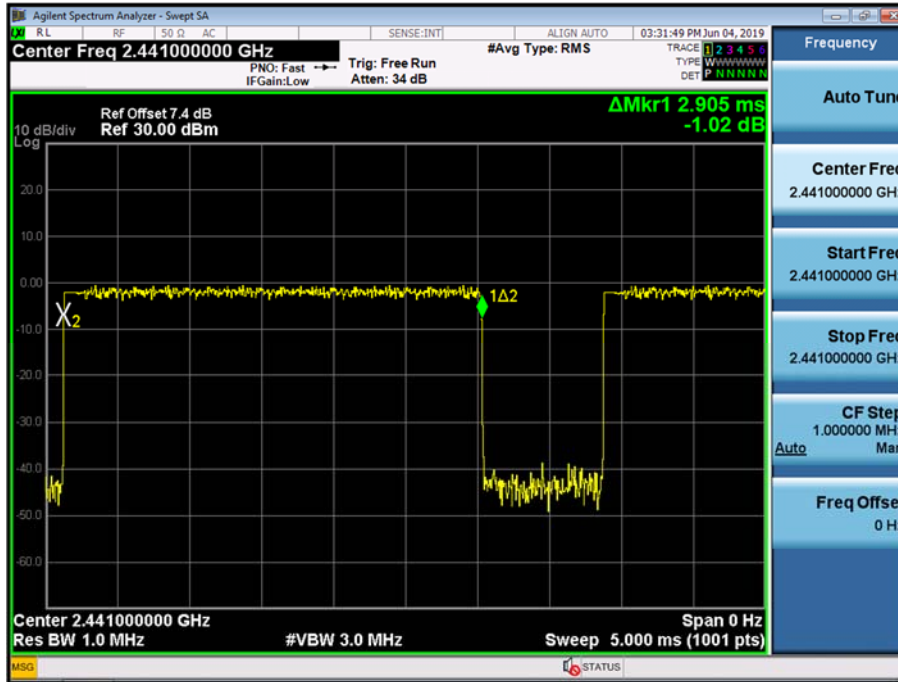


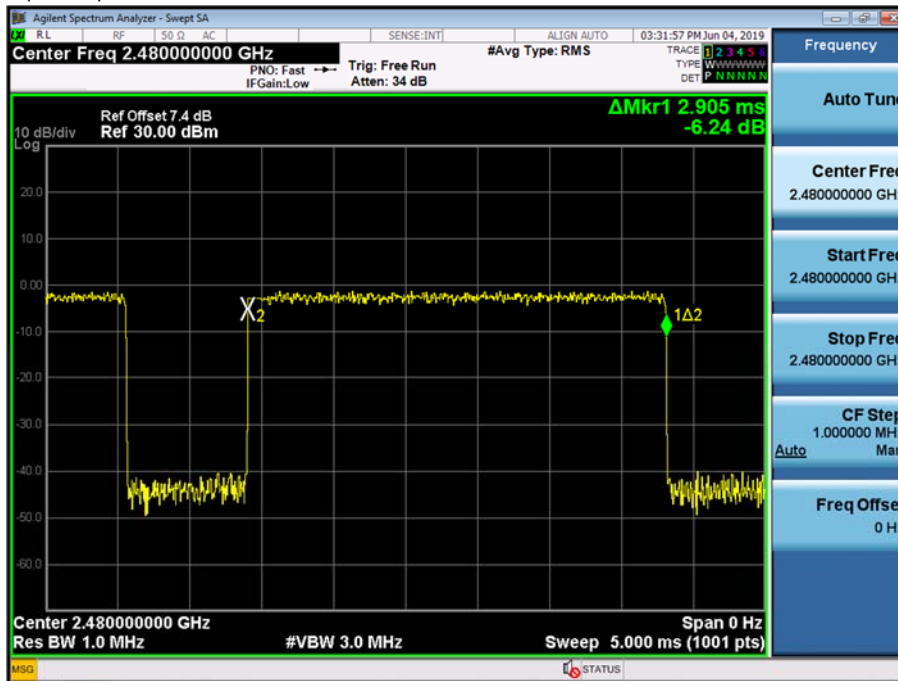
Test Plots (8DPSK)

Dwell Time (CH.39)



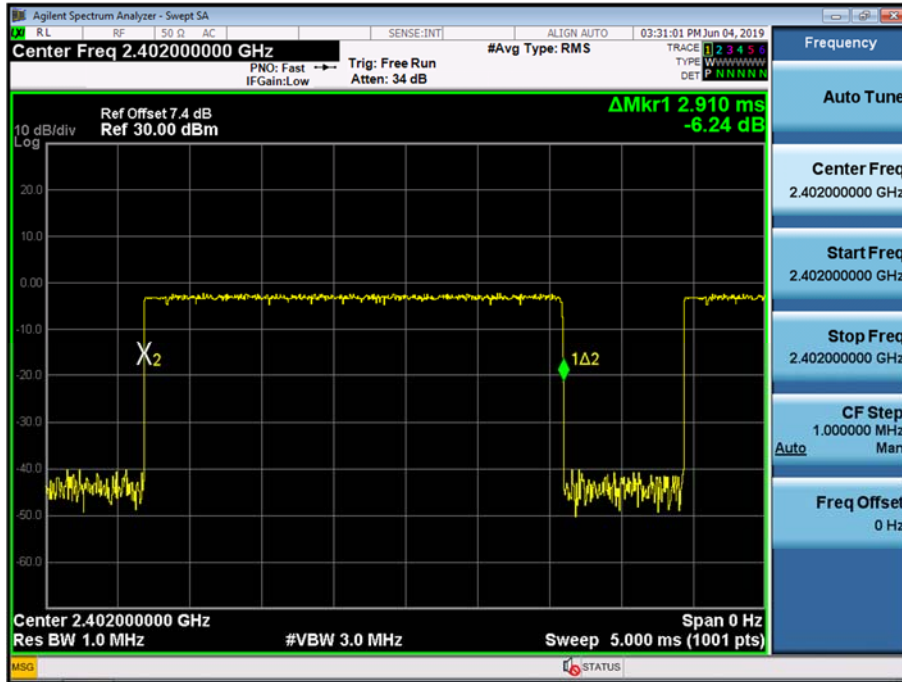
Test Plots (8DPSK)

Dwell Time (CH.78)



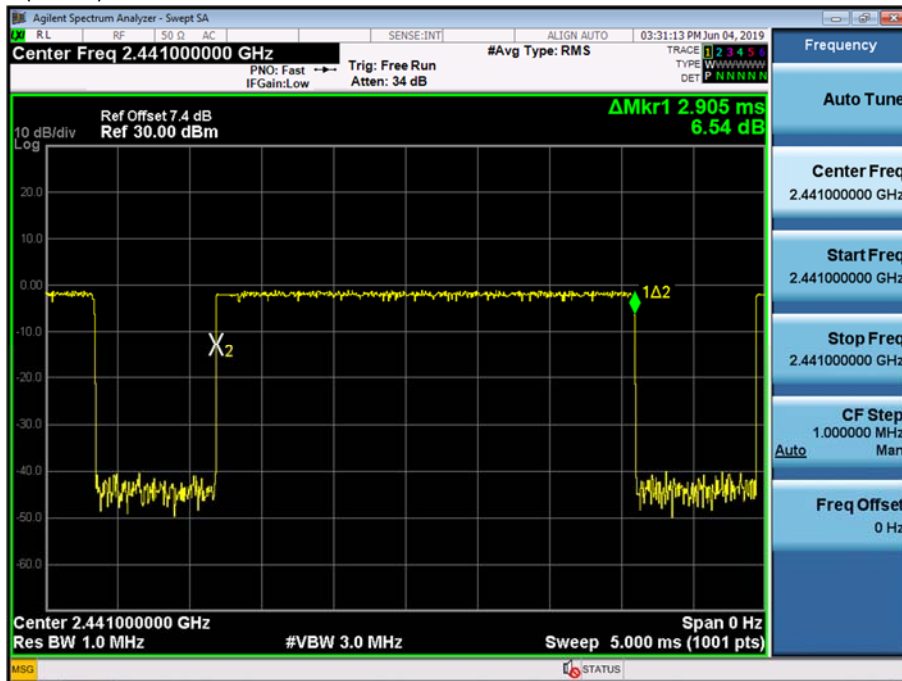
Test Plots ($\pi/4$ DQPSK)

Dwell Time (CH.0)



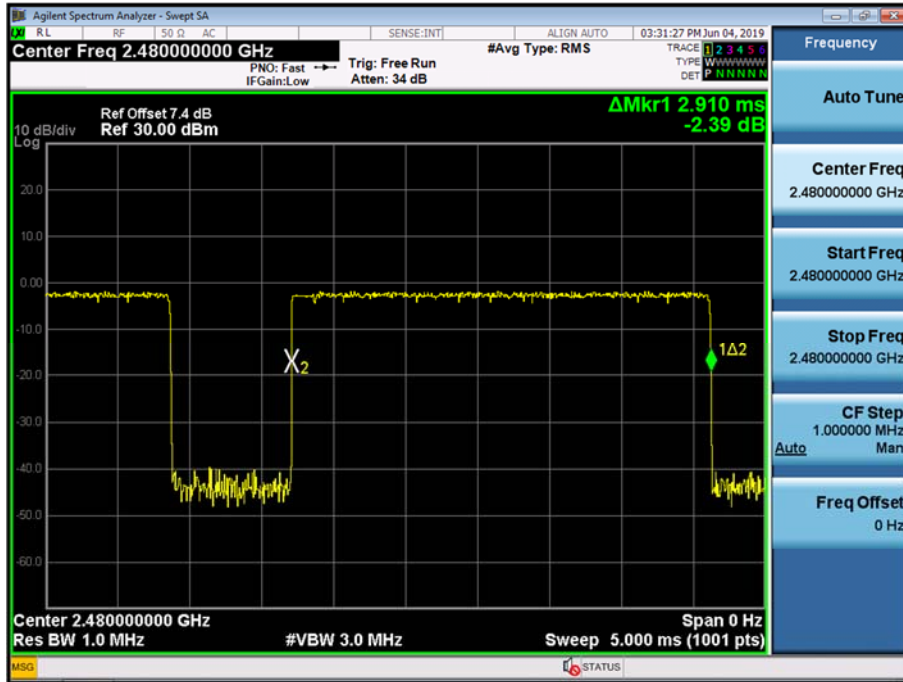
Test Plots ($\pi/4$ DQPSK)

Dwell Time (CH.39)



Test Plots ($\pi/4$ DQPSK)

Dwell Time (CH.78)



10.6 SPURIOUS EMISSIONS

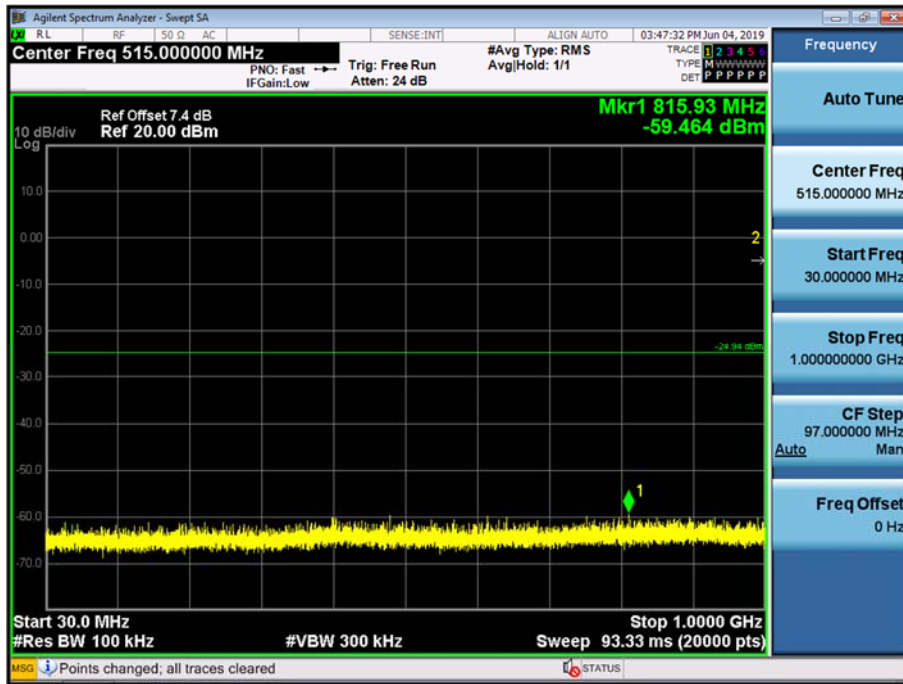
10.6.1 CONDUCTED SPURIOUS EMISSIONS

Test Result : please refer to the plot below.

In order to simplify the report, attached plots were only the worst case channel and data rate.

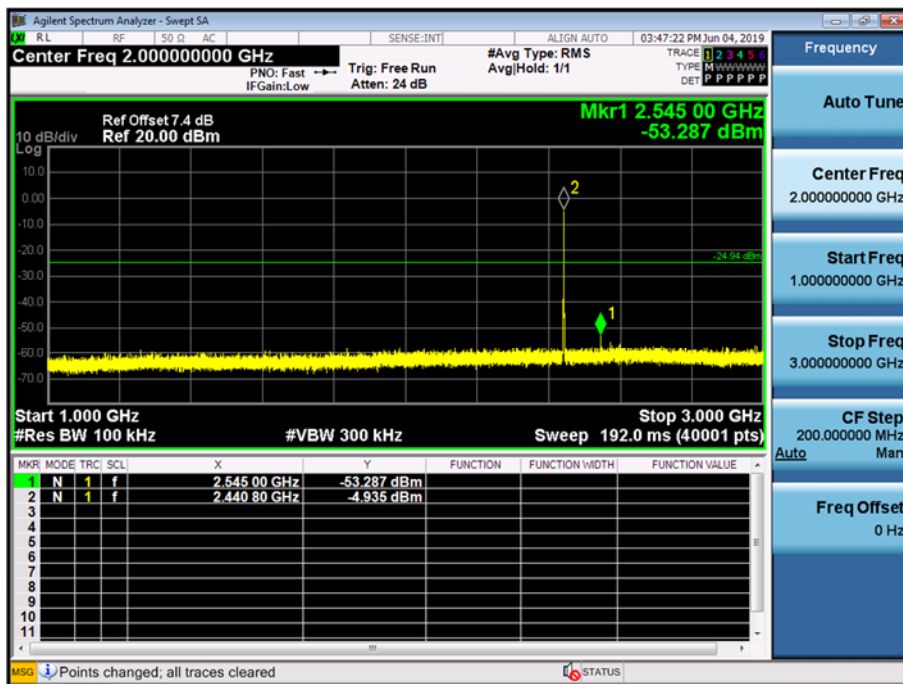
Test Plots (8DPSK)- 30 MHz - 1 GHz

Spurious Emission (CH.39)



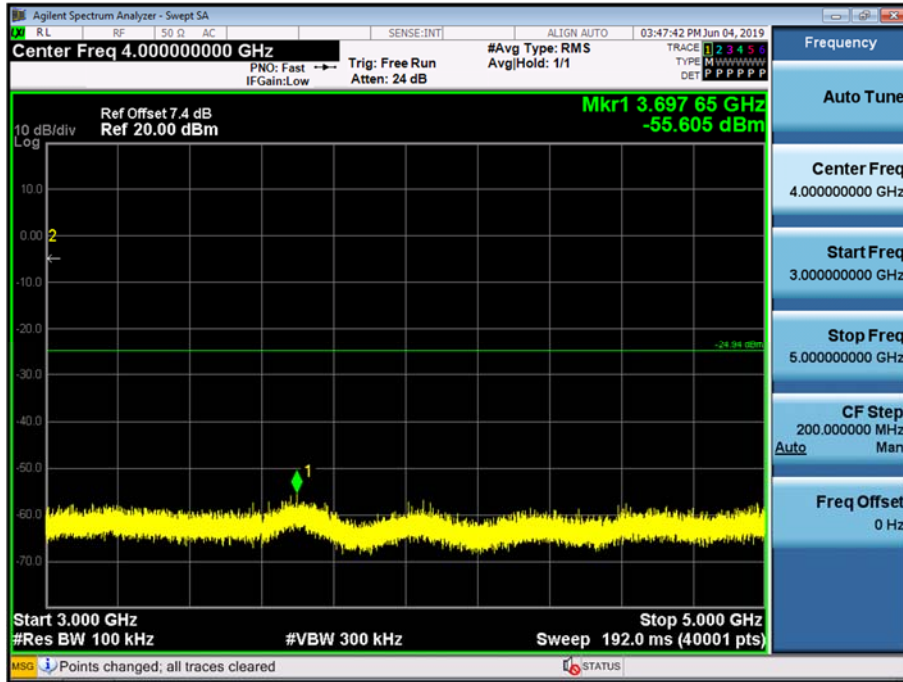
Test Plots (8DPSK)- 1 GHz – 3 GHz

Spurious Emission (CH.39)



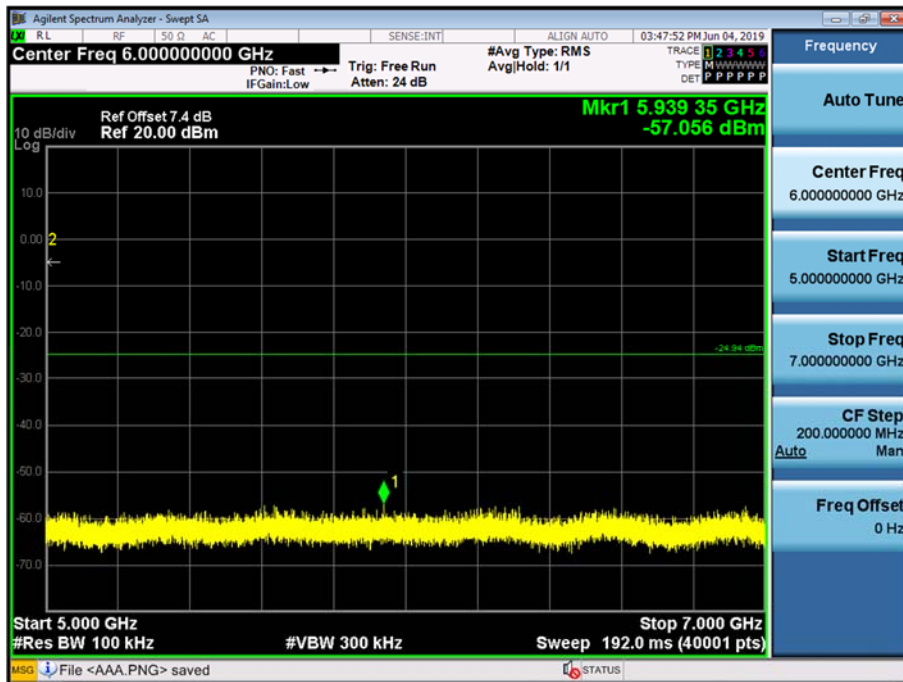
Test Plots(8DPSK)- 3 GHz - 5 GHz

Spurious Emission (CH.39)



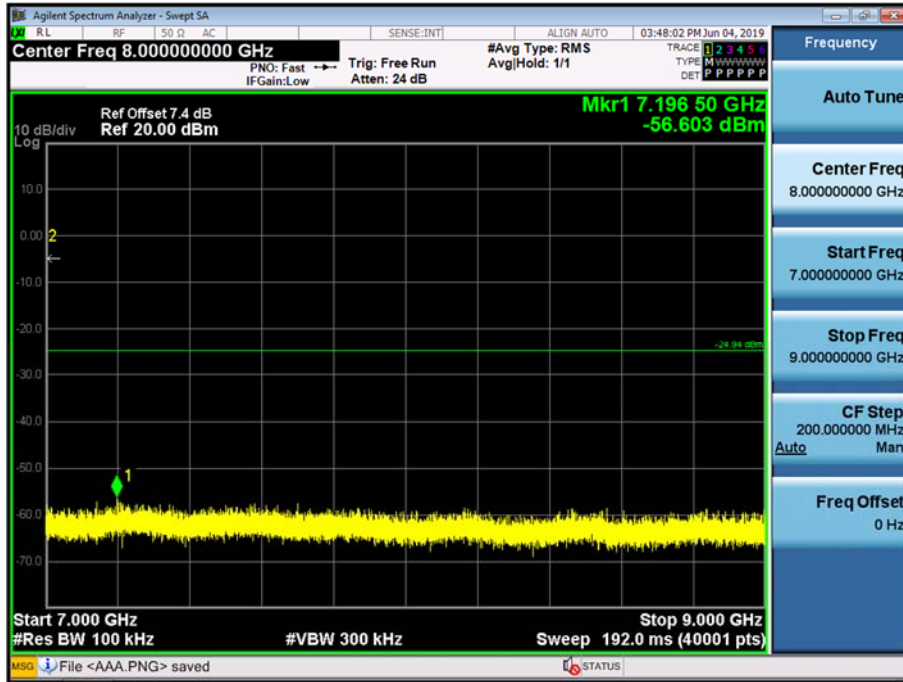
Test Plots (8DPSK)- 5 GHz - 7 GHz

Spurious Emission (CH.39)



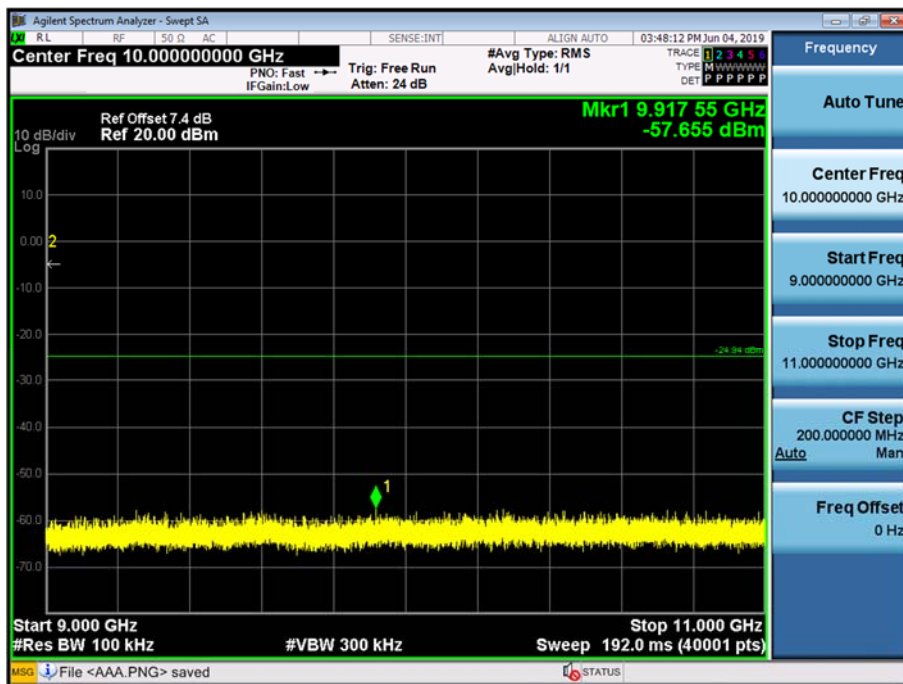
Test Plots(8DPSK)- 7 GHz - 9 GHz

Spurious Emission (CH.39)



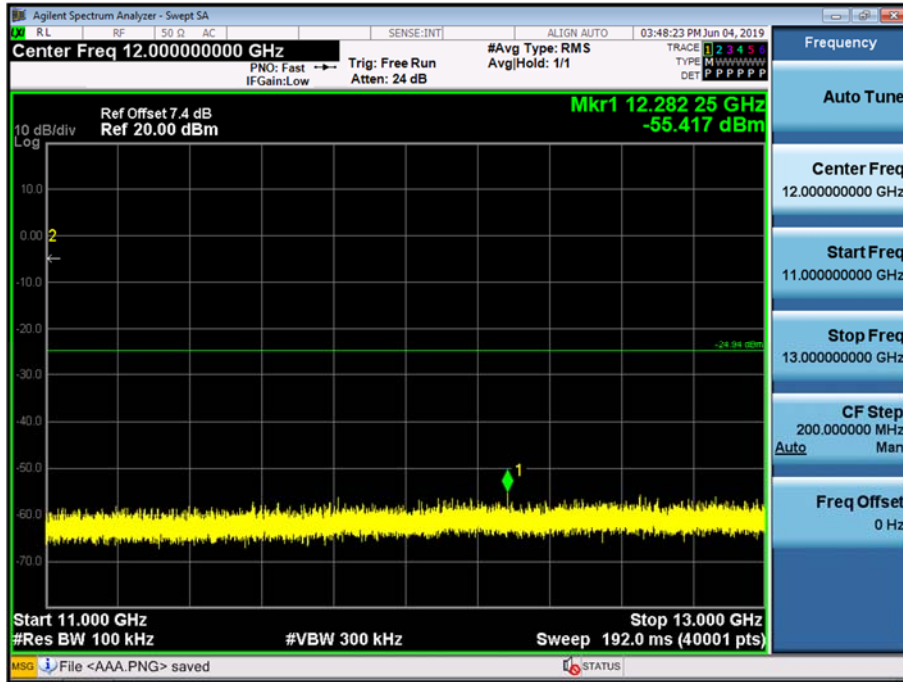
Test Plots(8DPSK)- 9 GHz - 11 GHz

Spurious Emission (CH.39)



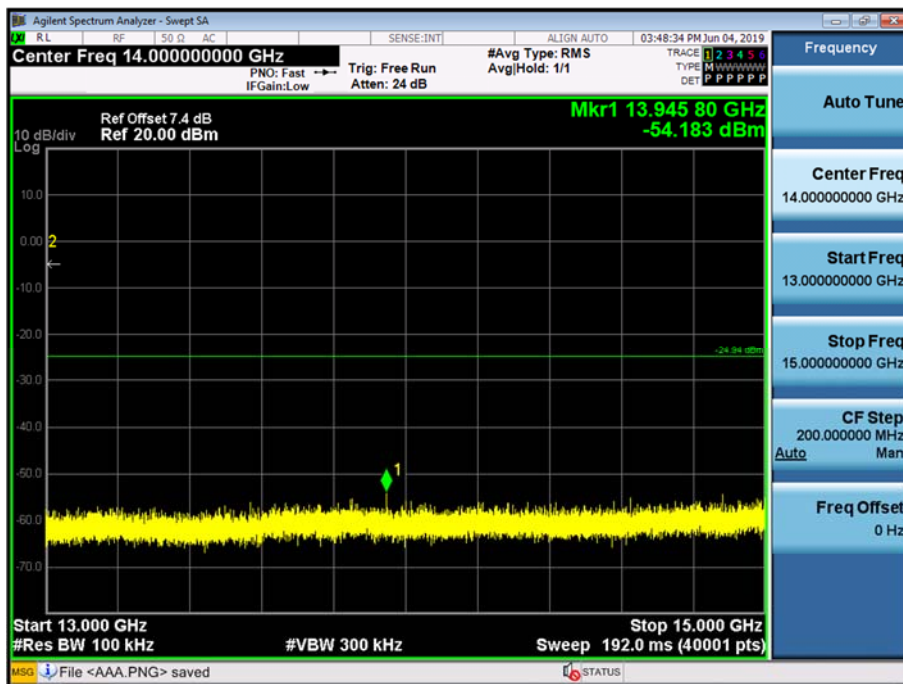
Test Plots(8DPSK) 11 GHz - 13 GHz

Spurious Emission (CH.39)



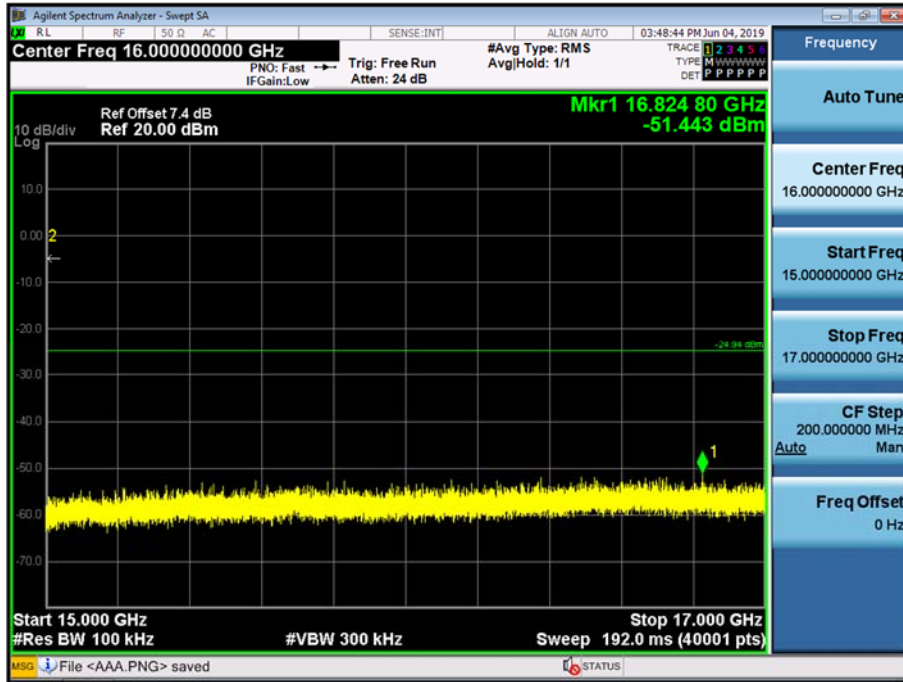
Test Plots (8DPSK)- 13 GHz – 15 GHz

Spurious Emission (CH.39)



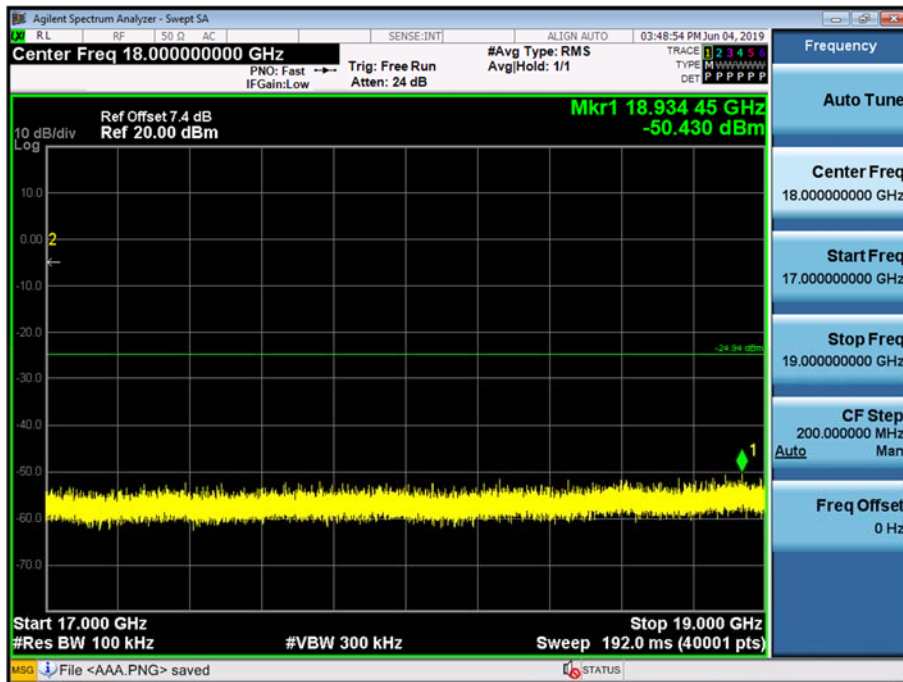
Test Plots(8DPSK)- 15 GHz - 17 GHz

Spurious Emission (CH.39)



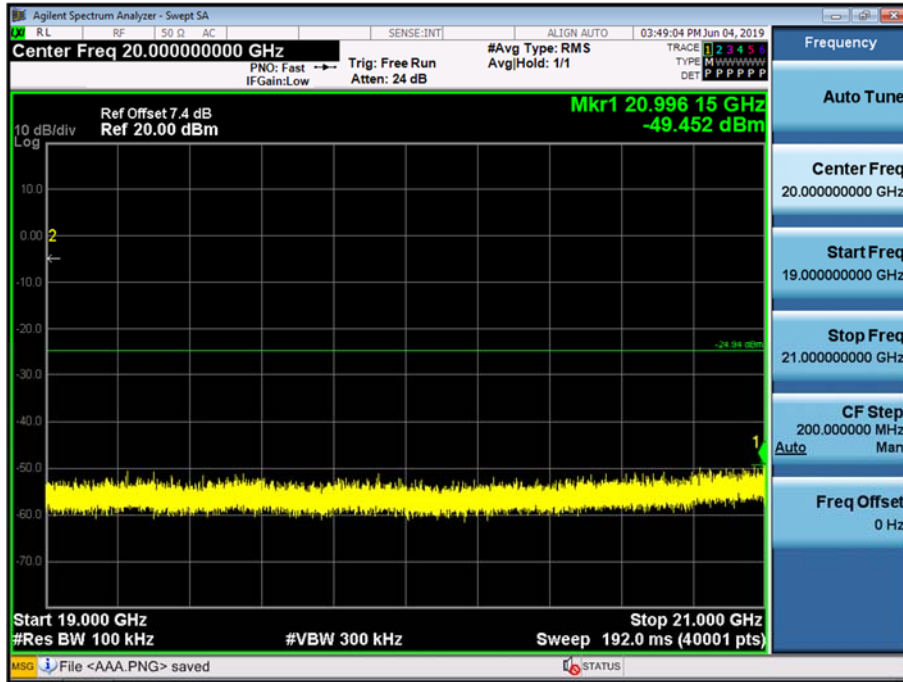
Test Plots(8DPSK)- 17 GHz - 19 GHz

Spurious Emission (CH.39)



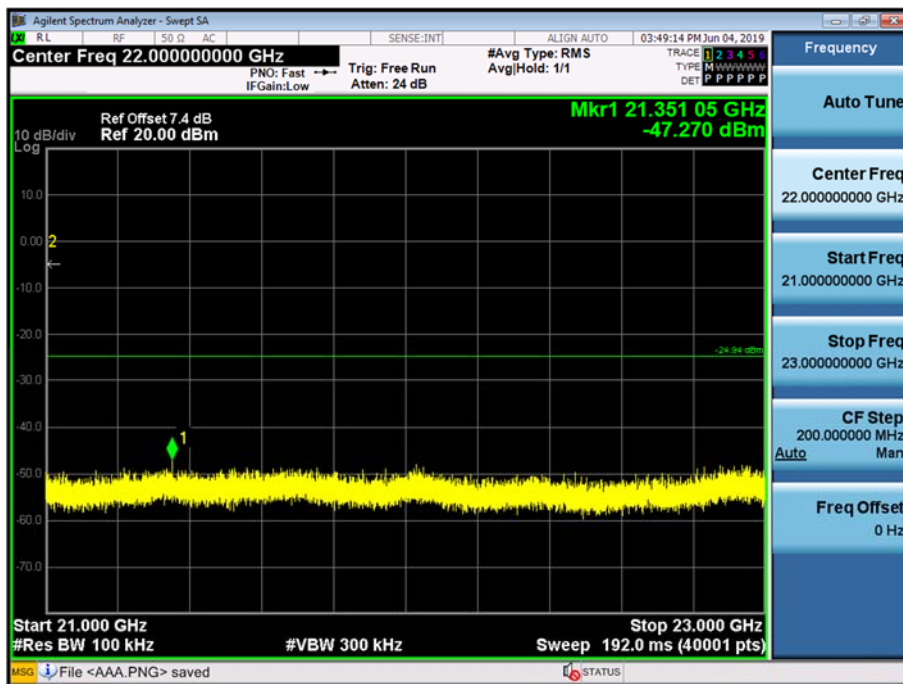
Test Plots (8DPSK)- 19 GHz - 21 GHz

Spurious Emission (CH.39)



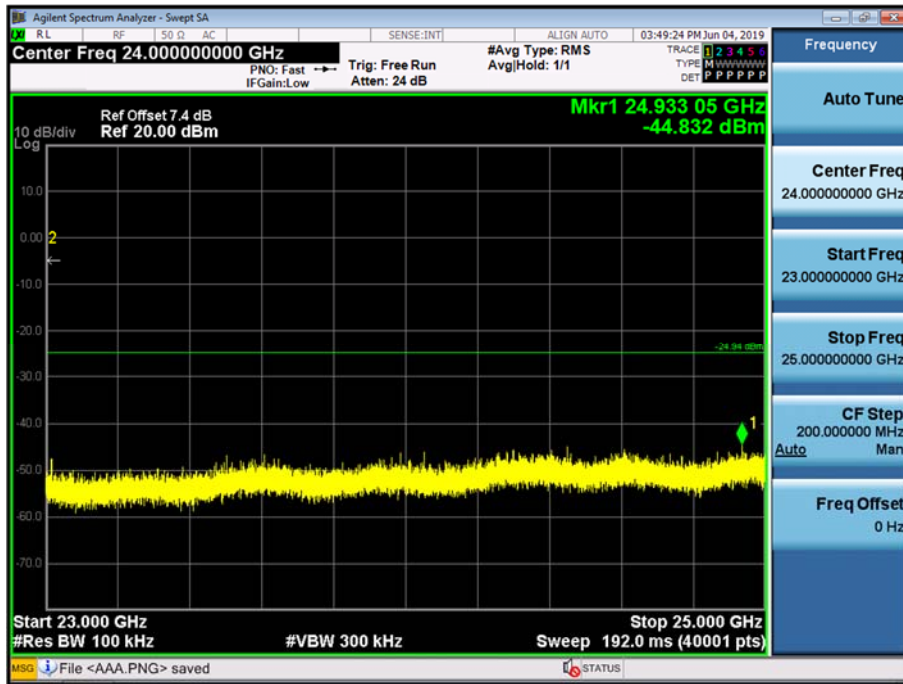
Test Plots (8DPSK)- 21 GHz - 23 GHz

Spurious Emission (CH.39)



Test Plots (8DPSK)- 23 GHz - 25 GHz

Spurious Emission (CH.39)



10.6.2 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30MHz

| Frequency | Reading | Ant. factor | Cable loss | Ant. POL | Total | Limit | Margin |
|-------------------------|---------|-------------|------------|----------|--------|--------|--------|
| MHz | dBuV/m | dBm/m | dBm | (H/V) | dBuV/m | dBuV/m | dB |
| No Critical peaks found | | | | | | | |

Note:

1. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40 \cdot \log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBuV) + Distance extrapolation factor
4. Radiated test is performed with hopping off.

Frequency Range : Below 1 GHz

| Frequency | Reading | Ant. factor | Cable loss | Ant. POL | Total | Limit | Margin |
|-------------------------|---------|-------------|------------|----------|--------|--------|--------|
| MHz | dBuV/m | dBm/m | dBm | (H/V) | dBuV/m | dBuV/m | dB |
| No Critical peaks found | | | | | | | |

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
2. Radiated test is performed with hopping off.

Frequency Range : Above 1 GHz

Operation Mode: CH Low(GFSK)

| Frequency [MHz] | Reading [dBuV] | AN.+CL-AMP G [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|-------------------|------------|----------------|----------------|-------------|------------------|
| 4804 | 51.00 | 0.44 | V | 51.44 | 73.98 | 22.54 | PK |
| 4804 | 41.01 | 0.44 | V | 41.45 | 53.98 | 12.53 | AV |
| 7206 | 45.79 | 9.25 | V | 55.035 | 73.98 | 18.95 | PK |
| 7206 | 32.17 | 9.25 | V | 41.415 | 53.98 | 12.57 | AV |
| 4804 | 50.56 | 0.44 | H | 51.00 | 73.98 | 22.98 | PK |
| 4804 | 40.70 | 0.44 | H | 41.14 | 53.98 | 12.84 | AV |
| 7206 | 45.51 | 9.25 | H | 54.755 | 73.98 | 19.23 | PK |
| 7206 | 32.14 | 9.25 | H | 41.385 | 53.98 | 12.60 | AV |

Operation Mode: CH Low(8DPSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4804 | 51.12 | 0.44 | V | 51.56 | 73.98 | 22.42 | PK |
| 4804 | 37.98 | 0.44 | V | 38.42 | 53.98 | 15.56 | AV |
| 7206 | 45.74 | 9.25 | V | 54.985 | 73.98 | 19.00 | PK |
| 7206 | 32.14 | 9.25 | V | 41.385 | 53.98 | 12.60 | AV |
| 4804 | 50.88 | 0.44 | H | 51.32 | 73.98 | 22.66 | PK |
| 4804 | 37.85 | 0.44 | H | 38.29 | 53.98 | 15.69 | AV |
| 7206 | 45.61 | 9.25 | H | 54.855 | 73.98 | 19.13 | PK |
| 7206 | 32.08 | 9.25 | H | 41.325 | 53.98 | 12.66 | AV |

 Operation Mode: CH Low($\pi/4$ DQPSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4804 | 50.10 | 0.44 | V | 50.54 | 73.98 | 23.44 | PK |
| 4804 | 38.04 | 0.44 | V | 38.48 | 53.98 | 15.50 | AV |
| 7206 | 45.94 | 9.25 | V | 55.185 | 73.98 | 18.80 | PK |
| 7206 | 32.09 | 9.25 | V | 41.335 | 53.98 | 12.65 | AV |
| 4804 | 49.75 | 0.44 | H | 50.19 | 73.98 | 23.79 | PK |
| 4804 | 37.78 | 0.44 | H | 38.22 | 53.98 | 15.76 | AV |
| 7206 | 45.76 | 9.25 | H | 55.005 | 73.98 | 18.98 | PK |
| 7206 | 32.05 | 9.25 | H | 41.295 | 53.98 | 12.69 | AV |

Operation Mode: CH Mid(GFSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4882 | 51.45 | 0.96 | V | 52.41 | 73.98 | 21.57 | PK |
| 4882 | 42.59 | 0.96 | V | 43.55 | 53.98 | 10.43 | AV |
| 7323 | 46.08 | 9.14 | V | 55.22 | 73.98 | 18.76 | PK |
| 7323 | 32.62 | 9.14 | V | 41.76 | 53.98 | 12.22 | AV |
| 4882 | 50.88 | 0.96 | H | 51.84 | 73.98 | 22.14 | PK |
| 4882 | 42.13 | 0.96 | H | 43.09 | 53.98 | 10.89 | AV |
| 7323 | 45.55 | 9.14 | H | 54.69 | 73.98 | 19.29 | PK |
| 7323 | 32.49 | 9.14 | H | 41.63 | 53.98 | 12.35 | AV |

Operation Mode: CH Mid(8DPSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4882 | 51.18 | 0.96 | V | 52.14 | 73.98 | 21.84 | PK |
| 4882 | 38.67 | 0.96 | V | 39.63 | 53.98 | 14.35 | AV |
| 7323 | 45.65 | 9.14 | V | 54.79 | 73.98 | 19.19 | PK |
| 7323 | 32.50 | 9.14 | V | 41.64 | 53.98 | 12.34 | AV |
| 4882 | 50.79 | 0.96 | H | 51.75 | 73.98 | 22.23 | PK |
| 4882 | 38.55 | 0.96 | H | 39.51 | 53.98 | 14.47 | AV |
| 7323 | 45.33 | 9.14 | H | 54.47 | 73.98 | 19.51 | PK |
| 7323 | 32.41 | 9.14 | H | 41.55 | 53.98 | 12.43 | AV |

 Operation Mode: CH Mid($\pi/4$ DQPSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4882 | 51.26 | 0.96 | V | 52.22 | 73.98 | 21.76 | PK |
| 4882 | 38.67 | 0.96 | V | 39.63 | 53.98 | 14.35 | AV |
| 7323 | 45.77 | 9.14 | V | 54.91 | 73.98 | 19.07 | PK |
| 7323 | 32.58 | 9.14 | V | 41.72 | 53.98 | 12.26 | AV |
| 4882 | 50.78 | 0.96 | H | 51.74 | 73.98 | 22.24 | PK |
| 4882 | 38.50 | 0.96 | H | 39.46 | 53.98 | 14.52 | AV |
| 7323 | 45.81 | 9.14 | H | 54.95 | 73.98 | 19.03 | PK |
| 7323 | 32.44 | 9.14 | H | 41.58 | 53.98 | 12.40 | AV |

Operation Mode: CH High(GFSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4960 | 51.24 | 0.66 | V | 51.90 | 73.98 | 22.08 | PK |
| 4960 | 40.96 | 0.66 | V | 41.62 | 53.98 | 12.36 | AV |
| 7440 | 45.81 | 10.16 | V | 55.97 | 73.98 | 18.01 | PK |
| 7440 | 32.30 | 10.16 | V | 42.46 | 53.98 | 11.52 | AV |
| 4960 | 50.47 | 0.66 | H | 51.13 | 73.98 | 22.85 | PK |
| 4960 | 40.80 | 0.66 | H | 41.46 | 53.98 | 12.52 | AV |
| 7440 | 45.25 | 10.16 | H | 55.41 | 73.98 | 18.57 | PK |
| 7440 | 32.25 | 10.16 | H | 42.41 | 53.98 | 11.57 | AV |

Operation Mode: CH High(8DPSK)

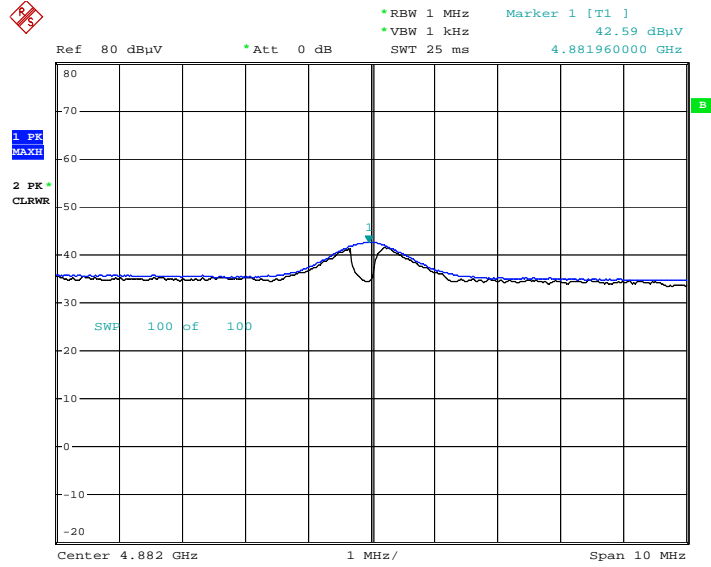
| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4960 | 50.20 | 0.66 | V | 50.86 | 73.98 | 23.12 | PK |
| 4960 | 37.94 | 0.66 | V | 38.60 | 53.98 | 15.38 | AV |
| 7440 | 47.14 | 10.16 | V | 57.3 | 73.98 | 16.68 | PK |
| 7440 | 32.33 | 10.16 | V | 42.49 | 53.98 | 11.49 | AV |
| 4960 | 49.46 | 0.66 | H | 50.12 | 73.98 | 23.86 | PK |
| 4960 | 37.85 | 0.66 | H | 38.51 | 53.98 | 15.47 | AV |
| 7440 | 46.83 | 10.16 | H | 56.99 | 73.98 | 16.99 | PK |
| 7440 | 32.21 | 10.16 | H | 42.37 | 53.98 | 11.61 | AV |

 Operation Mode: CH High ($\pi/4$ DQPSK)

| Frequency [MHz] | Reading [dBuV] | A.F + C.L - A.G + D.F [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|----------------------------|------------|----------------|----------------|-------------|------------------|
| 4960 | 50.30 | 0.66 | V | 50.96 | 73.98 | 23.02 | PK |
| 4960 | 37.97 | 0.66 | V | 38.63 | 53.98 | 15.35 | AV |
| 7440 | 46.06 | 10.16 | V | 56.22 | 73.98 | 17.76 | PK |
| 7440 | 32.34 | 10.16 | V | 42.5 | 53.98 | 11.48 | AV |
| 4960 | 49.82 | 0.66 | H | 50.48 | 73.98 | 23.50 | PK |
| 4960 | 37.55 | 0.66 | H | 38.21 | 53.98 | 15.77 | AV |
| 7440 | 45.81 | 10.16 | H | 55.97 | 73.98 | 18.01 | PK |
| 7440 | 32.30 | 10.16 | H | 42.46 | 53.98 | 11.52 | AV |

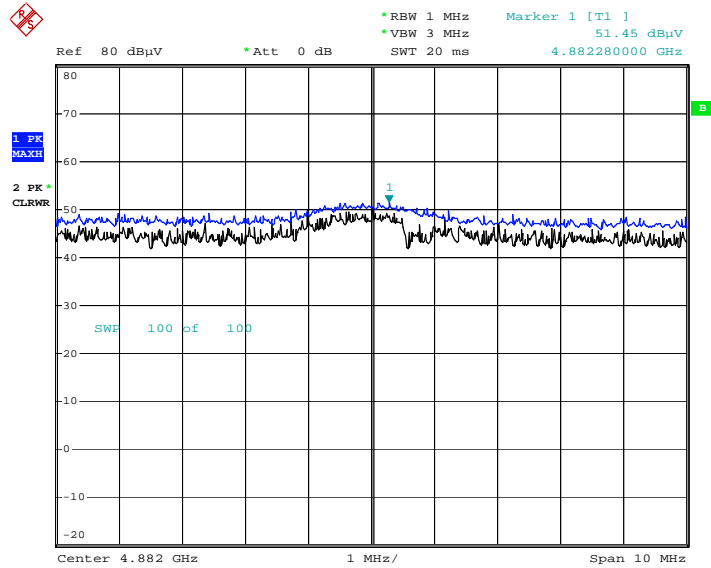
RESULT PLOTS (Worst case : X-V)

Radiated Spurious Emissions plot – Average Reading (GFSK, Ch.39 2nd Harmonic)



Date: 4.JUN.2019 16:16:03

Radiated Spurious Emissions plot – Peak Reading (GFSK, Ch.39 2nd Harmonic)



Date: 4.JUN.2019 16:16:29

Note:

Plot of worst case are only reported.

10.6.3 RADIATED RESTRICTED BAND EDGES

| | |
|---------------------|--------------------|
| Operation Mode | Normal(GFSK) |
| Operating Frequency | 2402 MHz, 2480 MHz |
| Channel No | CH 0, CH 78 |

| Frequency [MHz] | Reading [dBuV] | A.F.+CL [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|--------------|------------|----------------|----------------|-------------|------------------|
| 2390.0 | 19.55 | 33.39 | H | 52.94 | 73.98 | 21.04 | PK |
| 2390.0 | 9.31 | 33.39 | H | 42.70 | 53.98 | 11.28 | AV |
| 2390.0 | 19.82 | 33.39 | V | 53.21 | 73.98 | 20.77 | PK |
| 2390.0 | 9.37 | 33.39 | V | 42.76 | 53.98 | 11.22 | AV |
| 2483.5 | 31.18 | 33.39 | H | 64.57 | 73.98 | 9.41 | PK |
| 2483.5 | 11.02 | 33.39 | H | 44.41 | 53.98 | 9.57 | AV |
| 2483.5 | 31.52 | 33.39 | V | 64.91 | 73.98 | 9.07 | PK |
| 2483.5 | 11.34 | 33.39 | V | 44.73 | 53.98 | 9.25 | AV |

| | |
|---------------------|--------------------|
| Operation Mode | EDR(8DPSK) |
| Operating Frequency | 2402 MHz, 2480 MHz |
| Channel No | CH 0, CH 78 |

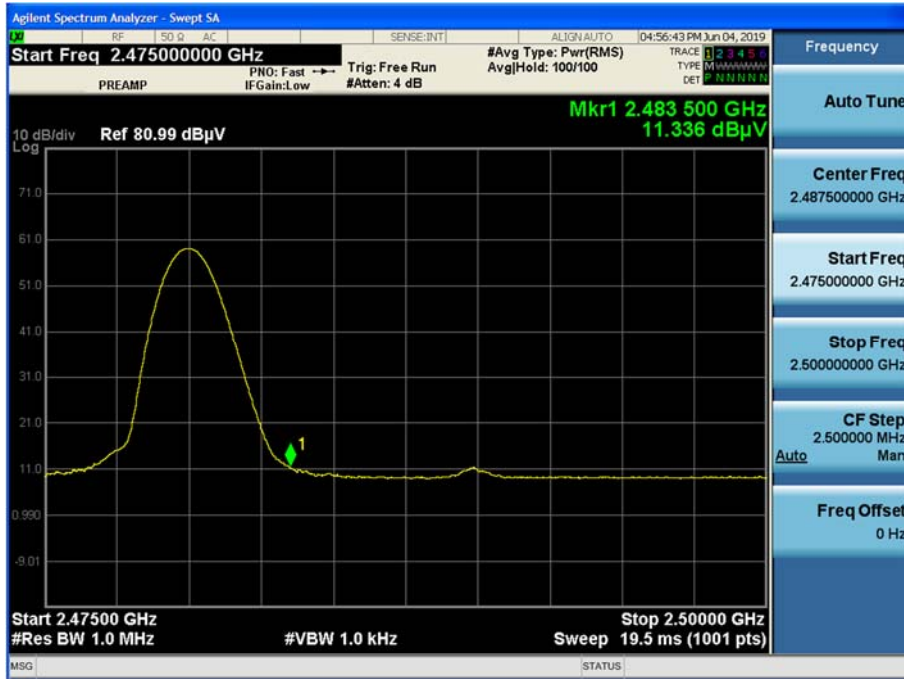
| Frequency [MHz] | Reading [dBuV] | A.F.+CL [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|--------------|------------|----------------|----------------|-------------|------------------|
| 2390.0 | 20.05 | 33.39 | H | 53.44 | 73.98 | 20.54 | PK |
| 2390.0 | 9.31 | 33.39 | H | 42.70 | 53.98 | 11.28 | AV |
| 2390.0 | 20.12 | 33.39 | V | 53.51 | 73.98 | 20.48 | PK |
| 2390.0 | 9.34 | 33.39 | V | 42.73 | 53.98 | 11.26 | AV |
| 2483.5 | 30.79 | 33.39 | H | 64.18 | 73.98 | 9.80 | PK |
| 2483.5 | 11.28 | 33.39 | H | 44.67 | 53.98 | 9.31 | AV |
| 2483.5 | 31.51 | 33.39 | V | 64.90 | 73.98 | 9.08 | PK |
| 2483.5 | 11.42 | 33.39 | V | 44.81 | 53.98 | 9.17 | AV |

Operation Mode EDR(π /4DQPSK)
 Operating Frequency 2402 MHz, 2480 MHz
 Channel No CH 0, CH 78

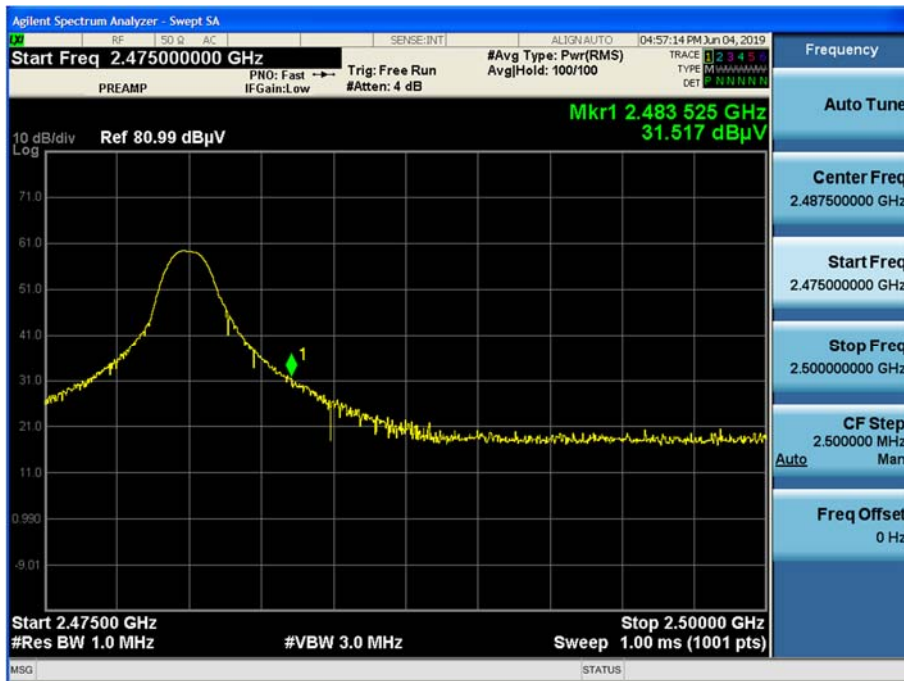
| Frequency [MHz] | Reading [dBuV] | A.F.+CL [dB] | Pol. [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-----------------|----------------|--------------|------------|----------------|----------------|-------------|------------------|
| 2390.0 | 19.88 | 33.39 | H | 53.27 | 73.98 | 20.72 | PK |
| 2390.0 | 9.22 | 33.39 | H | 42.61 | 53.98 | 11.37 | AV |
| 2390.0 | 20.03 | 33.39 | V | 53.42 | 73.98 | 20.56 | PK |
| 2390.0 | 9.29 | 33.39 | V | 42.68 | 53.98 | 11.30 | AV |
| 2483.5 | 31.27 | 33.39 | H | 64.66 | 73.98 | 9.32 | PK |
| 2483.5 | 11.34 | 33.39 | H | 44.73 | 53.98 | 9.25 | AV |
| 2483.5 | 31.39 | 33.39 | V | 64.78 | 73.98 | 9.20 | PK |
| 2483.5 | 11.58 | 33.39 | V | 44.97 | 53.98 | 9.01 | AV |

RESULT PLOTS (Worst case : X-V)

Radiated Restricted Band Edges plot – Average Reading (GFSK, Ch.78)



Radiated Restricted Band Edges plot – Peak Reading (GFSK, Ch.78)



Note:

Plot of worst case are only reported.

11. LIST OF TEST EQUIPMENT

Conducted Test

| Manufacturer | Model / Equipment | Calibration Date | Calibration Interval | Serial No. |
|-----------------|--|------------------|----------------------|------------|
| Rohde & Schwarz | ENV216 / LISN | 12/12/2018 | Annual | 102245 |
| Rohde & Schwarz | ESCI / Test Receiver | 06/27/2018 | Annual | 100033 |
| ESPAC | SU-642 /Temperature Chamber | 03/12/2019 | Annual | 0093008124 |
| Agilent | N9020A / Signal Analyzer | 05/23/2019 | Annual | MY51110085 |
| Agilent | N9020A / Signal Analyzer | 05/24/2019 | Annual | MY52090906 |
| Agilent | N9030A / Signal Analyzer | 01/10/2019 | Annual | MY49431210 |
| Rohde & Schwarz | OSP 120 / Power Measurement Set | 07/26/2018 | Annual | 101231 |
| Agilent | N1911A / Power Meter | 04/10/2019 | Annual | MY45100523 |
| Agilent | N1921A / Power Sensor | 04/10/2019 | Annual | MY52260025 |
| Agilent | 87300B / Directional Coupler | 11/20/2018 | Annual | 3116A03621 |
| Hewlett Packard | 11667B / Power Splitter | 05/24/2019 | Annual | 05001 |
| Hewlett Packard | E3632A / DC Power Supply | 06/26/2018 | Annual | KR75303960 |
| Agilent | 8493C / Attenuator(10 dB) | 07/10/2018 | Annual | 07560 |
| Rohde & Schwarz | EMC32 / Software | N/A | N/A | N/A |
| HCT CO., LTD. | FCC WLAN&BT&BLE Conducted Test Software v3.0 | N/A | N/A | N/A |
| Rohde & Schwarz | CBT / Bluetooth Tester | 05/16/2019 | Annual | 100422 |

Radiated Test

| Manufacturer | Model / Equipment | Calibration Date | Calibration Interval | Serial No. |
|------------------------|---|------------------|----------------------|-------------|
| Innco system | CO3000 / Controller(Antenna mast) | N/A | N/A | CO3000-4p |
| Innco system | MA4640/800-XP-EP / Antenna Position Tower | N/A | N/A | N/A |
| Audix | EM1000 / Controller | N/A | N/A | 060520 |
| Audix | Turn Table | N/A | N/A | N/A |
| Rohde & Schwarz | Loop Antenna | 08/23/2018 | Biennial | 1513-175 |
| Schwarzbeck | VULB 9168 / Hybrid Antenna | 03/22/2019 | Biennial | 760 |
| Schwarzbeck | VULB 9160 / TRILOG Antenna | 08/09/2018 | Biennial | 9160-3368 |
| Schwarzbeck | BBHA 9120D / Horn Antenna | 04/29/2019 | Biennial | 9120D-937 |
| Schwarzbeck | BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz) | 12/04/2017 | Biennial | BBHA9170541 |
| Rohde & Schwarz | FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer | 09/03/2018 | Annual | 100688 |
| Rohde & Schwarz | FSV40-N / Spectrum Analyzer | 09/28/2018 | Annual | 101068-SZ |
| Agilent | N9020A / Signal Analyzer | 05/23/2019 | Annual | MY51110085 |
| Wainwright Instruments | WHK3.0/18G-10EF / High Pass Filter | 05/23/2019 | Annual | 8 |
| Wainwright Instruments | WHKX7.0/18G-8SS / High Pass Filter | 05/03/2019 | Annual | 29 |
| Wainwright Instruments | WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter | 06/29/2018 | Annual | 2 |
| Wainwright Instruments | WRCJV5100/5850-40/50-8EEK / Band Reject Filter | 01/03/2019 | Annual | 2 |
| Api tech. | 18B-03 / Attenuator (3 dB) | 06/04/2019 | Annual | 1 |
| Agilent | 8493C-10 / Attenuator(10 dB) | 07/17/2018 | Annual | 08285 |
| CERNEX | CBLU1183540 / Power Amplifier | 07/10/2018 | Annual | 22964 |
| CERNEX | CBL06185030 / Power Amplifier | 07/10/2018 | Annual | 22965 |
| CERNEX | CBL18265035 / Power Amplifier | 01/03/2019 | Annual | 22966 |
| CERNEX | CBL26405040 / Power Amplifier | 06/29/2018 | Annual | 25956 |
| TESCOM | TC-3000C / Bluetooth Tester | 03/26/2019 | Annual | 3000C000276 |

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

12. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

| No. | Description |
|-----|---------------------|
| 1 | HCT-RF-1906-FC030-P |