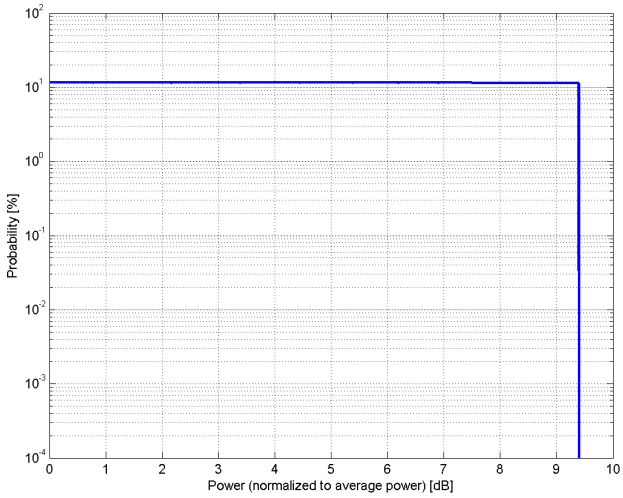
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

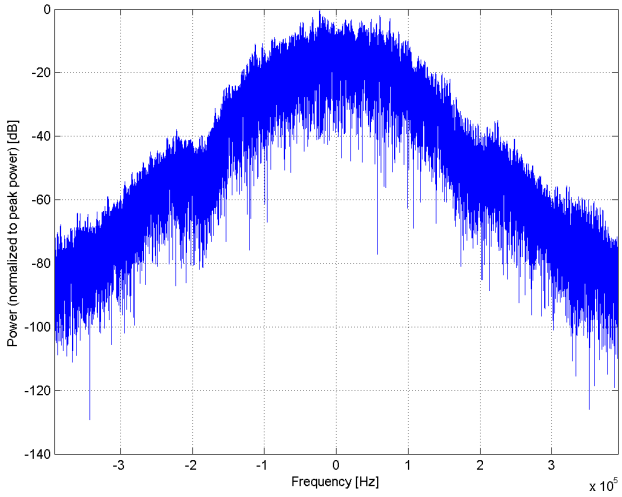
Name:	**GSM-FDD (TDMA, GMSK)**
Group:	GSM
UID:	10021-DAC
PAR: [1]	**9.39 dB**
MIF: [2]	**3.63 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	GMSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (478.8 - 486.0 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: 26th (IDLE) Frame set blank Slottype & -timing: Normal burst for GMSK
Bandwidth:	0.2 MHz
Integration Time:	120.0 ms

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

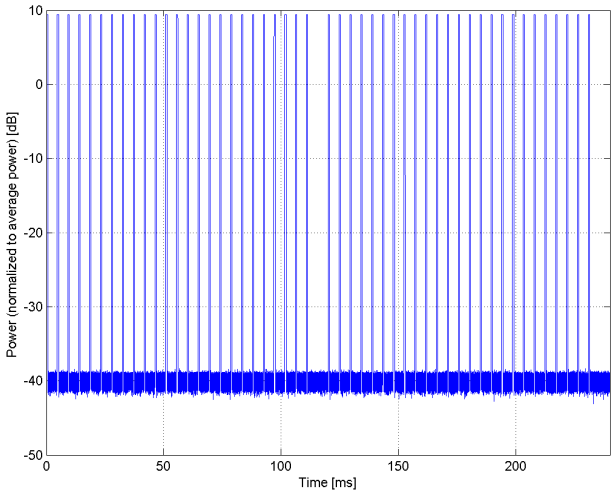
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



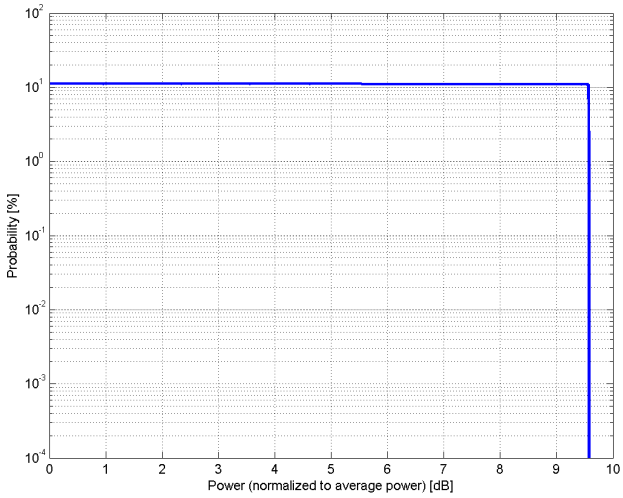
Time Domain

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

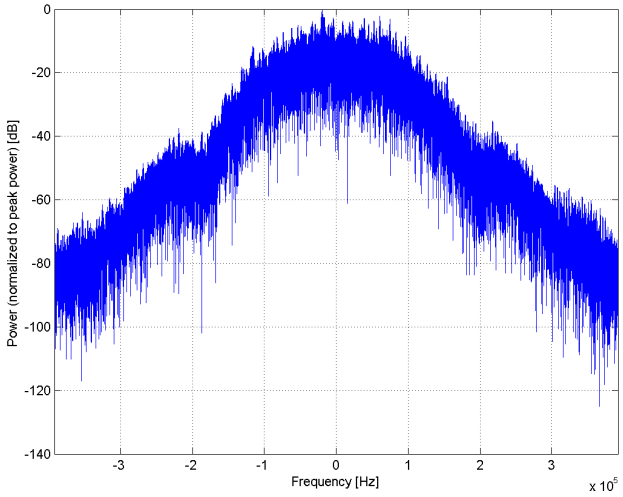
Name:	**GPRS-FDD (TDMA, GMSK, TN 0)**
Group:	GSM
UID:	10023-DAC
PAR: [1]	**9.57 dB**
MIF: [2]	**3.80 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	GMSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (478.8 - 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 GMSK
Bandwidth:	0.2 MHz
Integration Time:	60.0 ms

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

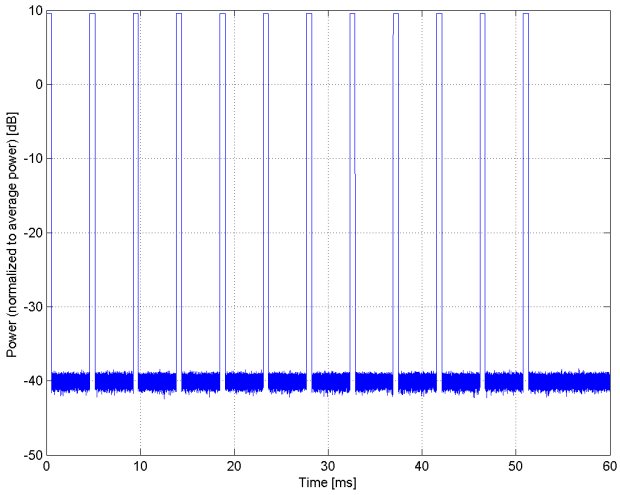
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



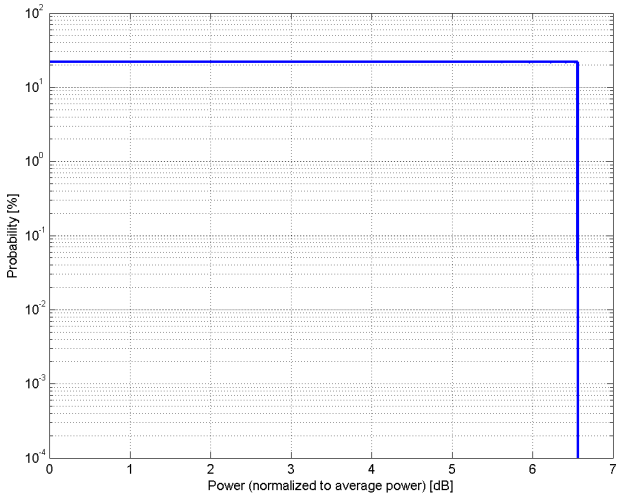
Time Domain

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

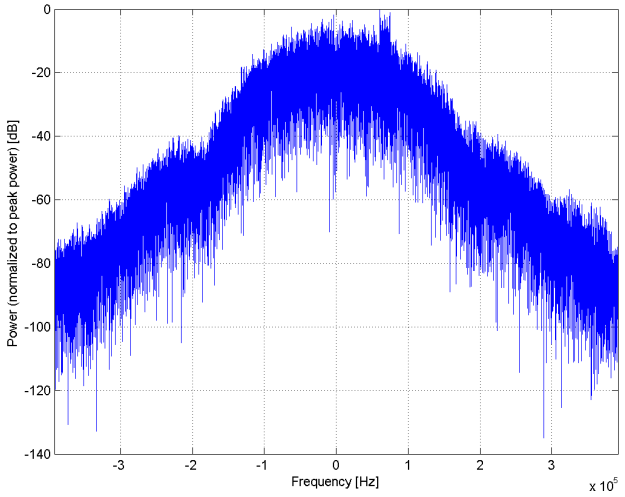
Name:	**GPRS-FDD (TDMA, GMSK, TN 0-1)**
Group:	GSM
UID:	10024-DAC
PAR: [1]	**6.56 dB**
MIF: [2]	**1.15 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	GMSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (478.8 - 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 Slots: TN0, TN1 Data: PN9 continuous Frame: composed out of 8 Slots Multiframe: 13th (PTCCH) and 26th (IDLE) Frame set blank Slottype & -timing: Normal burst for GMSK
Bandwidth:	0.2 MHz
Integration Time:	60.0 ms

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

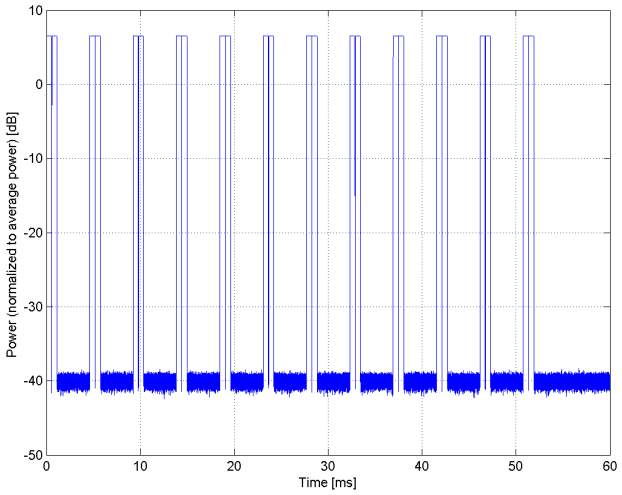
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



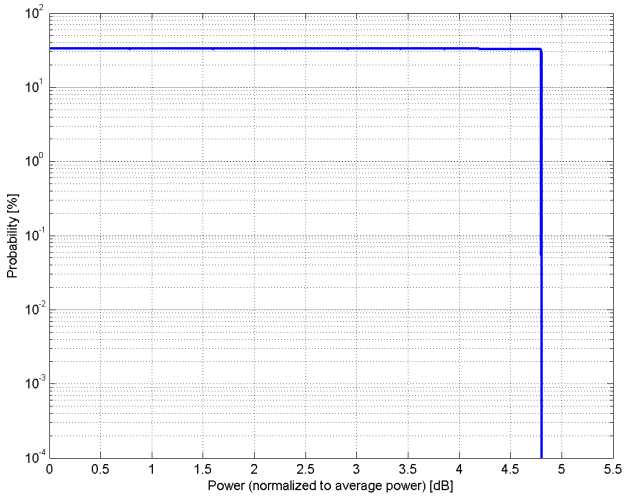
Time Domain

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

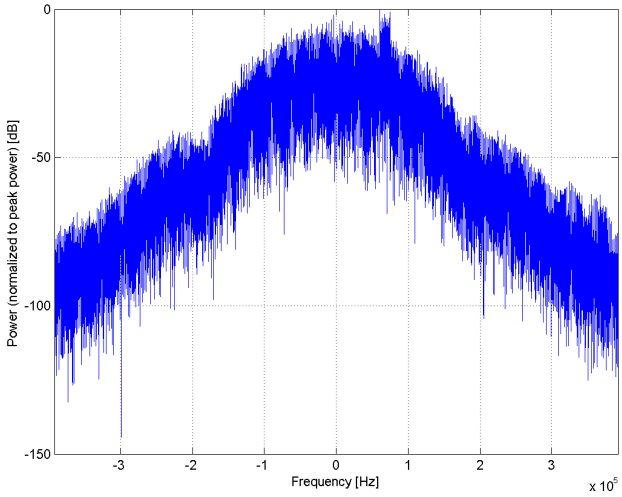
Name:	**GPRS-FDD (TDMA, GMSK, TN 0-1-2)**
Group:	GSM
UID:	10027-DAC
PAR: [1]	**4.80 dB**
MIF: [2]	**-0.67 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	GMSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (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 Slots: TN0, TN1, TN2 Data: PN9 continuous Frame: composed out of 8 Slots Multiframe: 13th (PTCCH) and 26th (IDLE) Frame set blank Slottype & -timing: Normal burst for GMSK
Bandwidth:	0.2 MHz
Integration Time:	60.0 ms

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

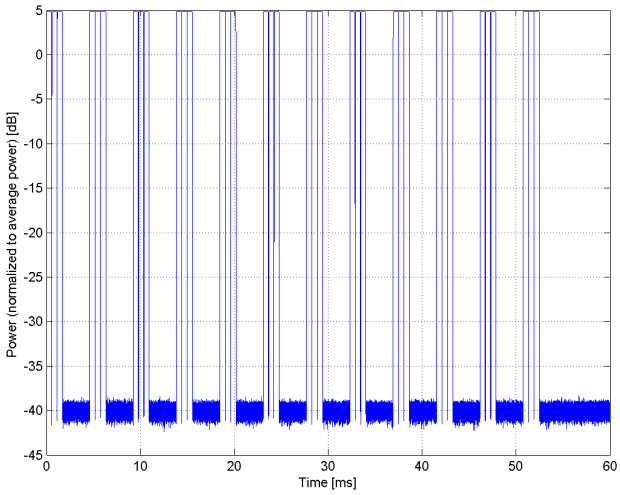
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



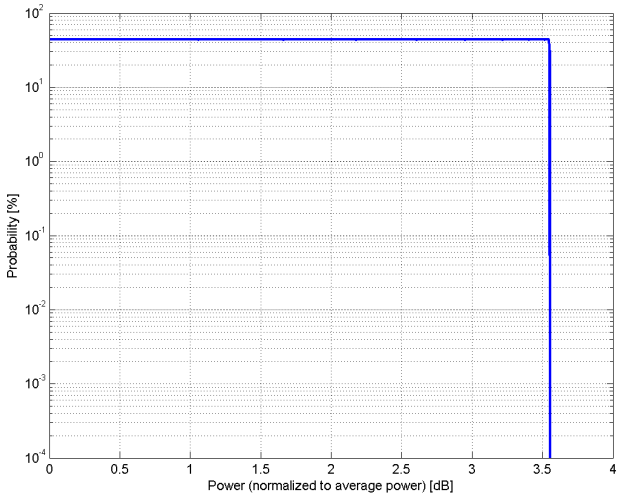
Time Domain

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

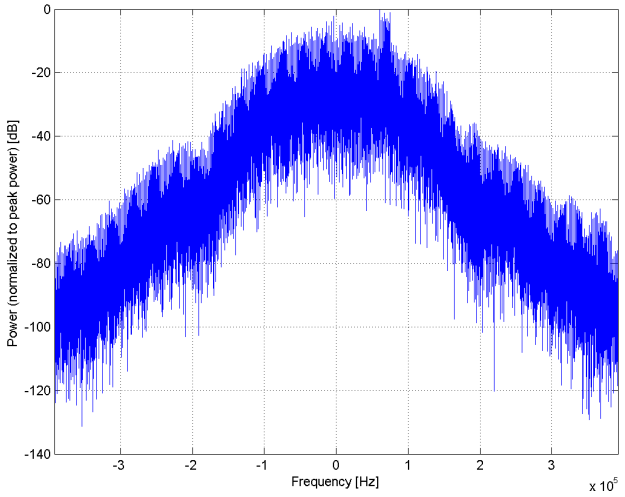
Name:	**GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)**
Group:	GSM
UID:	10028-DAC
PAR: [1]	**3.55 dB**
MIF: [2]	**-2.05 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	GMSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (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 Slots: TN0, TN1, TN2, TN3 Data: PN9 continuous Frame: composed out of 8 Slots Multiframe: 13th (PTCCH) and 26th (IDLE) Frame set blank Slottype & -timing: Normal burst for GMSK
Bandwidth:	0.2 MHz
Integration Time:	60.0 ms

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

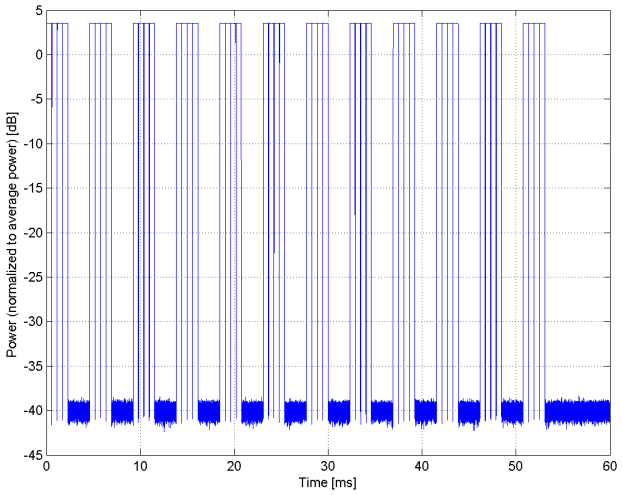
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



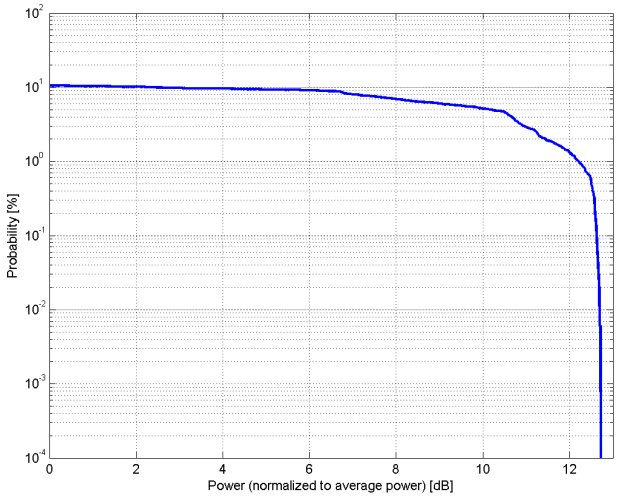
Time Domain

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

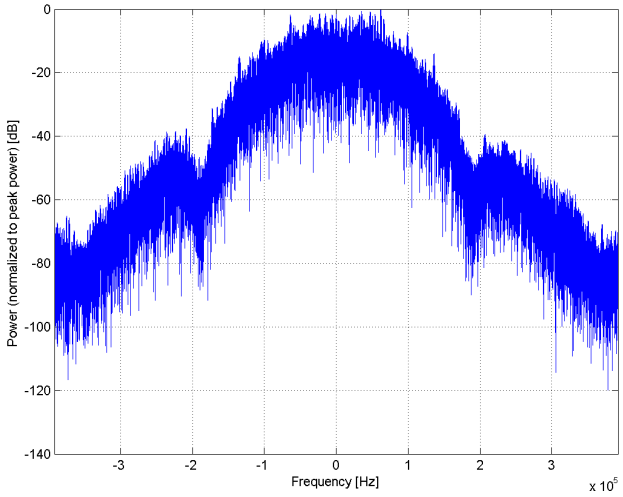
Name:	**EDGE-FDD (TDMA, 8PSK, TN 0)**
Group:	GSM
UID:	10025-DAC
PAR: [1]	**12.62 dB**
MIF: [2]	**3.75 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	8PSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (478.8 - 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

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

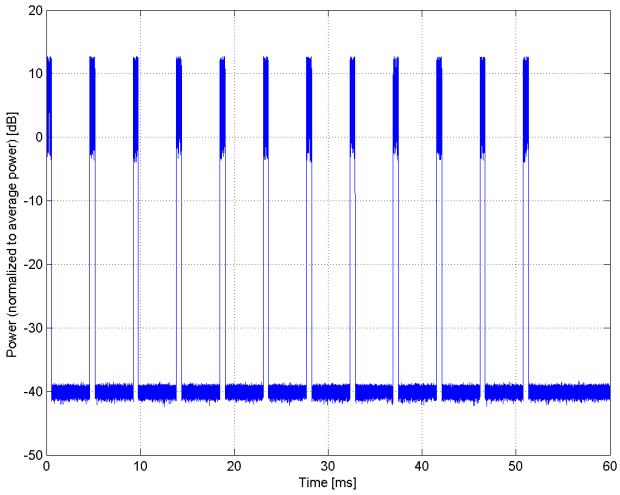
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



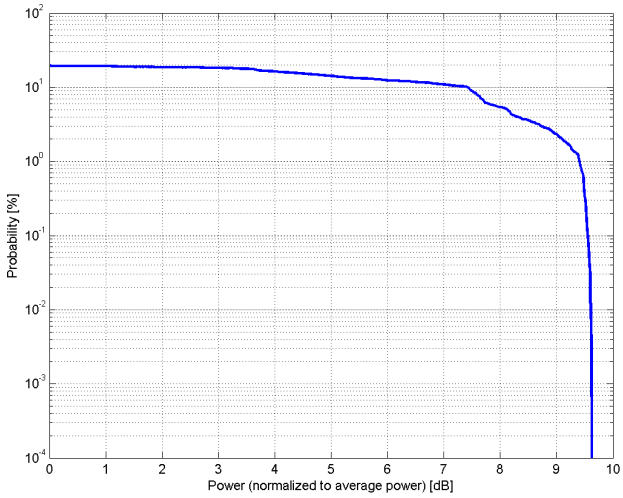
Time Domain

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

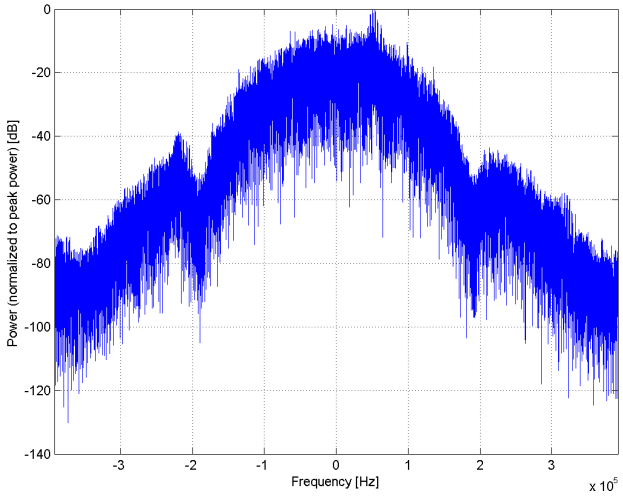
Name:	**EDGE-FDD (TDMA, 8PSK, TN 0-1)**
Group:	GSM
UID:	10026-DAC
PAR: [1]	**9.55 dB**
MIF: [2]	**1.23 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	8PSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (478.8 - 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:s TN0, TN1 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

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

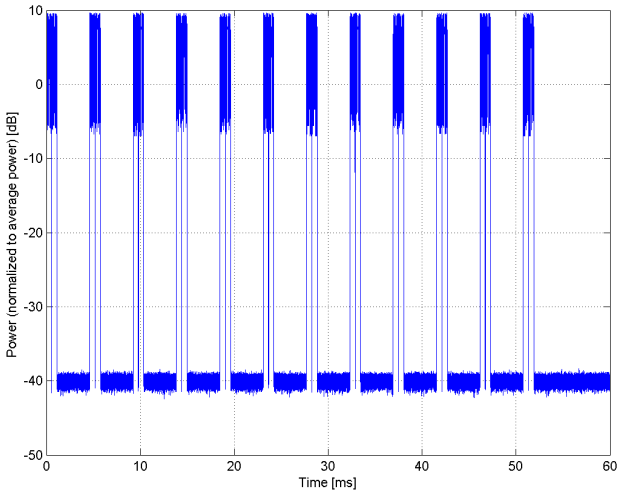
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



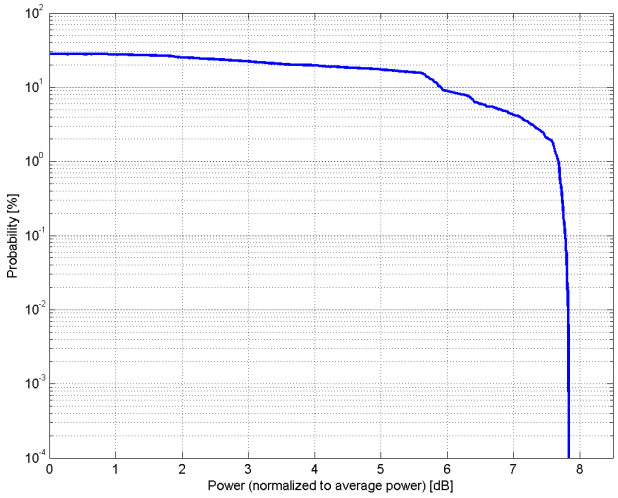
Time Domain

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

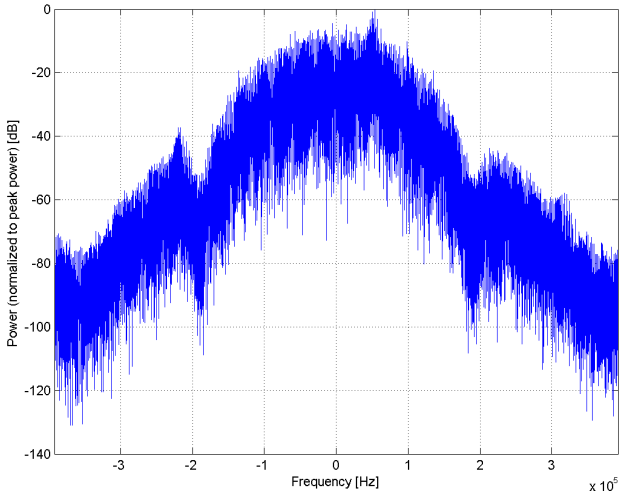
Name:	**EDGE-FDD (TDMA, 8PSK, TN 0-1-2)**
Group:	GSM
UID:	10029-DAC
PAR: [1]	**7.78 dB**
MIF: [2]	**-0.52 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	8PSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (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 Slots: TN0, TN1, TN2 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

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

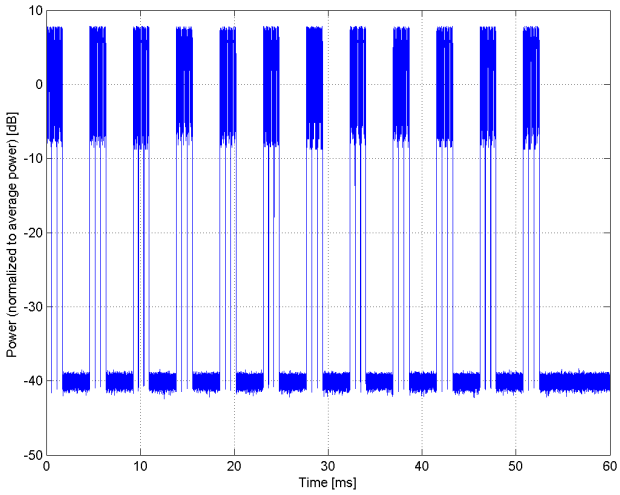
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



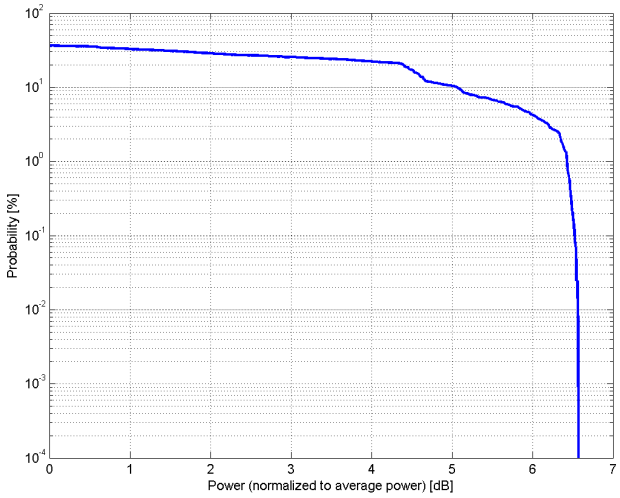
Time Domain

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

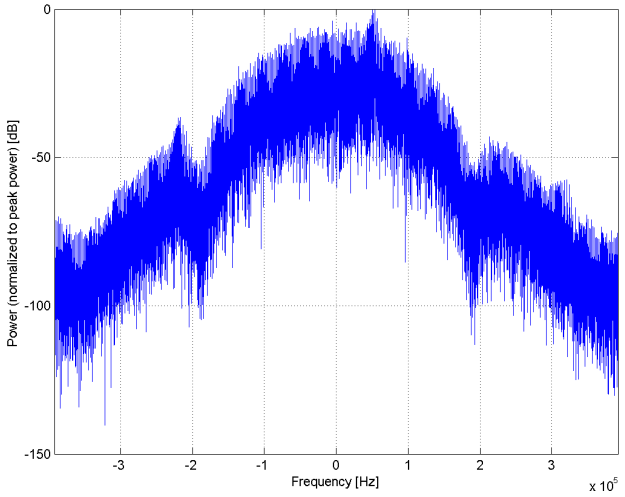
Name:	**EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)**
Group:	GSM
UID:	10058-DAC
PAR: [1]	**6.52 dB**
MIF: [2]	**-1.82 dB**
Standard Reference:	ETSI TS 100 909 V8.9.0 (2005-01) FCC OET KDB 941225, D03 and D04
Category:	Periodic pulsed modulation
Modulation:	8PSK
Frequency Band:	GSM 450 (450.4 - 457.6 MHz) GSM 480 (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 Slots: TN0, TN1, TN2, TN3 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

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

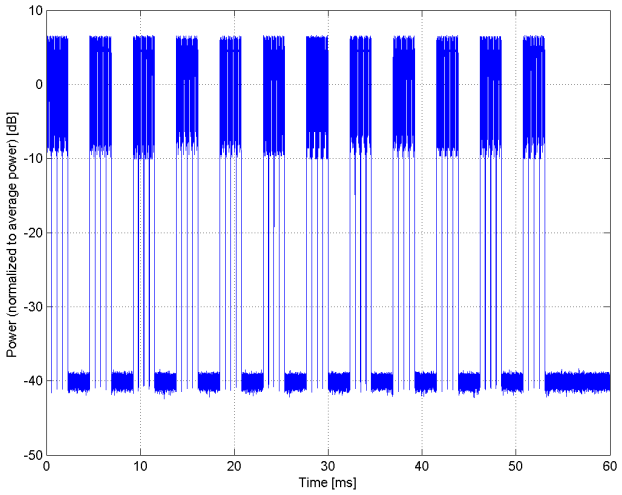
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



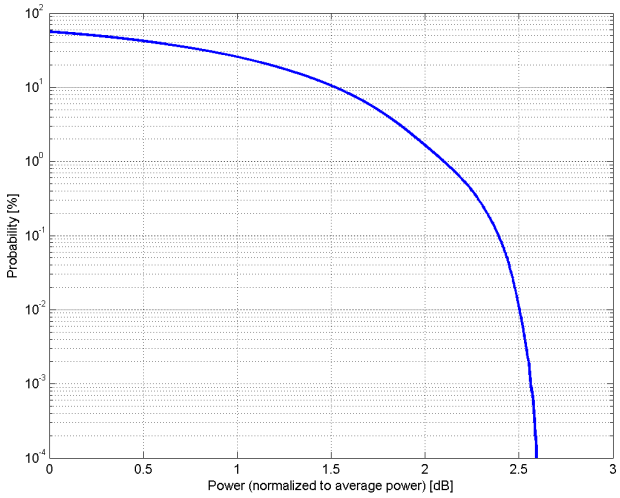
Time Domain

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

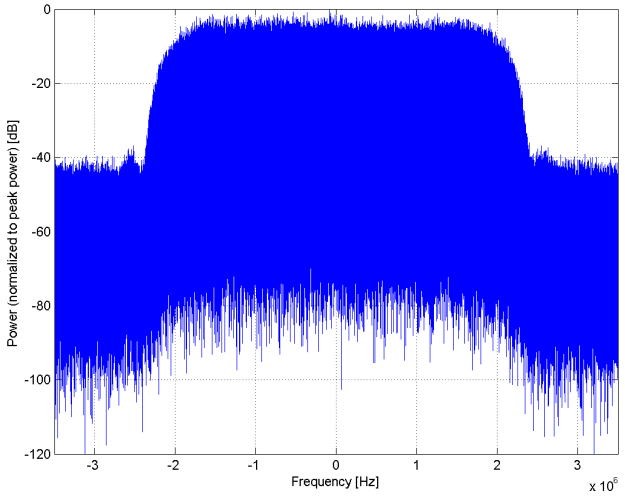
Name:	**UMTS-FDD (WCDMA, AMR)**
Group:	WCDMA
UID:	10460-AAA
PAR: [1]	**2.39 dB**
MIF: [2]	**-25.43 dB**
Standard Reference:	FCC OET KDB 941225 D01 SAR test for 3G devices v03
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band 1, UTRA/FDD (1920.0-1980.0 MHz, 20000) Band 2, UTRA/FDD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

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

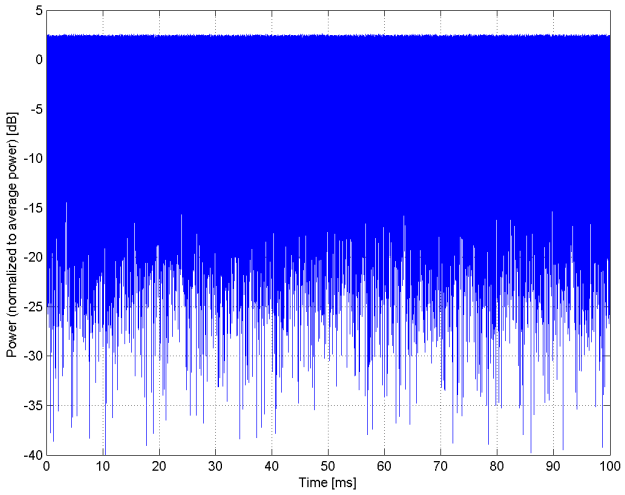
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



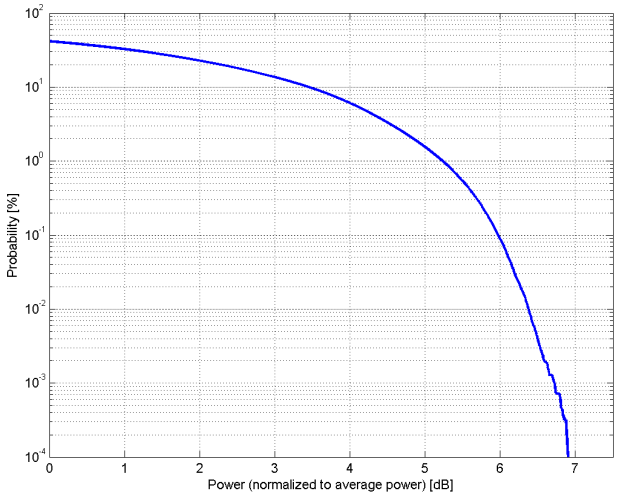
Time Domain

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

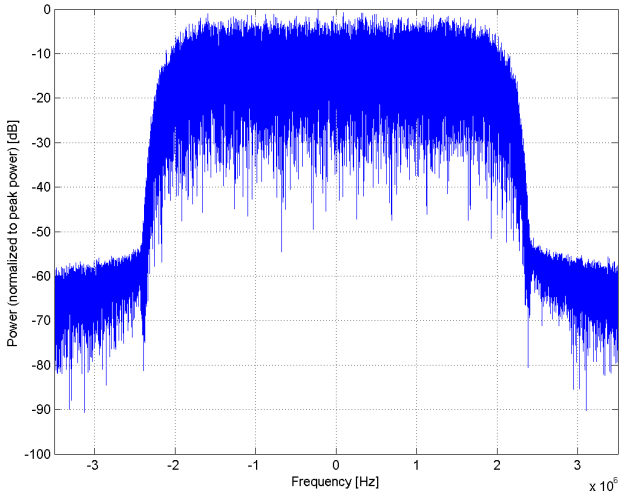
Name:	**UMTS-FDD (HSPA+)**
Group:	WCDMA
UID:	10225-CAB
PAR: [1]	**5.97 dB**
MIF: [2]	**-20.39 dB**
Standard Reference:	3GPP Rel 7 TS 34.121 FCC OET KDB 941225 D01 SAR test for 3G devices v02 FCC OET KDB 941225 D02 Guidance for 3GPP R6 and R7 HSPA v02v01
Category:	Random amplitude modulation
Modulation: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

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

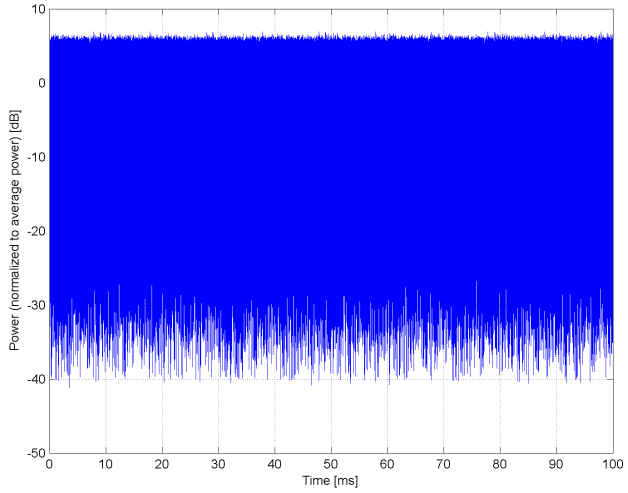
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



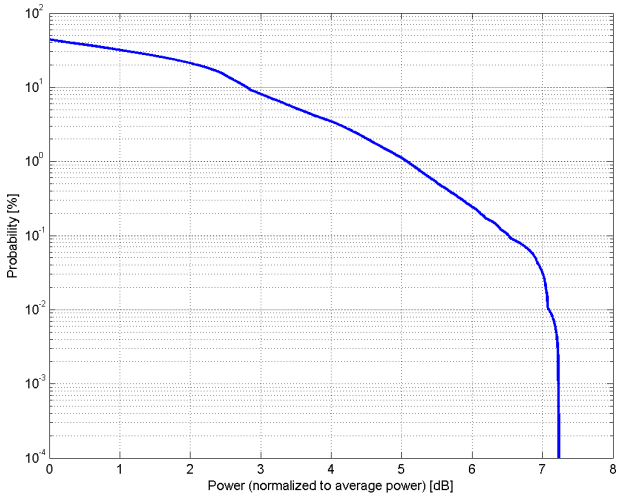
Time Domain

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

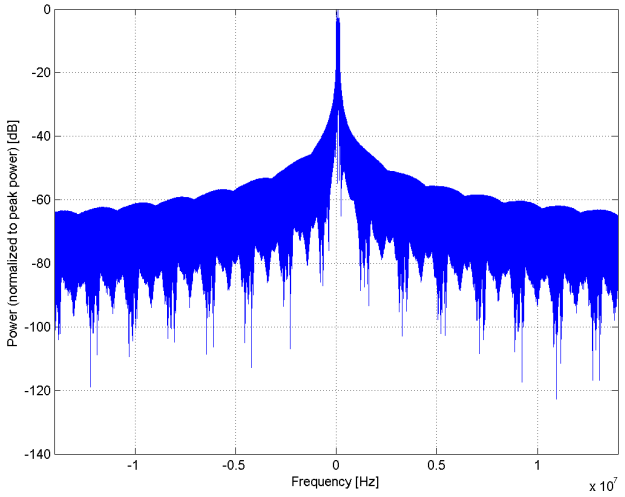
Name:	**LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)**
Group:	LTE-FDD
UID:	10170-CAE
PAR: [1]	**6.52 dB**
MIF: [2]	**-9.76 dB**
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0 3GPP / ETSI TS 136.213 V8.4.0 FCC OET KDB 941225 D05 SAR for LTE Devices v01
Category:	Random amplitude modulation
Modulation:	16-QAM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

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

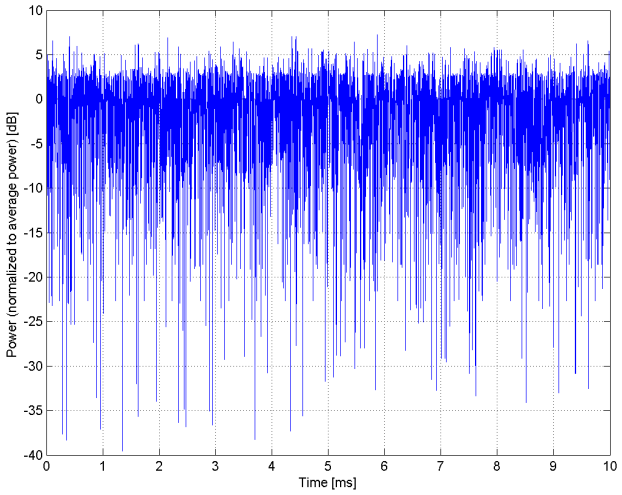
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



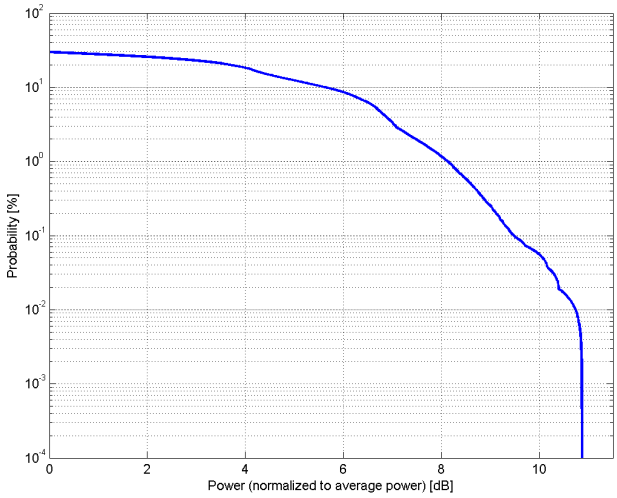
Time Domain

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

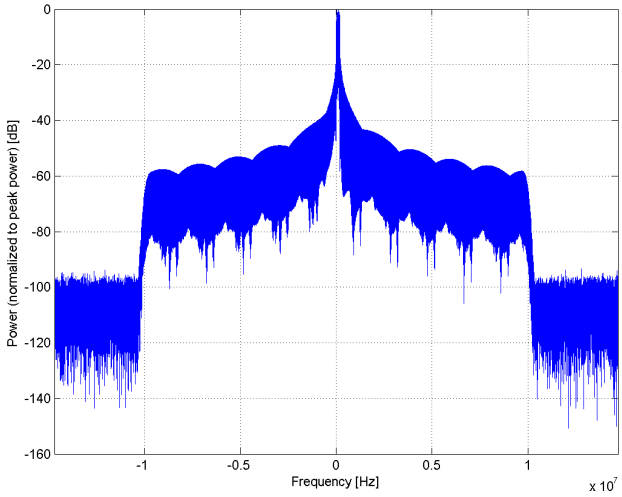
Name:	**LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)**
Group:	LTE-TDD
UID:	10173-CAG
PAR: [1]	**9.48 dB**
MIF: [2]	**-1.44 dB**
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0 3GPP / ETSI TS 136.213 V8.4.0 FCC OET KDB 941225 D05 SAR for LTE Devices v02
Category:	Random amplitude modulation
Modulation:	16-QAM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

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

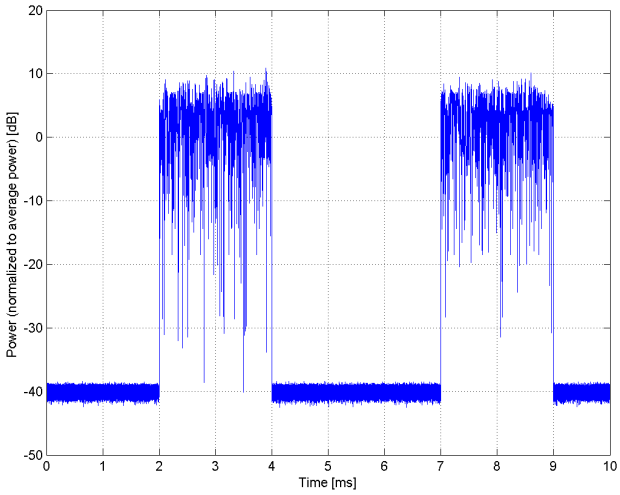
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



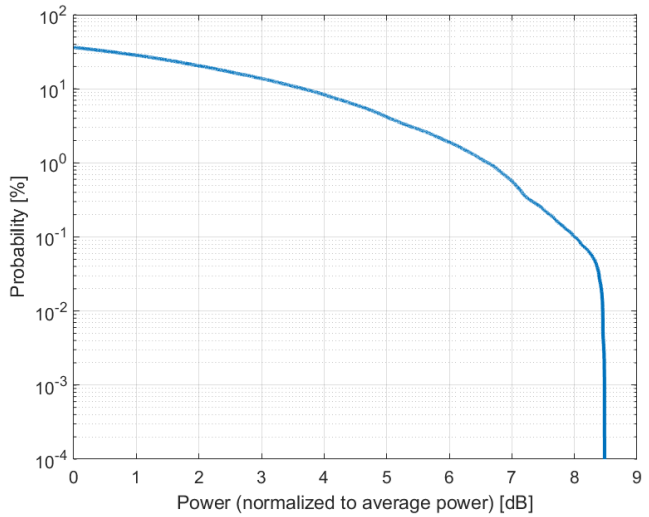
Time Domain

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

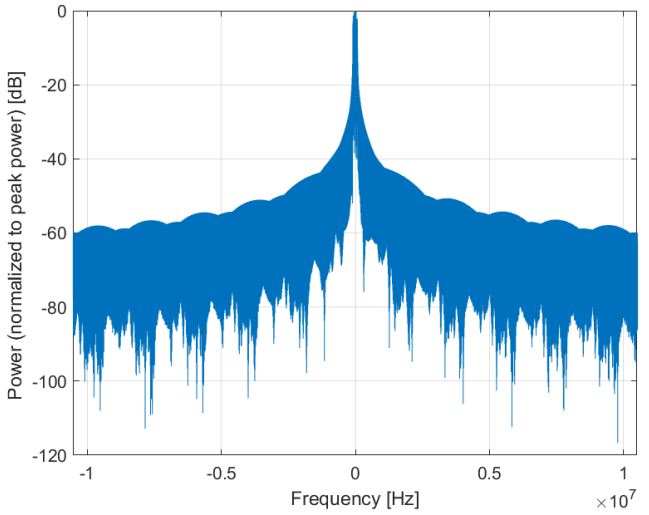
Name:	**5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)**
Group:	5G NR FR1 TDD
UID:	10769-AAD
PAR: [1]	**8.01 dB**
MIF: [2]	**-12.08 dB**
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n34 (2010 - 2025 MHz) Band n38 (2570 - 2620 MHz) Band n39 (1880 -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

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

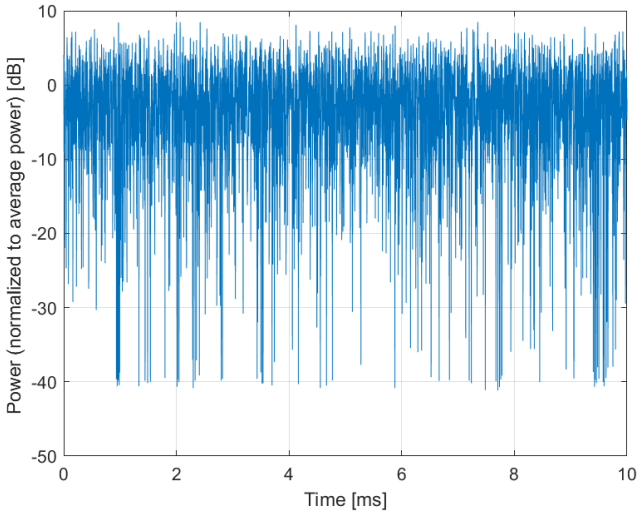
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



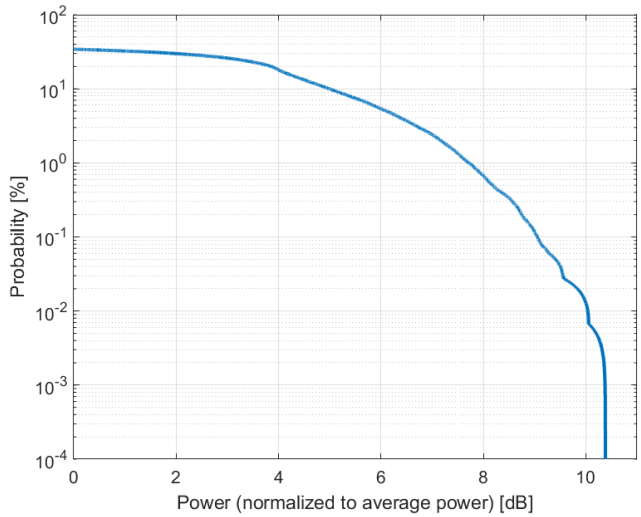
Time Domain

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

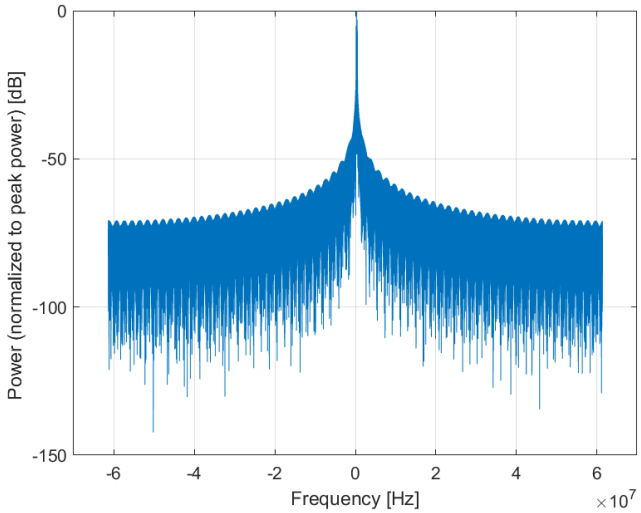
Name:	**5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)**
Group:	5G NR FR1 TDD
UID:	10973-AAA
PAR: [1]	**9.06 dB**
MIF: [2]	**-1.64 dB**
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n41 (2496 - 2690 MHz) Band n48 (3550 - 3700 MHz) Band n77 (3300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

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

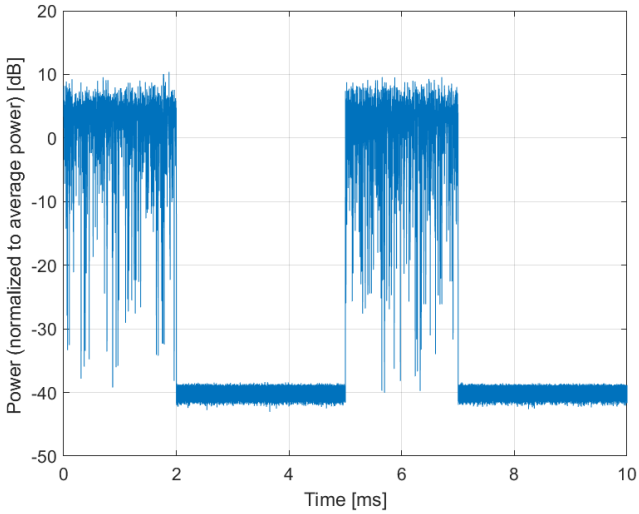
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



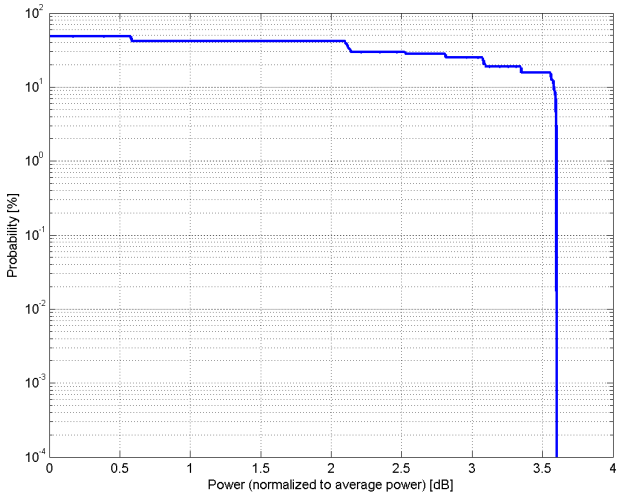
Time Domain

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

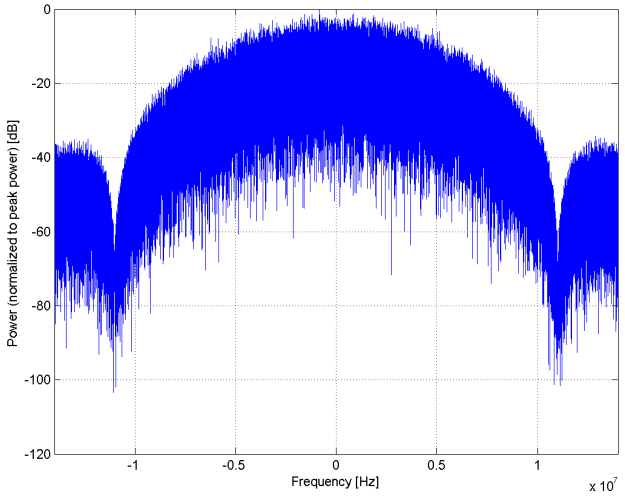
Name:	**IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)**
Group:	WLAN
UID:	10061-CAB
PAR: [1]	**3.60 dB**
MIF: [2]	**-2.02 dB**
Standard Reference:	IEEE 802.11b-1999 , Part 11, FCC SAR meas for 802 11 a b g v01r02 (248227 D01)
Category:	Random amplitude modulation
Modulation:	DQPSK
Frequency Band:	WLAN 2.4GHz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

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

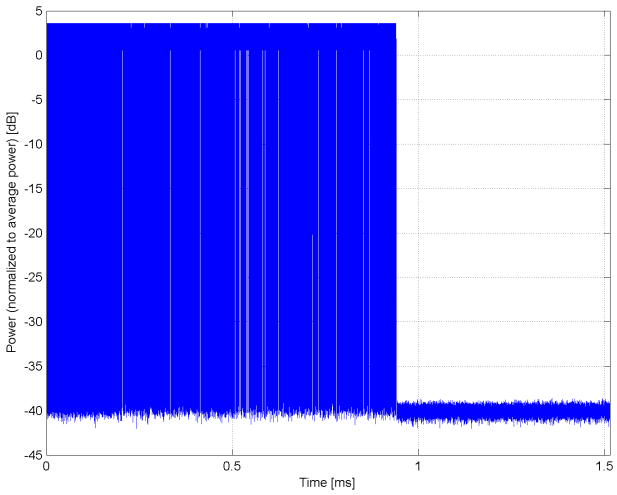
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



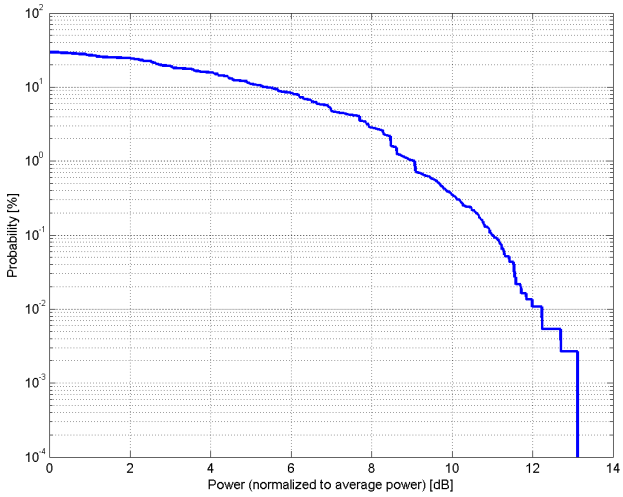
Time Domain

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

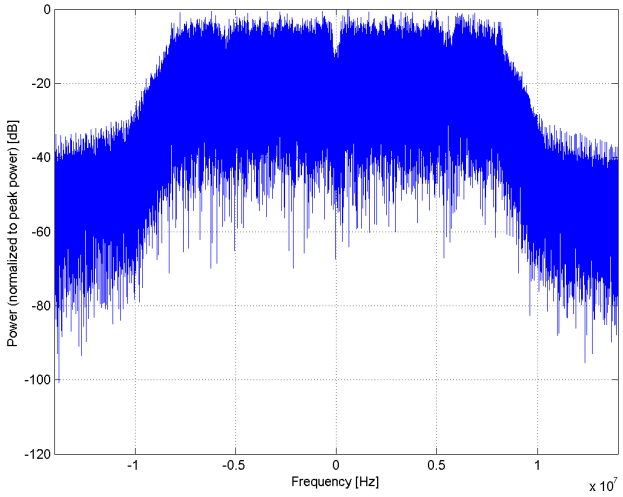
Name:	**IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)**
Group:	WLAN
UID:	10077-CAB
PAR: [1]	**11.00 dB**
MIF: [2]	**0.12 dB**
Standard Reference:	IEEE 802.11g-2003 , Part 11 FCC SAR meas for 802 11 a b g v01r02 (248227 D01)
Category:	Random amplitude modulation
Modulation:	64-QAM
Frequency Band:	WLAN 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

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

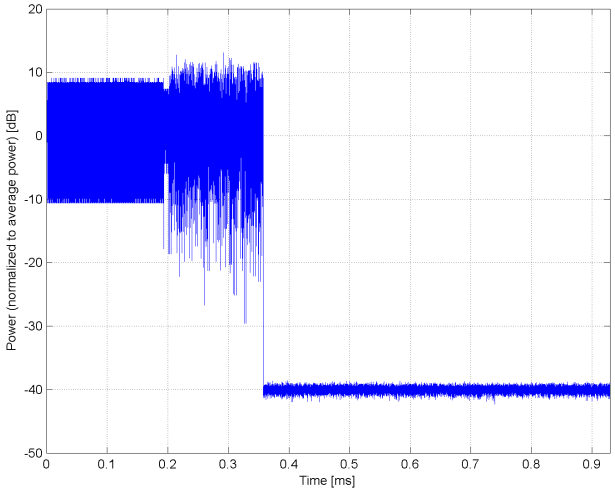
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



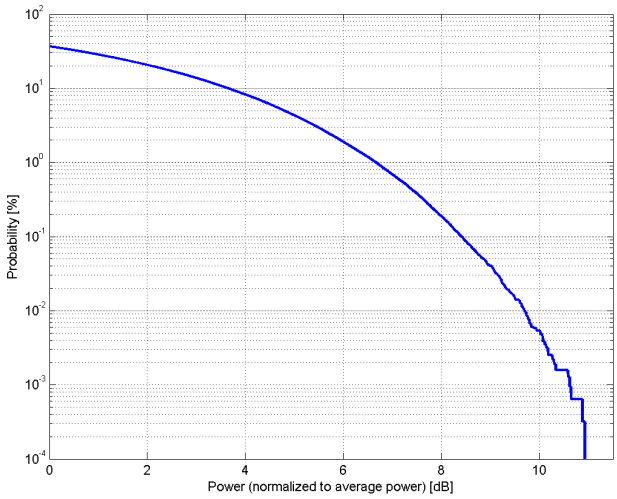
Time Domain

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

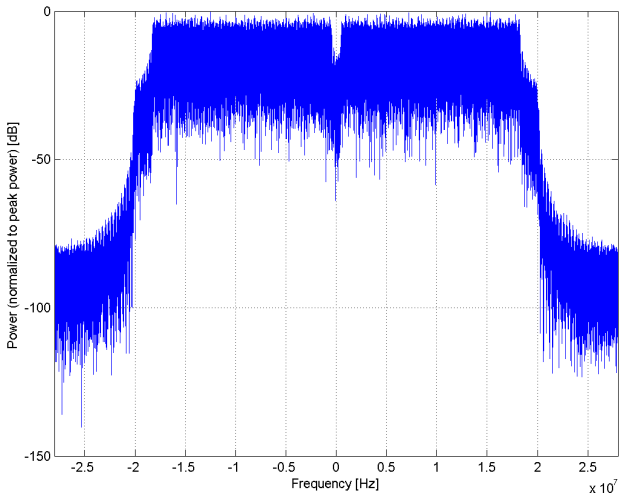
Name:	**IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)**
Group:	WLAN
UID:	10427-AAC
PAR: [1]	**8.41 dB**
MIF: [2]	**-13.44 dB**
Standard Reference:	IEEE 802.11n-2009
Category:	Random amplitude modulation
Modulation:	BPSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz)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

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

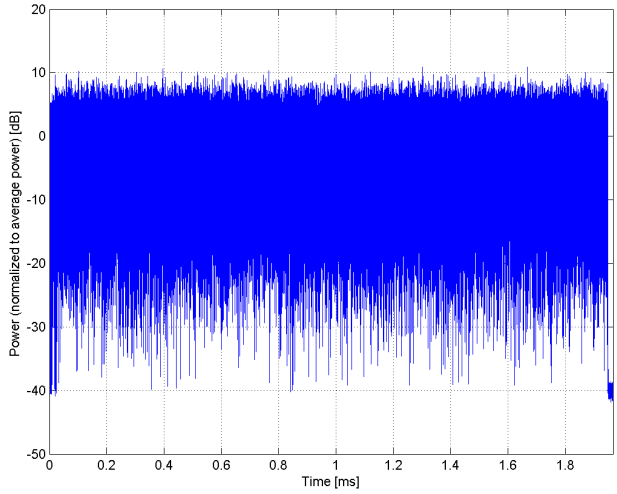
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



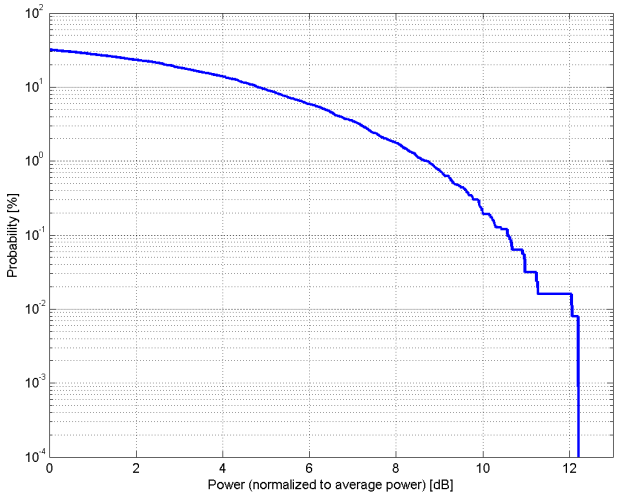
Time Domain

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

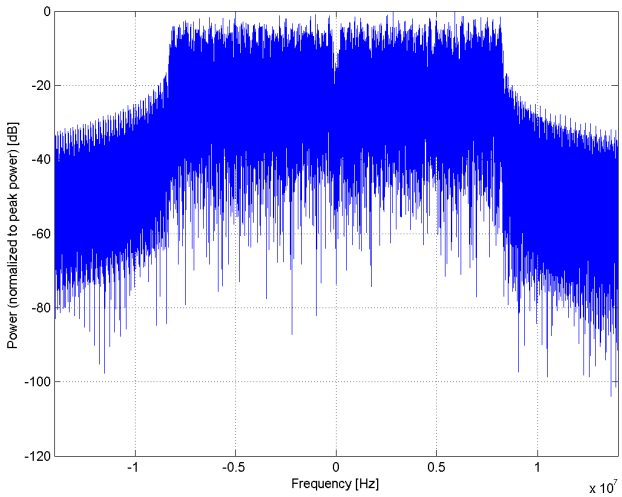
Name:	**IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)**
Group:	WLAN
UID:	10069-CAD
PAR: [1]	**10.56 dB**
MIF: [2]	**-3.15 dB**
Standard Reference:	IEEE 802.11a-1999 (R2003) , Part 11 IEEE 802.11h-2003 , Part 11 FCC SAR meas for 802 11 a b g v01r02 (248227 D01)
Category:	Random amplitude modulation
Modulation:	64-QAM
Frequency Band:	WLAN 5GHz (4915.0 - 5825.0 MHz) U-NII-1, U-NII-2A (5170 - 5330 MHz) U-NII-2C Standalone (5490 - 5710 MHz) U-NII-2C <5.65 GHz (5490 - 5650 MHz) U-NII-3 Standalone (5735 - 5835 MHz) U-NII-2C, U-NII-3 (5650 - 5835 MHz) U-NII-4 (5.825 - 5.925 MHz) Validation band (0.0 - 6000.0 MHz)
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:	0.3 ms

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

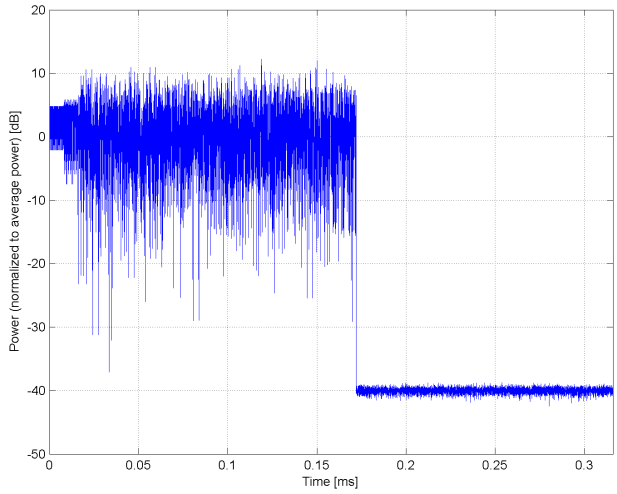
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



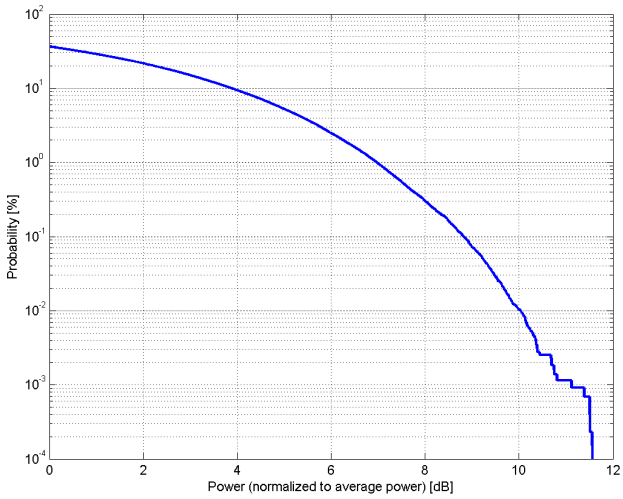
Time Domain

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

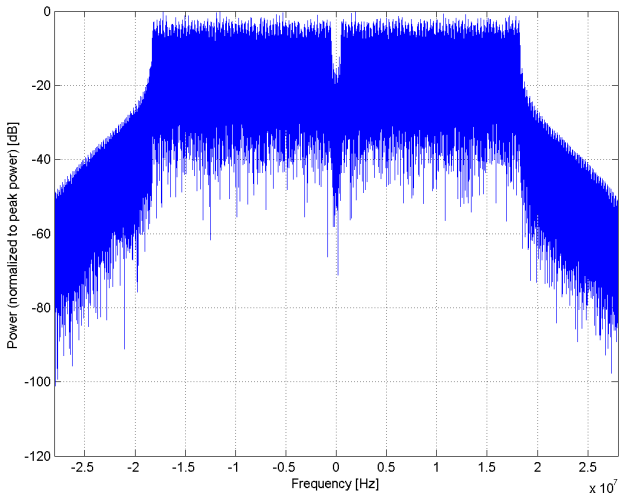
Name:	**IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)**
Group:	WLAN
UID:	10616-AAC
PAR: [1]	**8.82 dB**
MIF: [2]	**-5.57 dB**
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01
Category:	Random amplitude modulation
Modulation:	BPSK
Frequency Band:	WLAN 2.4GHz (2412.0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

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

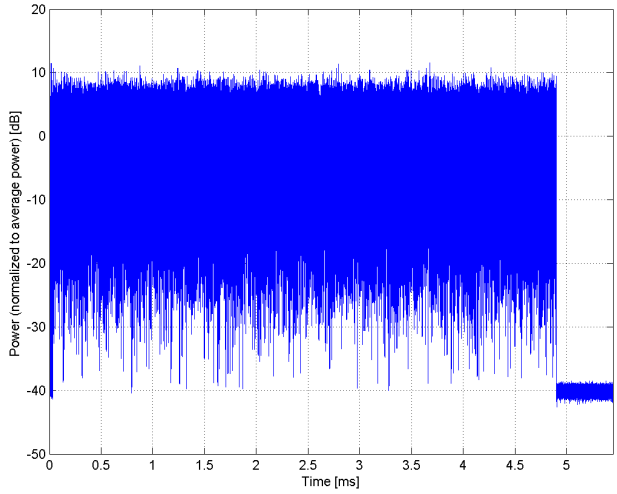
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



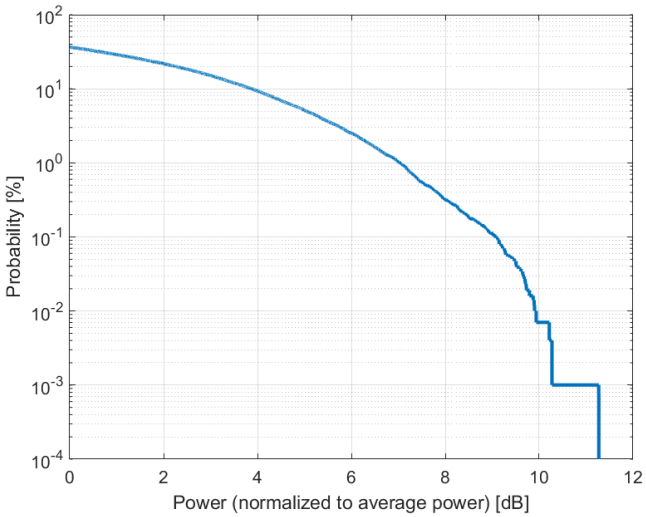
Time Domain

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

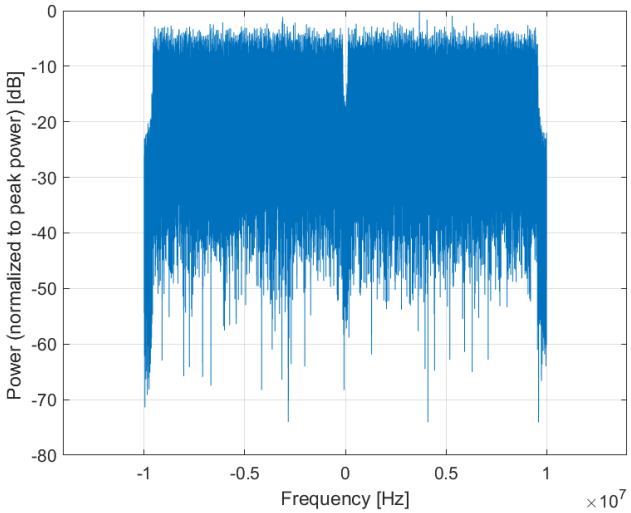
Name:	**IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)**
Group:	WLAN
UID:	10671-AAC
PAR: [1]	**9.09 dB**
MIF: [2]	**-5.58 dB**
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	BPSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NII-1, U-NII-2A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

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

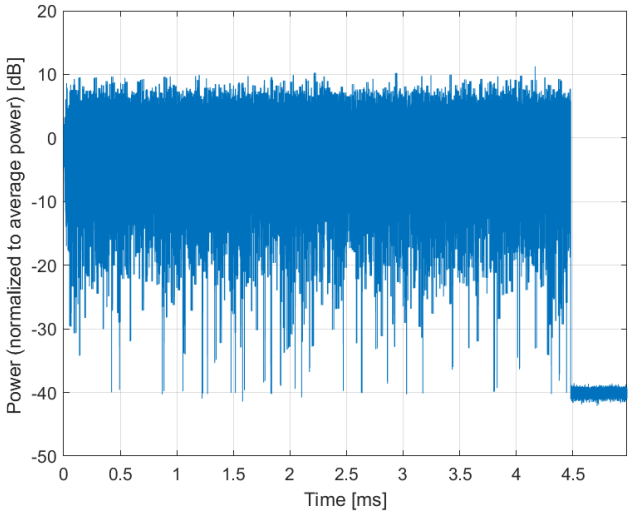
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



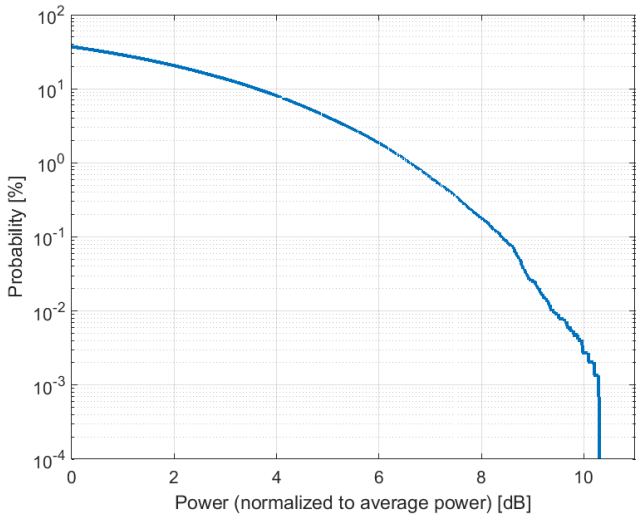
Time Domain

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

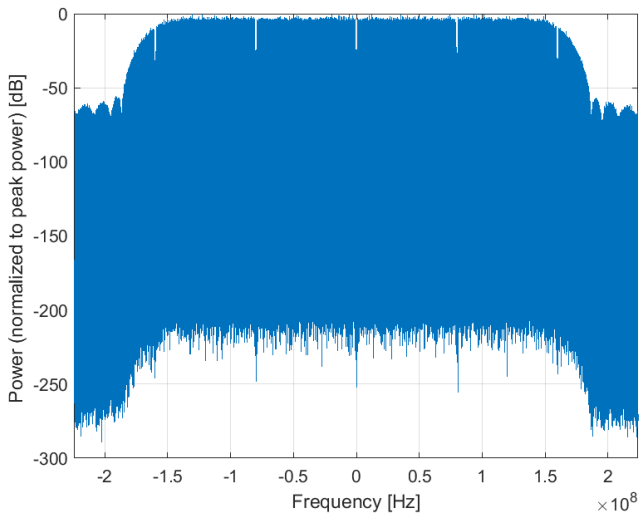
Name:	**IEEE 802.11be (320MHz, MCS0, 99pc duty cycle)**
Group:	WLAN
UID:	11026-AAA
PAR: [1]	**8.39 dB**
MIF: [2]	**-28.73 dB**
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	BPSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NII-1, U-NII-2A (5170 - 5330 MHz) U-NII-2C Standalone (5490 - 5710 MHz) U-NII-2C <5.65 GHz (5490 - 5650 MHz) U-NII-3 Standalone (5735 - 5835 MHz) U-NII-2C, U-NII-3 (5650 - 5835 MHz) U-NII-5 (5925 - 6425 MHz) U-NII-6 (6425 - 6525 MHz) U-NII-7 (6525 - 6875 MHz) U-NII-8 (6875 - 7125 MHz) U-NII-4 (5.825 - 5.925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 320 MHz Duty Cycle: 99% Duty Cycle Number of Spatial Streams: 1
Bandwidth:	320.0 MHz
Integration Time:	0.6 ms

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

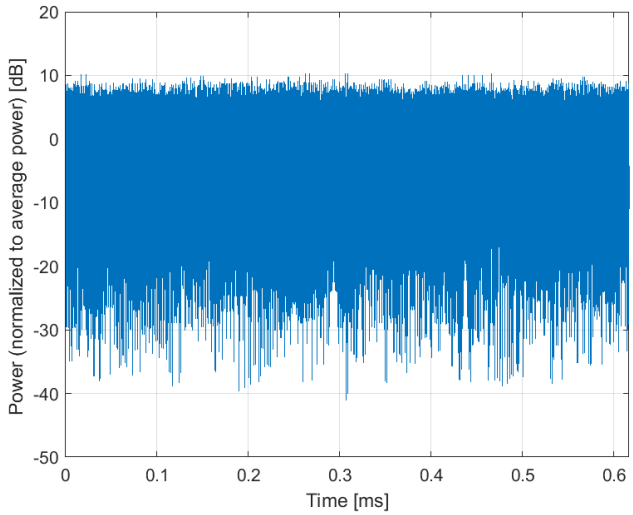
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain