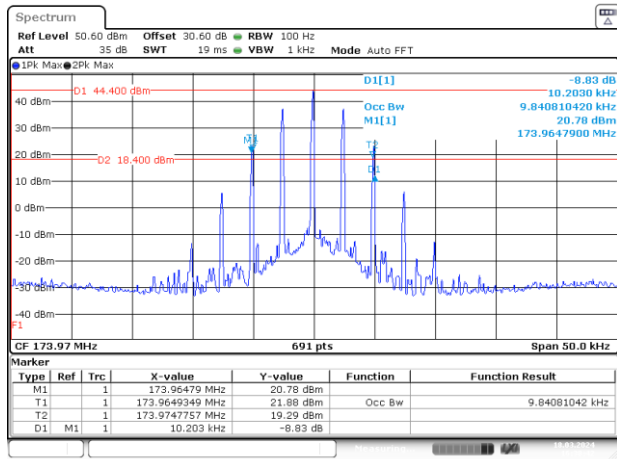
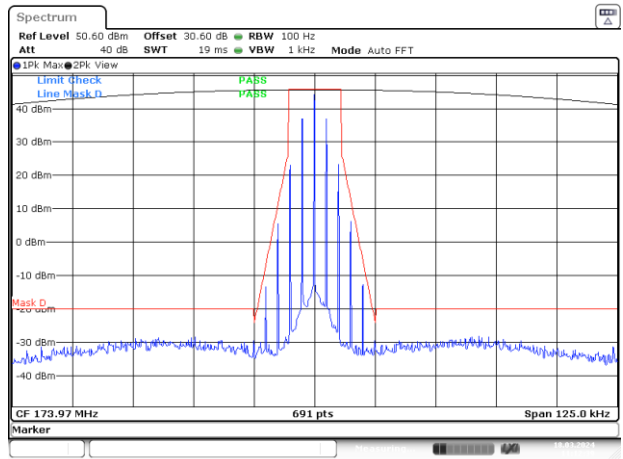


### FM-12.5k-High-45W

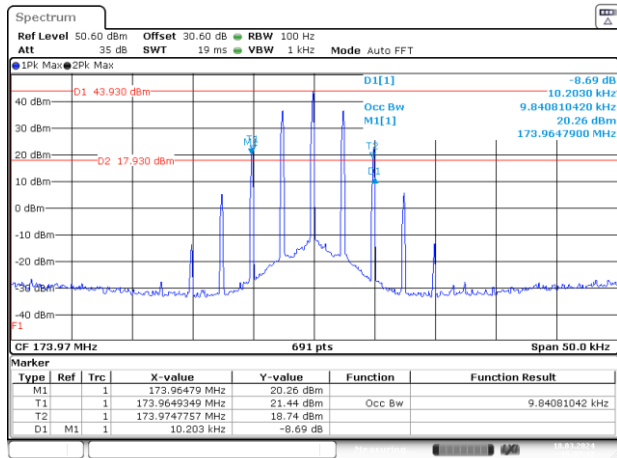


Date: 18.MAR.2024 16:38:41

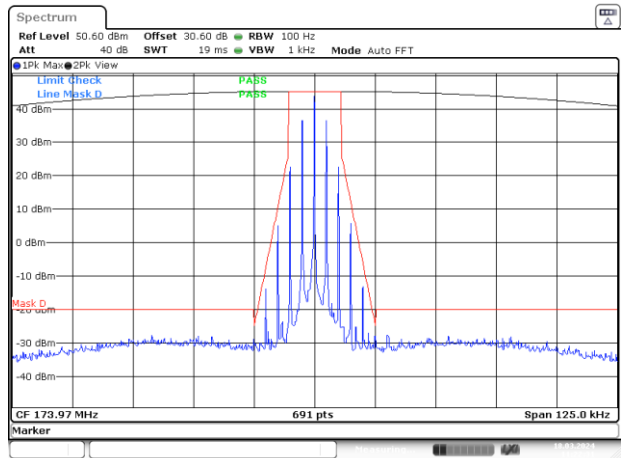


Date: 18.MAR.2024 11:12:38

### FM-12.5k-High-40W

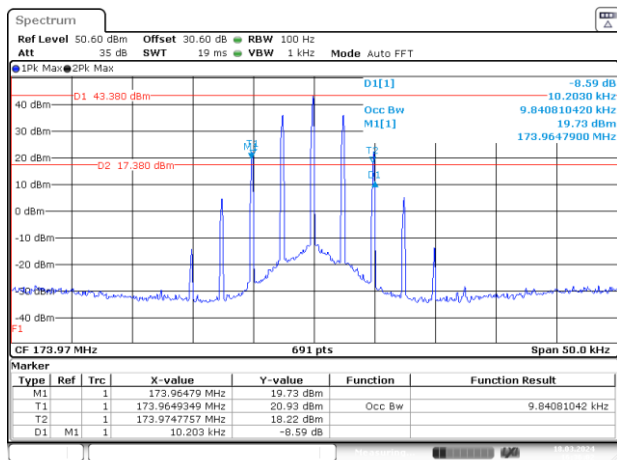


Date: 18.MAR.2024 16:37:31

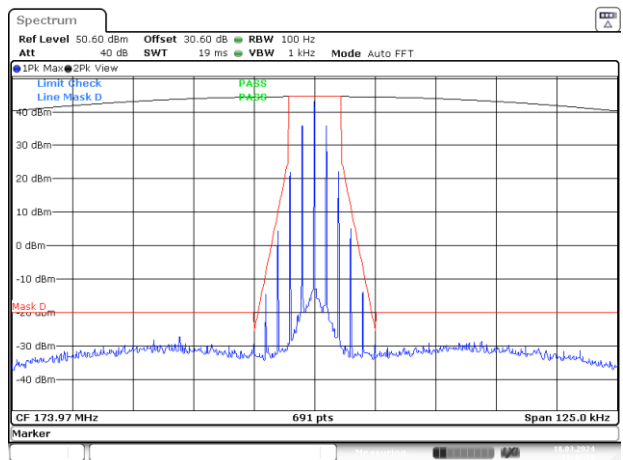


Date: 18.MAR.2024 11:22:31

### FM-12.5k-High-35W

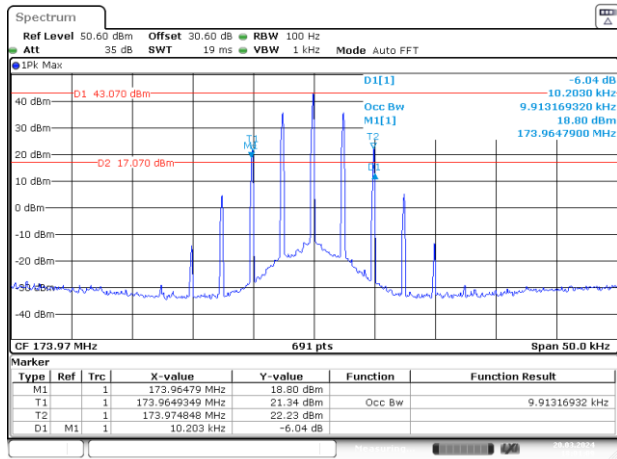


Date: 18.MAR.2024 16:36:01

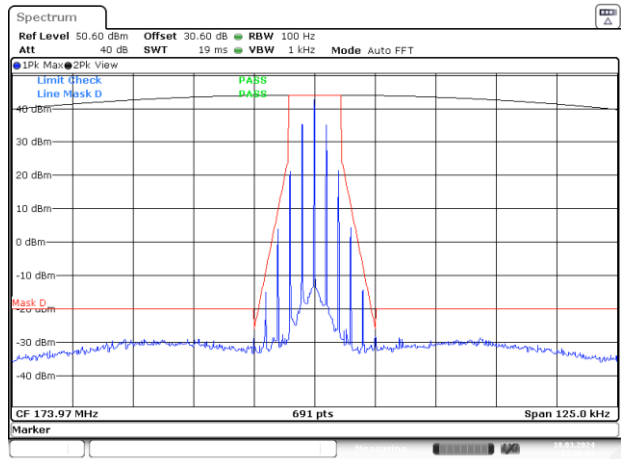


Date: 18.MAR.2024 11:42:50

### FM-12.5k-High-30W

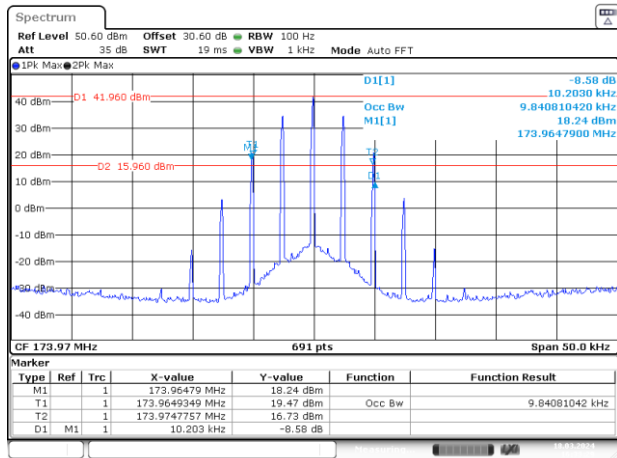


Date: 20.MAR.2024 18:01:08

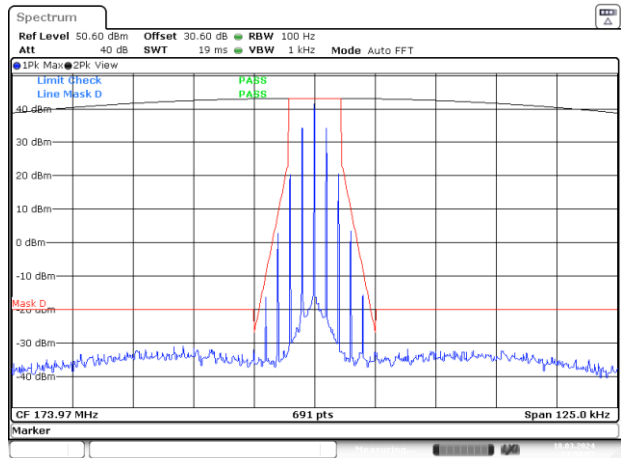


Date: 18.MAR.2024 11:56:34

### FM-12.5k-High-25W

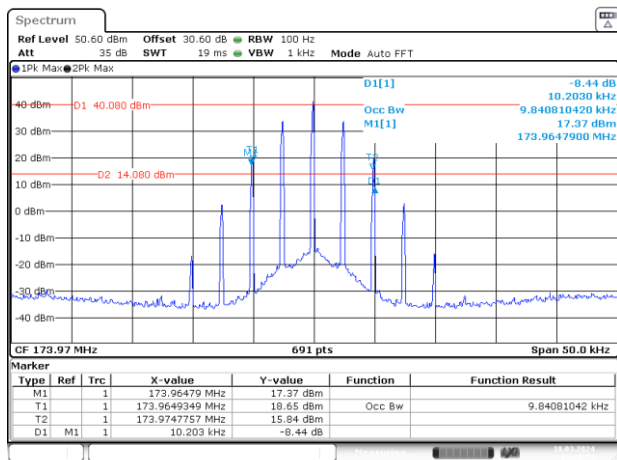


Date: 18.MAR.2024 16:33:28

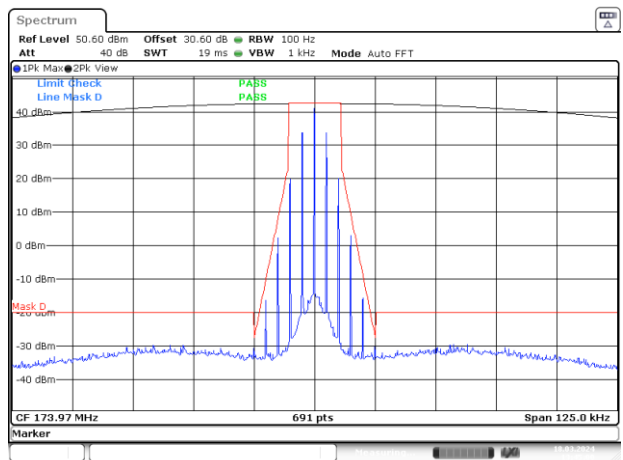


Date: 18.MAR.2024 13:38:07

### FM-12.5k-High-20W

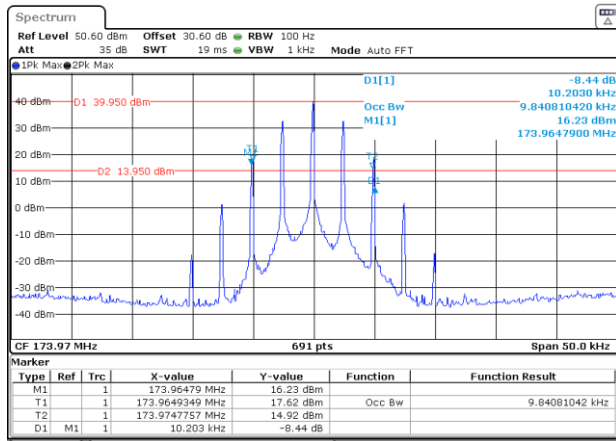


Date: 18.MAR.2024 16:31:54

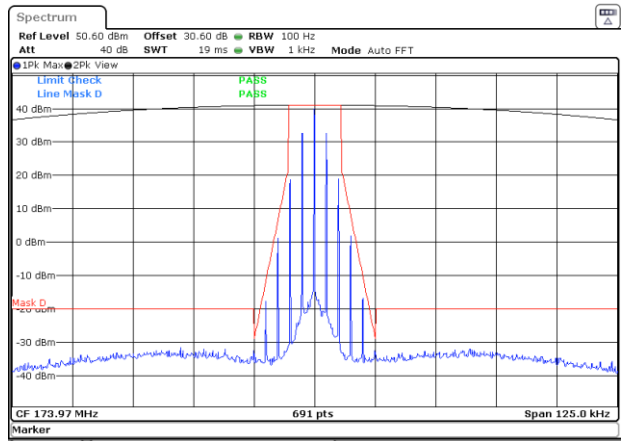


Date: 18.MAR.2024 13:44:59

### FM-12.5k-High-15W

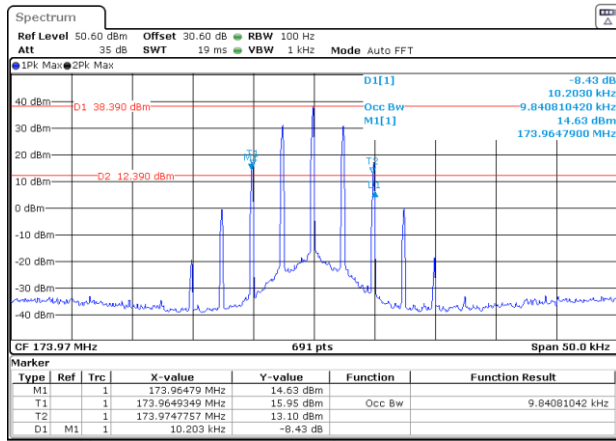


Date: 18.MAR.2024 16:30:34

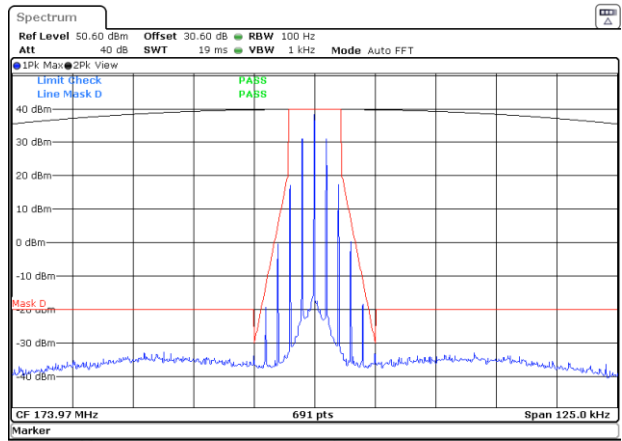


Date: 18.MAR.2024 14:01:14

### FM-12.5k-High-10W

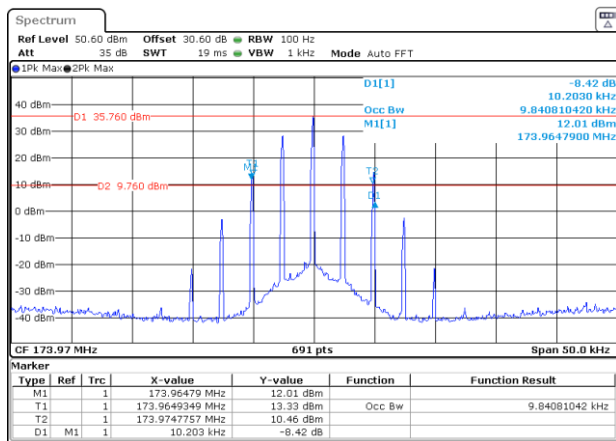


Date: 18.MAR.2024 16:26:55

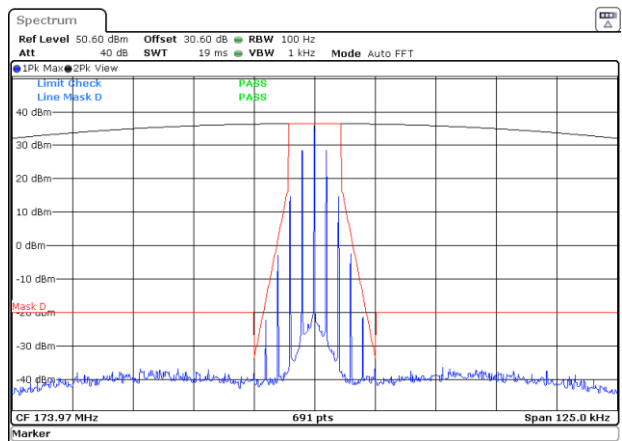


Date: 18.MAR.2024 14:05:07

### FM-12.5k-High-5W

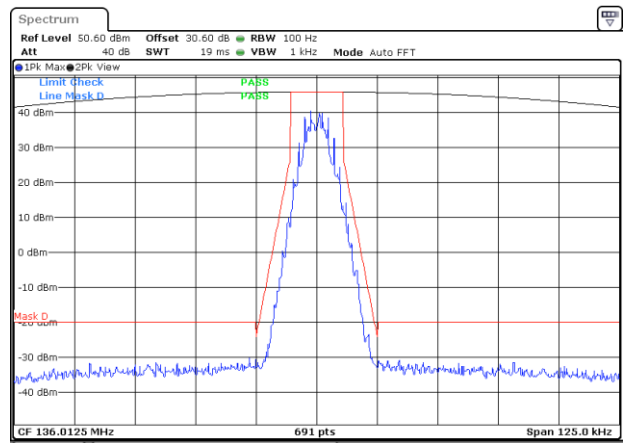
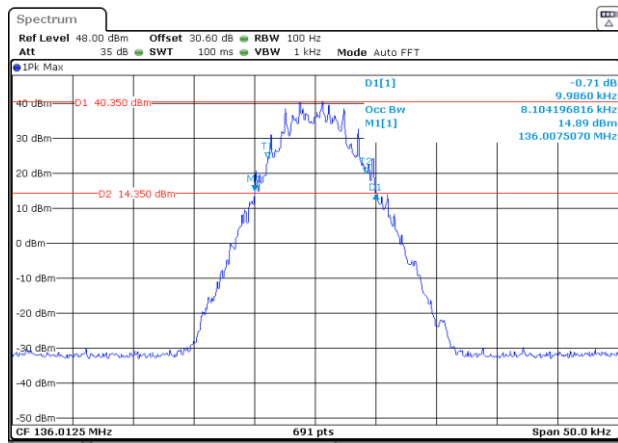


Date: 18.MAR.2024 16:25:26

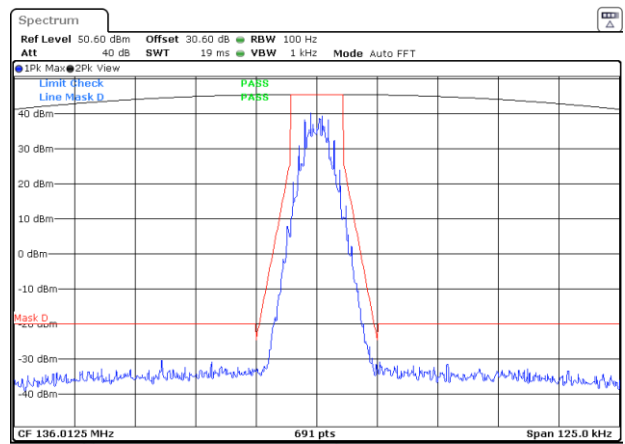
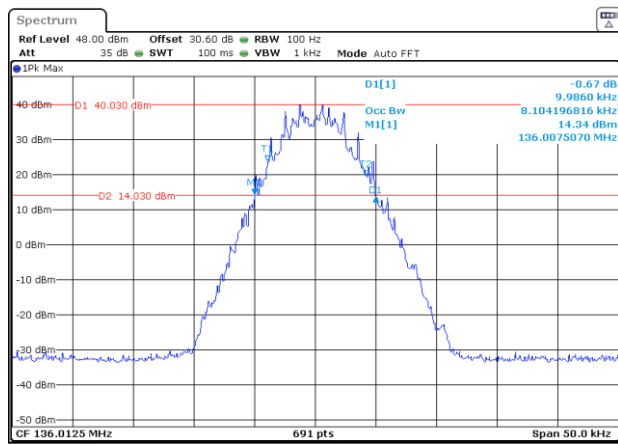


Date: 18.MAR.2024 14:19:06

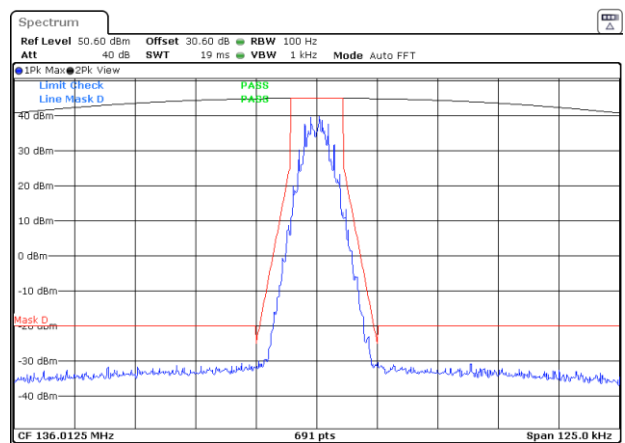
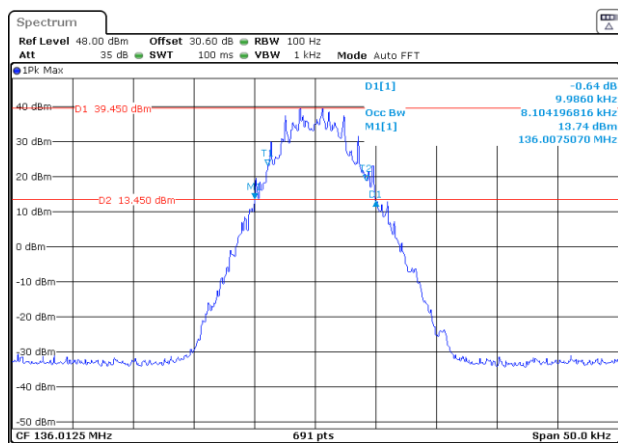
### 4FSK-12.5k-Low-45W



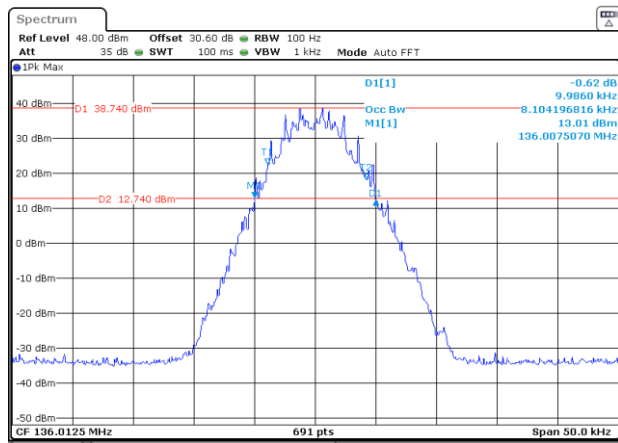
### 4FSK-12.5k-Low-40W



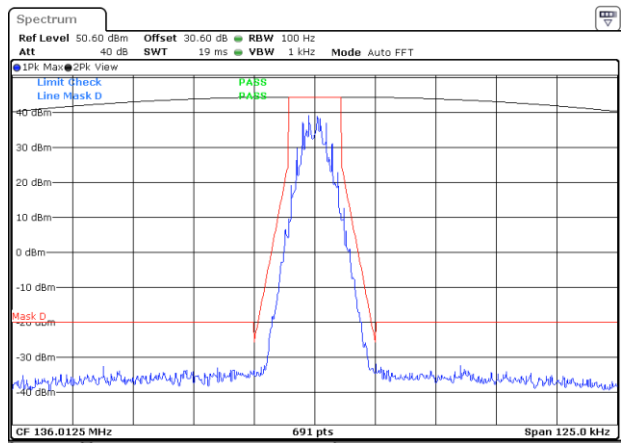
### 4FSK-12.5k-Low-35W



### 4FSK-12.5k-Low-30W

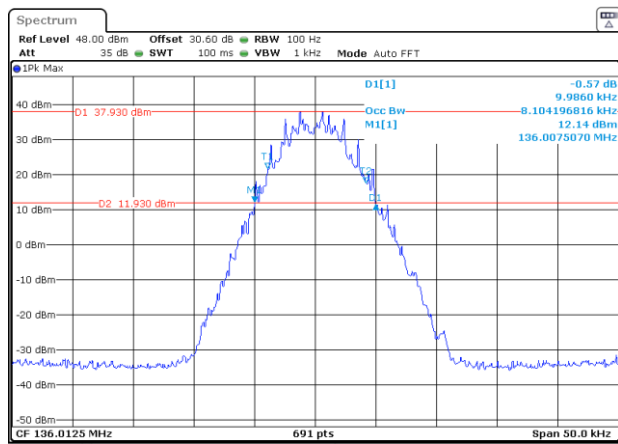


Date: 27.MAR.2024 10:33:58

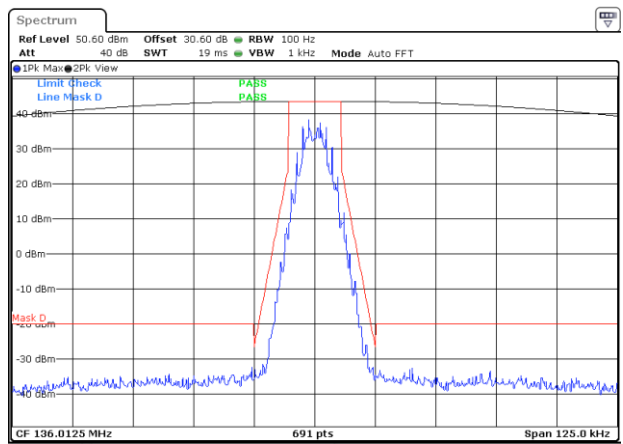


Date: 15.MAR.2024 19:49:21

### 4FSK-12.5k-Low-25W

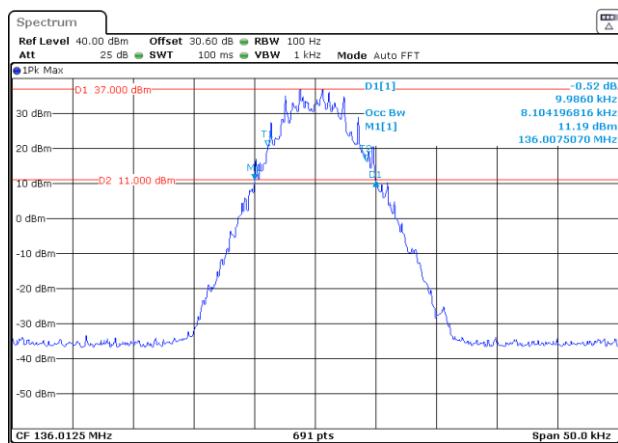


Date: 27.MAR.2024 10:32:30

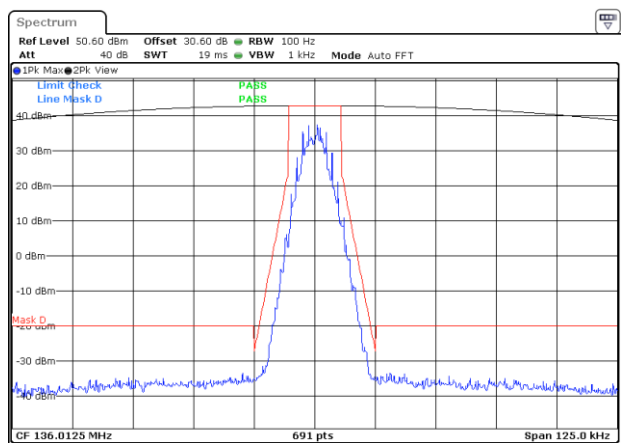


Date: 15.MAR.2024 19:57:45

### 4FSK-12.5k-Low-20W

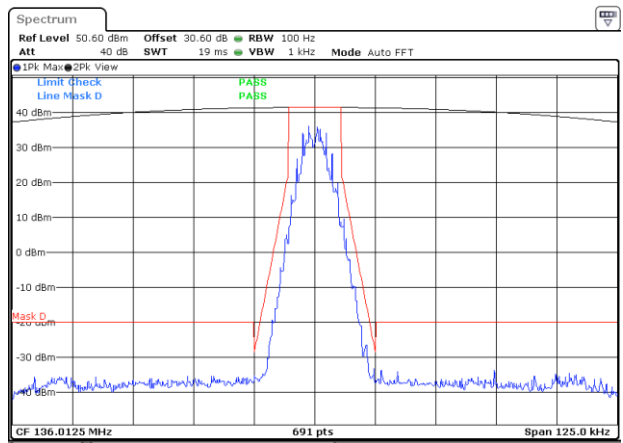
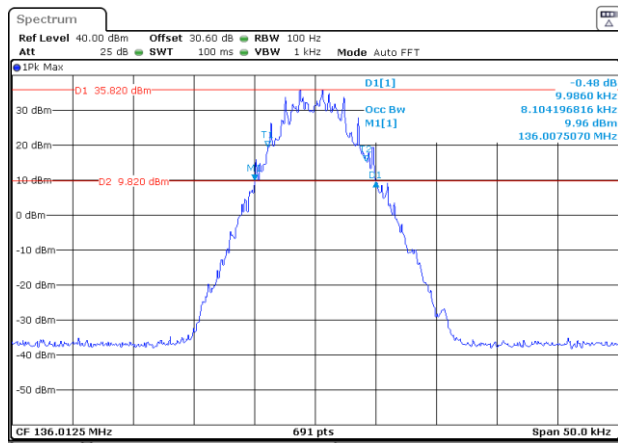


Date: 27.MAR.2024 10:30:42

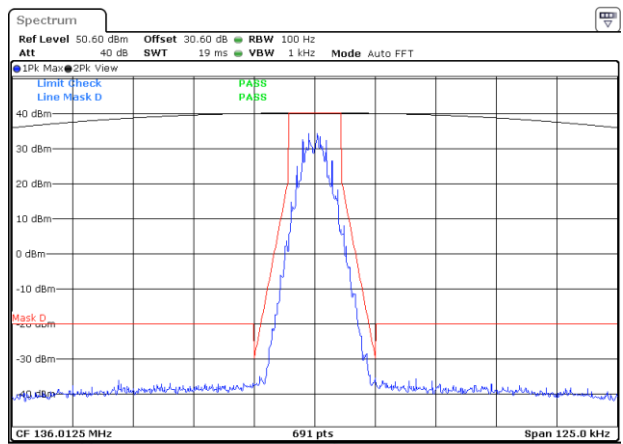
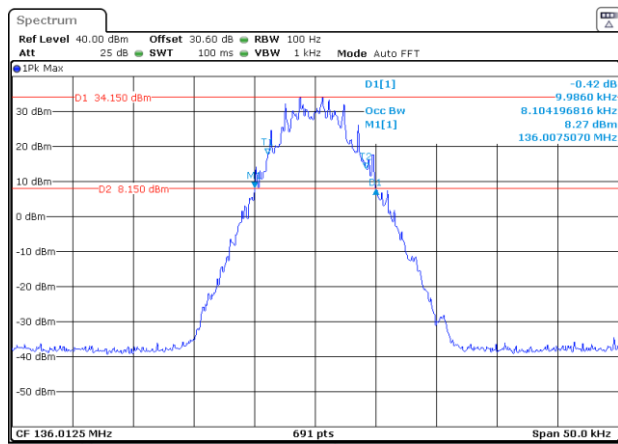


Date: 15.MAR.2024 20:18:18

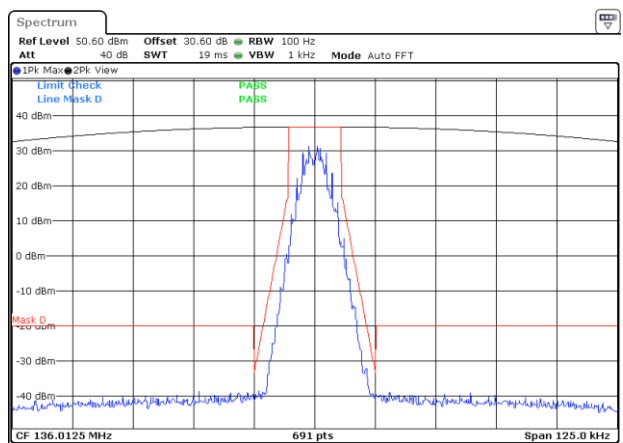
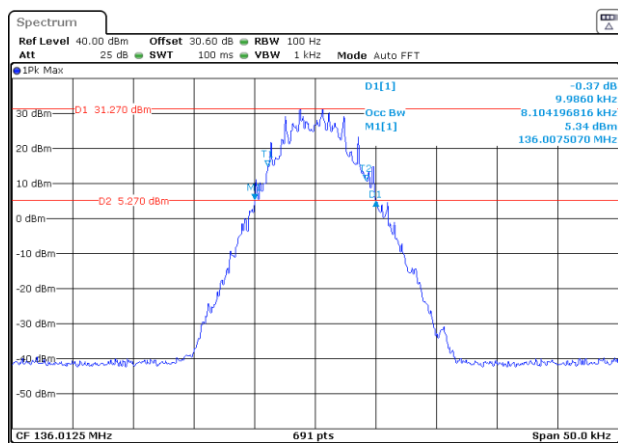
### 4FSK-12.5k-Low-15W



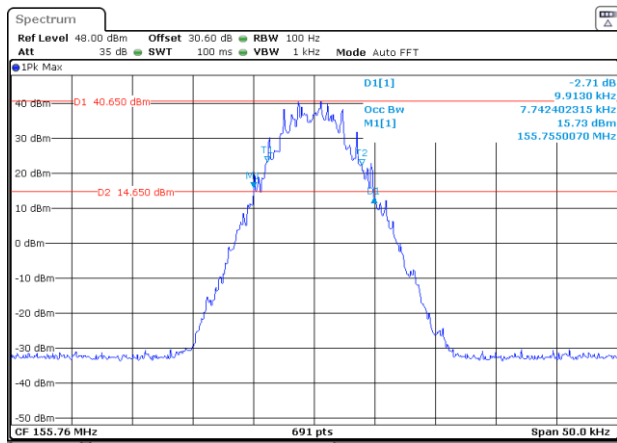
### 4FSK-12.5k-Low-10W



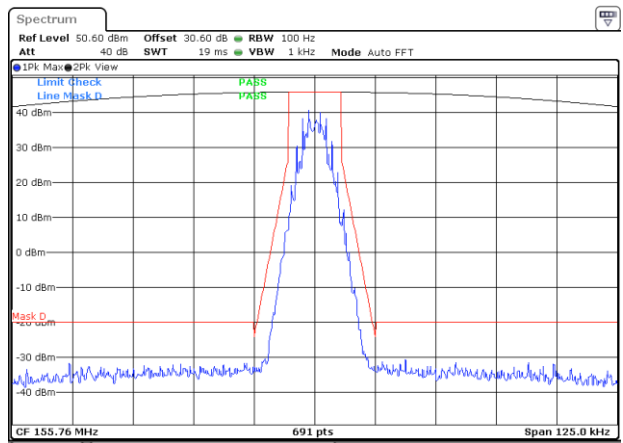
### 4FSK-12.5k-Low-5W



### 4FSK-12.5k-Middle-45W

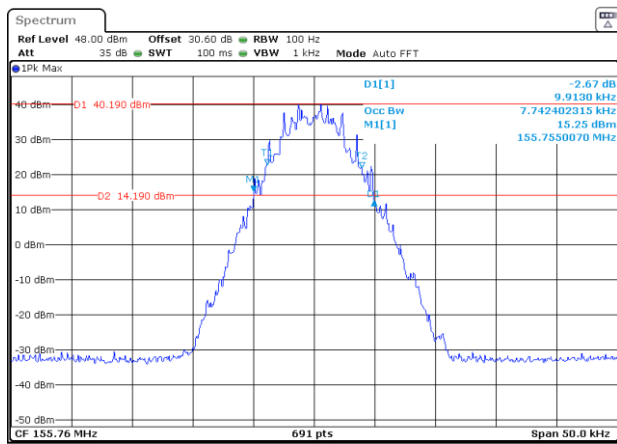


Date: 27.MAR.2024 11:15:38

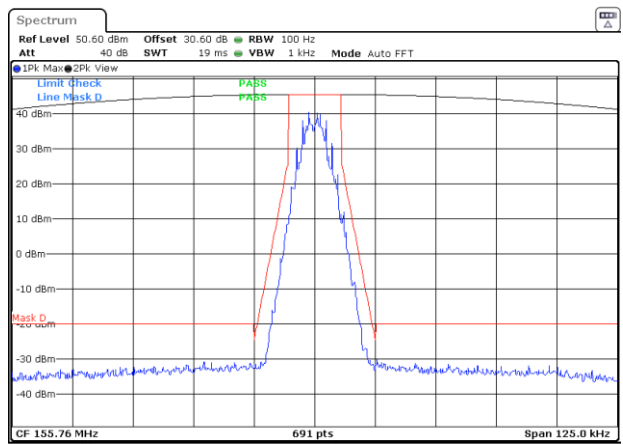


Date: 15.MAR.2024 14:50:26

### 4FSK-12.5k-Middle-40W

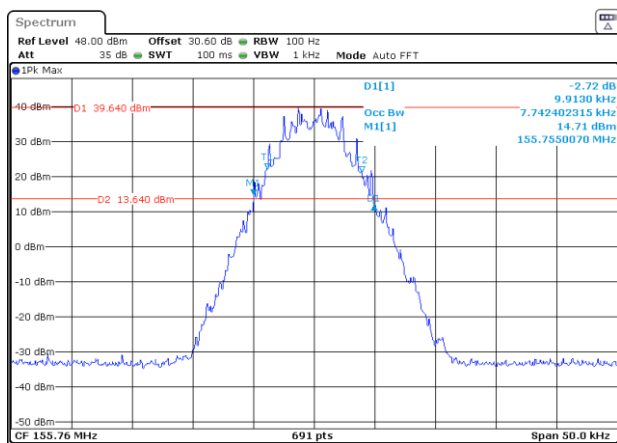


Date: 27.MAR.2024 11:14:18

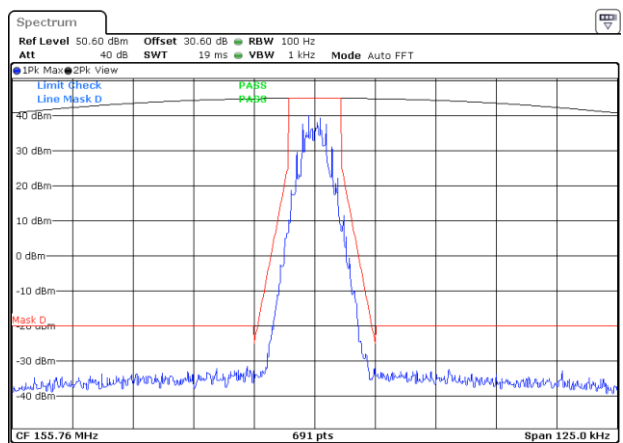


Date: 15.MAR.2024 16:05:21

### 4FSK-12.5k-Middle-35W

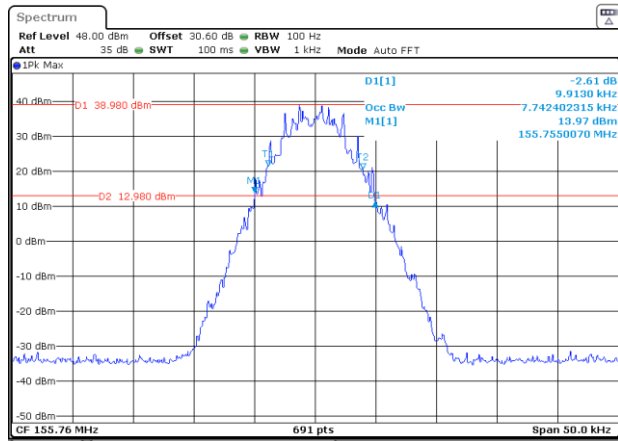


Date: 27.MAR.2024 11:12:31

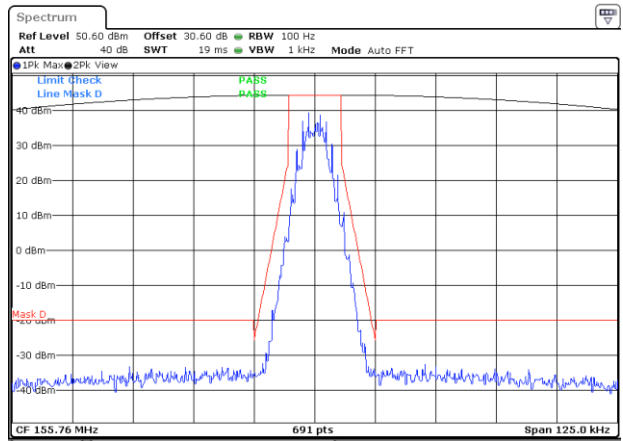


Date: 15.MAR.2024 19:45:29

### 4FSK-12.5k-Middle-30W

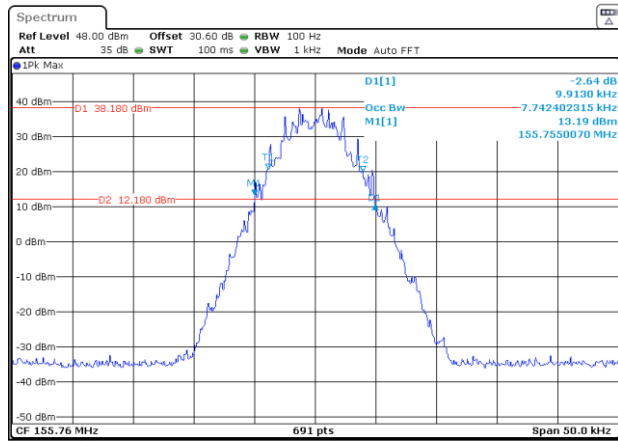


Date: 27.MAR.2024 11:10:40

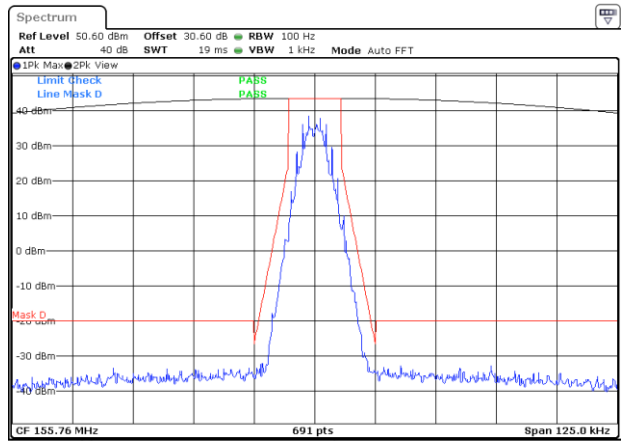


Date: 15.MAR.2024 19:51:54

### 4FSK-12.5k-Middle-25W

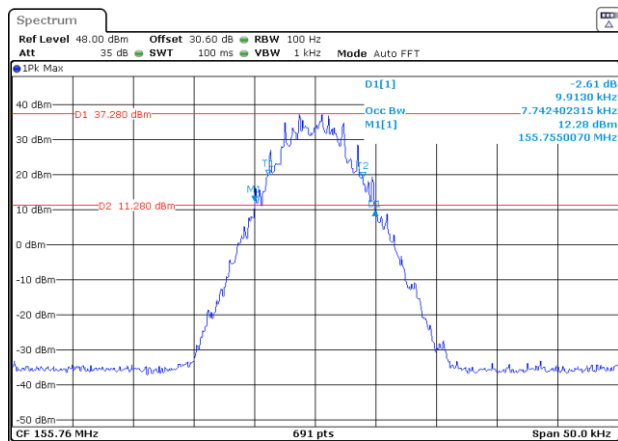


Date: 27.MAR.2024 11:09:22

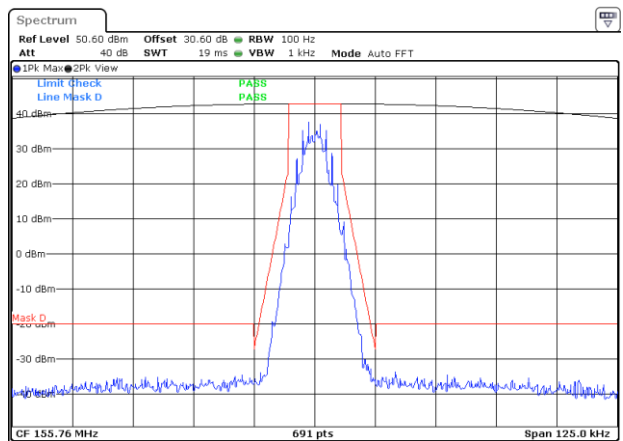


Date: 15.MAR.2024 19:59:58

### 4FSK-12.5k-Middle-20W

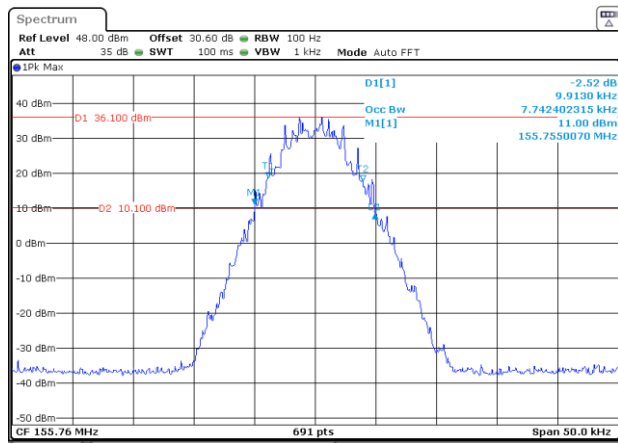


Date: 27.MAR.2024 11:07:54

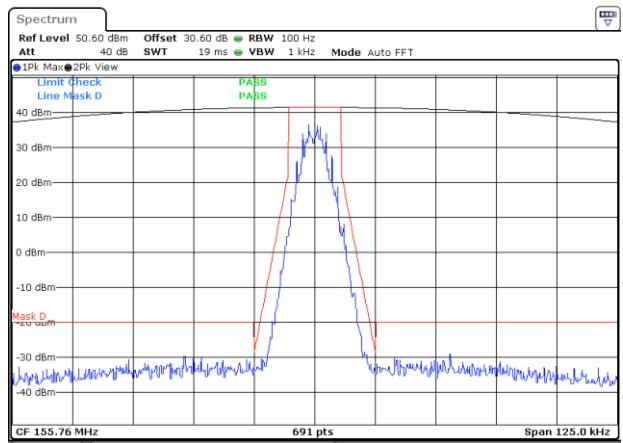


Date: 15.MAR.2024 20:06:41

### 4FSK-12.5k-Middle-15W

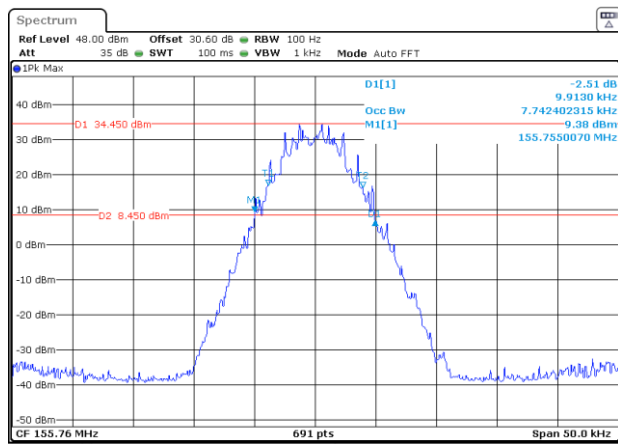


Date: 27.MAR.2024 11:06:25

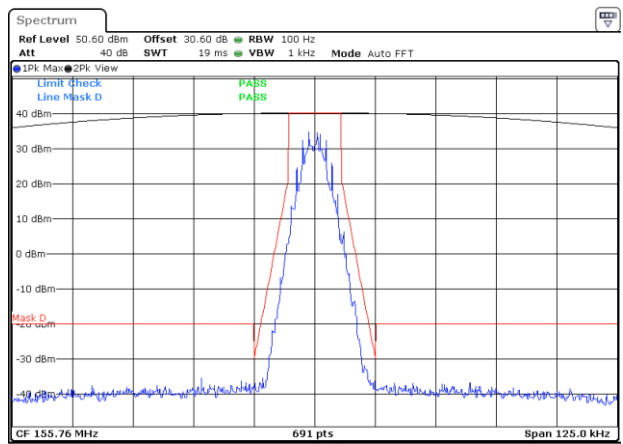


Date: 15.MAR.2024 20:23:38

### 4FSK-12.5k-Middle-10W

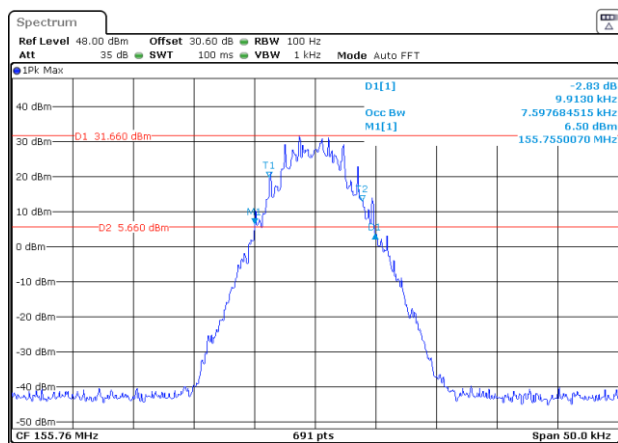


Date: 27.MAR.2024 11:04:08

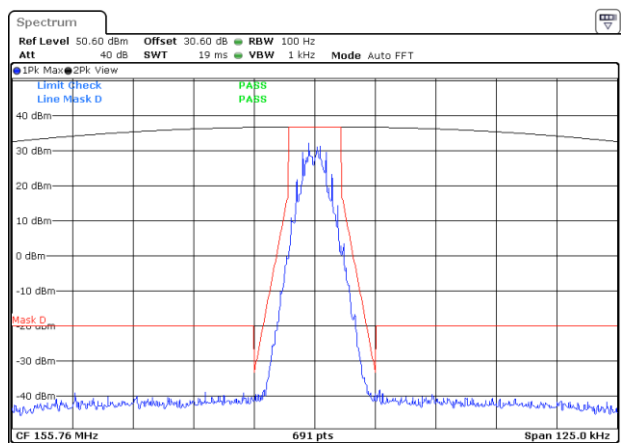


Date: 15.MAR.2024 20:29:03

### 4FSK-12.5k-Middle-5W

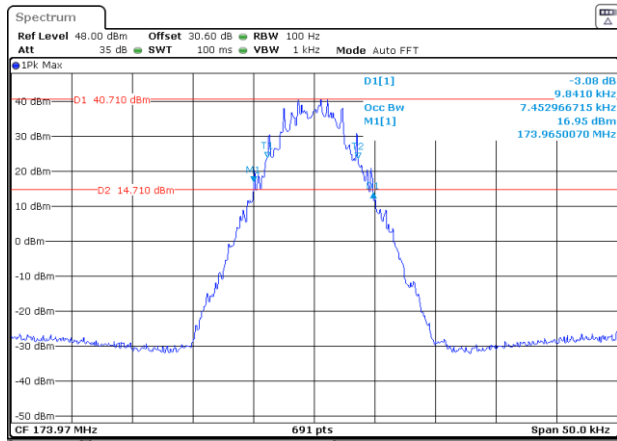


Date: 27.MAR.2024 11:01:58

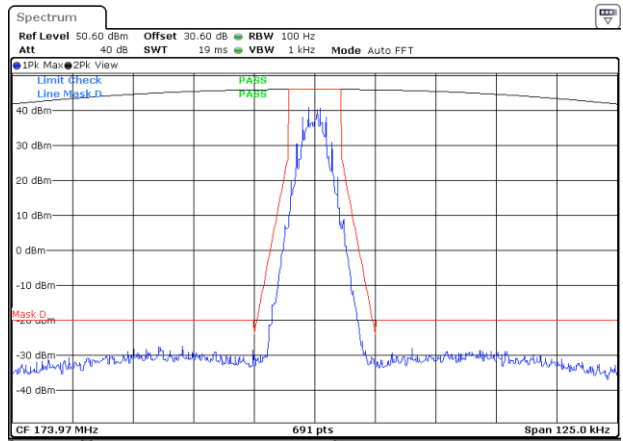


Date: 15.MAR.2024 20:39:17

### 4FSK-12.5k-High-45W

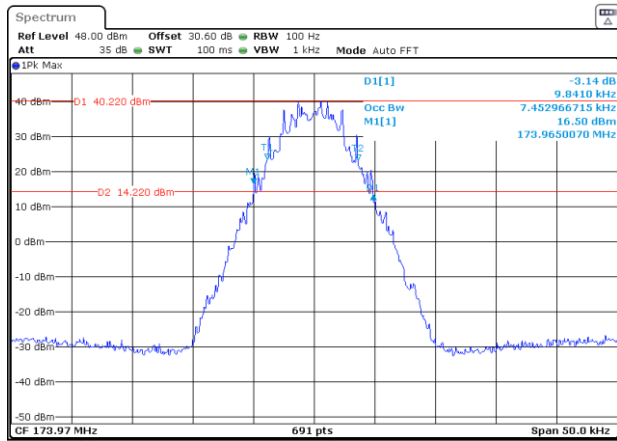


Date: 27.MAR.2024 11:33:51

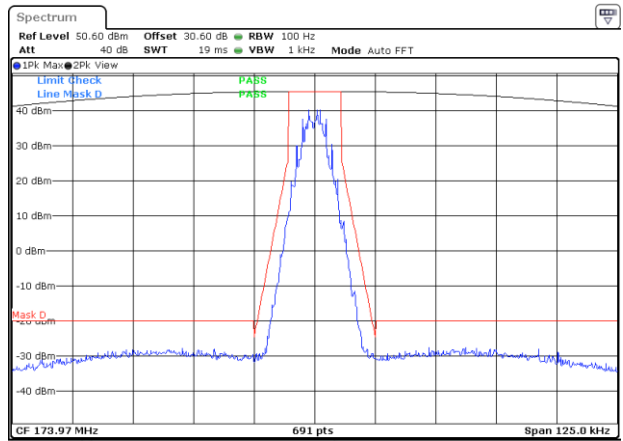


Date: 15.MAR.2024 15:14:05

### 4FSK-12.5k-High-40W

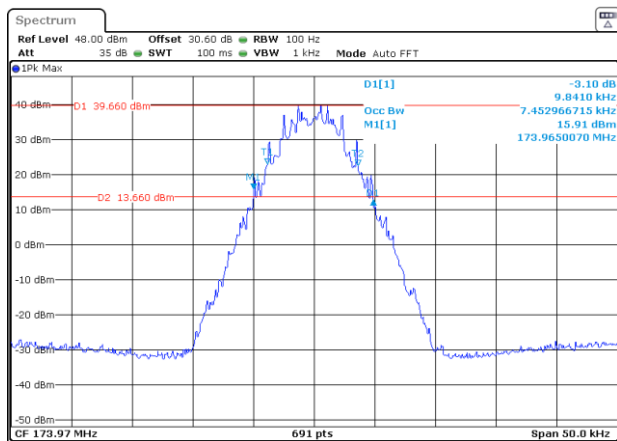


Date: 27.MAR.2024 11:32:28

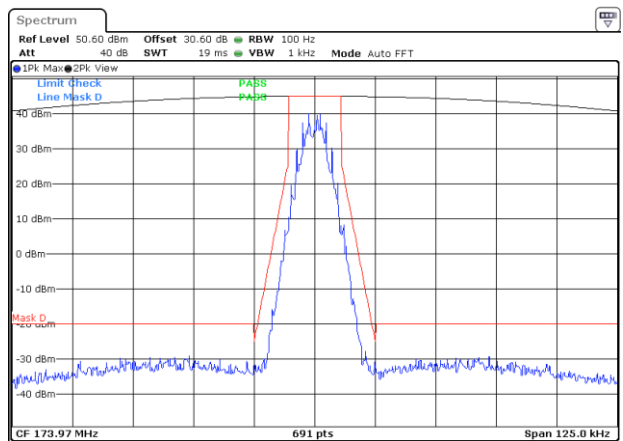


Date: 15.MAR.2024 15:18:04

### 4FSK-12.5k-High-35W

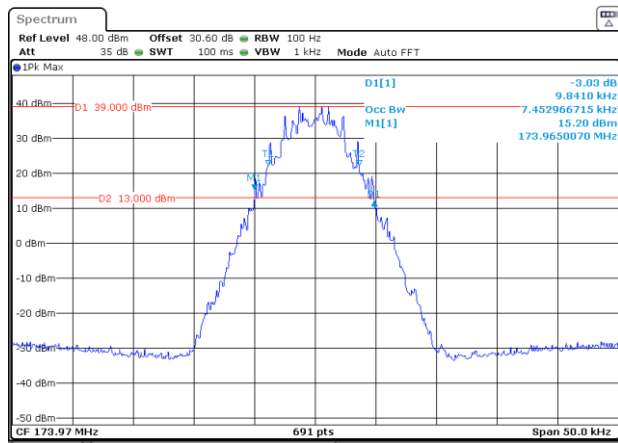


Date: 27.MAR.2024 11:31:07

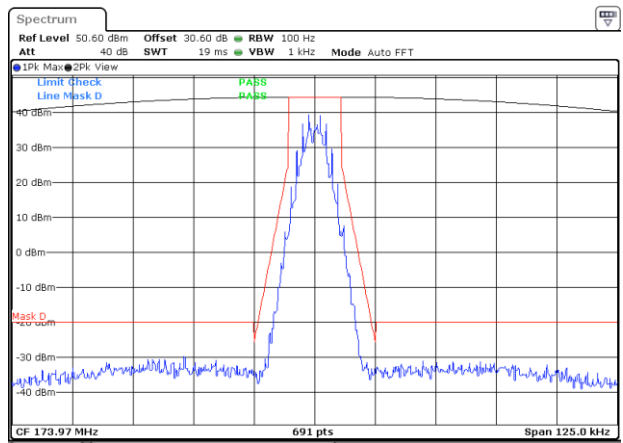


Date: 15.MAR.2024 19:44:24

### 4FSK-12.5k-High-30W

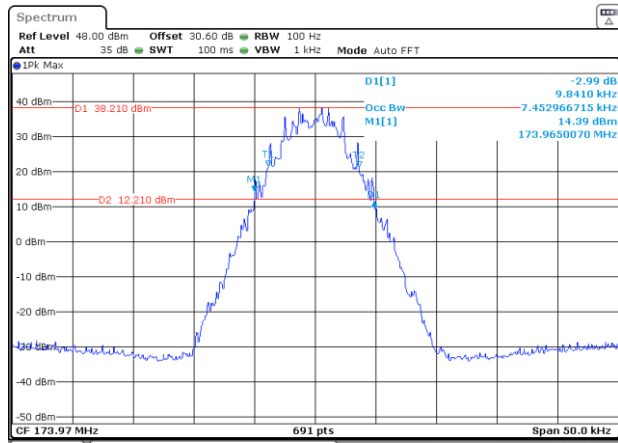


Date: 27.MAR.2024 11:28:55

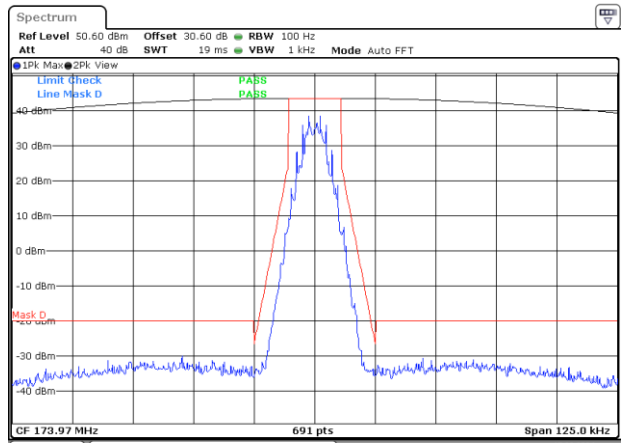


Date: 15.MAR.2024 19:53:04

### 4FSK-12.5k-High-25W

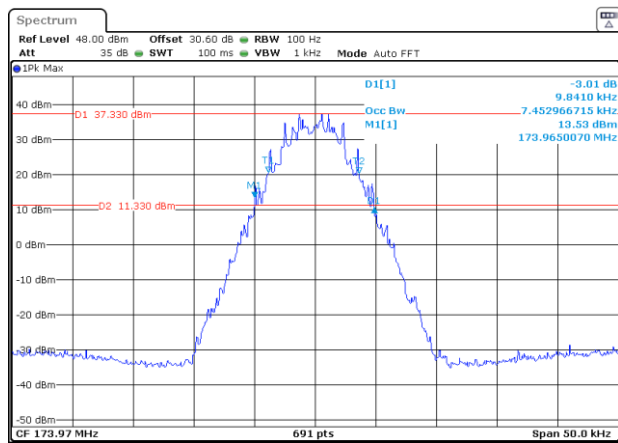


Date: 27.MAR.2024 11:27:00

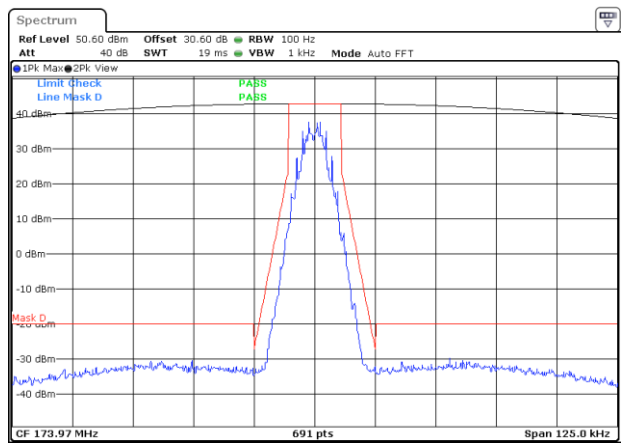


Date: 15.MAR.2024 20:01:00

### 4FSK-12.5k-High-20W

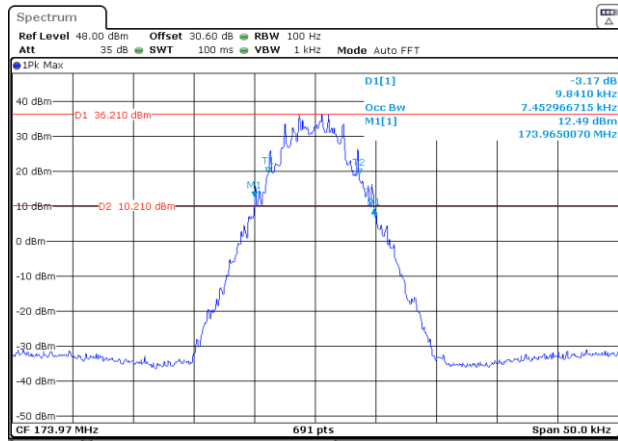


Date: 27.MAR.2024 11:24:52

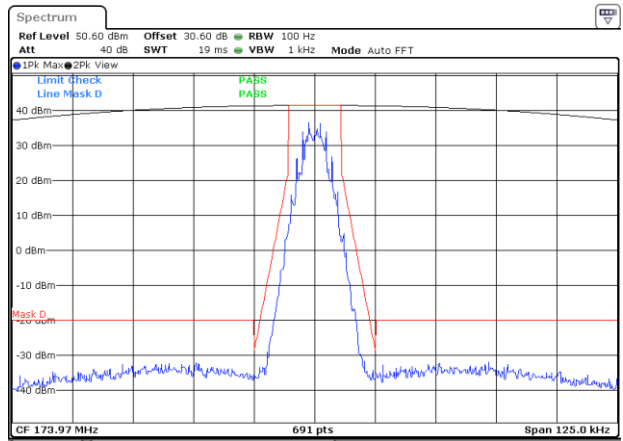


Date: 15.MAR.2024 20:05:30

### 4FSK-12.5k-High-15W

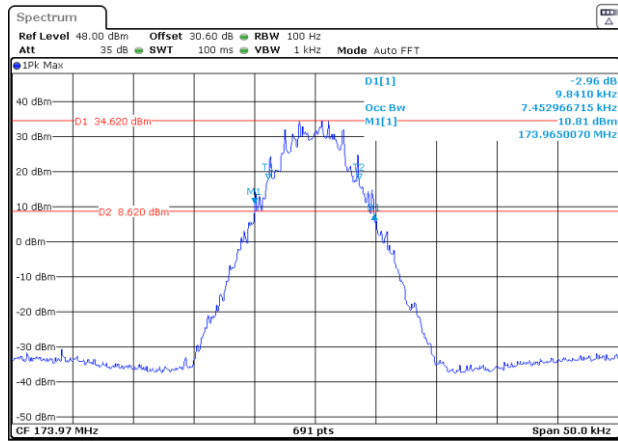


Date: 27.MAR.2024 11:39:13

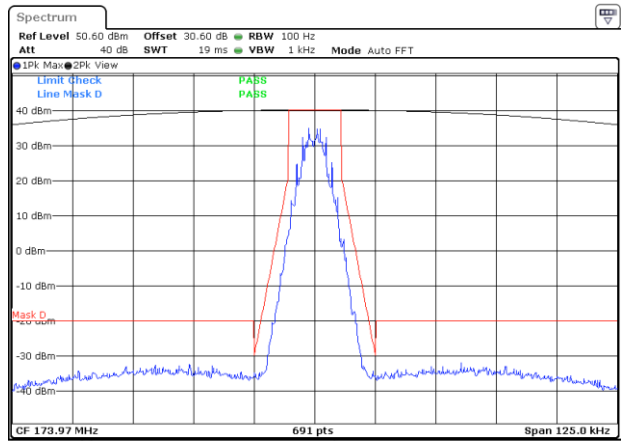


Date: 15.MAR.2024 20:24:39

### 4FSK-12.5k-High-10W

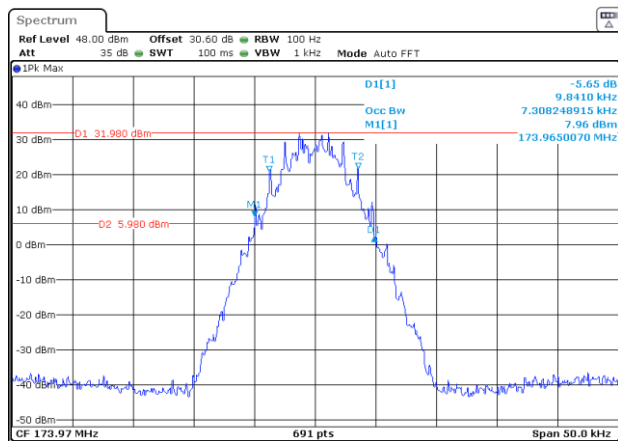


Date: 27.MAR.2024 11:19:33

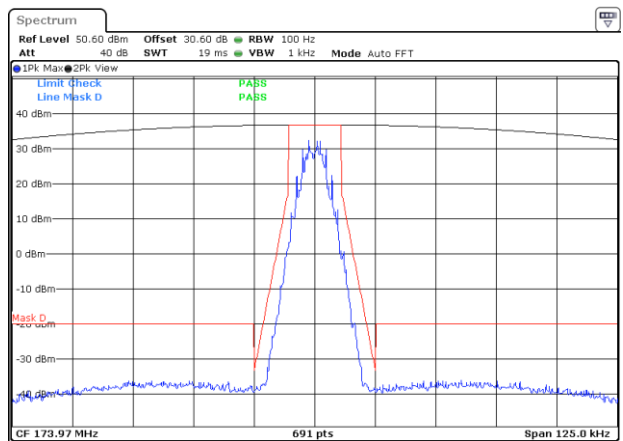


Date: 15.MAR.2024 20:28:03

### 4FSK-12.5k-High-5W



Date: 27.MAR.2024 11:17:35



Date: 15.MAR.2024 20:40:13

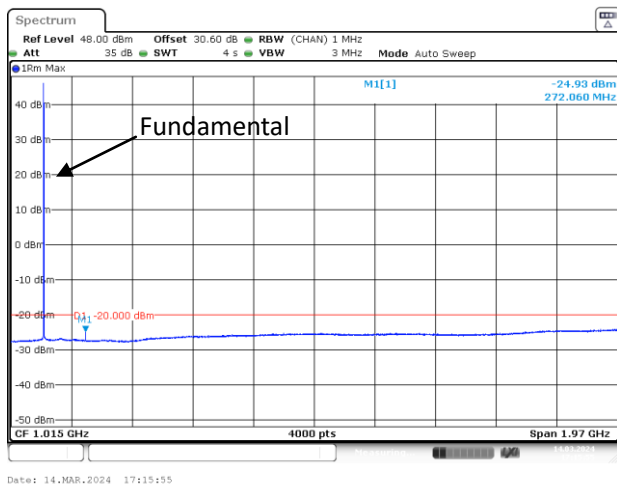
### 3.3.4 Spurious Emission at Antenna Terminal

| Modulation | Channel Spacing (kHz) | Test Channel | Spurious Emission at Antenna Terminal Result | Limit           | Verdict |
|------------|-----------------------|--------------|----------------------------------------------|-----------------|---------|
| FM         | 12.5                  | Low          | Refer test plot                              | Refer test plot | Pass    |
|            |                       | Middle       | Refer test plot                              | Refer test plot | Pass    |
|            |                       | High         | Refer test plot                              | Refer test plot | Pass    |
| 4FSK       | 12.5                  | Low          | Refer test plot                              | Refer test plot | Pass    |
|            |                       | Middle       | Refer test plot                              | Refer test plot | Pass    |
|            |                       | High         | Refer test plot                              | Refer test plot | Pass    |

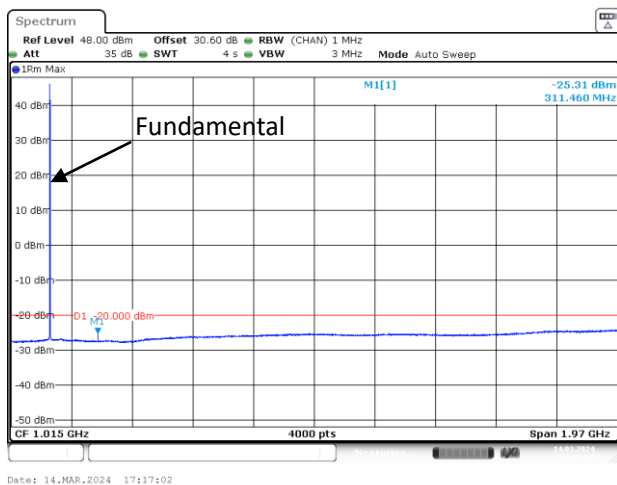
Note: the highest power level was tested.

**Test Plots:**

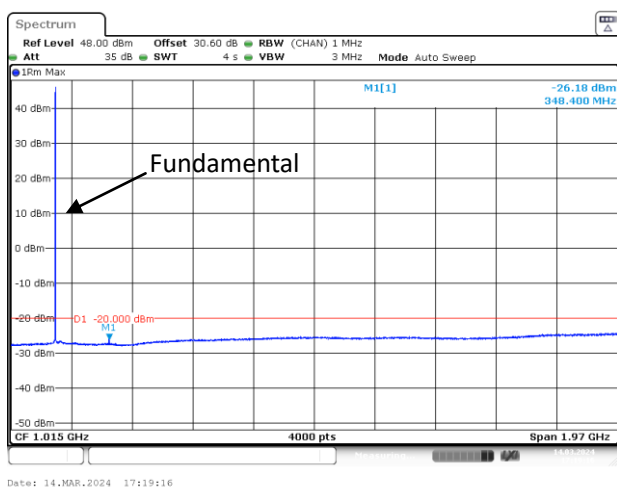
**FM-12.5k-Low Channel**



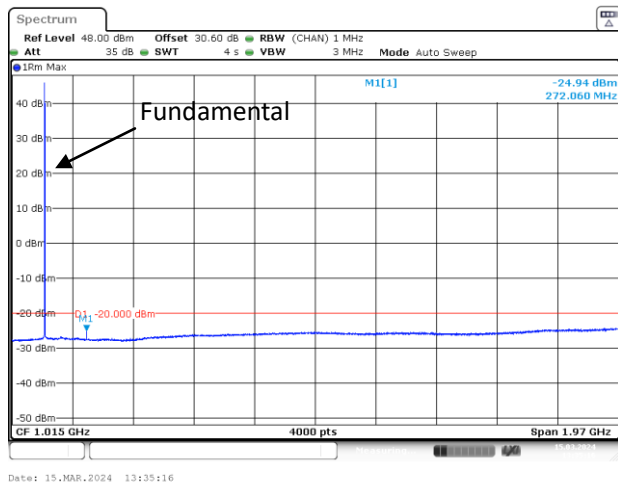
**FM-12.5k-Middle Channel**



**FM-12.5k-High Channel**

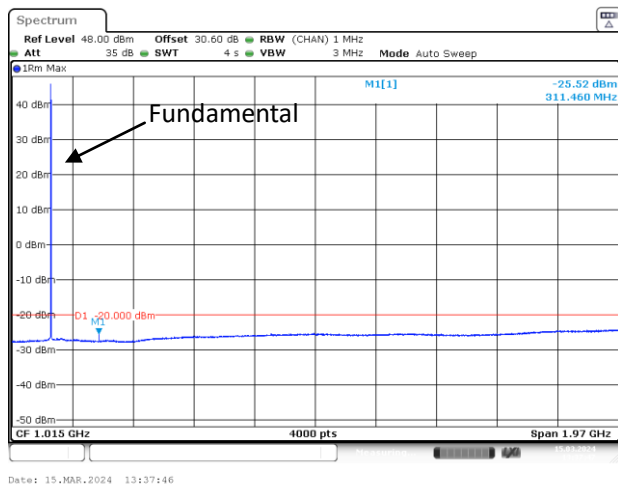


### 4FSK-12.5k-Low Channel



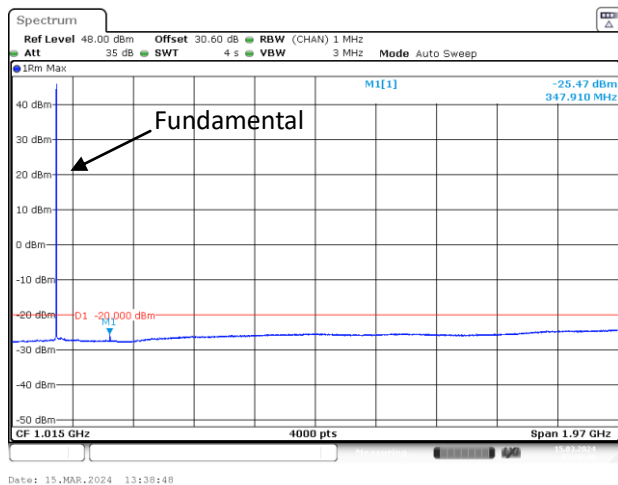
/

### 4FSK-12.5k-Middle Channel



/

### 4FSK-12.5k-High Channel



/

### 3.3.5 Frequency stability

| Un-modulation, Reference Frequency: 155.76MHz |                  |               |                          |                       |             |         |
|-----------------------------------------------|------------------|---------------|--------------------------|-----------------------|-------------|---------|
| Test Item                                     | Temperature (°C) | Voltage (Vdc) | Measured Frequency (MHz) | Frequency Error (ppm) | limit (ppm) | Verdict |
| Frequency Stability vs. Temperature & Voltage | -30              | 13.6          | 155.759951               | -0.32                 | ≤2.5        | Pass    |
|                                               | -20              | 13.6          | 155.759967               | -0.21                 | ≤2.5        | Pass    |
|                                               | -10              | 13.6          | 155.759986               | -0.09                 | ≤2.5        | Pass    |
|                                               | 0                | 13.6          | 155.759919               | -0.52                 | ≤2.5        | Pass    |
|                                               | 10               | 13.6          | 155.759991               | -0.06                 | ≤2.5        | Pass    |
|                                               | 20               | 13.6          | 155.759905               | -0.61                 | ≤2.5        | Pass    |
|                                               | 30               | 13.6          | 155.759919               | -0.52                 | ≤2.5        | Pass    |
|                                               | 40               | 13.6          | 155.759921               | -0.51                 | ≤2.5        | Pass    |
|                                               | 50               | 13.6          | 155.759860               | -0.90                 | ≤2.5        | Pass    |
|                                               | 20               | 11.56         | 155.759999               | -0.01                 | ≤2.5        | Pass    |
|                                               | 20               | 15.64         | 155.759963               | -0.24                 | ≤2.5        | Pass    |

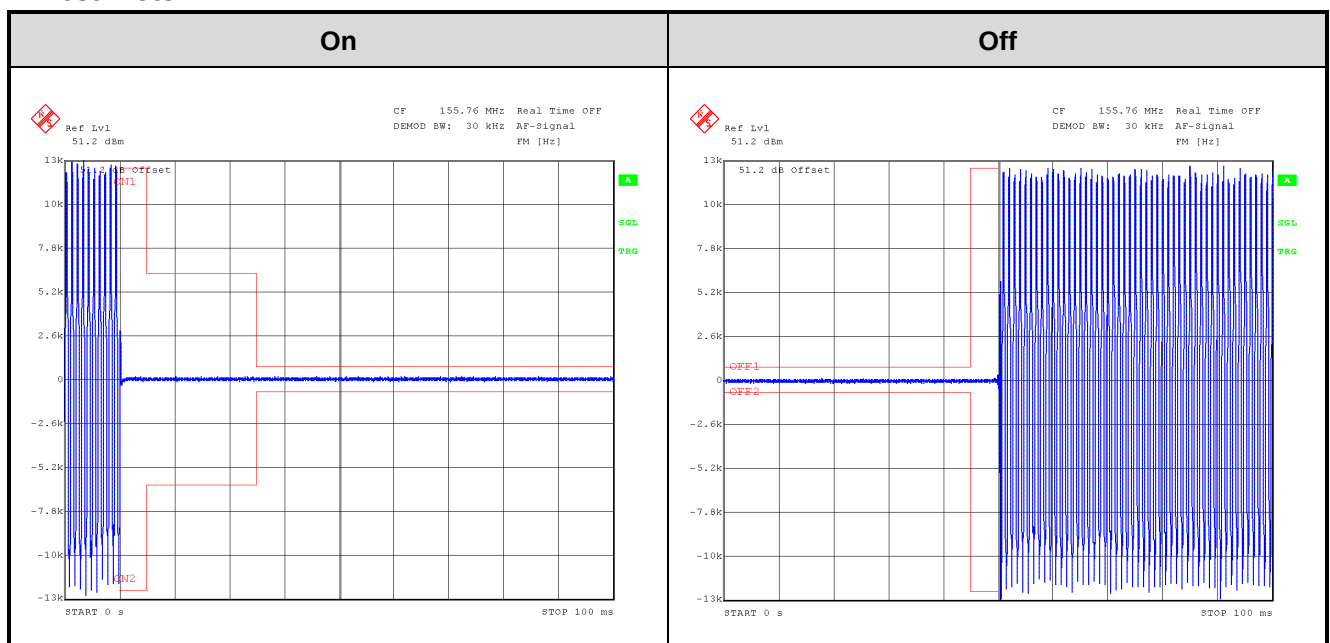
| Un-modulation, Reference Frequency: 155.76MHz |                  |               |                          |                       |             |         |
|-----------------------------------------------|------------------|---------------|--------------------------|-----------------------|-------------|---------|
| Test Item                                     | Temperature (°C) | Voltage (Vac) | Measured Frequency (MHz) | Frequency Error (ppm) | limit (ppm) | Verdict |
| Frequency Stability vs. Temperature & Voltage | -30              | 120           | 155.759891               | -0.70                 | ≤2.5        | Pass    |
|                                               | -20              | 120           | 155.759915               | -0.55                 | ≤2.5        | Pass    |
|                                               | -10              | 120           | 155.759855               | -0.93                 | ≤2.5        | Pass    |
|                                               | 0                | 120           | 155.759870               | -0.83                 | ≤2.5        | Pass    |
|                                               | 10               | 120           | 155.759938               | -0.40                 | ≤2.5        | Pass    |
|                                               | 20               | 120           | 155.759912               | -0.56                 | ≤2.5        | Pass    |
|                                               | 30               | 120           | 155.759871               | -0.83                 | ≤2.5        | Pass    |
|                                               | 40               | 120           | 155.759992               | -0.05                 | ≤2.5        | Pass    |
|                                               | 50               | 120           | 155.759943               | -0.37                 | ≤2.5        | Pass    |
|                                               | 20               | 102           | 155.759931               | -0.45                 | ≤2.5        | Pass    |
|                                               | 20               | 138           | 155.759857               | -0.92                 | ≤2.5        | Pass    |

### 3.3.6 Transient Frequency Behavior

| Channel Spacing (kHz) | Time intervals (ms) | Maximum frequency difference (kHz) | Verdict |
|-----------------------|---------------------|------------------------------------|---------|
| 12.5                  | 5.0 (t1)            | 12.5                               | Pass    |
|                       | 20.0 (t2)           | 6.25                               | Pass    |
|                       | 5.0 (t3)            | 12.5                               | Pass    |

Note: During the time from the end of t2 to the beginning of t3, the frequency difference must not exceed the limits of Frequency stability:  $155.76\text{MHz} \times 2.5\text{ppm} = 0.389\text{kHz}$

#### Test Plots:



### 3.4 Radiated emission Test Data

|                               |                                                                    |                 |         |
|-------------------------------|--------------------------------------------------------------------|-----------------|---------|
| <b>Test Date:</b>             | 2024-03-23                                                         | <b>Test By:</b> | Luke Li |
| <b>Environment condition:</b> | Temperature: 21.8°C; Relative Humidity:65%; ATM Pressure: 100.6kPa |                 |         |

| Frequency (MHz)           | Reading level (dBμV) | Polar (H/V) | Corrected Factor (dB/m) | Corrected Amplitude (dBμV/m) | EIRP CF | Corrected Reading (dBm) | Limit (dBm) | Margin (dB) | Remark |
|---------------------------|----------------------|-------------|-------------------------|------------------------------|---------|-------------------------|-------------|-------------|--------|
| FM-12.5k-Low Channel      |                      |             |                         |                              |         |                         |             |             |        |
| 680.063                   | 23.42                | horizontal  | 27.86                   | 51.28                        | 95.2    | -43.92                  | -20         | -23.92      | Peak   |
| 1360.125                  | 48.3                 | horizontal  | -4.23                   | 44.07                        | 95.2    | -51.13                  | -20         | -31.13      | Peak   |
| 680.063                   | 24.36                | vertical    | 27.86                   | 52.22                        | 95.2    | -42.98                  | -20         | -22.98      | Peak   |
| 1360.125                  | 48.73                | vertical    | -4.23                   | 44.5                         | 95.2    | -50.7                   | -20         | -30.7       | Peak   |
| FM-12.5k-Middle Channel   |                      |             |                         |                              |         |                         |             |             |        |
| 623.04                    | 10.37                | horizontal  | 27.25                   | 37.62                        | 95.2    | -57.58                  | -20         | -37.58      | Peak   |
| 1557.6                    | 49.59                | horizontal  | -3.17                   | 46.42                        | 95.2    | -48.78                  | -20         | -28.78      | Peak   |
| 623.04                    | 9.72                 | vertical    | 27.25                   | 36.97                        | 95.2    | -58.23                  | -20         | -38.23      | Peak   |
| 1557.6                    | 50.13                | vertical    | -3.17                   | 46.96                        | 95.2    | -48.24                  | -20         | -28.24      | Peak   |
| FM-12.5k-High Channel     |                      |             |                         |                              |         |                         |             |             |        |
| 347.94                    | 18.23                | horizontal  | 22.15                   | 40.38                        | 95.2    | -54.82                  | -20         | -34.82      | Peak   |
| 695.88                    | 14.25                | horizontal  | 28.01                   | 42.26                        | 95.2    | -52.94                  | -20         | -32.94      | Peak   |
| 1565.73                   | 53.27                | horizontal  | -3.1                    | 50.17                        | 95.2    | -45.03                  | -20         | -25.03      | Peak   |
| 347.94                    | 21.27                | vertical    | 22.15                   | 43.42                        | 95.2    | -51.78                  | -20         | -31.78      | Peak   |
| 695.88                    | 16.25                | vertical    | 28.01                   | 44.26                        | 95.2    | -50.94                  | -20         | -30.94      | Peak   |
| 1565.73                   | 53.11                | vertical    | -3.1                    | 50.01                        | 95.2    | -45.19                  | -20         | -25.19      | Peak   |
| 4FSK-12.5k-Low Channel    |                      |             |                         |                              |         |                         |             |             |        |
| 680.063                   | 21.3                 | horizontal  | 27.86                   | 49.16                        | 95.2    | -46.04                  | -20         | -26.04      | Peak   |
| 1360.125                  | 48.5                 | horizontal  | -4.23                   | 44.27                        | 95.2    | -50.93                  | -20         | -30.93      | Peak   |
| 680.063                   | 24.28                | vertical    | 27.86                   | 52.14                        | 95.2    | -43.06                  | -20         | -23.06      | Peak   |
| 1360.125                  | 49.42                | vertical    | -4.23                   | 45.19                        | 95.2    | -50.01                  | -20         | -30.01      | Peak   |
| 4FSK-12.5k-Middle Channel |                      |             |                         |                              |         |                         |             |             |        |
| 623.04                    | 10.55                | horizontal  | 27.25                   | 37.8                         | 95.2    | -57.4                   | -20         | -37.4       | Peak   |
| 1557.6                    | 49.6                 | horizontal  | -3.17                   | 46.43                        | 95.2    | -48.77                  | -20         | -28.77      | Peak   |
| 623.04                    | 10.33                | vertical    | 27.25                   | 37.58                        | 95.2    | -57.62                  | -20         | -37.62      | Peak   |

|                         |       |            |       |       |      |        |     |        |      |
|-------------------------|-------|------------|-------|-------|------|--------|-----|--------|------|
| 1557.6                  | 49.57 | vertical   | -3.17 | 46.4  | 95.2 | -48.8  | -20 | -28.8  | Peak |
| 4FSK-12.5k-High Channel |       |            |       |       |      |        |     |        |      |
| 347.94                  | 17.77 | horizontal | 22.15 | 39.92 | 95.2 | -55.28 | -20 | -35.28 | Peak |
| 695.88                  | 13.97 | horizontal | 28.01 | 41.98 | 95.2 | -53.22 | -20 | -33.22 | Peak |
| 1565.73                 | 52.99 | horizontal | -3.1  | 49.89 | 95.2 | -45.31 | -20 | -25.31 | Peak |
| 347.94                  | 21.85 | vertical   | 22.15 | 44    | 95.2 | -51.2  | -20 | -31.2  | Peak |
| 695.88                  | 15.46 | vertical   | 28.01 | 43.47 | 95.2 | -51.73 | -20 | -31.73 | Peak |
| 1565.73                 | 52.01 | vertical   | -3.1  | 48.91 | 95.2 | -46.29 | -20 | -26.29 | Peak |

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

Margin = Result – Limit

According to ANSI C63.26-2.15 section 5.2.7:

$EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$ ; where D is the measurement distance (in the far field region) in m.

Test was performed on 3meters distance, so

Result = Corrected Amplitude +  $20\log(3) - 104.8$   
= Corrected Amplitude - 95.2

The emission levels of other frequencies that were lower than the limit 20dB, not show in test report.

## 4 Test Setup Photo

Please refer to the attachment RWAQ202400227 Test Setup photo.

## 5 E.U.T Photo

Please refer to the attachment RWAQ202400227 External photo and RWAQ202400227 Internal photo.

**---End of Report---**