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**APPENDIX A**

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# APPENDIX A

## TEST PLOTS

(Model: (1)RT-AC51U (2)RT-AC750)

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**File Number: C1M1606078**

**Report Number: EM-F160401**

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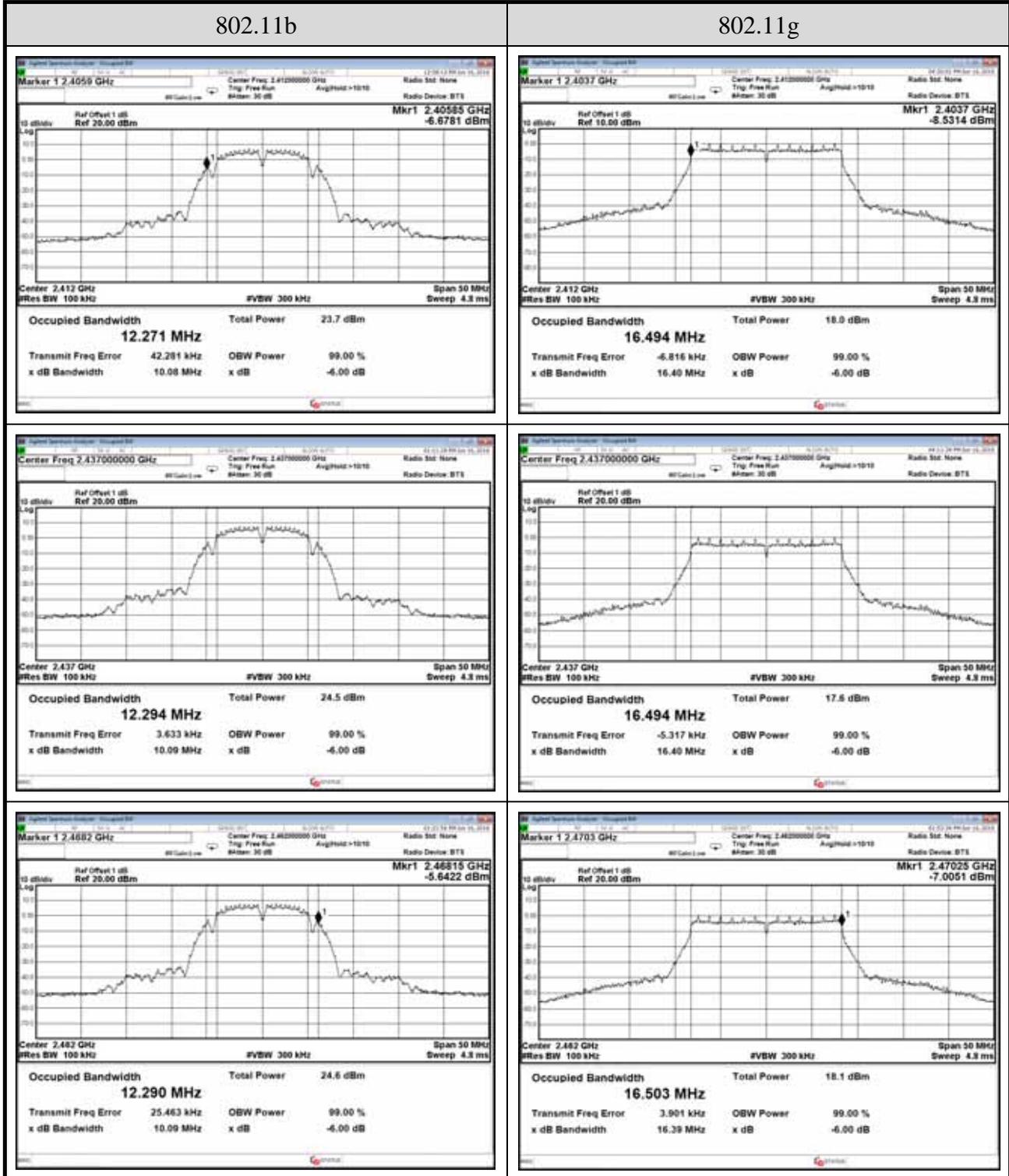
## A.1 6dB BANDWIDTH MEASUREMENT

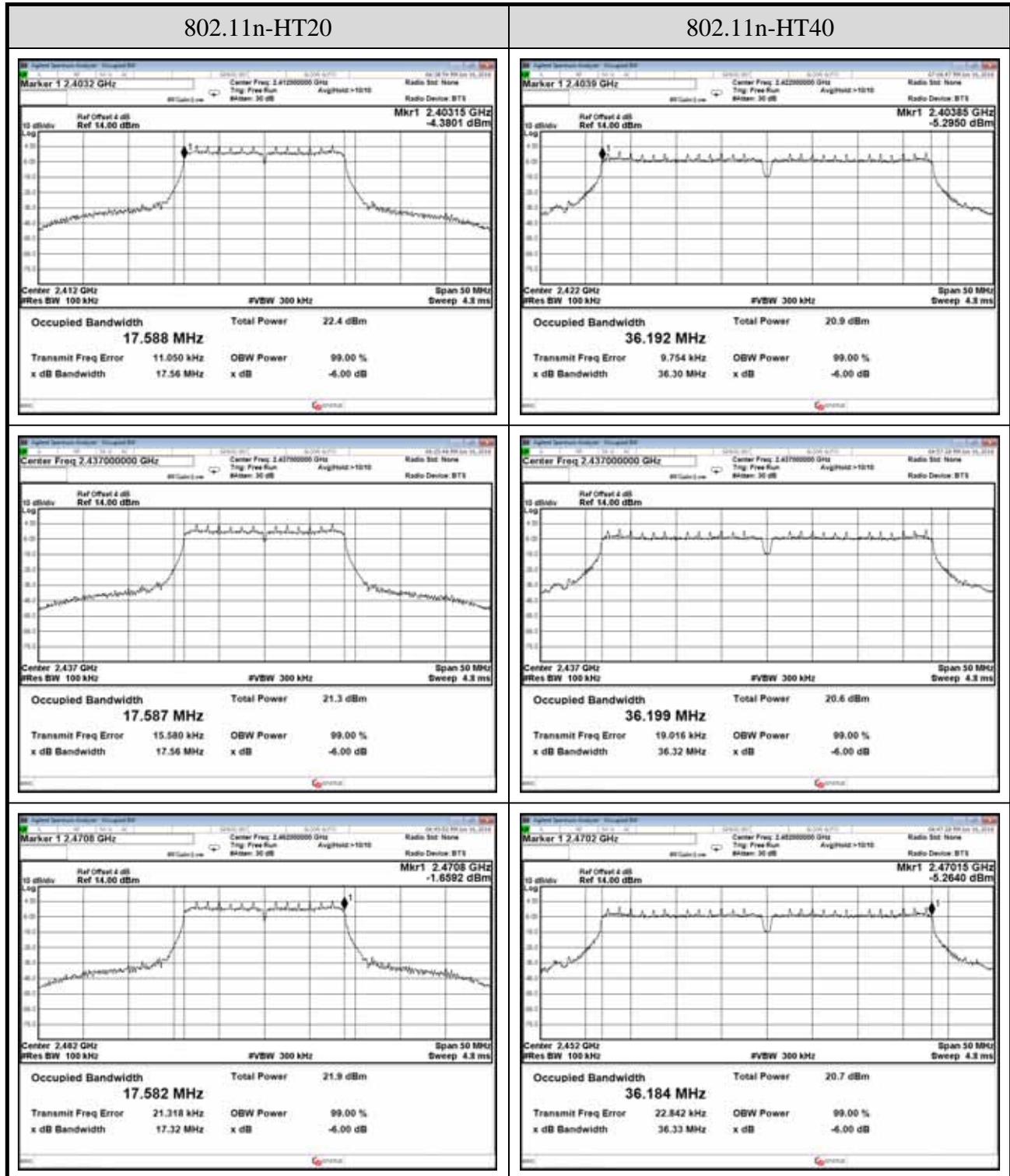
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ

### A.1.1 6dB Bandwidth Result

Modulation Type	Centre Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
802.11b	2412	10.08	>500kHz
	2437	10.09	
	2462	10.09	
802.11g	2412	16.40	
	2437	16.40	
	2462	16.39	
802.11n-HT20	2412	17.56	
	2437	17.56	
	2462	17.32	
802.11n-HT40	2422	36.30	
	2437	36.32	
	2452	36.33	

A.1.2 Measurement Plots





## A.2 MAXIMUM PEAK OUTPUT POWER MEASUREMENT

Test Date	2016/06/21	Temp./Hum.	29 /52%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ

### A.2.1 Peak Output Power

Modulation Type	Centre Frequency (MHz)	Output Power (dBm)		Total Peak Output Power		Limit
		Chain 0	Chain 1	(dBm)	(W)	
802.11b	2412	20.84	---	20.84	0.121339	< 30dBm (1W)
	2437	21.42	---	21.42	0.138676	
	2462	21.26	---	21.26	0.133660	
	2412	---	15.36	15.36	0.034356	
	2437	---	15.15	15.15	0.032734	
	2462	---	15.27	15.27	0.033651	
802.11g	2412	23.09	---	23.09	0.203704	
	2437	24.65	---	24.65	0.291743	
	2462	22.95	---	22.95	0.197242	
	2412	---	22.46	22.46	0.176198	
	2437	---	24.17	24.17	0.261216	
	2462	---	22.12	22.12	0.162930	
802.11n-HT20	2412	20.28	18.54	22.51	0.178238	< 28.93dBm Note 2
	2437	23.44	22.39	25.96	0.394457	
	2462	20.35	18.97	22.72	0.187068	
802.11n-HT40	2422	20.53	19.93	23.25	0.211349	
	2437	24.34	23.78	27.08	0.510505	
	2452	21.17	20.04	23.65	0.231739	

Note 1: The results have been included cable loss.

Note 2: 802.11n Directional gain is 7.07dBi > 6dBi, the limit is  $30 - (7.07-6) = 28.93\text{dBm}$

A.2.2 Average Output Power (Reporting only)

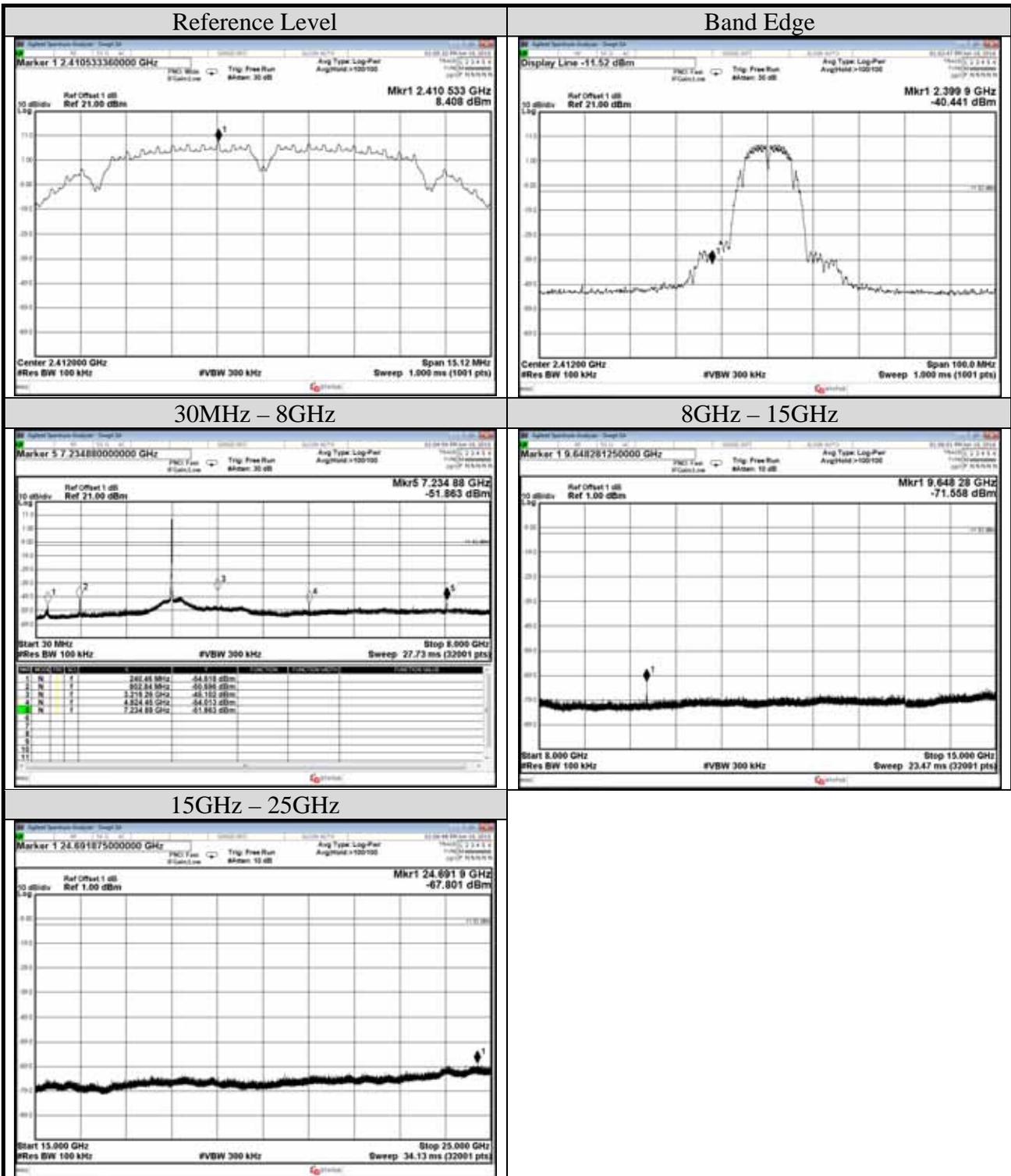
Modulation Type	Centre Frequency (MHz)	Output Power (dBm)		10log (1/X)	Total Average Output Power		Limit
		Chain 0	Chain 1		(dBm)	(W)	
802.11b	2412	17.57	---	0	17.57	0.057148	< 30dBm (1W)
	2437	18.09	---		18.09	0.064417	
	2462	18.04	---		18.04	0.063680	
	2412	---	11.74		11.74	0.014928	
	2437	---	11.61		11.61	0.014488	
	2462	---	11.65		11.65	0.014622	
802.11g	2412	14.15	---	0	14.15	0.026002	
	2437	17.01	---		17.01	0.050234	
	2462	14.23	---		14.23	0.026485	
	2412	---	13.71		13.71	0.023496	
	2437	---	16.54		16.54	0.045082	
	2462	---	13.24		13.24	0.021086	
802.11n-HT20	2412	12.16	11.13	0	14.69	0.029444	< 28.93dBm Note 2
	2437	16.18	14.73		18.53	0.071285	
	2462	12.63	10.7		14.78	0.030061	
802.11n-HT40	2422	12.63	11.65	0	15.18	0.032961	
	2437	18.14	16.91		20.58	0.114288	
	2452	13.45	11.92		15.76	0.037670	

Note 1: The results have been included cable loss.

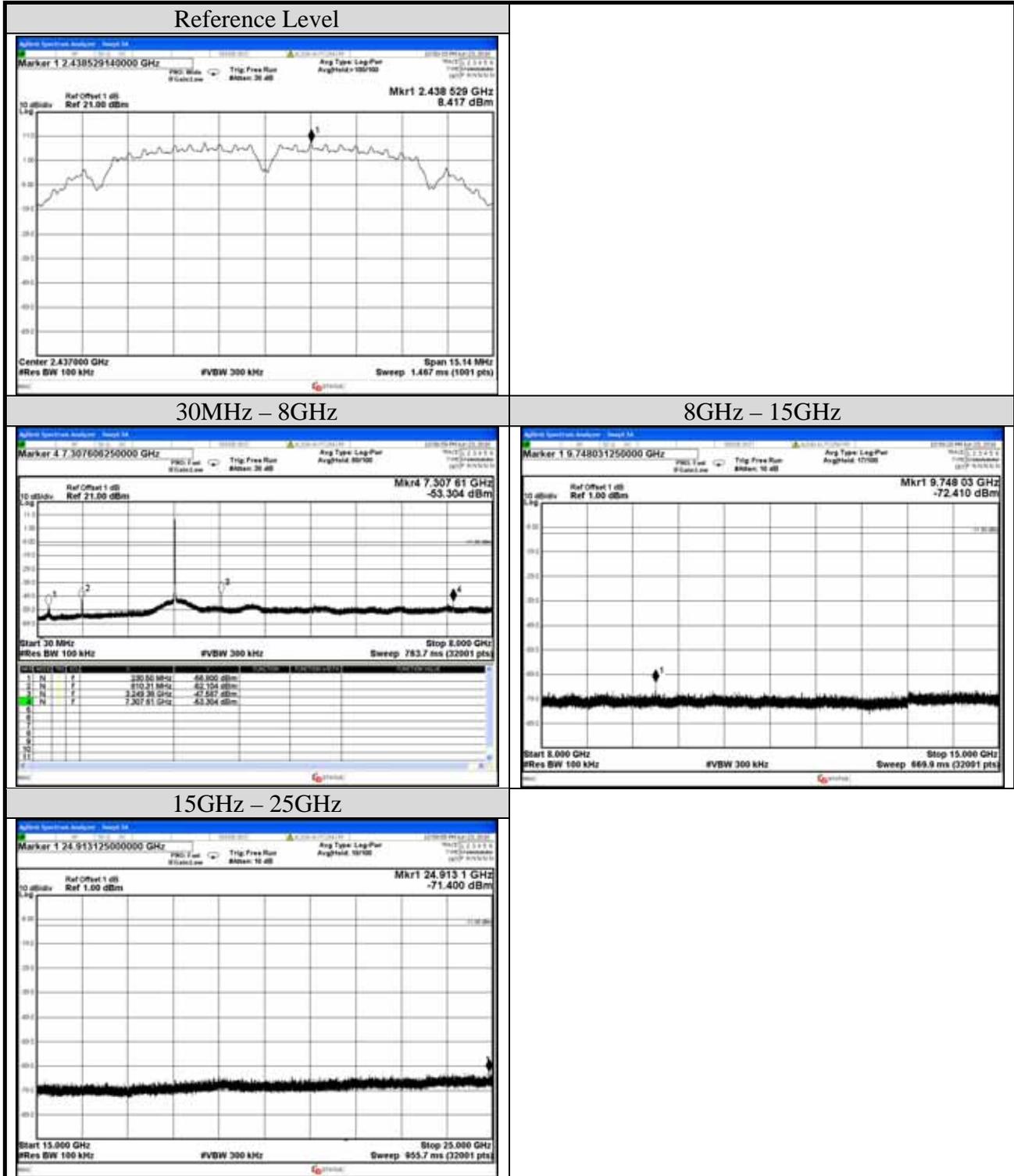
Note 2: 802.11n Directional gain is 7.07dBi > 6dBi, the limit is  $30 - (7.07-6) = 28.93\text{dBm}$

### A.3 EMISSION LIMITATIONS MEASUREMENT

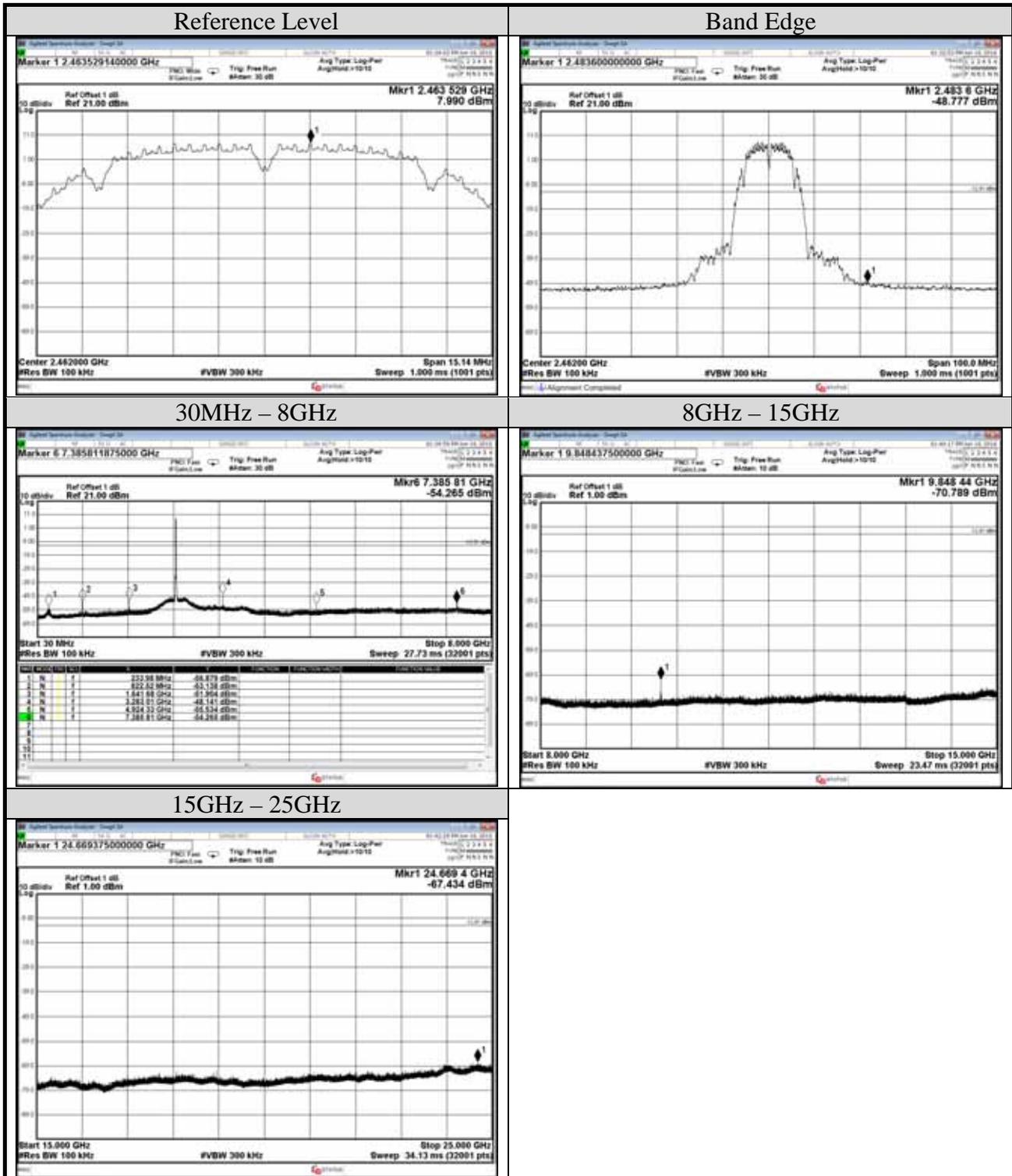
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11b	Frequency	TX 2412MHz
Simultaneous Factor	10 log(n) (Note: "n" is antenna number)		3.01



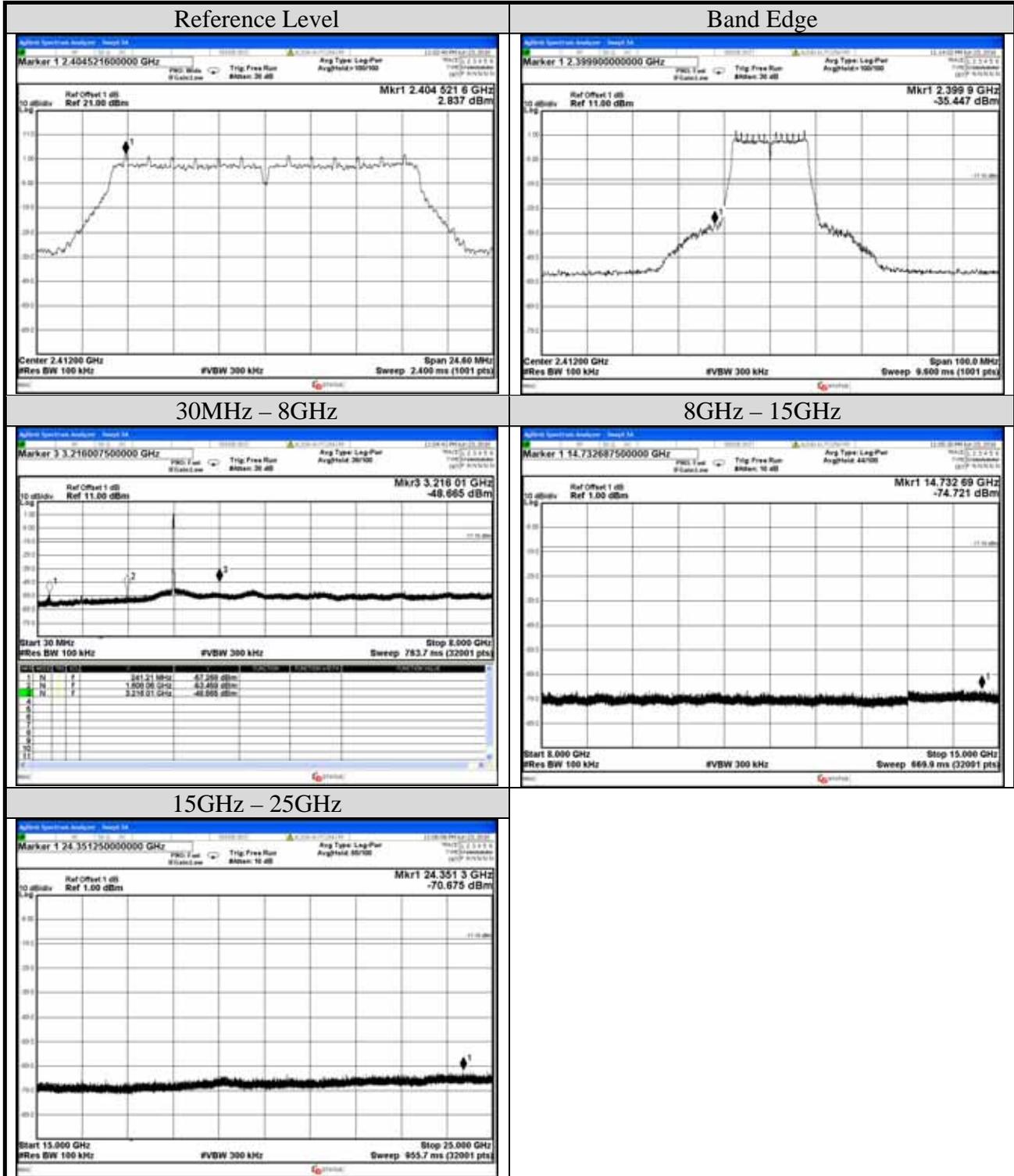
Test Date	2016/06/23	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11b	Frequency	TX 2437MHz
Simultaneous Factor	10 log(n) (Note: "n" is antenna number)		3.01



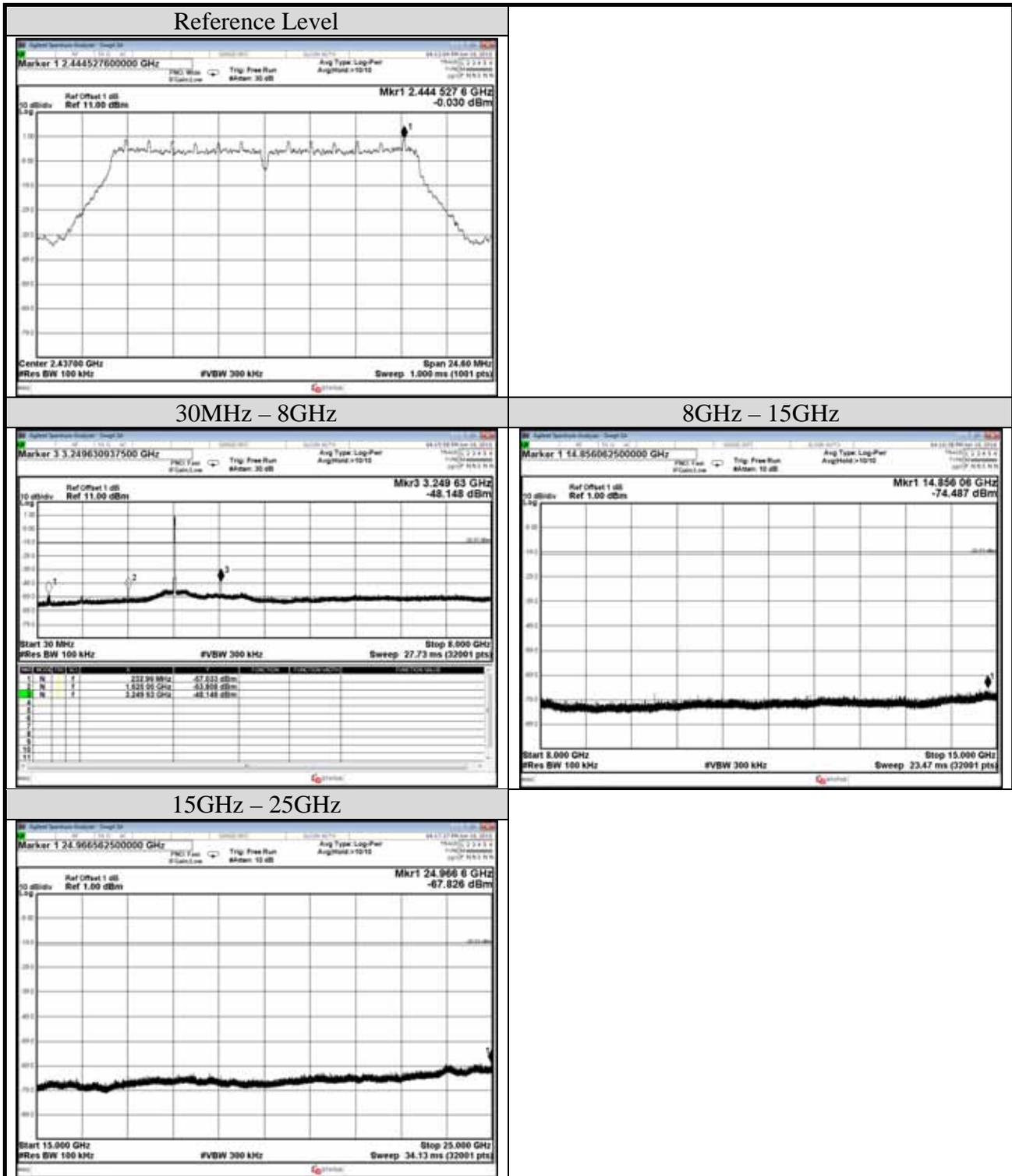
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11b	Frequency	TX 2462MHz
Simultaneous Factor	10 log(n) (Note: "n" is antenna number)		3.01



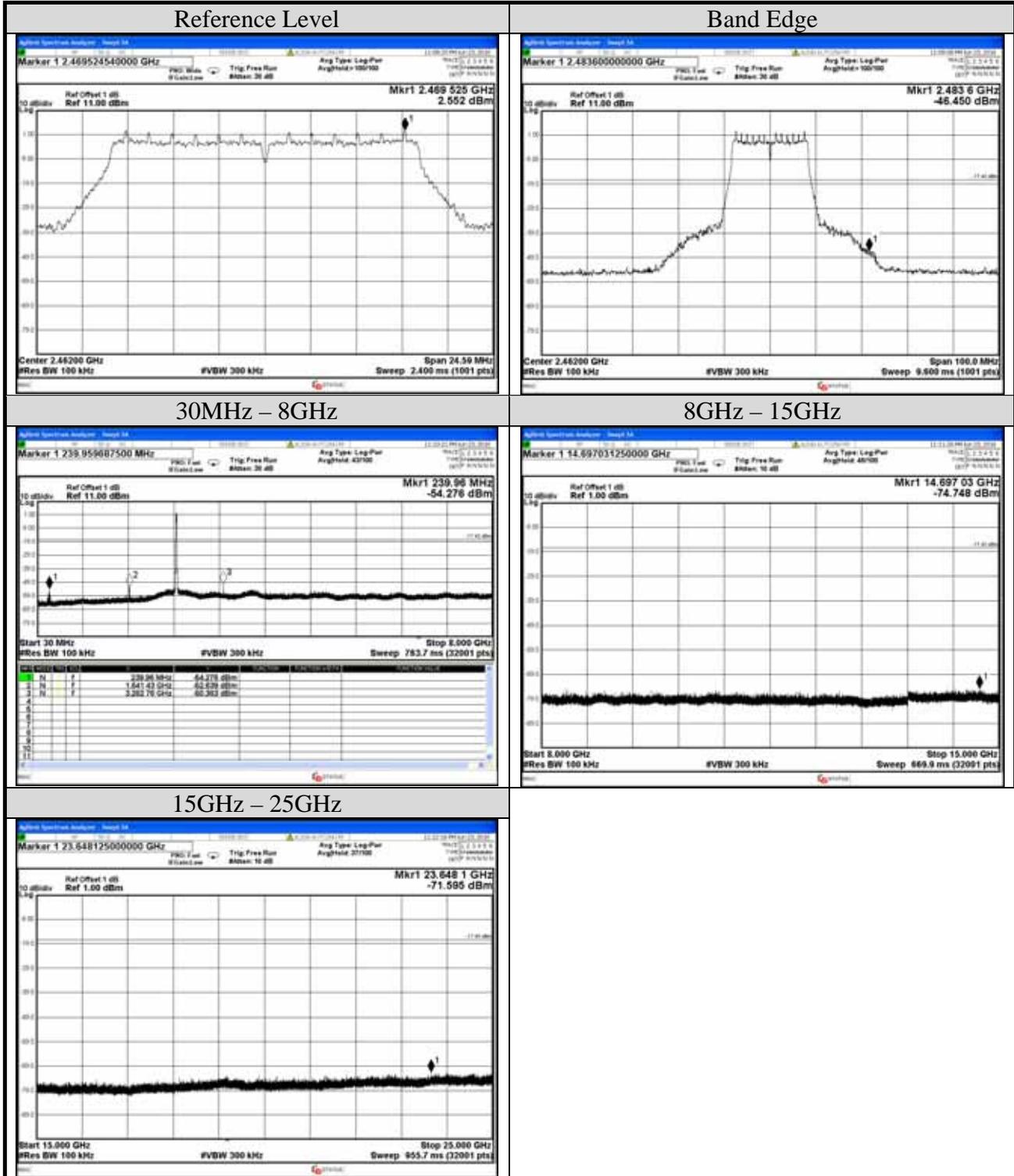
Test Date	2016/06/23	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11g	Frequency	TX 2412MHz
Simultaneous Factor	10 log(n) (Note: "n" is antenna number)		N/A



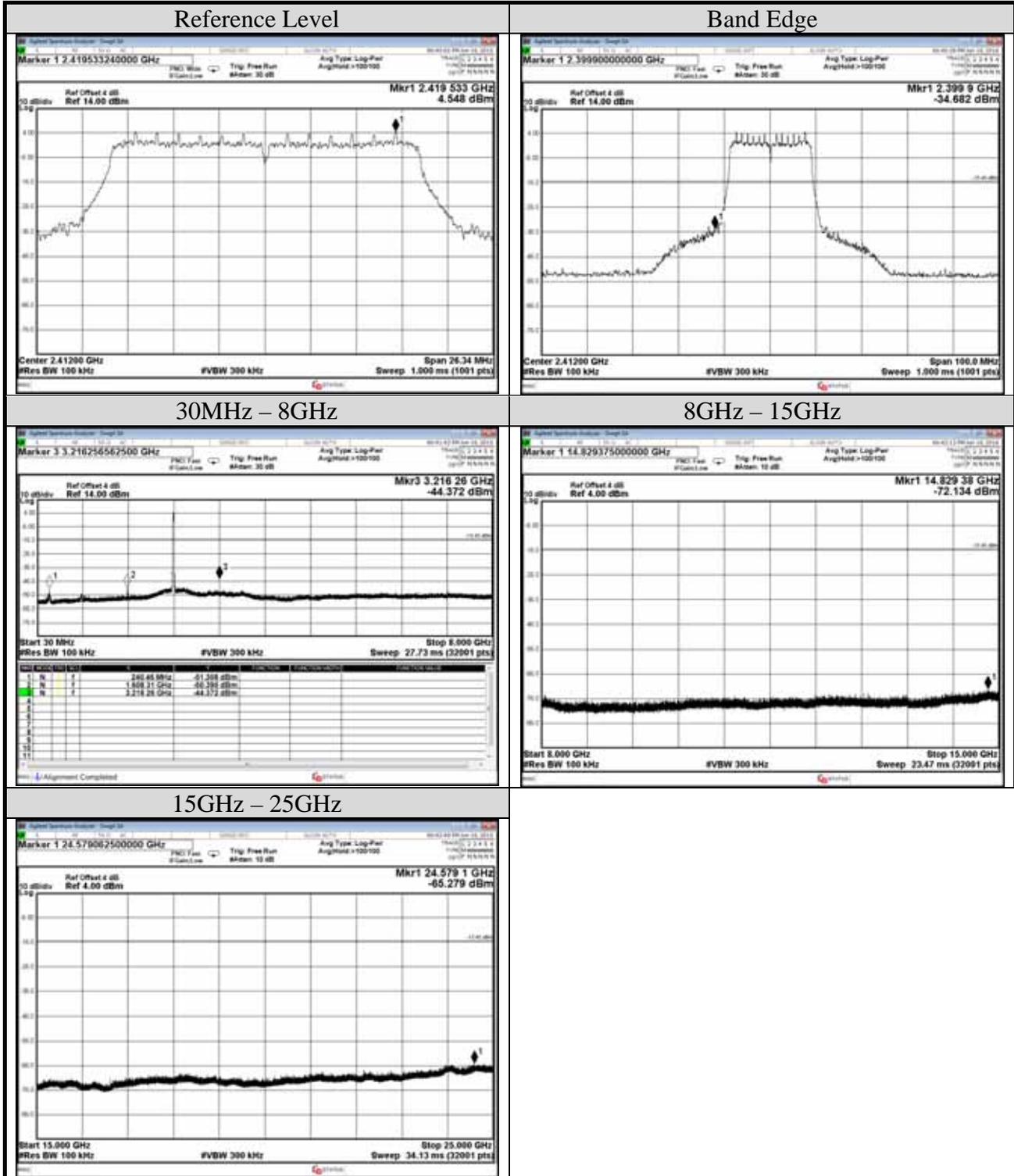
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11g	Frequency	TX 2437MHz
Simultaneous Factor10 log(n) (Note: "n" is antenna number)			N/A



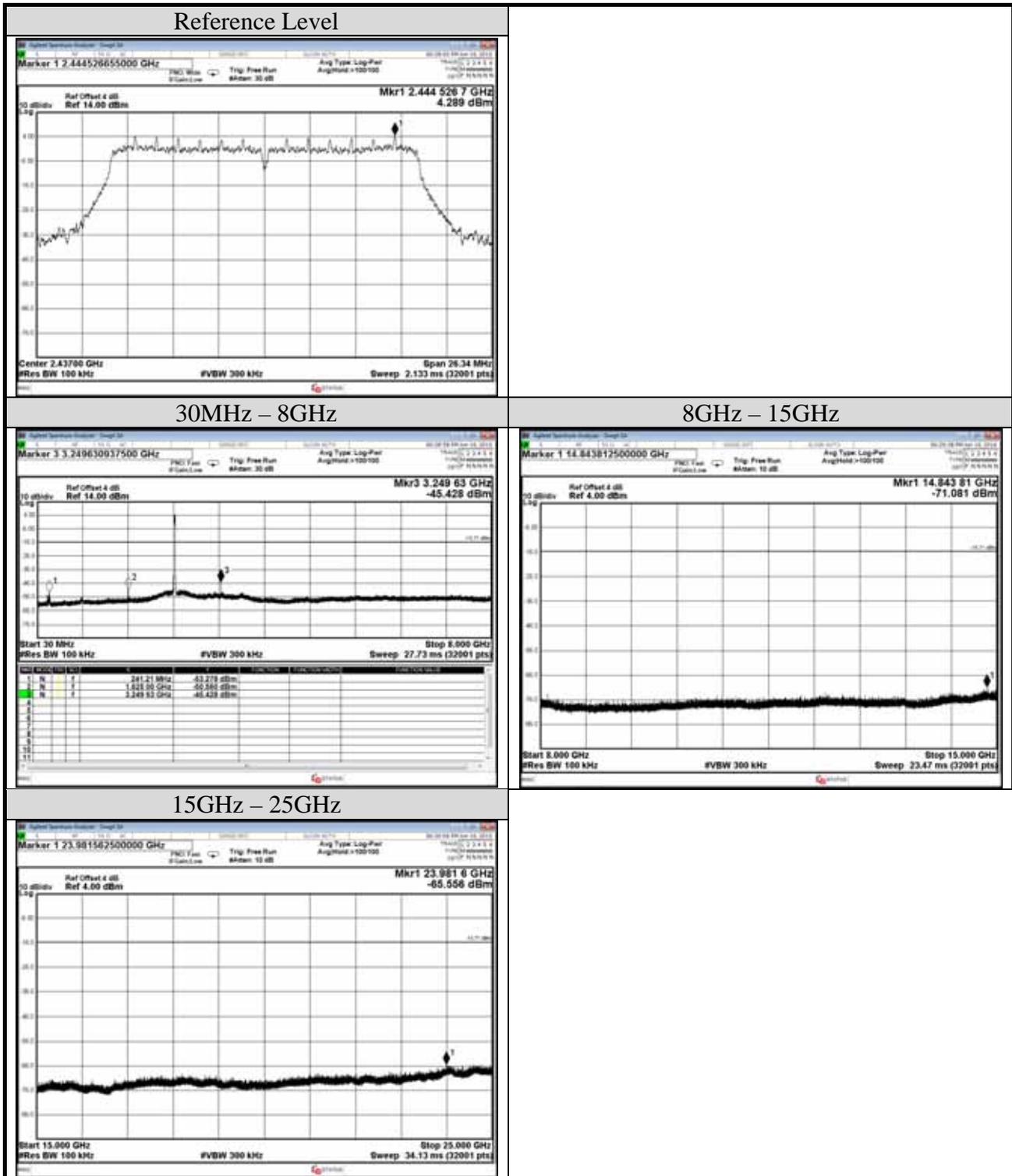
Test Date	2016/06/23	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11g	Frequency	TX 2462MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			N/A



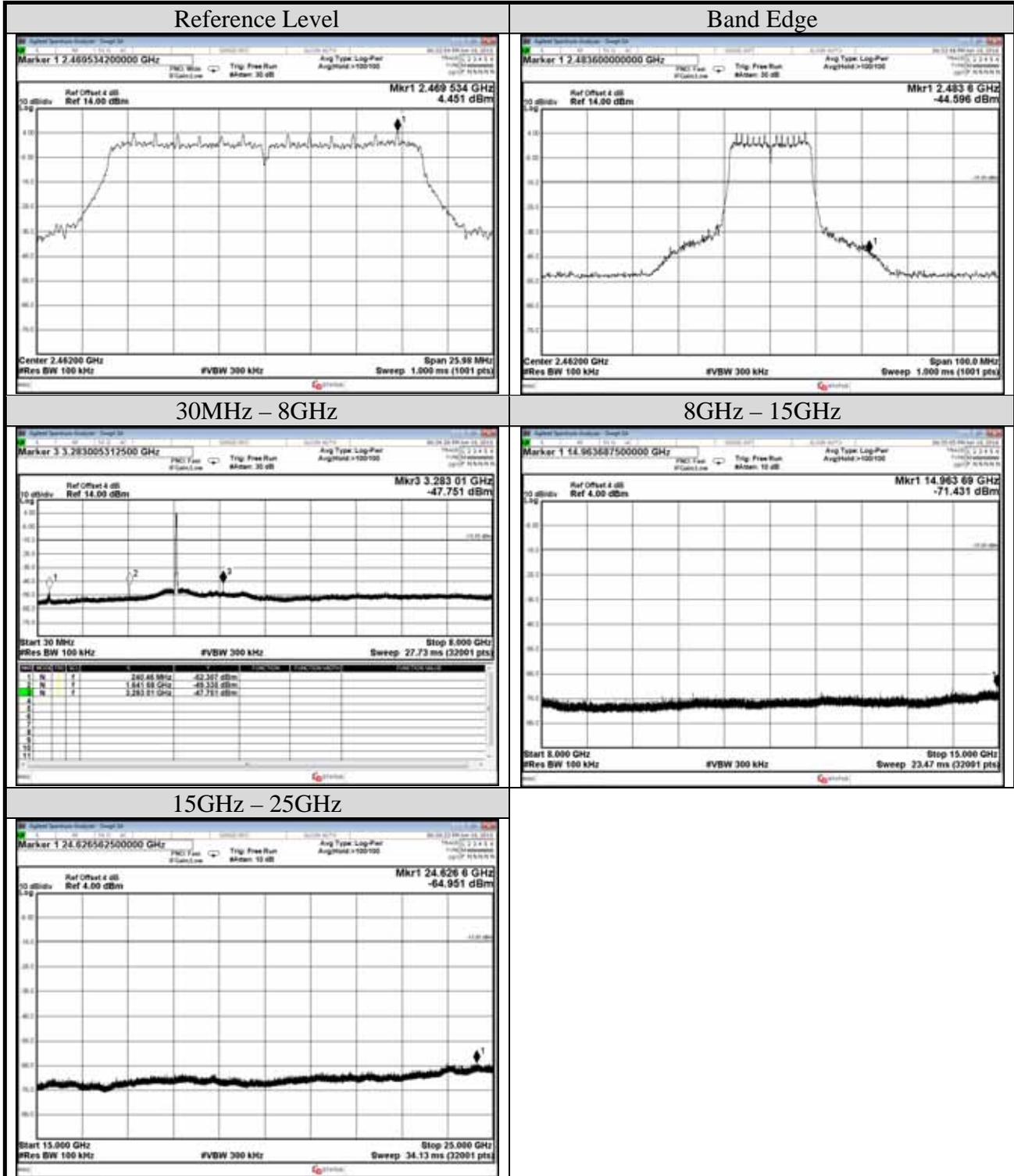
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11n-HT20	Frequency	TX 2412MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3.01



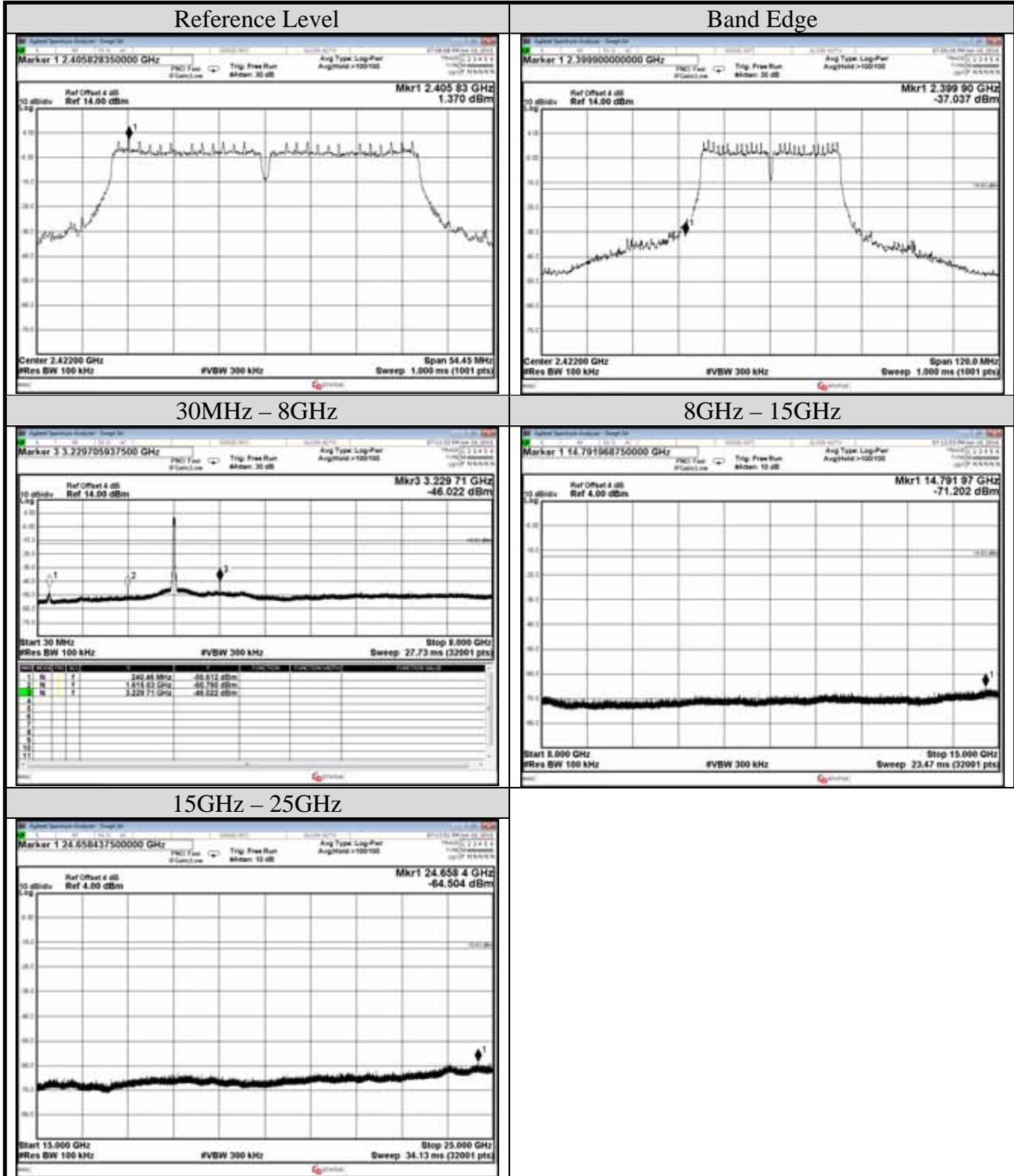
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11n-HT20	Frequency	TX 2437MHz
Simultaneous Factor	10 log(n) (Note: "n" is antenna number)		3.01



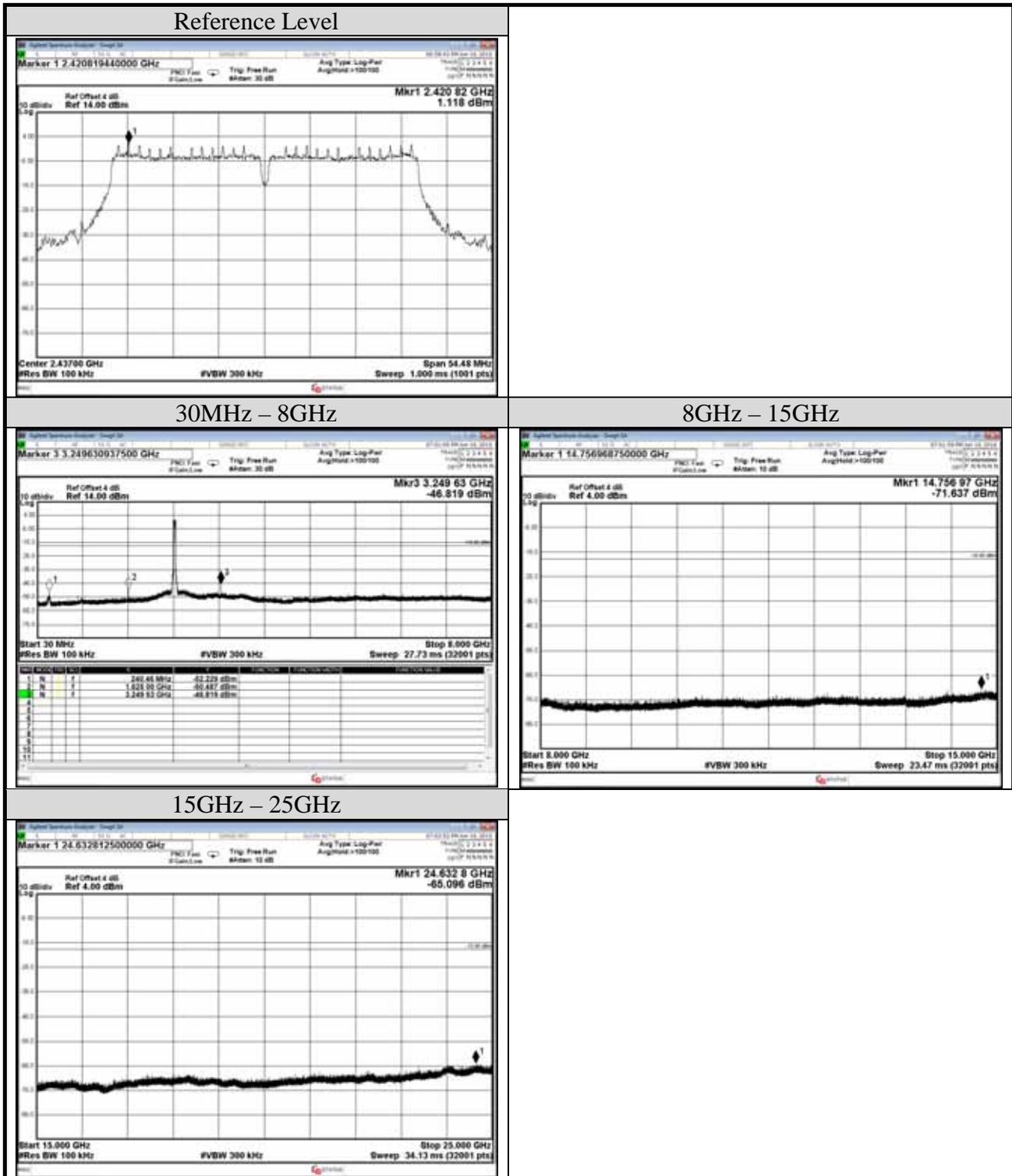
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11n-HT20	Frequency	TX 2462MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3.01



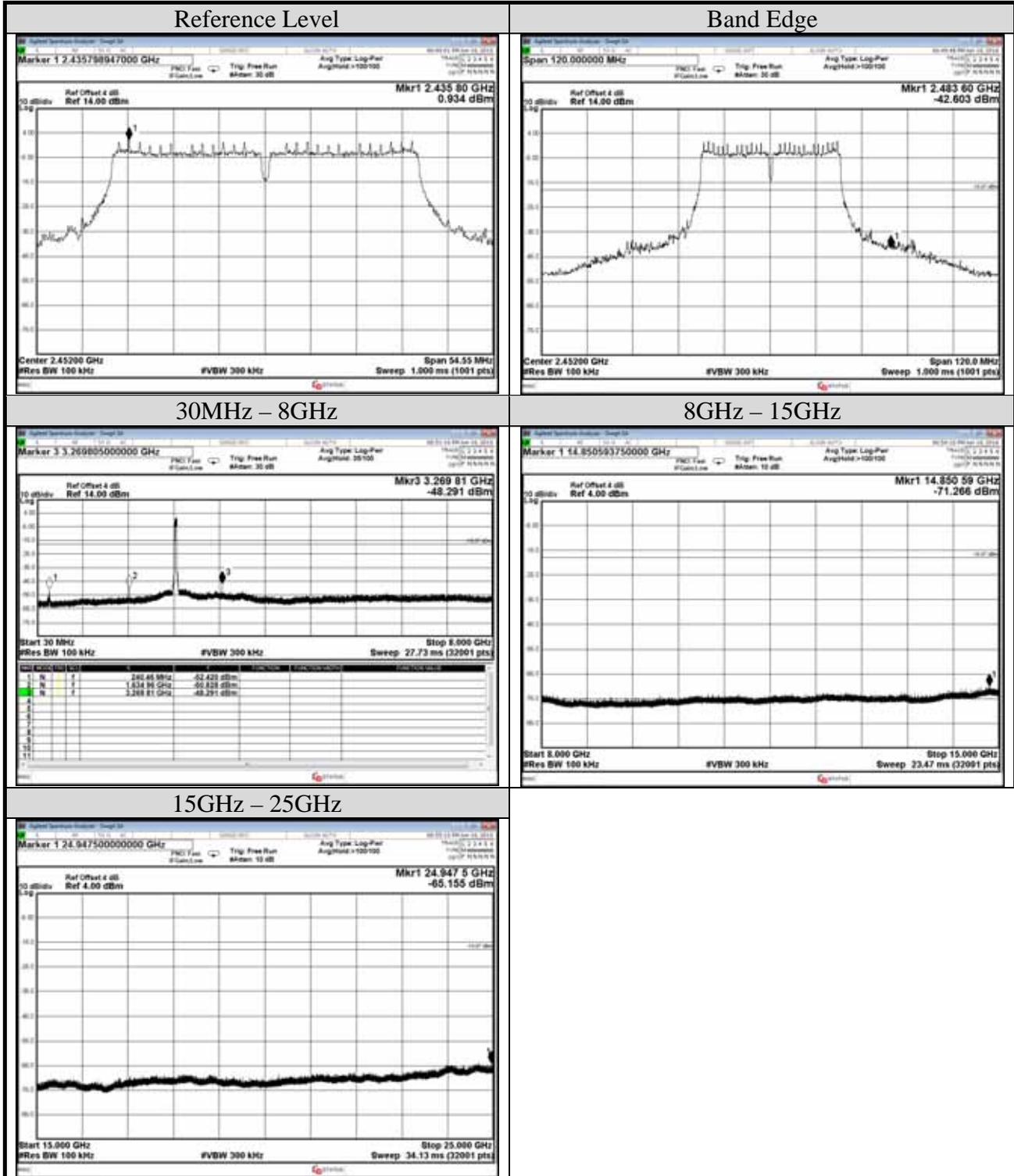
Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11n-HT40	Frequency	TX 2422MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3.01



Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11n-HT40	Frequency	TX 2437MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3.01



Test Date	2016/06/16	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Mode	802.11n-HT40	Frequency	TX 2452MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3.01



## A.4 POWER SPECTRAL DENSITY

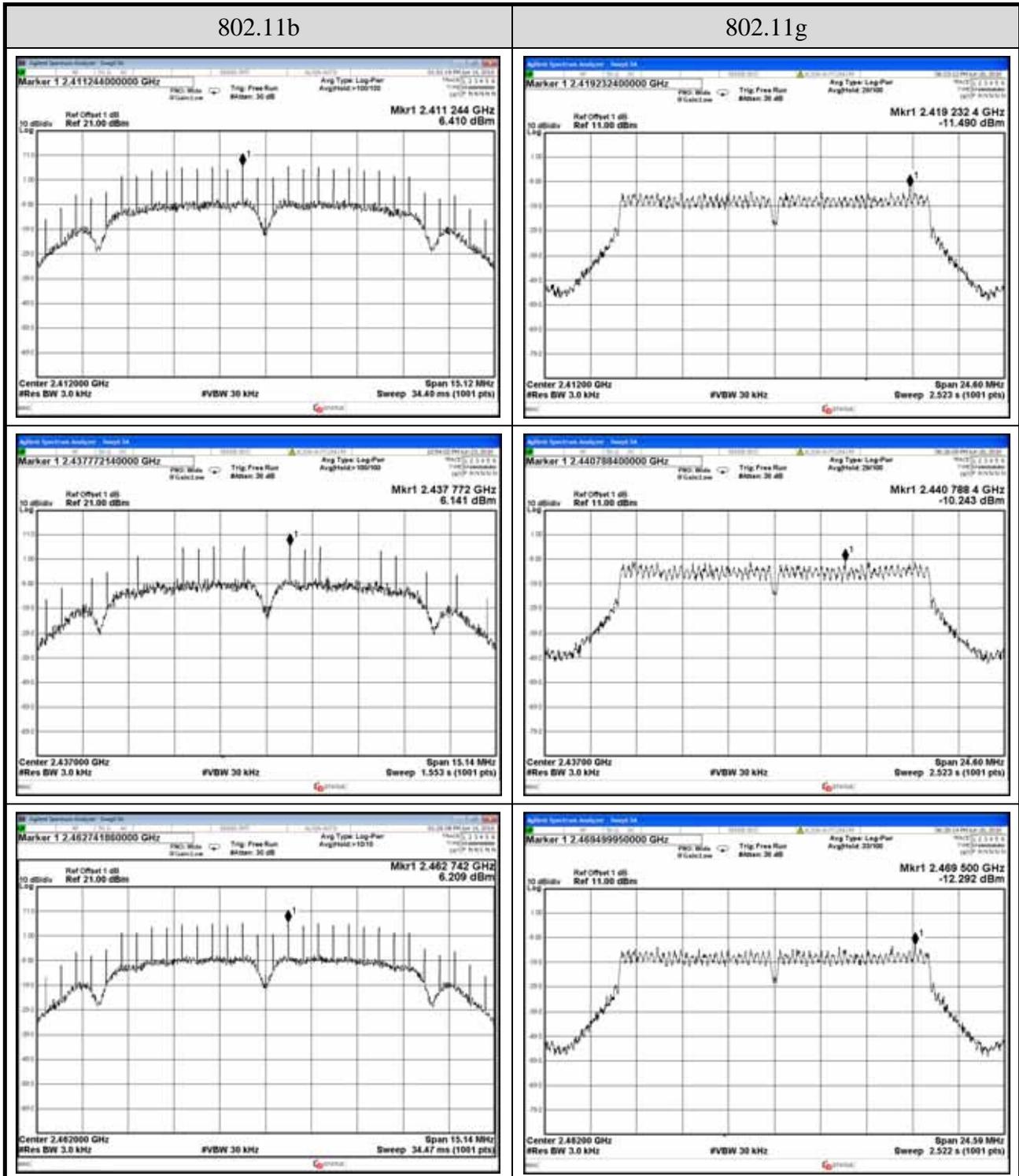
Test Date	2016/06/16~26	Temp./Hum.	25 /58%
Cable Loss	1dB	Test Voltage	AC 120V, 60HZ
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3.01

### A.4.1 Power Spectral Density Result

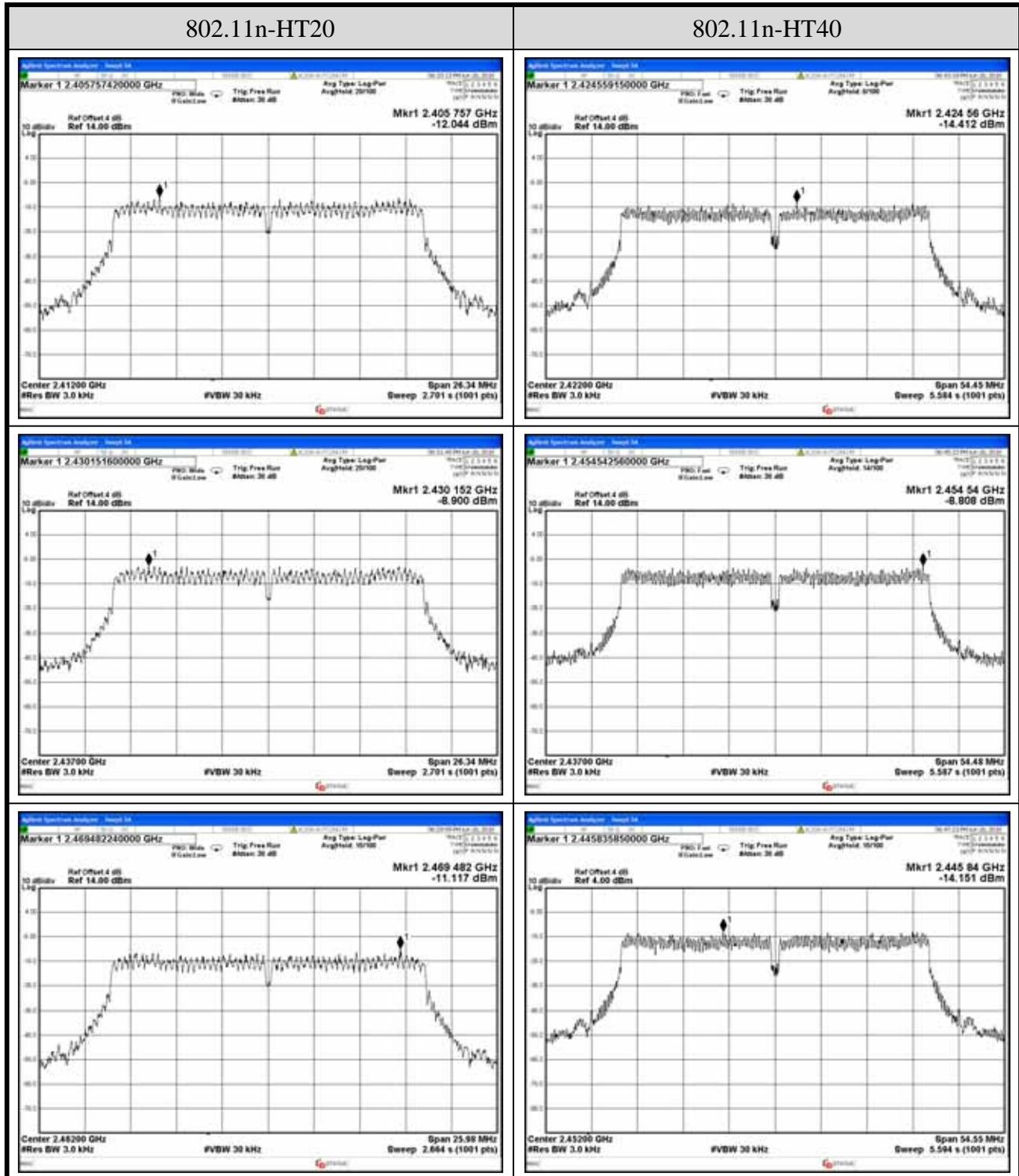
Modulation Type	Centre Frequency (MHz)	Power Spectral Density (dBm)	Limit
802.11b	2412	6.410	< 8 dBm/3kHz
	2437	6.141	
	2462	6.209	
802.11g	2412	-11.490	
	2437	-10.243	
	2462	-12.292	
802.11n-HT20 <sup>Note</sup>	2412	-12.044	
	2437	-8.900	
	2462	-11.117	
802.11n-HT40 <sup>Note</sup>	2422	-14.412	
	2437	-8.808	
	2452	-14.151	

Note: All results have been included cable loss and Simultaneous Factor.

A.4.2 Measurement Plots



Note: All results have been included cable loss and Simultaneous Factor.



Note: All results have been included cable loss and Simultaneous Factor.