



# Appendix B

Peak Output Power

```
=====
# ROHDE & SCHWARZ Certific. Bluetooth Test System TS8960 SW Version: bl_23
#
# Program name: tc_AllPower          program revision: 1.1.1
#
# All Power Measurement Test Cases
#
#-----
# Test Case started: 2001-06-01, 10:37:19 (ets_1)
# Report File: /home/ts8960/project/ts8960/sw/ALE/tc/dat/Lessw_cert/Lessw_cert.ta.rep
# Eut File: Lessw_cert
# Operator's account name: ts8960
#
# Global Parameter Settings:
#
# Wait On Compare      : No
# Wait On OUTSIDE      : No
# Wait On FAIL         : No
# Abort On FAIL        : No
# Skip Manual Interventions : No
# Plots Disabled       : No
# Remove Plots after Program Run : No
# Info Enabled        : No
# Short Mode          : No
# Force Mode          : No
# Part                : 1
#-----
```

Starting program tc\_AllPower

TC Output Power RFC Check

```
..
Starting TC Output Power (TRM/CA/01/C)
=====
Test Specification RF:      0.9

EUT connected for Measurement and Signalling at: SSCU-Port 'MEASUREMENT DUT COND'
```

Next measurement will be running with the following EUT paramter:

```
Manufacturer:      Lesswire AG
Model:             Bluetooth Access Point / Local Navigator Bluetooth Ba
se Station
Serial No:         no info
Comment:           no info
Setup mode:        Final Testing
Test Mode Handle:  Every Parameter Set
Country:           All
Pseudo Whitening: Off
Host Connection Request: NO
EUT Address:       00000000A001 hex
Tester Address:    008037122094 hex
Active Member Address: 00000007 hex
```

```
Access Code from EUT:      AD59EE5328A41120D5 hex
Access Code from SU:      AD59EE5328A41120D5 hex
Connection Poll Period:    40      Time Slots
Connection Page TO:        9000     Time Slots
Test Parameter Setting Delay: 0      ms
Power Class:              2
Power Control:            Not supported
Gain:                     0.000     dB1
Add. Transmission (Receive): 0.000   dB
Add. Transmission (Transmit): 0.000   dB
Longest Packet Type:      DH5
Unmod. part before Mod.:  40.000     us
Unmod. part after Mod.:   0.000     us
Payload Length DH1:       216        Bits
Payload Length DH3:       1464       Bits
Payload Length DH5:       2712       Bits
Voltage Value 1:          6.000      Volt
Voltage Value 2:          0.000      Volt
Temperature:              25.000     Deg C
```

Next measurement will be running with the following parameter:

```
Voltage:            Middle
Temperature:        Middle
Power Mode:         Not Controlled
Measurement:        Conducted
EUT Test Mode:      Loopback
B1 Signal Packet Type: DH5
B1 Signal Pattern:  PRBS 9
Whitening:          Yes
Number of Packets:  1
EUT Tx Frequency:   Hopping
EUT Rx Frequency:   Hopping
B1 Signalling Level: -55.000      dBm
```

Operator intervention start at 2001-06-01, 10:37:21  
Intervention Type 'Please prepare the EUT for Test Mode Activation'  
Operator intervention end at 2001-06-01, 10:37:34

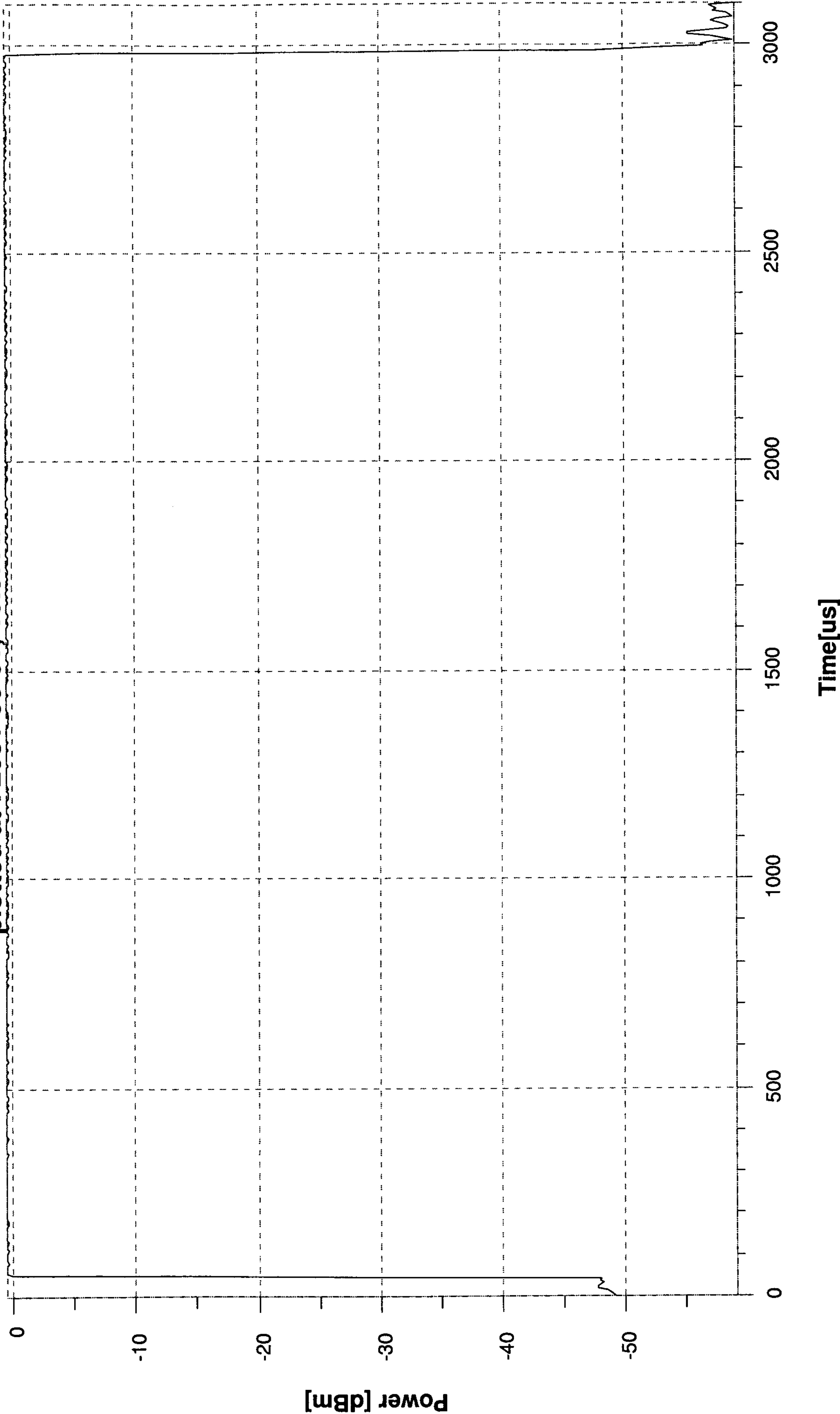
| TX FREQ<br>[MHz] | RX FREQ<br>[MHz] | MEAS FREQ<br>[MHz] | MEASUREMENT      | LEVEL<br>[dBm] | LIMIT<br>[dBm] | VERDICT |
|------------------|------------------|--------------------|------------------|----------------|----------------|---------|
| hopping          | hopping          | 2402.000           | Average (+ gain) | 0.44 <         | 20.00          | PASS    |
| hopping          | hopping          | 2402.000           | Peak (+ gain)    | 0.51 <         | 23.00          | PASS    |
| hopping          | hopping          | 2402.000           | Average          | 0.44 <         | 4.00           | PASS    |
| hopping          | hopping          | 2402.000           | Average          | 0.44 >         | -6.00          | PASS    |
| hopping          | hopping          | 2441.000           | Average (+ gain) | 0.12 <         | 20.00          | PASS    |
| hopping          | hopping          | 2441.000           | Peak (+ gain)    | 0.14 <         | 23.00          | PASS    |
| hopping          | hopping          | 2441.000           | Average          | 0.12 <         | 4.00           | PASS    |
| hopping          | hopping          | 2441.000           | Average          | 0.12 >         | -6.00          | PASS    |
| hopping          | hopping          | 2480.000           | Average (+ gain) | -0.24 <        | 20.00          | PASS    |
| hopping          | hopping          | 2480.000           | Peak (+ gain)    | -0.17 <        | 23.00          | PASS    |
| hopping          | hopping          | 2480.000           | Average          | -0.24 <        | 4.00           | PASS    |
| hopping          | hopping          | 2480.000           | Average          | -0.24 >        | -6.00          | PASS    |

All selected Output Power tests are completed

```
=====
# Duration 00:00:39
# Final Test Case verdict: PASS
# Report file closed at 2001-06-01, 10:37:58
=====
```

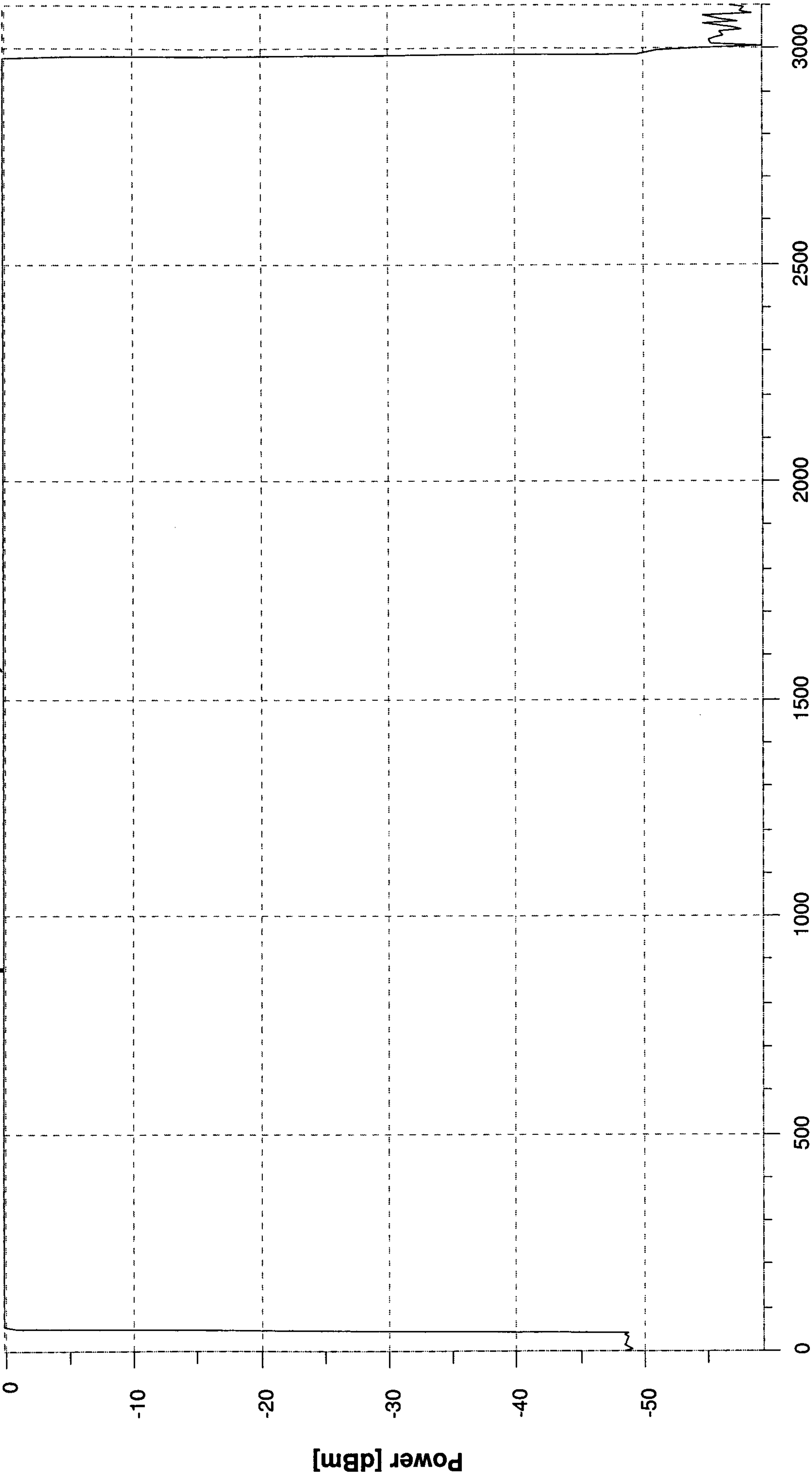
Measured Burst TC Output Power -Measured EUT: Lessw\_cert -EUT TX Frequency hopping (Meas:  
2402.000 MHz)

plotted at : 2001-06-01, 10:37:42



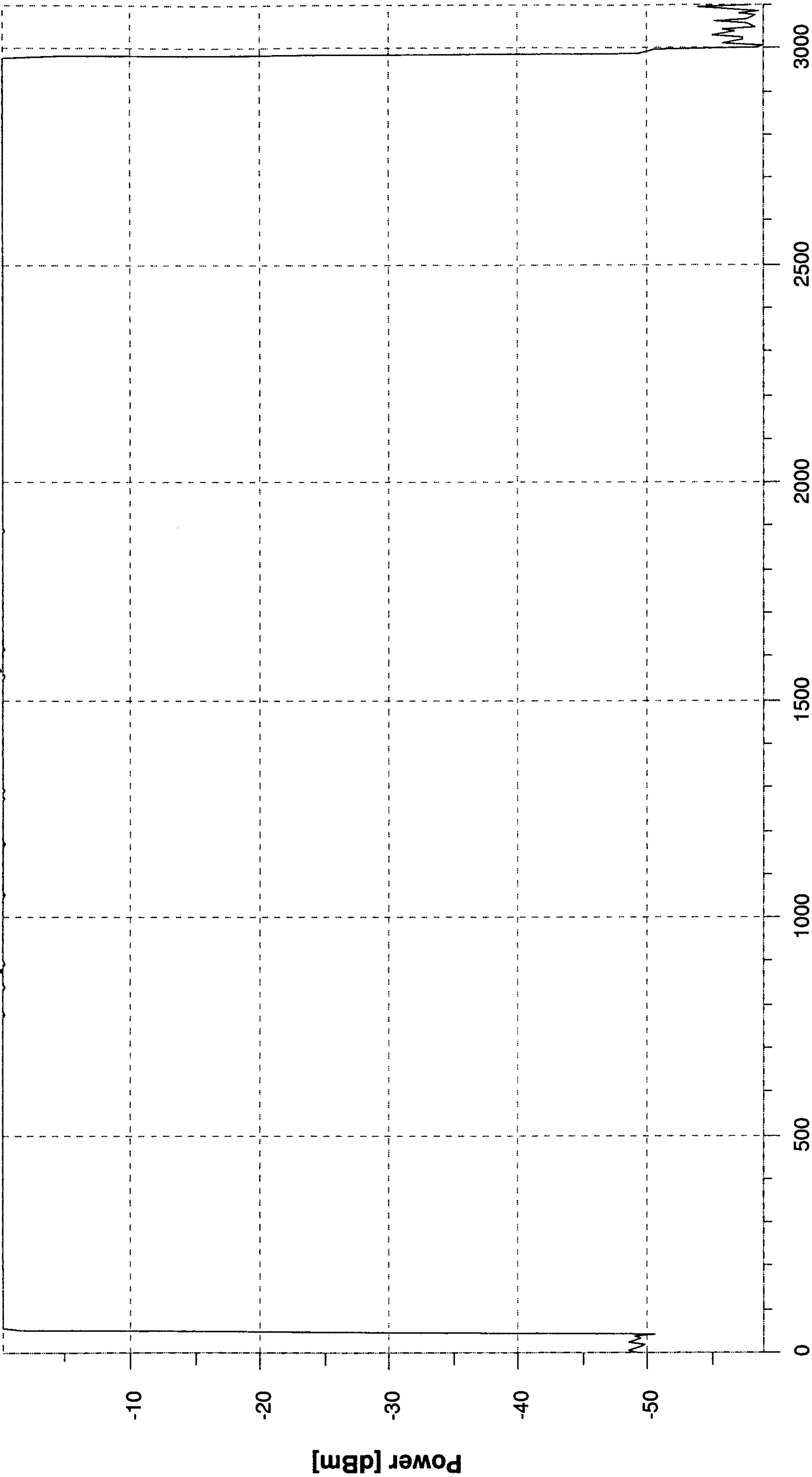
Measured Burst TC Output Power -Measured EUT: Lessw\_cert -EUT TX Frequency hopping (Meas:  
2441.000 MHz)

plotted at : 2001-06-01, 10:37:51



Measured Burst TC Output Power -Measured EUT: Lessw\_cert -EUT TX Frequency hopping (Meas:  
2480.000 MHz)

plotted at : 2001-06-01, 10:37:58

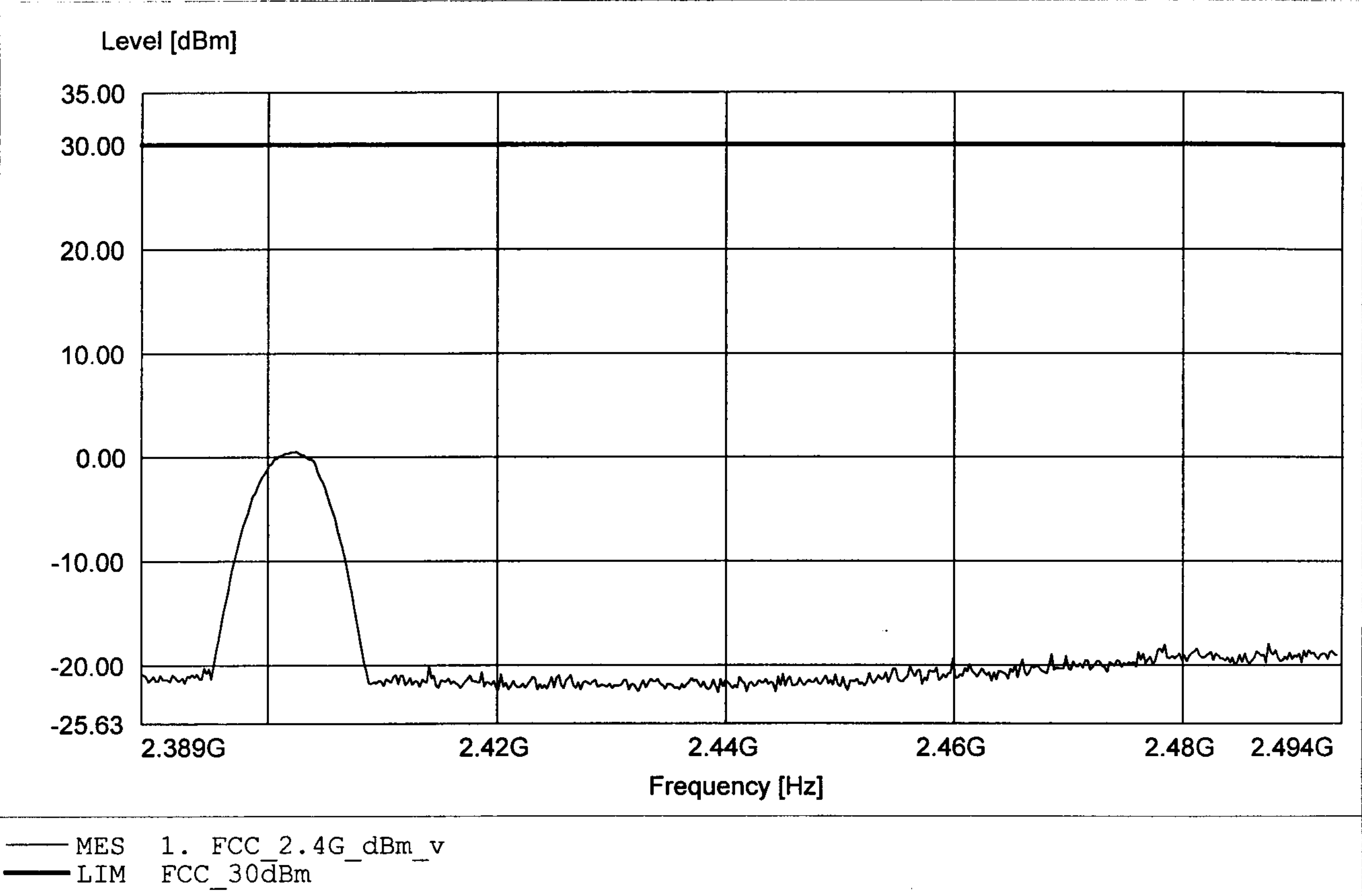


Time[us]

Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

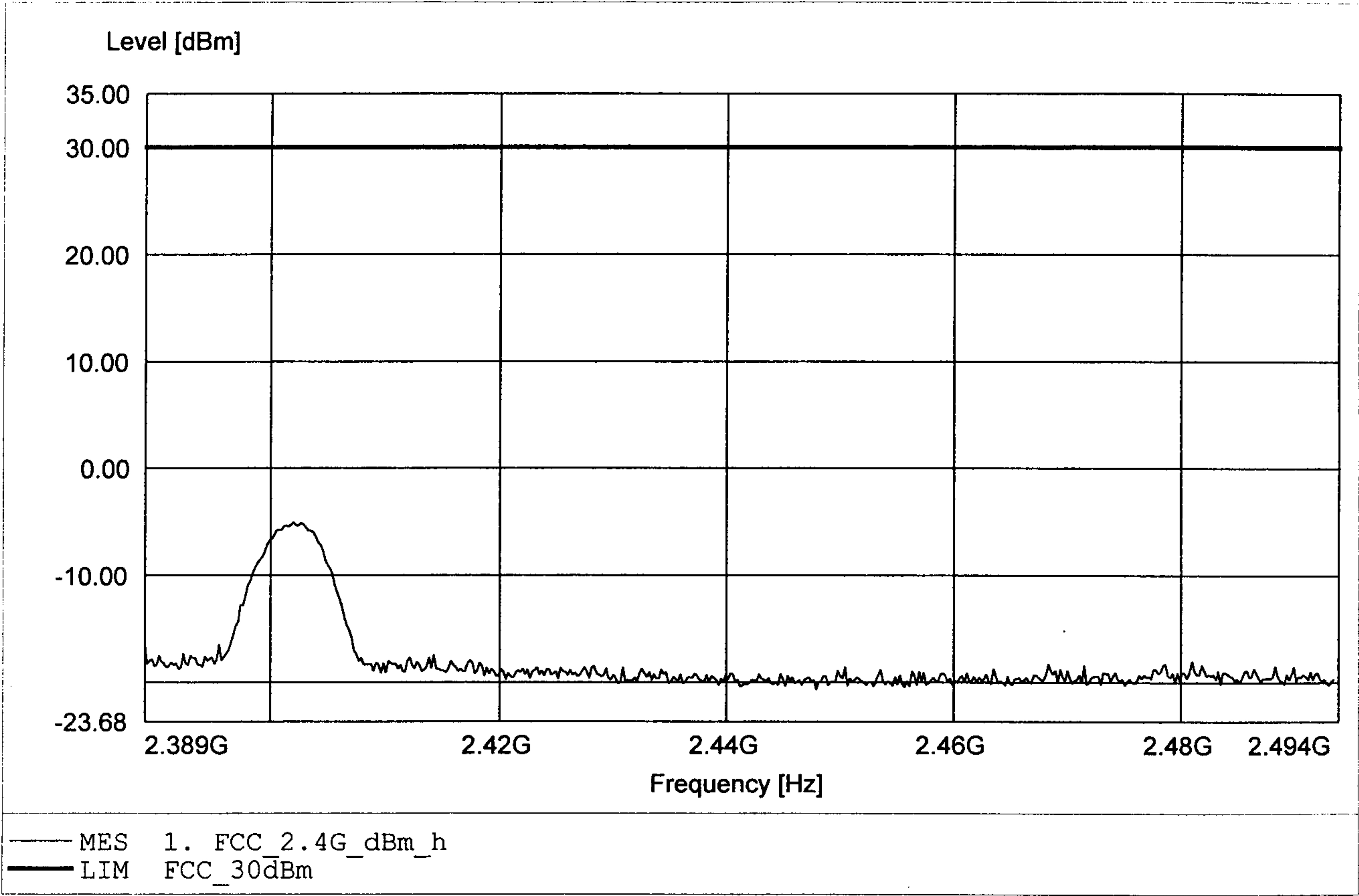
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.402GHz Pmax:0.52dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

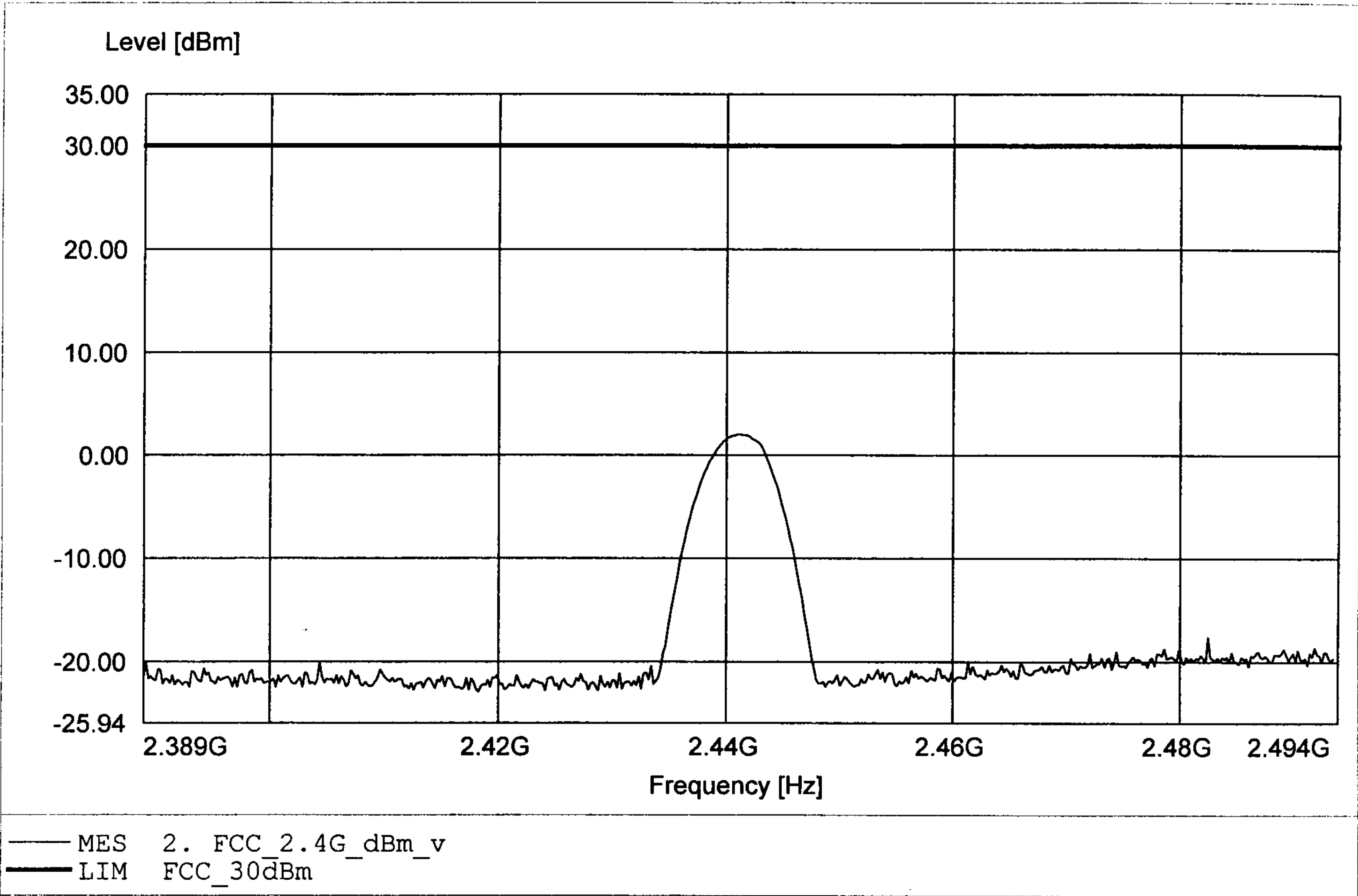
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG  
  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.402GHz Pmax:-5.01dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

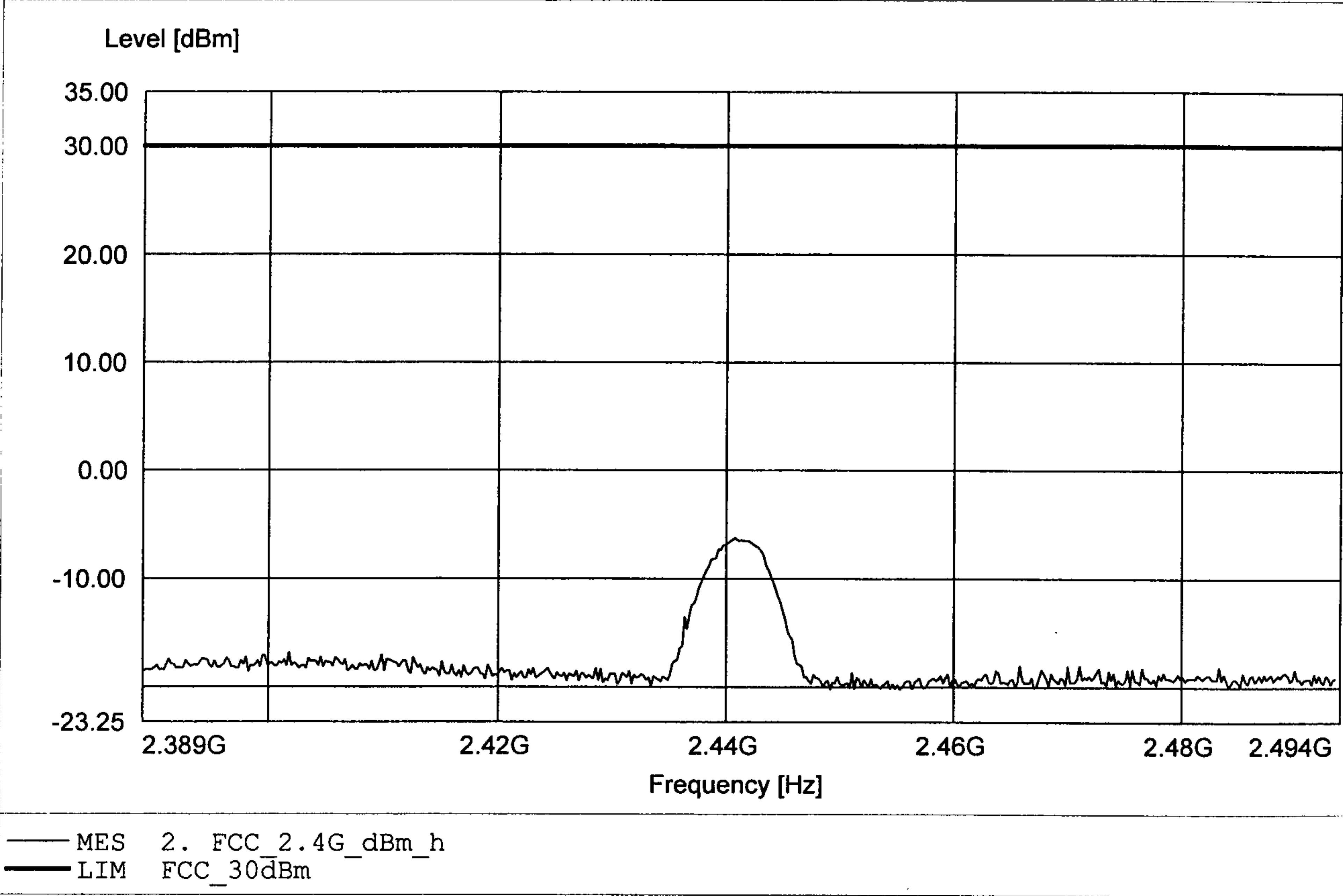
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.441GHz Pmax:2.02dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

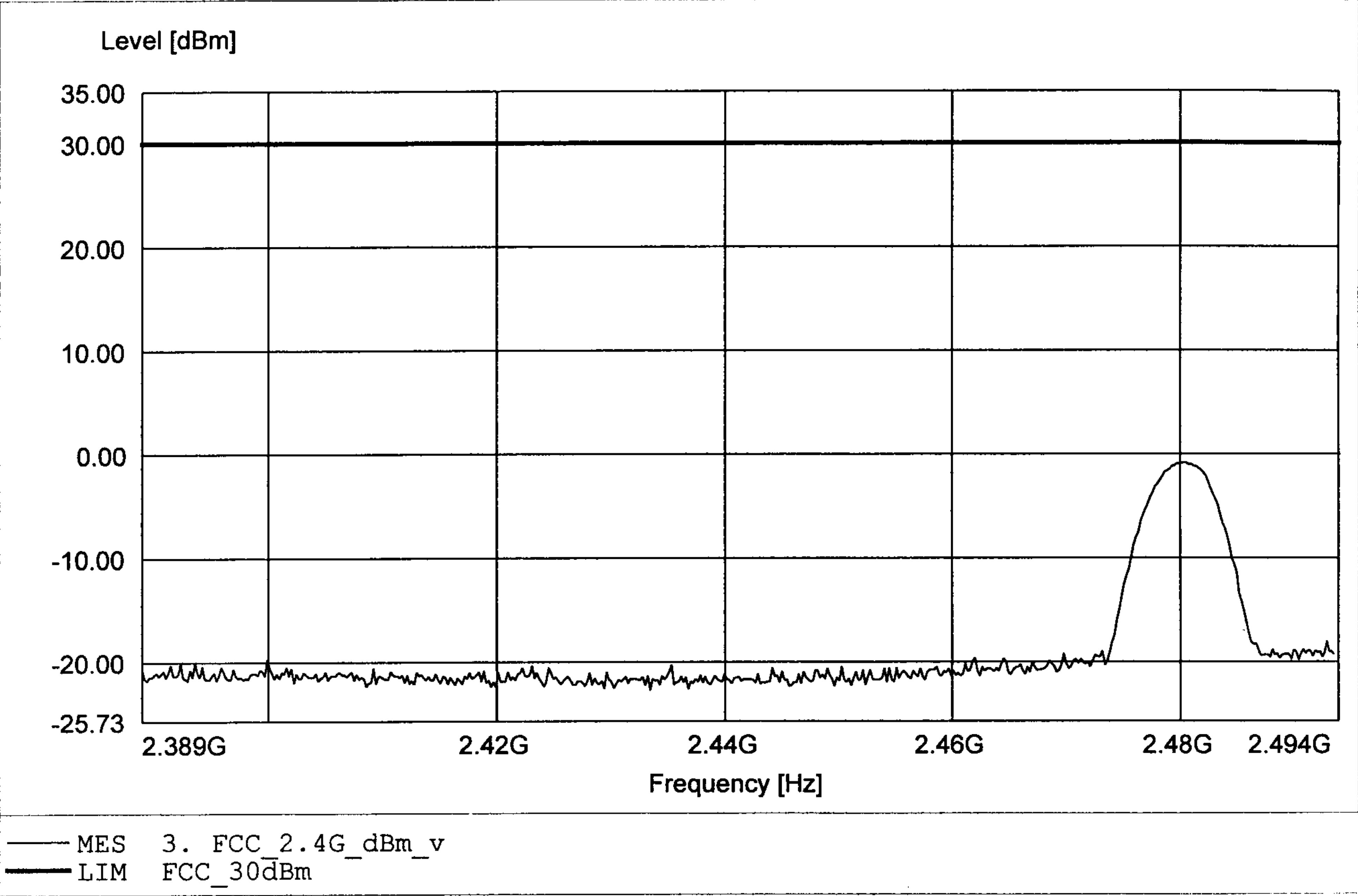
EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.441GHz Pmax:-6.23dBm RBW:5MHz



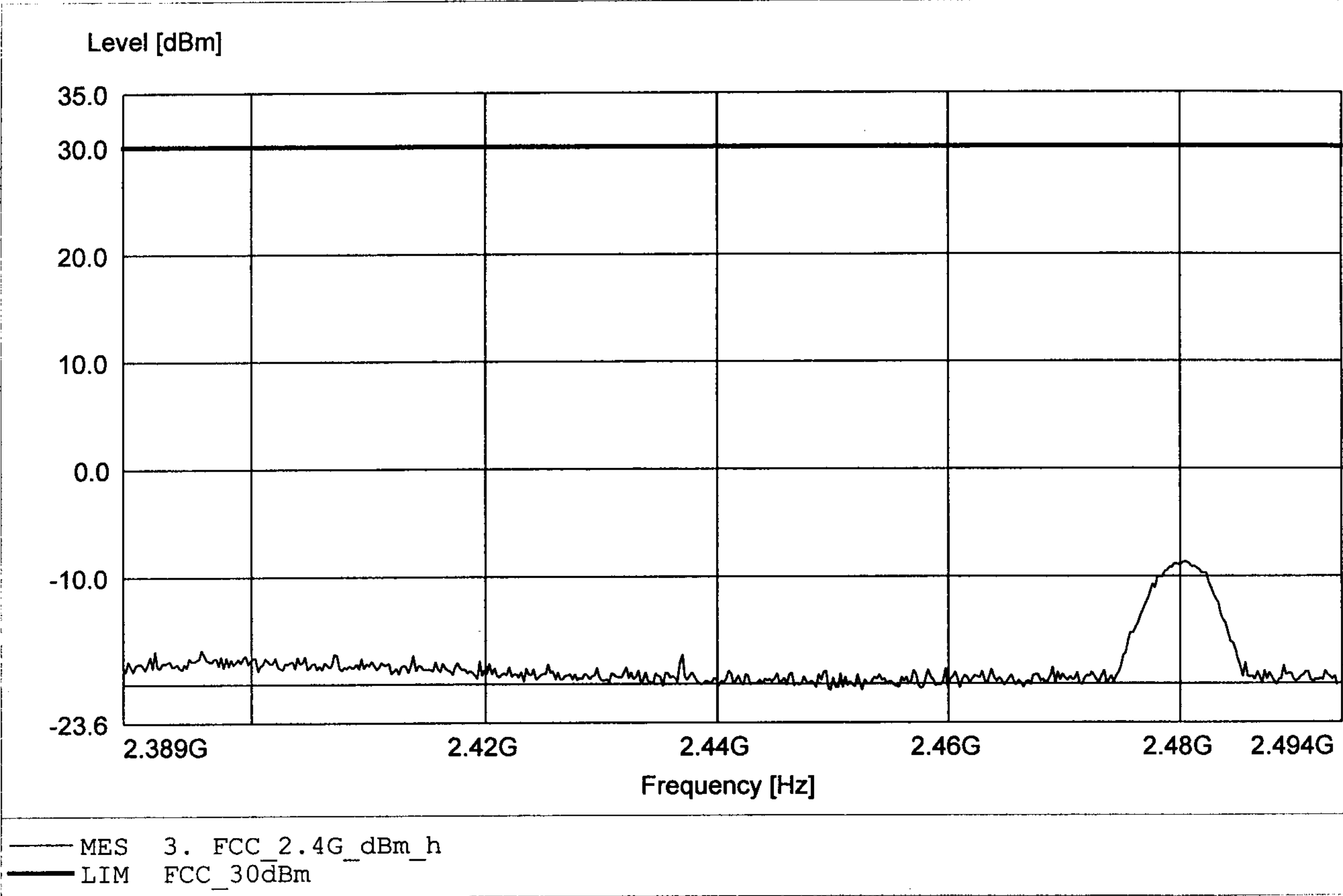
Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.481GHz Pmax:-0.84dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

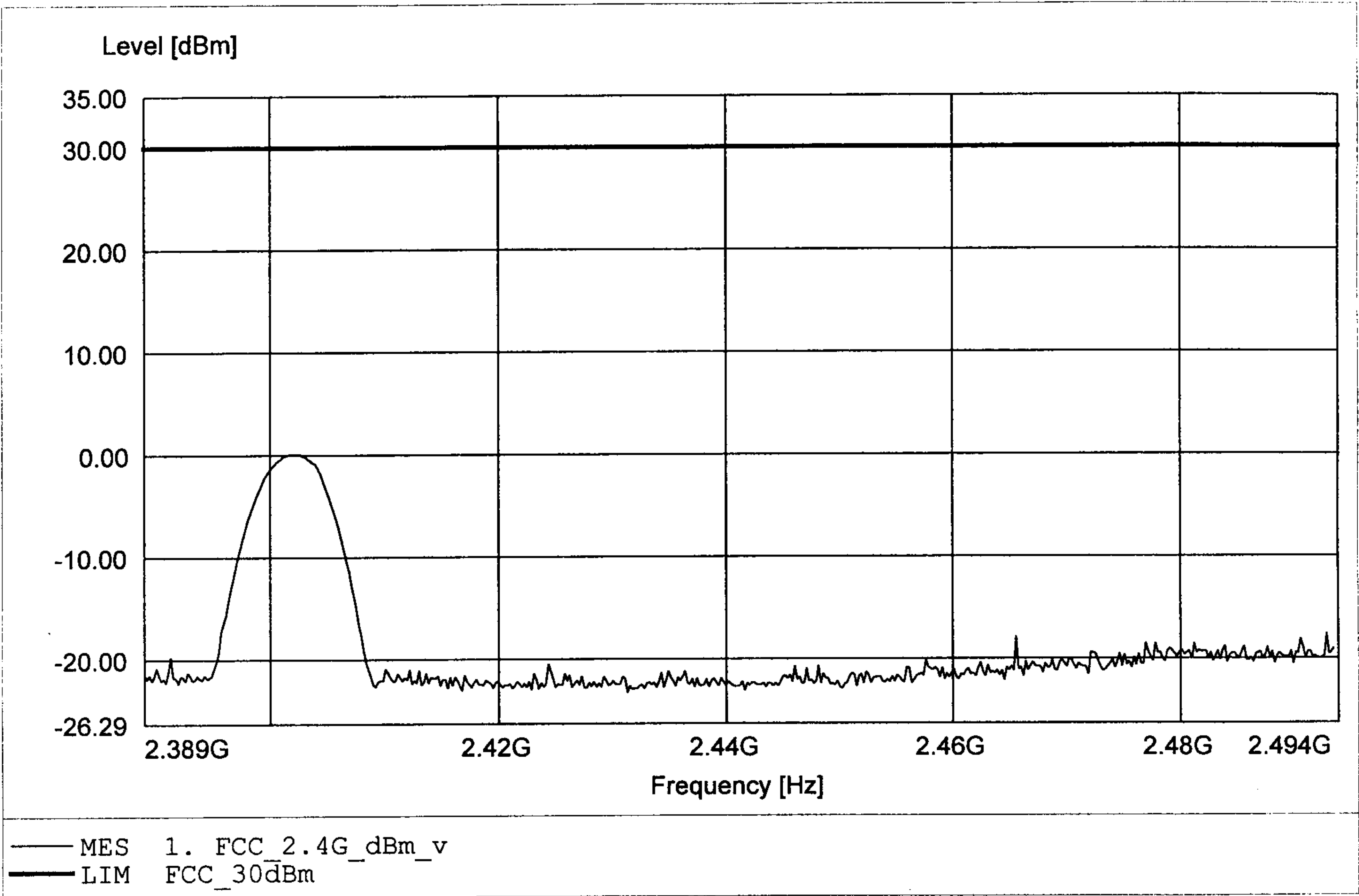
EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.480GHz Pmax:-8.69dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

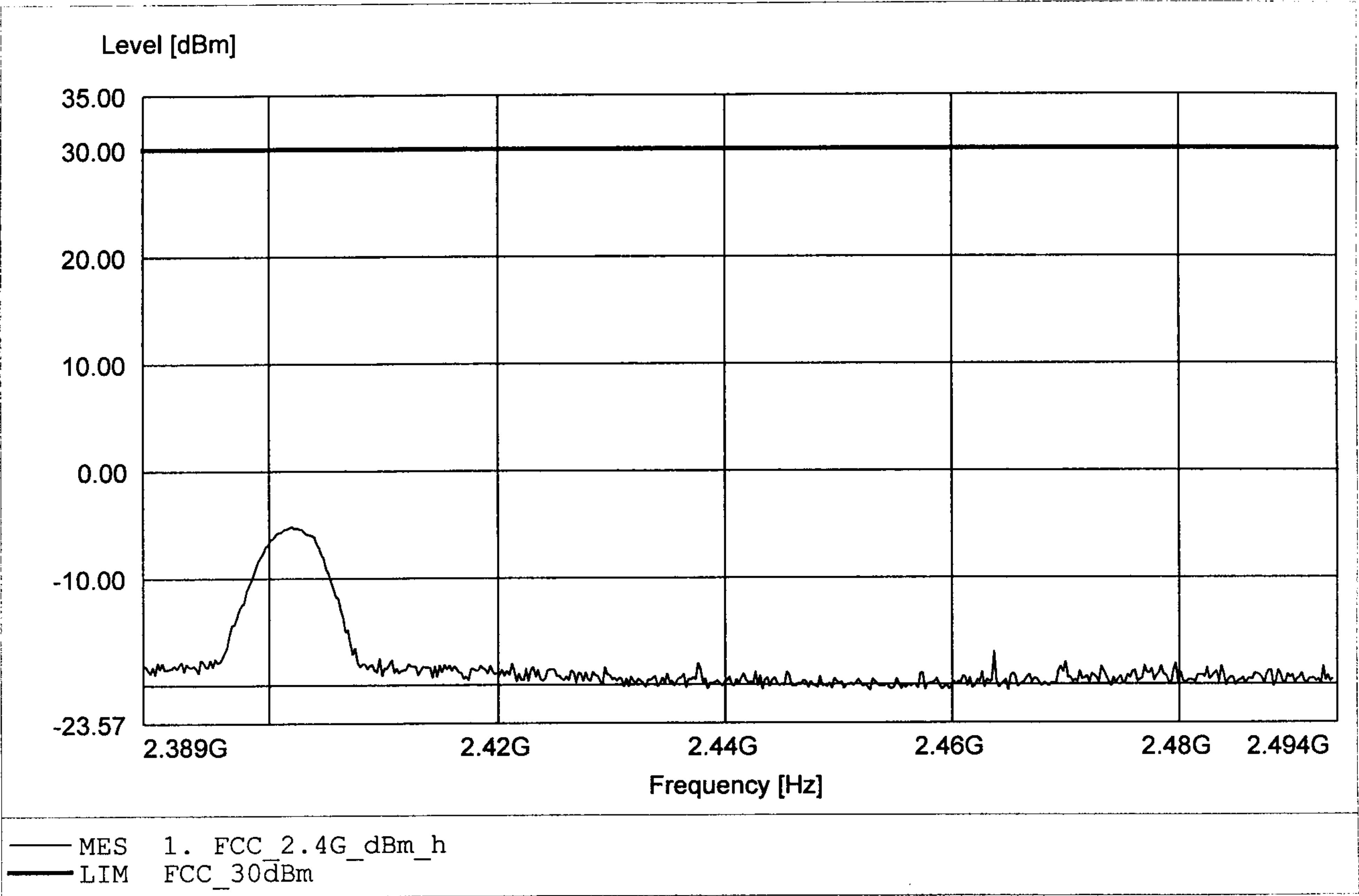
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC -15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.402GHz Pmax:0.07dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

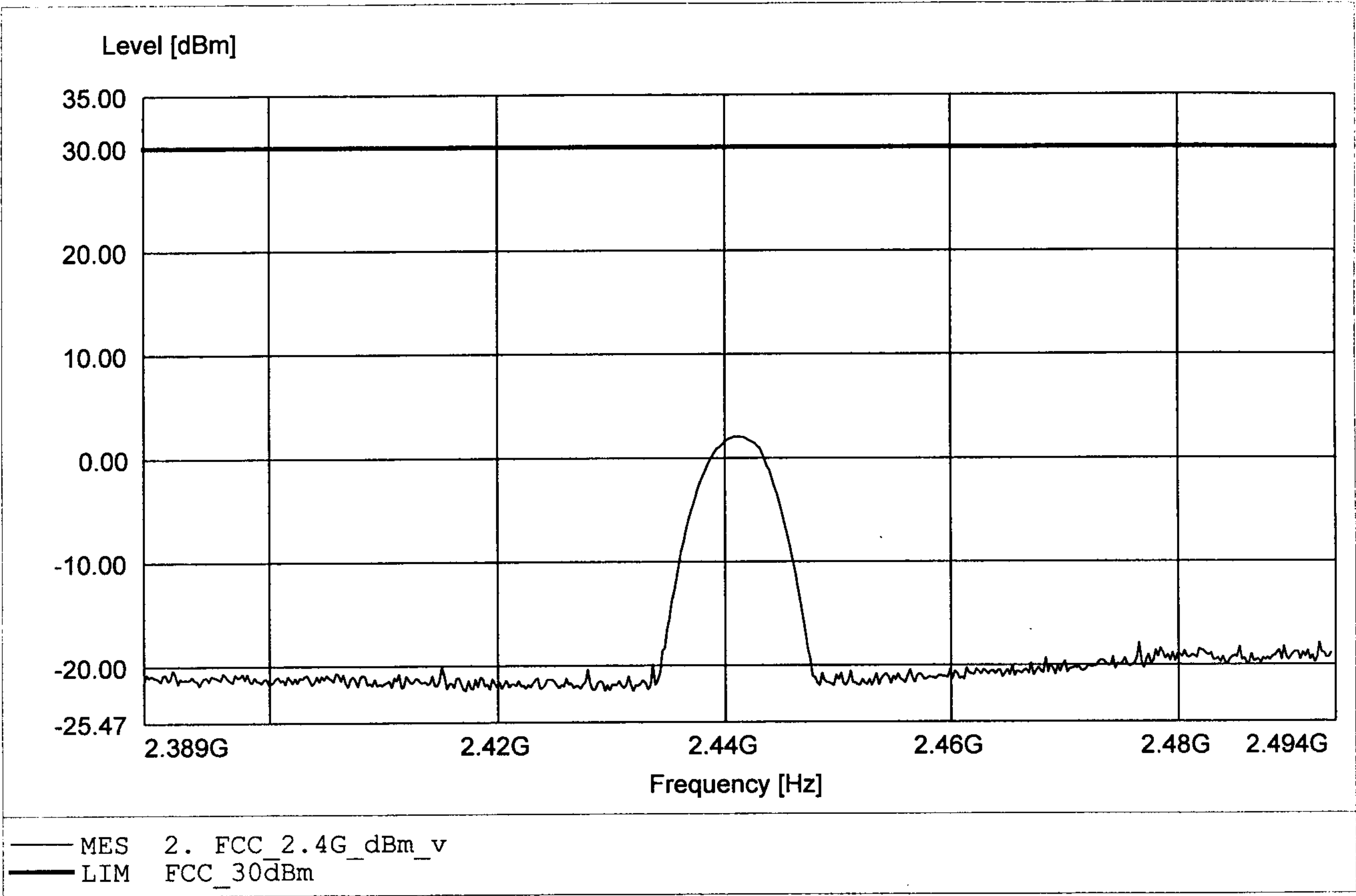
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC -15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.402GHz Pmax:-5.14dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

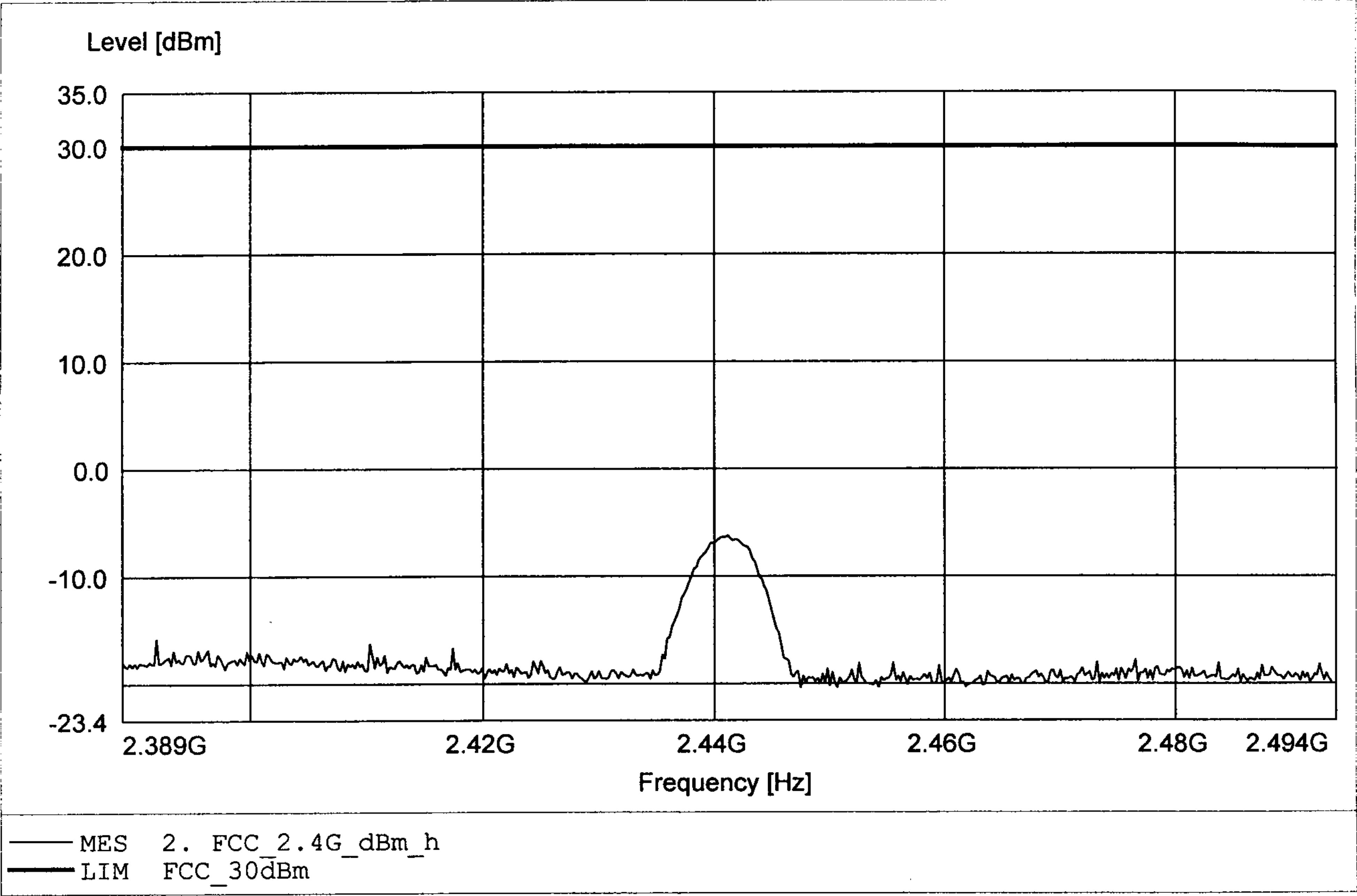
EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC -15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.441GHz Pmax:2.09dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

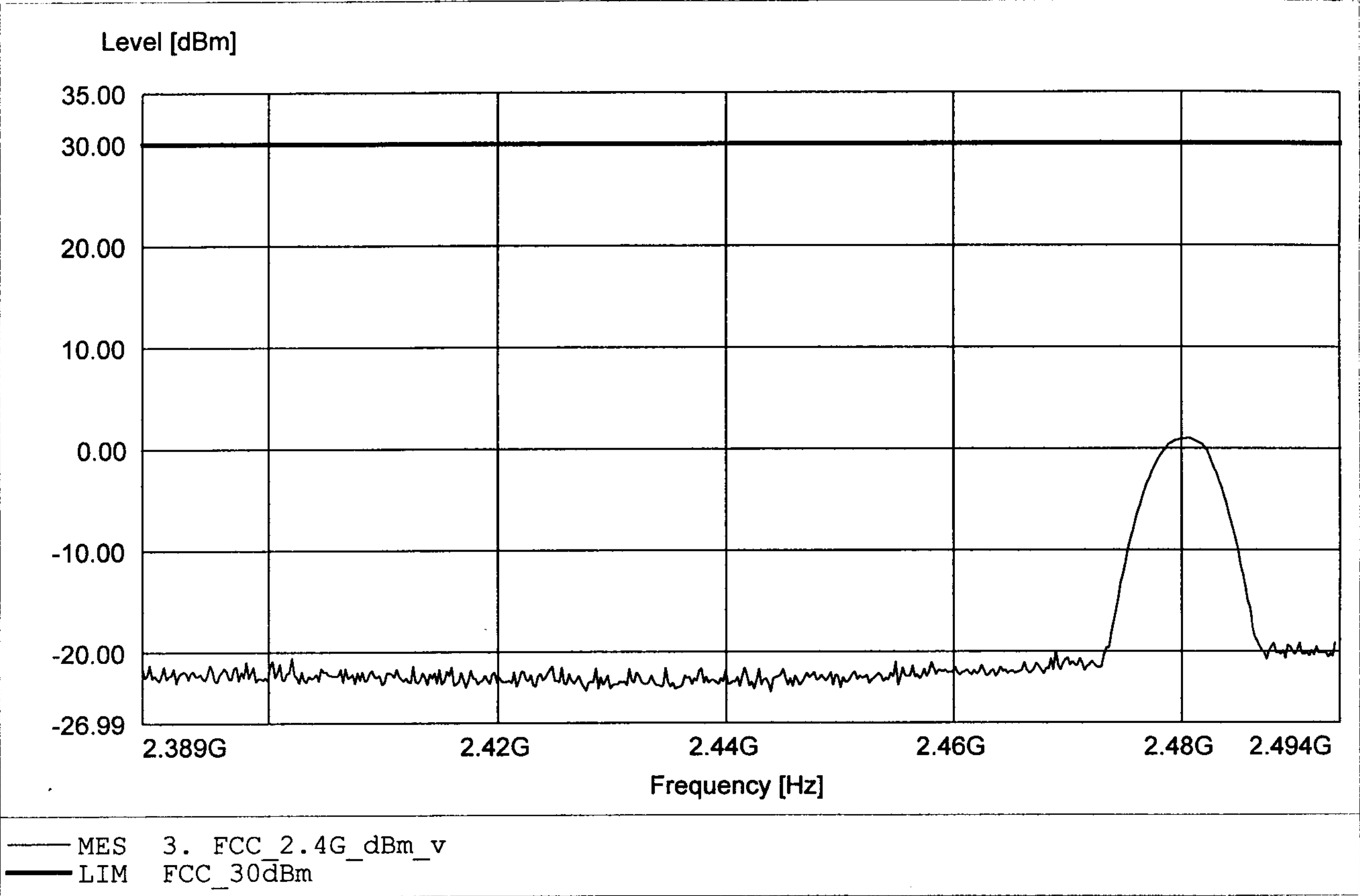
EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC -15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.441GHz Pmax:-6.24dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

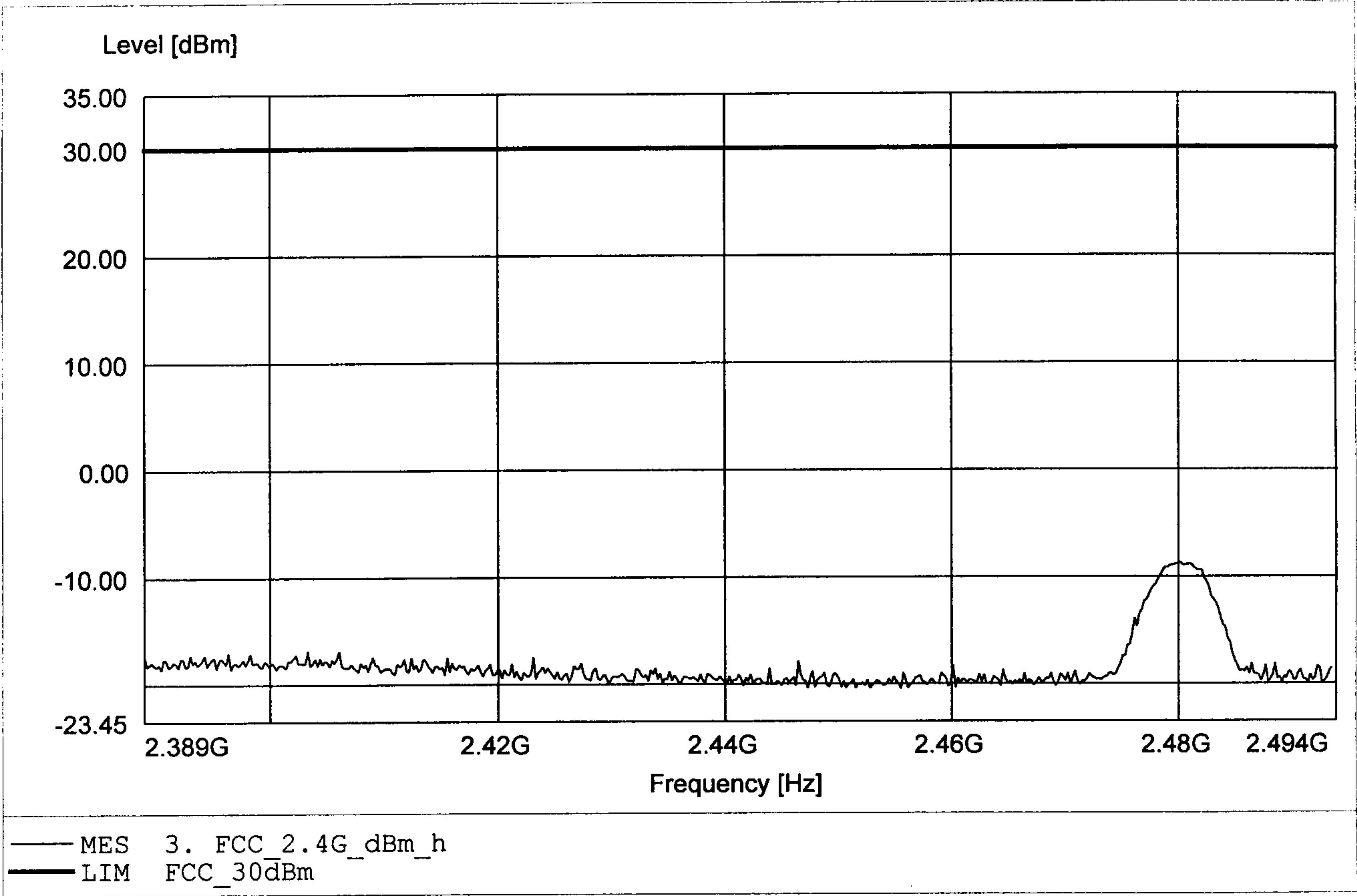
Temperature/ Voltage: t nom=25°C / Unom= 6V DC -15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.481GHz Pmax:1.01dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

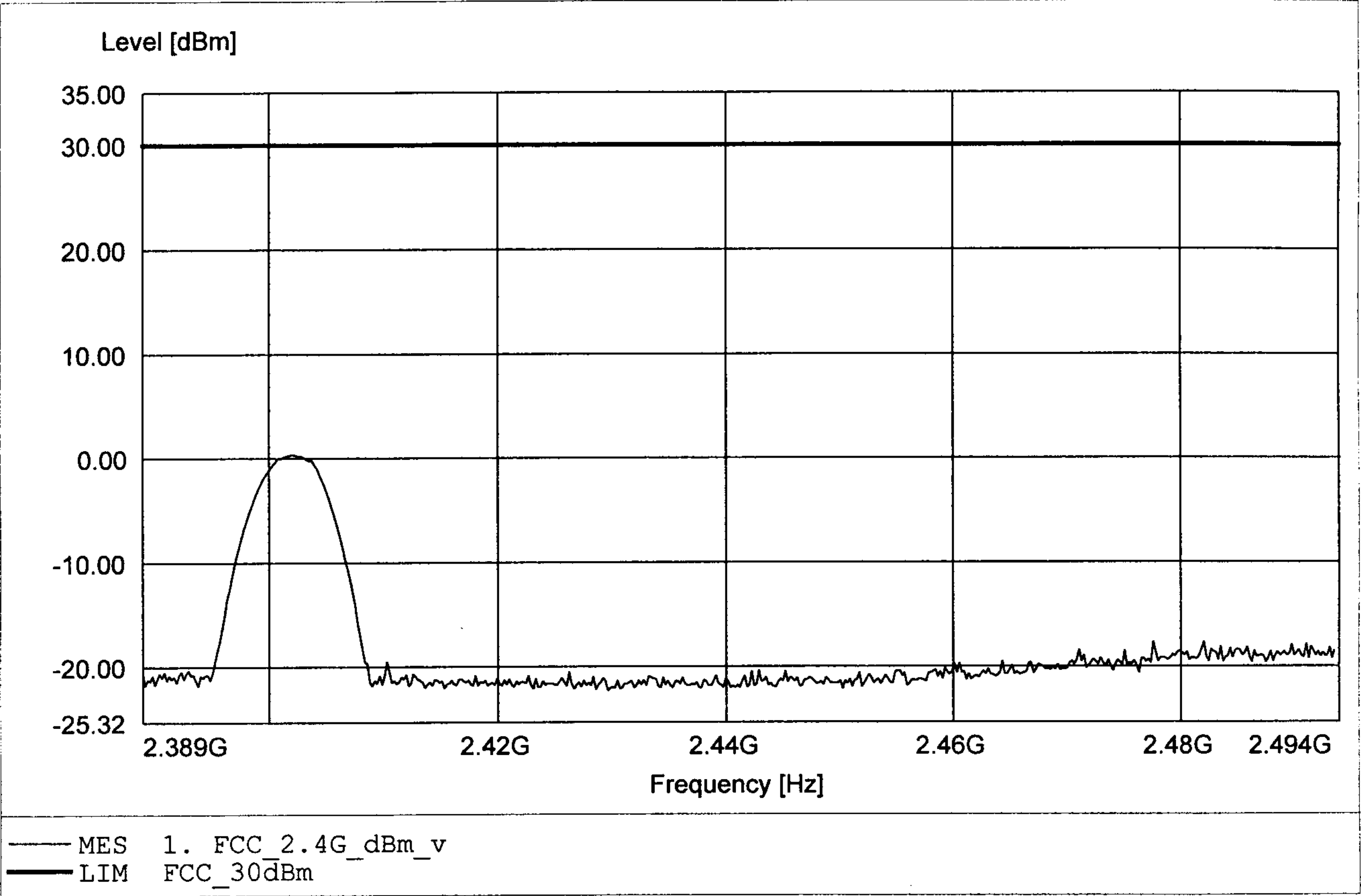
Temperature/ Voltage: t nom=25°C / Unom= 6V DC -15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.480GHz Pmax:-8.68dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

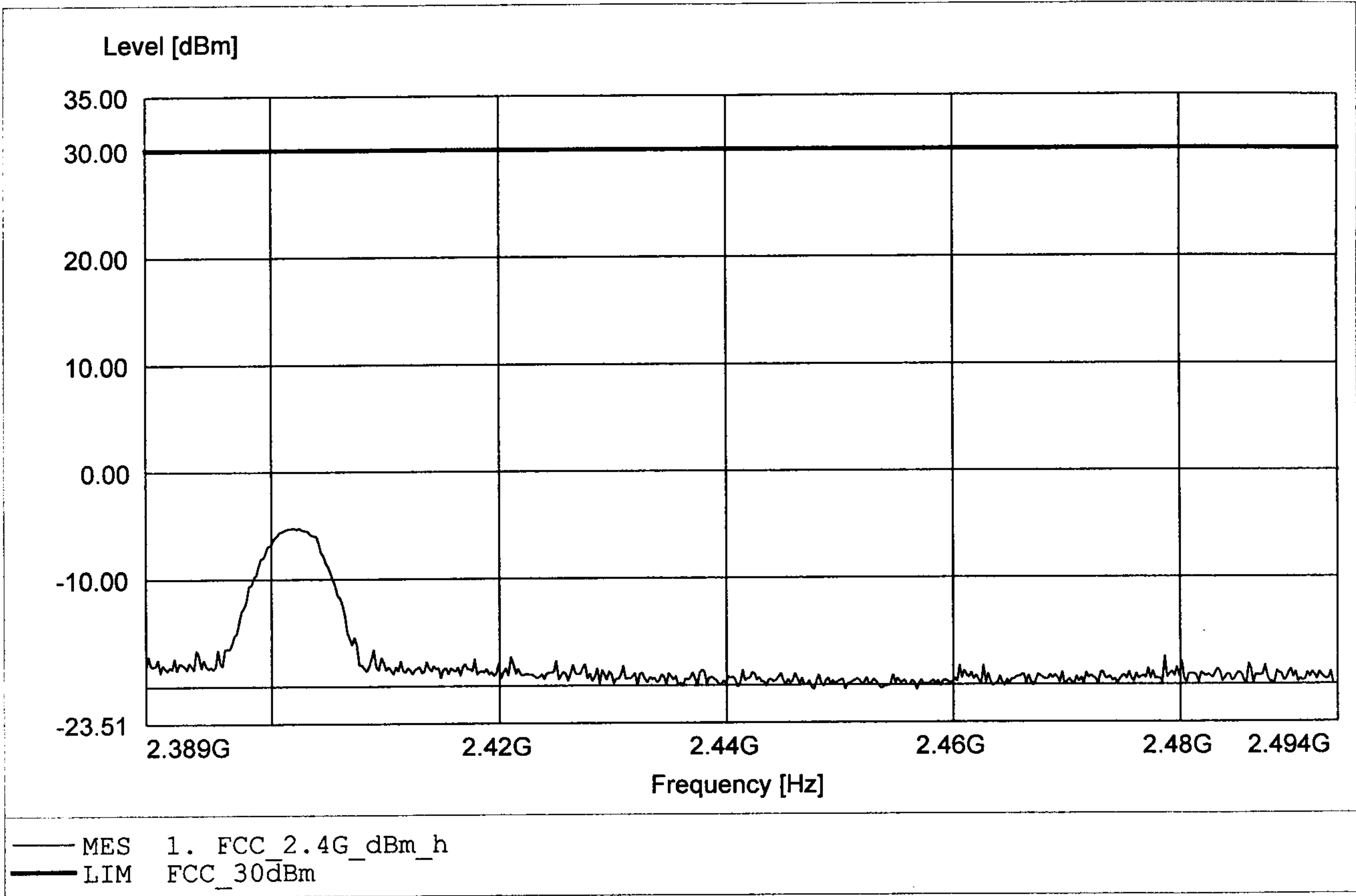
Temperature/ Voltage: t nom=25°C / Unom= 6V DC +15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.402GHz Pmax:0.35dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

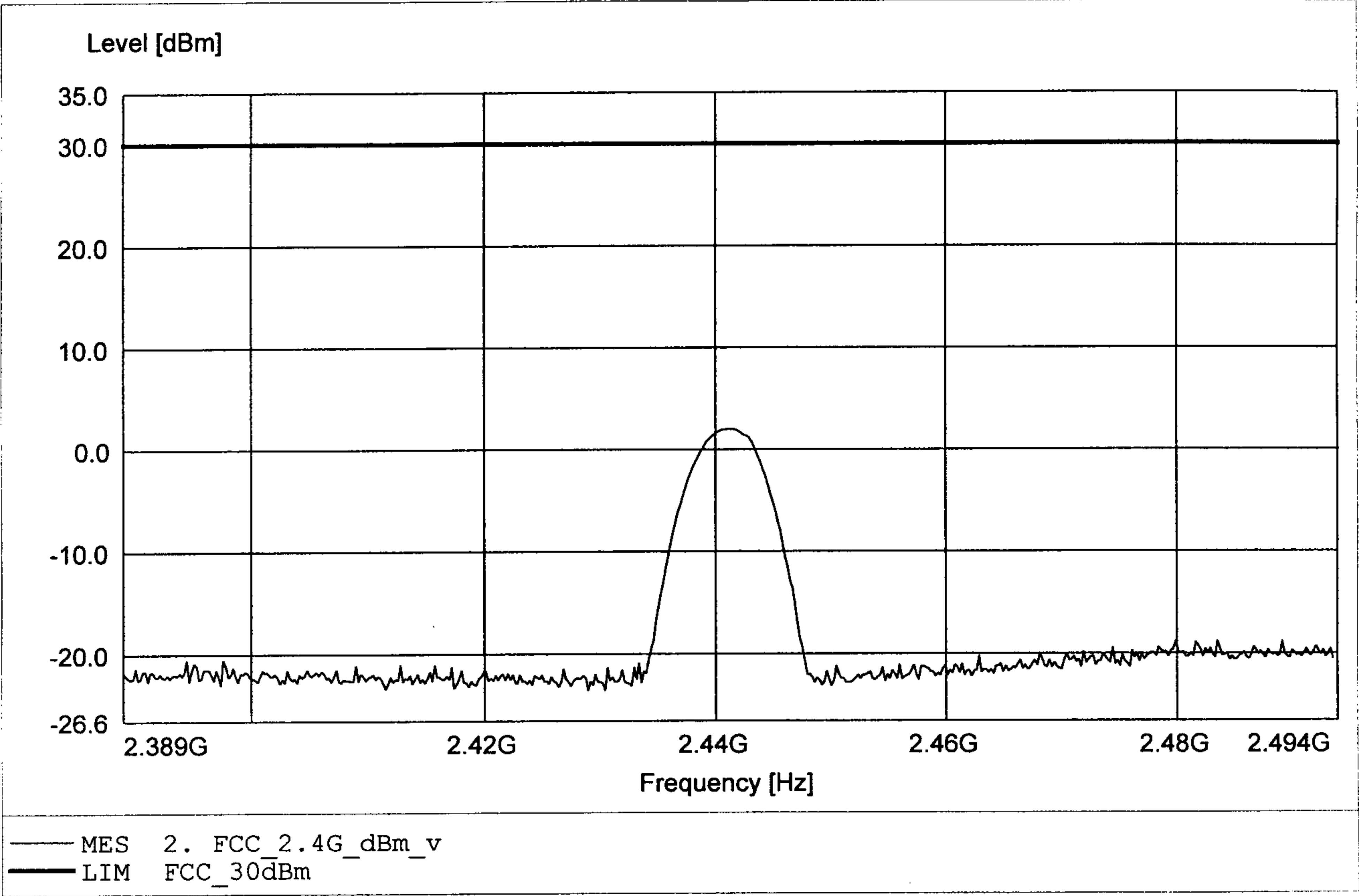
Temperature/ Voltage: t nom=25°C / Unom= 6V DC +15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.402GHz Pmax:-5.22dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

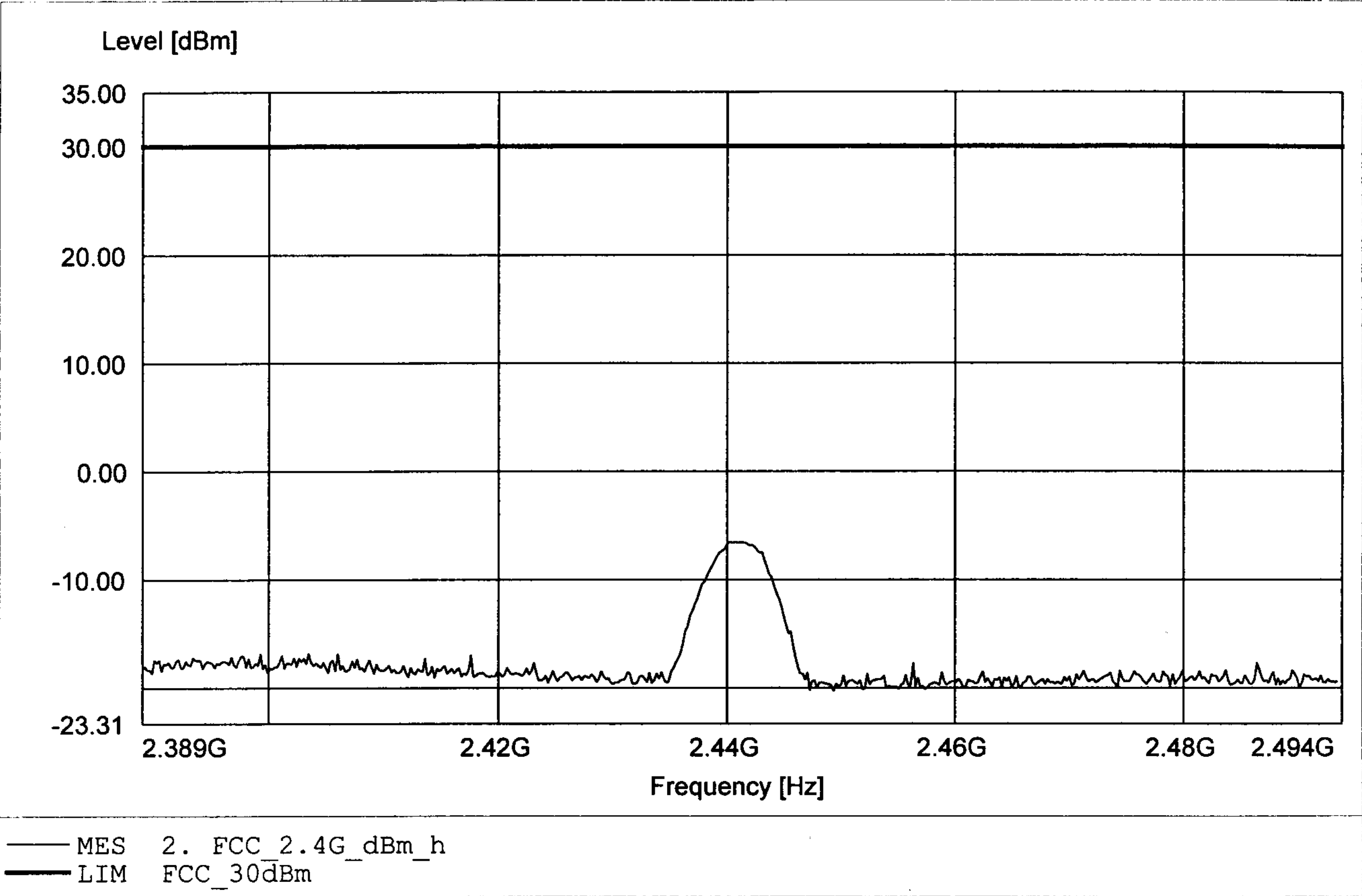
Temperature/ Voltage: t nom=25°C / Unom= 6V DC +15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.441GHz Pmax:2.02dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

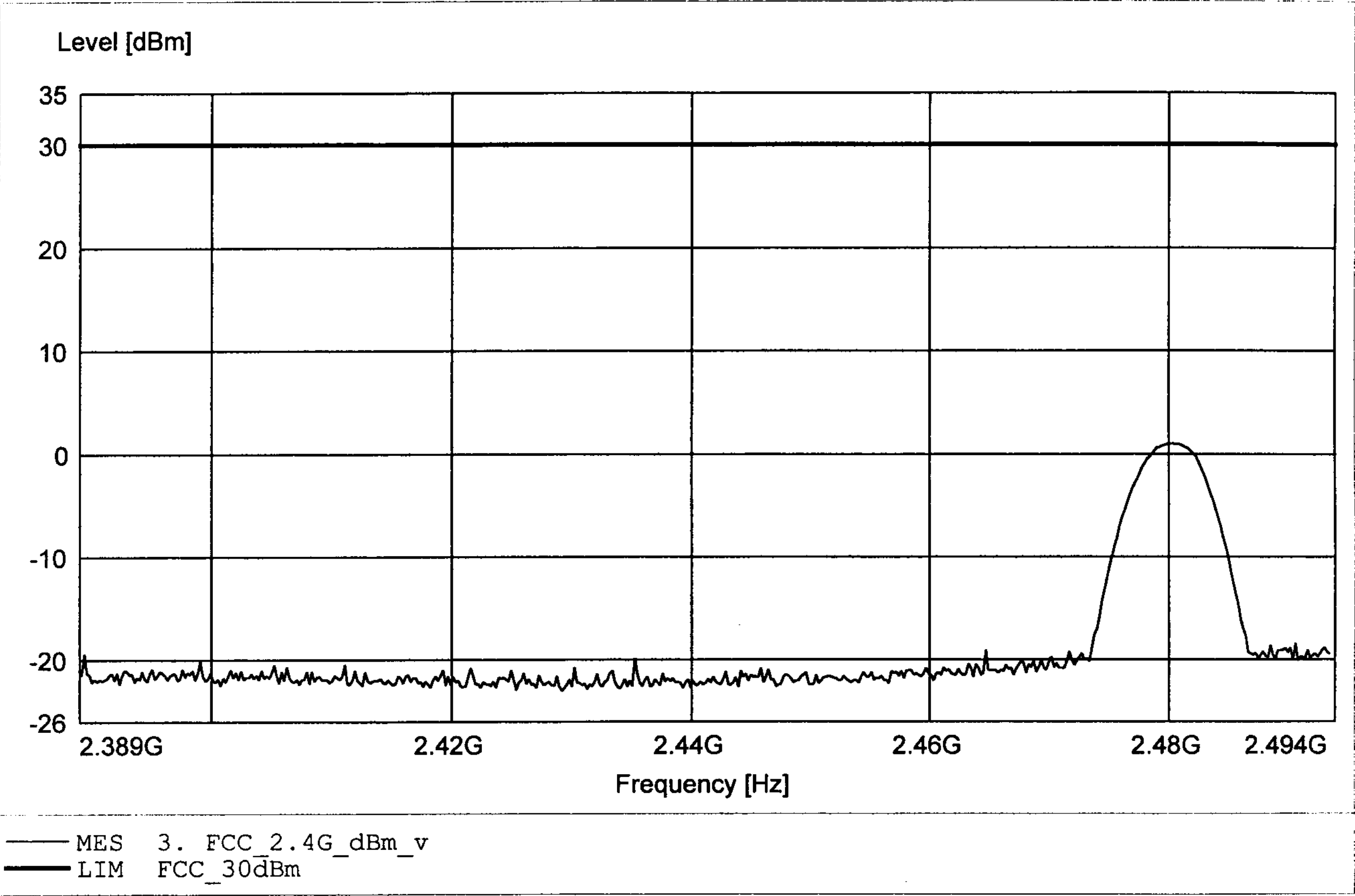
EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC +15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.440GHz Pmax:-6.54dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

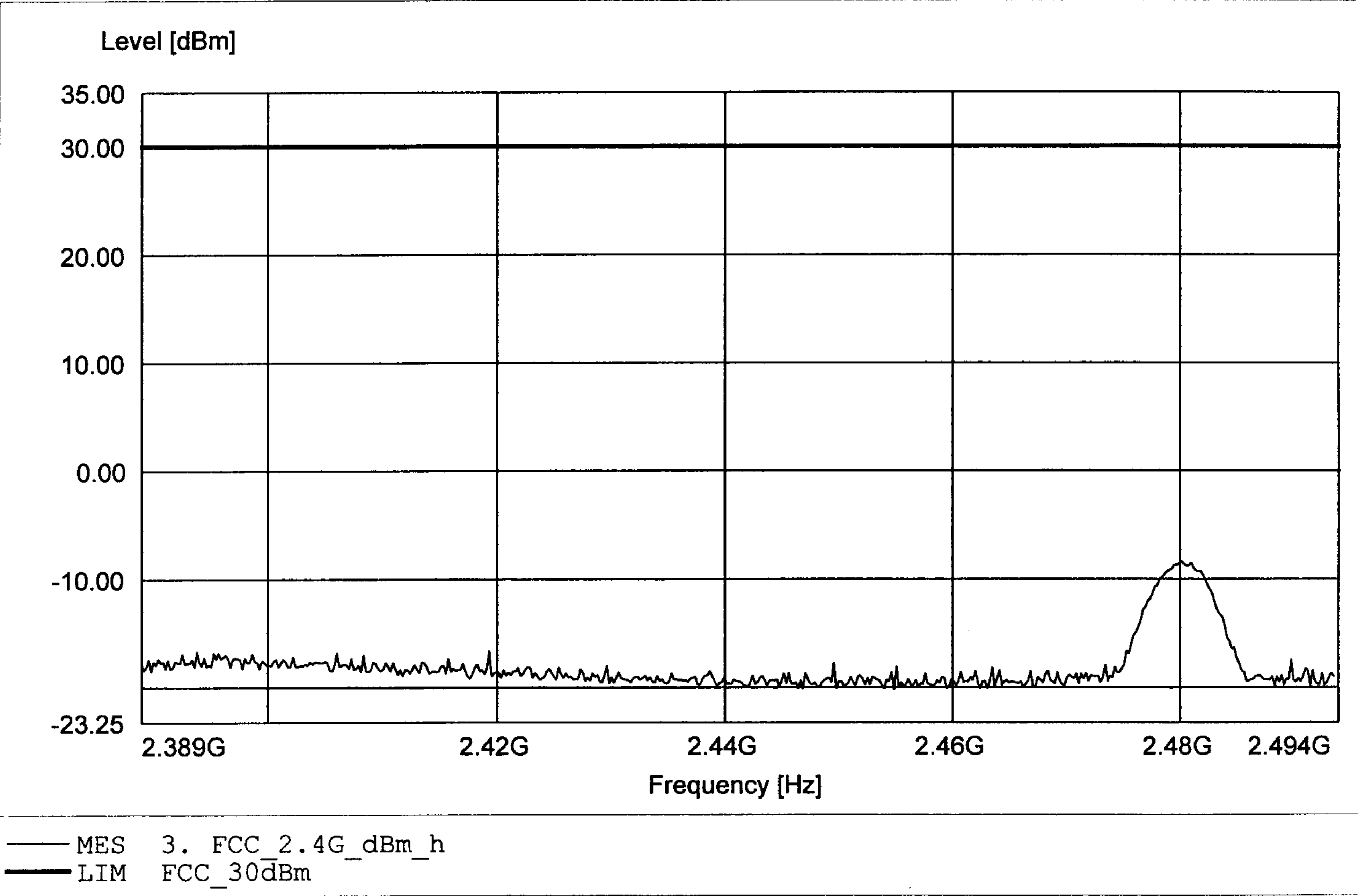
EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC +15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.480GHz Pmax:1.01dBm RBW:5MHz



Carrier power (dBm)  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC +15%  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025  
Comment 2: Freq:2.480GHz Pmax:-8.35dBm RBW:5MHz



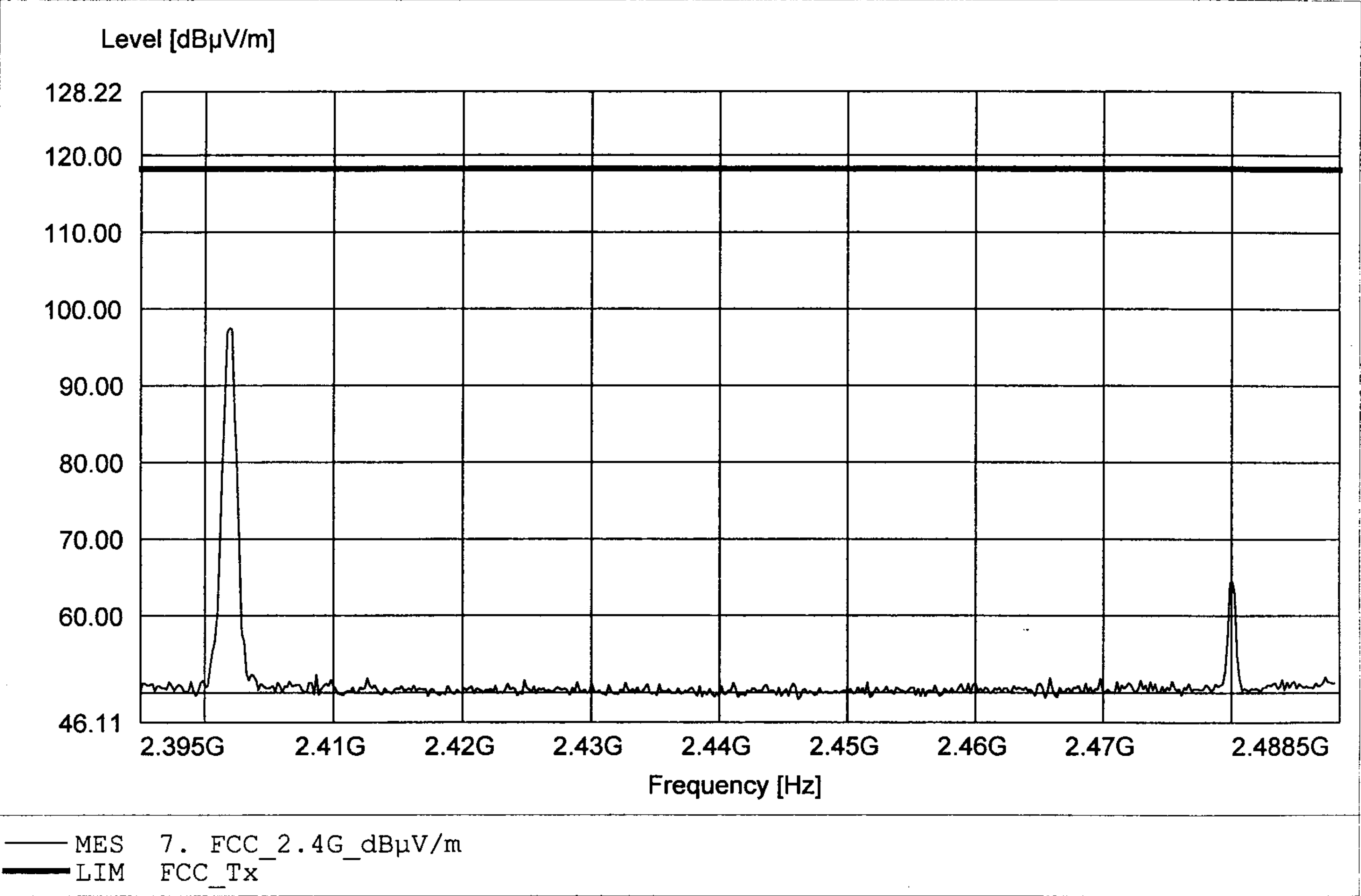


Appendix C

Spurious Emissions radiated - Transmitter operating

Carrier power (Field Strength)  
FCC RULES PART 15, SUBPART C

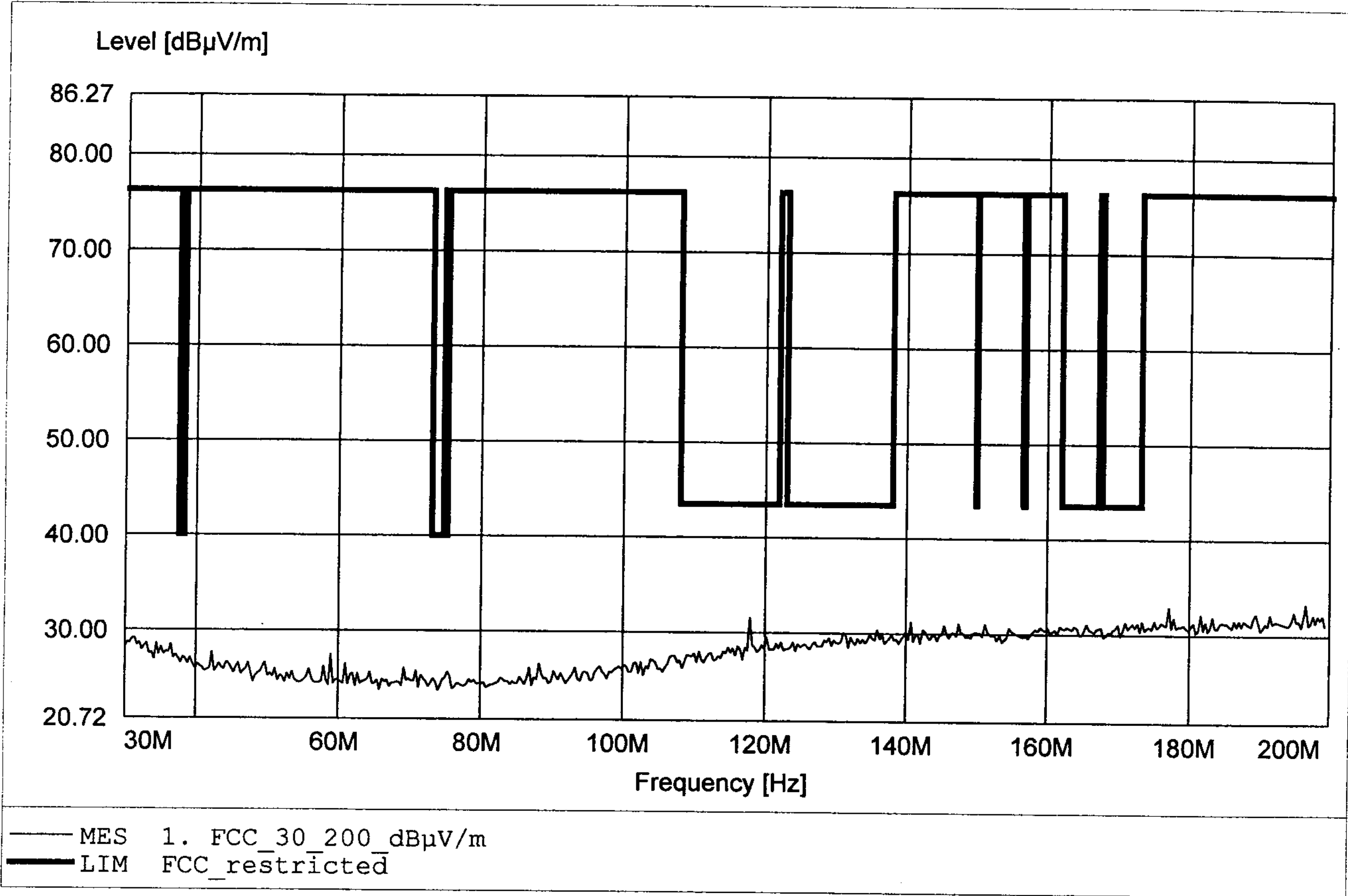
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D  
Comment 2: Freq:2.402GHz Emax:97.48dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

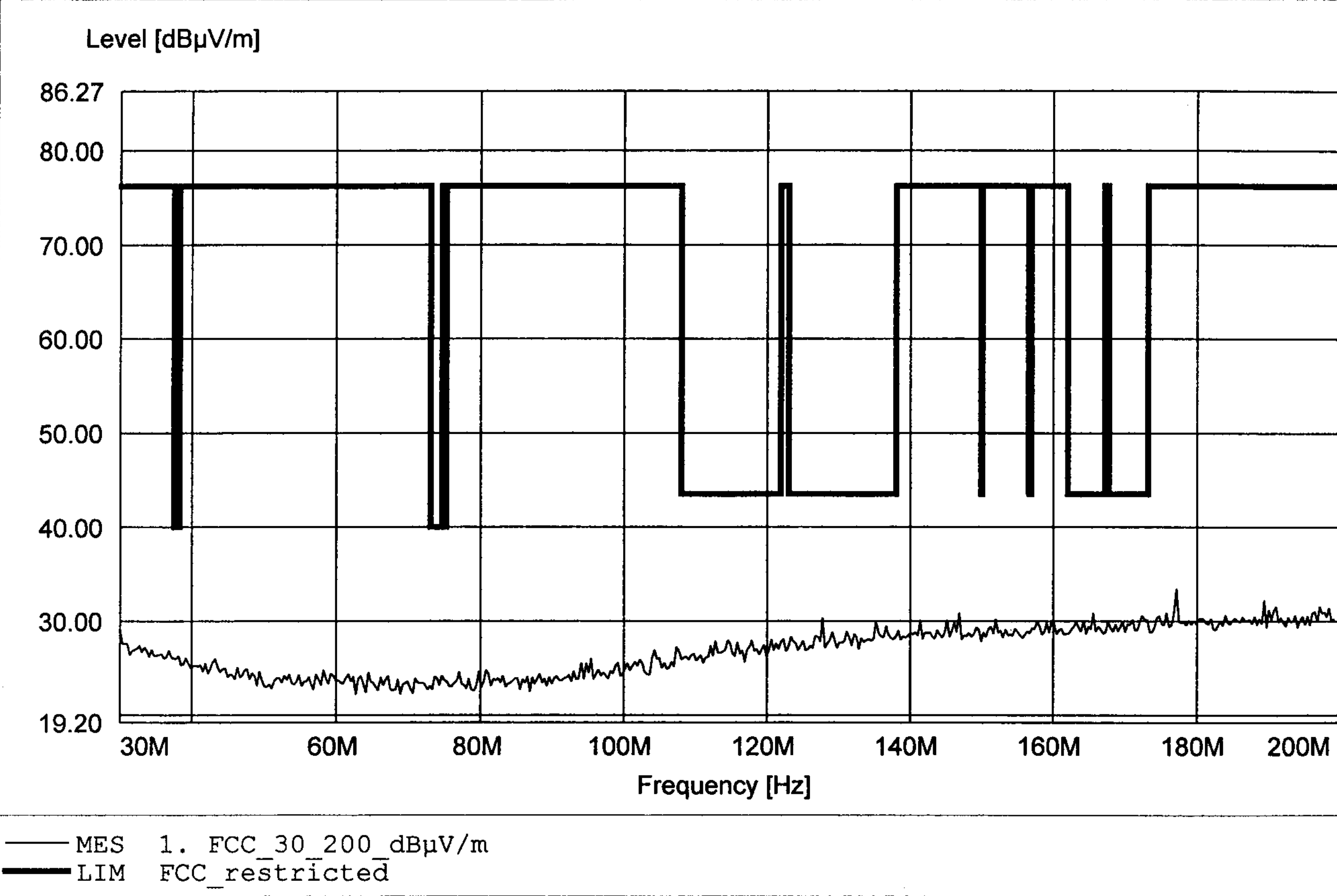
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:196.593MHz Emax:33.35dBµV/m RBW:100KHz



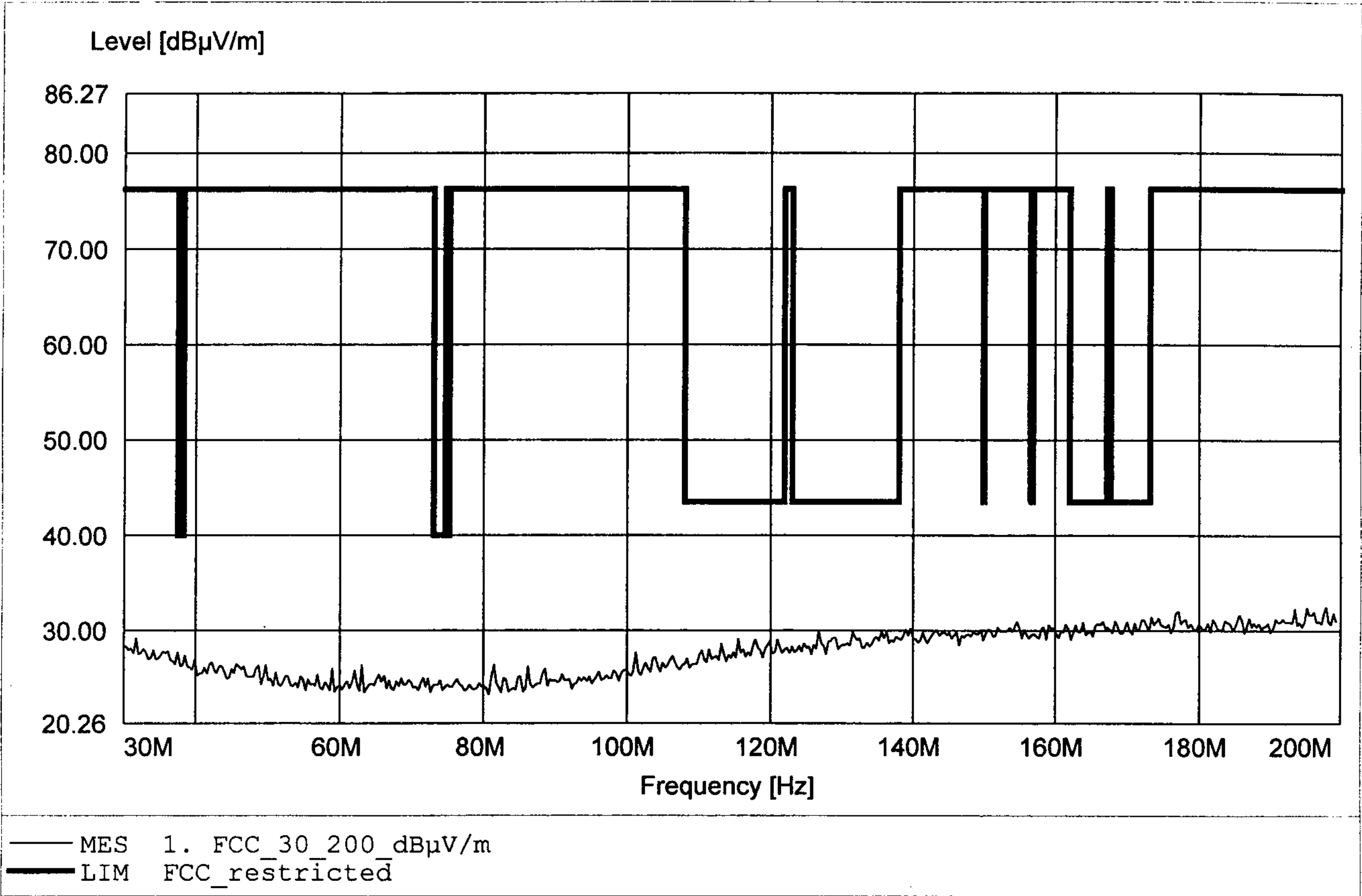
Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:177.174MHz Emax:33.42dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

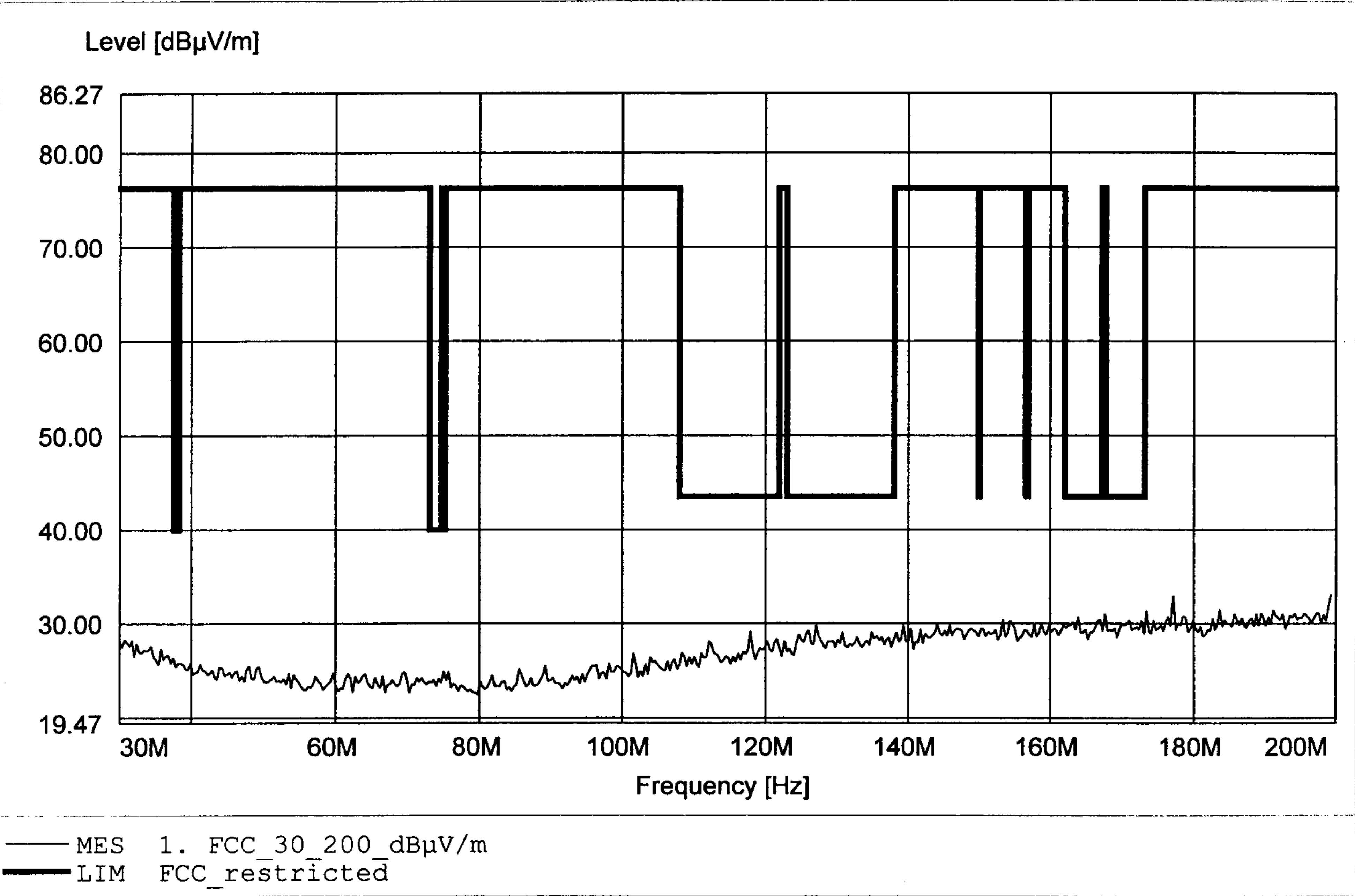
EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:197.956MHz Emax:32.57dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441MHz)  
Applicant: Lesswire AG

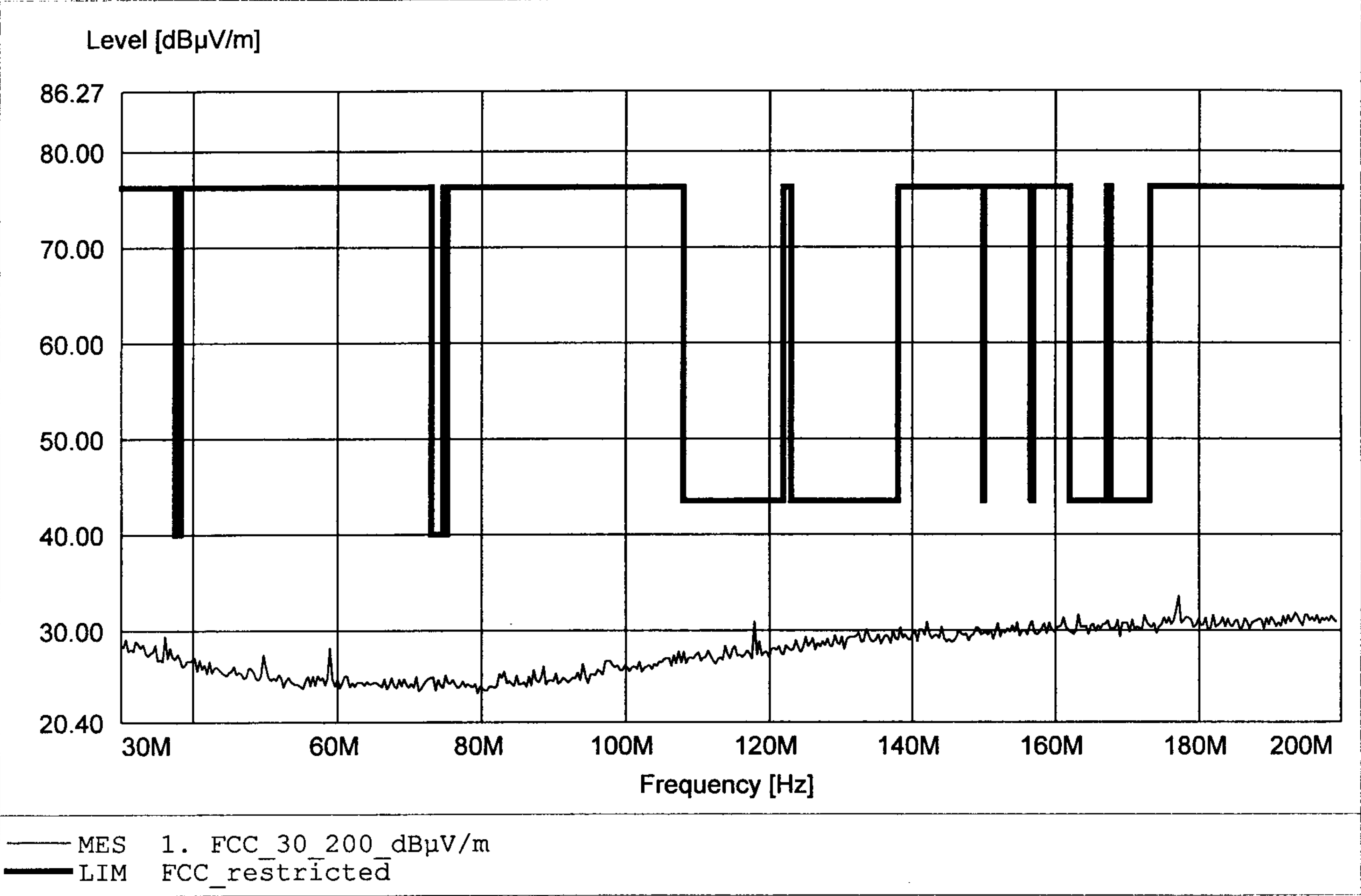
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:199.319MHz Emax:33.11dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480MHz)  
Applicant: Lesswire AG

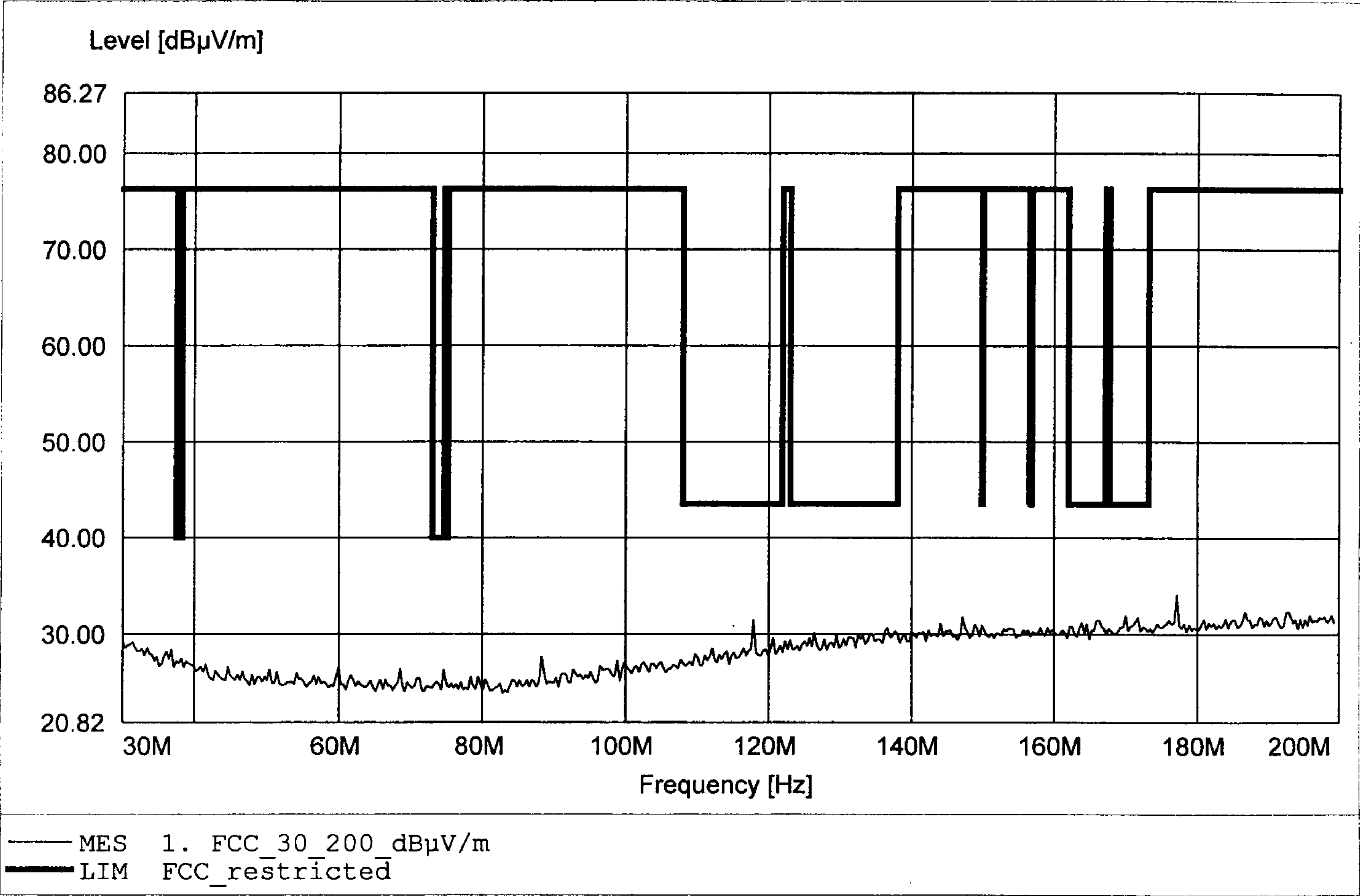
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:177.174MHz Emax:33.58dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480MHz)  
Applicant: Lesswire AG

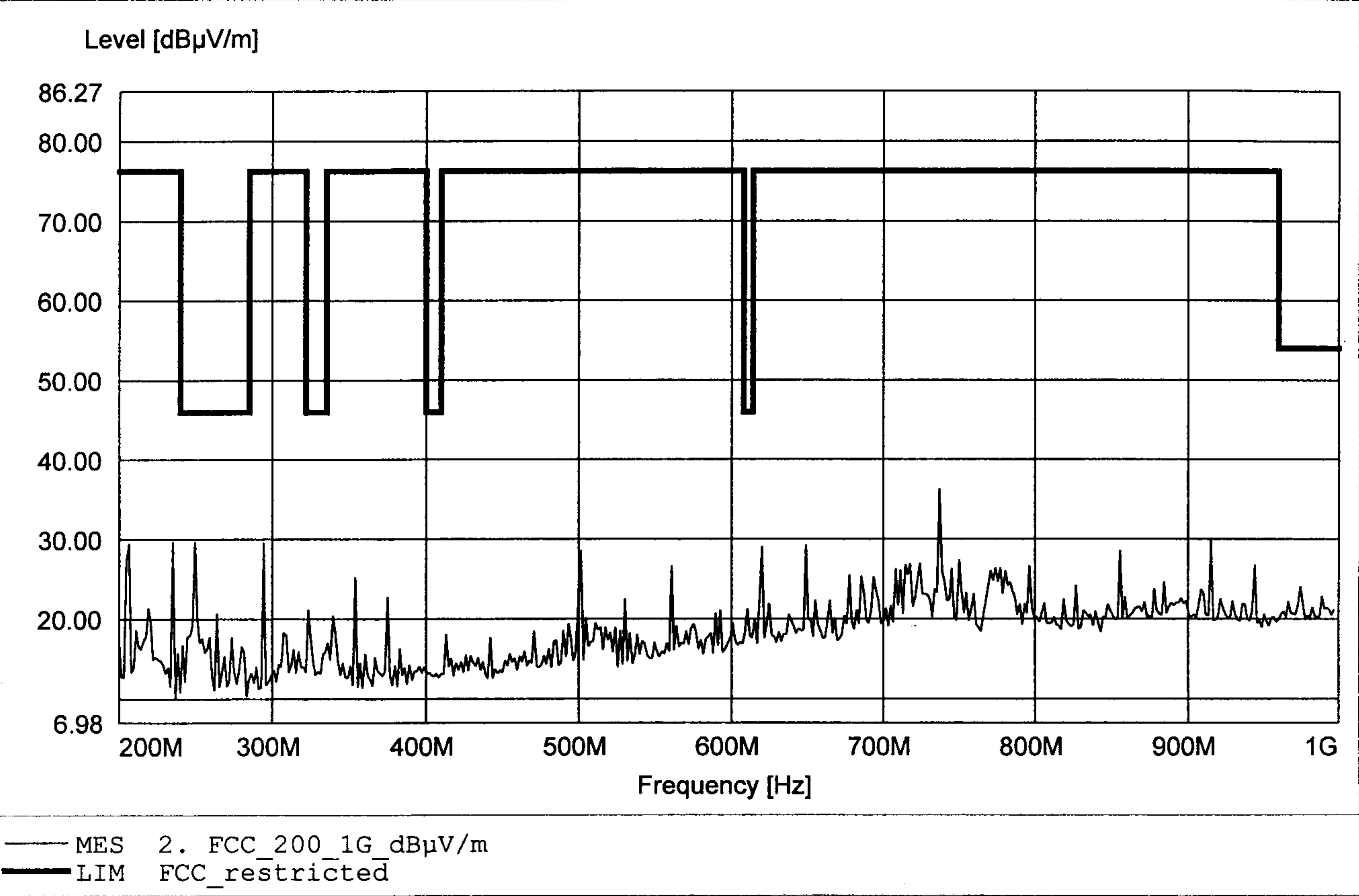
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:177.174MHz Emax:34.12dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

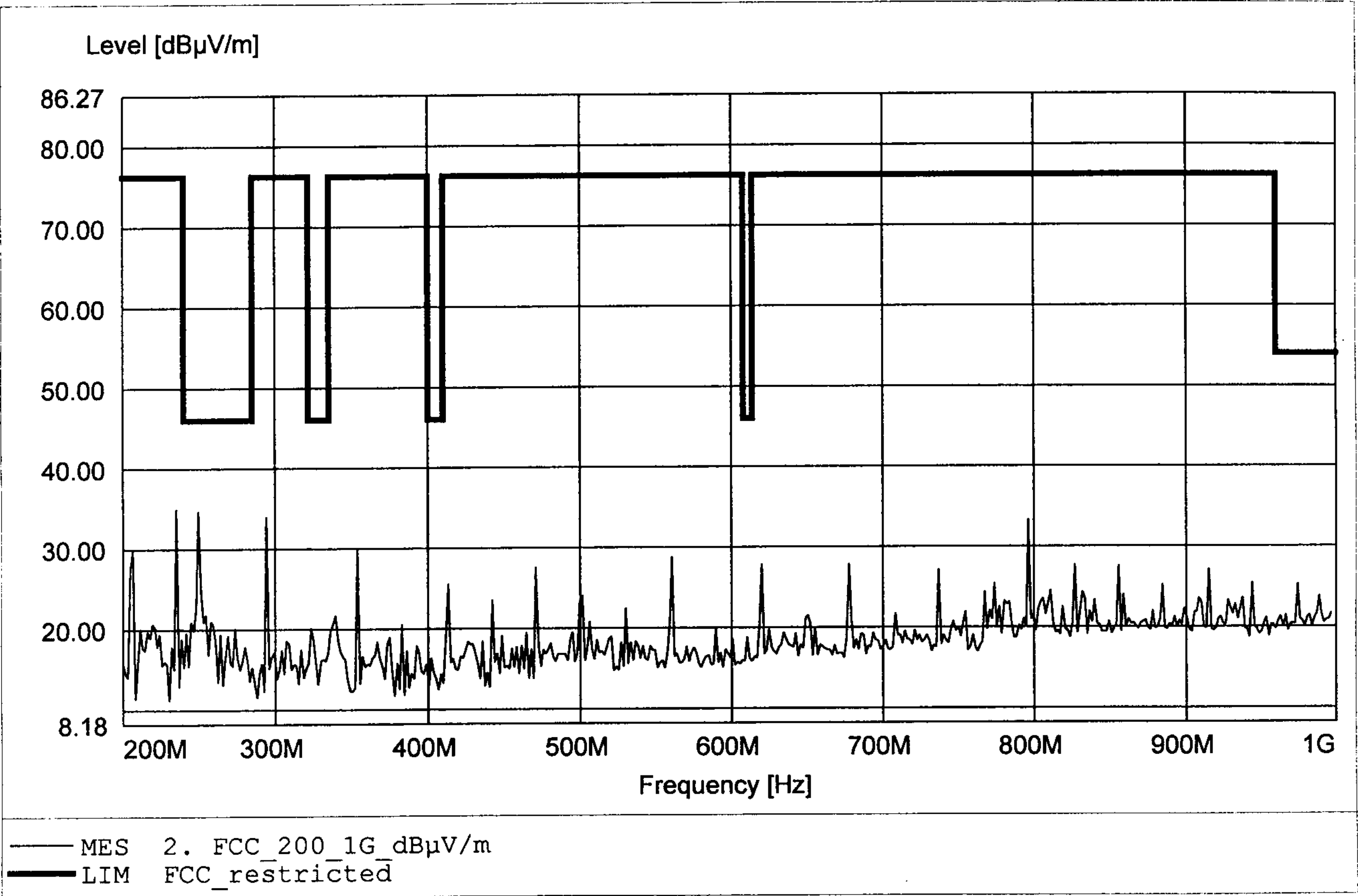
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq:737.074MHz Emax:36.34dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

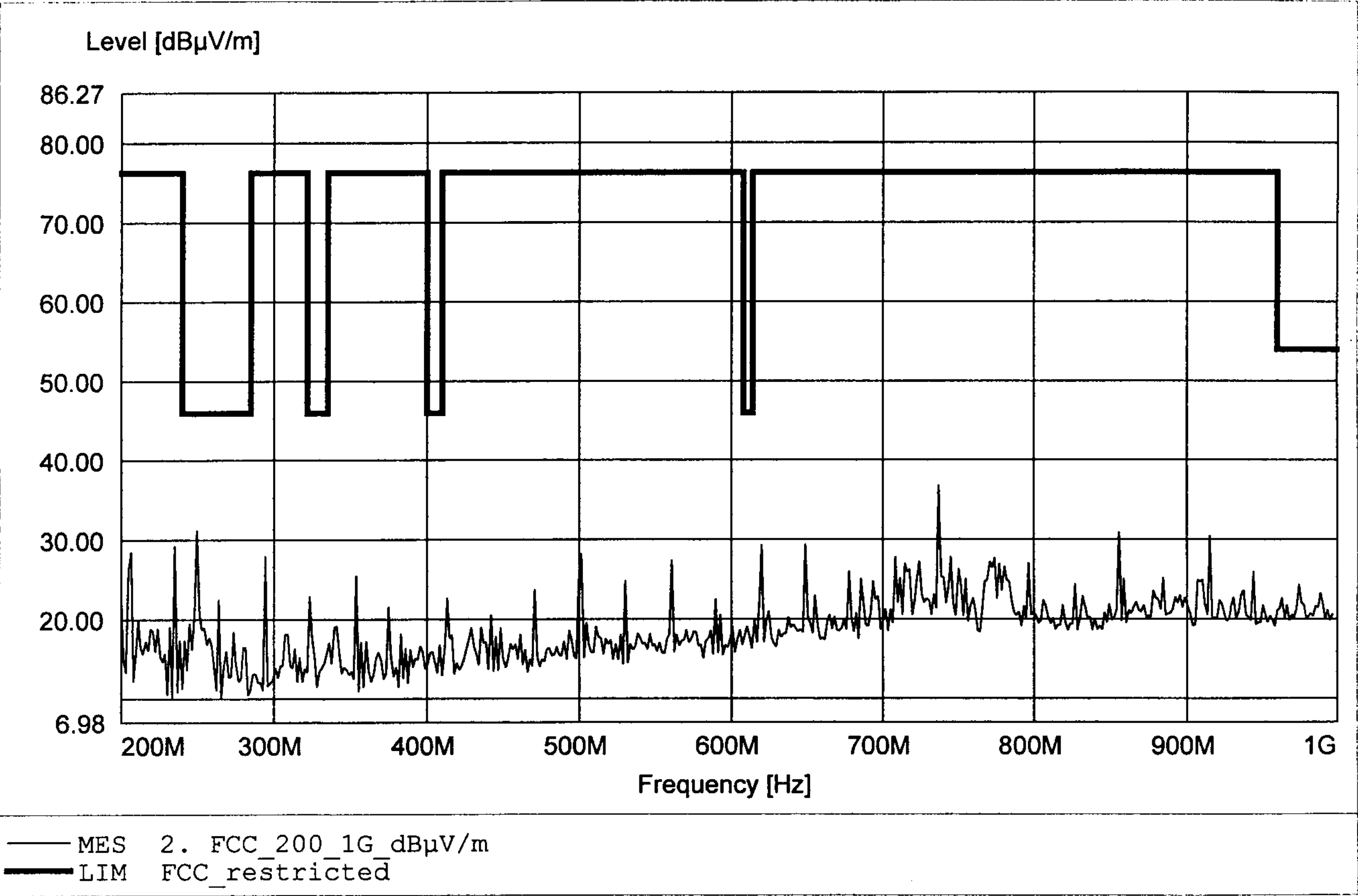
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq:235.271MHz Emax:35.01dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

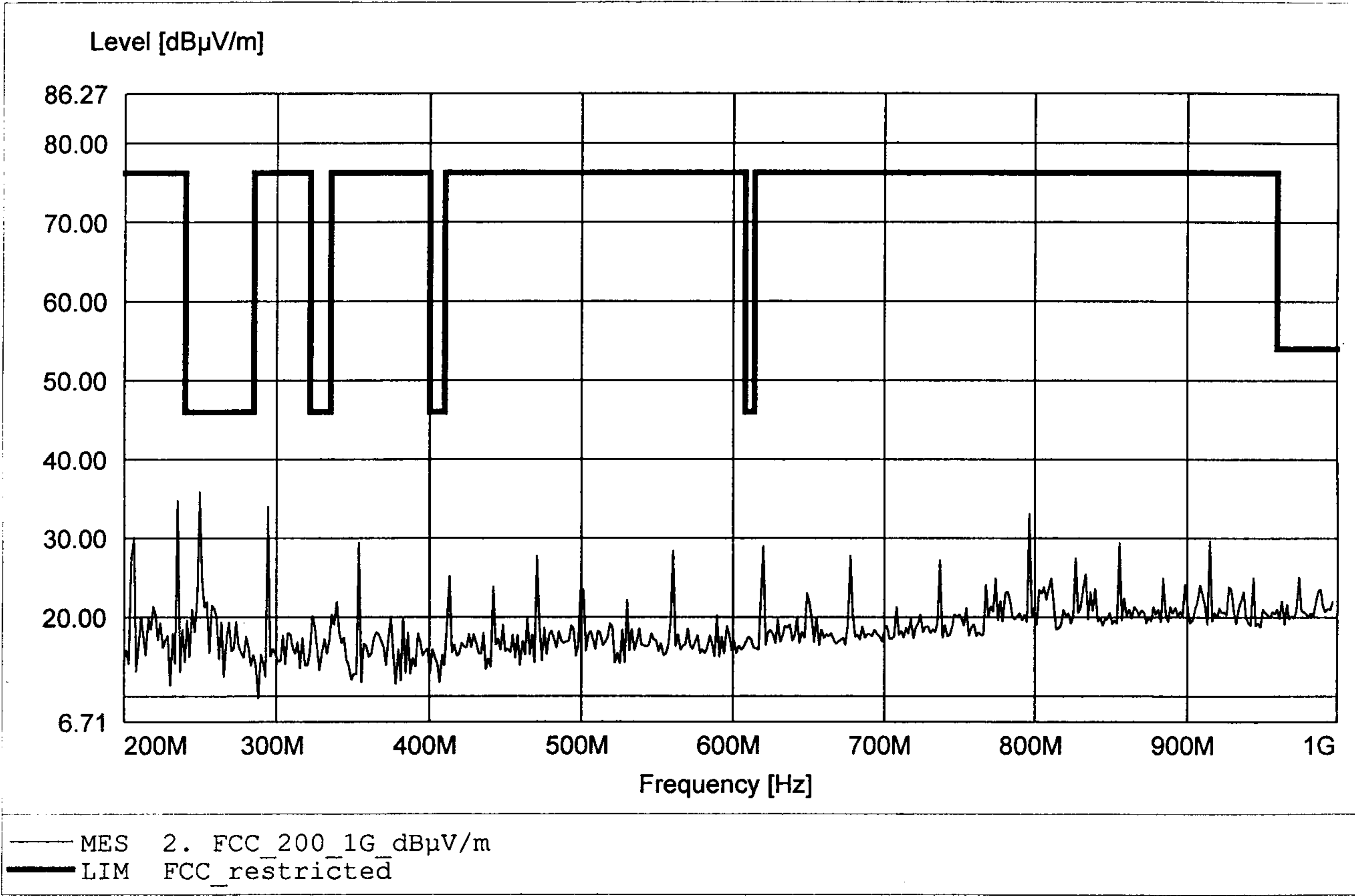
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq:737.074MHz Emax:36.79dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

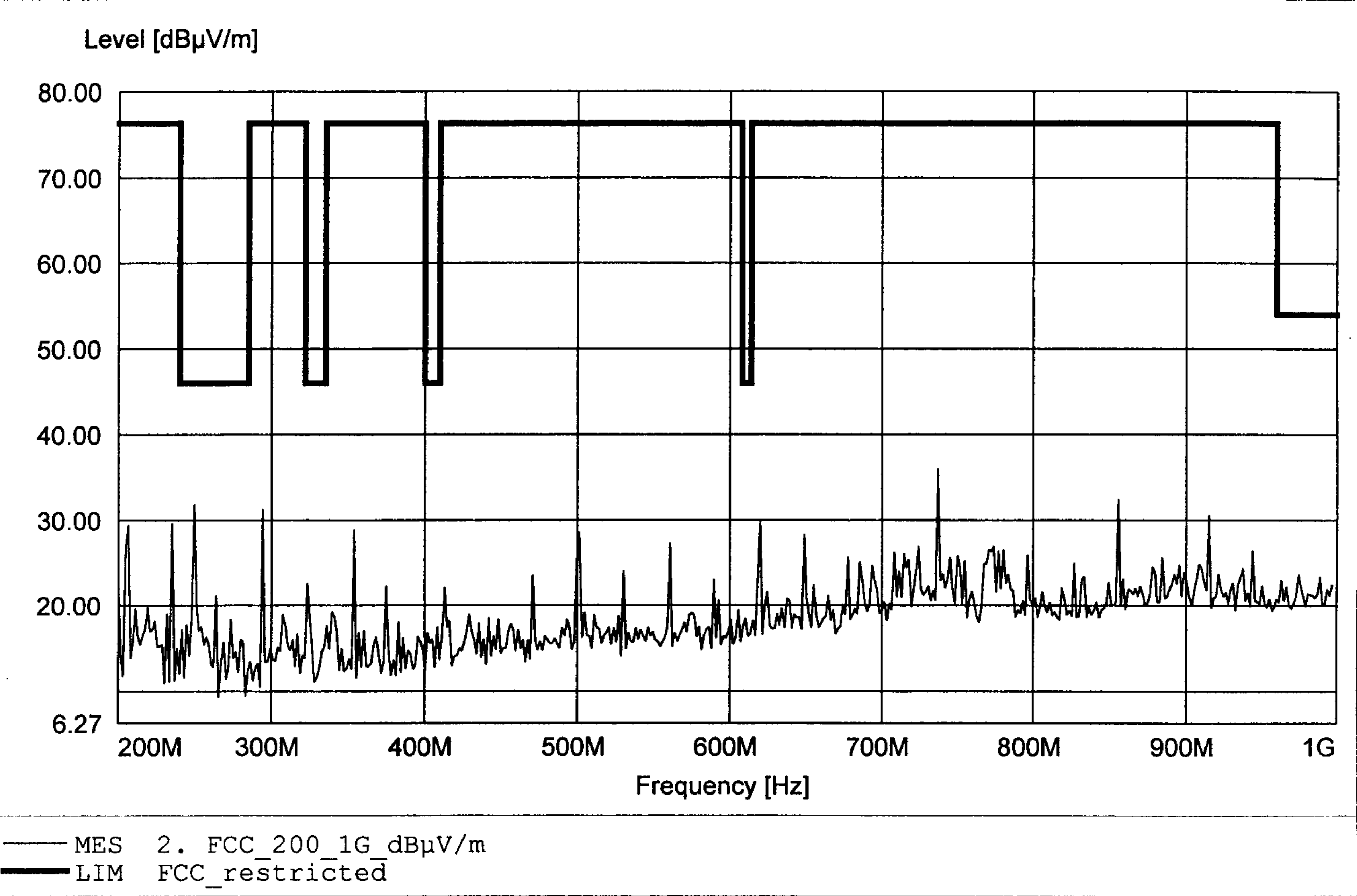
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq:249.699MHz Emax:35.94dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

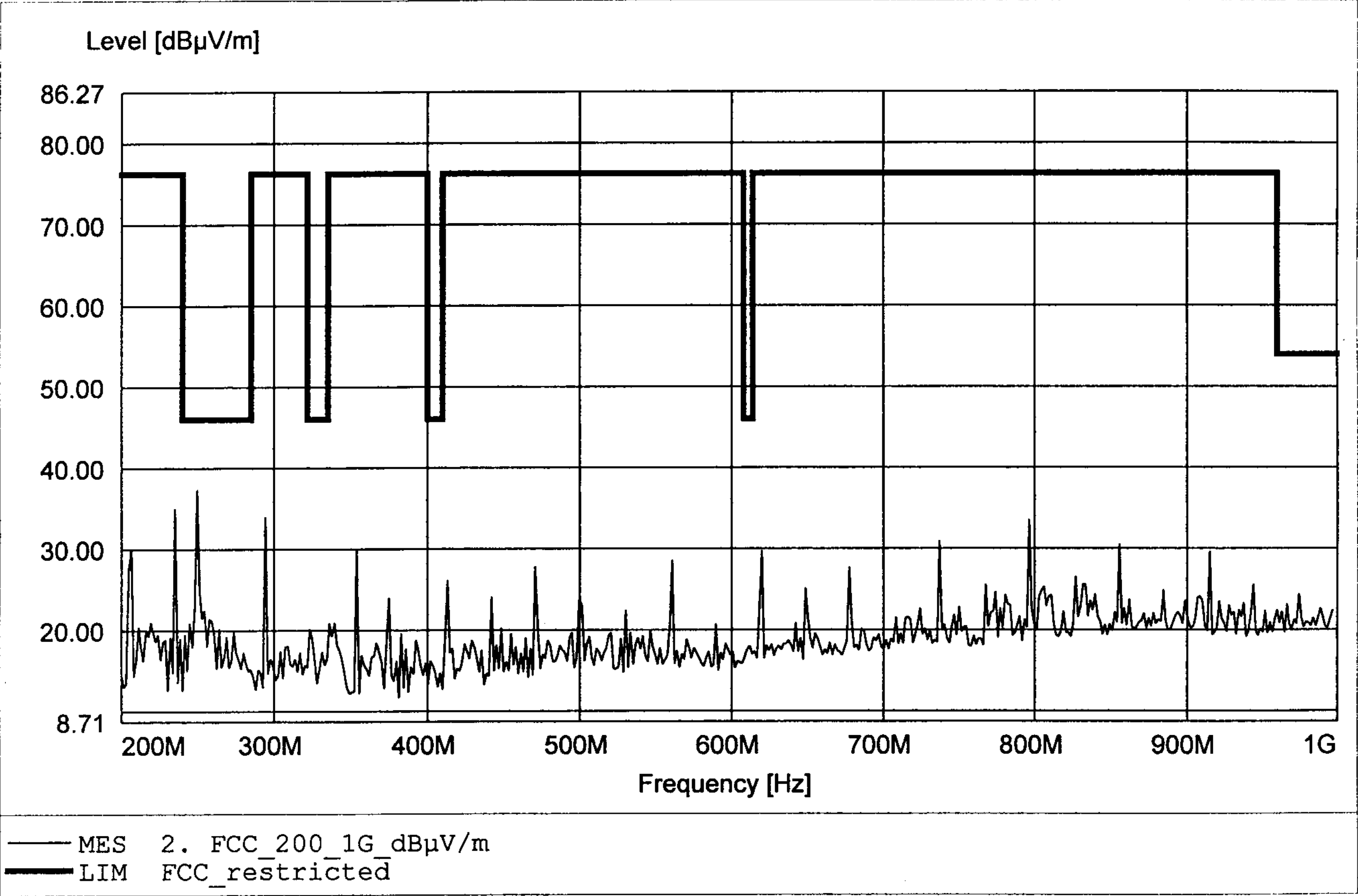
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq:737.074MHz Emax:35.95dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

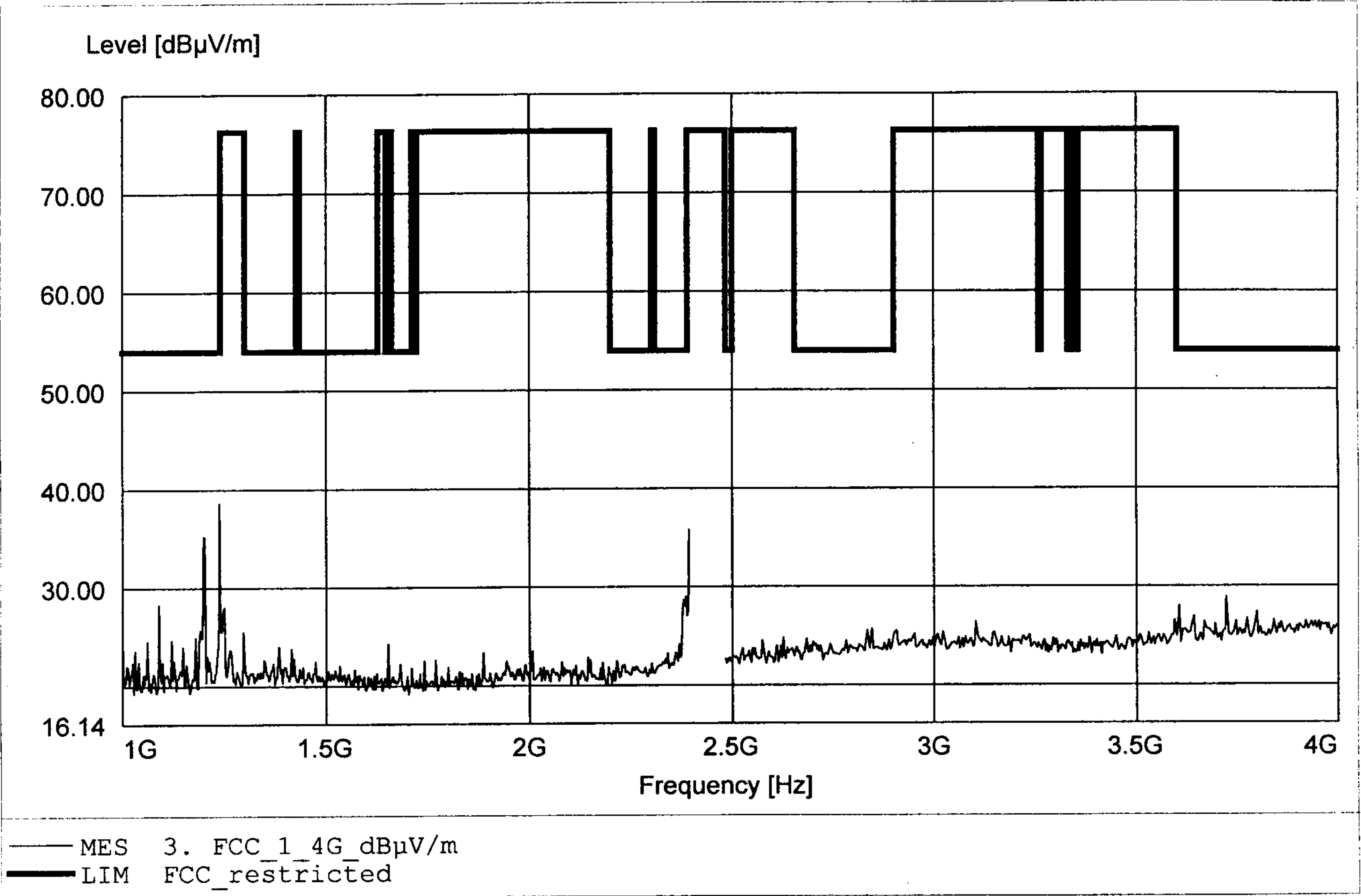
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq:249.699MHz Emax:37.36dBµV/m RBW:100KHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

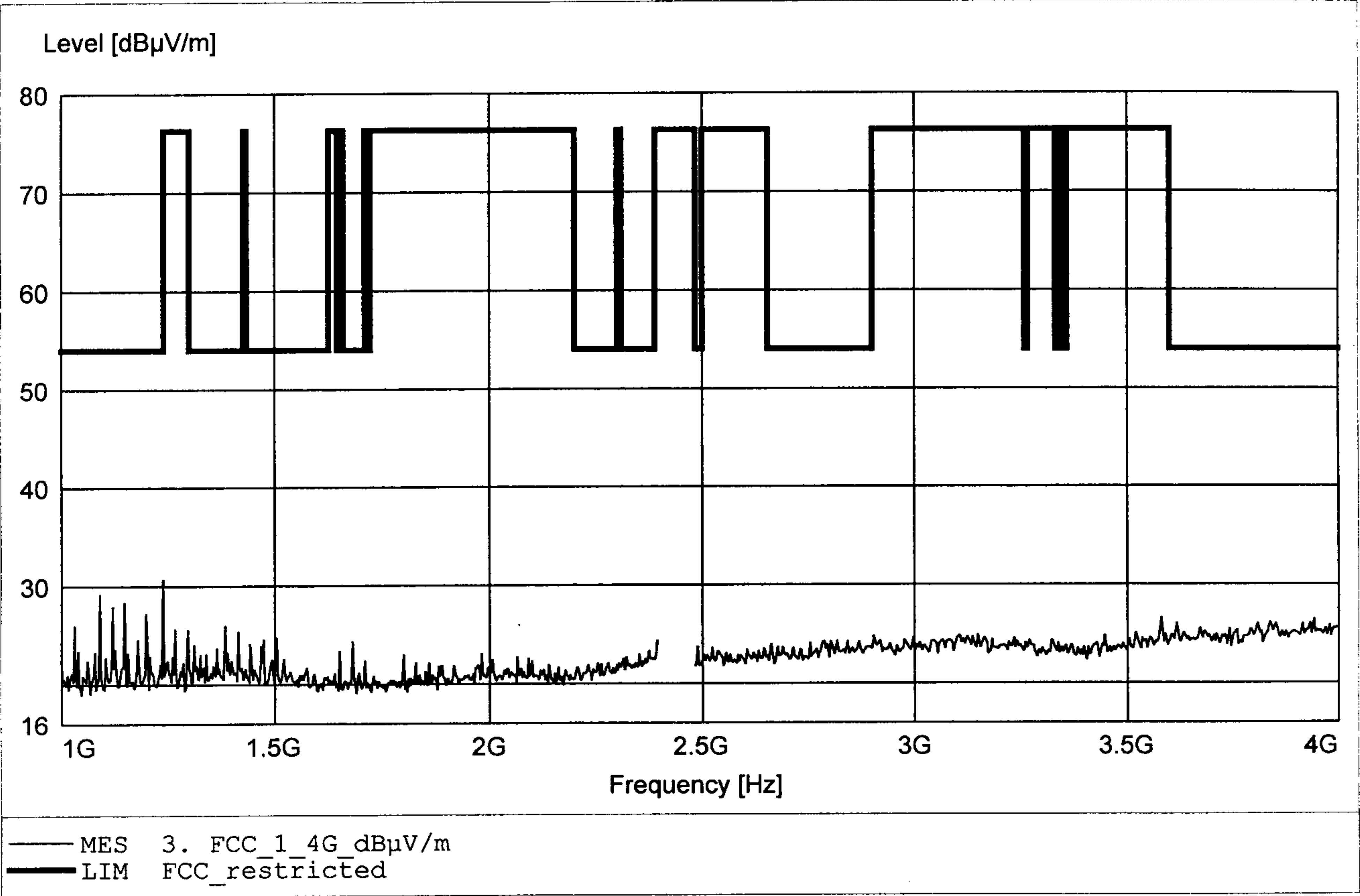
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:1.238GHz Emax:38.62dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

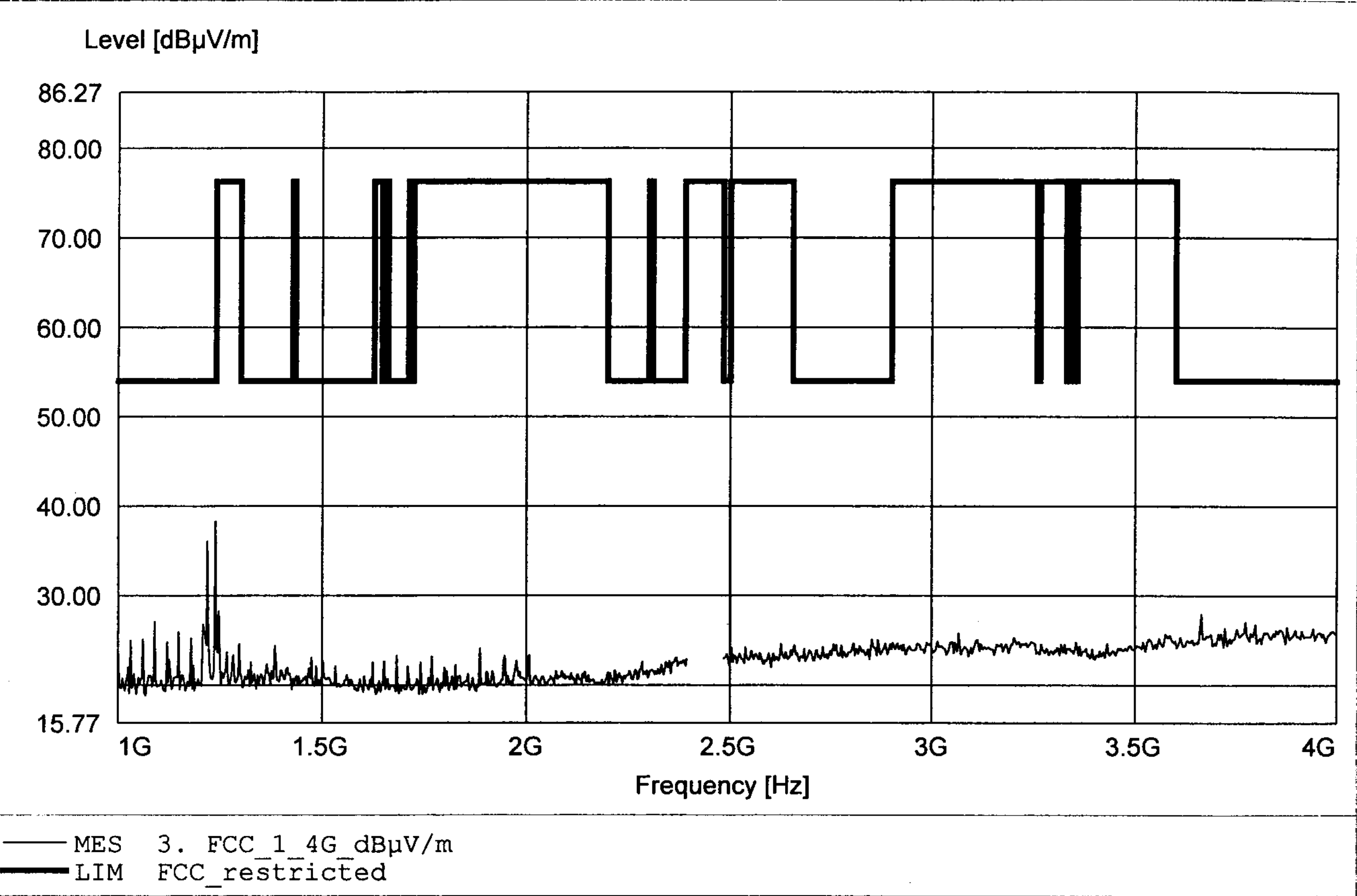
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:1.238GHz Emax:30.68dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

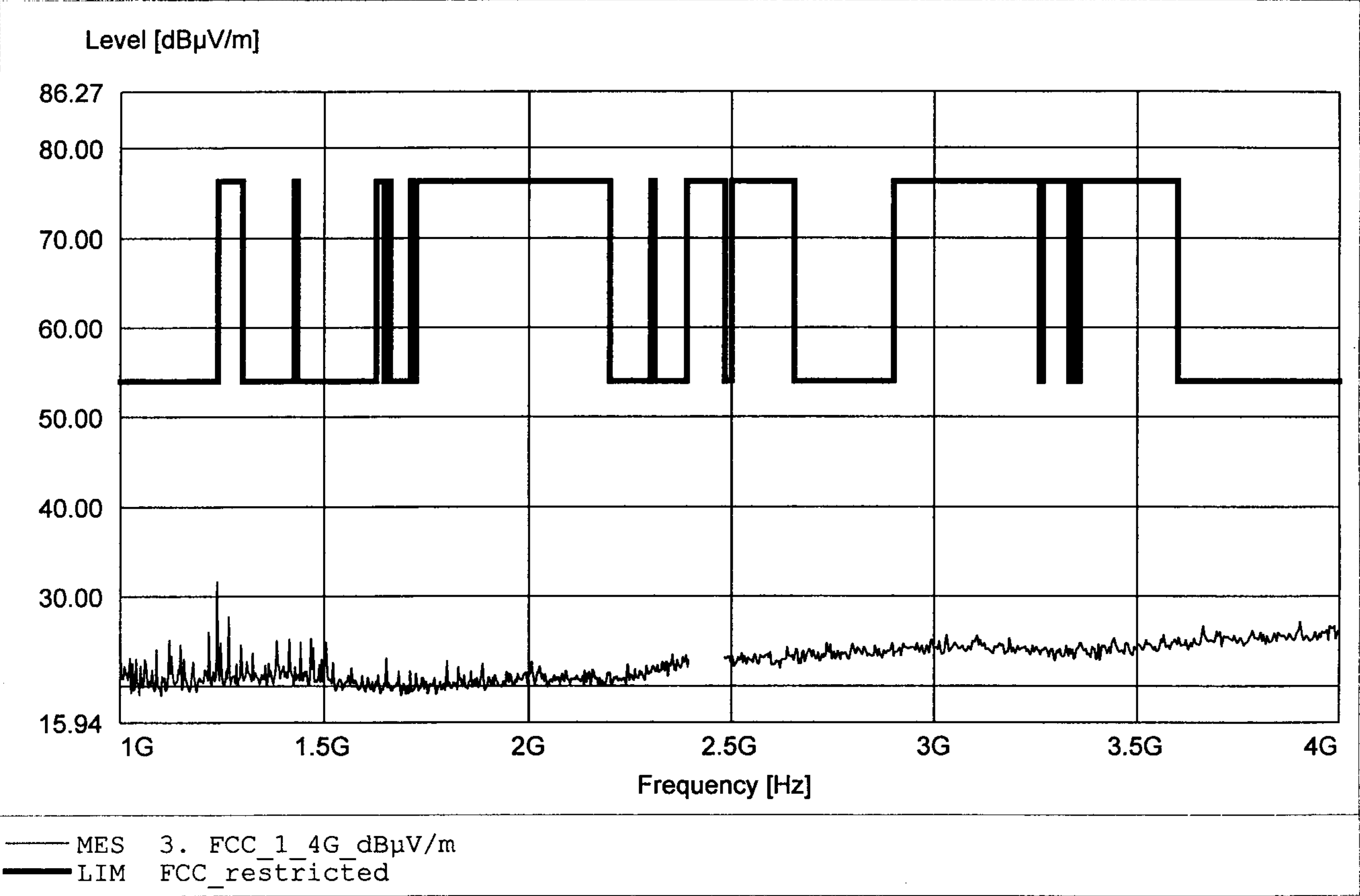
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:1.238GHz Emax:38.31dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

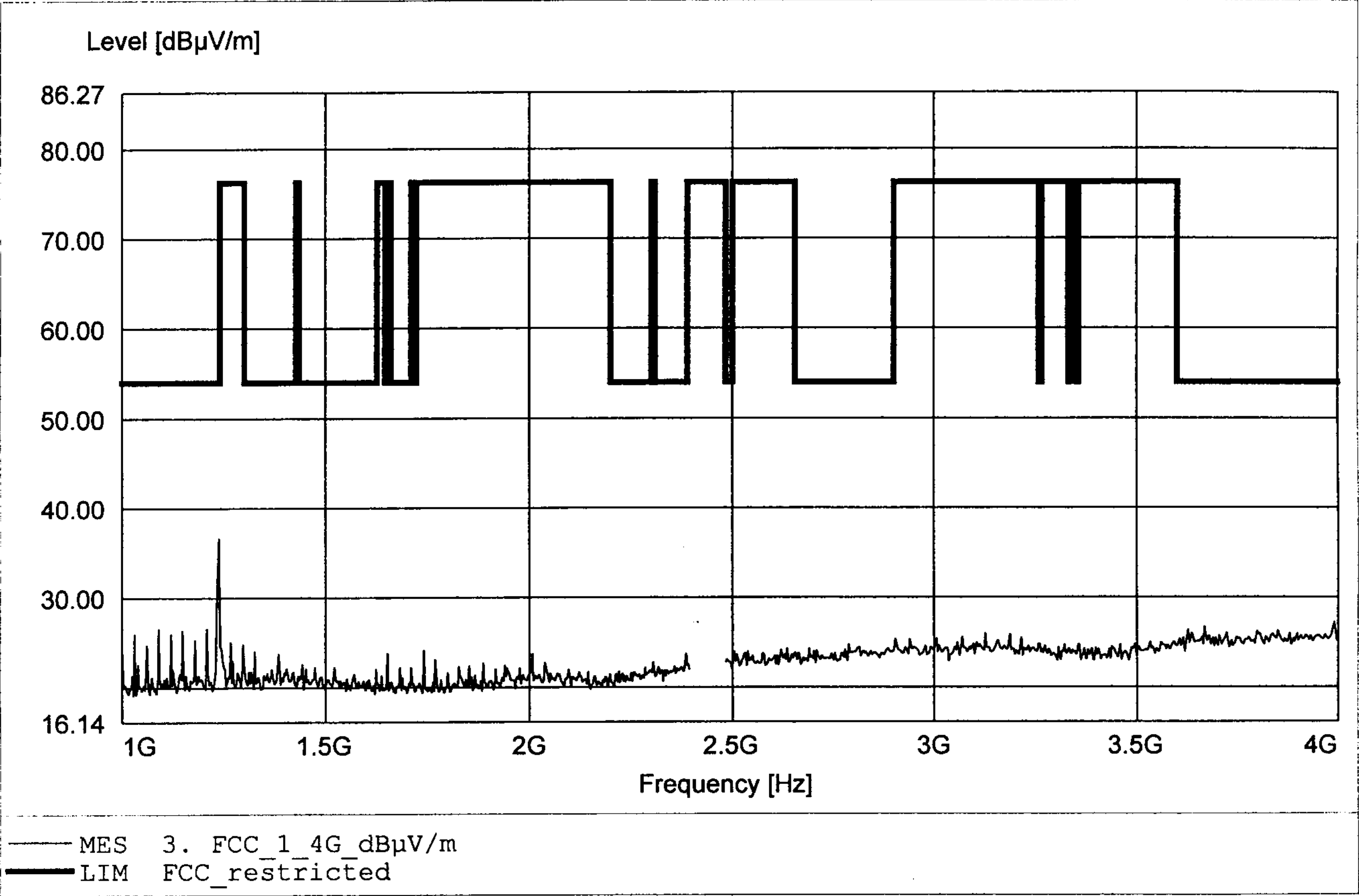
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:1.238GHz Emax:31.66dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

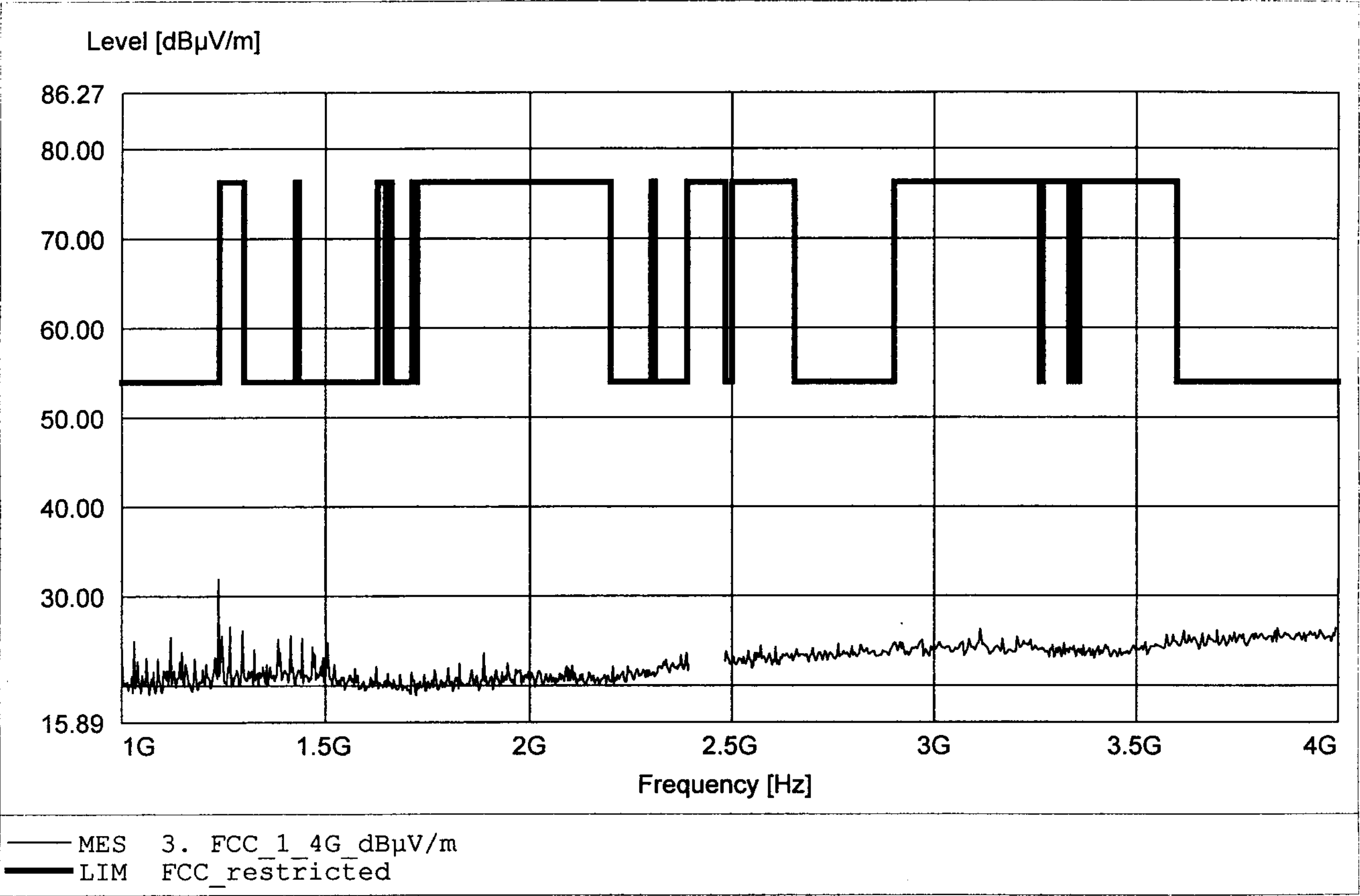
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:1.238GHz Emax:36.61dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

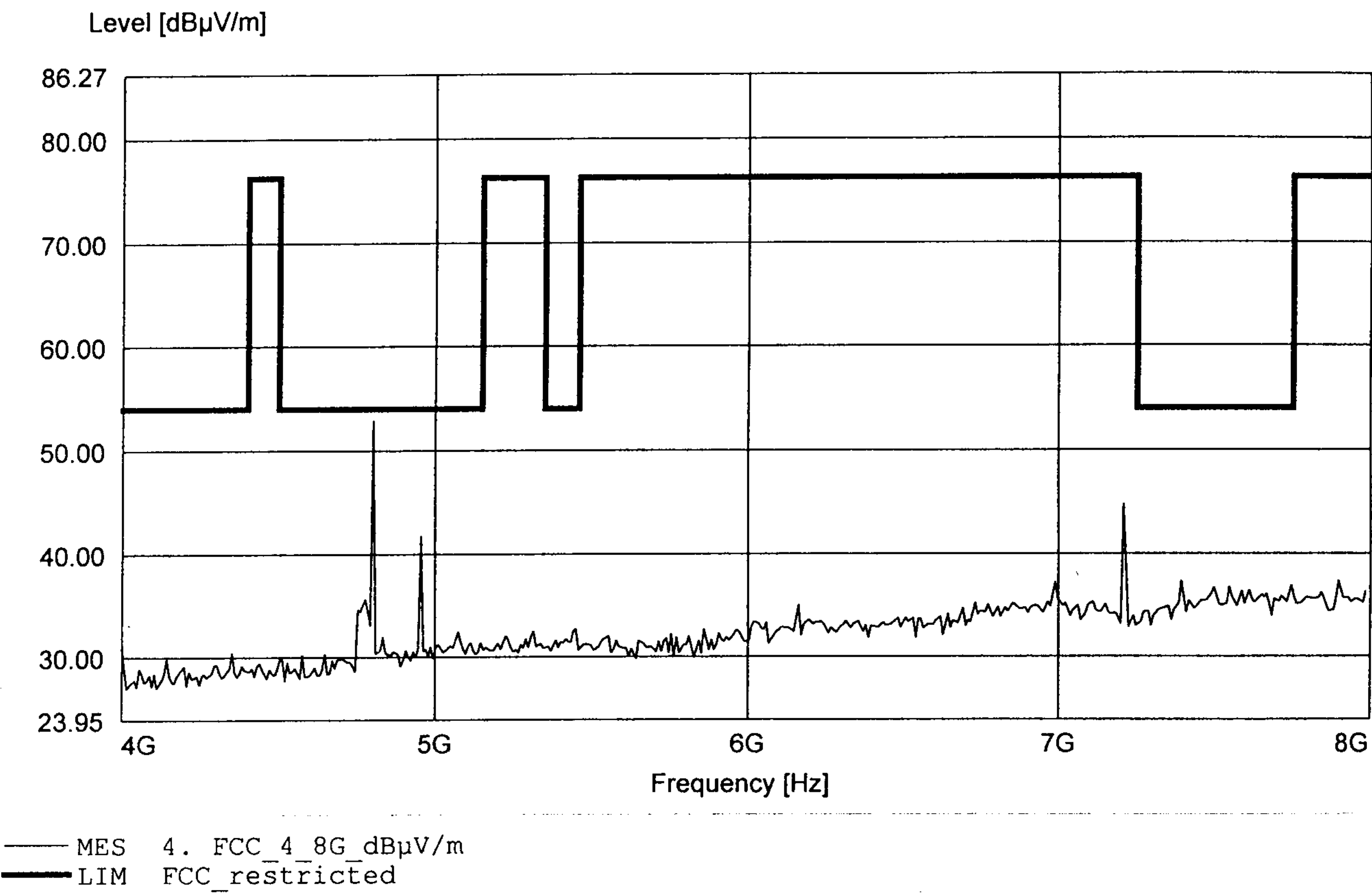
EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:1.238GHz Emax:31.96dBµV/m RBW:1MHz



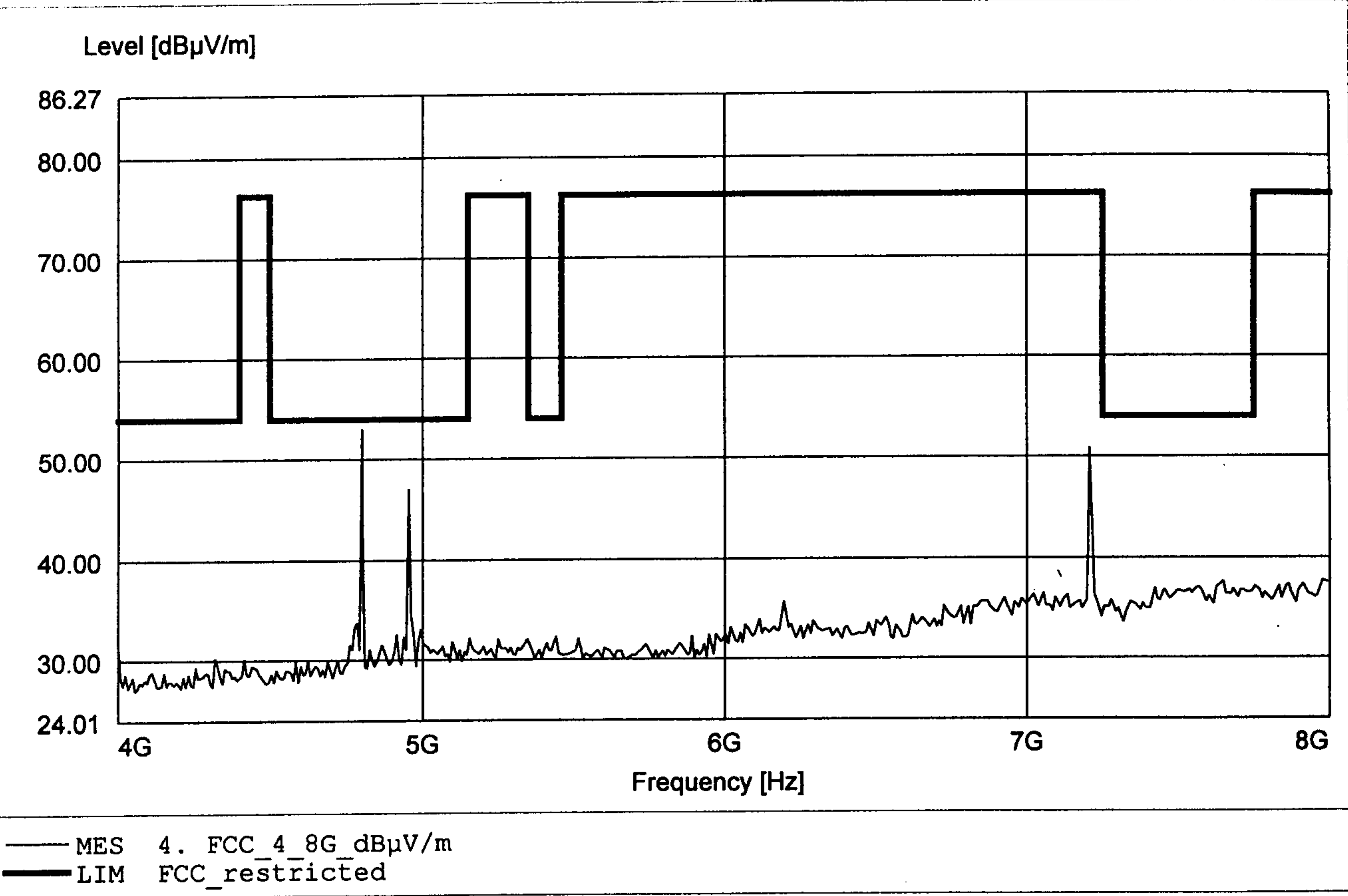
Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:4.804GHz Emax:53.35dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

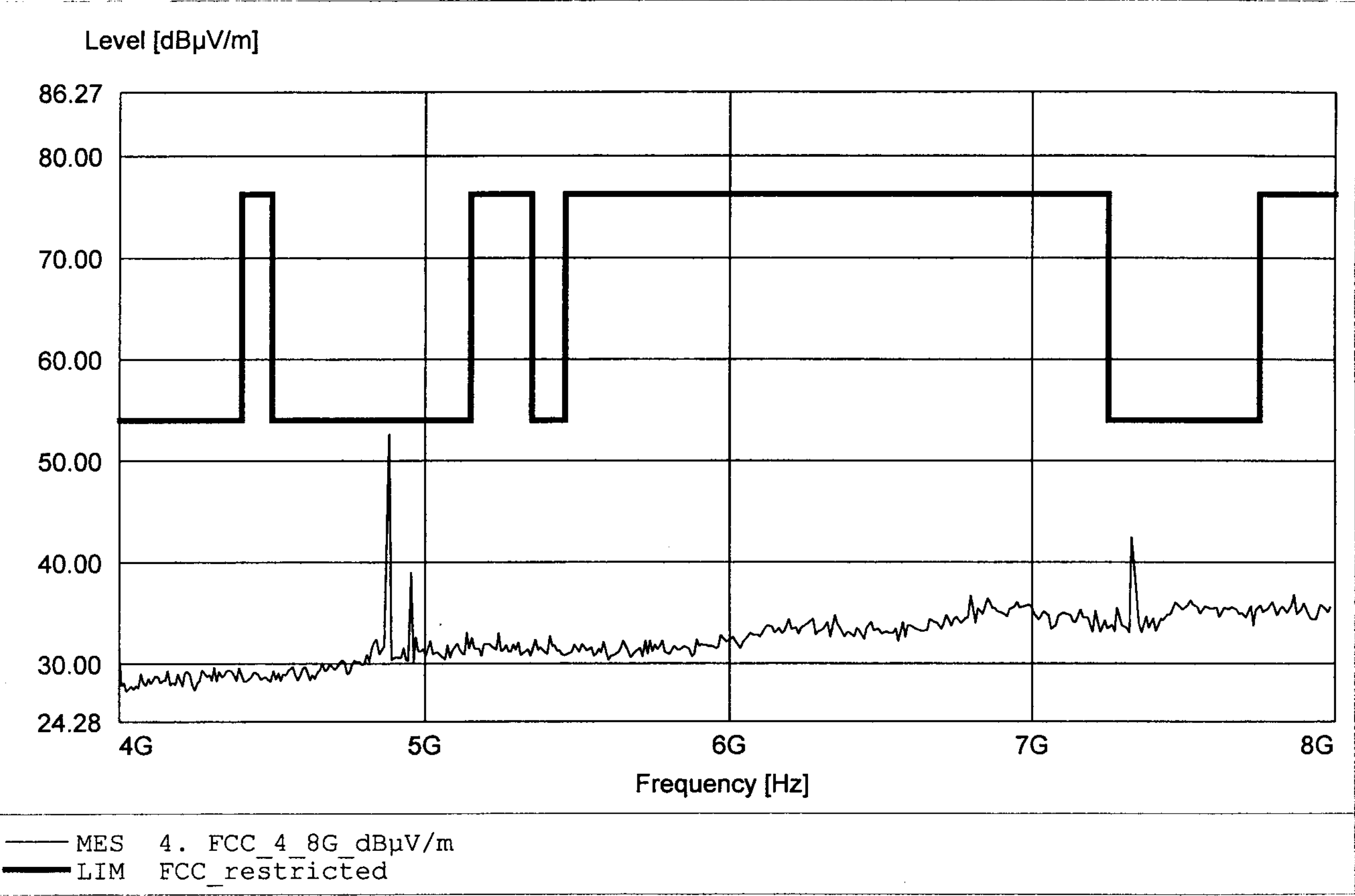
EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:4.804GHz Emax:53.37dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

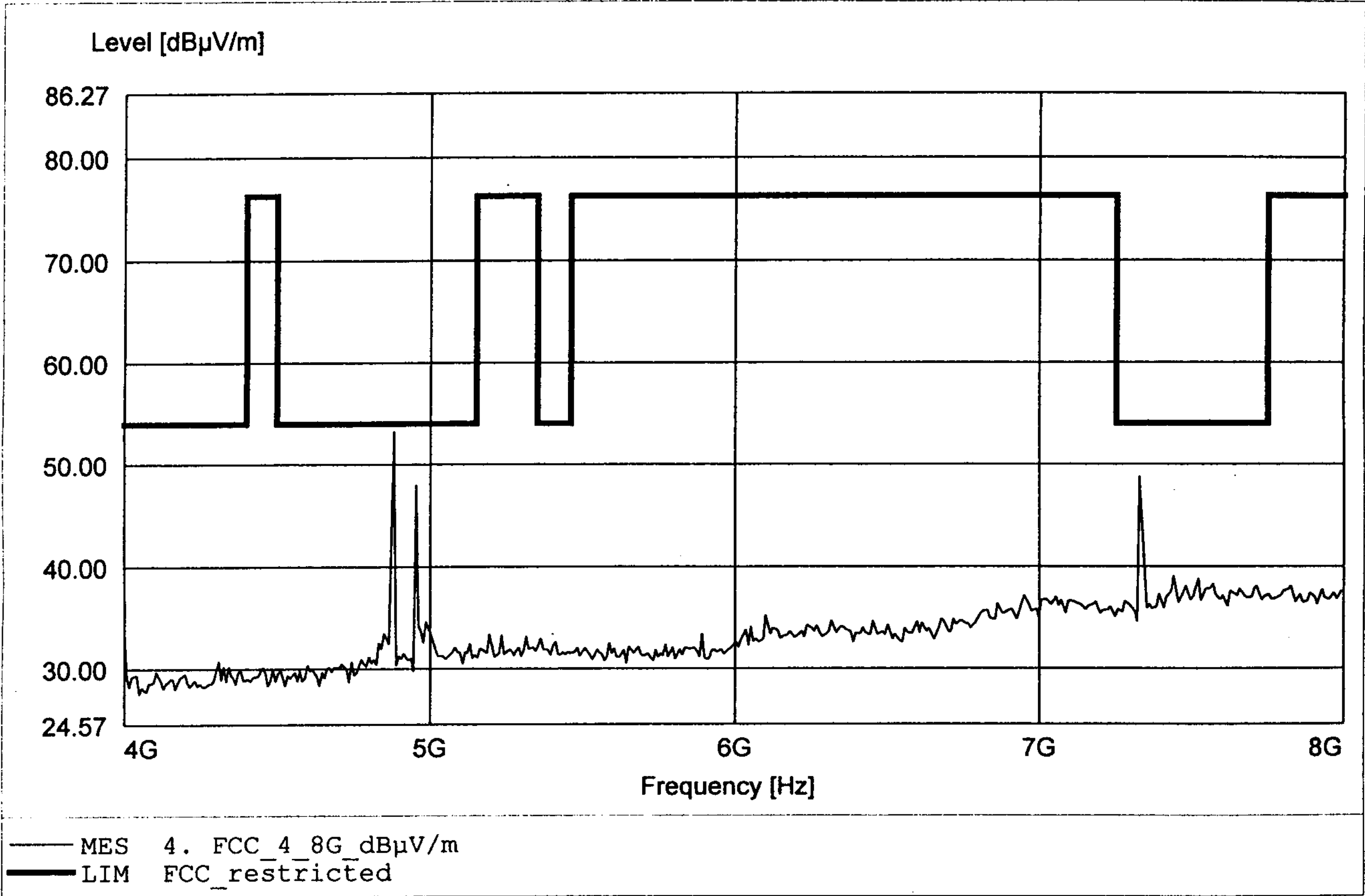
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:4.882GHz Emax:52.65dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441.MHz)  
Applicant: Lesswire AG

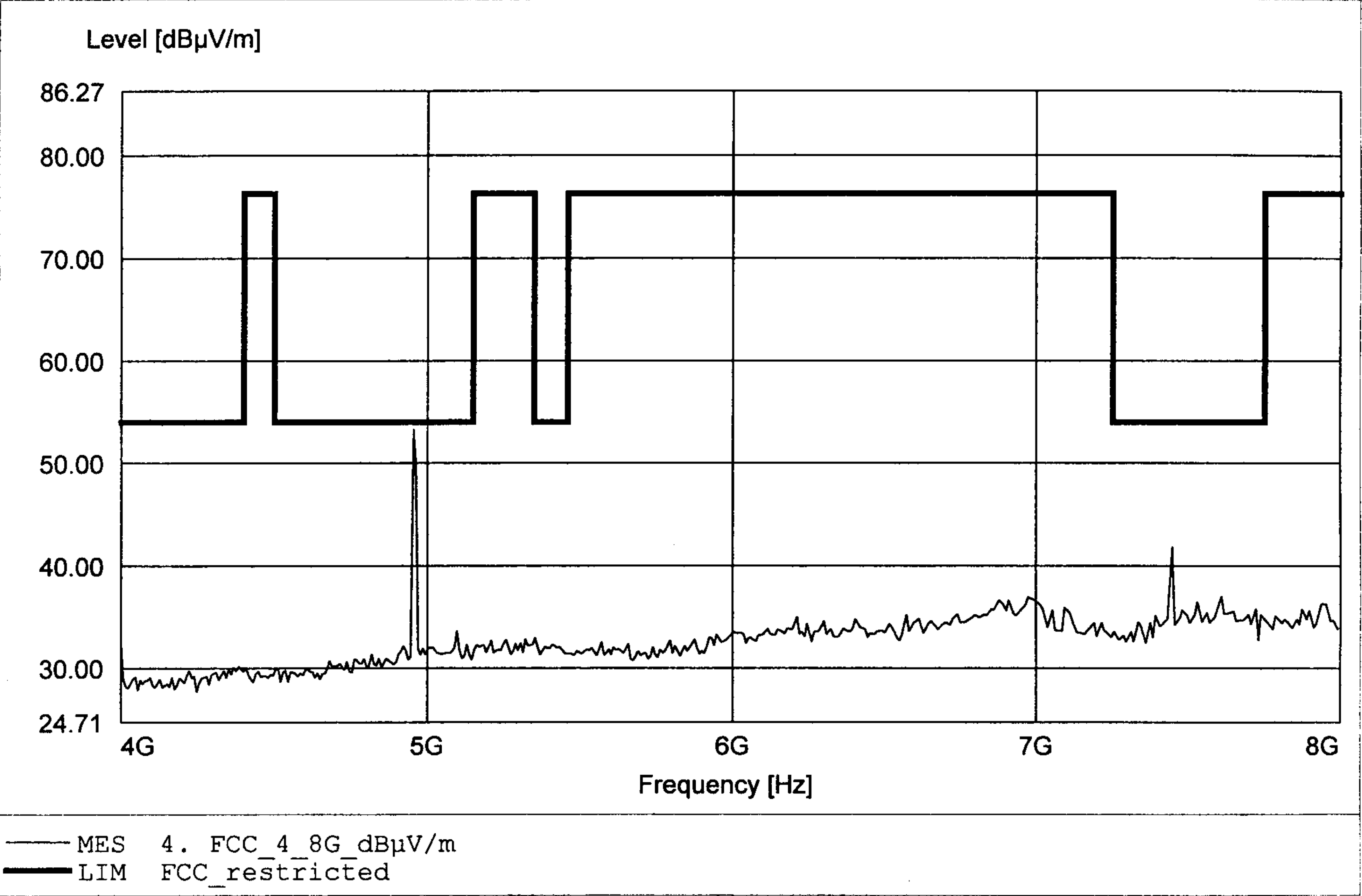
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:4.882GHz Emax:53.45dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

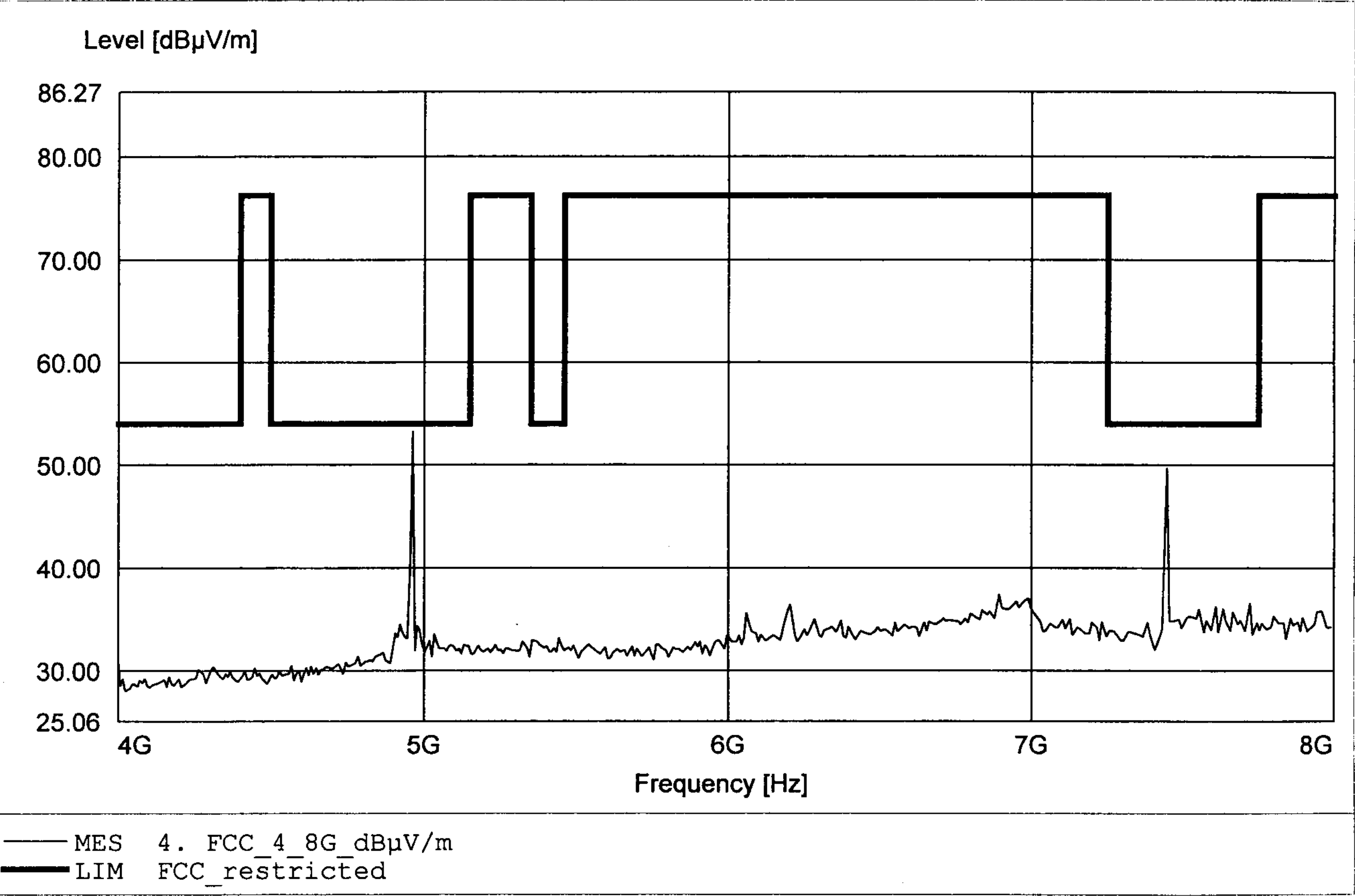
EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:4.954GHz Emax:53.26dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

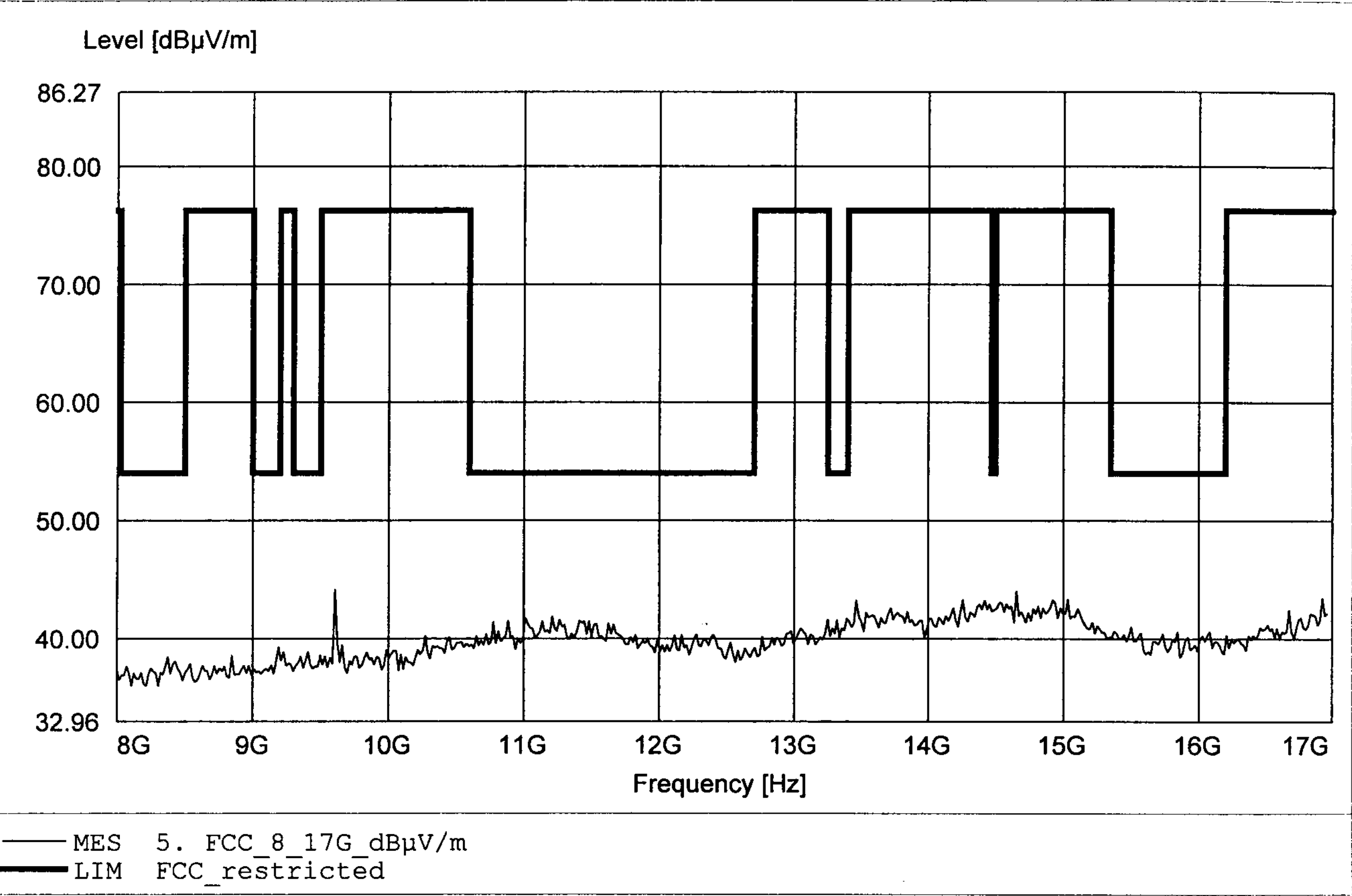
EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG  
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:4.962GHz Emax:53.23dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

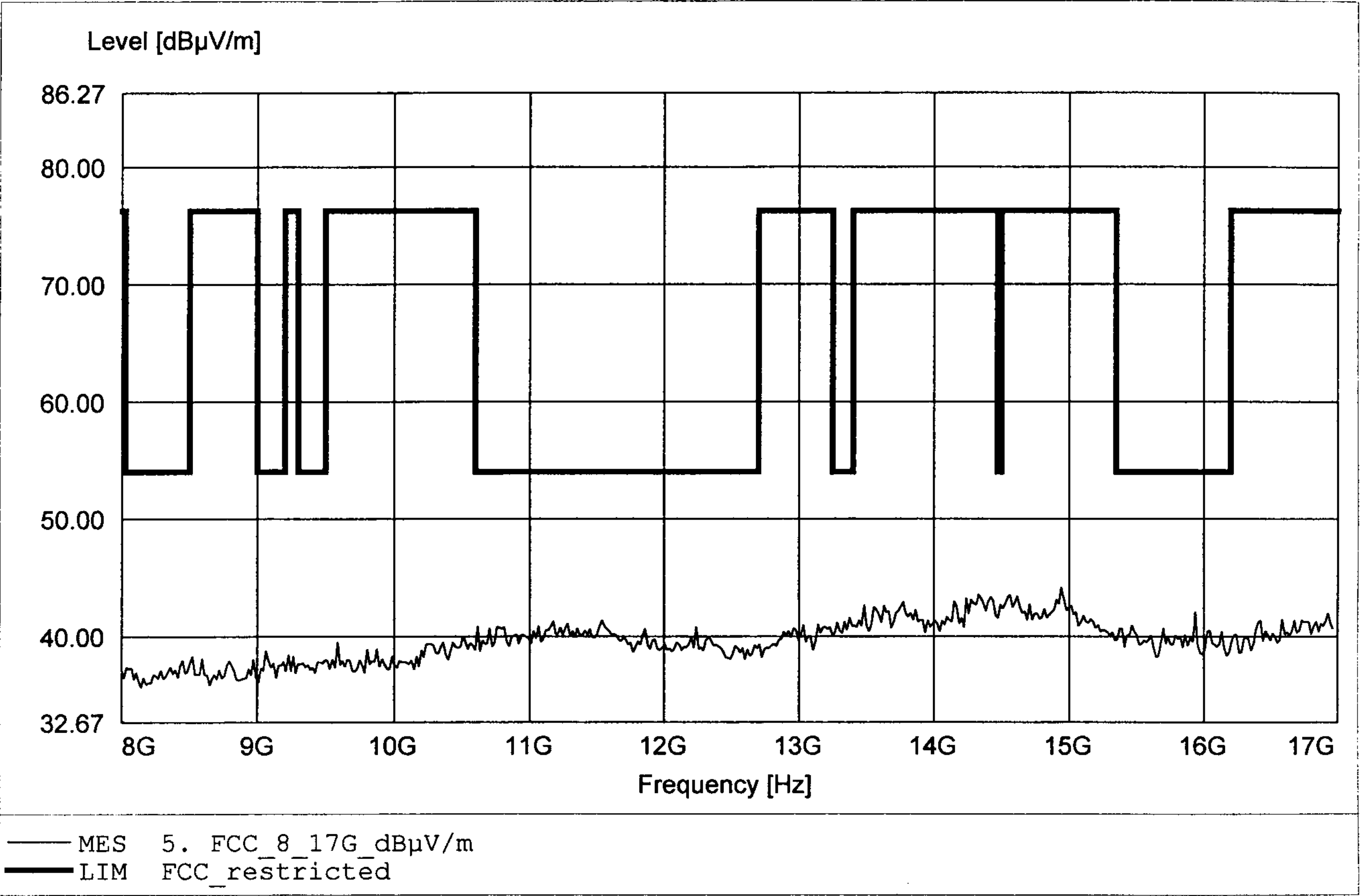
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:9.605GHz Emax:44.12dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

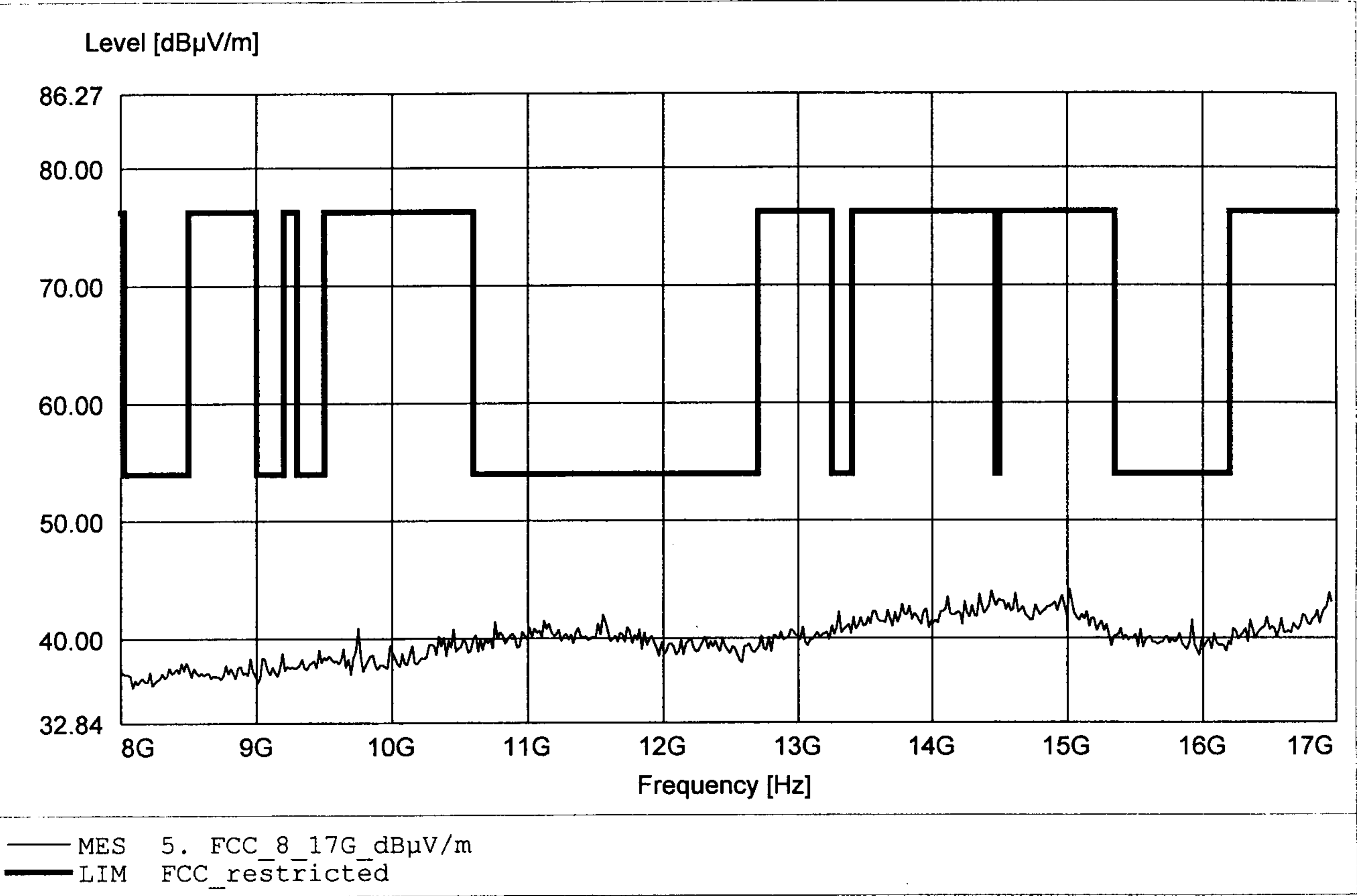
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:14.944GHz Emax:44.13dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

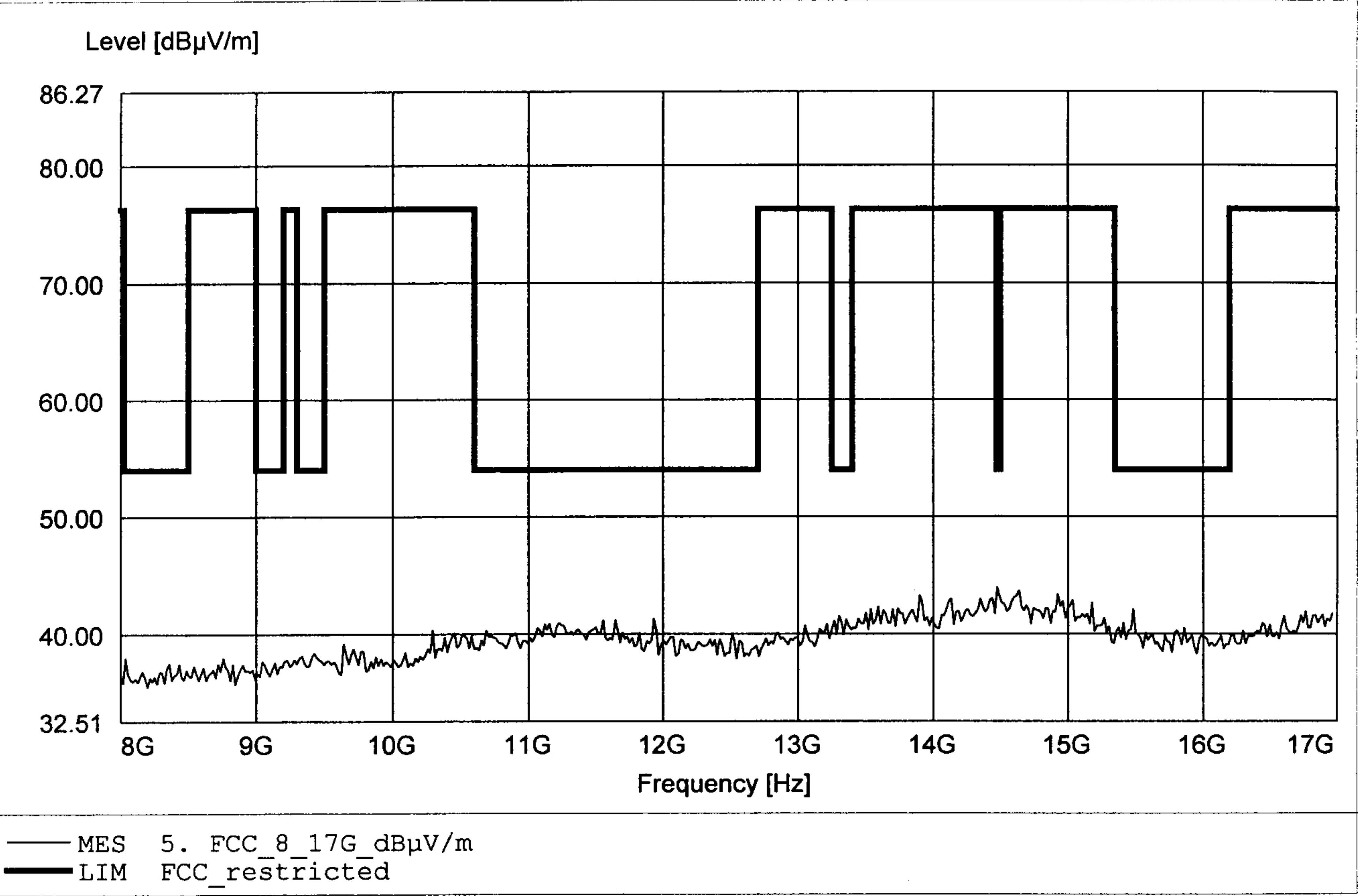
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:15.016GHz Emax:44.18dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

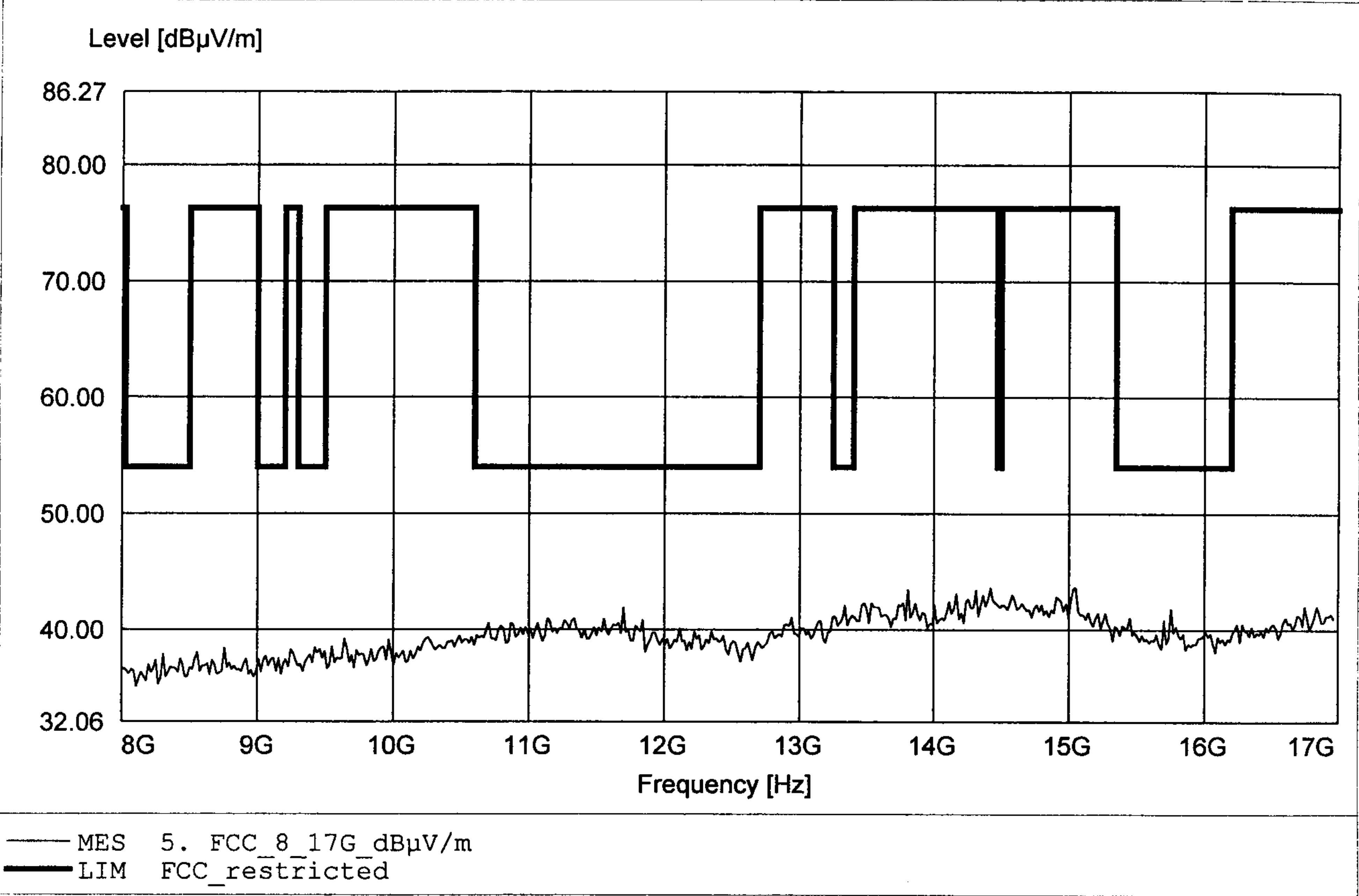
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:14.475GHz Emax:43.96dBuV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

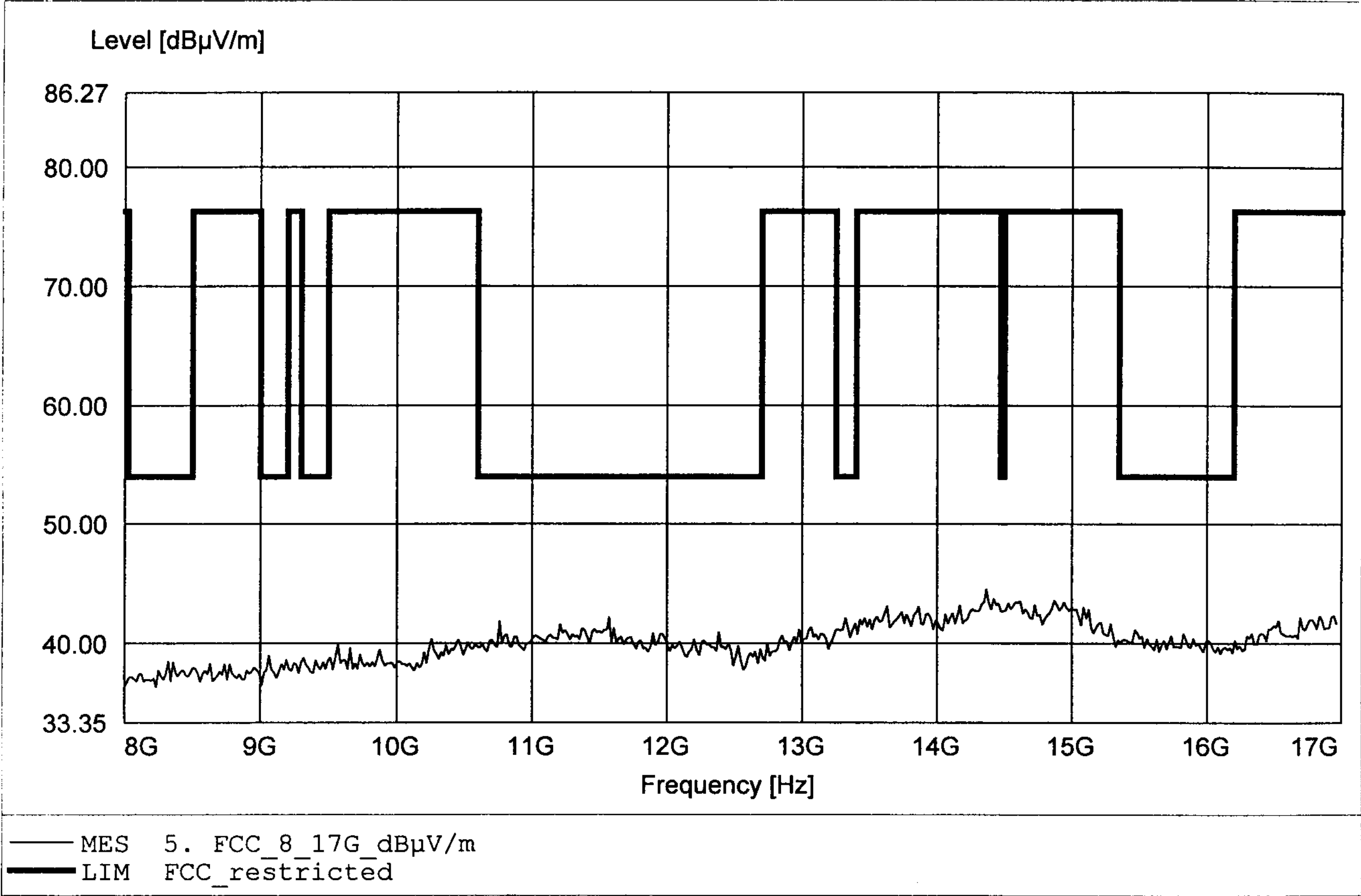
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:15.052GHz Emax:43.64dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

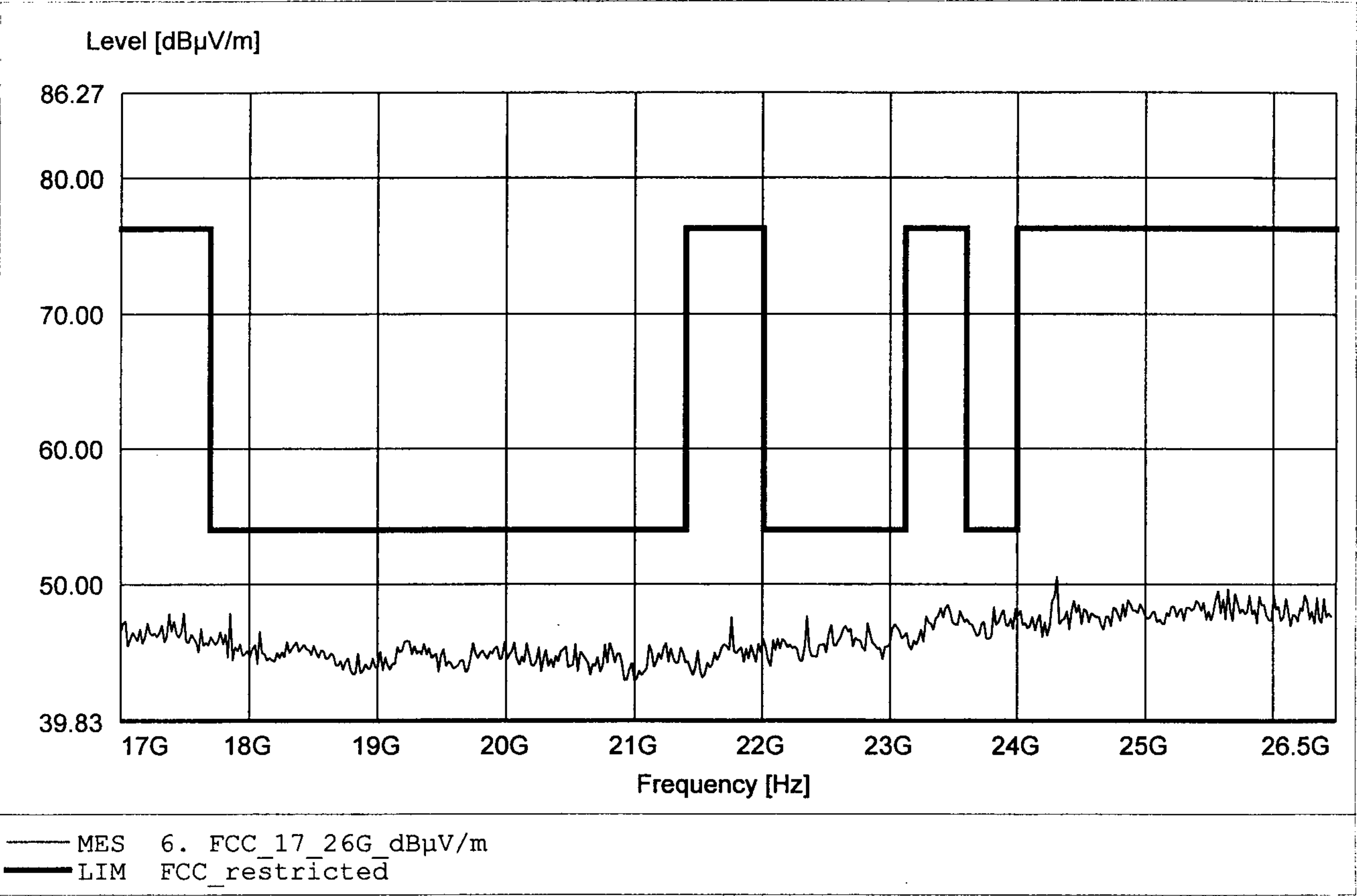
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq:14.367GHz Emax:44.53dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

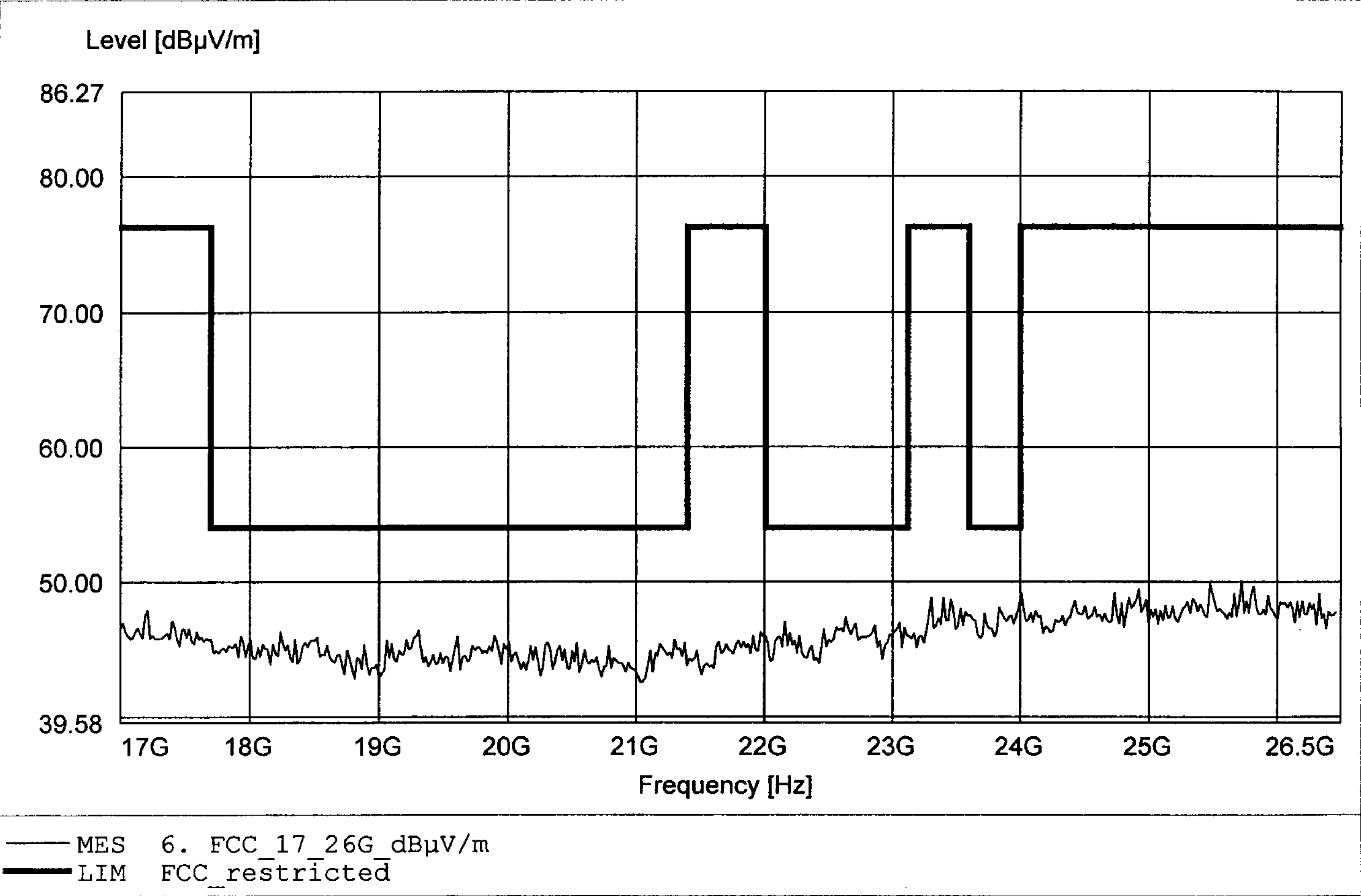
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025, amplif.  
Comment 2: Freq:24.311GHz Emax:50.58dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2402 MHz)  
Applicant: Lesswire AG

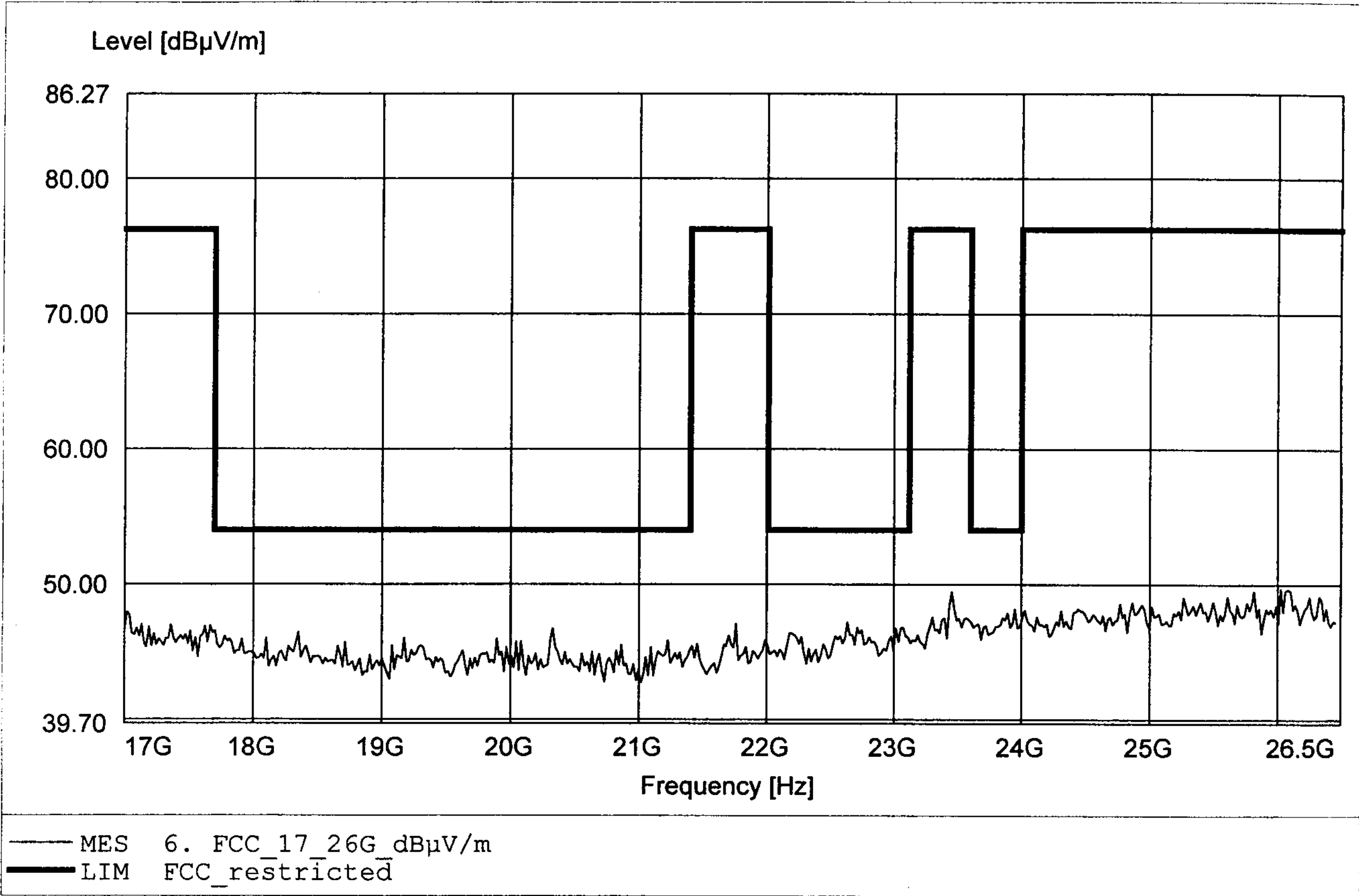
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025, amplif.  
Comment 2: Freq:25.719GHz Emax:50.05dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

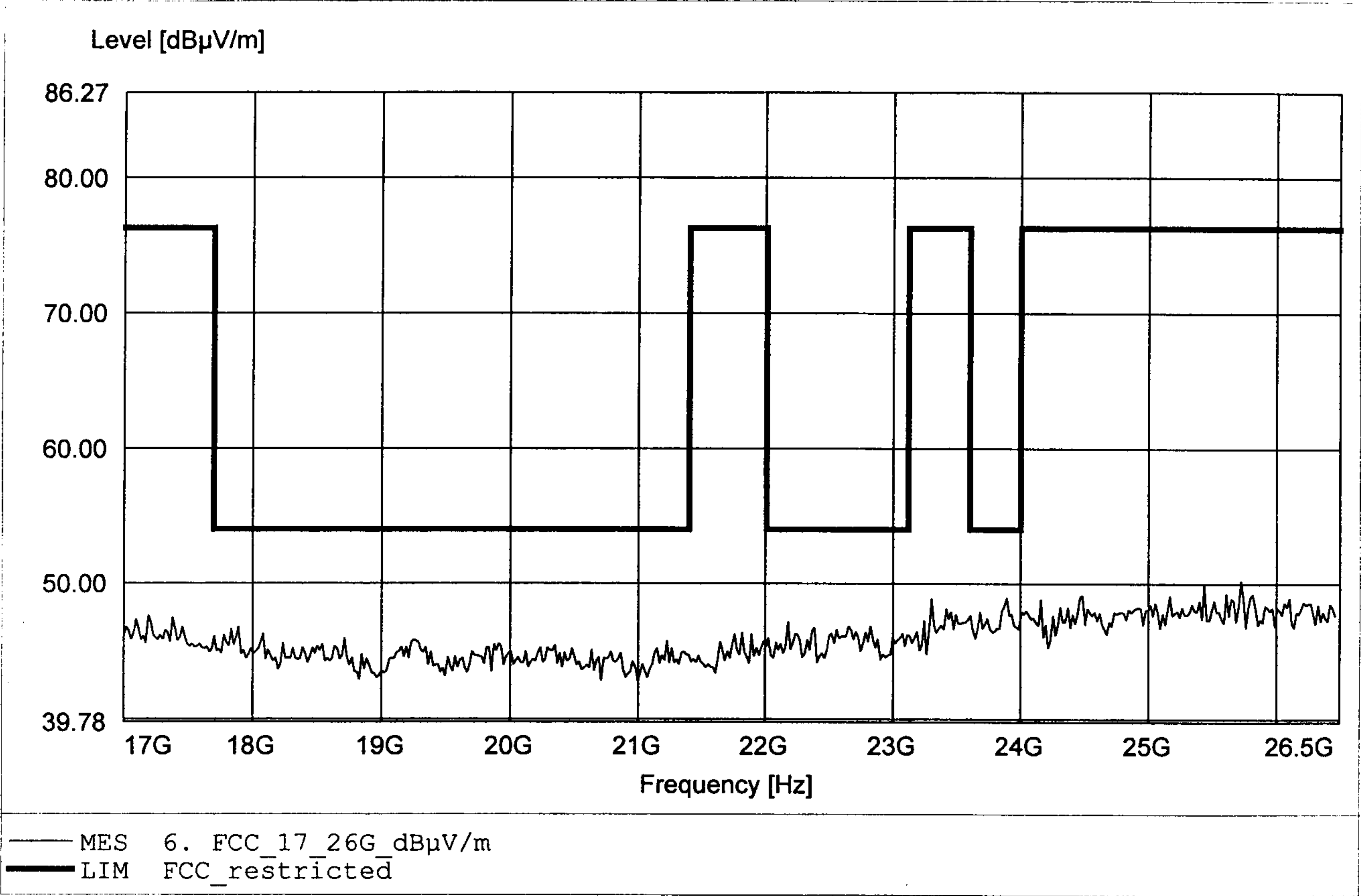
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025, amplif.  
Comment 2: Freq:26.024GHz Emax:49.70dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2441 MHz)  
Applicant: Lesswire AG

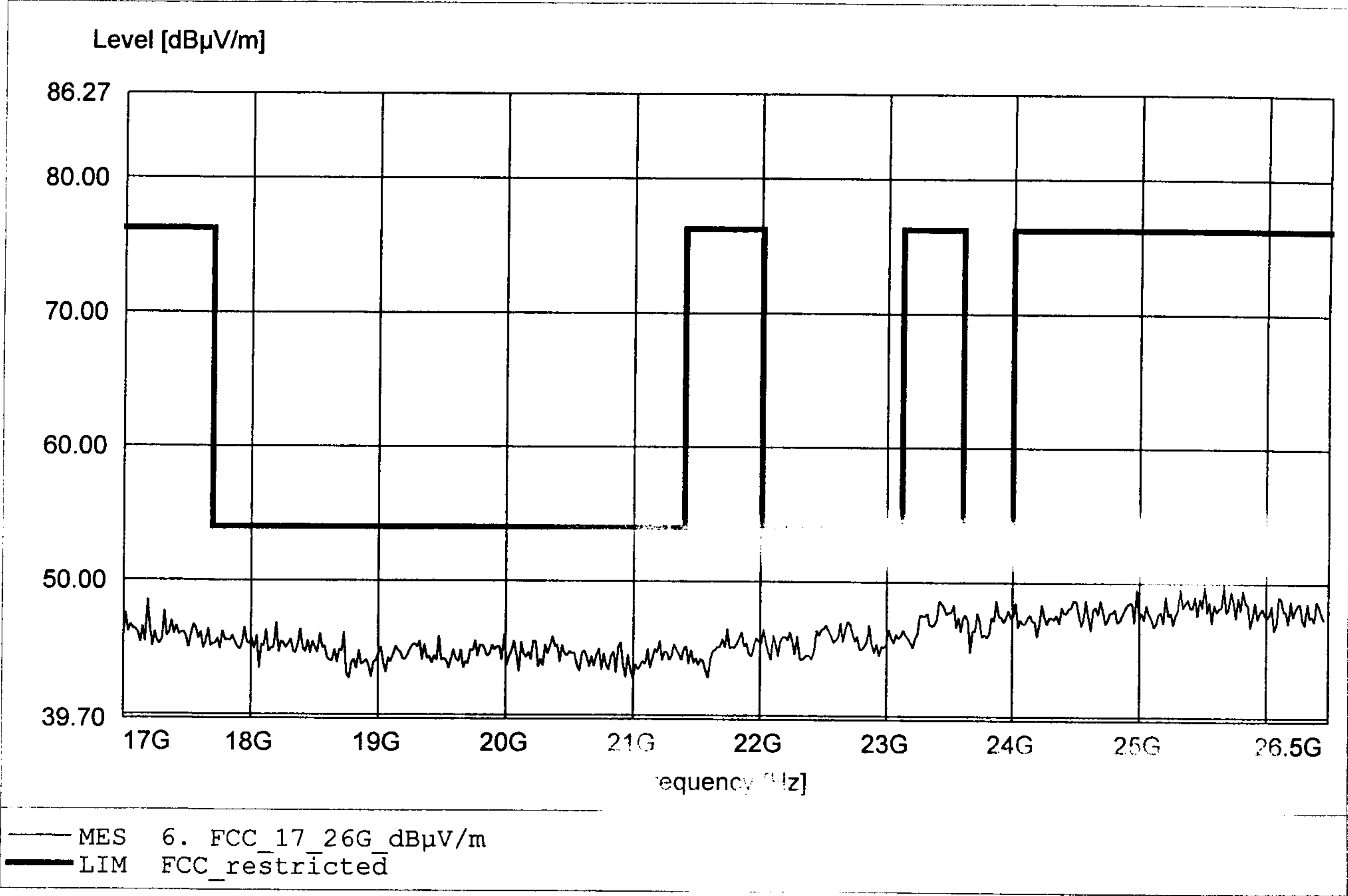
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025, amplif.  
Comment 2: Freq:25.719GHz Emax:50.25dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

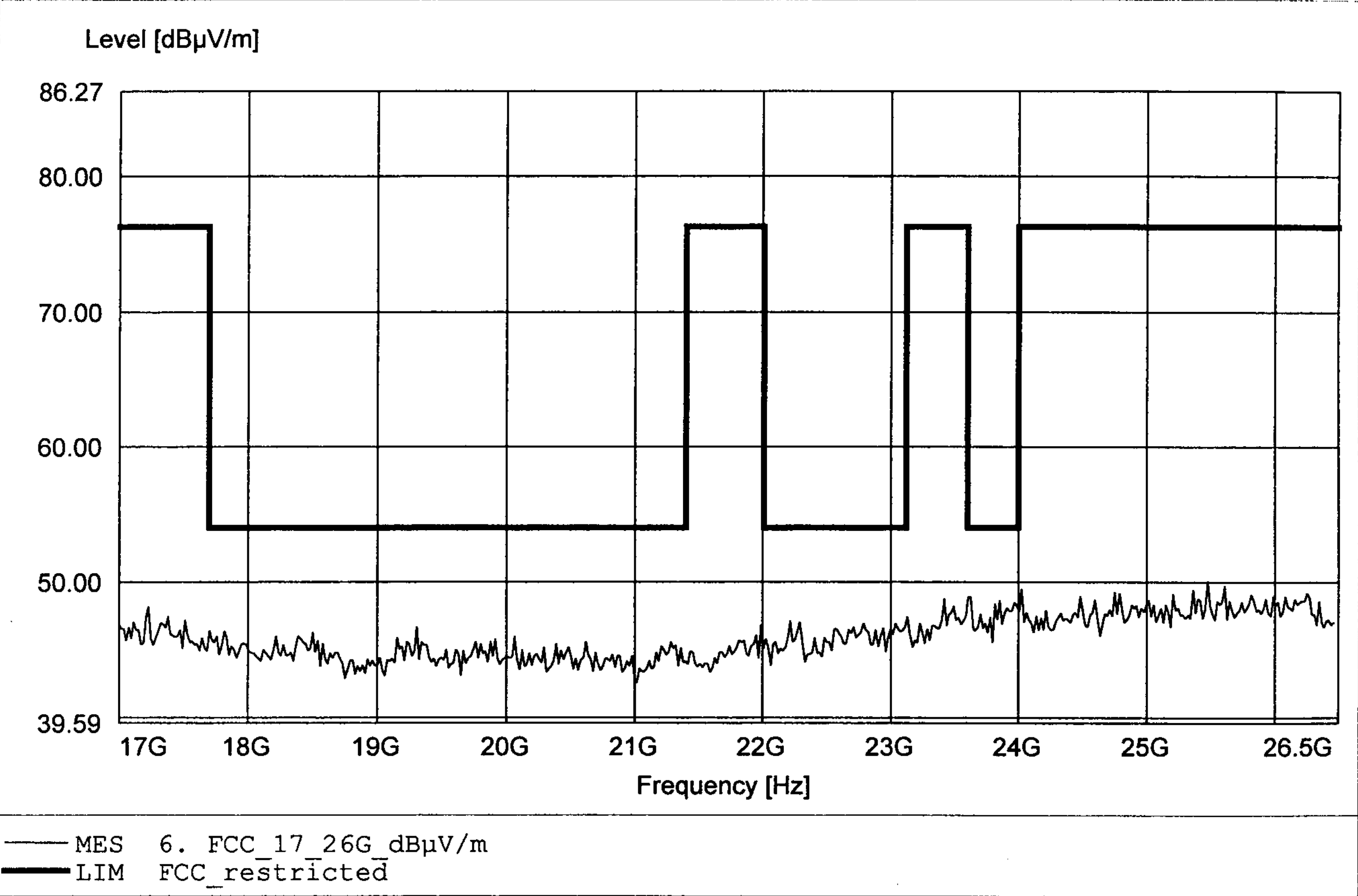
Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025, amplif.  
Comment 2: Freq:25.510GHz Emax:50.04dBµV/m RBW:1MHz



Spurious emissions Field Strength Tx  
FCC RULES PART 15, SUBPART C

EUT / Model: Bluetooth Access Point / BS2 (Tx 2480 MHz)  
Applicant: Lesswire AG

Temperature/ Voltage: t nom=25°C / Unom= 6V DC  
Test Site / Operator: ETS / Mr. Treffke  
Test Specification: according to § 15.247  
Comment 1: Dist.: 3m, Ant.: HL025, amplif.  
Comment 2: Freq:25.472GHz Emax:50.08dBµV/m RBW:1MHz





# Appendix D

Spurious Emissions conducted - Transmitter operating

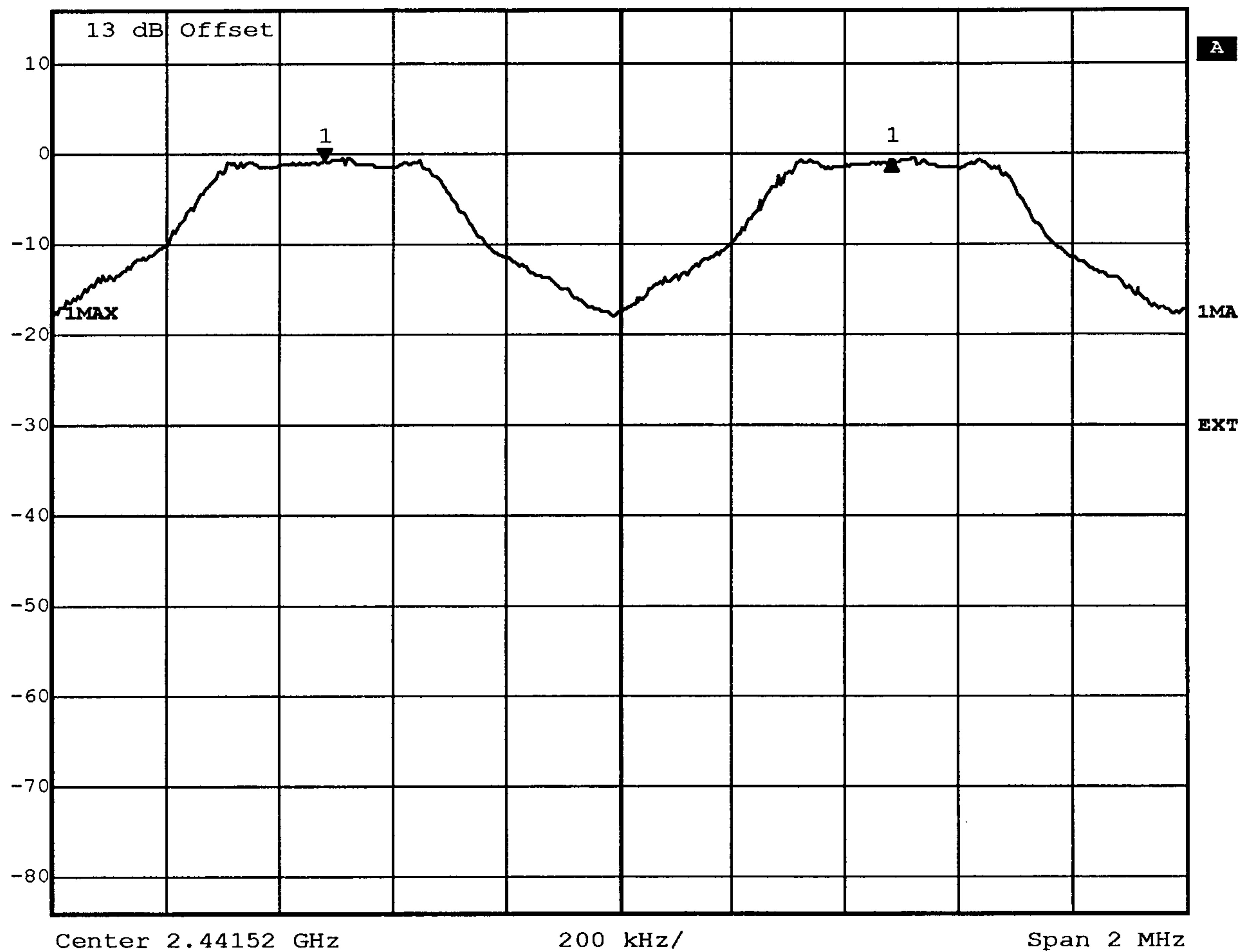


# Appendix E

## Carrier Frequency Separation



Delta 1 [T1] RBW 100 kHz RF Att 30 dB  
Ref Lvl -0.06 dB VBW 100 kHz  
16 dBm 1.00296593 MHz SWT 20 ms Unit dBm

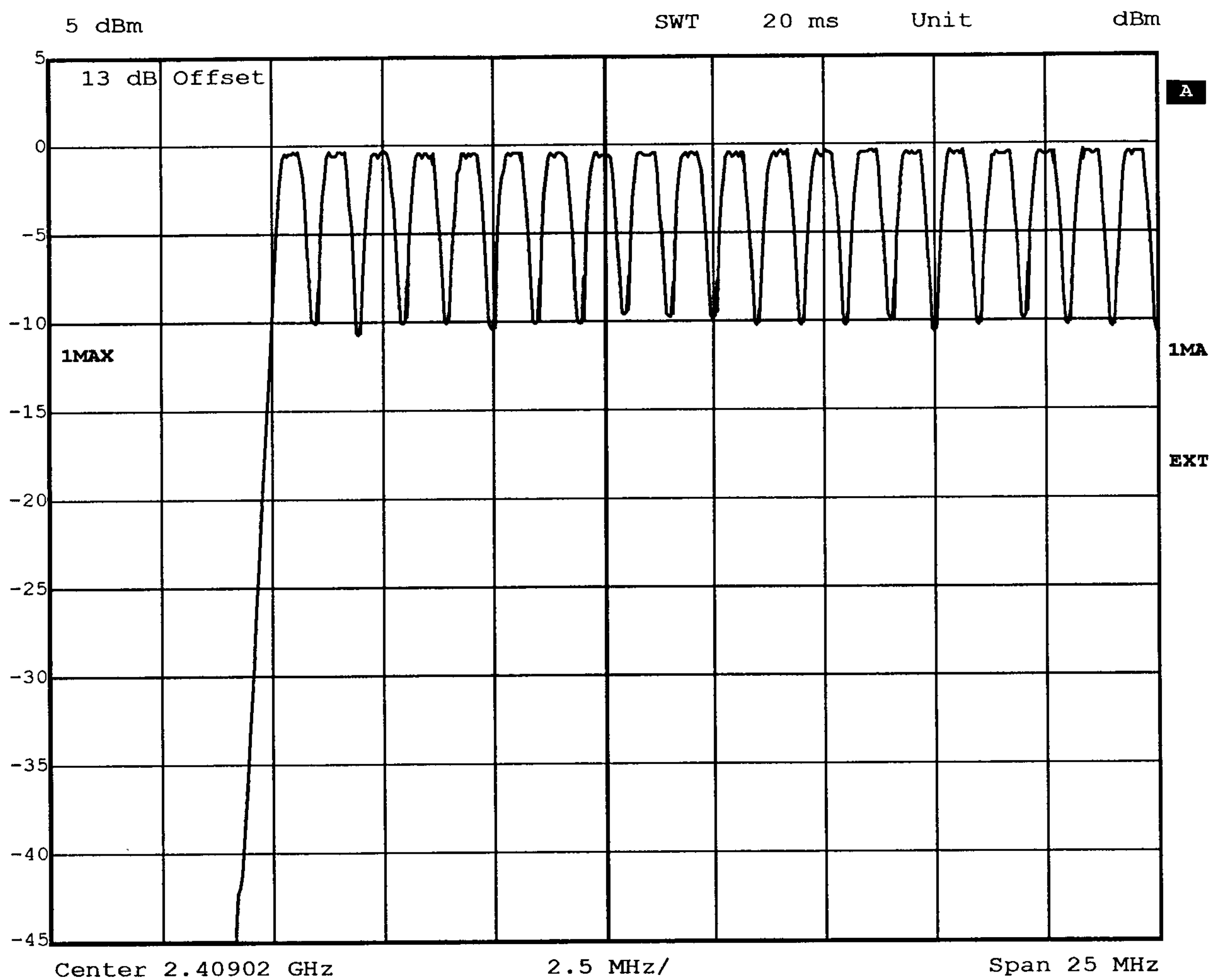


Title: Carrier Frequency Separation  
Comment A: Lesswire AG, BS2  
Date: 8.JUN.2001 14:41:50

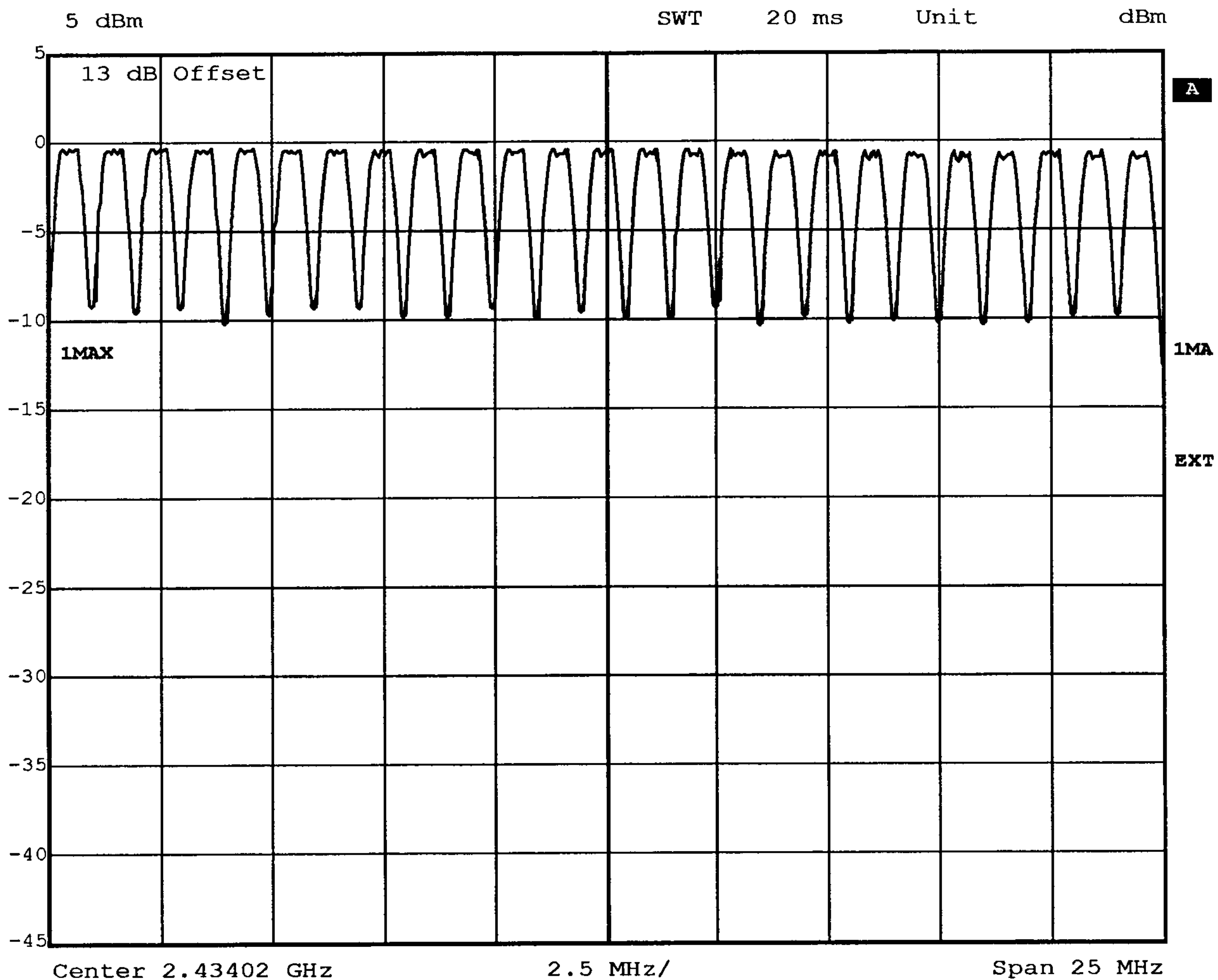


# Appendix F

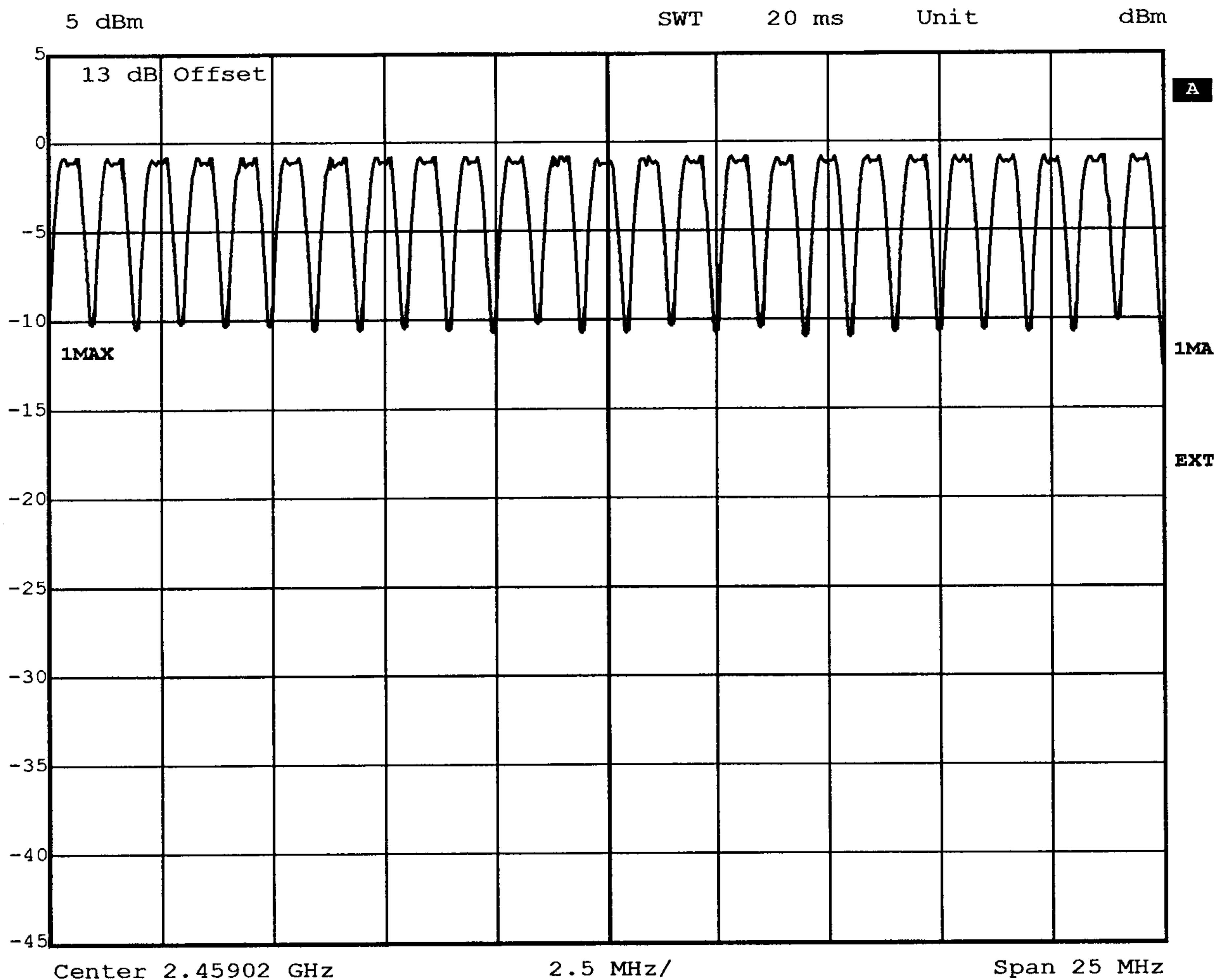
Number of Hopping Frequencies



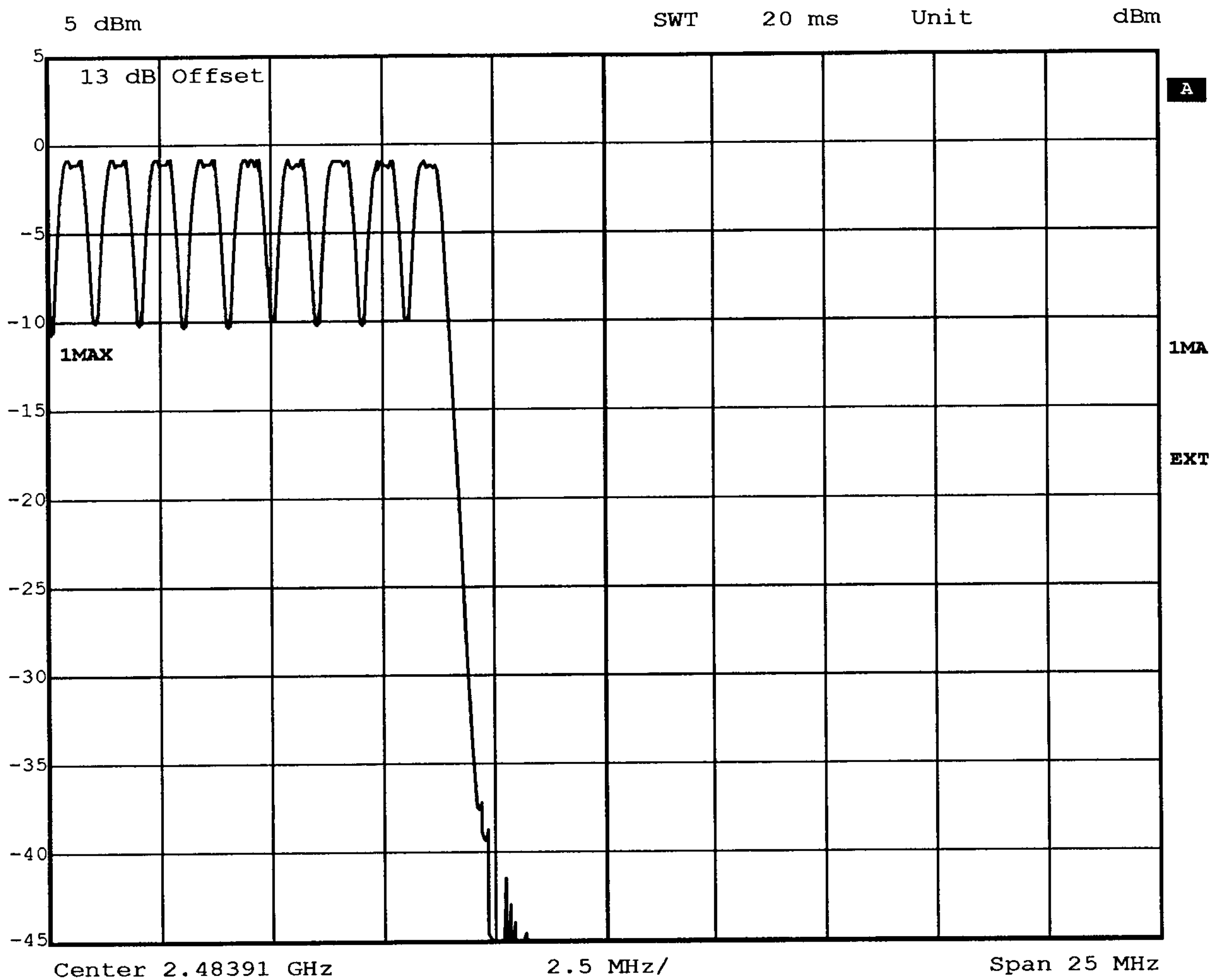
Title:        Number of Hopping  
Comment A: Lesswire AG, BS2  
Date:        8.JUN.2001 14:55:19



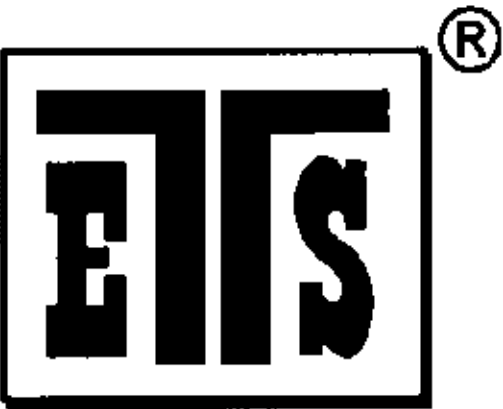
Title:        Number of Hopping  
Comment A: Lesswire AG, BS2  
Date:        8.JUN.2001 14:57:23



Title:      Number of Hopping  
Comment A: Lesswire AG, BS2  
Date:      8.JUN.2001    14:59:11

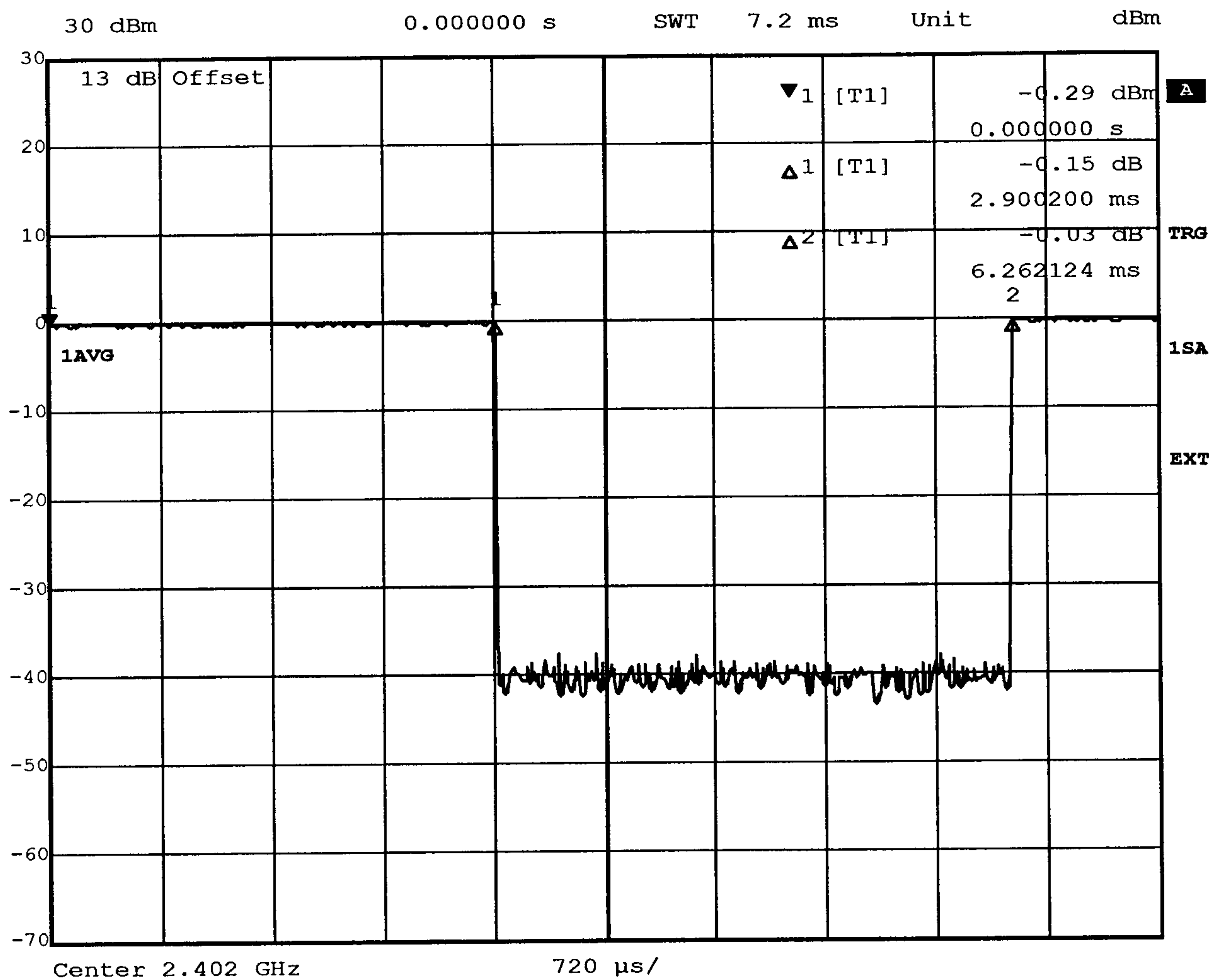


Title:            Number of Hopping  
Comment A: Lesswire AG, BS2  
Date:            8.JUN.2001 15:01:50



# Appendix G

Time of Occupancy (Dwell Time)



Title: Dwell Time  
Comment A: Lesswire AG  
Date: 8.JUN.2001 15:26:06



# Appendix H

20dB Bandwidth

```
=====
# ROHDE & SCHWARZ Certific. Bluetooth Test System TS8960 SW Version: b1_23
#
# Program name: tc_AllPower          program revision: 1.1.1
#
# All Power Measurement Test Cases
#
#-----
# Test Case started: 2001-06-01, 12:55:05 (ets_1)
# Report File: /home/ts8960/project/ts8960/sw/ALE/tc/dat/Lessw_cert/lessw_cert.ta.rep
# Eut File: lessw_cert
# Operator's account name: ts8960
#=====
# Global Parameter Settings:
#
# Wait On Compare      : No
# Wait On OUTSIDE     : No
# Wait On FAIL        : No
# Abort On FAIL       : No
# Skip Manual Interventions : No
# Plots Disabled      : No
# Remove Plots after Program Run : No
# Info Enabled       : No
# Short Mode        : No
# Force Mode       : No
# Part             : 5
#=====
```

Starting program tc\_AllPower

TC TX Output Spectrum - 20 dB Bandwidth RFC Check

```
..
Starting TC TX Output Spectrum - 20 dB Bandwidth (TRM/CA/05/C)
=====
```

Test Specification RF: 0.9

EUT connected for Measurement and Signalling at: SSCU-Port 'MEASUREMENT DUT COND'

Next measurement will be running with the following EUT paramter:

```
Manufacturer: Lesswire AG
Model: Bluetooth Access Point / Local Navigator Bluetooth Ba
se Station
Serial No: no info
Comment: no info
Setup mode: Final Testing
Test Mode Handle: Every Parameter Set
Country: All
Pseudo Whitening: Off
Host Connection Request: No
EUT Address: 00000000A001 hex
Tester Address: 008037122094 hex
Active Member Address: 00000007 hex
```

```
Access Code from EUT: AD59EE5328A41120D5 hex
Access Code from SU: AD59EE5328A41120D5 hex
Connection Poll Period: 40 Time Slots
Connection Page TO: 9000 Time Slots
Test Parameter Setting Delay: 0 ms
Power Control: Not supported
Add. Transmission (Receive): 0.000 dB
Add. Transmission (Transmit): 0.000 dB
Longest Packet Type: DH5
Voltage Value 1: 6.000 Volt
Voltage Value 2: 0.000 Volt
Temperature: 25.000 Deg C
```

Next measurement will be running with the following parameter:

```
Voltage: Middle
Temperature: Middle
Power Mode: Not Controlled
Measurement: Conducted
EUT Test Mode: Loopback
B1 Signal Packet Type: DH1
B1 Signal Pattern: PRBS 9
Whitening: Yes
EUT Tx Frequency: 2402.000 MHz
EUT Rx Frequency: 2480.000 MHz
B1 Signalling Level: -55.000 dBm
```

Operator intervention start at 2001-06-01, 12:55:08  
Intervention Type 'Please prepare the EUT for Test Mode Activation'  
Operator intervention end at 2001-06-01, 12:55:35

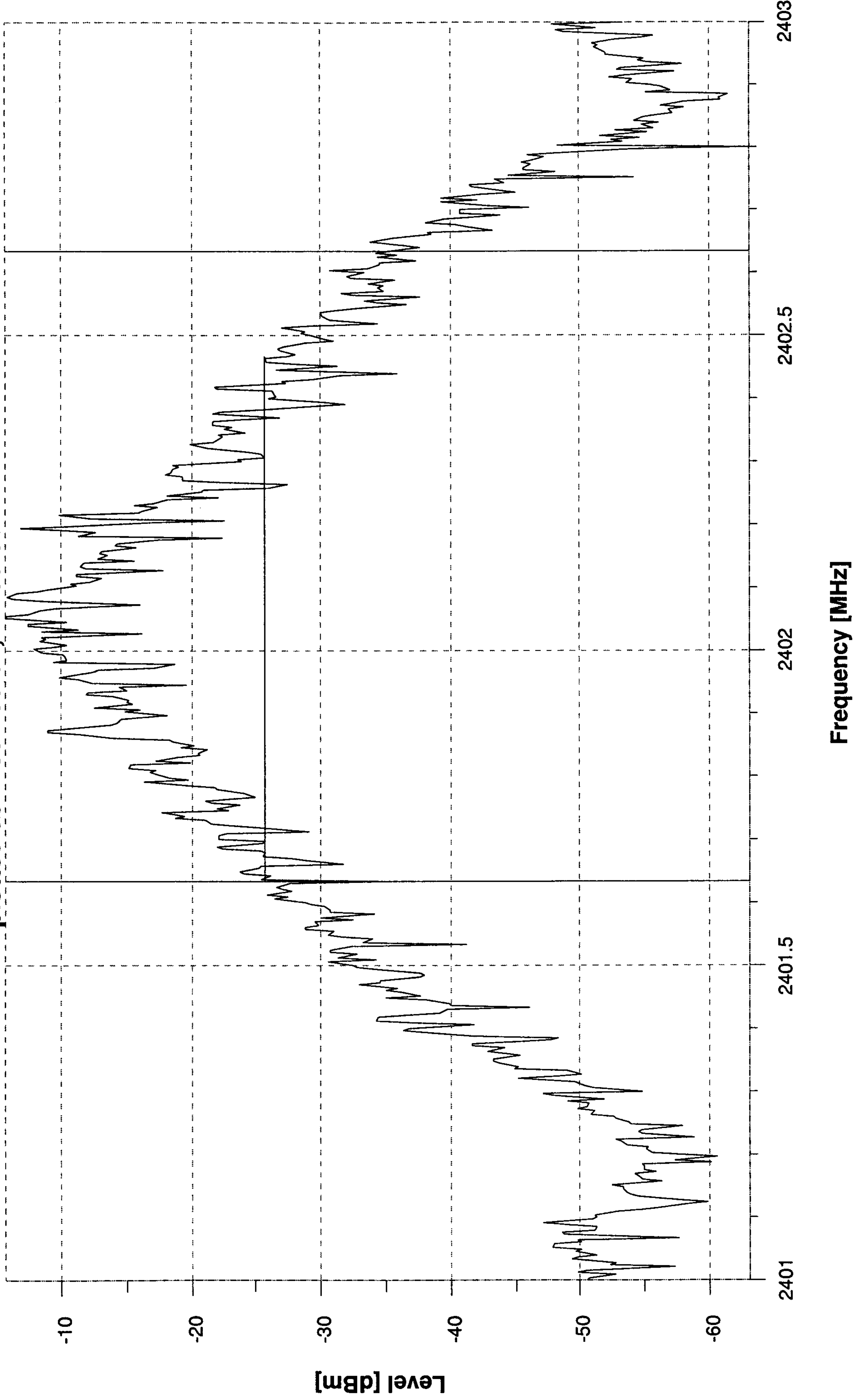
| TX [MHz] | RX [MHz] | START [MHz] | STOP [MHz] | LOW [MHz] | HIGH [MHz] | BW [MHz] | LIMIT [MHz] | VERDICT |
|----------|----------|-------------|------------|-----------|------------|----------|-------------|---------|
|----------|----------|-------------|------------|-----------|------------|----------|-------------|---------|

```
2402 2480 2401.0 2403.0 2401.632 2402.468 0.836 <= 1.000 PASS
Operator intervention start at 2001-06-01, 12:55:51
Intervention Type 'Please prepare the EUT for Test Mode Activation'
Operator intervention end at 2001-06-01, 12:57:04
2441 2402 2440.0 2442.0 2440.620 2441.448 0.828 <= 1.000 PASS
Operator intervention start at 2001-06-01, 12:57:18
Intervention Type 'Please prepare the EUT for Test Mode Activation'
Operator intervention end at 2001-06-01, 12:57:38
2480 2402 2479.0 2481.0 2479.616 2480.436 0.820 <= 1.000 PASS
```

All selected TX Output Spectrum - 20 dB Bandwidth tests are completed

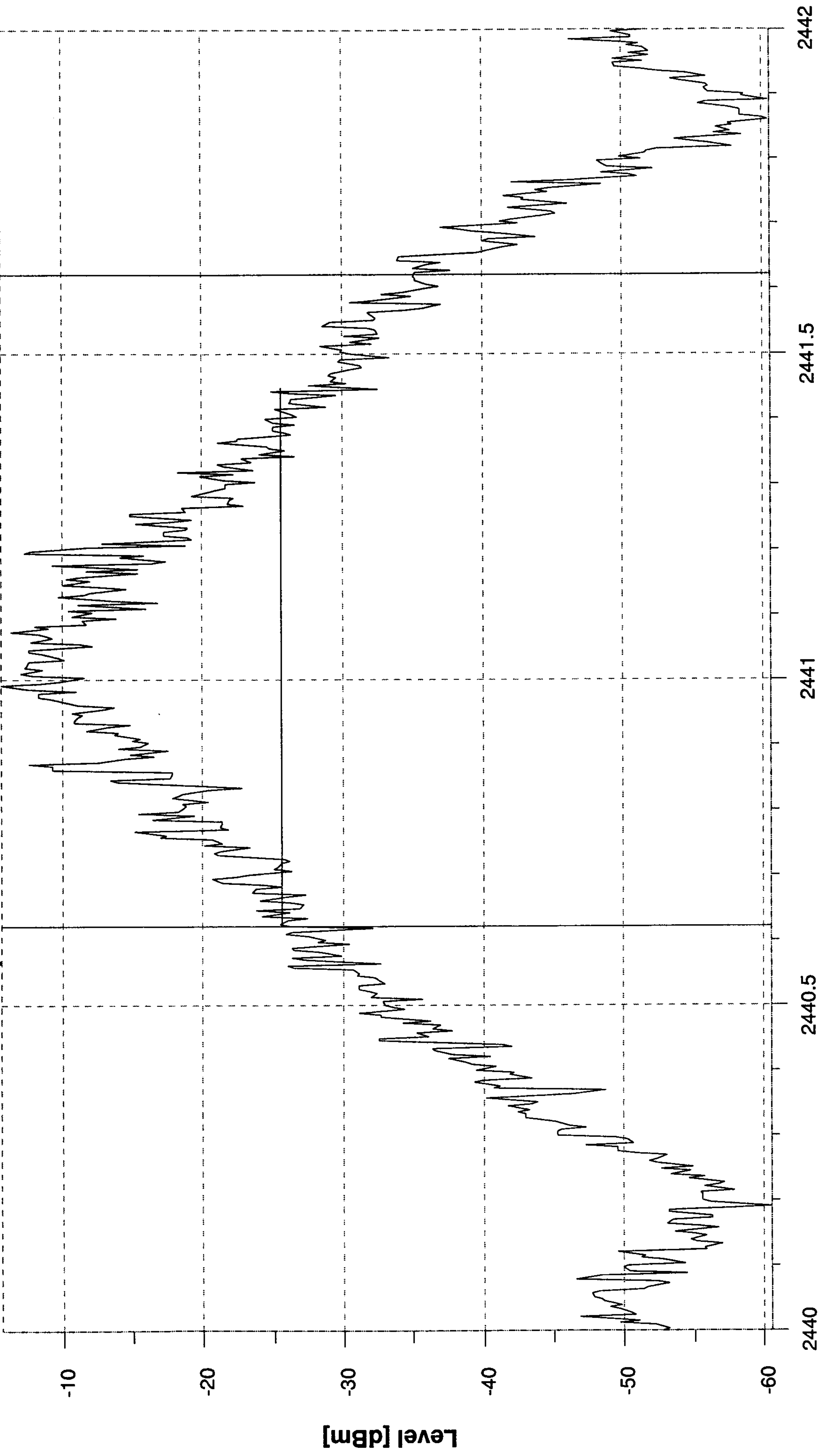
```
=====
# Duration 00:02:49
# Final Test Case verdict: PASS
# Report file closed at 2001-06-01, 12:57:54
=====
```

Results TC TX Output Spectrum - 20 dB Bandwidth -EUT TX Frequency 2402.000 MHz  
plotted at : 2001-06-01, 12:55:50

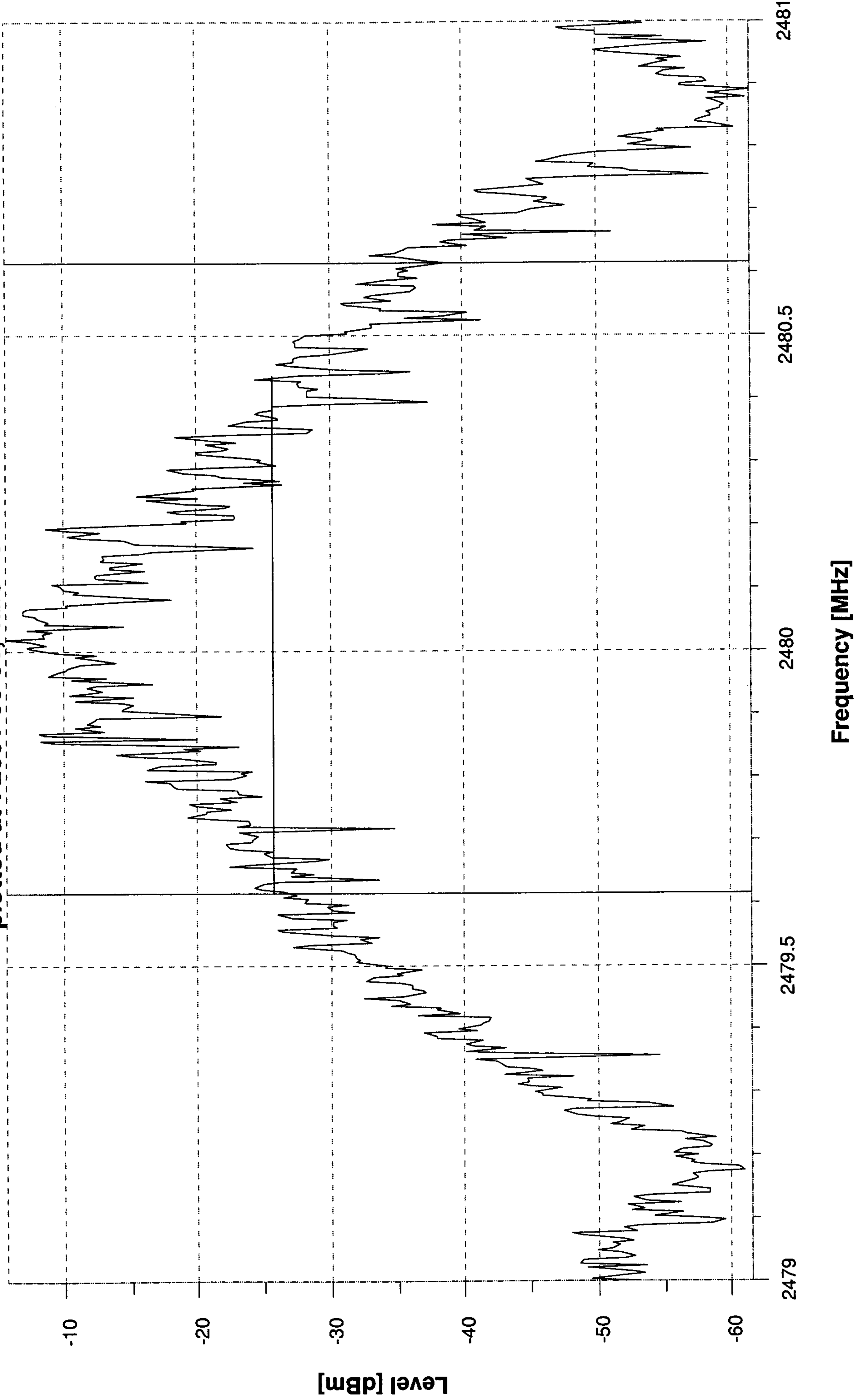


Results TC TX Output Spectrum - 20 dB Bandwidth -EUT TX Frequency 2441.000 MHz

plotted at : 2001-06-01, 12:57:17



Results TC TX Output Spectrum - 20 dB Bandwidth -EUT TX Frequency 2480.000 MHz  
plotted at : 2001-06-01, 12:57:54





# Appendix I

## Band-edge Compliance of RF Emissions

```
=====
# ROHDE & SCHWARZ Certific. Bluetooth Test System TS8960 SW Version: b1_23
#
# Program name: tc_AllPower          program revision: 1.1.1
#
# All Power Measurement Test Cases
#
#-----
# Test Case started: 2001-06-01, 12:55:05 (ets_1)
# Report File: /home/ts8960/project/ts8960/sw/ALE/tc/dat/Lessw_cert/Lessw_cert.ta.rep
# Eut File: Lessw_Cert
# Operator's account name: ts8960
#
# Global Parameter Settings:
#
# Wait On Compare      : No
# Wait On OUTSIDE      : No
# Wait On FAIL         : No
# Abort On FAIL        : No
# Skip Manual Interventions : No
# Plots Disabled       : No
# Remove Plots after Program Run : No
# Info Enabled        : No
# Short Mode          : No
# Force Mode          : No
# Part                : 5
#-----
Starting program tc_AllPower
=====
```

TC TX Output Spectrum - 20 dB Bandwidth RFC Check

```

..
Starting TC TX Output Spectrum - 20 dB Bandwidth (TRM/CA/05/C)
=====
```

Test Specification RF: 0.9

EUT connected for Measurement and Signalling at: SSCU-Port 'MEASUREMENT DUT COND'

Next measurement will be running with the following EUT paramter:

```

Manufacturer:      Lesswire AG
Model:             Bluetooth Access Point / Local Navigator Bluetooth Ba
se Station
Serial No:         no info
Comment:           no info
Setup mode:        Final Testing
Test Mode Handle:  Every Parameter Set
Country:           All
Pseudo Whitening:  Off
Host Connection Request: No
EUT Address:       00000000A001 hex
Tester Address:    008037122094 hex
Active Member Address: 00000007 hex
```

```
Access Code from EUT: AD59EE5328A41120D5 hex
Access Code from SU: AD59EE5328A41120D5 hex
Connection Poll Period: 40 Time Slots
Connection Page TO: 9000 Time Slots
Test Parameter Setting Delay: 0 ms
Power Control: Not supported
Add. Transmission (Receive): 0.000 dB
Add. Transmission (Transmit): 0.000 dB
Longest Packet Type: DH5
Voltage Value 1: 6.000 Volt
Voltage Value 2: 0.000 Volt
Temperature: 25.000 Deg C

Next measurement will be running with the following parameter:

Voltage: Middle
Temperature: Middle
Power Mode: Not Controlled
Measurement: Conducted
EUT Test Mode: Loopback
B1 Signal Packet Type: DH1
B1 Signal Pattern: PRBS 9
Whitening: Yes
EUT Tx Frequency: 2402.000 MHz
EUT Rx Frequency: 2480.000 MHz
B1 Signalling Level: -55.000 dBm

Operator intervention start at 2001-06-01, 12:55:08
Intervention Type 'Please prepare the EUT for Test Mode Activation'
Operator intervention end at 2001-06-01, 12:55:35
```

| TX [MHz] | RX [MHz] | START [MHz] | STOP [MHz] | LOW [MHz] | HIGH [MHz] | BW [MHz] | LIMIT [MHz] | VERDICT |
|----------|----------|-------------|------------|-----------|------------|----------|-------------|---------|
|----------|----------|-------------|------------|-----------|------------|----------|-------------|---------|

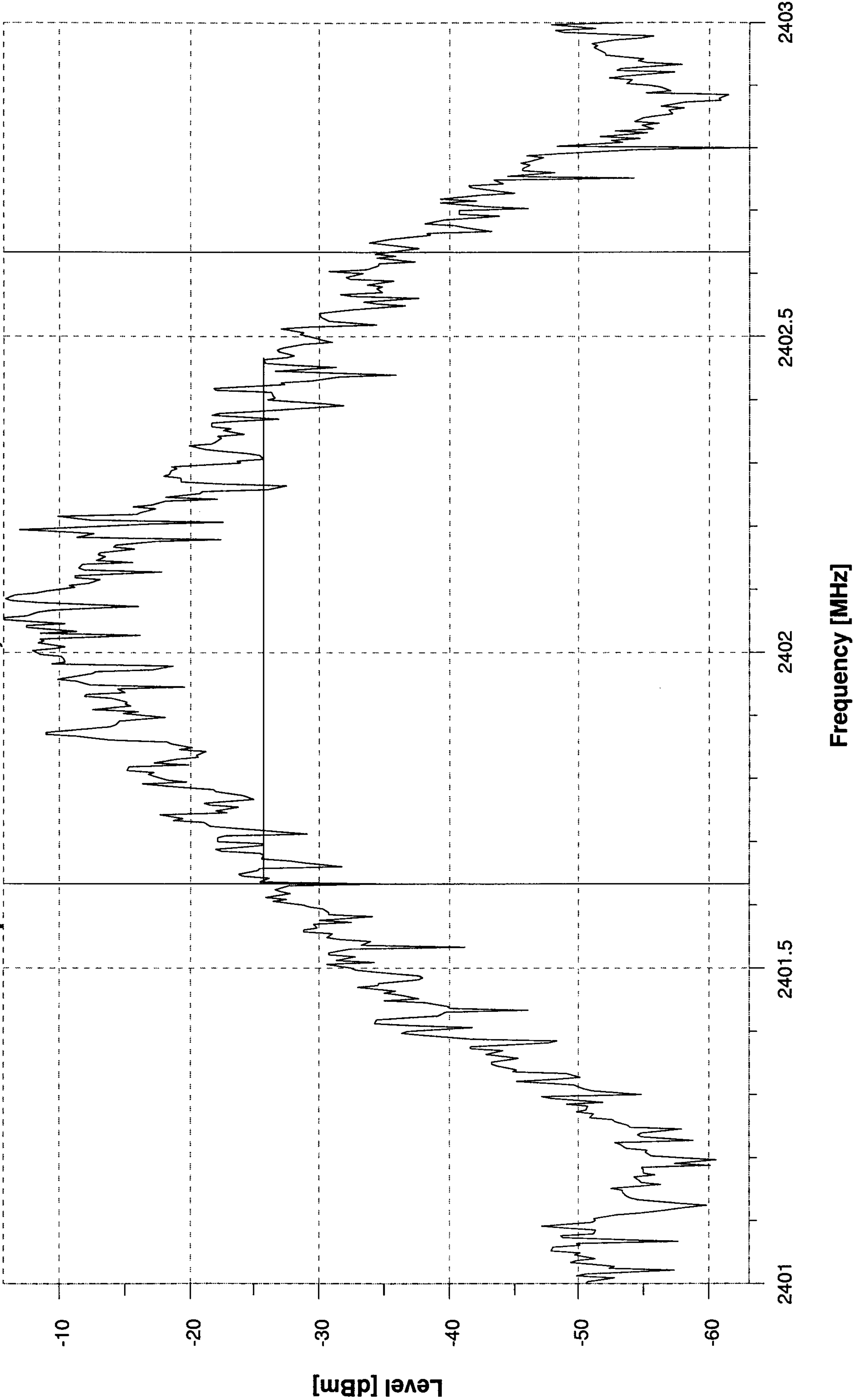
```

2402 2480 2401.0 2403.0 2401.632 2402.468 0.836 <= 1.000 PASS
Operator intervention start at 2001-06-01, 12:55:51
Intervention Type 'Please prepare the EUT for Test Mode Activation'
Operator intervention end at 2001-06-01, 12:57:04
2441 2402 2440.0 2442.0 2440.620 2441.448 0.828 <= 1.000 PASS
Operator intervention start at 2001-06-01, 12:57:18
Intervention Type 'Please prepare the EUT for Test Mode Activation'
Operator intervention end at 2001-06-01, 12:57:38
2480 2402 2479.0 2481.0 2479.616 2480.436 0.820 <= 1.000 PASS
=====
```

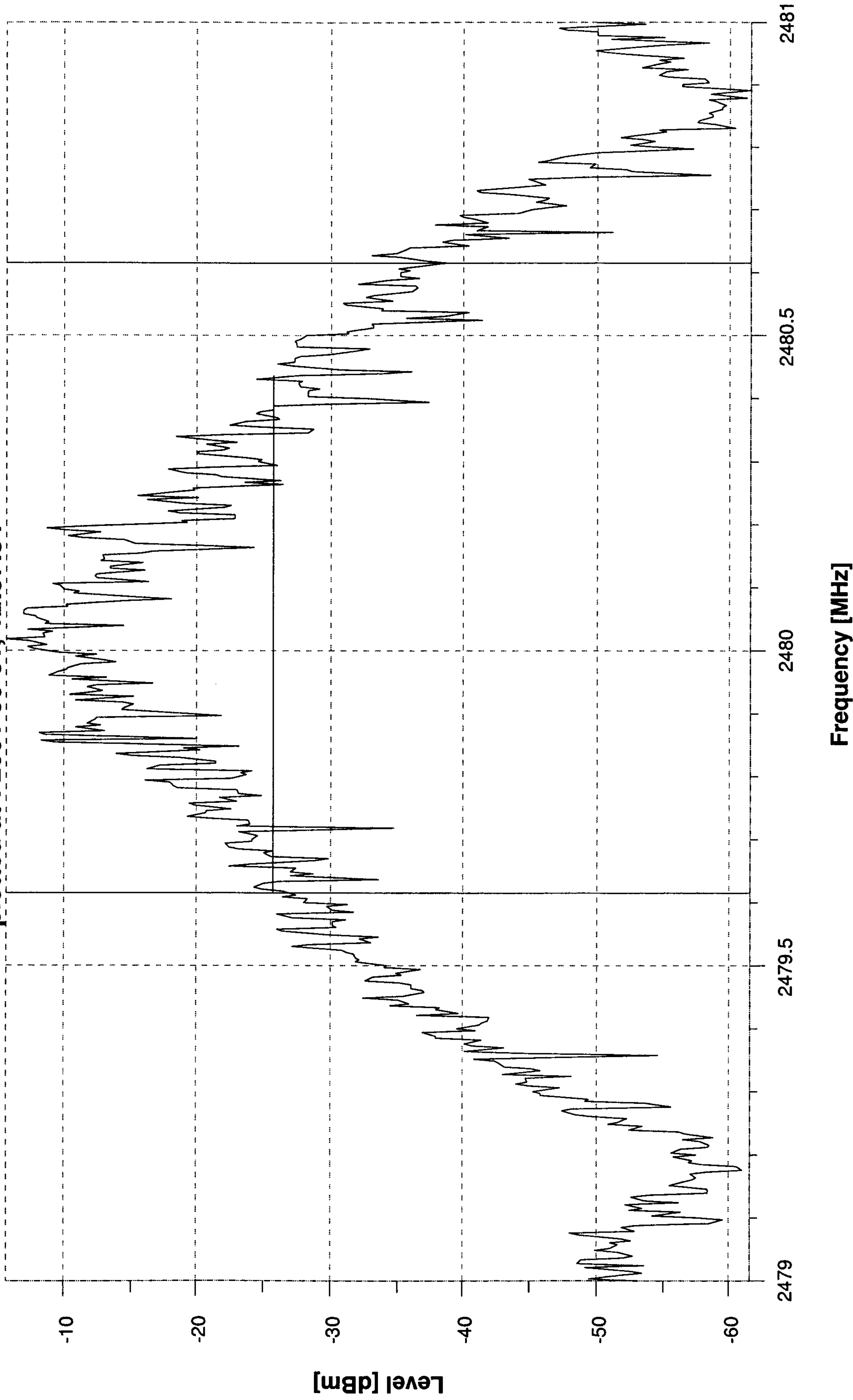
All selected TX Output Spectrum - 20 dB Bandwidth tests are completed

```
=====
# Duration 00:02:49
# Final test Case verdict: PASS
# Report file closed at 2001-06-01, 12:57:54
=====
```

Results TC TX Output Spectrum - 20 dB Bandwidth -EUT TX Frequency 2402.000 MHz  
plotted at : 2001-06-01, 12:55:50



Results TC TX Output Spectrum - 20 dB Bandwidth -EUT TX Frequency 2480.000 MHz  
plotted at : 2001-06-01, 12:57:54





# Appendix J

Conducted Measurement at (AC) Power Line

EMI voltage test in the dc-mains according to FCC part 15

EUT: BLUETOOTH ACCES POINT  
Manufacturer: LESSWIRE AG  
Operating Condition: Unom: +6VDC , Tnom: 23°C  
Test Site: ETS  
Operator: Mr. Pflug  
Test Specification: V-Network: ESH3-Z5  
Comment: model: BS 2 LOCAL NAVIGATOR BLUETOOTH BASE STATION  
Start of Test:

