

## RSS-247 6.6 / FCC 15.247 (d) Emission limitations radiated (Transmitter)

### Limits

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)/RSS-Gen):

| Frequency Range (MHz) | Field strength ( $\mu\text{V/m}$ ) | Field strength ( $\text{dB}\mu\text{V/m}$ ) | Measurement distance (m) |
|-----------------------|------------------------------------|---------------------------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)                        | -                                           | 300                      |
| 0.490-1.705           | 24000/F(kHz)                       | -                                           | 30                       |
| 1.705 - 30.0          | 30                                 | -                                           | 30                       |
| 30 - 88               | 100                                | 40                                          | 3                        |
| 88 - 216              | 150                                | 43.5                                        | 3                        |
| 216 - 960             | 200                                | 46                                          | 3                        |
| Above 960             | 500                                | 54                                          | 3                        |

The emission limits shown in the above table are based on measurements employing 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.

RSS-247: Attenuation below the general field strength limits specified in RSS-Gen is not required.

### Frequency range tested for Radiated emissions:

Start frequency: no radiofrequency signal generated in the device found below 10<sup>th</sup> sub-harmonic, no further investigation required.

Stop frequency: it has been performed the radiated spurious emissions until 10<sup>th</sup> harmonic.

The setting for each range of frequency is indicated in the following tables:

| Subrange             | Step Size  | Detectors | Bandwidth | Sweep Time | Preamp |
|----------------------|------------|-----------|-----------|------------|--------|
| 30 MHz - 1 GHz       | 30,312 kHz | PK+       | 100 kHz   | 1 s        | 0 dB   |
| 1 GHz - 2,39 GHz     | 400 kHz    | PK+       | 1 MHz     | 0,01 s     | 0 dB   |
| 2,39 GHz - 2,484 GHz | 40 kHz     | PK+       | 100 kHz   | 0,01 s     | 0 dB   |
| 2,484 GHz - 3 GHz    | 400 kHz    | PK+       | 1 MHz     | 0,01 s     | 0 dB   |
| 3 GHz - 17 GHz       | 400 kHz    | PK+       | 1 MHz     | 0,01 s     | 0 dB   |
| 17 GHz - 26 GHz      | 300 kHz    | PK+ ; AVG | 1 MHz     | 1 s        | 0 dB   |

Frequency Range GHz = [0.03, 1]

The spurious frequencies detected do not depend on either the modulation or the operating channel.  
No spurious frequencies detected at less than 20 dB below the limit.

Verdict

Pass

Attachments

Frequency Range GHz = [0.03, 1]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

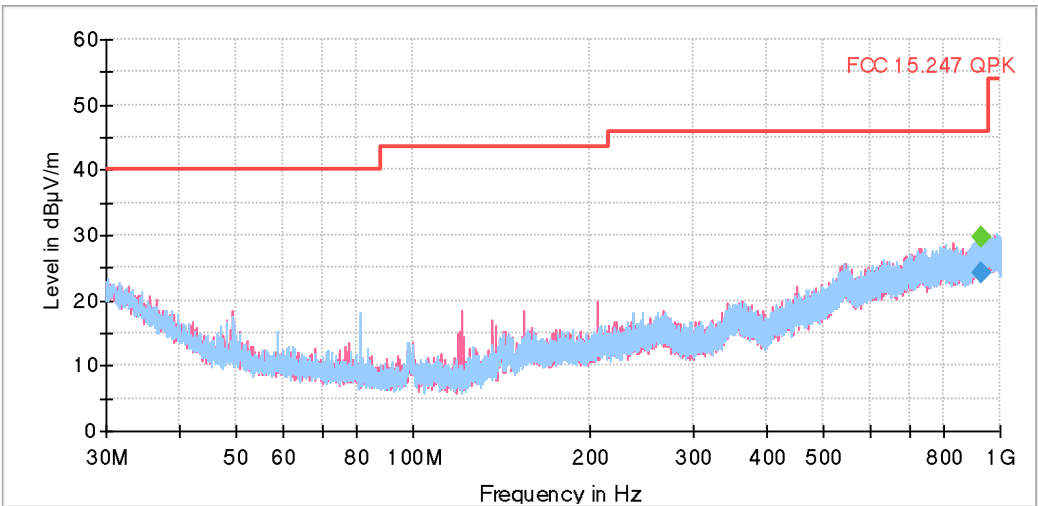
Modulation = The spurious frequencies detected do not depend on the modulation.

Frequency MHz = The spurious frequencies detected do not depend on the operating channel.

MIMO Mode = SISO

Active Port = 1

Images:



**Frequency Range GHz = [1, 17]**

Modulation: BT (GFSK 1-DH5)

**Results**

No spurious frequencies detected at less than 20 dB below the limit.

**Verdict**

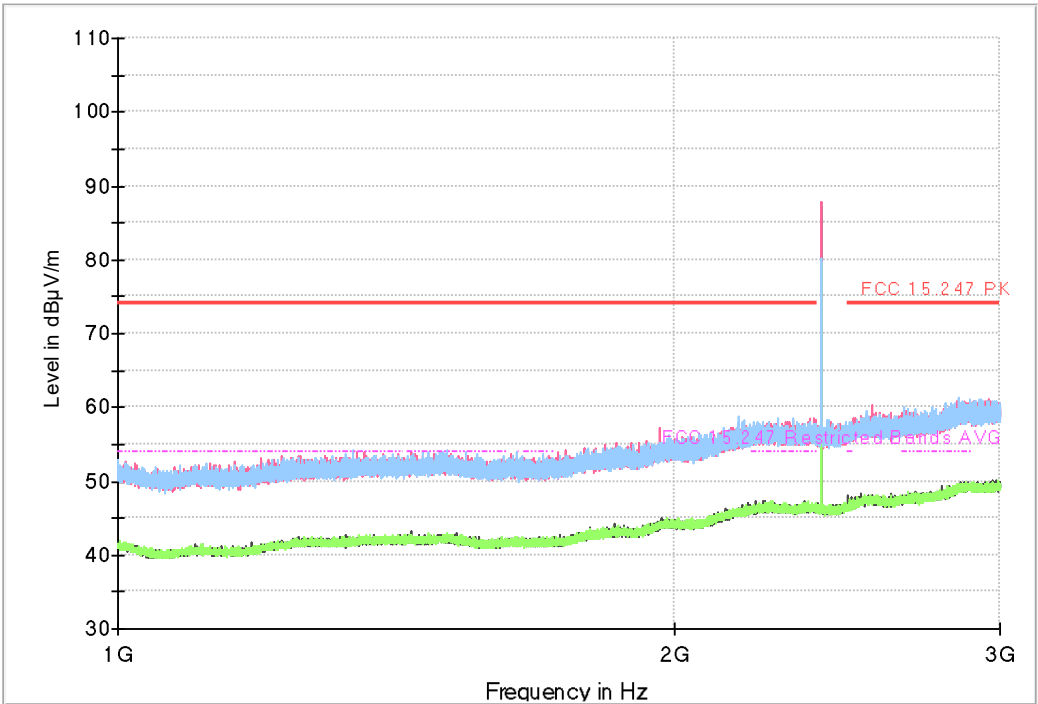
Pass

Attachments

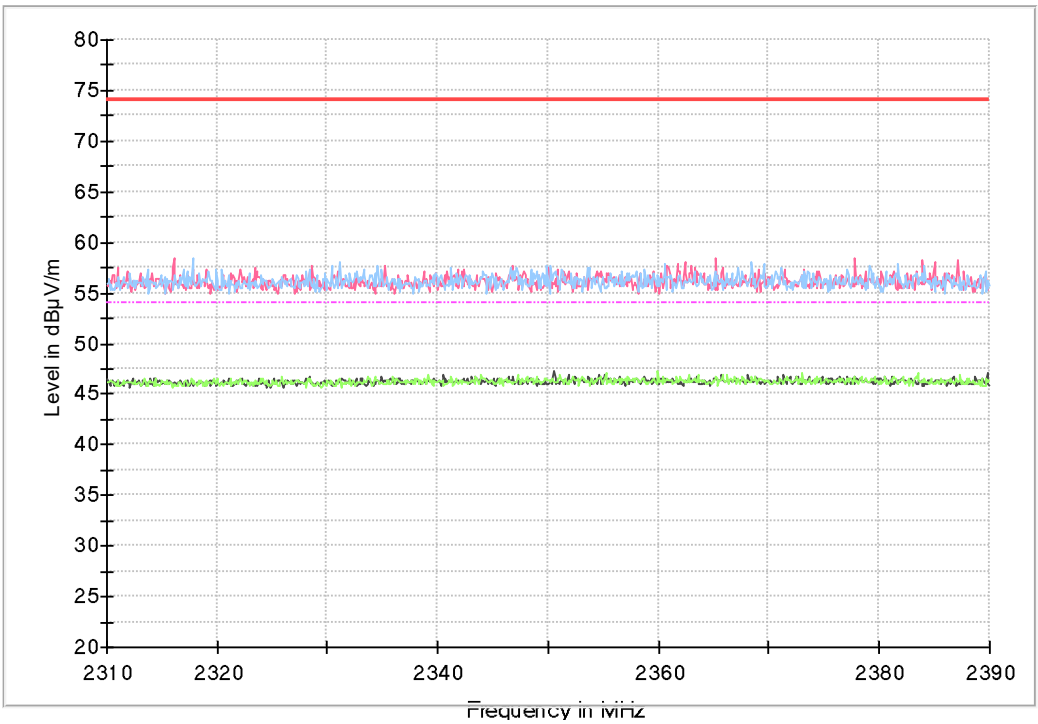
Frequency Range GHz = [1, 3]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (GFSK 1-DH5)      Frequency MHz = 2402.00000  
MIMO Mode = SISO      Active Port = 1

Images:

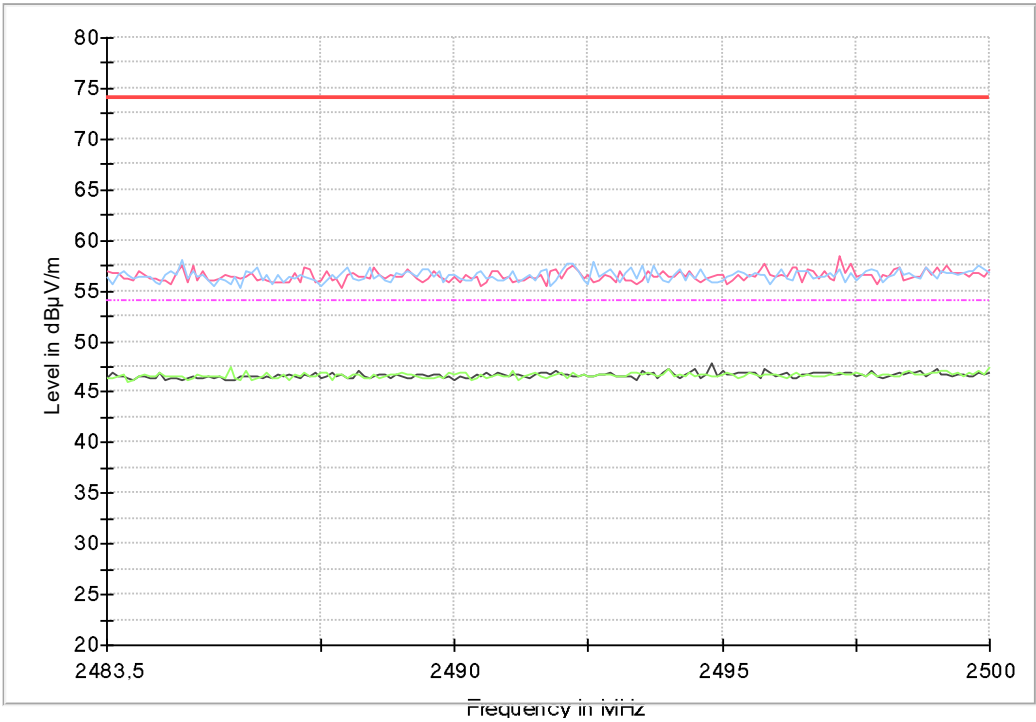
Full Spectrum



Full Spectrum



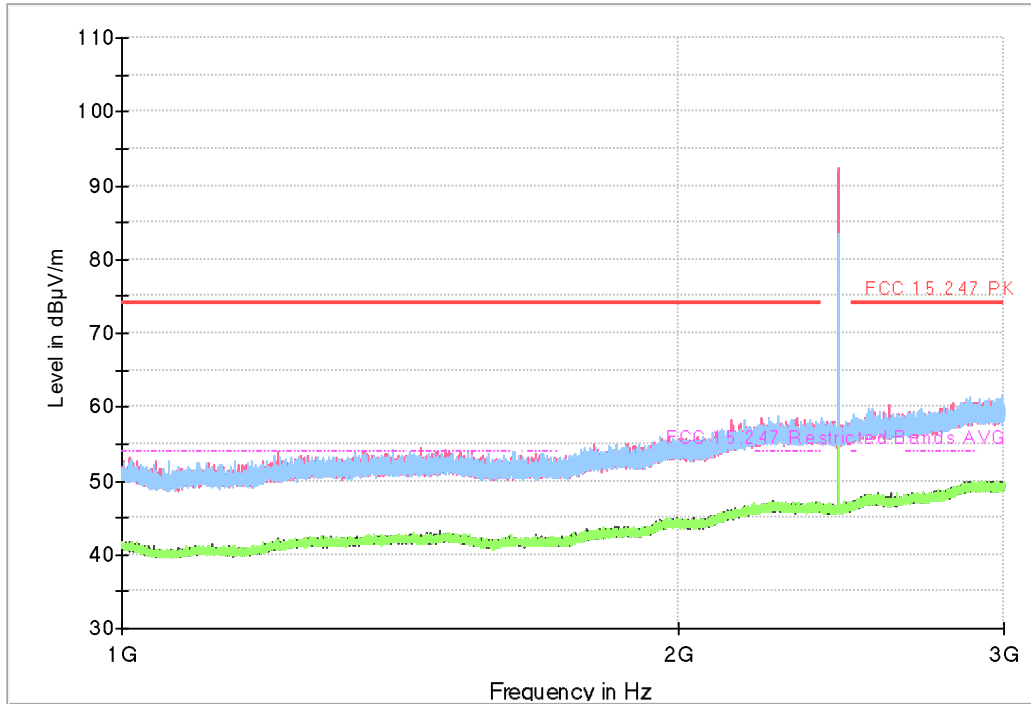
Full Spectrum



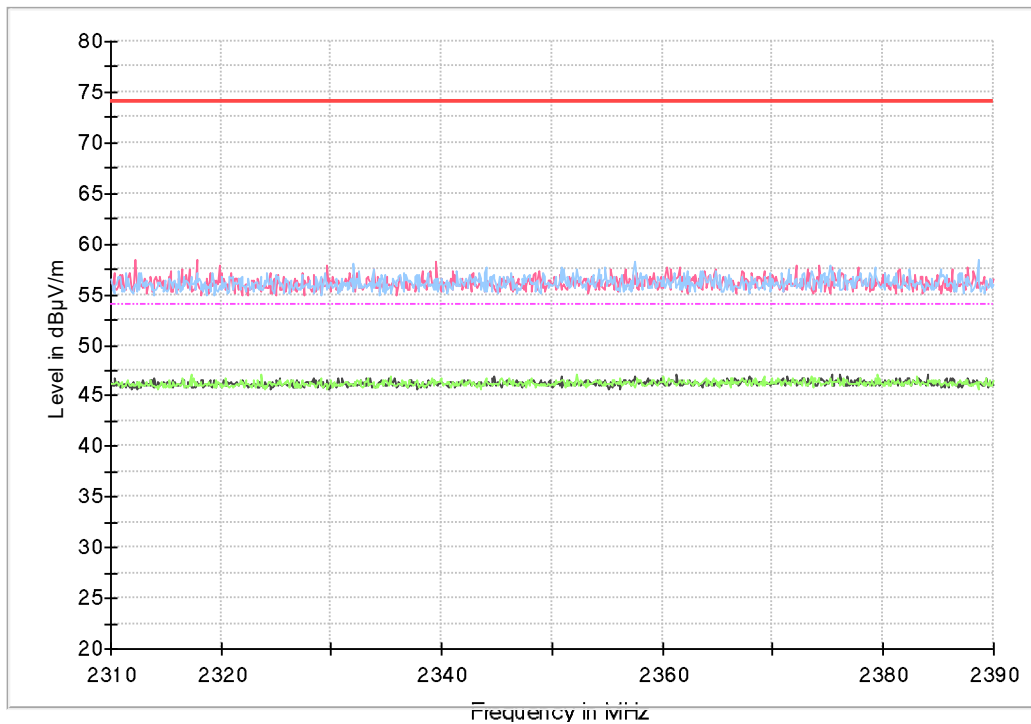
Frequency Range GHz = [1, 3]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (GFSK 1-DH5)      Frequency MHz = 2441.00000  
MIMO Mode = SISO      Active Port = 1

**Images:**

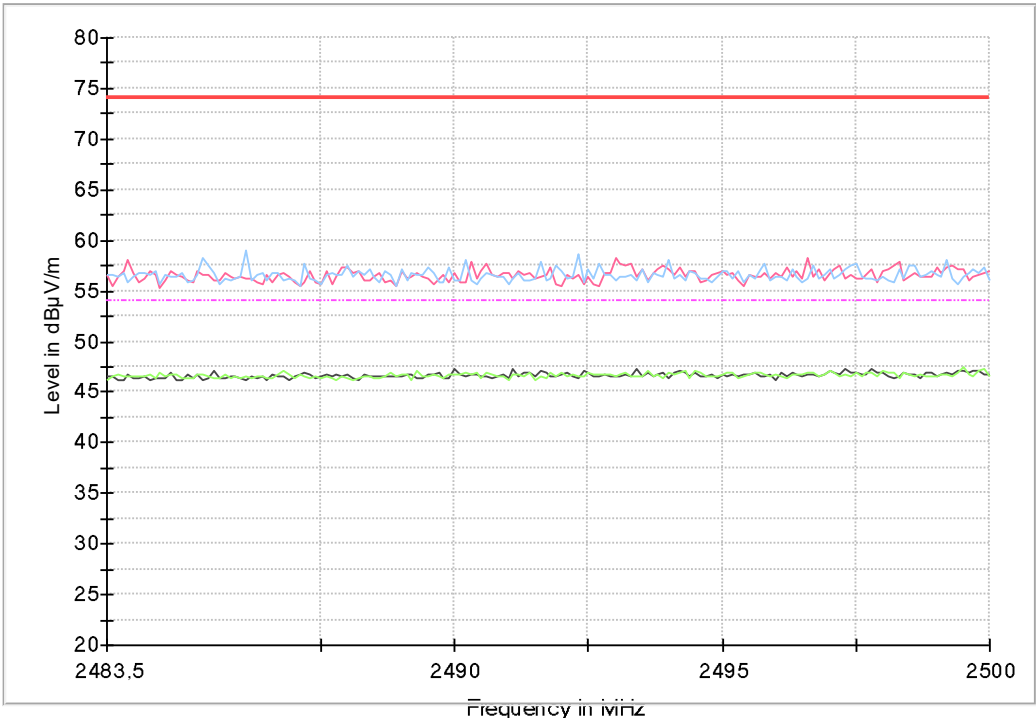
Full Spectrum



Full Spectrum



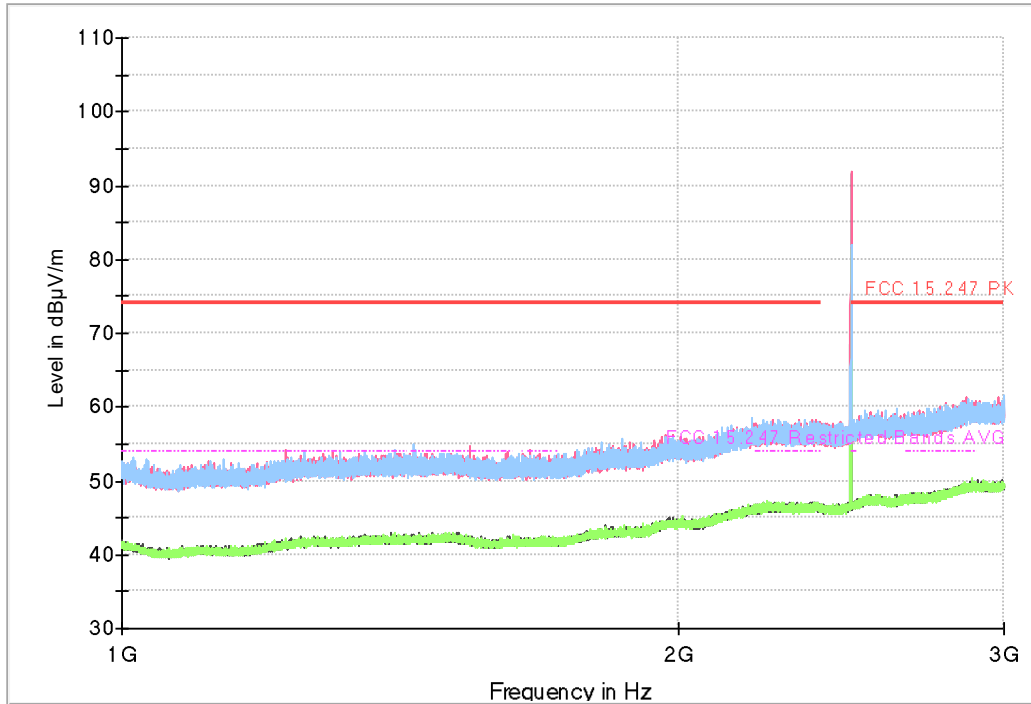
Full Spectrum



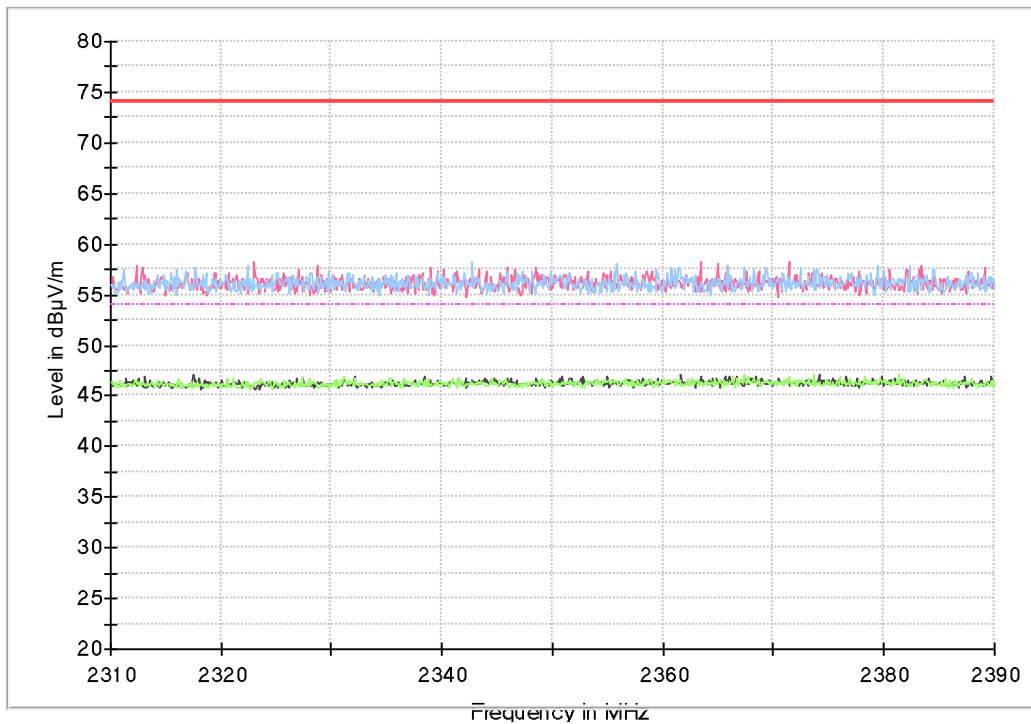
Frequency Range GHz = [1, 3]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
 Modulation = BT (GFSK 1-DH5)      Frequency MHz = 2480.00000  
 MIMO Mode = SISO      Active Port = 1

**Images:**

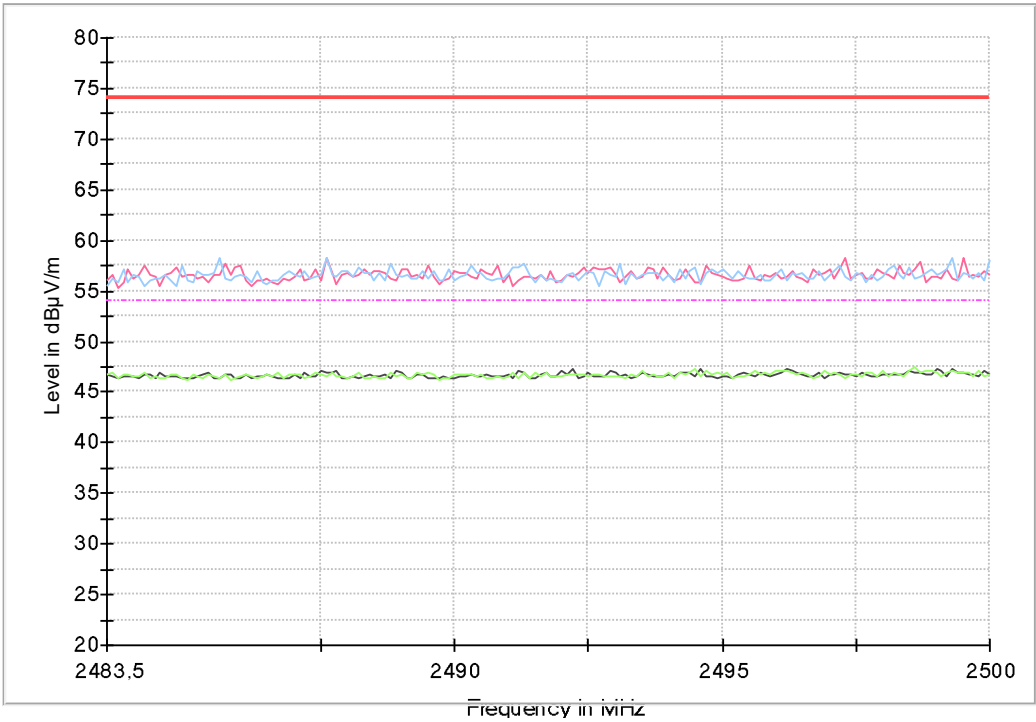
Full Spectrum



Full Spectrum



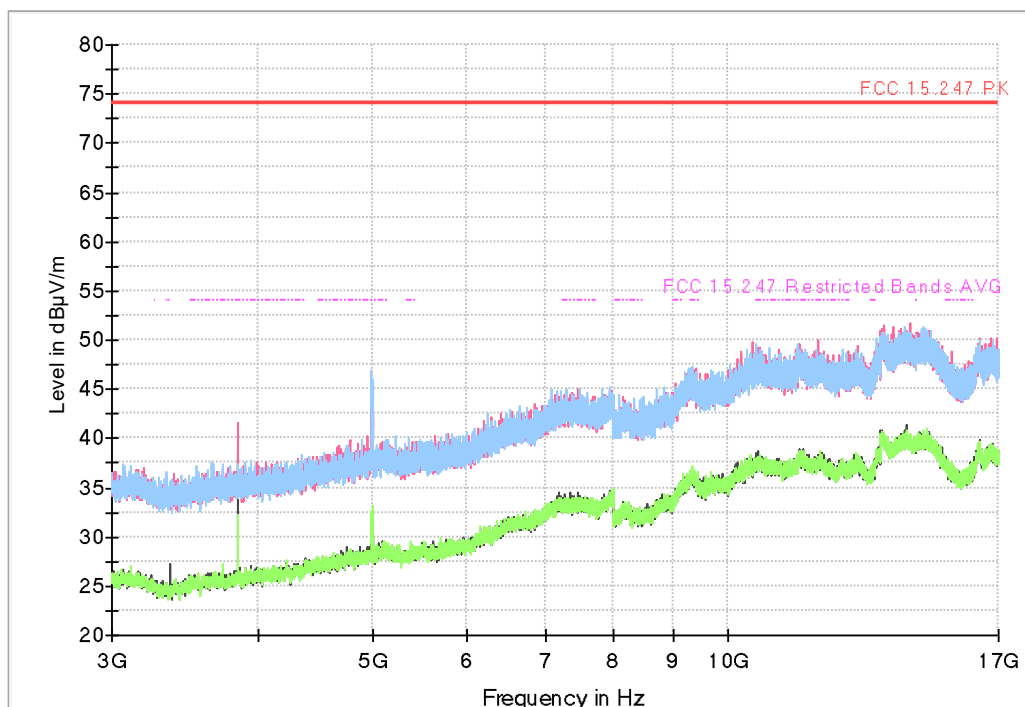
Full Spectrum



Frequency Range GHz = [3, 17]    Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
 Modulation = BT (GFSK 1-DH5)    Frequency MHz = 2402.00000  
 MIMO Mode = SISO    Active Port = 1

# Images:

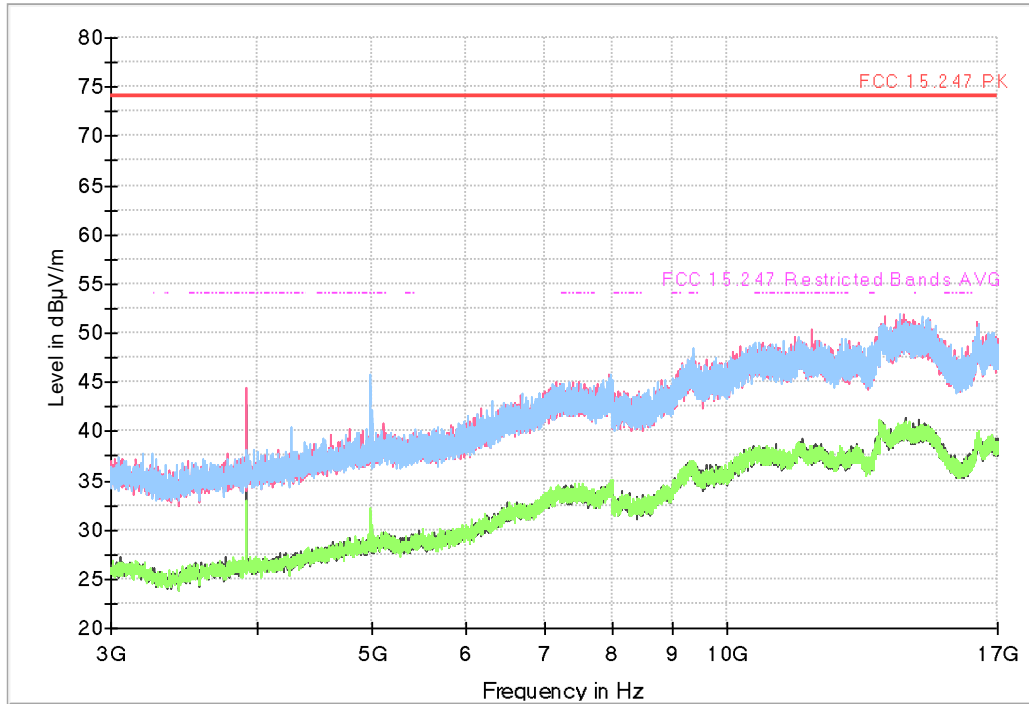
Full Spectrum



Frequency Range GHz = [3, 17]    Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
 Modulation = BT (GFSK 1-DH5)    Frequency MHz = 2441.00000  
 MIMO Mode = SISO    Active Port = 1

### Images:

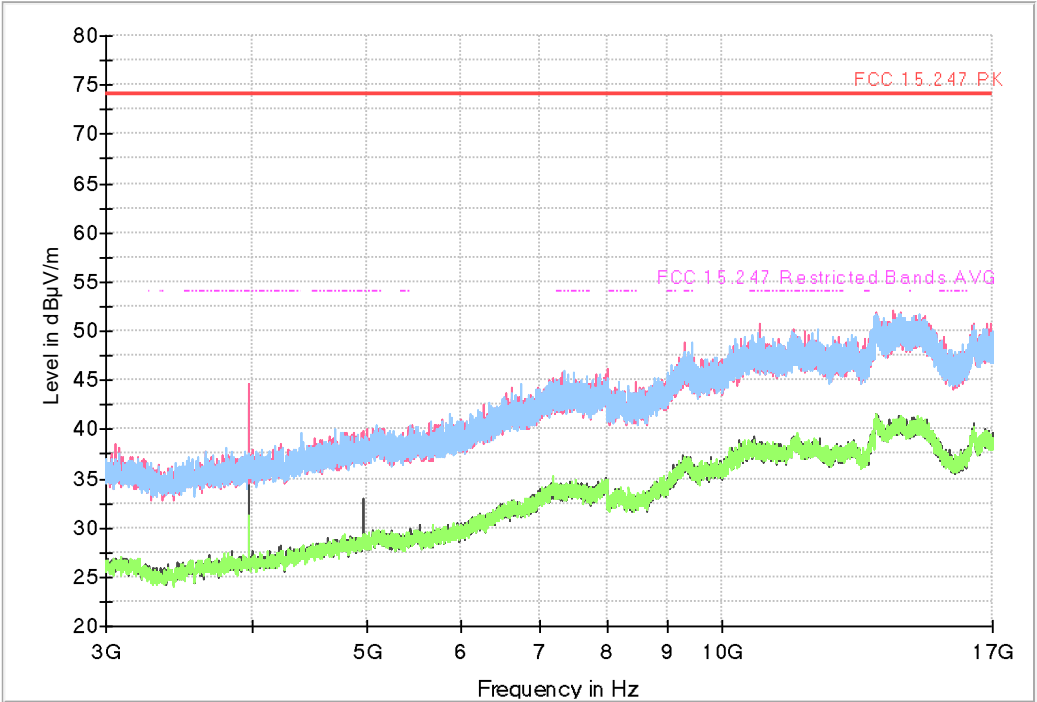
Full Spectrum



Frequency Range GHz = [3, 17]    Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (GFSK 1-DH5)    Frequency MHz = 2480.00000  
MIMO Mode = SISO    Active Port = 1

Images:

Full Spectrum



Modulation: BT (Pi/4 DQPSK 2-DH5)

### **Results**

No spurious frequencies detected at less than 20 dB below the limit.

### **Verdict**

Pass

## Attachments

Frequency Range GHz = [1, 17]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (Pi/4 DQPSK 2-DH5)

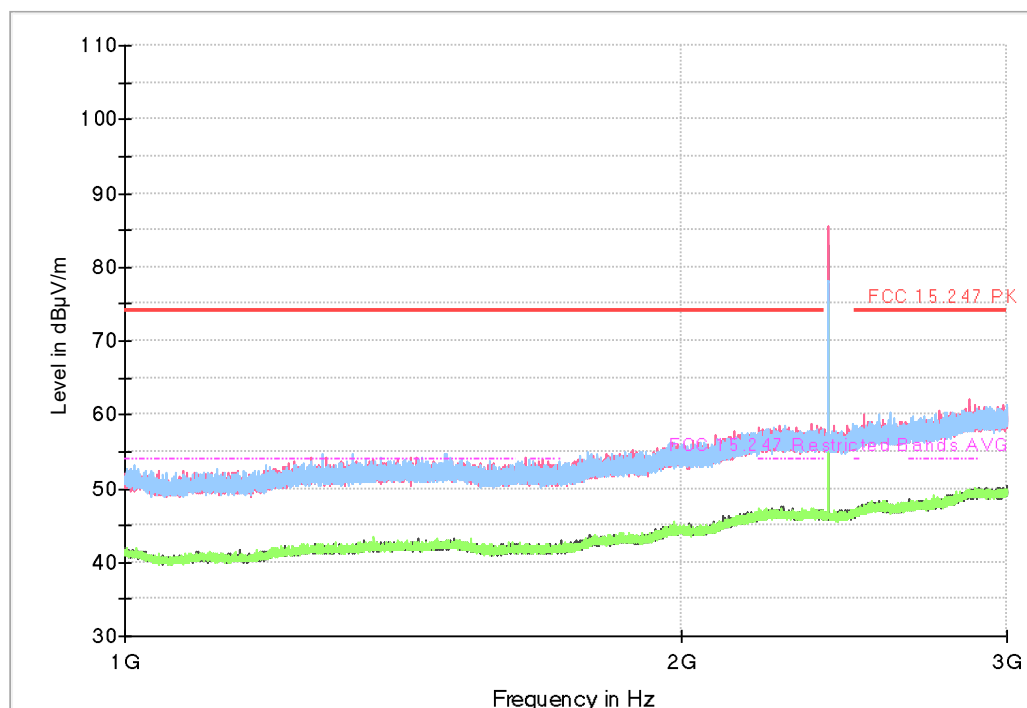
Frequency MHz = 2402.00000

MIMO Mode = SISO

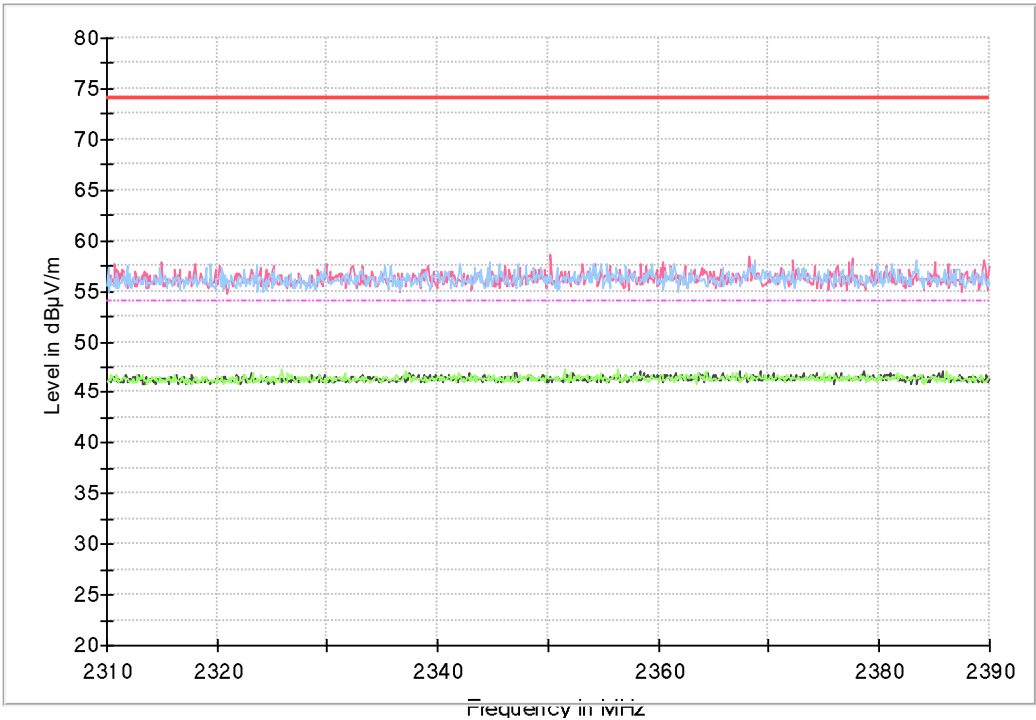
Active Port = 1

## Images:

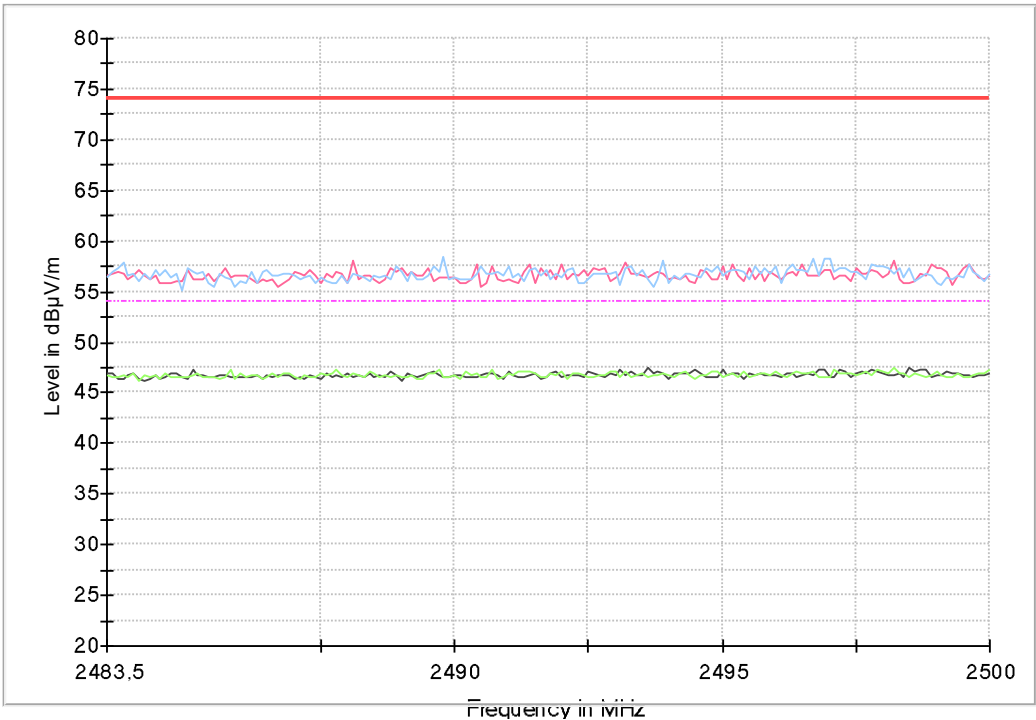
Full Spectrum



Full Spectrum



Full Spectrum



Frequency Range GHz = [1, 17]

Equipment Type = Frequency Hopping Spread Spectrum systems  
(DSS)

Modulation = BT (Pi/4 DQPSK 2-  
DH5)

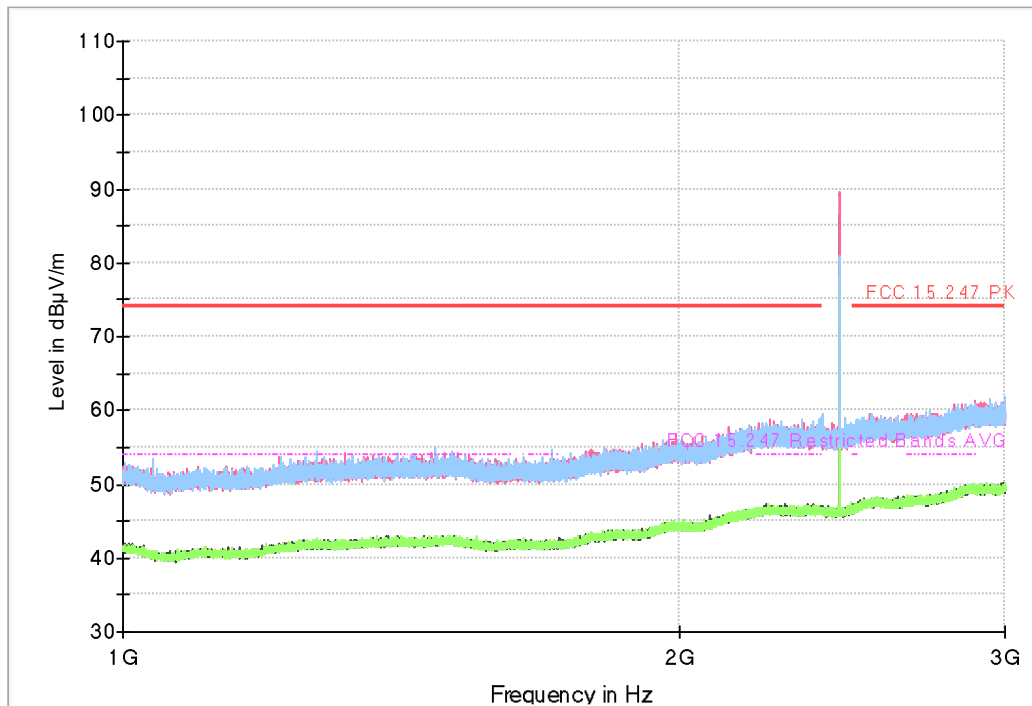
Frequency MHz = 2441.00000

MIMO Mode = SISO

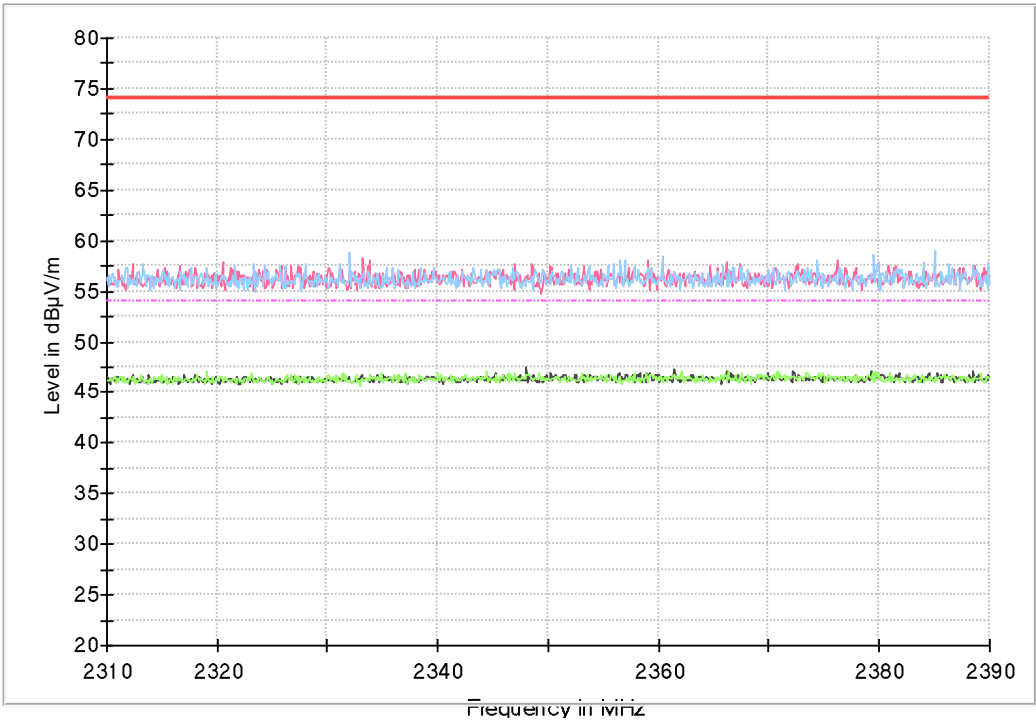
Active Port = 1

#### Images:

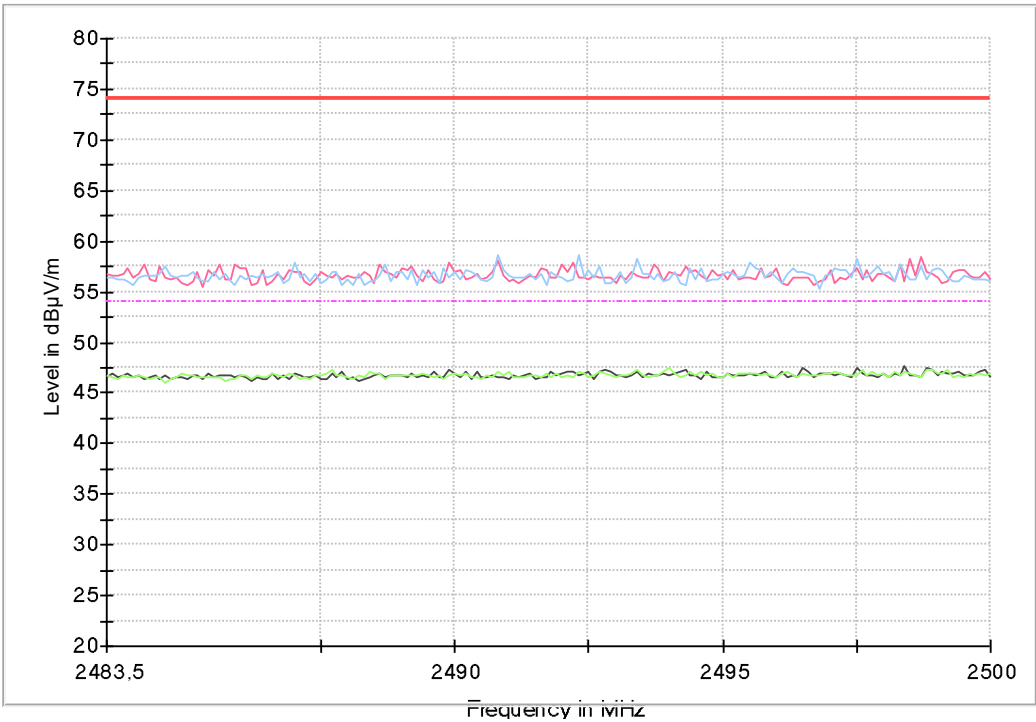
Full Spectrum



Full Spectrum



Full Spectrum



Frequency Range GHz = [1, 17]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (Pi/4 DQPSK 2-DH5)

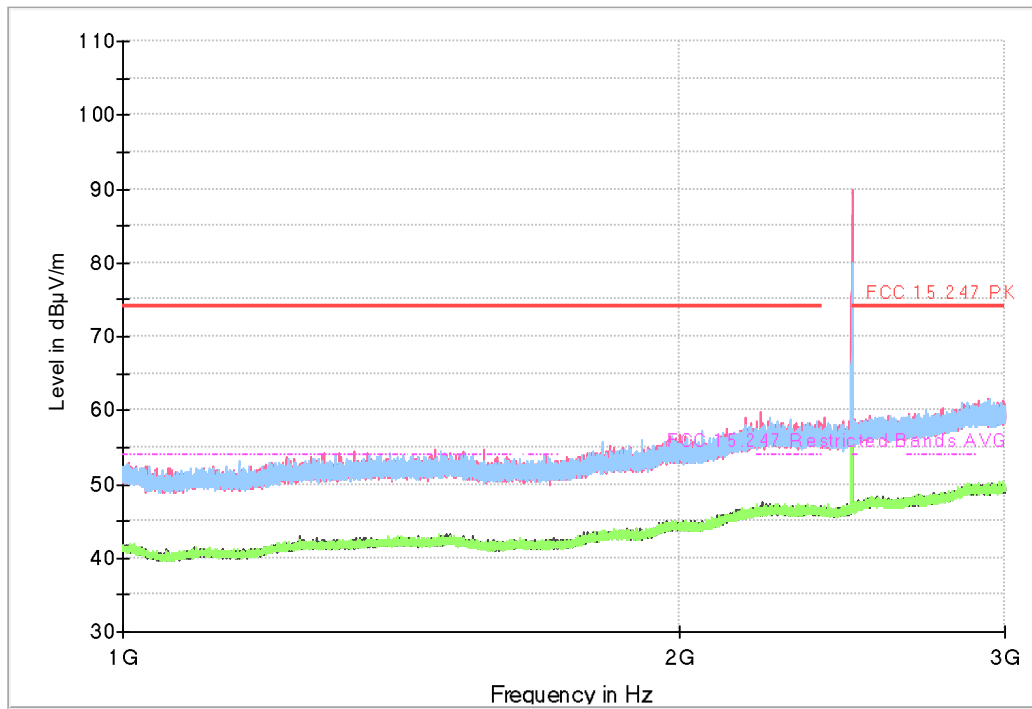
Frequency MHz = 2480.00000

MIMO Mode = SISO

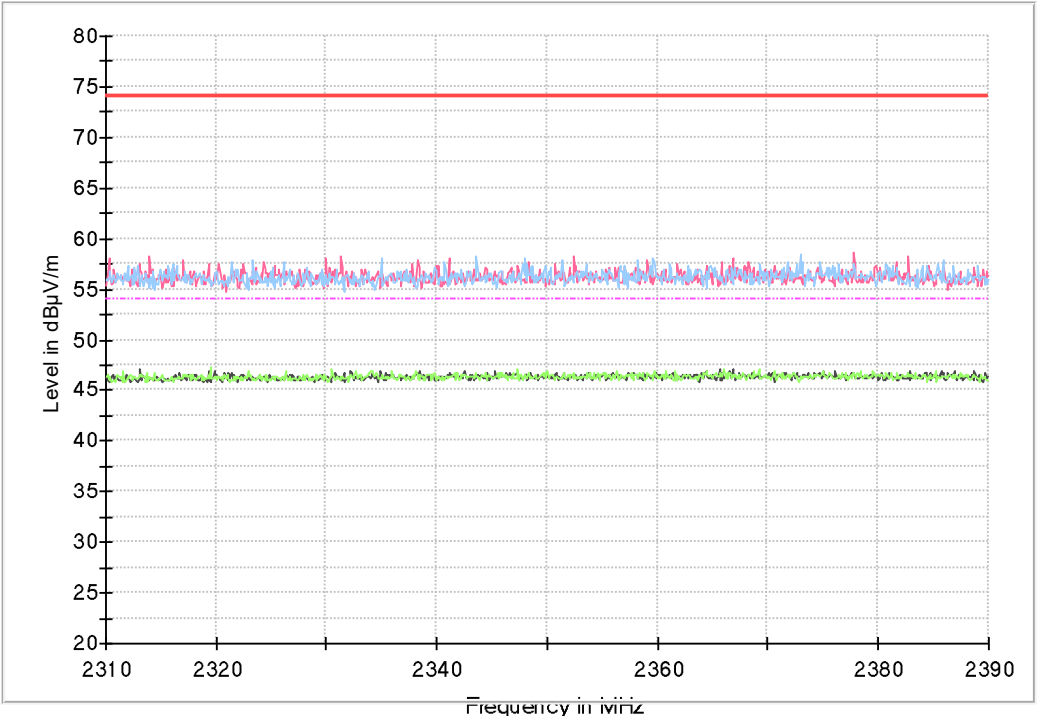
Active Port = 1

#### Images:

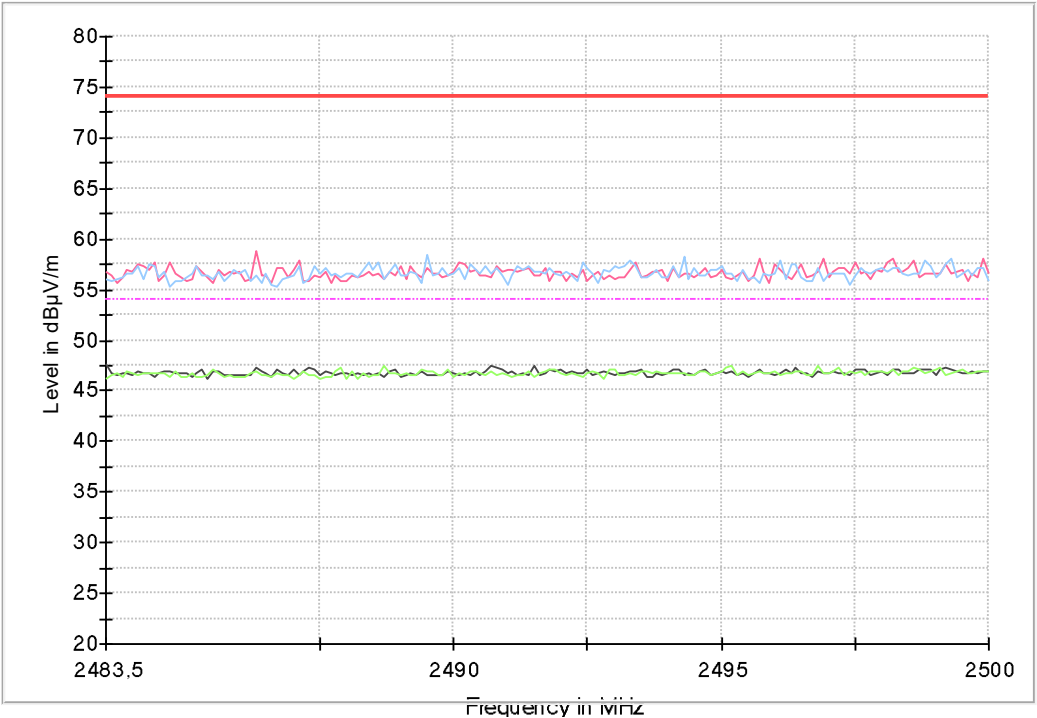
Full Spectrum



Full Spectrum



Full Spectrum



Frequency Range GHz = [3, 17]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (Pi/4 DQPSK 2-DH5)

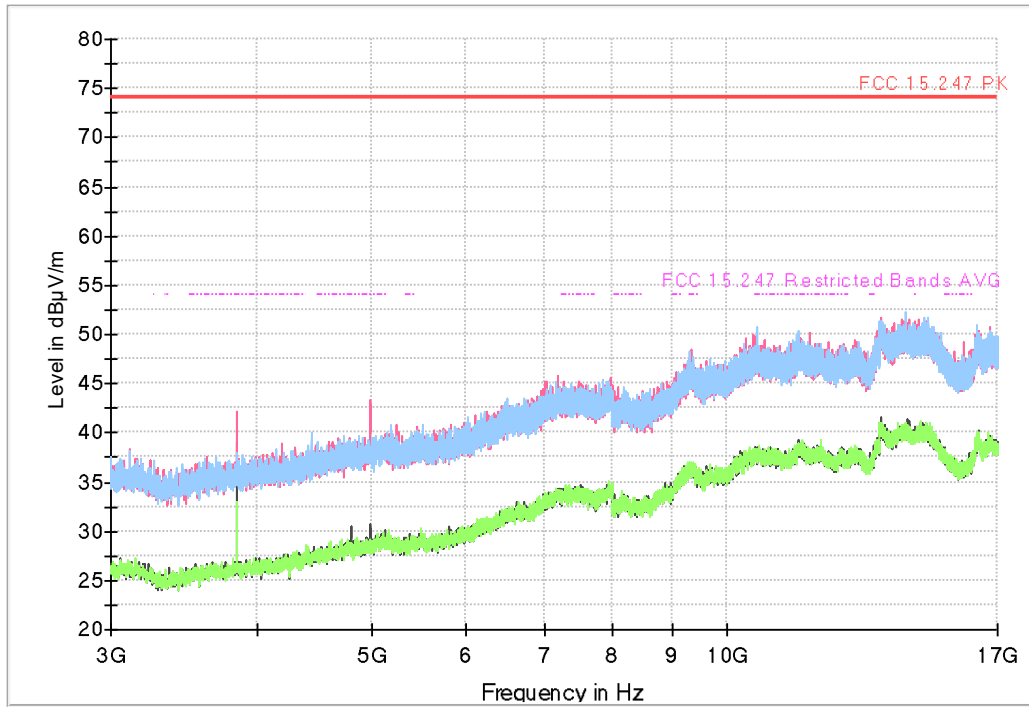
Frequency MHz = 2402.00000

MIMO Mode = SISO

Active Port = 1

## Images:

Full Spectrum



Frequency Range GHz = [3, 17]

Equipment Type = Frequency Hopping Spread Spectrum systems  
(DSS)

Modulation = BT (Pi/4 DQPSK 2-  
DH5)

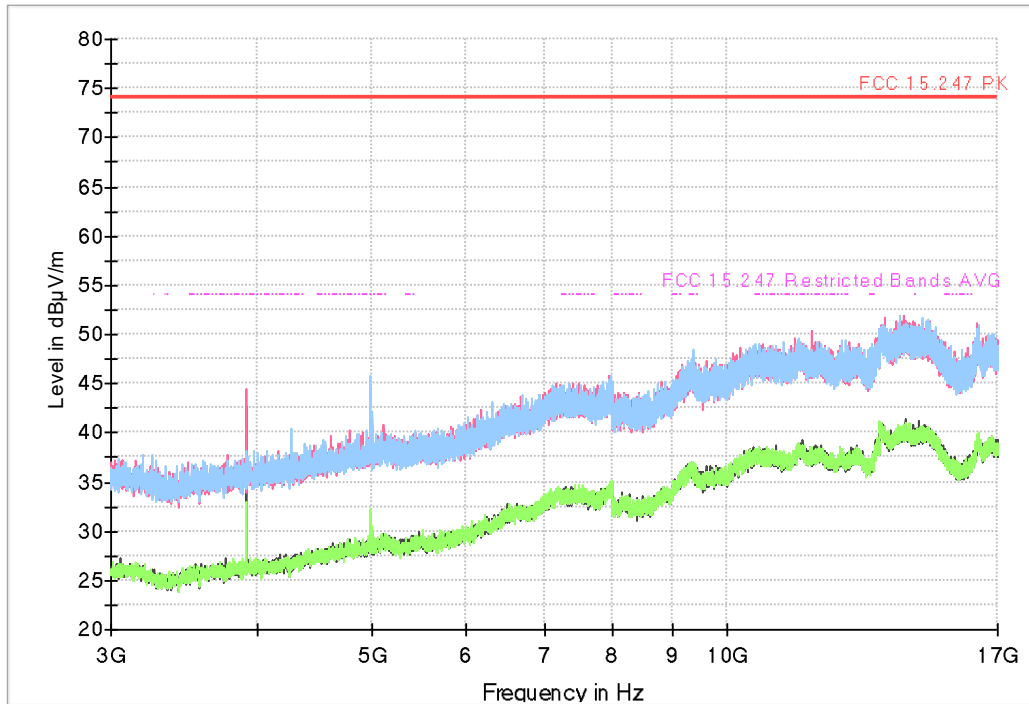
Frequency MHz = 2441.00000

MIMO Mode = SISO

Active Port = 1

### Images:

Full Spectrum



Frequency Range GHz = [3, 17]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (Pi/4 DQPSK 2-DH5)

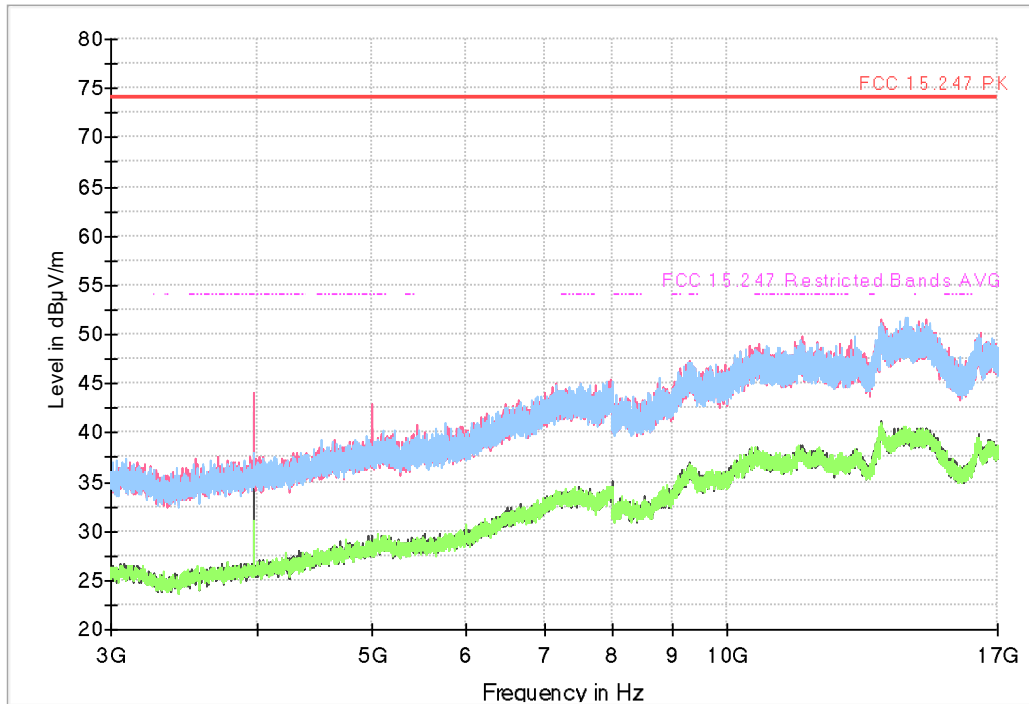
Frequency MHz = 2480.00000

MIMO Mode = SISO

Active Port = 1

### Images:

Full Spectrum



Modulation: BT (8DPSK 3-DH5)

### **Results**

No spurious frequencies detected at less than 20 dB below the limit.

### **Verdict**

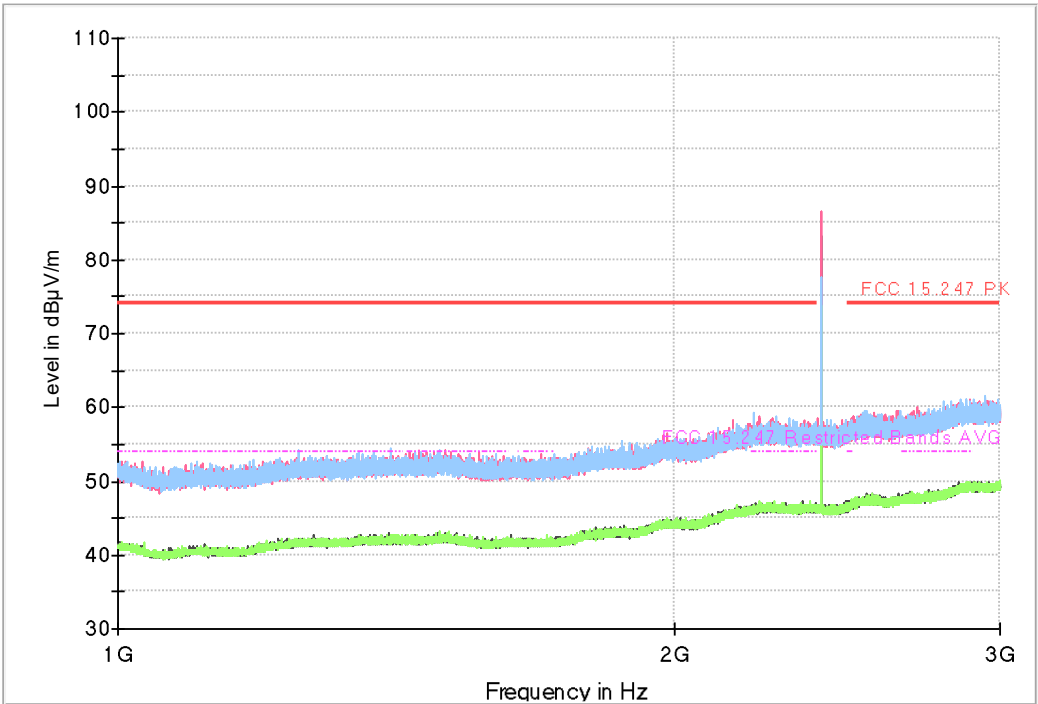
Pass

Attachments

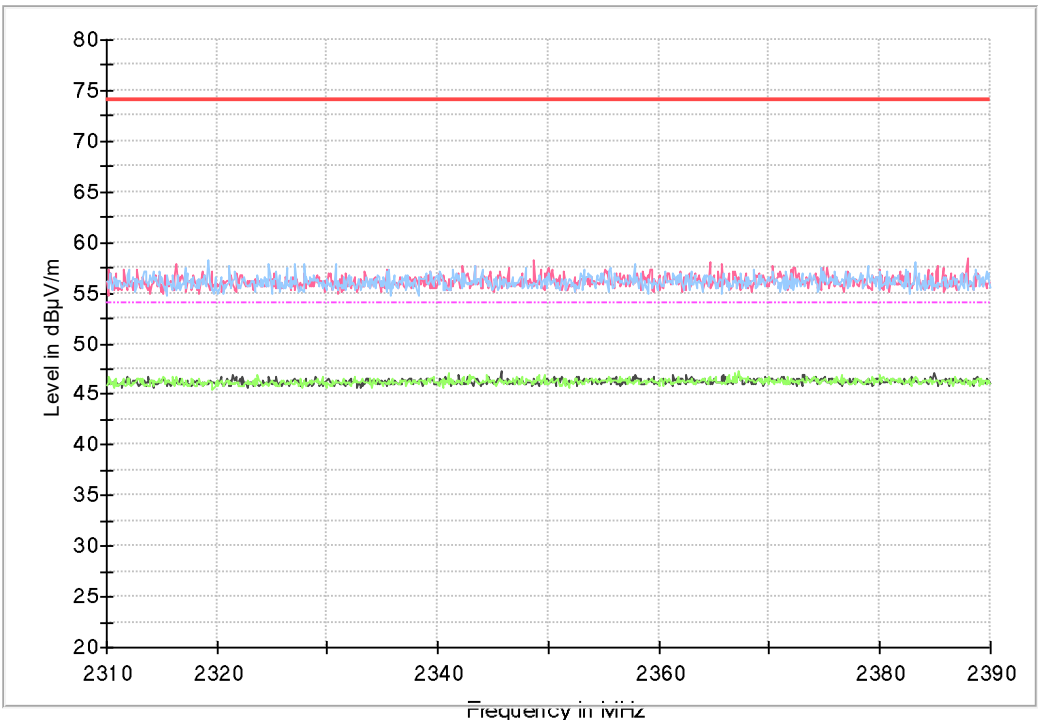
Frequency Range GHz = [1, 17]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (8DPSK 3-DH5)      Frequency MHz = 2402.00000  
MIMO Mode = SISO      Active Port = 1

Images:

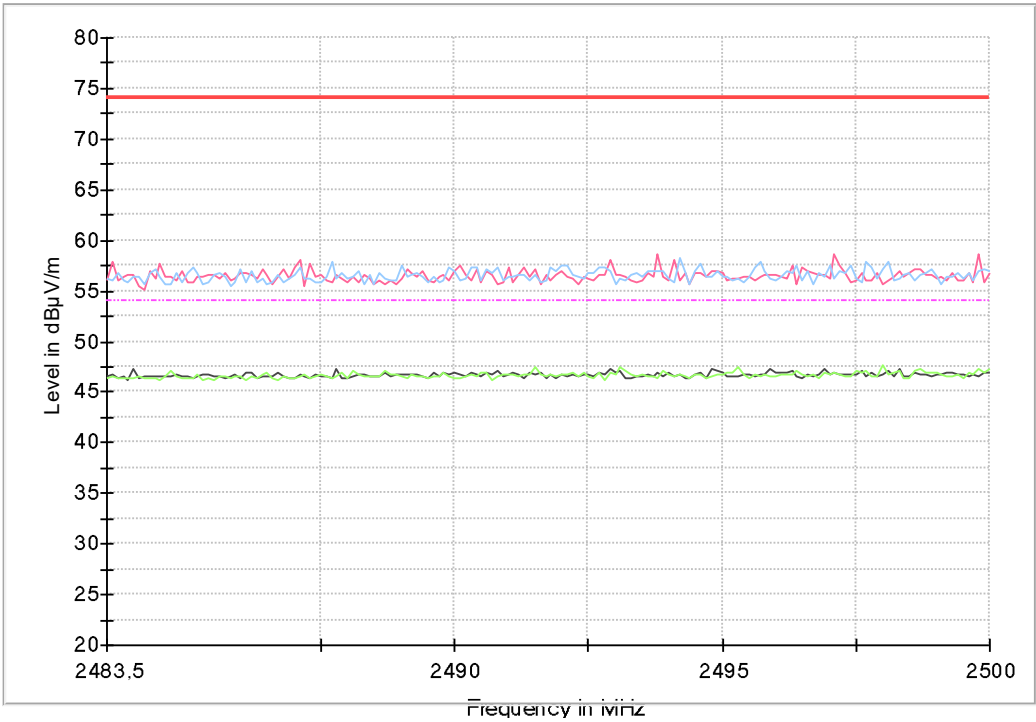
Full Spectrum



Full Spectrum



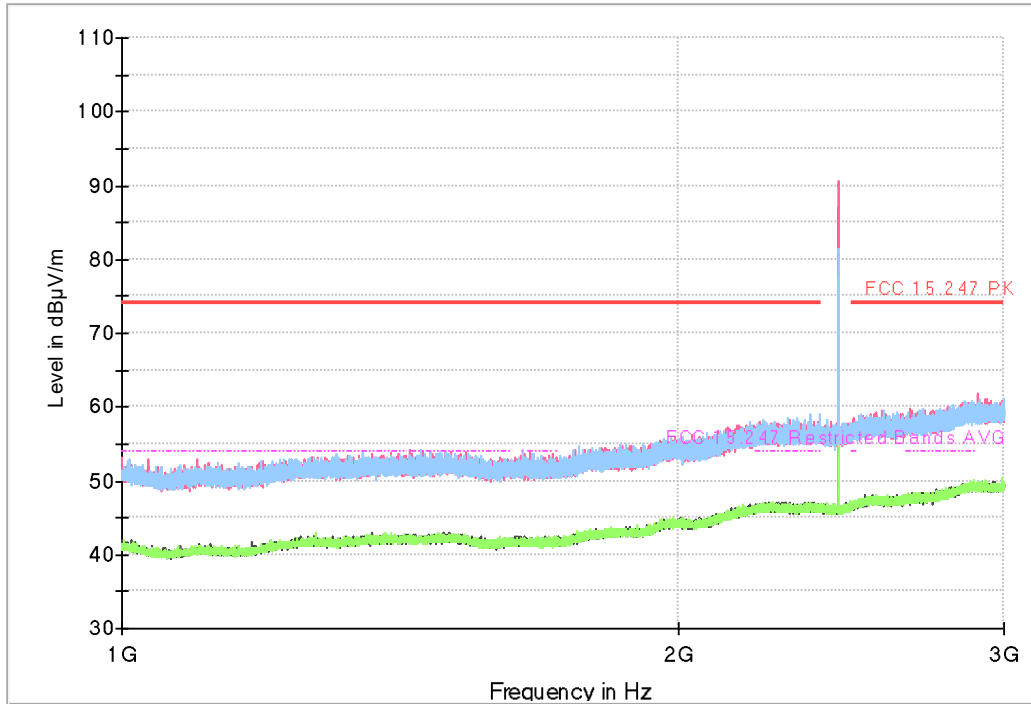
Full Spectrum



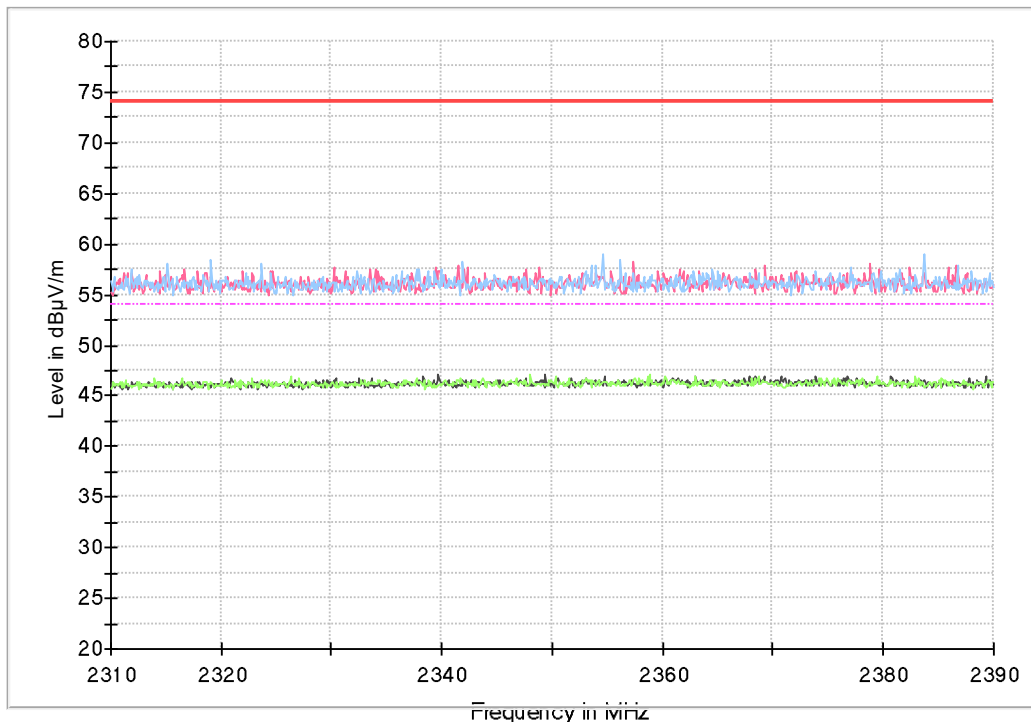
Frequency Range GHz = [1, 17]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (8DPSK 3-DH5)      Frequency MHz = 2441.00000  
MIMO Mode = SISO      Active Port = 1

**Images:**

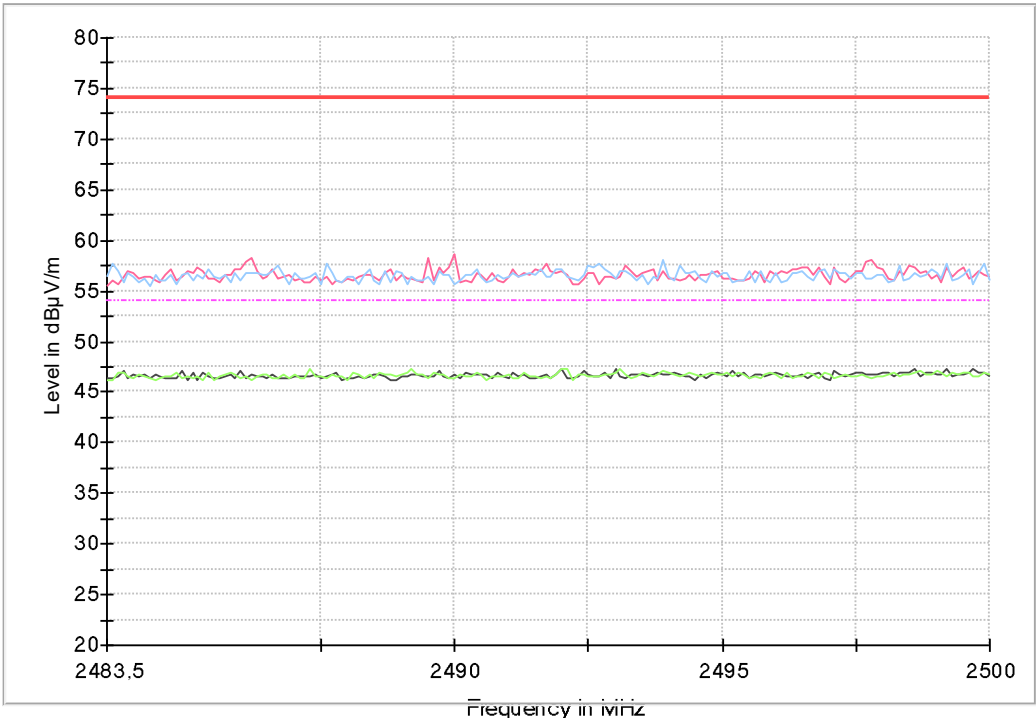
Full Spectrum



Full Spectrum



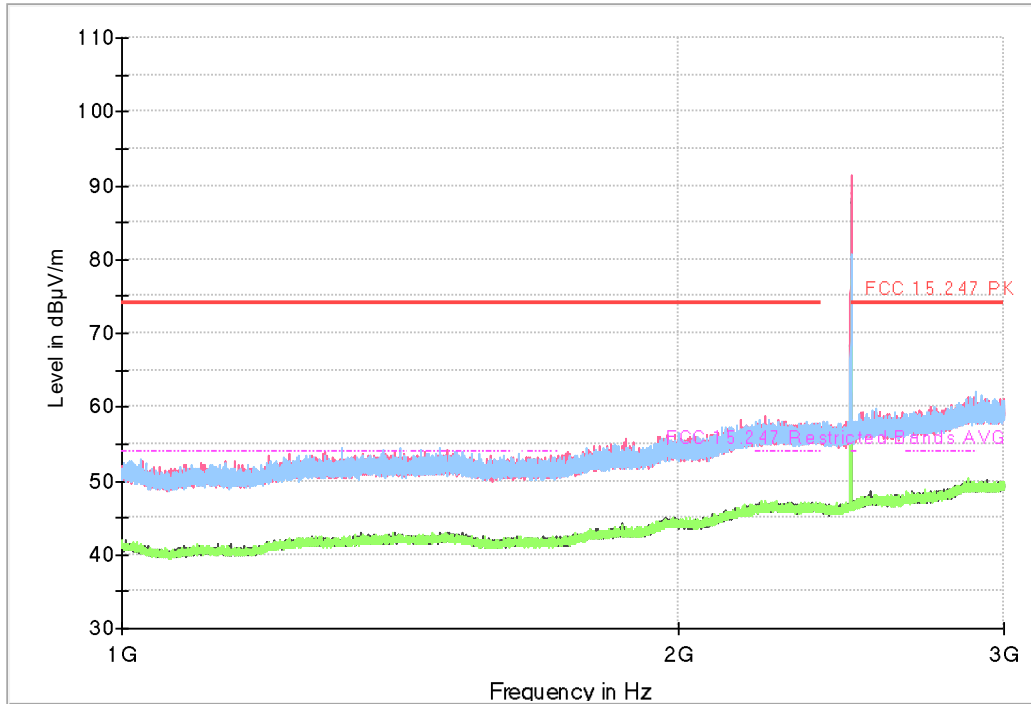
Full Spectrum



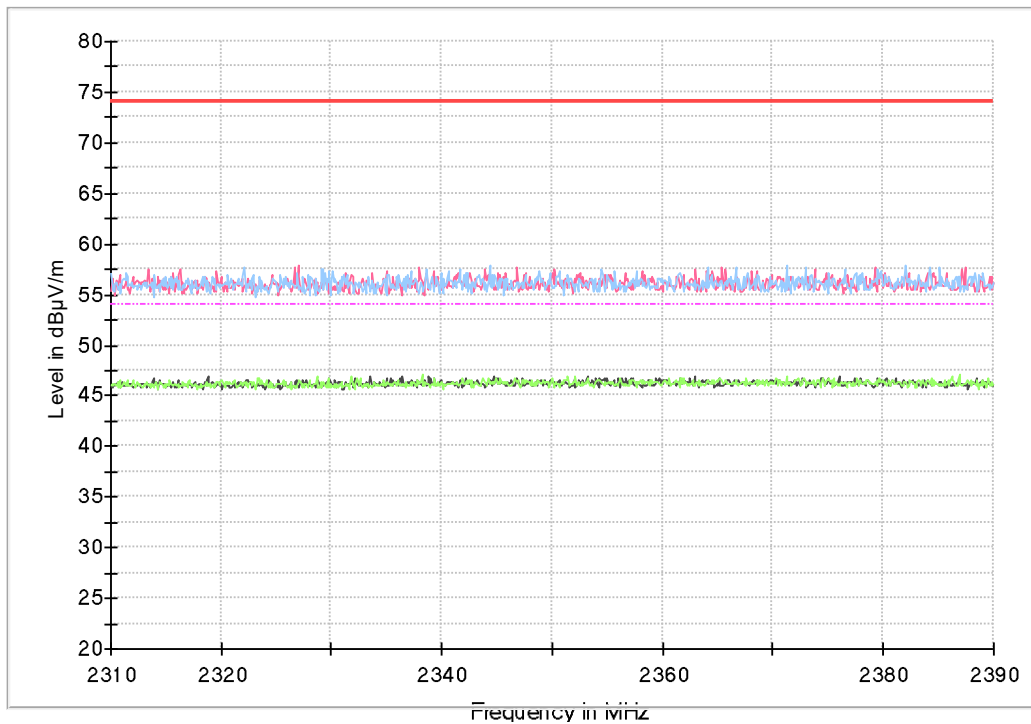
Frequency Range GHz = [1, 17]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (8DPSK 3-DH5)      Frequency MHz = 2480.00000  
MIMO Mode = SISO      Active Port = 1

**Images:**

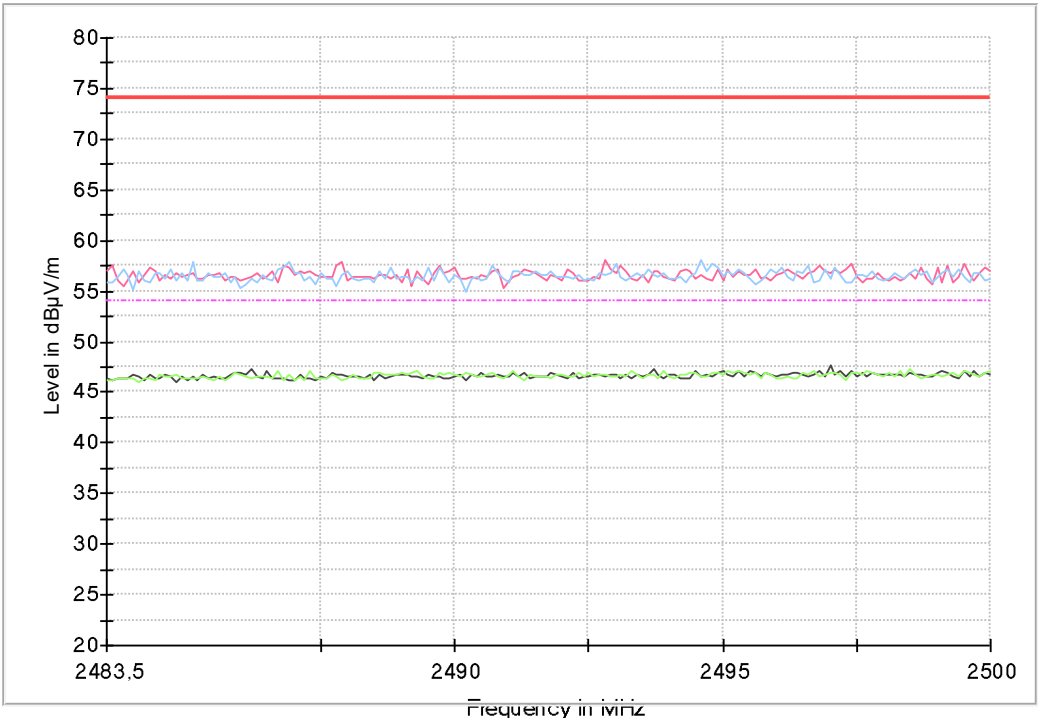
Full Spectrum



Full Spectrum



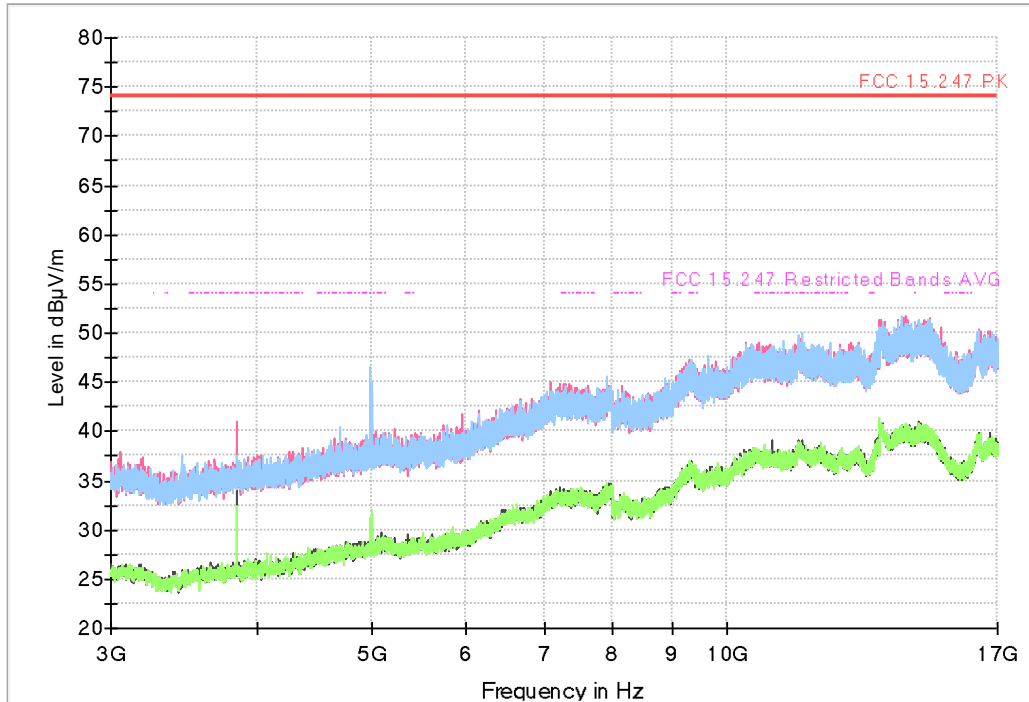
Full Spectrum



Frequency Range GHz = [3, 17]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
Modulation = BT (8DPSK 3-DH5)      Frequency MHz = 2402.00000  
MIMO Mode = SISO      Active Port = 1

**Images:**

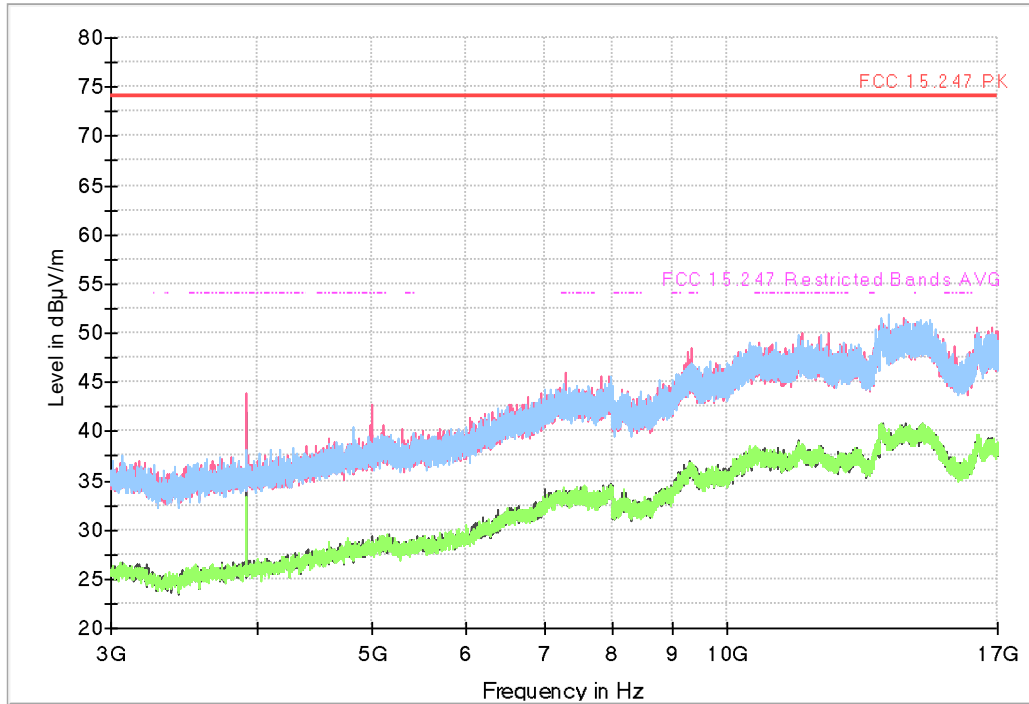
Full Spectrum



Frequency Range GHz = [3, 17]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
 Modulation = BT (8DPSK 3-DH5)      Frequency MHz = 2441.00000  
 MIMO Mode = SISO      Active Port = 1

**Images:**

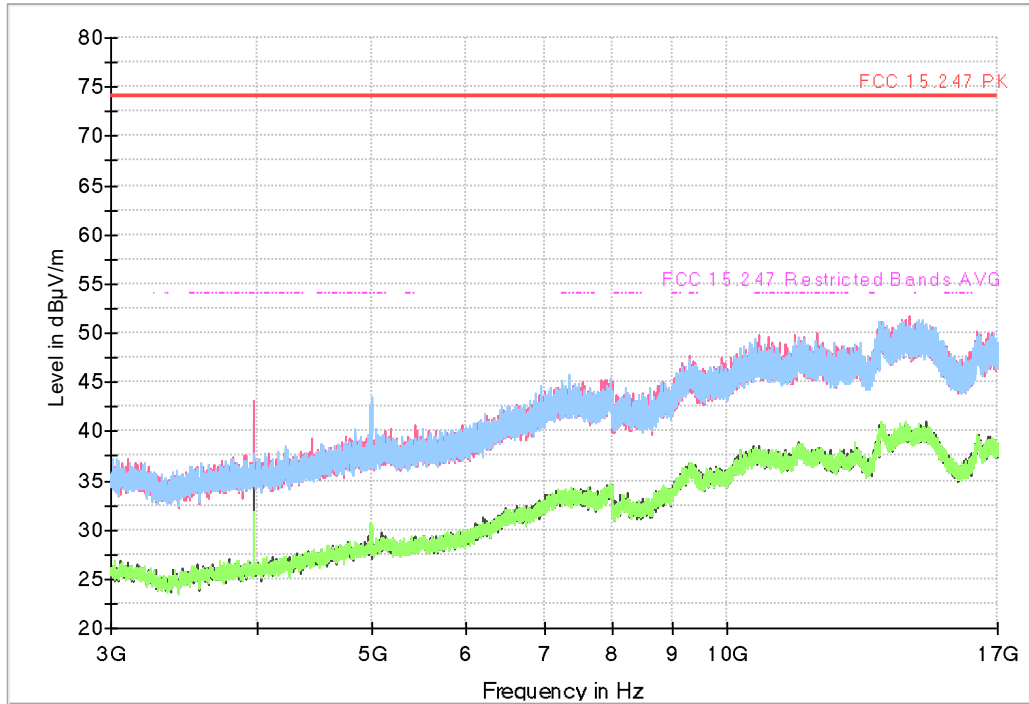
Full Spectrum



Frequency Range GHz = [3, 17]      Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)  
 Modulation = BT (8DPSK 3-DH5)      Frequency MHz = 2480.00000  
 MIMO Mode = SISO      Active Port = 1

### Images:

Full Spectrum



Frequency Range GHz = [17, 26]

The spurious frequencies detected do not depend on either the modulation or the operating channel.  
No spurious frequencies detected at less than 20 dB below the limit.

Verdict

Pass

Attachments

|                                                                                 |                                                                                           |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Frequency Range GHz = [17, 26]                                                  | Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)                          |
| Modulation = The spurious frequencies detected do not depend on the modulation. | Frequency MHz = The spurious frequencies detected do not depend on the operating channel. |
| MIMO Mode = SISO                                                                | Active Port = 1                                                                           |

Images:

