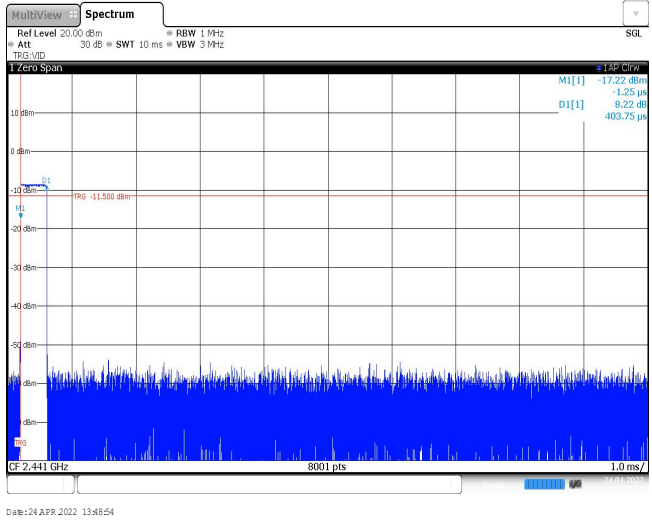
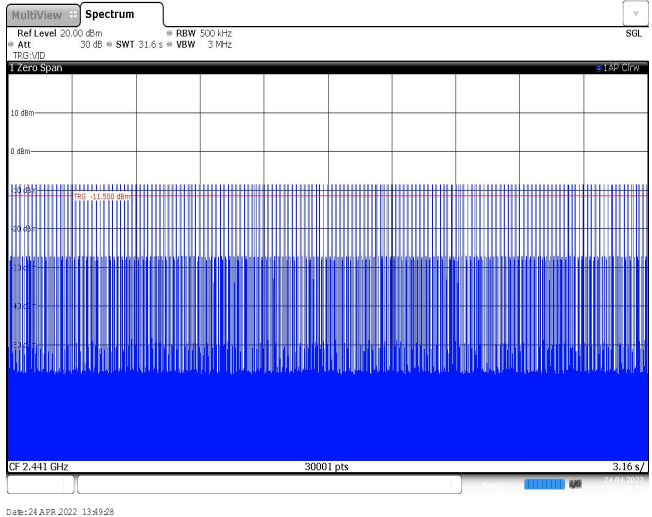
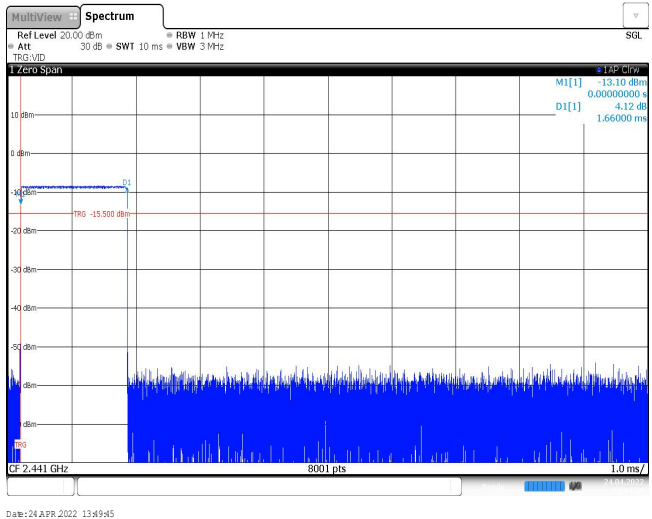
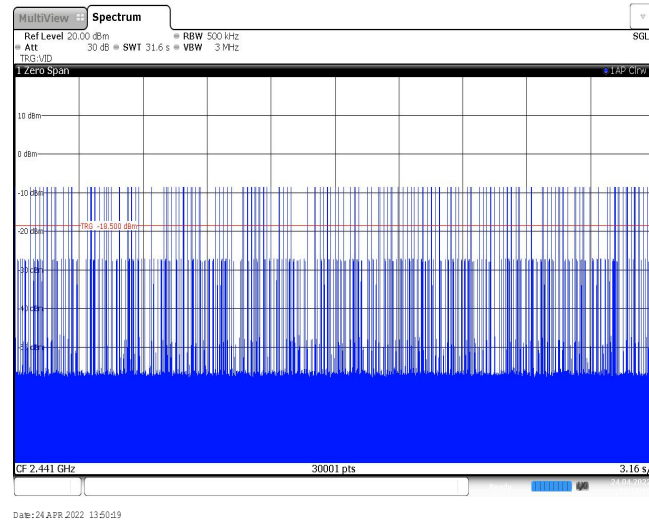


**Appendix F: Dwell Time**

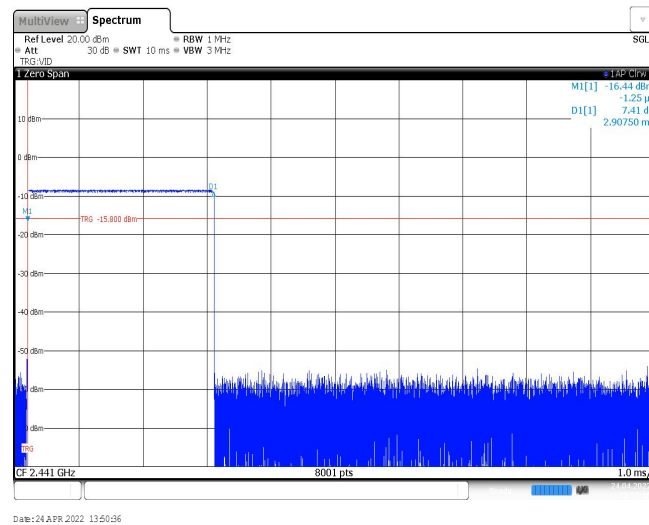
| Modulation type | Packet | Burst Width [ms] | Total Hops[hop*ch] | Dwell time (Second) | Limit (Second) | Result |
|-----------------|--------|------------------|--------------------|---------------------|----------------|--------|
| GFSK            | DH1    | 0.40             | 320                | 0.13                | $\leq 0.40$    | Pass   |
|                 | DH3    | 1.66             | 164                | 0.27                |                |        |
|                 | DH5    | 2.91             | 93                 | 0.27                |                |        |
| $\pi/4$ DQPSK   | 2DH1   | 0.40             | 320                | 0.13                | $\leq 0.40$    | Pass   |
|                 | 2DH3   | 1.65             | 157                | 0.26                |                |        |
|                 | 2DH5   | 2.90             | 101                | 0.29                |                |        |
| 8DPSK           | 3DH1   | 0.39             | 317                | 0.13                | $\leq 0.40$    | Pass   |
|                 | 3DH3   | 1.65             | 160                | 0.26                |                |        |
|                 | 3DH5   | 2.90             | 106                | 0.31                |                |        |

| Modulation Type:    | GFSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DH1<br>Burst width  |  <p>The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 8001 pts. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents time in ms, ranging from 0 to 1.0 ms. The plot shows a burst of signal at the start, followed by a period of low power. The signal is identified as M[1] and D[1].</p> <p>Ref Level 20.00 dBm<br/>Att 30 dB<br/>RBW 1 MHz<br/>SWT 10 ms<br/>VBW 3 MHz</p> <p>M[1] -17.22 dBm<br/>D[1] -1.25 dBm<br/>8.22 dB<br/>403.75 μs</p> <p>CF 2.441 GHz<br/>8001 pts<br/>1.0 ms</p> <p>Date: 24 APR 2022 13:48:54</p>          |
| DH1<br>Burst number |  <p>The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 30001 pts. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents time in s, ranging from 0 to 3.16 s. The plot shows a burst of signal at the start, followed by a period of low power. The signal is identified as M[1] and D[1].</p> <p>Ref Level 20.00 dBm<br/>Att 30 dB<br/>RBW 500 kHz<br/>SWT 31.6 s<br/>VBW 3 MHz</p> <p>M[1] -13.10 dBm<br/>D[1] 0.00000000 s<br/>4.12 dB<br/>1.66000 ms</p> <p>CF 2.441 GHz<br/>30001 pts<br/>3.16 s</p> <p>Date: 24 APR 2022 13:49:28</p> |
| DH3<br>Burst width  |  <p>The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 8001 pts. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents time in ms, ranging from 0 to 1.0 ms. The plot shows a burst of signal at the start, followed by a period of low power. The signal is identified as M[1] and D[1].</p> <p>Ref Level 20.00 dBm<br/>Att 30 dB<br/>RBW 1 MHz<br/>SWT 10 ms<br/>VBW 3 MHz</p> <p>M[1] -13.10 dBm<br/>D[1] 0.00000000 s<br/>4.12 dB<br/>1.66000 ms</p> <p>CF 2.441 GHz<br/>8001 pts<br/>1.0 ms</p> <p>Date: 24 APR 2022 13:49:45</p>    |

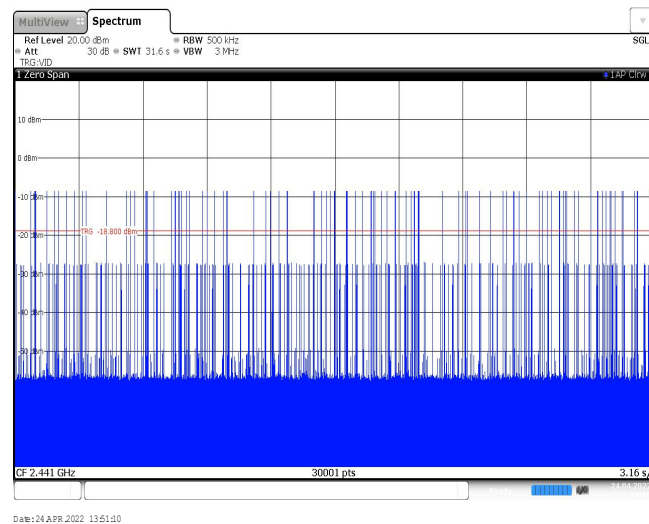
DH3  
Burst number

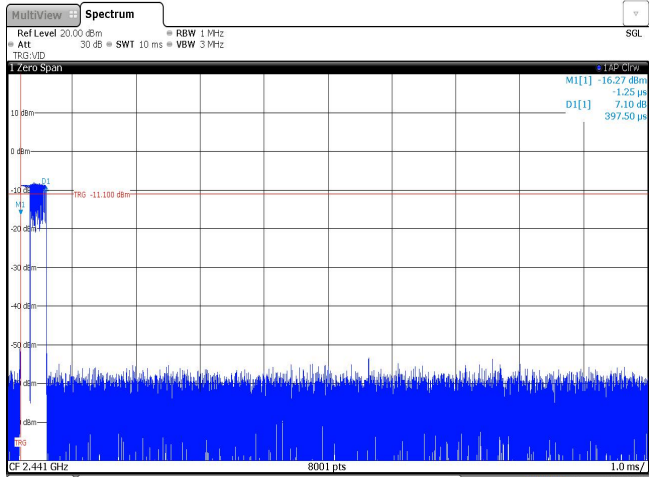
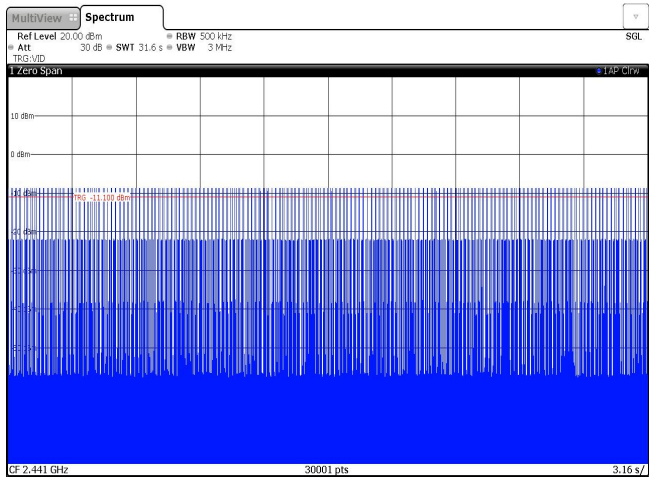
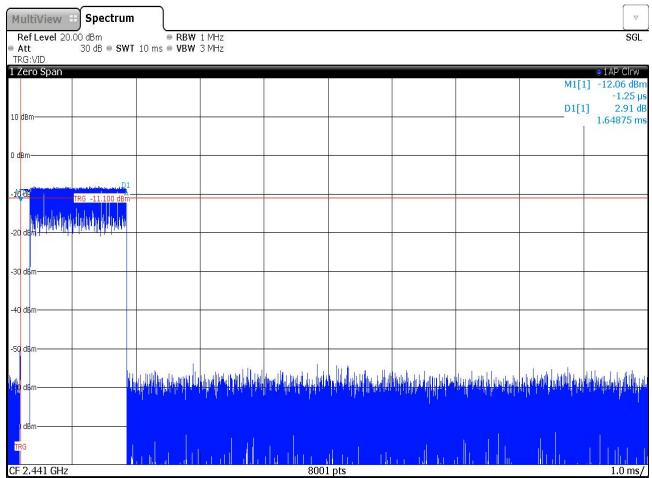


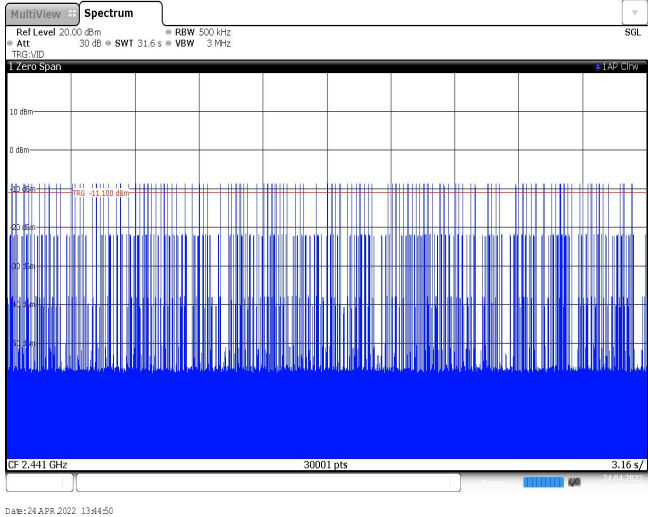
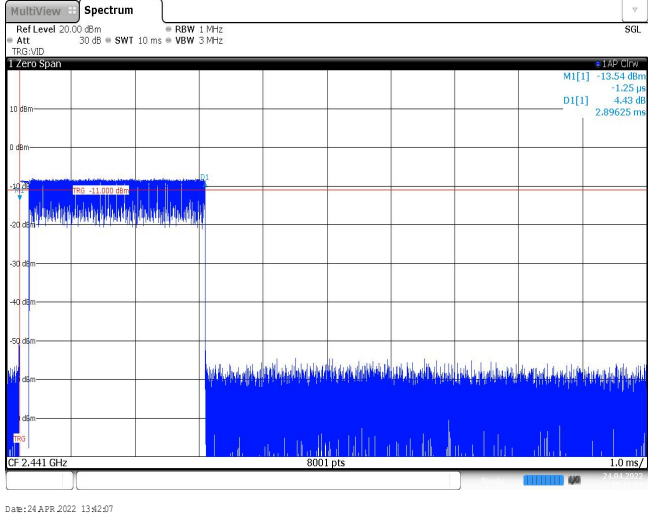
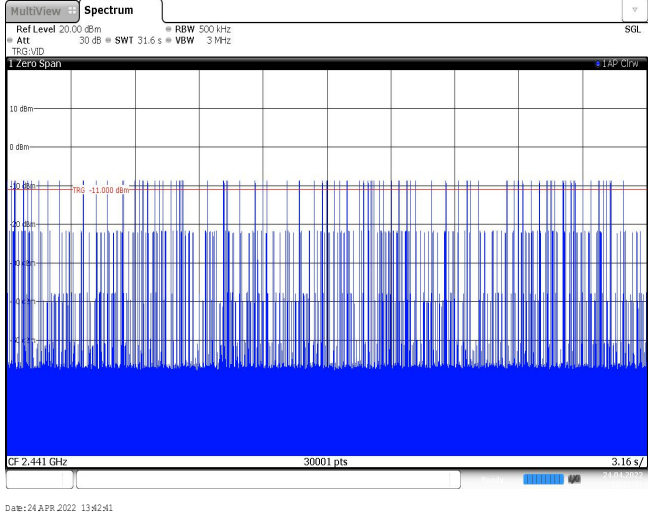
DH5  
Burst width



DH5  
Burst number

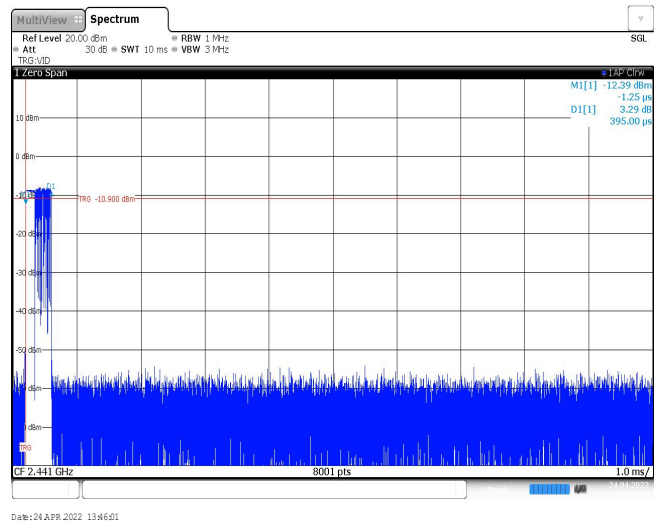
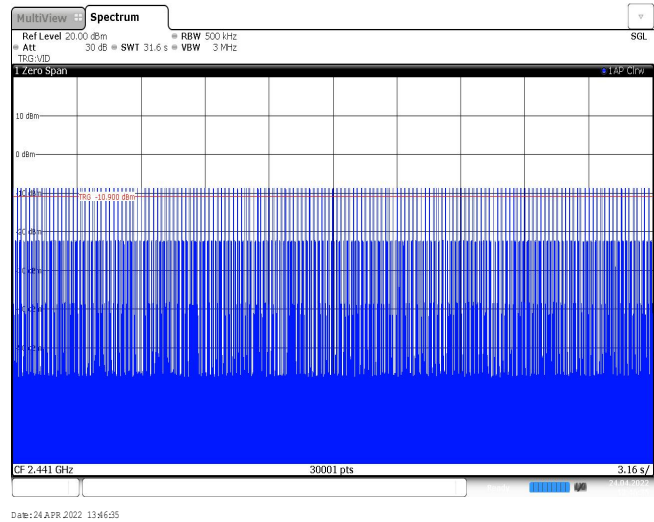
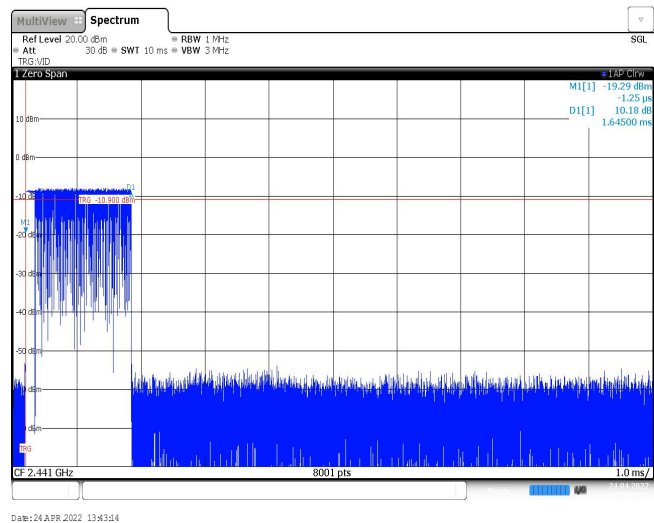


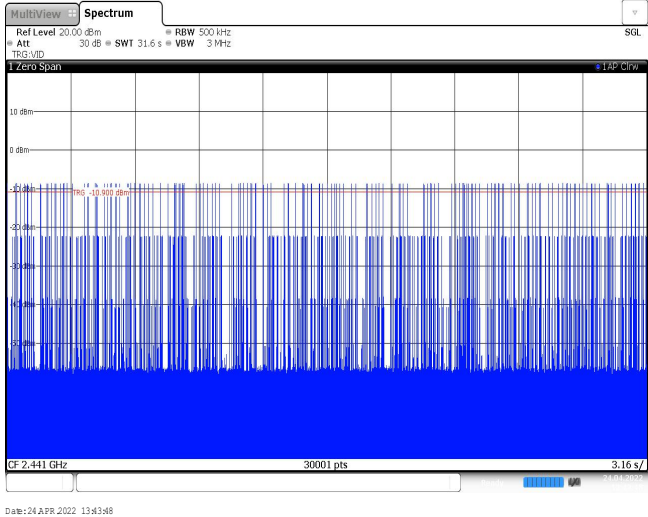
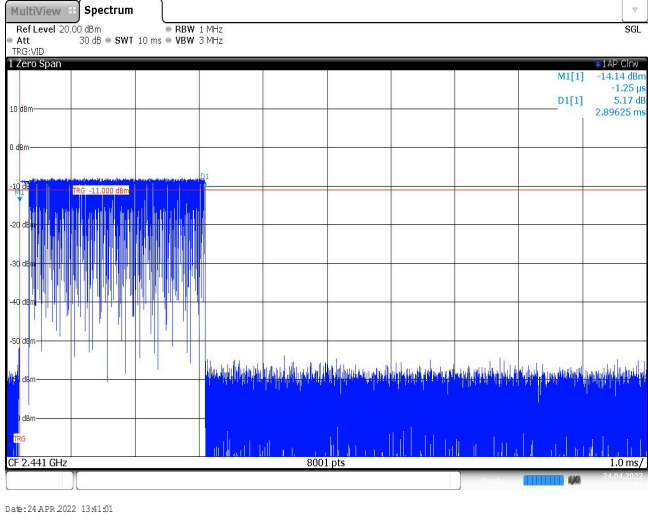
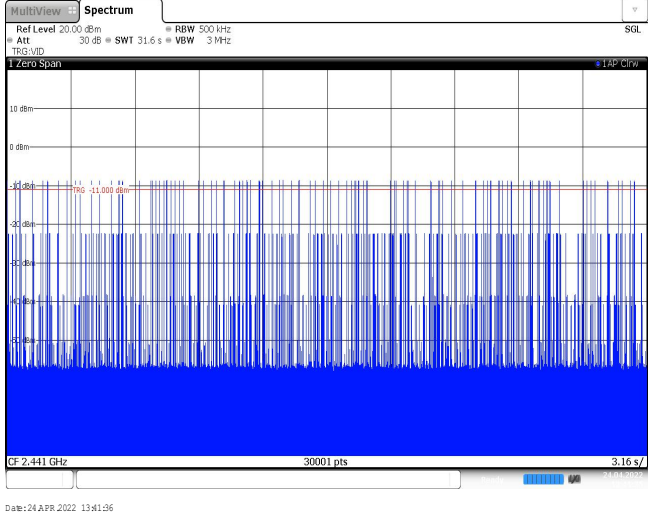
| Modulation Type:     | $\pi/4$ DQPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2DH1<br>Burst width  |  <p>The spectrum plot shows a single burst of signal at 2.441 GHz. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in GHz, ranging from 2.440 to 2.442. The burst is centered at 2.441 GHz and has a width of approximately 1.0 ms. The plot includes a reference level of 20.00 dBm, an attenuation of 30 dB, a resolution bandwidth (RBW) of 1 MHz, a sweep time (SWT) of 10 ms, and a video bandwidth (VBW) of 3 MHz. The plot also shows the signal-to-noise ratio (SNR) and the signal-to-interference-plus-noise ratio (SINR).</p> <p>Ref Level 20.00 dBm<br/>Att 30 dB<br/>RBW 1 MHz<br/>SWT 10 ms<br/>VBW 3 MHz</p> <p>M1[1] -16.27 dBm<br/>D1[1] -1.25 dB<br/>7.10 dB<br/>397.50 dB</p> <p>CF 2.441 GHz<br/>8001 pts<br/>1.0 ms</p> <p>Date: 24 APR 2022 13:47:47</p>     |
| 2DH1<br>Burst number |  <p>The spectrum plot shows a continuous signal at 2.441 GHz. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in GHz, ranging from 2.440 to 2.442. The signal is centered at 2.441 GHz and has a width of approximately 3.16 s. The plot includes a reference level of 20.00 dBm, an attenuation of 30 dB, a resolution bandwidth (RBW) of 500 kHz, a sweep time (SWT) of 31.6 s, and a video bandwidth (VBW) of 3 MHz. The plot also shows the signal-to-noise ratio (SNR) and the signal-to-interference-plus-noise ratio (SINR).</p> <p>Ref Level 20.00 dBm<br/>Att 30 dB<br/>RBW 500 kHz<br/>SWT 31.6 s<br/>VBW 3 MHz</p> <p>M1[1] -16.27 dBm<br/>D1[1] -1.25 dB<br/>7.10 dB<br/>397.50 dB</p> <p>CF 2.441 GHz<br/>30001 pts<br/>3.16 s</p> <p>Date: 24 APR 2022 13:48:21</p> |
| 2DH3<br>Burst width  |  <p>The spectrum plot shows a single burst of signal at 2.441 GHz. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in GHz, ranging from 2.440 to 2.442. The burst is centered at 2.441 GHz and has a width of approximately 1.0 ms. The plot includes a reference level of 20.00 dBm, an attenuation of 30 dB, a resolution bandwidth (RBW) of 1 MHz, a sweep time (SWT) of 10 ms, and a video bandwidth (VBW) of 3 MHz. The plot also shows the signal-to-noise ratio (SNR) and the signal-to-interference-plus-noise ratio (SINR).</p> <p>Ref Level 20.00 dBm<br/>Att 30 dB<br/>RBW 1 MHz<br/>SWT 10 ms<br/>VBW 3 MHz</p> <p>M1[1] -12.06 dBm<br/>D1[1] -2.91 dB<br/>1.64875 ms</p> <p>CF 2.441 GHz<br/>8001 pts<br/>1.0 ms</p> <p>Date: 24 APR 2022 13:44:16</p>              |

|                      |                                                                                      |
|----------------------|--------------------------------------------------------------------------------------|
| 2DH3<br>Burst number |    |
| 2DH5<br>Burst width  |   |
| 2DH5<br>Burst number |  |

## Modulation Type:

8DPSK

3DH1  
Burst width3DH1  
Burst number3DH3  
Burst width

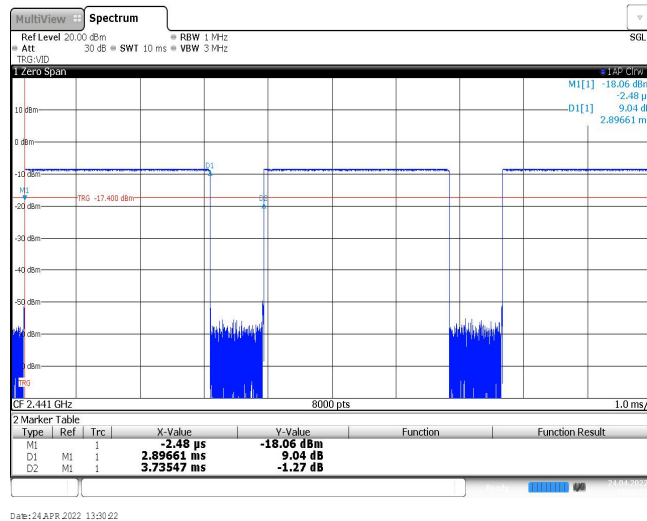
|                      |                                                                                      |
|----------------------|--------------------------------------------------------------------------------------|
| 3DH3<br>Burst number |    |
| 3DH5<br>Burst width  |   |
| 3DH5<br>Burst number |  |

**Appendix G: Duty Cycle Correction Factor (DCCF)****DCCF Calculate Formula**

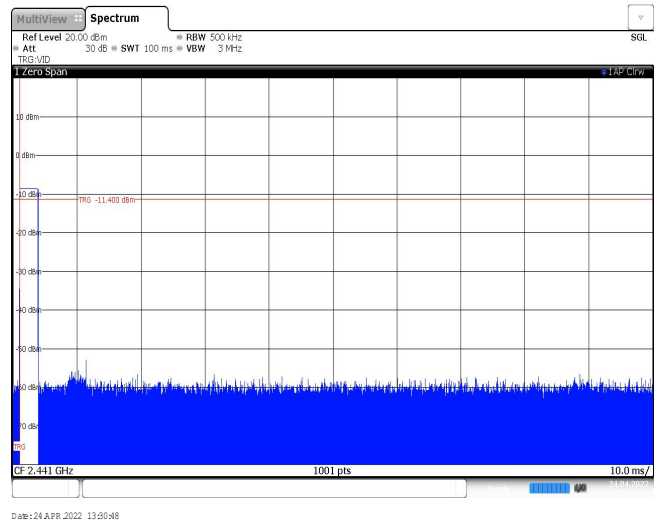
$$\text{DCCF} = 20 * \text{Log}(\text{duty cycle}) = 20 * \text{Log}(T_{\text{on time}} / T_{\text{period}})$$

| Modulation type | Test Frequency (MHz) | T <sub>on time</sub> for single burst [ms] | T <sub>period</sub> [ms] | Burst Quantity | DCCF [dB] |
|-----------------|----------------------|--------------------------------------------|--------------------------|----------------|-----------|
| GFSK            | 2441                 | 2.90                                       | 100                      | 1              | -30.75    |
| $\pi/4$ DQPSK   | 2441                 | 2.89                                       | 100                      | 1              | -30.78    |
| 8DPSK           | 2441                 | 2.89                                       | 100                      | 1              | -30.78    |

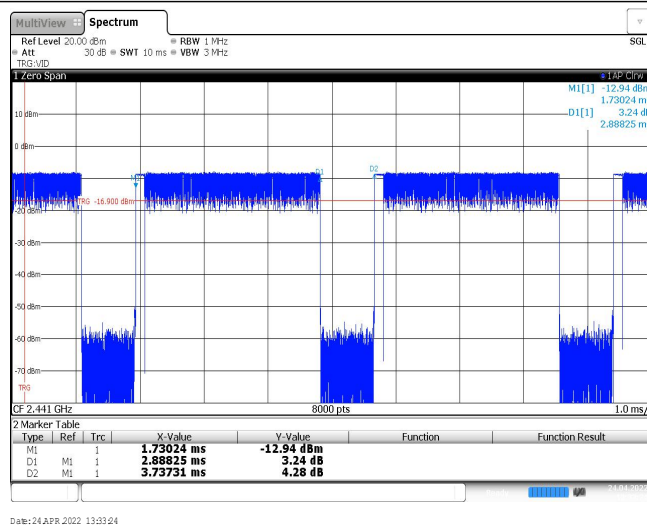
## GFSK



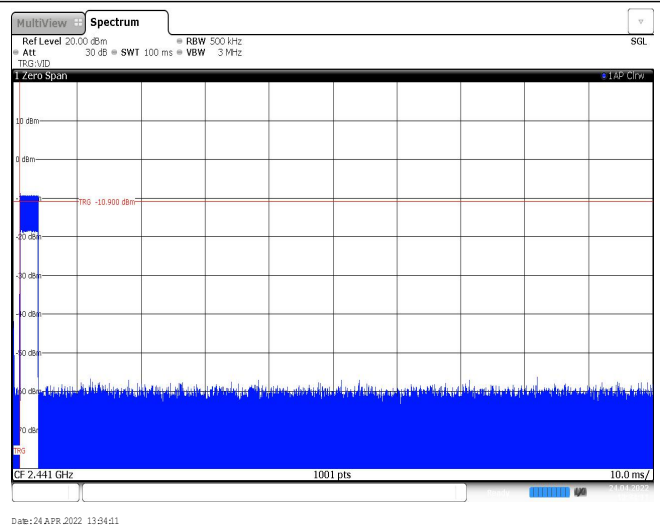
Ton time for single burst



Burst Quantity

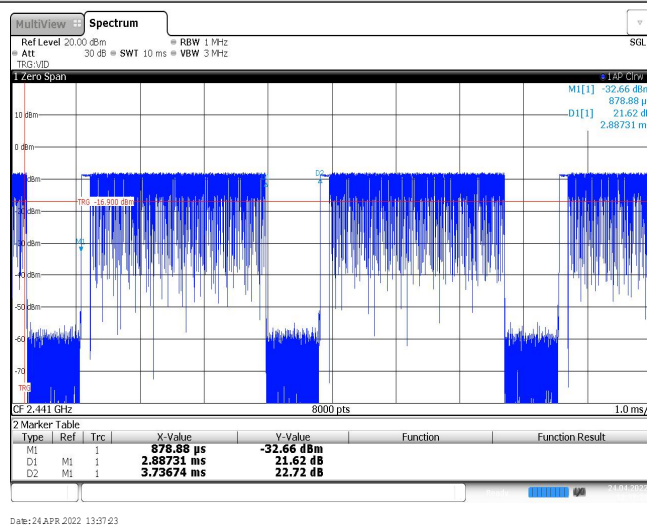
 $\pi/4$  DQPSK

Ton time for single burst

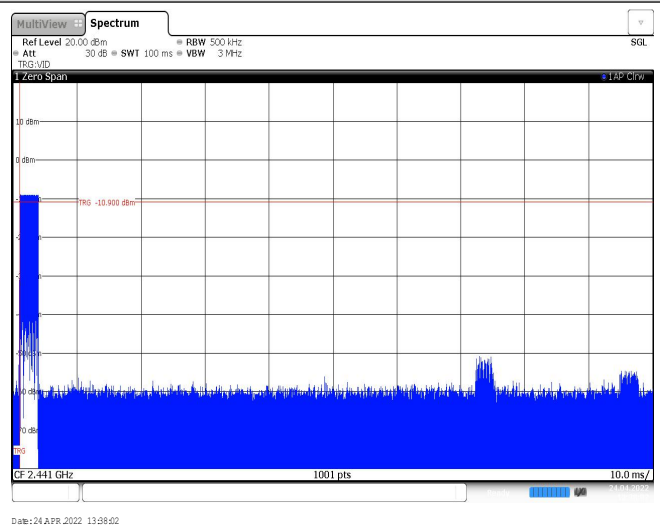


Burst Quantity

## 8DPSK



Ton time for single burst



Burst Quantity