



Test Report Serial Number:

45461625 R1.0

Test Report Date:

4 December 2020

Project Number:

1511

Appendix L - Field Strength Measurement Plots

This report shall not be reproduced in any form without the expressed written consent of Celltech Labs Inc.

© 2020 Celltech Labs Inc,

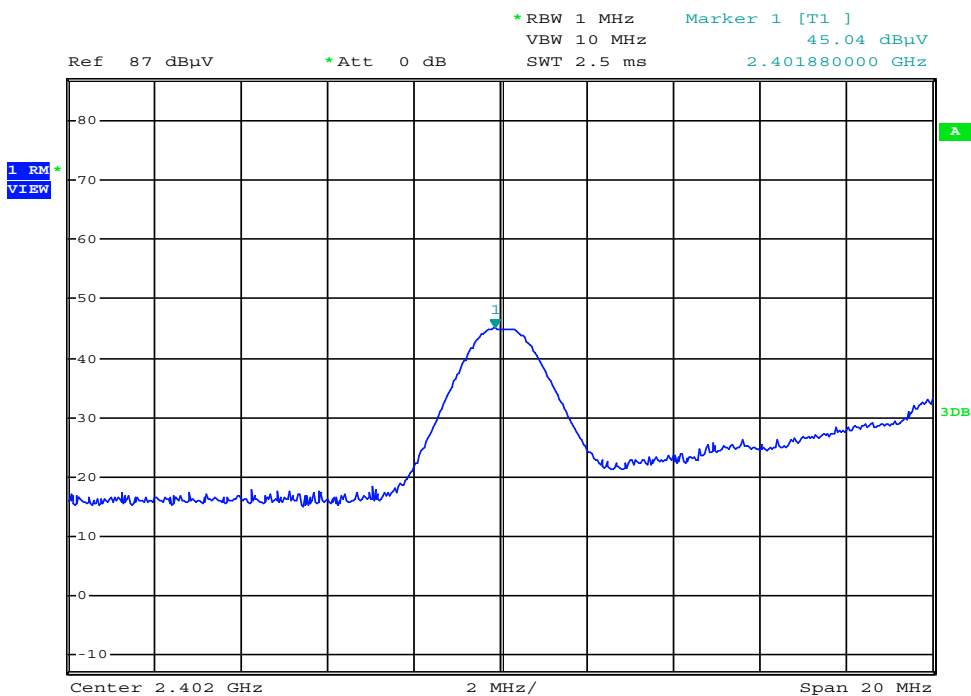
FCC §15.249(a), RSS-210 Radiated Field Strength

Frequency (MHz)	Mode	Modulation	Detector	Antenna Polarization	Measured Field Strength [FS _{Meas}] (dBuV @ 3m)	Cable Loss [L _c] (dBm)	Receive Antenna [ACF] (dB)	Corrected Field Strength [FS _{Corr}] (dBuV @3m)	Limit (dBuV)	Margin (dB)
2402.0	BT BR	GFSK	RMS	Horizontal	45.04	4.6	28.3	77.94	94.0	16.1
2442.0					46.09			78.99		15.0
2480.0					49.37			82.27		11.7
2402.0				Vertical	49.03			81.93		12.1
2442.0					51.47			84.37		9.6
2480.0					49.01			81.91		12.1
2480.0			Peak	Horizontal	54.27			87.17	114.0	26.8
2442.0				Vertical	60.05			92.95		21.1
Result:									Complies	

$$FS_{Corr} = FS_{Meas} + ACF + L_C$$

$$Margin = Limit - FS_{Corr}$$

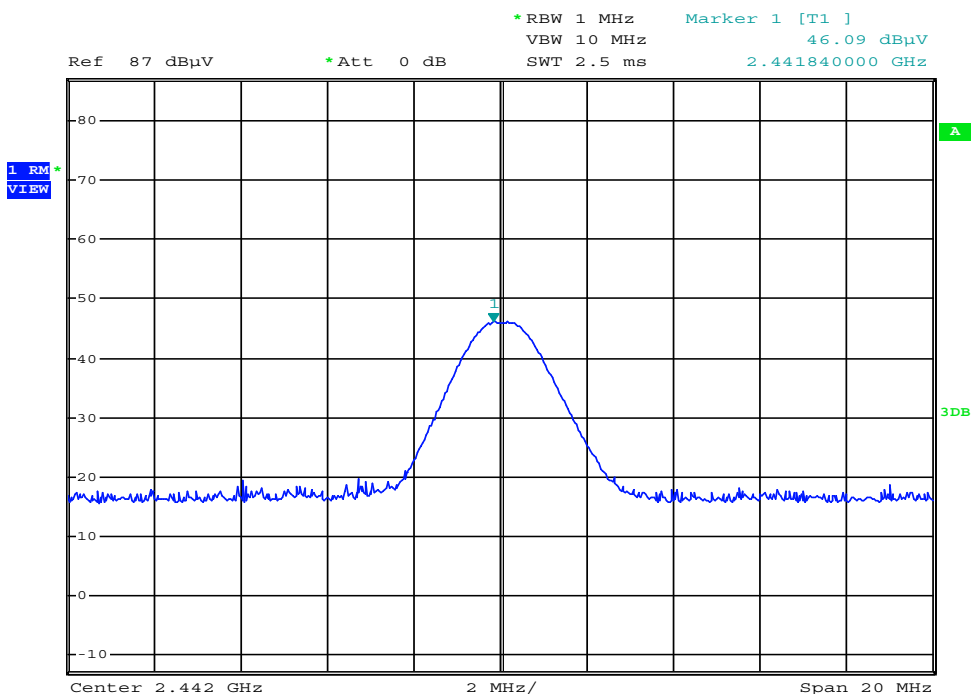
Field Strength (Average)



Date: 20.NOV.2020 15:42:06

Channel Frequency: 2402.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 45.04 dBuV

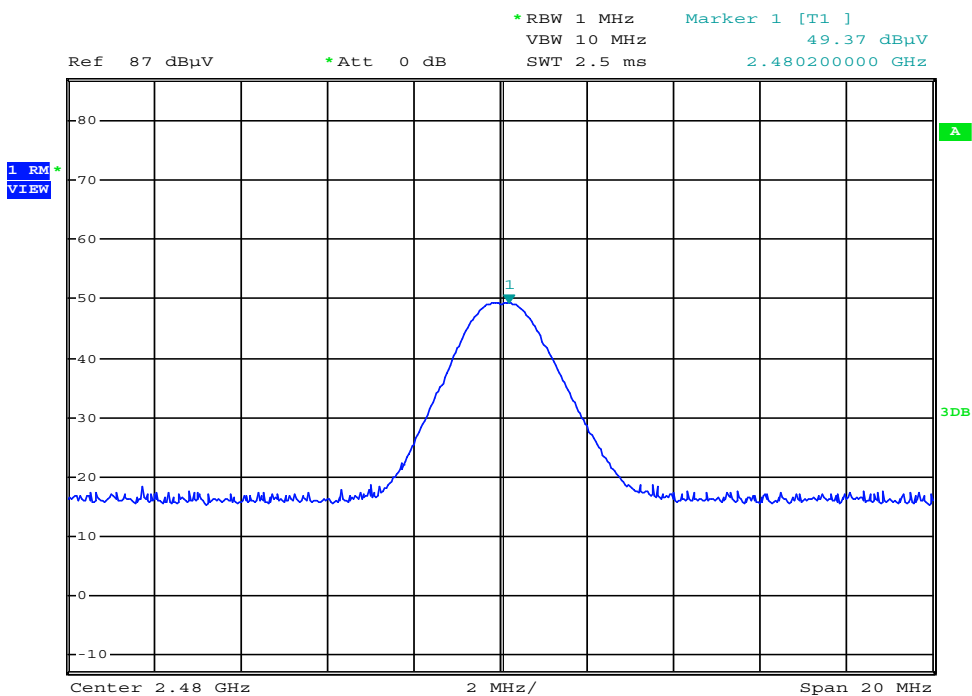
Field Strength (Average)



Date: 20.NOV.2020 15:44:26

Channel Frequency: 2442.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 46.09 dBuV

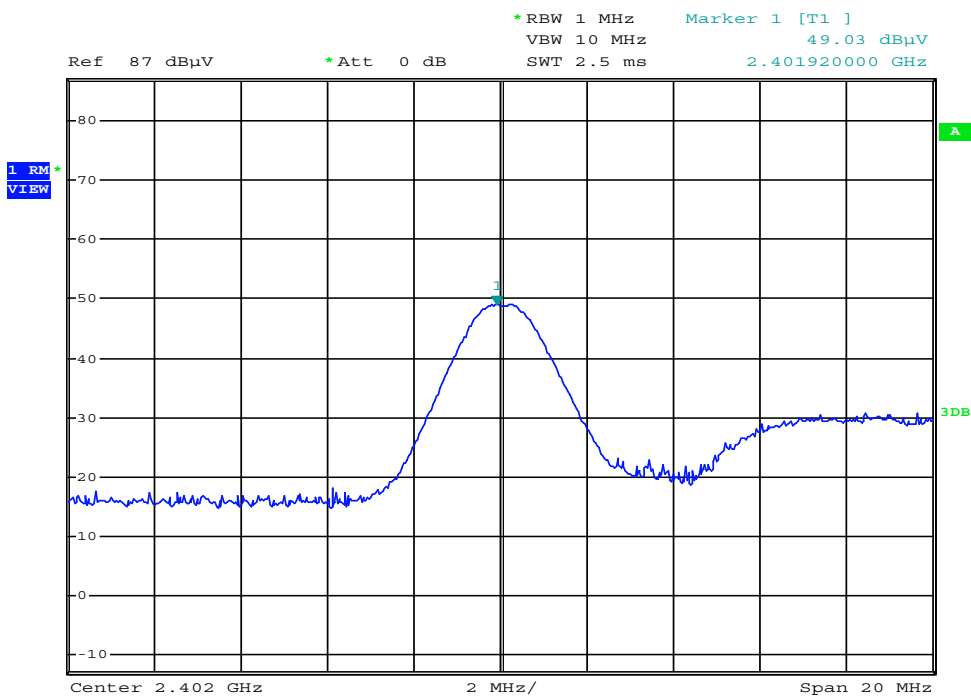
Field Strength (Average)



Date: 20.NOV.2020 15:46:11

Channel Frequency: 2480.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 49.37 dBμV

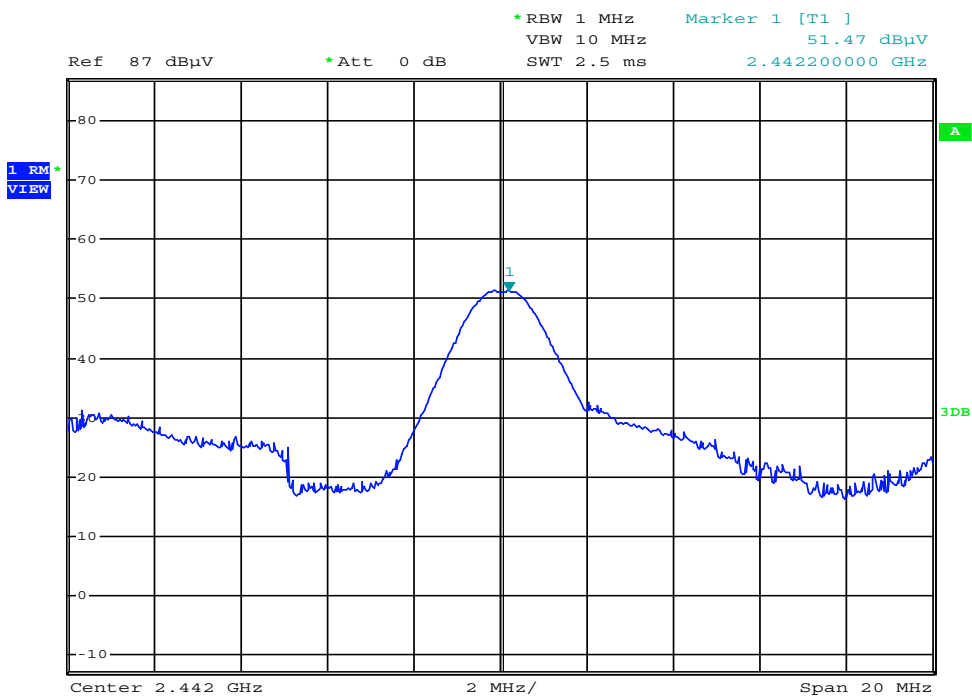
Field Strength (Average)



Date: 20.NOV.2020 16:16:20

Channel Frequency: 2402.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 49.03 dBuV

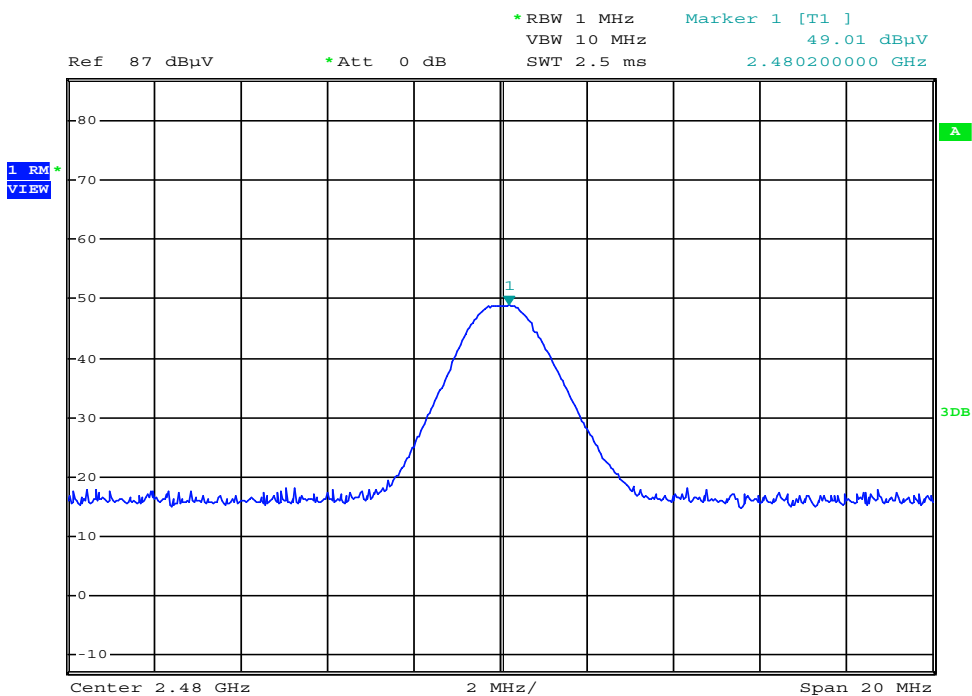
Field Strength (Average)



Date: 20.NOV.2020 16:14:40

Channel Frequency: 2442.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 51.47 dBuV

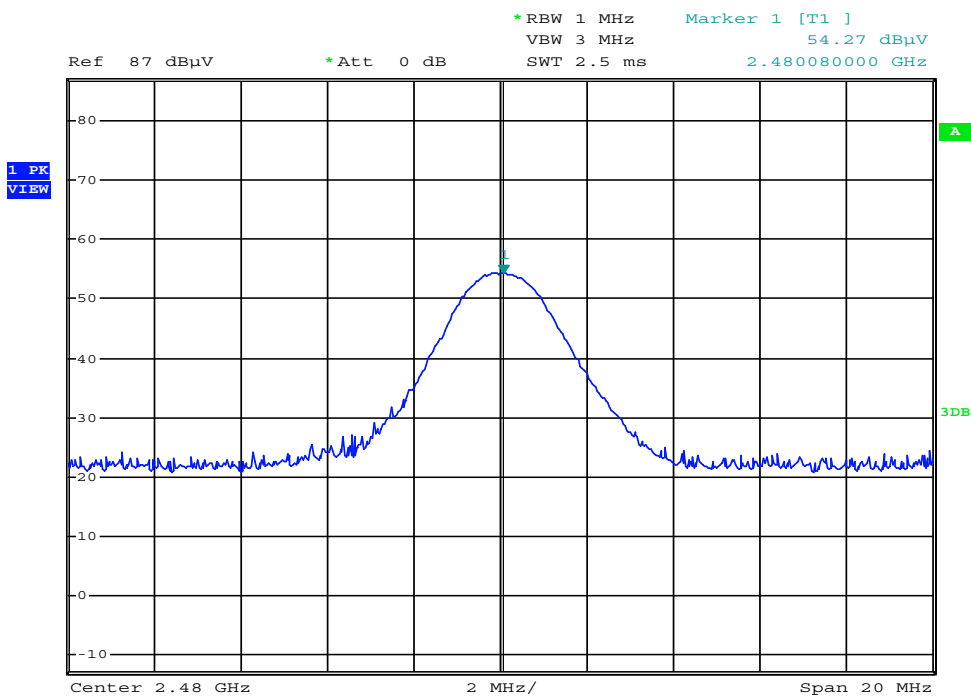
Field Strength (Average)



Date: 20.NOV.2020 16:17:42

Channel Frequency: 2480.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 49.01 dBuV

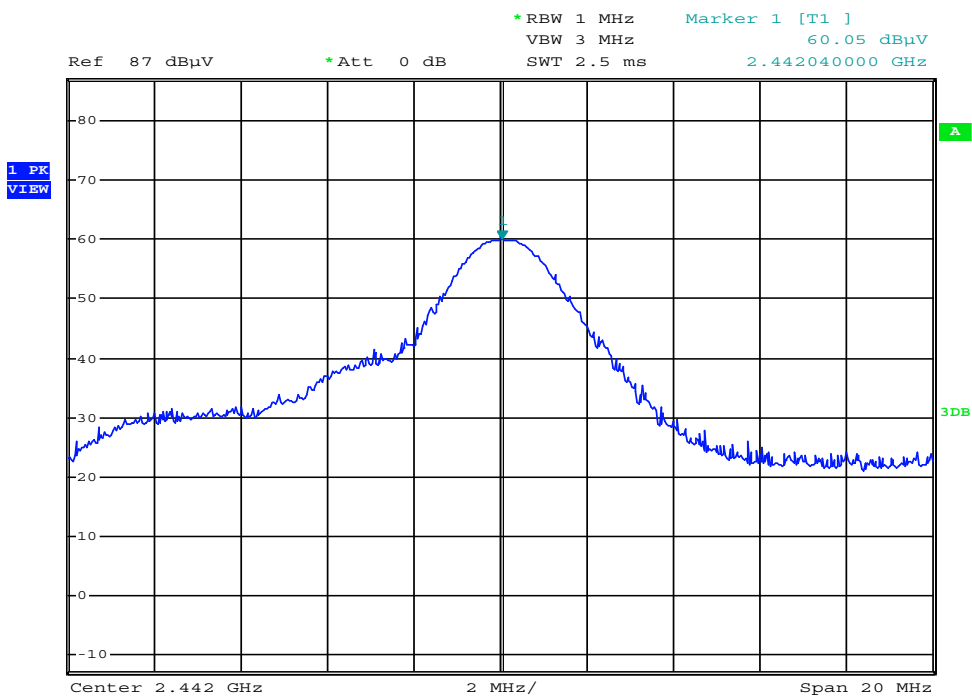
Field Strength (Peak)



Date: 23.NOV.2020 16:14:14

Channel Frequency: 2480.00 MHz	Detector: Peak	Antenna Polarization: Horizontal
Modulation Setting: GFSK	Protocol: BT BR	Measured Field Strength: 54.27 dBuV

Field Strength (Peak)



Date: 23.NOV.2020 11:59:08

Channel Frequency:

2442.00 MHz

Detector:

Peak

Antenna Polarization:

Vertical

Modulation Setting:

GFSK

Protocol:

BT BR

Measured Field Strength:

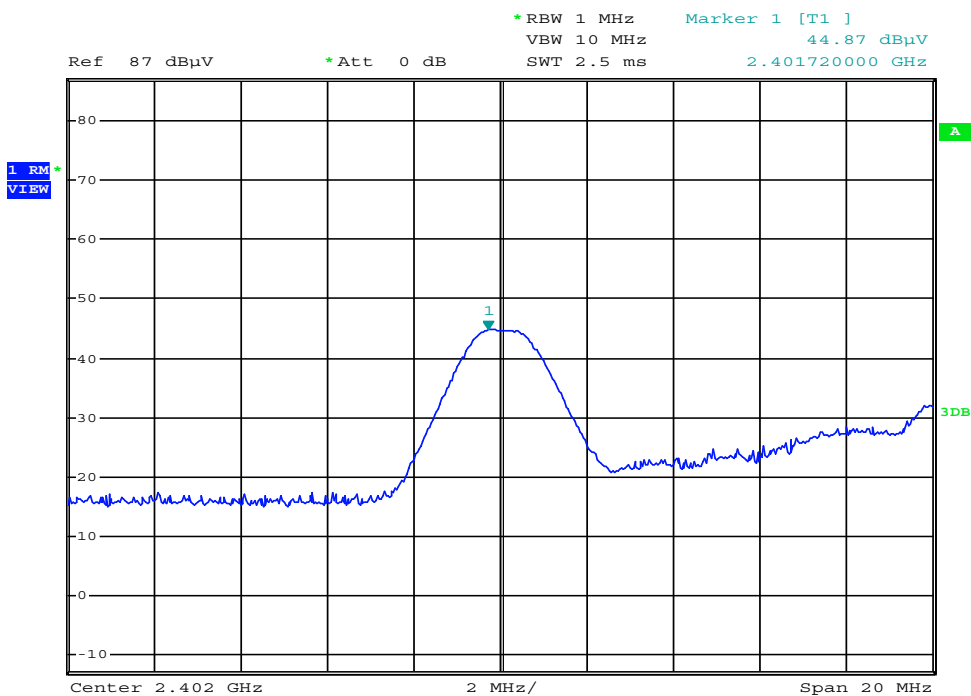
60.05 dBuV

FCC §15.249(a), RSS-210 Radiated Field Strength										
Frequency (MHz)	Mode	Modulation	Detector	Antenna Polarization	Measured Field Strength [FS _{Meas}] (dBuV @ 3m)	Cable Loss [L _c] (dBm)	Receive Antenna [ACF] (dB)	Corrected Field Strength [FS _{Corr}] (dBuV @3m)	Limit (dBuV)	Margin (dB)
2402.0	BLE	GMSK	RMS	Horizontal	44.87	4.6	28.3	77.77	94.0	16.2
2442.0					46.34			79.24		14.8
2480.0					47.99			80.89		13.1
2402.0				Vertical	48.90			81.80		12.2
2442.0					51.61			84.51		9.5
2480.0					49.66			82.56		11.4
2480.0			Peak	Horizontal	54.27			87.17	114.0	26.8
2442.0				Vertical	59.06			91.96		22.0
Result:									Complies	

$$FS_{Corr} = FS_{Meas} + ACF + L_C$$

$$Margin = Limit - FS_{Corr}$$

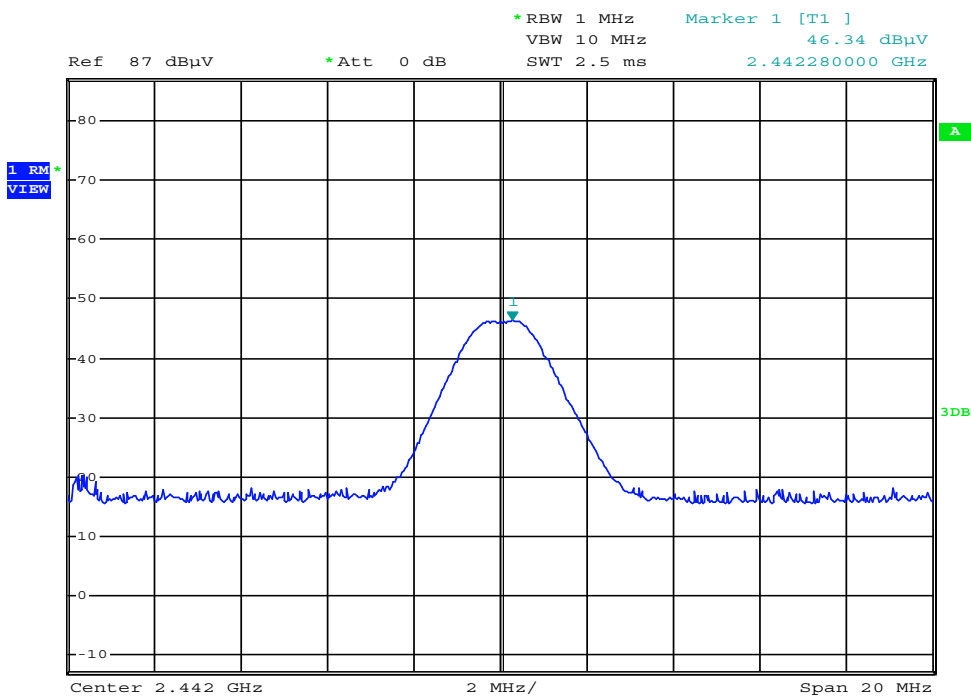
Field Strength (Average)



Date: 20.NOV.2020 16:00:24

Channel Frequency: 2402.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GMSK	Protocol: BLE	Measured Field Strength: 44.87 dBuV

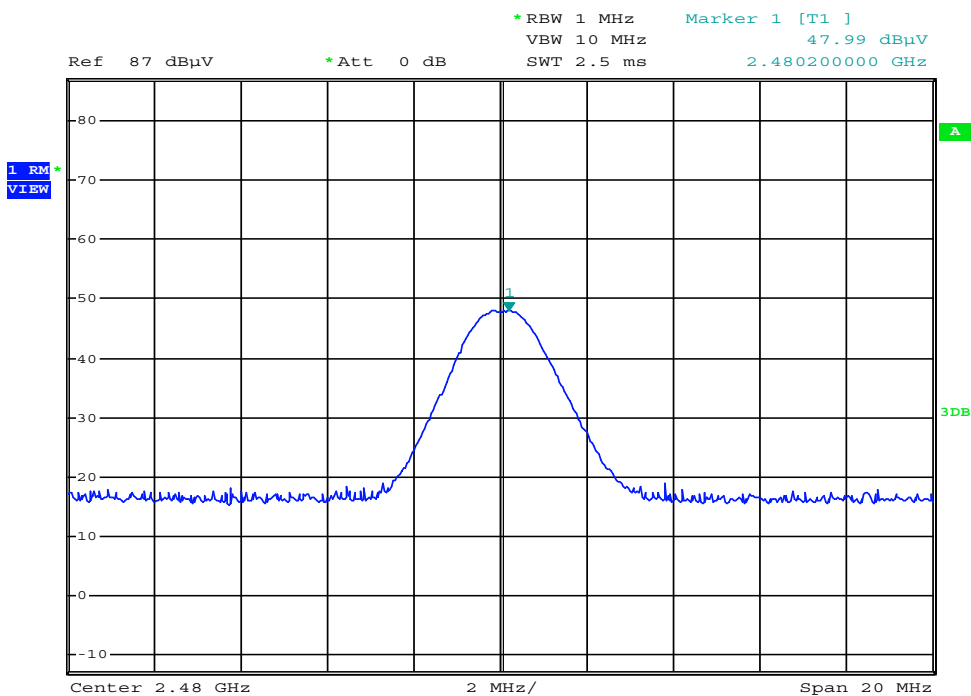
Field Strength (Average)



Date: 20.NOV.2020 15:58:30

Channel Frequency: 2442.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GMSK	Protocol: BLE	Measured Field Strength: 46.34 dBuV

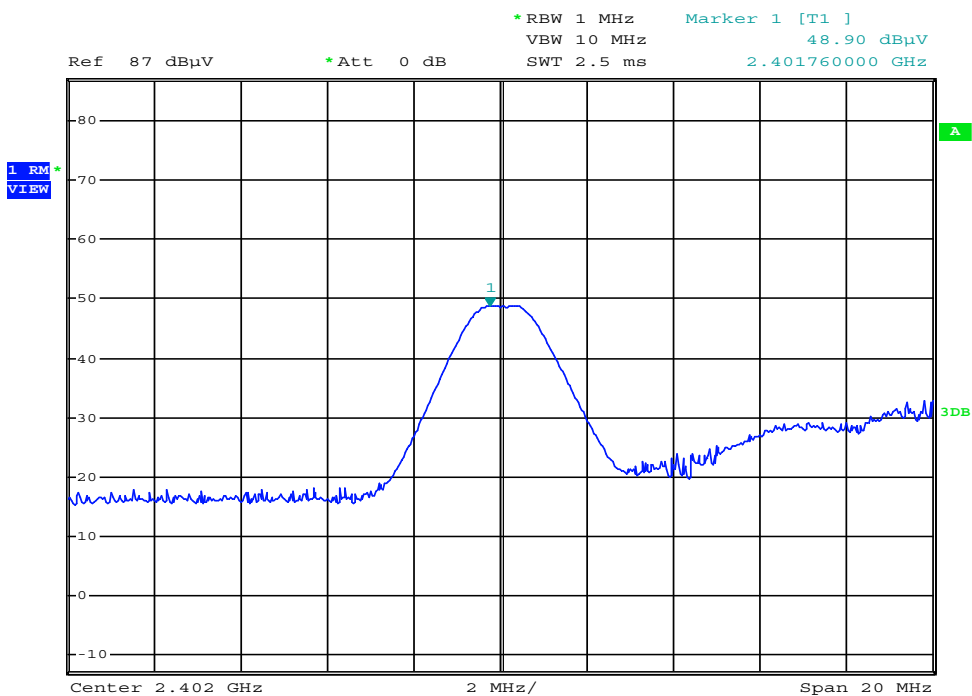
Field Strength (Average)



Date: 20.NOV.2020 16:03:24

Channel Frequency: 2480.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GMSK	Protocol: BLE	Measured Field Strength: 47.99 dBuV

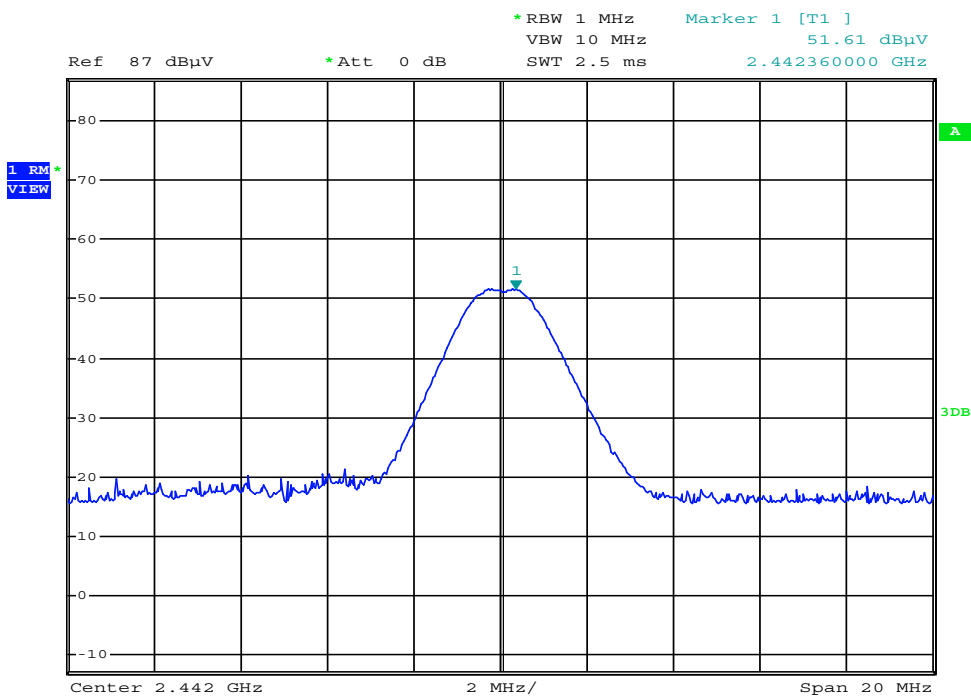
Field Strength (Average)



Date: 20.NOV.2020 16:31:32

Channel Frequency: 2402.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GMSK	Protocol: BLE	Measured Field Strength: 48.90 dBuV

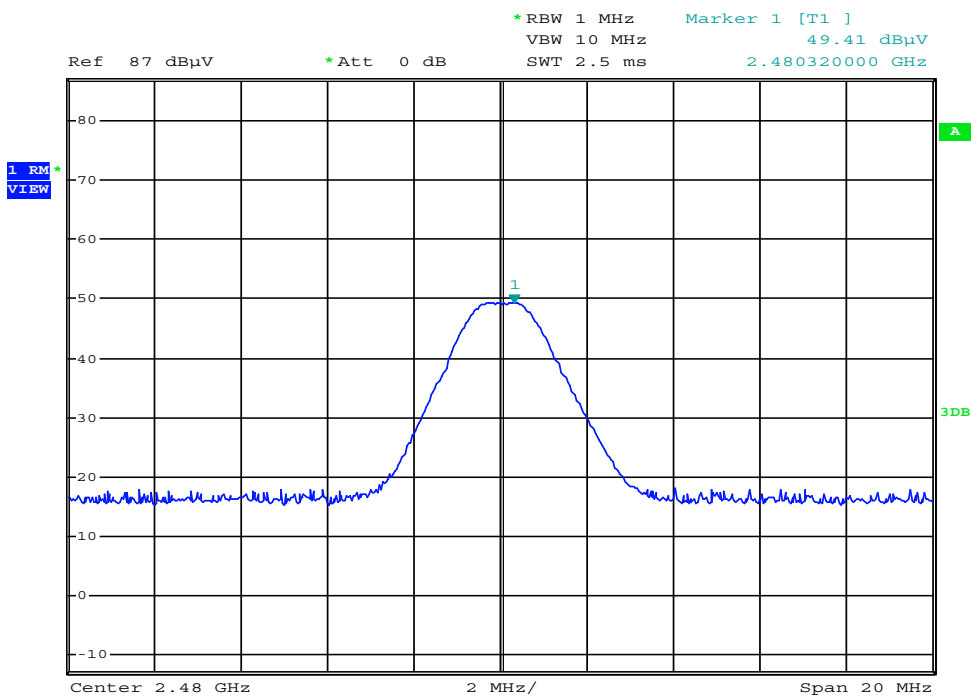
Field Strength (Average)



Date: 20.NOV.2020 16:29:25

Channel Frequency: 2442.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GMSK	Protocol: BLE	Measured Field Strength: 51.61 dBuV

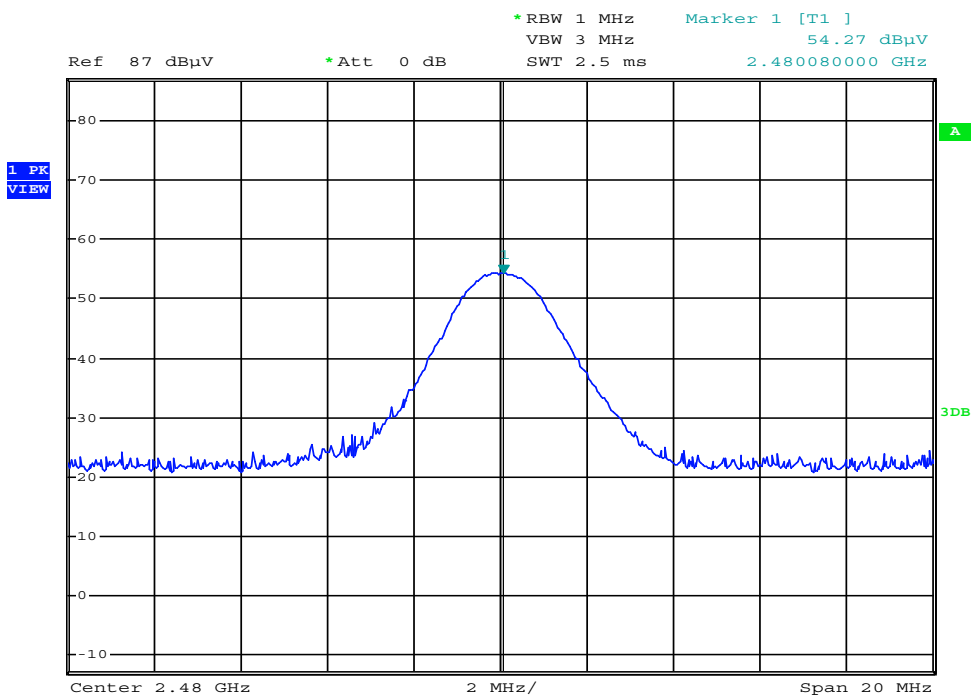
Field Strength (Average)



Date: 20.NOV.2020 16:32:58

Channel Frequency: 2480.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GMSK	Protocol: BLE	Measured Field Strength: 49.66 dBuV

Field Strength (Peak)



Date: 23.NOV.2020 16:14:14

Channel Frequency:

2480.00 MHz

Detector:

Peak

Antenna Polarization:

Horizontal

Modulation Setting:

GMSK

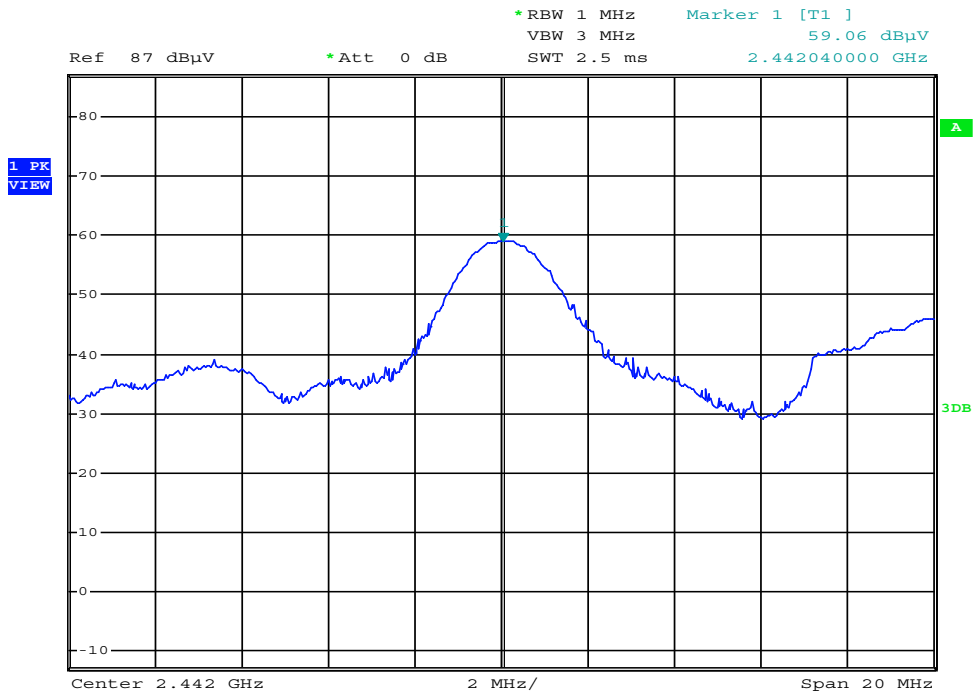
Protocol:

BLE

Measured Field Strength:

54.27 dB μ V

Field Strength (Peak)



Date: 23.NOV.2020 12:00:44

Channel Frequency:

2442.00 MHz

Detector:

Peak

Antenna Polarization:

Vertical

Modulation Setting:

GMSK

Protocol:

BLE

Measured Field Strength:

59.06 dBuV

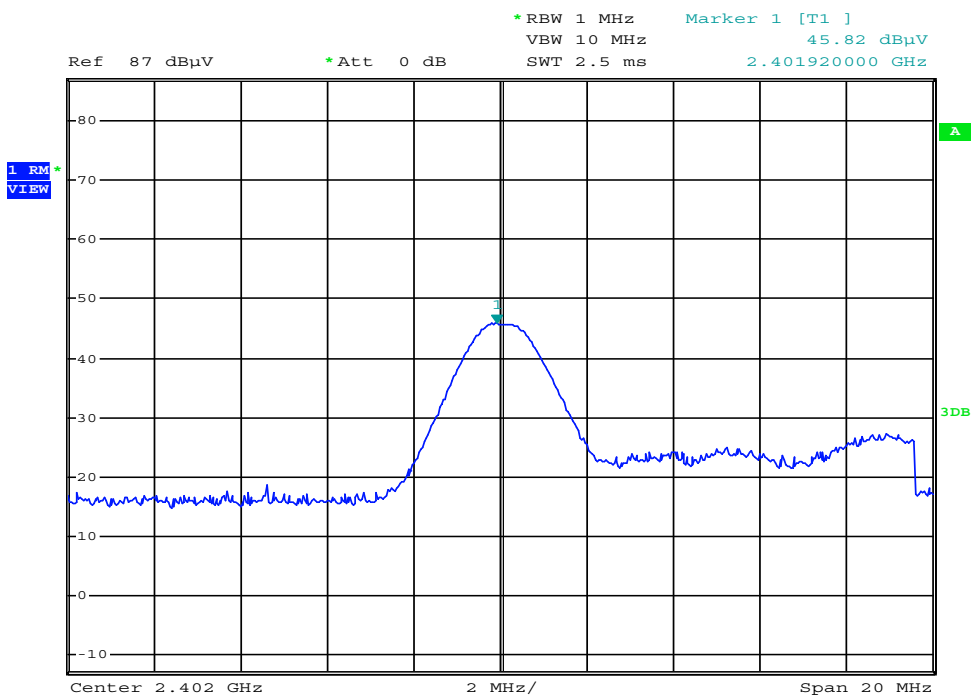
FCC §15.249(a), RSS-210 Radiated Field Strength

Frequency (MHz)	Mode	Modulation	Detector	Antenna Polarization	Measured Field Strength [FS _{Meas}] (dBuV @ 3m)	Cable Loss [L _c] (dBm)	Receive Antenna [ACF] (dB)	Corrected Field Strength [FS _{Corr}] (dBuV @3m)	Limit (dBuV)	Margin (dB)
2402.0	ANT	GFSK	RMS	Horizontal	45.82	4.6	28.3	78.72	94.0	15.3
2442.0					46.22			79.12		14.9
2480.0					46.17			79.07		14.9
2402.0				Vertical	50.00			82.90		11.1
2442.0					50.60			83.50		10.5
2480.0					49.66			82.56		11.4
2442.0			Peak	Horizontal	50.06			82.96	114.0	31.0
2442.0				Vertical	54.18			87.08		26.9
Result:									Complies	

$$FS_{Corr} = FS_{Meas} + ACF + L_C$$

$$Margin = Limit - FS_{Corr}$$

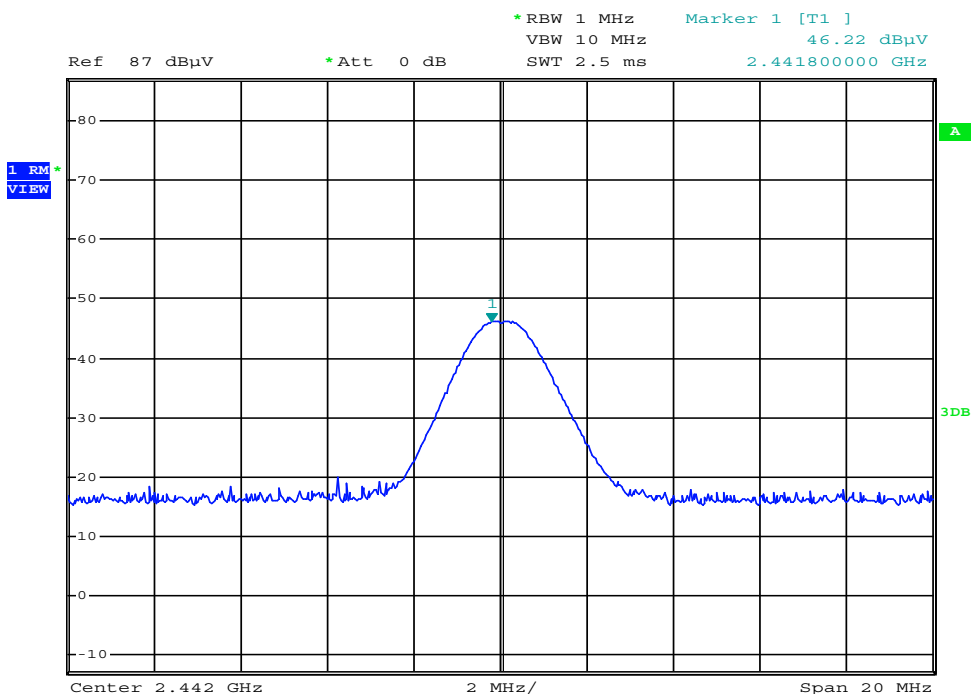
Field Strength (Average)



Date: 20.NOV.2020 16:06:51

Channel Frequency: 2402.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GFSK	Protocol: ANT	Measured Field Strength: 45.82 dBuV

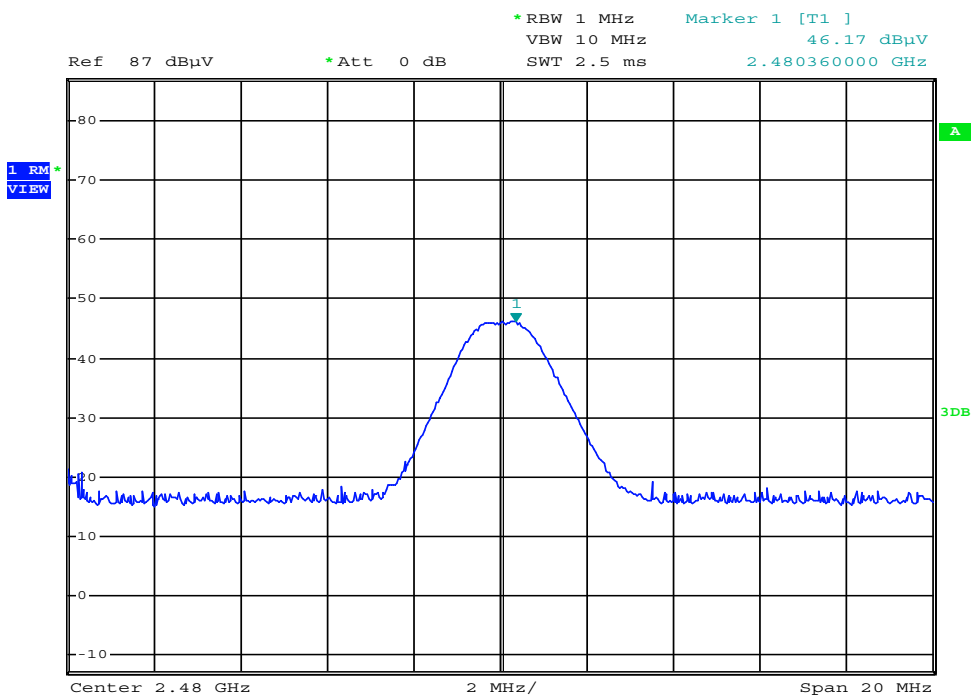
Field Strength (Average)



Date: 20.NOV.2020 16:05:04

Channel Frequency: 2442.00 MHz	Detector: RMS	Antenna Polarization: Horizontal
Modulation Setting: GFSK	Protocol: ANT	Measured Field Strength: 46.22 dBuV

Field Strength (Average)



Date: 20.NOV.2020 16:01:55

Channel Frequency:

2480.00 MHz

Detector:

RMS

Antenna Polarization:

Horizontal

Modulation Setting:

GFSK

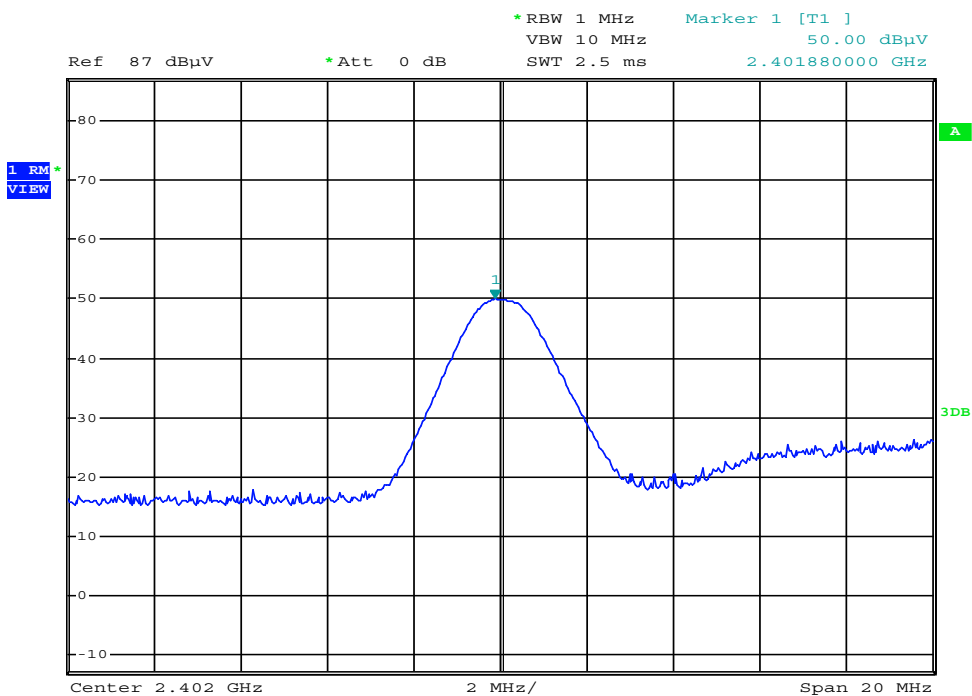
Protocol:

ANT

Measured Field Strength:

46.17 dBμV

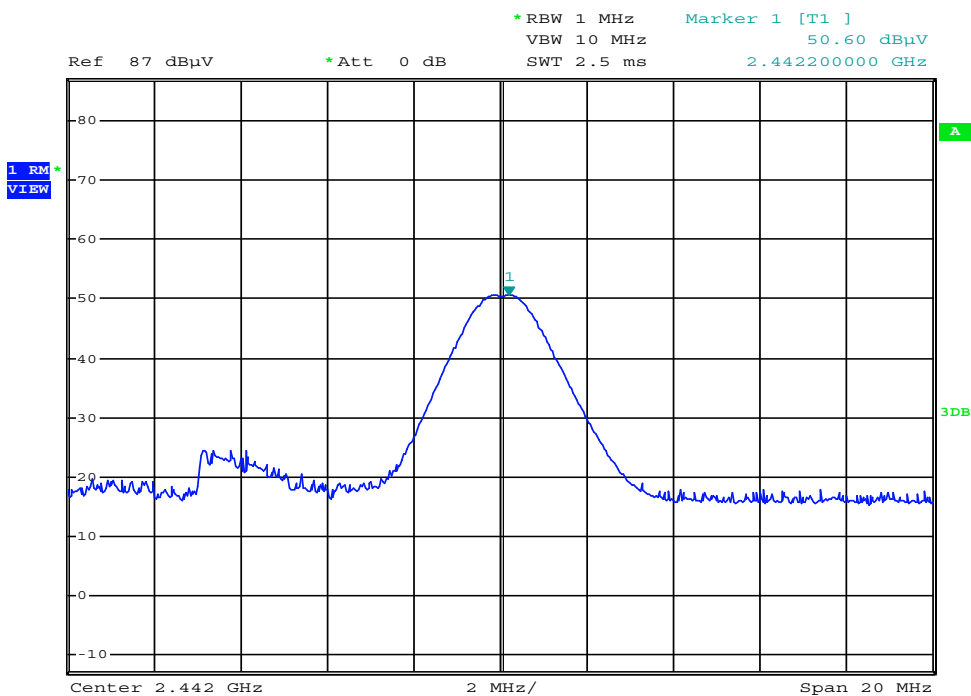
Field Strength (Average)



Date: 20.NOV.2020 16:08:13

Channel Frequency: 2402.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GFSK	Protocol: ANT	Measured Field Strength: 50.00 dBuV

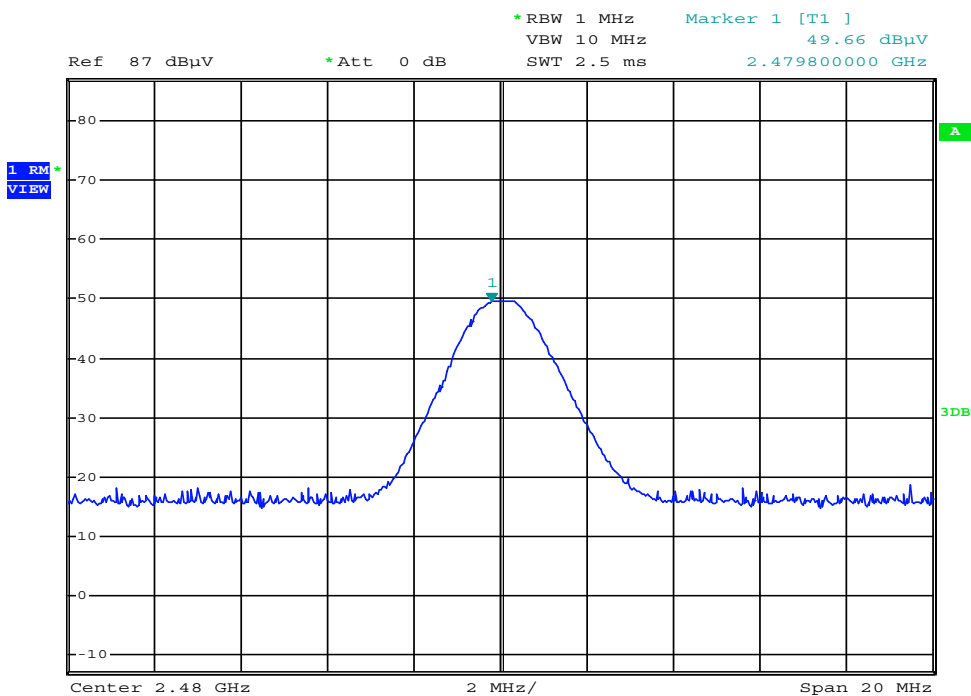
Field Strength (Average)



Date: 20.NOV.2020 16:12:39

Channel Frequency: 2442.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GFSK	Protocol: ANT	Measured Field Strength: 50.60 dBuV

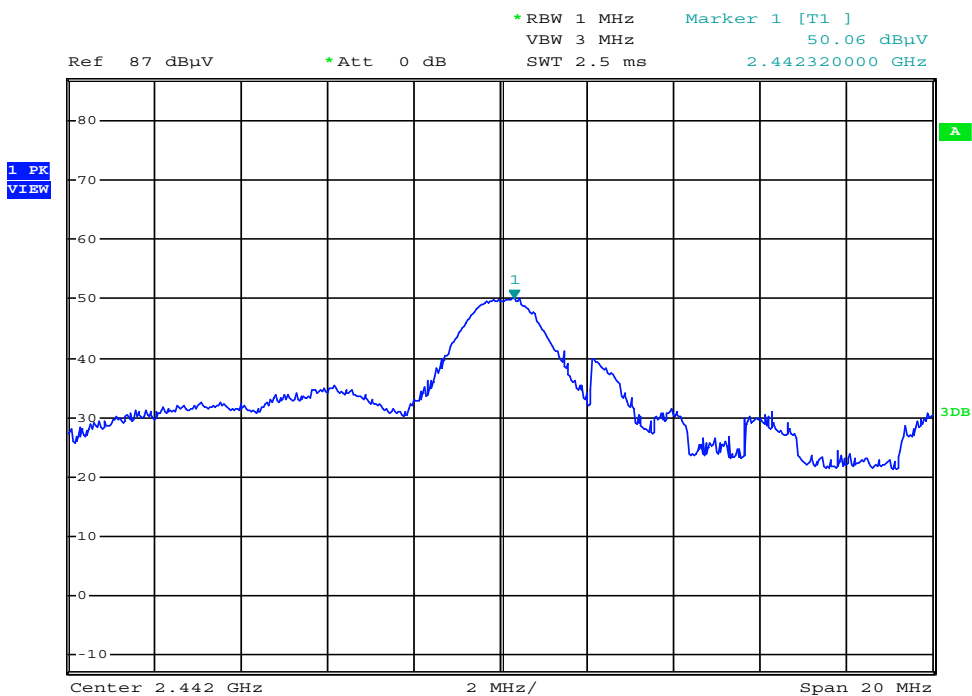
Field Strength (Average)



Date: 20.NOV.2020 16:10:57

Channel Frequency: 2480.00 MHz	Detector: RMS	Antenna Polarization: Vertical
Modulation Setting: GFSK	Protocol: ANT	Measured Field Strength: 49.66 dBuV

Field Strength (Peak)



Date: 23.NOV.2020 12:05:31

Channel Frequency:

2442.00 MHz

Detector:

Peak

Antenna Polarization:

Horizontal

Modulation Setting:

GFSK

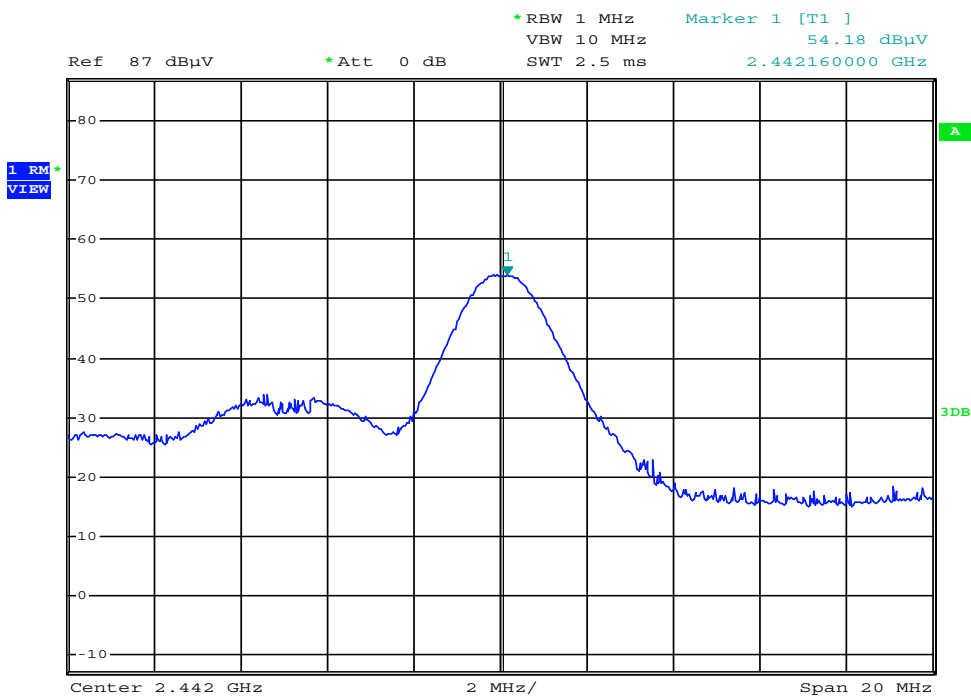
Protocol:

ANT

Measured Field Strength:

50.06 dB μ V

Field Strength (Peak)



Date: 23.NOV.2020 15:11:37

Channel Frequency:

2442.00 MHz

Detector:

Peak

Antenna Polarization:

Vertical

Modulation Setting:

GFSK

Protocol:

ANT

Measured Field Strength:

54.18 dBuV