

9.8. 11ac HT80 2TX CDD MIMO MODE IN THE 5.3GHz BAND

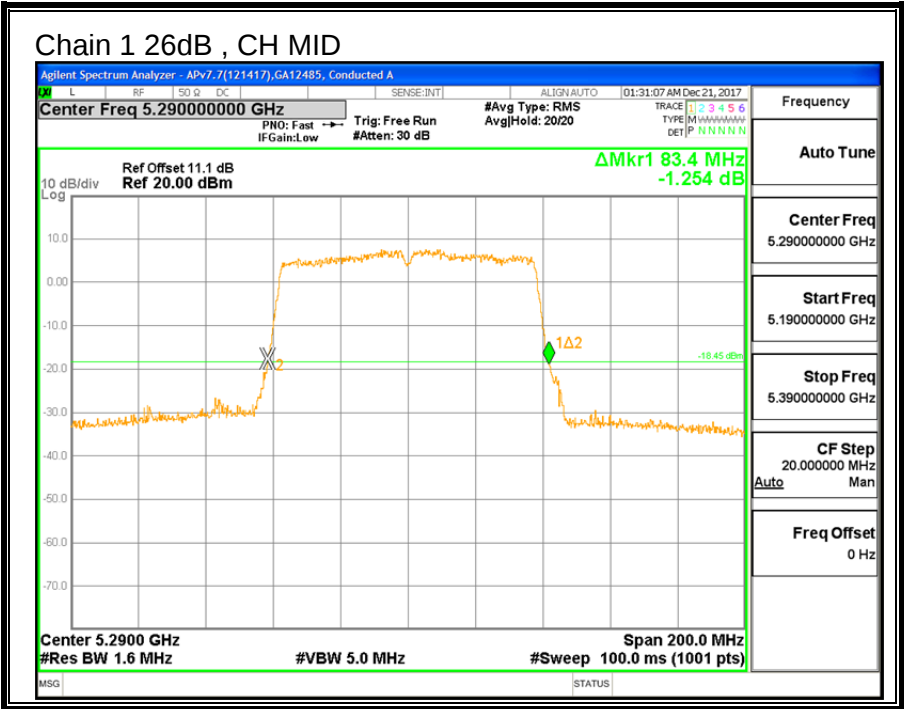
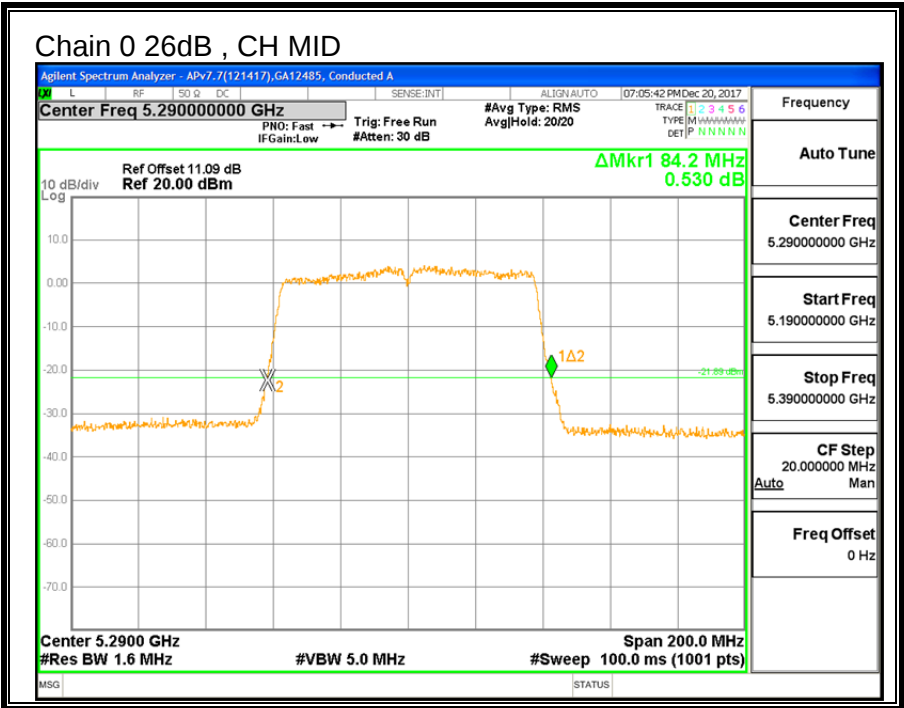
9.8.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5290	84.2	83.4



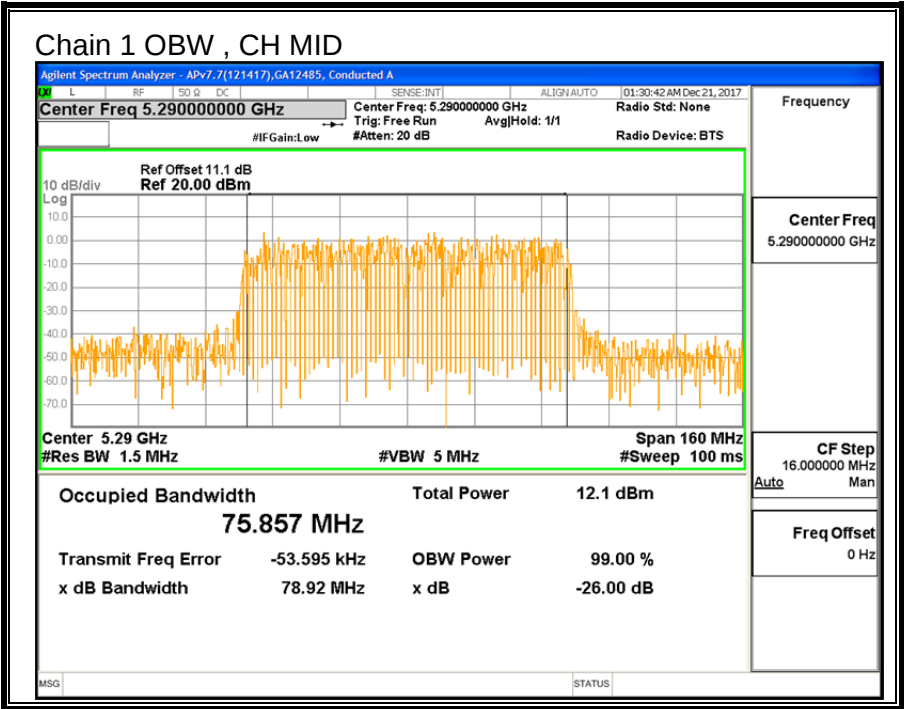
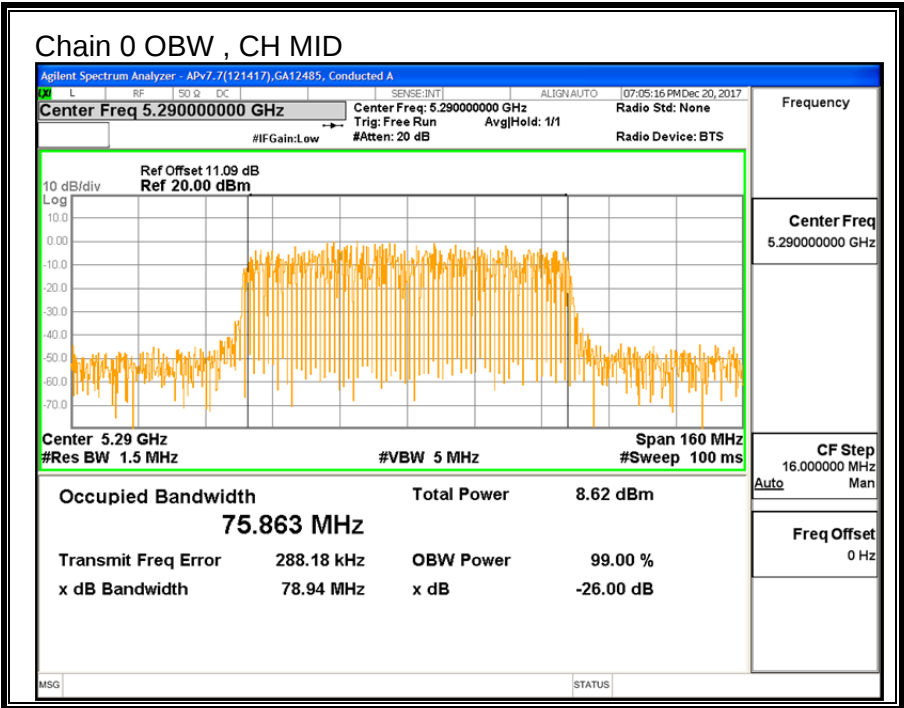
9.8.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5290	75.863	75.857



9.8.3. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum 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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

For power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

5250-5350 MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-0.67	-4.74	-2.24

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

5250-5230 MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-0.67	-4.74	0.54

RESULTS

ID:	GA12485	Date:	12/21/17
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Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5290	83.40	75.857	-2.24	0.54

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd PPSD
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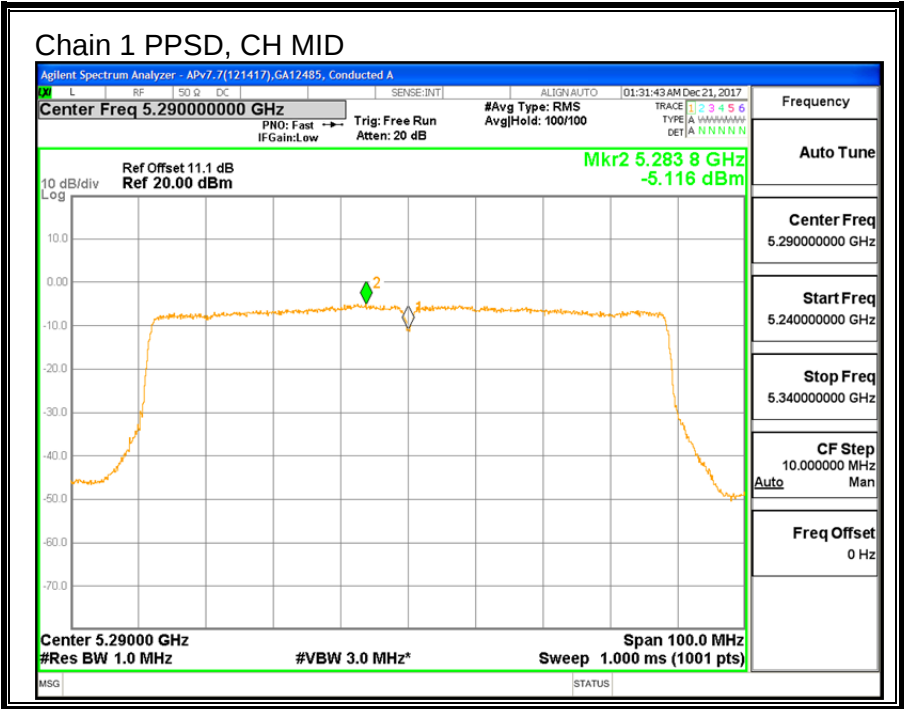
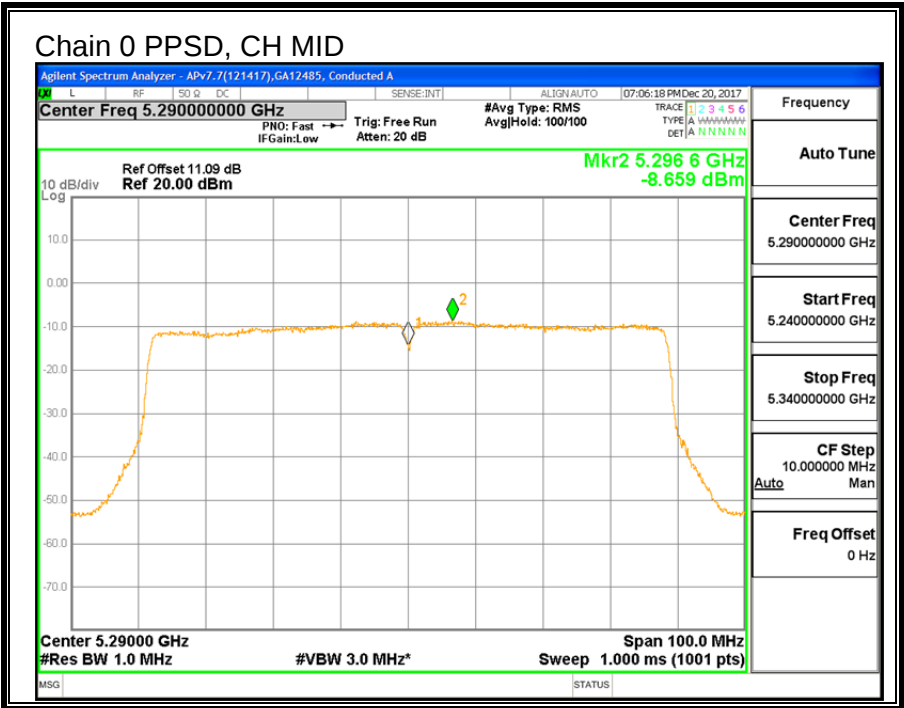
Output Power Results

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	5290	8.51	12.43	13.91	24.00	-10.09

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	5290	-8.659	-5.116	-2.81	11.00	-13.81

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.



9.9. 11a 2TX CDD MIMO MODE IN THE 5.6GHz BAND

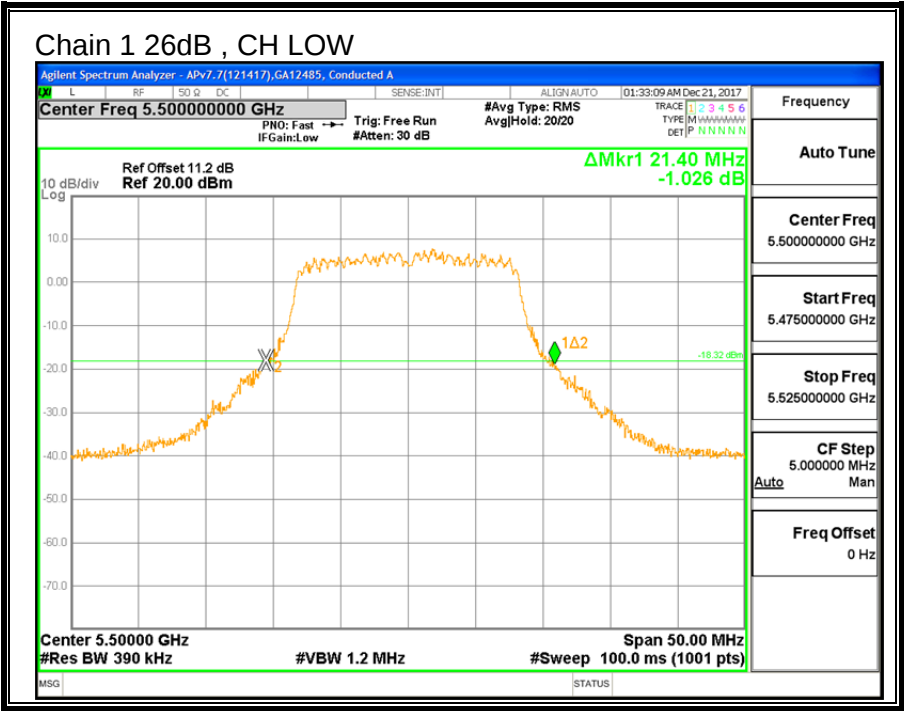
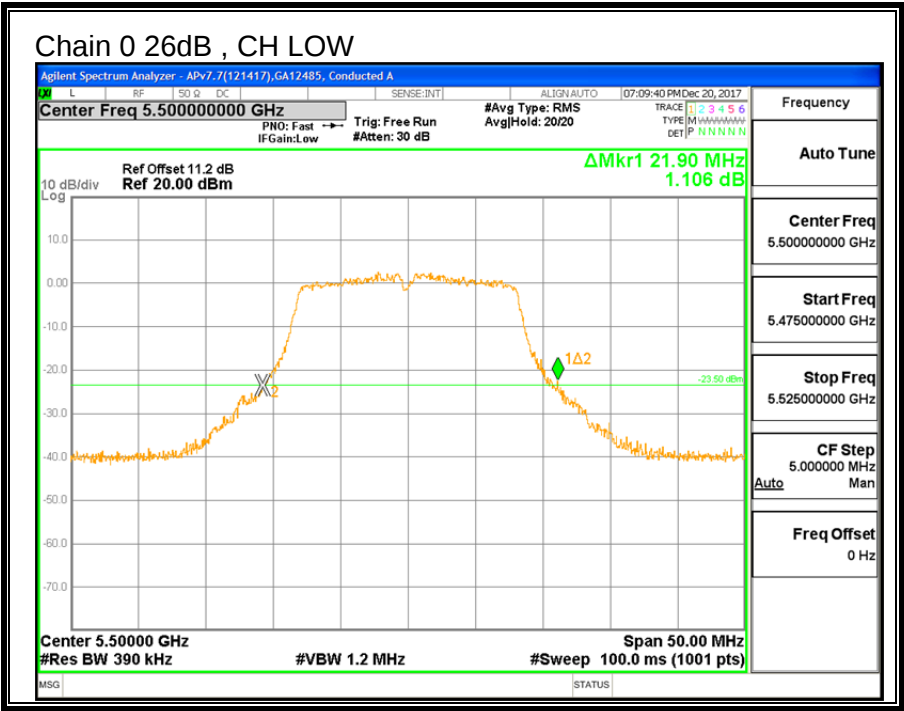
9.9.1. 26 dB BANDWIDTH

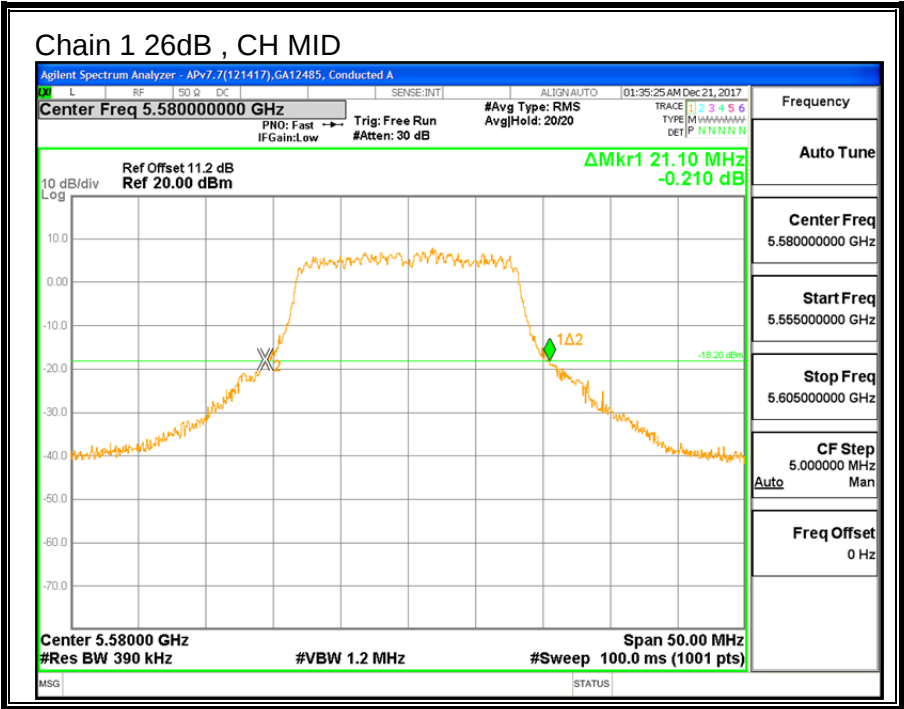
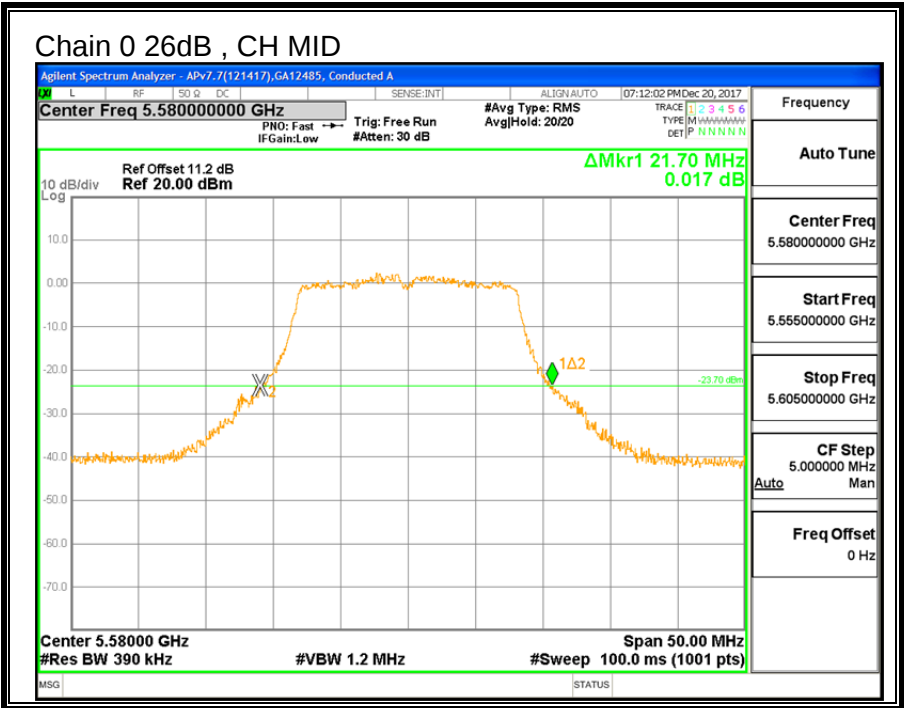
LIMITS

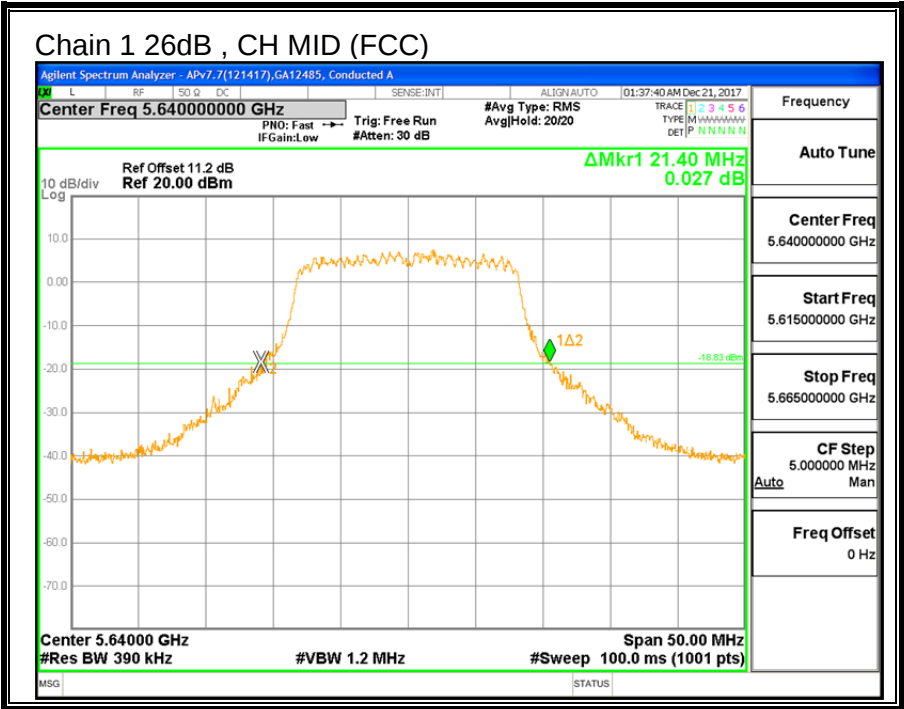
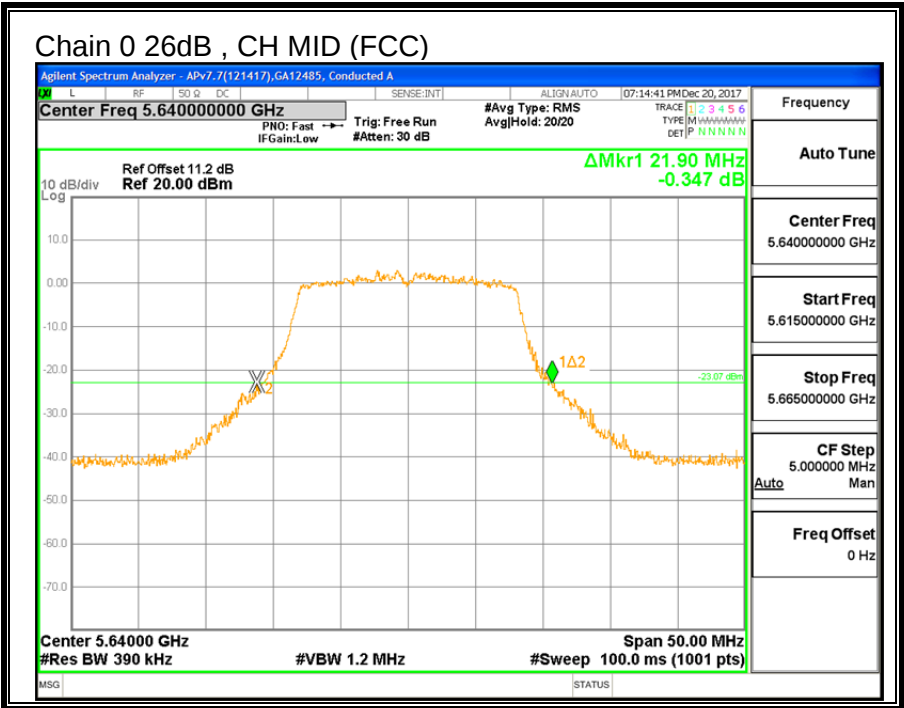
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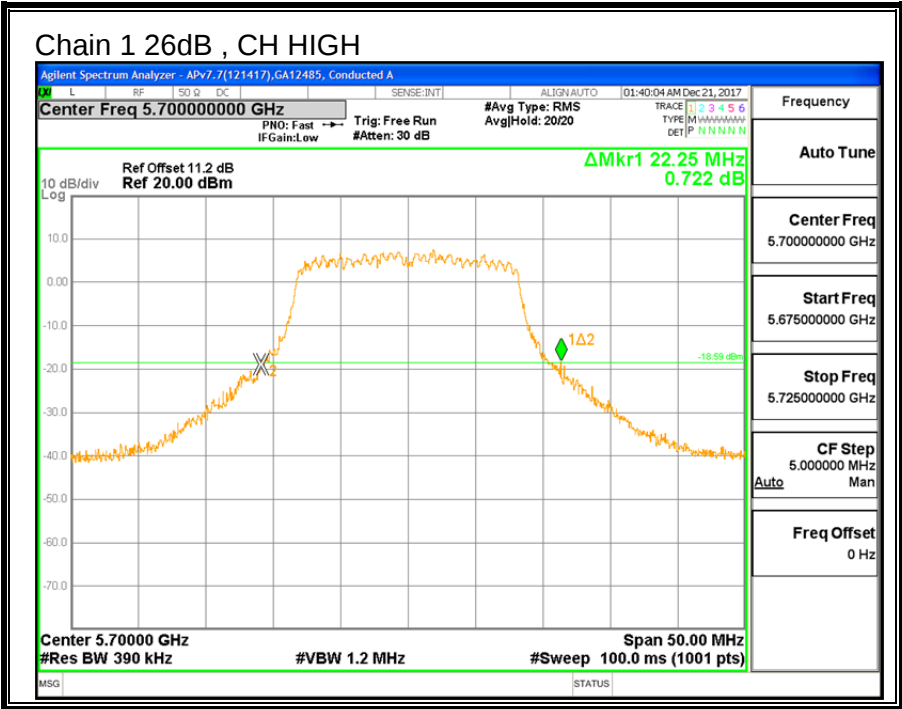
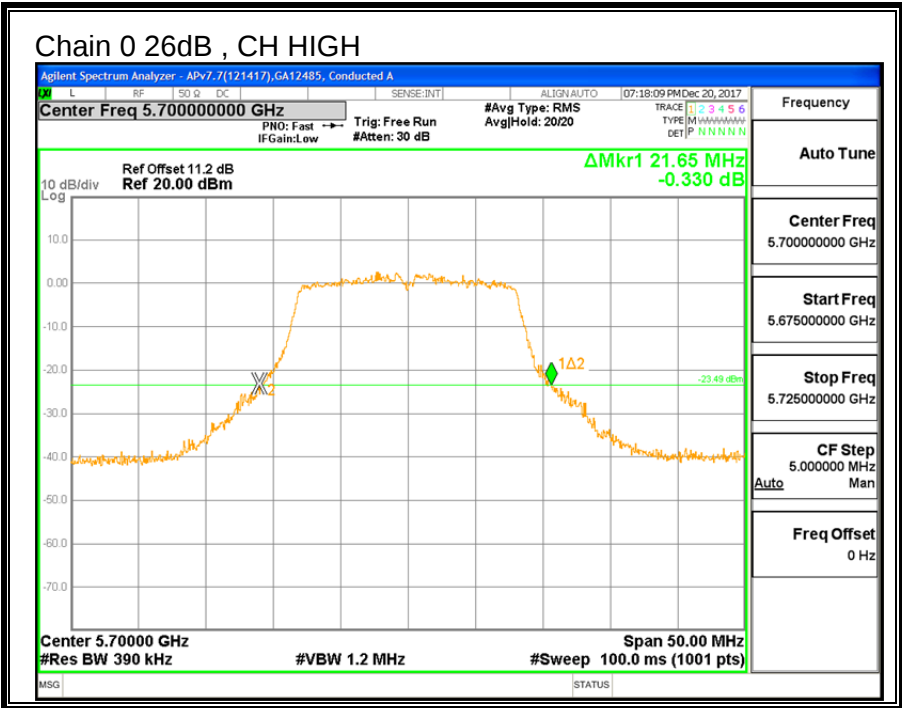
RESULTS

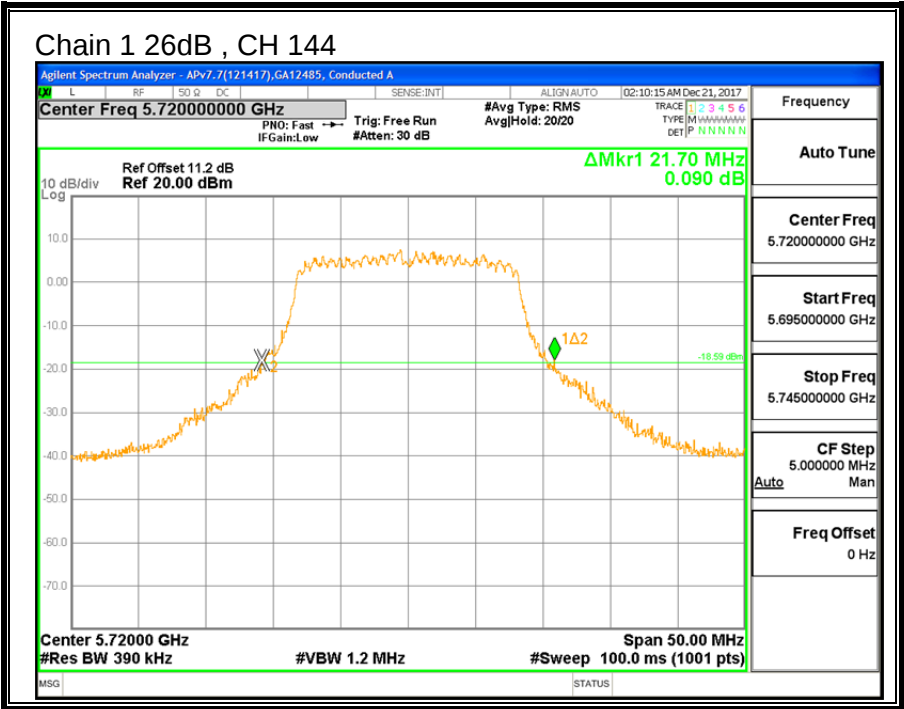
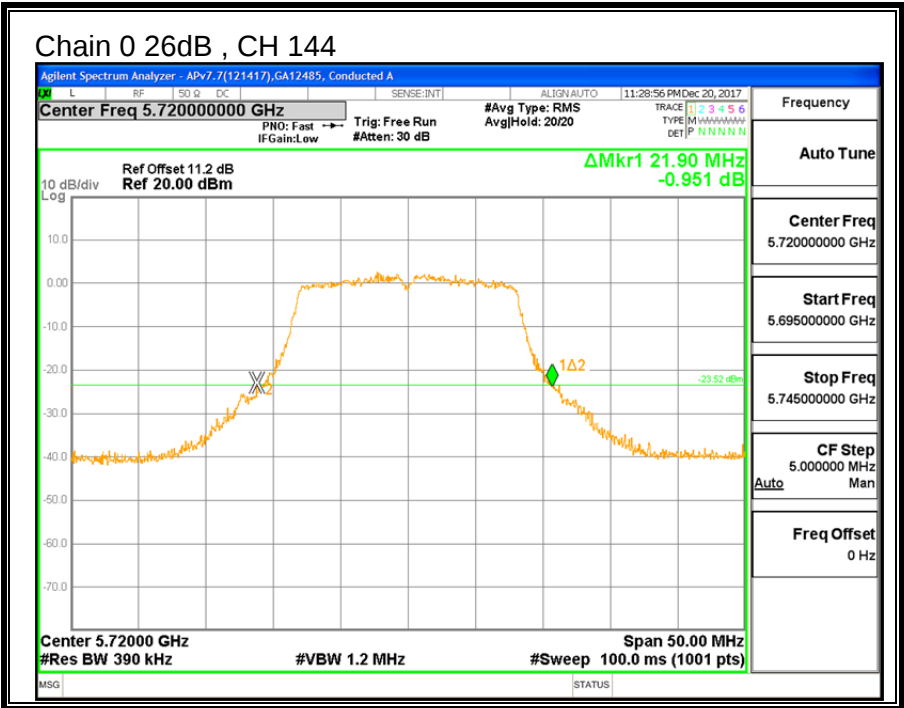
Channel	Frequency	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	21.90	21.40
Mid	5580	21.70	21.10
Mid (FCC)	5640	21.90	21.40
High	5700	21.65	22.25
144	5720	21.90	21.70











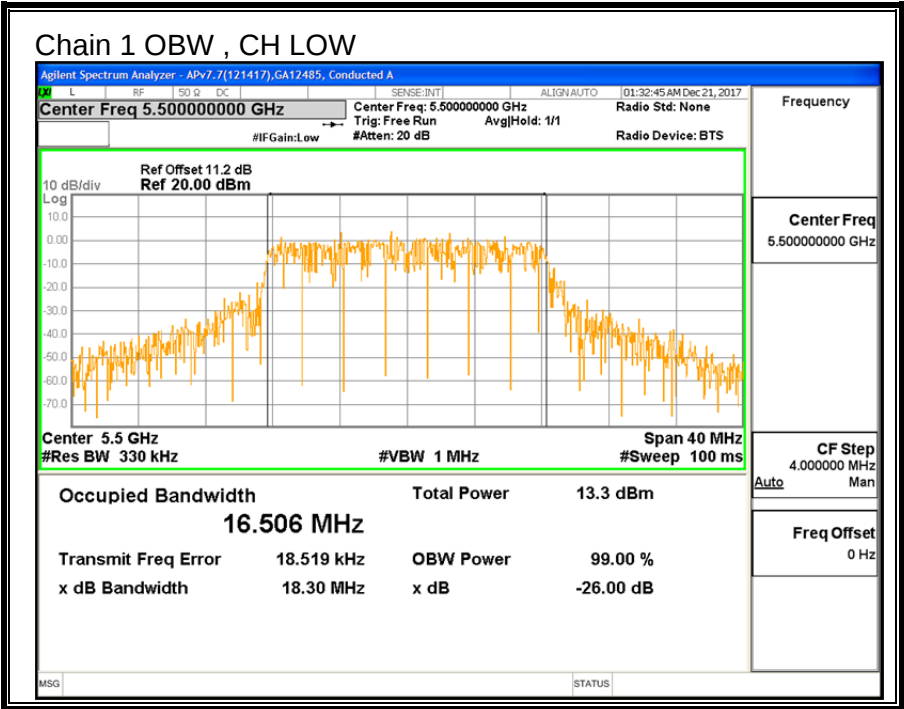
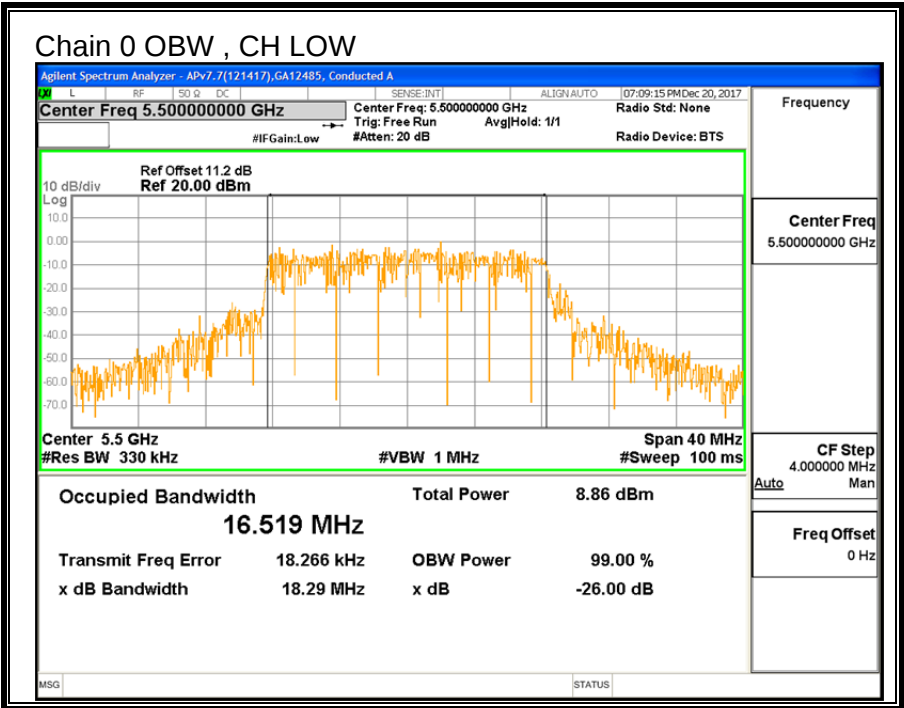
9.9.2. 99% BANDWIDTH

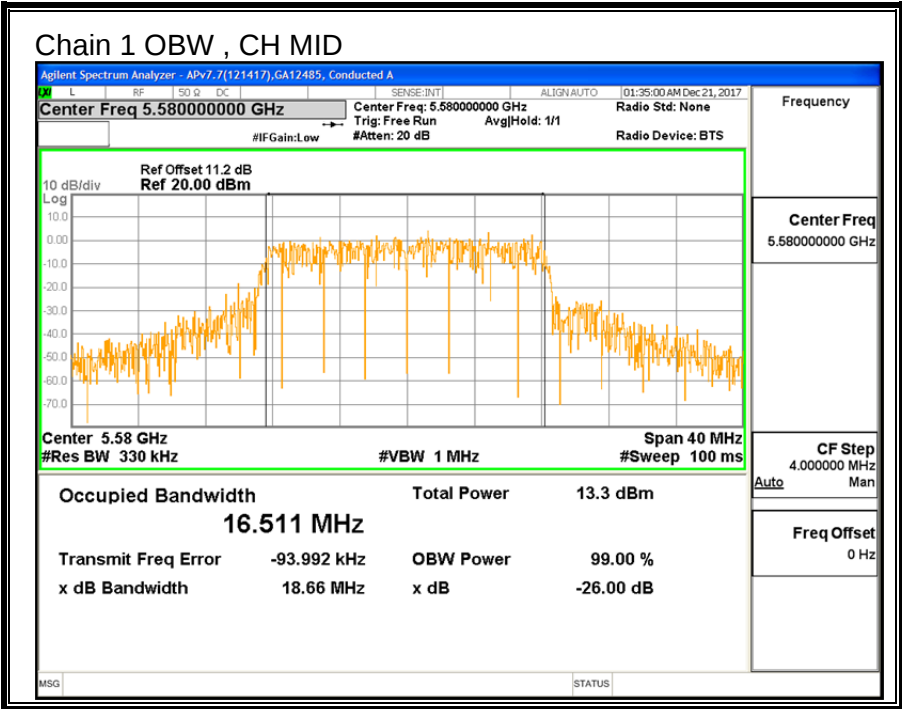
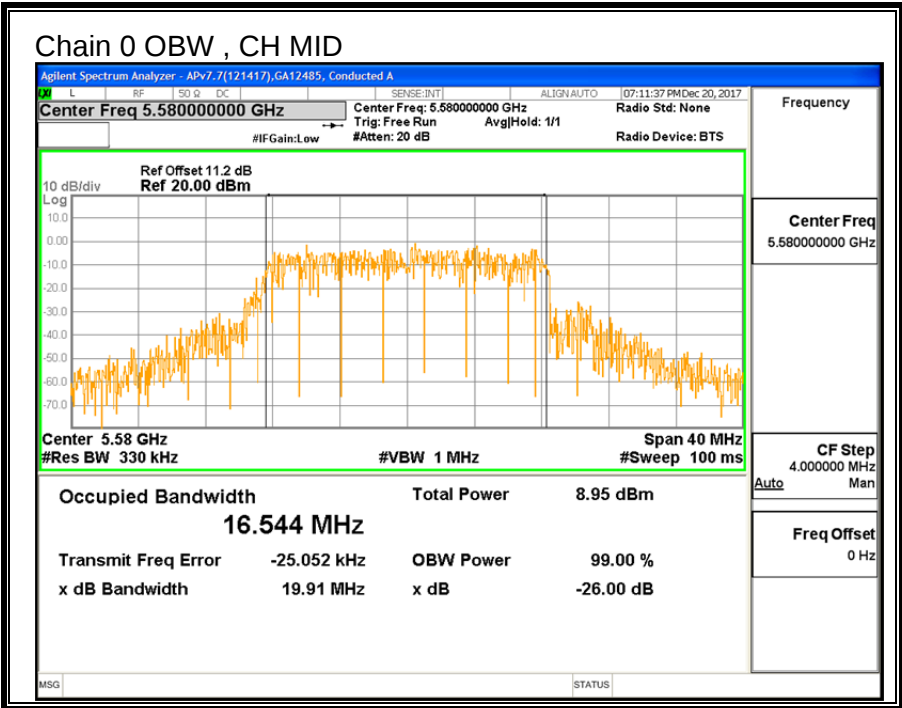
LIMITS

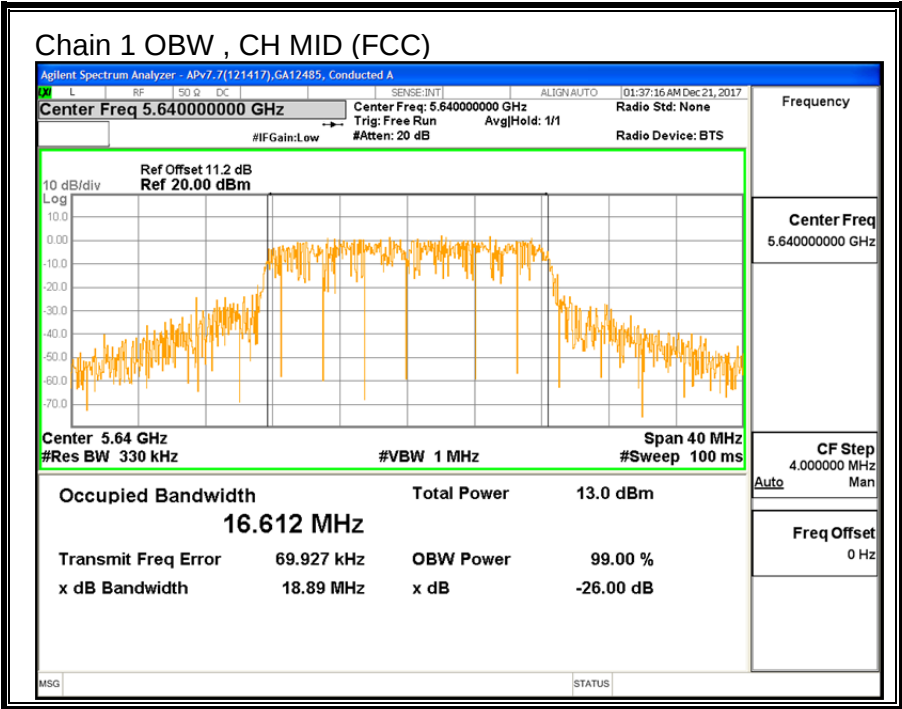
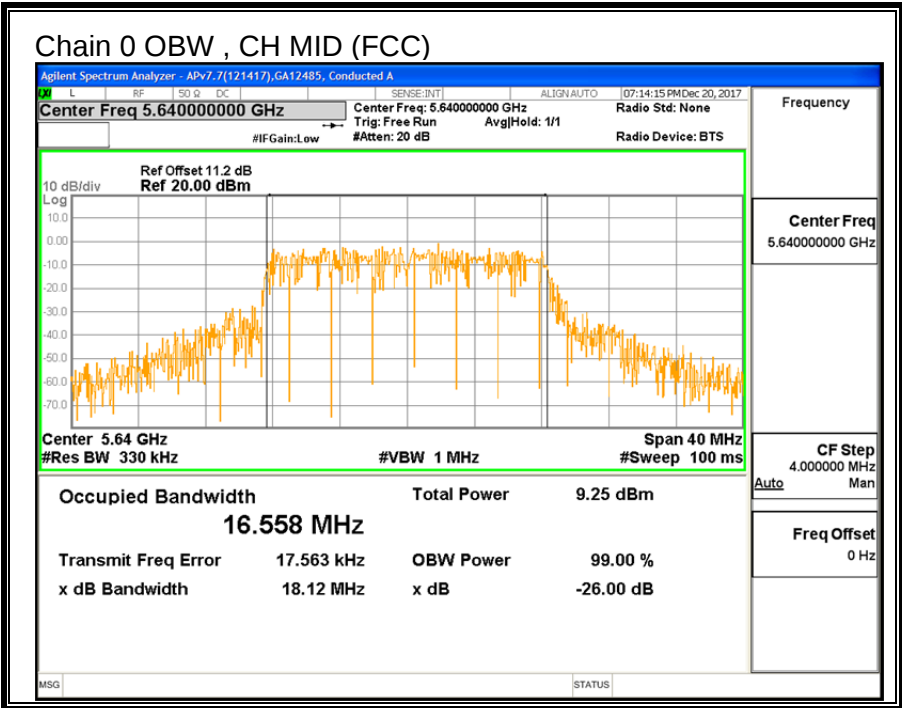
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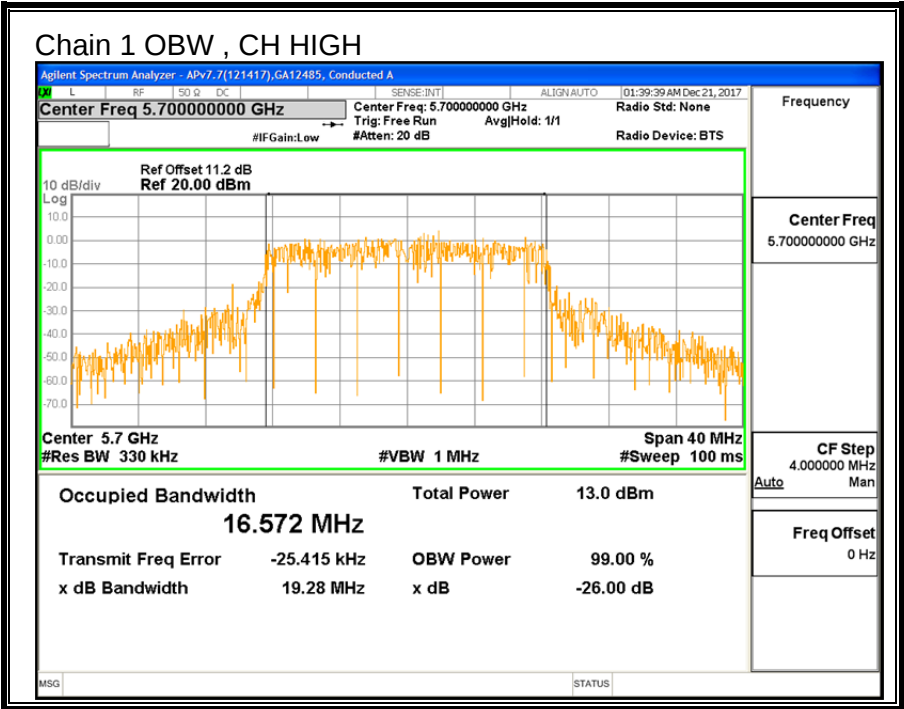
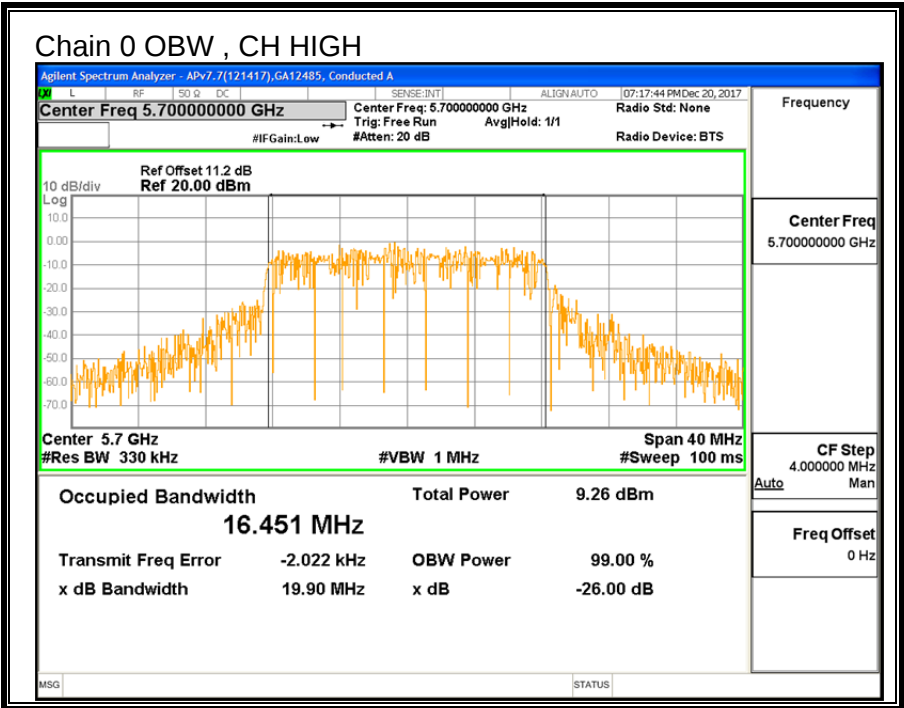
RESULTS

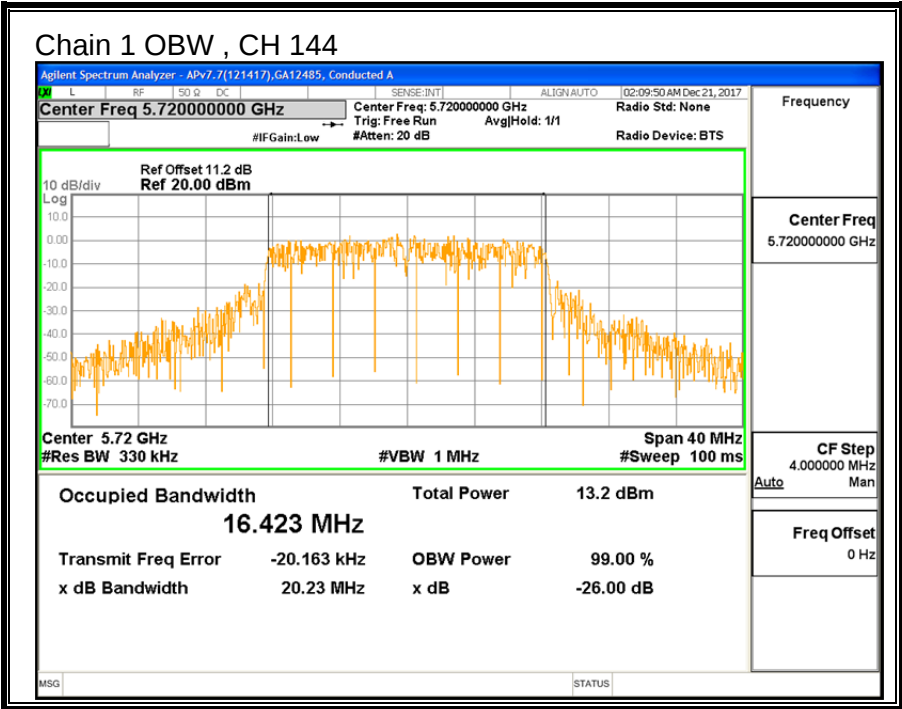
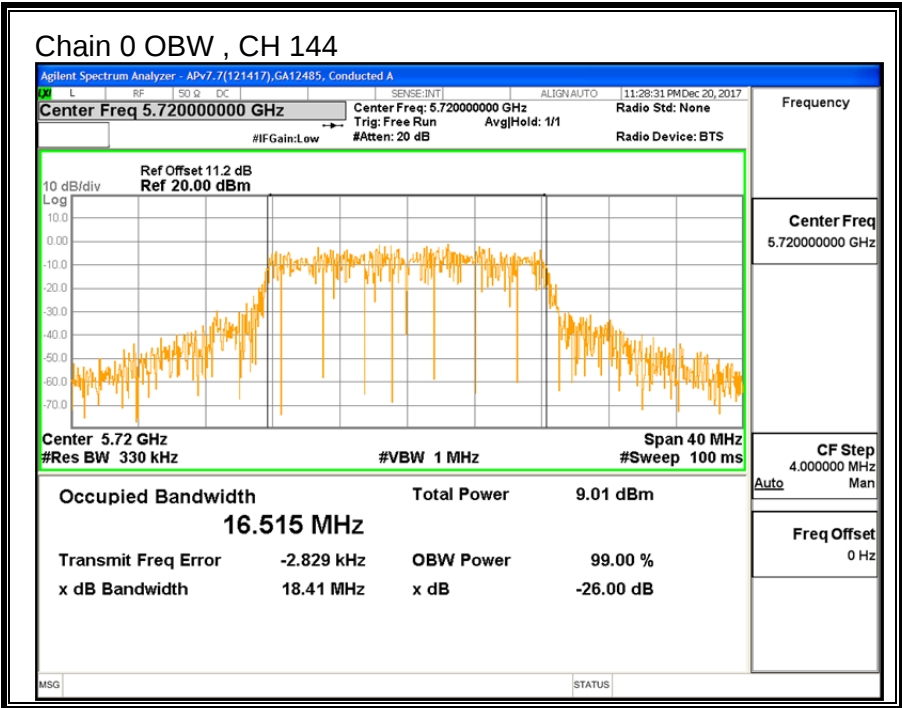
Channel	Frequency	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.519	16.506
Mid	5580	16.544	16.511
Mid (FCC)	5640	16.558	16.612
High	5700	16.451	16.572
144	5720	16.515	16.423











9.9.3. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum 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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

For power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

5470-5725 MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
0.96	-5.75	-1.21

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

5470-5725 MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
0.96	-5.75	1.25

RESULTS

ID:	GA12485	Date:	12/21/17
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Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	21.40	16.506	-1.21	1.25
Mid	5580	21.10	16.511	-1.21	1.25
Mid (FCC)	5640	21.40	16.558	-1.21	1.25
High	5700	21.65	16.451	-1.21	1.25
144	5720	15.85	13.212	-1.21	1.25

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.18	29.18	23.18	11.00	11.00	11.00
Mid	5580	24.00	23.18	29.18	23.18	11.00	11.00	11.00
Mid (FCC)	5640	24.00	23.19	29.19	23.19	11.00	11.00	11.00
High	5700	24.00	23.16	29.16	23.16	11.00	11.00	11.00
144	5720	23.00	22.21	28.21	22.21	11.00	11.00	11.00

Duty Cycle CF (dB)	0.11	Included in Calculations of Corr'd PPSD
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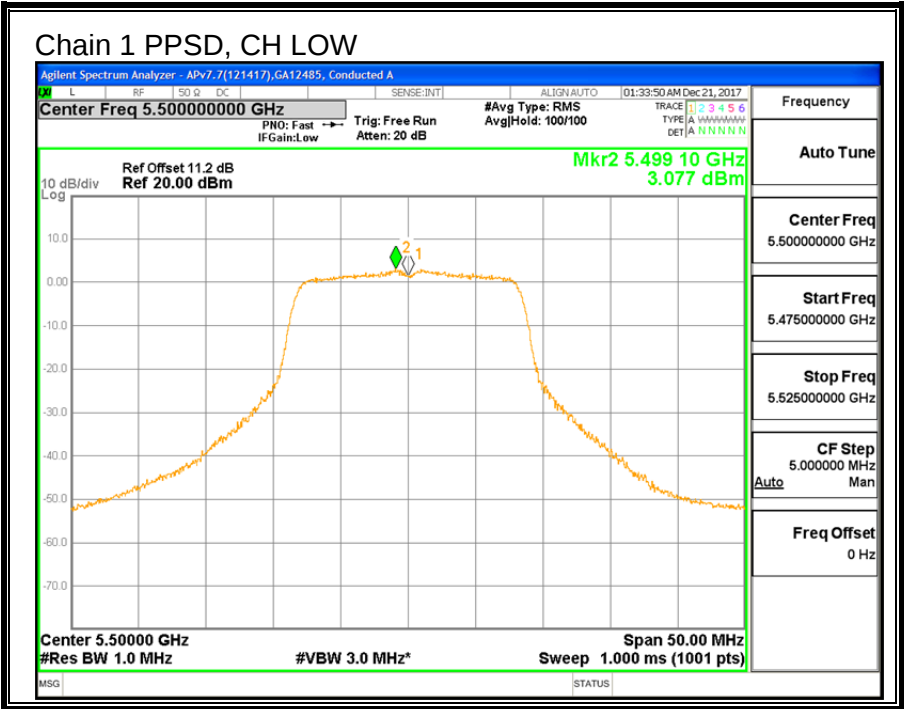
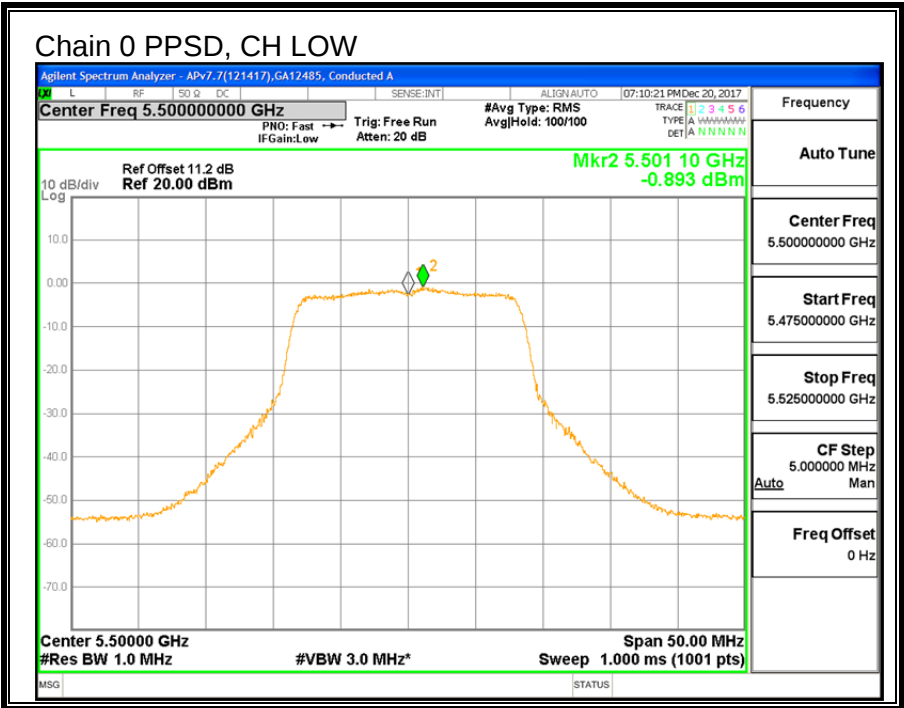
Output Power Results

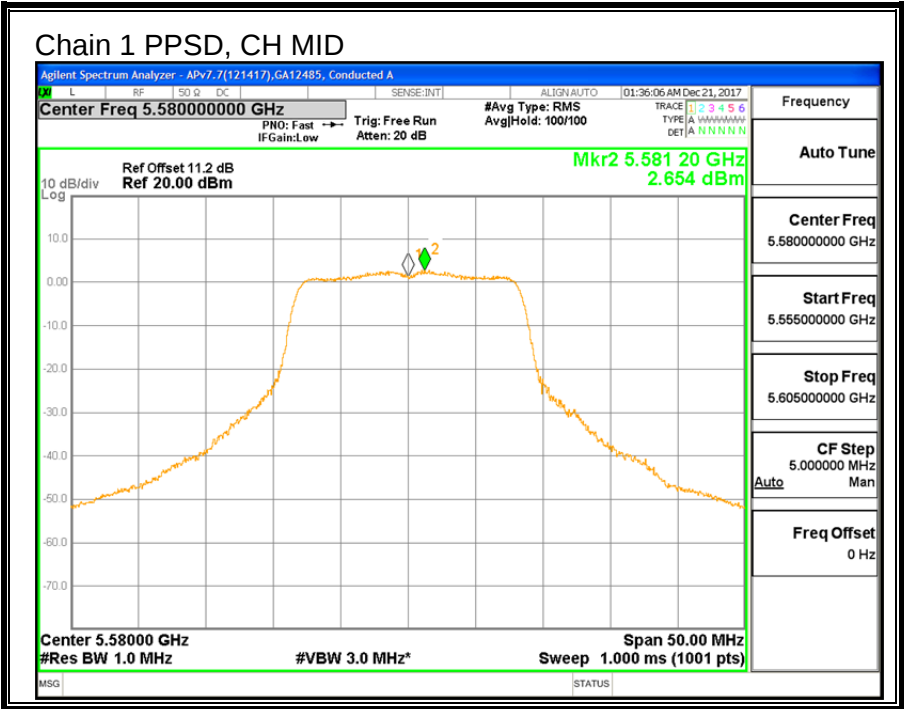
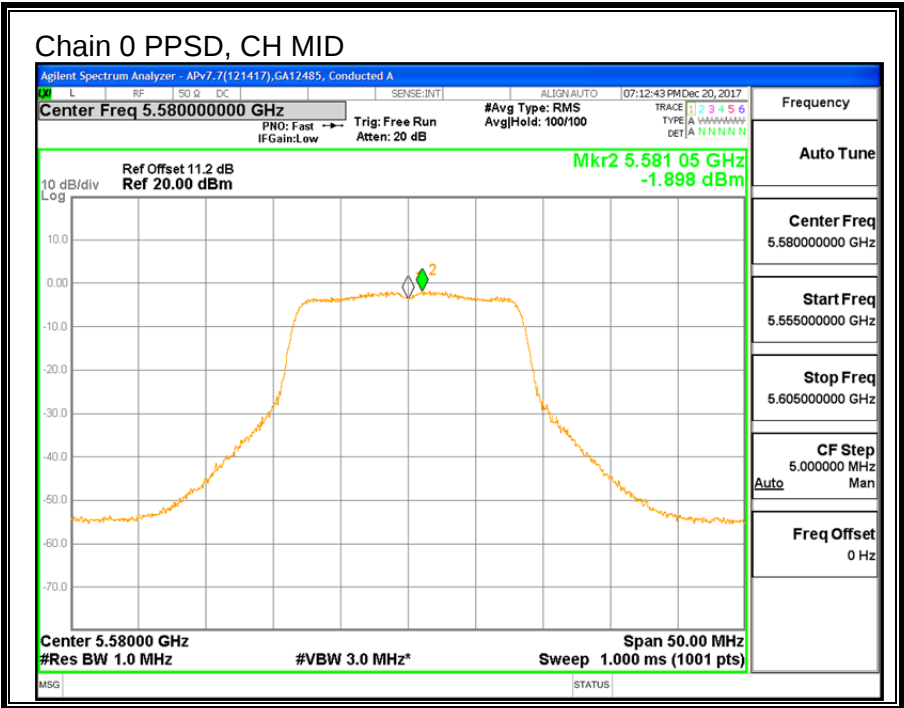
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	8.78	13.21	14.55	23.18	-8.63
Mid	5580	8.52	13.42	14.64	23.18	-8.54
Mid (FCC)	5640	8.24	13.01	14.26	23.19	-8.93
High	5700	8.72	13.26	14.57	23.16	-8.59
144	5720	8.69	13.16	14.49	22.21	-7.72

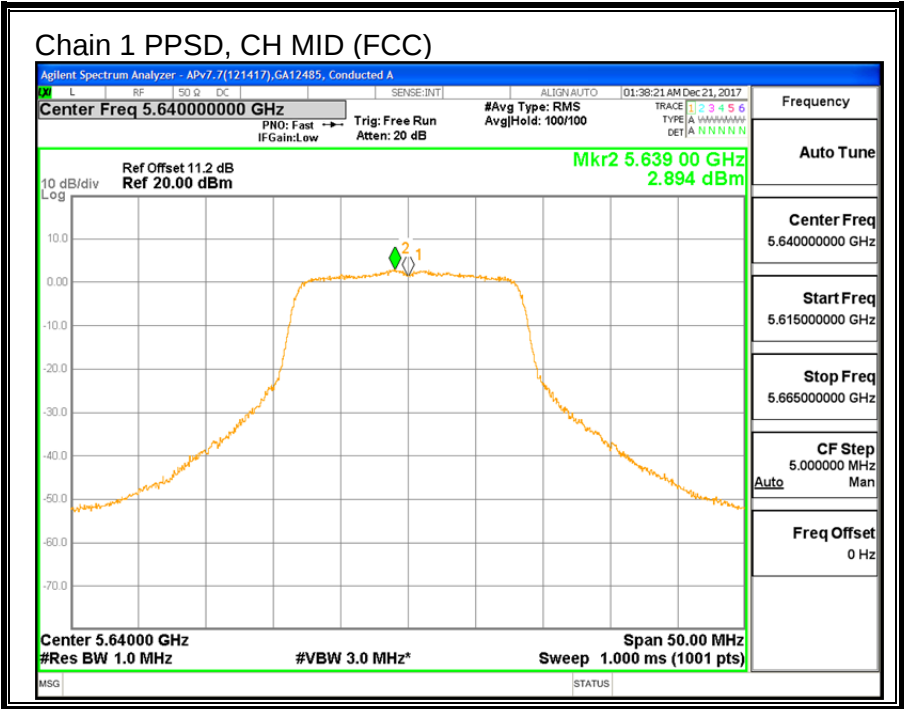
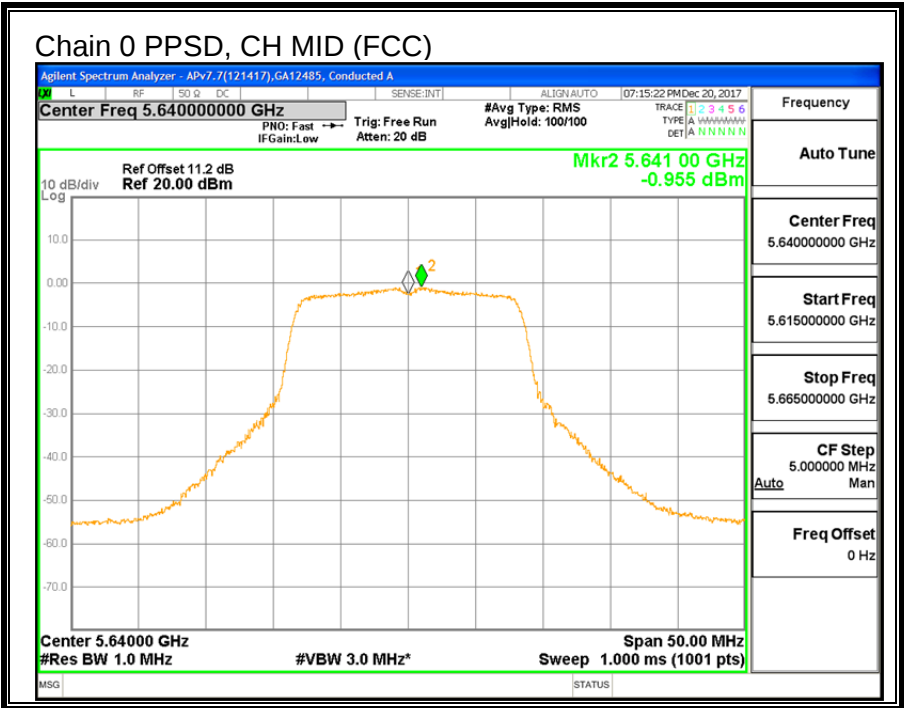
PPSD Results

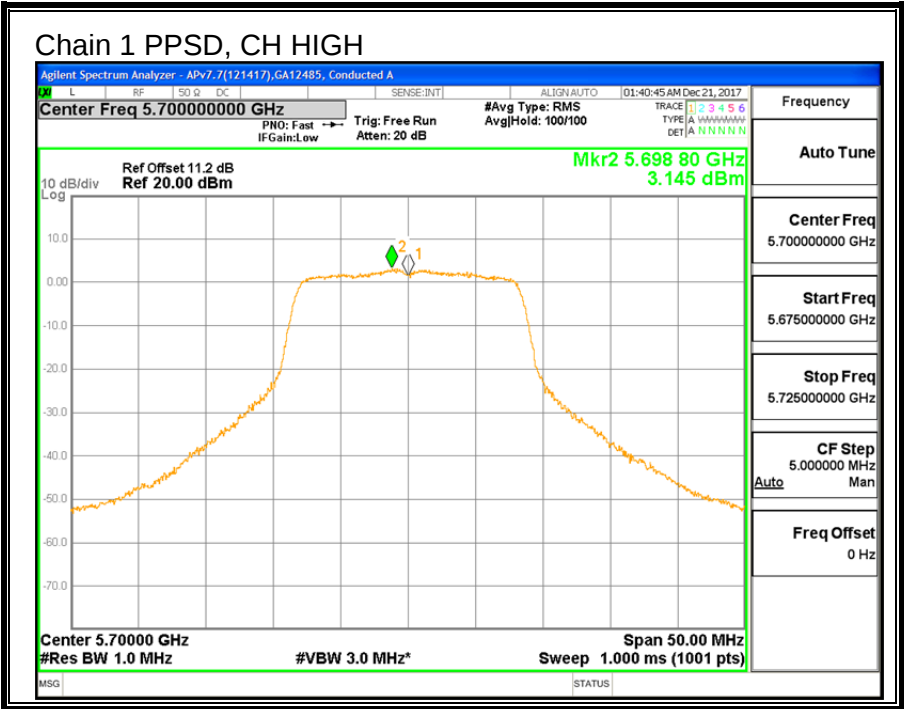
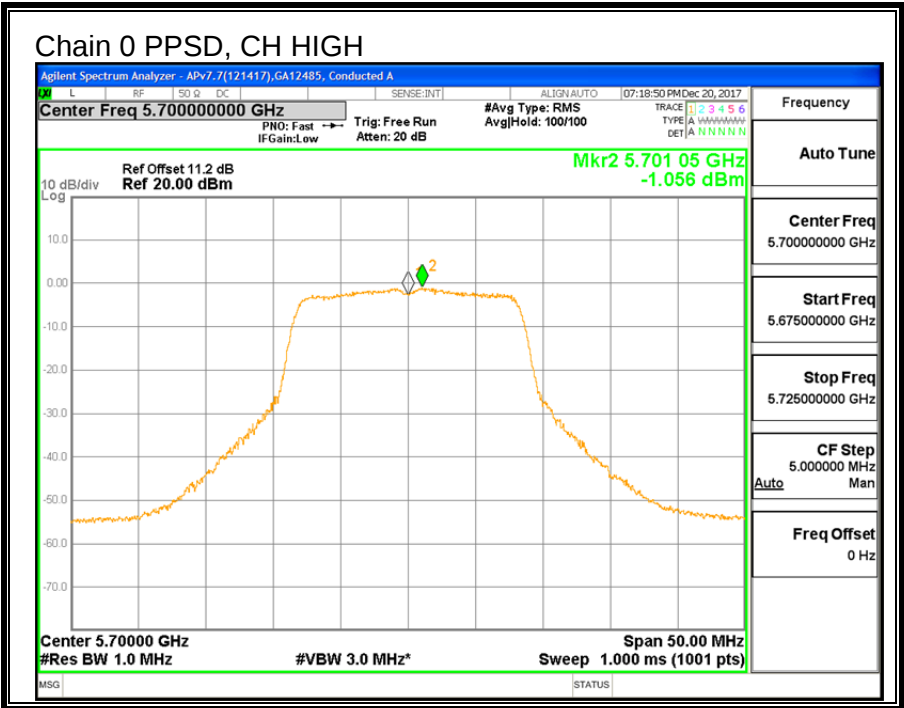
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-0.893	3.077	4.65	11.00	-6.35
Mid	5580	-1.898	2.654	4.07	11.00	-6.93
Mid (FCC)	5640	-0.955	2.894	4.50	11.00	-6.50
High	5700	-1.056	3.145	4.65	11.00	-6.35
144	5720	-0.972	3.253	4.76	11.00	-6.24

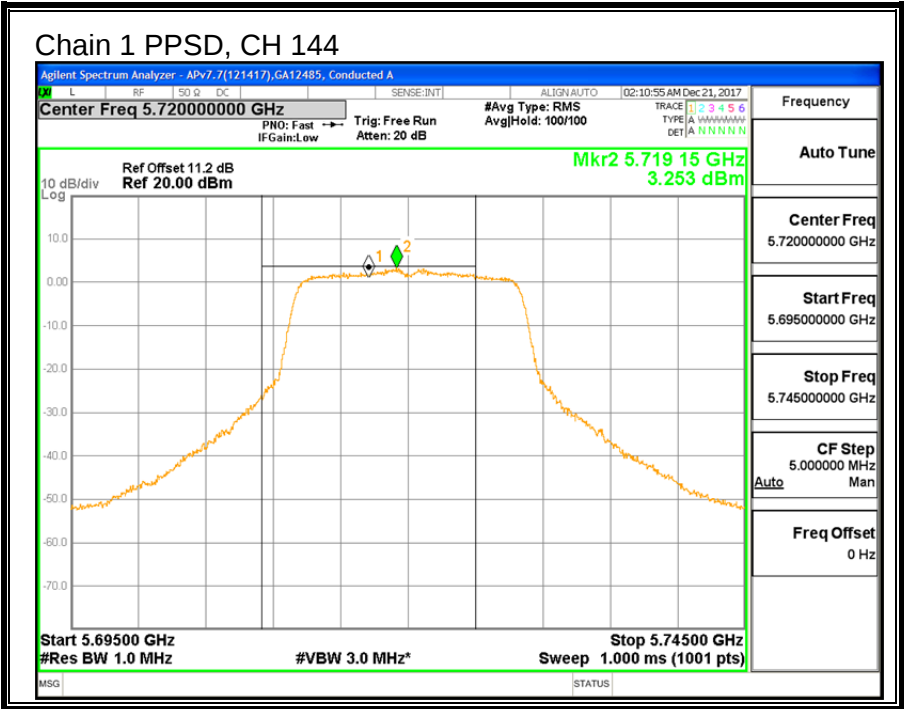
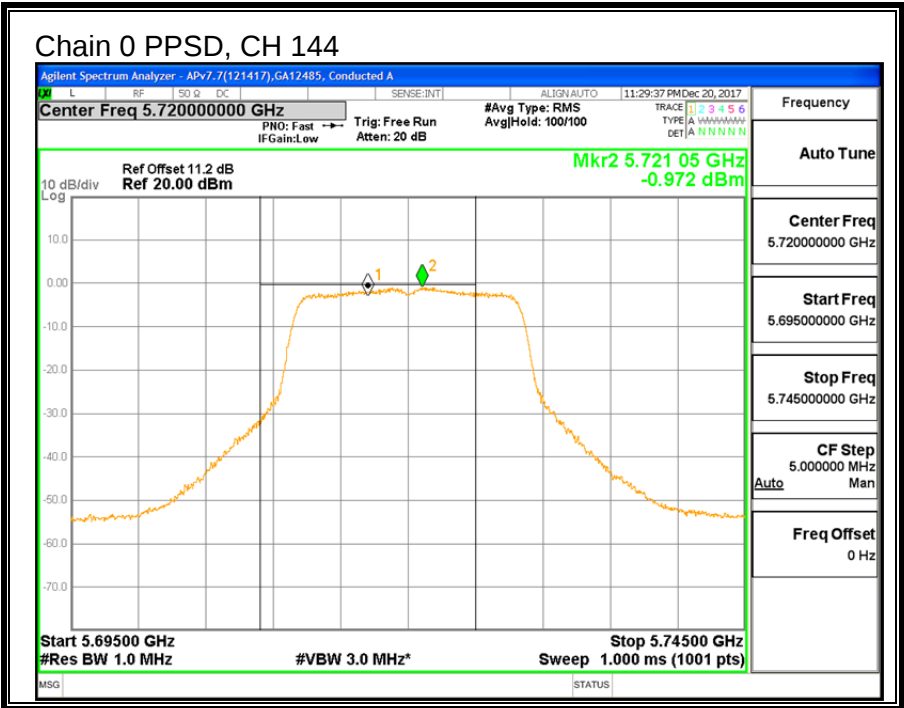
Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.











9.10. 11n HT20 2TX CDD MIMO MODE IN THE 5.6GHz BAND

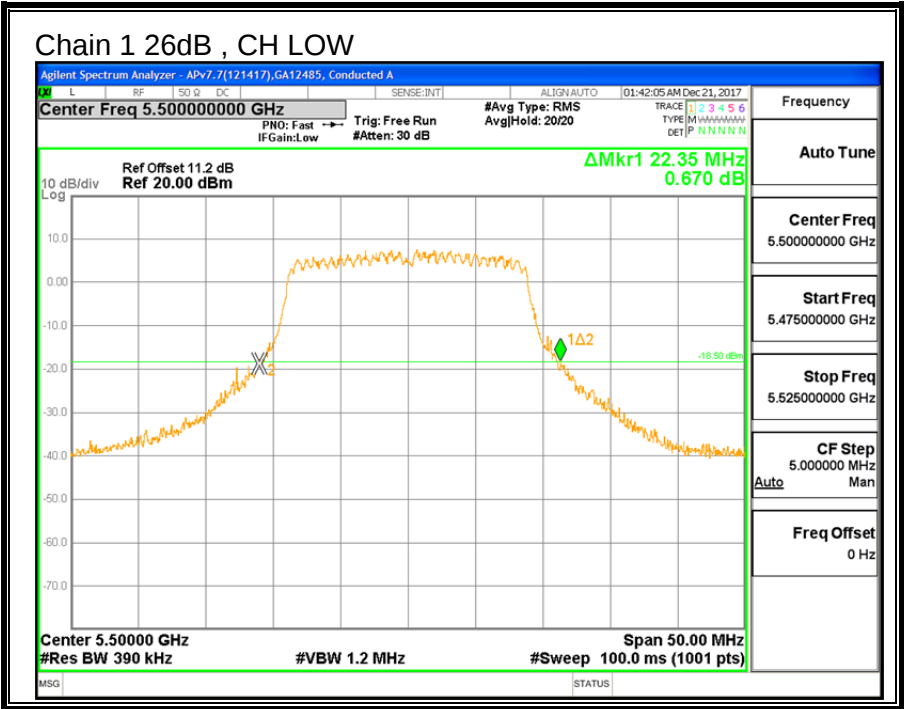
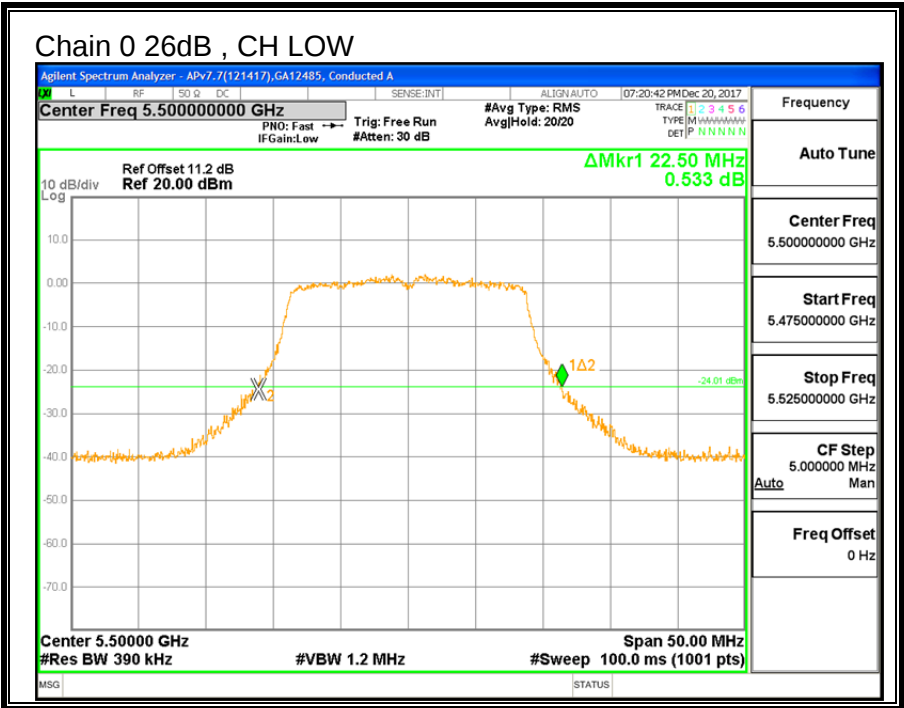
9.10.1. 26 dB BANDWIDTH

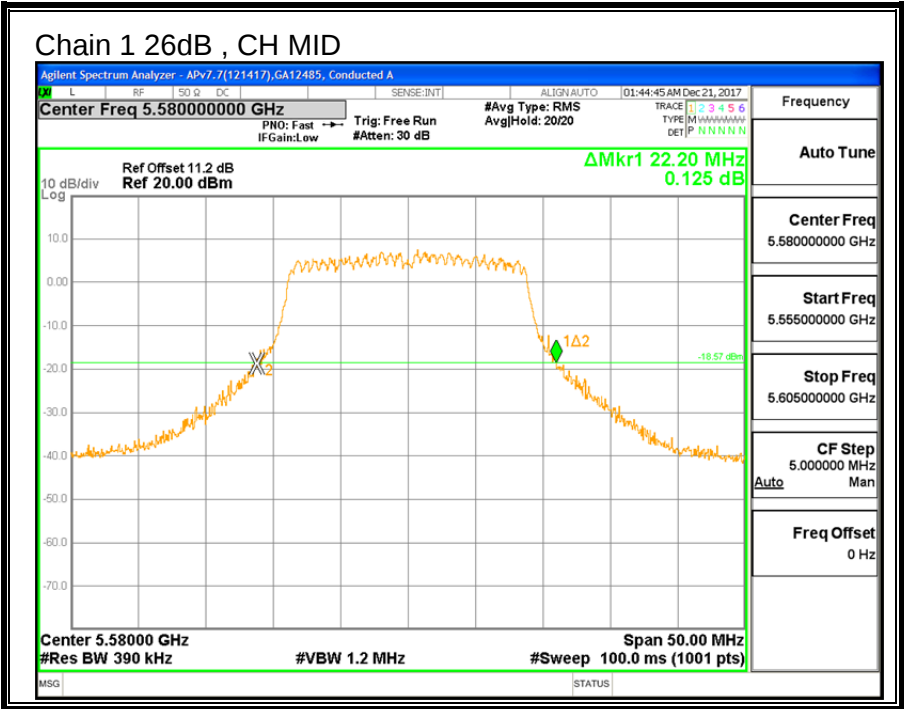
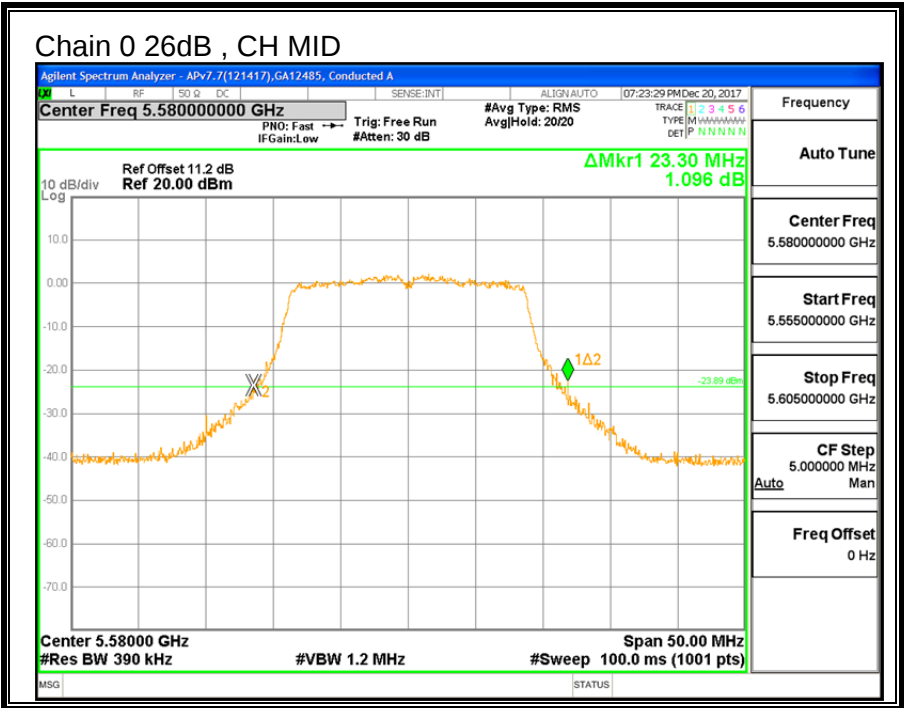
LIMITS

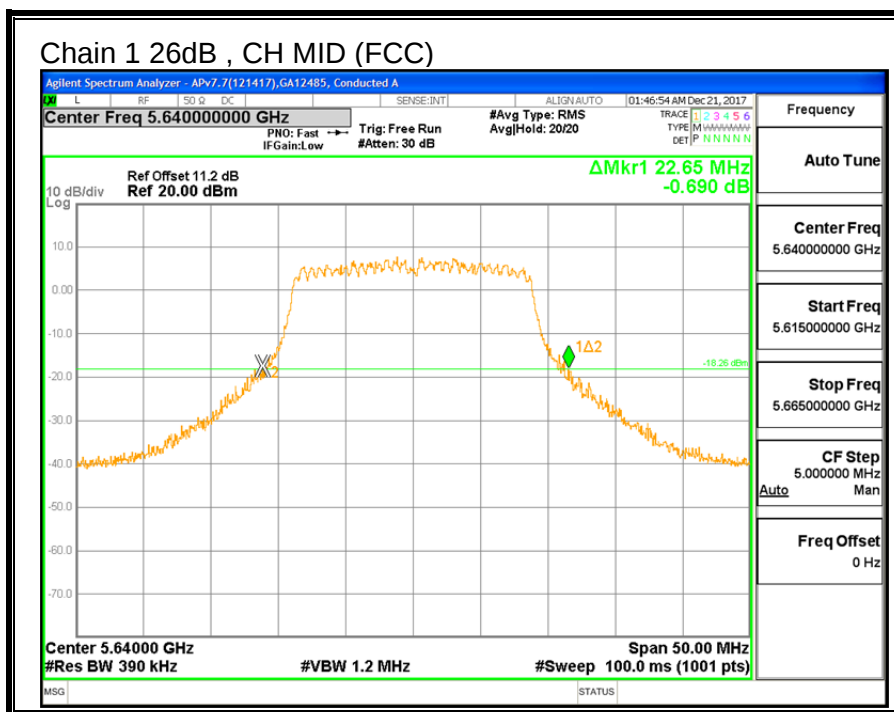
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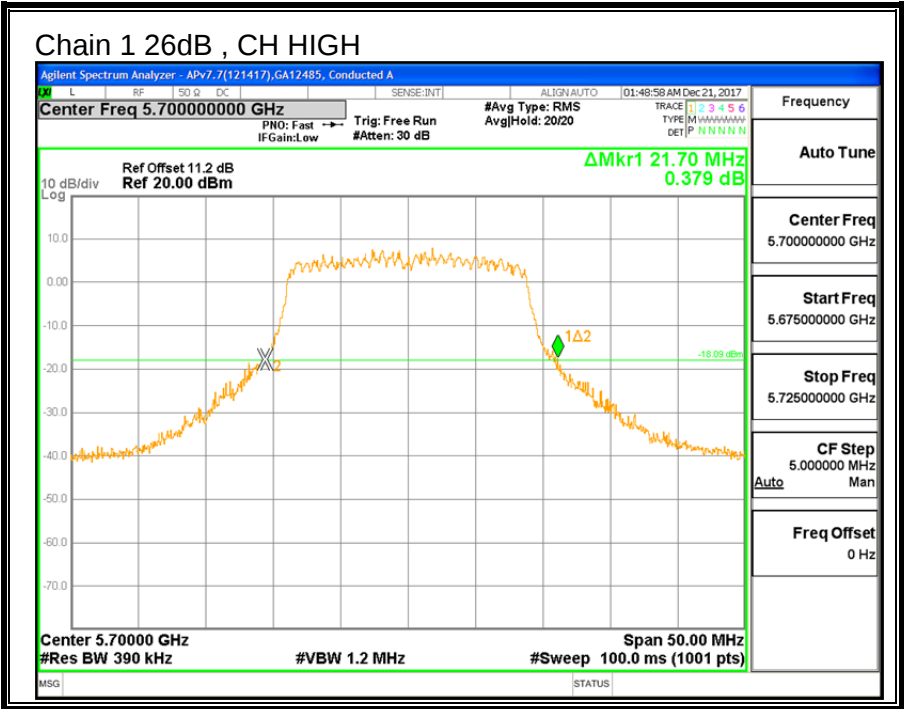
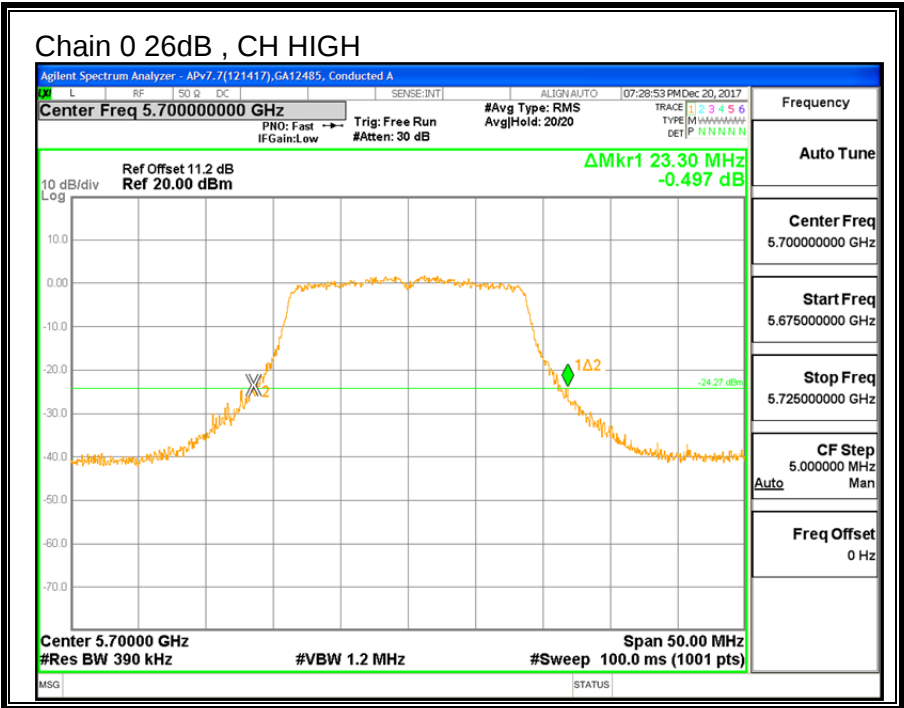
RESULTS

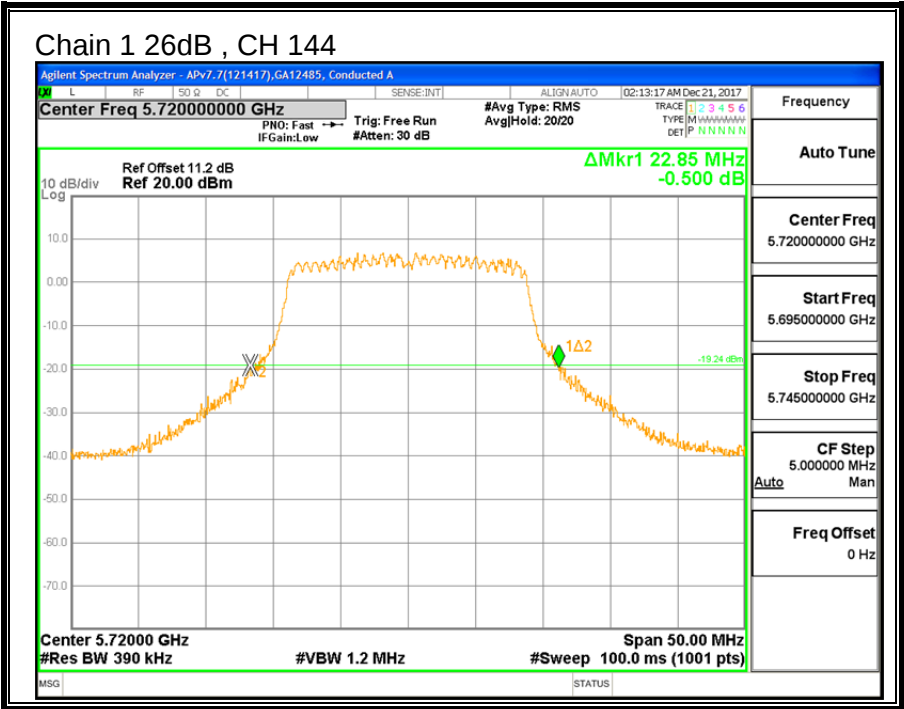
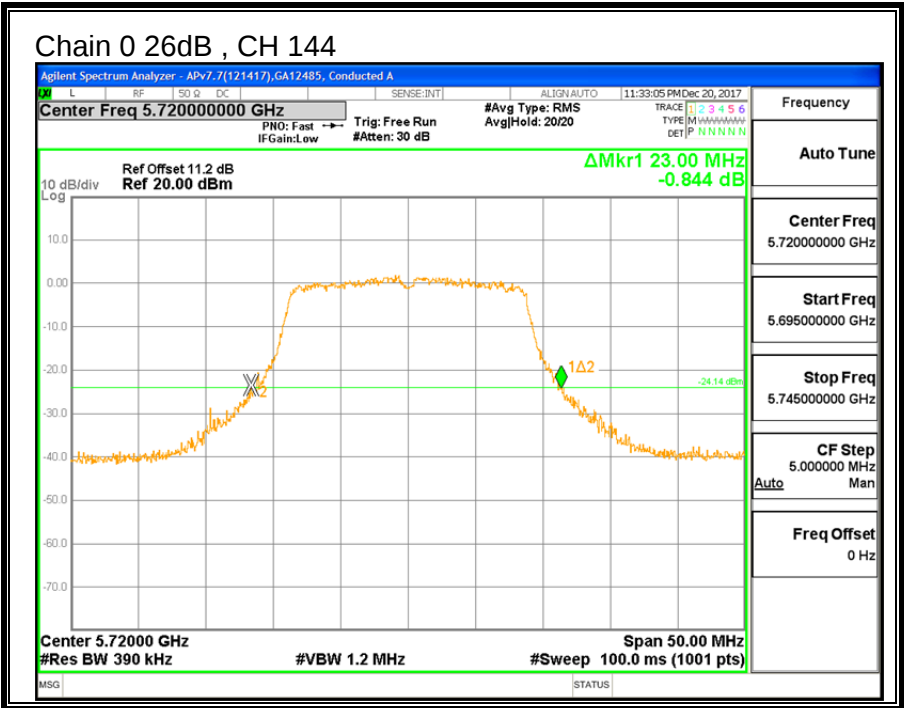
Channel	Frequency	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	22.50	22.35
Mid	5580	23.30	22.20
Mid (FCC)	5640	23.00	22.65
High	5700	23.30	21.70
144	5720	23.00	22.85











9.10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.781	17.669
Mid	5580	17.880	17.664
Mid (FCC)	5640	17.699	17.678
High	5700	17.703	17.663
144	5720	17.684	17.684

