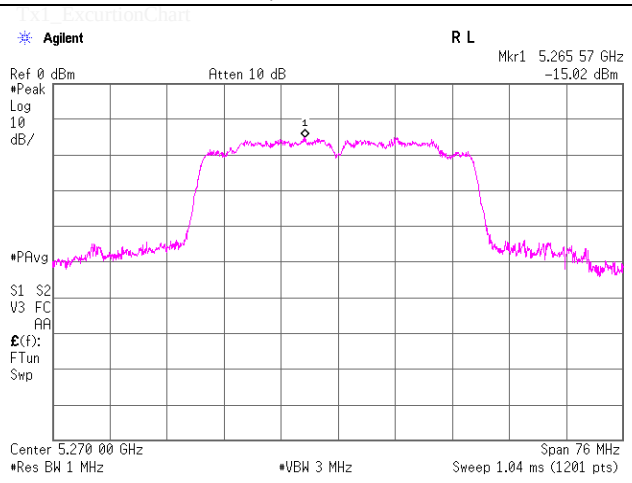
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, Antenna port Main, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5270.0000	-15.02	10.25	-22.66	2.82	7.43	=<13.0	5.57
5310.0000	-15.92	9.36	-23.26	2.23	7.13	=<13.0	5.87

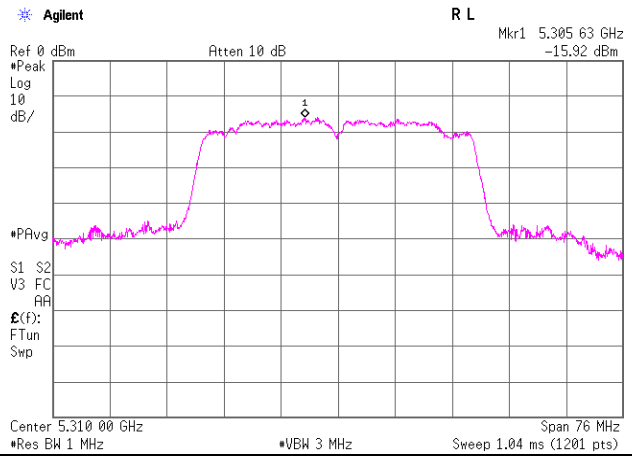
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

Tx, 5270MHz



Tx, 5310MHz



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Peak Excursion Ratio

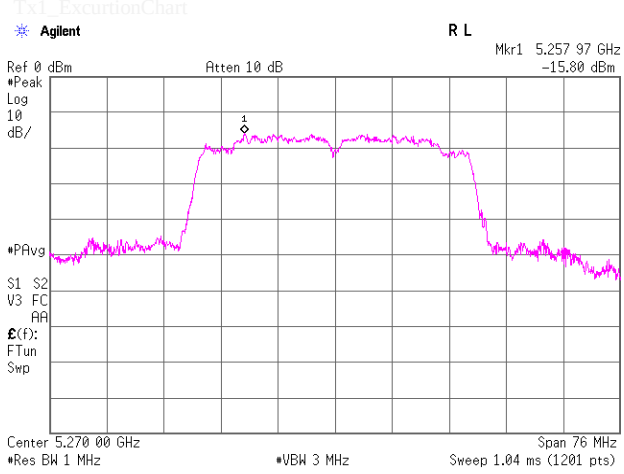
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, Antenna port Aux, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5270.0000	-15.80	9.47	-23.78	1.70	7.77	=<13.0	5.23
						=<13.0	-
5310.0000	-16.26	9.02	-24.53	0.96	8.06	=<13.0	4.94

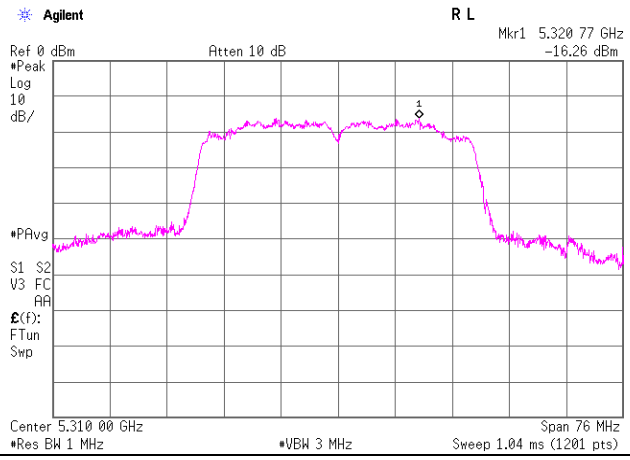
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

Tx, 5270MHz



Tx, 5310MHz



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Peak Excursion Ratio

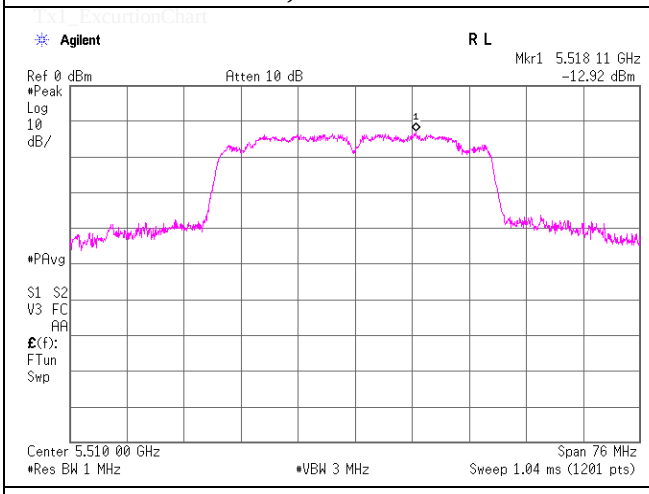
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, Antenna port Main, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5510.0000	-12.92	12.21	-21.74	3.60	8.61	=<13.0	4.39
5550.0000	-12.81	12.34	-21.49	3.87	8.47	=<13.0	4.53
5670.0000	-13.09	12.27	-21.48	4.09	8.18	=<13.0	4.82

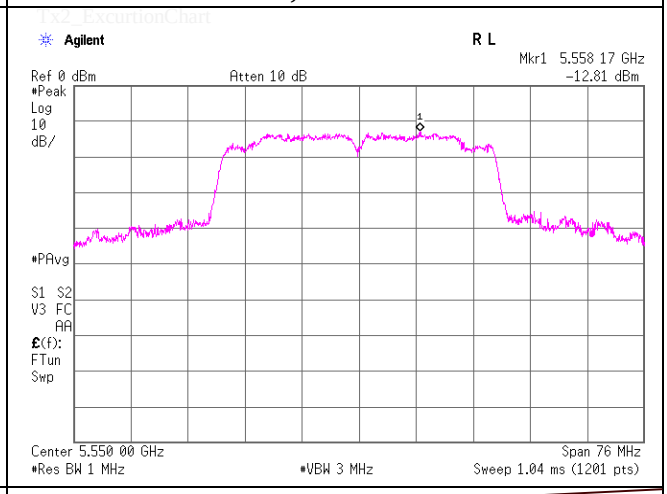
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

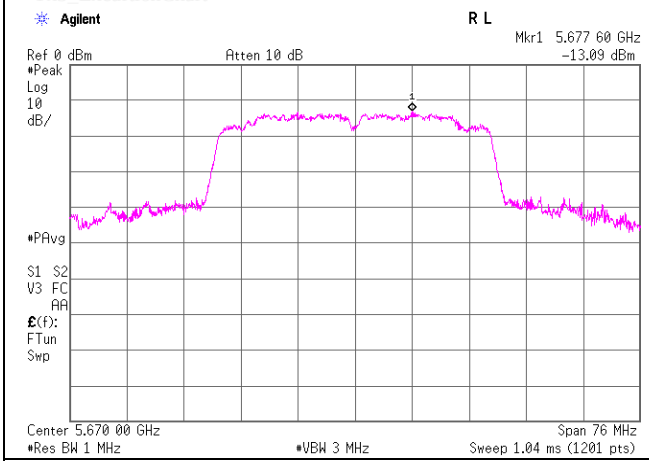
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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Peak Excursion Ratio

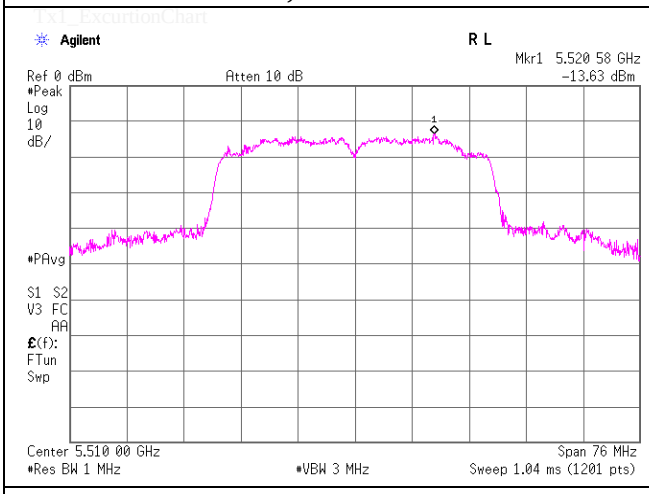
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	December 4, 2012	
Temperature / Humidity	23deg.C , 39%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, IEEE802.11n-HT40, PN9, Antenna port Aux, worst data mode 8 (MCS)	

Ch. Freq. [MHz]	Peak Reading [dBm]	Peak Result [dBm]	PPSD Reading [dBm]	PPSD Result [dBm]	Peak Power Excursion [dB]	Limit [dB]	Margin [dB]
5510.0000	-13.63	11.50	-22.90	2.44	9.06	=<13.0	3.94
5550.0000	-13.67	11.48	-22.29	3.07	8.41	=<13.0	4.59
5670.0000	-13.52	11.84	-22.38	3.19	8.65	=<13.0	4.35

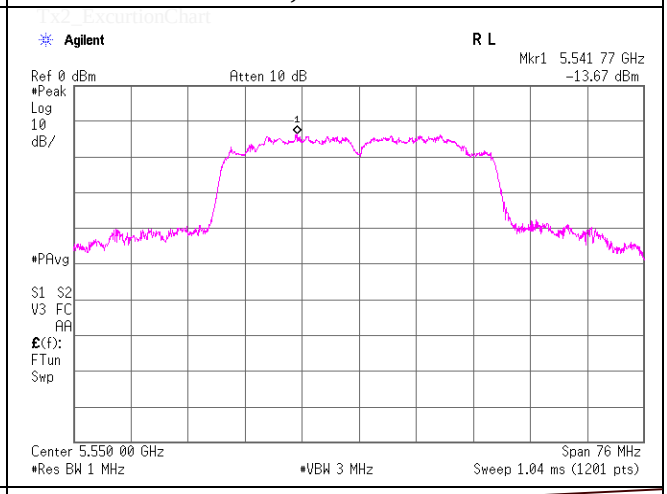
*Peak Power Excursion = Peak Result - PPSD Result

*Peak Result = Peak Reading + Cable Loss + Atten. Loss + 10log(NANT), PPSD Result = PPSD Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)
*PPSD Reading, Cable Loss, Atten.Loss and Duty factor refer to Power Density sheet.

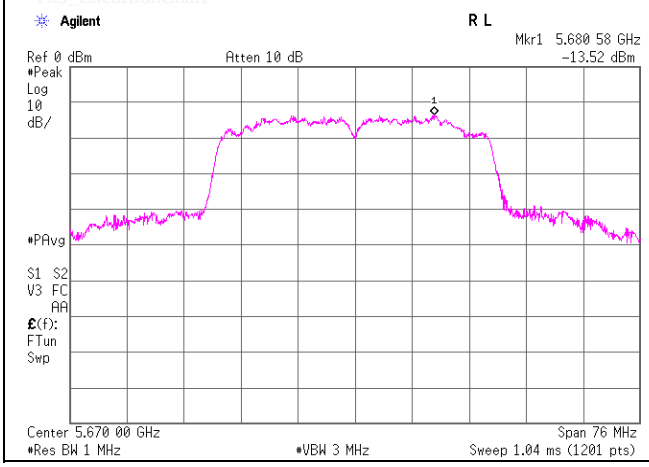
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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APPENDIX 2
Test Instruments

EMI test equipment (1/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	AT/RE	2012/03/16 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2011/12/05 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	AT	2012/02/16 * 12
SCC-G27	Coaxial Cable	Junkosha	MWX241-01000KM SKMS	SEP-20-12-00 1	AT	2012/09/26 * 12
SAT10-09	Attenuator	Weinschel Corp.	54A-10	W5692	AT	2012/11/15 * 12
SAT20-05	Attenuator	Weinschel Corp.	54A-20	Y5649	AT	2012/11/15 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2012/03/26 * 12
SCC-H4	Microwave cable	Hirose Electric	U.FL-2LP-066J1-A-(200)	-	AT	Pre Check
SCC-H5	Microwave cable	Hirose Electric	U.FL-2LP-066J1-A-(200)	-	AT	Pre Check
STM-G4	Terminator	Weinschel	M1459A	U6592	AT	2012/07/18 * 12
KPM-08	Power meter	Anritsu	ML2495A	6K00003356	AT	2012/09/14 * 12
KPSS-04	Power sensor	Anritsu	MA2411B	012088	AT	2012/09/14 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2012/04/19 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2012/04/19 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2012/09/21 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2012/07/18 * 12
SCC-G03	Coaxial Cable	Suhner	SUCOFLEX 104A	46499/4A	RE	2012/04/10 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2012/05/22 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2012/08/17 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2012/02/06 * 12
SJM-11	Measure	PROMART	SEN1935	-	RE/CE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFI,MF)	-	RE/CE	-
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2011/12/27 * 12
SAT10-06	Attenuator	Agilent	8493C-010	74865	RE	2011/12/27 * 12
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2011/12/27 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2012/03/30 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2012/03/12 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2012/03/12 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2012/03/12 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2012/03/12 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2012/03/30 * 12

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

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .
Test Item :
CE: Conducted emission ,
RE: Radiated emission ,
AT: Antenna terminal conducted tests

APPENDIX
Test Instruments

EMI test equipment (2/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2012/10/08 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2012/10/08 * 12
SAT6-03	Attenuator	JFW	50HF-006N	-	RE	2012/02/10 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2012/04/10 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2012/02/10 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2012/06/14 * 12
SLP-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100218	RE	2012/10/31 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE/CE	2012/02/07 * 12
SAT6-07	Attenuator	JFW	50HF-006N	-	RE	2012/02/17 * 12
SCC-C9/C10/SRSE-03	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271(RF Selector)	CE	2012/04/10 * 12
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE	2012/02/23 * 12
SAT3-03	Attenuator	JFW	50HF-003N	-	CE	2012/02/17 * 12
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	CE	2012/03/26 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .
All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .
Test Item :
CE: Conducted emission ,
RE: Radiated emission ,
AT: Antenna terminal conducted tests