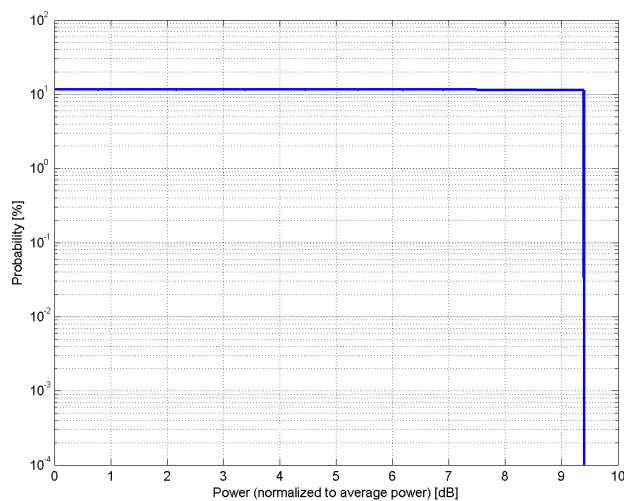


**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

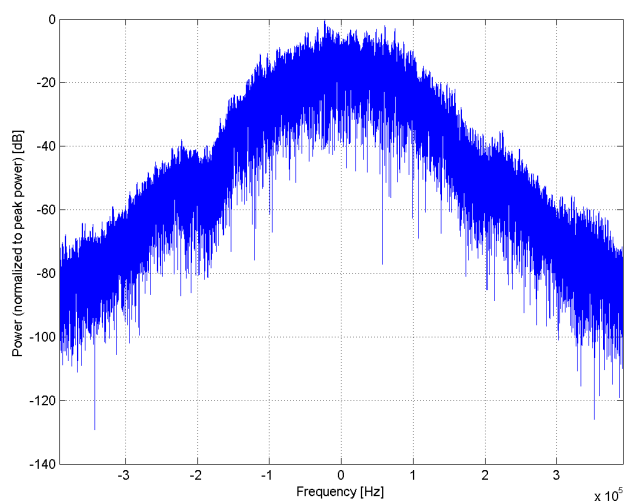
|                         |                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>GSM-FDD (TDMA, GMSK)</b>                                                                                                                                                                                                                                                                                                                                                                            |
| Group:                  | GSM                                                                                                                                                                                                                                                                                                                                                                                                    |
| UID:                    | 10021-DAC                                                                                                                                                                                                                                                                                                                                                                                              |
| PAR: <sup>1</sup>       | <b>9.39 dB</b>                                                                                                                                                                                                                                                                                                                                                                                         |
| MIF: <sup>2</sup>       | <b>3.63 dB</b>                                                                                                                                                                                                                                                                                                                                                                                         |
| Standard Reference:     | ETSI TS 100 909 V8.9.0 (2005-01)<br>FCC OET KDB 941225, D03 and D04                                                                                                                                                                                                                                                                                                                                    |
| Category:               | Periodic pulsed modulation                                                                                                                                                                                                                                                                                                                                                                             |
| Modulation:             | GMSK                                                                                                                                                                                                                                                                                                                                                                                                   |
| Frequency Band:         | GSM 450 (450.4 - 457.6 MHz)<br>GSM 480 (478.8 - 486.0 MHz)<br>GSM 710 (698.0 - 716.0 MHz)<br>GSM 750 (747.0 - 763.0 MHz)<br>GSM 850 (824.0 - 849.0 MHz)<br>P-GSM 900 (890.0 - 915.0 MHz)<br>E-GSM 900 (880.0 - 915.0 MHz)<br>R-GSM 900 (876.0 - 915.0 MHz)<br>DCS 1800 (1710.0 - 1785.0 MHz)<br>PCS 1900 (1850.0 - 1910.0 MHz)<br>ER-GSM 900 (873.0 - 915.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Active Slot: TN0<br>Data: PN9 continuous<br>Frame: composed out of 8 Slots<br>Multiframe: 26th (IDLE) Frame set blank<br>Slottype & -timing: Normal burst for GMSK                                                                                                                                                                                                                                     |
| Bandwidth:              | 0.2 MHz                                                                                                                                                                                                                                                                                                                                                                                                |
| Integration Time:       | 120.0 ms                                                                                                                                                                                                                                                                                                                                                                                               |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

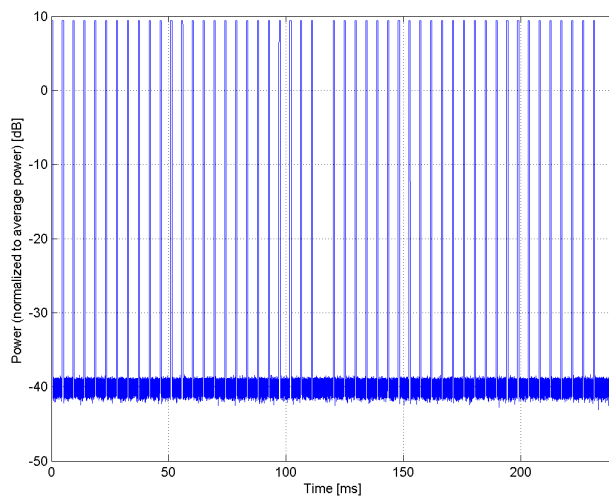
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain



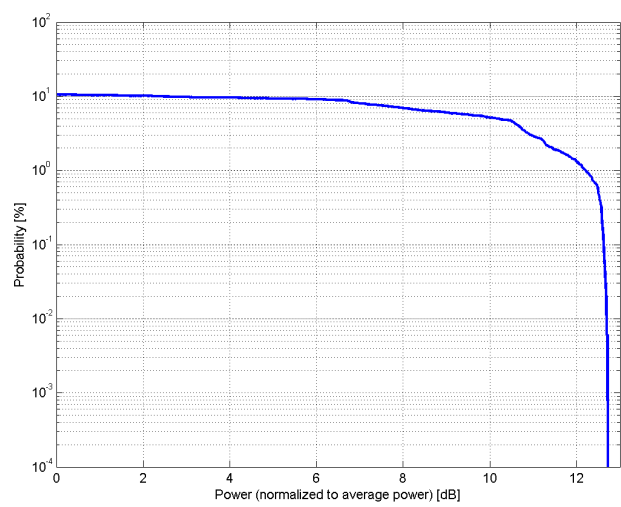
### Time Domain

**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

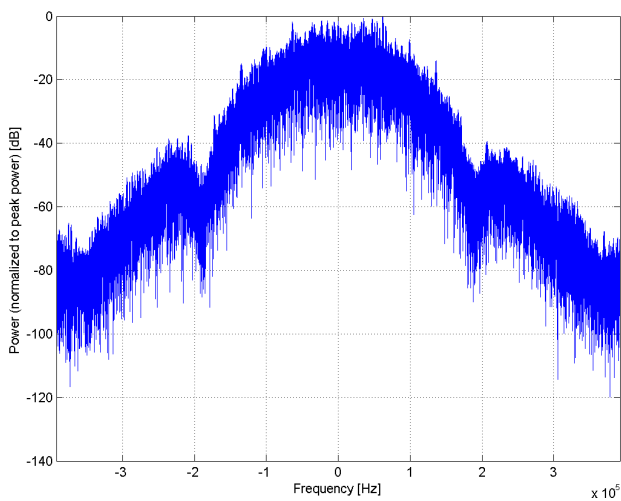
|                         |                                                          |
|-------------------------|----------------------------------------------------------|
| Name:                   | <b>EDGE-FDD (TDMA, 8PSK, TN 0)</b>                       |
| Group:                  | GSM                                                      |
| UID:                    | 10025-DAC                                                |
| PAR: <sup>1</sup>       | <b>12.62 dB</b>                                          |
| MIF: <sup>2</sup>       | <b>3.75 dB</b>                                           |
| Standard Reference:     | ETSI TS 100 909 V8.9.0 (2005-01)                         |
| Category:               | FCC OET KDB 941225, D03 and D04                          |
| Modulation:             | Periodic pulsed modulation                               |
| Frequency Band:         | 8PSK                                                     |
|                         | GSM 450 (450.4 - 457.6 MHz)                              |
|                         | GSM 480 (478.8 - 486.0 MHz)                              |
|                         | GSM 710 (698.0 - 716.0 MHz)                              |
|                         | GSM 750 (747.0 - 763.0 MHz)                              |
|                         | GSM 850 (824.0 - 849.0 MHz)                              |
|                         | P-GSM 900 (890.0 - 915.0 MHz)                            |
|                         | E-GSM 900 (880.0 - 915.0 MHz)                            |
|                         | R-GSM 900 (876.0 - 915.0 MHz)                            |
|                         | DCS 1800 (1710.0 - 1785.0 MHz)                           |
|                         | PCS 1900 (1850.0 - 1910.0 MHz)                           |
|                         | ER-GSM 900 (873.0 - 915.0 MHz)                           |
|                         | Validation band (0.0 - 6000.0 MHz)                       |
| Detailed Specification: | Active Slot: TN0                                         |
|                         | Data: PN9 continuous                                     |
|                         | Frame: composed out of 8 Slots                           |
|                         | Multiframe: 13th (PTCCH) and 26th (IDLE) Frame set blank |
|                         | Slottype & -timing: Normal burst for 8PSK                |
| Bandwidth:              | 0.2 MHz                                                  |
| Integration Time:       | 60.0 ms                                                  |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

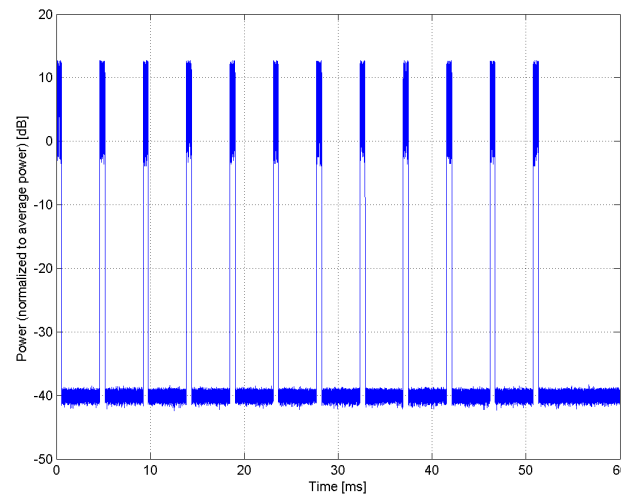
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



Complementary Cumulative Distribution Function (CCDF)



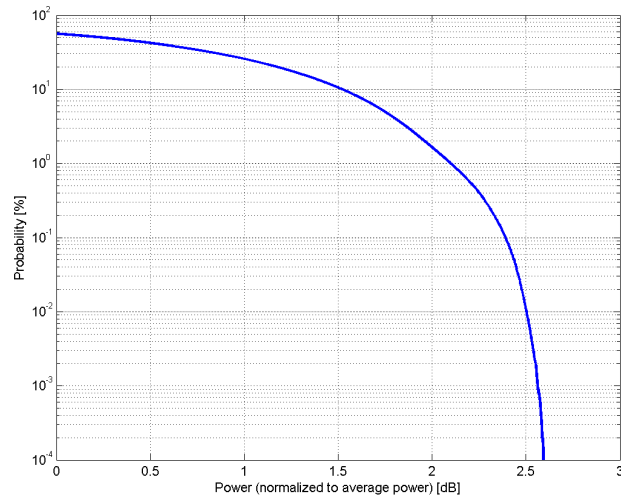
Frequency Domain



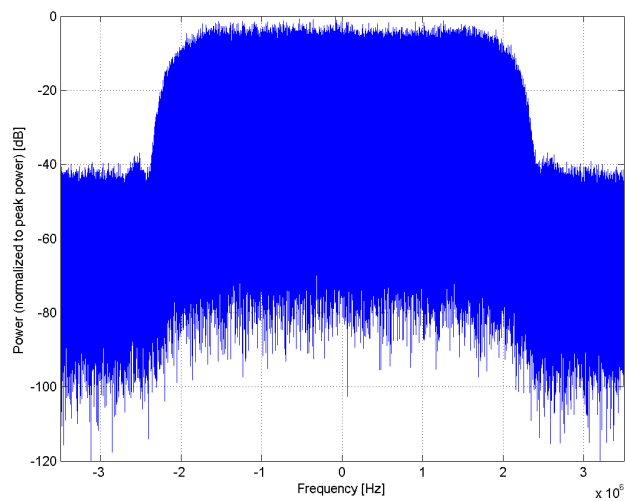
Time Domain

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>UMTS-FDD (WCDMA, AMR)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Group:                  | WCDMA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| UID:                    | 10460-AAA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PAR: <sup>1</sup>       | <b>2.39 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MIF: <sup>2</sup>       | <b>-25.43 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Standard Reference:     | FCC OET KDB 941225 D01 SAR test for 3G devices v03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Modulation:             | QPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Frequency Band:         | Band 1, UTRA/FDD (1920.0-1980.0 MHz, 20000)<br>Band 2, UTRA/FDD (1850.0-1910.0 MHz, 20001)<br>Band 3, UTRA/FDD (1710.0-1785.0 MHz, 20002)<br>Band 4, UTRA/FDD (1710.0-1755.0 MHz, 20003)<br>Band 5, UTRA/FDD (824.0-849.0 MHz, 20004)<br>Band 6, UTRA/FDD (830.0-840.0 MHz, 20005)<br>Band 7, UTRA/FDD (2500.0-2570.0 MHz, 20006)<br>Band 8, UTRA/FDD (880.0-915.0 MHz, 20007)<br>Band 9, UTRA/FDD (1749.9-1784.9 MHz, 20008)<br>Band 10, UTRA/FDD (1710.0-1770.0 MHz, 20009)<br>Band 11, UTRA/FDD (1427.9-1452.9 MHz, 20010)<br>Band 12, UTRA/FDD (698.0-716.0 MHz, 20011)<br>Band 13, UTRA/FDD (777.0-787.0 MHz, 20012)<br>Band 14, UTRA/FDD (788.0-798.0 MHz, 20013)<br>Band 19, UTRA/FDD (830.0-845.0 MHz, 20130)<br>Band 20, UTRA/FDD (832.0-862.0 MHz, 20131)<br>Band 21, UTRA/FDD (1447.9-1462.9 MHz, 20132)<br>Band 22, UTRA/FDD (3410.0-3490.0 MHz, 20217)<br>Band 25, UTRA/FDD (1850.0-1915.0 MHz, 20218)<br>Band 26, UTRA/FDD (814.0-849.0 MHz, 20219) |
| Detailed Specification: | Dedicated Channel Type: 12.2 kbps AMR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Bandwidth:              | 3.4 kbps SRB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Integration Time:       | 5.0 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                         | 100.0 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

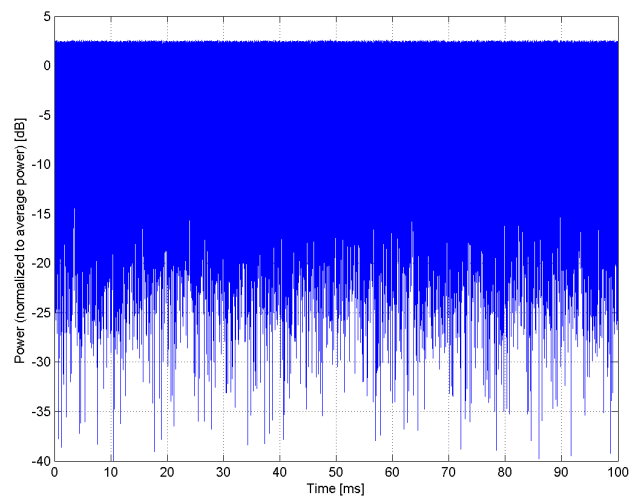
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain

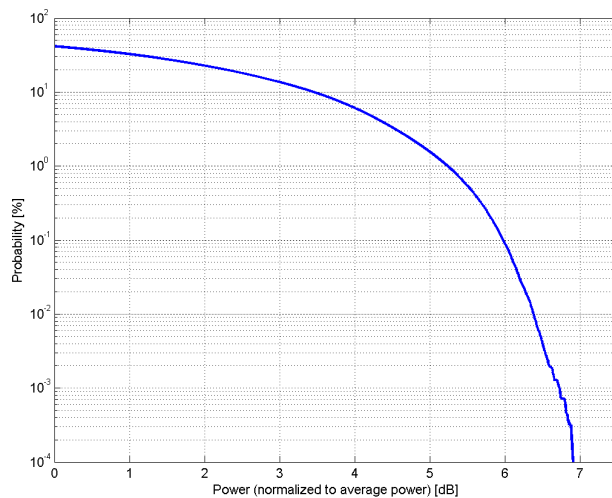


### Time Domain

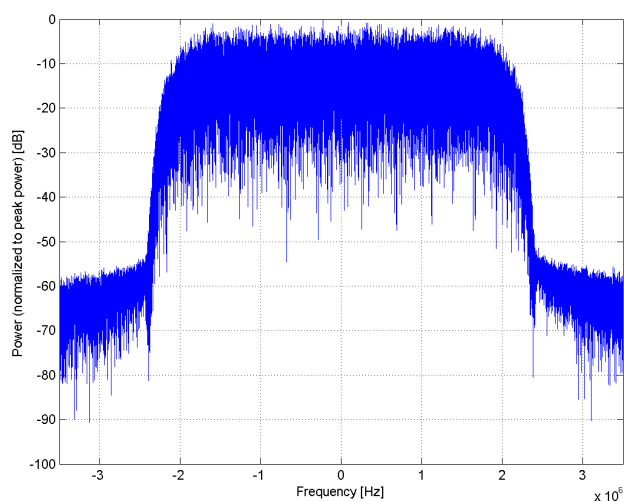
|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>UMTS-FDD (HSPA+)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Group:                  | WCDMA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| UID:                    | 10225-CAB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PAR: <sup>1</sup>       | <b>5.97 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MIF: <sup>2</sup>       | <b>-20.39 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Standard Reference:     | 3GPP Rel 7 TS 34.121<br>FCC OET KDB 941225 D01 SAR test for 3G devices v02<br>FCC OET KDB 941225 D02 Guidance for 3GPP R6 and R7 HSPA v02v01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Modulation:             | 16QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Frequency Band:         | Band 1, UTRA/FDD (1920.0-1980.0 MHz, 20000)<br>Band 2, UTRA/FDD (1850.0-1910.0 MHz, 20001)<br>Band 3, UTRA/FDD (1710.0-1785.0 MHz, 20002)<br>Band 4, UTRA/FDD (1710.0-1755.0 MHz, 20003)<br>Band 5, UTRA/FDD (824.0-849.0 MHz, 20004)<br>Band 6, UTRA/FDD (830.0-840.0 MHz, 20005)<br>Band 7, UTRA/FDD (2500.0-2570.0 MHz, 20006)<br>Band 8, UTRA/FDD (880.0-915.0 MHz, 20007)<br>Band 9, UTRA/FDD (1749.9-1784.9 MHz, 20008)<br>Band 10, UTRA/FDD (1710.0-1770.0 MHz, 20009)<br>Band 11, UTRA/FDD (1427.9-1452.9 MHz, 20010)<br>Band 12, UTRA/FDD (698.0-716.0 MHz, 20011)<br>Band 13, UTRA/FDD (777.0-787.0 MHz, 20012)<br>Band 14, UTRA/FDD (788.0-798.0 MHz, 20013)<br>Band 19, UTRA/FDD (830.0-845.0 MHz, 20130)<br>Band 20, UTRA/FDD (832.0-862.0 MHz, 20131)<br>Band 21, UTRA/FDD (1447.9-1462.9 MHz, 20132)<br>Band 22, UTRA/FDD (3410.0-3490.0 MHz, 20217)<br>Band 25, UTRA/FDD (1850.0-1915.0 MHz, 20218)<br>Band 26, UTRA/FDD (814.0-849.0 MHz, 20219) |
| Detailed Specification: | 12.2 kbps RMC, FRC H-Set 2<br>CQI value: 2<br>Sub-test 2 Conditions:<br>DPCCH gain factor (Beta <sub>c</sub> ) = 6/15<br>DPDCH gain factor (Beta <sub>d</sub> ): 15/15<br>E-DPDCH Settings:<br>Symbol Rate: 2x1960 Mbps<br>Modulation 4PAM<br>Data Type: PN9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Bandwidth:              | 5.0 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Integration Time:       | 100.0 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

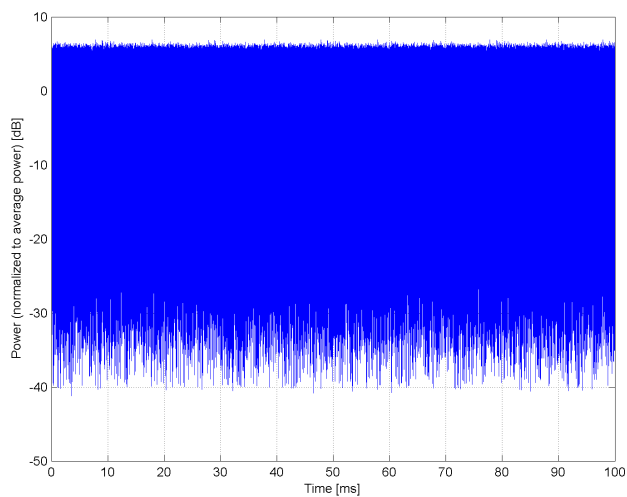
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain

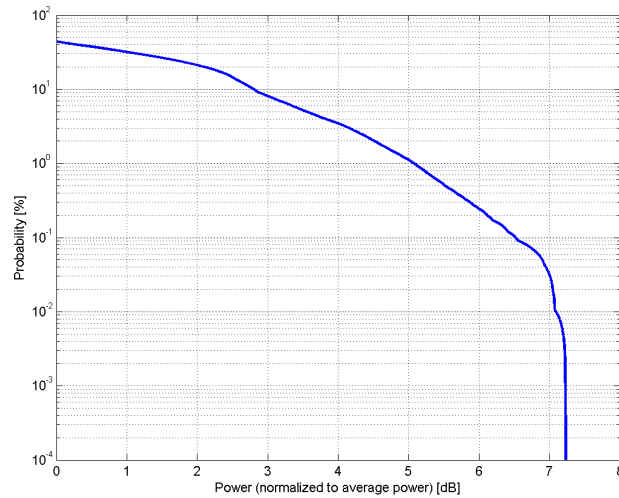


### Time Domain

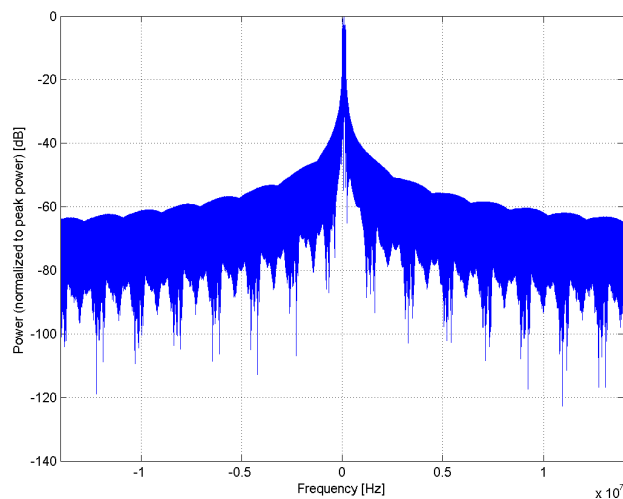
**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Group:                  | LTE-FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| UID:                    | 10170-CAE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PAR: <sup>1</sup>       | <b>6.52 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MIF: <sup>2</sup>       | <b>-9.76 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Standard Reference:     | 3GPP / ETSI TS 136.101 V8.4.0<br>3GPP / ETSI TS 136.213 V8.4.0<br>FCC OET KDB 941225 D05 SAR for LTE Devices v01<br>Random amplitude modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Category:               | 16-QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Modulation:             | Band 1, E-UTRA/FDD (1920.0 - 1980.0 MHz)<br>Band 2, E-UTRA/FDD (1850.0 - 1910.0 MHz)<br>Band 3, E-UTRA/FDD (1710.0 - 1785.0 MHz)<br>Band 4, E-UTRA/FDD (1710.0 - 1755.0 MHz)<br>Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz)<br>Band 9, E-UTRA/FDD (1749.9 - 1784.9 MHz)<br>Band 10, E-UTRA/FDD (1710.0 - 1770.0 MHz)<br>Band 20, E-UTRA/FDD (832.0 - 862.0 MHz)<br>Band 22, E-UTRA/FDD (3410.0 - 3490.0 MHz)<br>Band 23, E-UTRA/FDD (2000.0 - 2020.0 MHz)<br>Band 25, E-UTRA/FDD (1850.0 - 1915.0 MHz)<br>Band 28 E-UTRA/FDD (703.0 - 748.0 MHz)<br>Band 65, E-UTRA/FDD (1920.0 - 2010.0 MHz)<br>Band 66, E-UTRA/FDD (1710.0 - 1780.0 MHz)<br>Band 70, E-UTRA/FDD (1695.0 - 1710.0 MHz)<br>Band 71, E-UTRA/FDD (663.0 - 698.0 MHz)<br>Band 74, E-UTRA/FDD (1427.0 - 1470.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Frequency Band:         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Detailed Specification: | Modulation Scheme: SC-FDMA<br>Number of PUSCHs: 1<br>Settings for Subframe #0 to #9:<br>Modulation Scheme: 16QAM<br>Data Type: UL-SCH<br>Number RB: 1<br>Transport Block Size: 256<br>TBS Index: 14<br>MCS Index: 15<br>Data Type: PN9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Bandwidth:              | 20.0 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Integration Time:       | 10.0 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

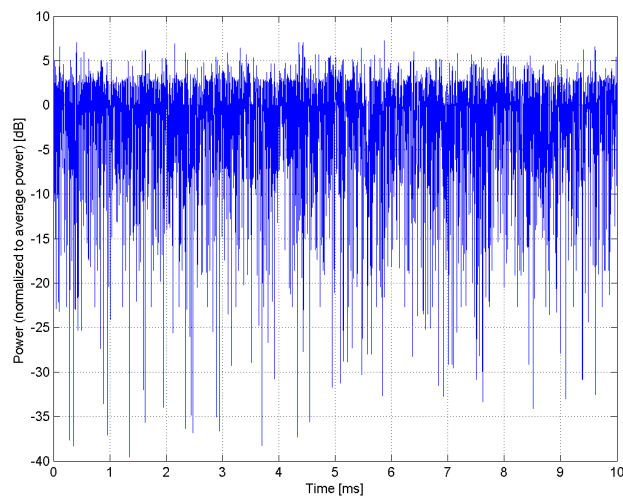
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain



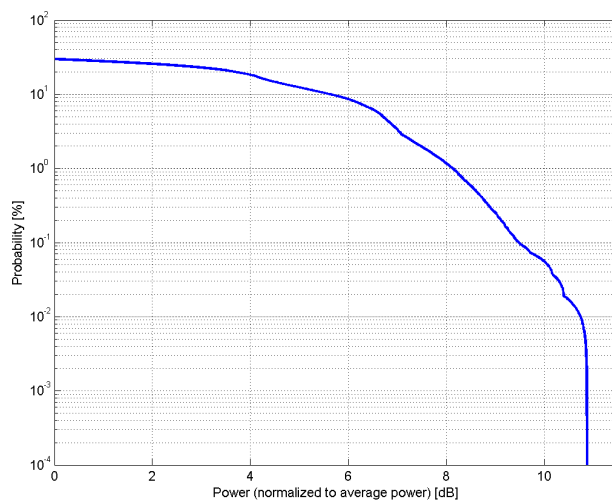
### Time Domain

# Calibration Laboratory of Schmid & Partner Engineering AG

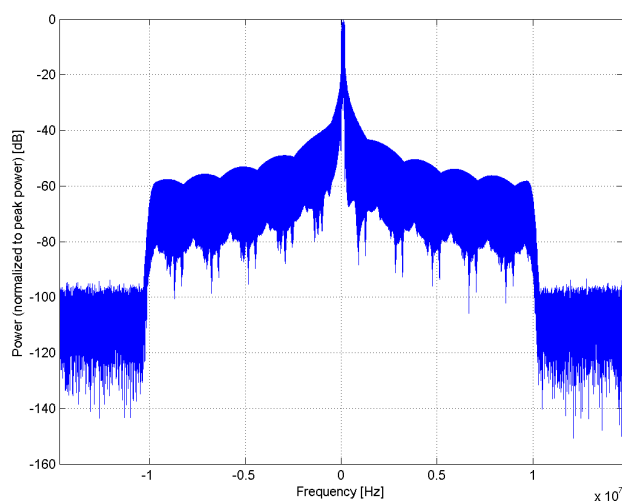
Zeughausstrasse 43, 8004 Zurich, Switzerland

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Group:                  | LTE-TDD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| UID:                    | 10173-CAG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PAR: <sup>1</sup>       | <b>9.48 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| MIF: <sup>2</sup>       | <b>-1.44 dB</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Standard Reference:     | 3GPP / ETSI TS 136.101 V8.4.0<br>3GPP / ETSI TS 136.213 V8.4.0<br>FCC OET KDB 941225 D05 SAR for LTE Devices v02<br>Random amplitude modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Category:               | 16-QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Modulation:             | Band 33, E-UTRA/TDD (1900.0 - 1920.0 MHz)<br>Band 35, E-UTRA/TDD (1850.0 - 1910.0 MHz)<br>Band 36, E-UTRA/TDD (1930.0 - 1990.0 MHz)<br>Band 37, E-UTRA/TDD (1910.0 - 1930.0 MHz)<br>Band 38, E-UTRA/TDD (2570.0 - 2620.0 MHz)<br>Band 39, E-UTRA/TDD (1880.0 - 1920.0 MHz)<br>Band 40, E-UTRA/TDD (2300.0 - 2400.0 MHz)<br>Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz)<br>Band 42, E-UTRA/TDD (3400.0 - 3600.0 MHz)<br>Band 43, E-UTRA/TDD (3600.0 - 3800.0 MHz)<br>Band 44, E-UTRA/TDD (703.0 - 803.0 MHz)<br>Band 45, E-UTRA/FDD (1447.0 - 1467.0 MHz)<br>Band 46, E-UTRA/FDD (5150.0 - 5925.0 MHz)<br>Band 47, E-UTRA/TDD (5855.0 - 5925.0 MHz)<br>Band 48, E-UTRA/TDD (3550.0 - 3700.0 MHz)<br>Band 49, E-UTRA/TDD (3550.0 - 3700.0 MHz)<br>Band 50, E-UTRA/TDD (1432.0 - 1517.0 MHz)<br>Band 76, E-UTRA/FDD (3300.0 - 3400.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Frequency Band:         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Detailed Specification: | Modulation Scheme: SC-FDMA<br>Uplink-downlink configuration: 1<br>Special Subframe configuration: 4<br>Number of Frames: 1<br>Settings for UL Subframe 2,3,7,8:<br>Number of PUSCHs: 1<br>Modulation Scheme: 16QAM<br>Allocated RB: 1<br>Start Number of RB: 50<br>Data Type: PN9fix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Bandwidth:              | 20.0 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Integration Time:       | 6.0 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

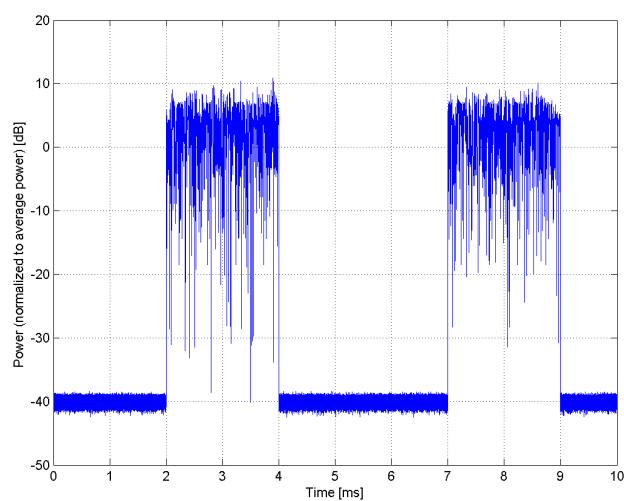
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain

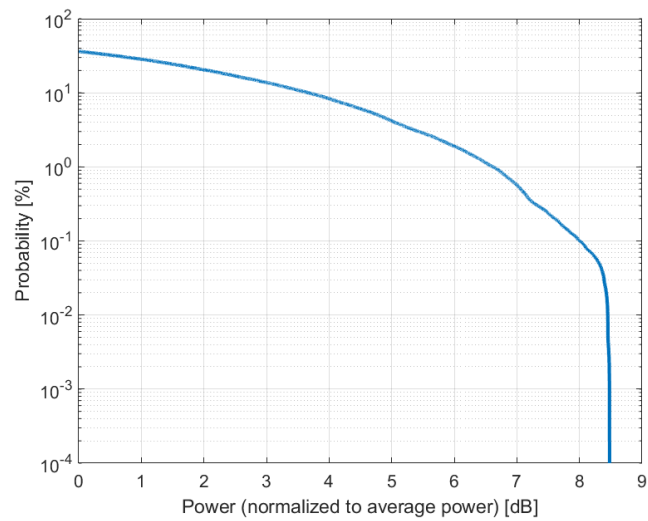


### Time Domain

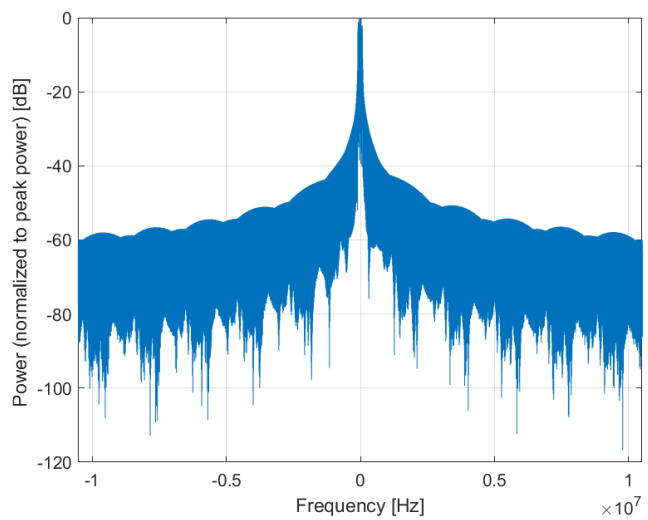
**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

|                         |                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)</b>                                                                                                                                                                                                                                                                                             |
| Group:                  | 5G NR FR1 TDD                                                                                                                                                                                                                                                                                                                                  |
| UID:                    | 10769-AAD                                                                                                                                                                                                                                                                                                                                      |
| PAR: <sup>1</sup>       | <b>8.01 dB</b>                                                                                                                                                                                                                                                                                                                                 |
| MIF: <sup>2</sup>       | <b>-12.08 dB</b>                                                                                                                                                                                                                                                                                                                               |
| Standard Reference:     | SPEAG                                                                                                                                                                                                                                                                                                                                          |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                                                    |
| Modulation:             | QPSK                                                                                                                                                                                                                                                                                                                                           |
| Frequency Band:         | Band n34 (2010 - 2025 MHz)<br>Band n38 (2570 - 2620 MHz)<br>Band n39 (1880 - 1920 MHz)<br>Band n40 (2300 - 2400 MHz)<br>Band n41 (2496 - 2690 MHz)<br>Band n48 (3550 - 3700 MHz)<br>Band n50 (1432 - 1517 MHz)<br>Band n77 (3300 - 4200 MHz)<br>Band n78 (3300 - 3800 MHz)<br>Band n90 (2496 - 2690 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: CP-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 15 kHz<br>Number RBs: 1<br>Slot Format Index: 1<br>Data Type: PN9                                                                                                                                                                                               |
| Bandwidth:              | 15.0 MHz                                                                                                                                                                                                                                                                                                                                       |
| Integration Time:       | 10.0 ms                                                                                                                                                                                                                                                                                                                                        |

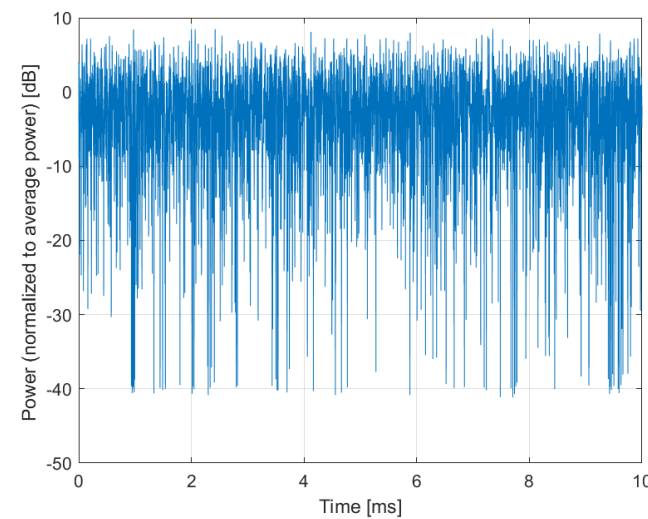
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



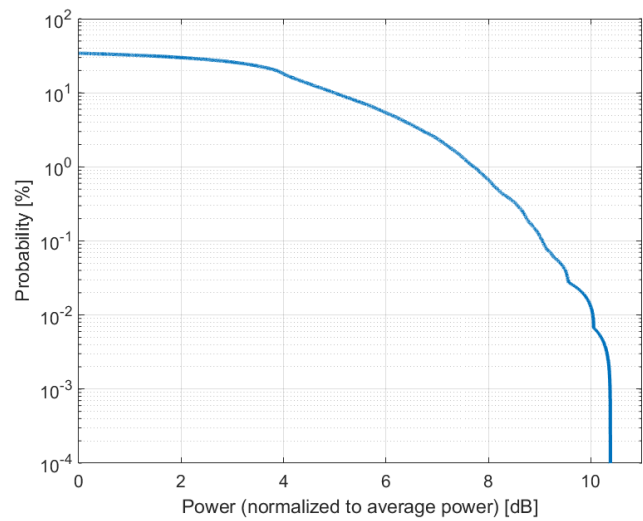
Time Domain

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

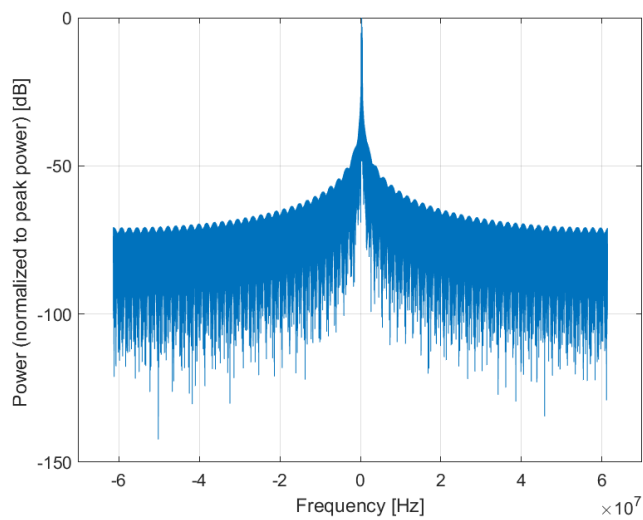
|                         |                                                                                                                                                                                          |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)</b>                                                                                                                                   |
| Group:                  | 5G NR FR1 TDD                                                                                                                                                                            |
| UID:                    | 10973-AAA                                                                                                                                                                                |
| PAR: <sup>1</sup>       | <b>9.06 dB</b>                                                                                                                                                                           |
| MIF: <sup>2</sup>       | <b>-1.64 dB</b>                                                                                                                                                                          |
| Standard Reference:     | SPEAG                                                                                                                                                                                    |
| Category:               | Random amplitude modulation                                                                                                                                                              |
| Modulation:             | QPSK                                                                                                                                                                                     |
| Frequency Band:         | Band n41 (2496 - 2690 MHz)<br>Band n48 (3550 - 3700 MHz)<br>Band n77 (3300 - 4200 MHz)<br>Band n78 (3300 - 3800 MHz)<br>Band n79 (4400 - 5000 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: DFT-s-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 30 kHz<br>Number RBs: 1<br>Slot Format Index: -<br>Data Type: PN9                                      |
| Bandwidth:              | 100.0 MHz                                                                                                                                                                                |
| Integration Time:       | 10.0 ms                                                                                                                                                                                  |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

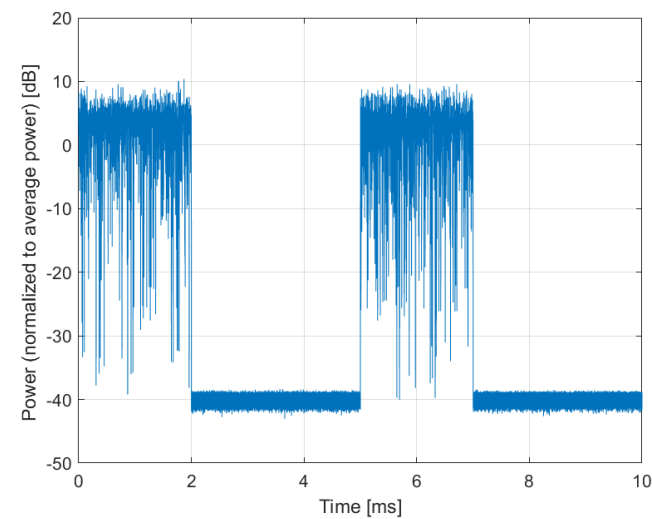
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



**Complementary Cumulative Distribution Function (CCDF)**



**Frequency Domain**

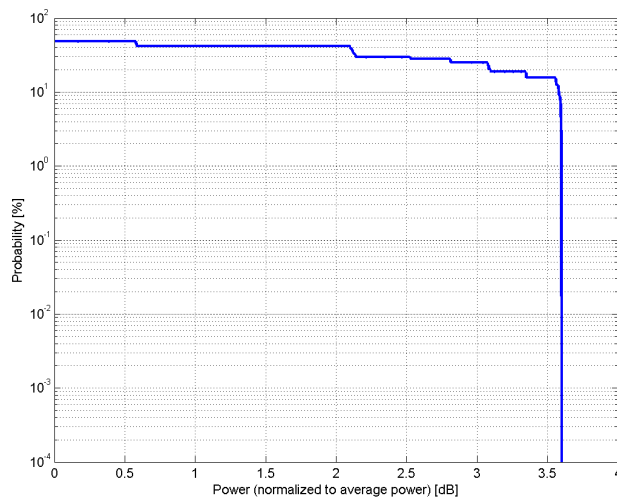


**Time Domain**

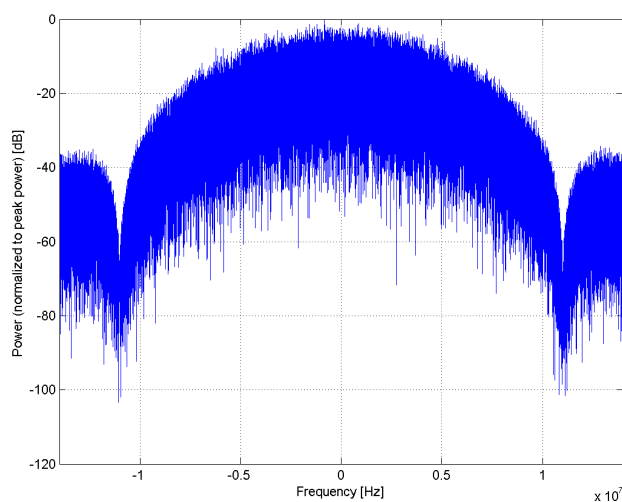
**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

|                         |                                                                                                                             |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)</b>                                                                            |
| Group:                  | WLAN                                                                                                                        |
| UID:                    | 10061-CAB                                                                                                                   |
| PAR: <sup>1</sup>       | <b>3.60 dB</b>                                                                                                              |
| MIF: <sup>2</sup>       | <b>-2.02 dB</b>                                                                                                             |
| Standard Reference:     | IEEE 802.11b-1999 , Part 11, FCC SAR meas for 802 11 a b g<br>v01r02 (248227 D01)                                           |
| Category:               | Random amplitude modulation                                                                                                 |
| Modulation:             | DQPSK                                                                                                                       |
| Frequency Band:         | WLAN 2.4GHz (2412.0-2484.0 MHz, 20230)                                                                                      |
| Detailed Specification: | Data Rate: 11 Mbps<br>Spreading, Coding: CCK<br>PPDU format: Long Preamble & Heading<br>PSDU Length: 1024<br>PSDU Data: PN9 |
| Bandwidth:              | 20.0 MHz                                                                                                                    |
| Integration Time:       | 1.5 ms                                                                                                                      |

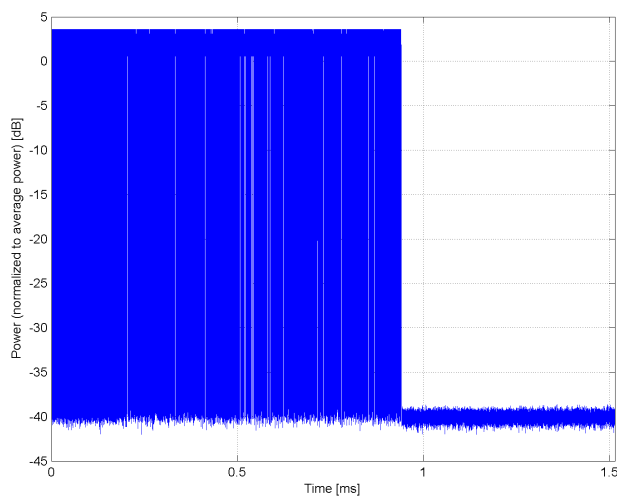
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain



### Time Domain

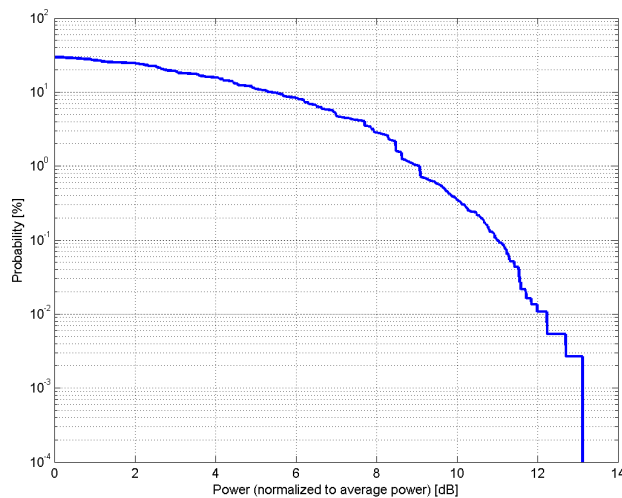
Name: **IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)**

Group: WLAN  
UID: 10077-CAB

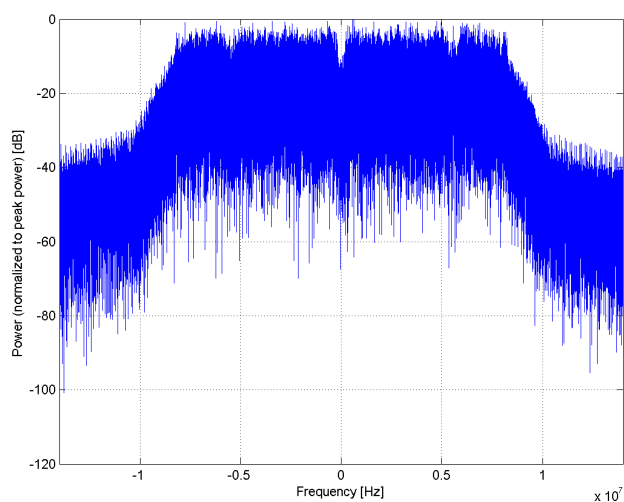
PAR: <sup>1</sup> **11.00 dB**  
MIF: <sup>2</sup> **0.12 dB**

Standard Reference: IEEE 802.11g-2003 , Part 11  
FCC SAR meas for 802 11 a b g v01r02 (248227 D01)  
Category: Random amplitude modulation  
Modulation: 64-QAM  
Frequency Band: WLAN 2.4GHz (2412.0-2484.0 MHz, 20230)  
Detailed Specification: Data Rate: 54 Mbps  
Coding Rate: 3/4  
Coded bits per subcarrier: 6  
Coded bits per OFDM symbol: 288  
Data bits per OFDM symbol: 216  
PSDU Length: 1000 Bytes  
PSDU Data: PN9  
Bandwidth: 20.0 MHz  
Integration Time: 0.9 ms

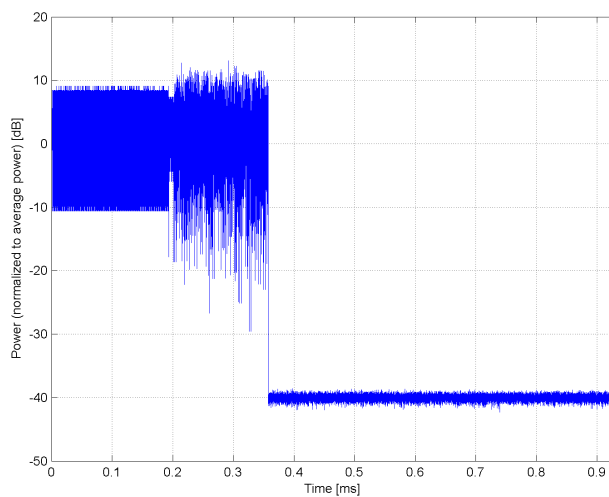
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



### Complementary Cumulative Distribution Function (CCDF)



### Frequency Domain



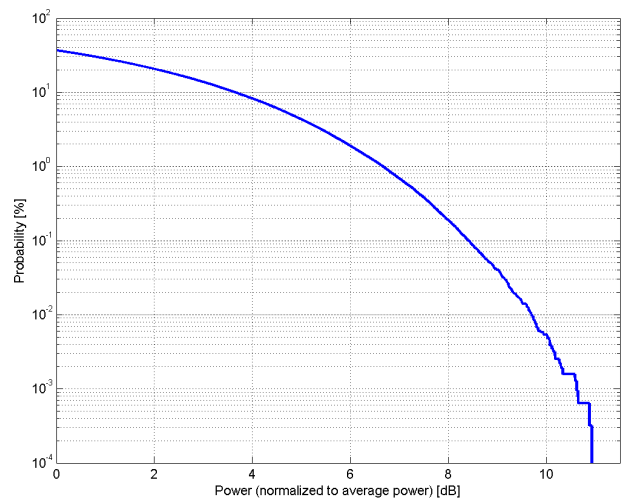
### Time Domain

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

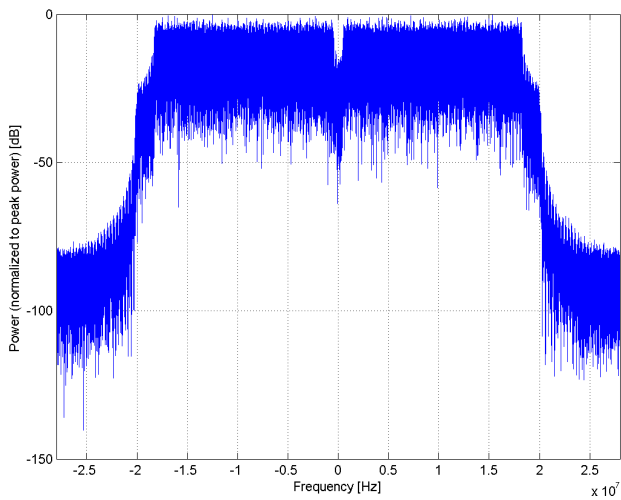
|                         |                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)                                                                                                                                                                                                                                                                                                   |
| Group:                  | WLAN                                                                                                                                                                                                                                                                                                                                             |
| UID:                    | 10427-AAC                                                                                                                                                                                                                                                                                                                                        |
| PAR: <sup>1</sup>       | 8.41 dB                                                                                                                                                                                                                                                                                                                                          |
| MIF: <sup>2</sup>       | -13.44 dB                                                                                                                                                                                                                                                                                                                                        |
| Standard Reference:     | IEEE 802.11n-2009                                                                                                                                                                                                                                                                                                                                |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                                                      |
| Modulation:             | BPSK                                                                                                                                                                                                                                                                                                                                             |
| Frequency Band:         | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-4 (5.825 - 5.925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Modulation: 64-QAM<br>Data Rate: 150 Mbps<br>PPDU Format: HT Greenfield<br>PPDU Type: 40 MHz<br>MCS Index: 7<br>Guard Interval: Short<br>Duty Cycle: 99%                                                                                                                                                                                         |
| Bandwidth:              | 40.0 MHz                                                                                                                                                                                                                                                                                                                                         |
| Integration Time:       | 2.0 ms                                                                                                                                                                                                                                                                                                                                           |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

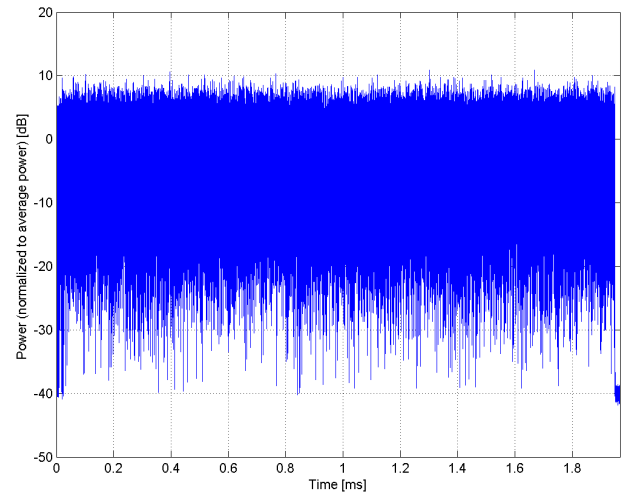
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



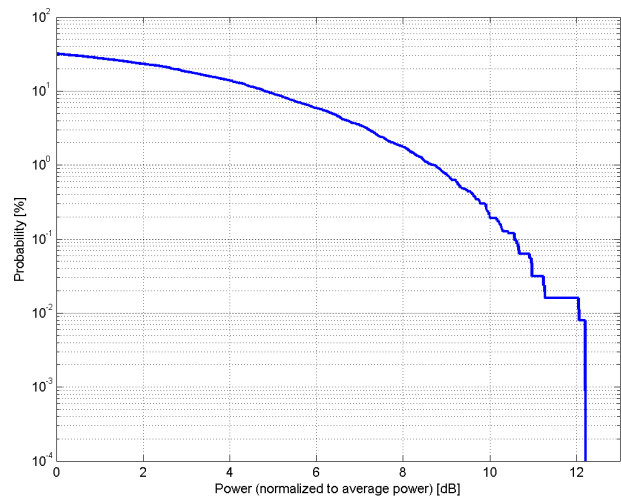
Time Domain

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

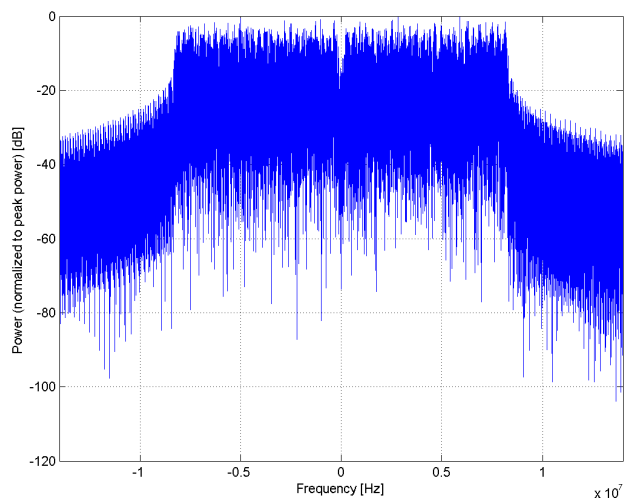
|                         |                                                                                                                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)</b>                                                                                                                                                                                                                                                            |
| Group:                  | WLAN                                                                                                                                                                                                                                                                                                        |
| UID:                    | 10069-CAD                                                                                                                                                                                                                                                                                                   |
| PAR: <sup>1</sup>       | <b>10.56 dB</b>                                                                                                                                                                                                                                                                                             |
| MIF: <sup>2</sup>       | <b>-3.15 dB</b>                                                                                                                                                                                                                                                                                             |
| Standard Reference:     | IEEE 802.11a-1999 (R2003) , Part 11<br>IEEE 802.11h-2003 , Part 11<br>FCC SAR meas for 802 11 a b g v01r02 (248227 D01)                                                                                                                                                                                     |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                 |
| Modulation:             | 64-QAM                                                                                                                                                                                                                                                                                                      |
| Frequency Band:         | WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-4 (5.825 - 5.925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Data Rate: 54 Mbps<br>Coding Rate: 3/4<br>Coded bits per subcarrier: 6<br>Coded bits per OFDM symbol: 288<br>Data bits per OFDM symbol: 216<br>PSDU Length: 1000 Bytes<br>PSDU Data: PN9                                                                                                                    |
| Bandwidth:              | 20.0 MHz                                                                                                                                                                                                                                                                                                    |
| Integration Time:       | 0.3 ms                                                                                                                                                                                                                                                                                                      |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

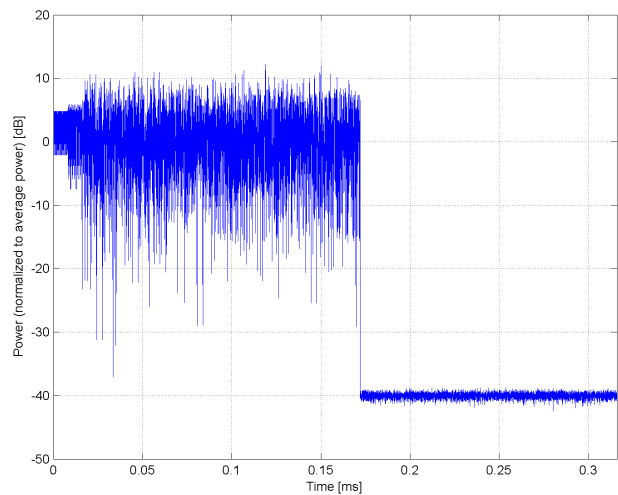
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



**Complementary Cumulative Distribution Function (CCDF)**



**Frequency Domain**



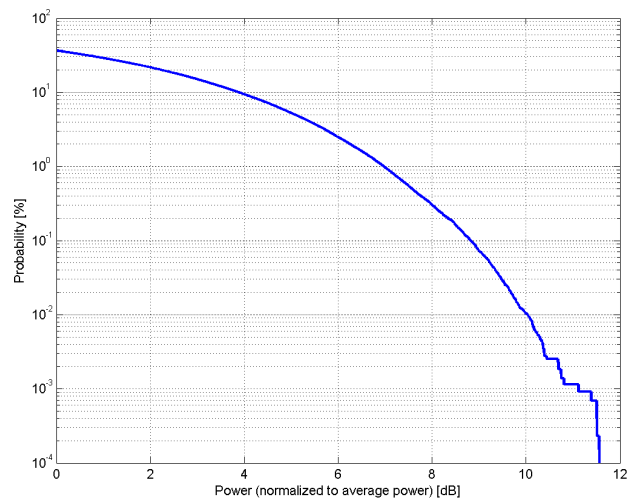
**Time Domain**

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

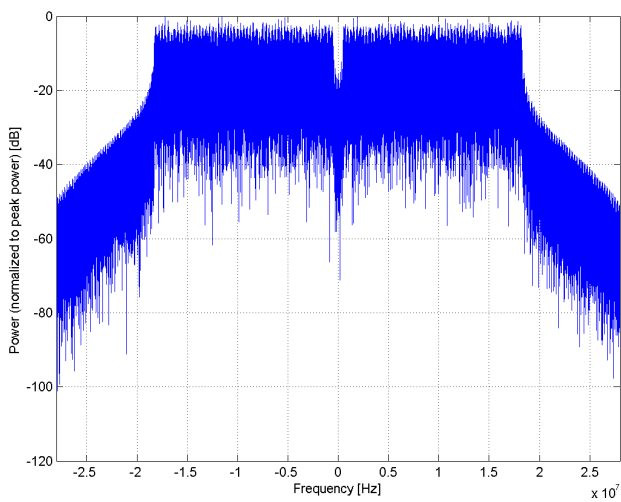
|                         |                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | <b>IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)</b>                                                                                                                                                                                                                                                                                         |
| Group:                  | WLAN                                                                                                                                                                                                                                                                                                                                             |
| UID:                    | 10616-AAC                                                                                                                                                                                                                                                                                                                                        |
| PAR: <sup>1</sup>       | <b>8.82 dB</b>                                                                                                                                                                                                                                                                                                                                   |
| MIF: <sup>2</sup>       | <b>-5.57 dB</b>                                                                                                                                                                                                                                                                                                                                  |
| Standard Reference:     | IEEE 802.11-2013<br>FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01                                                                                                                                                                                                                                                                               |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                                                      |
| Modulation:             | BPSK                                                                                                                                                                                                                                                                                                                                             |
| Frequency Band:         | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-4 (5.825 - 5.925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Bandwidth: 40MHz<br>Duty cycle: 90%<br>MCS: 0<br>Number of spatial streams: 1<br>MPDU length: 8192                                                                                                                                                                                                                                               |
| Bandwidth:              | 40.0 MHz                                                                                                                                                                                                                                                                                                                                         |
| Integration Time:       | 5.4 ms                                                                                                                                                                                                                                                                                                                                           |

<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"

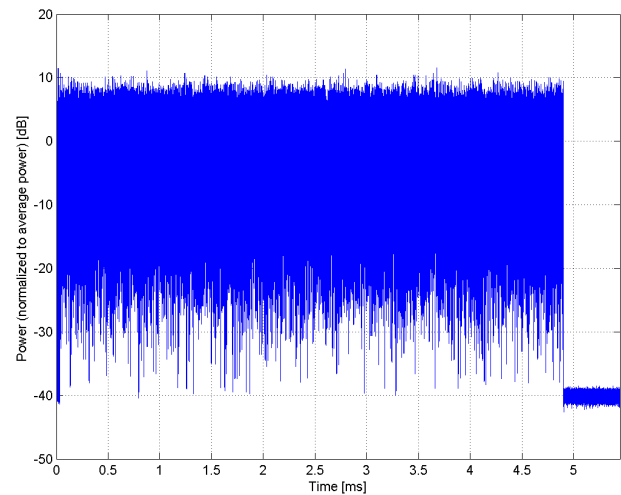
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain

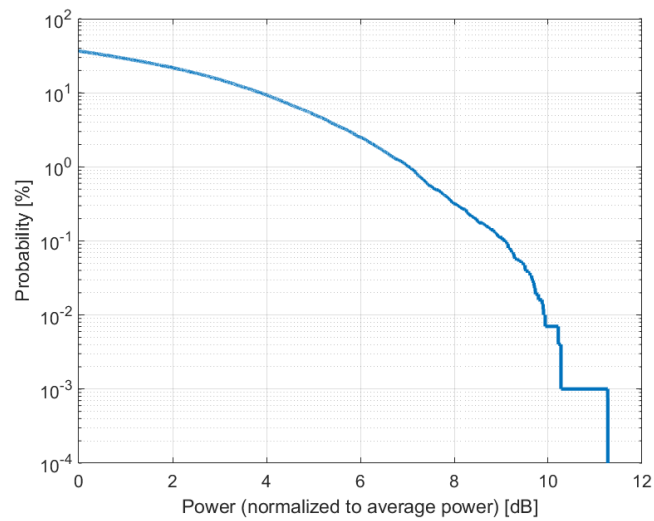


Time Domain

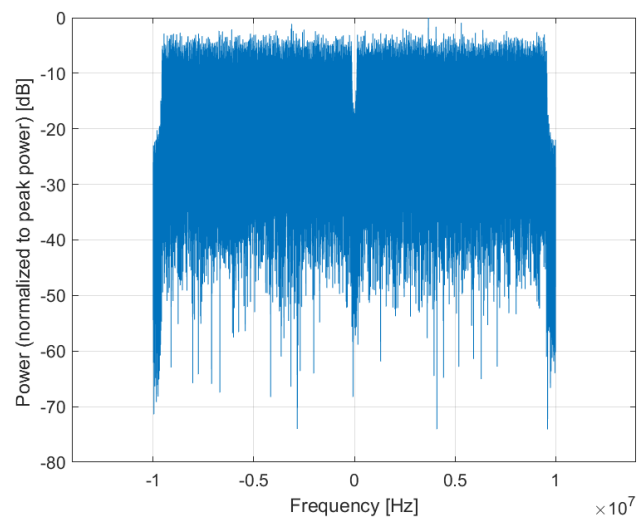
**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name:                   | IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Group:                  | WLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| UID:                    | 10671-AAC                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PAR: <sup>1</sup>       | 9.09 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MIF: <sup>2</sup>       | -5.58 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Standard Reference:     | SPEAG                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Category:               | Random amplitude modulation                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Modulation:             | BPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Frequency Band:         | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5.825 - 5.925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Bandwidth: 20MHz<br>Duty Cycle: 90%<br>Number of spatial stream: 1                                                                                                                                                                                                                                                                                                                                                                                                   |
| Bandwidth:              | 20.0 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Integration Time:       | 5.0 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

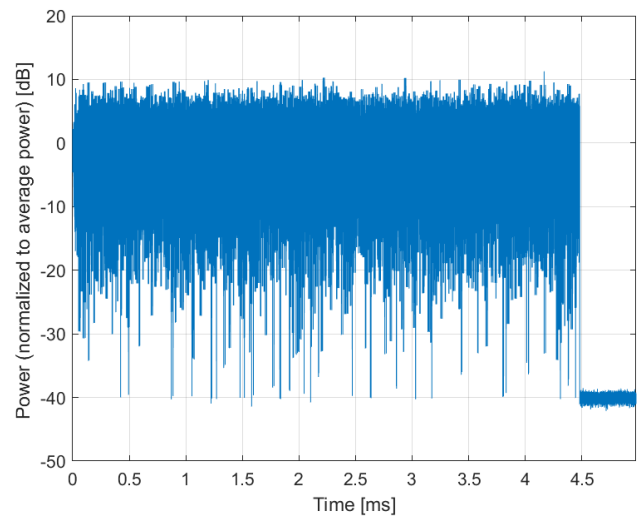
<sup>1</sup> PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"  
<sup>2</sup> Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain