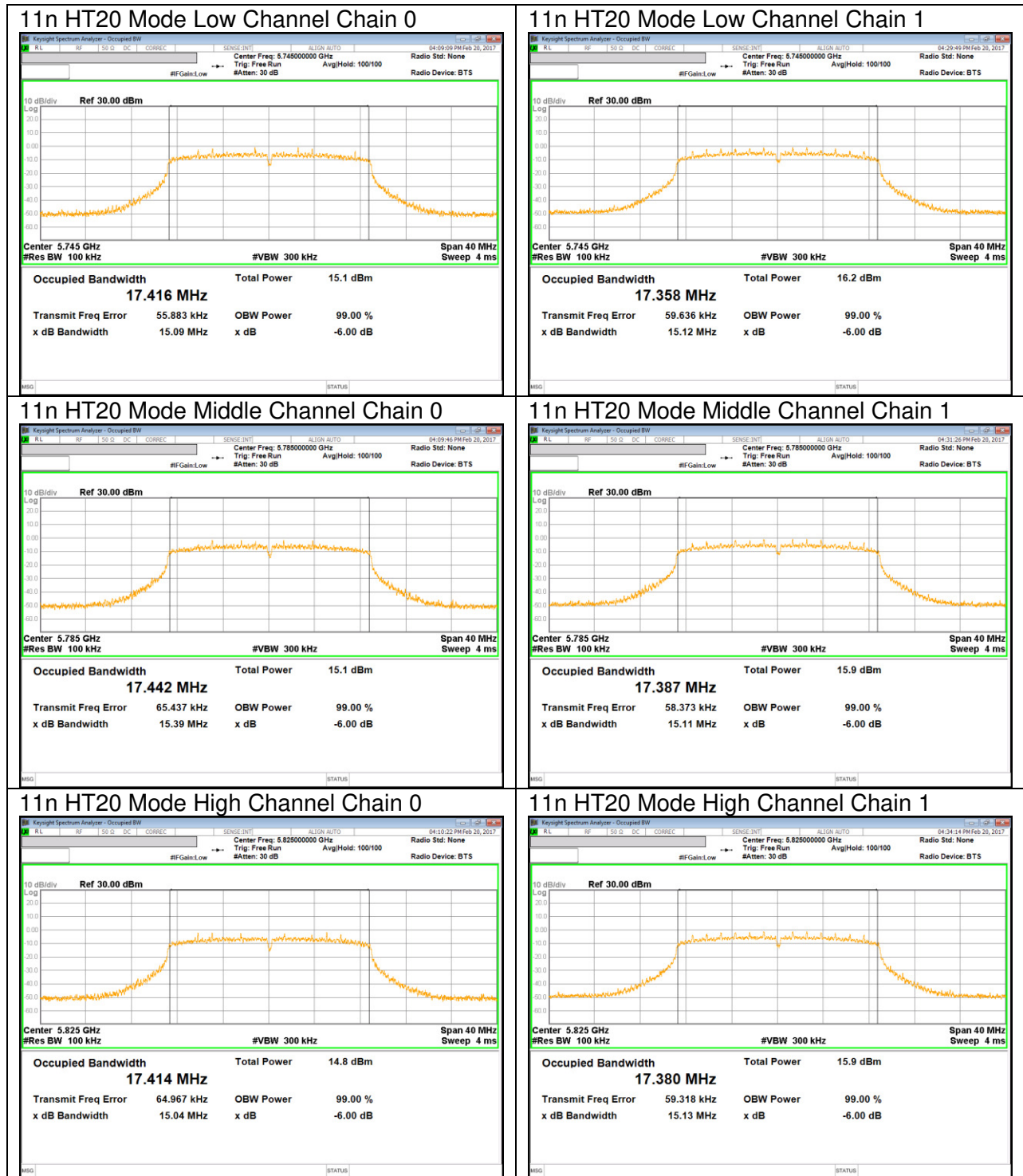
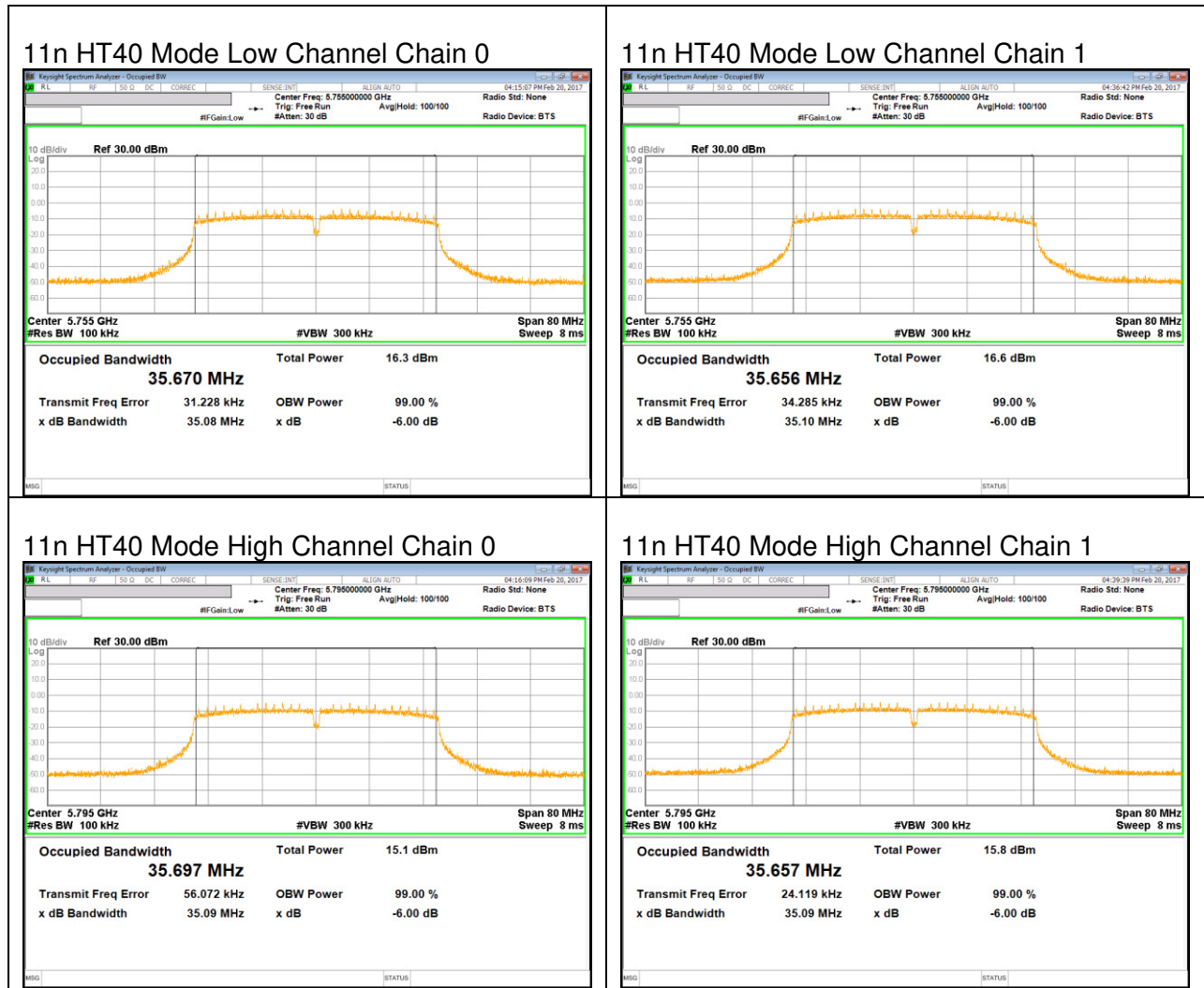


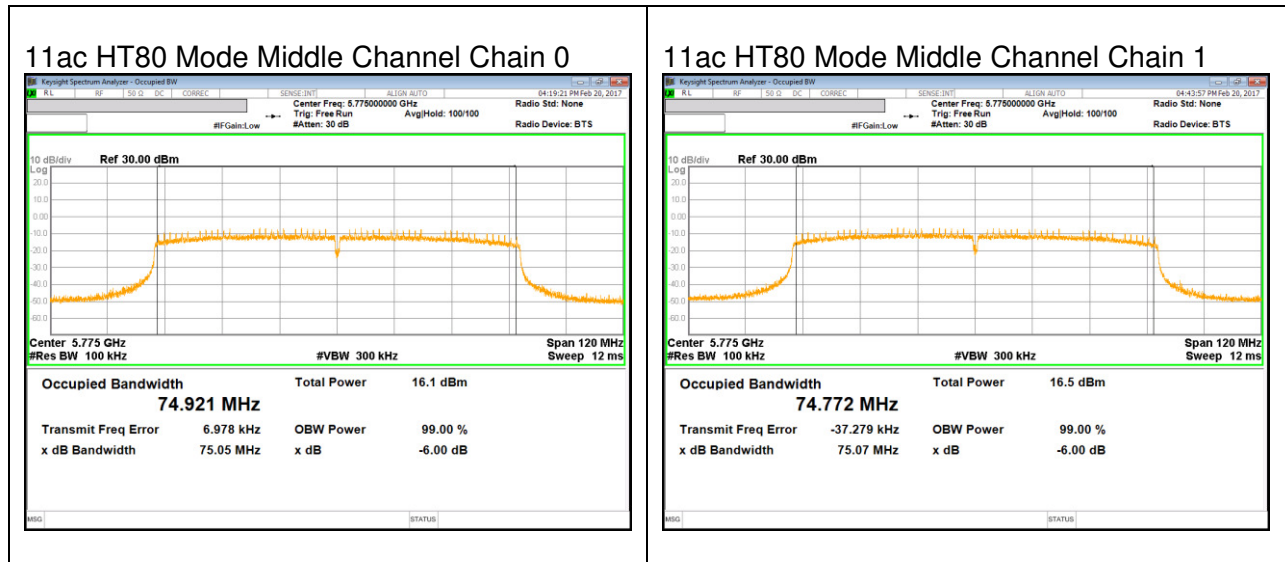
IEEE 802.11n HT20 mode



IEEE 802.11n HT40 mode



IEEE 802.11ac VHT80 mode



9.2. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1) (2) (3)

FCC

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

TEST PROCEDURE

KDB 789033 Method SA-2 is used for PPSD. RBW set to 1MHz (500kHz for the band 5.725-5.85 GHz, the VBW $\geq 3 \times$ RBW, RMS detector and trace averaging). Peak marker value of the spectrum is used for PSD. Add duty cycle correction factor.

KDB 789033 Method PM is used for output power. Duty cycle correction factor is already added to the average output power results.

DIRECTIONAL ANTENNA GAIN

For OUTPUT POWER and PSD: The TX chains are correlated and the antenna gains are unequal among the chains. The directional gain is:

Frequency Band [MHz]	Chain 0 Antenna Gain [dBi]	Chain 1 Antenna Gain [dBi]	Correlated Chains Directional Gain [dBi]
5150 - 5250	-1.86	-1.69	1.24
5250 - 5350	-2.43	-1.84	0.88
5470 - 5725	-2.18	-2.67	0.59
5725 - 5850	-2.22	-2.72	0.54

RESULTS

9.2.1.802.11a MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	18.96	1.24	1.24
Mid	5200	18.80	1.24	1.24
High	5240	18.81	1.24	1.24

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5180	23.78	23.78	11.00
Mid	5200	23.74	23.74	11.00
High	5240	23.74	23.74	11.00

Duty Cycle CF [dB]	0.29	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Primary Antenna 1 Power [dBm]	Secondary Antenna 2 Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5180	10.19	10.02	13.12	23.78	-10.66
Mid	5200	10.21	10.06	13.15	23.74	-10.60
High	5240	10.22	10.22	13.23	23.74	-10.51

PPSD Results

Channel	Frequency [MHz]	Primary Antenna 1 PPSD [dBm]	Secondary Antenna 2 PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5180	-0.69	-0.70	2.60	11.00	-8.40
Mid	5200	-0.60	-0.67	2.66	11.00	-8.34
High	5240	-0.31	-0.43	2.93	11.00	-8.07

9.2.2.802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	19.70	1.24	1.24
Mid	5200	19.65	1.24	1.24
High	5240	19.46	1.24	1.24

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5180	23.94	23.94	11.00
Mid	5200	23.93	23.93	11.00
High	5240	23.89	23.89	11.00

Duty Cycle CF [dB]	0.30	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5180	10.06	10.82	13.47	23.94	-10.48
Mid	5200	10.06	10.88	13.50	23.93	-10.43
High	5240	10.04	10.05	13.06	23.89	-10.84

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5180	-0.96	0.00	2.86	11.00	-8.14
Mid	5200	-0.87	-0.11	2.84	11.00	-8.16
High	5240	-1.01	-0.65	2.49	11.00	-8.51

9.2.3.802.11n HT40 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5190	40.28	1.24	1.24
High	5230	40.04	1.24	1.24

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5190	24.00	24.00	11.00
High	5230	24.00	24.00	11.00

Duty Cycle CF [dB]	0.59	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5190	10.63	10.62	13.64	24.00	-10.36
High	5230	10.64	10.59	13.63	24.00	-10.37

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5190	-3.53	-3.64	0.02	11.00	-10.98
High	5230	-3.42	-3.54	0.13	11.00	-10.87

9.2.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Middle	5210	82.66	1.24	1.24

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Middle	5210	24.00	24.00	11.00

Duty Cycle CF [dB]	1.12	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Middle	5210	10.35	10.28	13.33	24.00	-10.67

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Middle	5210	-7.10	-7.24	-3.04	11.00	-14.04

9.2.5.802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	18.72	0.88	0.88
Mid	5300	18.93	0.88	0.88
High	5320	18.76	0.88	0.88

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5260	23.72	23.72	11.00
Mid	5300	23.77	23.77	11.00
High	5320	23.73	23.73	11.00

Duty Cycle CF [dB]	0.29	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Primary Antenna 1 Power [dBm]	Secondary Antenna 2 Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5260	10.28	10.38	13.34	23.72	-10.38
Mid	5300	10.11	10.13	13.13	23.77	-10.64
High	5320	10.14	10.13	13.15	23.73	-10.59

PPSD Results

Channel	Frequency [MHz]	Primary Antenna 1 PPSD [dBm]	Secondary Antenna 2 PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5260	-0.47	-0.32	2.90	11.00	-8.10
Mid	5300	-0.61	-0.79	2.60	11.00	-8.40
High	5320	-0.50	-0.73	2.68	11.00	-8.32

9.2.6.802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	19.70	0.88	0.88
Mid	5300	19.60	0.88	0.88
High	5320	19.50	0.88	0.88

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5260	23.94	23.94	11.00
Mid	5300	23.92	23.92	11.00
High	5320	23.90	23.90	11.00

Duty Cycle CF [dB]	0.30	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5260	10.05	10.14	13.11	23.94	-10.84
Mid	5300	10.95	10.93	13.95	23.92	-9.97
High	5320	10.95	10.94	13.96	23.90	-9.95

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5260	-1.06	-0.78	2.40	11.00	-8.60
Mid	5300	0.06	-0.18	3.25	11.00	-7.75
High	5320	-0.34	-0.07	3.11	11.00	-7.89

9.2.7.802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5270	40.22	0.88	0.88
High	5310	40.16	0.88	0.88

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5270	24.00	24.00	11.00
High	5310	24.00	24.00	11.00

Duty Cycle CF [dB]	0.59	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5270	10.62	10.72	13.68	24.00	-10.32
High	5310	10.48	10.46	13.48	24.00	-10.52

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5270	-3.53	-3.60	0.04	11.00	-10.96
High	5310	-4.05	-3.81	-0.32	11.00	-11.32

9.2.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Middle	5290	81.50	0.88	0.88

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Middle	5290	24.00	24.00	11.00

Duty Cycle CF [dB]	1.12	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Middle	5290	10.20	10.15	13.19	24.00	-10.81

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Middle	5290	-7.16	-7.69	-3.29	11.00	-14.29

9.2.9.802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5500	19.42	0.59	0.59
Mid	5580	18.95	0.59	0.59
High	5700	18.68	0.59	0.59

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5500	23.88	23.88	11.00
Mid	5580	23.78	23.78	11.00
High	5700	23.71	23.71	11.00

Duty Cycle CF [dB]	0.29	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Primary Antenna 1 Power [dBm]	Secondary Antenna 2 Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5500	10.06	10.19	13.14	23.88	-10.75
Mid	5580	10.38	10.51	13.46	23.78	-10.32
High	5700	10.10	10.15	13.14	23.71	-10.58

PPSD Results

Channel	Frequency [MHz]	Primary Antenna 1 PPSD [dBm]	Secondary Antenna 2 PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5500	-0.84	-0.46	2.65	11.00	-8.35
Mid	5580	-0.35	-0.33	2.96	11.00	-8.04
High	5700	-0.74	-0.18	2.85	11.00	-8.15

9.2.10.802.11n HT20 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5500	19.67	0.59	0.59
Mid	5580	19.82	0.59	0.59
High	5700	19.68	0.59	0.59

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5500	23.94	23.94	11.00
Mid	5580	23.97	23.97	11.00
High	5700	23.94	23.94	11.00

Duty Cycle CF [dB]	0.30	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5500	10.80	10.94	13.88	23.94	-10.06
Mid	5580	10.15	10.27	13.22	23.97	-10.75
High	5700	10.89	10.87	13.89	23.94	-10.05

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5500	-0.13	0.10	3.30	11.00	-7.70
Mid	5580	-0.88	-0.83	2.46	11.00	-8.54
High	5700	-0.01	0.35	3.49	11.00	-7.51

9.2.11.802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5510	40.14	0.59	0.59
Mid	5550	40.06	0.59	0.59
High	5670	40.01	0.59	0.59

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5510	24.00	24.00	11.00
Mid	5550	24.00	24.00	11.00
High	5670	24.00	24.00	11.00

Duty Cycle CF [dB]	0.59	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5510	10.39	10.50	13.46	24.00	-10.54
Mid	5550	10.79	10.92	13.87	24.00	-10.13
High	5670	10.46	10.55	13.52	24.00	-10.48

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5510	-4.04	-4.07	-0.45	11.00	-11.45
Mid	5550	-4.12	-4.28	-0.59	11.00	-11.59
High	5670	-3.25	-2.96	0.50	11.00	-10.50

9.2.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5530	81.76	0.59	0.59

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5530	24.00	24.00	11.00

Duty Cycle CF [dB]	1.12	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5530	10.79	10.31	13.57	24.00	-10.43

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5530	-7.67	-7.09	-3.24	11.00	-14.24

9.2.13.802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	18.88	0.54	0.54
Mid	5785	18.64	0.54	0.54
High	5825	19.12	0.54	0.54

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5745	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.00
High	5825	30.00	30.00	30.00

Duty Cycle CF [dB]	0.29	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Primary Antenna 1 Power [dBm]	Secondary Antenna 2 Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5745	10.68	10.56	13.63	30.00	-16.37
Mid	5785	10.90	10.07	13.52	30.00	-16.48
High	5825	10.71	10.08	13.42	30.00	-16.58

PPSD Results

Channel	Frequency [MHz]	Primary Antenna 1 PPSD [dBm]	Secondary Antenna 2 PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5745	-2.96	-2.92	0.36	30.00	-29.64
Mid	5785	-2.84	-3.67	0.06	30.00	-29.94
High	5825	-2.71	-3.65	0.14	30.00	-29.86

9.2.14.802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	19.85	0.54	0.54
Mid	5785	19.72	0.54	0.54
High	5825	19.68	0.54	0.54

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5745	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.00
High	5825	30.00	30.00	30.00

Duty Cycle CF [dB]	0.30	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5745	10.44	10.36	13.41	30.00	-16.59
Mid	5785	10.66	10.81	13.75	30.00	-16.25
High	5825	10.49	10.82	13.67	30.00	-16.33

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5745	-3.60	-3.38	-0.17	30.00	-30.17
Mid	5785	-3.13	-3.12	0.19	30.00	-29.81
High	5825	-3.27	-3.15	0.10	30.00	-29.90

9.2.15.802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5755	39.97	0.54	0.54
High	5795	40.24	0.54	0.54

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5755	30.00	30.00	30.00
High	5795	30.00	30.00	30.00

Duty Cycle CF [dB]	0.59	Included in Calculations of PPSD
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Output Power Results

Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5755	10.96	10.96	13.97	30.00	-16.03
High	5795	10.13	10.46	13.31	30.00	-16.69

PPSD Results

Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5755	-5.94	-5.55	-2.14	30.00	-32.14
High	5795	-6.81	-6.46	-3.03	30.00	-33.03

9.2.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Middle	5775	82.49	0.54	0.54

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Middle	5775	30.00	30.00	30.00

Duty Cycle CF [dB]	1.12	Included in Calculations of PPSD
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Output Power Results

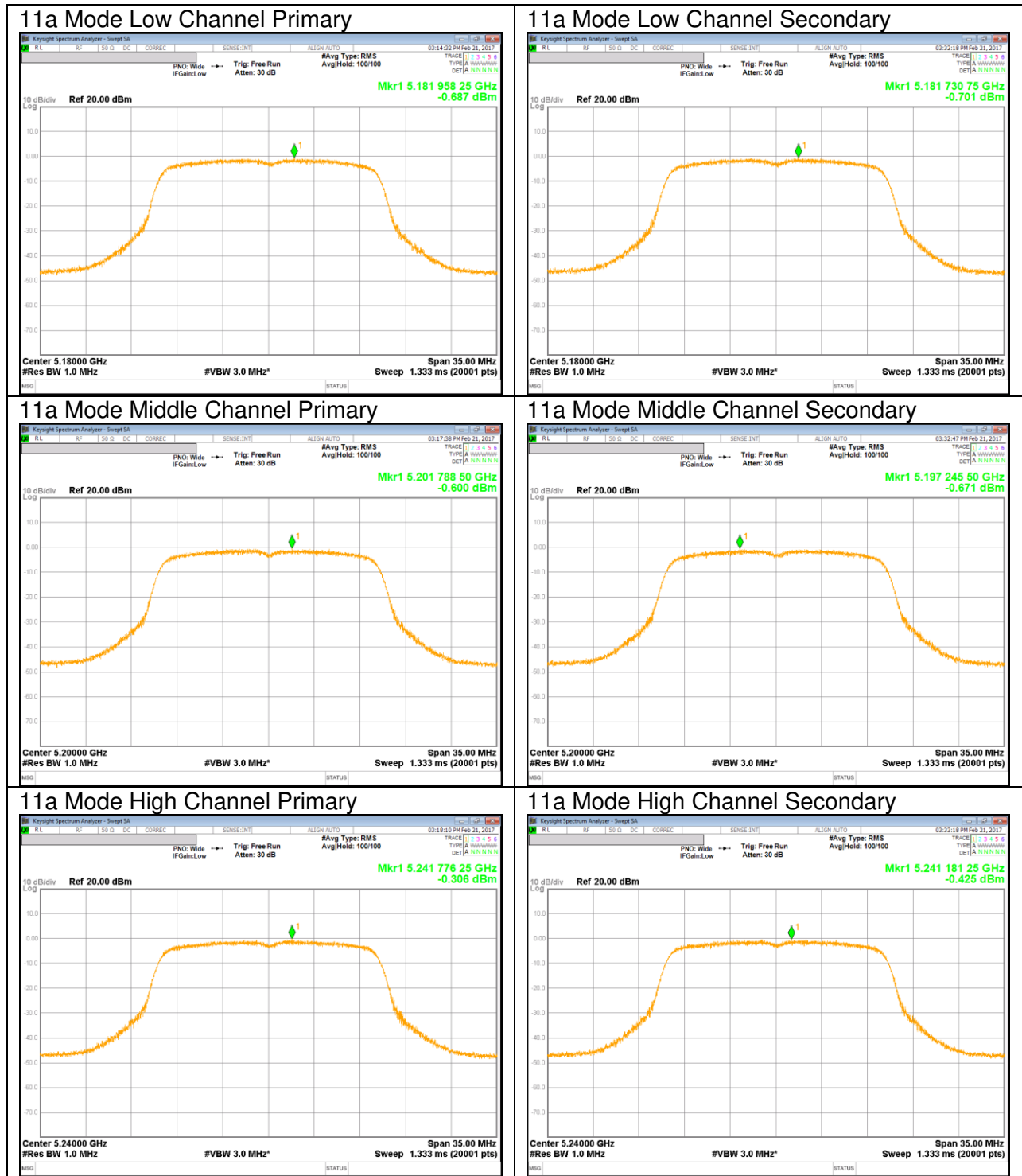
Channel	Frequency [MHz]	Chain 0 Meas Power [dBm]	Chain 1 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Middle	5775	10.69	10.75	13.73	30.00	-16.27

PPSD Results

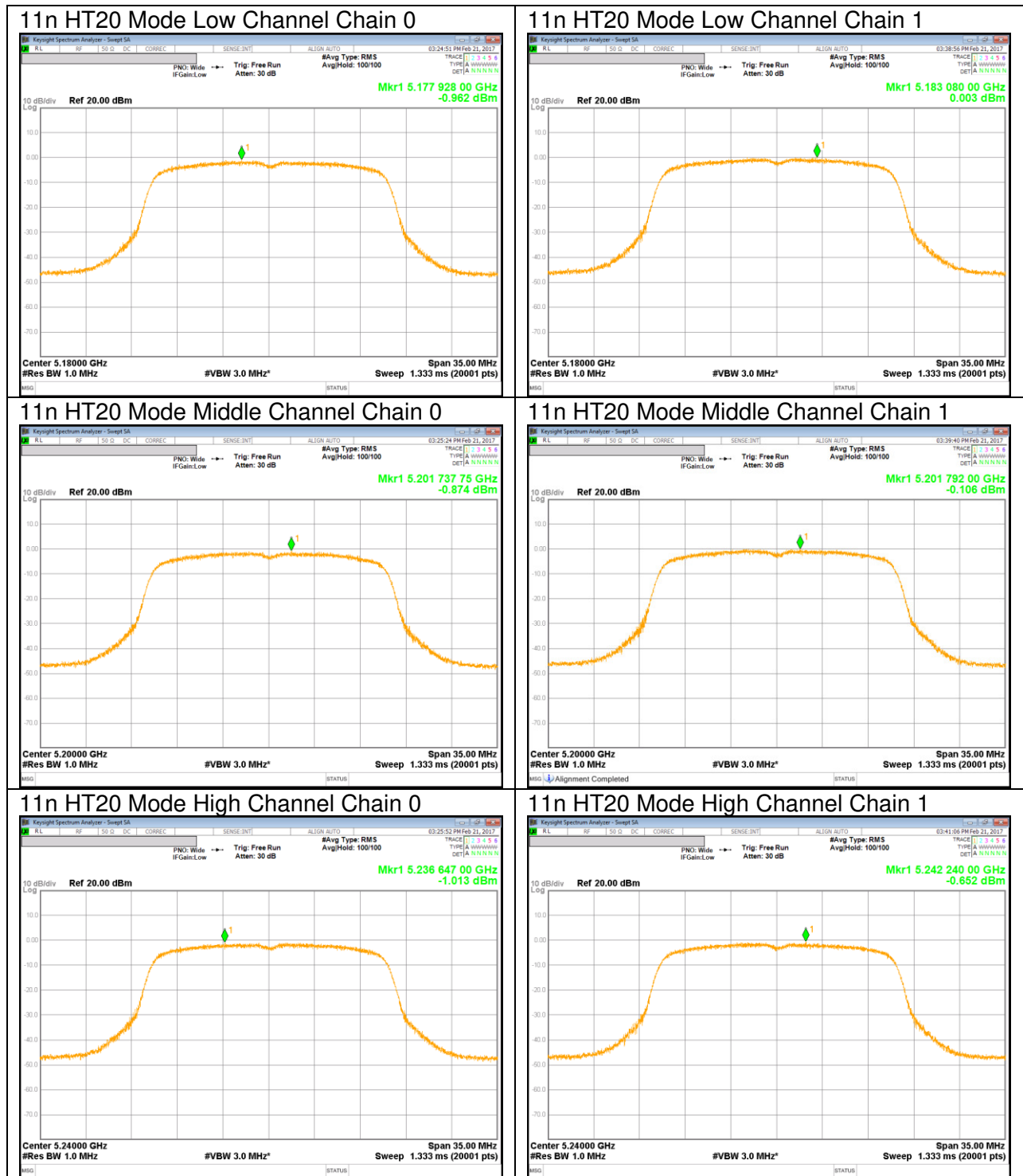
Channel	Frequency [MHz]	Chain 0 Meas PPSD [dBm]	Chain 1 Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Middle	5775	-9.99	-9.59	-5.65	30.00	-35.65

9.2.17.PPSD PLOTS

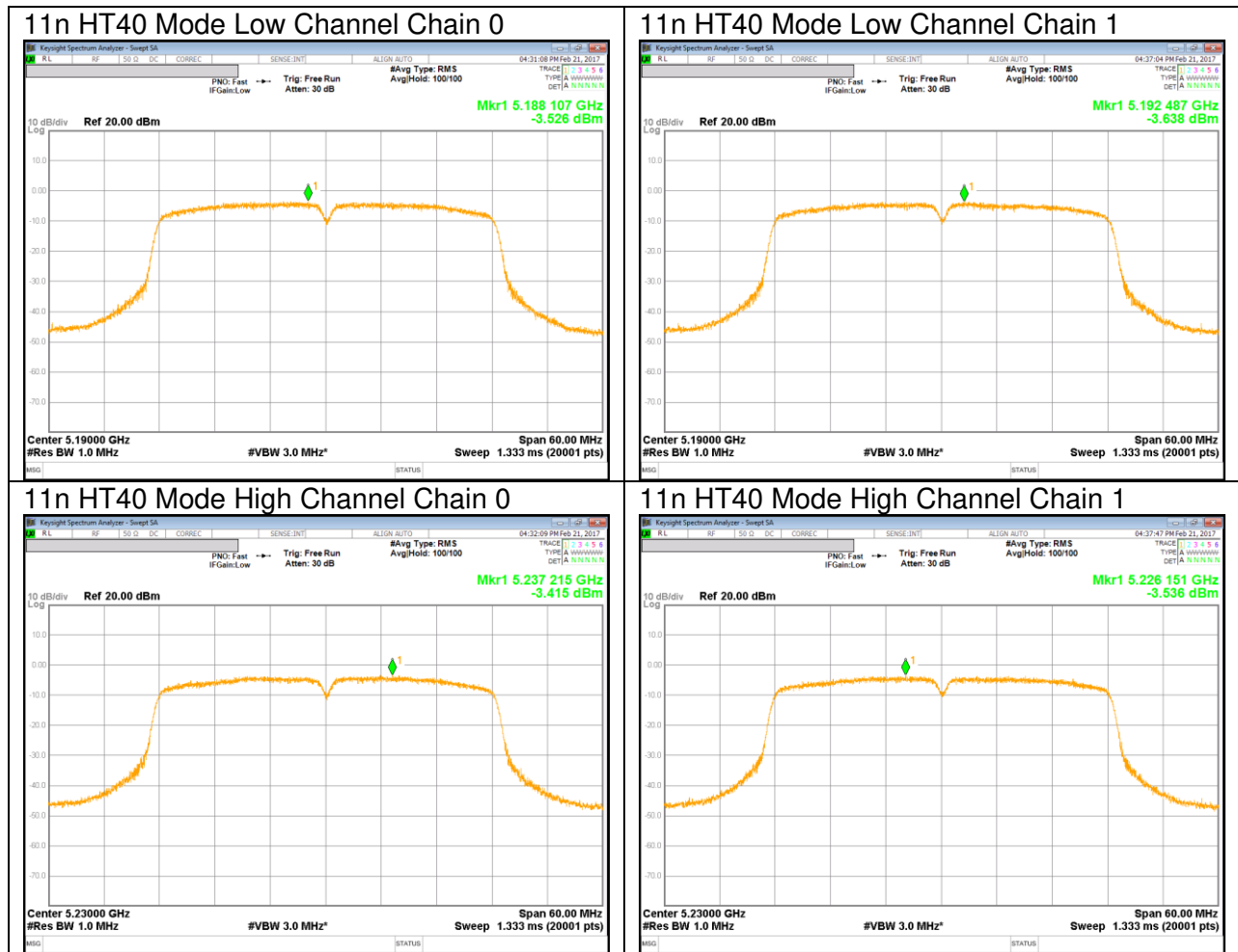
UNII 5.2 GHz IEEE 802.11a mode



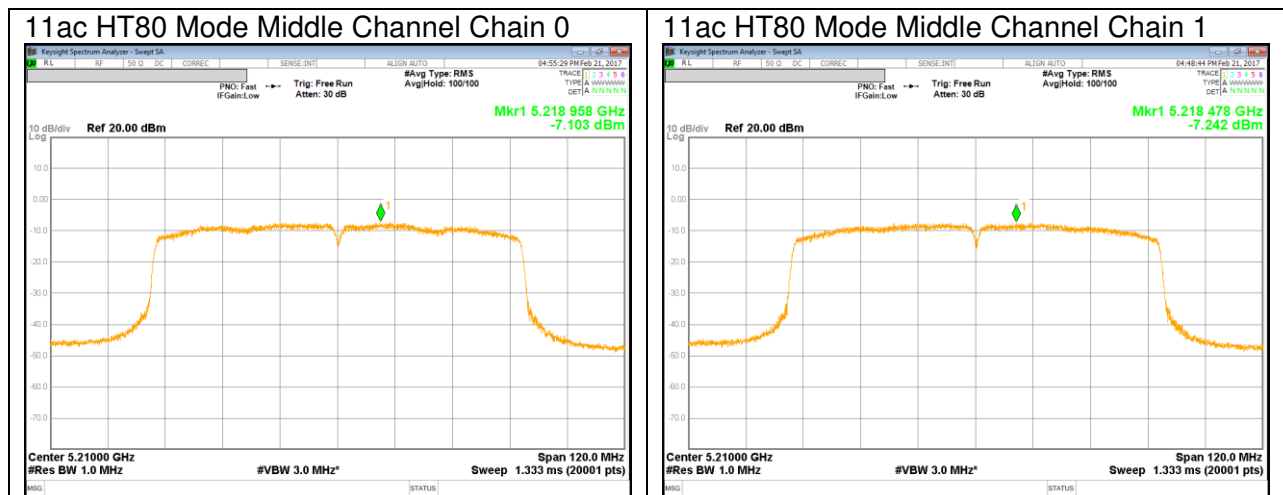
UNII 5.2 GHz IEEE 802.11n HT20 mode



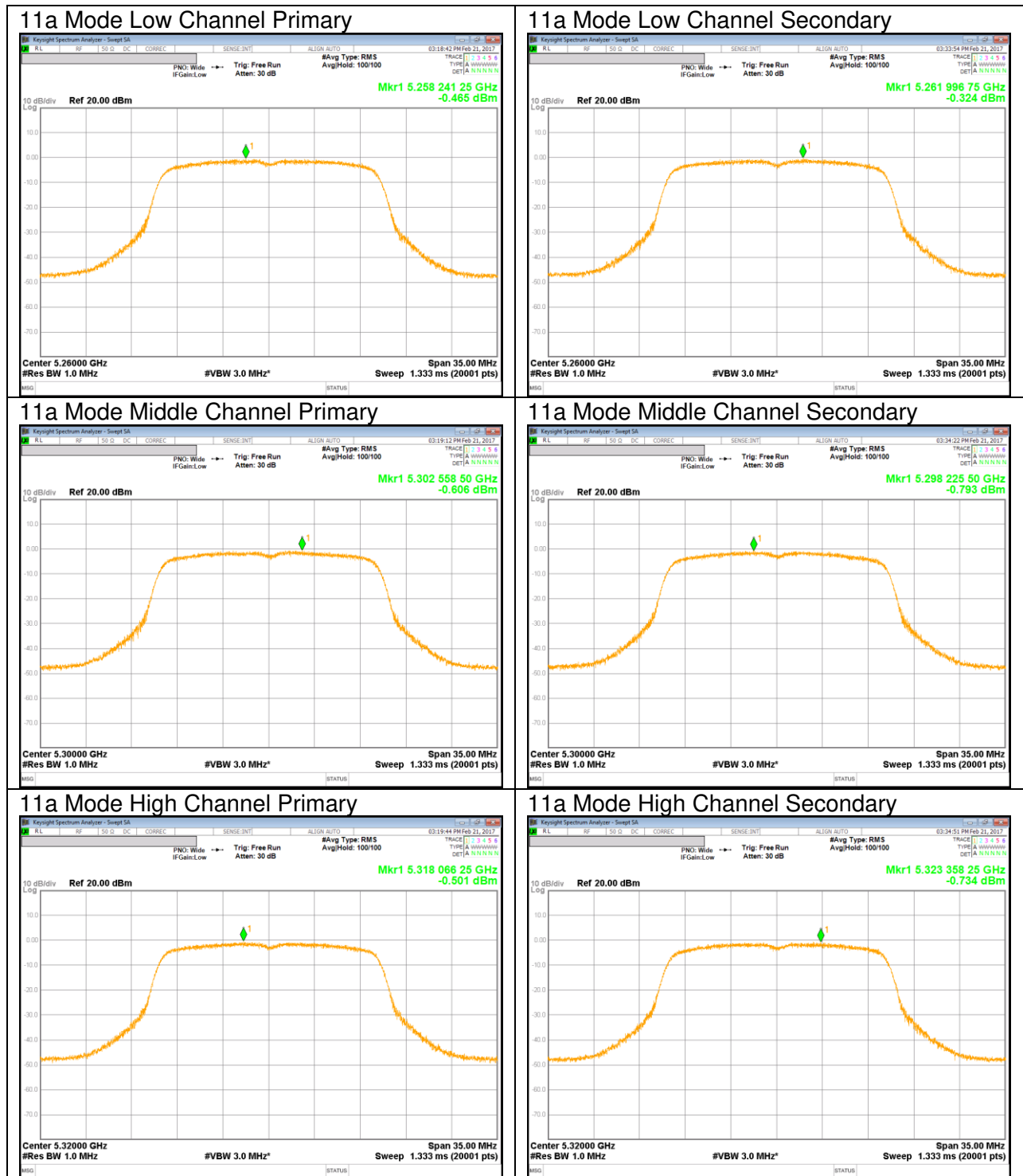
UNII 5.2 GHz IEEE 802.11n HT40 mode



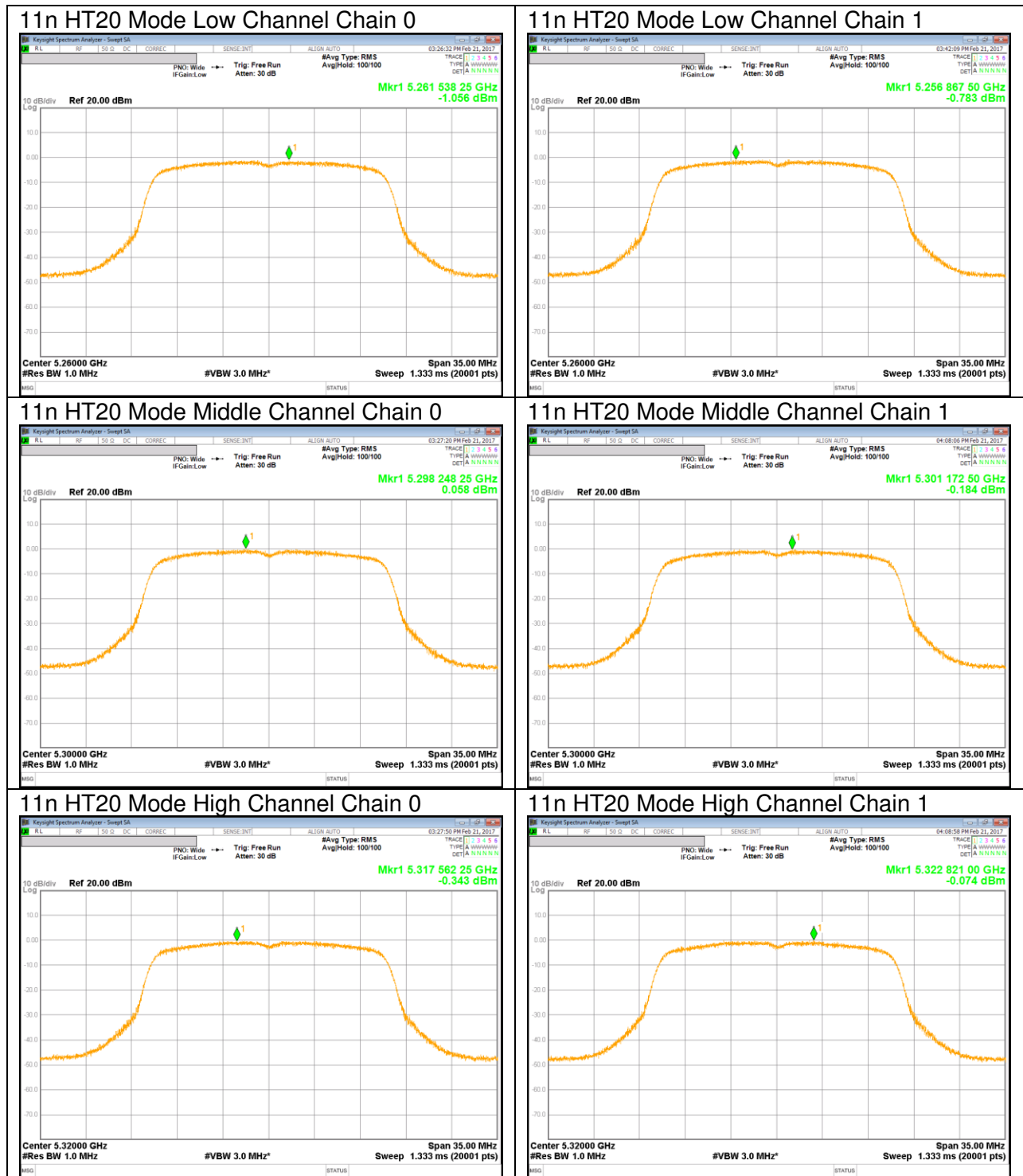
UNII 5.2 GHz IEEE 802.11ac VHT80 mode



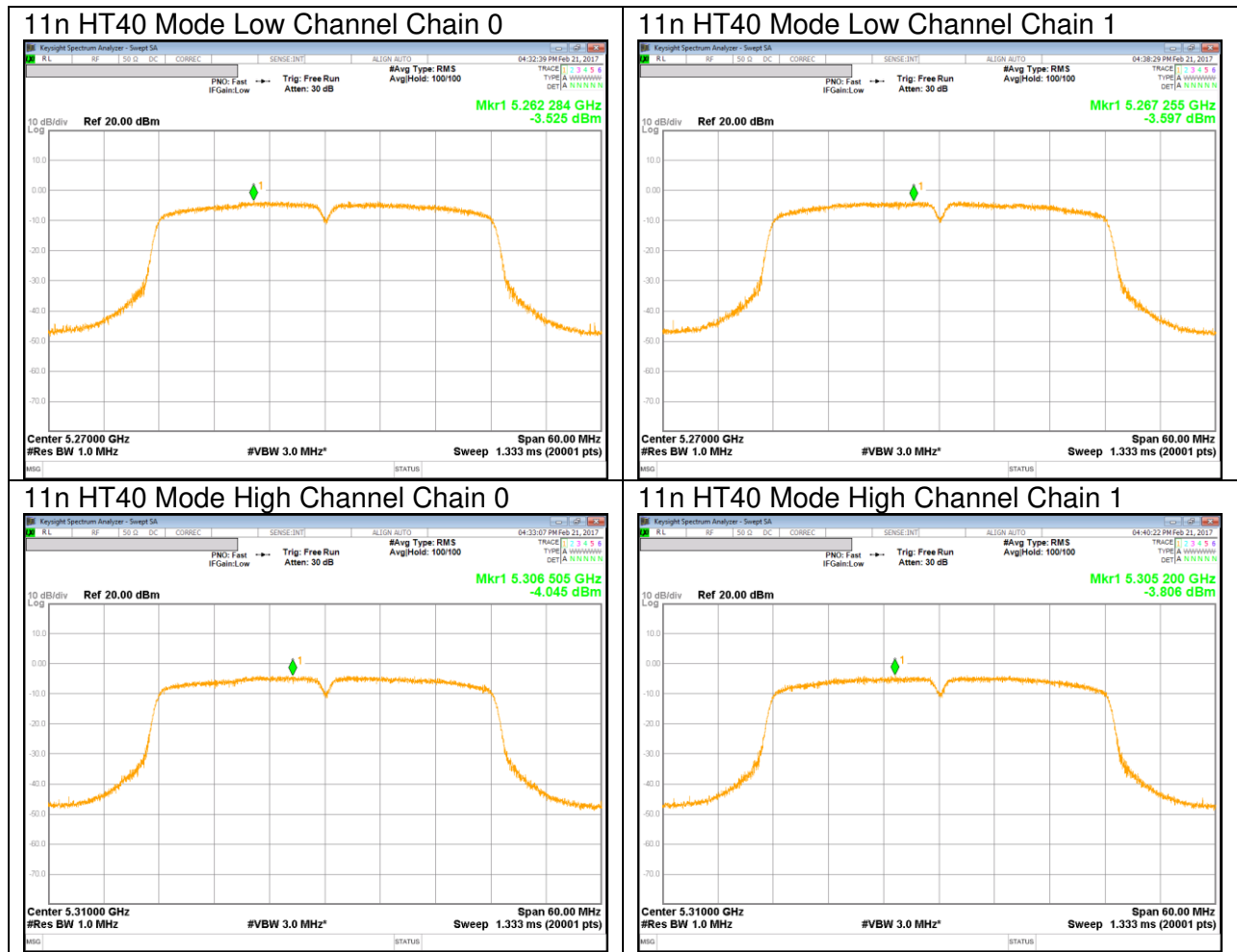
UNII 5.3 GHz IEEE 802.11a mode



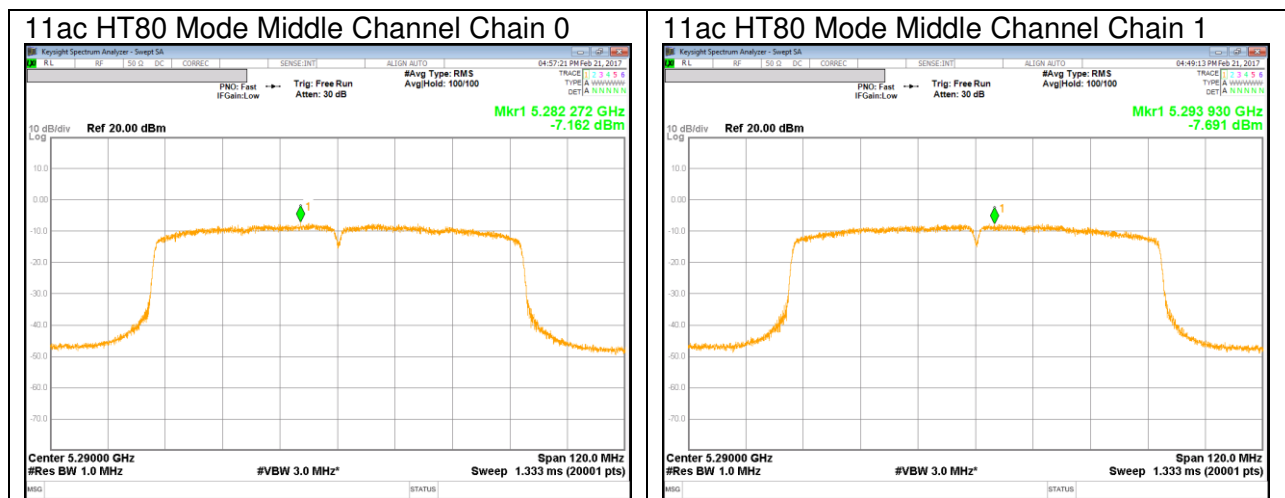
UNII 5.3 GHz IEEE 802.11n HT20 mode



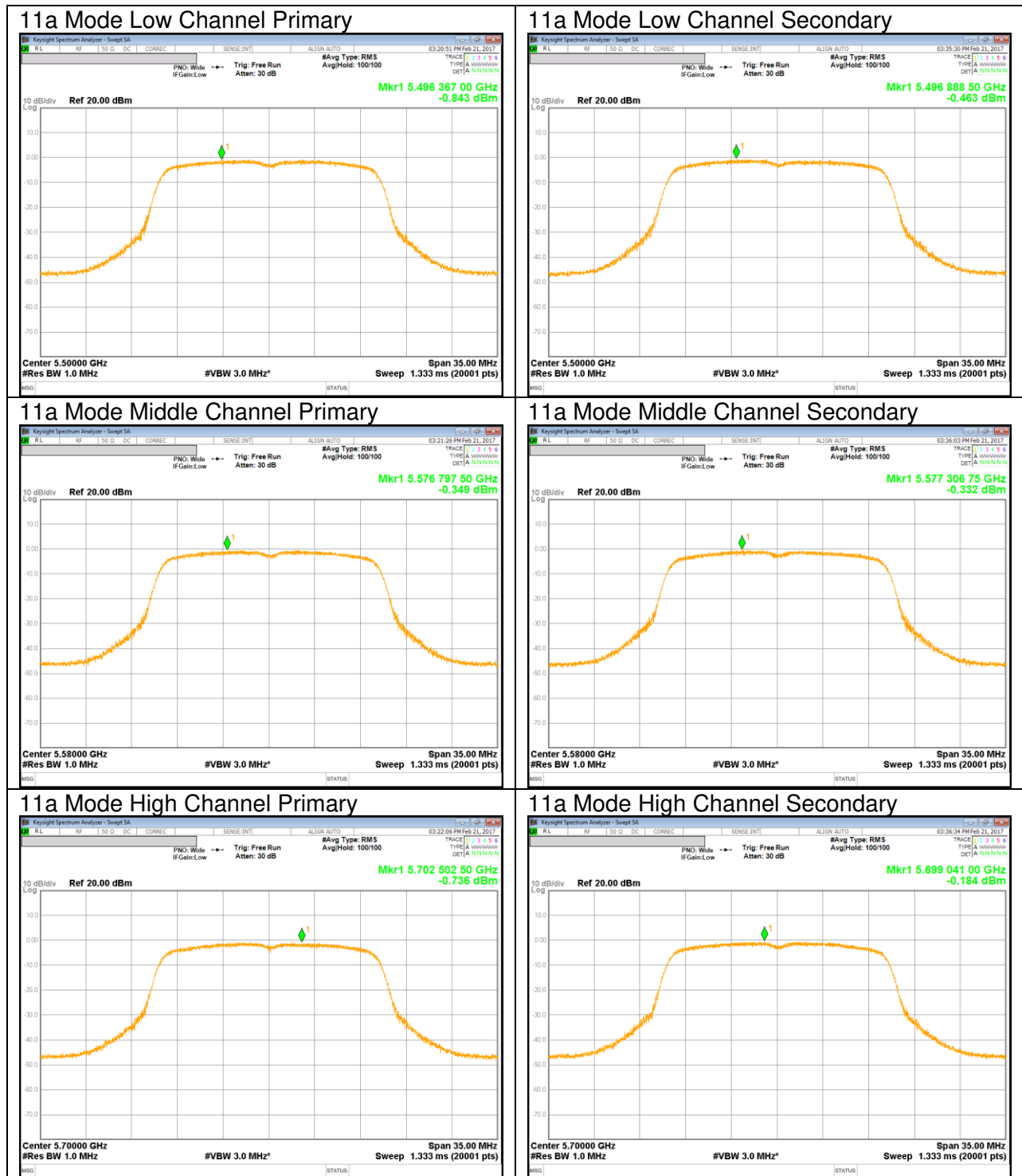
UNII 5.3 GHz IEEE 802.11n HT40 mode



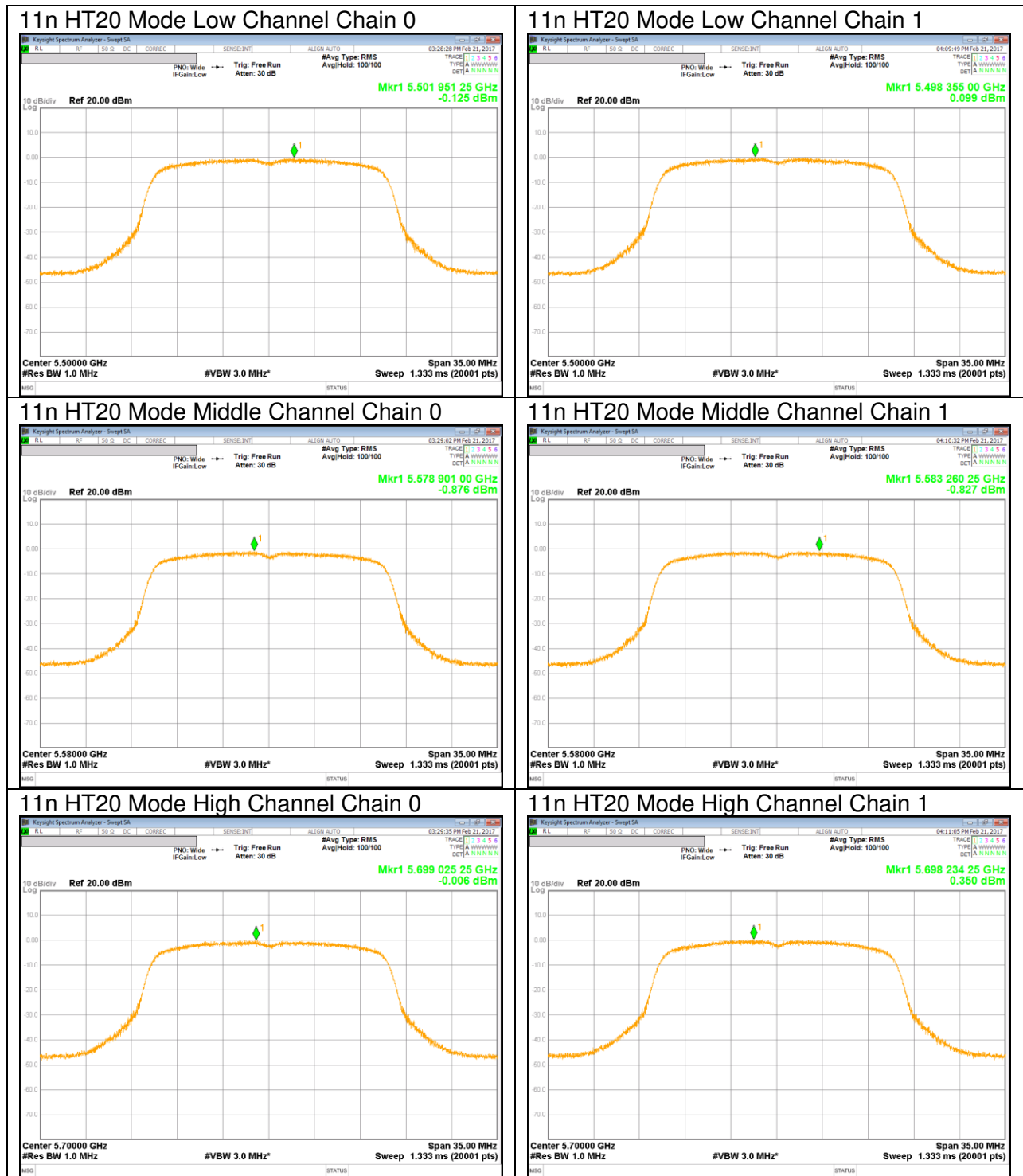
UNII 5.3 GHz IEEE 802.11ac VHT80 mode



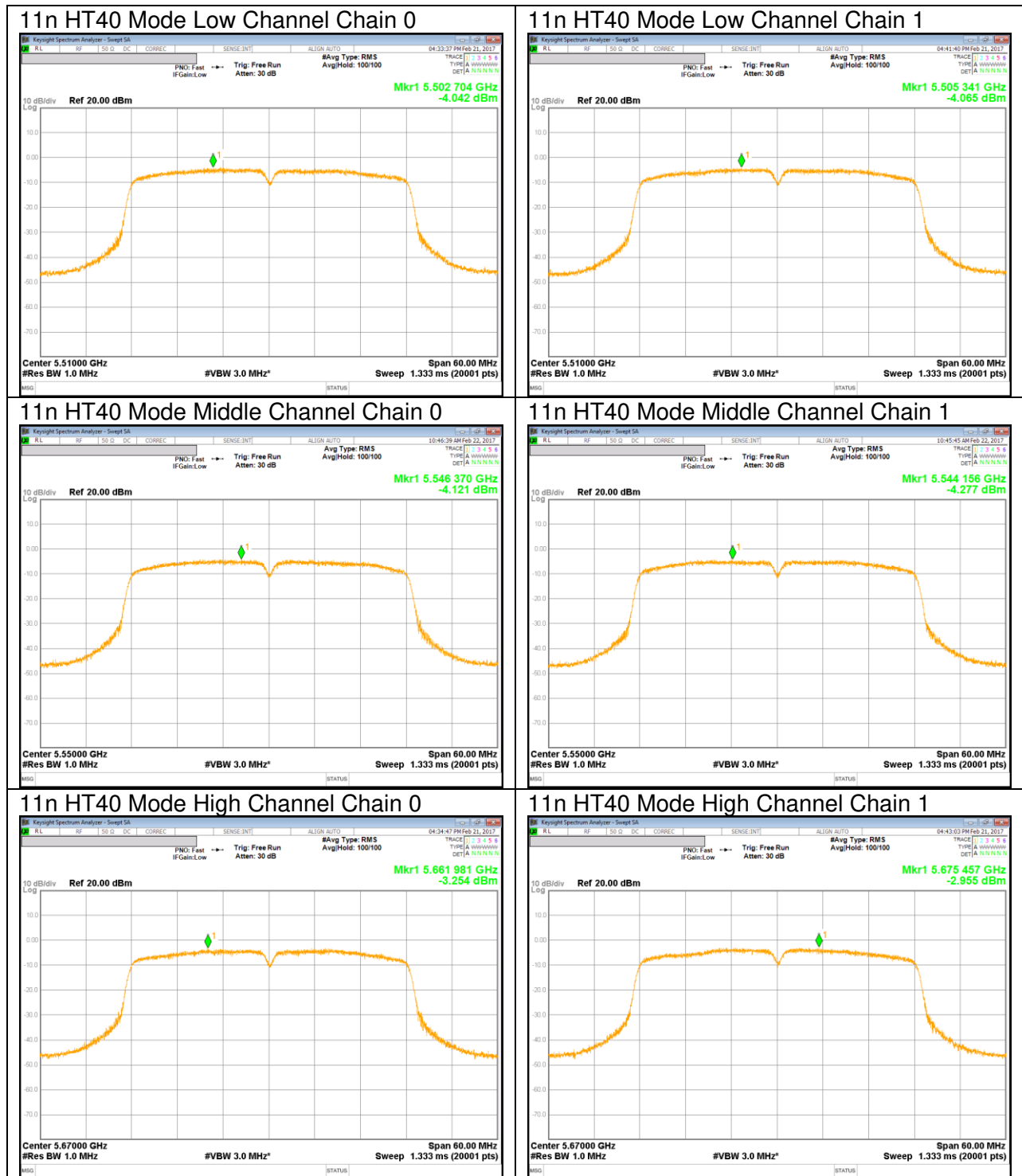
UNII 5.5 GHz IEEE 802.11a mode



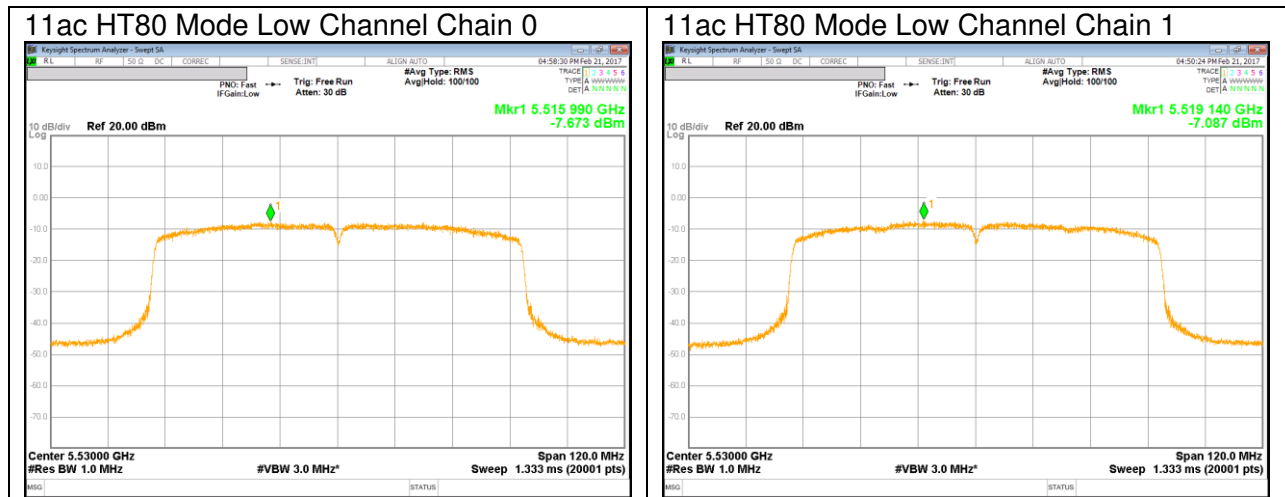
UNII 5.5 GHz IEEE 802.11n HT20 mode



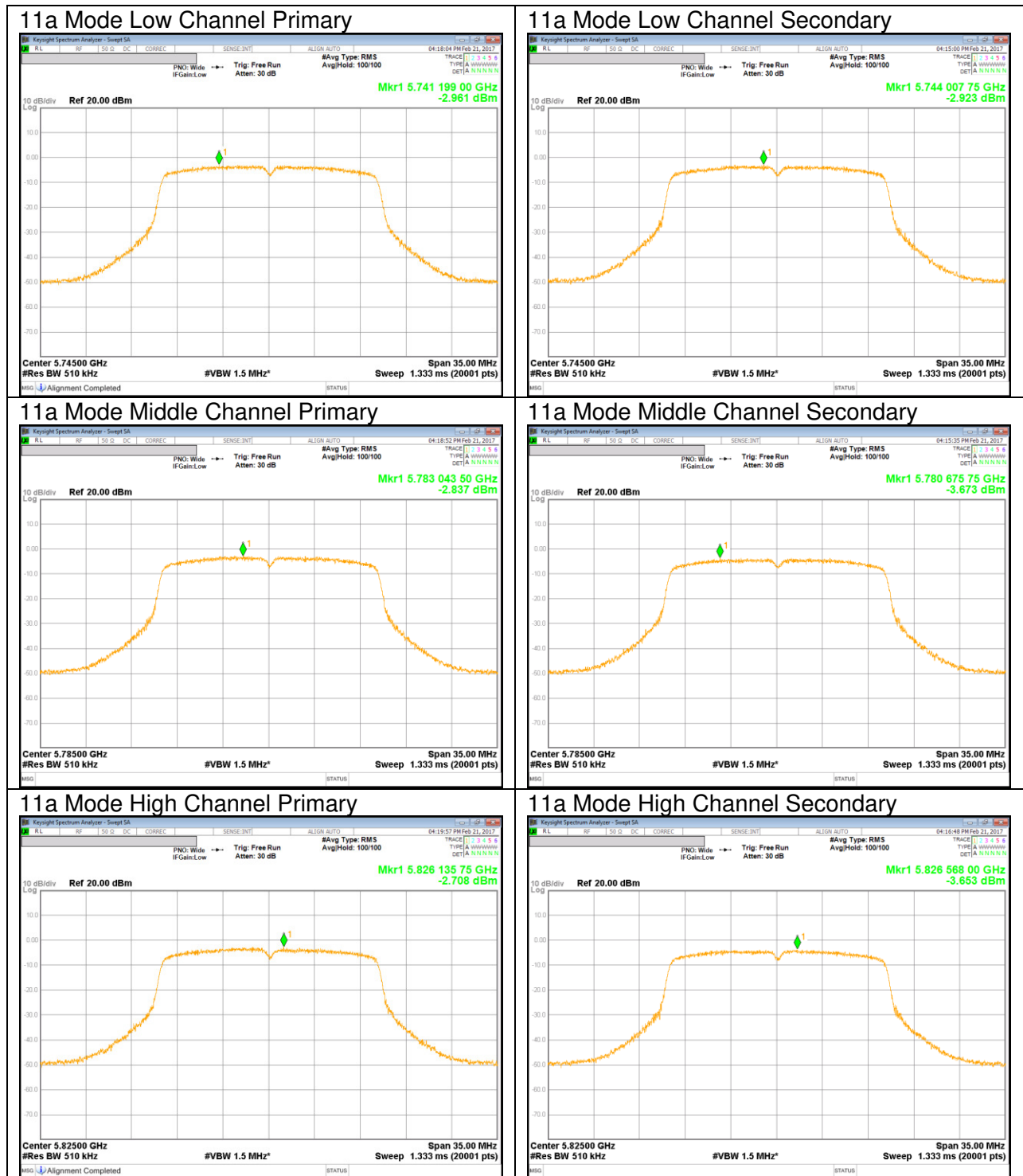
UNII 5.5 GHz IEEE 802.11n HT40 mode



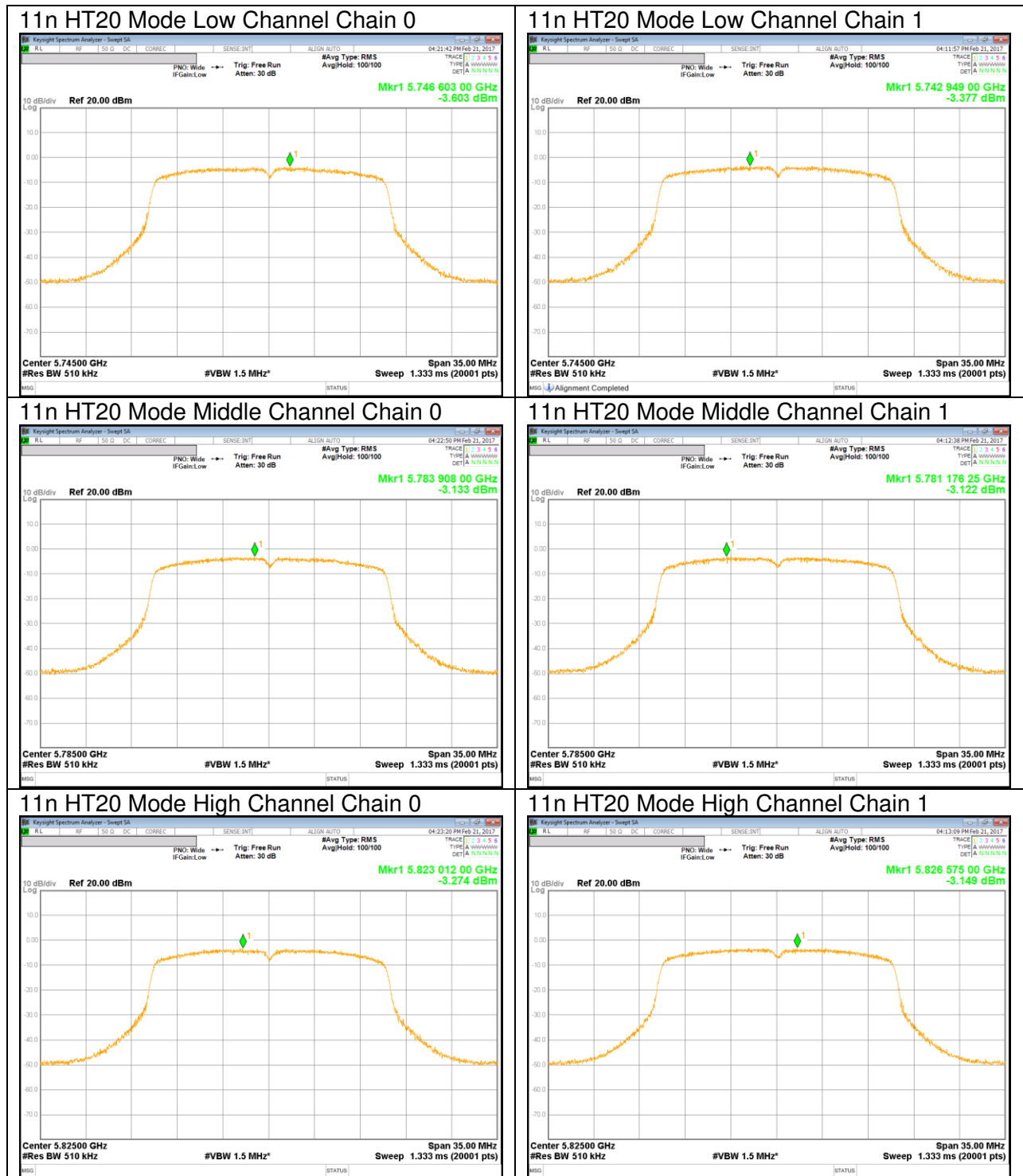
UNII 5.5 GHz IEEE 802.11ac VHT80 mode



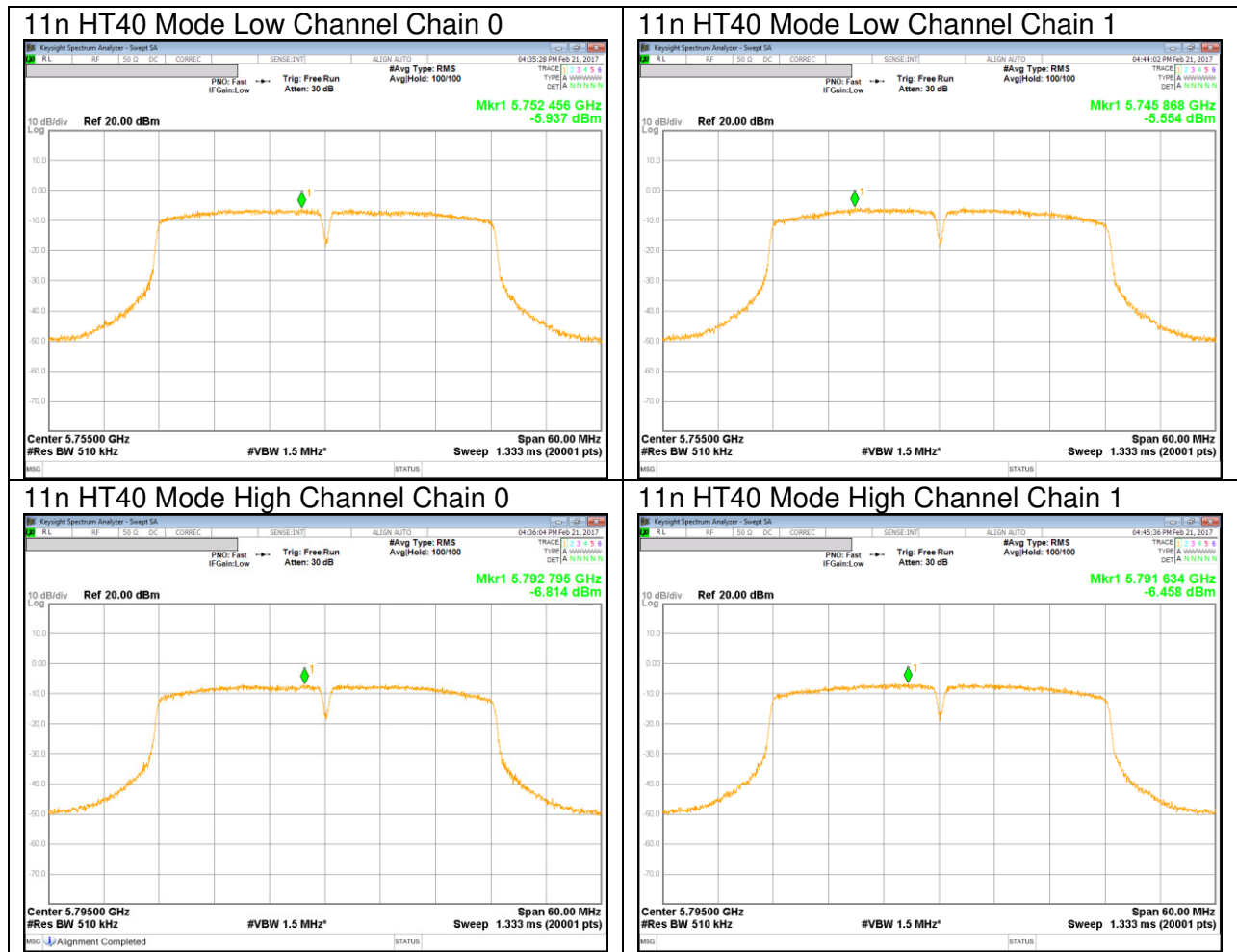
UNII 5.8 GHz IEEE 802.11a mode



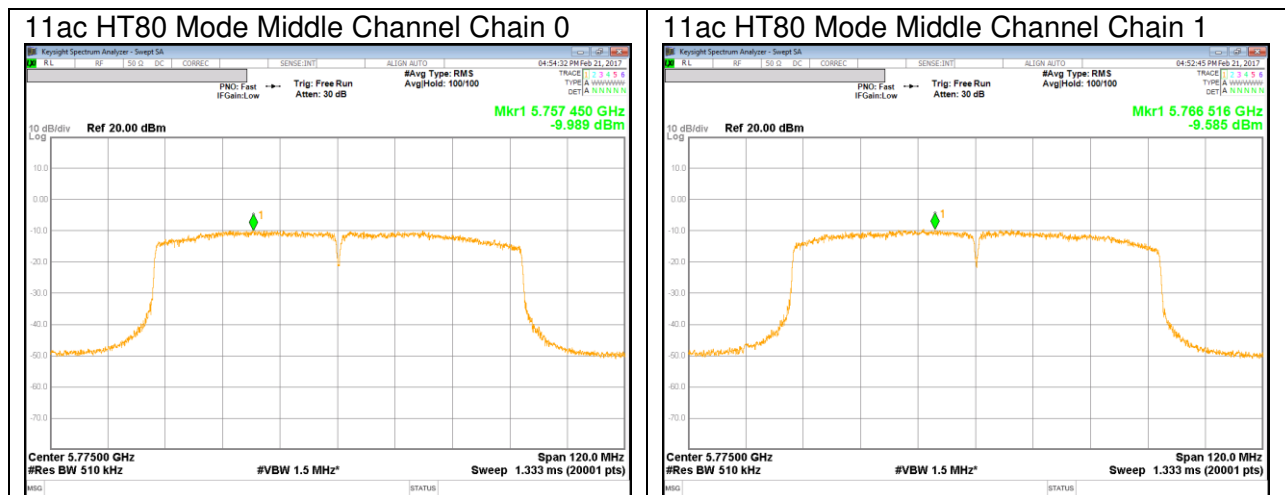
UNII 5.8 GHz IEEE 802.11n HT20 mode



UNII 5.8 GHz IEEE 802.11n HT40 mode



UNII 5.8 GHz IEEE 802.11ac VHT80 mode



10. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

FCC §15.407 (b)

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

Note

- Limit translation to field strength level (FCC §15.407)

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2 = -27\text{dBm} + 95.2 = 68.2\text{dBuV/m}$$

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2 = -17\text{dBm} + 95.2 = 78.2\text{dBuV/m}$$

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Reference to KDB 789033 D02 v01r03 UNII part G) 6) c) Method AD:

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.
(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

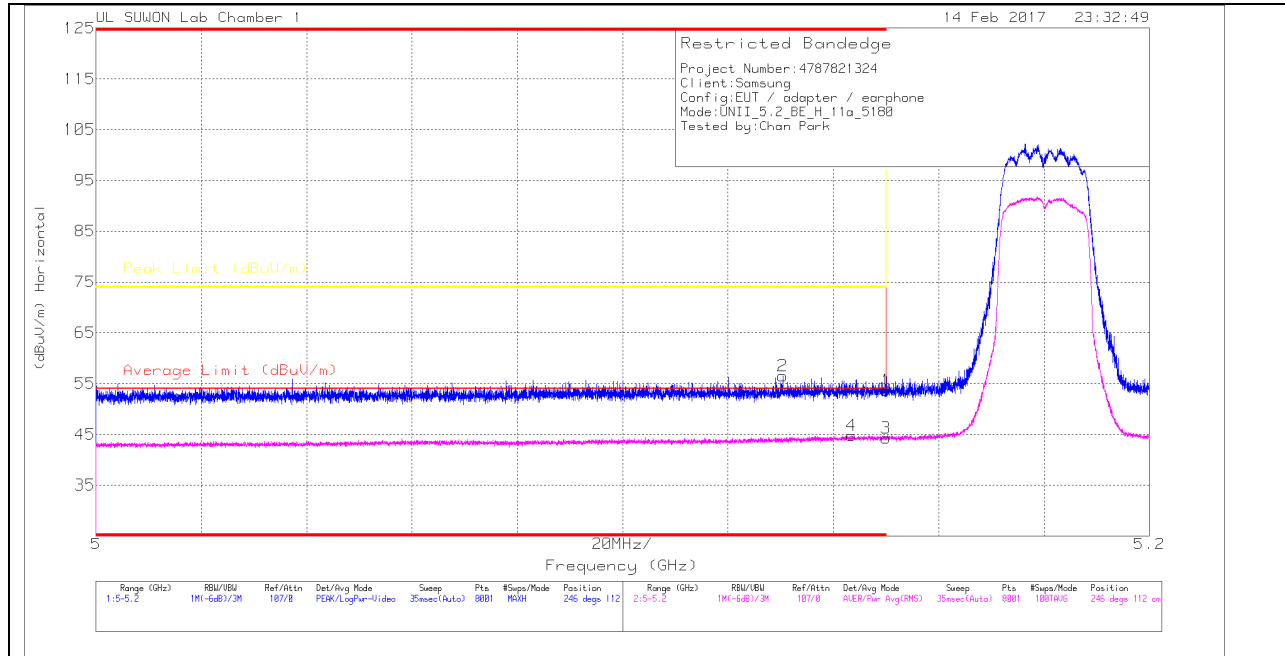
Note : Emission was pre-scanned from 9KHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).
Per FCC part 15.31(o), test results were not reported.

10.1. 5.2 GHz

10.1.1. TX Above 1GHz 802.11a 2Tx CDD MODE IN THE 5.2GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

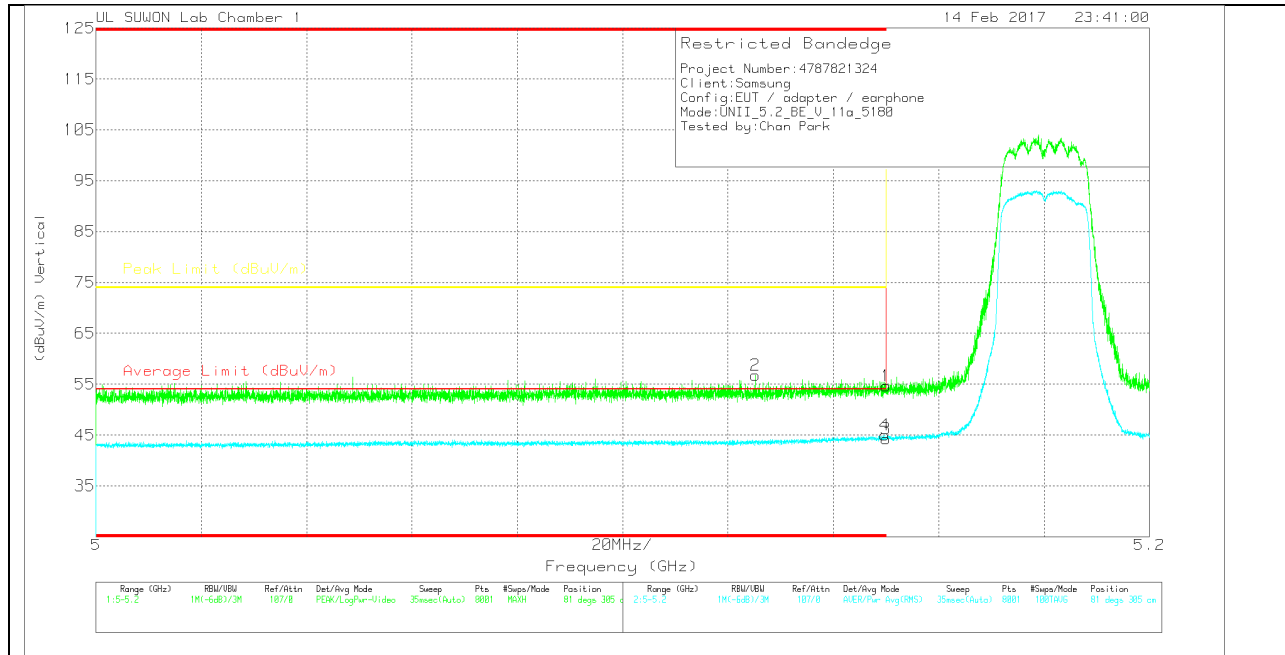
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 171_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	43.65	Pk	34.2	-24.2	0	53.65	-	-	74	-20.35	246	112	H
2	* 5.13	46.53	Pk	34.2	-24.2	0	56.53	-	-	74	-17.47	246	112	H
3	* 5.15	33.91	RMS	34.2	-24.1	.29	44.3	54	-9.7	-	-	246	112	H
4	* 5.143	34.42	RMS	34.2	-24.1	.29	44.81	54	-9.19	-	-	246	112	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	44.65	Pk	34.2	-24.2	0	54.65	-	-	74	-19.35	81	305	V
2	* 5.125	46.89	Pk	34.2	-24.3	0	56.79	-	-	74	-17.21	81	305	V
3	* 5.15	33.93	RMS	34.2	-24.1	.29	44.32	54	-9.68	-	-	81	305	V
4	* 5.15	34.58	RMS	34.2	-24.1	.29	44.97	54	-9.03	-	-	81	305	V

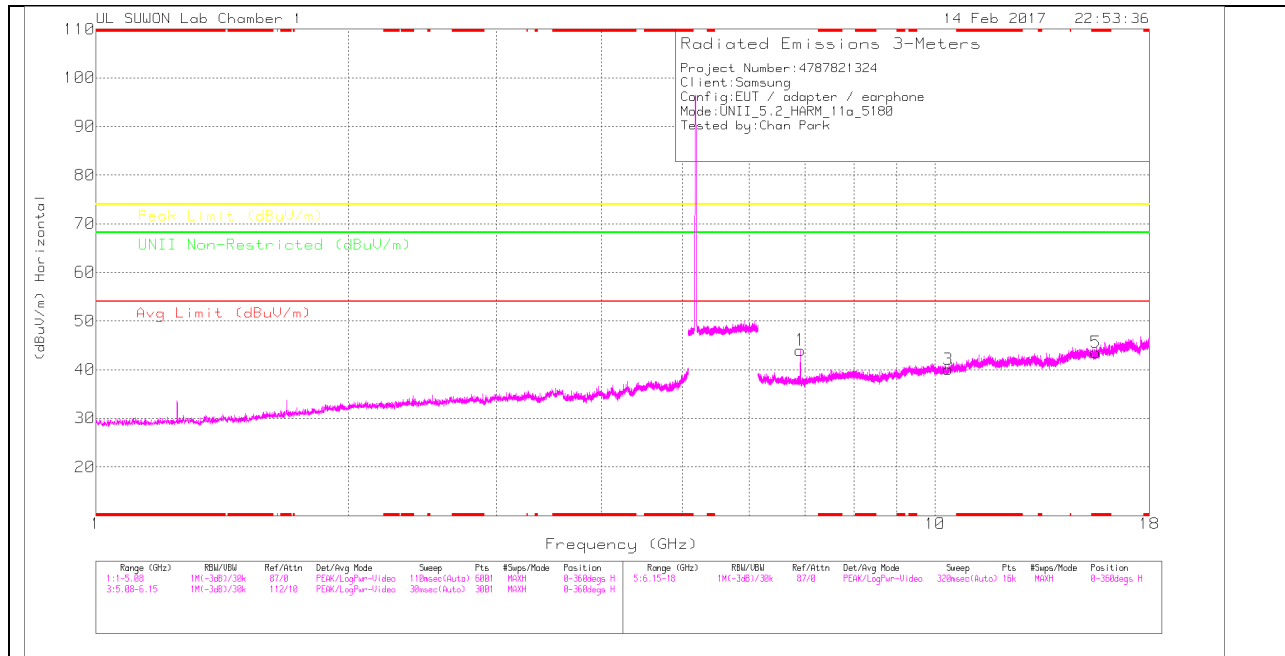
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

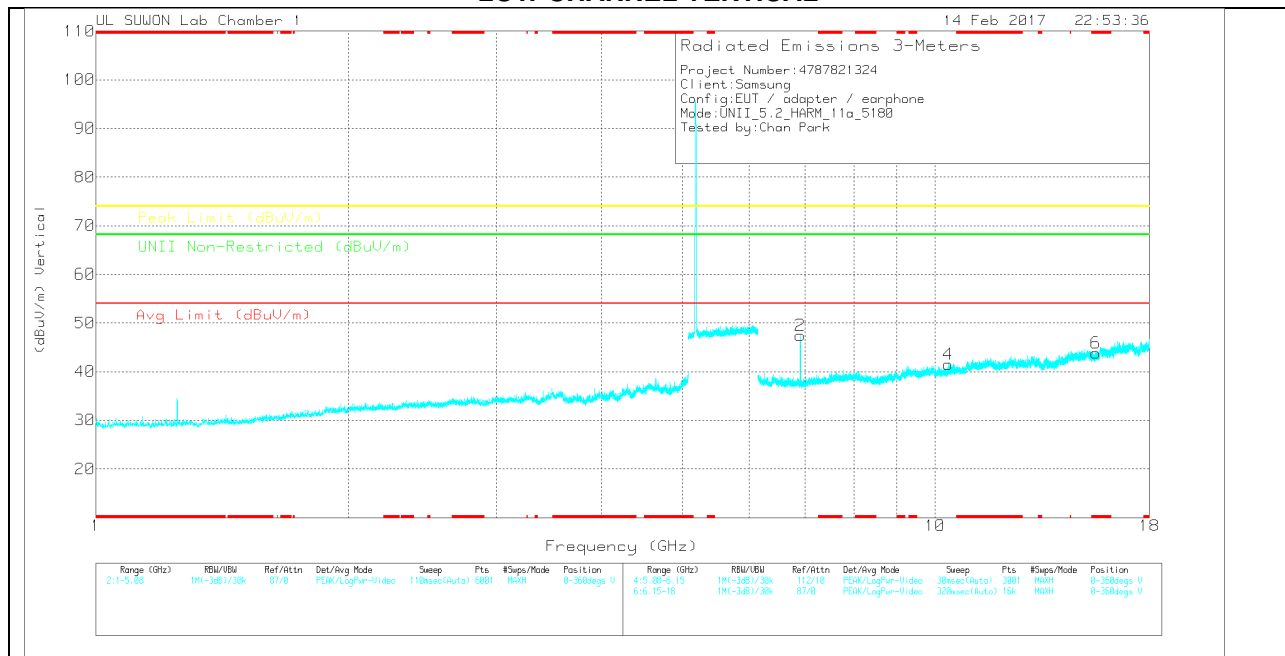
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 519	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.906	39.71	Pk	35.6	-31.3	0	44.01	-	-	-	-	68.2	-24.19	0-360	150	H
3	10.357	30.71	Pk	37.8	-28.4	0	40.11	-	-	-	-	68.2	-28.09	0-360	250	H
5	* 15.547	23.18	Pk	40.3	-19.9	0	43.58	-	-	74	-30.42	-	-	0-360	150	H
2	6.906	43.16	Pk	35.6	-31.3	0	47.46	-	-	-	-	68.2	-20.74	0-360	150	V
4	10.362	31.99	Pk	37.8	-28.3	0	41.49	-	-	-	-	68.2	-26.71	0-360	150	V
6	* 15.543	23.67	Pk	40.3	-20.1	0	43.87	-	-	74	-30.13	-	-	0-360	150	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

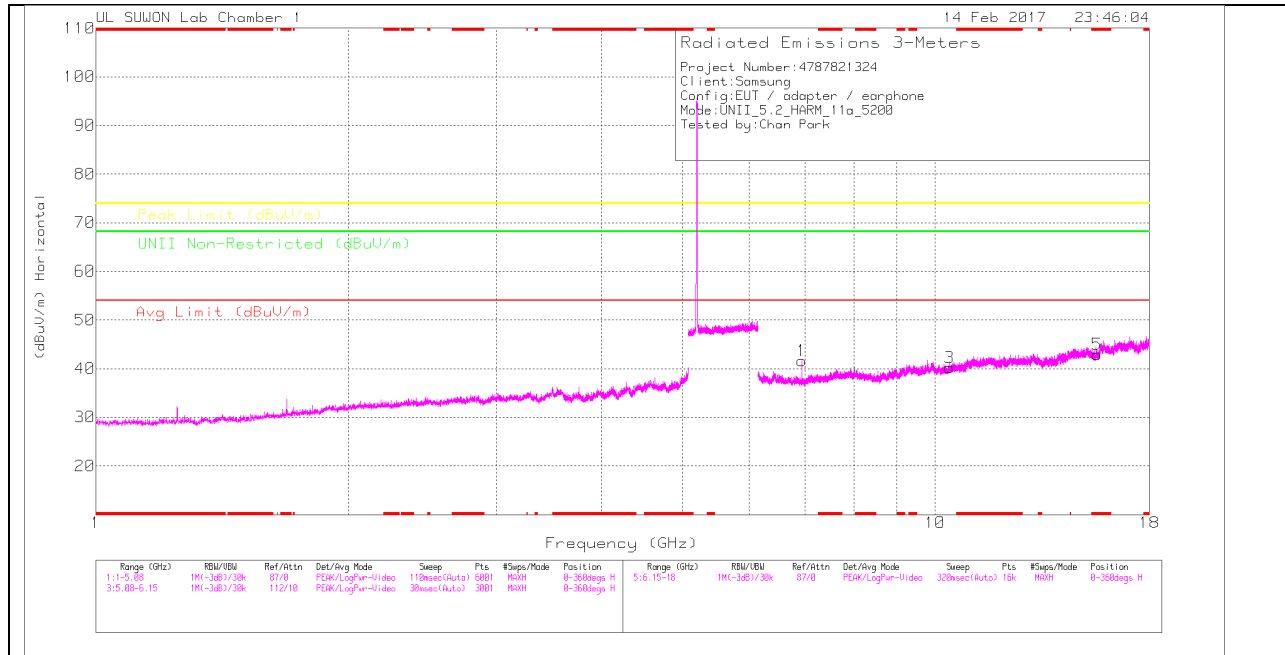
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.907	47.59	PK-U	35.6	-31.3	0	51.89	-	-	-	-	68.2	-16.31	225	101	H
6.907	49.38	PK-U	35.6	-31.3	0	53.68	-	-	-	-	68.2	-14.52	9	102	V

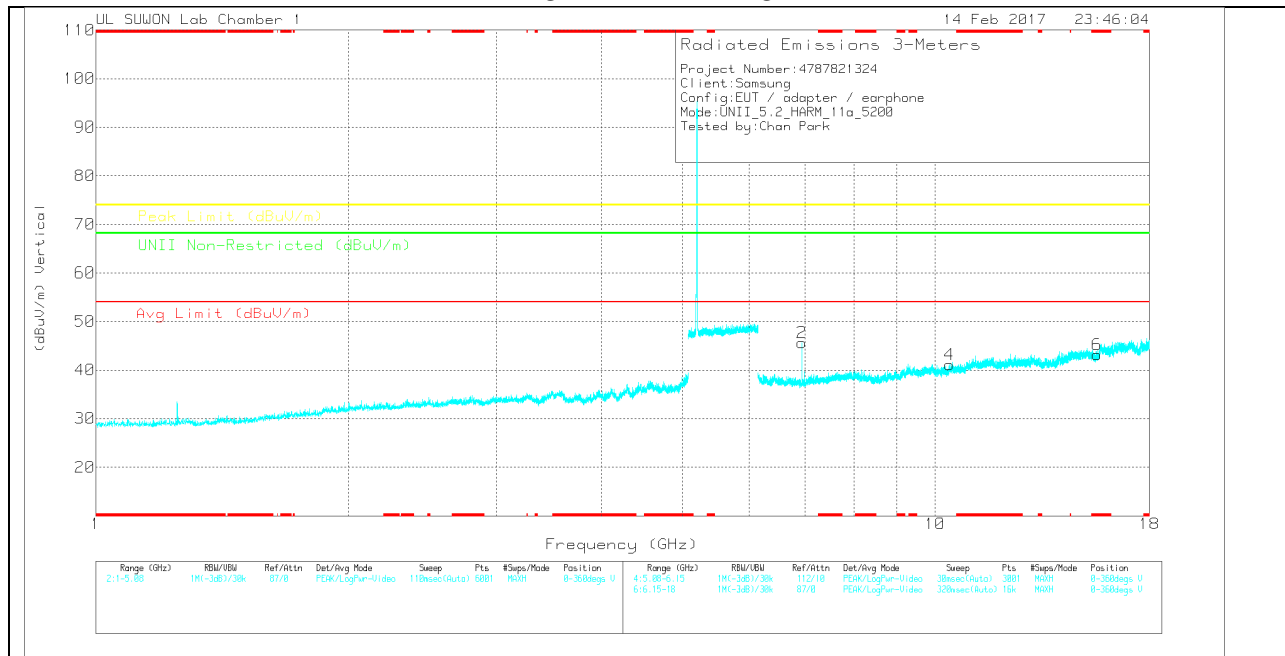
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.933	36.87	Pk	35.7	-31	0	41.57	-	-	-	-	68.2	-26.63	0-360	150	H
3	10.4	30.15	Pk	37.8	-27.8	0	40.15	-	-	-	-	68.2	-28.05	0-360	150	H
5	* 15.603	20.98	Pk	40.3	-18.4	0	42.88	-	-	74	-31.12	-	-	0-360	250	H
2	6.934	40.94	Pk	35.7	-31	0	45.64	-	-	-	-	68.2	-22.56	0-360	150	V
4	10.404	31.08	Pk	37.8	-27.8	0	41.08	-	-	-	-	68.2	-27.12	0-360	250	V
6	* 15.601	21.27	Pk	40.3	-18.4	0	43.17	-	-	74	-30.83	-	-	0-360	150	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

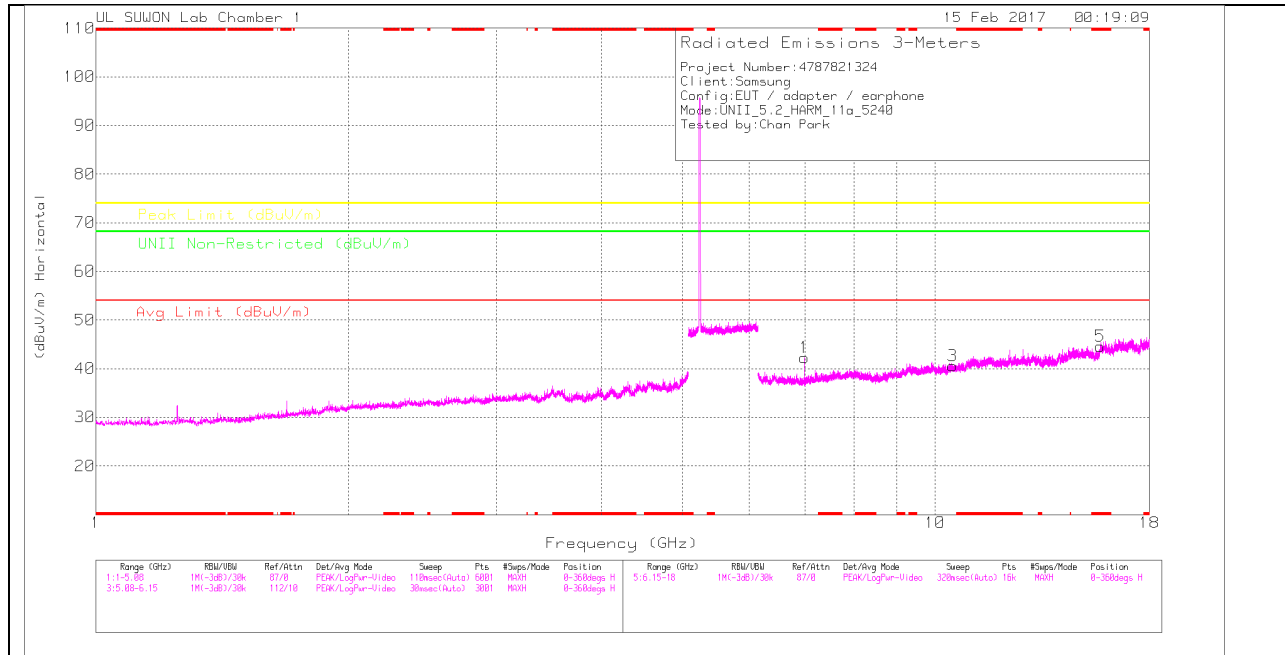
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.933	47.08	PK-U	35.7	-31	0	51.78	-	-	-	-	68.2	-16.42	227	103	H
6.933	47.9	PK-U	35.7	-31	0	52.6	-	-	-	-	68.2	-15.6	11	108	V

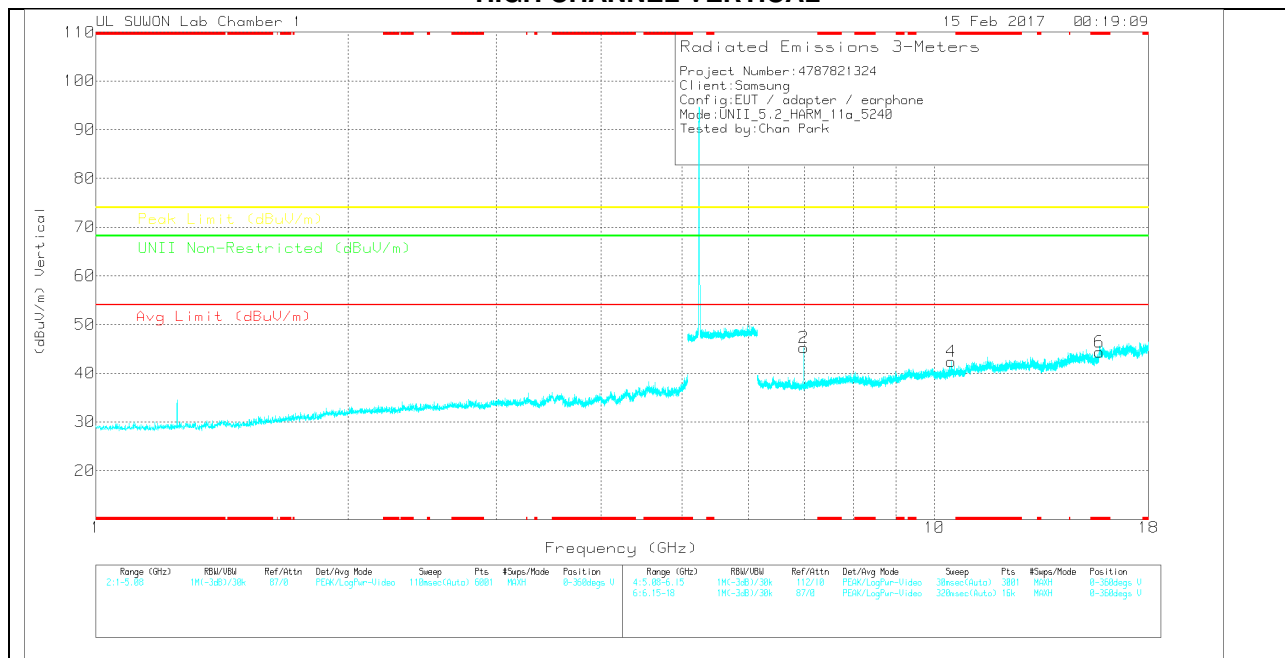
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 519	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.986	37.68	Pk	35.7	-31.1	0	42.28	-	-	-	-	68.2	-25.92	0-360	150	H
3	10.482	31.4	Pk	37.8	-28.6	0	40.6	-	-	-	-	68.2	-27.6	0-360	250	H
5	* 15.722	21.91	Pk	40.4	-17.7	0	44.61	-	-	74	-29.39	-	-	0-360	150	H
2	6.986	40.69	Pk	35.7	-31.1	0	45.29	-	-	-	-	68.2	-22.91	0-360	150	V
4	10.479	33.25	Pk	37.8	-28.7	0	42.35	-	-	-	-	68.2	-25.85	0-360	150	V
6	* 15.718	21.89	Pk	40.4	-18	0	44.29	-	-	74	-29.71	-	-	0-360	250	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

Radiated Emissions

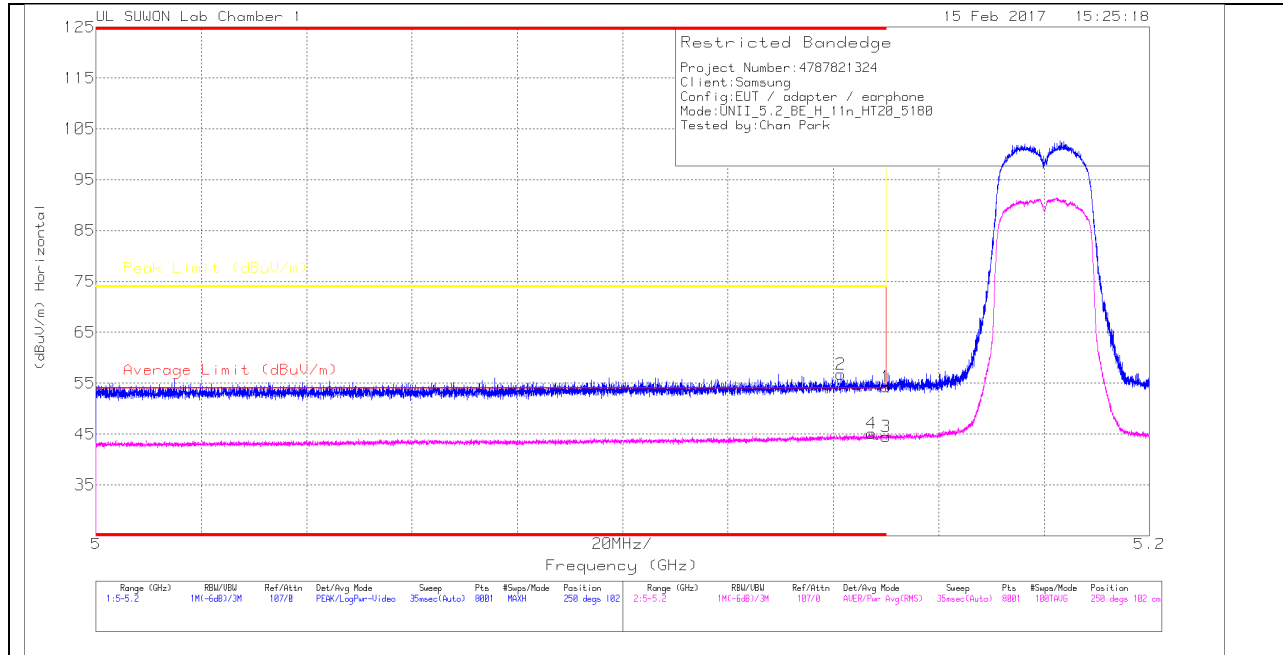
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.987	46.34	PK-U	35.7	-31.1	0	50.94	-	-	-	-	68.2	-17.26	224	101	H
6.987	47.6	PK-U	35.7	-31.1	0	52.2	-	-	-	-	68.2	-16	107	108	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

10.1.2. TX Above 1GHz 802.11n HT20 2Tx CDD MODE IN THE 5.2GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

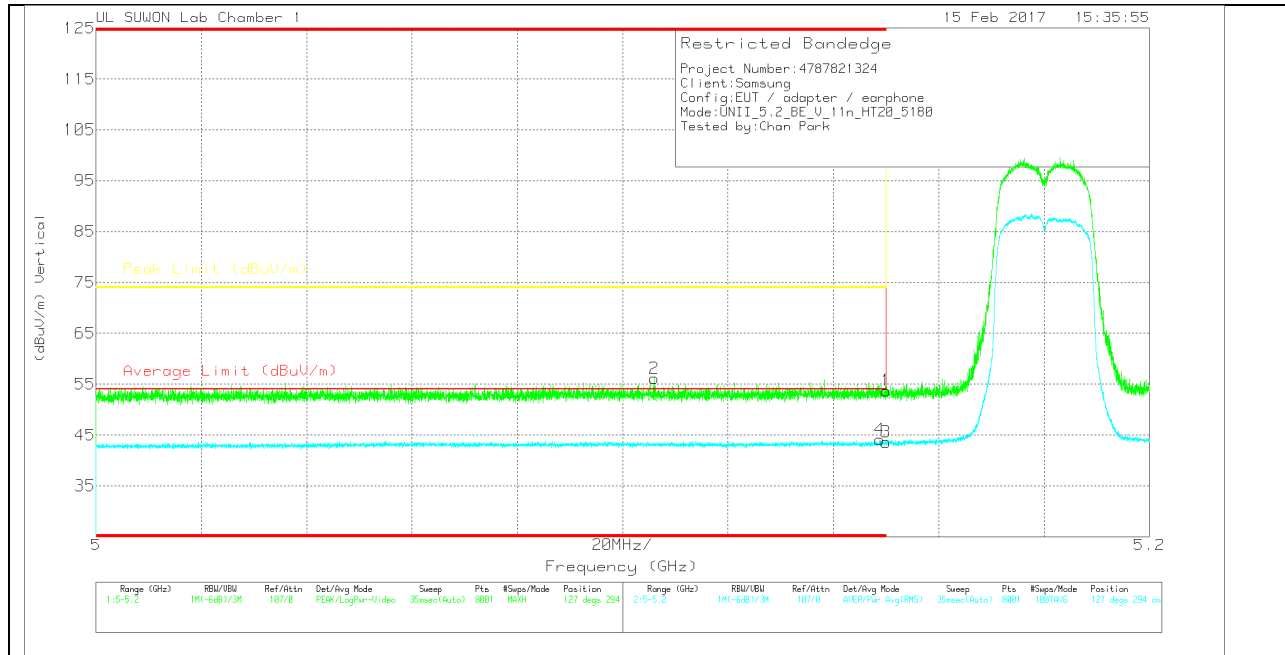
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 17)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	44.23	Pk	34.2	-24.2	0	54.23	-	-	74	-19.77	250	102	H
2	* 5.141	46.81	Pk	34.2	-24.2	0	56.81	-	-	74	-17.19	250	102	H
3	* 5.15	34.06	RMS	34.2	-24.1	.3	44.46	54	-9.54	-	-	250	102	H
4	* 5.147	34.77	RMS	34.2	-24.1	.3	45.17	54	-8.83	-	-	250	102	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	43.73	Pk	34.2	-24.2	0	53.73	-	-	74	-20.27	127	294	V
2	* 5.106	46.15	Pk	34.2	-24.2	0	56.15	-	-	74	-17.85	127	294	V
3	* 5.15	33.19	RMS	34.2	-24.1	.3	43.59	54	-10.41	-	-	127	294	V
4	* 5.149	33.79	RMS	34.2	-24.1	.3	44.19	54	-9.81	-	-	127	294	V

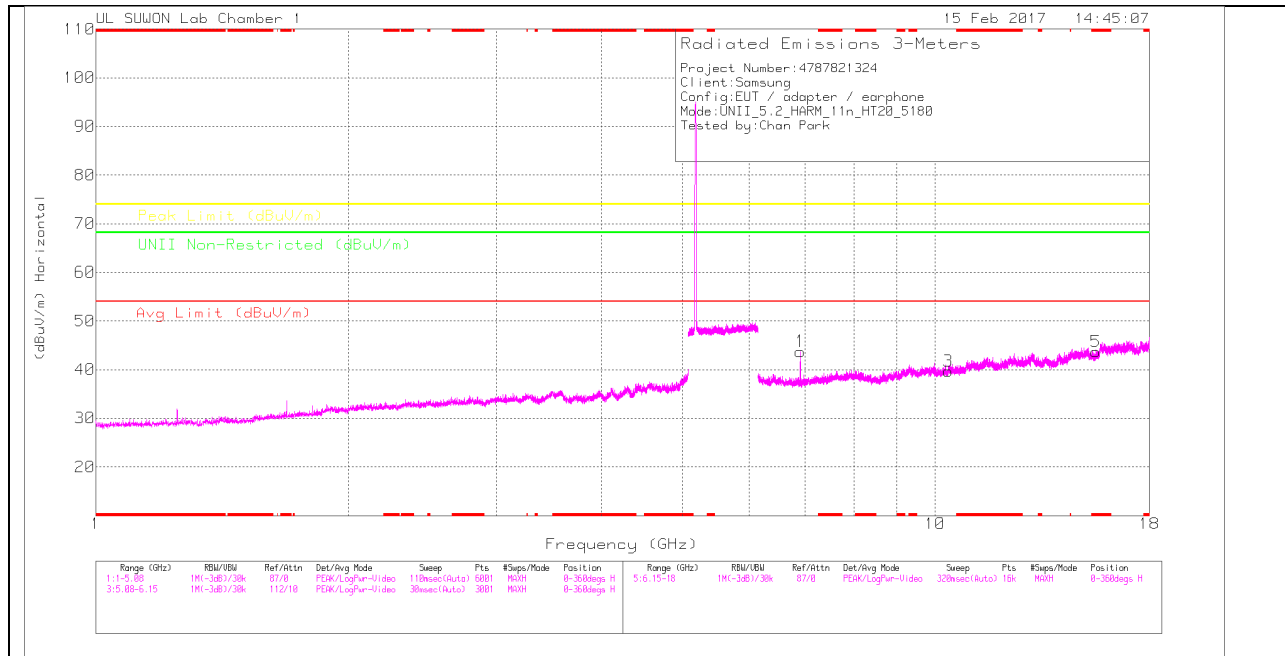
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

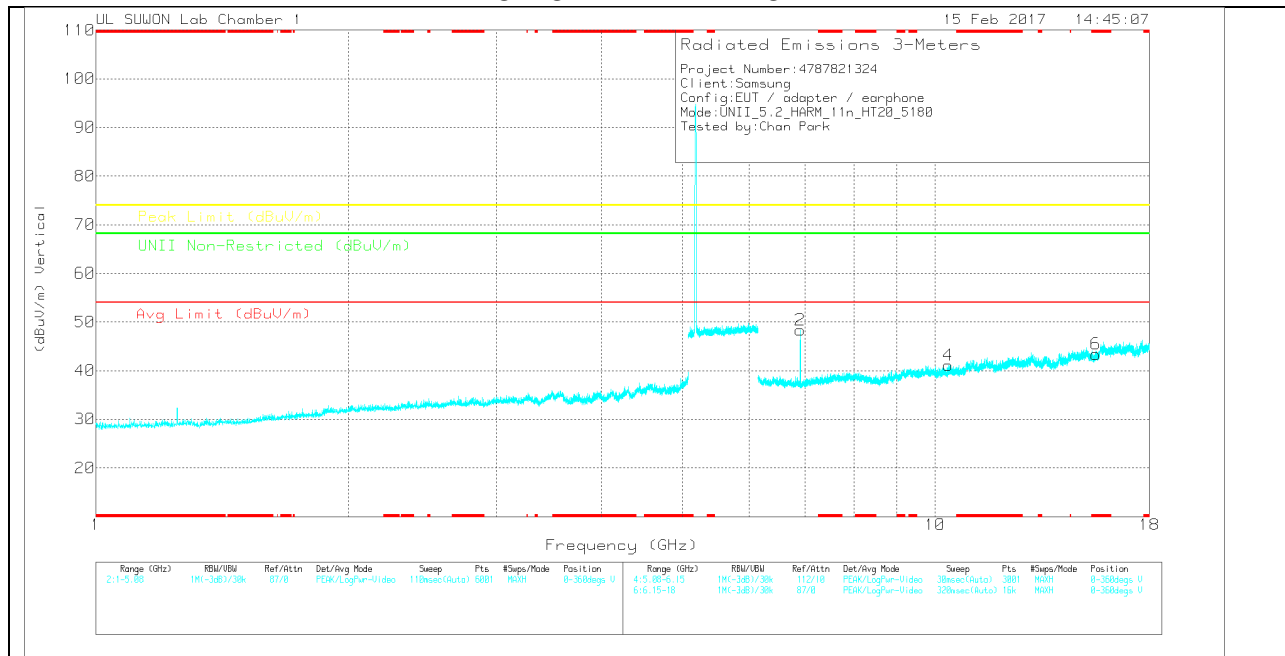
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.906	39.45	Pk	35.6	-31.3	0	43.75	-	-	-	-	68.2	-24.45	0-360	150	H
3	10.359	30.18	Pk	37.8	-28.3	0	39.68	-	-	-	-	68.2	-28.52	0-360	250	H
5	* 15.543	23.45	Pk	40.3	-20.1	0	43.65	-	-	74	-30.35	-	-	0-360	150	H
2	6.906	44.02	Pk	35.6	-31.3	0	48.32	-	-	-	-	68.2	-19.88	0-360	150	V
4	10.362	31.65	Pk	37.8	-28.3	0	41.15	-	-	-	-	68.2	-27.05	0-360	150	V
6	* 15.543	23.17	Pk	40.3	-20.1	0	43.37	-	-	74	-30.63	-	-	0-360	250	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

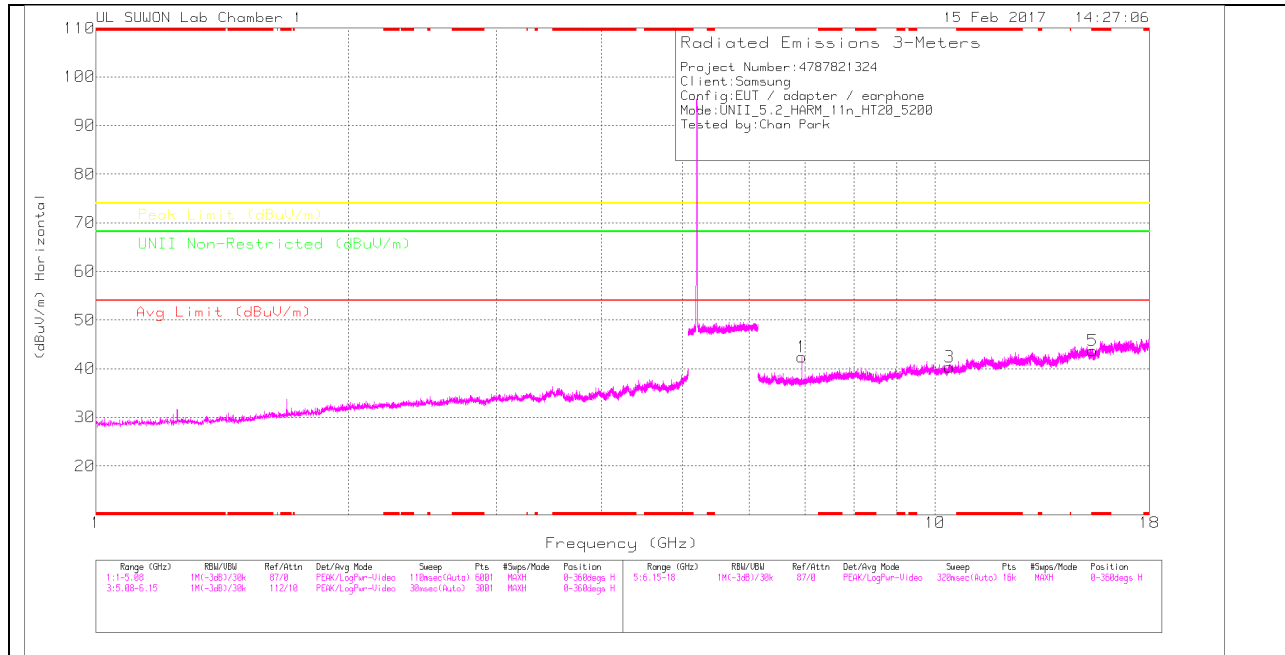
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.907	47.73	PK-U	35.6	-31.3	0	52.03	-	-	-	-	68.2	-16.17	224	100	H
6.907	49.53	PK-U	35.6	-31.3	0	53.83	-	-	-	-	68.2	-14.37	2	101	V

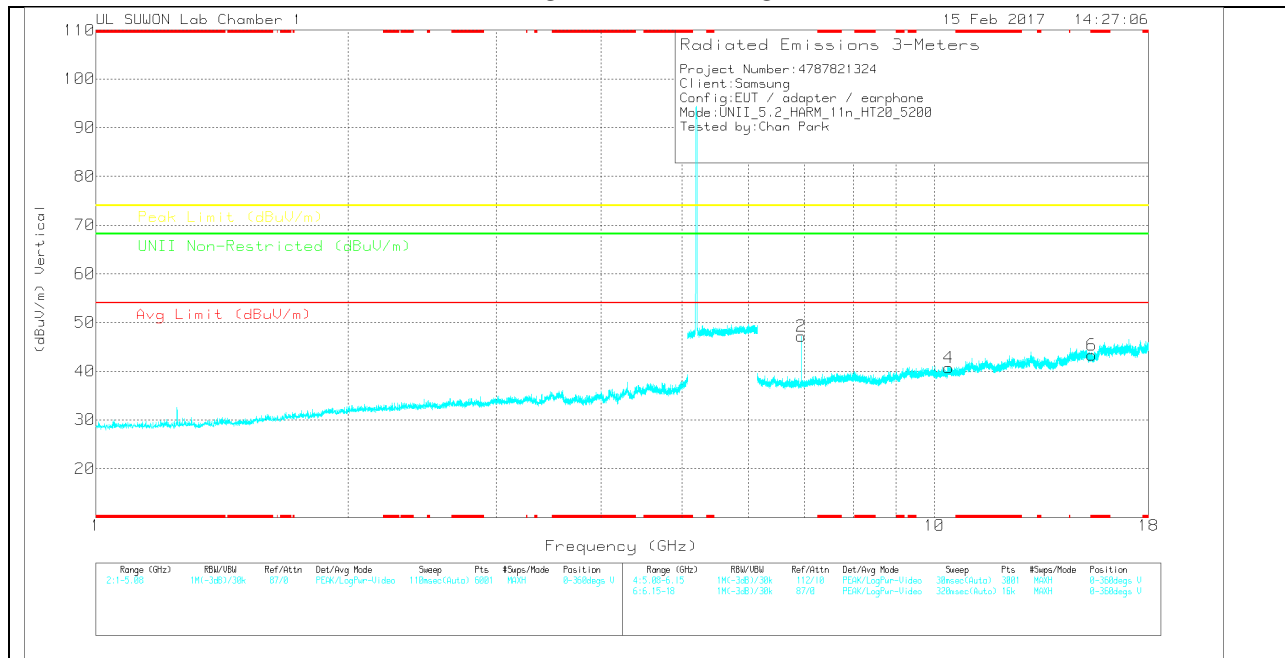
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/0016 8717_150 619	6GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.933	37.74	Pk	35.7	-31	0	42.44	-	-	-	-	68.2	-25.76	0-360	150	H
3	10.402	30.37	Pk	37.8	-27.8	0	40.37	-	-	-	-	68.2	-27.83	0-360	150	H
5	* 15.399	23.93	Pk	40.2	-20.4	0	43.73	-	-	74	-30.27	-	-	0-360	250	H
2	6.933	42.44	Pk	35.7	-31	0	47.14	-	-	-	-	68.2	-21.06	0-360	150	V
4	10.402	30.7	Pk	37.8	-27.8	0	40.7	-	-	-	-	68.2	-27.5	0-360	150	V
6	* 15.398	23.48	Pk	40.2	-20.4	0	43.28	-	-	74	-30.72	-	-	0-360	150	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

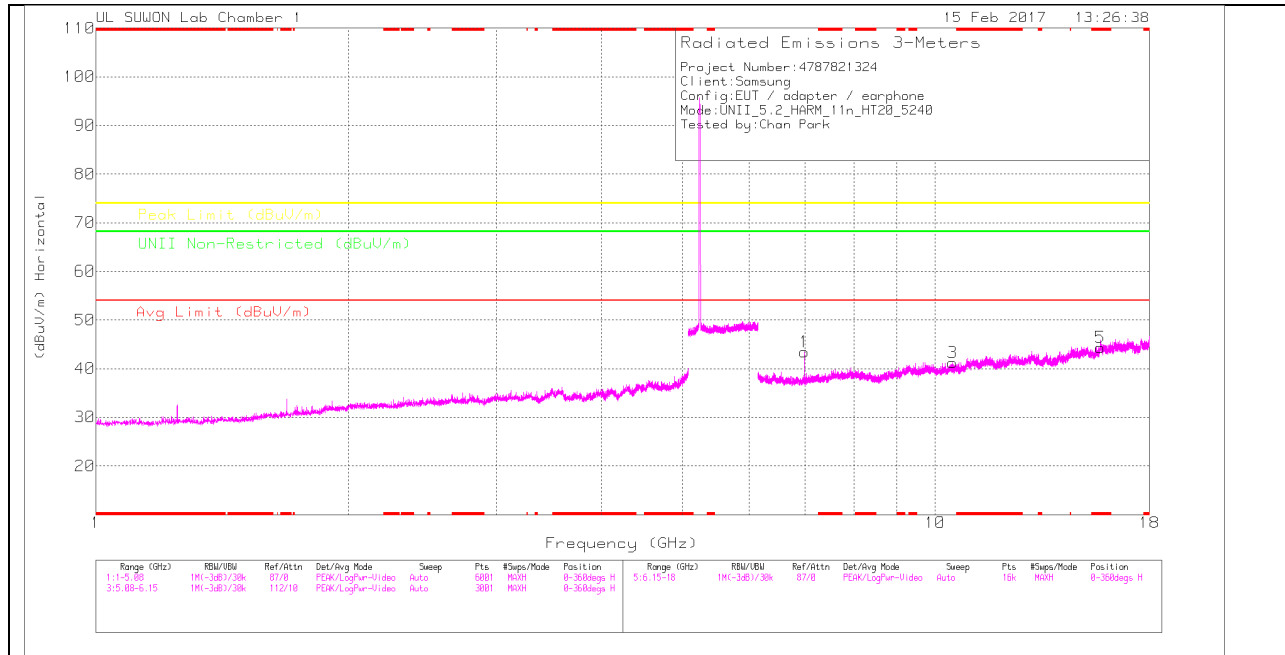
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117/001687 17_150619	6GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.933	46.85	PK-U	35.7	-31	0	51.55	-	-	-	-	68.2	-16.65	224	101	H
6.933	47.96	PK-U	35.7	-31	0	52.66	-	-	-	-	68.2	-15.54	91	250	V

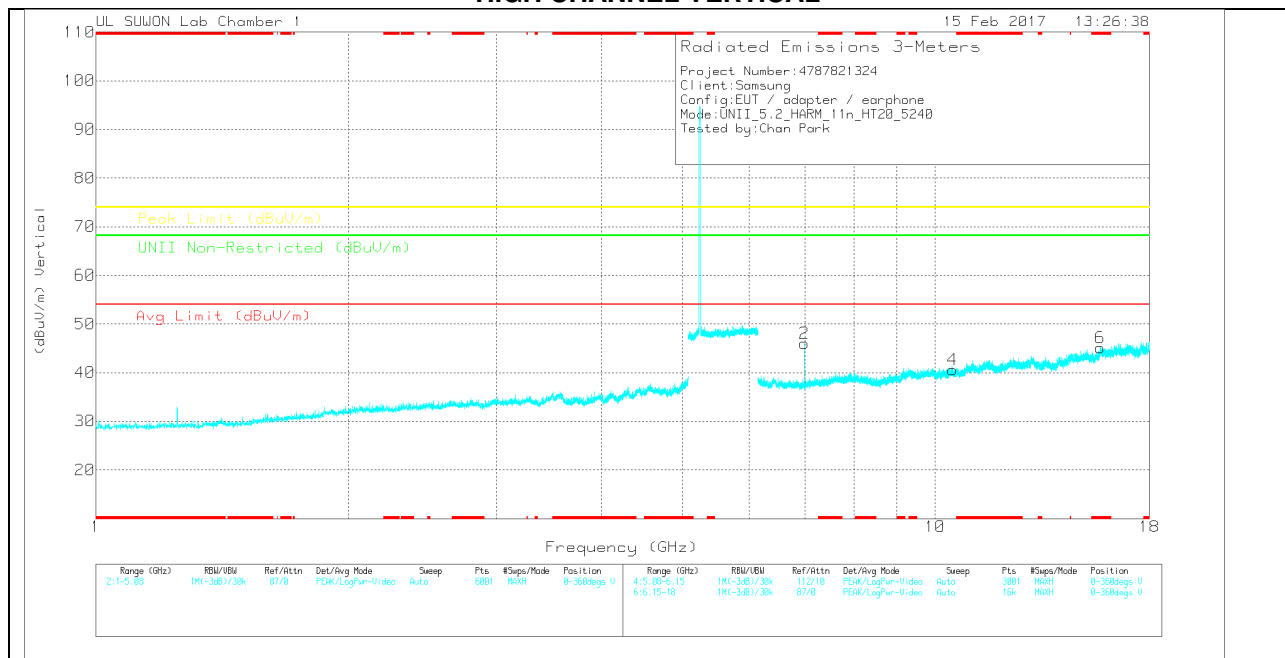
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 519	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.986	38.85	Pk	35.7	-31.1	0	43.45	-	-	-	-	68.2	-24.75	0-360	150	H
3	10.48	32.2	Pk	37.8	-28.8	0	41.2	-	-	-	-	68.2	-27	0-360	150	H
5	* 15.72	21.82	Pk	40.4	-17.9	0	44.32	-	-	74	-29.68	-	-	0-360	150	H
2	6.986	41.47	Pk	35.7	-31.1	0	46.07	-	-	-	-	68.2	-22.13	0-360	150	V
4	10.48	31.57	Pk	37.8	-28.8	0	40.57	-	-	-	-	68.2	-27.63	0-360	150	V
6	* 15.723	22.47	Pk	40.4	-17.7	0	45.17	-	-	74	-28.83	-	-	0-360	250	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

Radiated Emissions

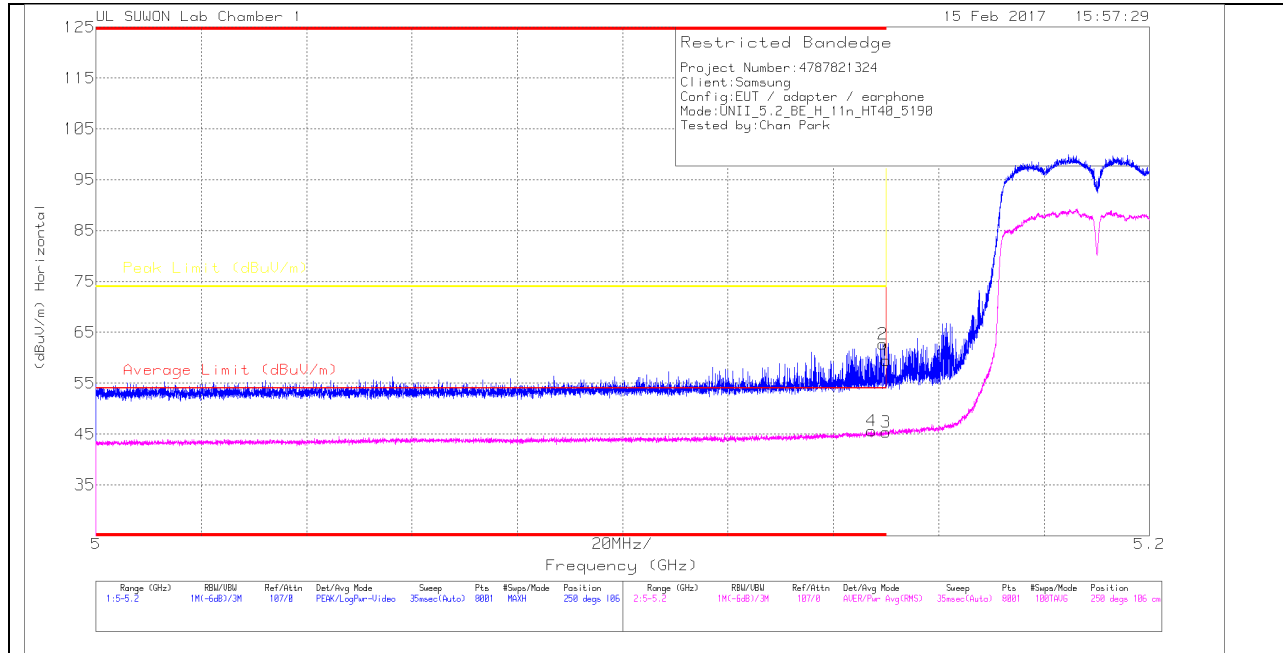
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.987	46.41	PK-U	35.7	-31.1	0	51.01	-	-	-	-	68.2	-17.19	227	100	H
6.987	48.21	PK-U	35.7	-31.1	0	52.81	-	-	-	-	68.2	-15.39	101	121	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

10.1.3. TX Above 1GHz 802.11n HT40 2Tx CDD MODE IN THE 5.2GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

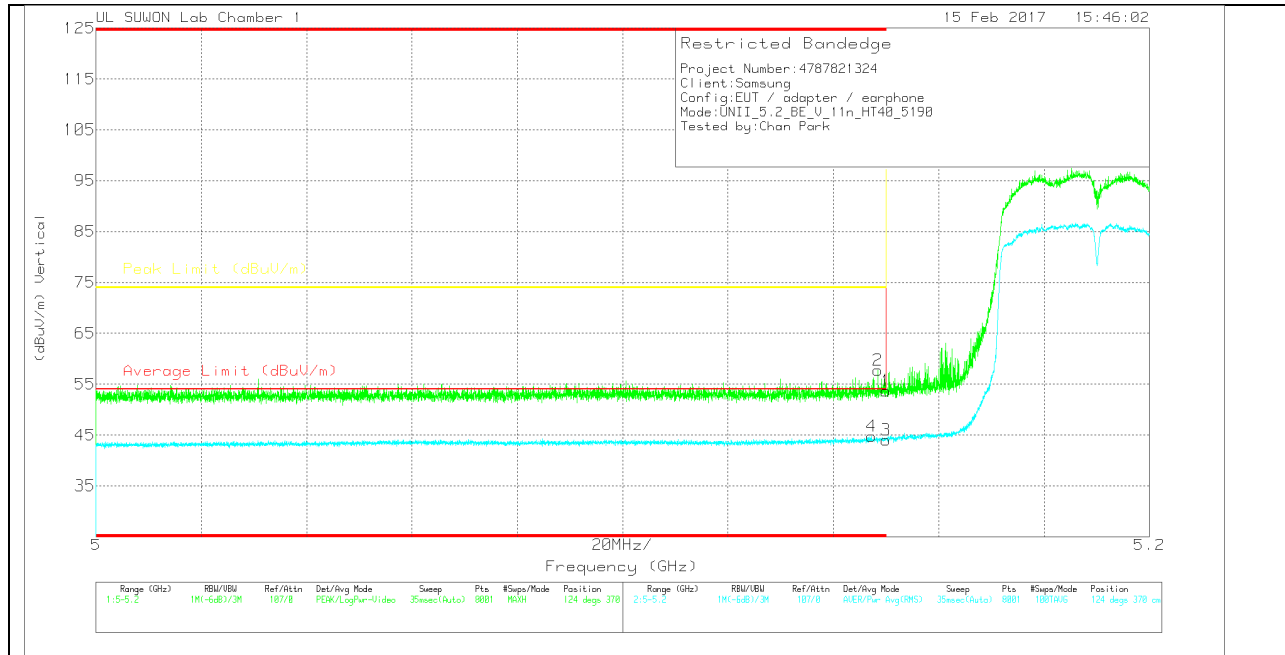
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	49.48	Pk		-24.2	0	59.48	-	-	74	-14.52	250	106	H
2	* 5.149	52.72	Pk		-24.2	0	62.72	-	-	74	-11.28	250	106	H
3	* 5.15	34.67	RMS		-24.1	.59	45.36	54	-8.64	-	-	250	106	H
4	* 5.147	34.91	RMS		-24.1	.59	45.6	54	-8.4	-	-	250	106	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	43.71	Pk	34.2	-24.2	0	53.71	-	-	74	-20.29	124	370	V
2	* 5.148	47.67	Pk	34.2	-24.1	0	57.77	-	-	74	-16.23	124	370	V
3	* 5.15	33.35	RMS	34.2	-24.1	.59	44.04	54	-9.96	-	-	124	370	V
4	* 5.147	34.06	RMS	34.2	-24.1	.59	44.75	54	-9.25	-	-	124	370	V

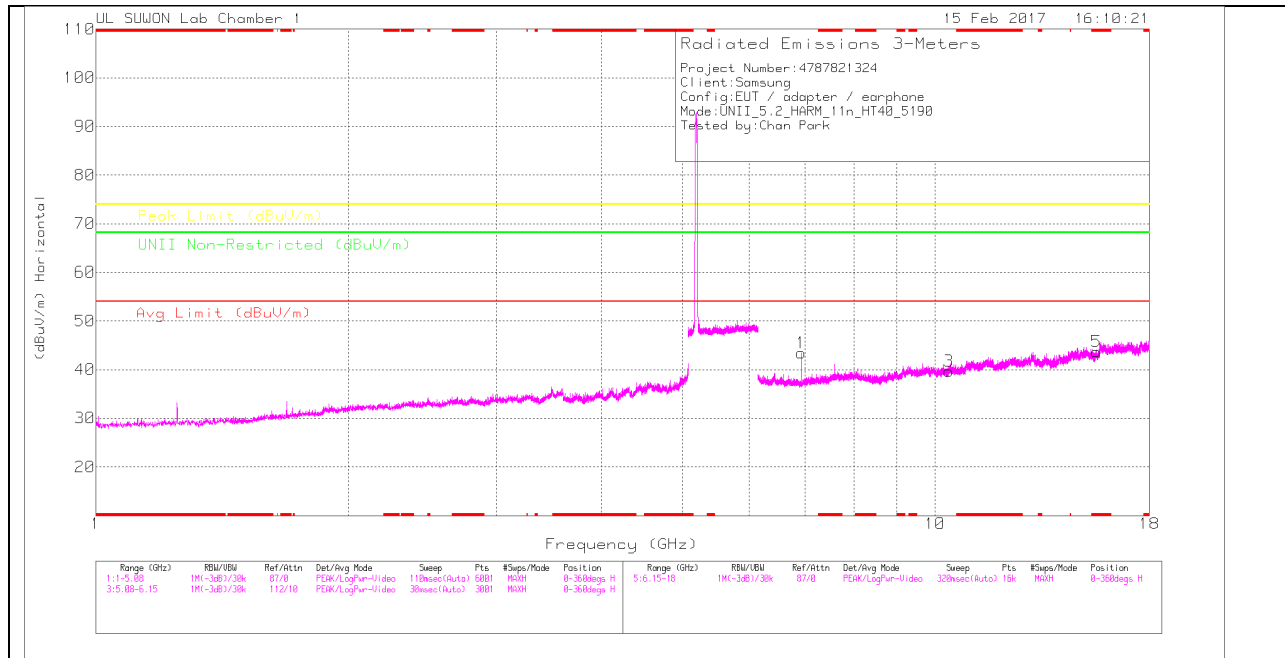
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

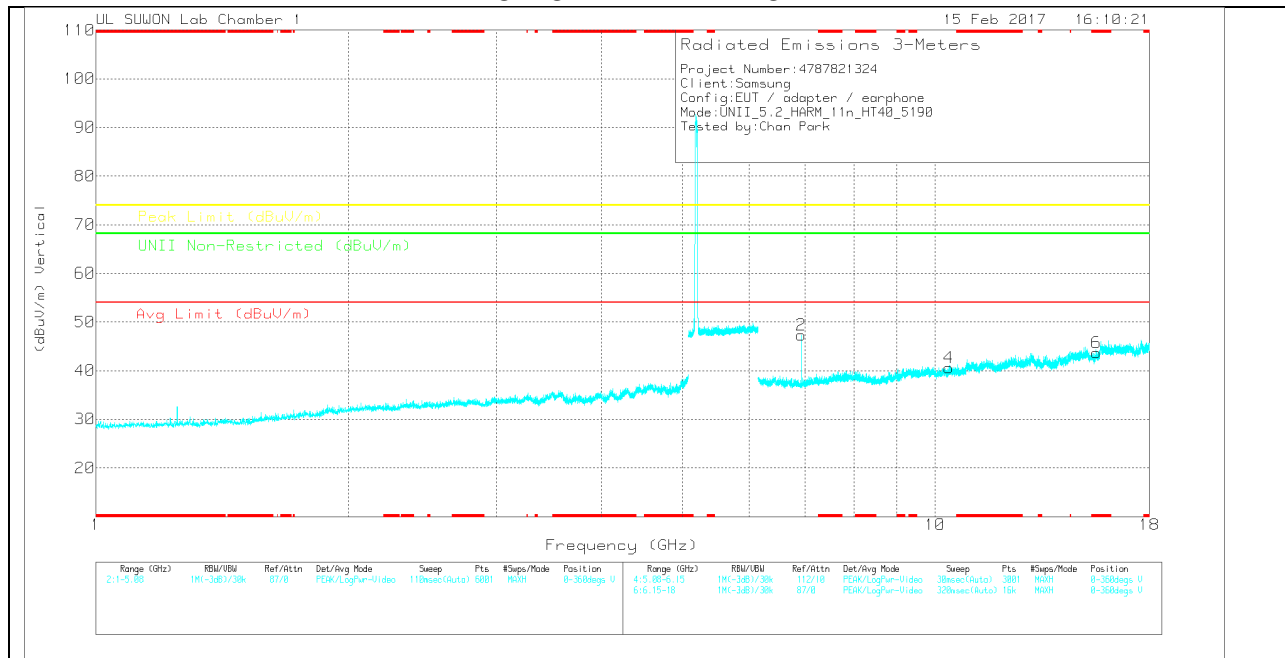
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 519	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.92	38.94	Pk	35.7	-31.2	0	43.44	-	-	-	-	68.2	-24.76	0-360	150	H
3	10.379	29.84	Pk	37.8	-27.9	0	39.74	-	-	-	-	68.2	-28.46	0-360	250	H
5	* 15.569	22.53	Pk	40.3	-19.1	0	43.73	-	-	74	-30.27	-	-	0-360	250	H
2	6.919	42.84	Pk	35.7	-31.2	0	47.34	-	-	-	-	68.2	-20.86	0-360	150	V
4	10.38	30.63	Pk	37.8	-27.8	0	40.63	-	-	-	-	68.2	-27.57	0-360	150	V
6	* 15.572	22.35	Pk	40.3	-19	0	43.65	-	-	74	-30.35	-	-	0-360	150	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

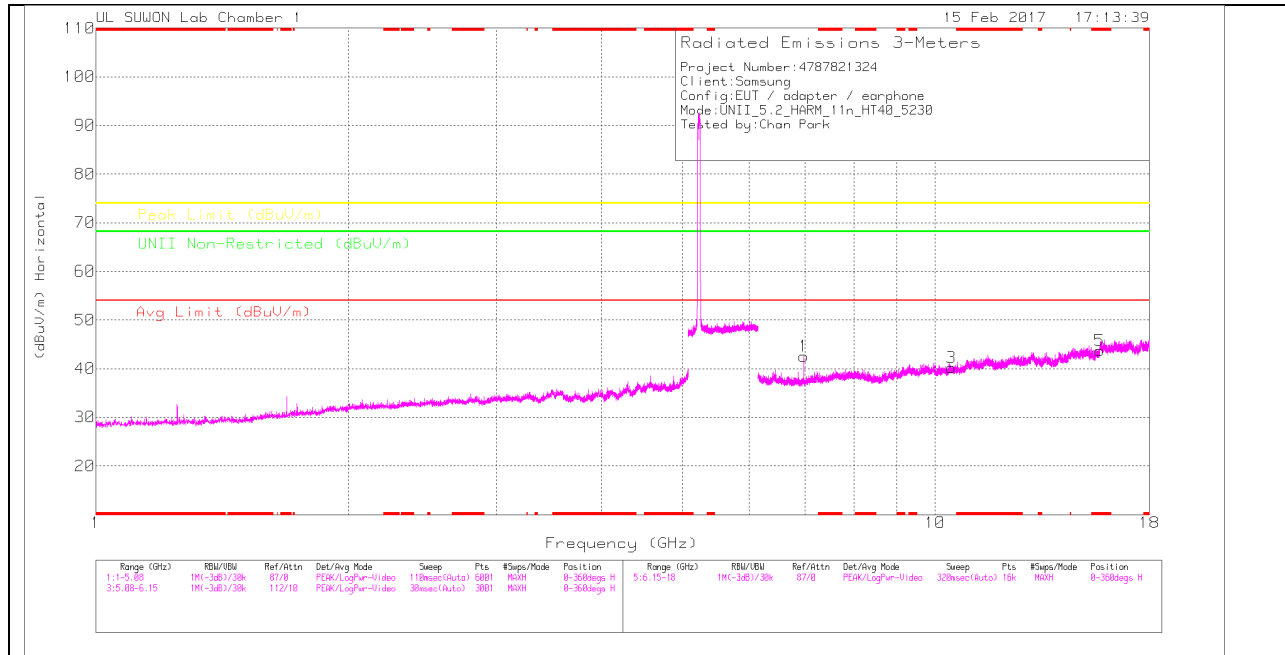
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.92	47.24	PK-U	35.7	-31.2	0	51.74	-	-	-	-	68.2	-16.46	225	103	H
6.92	49.1	PK-U	35.7	-31.2	0	53.6	-	-	-	-	68.2	-14.6	7	105	V

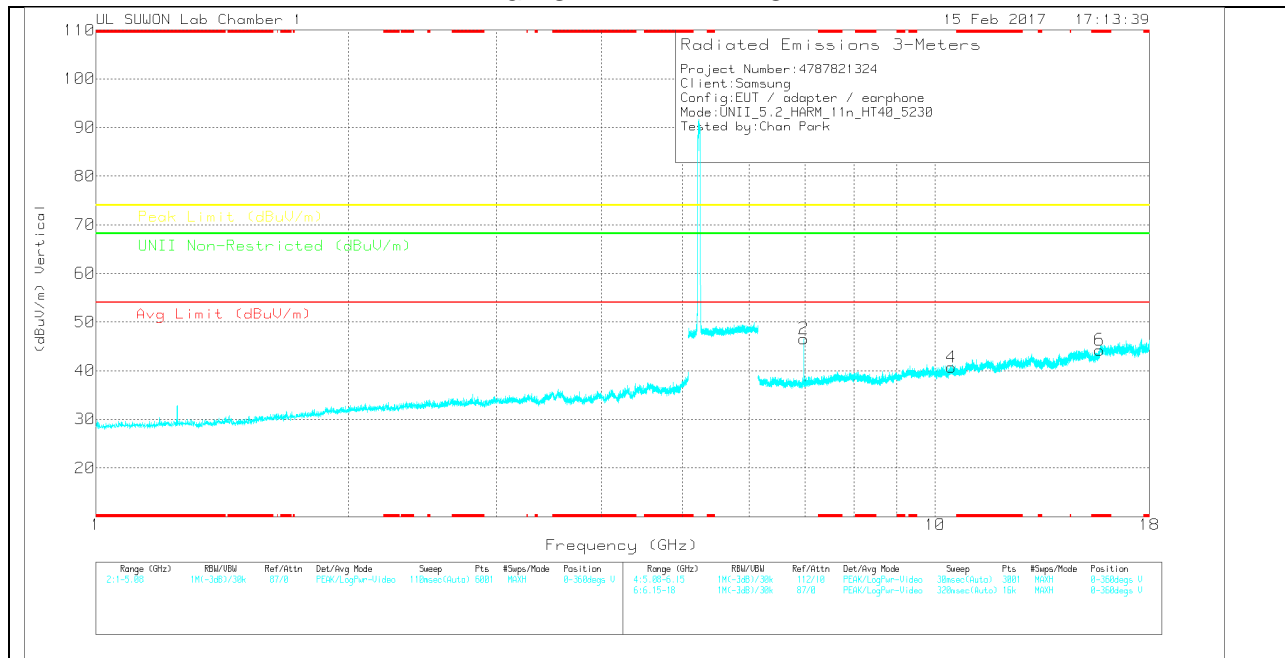
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.973	37.85	Pk	35.7	-31	0	42.55	-	-	-	-	68.2	-25.65	0-360	150	H
3	10.46	30.94	Pk	37.8	-28.5	0	40.24	-	-	-	-	68.2	-27.96	0-360	150	H
5	* 15.689	22.14	Pk	40.4	-18.9	0	43.64	-	-	74	-30.36	-	-	0-360	250	H
2	6.973	41.9	Pk	35.7	-31	0	46.6	-	-	-	-	68.2	-21.6	0-360	150	V
4	10.46	31.4	Pk	37.8	-28.5	0	40.7	-	-	-	-	68.2	-27.5	0-360	150	V
6	* 15.691	22.77	Pk	40.4	-18.9	0	44.27	-	-	74	-29.73	-	-	0-360	250	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

Radiated Emissions

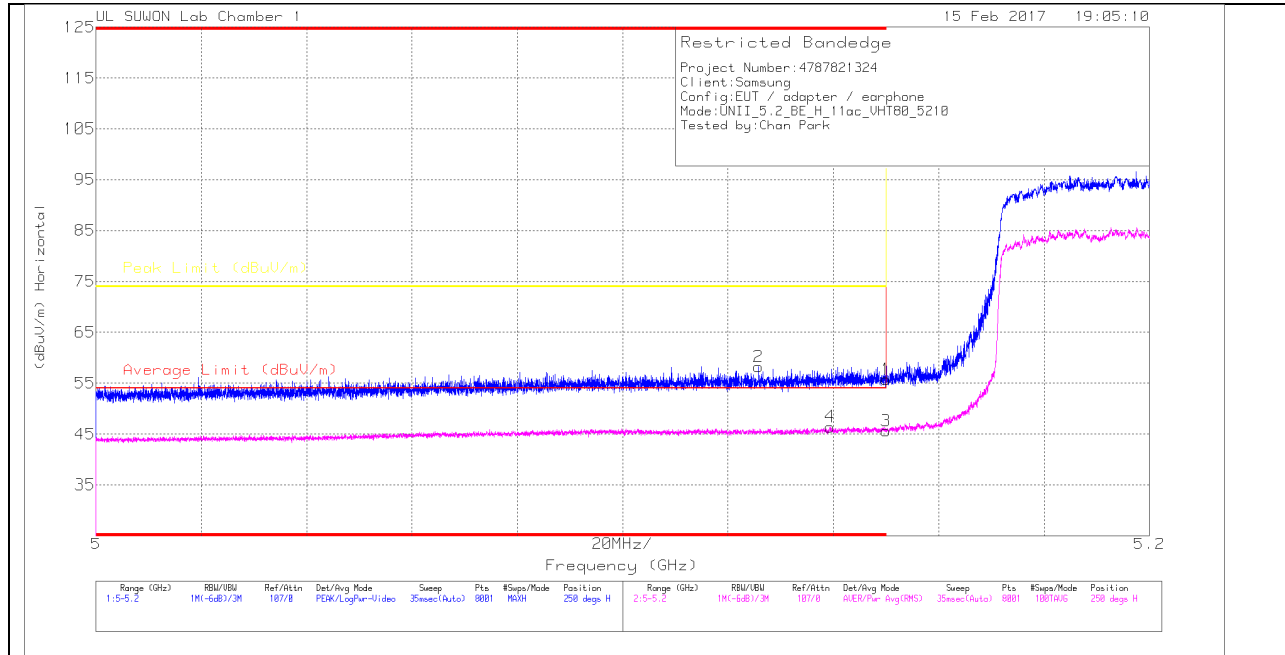
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.973	47.29	PK-U	35.7	-31	0	51.99	-	-	-	-	68.2	-16.21	227	105	H
6.973	46.24	PK-U	35.7	-31	0	50.94	-	-	-	-	68.2	-17.26	229	109	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

10.1.4. TX ABOVE 1GHz 802.11ac VHT80 2Tx CDD MODE IN THE 5.2GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

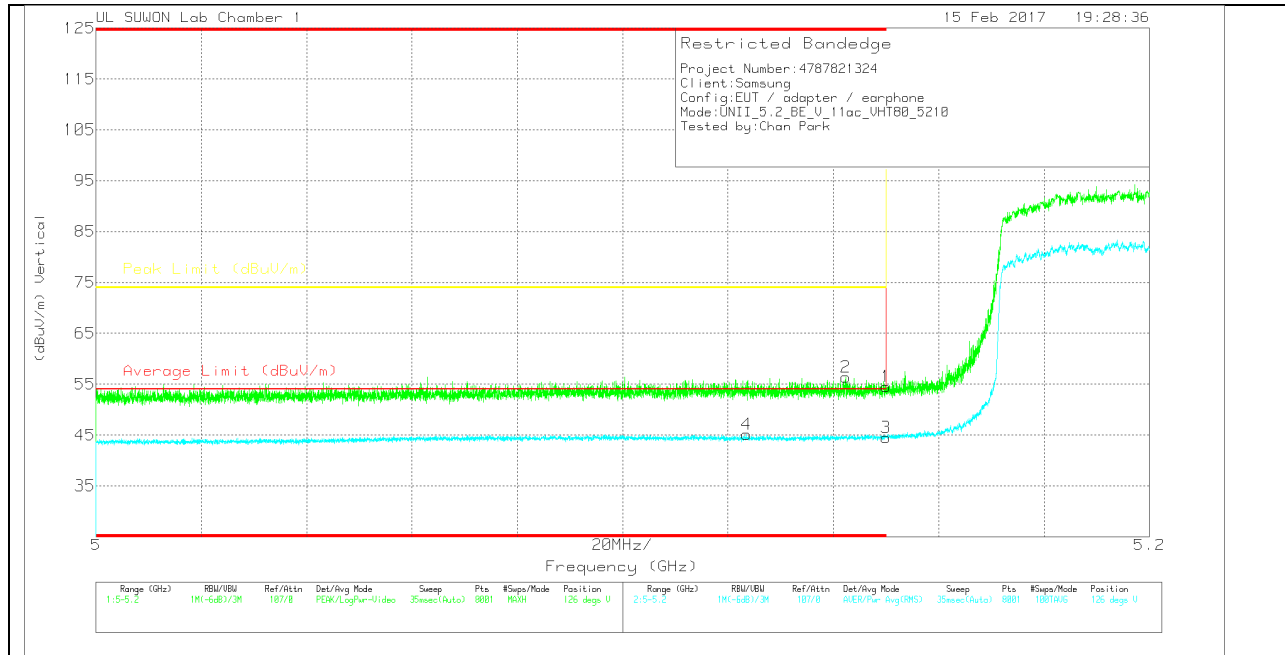
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	45.76	Pk		-24.2	0	55.76	-	-	74	-18.24	250	105	H
2	* 5.126	48.27	Pk		-24.2	0	58.27	-	-	74	-15.73	250	105	H
3	* 5.15	34.45	RMS		-24.1	1.12	45.67	54	-8.33	-	-	250	105	H
4	* 5.139	35.21	RMS		-24.1	1.12	46.43	54	-7.57	-	-	250	105	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	44.53	Pk	34.2	-24.2	0	54.53	-	-	74	-19.47	126	368	V
2	* 5.142	46.42	Pk	34.2	-24.2	0	56.42	-	-	74	-17.58	126	368	V
3	* 5.15	33.26	RMS	34.2	-24.1	1.12	44.48	54	-9.52	-	-	126	368	V
4	* 5.124	33.89	RMS	34.2	-24.1	1.12	45.11	54	-8.89	-	-	126	368	V

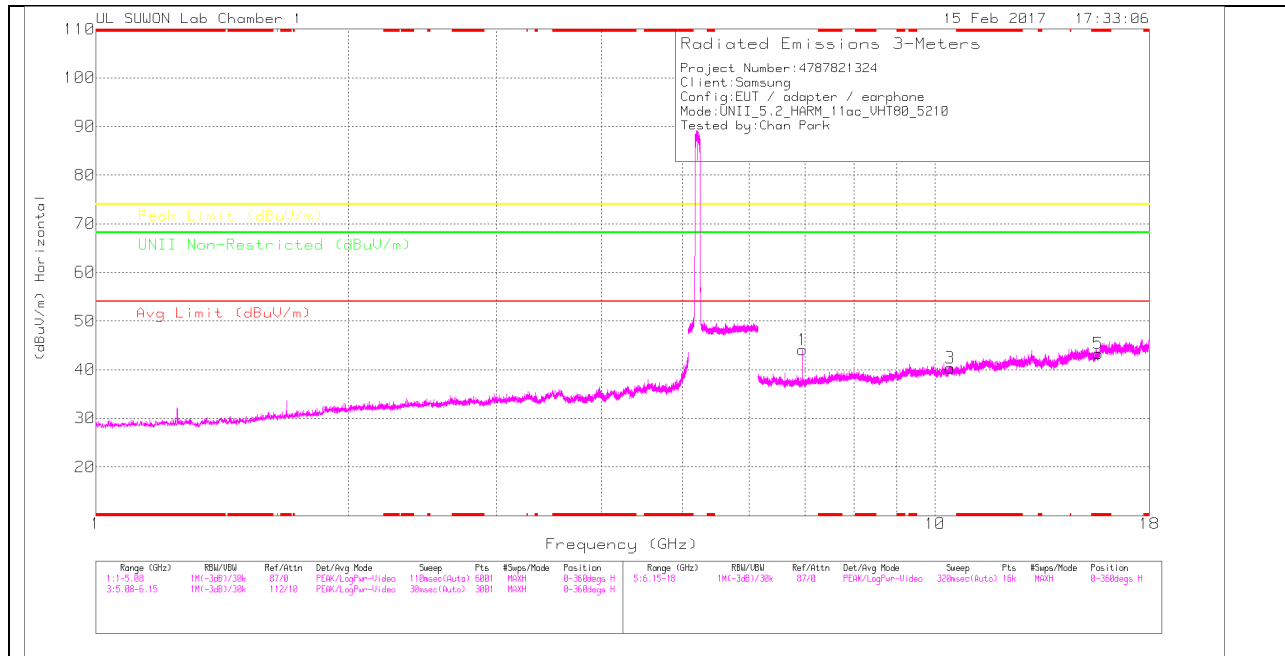
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

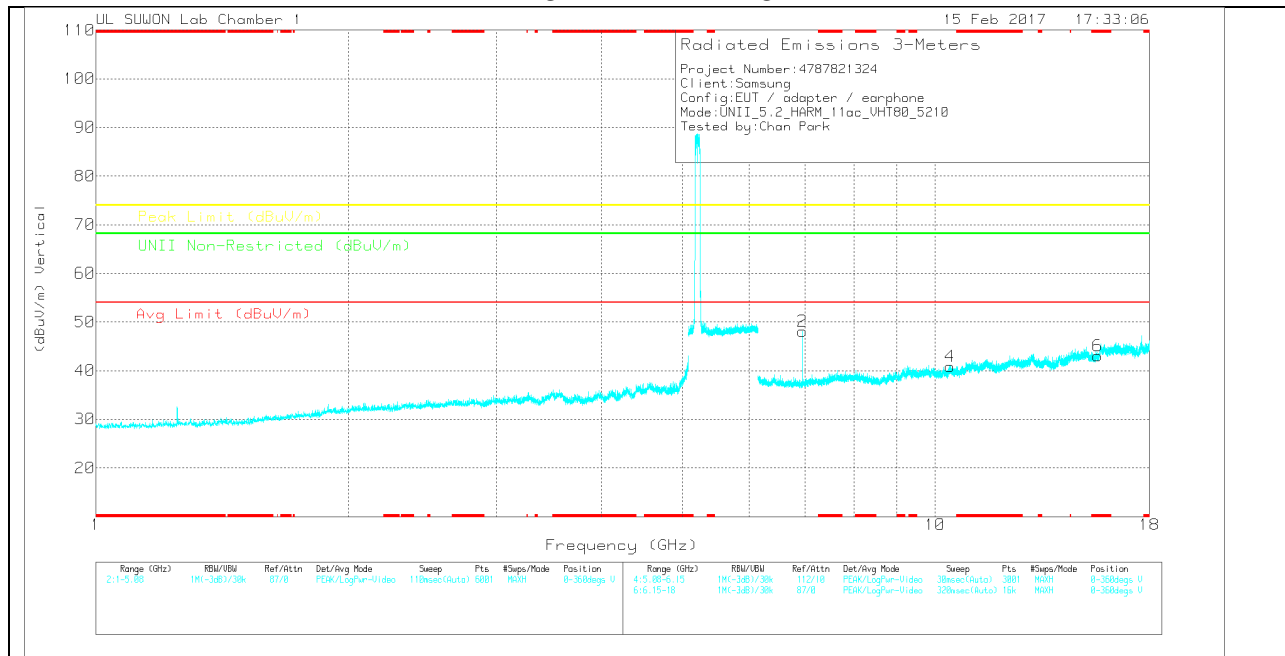
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 519	6Ghz_HP(d B)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.946	39.35	Pk	35.7	-31	0	44.05	-	-	-	-	68.2	-24.15	0-360	150	H
3	10.422	30.49	Pk	37.8	-28	0	40.29	-	-	-	-	68.2	-27.91	0-360	250	H
5	* 15.632	21.18	Pk	40.3	-18.2	0	43.28	-	-	74	-30.72	-	-	0-360	150	H
2	6.946	43.33	Pk	35.7	-31	0	48.03	-	-	-	-	68.2	-20.17	0-360	150	V
4	10.418	30.92	Pk	37.8	-27.9	0	40.82	-	-	-	-	68.2	-27.38	0-360	150	V
6	* 15.628	20.88	Pk	40.3	-18.1	0	43.08	-	-	74	-30.92	-	-	0-360	150	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk – Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	6Ghz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.947	46.98	PK-U	35.7	-31	0	51.68	-	-	-	-	68.2	-16.52	228	103	H
6.947	48.33	PK-U	35.7	-31	0	53.03	-	-	-	-	68.2	-15.17	91	233	V

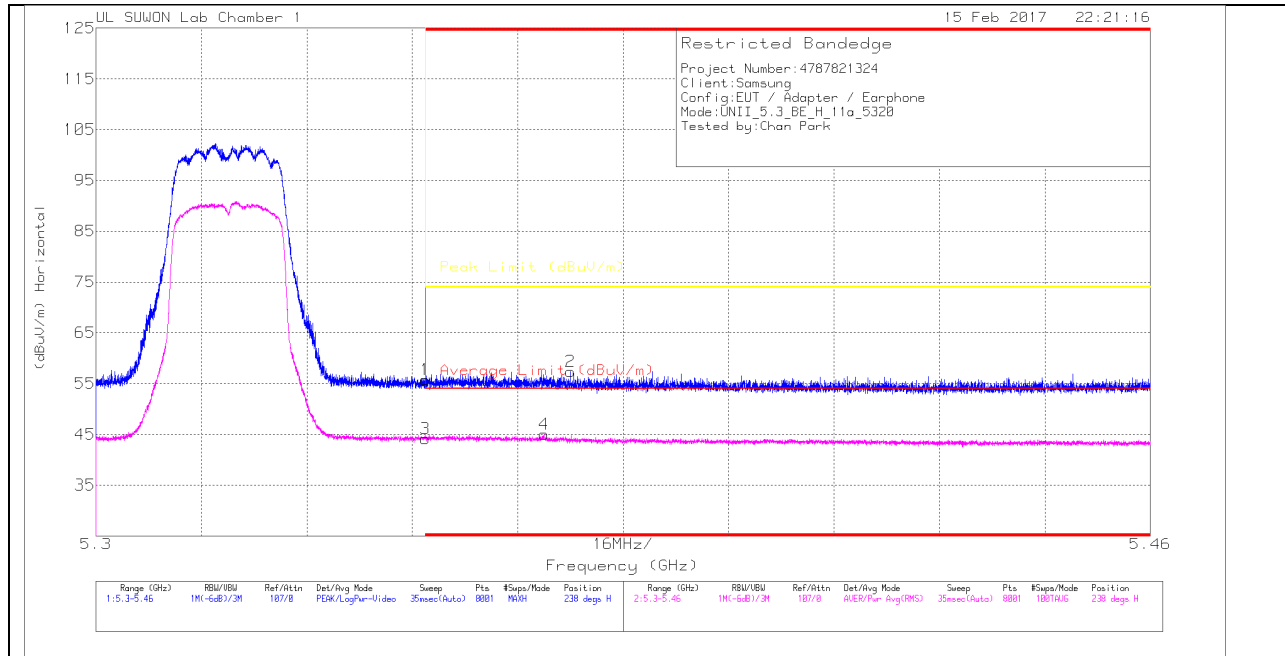
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK-U - U-NII: Maximum Peak

10.2. 5.3 GHz

10.2.1. TX ABOVE 1 GHz 802.11a 2Tx CDD MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	10dB_Att(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	44.82	Pk	34.5	-23.5	0	55.82	-	-	74	-18.18	238	106	H
2	* 5.372	46.15	Pk	34.5	-23.3	0	57.35	-	-	74	-16.65	238	106	H
3	* 5.35	33.19	RMS	34.5	-23.8	.29	44.18	54	-9.82	-	-	238	106	H
4	* 5.368	34.03	RMS	34.5	-23.8	.29	45.02	54	-8.98	-	-	238	106	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection