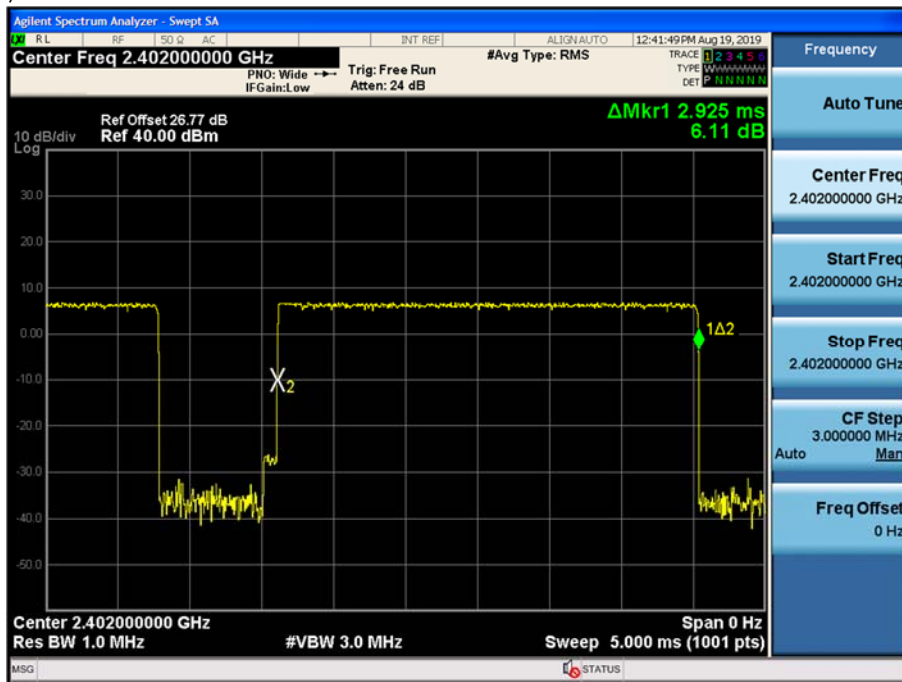
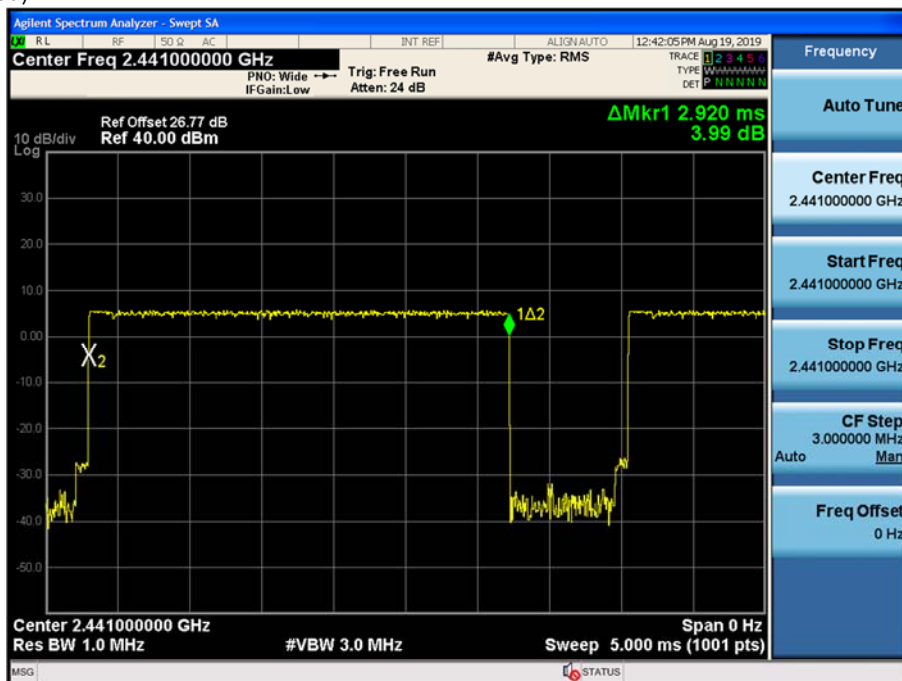


Test Plots ( $\pi/4$ DQPSK)

Dwell Time (CH.0)

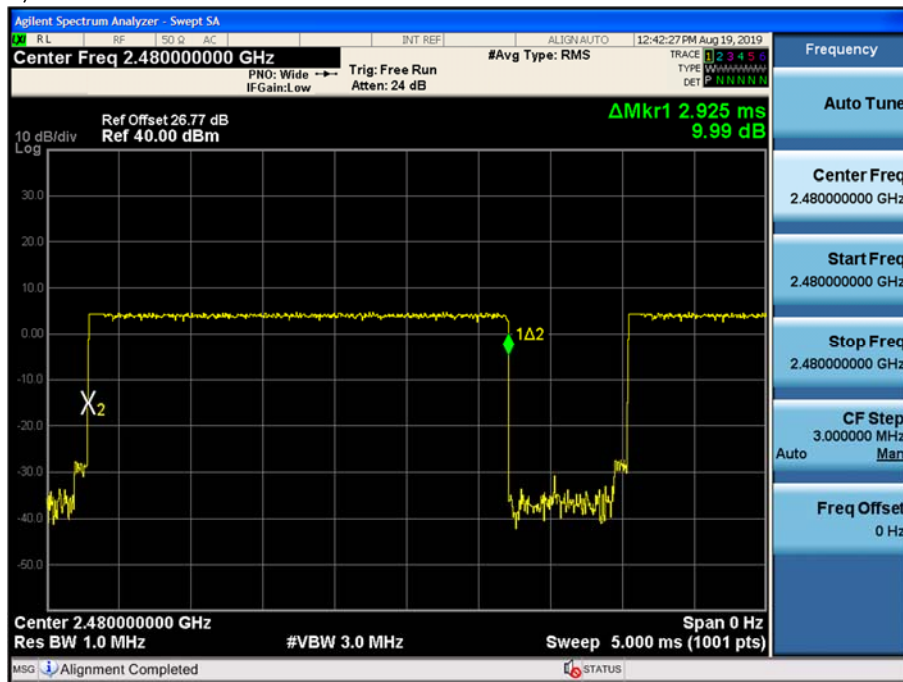

Test Plots ( $\pi/4$ DQPSK)

Dwell Time (CH.39)



Test Plots ( $\pi/4$ DQPSK)

Dwell Time (CH.78)



## 10.6 SPURIOUS EMISSIONS

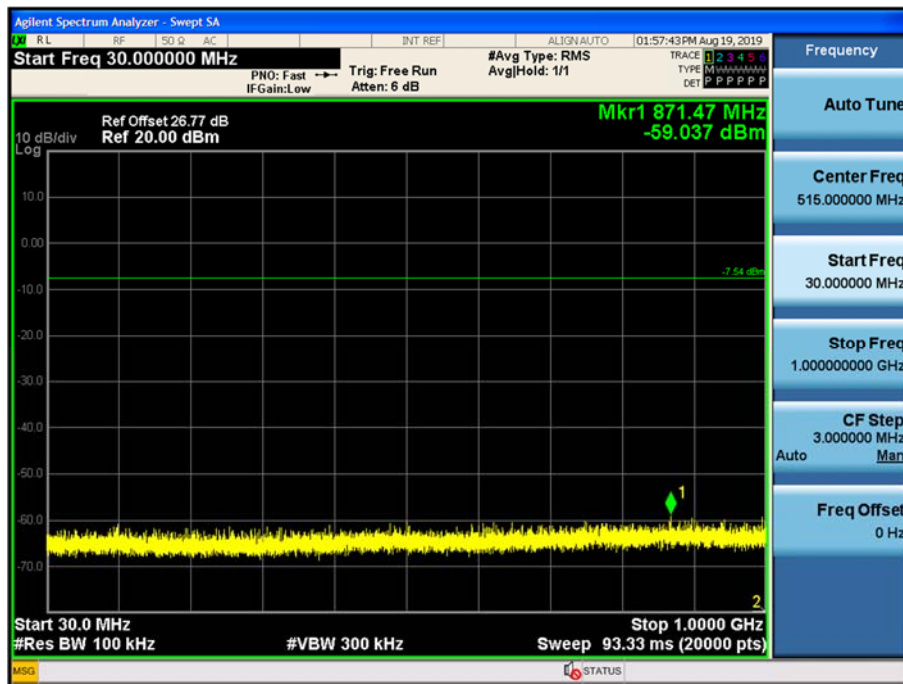
### 10.6.1 CONDUCTED SPURIOUS EMISSIONS

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.

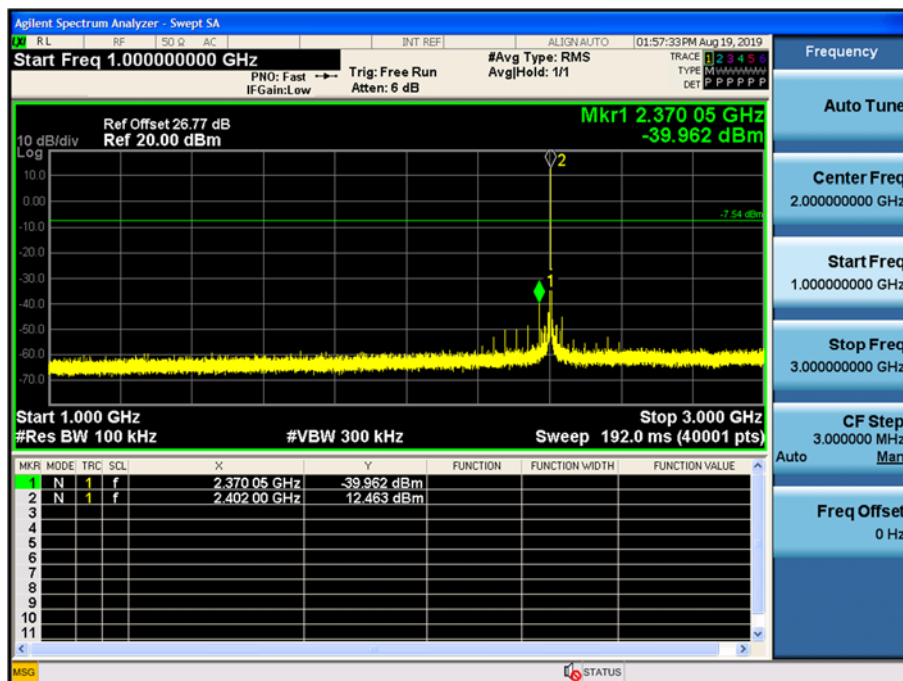
## Test Plots (GFSK)- 30 MHz - 1 GHz

### Spurious Emission (CH.0)



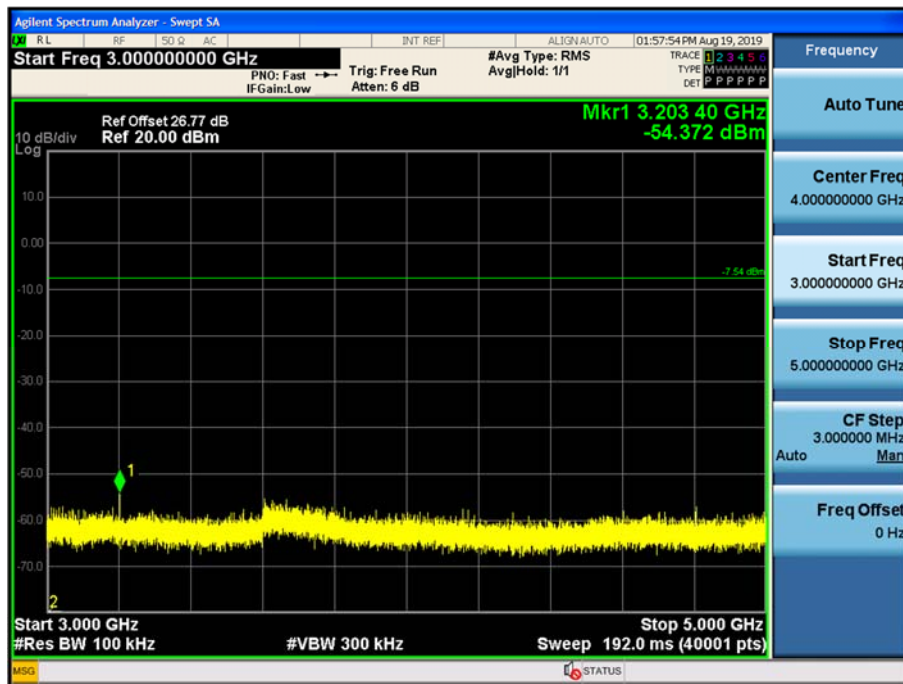
## Test Plots (GFSK)- 1 GHz – 3 GHz

### Spurious Emission (CH.0)



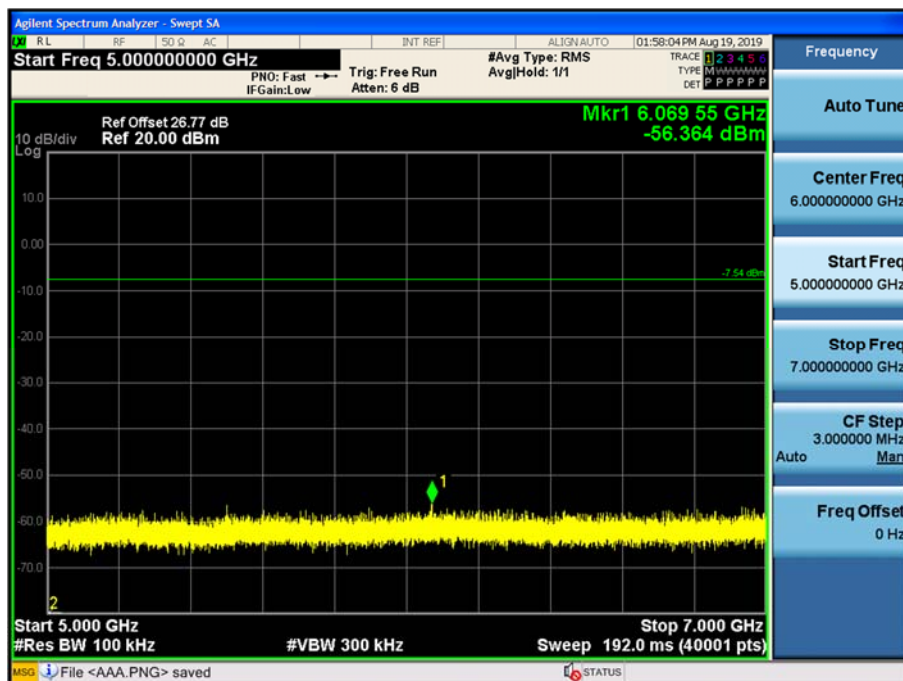
## Test Plots(GFSK)- 3 GHz - 5 GHz

### Spurious Emission (CH.0)



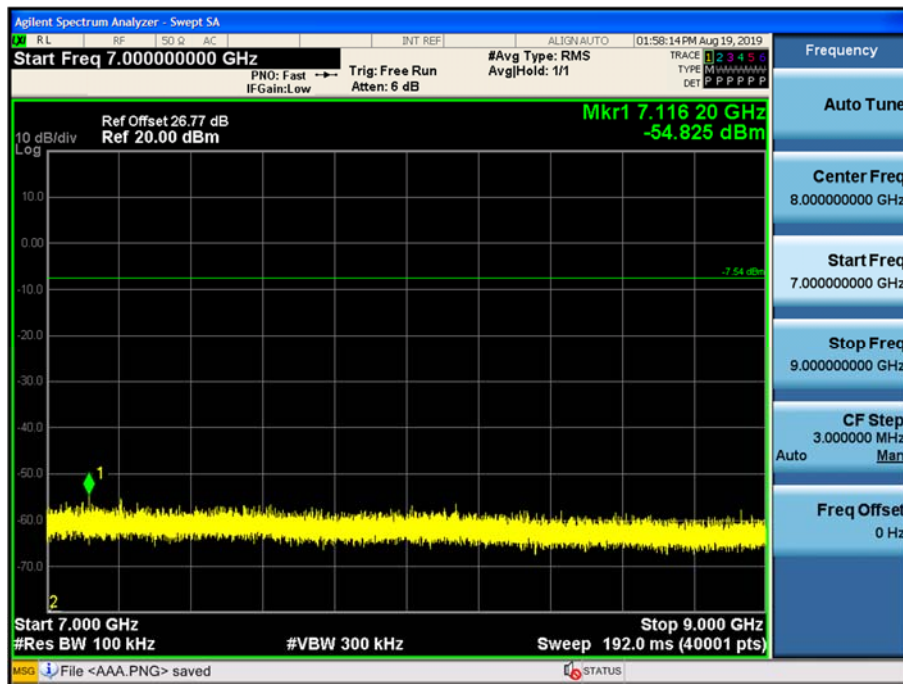
## Test Plots (GFSK)- 5 GHz - 7 GHz

### Spurious Emission (CH.0)



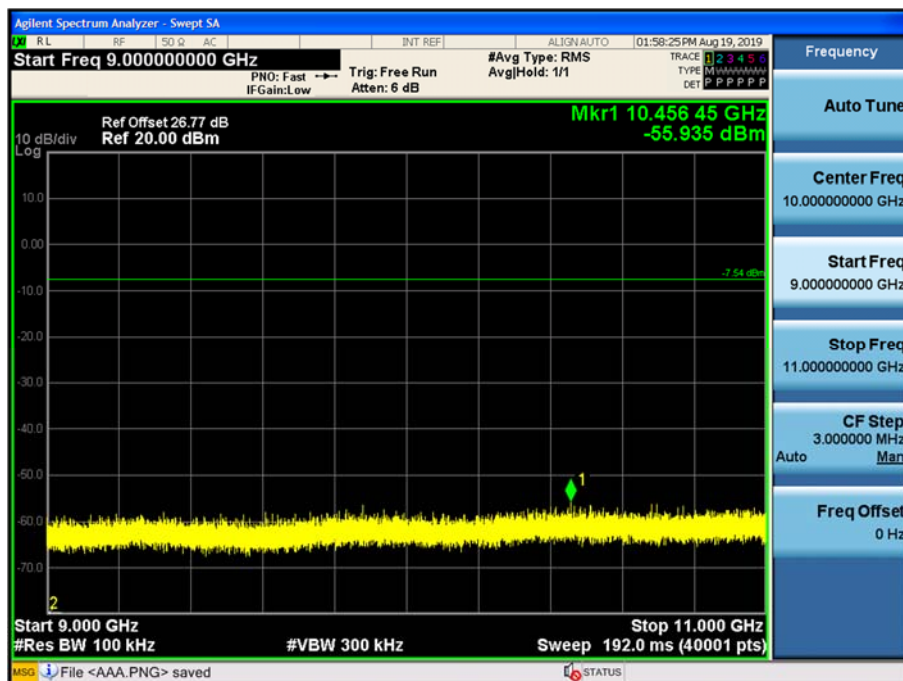
## Test Plots(GFSK)- 7 GHz - 9 GHz

### Spurious Emission (CH.0)



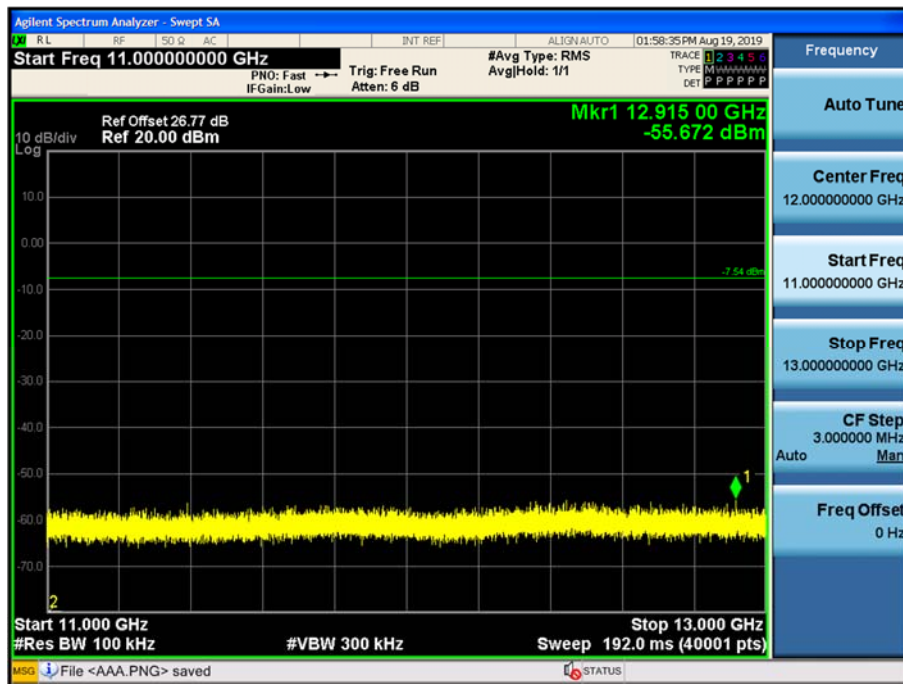
## Test Plots(GFSK)- 9 GHz - 11 GHz

### Spurious Emission (CH.0)



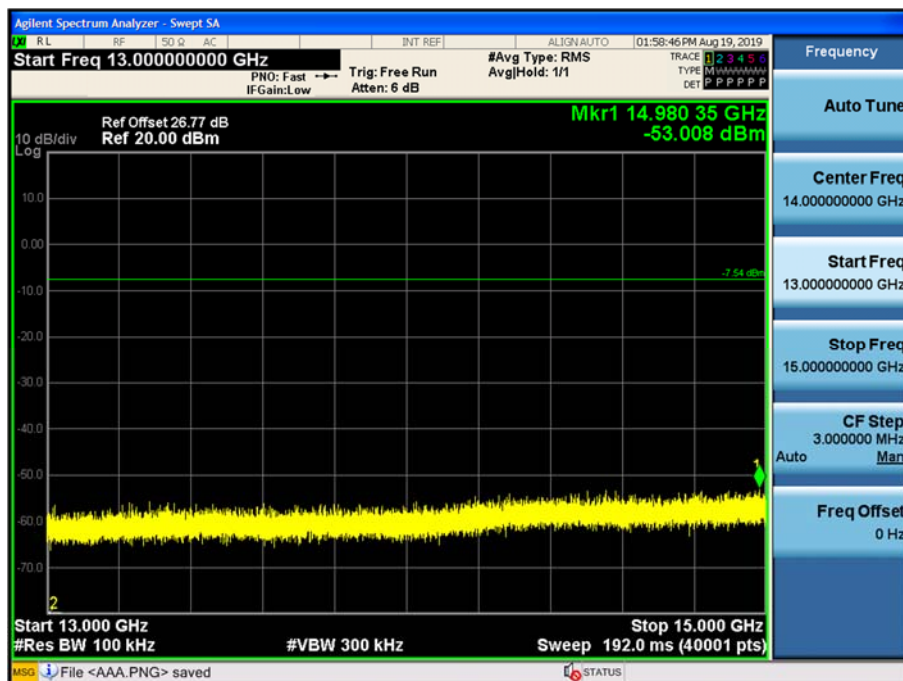
Test Plots(GFSK) 11 GHz - 13 GHz

Spurious Emission (CH.0)



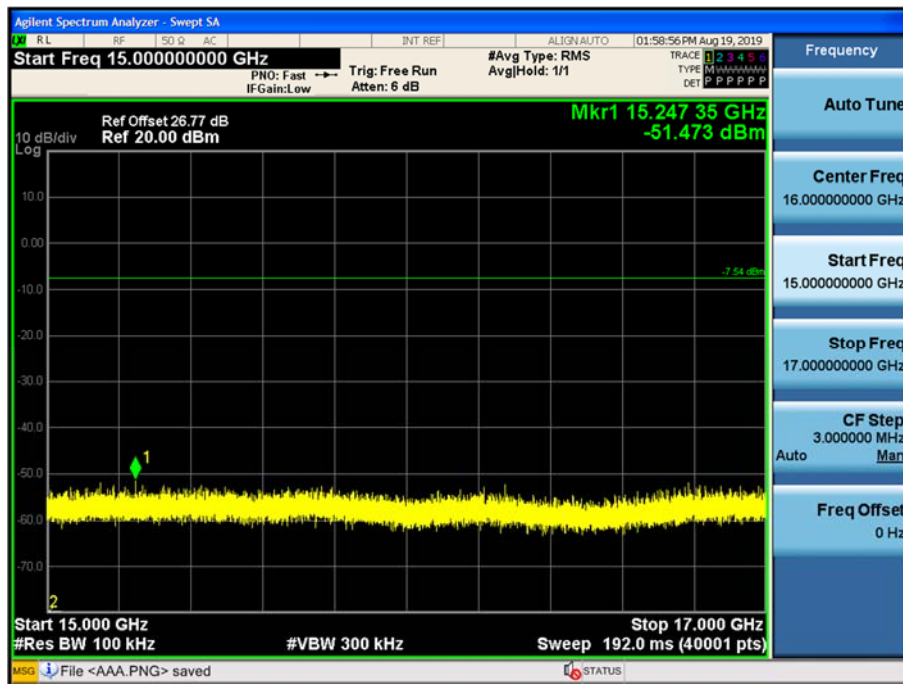
Test Plots (GFSK)- 13 GHz – 15 GHz

Spurious Emission (CH.0)



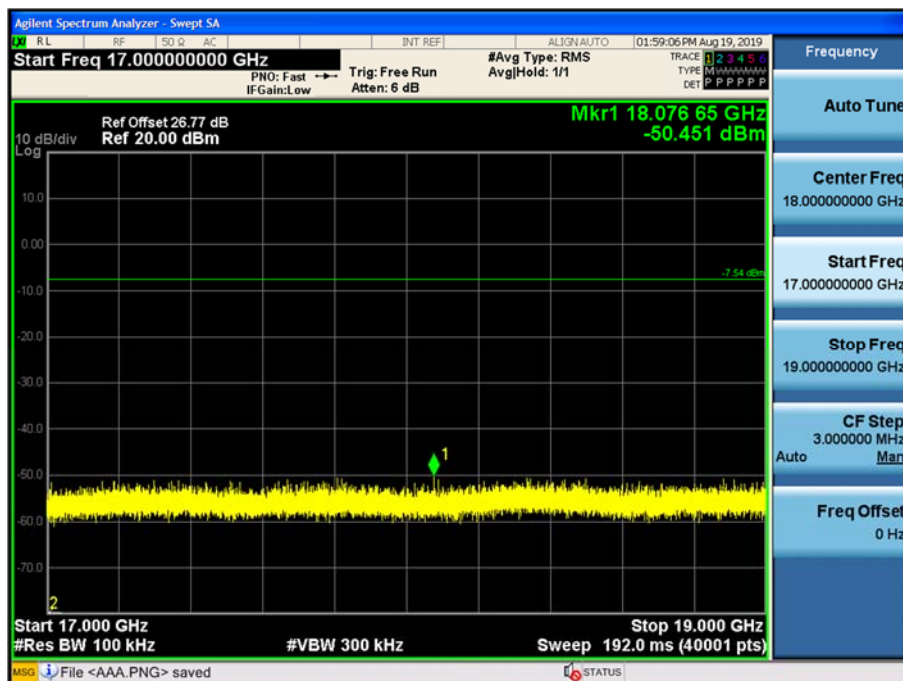
Test Plots(GFSK)- 15 GHz - 17 GHz

Spurious Emission (CH.0)



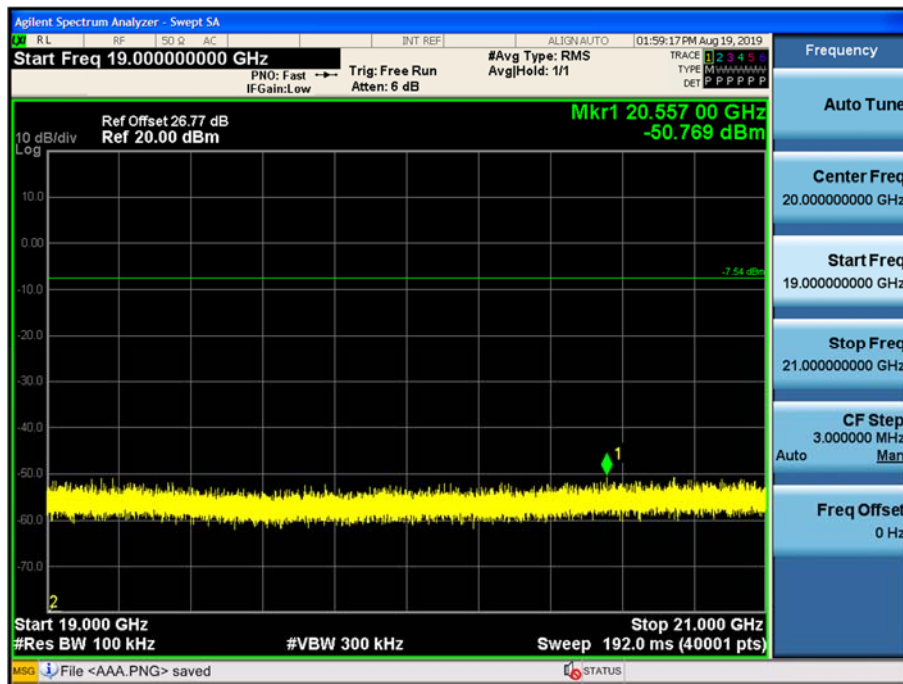
Test Plots(GFSK)- 17 GHz - 19 GHz

Spurious Emission (CH.0)



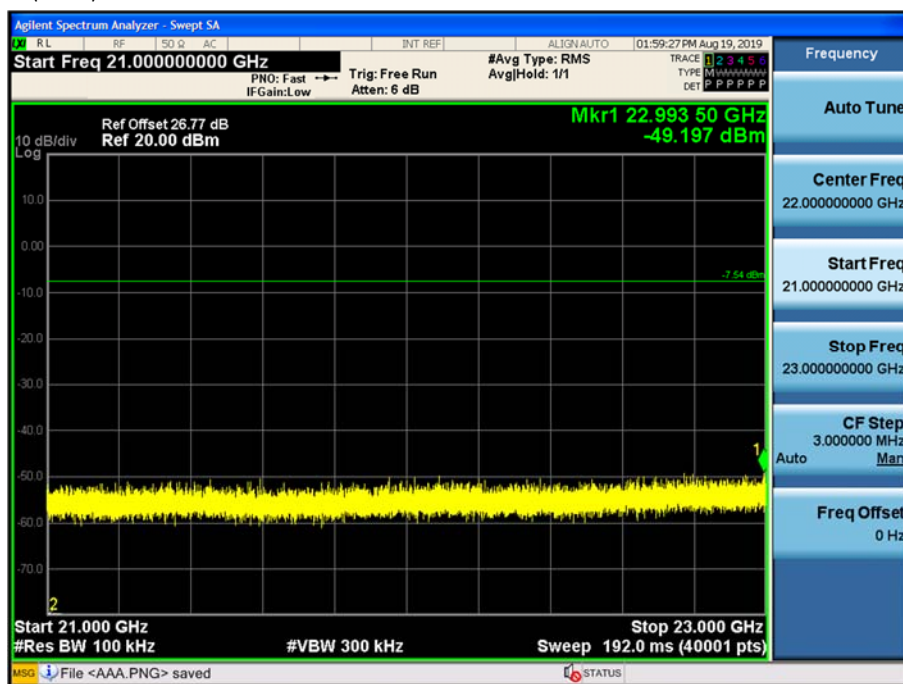
## Test Plots (GFSK)- 19 GHz - 21 GHz

### Spurious Emission (CH.0)



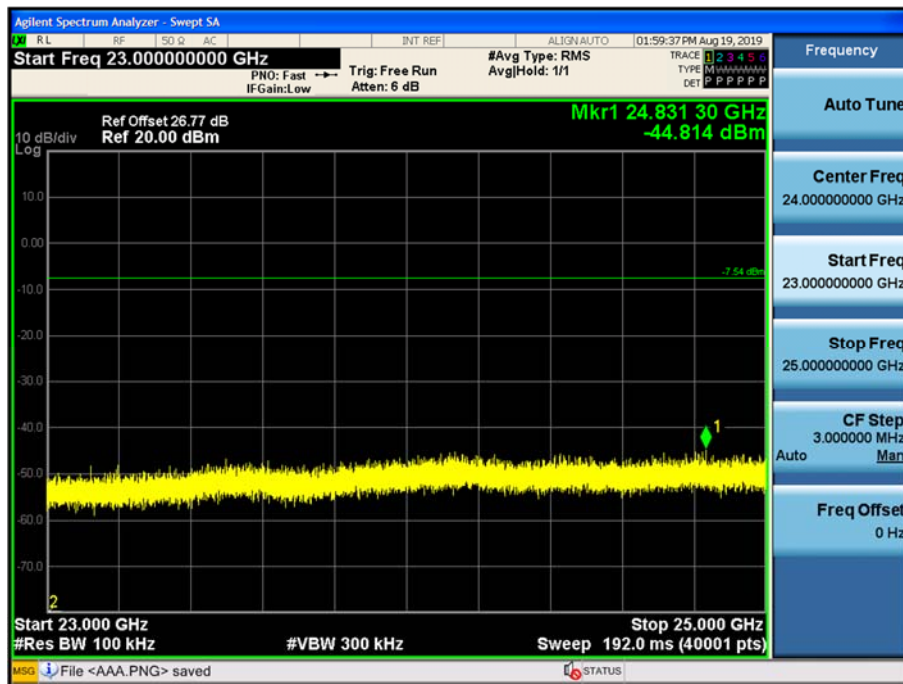
## Test Plots (GFSK)- 21 GHz - 23 GHz

### Spurious Emission (CH.0)



## Test Plots (GFSK)- 23 GHz - 25 GHz

### Spurious Emission (CH.0)



## 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 =  $40 \log (\text{specific distance} / \text{test distance})$  (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<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4804               | 53.89           | 1.83                 | V                 | 0.00                             | 55.72             | 73.98             | 18.26          | PK     |
| 4804               | 47.85           | 1.83                 | V                 | -24.73                           | 24.95             | 53.98             | 29.03          | AV     |
| 7206               | 54.20           | 9.65                 | V                 | 0.00                             | 63.85             | 73.98             | 10.13          | PK     |
| 7206               | 45.53           | 9.65                 | V                 | -24.73                           | 30.45             | 53.98             | 23.53          | AV     |
| 4804               | 55.99           | 1.83                 | H                 | 0.00                             | 57.82             | 73.98             | 16.16          | PK     |
| 4804               | 50.40           | 1.83                 | H                 | -24.73                           | 27.50             | 53.98             | 26.48          | AV     |
| 7206               | 53.27           | 9.65                 | H                 | 0.00                             | 62.92             | 73.98             | 11.06          | PK     |
| 7206               | 44.35           | 9.65                 | H                 | -24.73                           | 29.27             | 53.98             | 24.71          | AV     |

Operation Mode: CH Mid(GFSK)

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4882               | 54.21           | 2.31                 | V                 | 0.00                             | 56.52             | 73.98             | 17.46          | PK     |
| 4882               | 49.78           | 2.31                 | V                 | -24.79                           | 27.30             | 53.98             | 26.68          | AV     |
| 7323               | 53.84           | 9.96                 | V                 | 0.00                             | 63.80             | 73.98             | 10.18          | PK     |
| 7323               | 45.57           | 9.96                 | V                 | -24.79                           | 30.74             | 53.98             | 23.24          | AV     |
| 4882               | 56.80           | 2.31                 | H                 | 0.00                             | 59.11             | 73.98             | 14.87          | PK     |
| 4882               | 50.83           | 2.31                 | H                 | -24.79                           | 28.35             | 53.98             | 25.63          | AV     |
| 7323               | 52.66           | 9.96                 | H                 | 0.00                             | 62.62             | 73.98             | 11.36          | PK     |
| 7323               | 44.72           | 9.96                 | H                 | -24.79                           | 29.89             | 53.98             | 24.09          | AV     |

Operation Mode: CH High(GFSK)

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4960               | 53.62           | 2.26                 | V                 | 0.00                             | 55.88             | 73.98             | 18.10          | PK     |
| 4960               | 45.12           | 2.26                 | V                 | -24.73                           | 22.65             | 53.98             | 31.33          | AV     |
| 7440               | 51.64           | 9.78                 | V                 | 0.00                             | 61.42             | 73.98             | 12.56          | PK     |
| 7440               | 42.18           | 9.78                 | V                 | -24.73                           | 27.23             | 53.98             | 26.75          | AV     |
| 4960               | 54.43           | 2.26                 | H                 | 0.00                             | 56.69             | 73.98             | 17.29          | PK     |
| 4960               | 47.31           | 2.26                 | H                 | -24.73                           | 24.84             | 53.98             | 29.14          | AV     |
| 7440               | 52.78           | 9.78                 | H                 | 0.00                             | 62.56             | 73.98             | 11.42          | PK     |
| 7440               | 43.52           | 9.78                 | H                 | -24.73                           | 28.57             | 53.98             | 25.41          | AV     |

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

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4804               | 50.48           | 1.83                 | V                 | 0.00                             | 52.31             | 73.98             | 21.67          | PK     |
| 4804               | 37.50           | 1.83                 | V                 | -24.73                           | 14.60             | 53.98             | 39.38          | AV     |
| 7206               | 50.52           | 9.65                 | V                 | 0.00                             | 60.17             | 73.98             | 13.81          | PK     |
| 7206               | 36.54           | 9.65                 | V                 | -24.73                           | 21.46             | 53.98             | 32.52          | AV     |
| 4804               | 51.64           | 1.83                 | H                 | 0.00                             | 53.47             | 73.98             | 20.51          | PK     |
| 4804               | 37.85           | 1.83                 | H                 | -24.73                           | 14.95             | 53.98             | 39.03          | AV     |
| 7206               | 49.51           | 9.65                 | H                 | 0.00                             | 59.16             | 73.98             | 14.82          | PK     |
| 7206               | 35.82           | 9.65                 | H                 | -24.73                           | 20.74             | 53.98             | 33.24          | AV     |

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

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4882               | 50.82           | 2.31                 | V                 | 0.00                             | 53.13             | 73.98             | 20.85          | PK     |
| 4882               | 37.77           | 2.31                 | V                 | -24.79                           | 15.29             | 53.98             | 38.69          | AV     |
| 7323               | 50.41           | 9.96                 | V                 | 0.00                             | 60.37             | 73.98             | 13.61          | PK     |
| 7323               | 36.38           | 9.96                 | V                 | -24.79                           | 21.55             | 53.98             | 32.43          | AV     |
| 4882               | 51.26           | 2.31                 | H                 | 0.00                             | 53.57             | 73.98             | 20.41          | PK     |
| 4882               | 38.10           | 2.31                 | H                 | -24.79                           | 15.62             | 53.98             | 38.36          | AV     |
| 7323               | 50.02           | 9.96                 | H                 | 0.00                             | 59.98             | 73.98             | 14.00          | PK     |
| 7323               | 36.36           | 9.96                 | H                 | -24.79                           | 21.53             | 53.98             | 32.45          | AV     |

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

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4960               | 50.22           | 2.26                 | V                 | 0.00                             | 52.48             | 73.98             | 21.50          | PK     |
| 4960               | 36.89           | 2.26                 | V                 | -24.73                           | 14.42             | 53.98             | 39.56          | AV     |
| 7440               | 49.39           | 9.78                 | V                 | 0.00                             | 59.17             | 73.98             | 14.81          | PK     |
| 7440               | 36.15           | 9.78                 | V                 | -24.73                           | 21.20             | 53.98             | 32.78          | AV     |
| 4960               | 50.91           | 2.26                 | H                 | 0.00                             | 53.17             | 73.98             | 20.81          | PK     |
| 4960               | 37.35           | 2.26                 | H                 | -24.73                           | 14.88             | 53.98             | 39.10          | AV     |
| 7440               | 50.60           | 9.78                 | H                 | 0.00                             | 60.38             | 73.98             | 13.60          | PK     |
| 7440               | 36.29           | 9.78                 | H                 | -24.73                           | 21.34             | 53.98             | 32.64          | AV     |

Operation Mode: CH Low(8DPSK)

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4804               | 50.42           | 1.83                 | V                 | 0.00                             | 52.25             | 73.98             | 21.73          | PK     |
| 4804               | 36.82           | 1.83                 | V                 | -24.73                           | 13.92             | 53.98             | 40.06          | AV     |
| 7206               | 50.27           | 9.65                 | V                 | 0.00                             | 59.92             | 73.98             | 14.06          | PK     |
| 7206               | 36.41           | 9.65                 | V                 | -24.73                           | 21.33             | 53.98             | 32.65          | AV     |
| 4804               | 51.28           | 1.83                 | H                 | 0.00                             | 53.11             | 73.98             | 20.87          | PK     |
| 4804               | 37.44           | 1.83                 | H                 | -24.73                           | 14.54             | 53.98             | 39.44          | AV     |
| 7206               | 49.83           | 9.65                 | H                 | 0.00                             | 59.48             | 73.98             | 14.50          | PK     |
| 7206               | 36.12           | 9.65                 | H                 | -24.73                           | 21.04             | 53.98             | 32.94          | AV     |

Operation Mode: CH Mid(8DPSK)

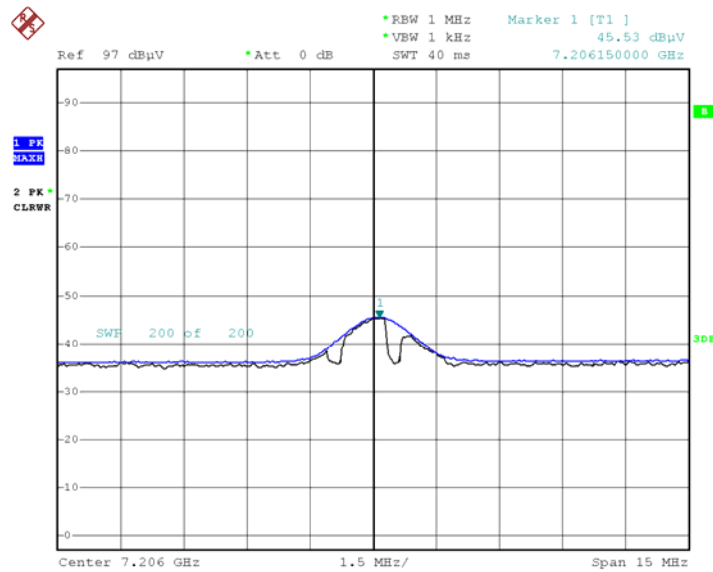
| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4882               | 49.81           | 2.31                 | V                 | 0.00                             | 52.12             | 73.98             | 21.86          | PK     |
| 4882               | 36.79           | 2.31                 | V                 | -24.79                           | 14.31             | 53.98             | 39.67          | AV     |
| 7323               | 50.45           | 9.96                 | V                 | 0.00                             | 60.41             | 73.98             | 13.57          | PK     |
| 7323               | 36.48           | 9.96                 | V                 | -24.79                           | 21.65             | 53.98             | 32.33          | AV     |
| 4882               | 50.72           | 2.31                 | H                 | 0.00                             | 53.03             | 73.98             | 20.95          | PK     |
| 4882               | 38.14           | 2.31                 | H                 | -24.79                           | 15.66             | 53.98             | 38.32          | AV     |
| 7323               | 49.46           | 9.96                 | H                 | 0.00                             | 59.42             | 73.98             | 14.56          | PK     |
| 7323               | 36.11           | 9.96                 | H                 | -24.79                           | 21.28             | 53.98             | 32.70          | AV     |

Operation Mode: CH High(8DPSK)

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|----------------------------------|-------------------|-------------------|----------------|--------|
| 4960               | 50.50           | 2.26                 | V                 | 0.00                             | 52.76             | 73.98             | 21.22          | PK     |
| 4960               | 36.91           | 2.26                 | V                 | -24.73                           | 14.44             | 53.98             | 39.54          | AV     |
| 7440               | 49.41           | 9.78                 | V                 | 0.00                             | 59.19             | 73.98             | 14.79          | PK     |
| 7440               | 36.02           | 9.78                 | V                 | -24.73                           | 21.07             | 53.98             | 32.91          | AV     |
| 4960               | 51.44           | 2.26                 | H                 | 0.00                             | 53.70             | 73.98             | 20.28          | PK     |
| 4960               | 37.24           | 2.26                 | H                 | -24.73                           | 14.77             | 53.98             | 39.21          | AV     |
| 7440               | 50.14           | 9.78                 | H                 | 0.00                             | 59.92             | 73.98             | 14.06          | PK     |
| 7440               | 36.17           | 9.78                 | H                 | -24.73                           | 21.22             | 53.98             | 32.76          | AV     |

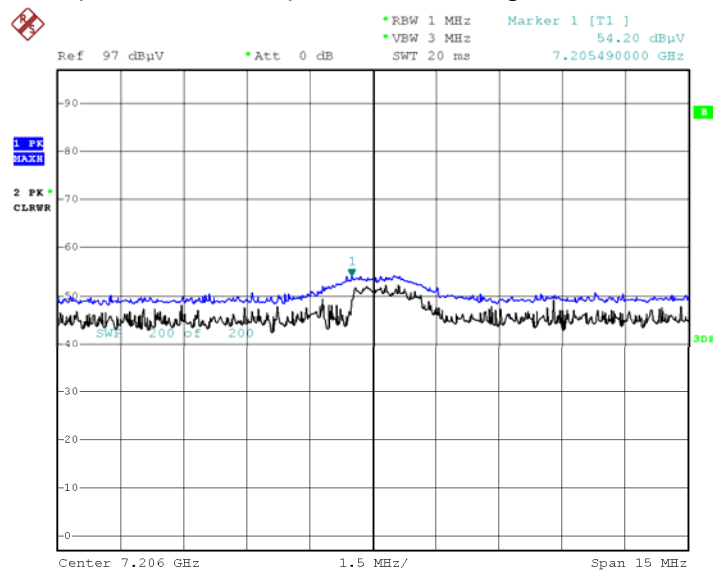
## RESULT PLOTS

Radiated Spurious Emissions plot – Average Reading (GFSK, Ch.0 3rd Harmonic, X-V)

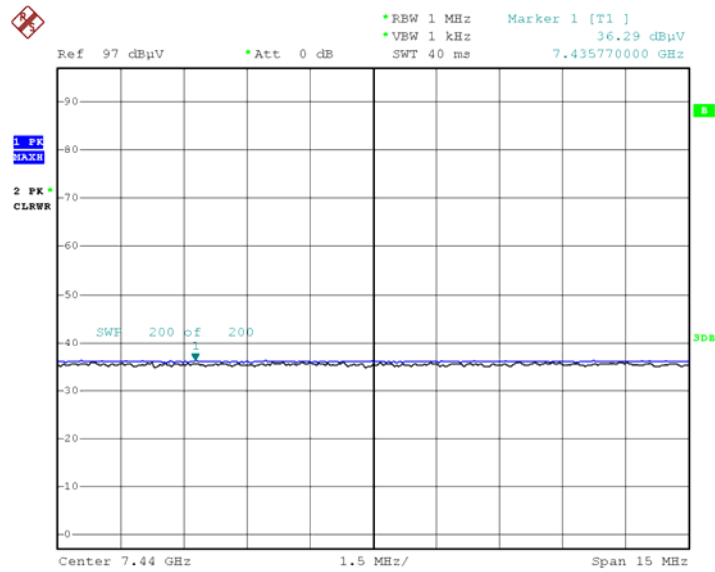


Date: 29.AUG.2019 16:31:42

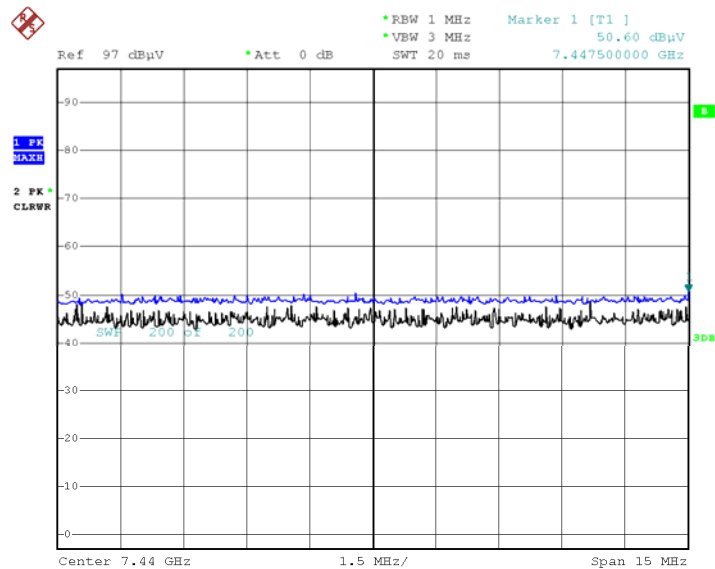
Radiated Spurious Emissions plot – Peak Reading (GFSK, Ch.0 3rd Harmonic, X-V)



Date: 29.AUG.2019 16:31:06

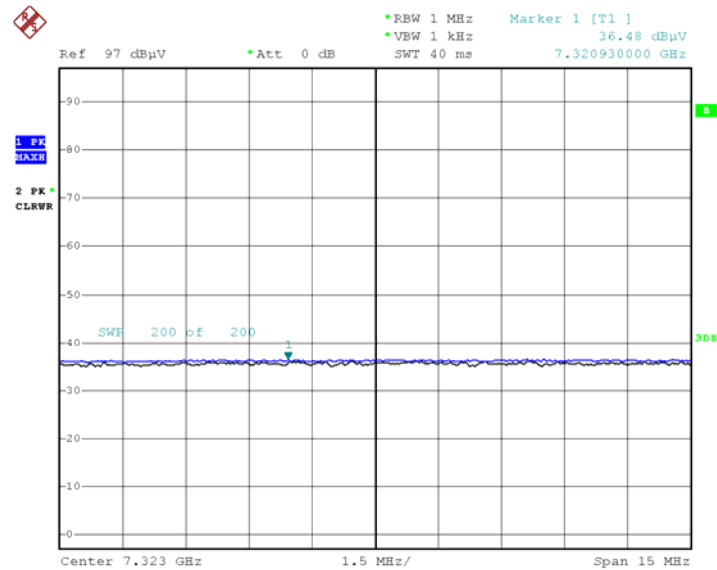
Radiated Spurious Emissions plot – Average Reading ( $\pi/4$ DQPSK, Ch.78 3rd Harmonic, Z-H)


Date: 29.AUG.2019 13:41:50

Radiated Spurious Emissions plot – Peak Reading ( $\pi/4$ DQPSK, Ch.78 3rd Harmonic, Z-H)


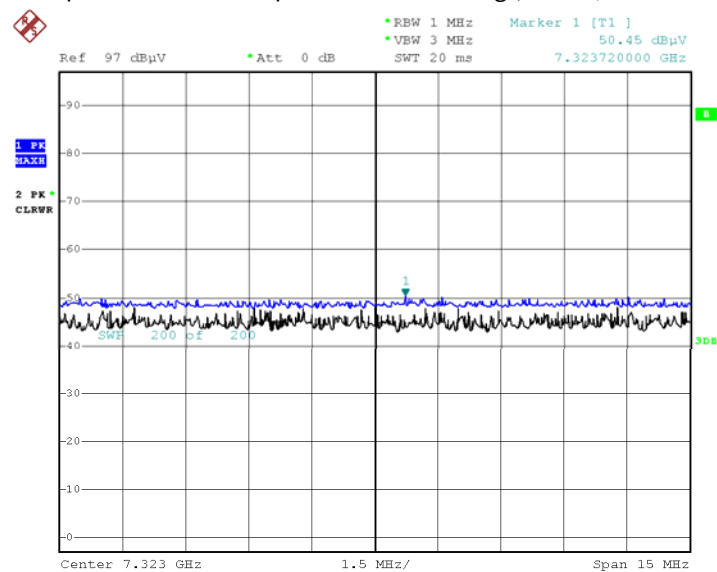
Date: 29.AUG.2019 13:45:30

## Radiated Spurious Emissions plot – Average Reading (8DPSK, Ch.39 3rd Harmonic, X-V)



Date: 29.AUG.2019 13:56:42

## Radiated Spurious Emissions plot – Peak Reading (8DPSK, Ch.39 3rd Harmonic, X-V)



Date: 29.AUG.2019 13:55:48

**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<br>[MHz] | Reading<br>[dBuV] | ※ A.F.+CL-AMP+ATT+D.F<br>[dB] | Pol.<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|---------------|----------------------------------|-------------------|-------------------|----------------|---------------------|
| 2390.0             | 60.17             | 0.85                          | H             | 0                                | 61.02             | 73.98             | 12.96          | PK                  |
| 2390.0             | 60.17             | 0.85                          | H             | -24.73                           | 36.29             | 53.98             | 17.69          | AV                  |
| 2390.0             | 59.11             | 0.85                          | V             | 0                                | 59.96             | 73.98             | 14.02          | PK                  |
| 2390.0             | 59.11             | 0.85                          | V             | -24.73                           | 35.23             | 53.98             | 18.75          | AV                  |
| 2483.5             | 67.91             | 1.13                          | H             | 0                                | 69.04             | 73.98             | 4.94           | PK                  |
| 2483.5             | 67.91             | 1.13                          | H             | -24.73                           | 44.31             | 53.98             | 9.67           | AV                  |
| 2483.5             | 66.63             | 1.13                          | V             | 0                                | 67.76             | 73.98             | 6.22           | PK                  |
| 2483.5             | 66.63             | 1.13                          | V             | -24.73                           | 43.03             | 53.98             | 10.95          | AV                  |

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

| Frequency<br>[MHz] | Reading<br>[dBuV] | ※ A.F.+CL-AMP+ATT+D.F<br>[dB] | Pol.<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|---------------|----------------------------------|-------------------|-------------------|----------------|---------------------|
| 2390.0             | 59.48             | 0.85                          | H             | 0                                | 60.33             | 73.98             | 13.65          | PK                  |
| 2390.0             | 59.48             | 0.85                          | H             | -24.73                           | 35.60             | 53.98             | 18.38          | AV                  |
| 2390.0             | 58.27             | 0.85                          | V             | 0                                | 59.12             | 73.98             | 14.86          | PK                  |
| 2390.0             | 58.27             | 0.85                          | V             | -24.73                           | 34.39             | 53.98             | 19.59          | AV                  |
| 2483.5             | 63.64             | 1.13                          | H             | 0                                | 64.77             | 73.98             | 9.21           | PK                  |
| 2483.5             | 63.64             | 1.13                          | H             | -24.73                           | 40.04             | 53.98             | 13.94          | AV                  |
| 2483.5             | 62.76             | 1.13                          | V             | 0                                | 63.89             | 73.98             | 10.09          | PK                  |
| 2483.5             | 62.76             | 1.13                          | V             | -24.73                           | 39.16             | 53.98             | 14.82          | AV                  |

Operation Mode

EDR( $\pi/4$ DQPSK)

Operating Frequency

2402 MHz, 2480 MHz

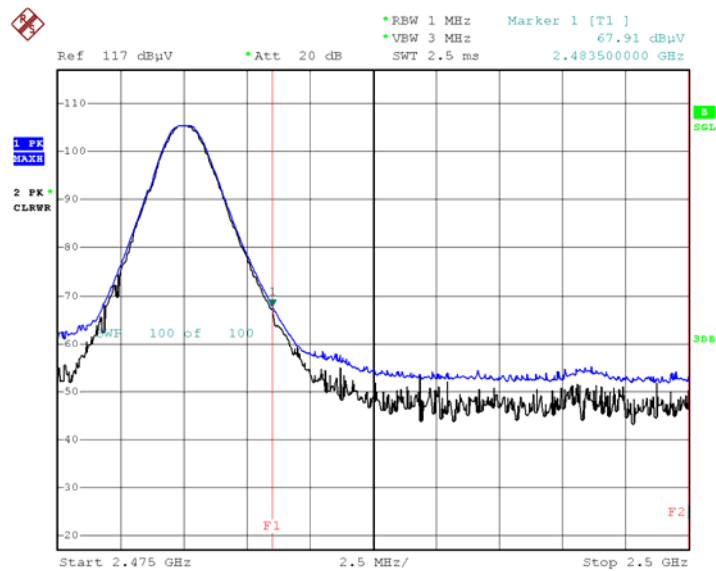
Channel No

CH 0, CH 78

| Frequency<br>[MHz] | Reading<br>[dBuV] | ※ A.F.+CL-AMP+ATT+D.F<br>[dB] | Pol.<br>[H/V] | Duty Cycle<br>Correction<br>[dB] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|---------------|----------------------------------|-------------------|-------------------|----------------|---------------------|
| 2390.0             | 59.05             | 0.85                          | H             | 0                                | 59.90             | 73.98             | 14.08          | PK                  |
| 2390.0             | 59.05             | 0.85                          | H             | -24.73                           | 35.17             | 53.98             | 18.81          | AV                  |
| 2390.0             | 58.95             | 0.85                          | V             | 0                                | 59.80             | 73.98             | 14.18          | PK                  |
| 2390.0             | 58.95             | 0.85                          | V             | -24.73                           | 35.07             | 53.98             | 18.91          | AV                  |
| 2483.5             | 63.79             | 1.13                          | H             | 0                                | 64.92             | 73.98             | 9.06           | PK                  |
| 2483.5             | 63.79             | 1.13                          | H             | -24.73                           | 40.19             | 53.98             | 13.79          | AV                  |
| 2483.5             | 62.57             | 1.13                          | V             | 0                                | 63.70             | 73.98             | 10.28          | PK                  |
| 2483.5             | 62.57             | 1.13                          | V             | -24.73                           | 38.97             | 53.98             | 15.01          | AV                  |

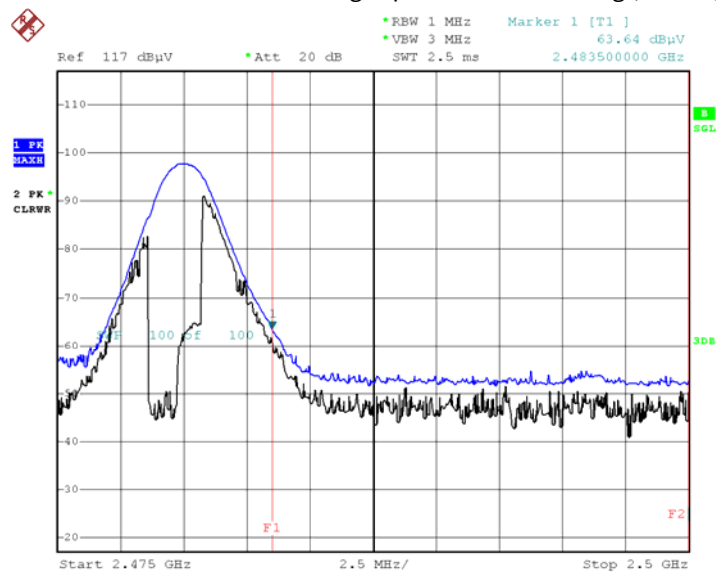
## RESULT PLOTS (Worst case : Z-H)

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

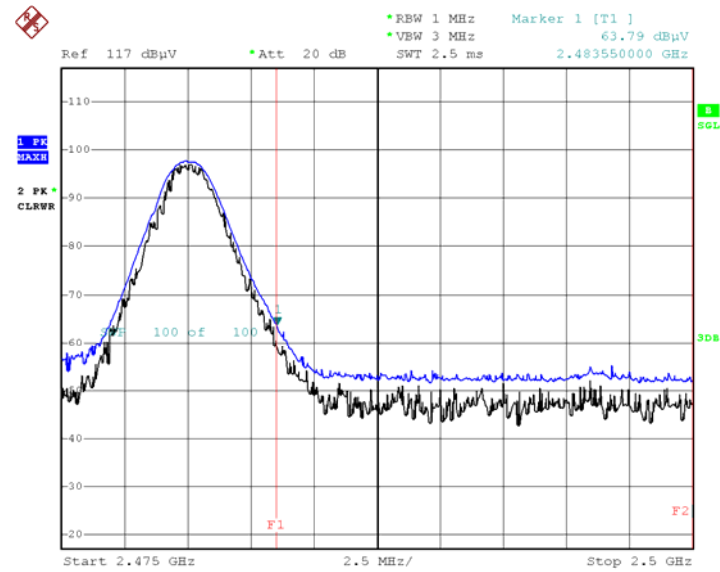


Date: 30.AUG.2019 14:36:20

Radiated Restricted Band Edges plot – Peak Reading (8DPSK, Ch.78)



Date: 30.AUG.2019 14:39:05

Radiated Restricted Band Edges plot – Peak Reading ( $\pi/4$ DQPSK, Ch.78)


Date: 30.AUG.2019 14:37:52

**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                         | 06/18/2019       | Annual               | 100584     |
| ESPAC           | SU-642 / Temperature Chamber                 | 03/12/2019       | Annual               | 0093008124 |
| Agilent         | N9020A / Signal Analyzer                     | 05/23/2019       | Annual               | MY51110085 |
| Agilent         | N9030A / Signal Analyzer                     | 11/20/2018       | Annual               | MY49431210 |
| 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                     | 06/18/2019       | Annual               | KR75303960 |
| WEINSCHTEL      | 2-20 / Attenuator(20 dB)                     | 10/26/2018       | Annual               | BR0592     |
| 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     |

### 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.

### 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                               | 08/01/2019       | Biennial             | 1151        |
| Schwarzbeck            | BBHA 9120D / Horn Antenna                               | 04/29/2019       | Biennial             | 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 | 06/19/2019       | 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           |
| H+S                    | 5910-N-50-010 / Attenuator(10 dB)                       | 11/08/2018       | Annual               | NONE        |
| CERNEX                 | CBLU1183540 / Power Amplifier                           | 07/01/2019       | Annual               | 22964       |
| CERNEX                 | CBL06185030 / Power Amplifier                           | 07/01/2019       | Annual               | 22965       |
| CERNEX                 | CBL18265035 / Power Amplifier                           | 01/03/2019       | Annual               | 22966       |
| CERNEX                 | CBL26405040 / Power Amplifier                           | 06/18/2019       | 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-1909-FC011-P |