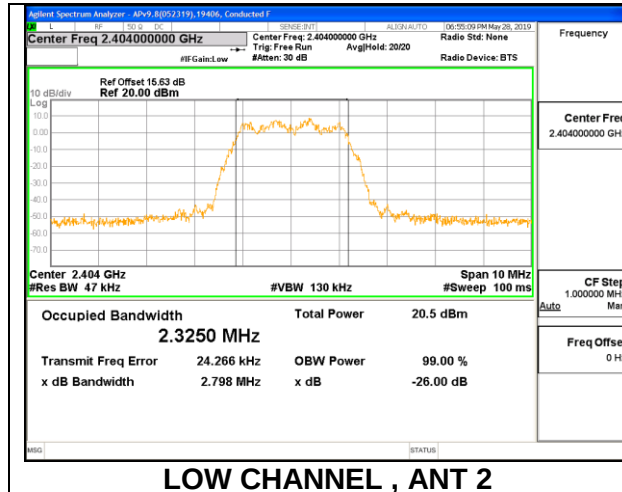


8.8. BEAMFORMING, 99% BANDWIDTH

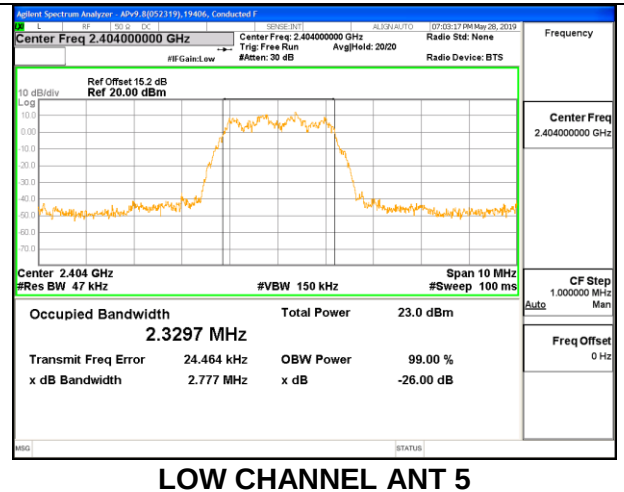
8.8.1. HIGH POWER HDR (HDR4)

Channel	Frequency (MHz)	99% Bandwidth ANT 2 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	2404	2.3250	2.3297
Mid	2441	2.3257	2.3195
High	2478	2.3258	2.3170

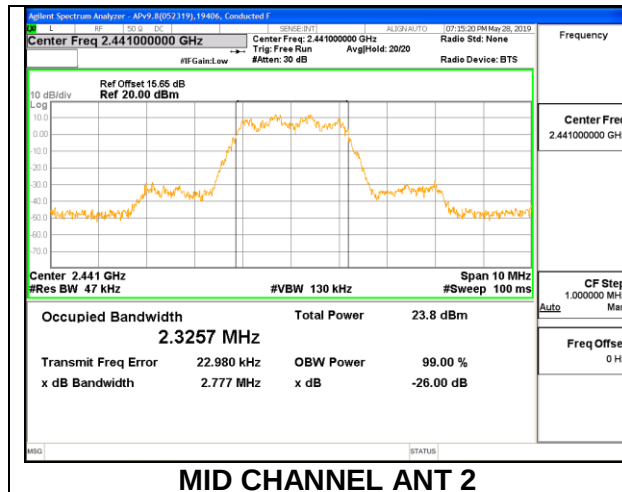
Note: Test procedures and setting on beamforming are same as BT HDR normal modes.



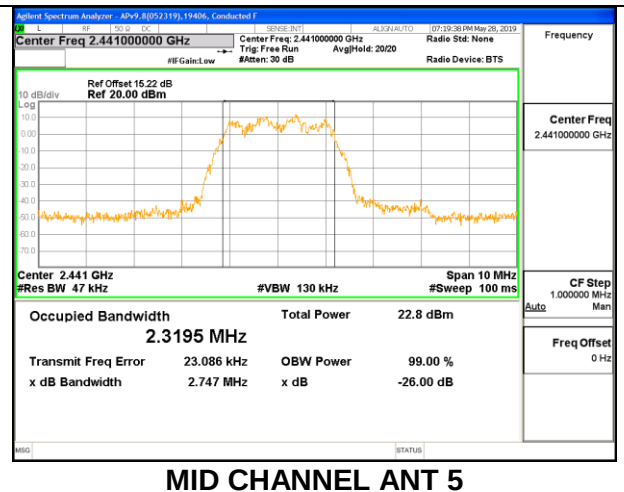
LOW CHANNEL, ANT 2



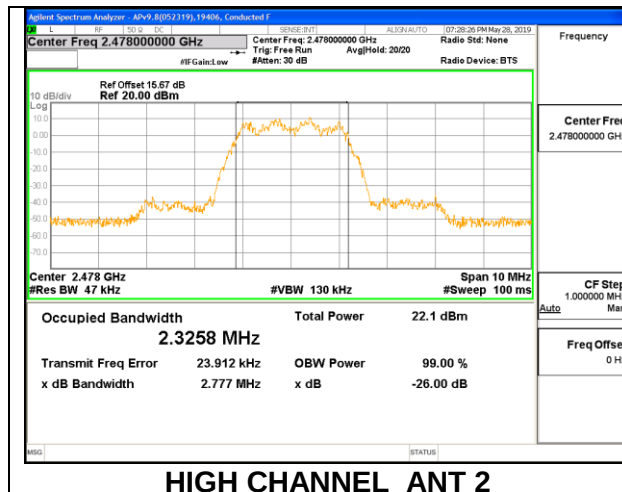
LOW CHANNEL ANT 5



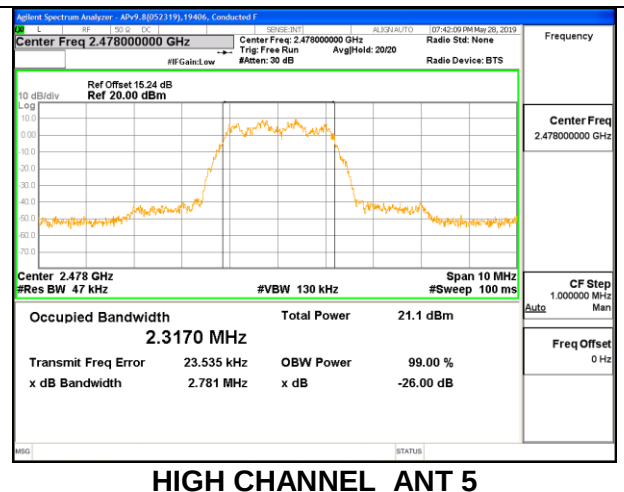
MID CHANNEL ANT 2



MID CHANNEL ANT 5



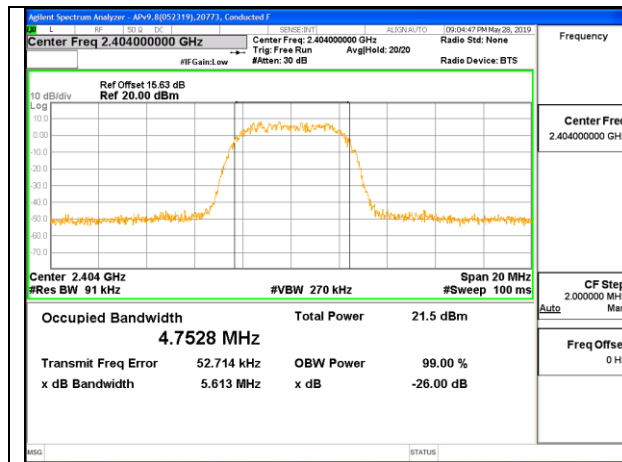
HIGH CHANNEL ANT 2



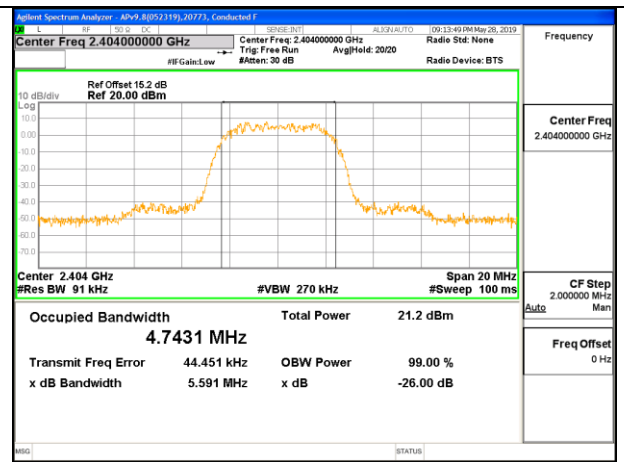
HIGH CHANNEL ANT 5

8.8.2. HIGH POWER HDR (HDR8)

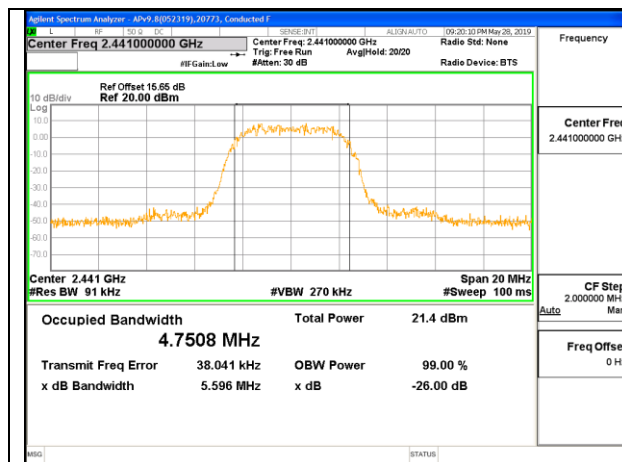
Channel	Frequency (MHz)	99% Bandwidth ANT 2 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	2404	4.7528	4.7431
Mid	2441	4.7508	4.7560
High	2478	4.7504	4.7497



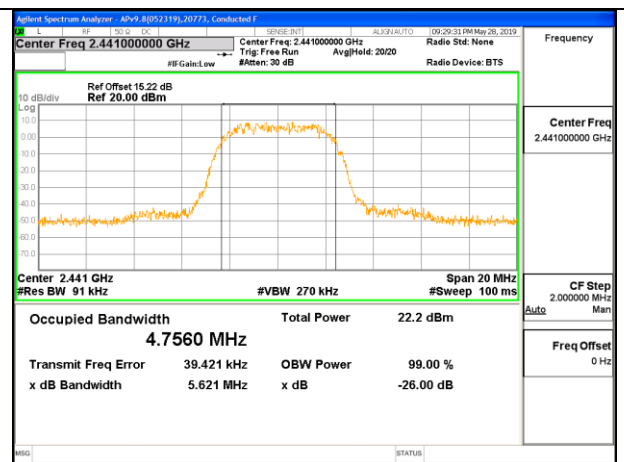
LOW CHANNEL , ANT 2



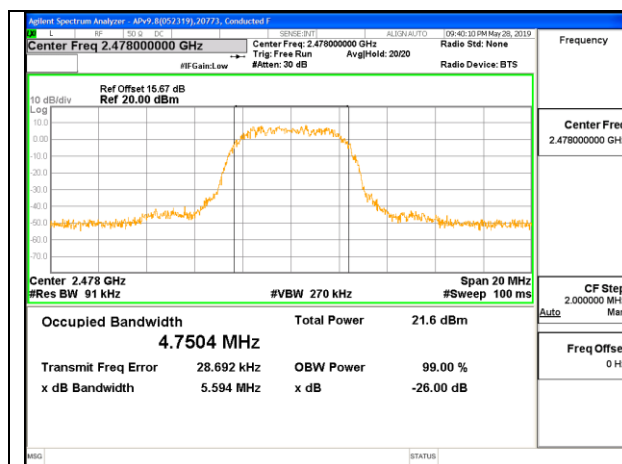
LOW CHANNEL ANT 5



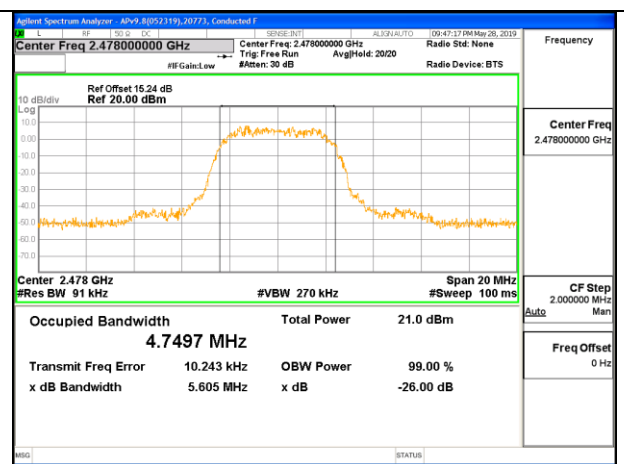
MID CHANNEL ANT 2



MID CHANNEL ANT 5



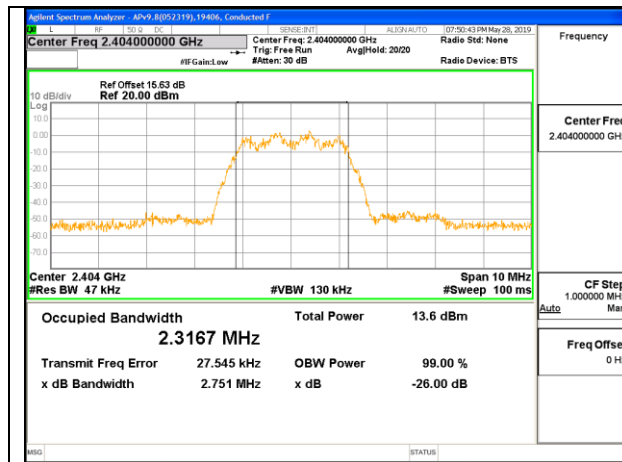
HIGH CHANNEL ANT 2



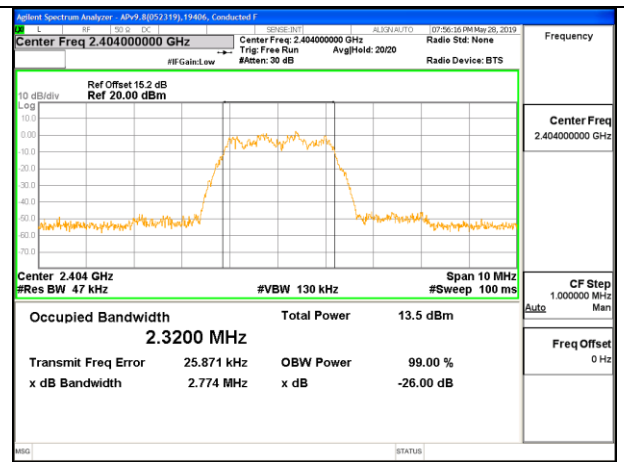
HIGH CHANNEL ANT 5

8.8.3. LOW POWER HDR (HDR4)

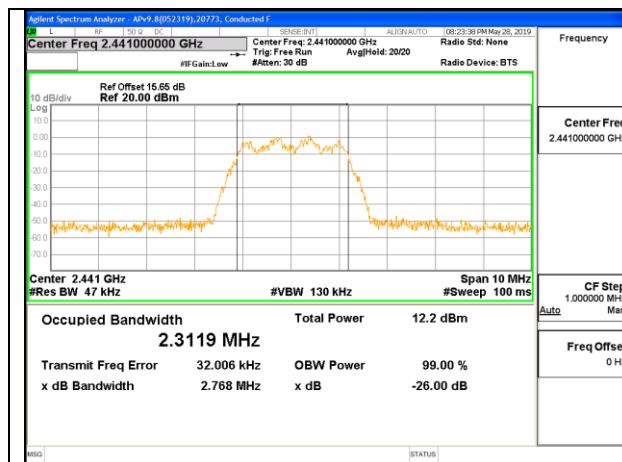
Channel	Frequency (MHz)	99% Bandwidth ANT 2 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	2404	2.3167	2.3200
Mid	2441	2.3119	2.3166
High	2478	2.3225	2.3259



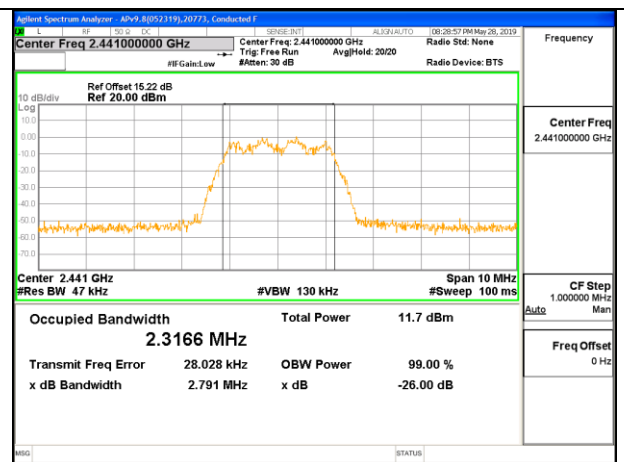
LOW CHANNEL , ANT 2



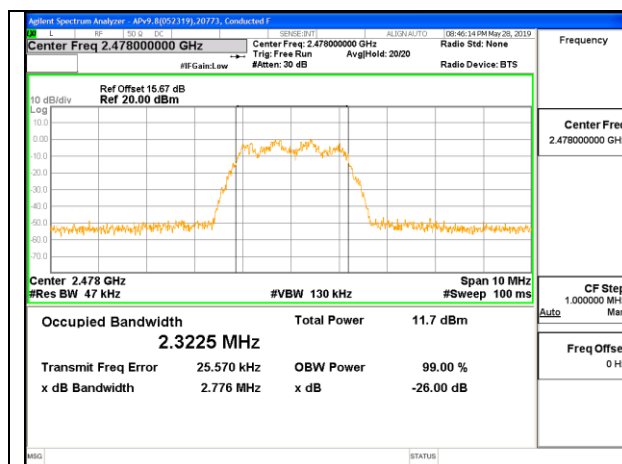
LOW CHANNEL ANT 5



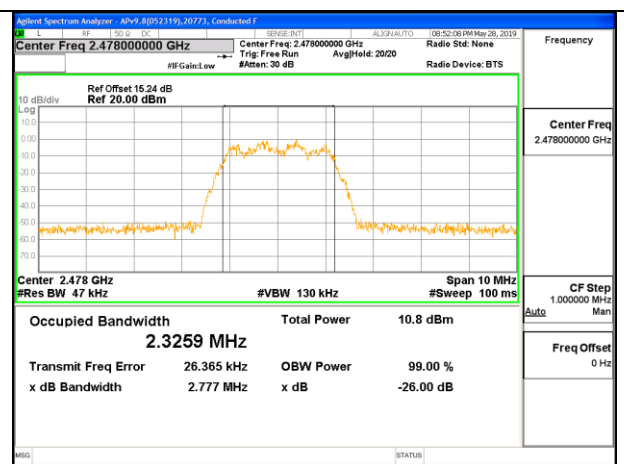
MID CHANNEL ANT 2



MID CHANNEL ANT 5



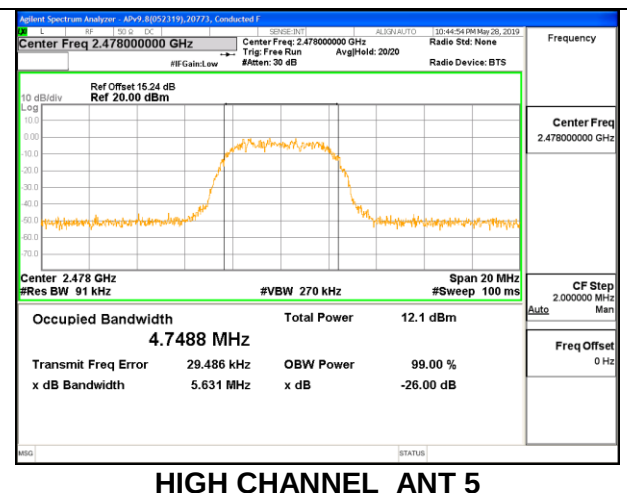
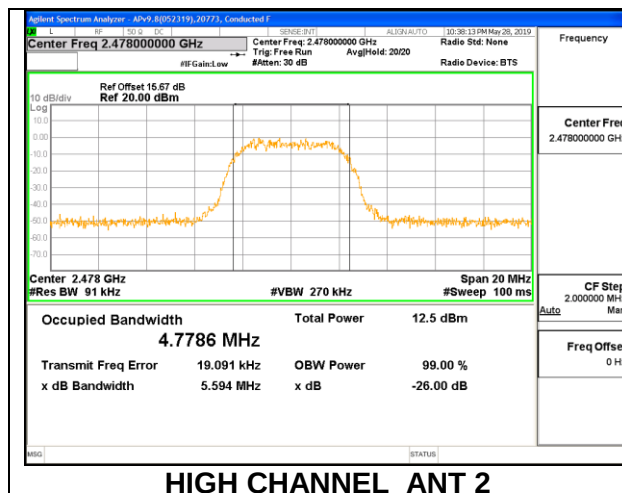
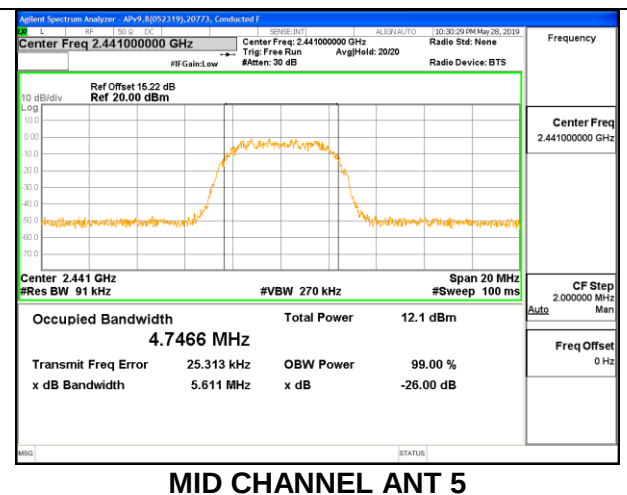
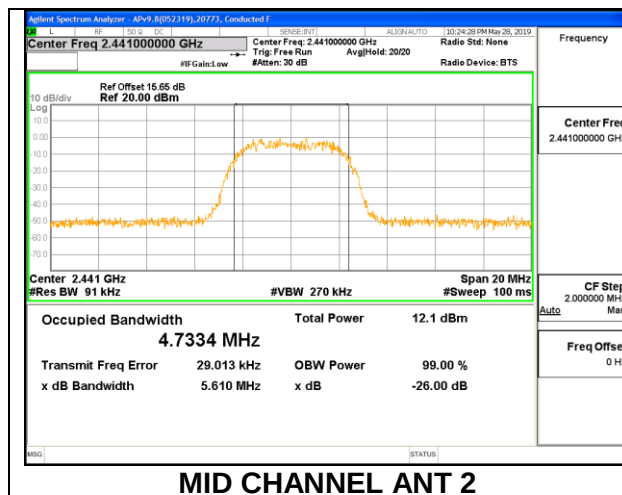
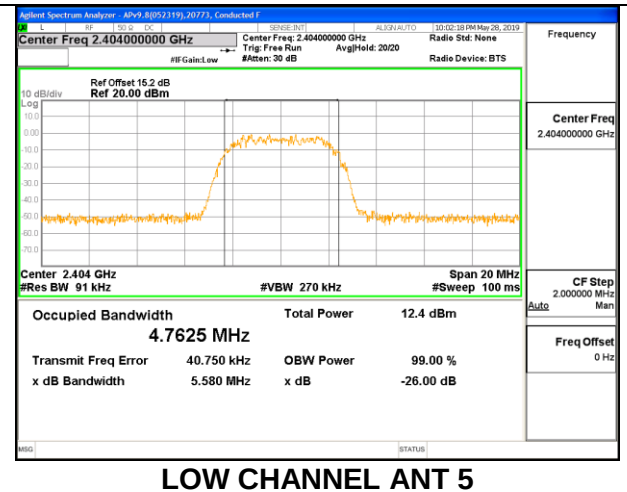
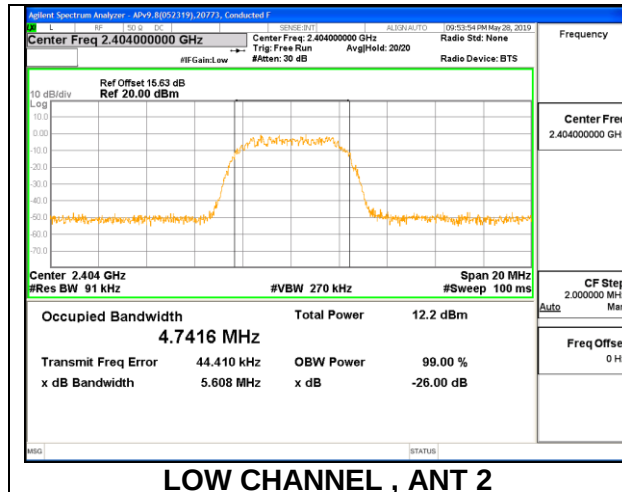
HIGH CHANNEL ANT 2



HIGH CHANNEL ANT 5

8.8.4. LOW POWER HDR (HDR8)

Channel	Frequency (MHz)	99% Bandwidth ANT 2 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	2404	4.7416	4.7625
Mid	2441	4.7334	4.7466
High	2478	4.7786	4.7488

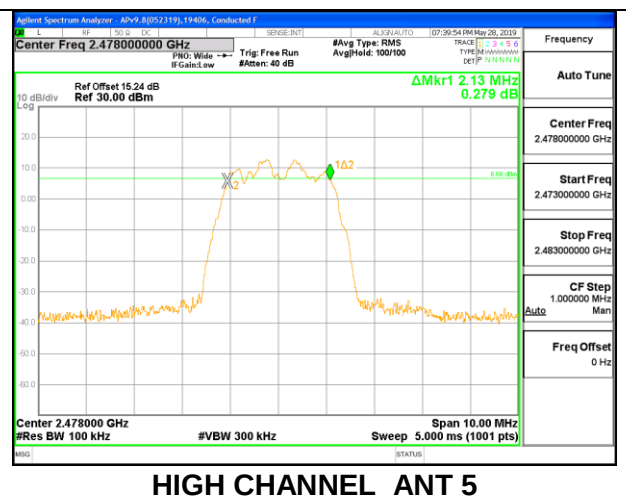
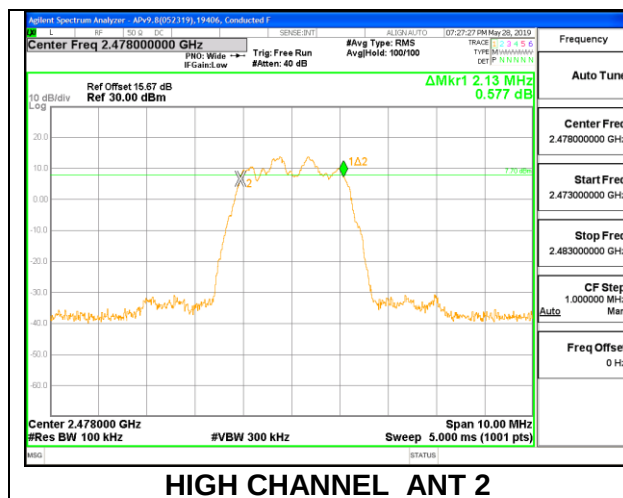
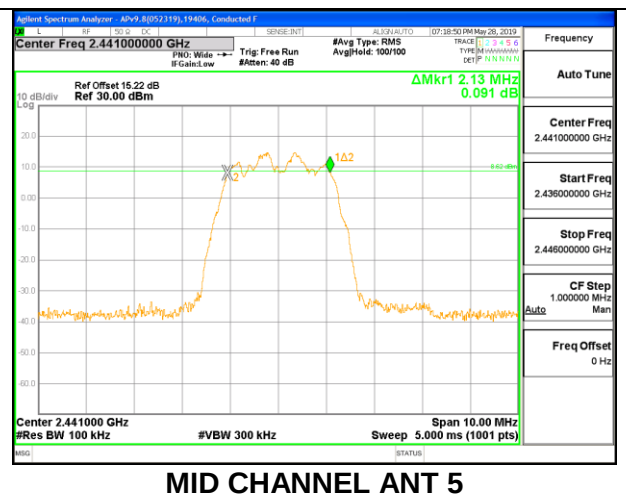
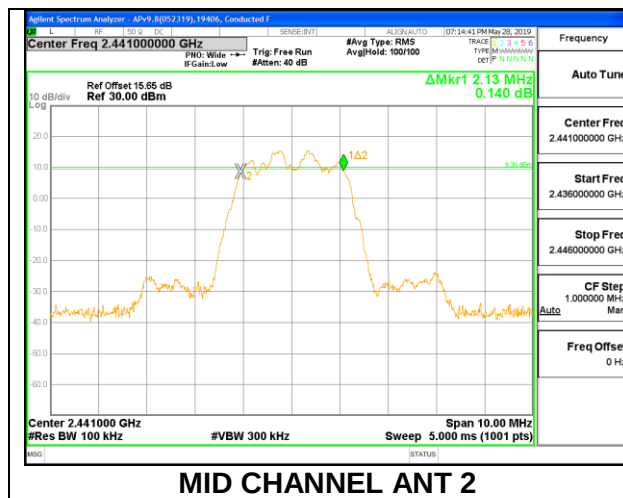
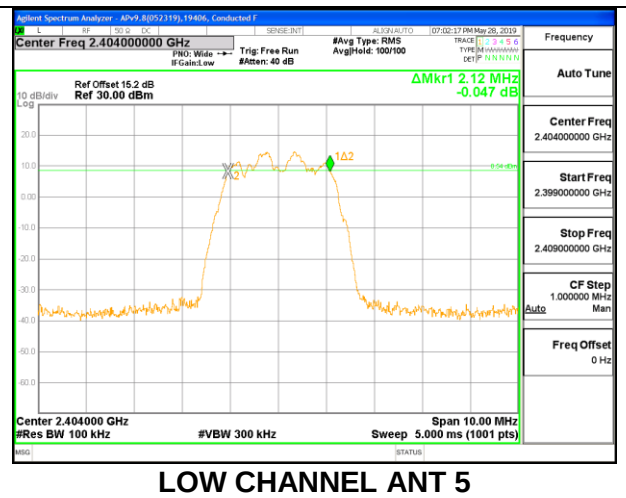
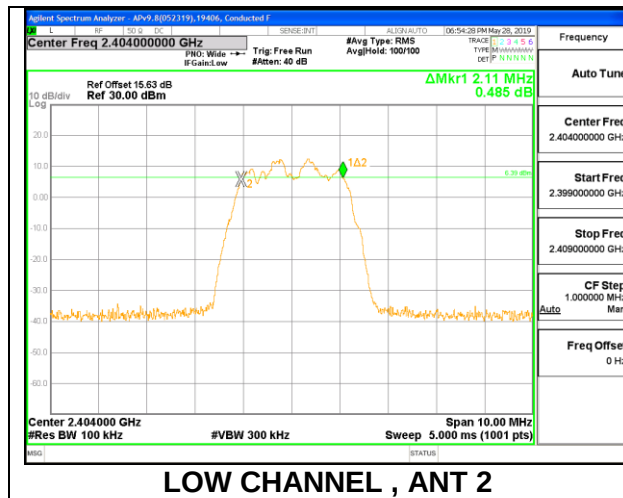


8.9. BEAMFORMING, 6dB BANDWIDTH

8.9.1. HIGH POWER HDR (HDR4)

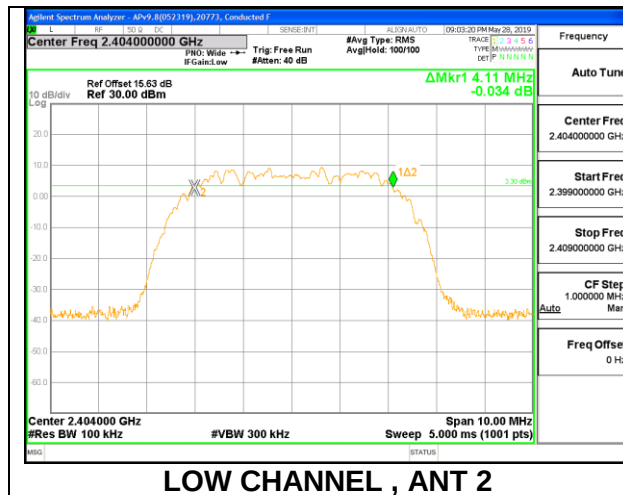
Channel	Frequency (MHz)	6dB Bandwidth ANT 2 (MHz)	6dB Bandwidth ANT 5 (MHz)
Low	2404	2.110	2.120
Mid	2441	2.130	2.130
High	2478	2.130	2.130

Note: Test procedures and setting on beamforming are same as BT HDR normal modes.

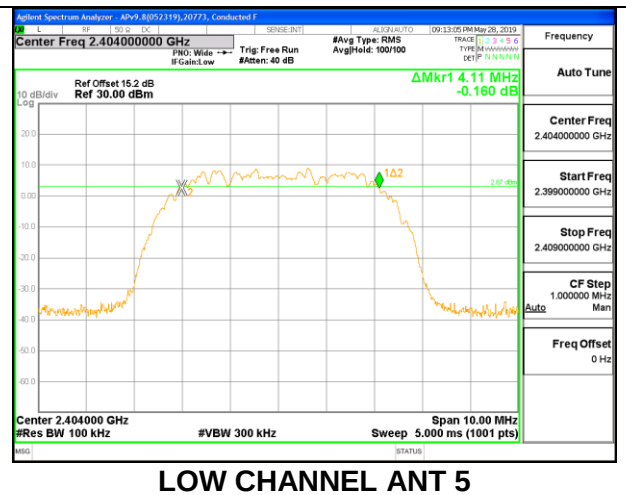


8.9.2. HIGH POWER HDR (HDR8)

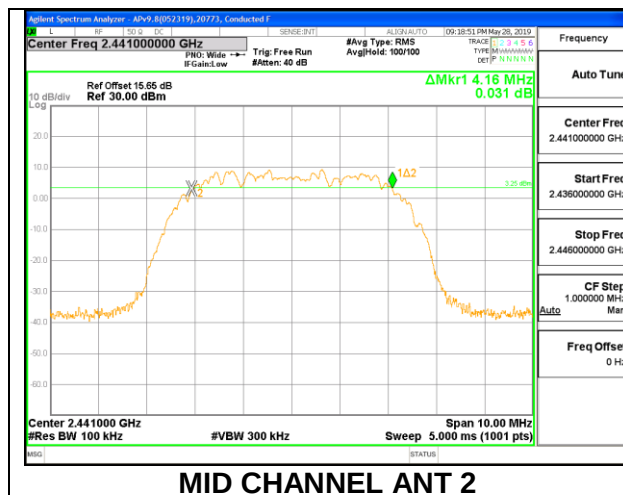
Channel	Frequency (MHz)	6dB Bandwidth ANT 2 (MHz)	6dB Bandwidth ANT 5 (MHz)
Low	2404	4.110	4.110
Mid	2441	4.160	4.110
High	2478	4.160	4.160



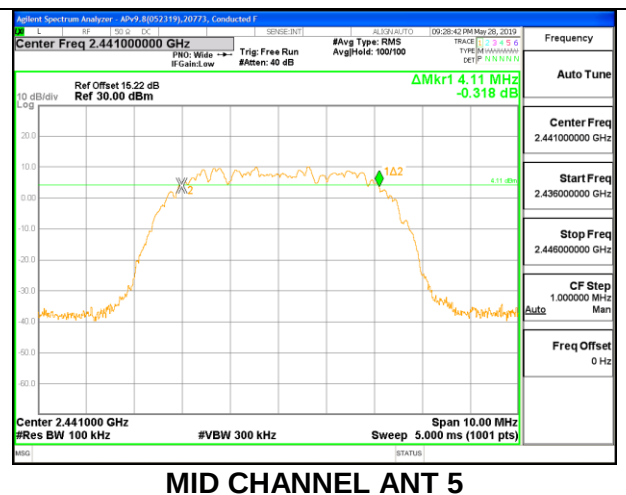
LOW CHANNEL, ANT 2



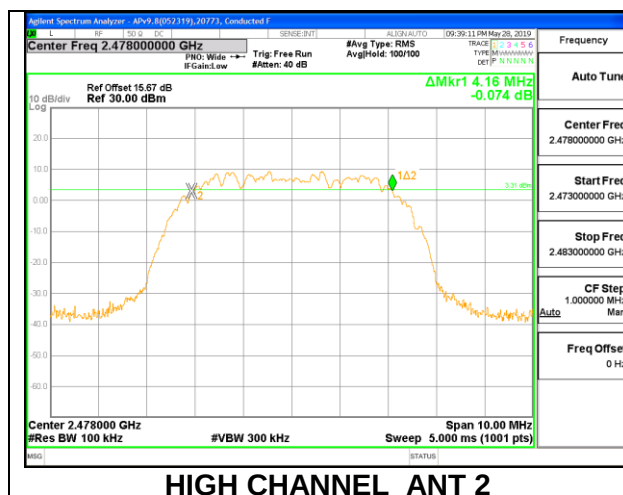
LOW CHANNEL ANT 5



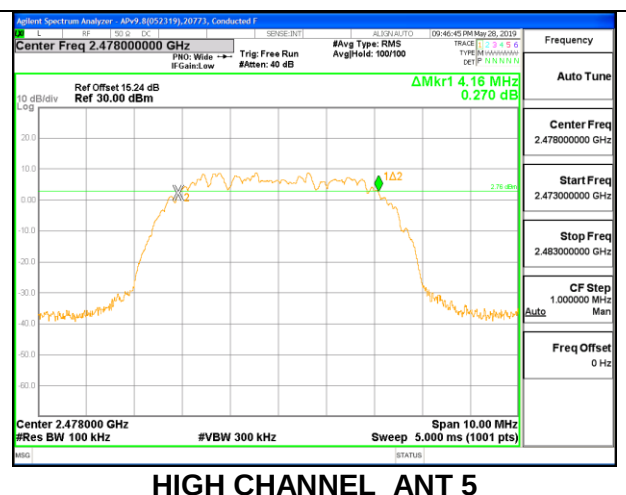
MID CHANNEL ANT 2



MID CHANNEL ANT 5



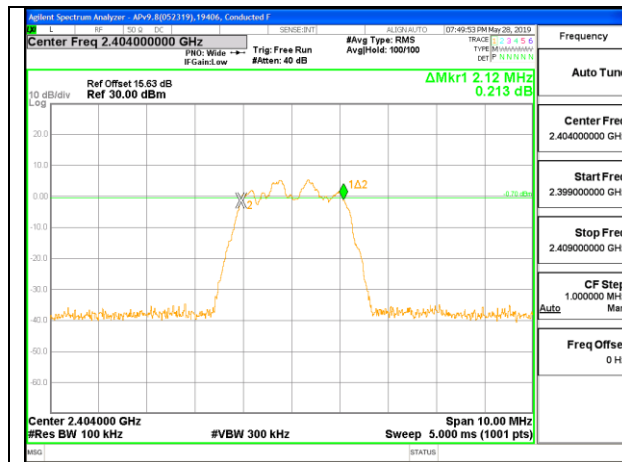
HIGH CHANNEL ANT 2



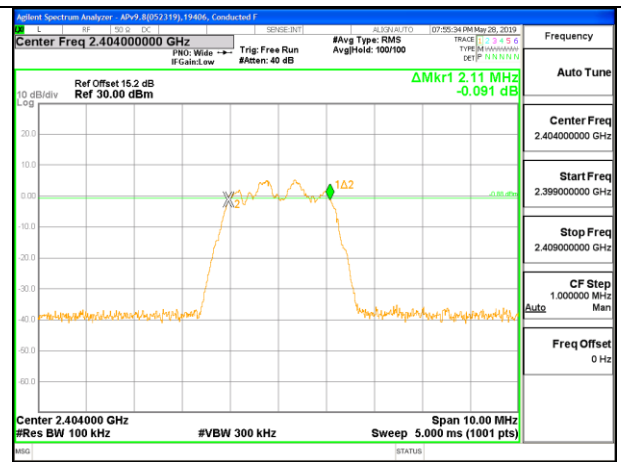
HIGH CHANNEL ANT 5

8.9.3. LOW POWER HDR (HDR4)

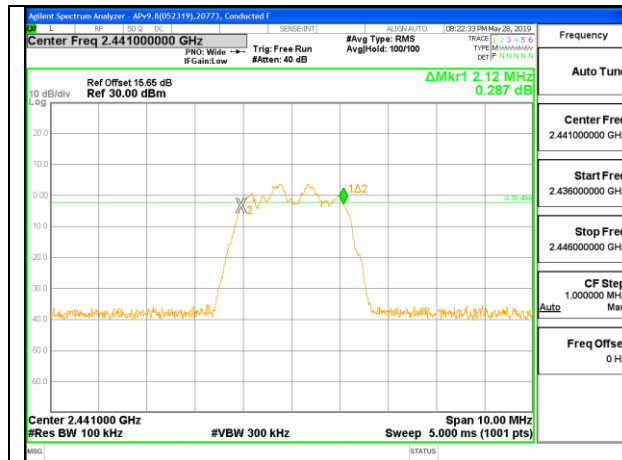
Channel	Frequency (MHz)	6dB Bandwidth ANT 2 (MHz)	6dB Bandwidth ANT 5 (MHz)
Low	2404	2.120	2.110
Mid	2441	2.120	2.120
High	2478	2.120	2.120



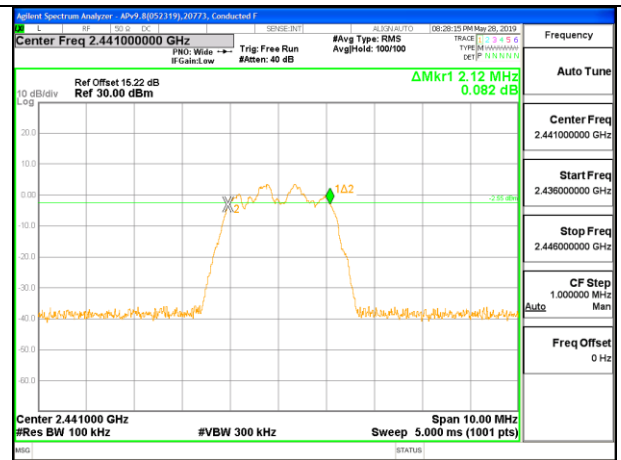
LOW CHANNEL ANT 2



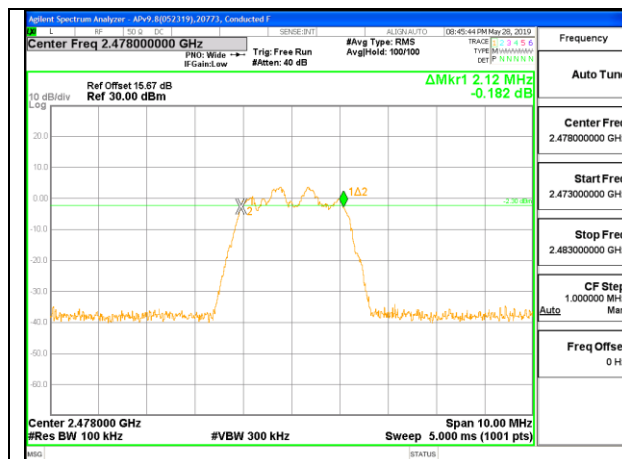
LOW CHANNEL ANT 5



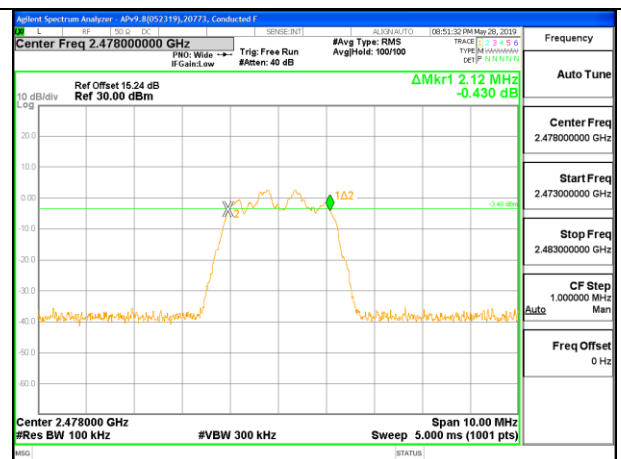
MID CHANNEL ANT 2



MID CHANNEL ANT 5



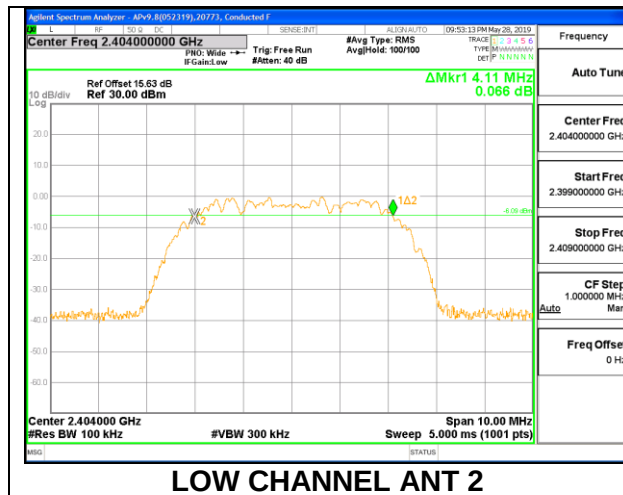
HIGH CHANNEL ANT 2



HIGH CHANNEL ANT5

8.9.4. LOW POWER HDR (HDR8)

Channel	Frequency (MHz)	6dB Bandwidth ANT 2 (MHz)	6dB Bandwidth ANT 5 (MHz)
Low	2404	4.110	4.120
Mid	2441	4.170	4.150
High	2478	4.170	4.170



8.10. BEAMFORMING OUTPUT POWER

8.10.1. HIGH POWER HDR (HDR4)

2TX Antenna 2 + Antenna 5 TxBF Mode

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Output Power Antenna 2 (dBm)	Output Power Antenna 5 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2404	14.47	14.79	17.64	30	-12.36
Middle	2441	14.78	14.81	17.81	30	-12.19
High	2478	14.73	14.96	17.86	30	-12.14

8.10.2. HIGH POWER HDR (HDR8)

2TX Antenna 2 + Antenna 5 TxBF Mode

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Output Power Antenna 2 (dBm)	Output Power Antenna 5 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2404	14.96	15.02	18.00	30	-12.00
Middle	2441	15.05	15.06	18.07	30	-11.93
High	2478	14.86	14.88	17.88	30	-12.12

8.10.3. LOW POWER HDR (HDR4)**2TX Antenna 2 + Antenna 5 TxBF Mode**

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Output Power Antenna 2 (dBm)	Output Power Antenna 5 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2404	9.04	8.87	11.97	30	-18.03
Middle	2441	8.81	8.82	11.83	30	-18.17
High	2478	9.05	8.73	11.90	30	-18.10

8.10.4. LOW POWER HDR (HDR8)**2TX Antenna 2 + Antenna 5 TxBF Mode**

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Output Power Antenna 2 (dBm)	Output Power Antenna 5 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2404	9.62	9.61	12.63	30	-17.37
Middle	2441	9.77	9.38	12.59	30	-17.41
High	2478	9.46	9.36	12.42	30	-17.58

8.11. BEAMFORMING AVERAGE POWER

8.11.1. HIGH POWER HDR (HDR4)

2TX Antenna 2 + Antenna 5 TxBF Mode

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Average Power Antenna 2 (dBm)	Average Power Antenna 5 (dBm)	Total Power (dBm)
Low	2404	11.63	11.73	14.69
Middle	2441	11.72	11.75	14.75
High	2478	11.74	11.70	14.73

8.11.2. HIGH POWER HDR (HDR8)

2TX Antenna 2 + Antenna 5 TxBF Mode

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Average Power Antenna 2 (dBm)	Average Power Antenna 5 (dBm)	Total Power (dBm)
Low	2404	11.73	11.74	14.75
Middle	2441	11.75	11.75	14.76
High	2478	11.68	11.72	14.71

Note: Test procedures and setting on beamforming are same as BT HDR normal modes.

8.11.3. LOW POWER HDR (HDR4)**2TX Antenna 2 + Antenna 5 TxBF Mode**

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Average Power Antenna 2 (dBm)	Average Power Antenna 5 (dBm)	Total Power (dBm)
Low	2404	6.22	6.22	9.23
Middle	2441	6.12	6.21	9.18
High	2478	6.24	6.24	9.25

8.11.4. LOW POWER HDR (HDR8)**2TX Antenna 2 + Antenna 5 TxBF Mode**

Tested By:	39316
Date:	6/28/2019

Channel	Frequency (MHz)	Average Power Antenna 2 (dBm)	Average Power Antenna 5 (dBm)	Total Power (dBm)
Low	2404	6.24	6.23	9.25
Middle	2441	6.25	6.03	9.15
High	2478	6.17	6.20	9.20

8.12. BEAMFORMING, POWER SPECTRAL DENSITY

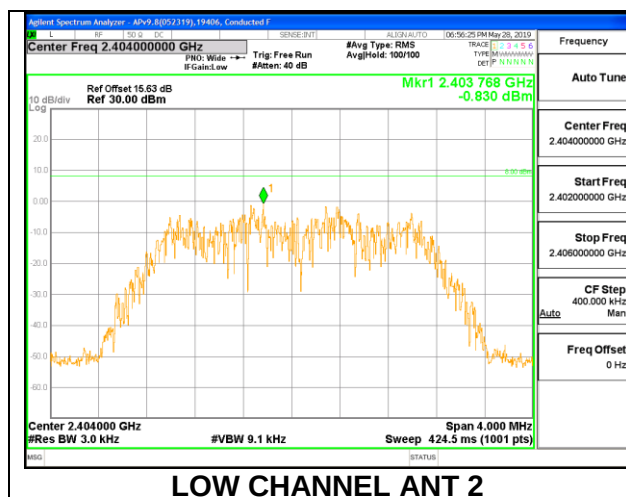
8.12.1. HIGH POWER HDR (HDR4)

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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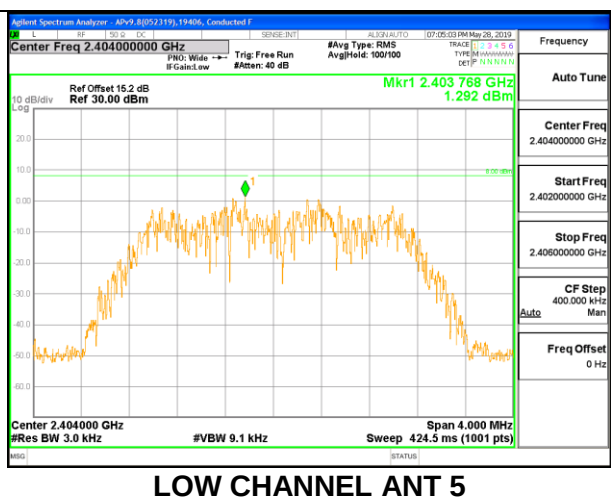
PSD Results

Channel	Frequency (MHz)	ANT 2 Meas (dBm/ 3kHz)	ANT 5 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low	2404	-0.83	1.29	3.37	8.0	-4.6
Mid	2441	2.25	1.45	4.88	8.0	-3.1
Hjigh	2478	0.56	-0.32	3.15	8.0	-4.8

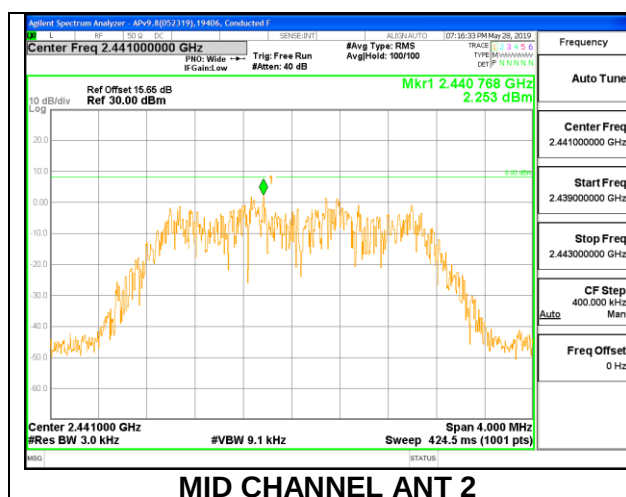
Note: Test procedures and setting on beamforming are same as BT HDR normal modes.



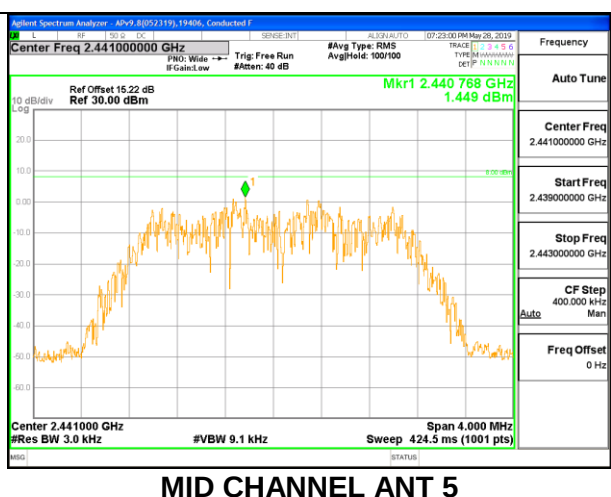
LOW CHANNEL ANT 2



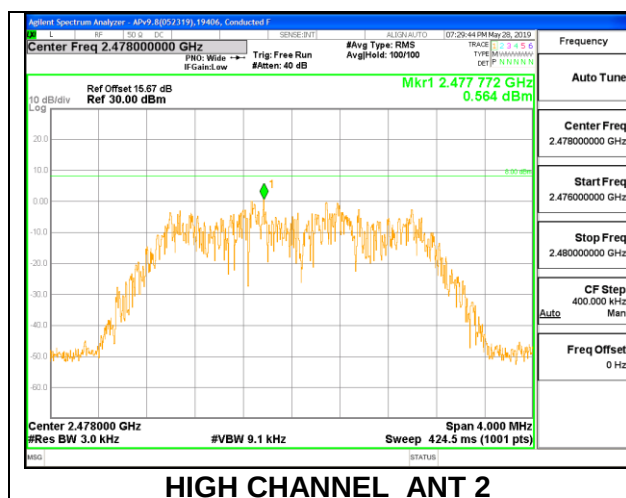
LOW CHANNEL ANT 5



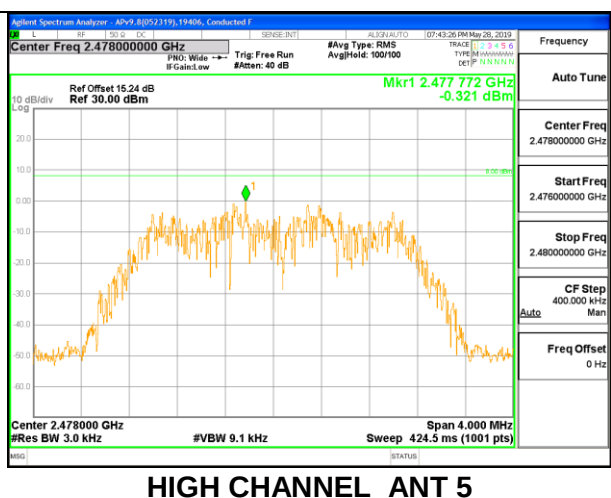
MID CHANNEL ANT 2



MID CHANNEL ANT 5



HIGH CHANNEL ANT 2



HIGH CHANNEL ANT 5