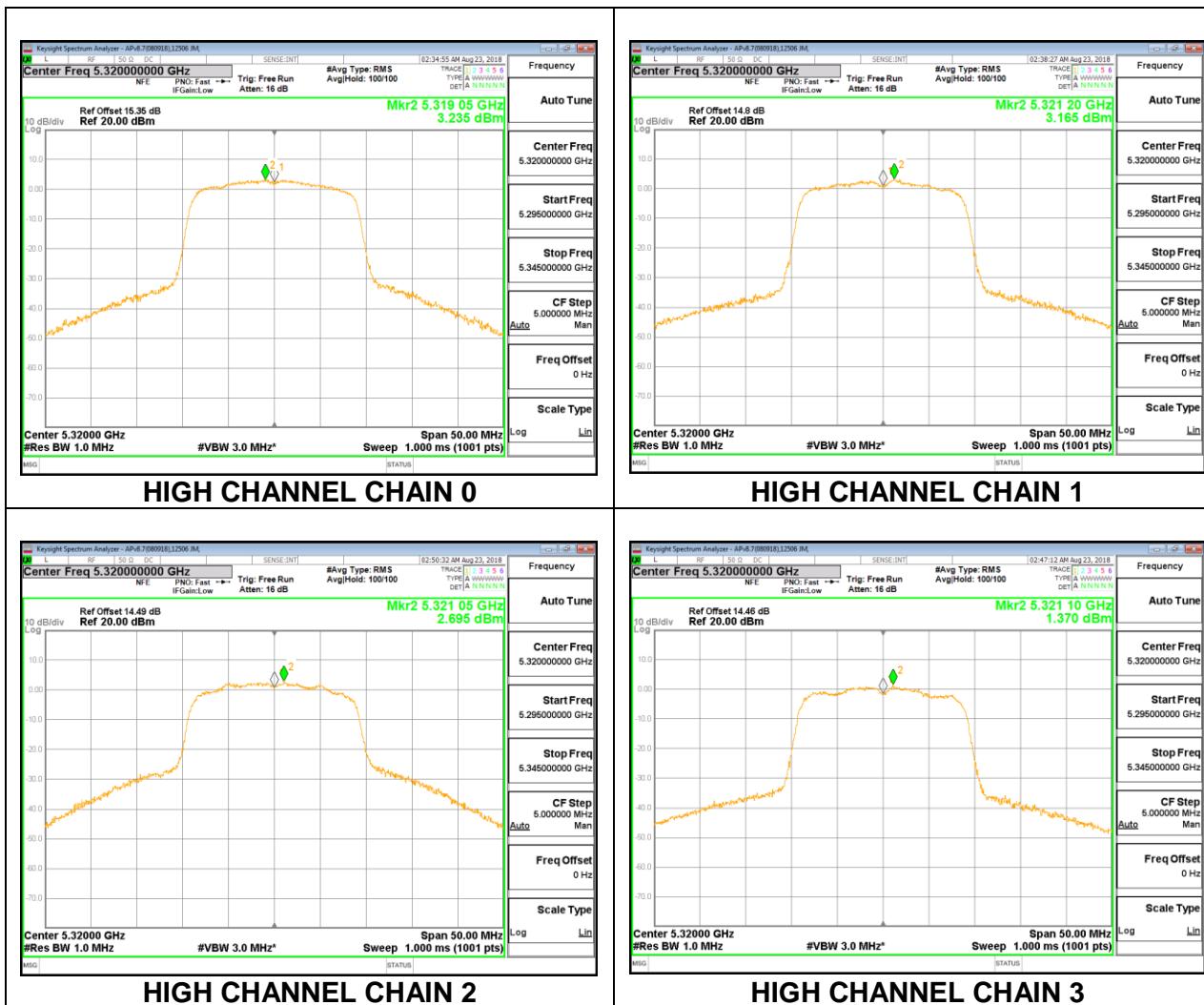


HIGH CHANNEL



8.5.1.7. 802.11n HT20 MODE IN THE 5.6 GHz BAND

FCC+IC

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	20.3000	17.4780	4.41	7.42
Mid	5580	20.4500	17.5630	4.41	7.42
High	5700	20.3000	17.5050	4.41	7.42

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED PSD Limit (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)
Low	5500	24.00	23.42	29.42	23.42	9.58	11.00	9.58
Mid	5580	24.00	23.45	29.45	23.45	9.58	11.00	9.58
High	5700	24.00	23.43	29.43	23.43	9.58	11.00	9.58

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PSD
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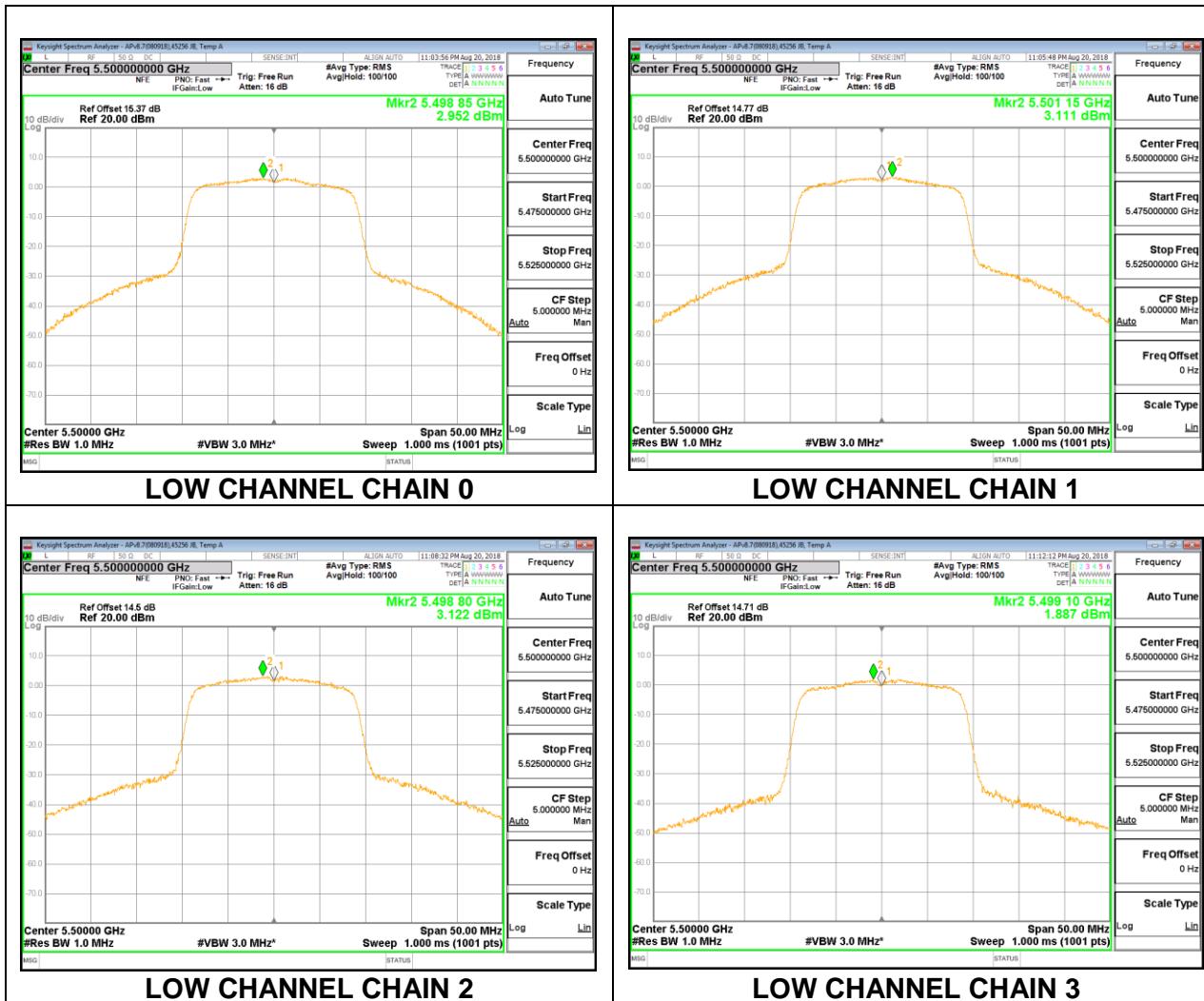
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Chain 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	14.01	14.88	14.90	13.24	20.33	23.42	-3.09
Mid	5580	14.25	14.49	15.04	13.63	20.40	23.45	-3.04
High	5700	12.41	12.38	13.07	11.06	18.31	23.43	-5.12

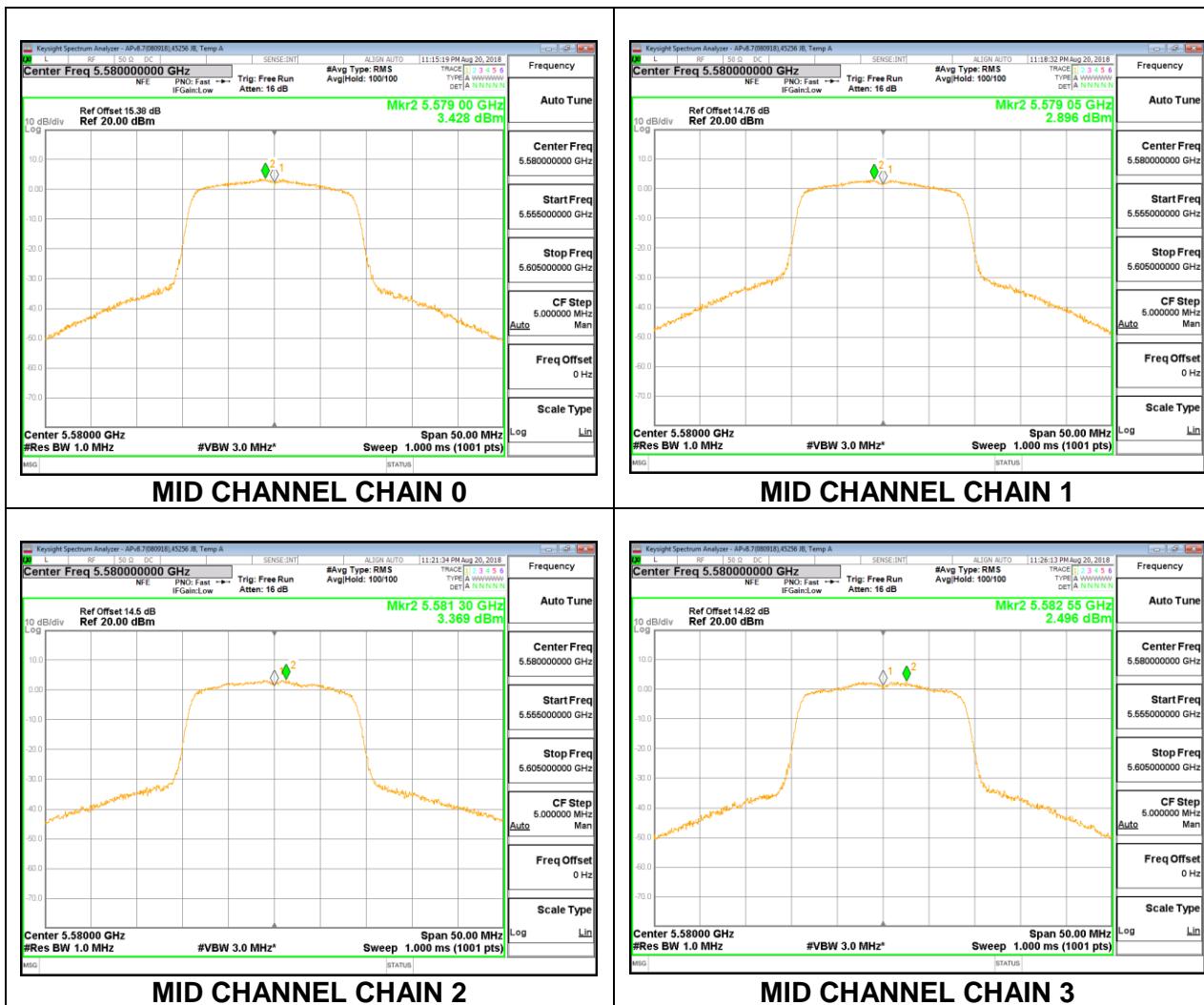
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Chain 2 Meas PSD (dBm/ 1MHz)	Chain 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5500	2.952	3.111	3.122	1.887	9.278	9.58	-0.30
Mid	5580	3.428	2.896	3.369	2.496	9.544	9.58	-0.04
High	5700	3.146	2.823	3.230	2.303	9.371	9.58	-0.21

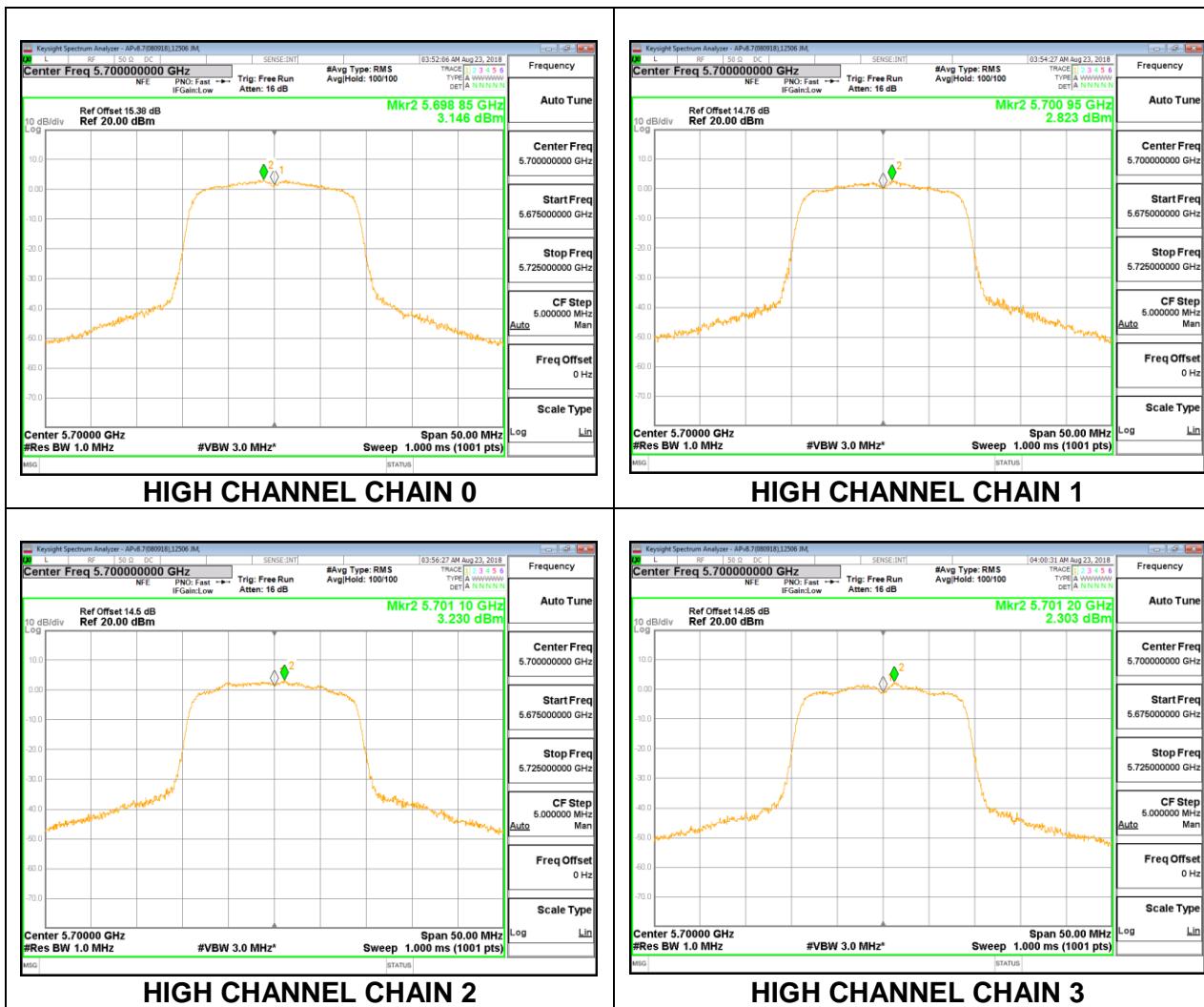
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.5.1.8. 802.11n HT20 MODE IN THE 5.8 GHz BAND

FCC+IC

Antenna Gain and Limit

Channel	Frequency (MHz)	Directiona Gain for Power (dBi)	Directiona Gain for PSD (dBm)	FCC/ISED Power Limit (dBm)	FCC/ISED PSD Limit (dBm/ 1MHz)
Low	5745	4.41	7.42	30.00	28.58
Mid	5785	4.41	7.42	30.00	28.58
High	5825	4.41	7.42	30.00	28.58

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PSD
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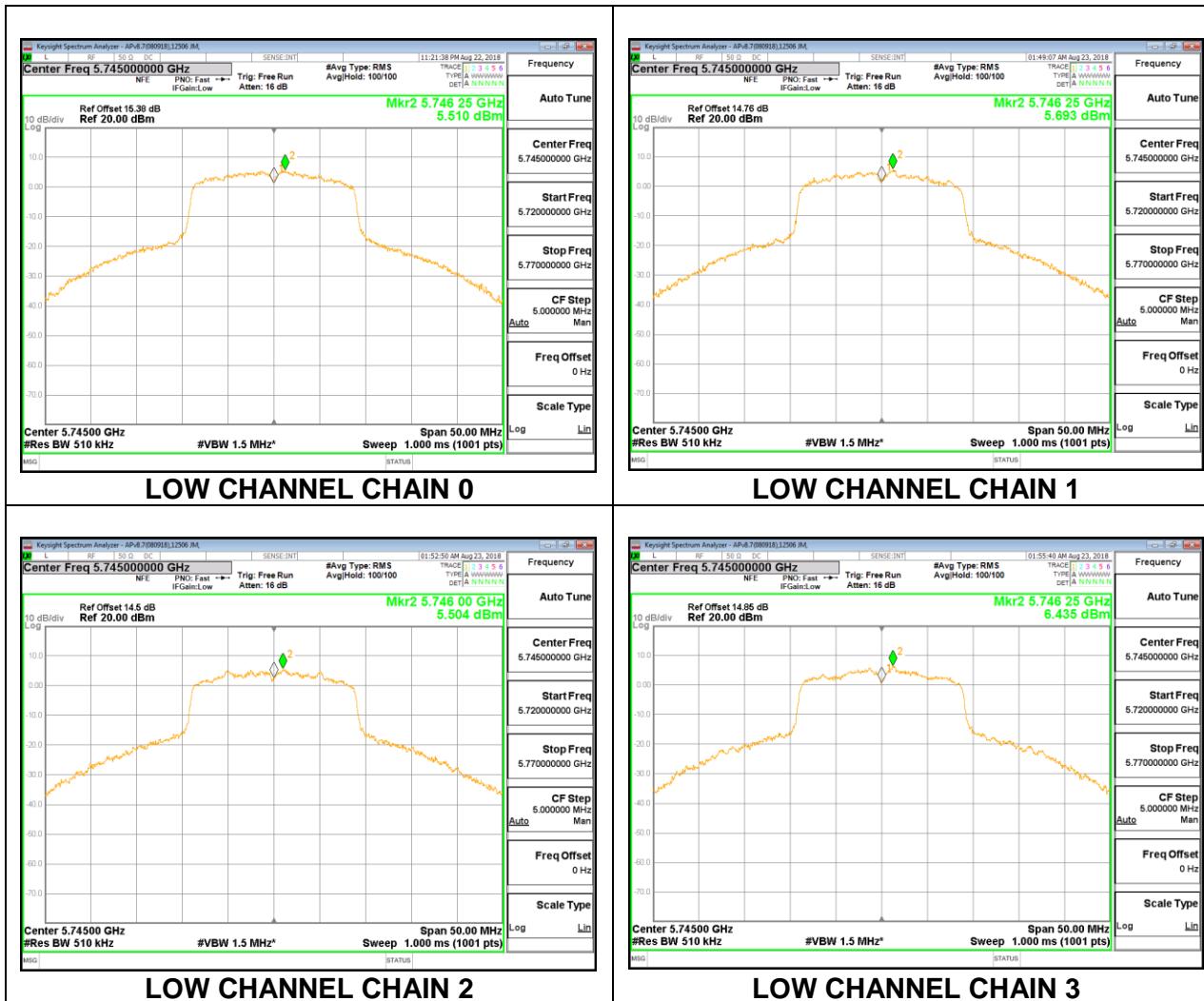
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Chain 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	17.93	17.48	17.96	17.96	23.86	30.00	-6.14
Mid	5785	17.89	17.45	17.95	17.86	23.81	30.00	-6.19
High	5825	17.74	17.20	17.52	17.65	23.55	30.00	-6.45

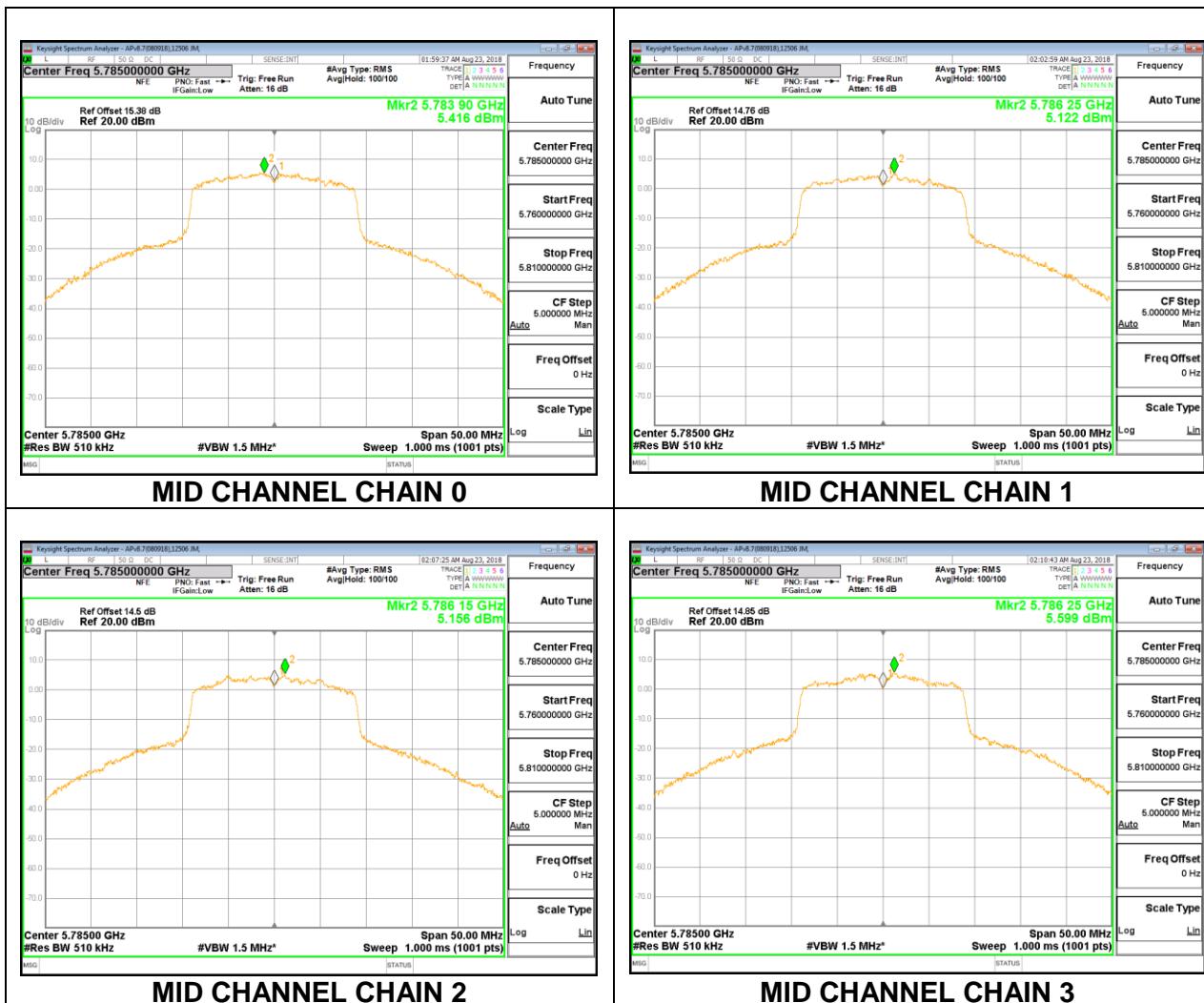
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Chain 2 Meas PSD (dBm/ 1MHz)	Chain 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5745	5.510	5.693	5.504	6.435	12.283	28.58	-16.30
Mid	5785	5.416	5.122	5.156	5.599	11.808	28.58	-16.77
High	5825	5.667	5.200	5.327	5.000	11.786	28.58	-16.79

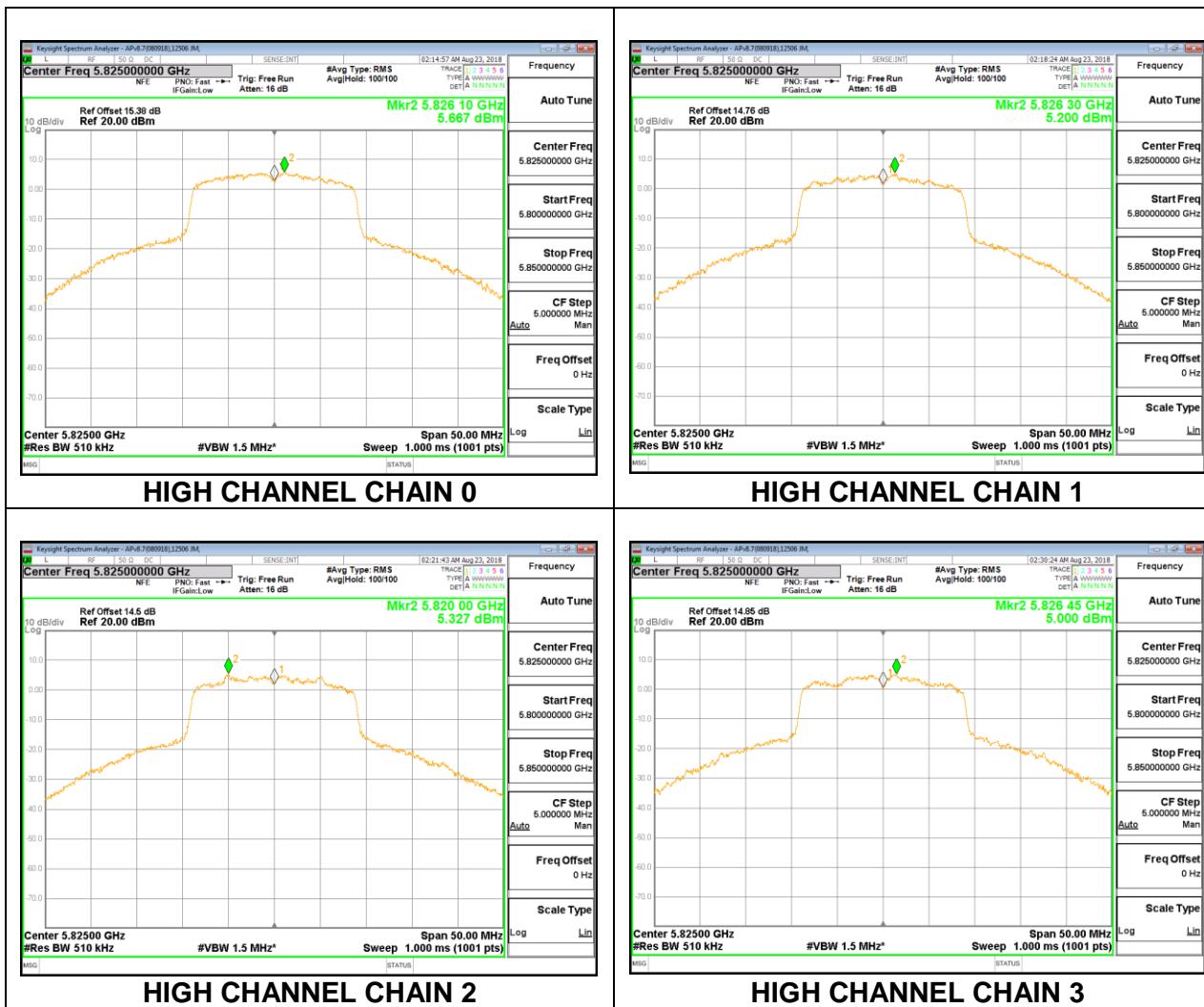
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.5.2 RADIO 1

8.5.2.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND

IC

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)
Low	5180	17.6510
Mid	5200	17.5540
High	5240	17.5460

Limits

Channel	Frequency (MHz)	ISED EIRP Limit (dBm)	ISED eirp PSD Limit (dBm/ 1MHz)
Low	5180	22.47	10.00
Mid	5200	22.44	10.00
High	5240	22.44	10.00

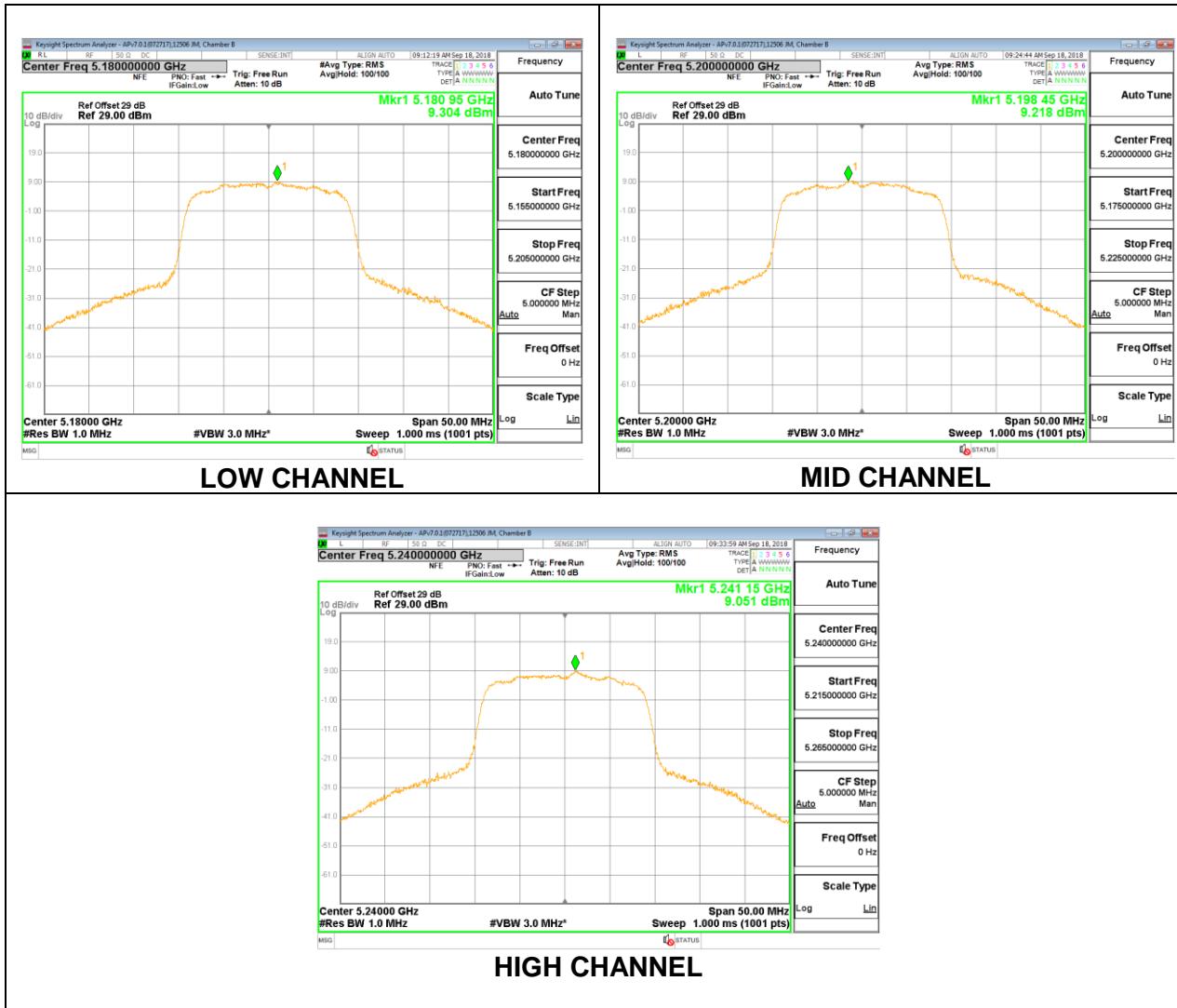
Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	19.53	22.47	-2.94
Mid	5200	19.49	22.44	-2.95
High	5240	19.40	22.44	-3.04

PSD Results

Channel	Frequency (MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5180	9.30	10.00	-0.70
Mid	5200	9.22	10.00	-0.78
High	5240	9.05	10.00	-0.95



FCC

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5180	17.6830	4.41	7.42
Mid	5200	17.6310	4.41	7.42
High	5240	17.6680	4.41	7.42

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED EIRP Limit (dBm)	Max ISED Power (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED eirp PSD Limit (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)
Low	5180	24.00	22.48	18.07	24.00	9.58	10.00	9.58
Mid	5200	24.00	22.46	18.05	24.00	9.58	10.00	9.58
High	5240	24.00	22.47	18.06	24.00	9.58	10.00	9.58

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd PSD
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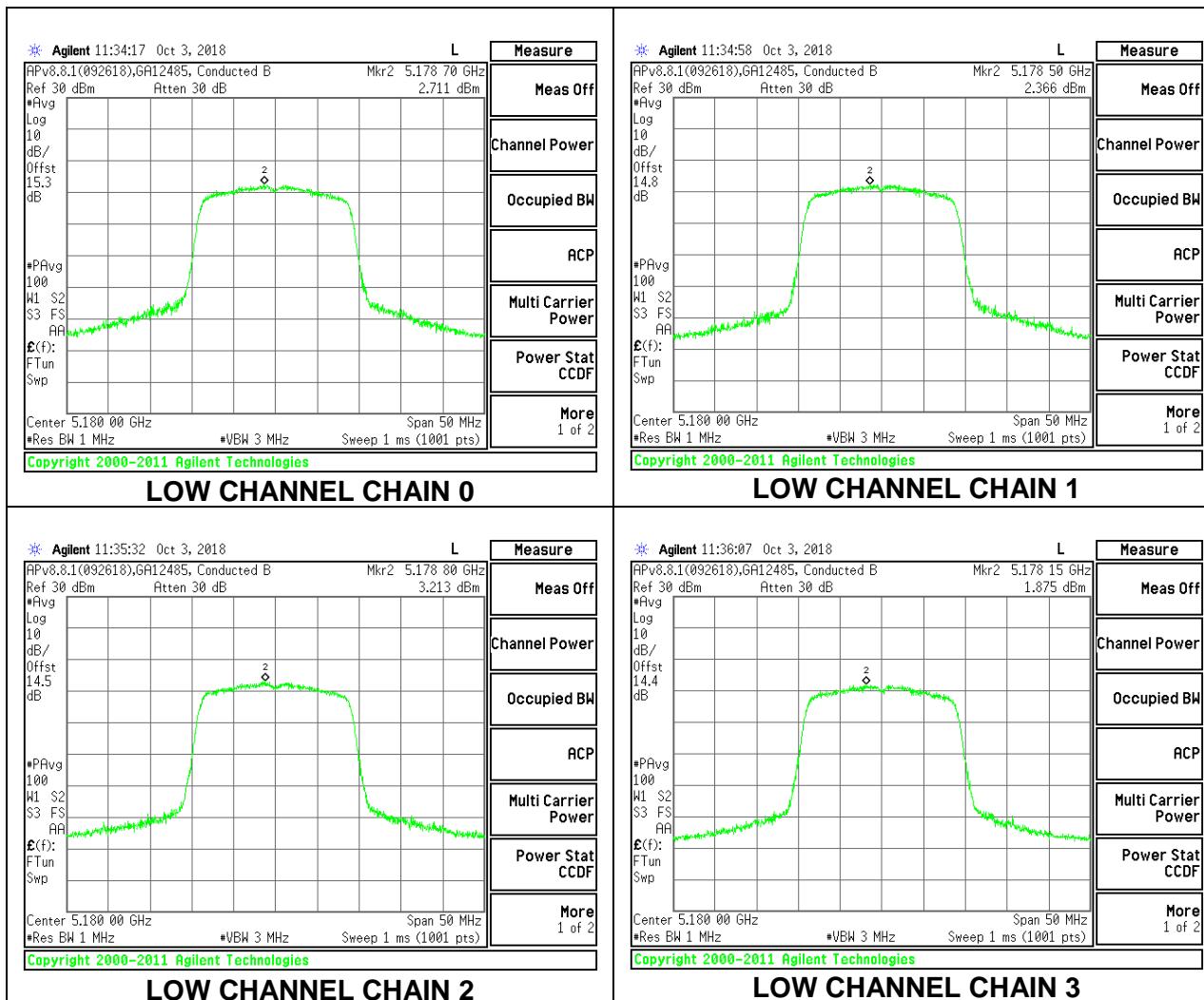
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Chain 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	13.42	13.79	14.52	13.34	19.81	24.00	-4.19
Mid	5200	12.8	13.31	14.15	12.94	19.35	24.00	-4.65
High	5240	12.53	13.07	13.89	12.78	19.12	24.00	-4.88

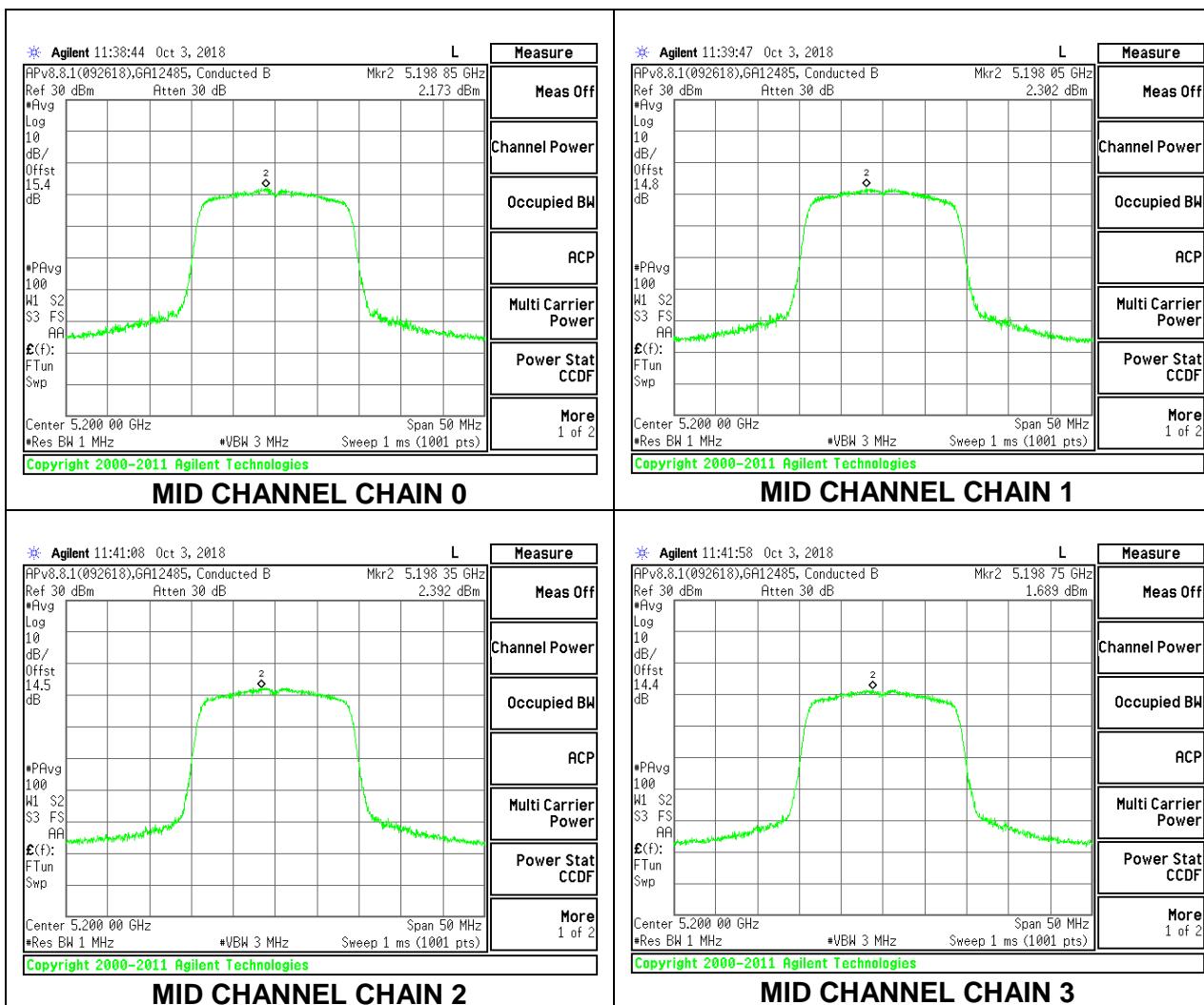
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Chain 2 Meas PSD (dBm/ 1MHz)	Chain 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5180	2.71	2.37	3.21	1.88	9.05	9.58	-0.53
Mid	5200	2.17	2.30	2.39	1.69	8.63	9.58	-0.95
High	5240	1.92	2.23	2.30	1.70	8.52	9.58	-1.06

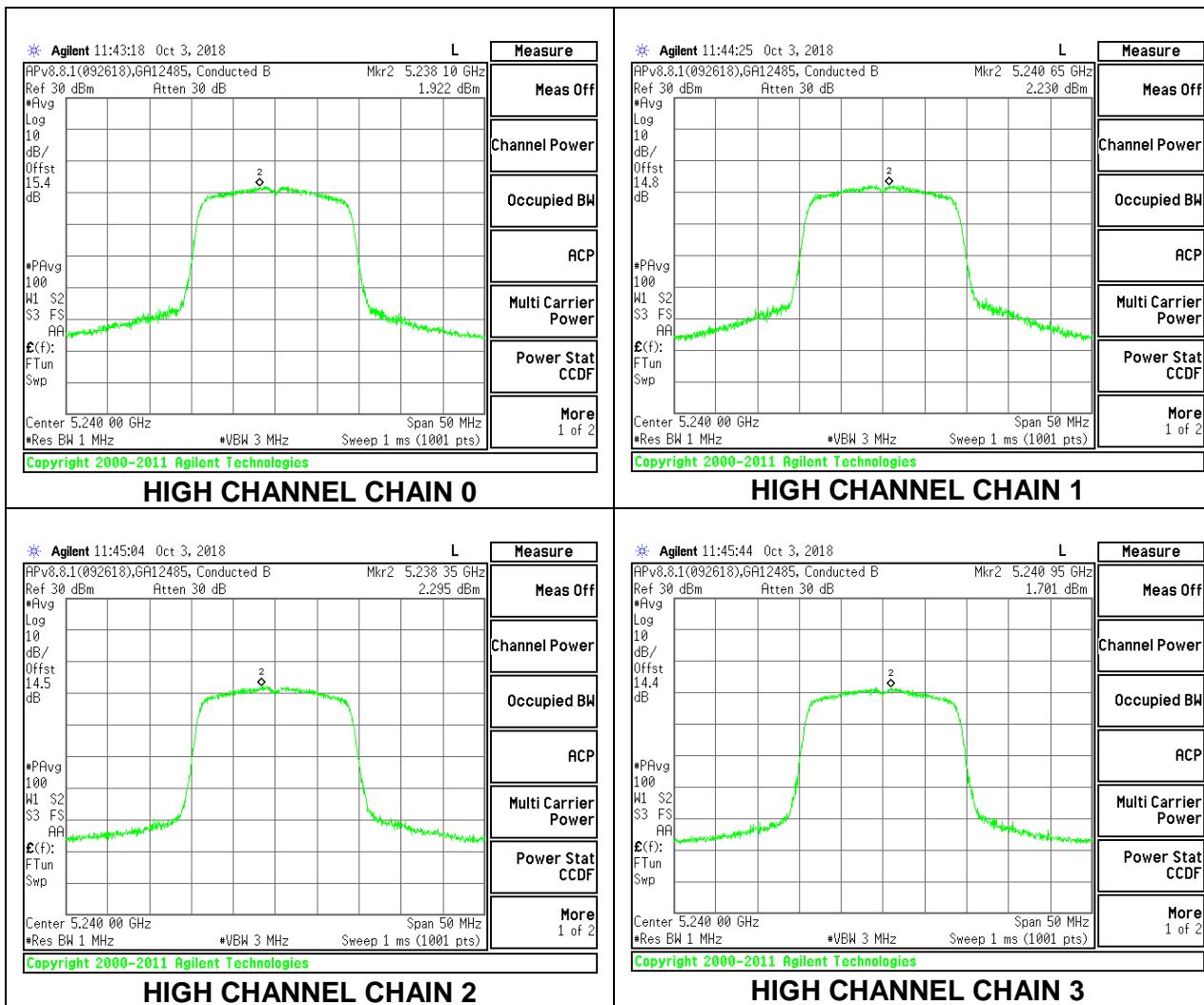
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.5.2.2. 802.11n HT20 MODE IN THE 5.3 GHz BAND

FCC+IC

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Direction Gain for Power (dBi)	Direction Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5260	20.10	4.41	7.42	24.00	9.58
Mid	5300	20.10	4.41	7.42	24.00	9.58
High	5320	20.35	4.41	7.42	24.00	9.58

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd PSD
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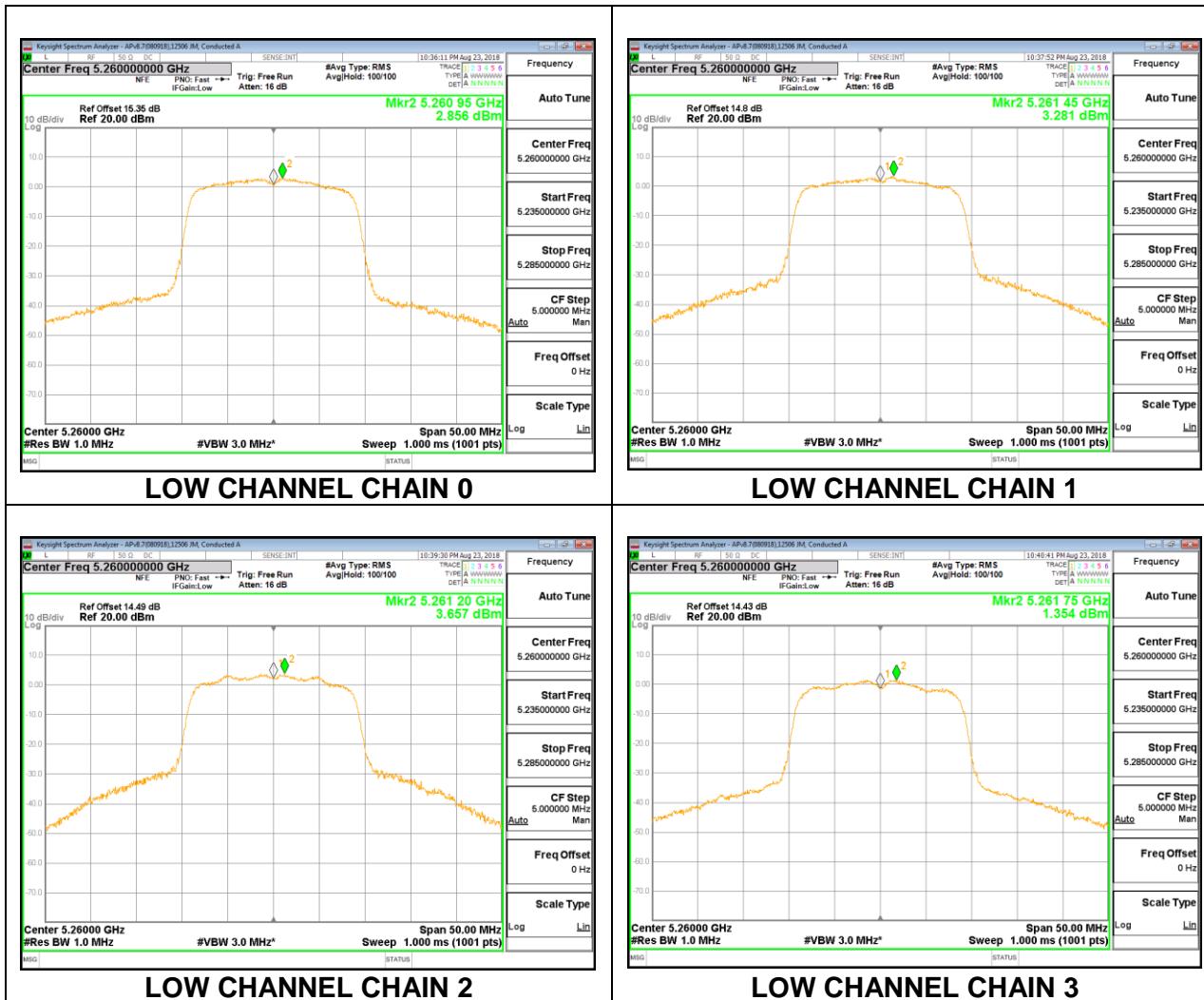
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Chain 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.78	12.82	13.53	11.26	18.69	24.00	-5.31
Mid	5300	13.35	13.13	14.17	12.06	19.26	24.00	-4.74
High	5320	13.33	13.46	14.14	12.07	19.33	24.00	-4.67

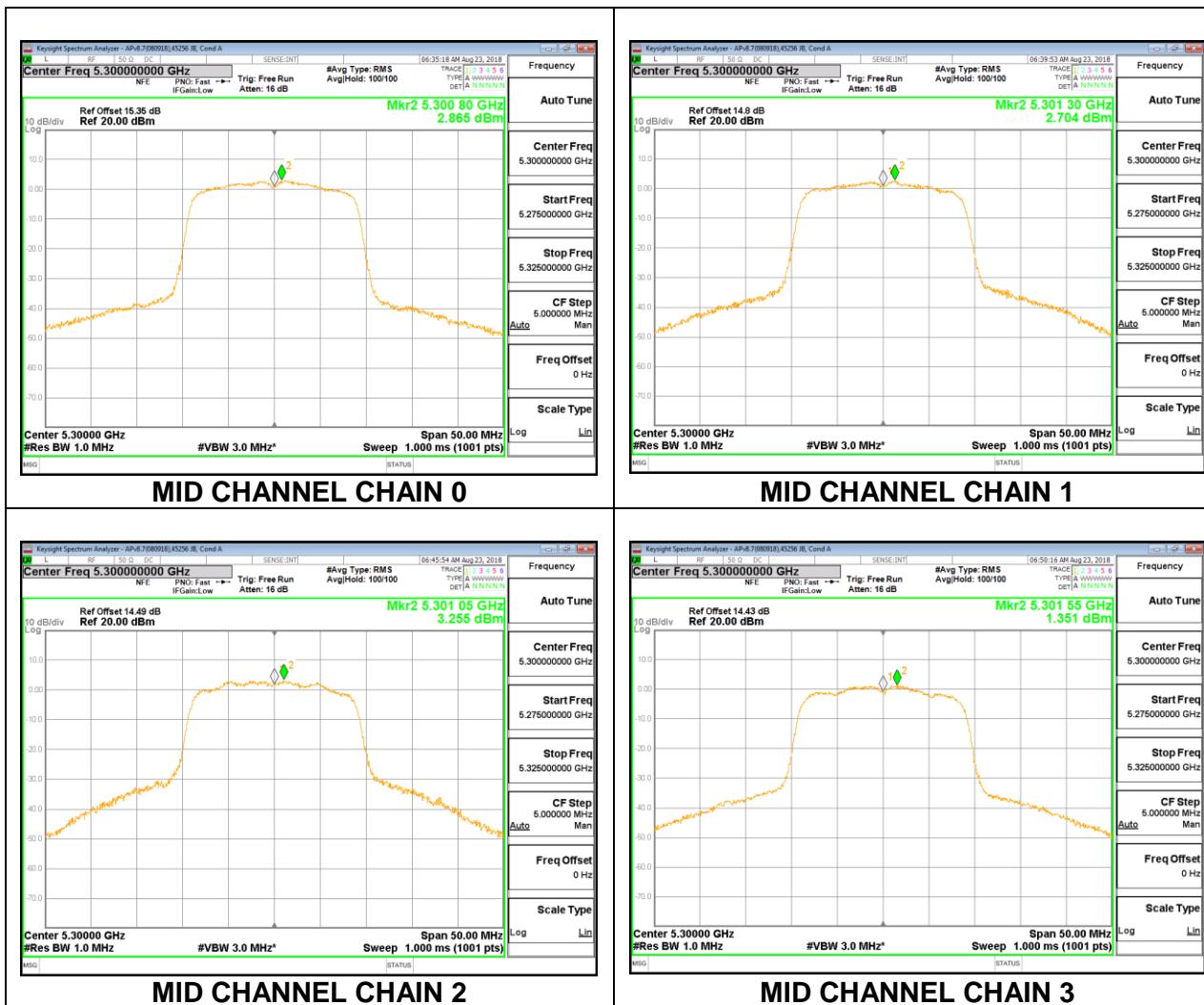
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Chain 2 Meas PSD (dBm/ 1MHz)	Chain 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5260	2.86	3.28	3.66	1.35	9.35	9.58	-0.23
Mid	5300	2.87	2.70	3.26	1.35	9.08	9.58	-0.50
High	5320	3.05	2.85	3.12	1.70	9.20	9.58	-0.38

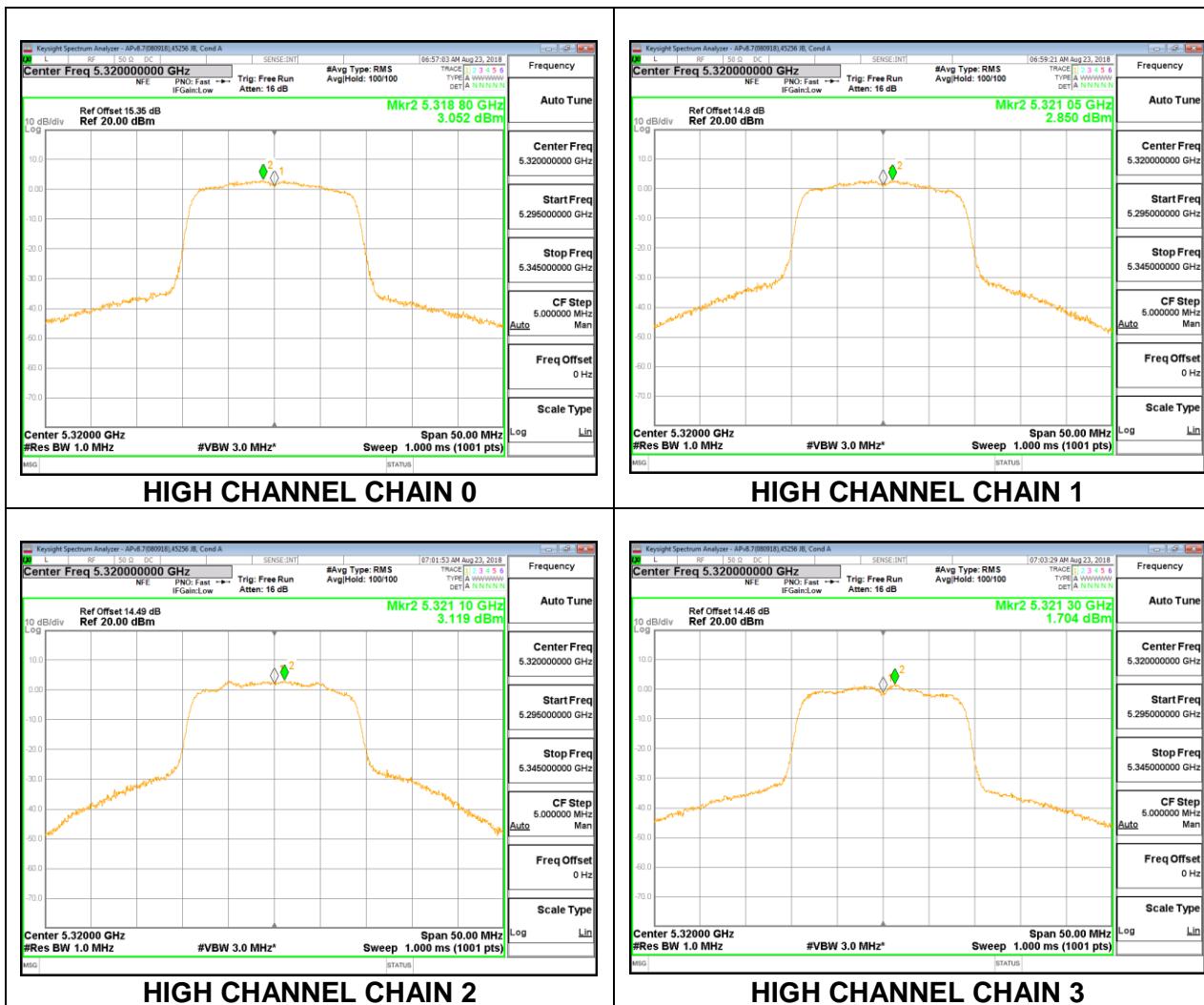
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.5.2.3. 802.11n HT20 MODE IN THE 5.6 GHz BAND

FCC+IC

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	20.0500	17.5750	4.41	7.42
Mid	5580	20.1000	17.5650	4.41	7.42
High	5700	20.2500	17.5940	4.41	7.42

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED PSD Limit (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)
Low	5500	24.00	23.45	29.45	23.45	9.58	11.00	9.58
Mid	5580	24.00	23.45	29.45	23.45	9.58	11.00	9.58
High	5700	24.00	23.45	29.45	23.45	9.58	11.00	9.58

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PSD
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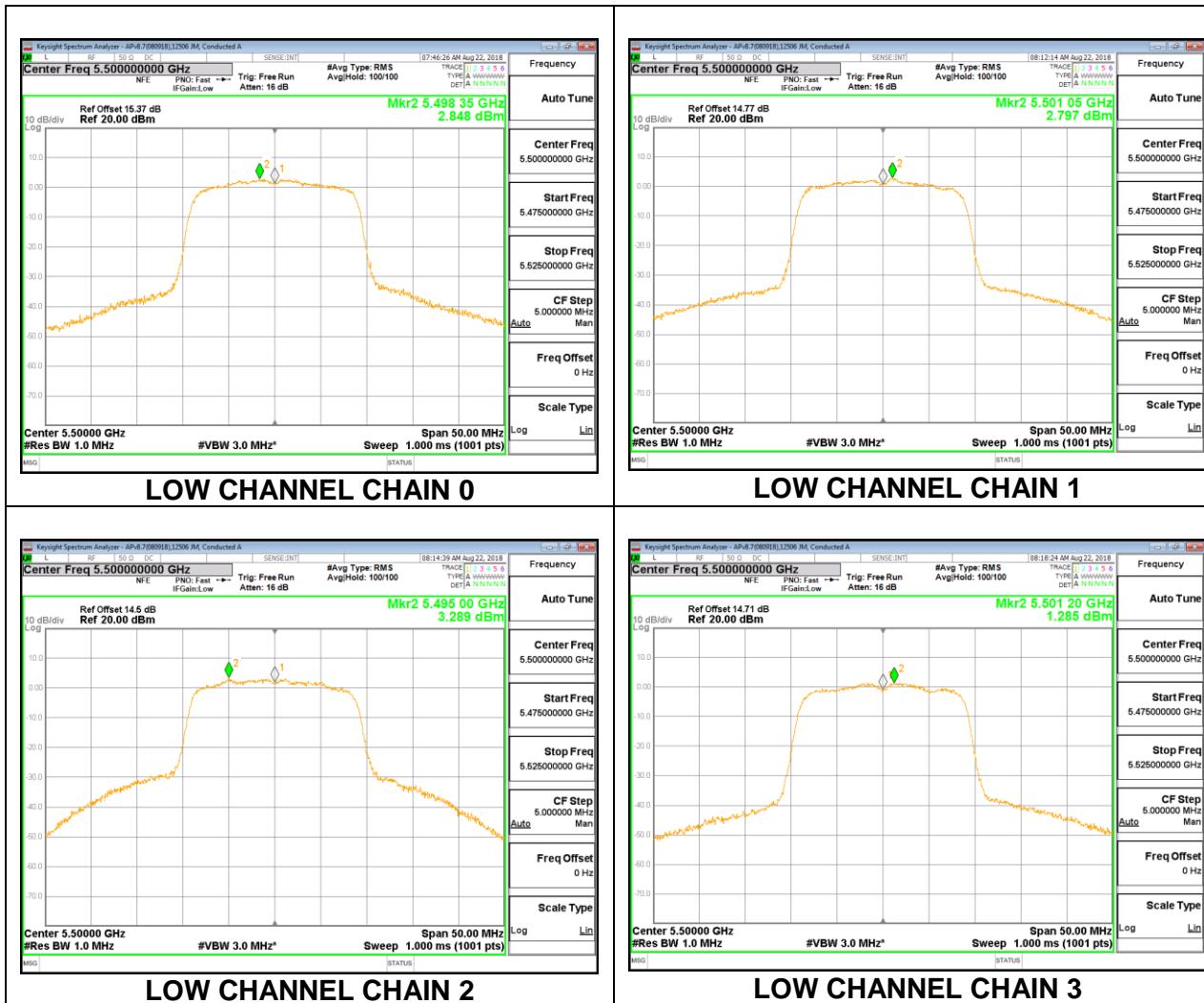
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Chain 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.14	13.1	14.22	12.11	19.23	23.45	-4.22
Mid	5580	12.55	12.23	13.58	11.48	18.55	23.45	-4.90
High	5700	12.42	12.34	12.92	11.41	18.33	23.45	-5.13

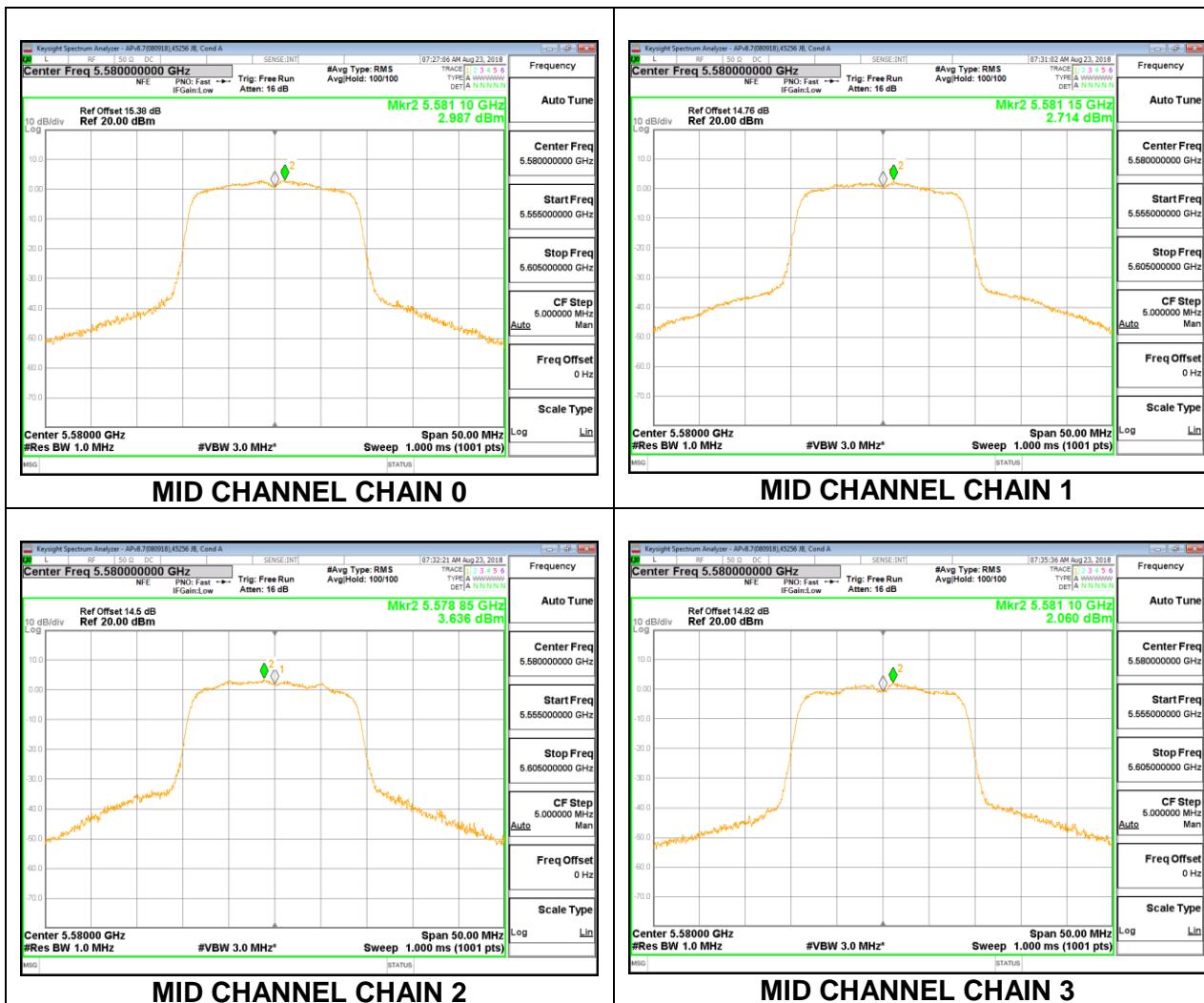
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Chain 2 Meas PSD (dBm/ 1MHz)	Chain 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5500	2.848	2.797	3.289	1.285	9.098	9.58	-0.48
Mid	5580	2.987	2.714	3.636	2.060	9.367	9.58	-0.21
High	5700	3.004	2.946	2.703	1.856	9.131	9.58	-0.45

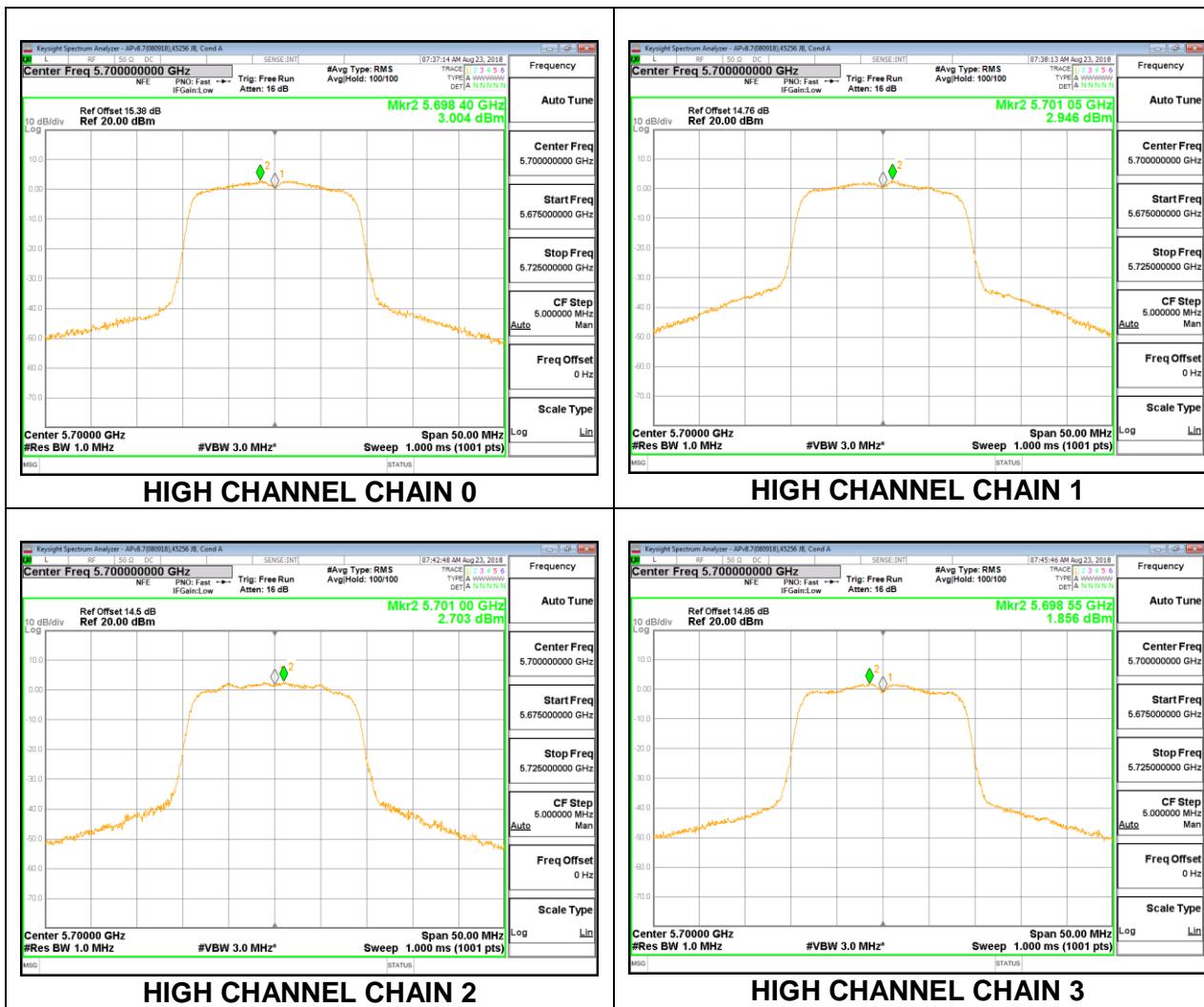
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.5.2.4. 802.11n HT20 MODE IN THE 5.8 GHz BAND

FCC+IC

Antenna Gain and Limit

Channel	Frequency (MHz)	Directiona Gain for Power (dBi)	Directiona Gain for PSD (dBm)	FCC/ISED Power Limit (dBm)	FCC/ISED PSD Limit (dBm/ 1MHz)
Low	5745	4.41	7.42	30.00	28.58
Mid	5785	4.41	7.42	30.00	28.58
High	5825	4.41	7.42	30.00	28.58

Duty Cycle CF (dB)	0.46	Included in Calculations of Corr'd Power & PSD
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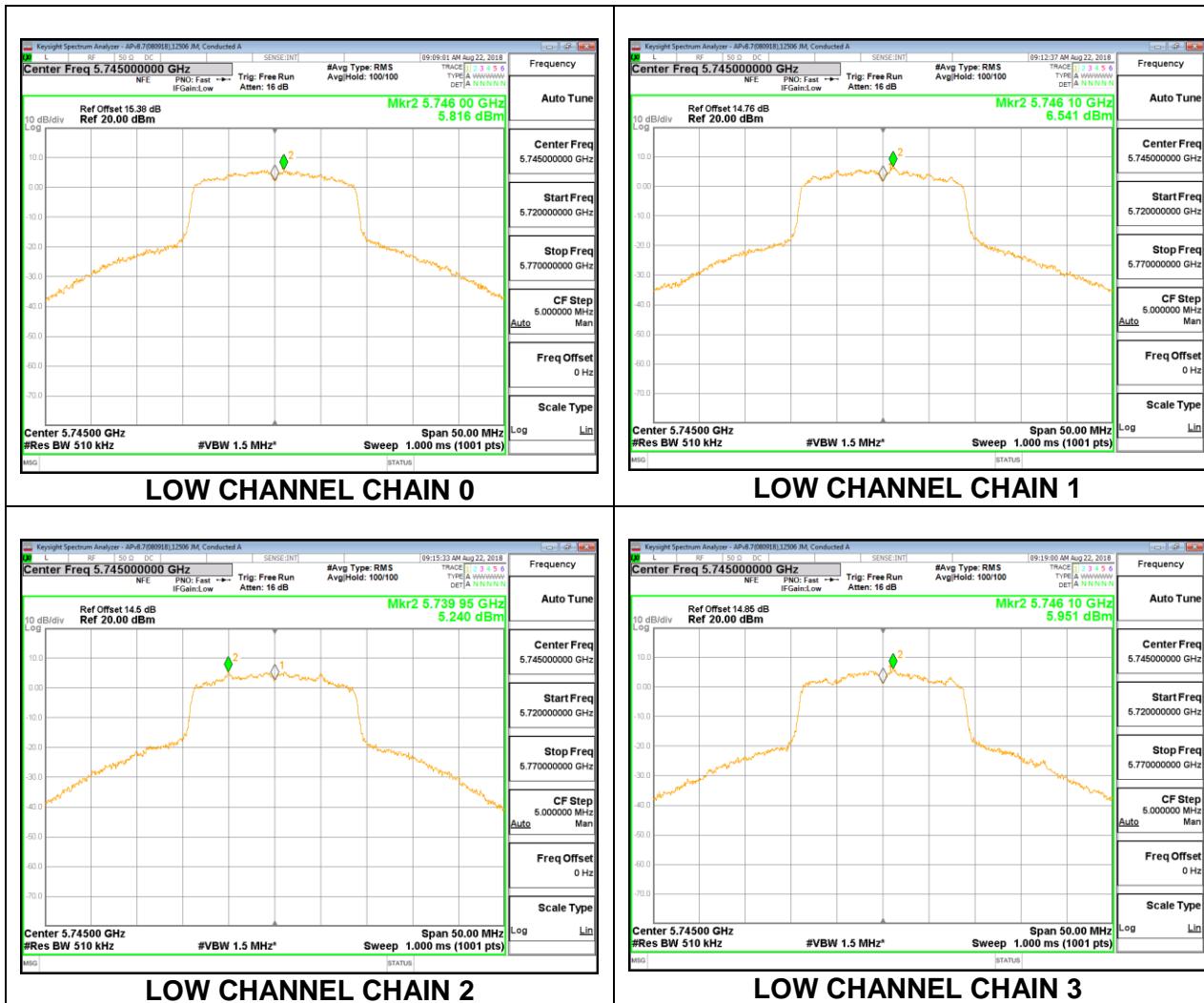
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Chain 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	18.35	18.68	17.94	18.13	24.30	30.00	-5.70
Mid	5785	18.22	18.43	17.82	17.84	24.11	30.00	-5.89
High	5825	18.14	17.77	17.5	17.57	23.77	30.00	-6.23

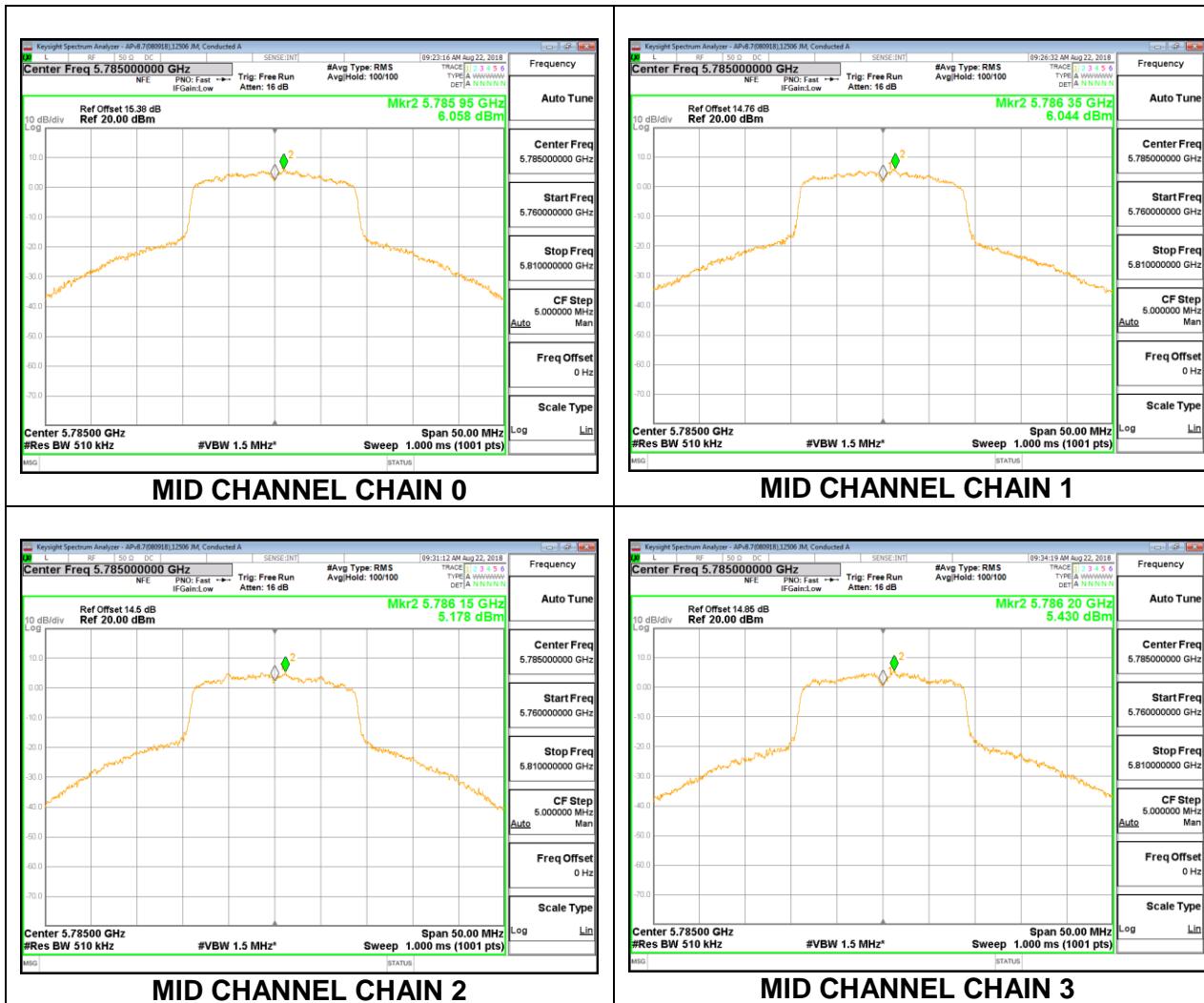
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Chain 2 Meas PSD (dBm/ 1MHz)	Chain 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5745	5.816	6.541	5.240	5.951	12.392	28.58	-16.19
Mid	5785	6.058	6.044	5.178	5.430	12.175	28.58	-16.41
High	5825	5.965	5.572	4.761	4.558	11.733	28.58	-16.85

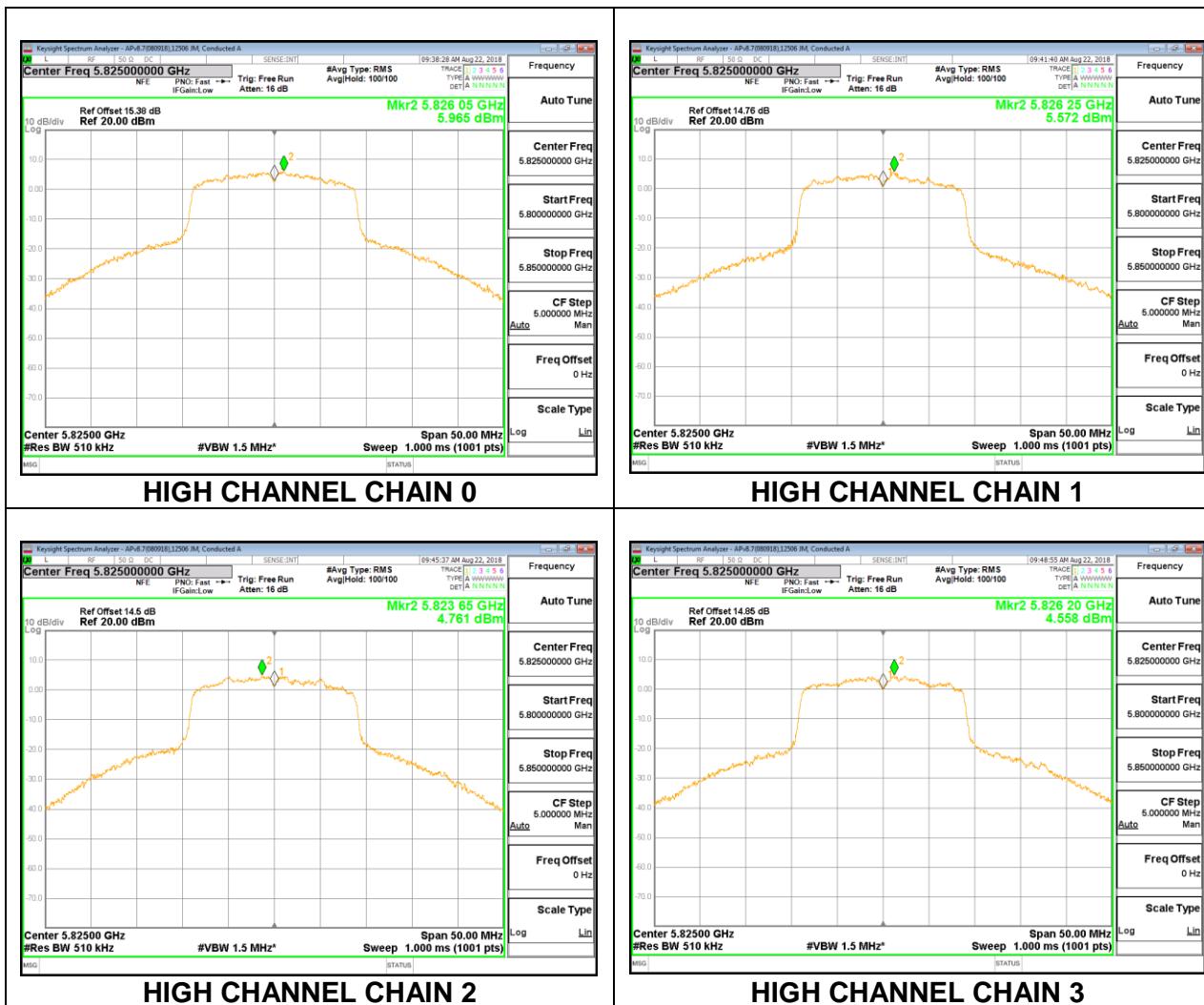
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



9. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restricted bands

FCC §15.407(b)(1-3) -Un-Restricted bands

After January 01, 2019 for Outside of the Restricted Bands Emissions

RSS 247 Issue 2 Sections

6.2.1.2 (for 5150-5250 MHz band)

6.2.2.2 (for 5250-5350 MHz band)

6.2.3.2 (for 5470-5600 MHz and 5650-5725 MHz bands)

6.2.4.2 (for 5725-5850 MHz band)

NCC LP0002 §2.7 and §2.8

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement 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.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 1GHz and 18GHz to 40 GHz is investigated with the transmitter set to transmit at the channel with highest output power as worst-case scenario. 1GHz to 18GHz was set to the lowest, middle, and highest channels in the 5 GHz bands.

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.

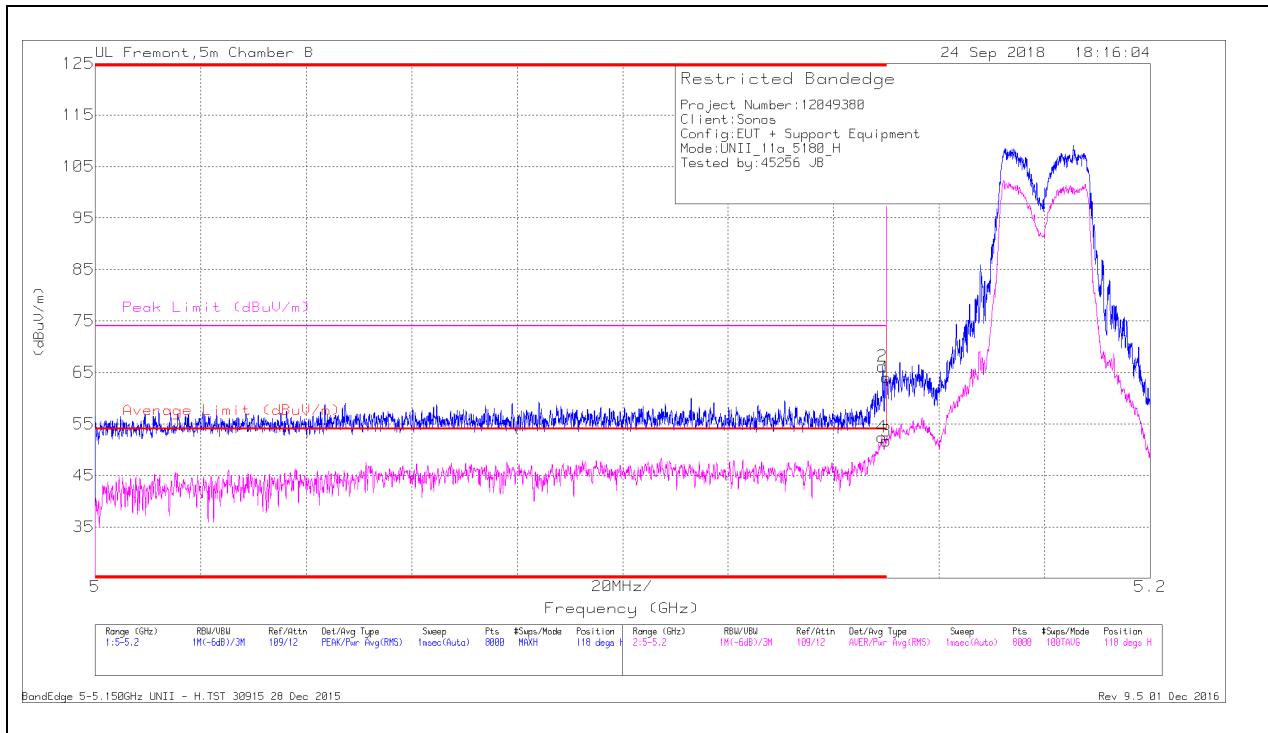
9.1. TRANSMITTER ABOVE 1 GHz

9.1.1 RADIO 0

9.1.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Trace Markers

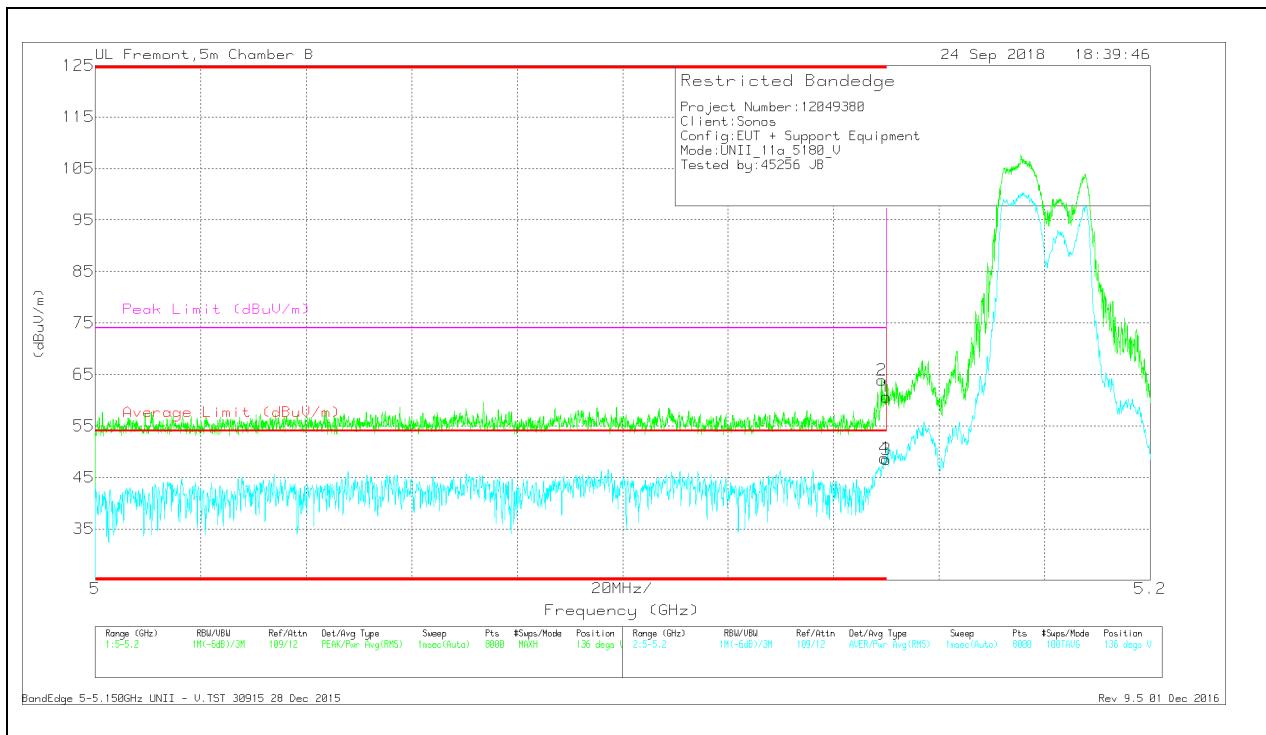
Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	46.98	Pk	34.6	-17.6	0	63.98	-	-	74	-10.02	118	181	H
2	* 5.149	48.96	Pk	34.6	-17.4	0	66.16	-	-	74	-7.84	118	181	H
3	* 5.15	34.68	RMS	34.6	-17.6	0	51.68	54	-2.32	-	-	118	181	H
4	* 5.149	35.12	RMS	34.6	-17.3	0	52.42	54	-1.58	-	-	118	181	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dB _U /m)	Det	AF T863 (dB/m)	Amp/Cbl/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dB _U /m)	Average Limit (dB _U /m)	Margin (dB)	Peak Limit (dB _U /m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	43.67	Pk	34.6	-17.6	0	60.67	-	-	74	-13.33	136	170	V
2	* 5.149	46.56	Pk	34.6	-17.3	0	63.86	-	-	74	-10.14	136	170	V
3	* 5.15	31.48	RMS	34.6	-17.6	0	48.48	54	-5.52	-	-	136	170	V
4	* 5.15	31.63	RMS	34.6	-17.5	0	48.73	54	-5.27	-	-	136	170	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection