

## Peak Output Power

|                   |                                                   |
|-------------------|---------------------------------------------------|
| E.U.T Description | Radar-Based, Outdoor<br>Perimeter Security Sensor |
| Type              | SR150F                                            |
| Serial Number:    | Not designated                                    |

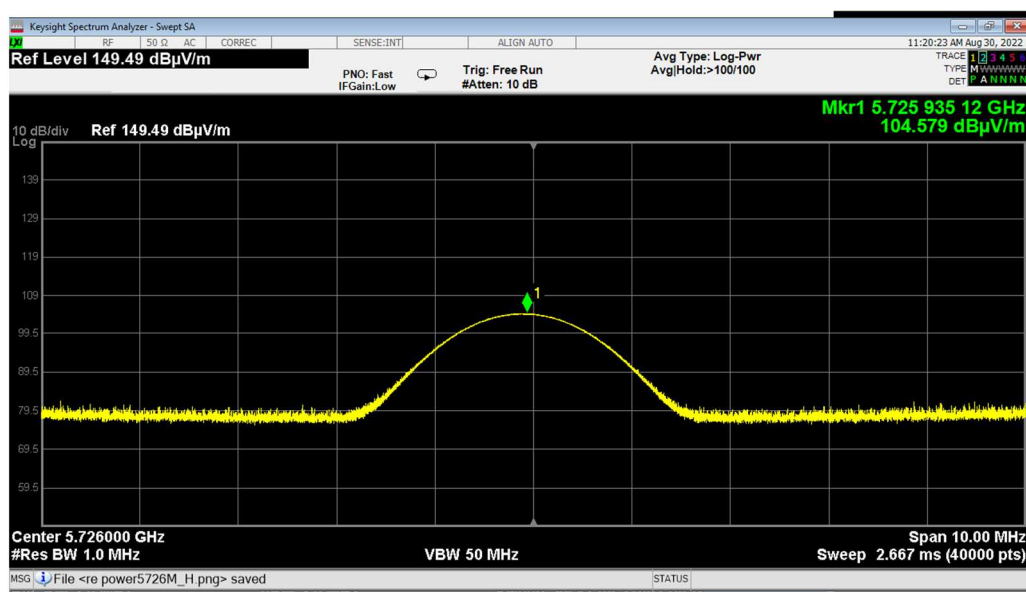


Figure 29 Low, Vertical

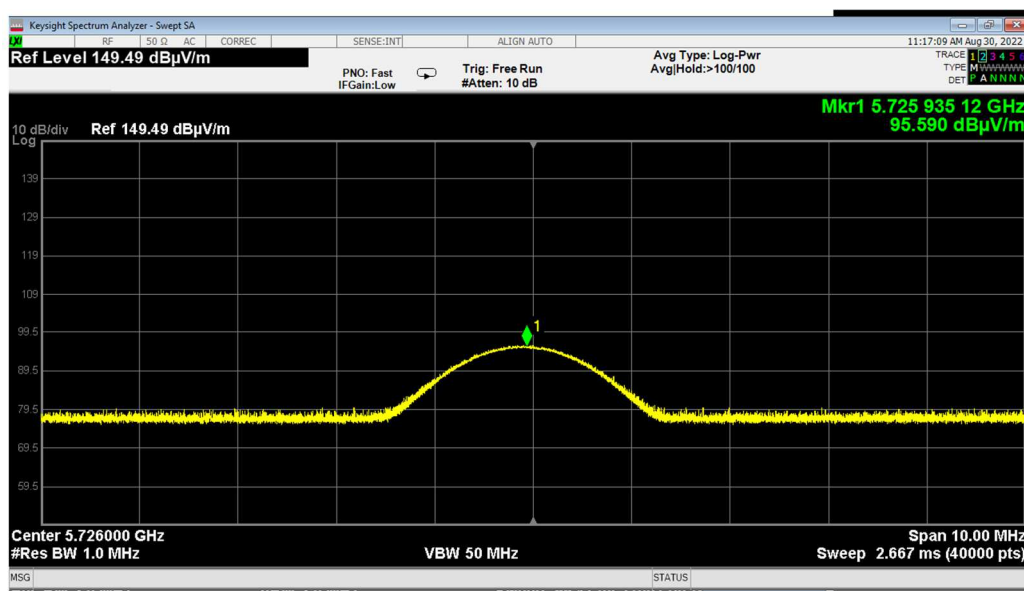


Figure 30 Low, Horizontal



## Peak Output Power

|                   |                                                   |
|-------------------|---------------------------------------------------|
| E.U.T Description | Radar-Based, Outdoor<br>Perimeter Security Sensor |
| Type              | SR150F                                            |
| Serial Number:    | Not designated                                    |

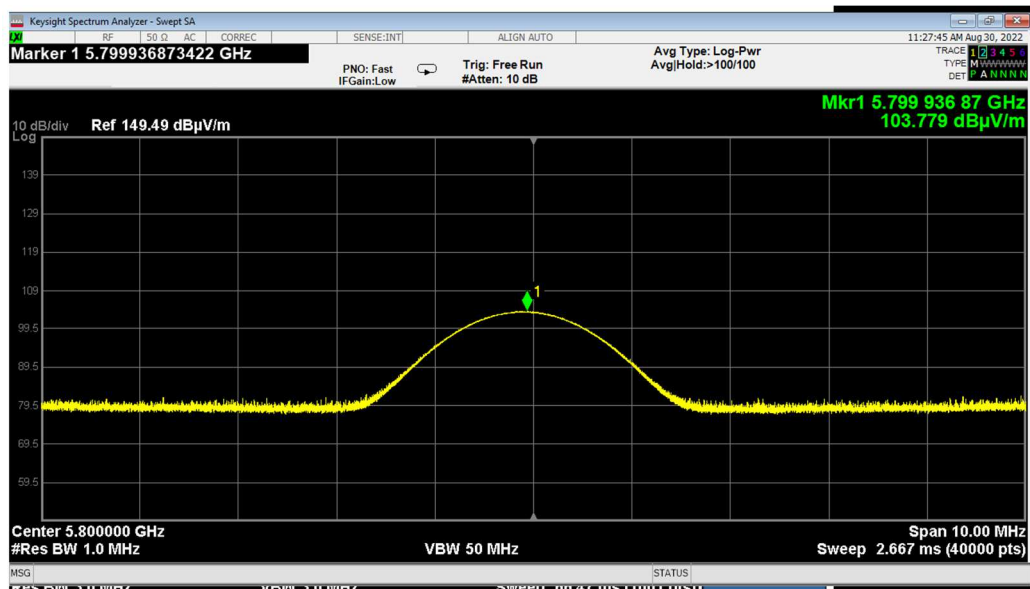


Figure 31 Mid, Vertical

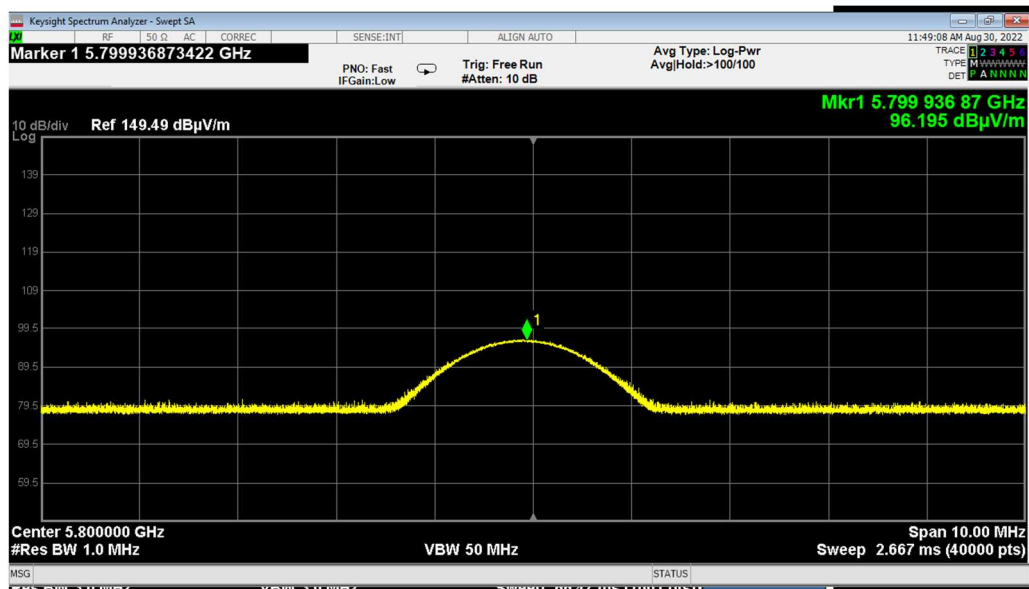


Figure 32 Mid, Horizontal

## Peak Output Power

E.U.T Description Radar-Based, Outdoor  
Perimeter Security Sensor  
Type SR150F  
Serial Number: Not designated

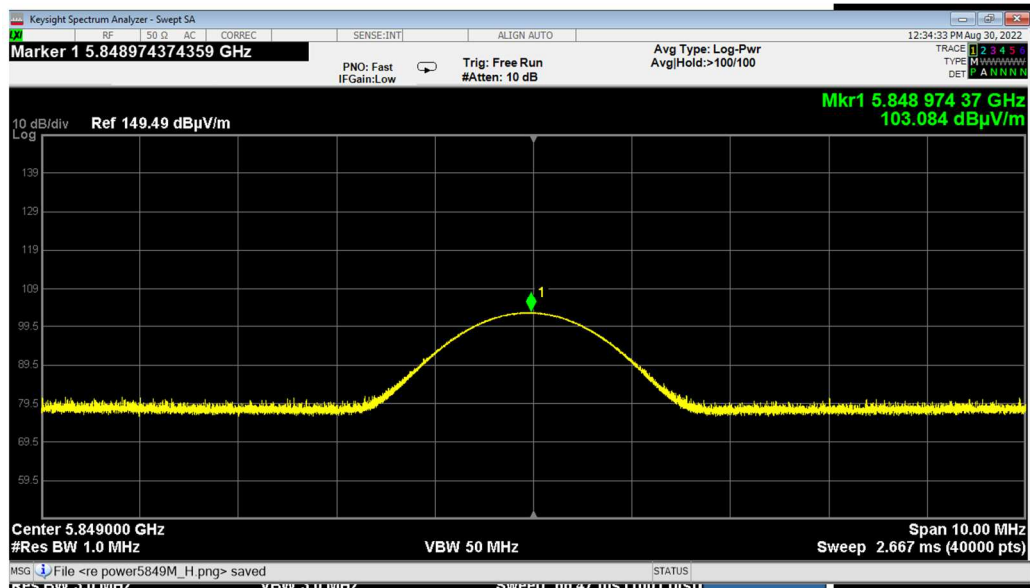


Figure 33 High, Vertical

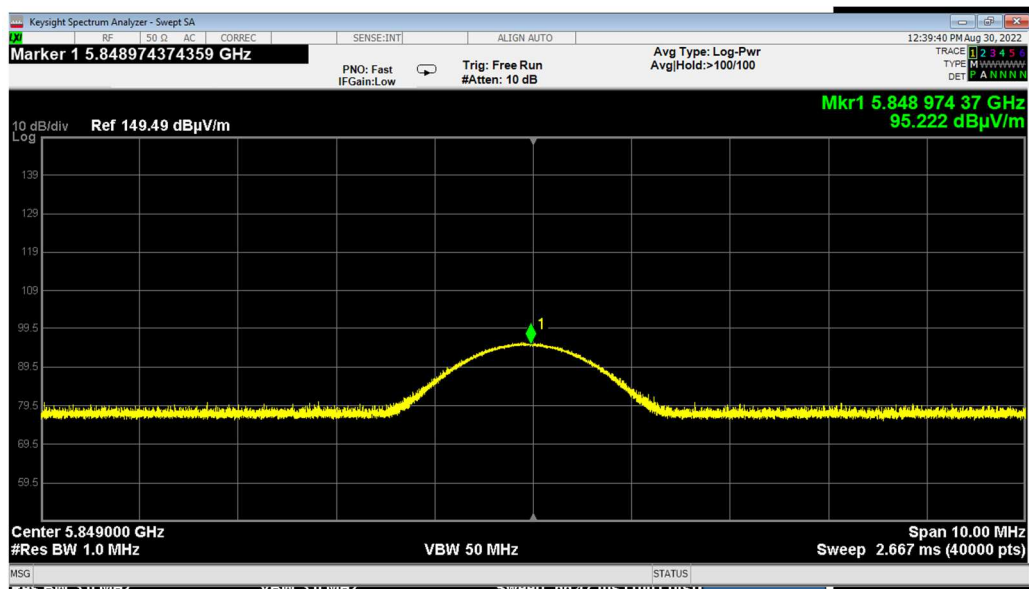


Figure 34 High, Horizontal



## 9.5 Test Equipment Used, Peak Output Power

| Instrument                     | Manufacturer     | Model           | Serial No. | Last Calibration Date | Next Calibration Due |
|--------------------------------|------------------|-----------------|------------|-----------------------|----------------------|
| EMI Receiver                   | R&S              | ESCI7           | 100724     | February 20, 2022     | February 20, 2023    |
| Horn Antenna                   | ETS              | 3115            | 6142       | May 25, 2021          | May 25, 2024         |
| RF Cable                       | Commscope<br>ORS | 0623<br>WBC-400 | G020133    | May 16, 2022          | May 16, 2023         |
| full Anechoic<br>Civil Chamber | ETS              | S81             | SL 11643   | NCR                   | NCR                  |

Figure 35 Test Equipment Used



## 10 Dwell Time on Each Channel

### 10.1 Test Specification

FCC Part 15, sub part C, Section 15.247(a)(1)(ii)

### 10.2 Test Procedure

(Temperature (22°C)/ Humidity (55%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report.

The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.

The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3-meter distance from testing antenna.

The spectrum analyzer was set to the following parameters:

- Span = zero span, centered on a hopping channel, RBW  $\geq$  1MHz
- Detector Function: Peak, Trace: Maximum Hold

### 10.3 Test Limit

The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

### 10.4 Test Results

JUDGEMENT: Passed

The E.U.T met the requirements of the FCC Part 15, Section 15.247(a)(1)(ii) and RSS 247, Issue 2, clause 5.1(e).

Additional information of the results is given in *Figure 36* to *Figure 37*.

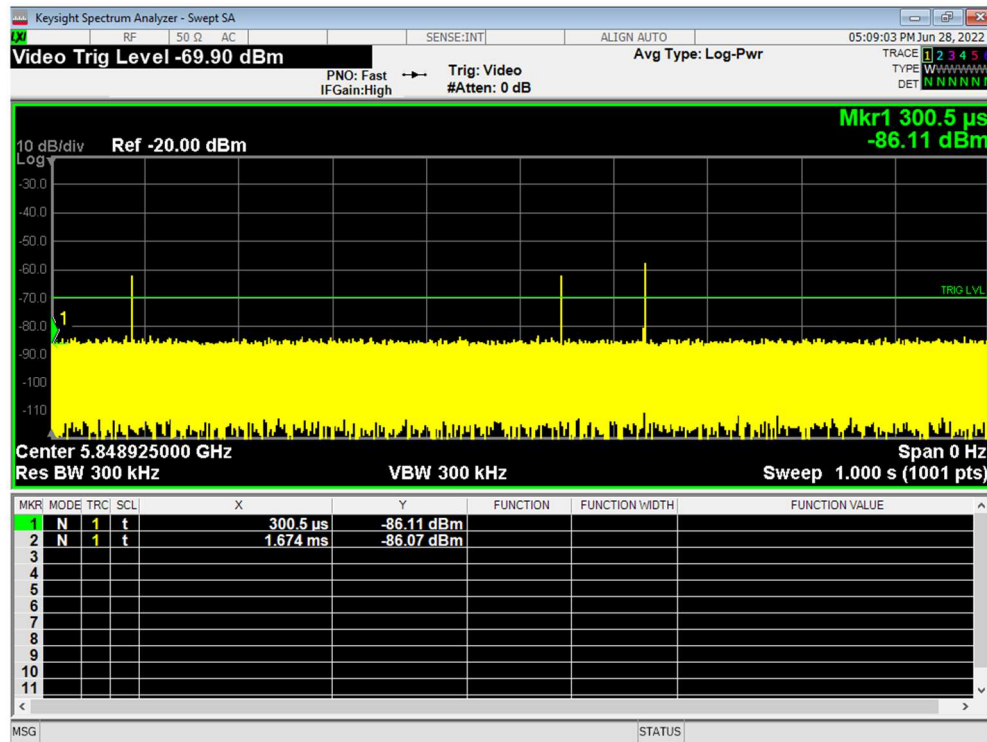


Figure 36 Number of Bursts in 1sec=4, in 30sec=120

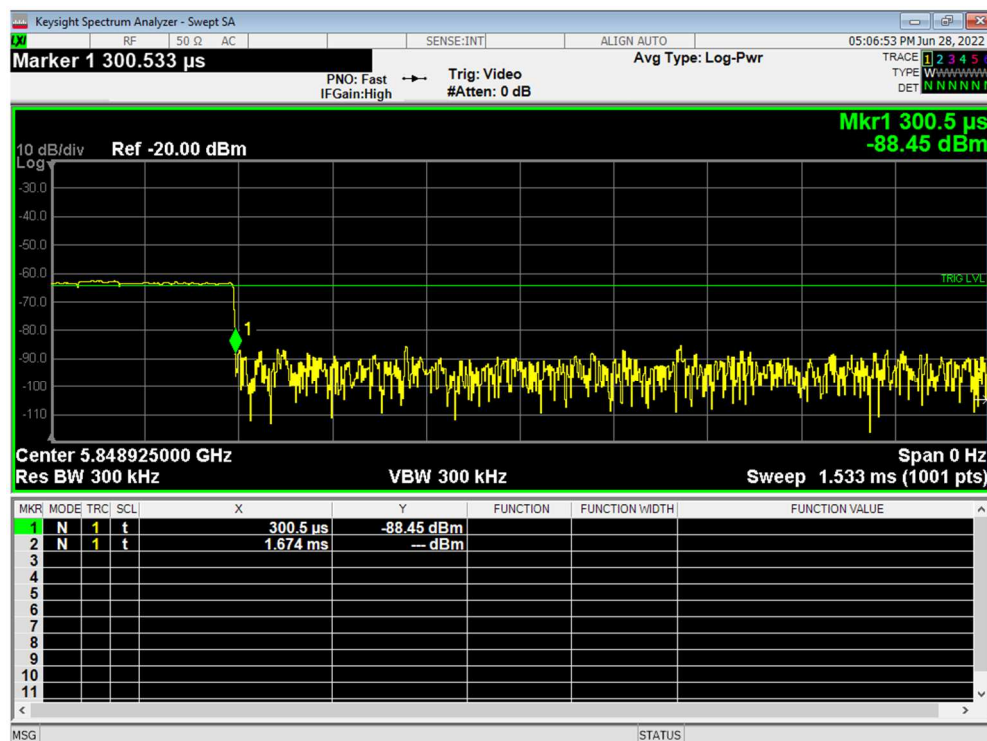


Figure 37 Burst Duration1 =0.3ms  
Dwell Time = 0.3msec\*120= 36msec<0.4s



### 10.5 Test Equipment Used, Dwell Time on Each Channel

| Instrument                     | Manufacturer     | Model           | Serial No. | Last Calibration Date | Next Calibration Due |
|--------------------------------|------------------|-----------------|------------|-----------------------|----------------------|
| EMI Receiver                   | R&S              | ESCI7           | 100724     | February 20, 2022     | February 20, 2023    |
| Horn Antenna                   | ETS              | 3115            | 6142       | May 25, 2021          | May 25, 2024         |
| RF Cable                       | Commscope<br>ORS | 0623<br>WBC-400 | G020133    | May 16, 2022          | May 16, 2023         |
| Full Anechoic<br>Civil Chamber | ETS              | S81             | SL 11643   | NCR                   | NCR                  |

Figure 38 Test Equipment Used

## 11 Band Edge

### 11.1 Test Specification

FCC Part 15, Section 15.247(d)

### 11.2 Test Procedure

(Temperature (22°C)/ Humidity (55%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T was tested in the chamber, placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and a

3 meter distance from testing antenna.

The transmitter unit operated in 2 modes: hopping enabled and hopping disabled.

The RBW was set to 100 kHz.

The display line was set to 20 dBc

The E.U.T. was tested at the lower and the upper channels.

### 11.3 Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

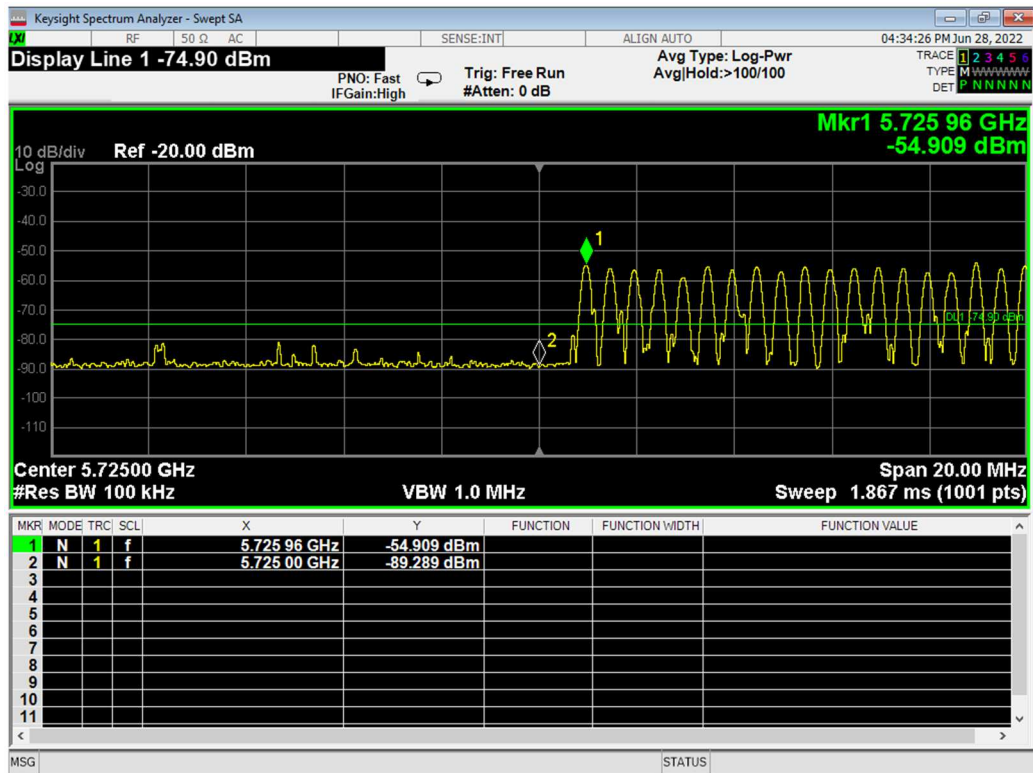
### 11.4 Test Results

| Mode        | Operation Frequency | Band Edge Frequency | Spectrum Level | Limit | Margin |
|-------------|---------------------|---------------------|----------------|-------|--------|
|             | (MHz)               | (MHz)               | (dBm)          | (dBm) | (dB)   |
| Hopping     | 5726.0              | 5725.0              | -89.2          | -74.9 |        |
|             | 5849.0              | 5850.0              | -89.0          | -76.2 |        |
| Non-Hopping | 5726.0              | 5725.0              | -70.0          | -49.0 |        |
|             | 5849.0              | 5850.0              | -73.0          | -49.0 |        |

Figure 39 Band Edge Test Results

JUDGEMENT: Passed by 3.4 dB

For additional information see *Figure 40 to Figure 43*.



### Figure 40 Hopping, Lower Band Edge

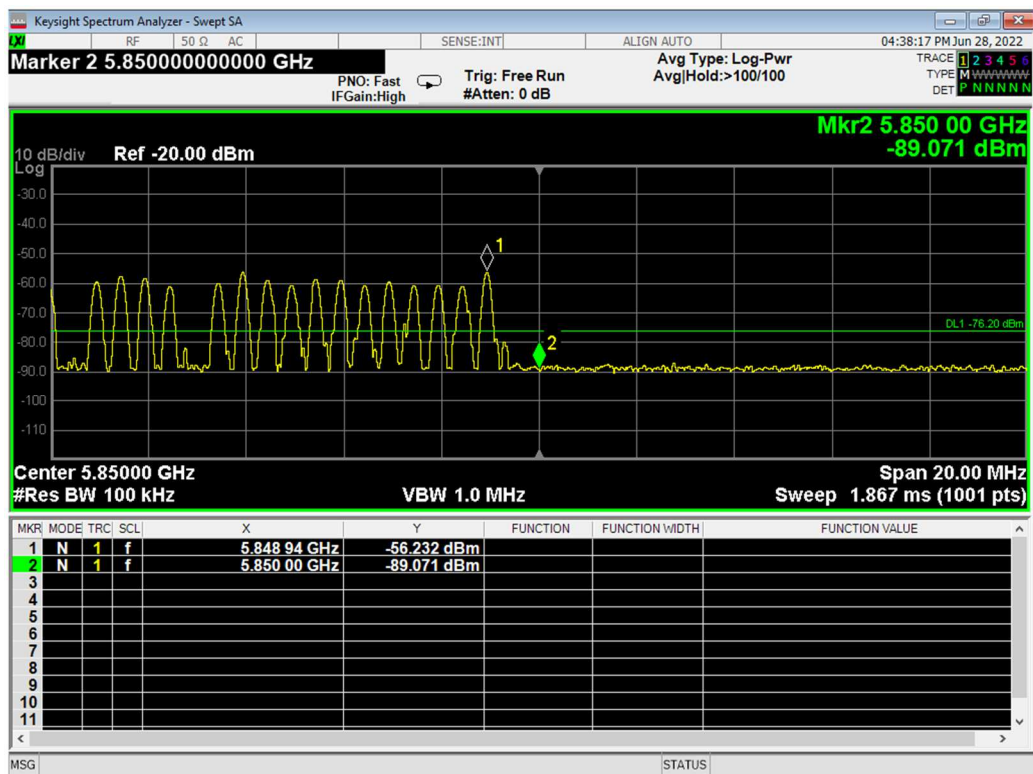


**Figure 41 Hopping, Higher Band Edge**

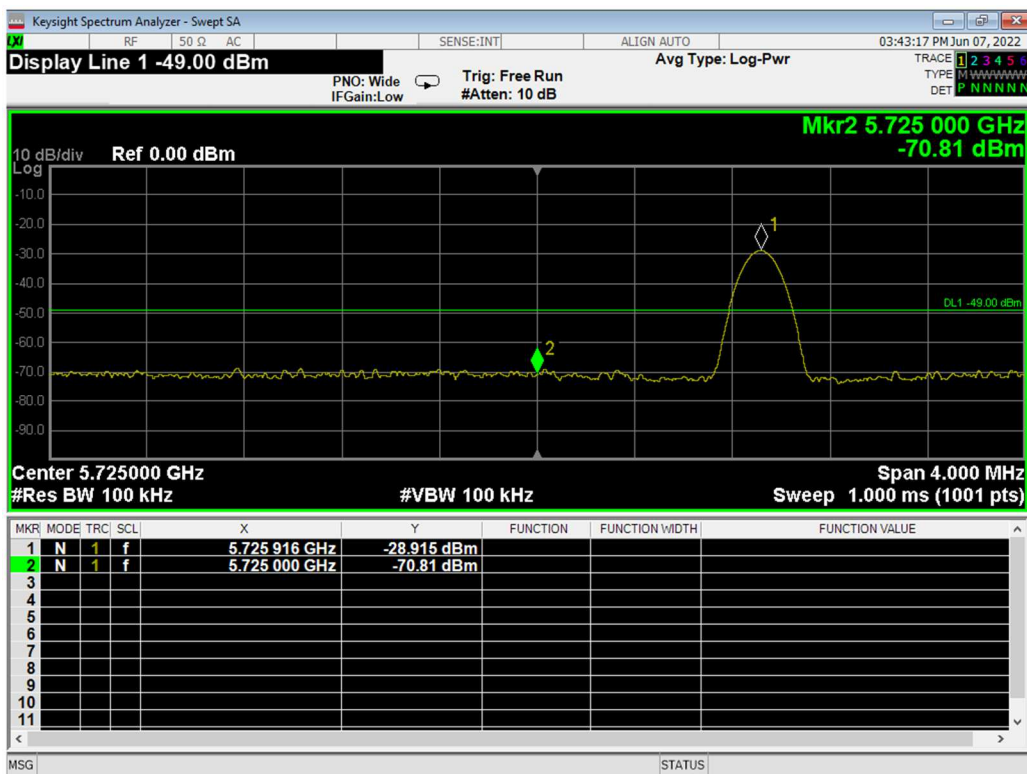


Figure 42 Non-Hopping, Lower Band Edge

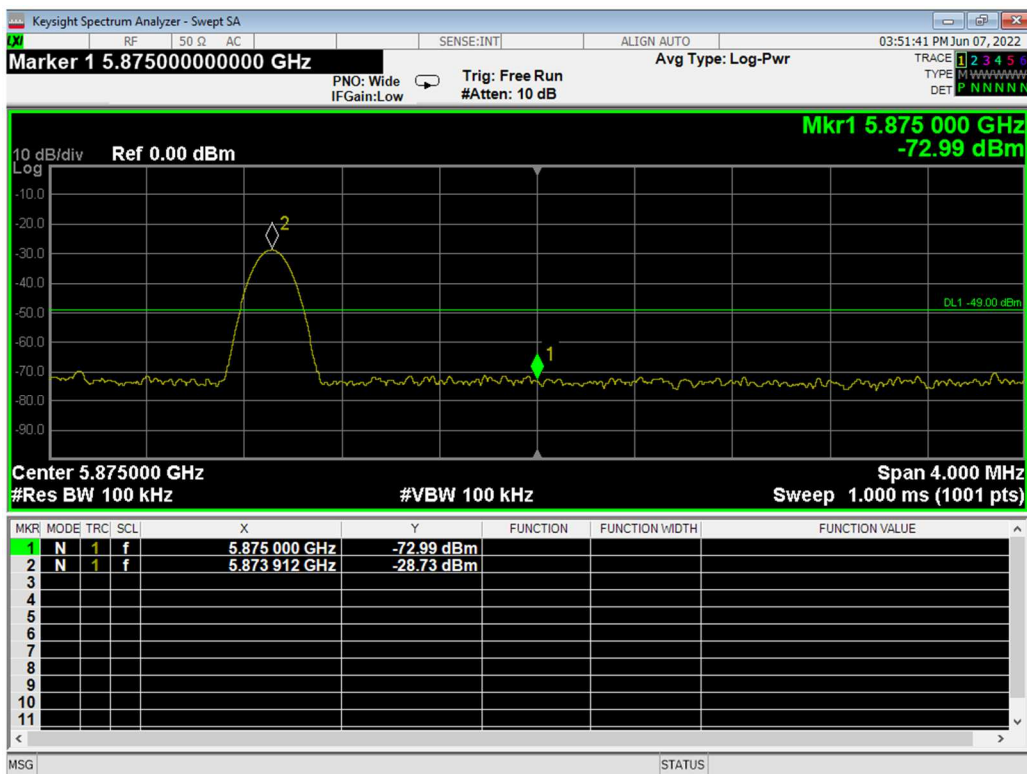


Figure 43 Non-Hopping, Higher Band Edge



## 11.5 Test Equipment Used, Band Edge

| Instrument                     | Manufacturer     | Model           | Serial No. | Last Calibration Date | Next Calibration Due |
|--------------------------------|------------------|-----------------|------------|-----------------------|----------------------|
| EMI Receiver                   | R&S              | ESCI7           | 100724     | February 20, 2022     | February 20, 2023    |
| Horn Antenna                   | ETS              | 3115            | 6142       | May 25, 2021          | May 25, 2024         |
| RF Cable                       | Commscope<br>ORS | 0623<br>WBC-400 | G020133    | May 16, 2022          | May 16, 2023         |
| Full Anechoic<br>Civil Chamber | ETS              | S81             | SL 11643   | NCR                   | NCR                  |

Figure 44 Test Equipment Used

## 12 Emissions in non-Restricted Frequency Bands

### 12.1 Test Specification

FCC, Part 15, Subpart C, Section 247(d)

### 12.2 Test Procedure

(Temperature (22°C)/ Humidity (55%RH))

The E.U.T. operation mode and test set-up are as described in Section 2 of this report.

#### **For measurements between 0.009MHz-30MHz:**

The E.U.T was tested inside the shielded room and placed on a non-metallic table, 0.8 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.

The frequency range 0.009MHz-30MHz was scanned.

#### **For measurements between 30.0MHz-1.0GHz:**

A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization. The frequency range 30.0MHz -1.0GHz was scanned and the list of the highest emissions was verified and updated accordingly.

#### **For measurements between 1.0GHz-40.0GHz:**

The E.U.T was tested inside the shielded room and placed on a non-metallic table, 1.5 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.

The frequency range 1.0GHz -40.0GHz was scanned.

RBW was set to 100 kHz and detector set to max peak and trace to “max hold”.

### 12.3 Test Limit

“In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.”

### 12.4 Test Results

JUDGEMENT: Passed



The EUT met the requirements of the FCC Part 15, Subpart C, Section 247 (d) specification –

all detected emissions were greater than 20 dBc below the fundamental level.

## 12.5 Test Equipment Used, Emissions in Non-Restricted Frequency Bands

| Instrument                         | Mfr.            | Model                | Serial No. | Last Calibration | Calibration Due |
|------------------------------------|-----------------|----------------------|------------|------------------|-----------------|
| Active Loop Antenna                | EMCO            | 6502                 | 2950       | 05-Jul 2022      | 05-Jul 2023     |
| Low Noise Amplifier                | Narda           | DBS-0411N313         | 13         | 16-May 2022      | 16-May 2023     |
| Filter Band pass 8-16 GHz          | Serno           | MFR01341-HI-3816JJ-1 | 322        | 16-May 2022      | 16-May 2023     |
| Spectrum Analyzer                  | HP              | 8564E                | 3442A00275 | 23-Feb 2022      | 23-Feb 2023     |
| EMI Receiver                       | HP (Agilent)    | 8542E                | 3906A00276 | 22-Feb 2022      | 22-Feb 2023     |
| RF Filter                          | HP (Agilent)    | 85420E               | 3705A00248 | 22-Feb 2022      | 22-Feb 2023     |
| Wideband RF Amplifier 100K-26.5GHz | OSR             | -                    | -          | May 16, 2022     | May 16, 2023    |
| Log-periodic Antenna               | EMCO            | 3146                 | 9505-4081  | 27-Apr 2021      | 27-Apr 2024     |
| Horn Antenna                       | ETS             | 3115                 | 29845      | 25-May 2021      | 25-May 2024     |
| Horn Antenna                       | ARA             | SWH-28               | 1007       | 02-Nov 2021      | 02-Nov 2024     |
| Biconical Antenna                  | EMCO            | 3110B                | 9912-3337  | 18-Jan 2022      | 18-Jan 2024     |
| Multi device Controller            | EMCO            | 2090                 | 9908-1456  | NCR              | NCR             |
| RF Amplifier                       | MIT             | 50-8P                | AFSX4      | NCR              | NCR             |
| LOD full anechoic Civil Chamber    | ETS             | S81                  | SL 11643   | NCR              | NCR             |
| EMI Test Receiver                  | Rohde & Schwarz | ESCI7                | 100724     | 20-Feb 2022      | 20-Feb 2023     |



| Instrument                         | Mfr.                    | Model                 | Serial No. | Last Calibration  | Calibration Due   |
|------------------------------------|-------------------------|-----------------------|------------|-------------------|-------------------|
| LNA Horn Antenna amplifier Ka band | OSR Electronics (Serge) | PE9850R-20            | J202021732 | 16-May 2022       | 16-May 2025       |
| 10 m RF cable                      | Commscope ORS (Serge)   | 0623 WBC-400          | G020132    | 25-May 2021       | 25-May 2022       |
| 35m coaxial cable for oats         | EIM (Huber Suhner)      | RG214-11N(X2) RG214/U | 0          | 22-Jun 2022       | 22-Jun 2023       |
| EMC Analyzer                       | HP Agilent/Keysight     | 8593EM                | 3826A00265 | February 20, 2022 | February 20, 2023 |
| Antenna Mast                       | ETS                     | 2070-2                | 9608-1497  | NCR               | NCR               |
| Turntable                          | ETS                     | 2087                  | -          | NCR               | NCR               |

**Figure 45 Test Equipment Used**



## 13 Emissions in Restricted Frequency Bands

### 13.1 Test Specification

FCC, Part 15, Subpart C, Sections 247(d), 15.205, 15.209

### 13.2 Test Procedure

(Temperature (22°C)/ Humidity (54%RH))

#### **For measurements between 0.009-30MHz:**

The E.U.T was tested inside the shielded room and placed on a non-metallic table, 0.8 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.

The frequency range 0.009MHz-30MHz was scanned.

#### **For measurements between 30-1000MHz:**

A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization. The frequency range 30MHz -1000MHz was scanned and the list of the highest emissions was verified and updated accordingly.

#### **For measurements between 1GHz-40GHz:**

The E.U.T was tested inside the shielded room and placed on a non-metallic table, 1.5 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.

The frequency range 1GHz -40GHz was scanned.

The levels of the emissions within the frequency ranges of the restricted bands (Section 15.205 of FCC Part 15) were compared to the limits of the table in Section 15.209 (a), General Requirements.

### 13.3 Test Limit

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) | Field strength* (dBμV/m) | Field strength* (dBμV/m)@3m |
|-----------------|-----------------------------------|-------------------------------|--------------------------|-----------------------------|
| 0.009-0.490     | 2400/F (kHz)                      | 300                           | 48.5-13.8                | 128.5-73.8                  |
| 0.490-1.705     | 24000/F (kHz)                     | 30                            | 33.8-23.0                | 73.8-63.0                   |
| 1.705-30.0      | 30                                | 30                            | 29.5                     | 69.5                        |
| 30-88           | 100                               | 3                             | 40.0                     | 40.0                        |
| 88-216          | 150                               | 3                             | 43.5                     | 43.5                        |
| 216-960         | 200                               | 3                             | 46.0                     | 46.0                        |
| Above 960       | 500                               | 3                             | 54.0                     | 54.0                        |

\*The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

### 13.4 Test Results

JUDGEMENT: Passed

The EUT met the requirements of the FCC Part 15, Subpart C 209 specification.

For additional information see Figure 46.



## Radiated Emission

E.U.T Description Radar-Based, Outdoor Perimeter Security Sensor  
Type SR150F  
Serial Number: Not designated

Specification: FCC, Part 15, Subpart C, Sections 15.209, 15.205, 15.247(d)

Antenna Polarization: Horizontal/Vertical Frequency Range: 9kHz to 40.0 GHz  
Protocol type: CW Detector: Peak, Average

| Operation Frequency | Freq.    | Pol.  | Peak Reading | Peak Limit | Peak Margin | Average Reading | Average Limit | Average Margin |
|---------------------|----------|-------|--------------|------------|-------------|-----------------|---------------|----------------|
| (MHz)               | (MHz)    | (H/V) | (dBμV/m)     | (dBμV/m)   | (dB)        | (dBμV/m)        | (dBμV/m)      | (dB)           |
| 5726.0              | 11,452.0 | V     | 59.4         | 74.0       | -14.6       | 15.0            | 54.0          | -39            |
|                     | 11,452.0 | H     | 59.8         | 74.0       | -14.2       | 15.4            | 54.0          | -38.6          |
| 5800.0              | 11,600.0 | V     | 60.1         | 74.0       | -13.9       | 15.7            | 54.0          | -38.3          |
|                     | 11,600.0 | H     | 59.4         | 74.0       | -14.6       | 15.0            | 54.0          | -39.0          |
| 5849.0              | 11,698.0 | V     | 60.5         | 74.0       | -13.5       | 16.1            | 54.0          | -37.9          |
|                     | 11,698.0 | H     | 61.6         | 74.0       | -12.4       | 17.2            | 54.0          | -36.8          |

**Figure 46. Radiated Emission Results**

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

“Peak Amp” includes correction factor.

\* “Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



### 13.5 Test Equipment Used, Emissions in Restricted Frequency Bands

| Instrument                         | Mfr.                    | Model                 | Serial No. | Last Calibration | Calibration Due |
|------------------------------------|-------------------------|-----------------------|------------|------------------|-----------------|
| Active Loop Antenna                | EMCO                    | 6502                  | 2950       | 05-Jul 2022      | 05-Jul 2023     |
| Low Noise Amplifier                | Narda                   | DBS-0411N313          | 13         | 16-May 2022      | 16-May 2023     |
| Filter Band pass 8-16 GHz          | Serno                   | MFR0134 1-HI-3816JJ-1 | 322        | 16-May 2022      | 16-May 2023     |
| Spectrum Analyzer                  | HP                      | 8564E                 | 3442A00275 | 23-Feb 2022      | 23-Feb 2023     |
| EMI Receiver                       | HP (Agilent)            | 8542E                 | 3906A00276 | 22-Feb 2022      | 22-Feb 2023     |
| RF Filter                          | HP (Agilent)            | 85420E                | 3705A00248 | 22-Feb 2022      | 22-Feb 2023     |
| Wideband RF Amplifier 100K-26.5GHz | OSR                     | -                     | -          | May 16, 2022     | May 16, 2023    |
| Log-periodic Antenna               | EMCO                    | 3146                  | 9505-4081  | 27-Apr 2021      | 27-Apr 2024     |
| Horn Antenna                       | ETS                     | 3115                  | 29845      | 25-May 2021      | 25-May 2024     |
| Horn Antenna                       | ARA                     | SWH-28                | 1007       | 02-Nov 2021      | 02-Nov 2024     |
| Biconical Antenna                  | EMCO                    | 3110B                 | 9912-3337  | 18-Jan 2022      | 18-Jan 2024     |
| Multi device Controller            | EMCO                    | 2090                  | 9908-1456  | NCR              | NCR             |
| RF Amplifier                       | MIT                     | 50-8P                 | AFSX4      | NCR              | NCR             |
| LOD Semi anechoic Civil Chamber    | ETS                     | S81                   | SL 11643   | NCR              | NCR             |
| EMI Test Receiver                  | Rohde & Schwarz         | ESCI7                 | 100724     | 20-Feb 2022      | 20-Feb 2023     |
| LNA Horn Antenna amplifier Ka band | OSR Electronics (Serge) | PE9850R-20            | J202021732 | 16-May 2022      | 16-May 2025     |
| 10 m RF cable                      | Commscope ORS (Serge)   | 0623 WBC-400          | G020132    | 25-May 2021      | 25-May 2022     |



| Instrument                 | Mfr.               | Model                    | Serial No. | Last Calibration  | Calibration Due   |
|----------------------------|--------------------|--------------------------|------------|-------------------|-------------------|
| 35m coaxial cable for oats | EIM (Huber Suhner) | RG214-11N(X2)<br>RG214/U | 0          | 22-Jun 2022       | 22-Jun 2023       |
| EMC Analyzer               | HPAgilent/Keysight | 8593EM                   | 3826A00265 | February 20, 2022 | February 20, 2023 |
| Antenna Mast               | ETS                | 2070-2                   | 9608-1497  | NCR               | NCR               |
| Turntable                  | ETS                | 2087                     | -          | NCR               | NCR               |

**Figure 47 Test Equipment Used**

## 14 Average Factor Calculation

1. Pulse period = 1 (worst scenario)
2. Pulse duration = 1 (worst scenario)
3. Burst duration = 0.3 msec
4. Average Factor =  $20 \log \left[ \frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{burst duration}}{100 \text{ msec}} \right] \times$   
 $\text{Num of burst within 100 msec} = 20 \log [1 * (0.3 * 2 / 100)] = -44.4 \text{ dB}$

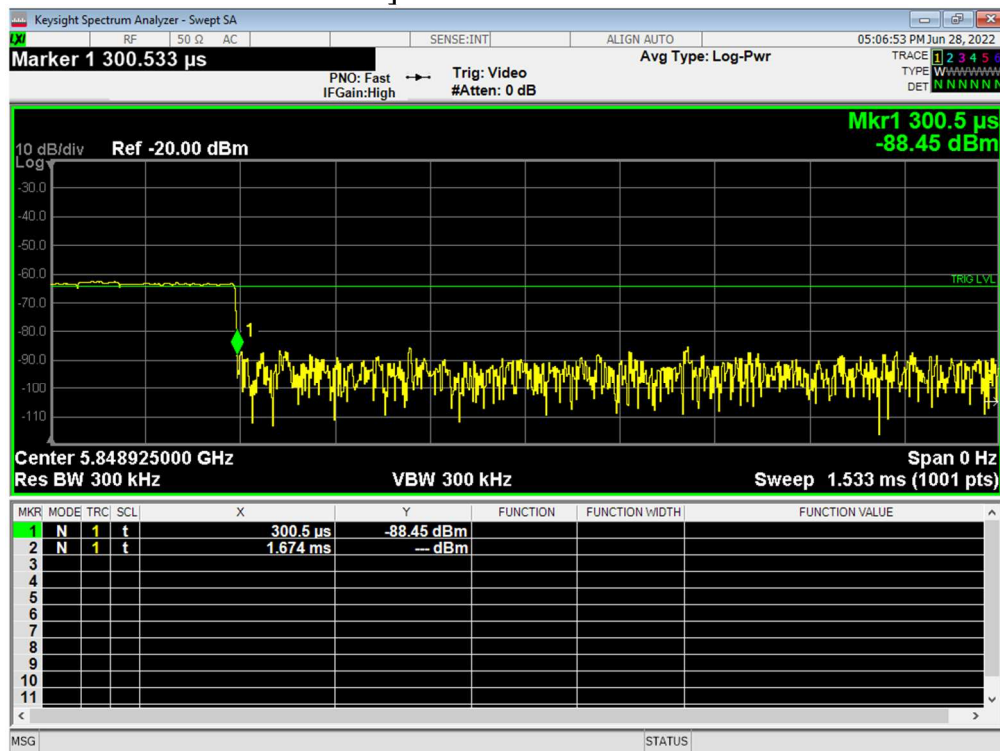


Figure 48 — Burst Duration =0.3ms

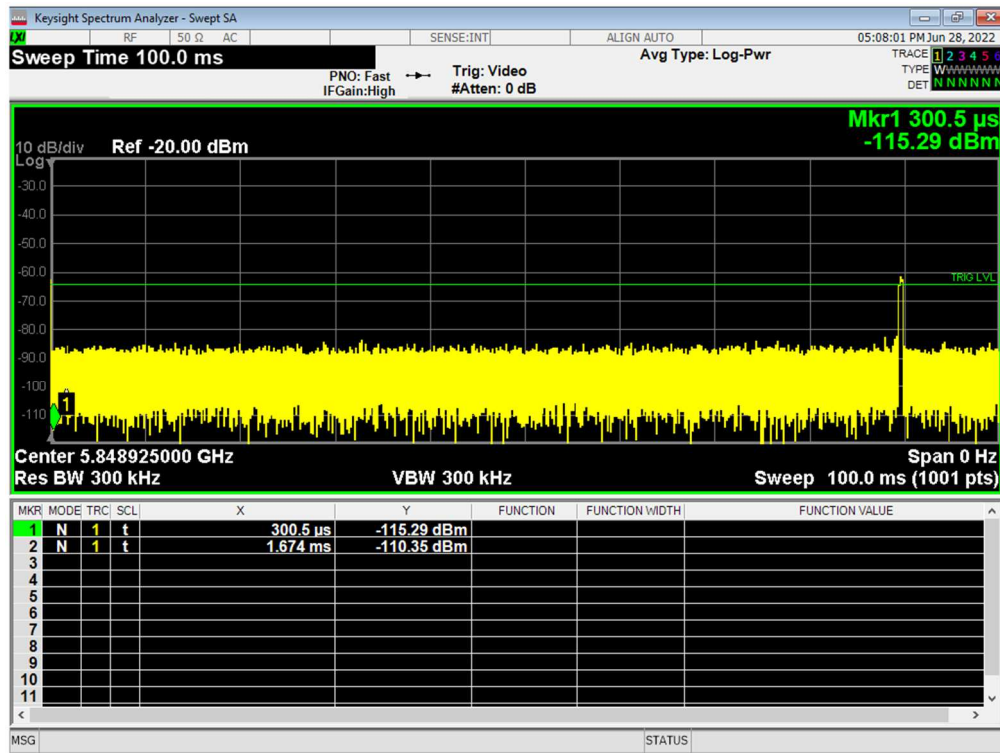


Figure 49. Number of Bursts in 100msec=2

## 14.1 Test Equipment Used, Average Factor

| Instrument                  | Manufacturer     | Model           | Serial No. | Last Calibration Date | Next Calibration Due |
|-----------------------------|------------------|-----------------|------------|-----------------------|----------------------|
| EMI Receiver                | R&S              | ESCI7           | 100724     | February 20, 2022     | February 20, 2023    |
| Horn Antenna                | ETS              | 3115            | 6142       | May 25, 2021          | May 25, 2024         |
| RF Cable                    | Commscope<br>ORS | 0623<br>WBC-400 | G020133    | May 16, 2022          | May 16, 2023         |
| Full Anechoic Civil Chamber | ETS              | S81             | SL 11643   | NCR                   | NCR                  |

Figure 50 Test Equipment Used



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## 15 Antenna Gain/Information

The antenna gain is 9 dBi, patch.

## 16 R.F Exposure/Safety

See a separate file.



## 17 Appendix A - Correction Factors

### 17.1 ITL #1911: OATS RF Cable

| Frequency (MHz) | Cable Loss (dB) |  | Frequency (MHz) | Cable Loss (dB) |
|-----------------|-----------------|--|-----------------|-----------------|
| 1.00            | 0.50            |  | 450.00          | 5.83            |
| 10.00           | 1.00            |  | 500.00          | 6.33            |
| 20.00           | 1.34            |  | 550.00          | 6.67            |
| 30.00           | 1.50            |  | 600.00          | 6.83            |
| 50.00           | 1.83            |  | 650.00          | 7.17            |
| 100.00          | 2.67            |  | 700.00          | 7.66            |
| 150.00          | 3.17            |  | 750.00          | 7.83            |
| 200.00          | 3.83            |  | 800.00          | 8.16            |
| 250.00          | 4.17            |  | 850.00          | 8.50            |
| 300.00          | 4.50            |  | 900.00          | 8.83            |
| 350.00          | 5.17            |  | 950.00          | 8.84            |
| 400.00          | 5.50            |  | 1000.00         | 9.00            |

### 17.2 ITL #1840: Semi-Anechoic Chamber RF Cable

| Frequency (MHz) | Cable Loss (dB) |  | Frequency (MHz) | Cable Loss (dB) |
|-----------------|-----------------|--|-----------------|-----------------|
| 1,000.0         | -1.40           |  | 10,000.0        | -6.00           |
| 1,500.0         | -1.70           |  | 10,500.0        | -6.20           |
| 2,000.0         | -2.00           |  | 11,000.0        | -6.20           |
| 2,500.0         | -2.30           |  | 11,500.0        | -6.00           |
| 3,000.0         | -2.60           |  | 12,000.0        | -6.00           |
| 3,500.0         | -2.80           |  | 12,500.0        | -6.10           |
| 4,000.0         | -3.10           |  | 13,000.0        | -6.30           |
| 4,500.0         | -3.30           |  | 13,500.0        | -6.50           |
| 5,000.0         | -3.60           |  | 14,000.0        | -6.70           |
| 5,500.0         | -3.70           |  | 14,500.0        | -7.00           |
| 6,000.0         | -4.00           |  | 15,000.0        | -7.30           |
| 6,500.0         | -4.40           |  | 15,500.0        | -7.50           |
| 7,000.0         | -4.7            |  | 16,000.0        | -7.60           |
| 7,500.0         | -4.80           |  | 16,500.0        | -8.00           |
| 8,000.0         | -5.00           |  | 17,000.0        | -8.00           |
| 8,500.0         | -5.10           |  | 17,500.0        | -8.10           |
| 9,000.0         | -5.60           |  | 18,000.0        | -8.20           |
| 9,500.0         | -5.80           |  |                 |                 |

### 17.3 ITL # 1075: Active Loop Antenna

| Frequency (MHz) | MAF (dBs/m) | AF (dB/m) | Frequency (MHz) | MAF (dBs/m) | AF (dB/m) |
|-----------------|-------------|-----------|-----------------|-------------|-----------|
| 0.01            | -33.10      | 18.40     | 3.00            | -40.00      | 11.50     |
| 0.02            | -37.20      | 14.30     | 4.00            | -40.10      | 11.40     |
| 0.03            | -38.20      | 13.30     | 5.00            | -40.20      | 11.30     |
| 0.05            | -39.80      | 11.70     | 6.00            | -40.40      | 11.10     |
| 0.10            | -40.10      | 11.40     | 7.00            | -40.40      | 11.10     |
| 0.20            | -40.30      | 11.20     | 8.00            | -40.40      | 11.10     |
| 0.30            | -40.30      | 11.20     | 9.00            | -40.50      | 11.00     |
| 0.50            | -40.30      | 11.20     | 10.00           | -40.50      | 11.00     |
| 0.70            | -40.30      | 11.20     | 20.00           | -41.50      | 10.00     |
| 1.00            | -40.10      | 11.40     | 30.00           | -43.50      | 8.00      |
| 2.00            | -40.00      | 11.50     |                 |             |           |

### 17.4 ITL #1356: Biconical Antenna

| Frequency (MHz) | AF (dB/m) | Frequency (MHz) | AF (dB/m) |
|-----------------|-----------|-----------------|-----------|
| 30.00           | 13.00     | 90.00           | 8.23      |
| 35.00           | 10.89     | 100.00          | 11.12     |
| 40.00           | 10.59     | 120.00          | 13.16     |
| 45.00           | 10.63     | 140.00          | 13.07     |
| 50.00           | 10.12     | 160.00          | 14.80     |
| 60.00           | 9.26      | 180.00          | 16.95     |
| 70.00           | 7.74      | 200.00          | 17.17     |
| 80.00           | 6.63      |                 |           |

### 17.5 ITL # 1349: Log Periodic Antenna

| Frequency (MHz) | AF (dB/m) |
|-----------------|-----------|
| 200.00          | 11.58     |
| 250.00          | 12.04     |
| 300.00          | 14.76     |
| 400.00          | 15.55     |
| 500.00          | 17.85     |
| 600.00          | 18.66     |
| 700.00          | 20.87     |
| 800.00          | 21.15     |
| 900.00          | 22.32     |
| 1000.00         | 24.22     |

## 17.6 ITL # 1352: 1-18 GHz Horn Antenna

| Frequency (GHz) | AF (dB/m) |  | Frequency (GHz) | AF (dB/m) |
|-----------------|-----------|--|-----------------|-----------|
| 0.75            | 25.00     |  | 9.50            | 38.00     |
| 1.00            | 23.50     |  | 10.00           | 38.50     |
| 1.50            | 26.00     |  | 10.50           | 38.50     |
| 2.00            | 29.00     |  | 11.00           | 38.50     |
| 2.50            | 27.50     |  | 11.50           | 38.50     |
| 3.00            | 30.00     |  | 12.00           | 38.00     |
| 3.50            | 31.50     |  | 12.50           | 38.50     |
| 4.00            | 32.50     |  | 13.00           | 40.00     |
| 4.50            | 32.50     |  | 13.50           | 41.00     |
| 5.00            | 33.00     |  | 14.00           | 40.00     |
| 5.50            | 35.00     |  | 14.50           | 39.00     |
| 6.00            | 36.50     |  | 15.00           | 38.00     |
| 6.50            | 36.50     |  | 15.50           | 37.50     |
| 7.00            | 37.50     |  | 16.00           | 37.50     |
| 7.50            | 37.50     |  | 16.50           | 39.00     |
| 8.00            | 37.50     |  | 17.00           | 40.00     |
| 8.50            | 38.00     |  | 17.50           | 42.00     |
| 9.00            | 37.50     |  | 18.00           | 42.50     |

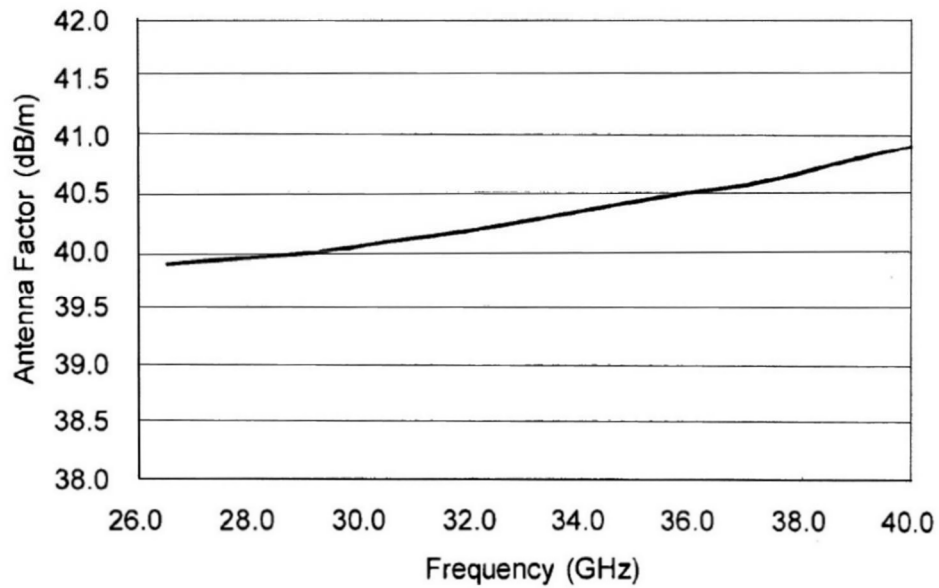
## 17.7 ITL # 1353: 18-26.5 GHz Horn Antenna

| Frequency (MHz) | Measured antenna factor (dB/m) <sup>1</sup> |  | Frequency (MHz) | Measured antenna factor (dB/m) <sup>1</sup> |
|-----------------|---------------------------------------------|--|-----------------|---------------------------------------------|
| 18,000.00       | 32.40                                       |  | 22,500.00       | 33.00                                       |
| 18,500.00       | 32.00                                       |  | 23,000.00       | 33.10                                       |
| 19,000.00       | 32.30                                       |  | 23,500.00       | 33.80                                       |
| 19,500.00       | 32.40                                       |  | 24,000.00       | 33.50                                       |
| 20,000.00       | 32.30                                       |  | 24,500.00       | 33.50                                       |
| 20,500.00       | 32.80                                       |  | 25,000.00       | 33.80                                       |
| 21,000.00       | 32.80                                       |  | 25,500.00       | 33.90                                       |
| 21,500.00       | 32.70                                       |  | 26,000.00       | 34.20                                       |
| 22,000.00       | 33.10                                       |  | 26,500.00       | 34.70                                       |

<sup>1</sup> The antenna factor shall be added to the receiver's reading in dBμV, to obtain field strength in dBμ V/m



### 17.1 ITL # 1777: 26.5-40 GHz Horn Antenna



**End of Test Report**