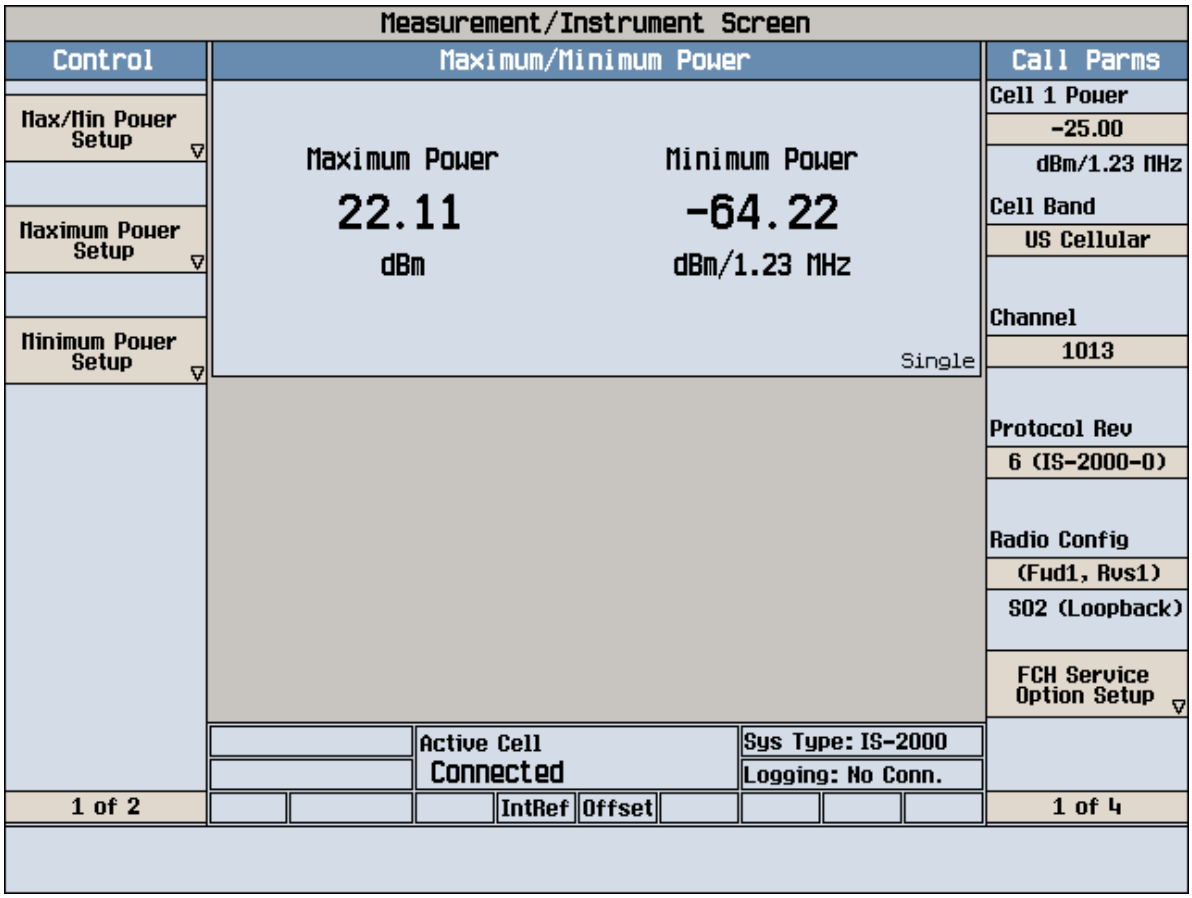
# Appendix A

## Effective Radiated Power of Transmitter

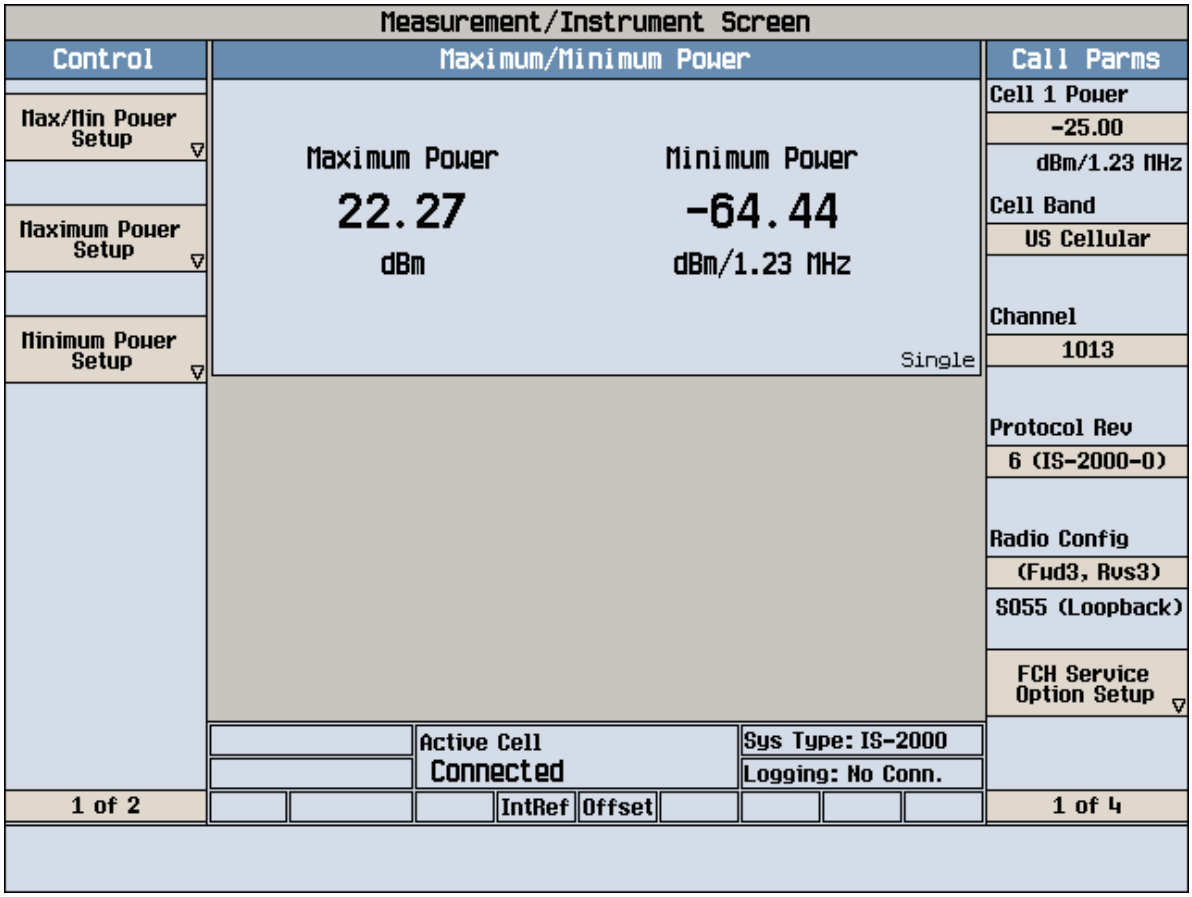
According to FCC Part 2.1046 & 22.913

# Channel 1013

TM1:

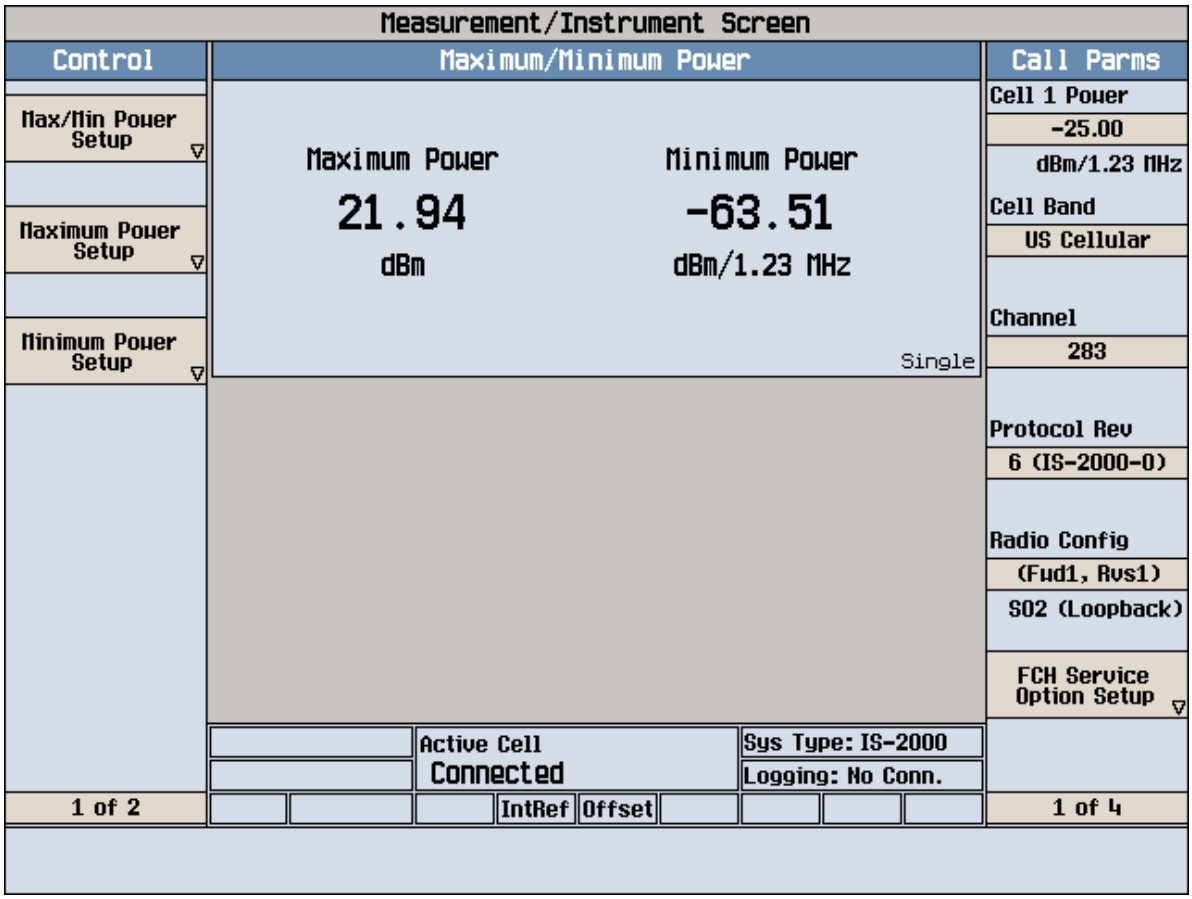


TM3:

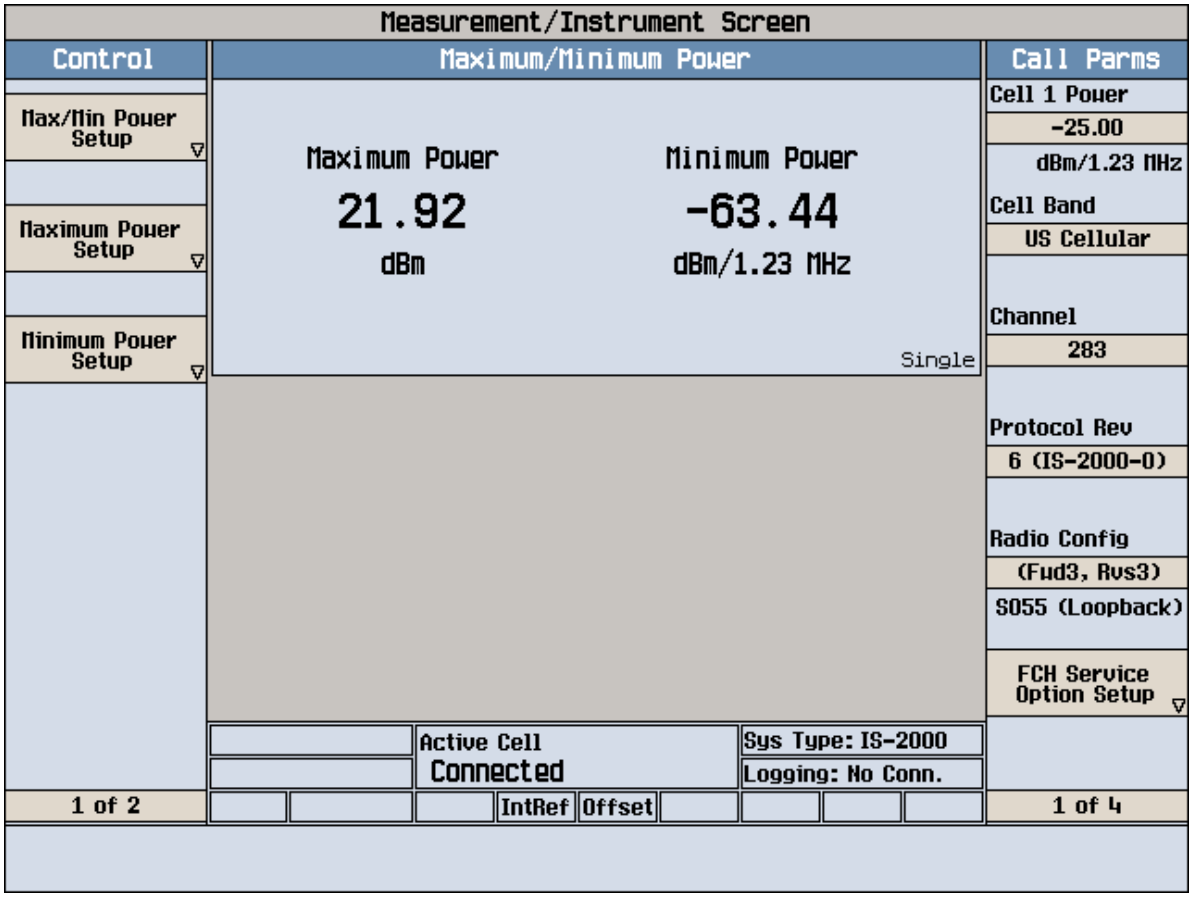

Measurement/Instrument Screen
Control
Maximum/Minimum Power
Call Parms
Max/Min Power Setup
Maximum Power Setup
Minimum Power Setup
Maximum Power
22.27
dBm
Minimum Power
-64.44
dBm/1.23 MHz
Single
Cell 1 Power
-25.00
dBm/1.23 MHz
Cell Band
US Cellular
Channel
1013
Protocol Rev
6 (IS-2000-0)
Radio Config
(Fwd3, Rvs3)
S055 (Loopback)
FCH Service Option Setup
Active Cell
Connected
Sys Type: IS-2000
Logging: No Conn.
1 of 2
IntRef
Offset
1 of 4

# Channel 283

TM1:

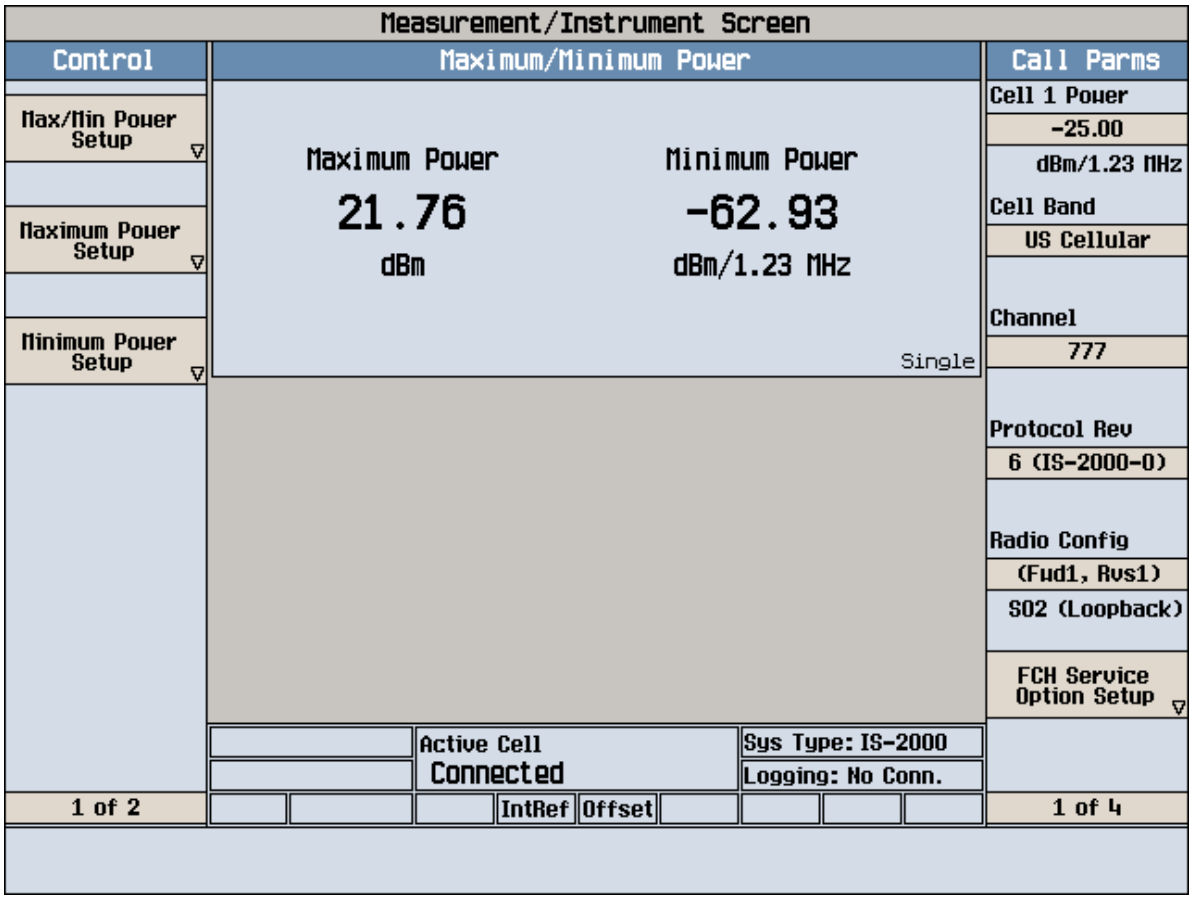


TM3:

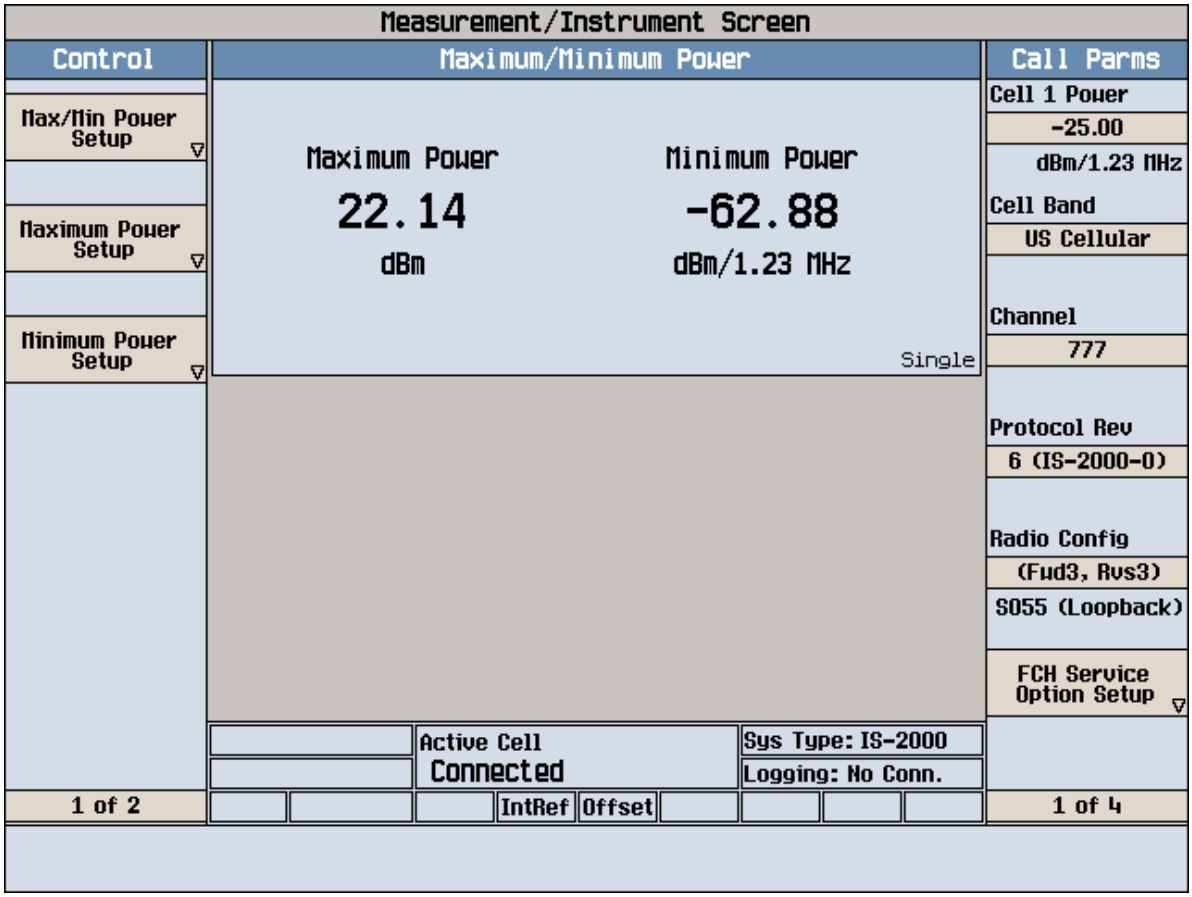

Measurement/Instrument Screen
Control
Maximum/Minimum Power
Call Parms
Max/Min Power Setup
Maximum Power Setup
Minimum Power Setup
Maximum Power
21.92
dBm
Minimum Power
-63.44
dBm/1.23 MHz
Single
Cell 1 Power
-25.00
dBm/1.23 MHz
Cell Band
US Cellular
Channel
283
Protocol Rev
6 (IS-2000-0)
Radio Config
(Fwd3, Rvs3)
S055 (Loopback)
FCH Service Option Setup
Active Cell
Connected
Sys Type: IS-2000
Logging: No Conn.
1 of 2
IntRef
Offset
1 of 4

# Channel 777

TM1:



TM3:

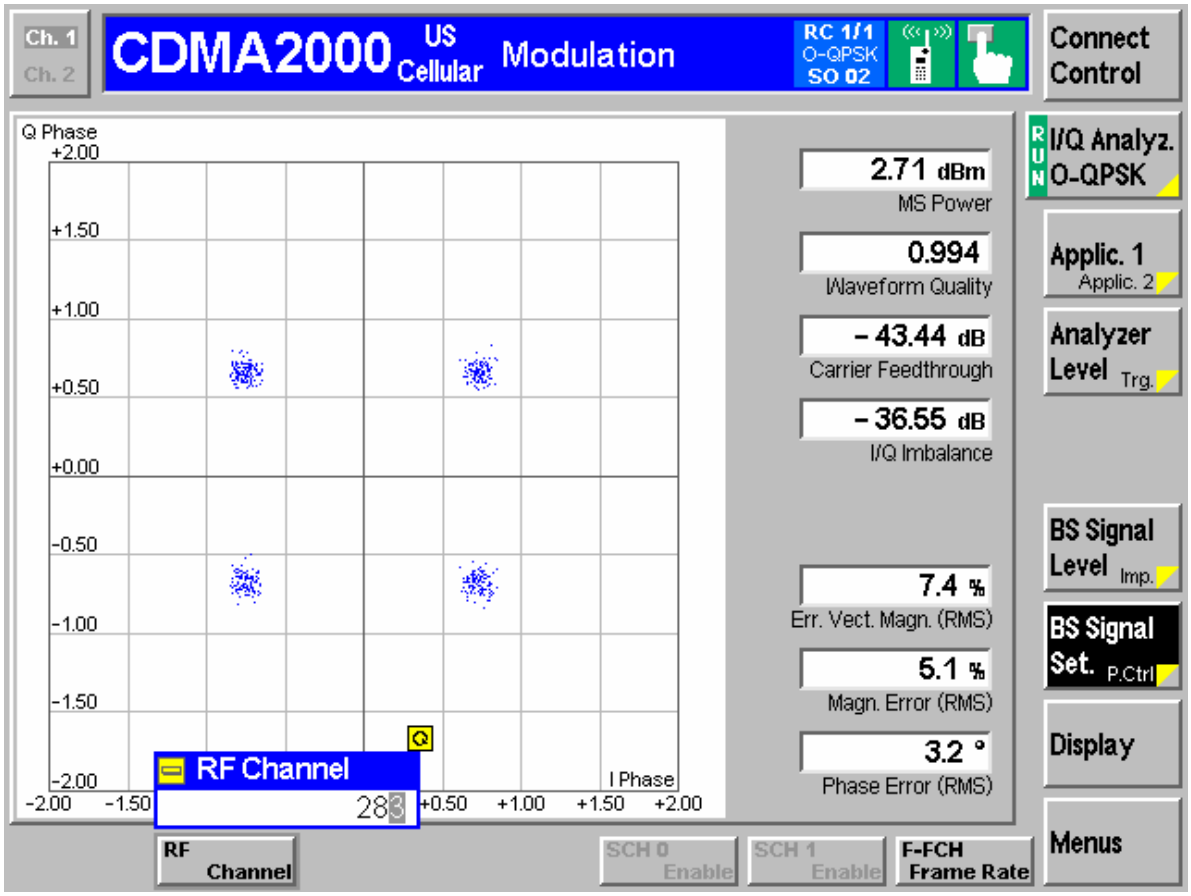

Measurement/Instrument Screen
Control
Maximum/Minimum Power
Call Parms
Max/Min Power Setup
Maximum Power Setup
Minimum Power Setup
Maximum Power
22.14
dBm
Minimum Power
-62.88
dBm/1.23 MHz
Single
Cell 1 Power
-25.00
dBm/1.23 MHz
Cell Band
US Cellular
Channel
777
Protocol Rev
6 (IS-2000-0)
Radio Config
(Fwd3, Rvs3)
S055 (Loopback)
FCH Service Option Setup
Active Cell
Connected
Sys Type: IS-2000
Logging: No Conn.
1 of 2
IntRef
Offset
1 of 4

# Appendix B

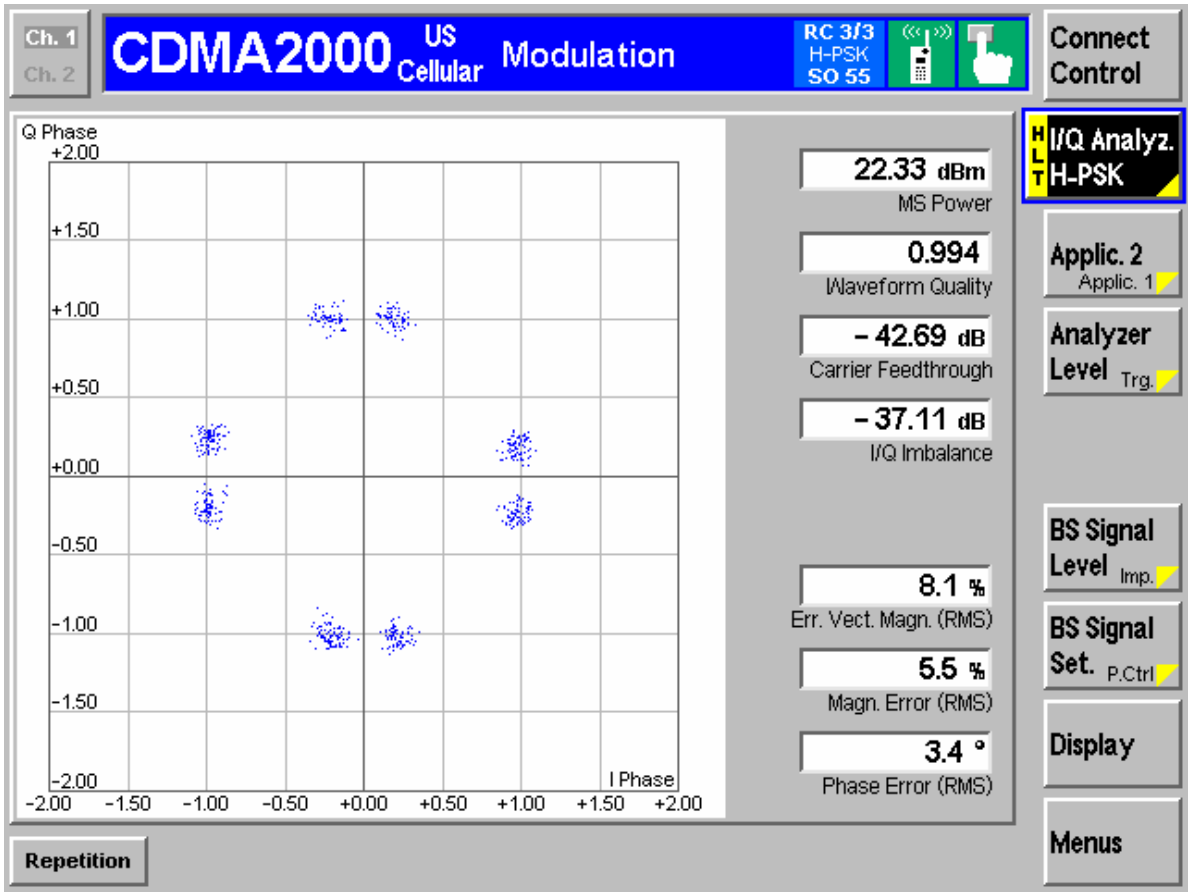
## Modulation Characteristics

According to FCC Part 2.1047 & Part22 Subpart H

# Channel 283（TM1）



# Channel 283（TM3）

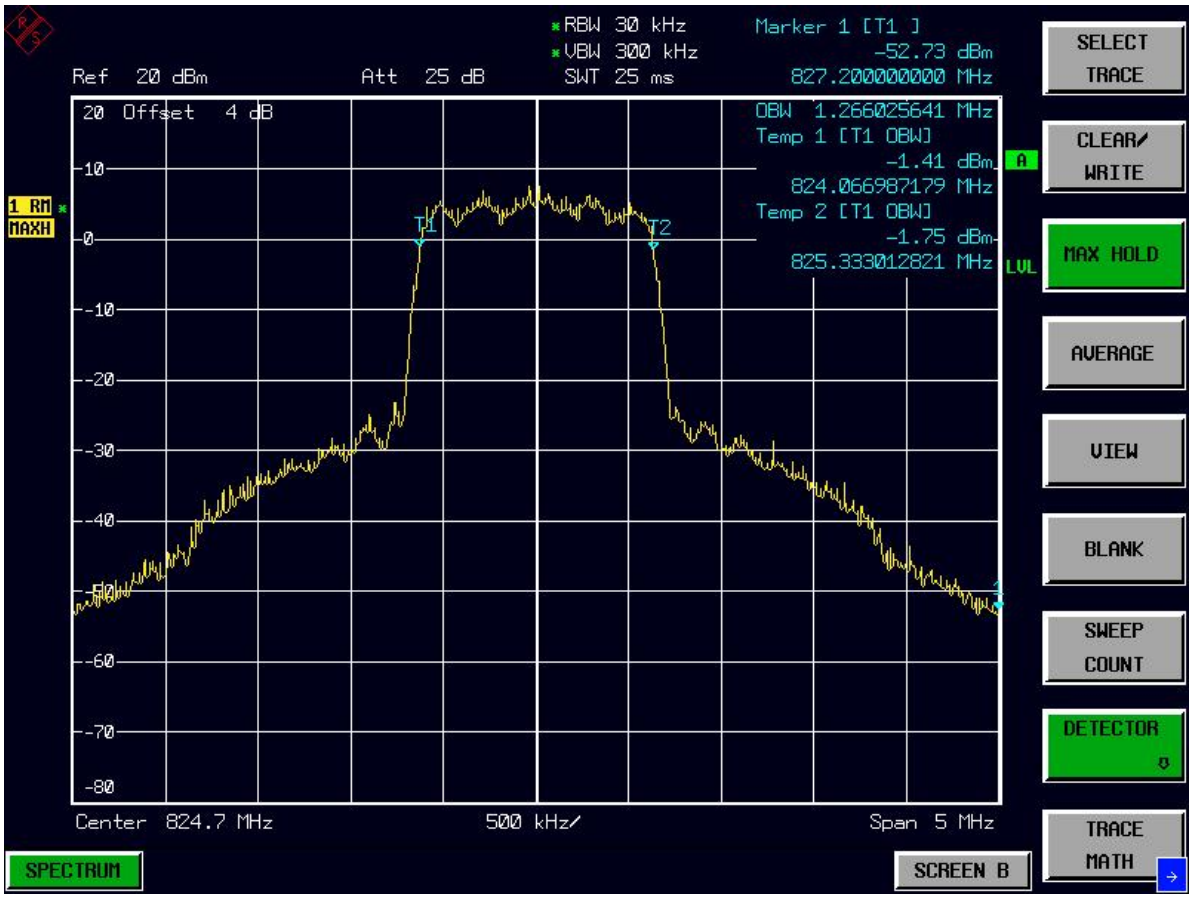


# Appendix C

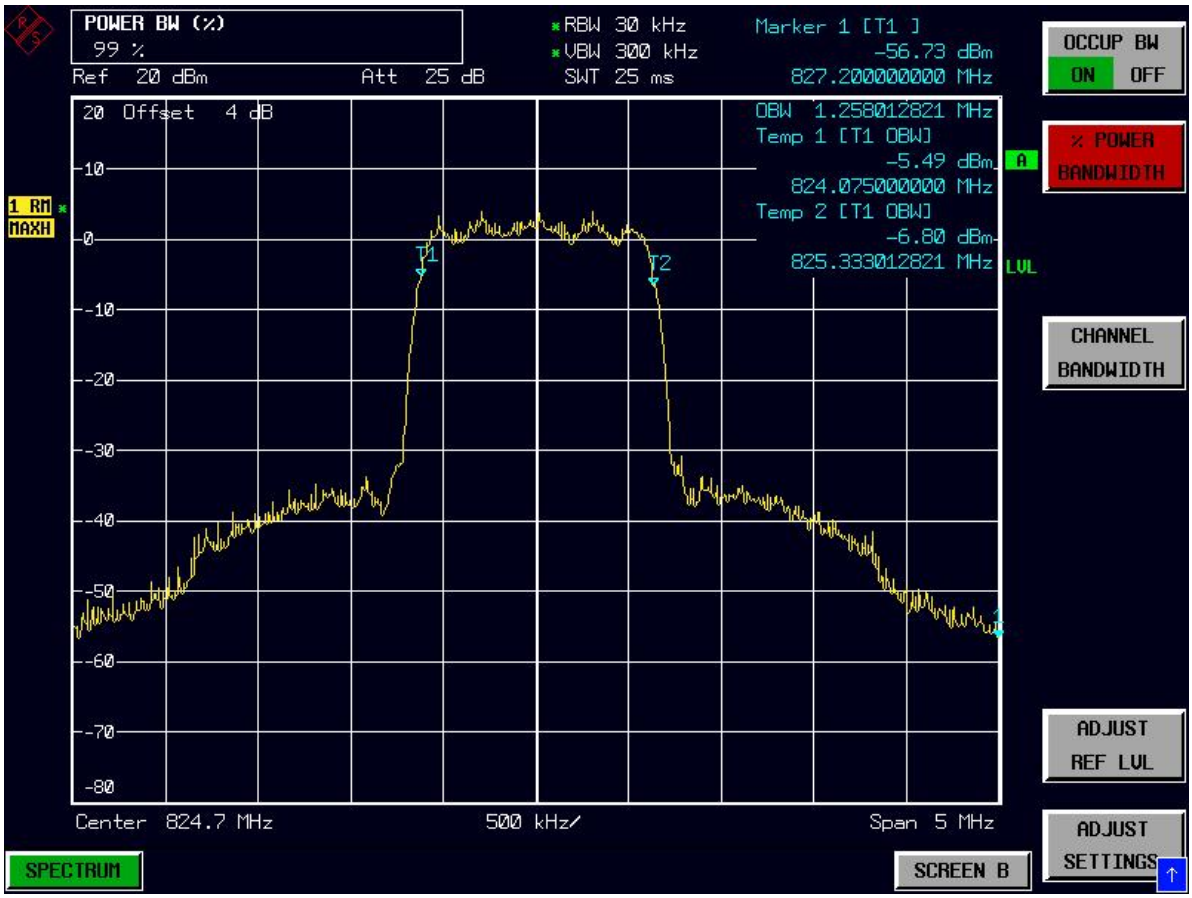
## Occupied Bandwidth

According to FCC Part 2.1049 & Part 22 Subpart H

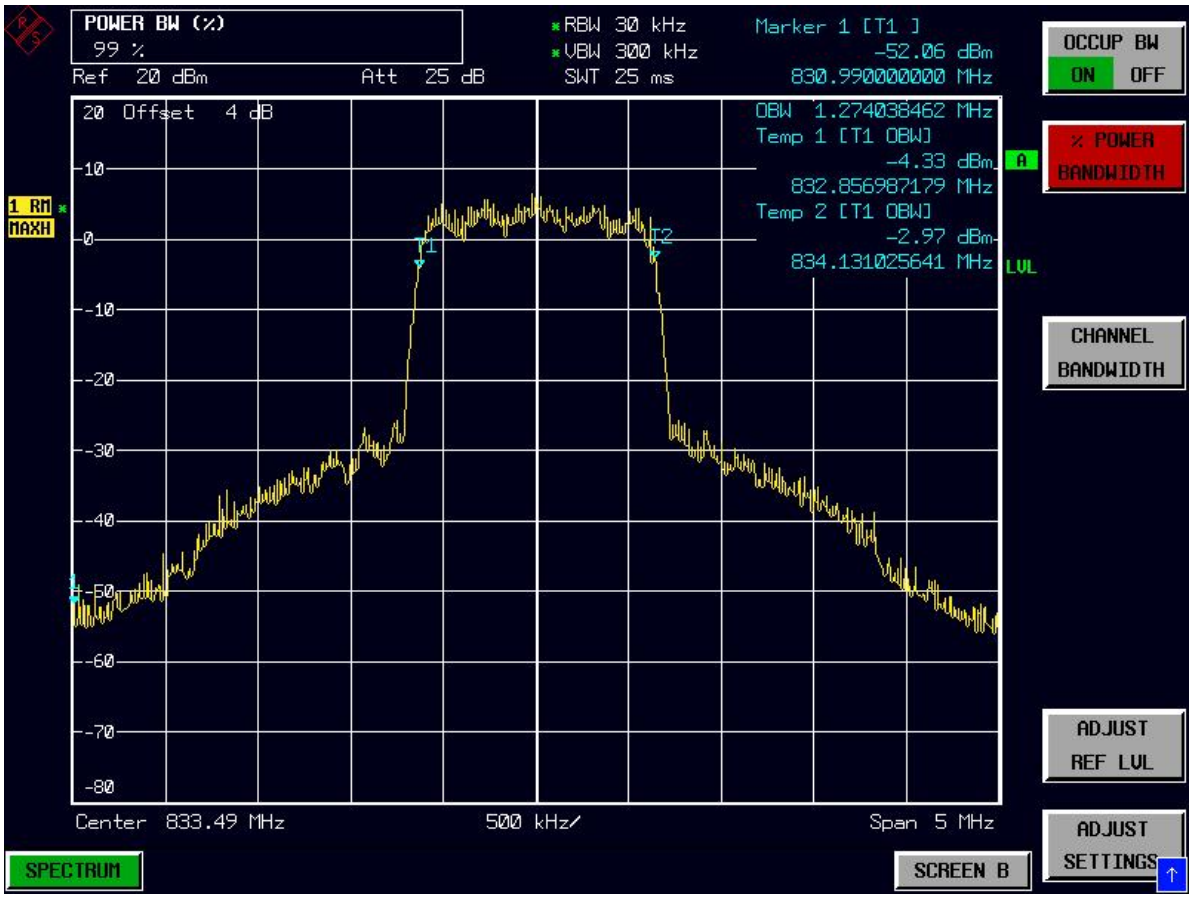
# Channel 1013（TM1）



# Channel 1013（TM3）

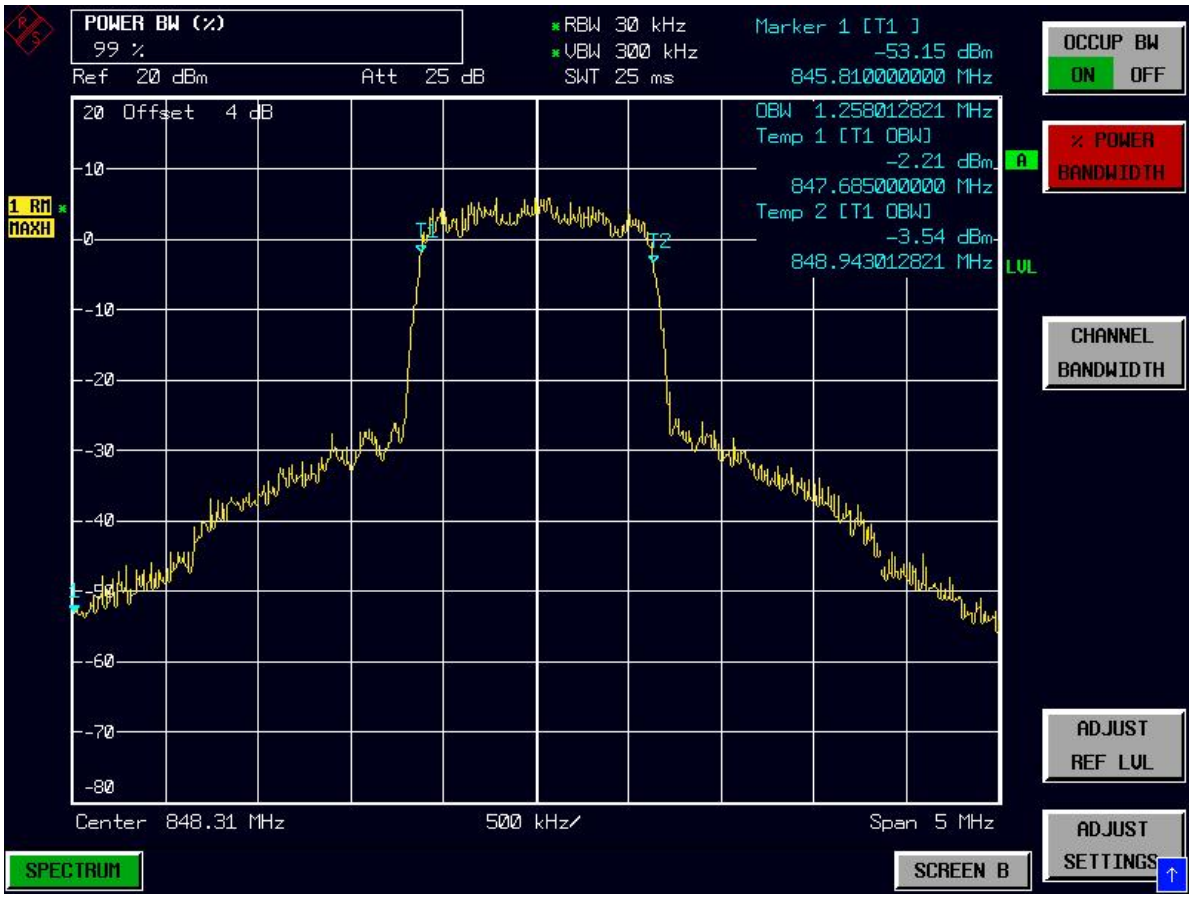


# Channel 283（TM1）

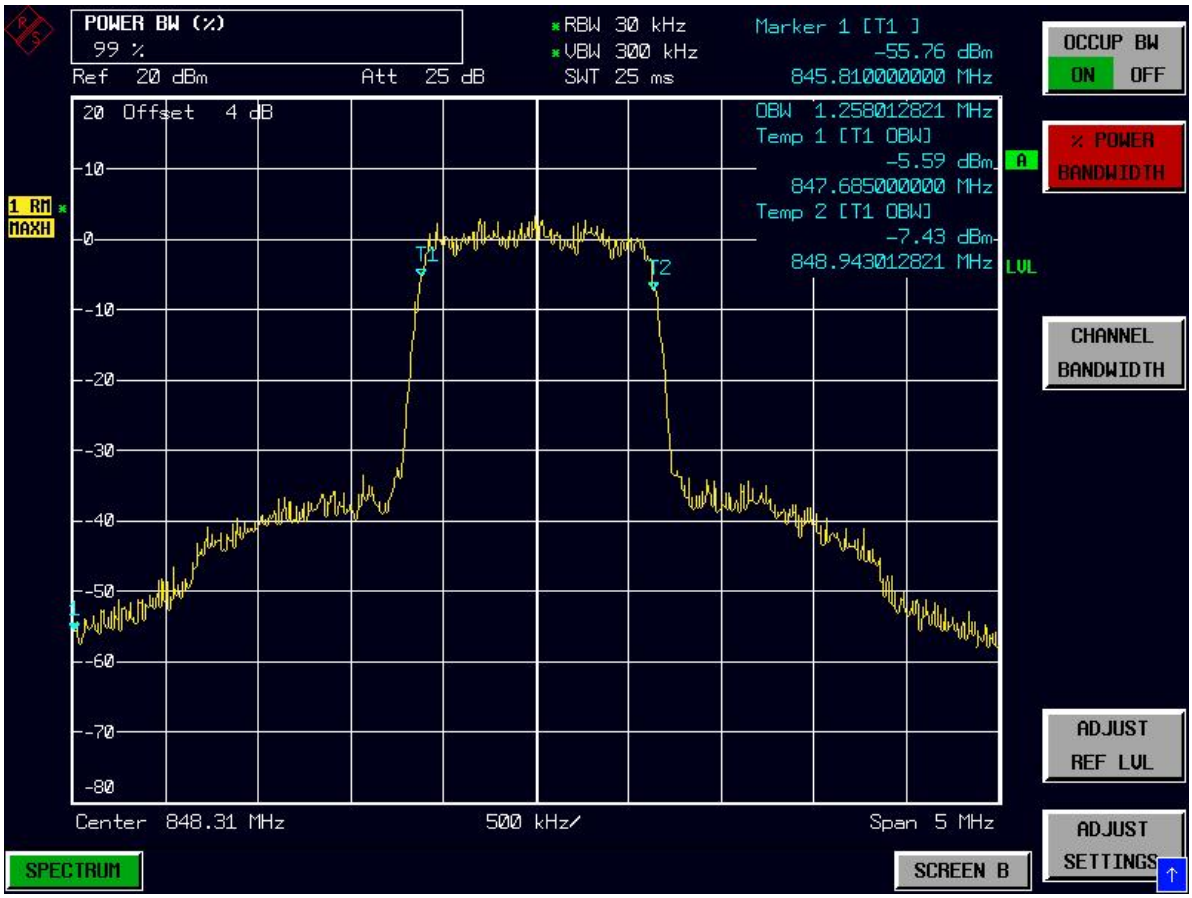


# Channel 283（TM3）

# Channel 777（TM1）



# Channel 777（TM3）



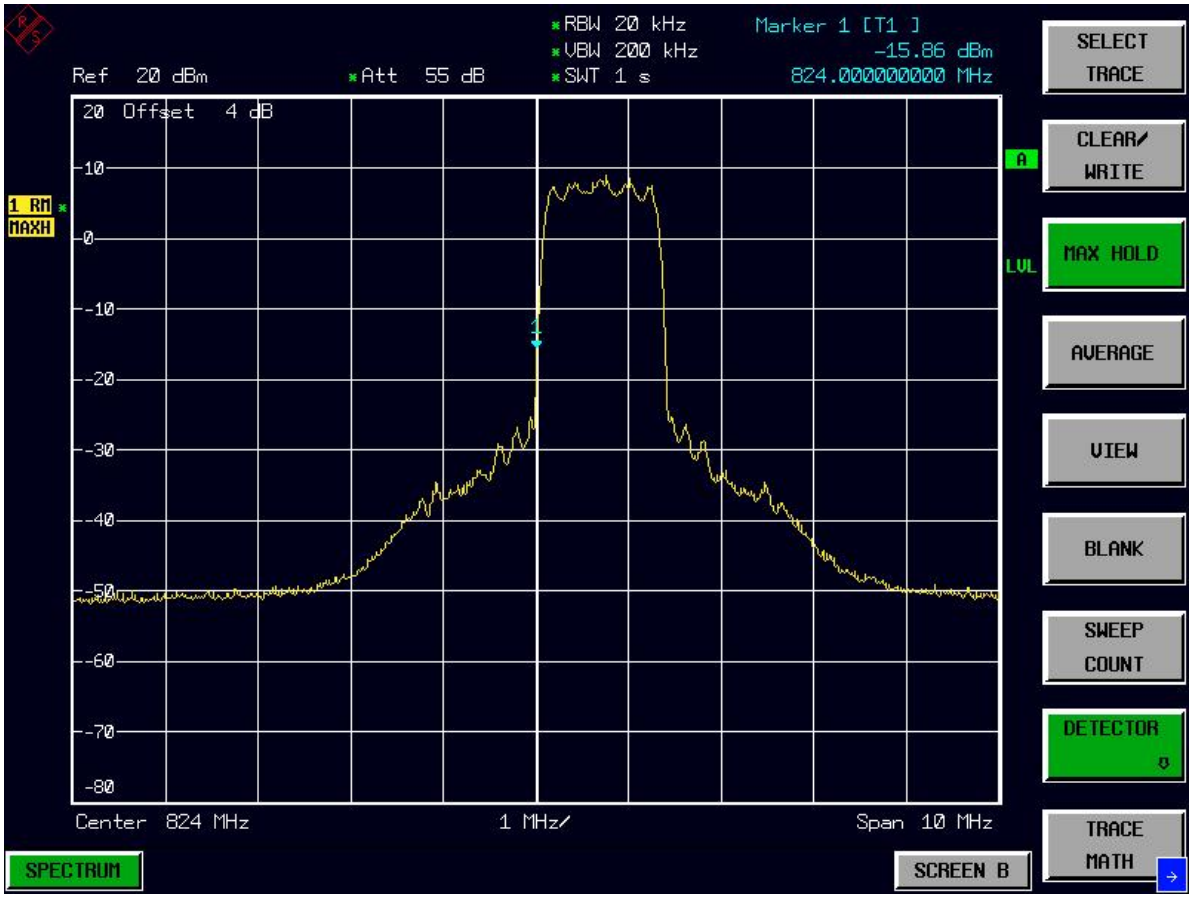
# Appendix D

## Band Edges Compliance

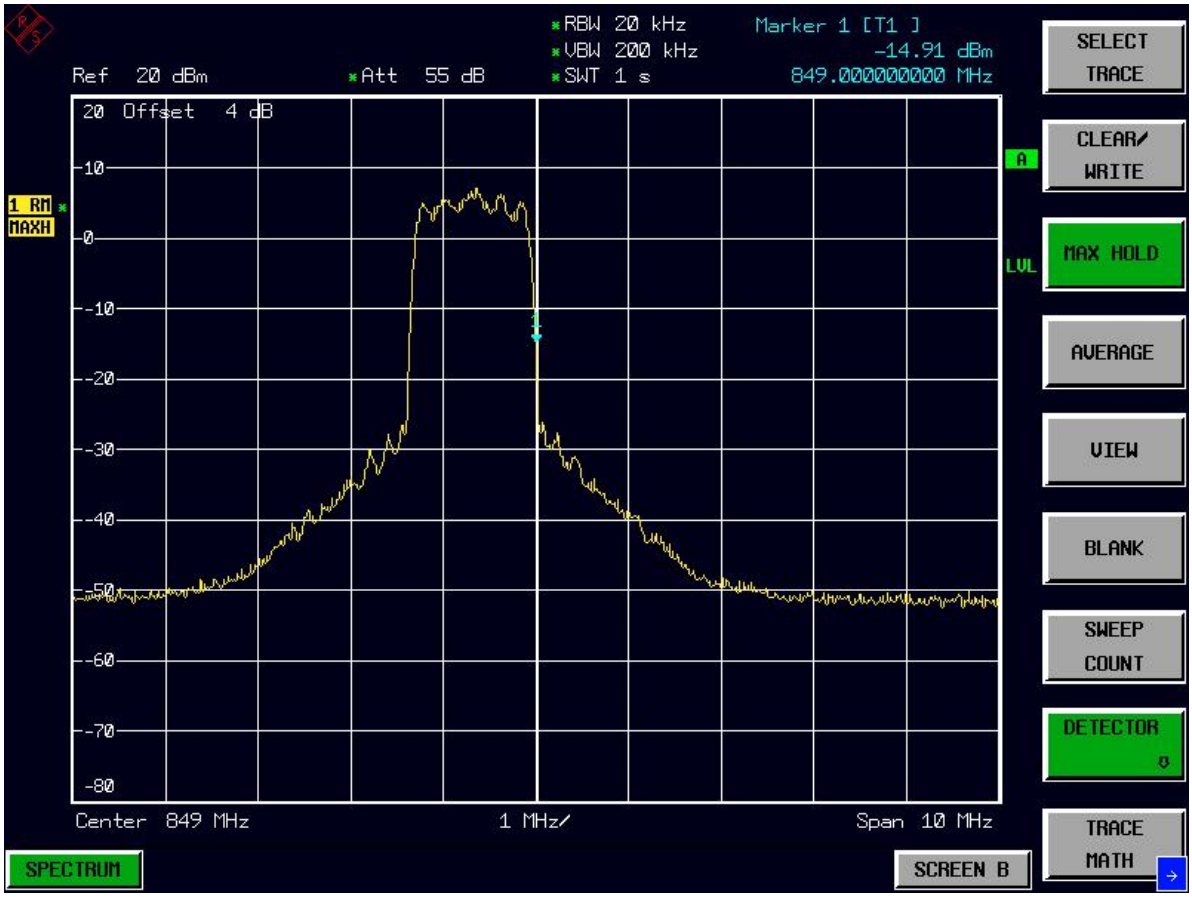
According to FCC Part 2.1051 & 22.917

# TM1

Left Edge (824 MHz)
Channel 1013

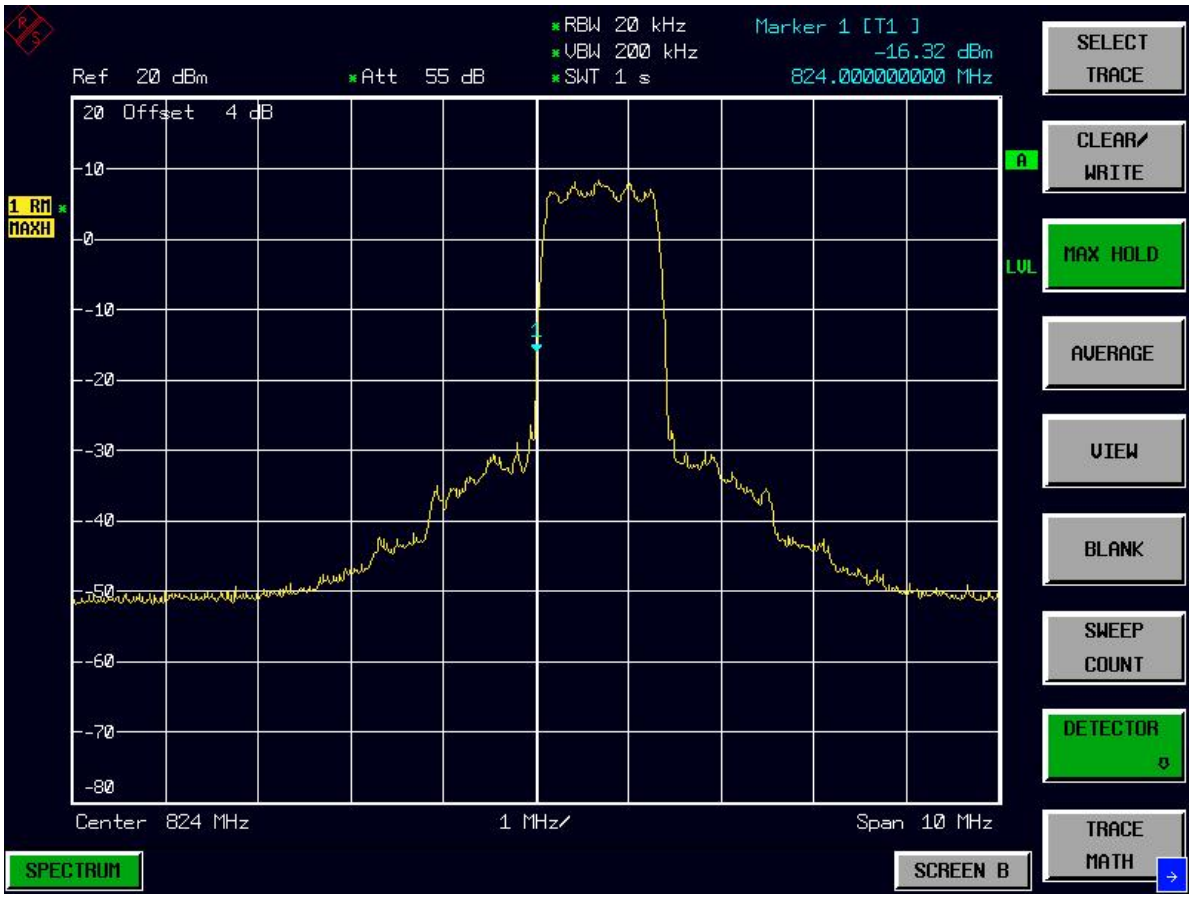


Right Edge (849MHz)
Channel 777

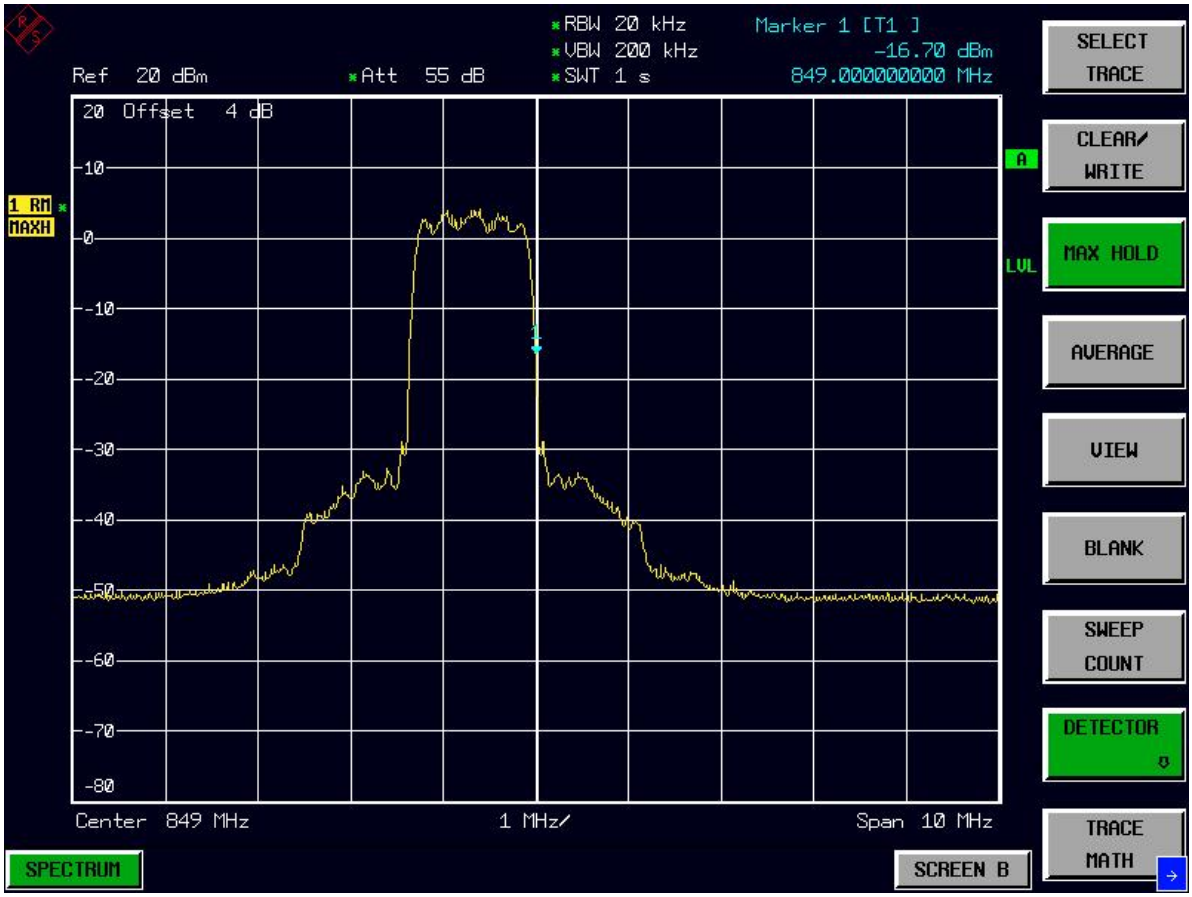


# TM3

Left Edge (824 MHz)
Channel 1013



Right Edge (849MHz)
Channel 777



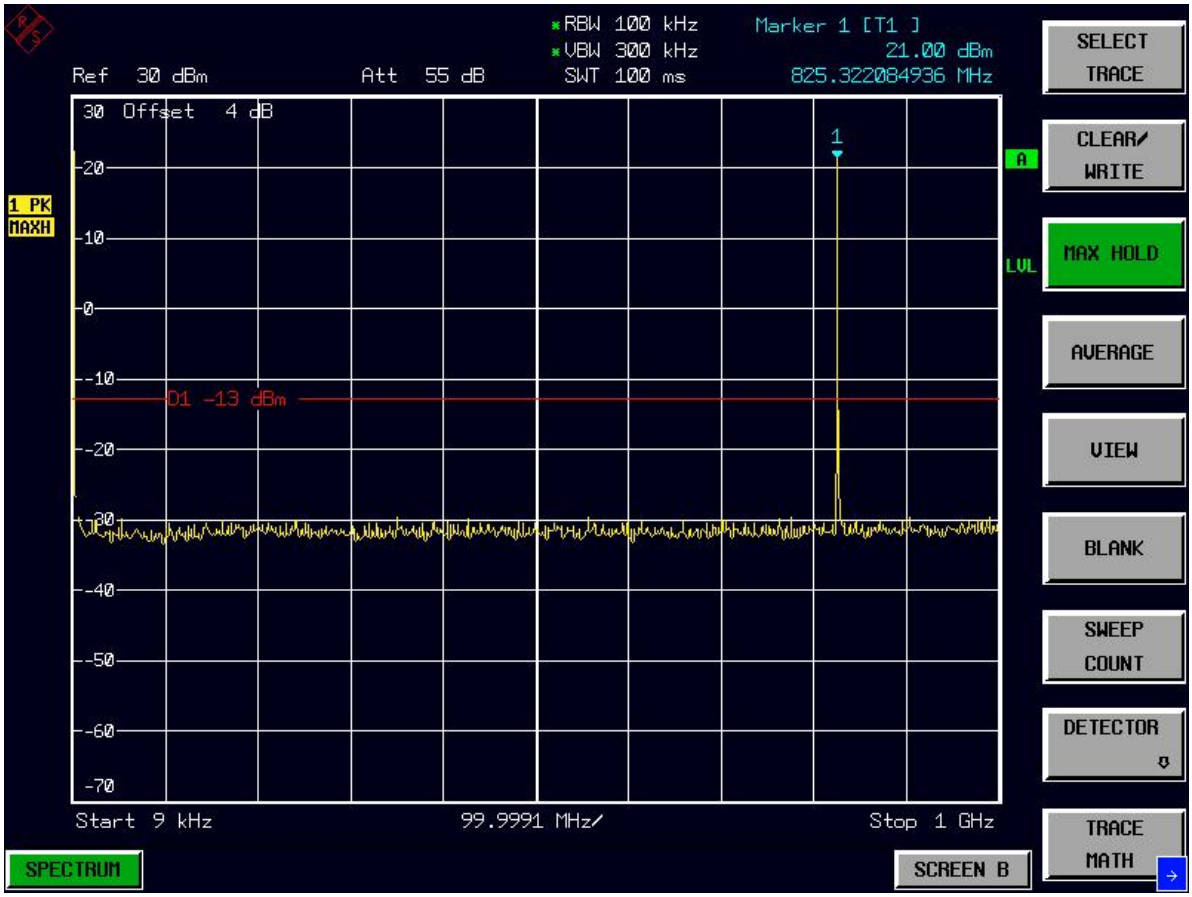
# Appendix E

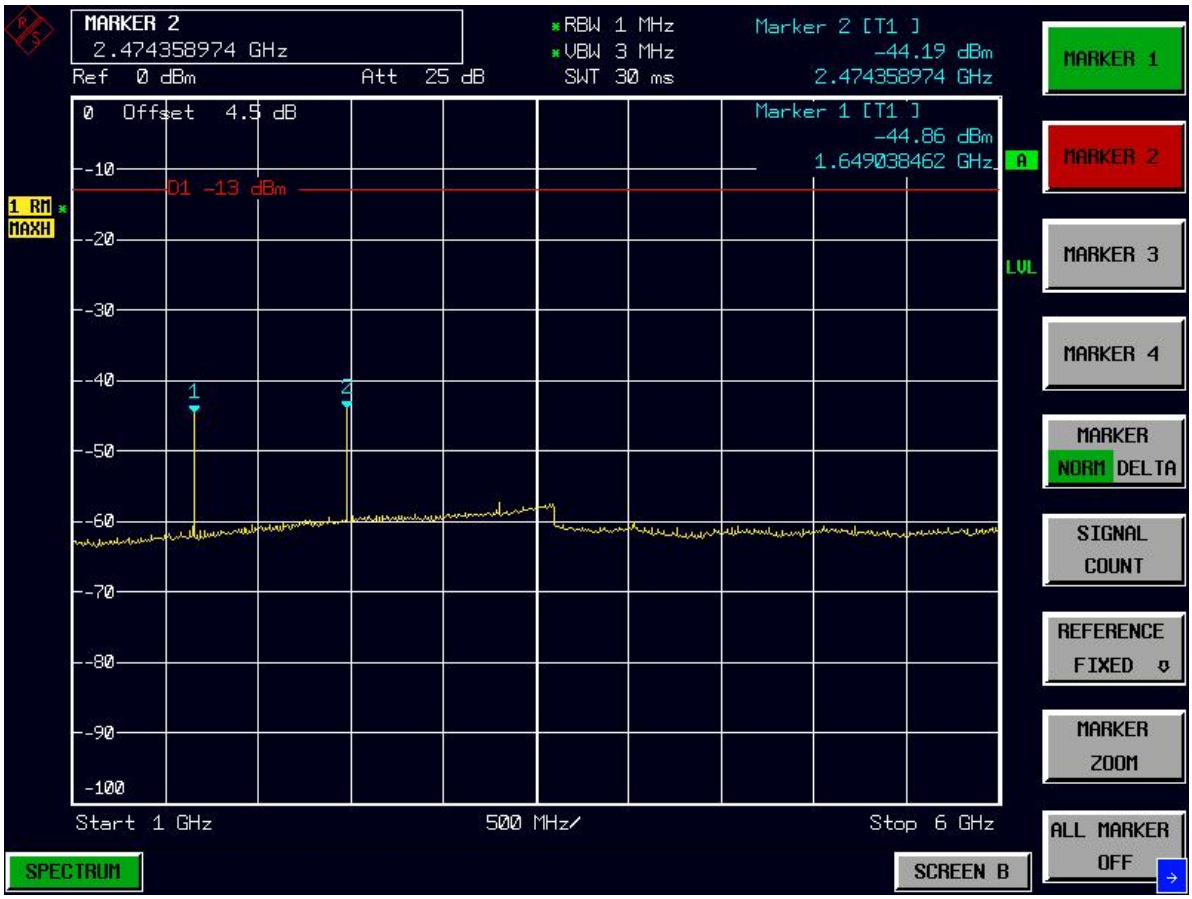
## Spurious Emission at Antenna Terminal

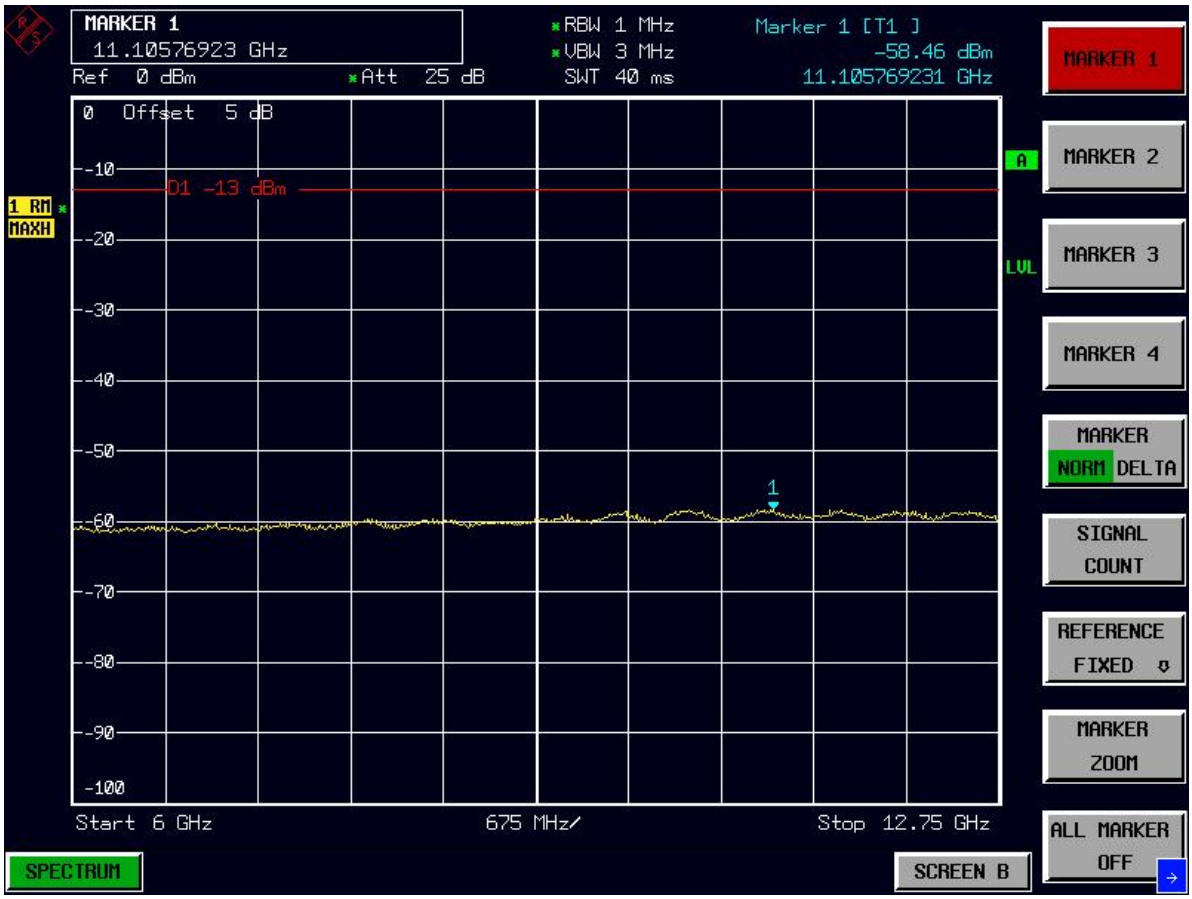
According to FCC Part 2.1051 & 22.917

## 1.1 TM1

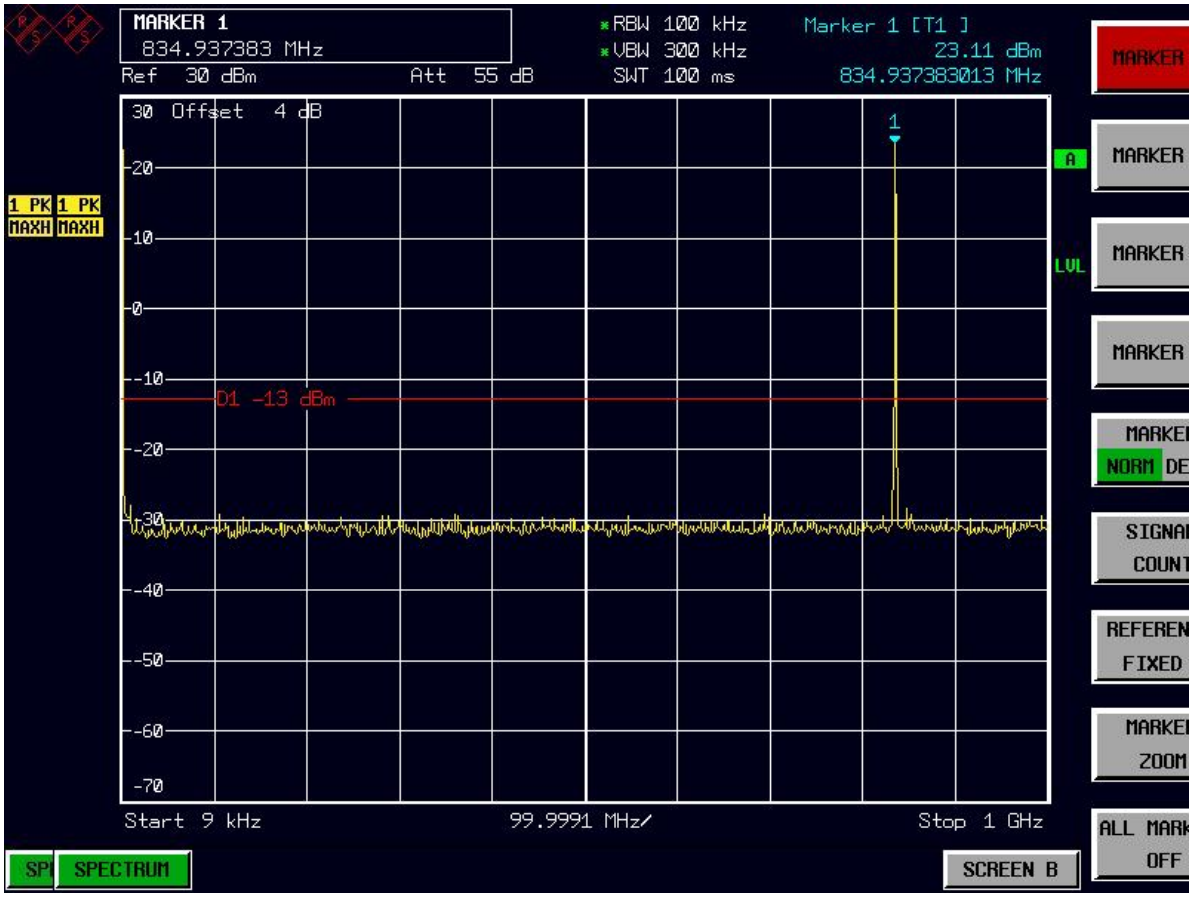
Channel 1013

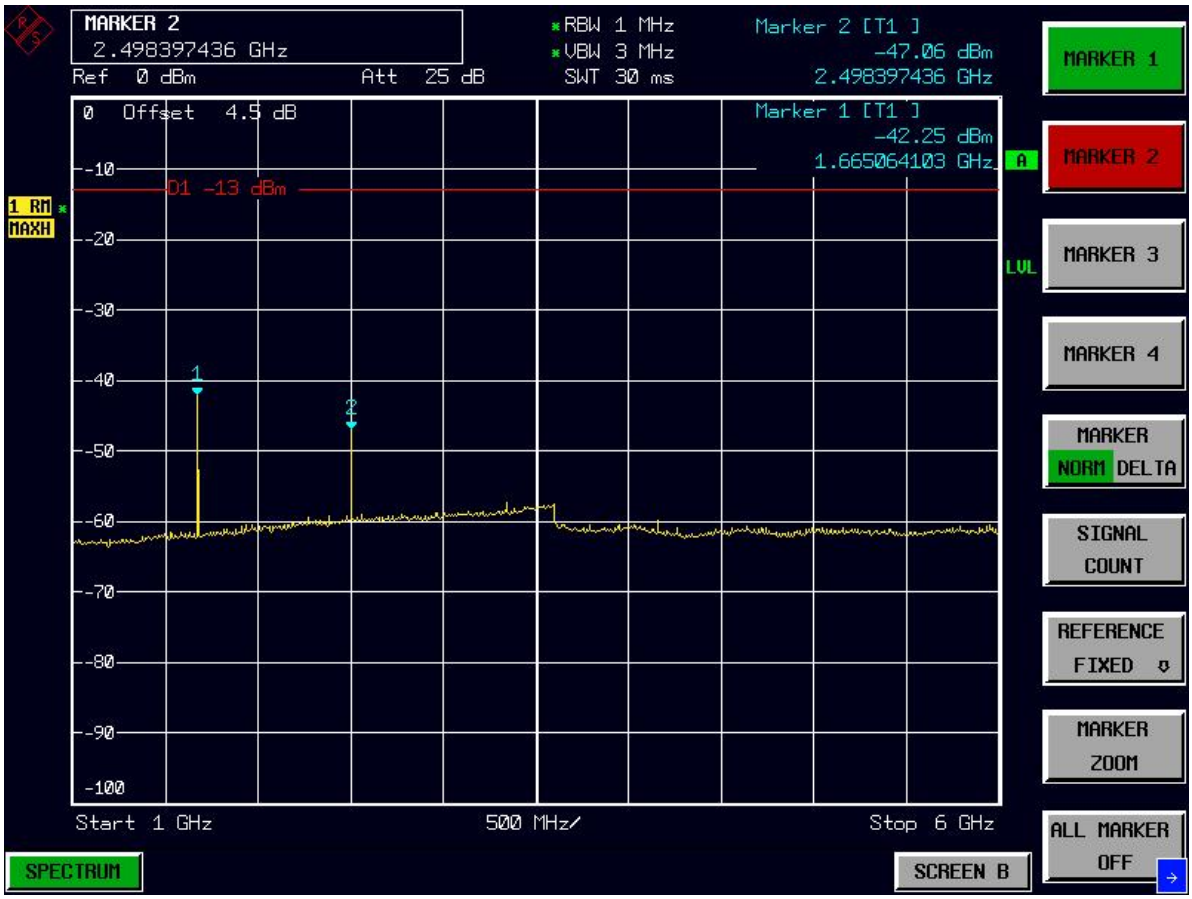


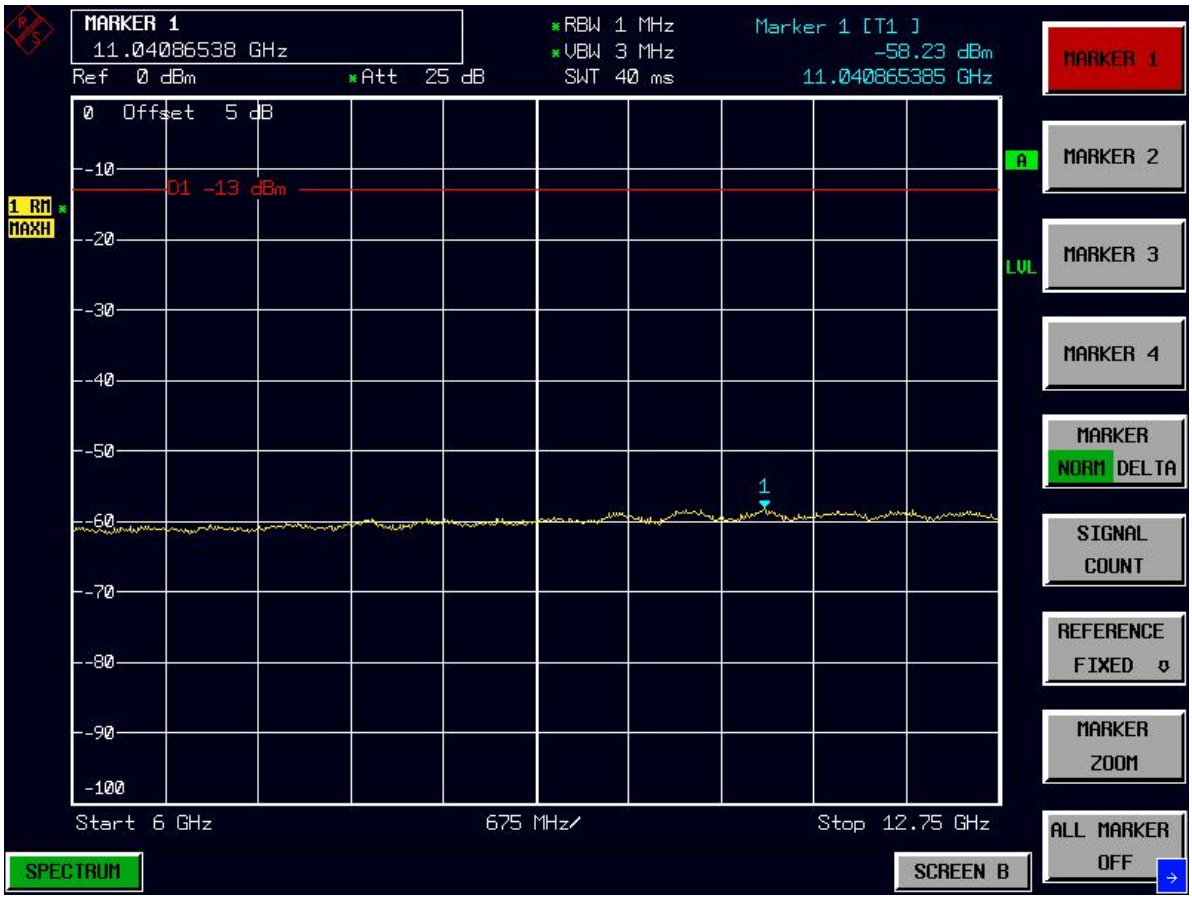

MARKER 2
2.474358974 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 30 ms
Marker 2 [T1 ]
-44.19 dBm
2.474358974 GHz
0 Offset 4.5 dB
Marker 1 [T1 ]
-44.86 dBm
1.649038462 GHz
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
500 MHz/
Stop 6 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF


MARKER 1
11.10576923 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
Marker 1 [T1 ]
-58.46 dBm
11.105769231 GHz
0 Offset 5 dB
D1 -13 dBm
1 RM
MAXH
A
LVL
Start 6 GHz
675 MHz/
Stop 12.75 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER NORM DELTA
SIGNAL COUNT
REFERENCE FIXED
MARKER ZOOM
ALL MARKER OFF

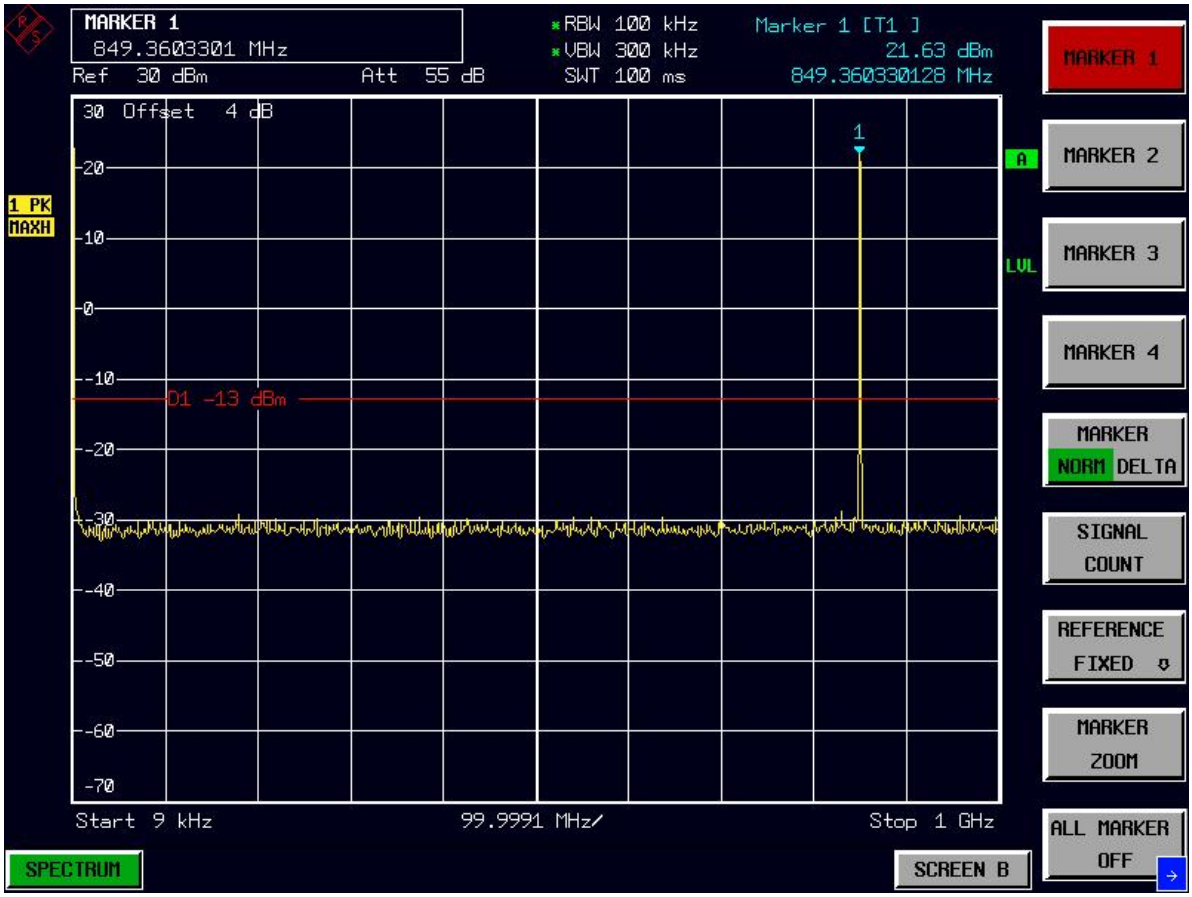
Channel 283

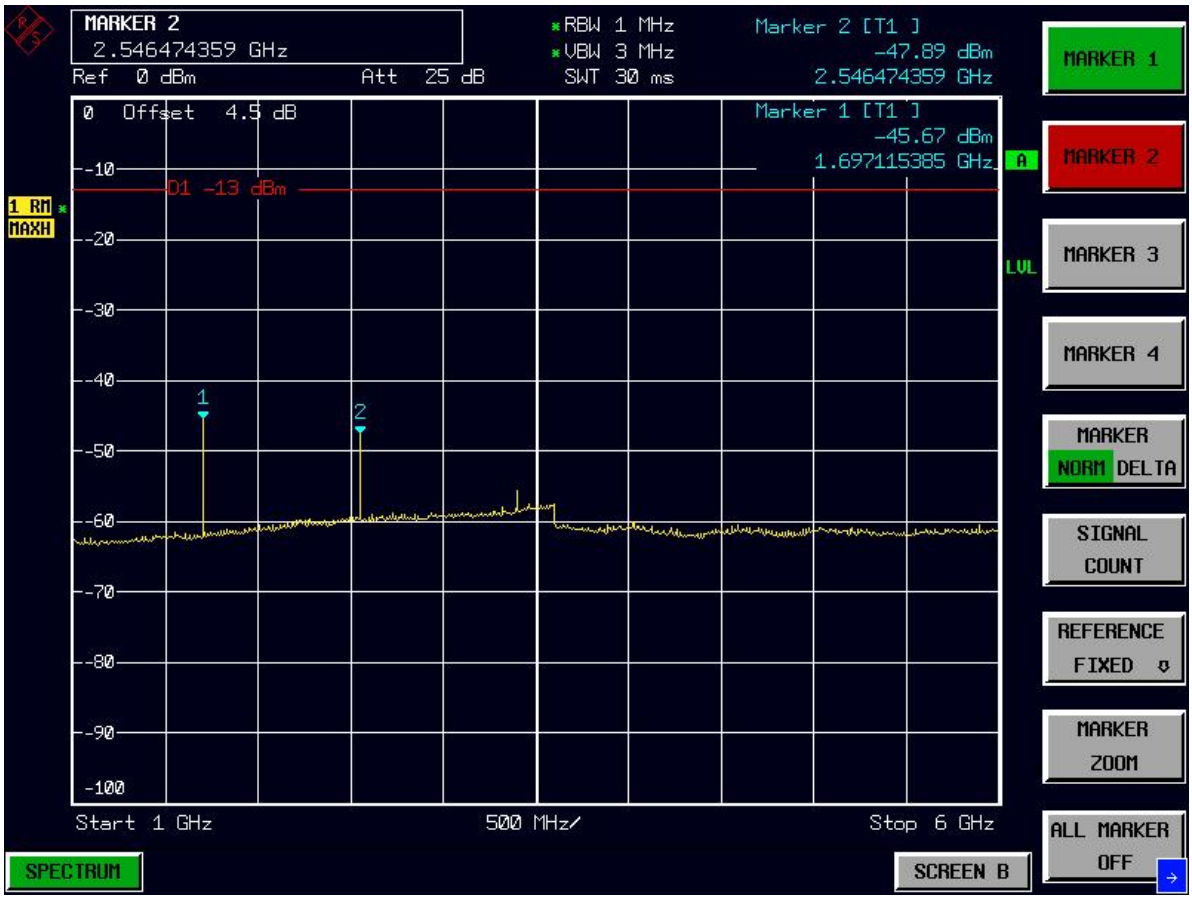

MARKER 1
834.937383 MHz
Ref 30 dBm
Att 55 dB
RBW 100 kHz
VBW 300 kHz
SWT 100 ms
Marker 1 [T1 ]
23.11 dBm
834.937383013 MHz
30 Offset 4 dB
D1 -13 dBm
Start 9 kHz
99.9991 MHz/
Stop 1 GHz
MARKER
SPECTRUM
SCREEN B

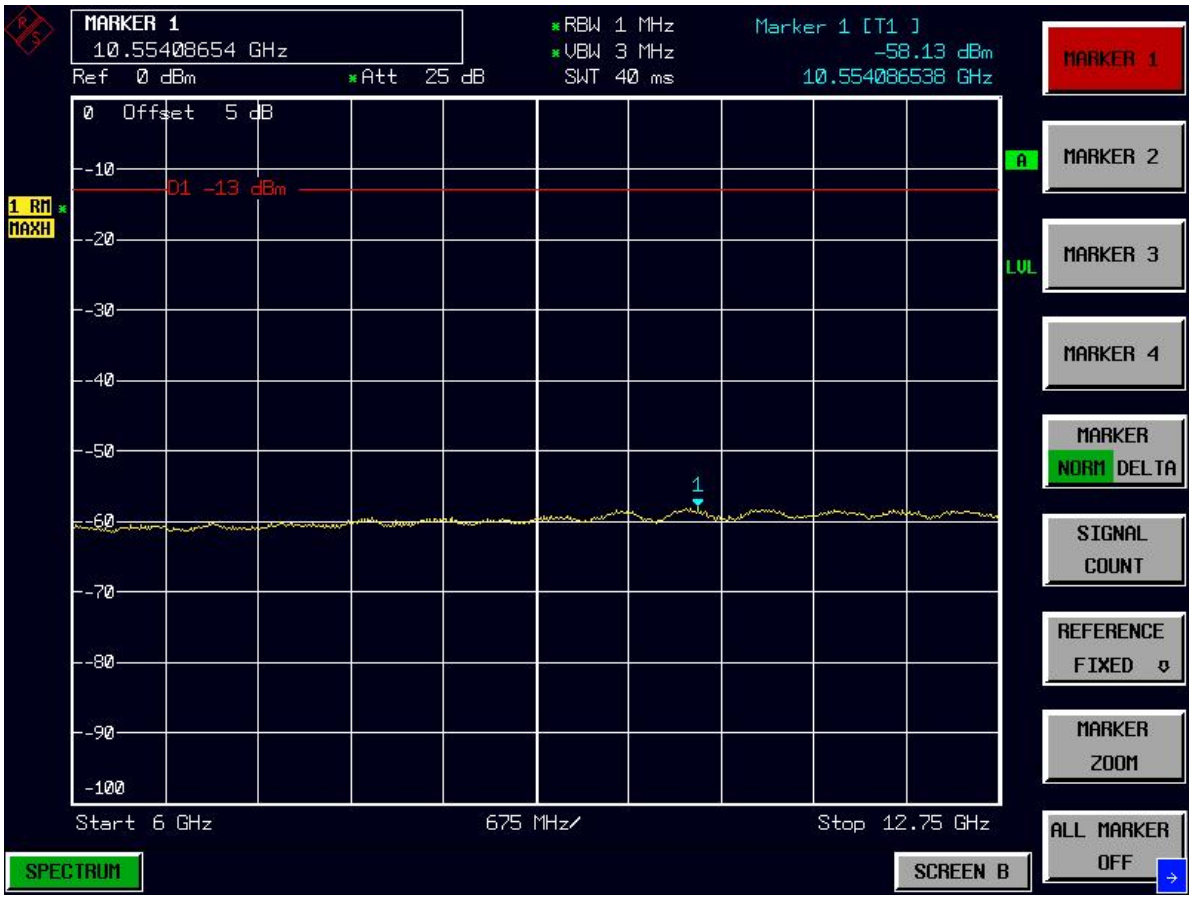

MARKER 2
2.498397436 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 30 ms
Marker 2 [T1 ]
-47.06 dBm
2.498397436 GHz
0 Offset 4.5 dB
Marker 1 [T1 ]
-42.25 dBm
1.665064103 GHz
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
500 MHz/
Stop 6 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF


MARKER 1
11.04086538 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
Marker 1 [T1 ]
-58.23 dBm
11.040865385 GHz
0 Offset 5 dB
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 6 GHz
675 MHz/
Stop 12.75 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

Channel 777

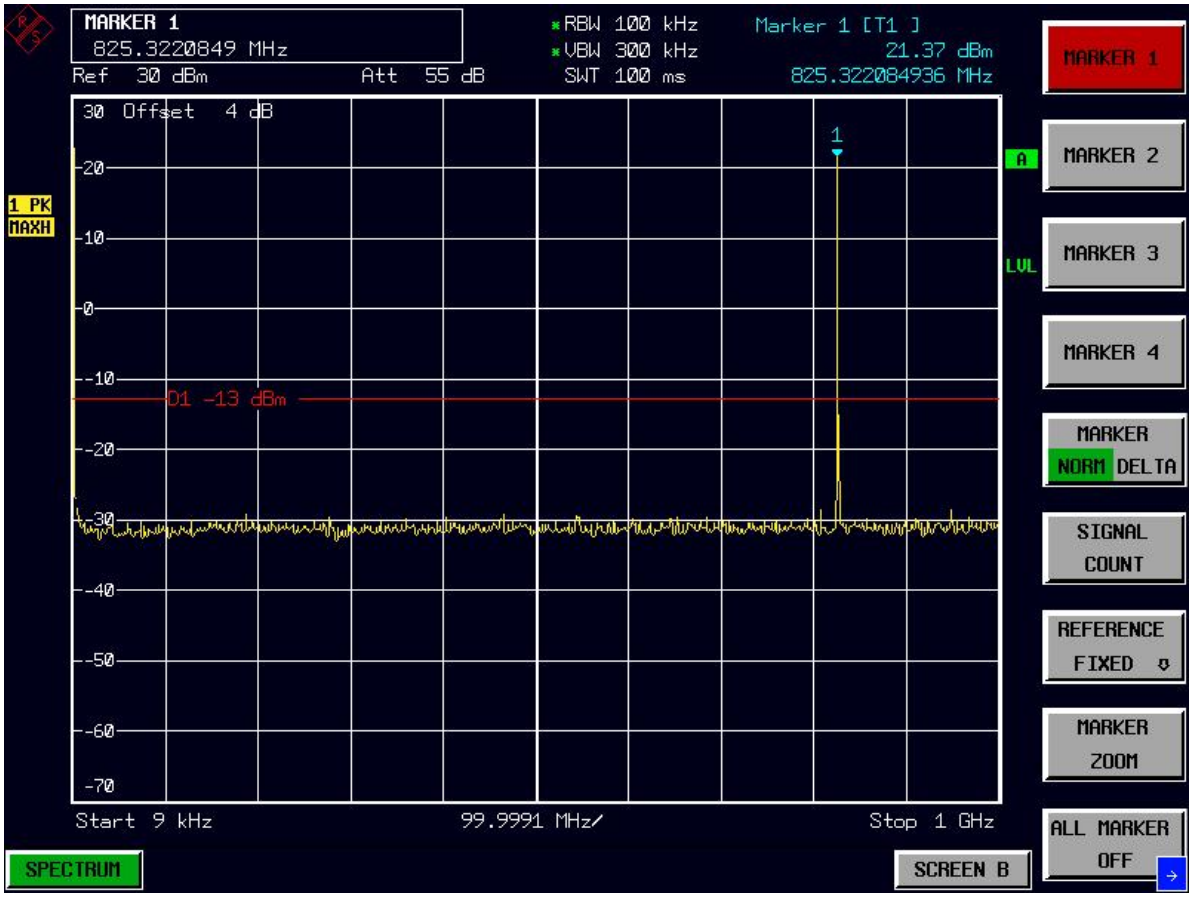

MARKER 1
849.3603301 MHz
RBW 100 kHz
VBW 300 kHz
SWT 100 ms
Marker 1 [T1 ]
21.63 dBm
849.360330128 MHz
Ref 30 dBm
Att 55 dB
30 Offset 4 dB
1 PK
MAXH
D1 -13 dBm
Start 9 kHz
99.9991 MHz/
Stop 1 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER NORM DELTA
SIGNAL COUNT
REFERENCE FIXED
MARKER ZOOM
ALL MARKER OFF
A
LVL

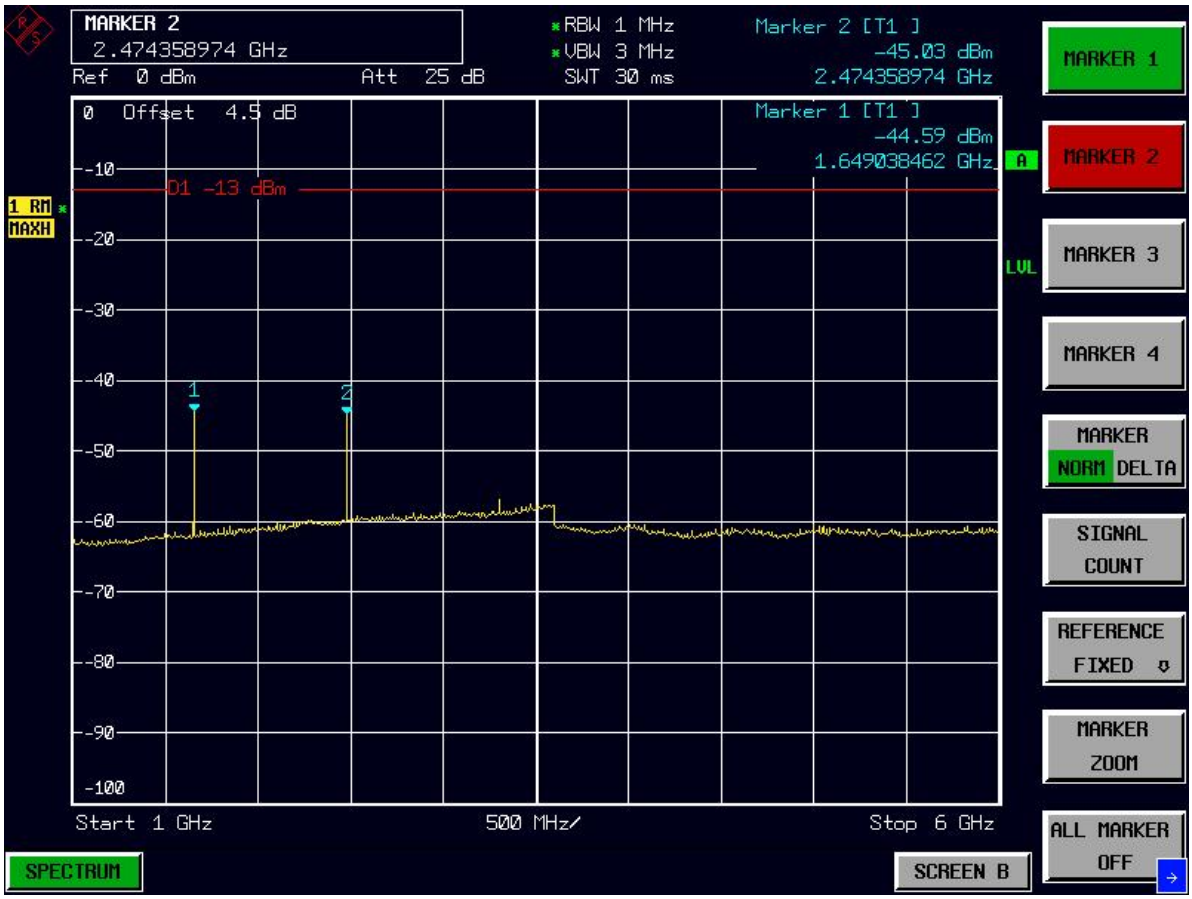

MARKER 2
2.546474359 GHz
RBW 1 MHz
VBW 3 MHz
SWT 30 ms
Marker 2 [T1 ]
-47.89 dBm
2.546474359 GHz
Ref 0 dBm
Att 25 dB
0 Offset 4.5 dB
Marker 1 [T1 ]
-45.67 dBm
1.697115385 GHz
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
1
2
Start 1 GHz
500 MHz/
Stop 6 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

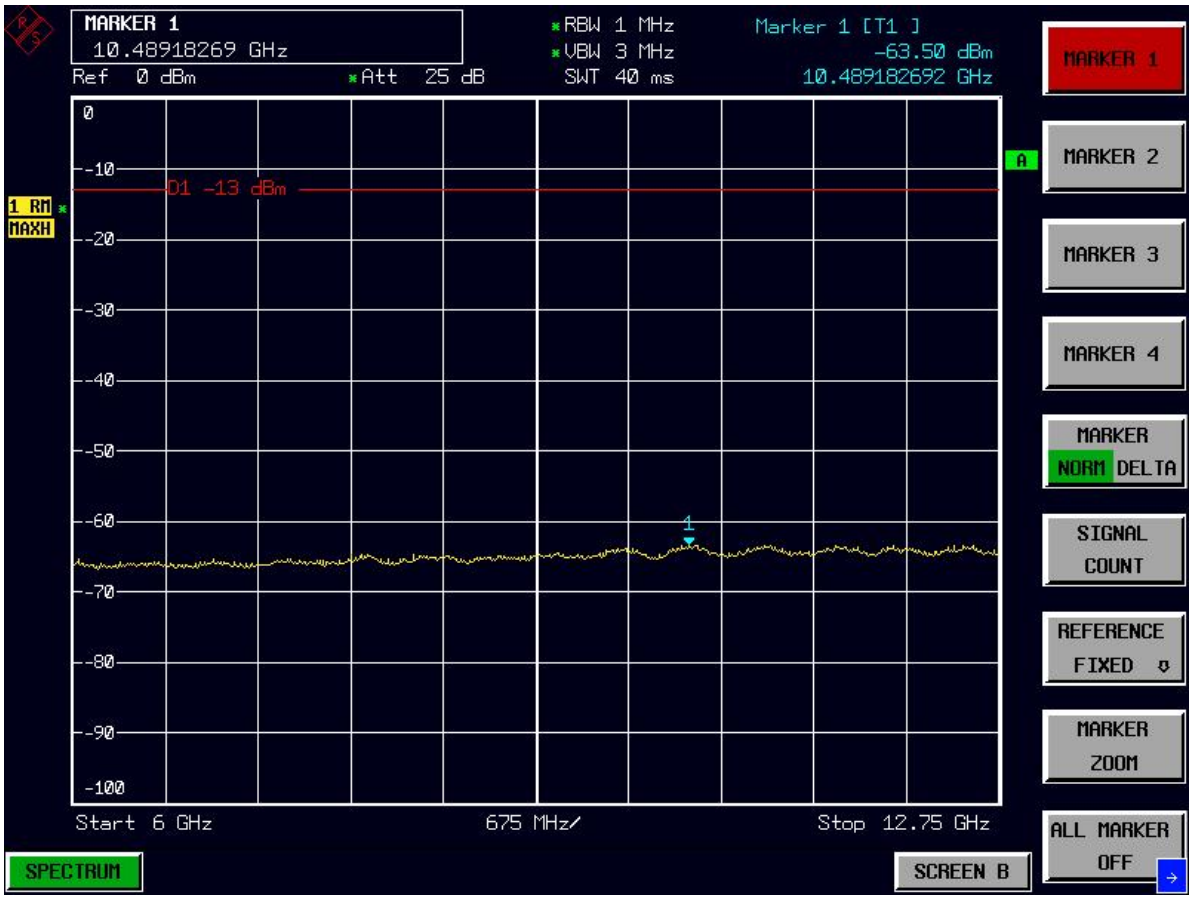

MARKER 1
10.55408654 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
Marker 1 [T1 ]
-58.13 dBm
10.554086538 GHz
0 Offset 5 dB
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 6 GHz
675 MHz/
Stop 12.75 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

## 1.2 TM3

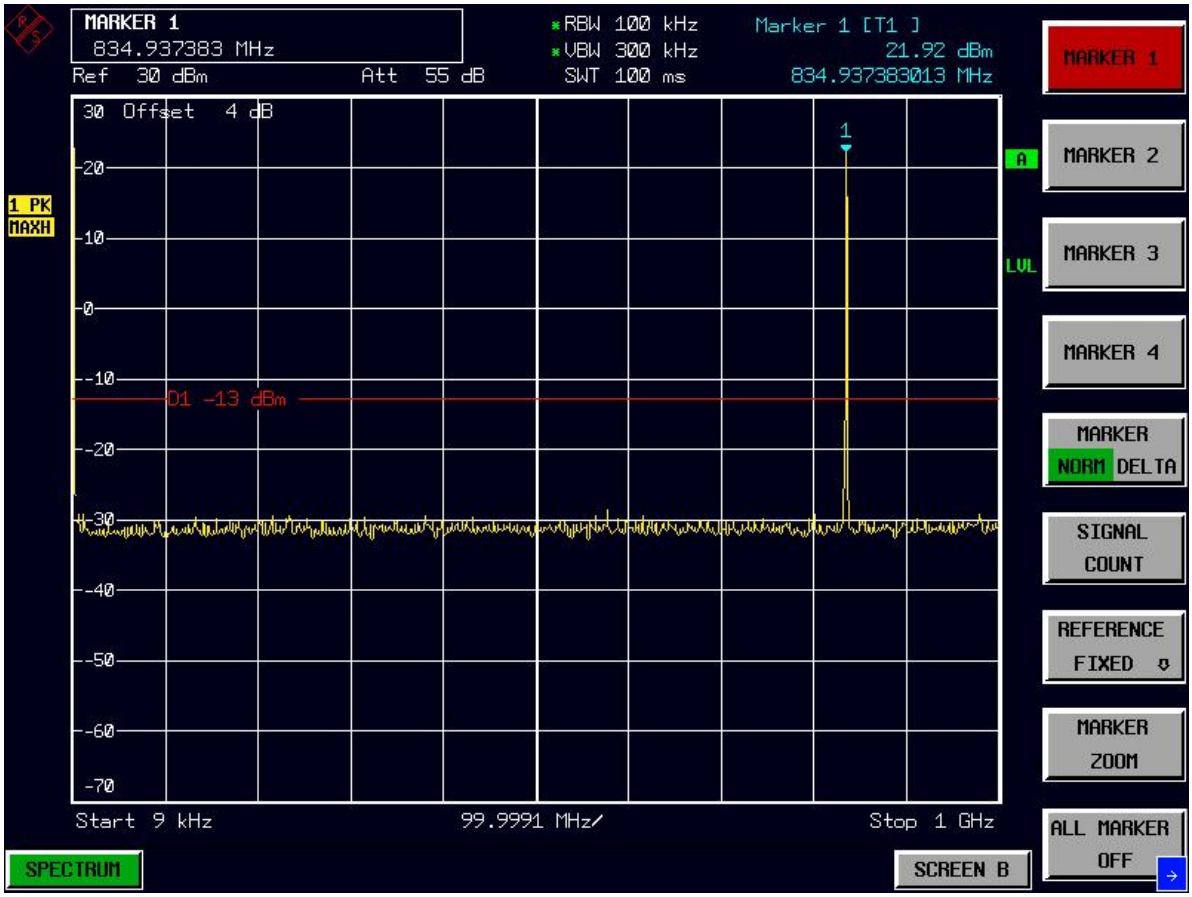
Channel 1013

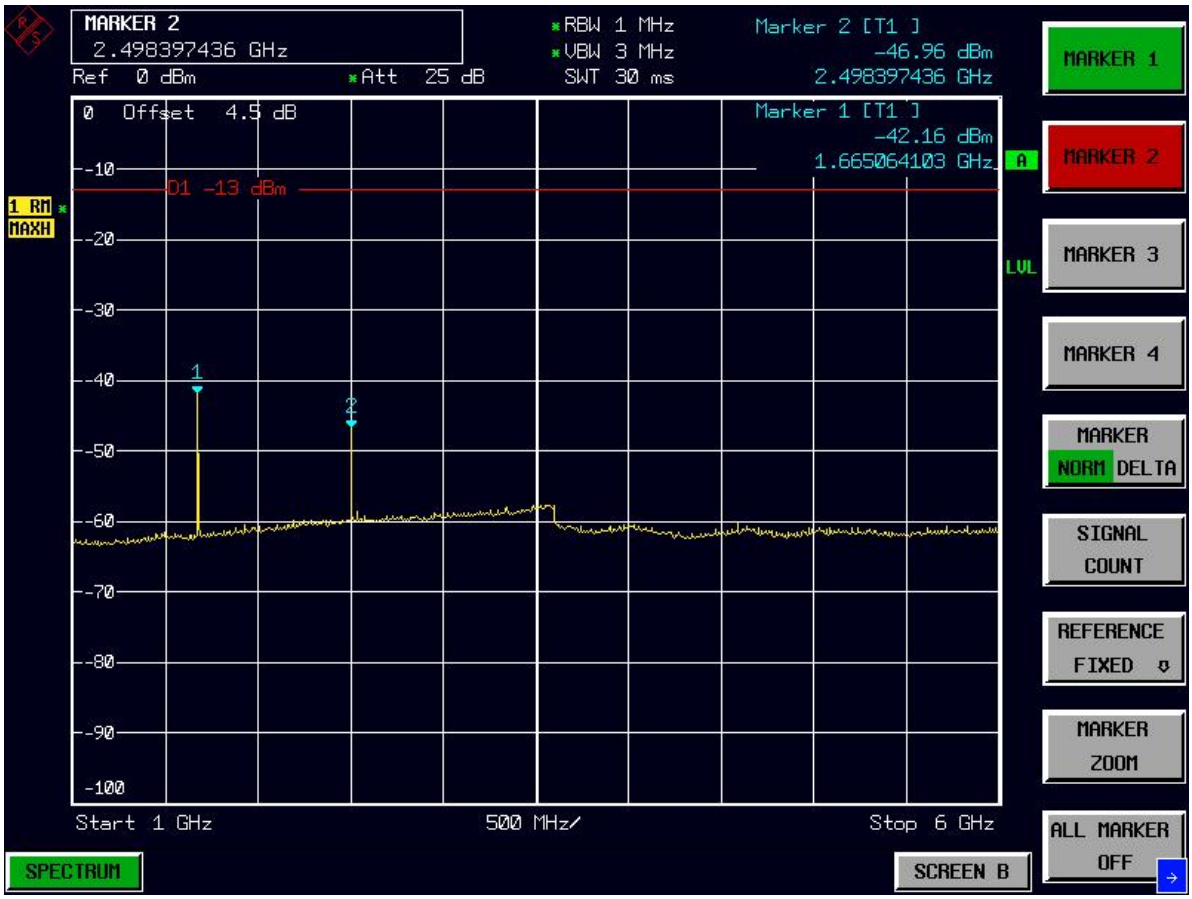


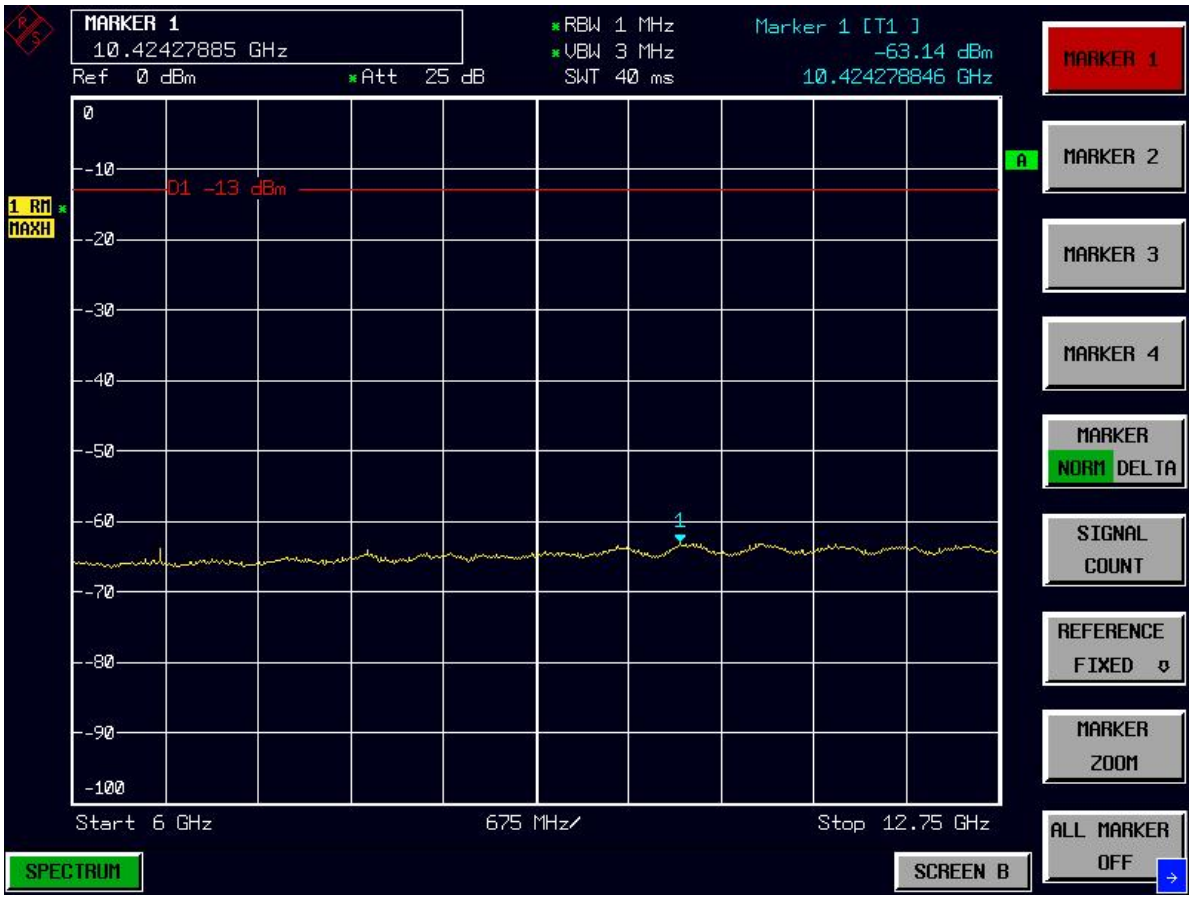

MARKER 2
2.474358974 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 30 ms
Marker 2 [T1 ]
-45.03 dBm
2.474358974 GHz
Marker 1 [T1 ]
-44.59 dBm
1.649038462 GHz
0 Offset 4.5 dB
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
500 MHz/
Stop 6 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF


MARKER 1
10.48918269 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
Marker 1 [T1 ]
-63.50 dBm
10.489182692 GHz
D1 -13 dBm
1 RM
MAXH
A
Start 6 GHz
675 MHz/
Stop 12.75 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

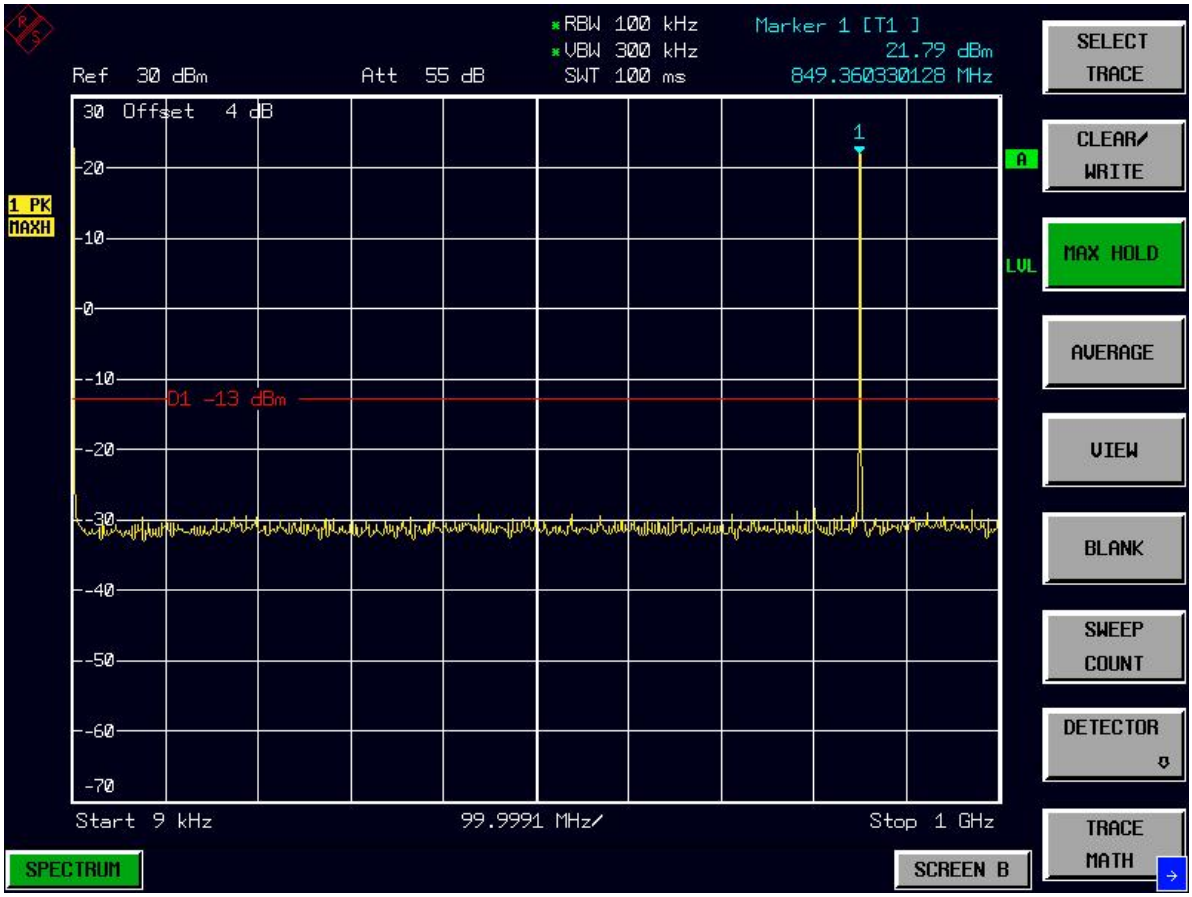
Channel 283

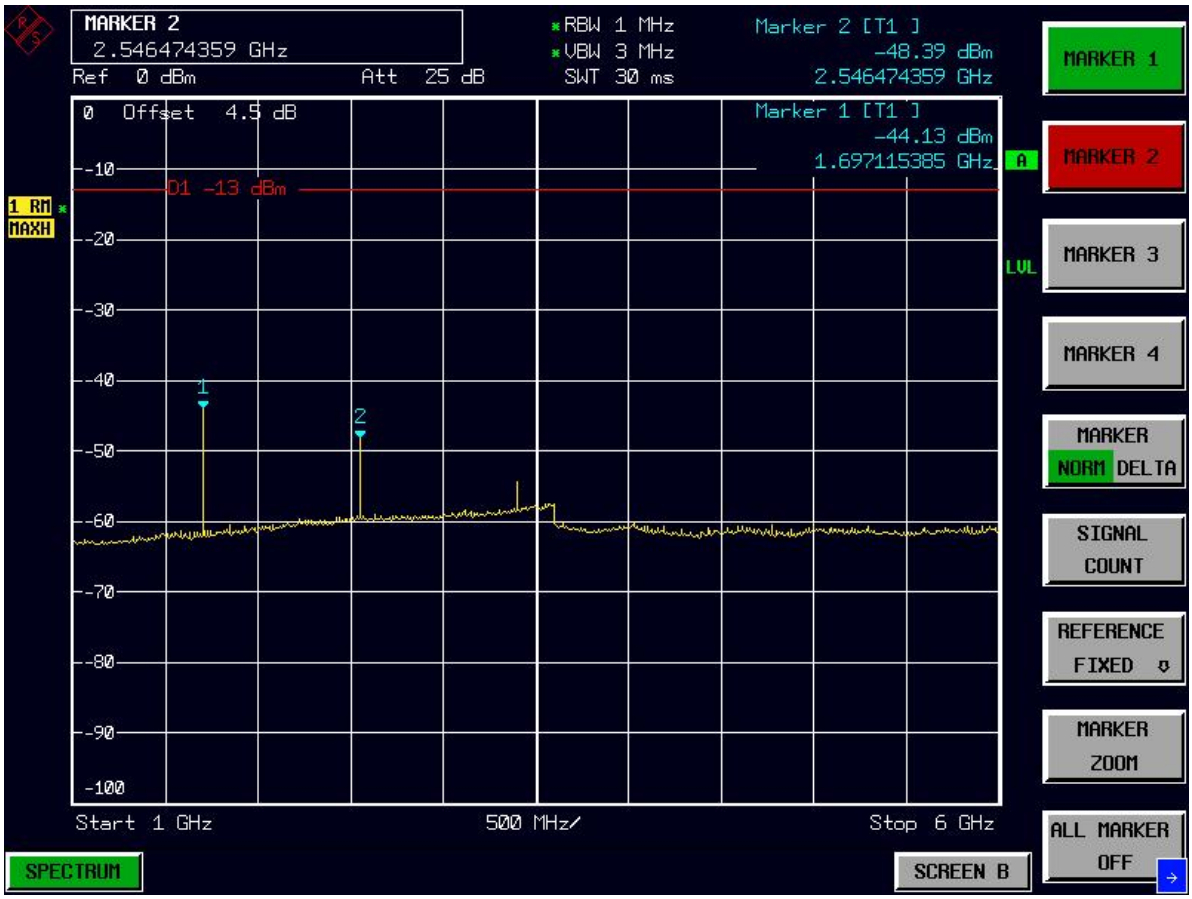

MARKER 1
834.937383 MHz
RBW 100 kHz
VBW 300 kHz
SWT 100 ms
Marker 1 [T1 ]
21.92 dBm
834.937383013 MHz
Ref 30 dBm
Att 55 dB
30 Offset 4 dB
1 PK
MAXH
D1 -13 dBm
Start 9 kHz
99.9991 MHz/
Stop 1 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER NORM DELTA
SIGNAL COUNT
REFERENCE FIXED
MARKER ZOOM
ALL MARKER OFF
A
LVL

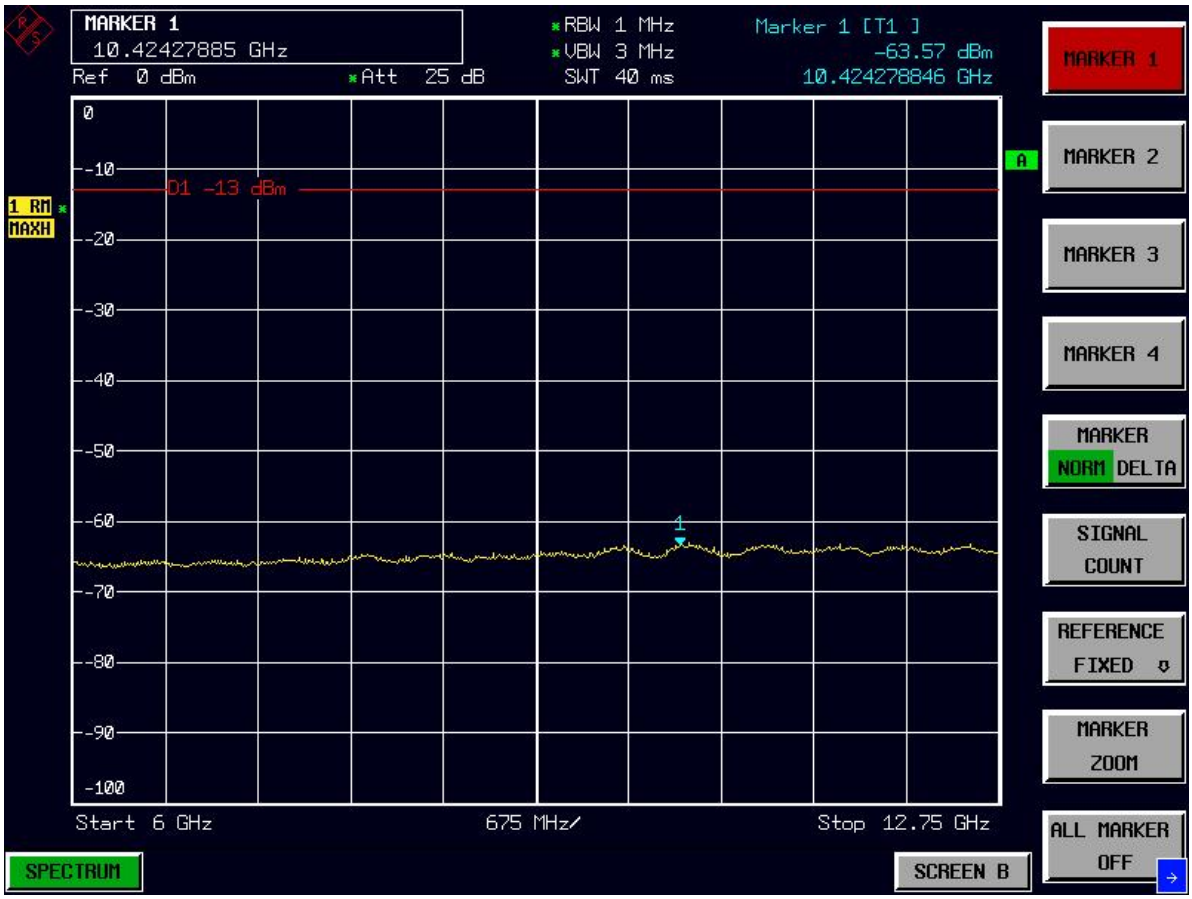

MARKER 2
2.498397436 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 30 ms
Marker 2 [T1 ]
-46.96 dBm
2.498397436 GHz
Marker 1 [T1 ]
-42.16 dBm
1.665064103 GHz
0 Offset 4.5 dB
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
500 MHz/
Stop 6 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF


MARKER 1
10.42427885 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
Marker 1 [T1 ]
-63.14 dBm
10.424278846 GHz
D1 -13 dBm
1 RM
MAXH
A
Start 6 GHz
675 MHz/
Stop 12.75 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

Channel 777


RBW 100 kHz
VBW 300 kHz
SWT 100 ms
Marker 1 [T1 ]
21.79 dBm
849.360330128 MHz
Ref 30 dBm
Att 55 dB
30 Offset 4 dB
1 PK
MAXH
D1 -13 dBm
Start 9 kHz
99.9991 MHz/
Stop 1 GHz
SPECTRUM
SCREEN B
SELECT TRACE
CLEAR/ WRITE
MAX HOLD
AVERAGE
VIEW
BLANK
SWEEP COUNT
DETECTOR
TRACE MATH


MARKER 2
2.546474359 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 30 ms
Marker 2 [T1 ]
-48.39 dBm
2.546474359 GHz
Marker 1 [T1 ]
-44.13 dBm
1.697115385 GHz
0 Offset 4.5 dB
D1 -13 dBm
1 RM
MAXH
A
LVL
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
500 MHz/
Stop 6 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

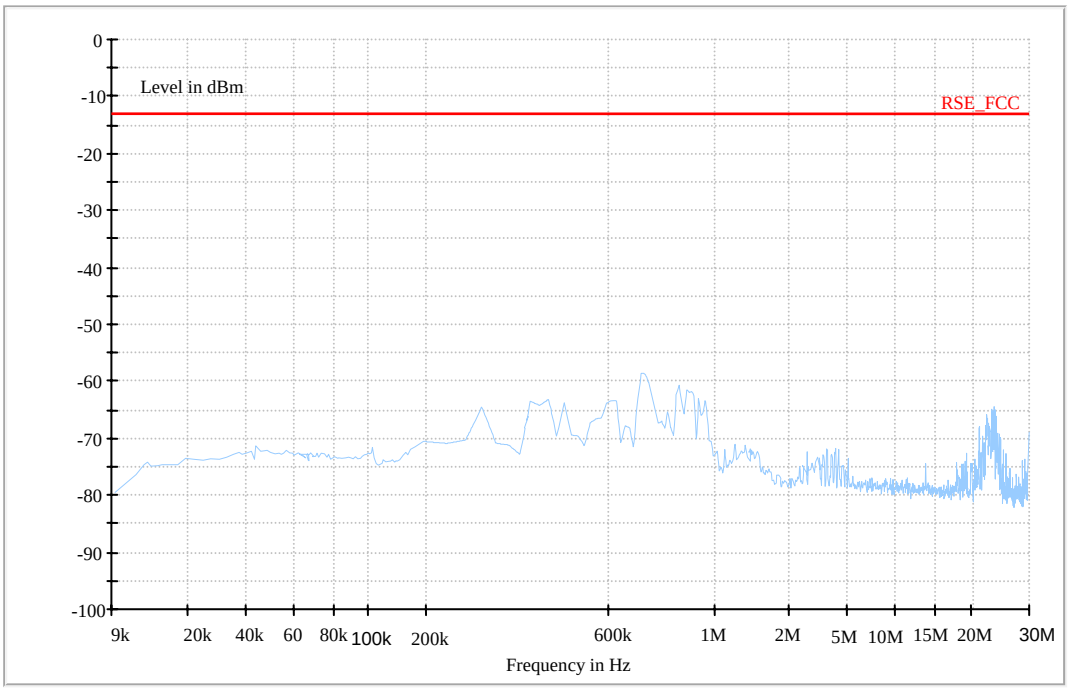

MARKER 1
10.42427885 GHz
Ref 0 dBm
Att 25 dB
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
Marker 1 [T1 ]
-63.57 dBm
10.424278846 GHz
D1 -13 dBm
1 RM
MAXH
A
Start 6 GHz
675 MHz/
Stop 12.75 GHz
SPECTRUM
SCREEN B
MARKER 1
MARKER 2
MARKER 3
MARKER 4
MARKER
NORM DELTA
SIGNAL
COUNT
REFERENCE
FIXED
MARKER
ZOOM
ALL MARKER
OFF

# Appendix F

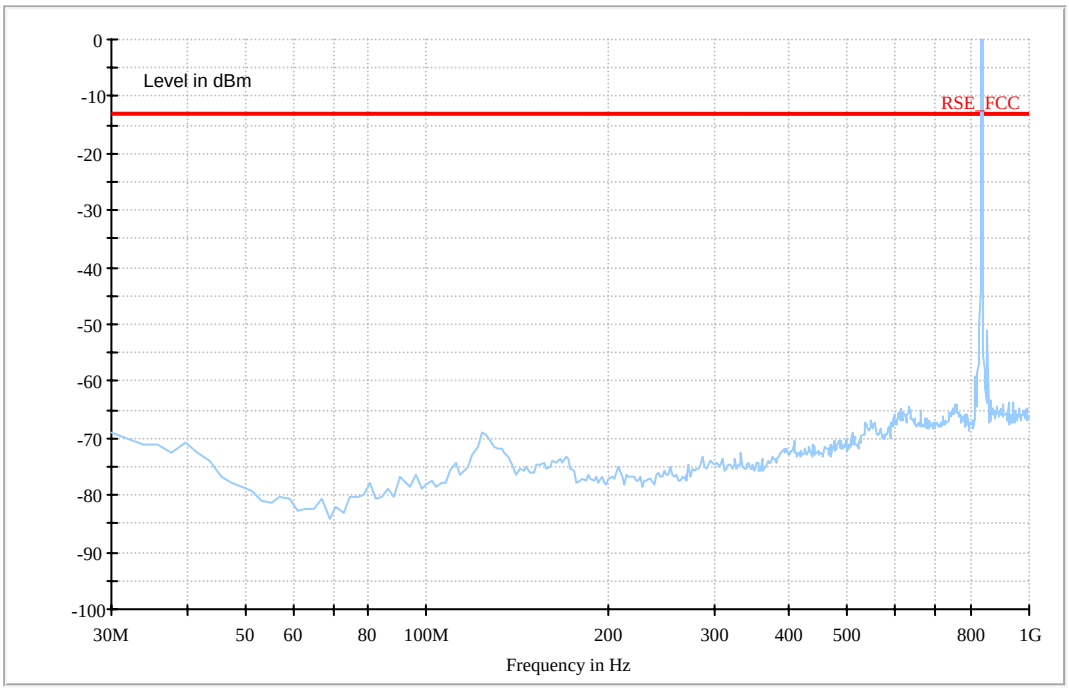
## Field Strength of Spurious Radiation

According to CFR 47 (FCC) part 2.1053 & 22.917

# Traffic Mode (9kHz-30MHz)

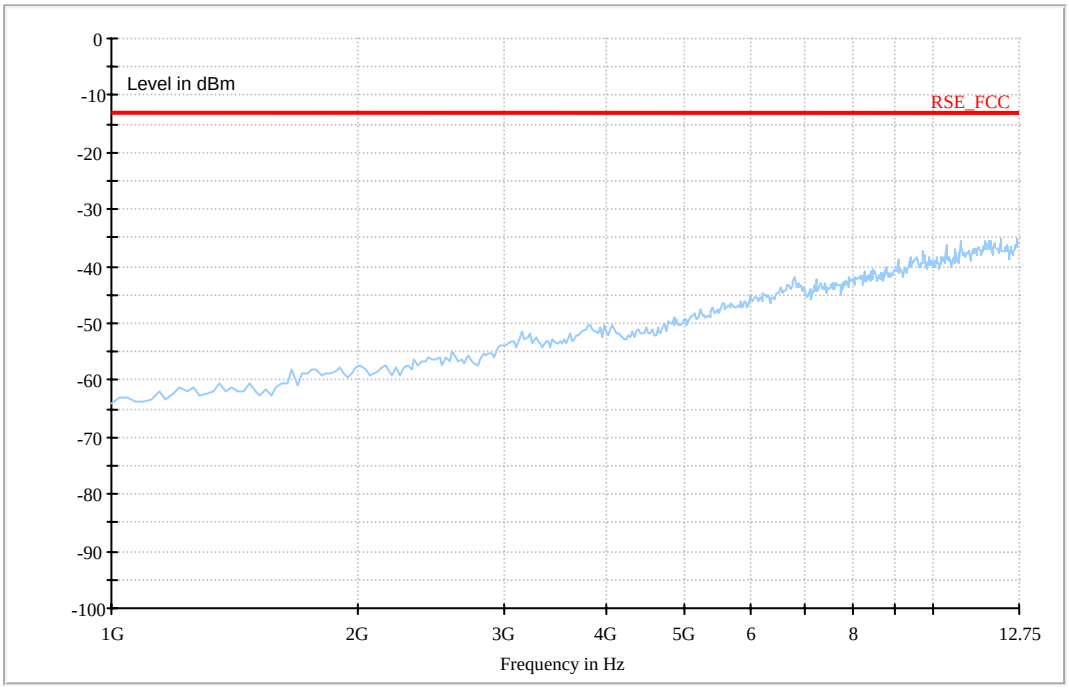


# Traffic Mode (30MHz-1GHz)

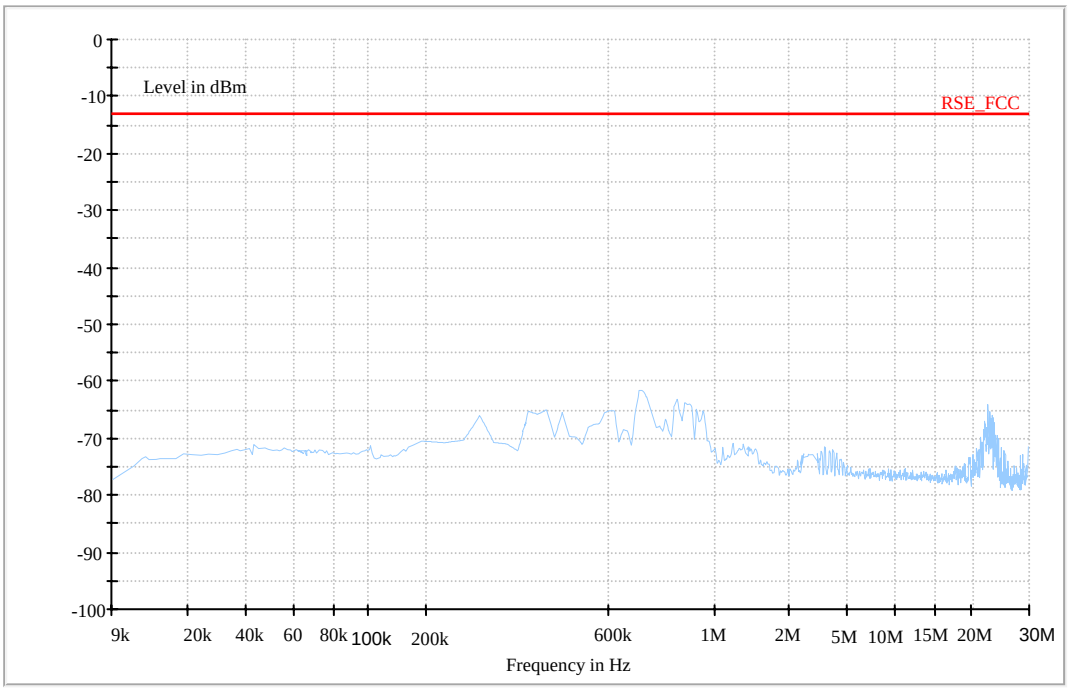



Note: The frequency which exceeded the limit was the carrier frequency.

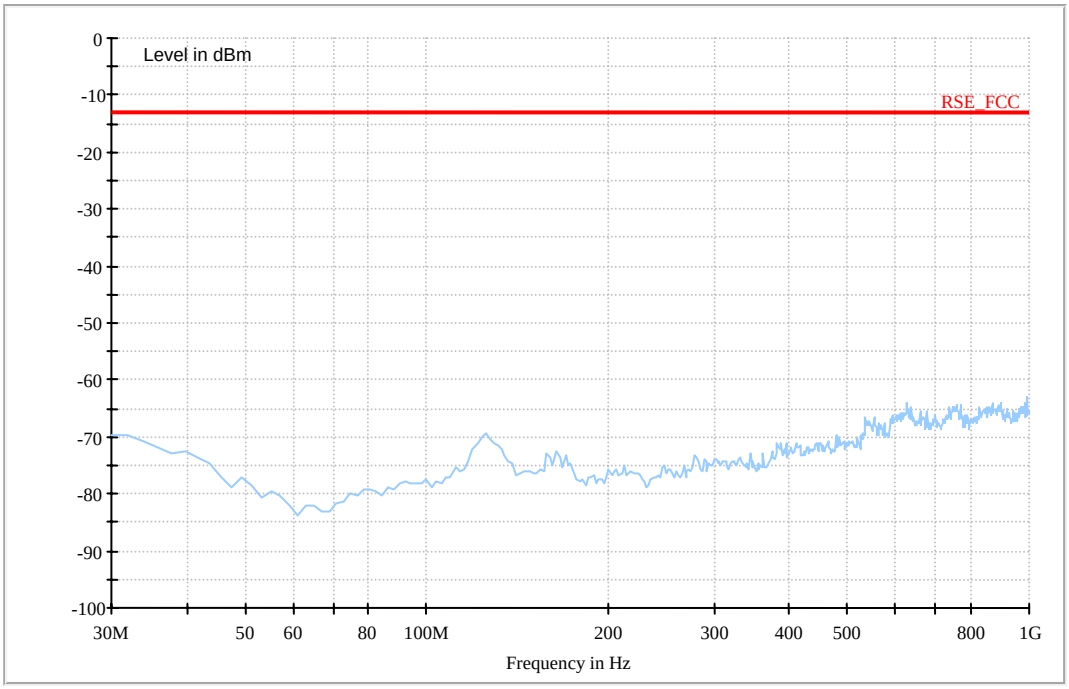
# Traffic Mode (1GHz-12.75GHz)



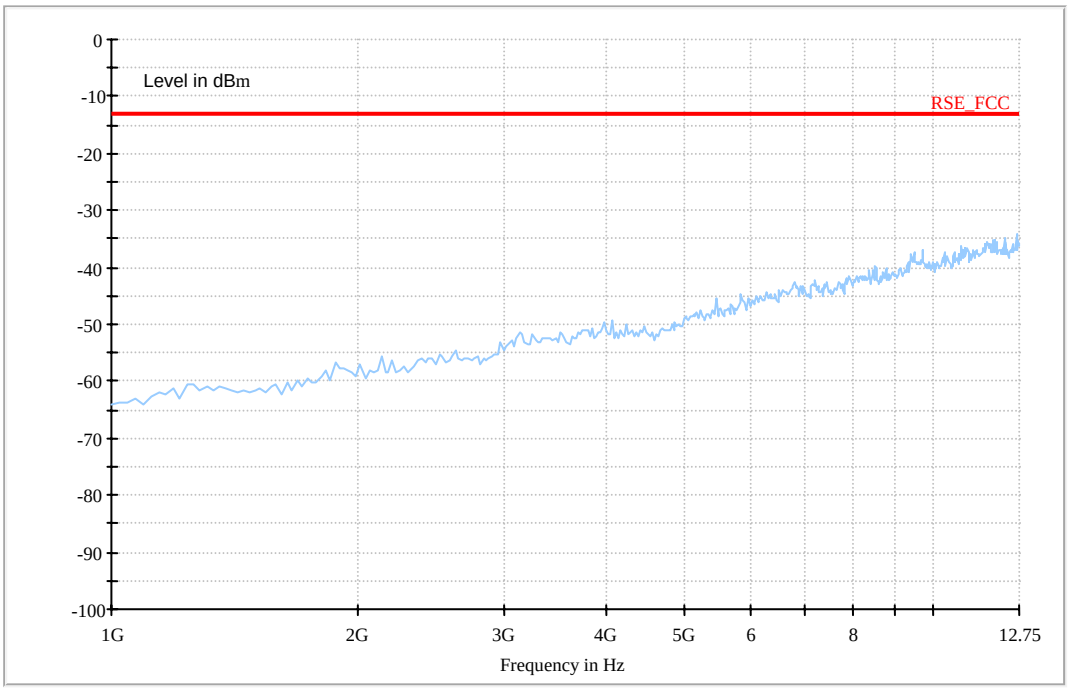
# IDLE Mode (9 kHz-30MHz)



# IDLE Mode (30MHz-1GHz)



# IDLE Mode (1GHz-12.75GHz)

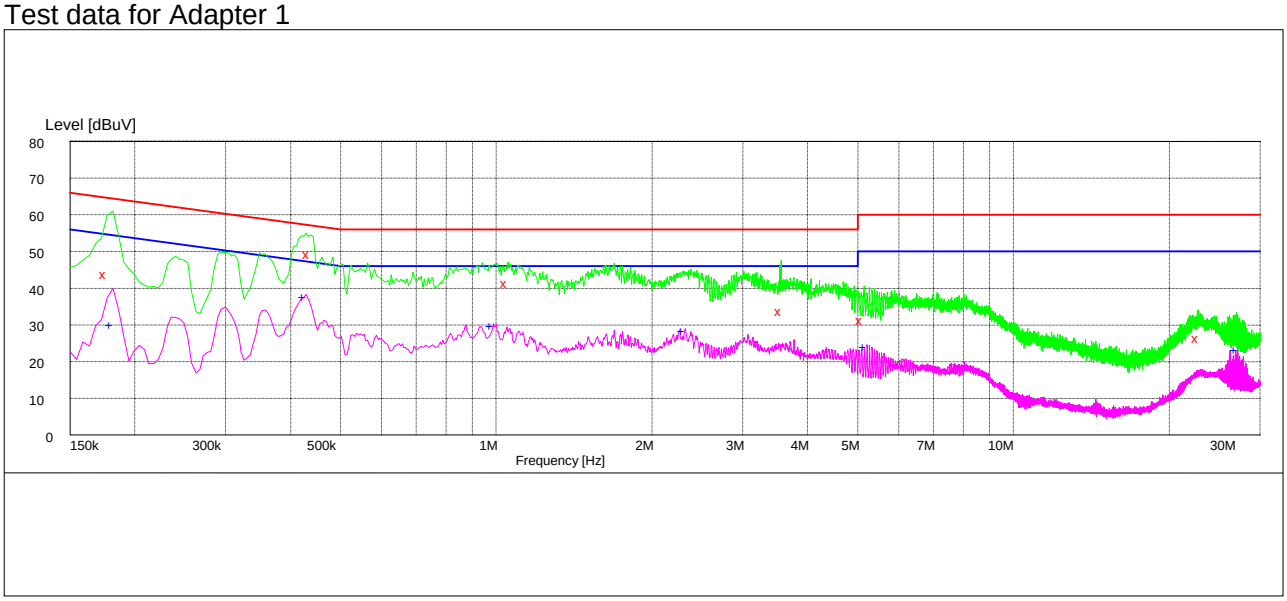


# Appendix G

## Conducted Emission at Power Port

According to CFR 47 (FCC) part 15.107

Test data for Adapter 1



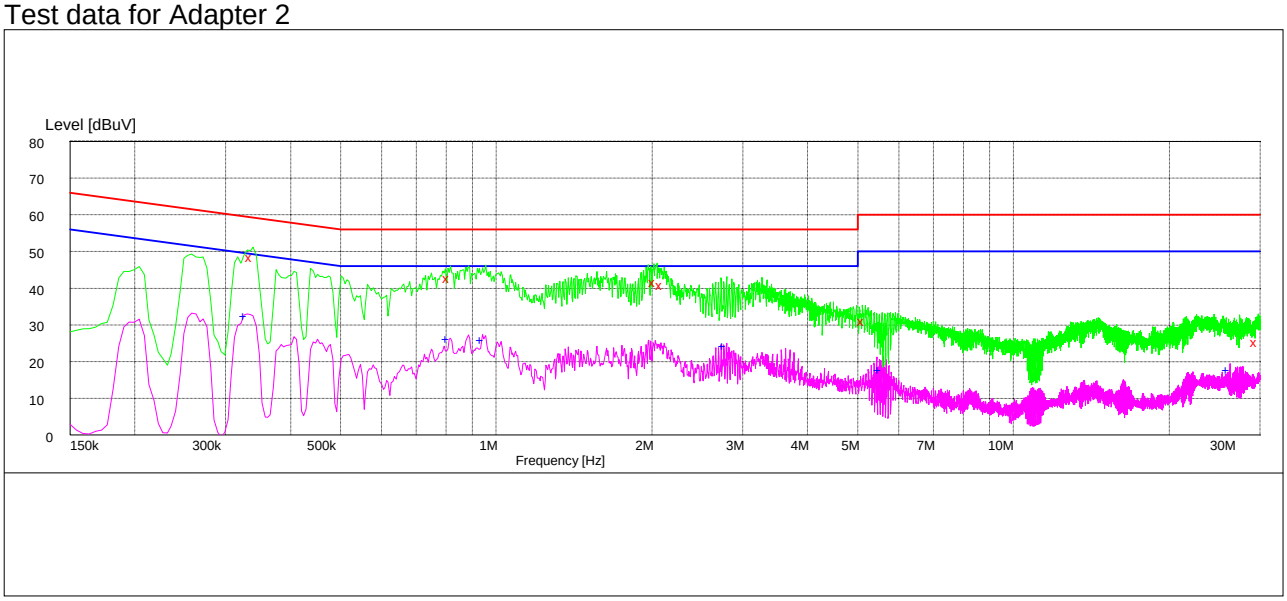

MEASUREMENT RESULT: QP DECTER

| Frequency (MHz) | Level (dBμV) | Transd (dB) | Limit (dBμV) | Margin (dB) | Line | PE |
|---|---|---|---|---|---|---|
| 0.177000 | 44.10 | 10.7 | 65 | 20.5 | N | GND |
| 0.438000 | 49.70 | 10.0 | 57 | 7.4 | L3 | GND |
| 1.054500 | 41.80 | 9.9 | 56 | 14.2 | L3 | GND |
| 3.574500 | 34.20 | 10.0 | 56 | 21.8 | N | GND |
| 5.136000 | 31.60 | 10.1 | 60 | 28.4 | L3 | GND |
| 22.897500 | 26.70 | 15.5 | 60 | 33.3 | L3 | GND |

MEASUREMENT RESULT: AV DECTER

| Frequency (MHz) | Level (dBμV) | Transd (dB) | Limit (dBμV) | Margin (dB) | Line | PE |
|---|---|---|---|---|---|---|
| 0.181500 | 30.40 | 10.7 | 54 | 24.0 | N | GND |
| 0.429000 | 38.10 | 10.0 | 47 | 9.2 | L3 | GND |
| 0.987000 | 30.00 | 9.9 | 46 | 16.0 | L3 | GND |
| 2.319000 | 28.80 | 10.1 | 46 | 17.2 | L3 | GND |
| 5.212500 | 24.30 | 10.2 | 50 | 25.7 | L3 | GND |
| 27.123000 | 23.40 | 13.7 | 50 | 26.6 | L3 | GND |

Test data for Adapter 2




MEASUREMENT RESULT: QP DECTER

| Frequency （MHz） | Level （dBμV） | Transd （dB） | Limit （dBμV） | Margin （dB） | Line | PE |
|---|---|---|---|---|---|---|
| 0.339000 | 48.80 | 10.2 | 59 | 10.4 | L3 | GND |
| 0.816000 | 43.10 | 9.9 | 56 | 12.9 | L3 | GND |
| 2.040000 | 42.20 | 10.1 | 56 | 13.8 | L3 | GND |
| 2.107500 | 41.30 | 10.1 | 56 | 14.7 | L3 | GND |
| 5.163000 | 31.50 | 10.1 | 60 | 28.5 | L3 | GND |
| 29.742000 | 25.60 | 13.7 | 60 | 34.4 | N | GND |

MEASUREMENT RESULT: AV DECTER

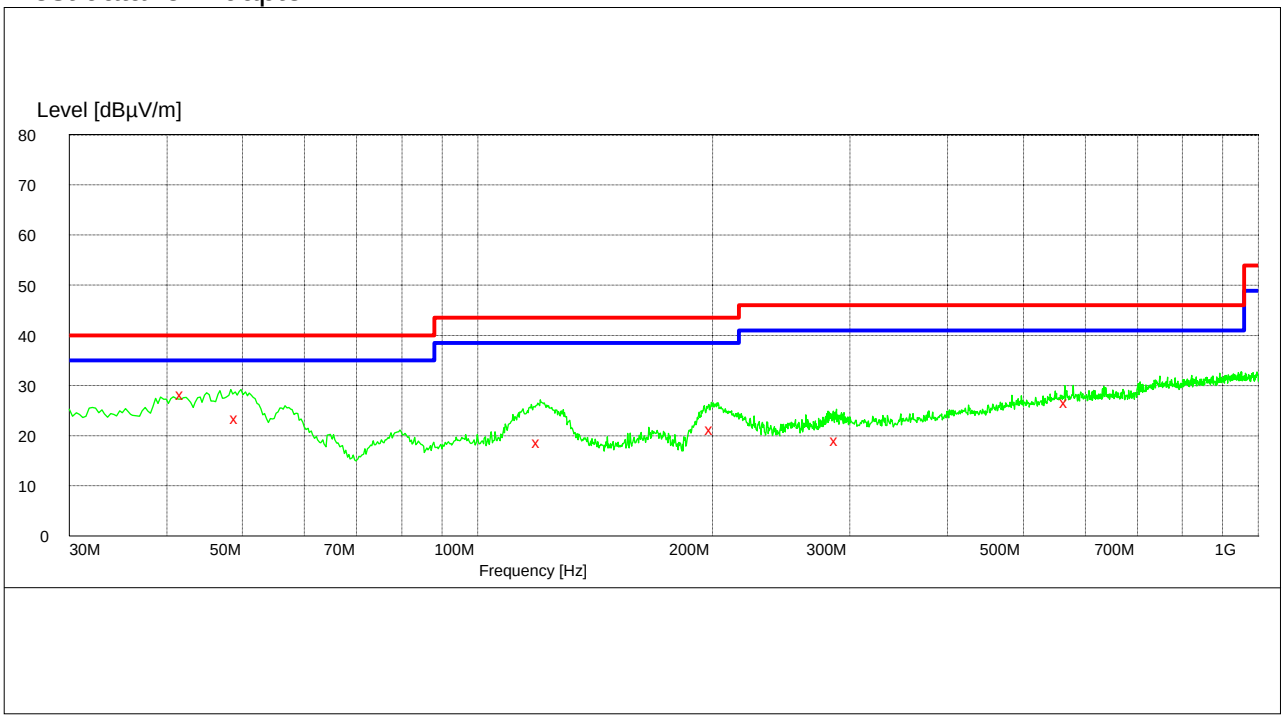
| Frequency （MHz） | Level （dBμV） | Transd （dB） | Limit （dBμV） | Margin （dB） | Line | PE |
|---|---|---|---|---|---|---|
| 0.330000 | 32.90 | 10.2 | 50 | 16.5 | L3 | GND |
| 0.811500 | 26.50 | 9.9 | 46 | 19.5 | L3 | GND |
| 0.946500 | 26.30 | 9.9 | 46 | 19.7 | L3 | GND |
| 2.782500 | 24.70 | 10.1 | 46 | 21.3 | L3 | GND |
| 5.559000 | 18.10 | 10.2 | 50 | 31.9 | N | GND |
| 26.232000 | 18.20 | 14.2 | 50 | 31.8 | L3 | GND |

# Appendix H

# Radiated Emission of Enclosure in Idle Mode

According to CFR 47 (FCC) part 15.109

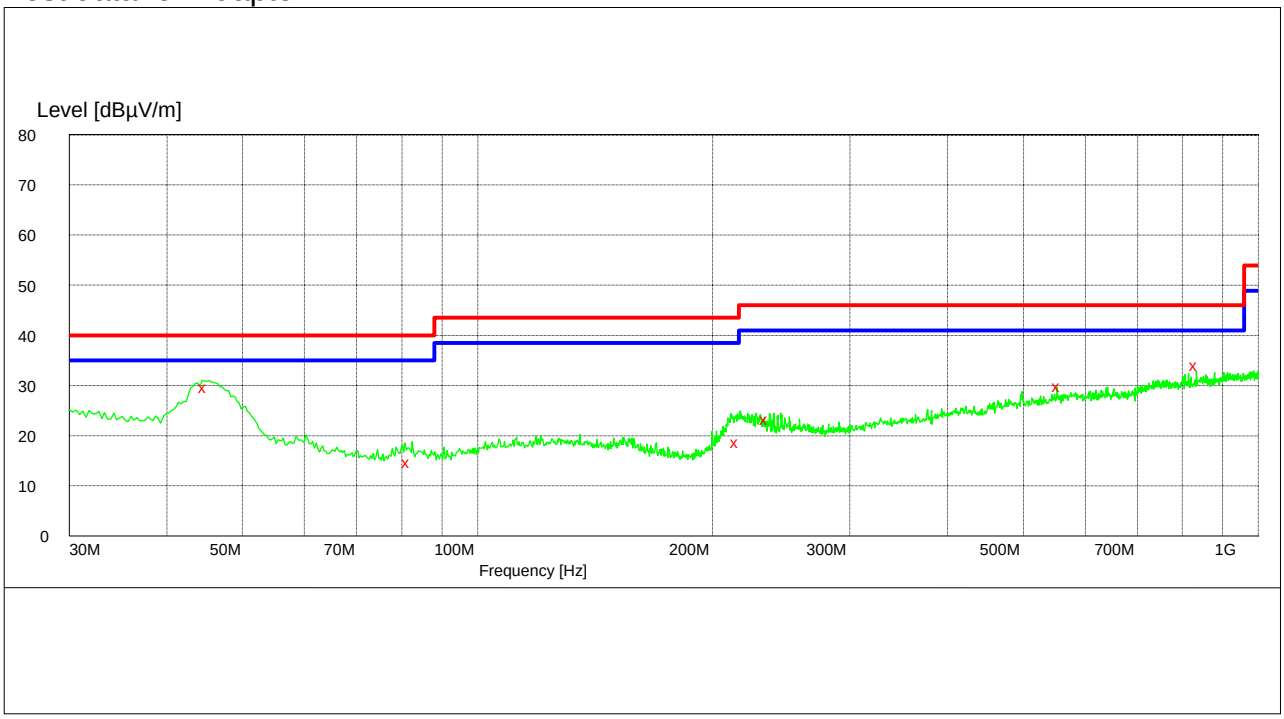
Test data for Adapter 1




MEASUREMENT RESULT: QP DECTER

| Frequency （MHz） | Level （dBµV/m） | Transd （dB） | Limit （dBµV/m） | Margin （dB） | Height （cm） | Azimuth （deg） | Polarisation |
|---|---|---|---|---|---|---|---|
| 42.000000 | 28.40 | -12.9 | 40.0 | 11.6 | 100.0 | 235.00 | VERTICAL |
| 49.320000 | 23.70 | -16.2 | 40.0 | 16.3 | 100.0 | 338.00 | VERTICAL |
| 120.180000 | 18.90 | -12.1 | 43.5 | 24.6 | 266.0 | 0.00 | HORIZONTAL |
| 289.260000 | 19.20 | -9.2 | 46.0 | 26.8 | 100.0 | 0.00 | HORIZONTAL |
| 569.700000 | 26.90 | -3.6 | 46.0 | 25.1 | 100.0 | 0.00 | VERTICAL |
| 200.160000 | 21.50 | -14.1 | 43.5 | 22.0 | 128.0 | 270.00 | HORIZONTAL |

Test data for Adapter 2



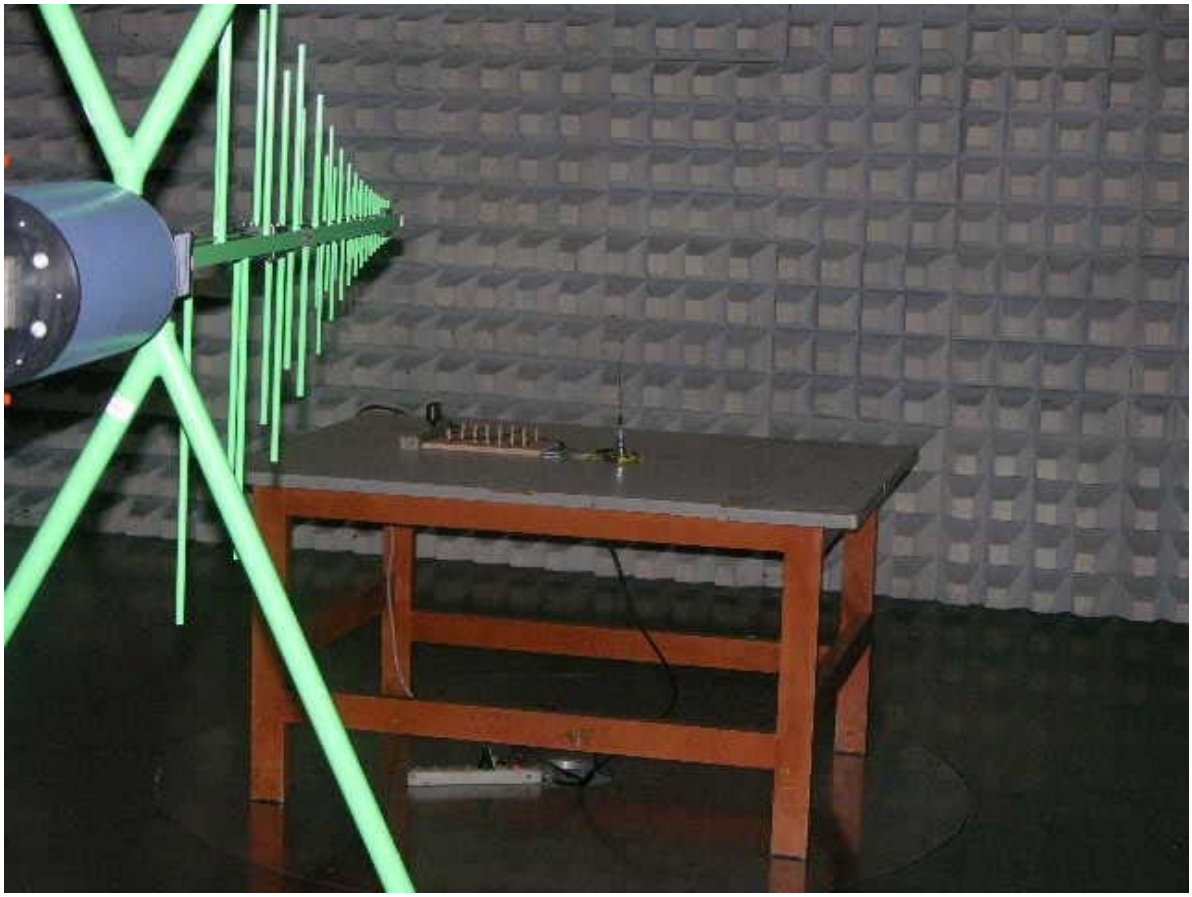

MEASUREMENT RESULT: QP DECTER

| Frequency (MHz) | Level (dBµV/m) | Transd (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Azimuth (deg) | Polarisation |
|---|---|---|---|---|---|---|---|
| 44.880000 | 29.80 | -14.2 | 40.0 | 10.2 | 100.0 | 237.00 | VERTICAL |
| 81.840000 | 14.90 | -16.8 | 40.0 | 25.1 | 128.0 | 30.00 | VERTICAL |
| 215.700000 | 18.90 | -14.1 | 43.5 | 24.6 | 100.0 | 330.00 | HORIZONTAL |
| 234.960000 | 23.40 | -12.1 | 46.0 | 22.6 | 206.0 | 163.00 | VERTICAL |
| 556.980000 | 30.00 | -3.8 | 46.0 | 16.0 | 100.0 | 90.00 | HORIZONTAL |
| 835.380000 | 34.20 | -0.7 | 46.0 | 11.8 | 100.0 | 0.00 | VERTICAL |

# Appendix I

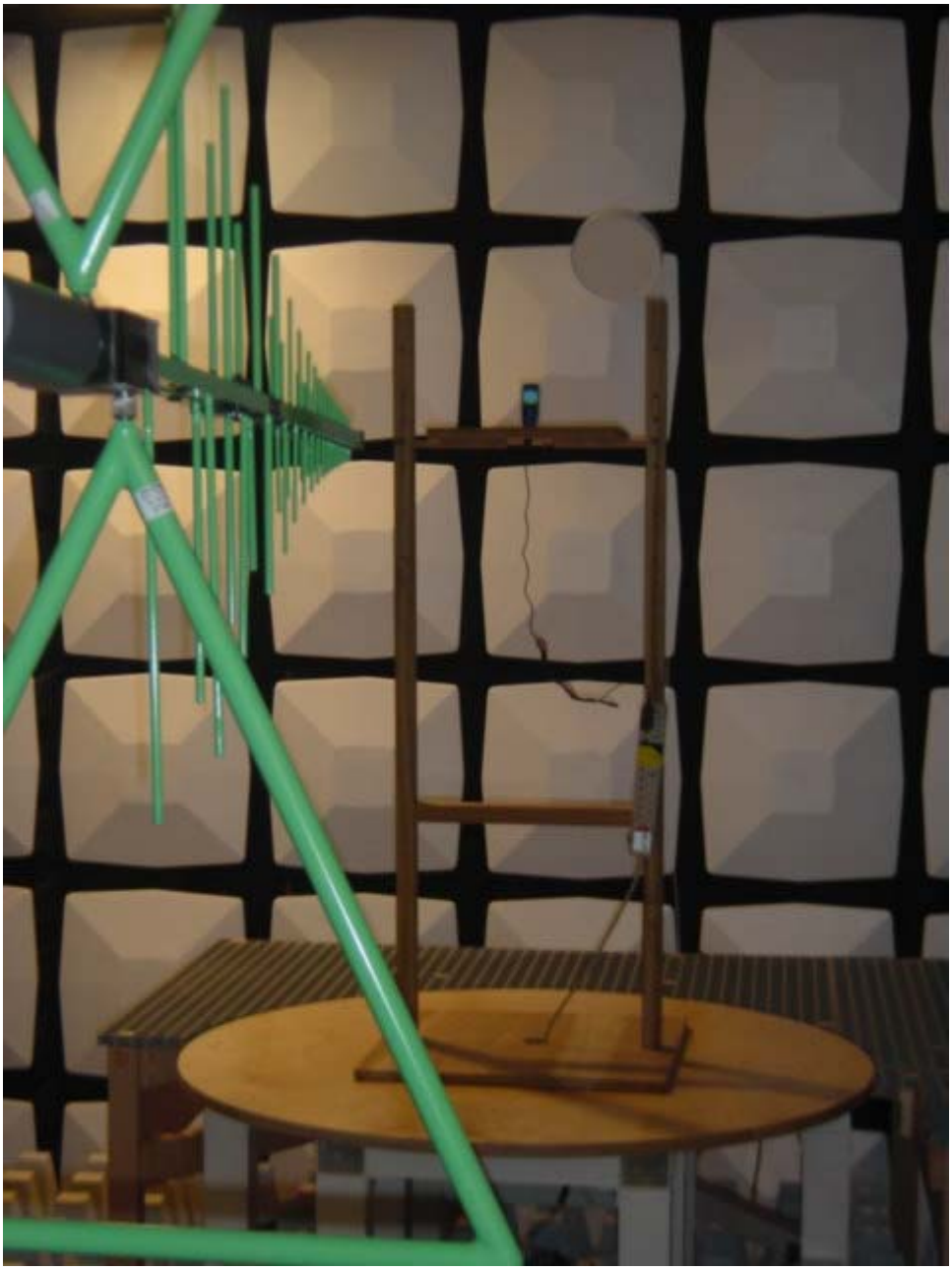
## Photos of Test Setup

# 2 Radiated Emissions



Radiated Disturbance

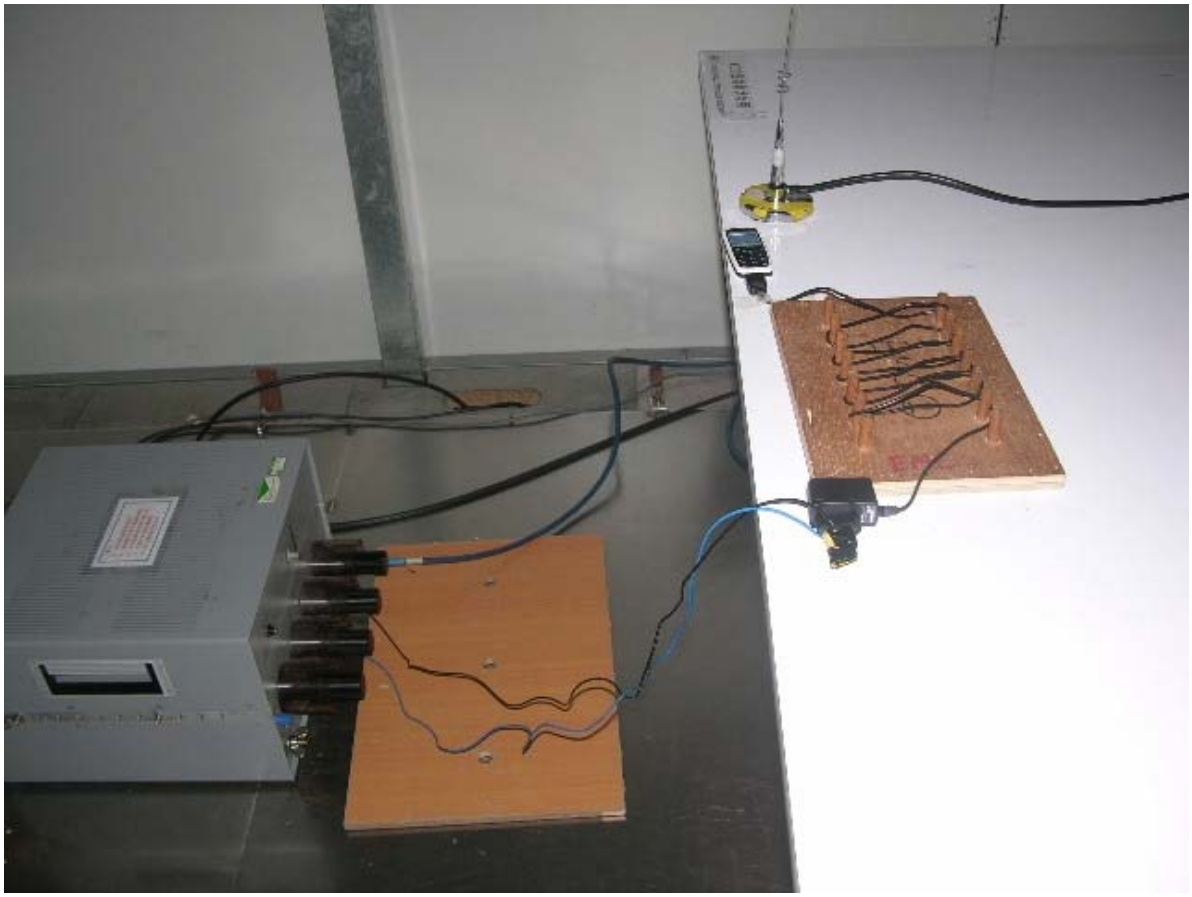
# 3 Radiated Spurious Emissions



Radiated Spurious Emission (below 1GHz)

Radiated Spurious Emission (above 1GHz)

# 4 Conducted Emissions



Conducted Emissions for AC Ports