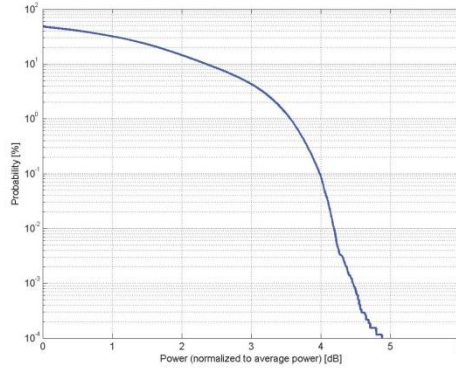**Calibration Laboratory of**
Schmid & Partner
 Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Name:	**UMTS-FDD (HSDPA)**

Group:	WCDMA
UID:	10097-CAB

PAR: [1]	**3.98 dB**
MIF: [2]	**-20.75 dB**

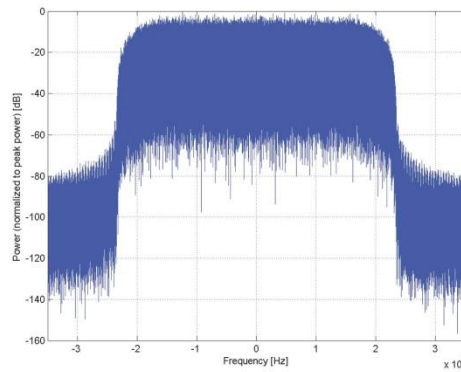|	
Standard Reference:	ETSI-3GPP TS 134.121 Rel. 5
	FCC OET KDB 941225 D01 SAR test for 3G devices v02
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band 1, UTRA/FDD (1920.0-1980.0 MHz, 20000)
	Band 2, UTRA/FDD (1850.0-1910.0 MHz, 20001)
	Band 3, UTRA/FDD (1710.0-1785.0 MHz, 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:	CQI value: 2
	Sub-test 2 Conditions:
	DPCCH gain factor (Beta _ c) = 12/15
	DPDCH gain factor (Beta _ d): 15/15
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
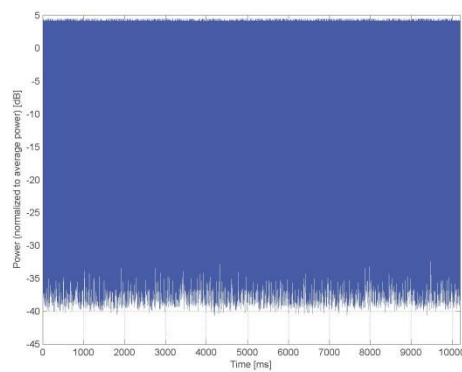   the same communication system (same UID and version).

UID Specification Sheet   UID 10097-CAB page 1 / 2   16.01.2014

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

Complementary Cumulative Distribution Function (CCDF)
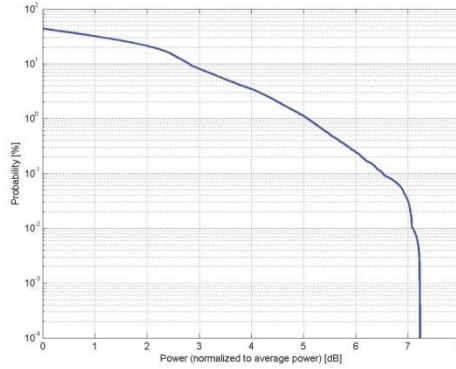

Frequency Domain

Time Domain

UID Specification Sheet   UID 10097-CAB page 2 / 2   16.01.2014

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

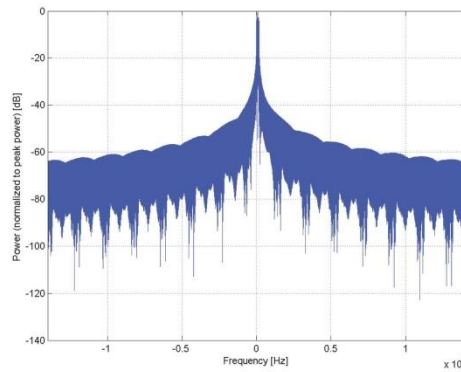|	
Name:	**LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)**
Group:	LTE-FDD
UID:	10170-CAE
PAR: [1]	**6.52 dB**
MIF: [2]	**-9.76 dB**
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0
	3GPP / ETSI TS 136.213 V8.4.0
	FCC OET KDB 941225 D05 SAR for LTE Devices v01
Category:	Random amplitude modulation
Modulation:	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).
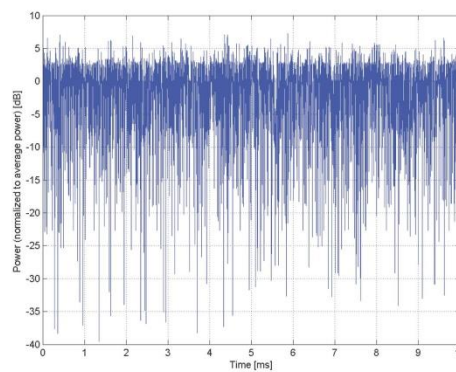
Calibration Laboratory of
Schmid & Partner
  Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Complementary Cumulative Distribution Function (CCDF)

Frequency Domain

Time Domain

UID Specification Sheet   UID 10170-CAE page 2 / 2   27.06.2018
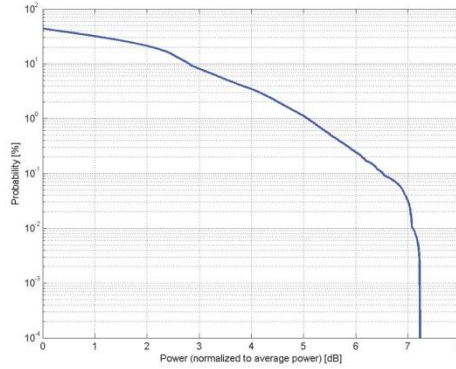
Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Name:	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)

Group:	LTE-FDD
UID:	10176-CAG

PAR: [1]	6.52 dB
MIF: [2]	-9.76 dB

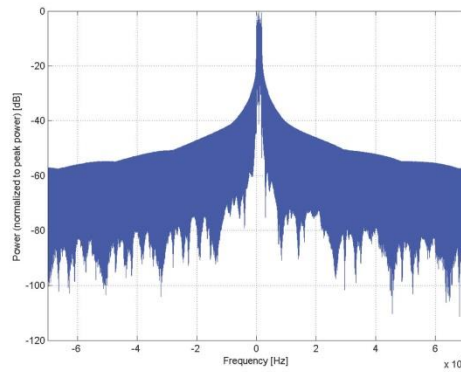|	
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0
	3GPP / ETSI TS 136.213 V8.4.0
	FCC OET KDB 941225 D05 SAR for LTE Devices v01
Category:	Random amplitude modulation
Modulation:	16-QAM
Frequency Band:	Band 1, E-UTRA/FDD (1920.0 - 1980.0 MHz)
	Band 2, E-UTRA/FDD (1850.0 - 1910.0 MHz)
	Band 3, E-UTRA/FDD (1710.0 - 1785.0 MHz)
	Band 4, E-UTRA/FDD (1710.0 - 1755.0 MHz)
	Band 5, E-UTRA/FDD (824.0 - 849.0 MHz)
	Band 6, E-UTRA/FDD (830.0 - 840.0 MHz)
	Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz)
	Band 8, E-UTRA/FDD (880.0 - 915.0 MHz)
	Band 9, E-UTRA/FDD (1749.9 - 1784.9 MHz)
	Band 10, E-UTRA/FDD (1710.0 - 1770.0 MHz)
	Band 11, E-UTRA/FDD (1427.9 - 1447.9 MHz)
	Band 12, E-UTRA/FDD (699.0 - 716.0 MHz)
	Band 13, E-UTRA/FDD (777.0 - 787.0 MHz)
	Band 14, E-UTRA/FDD (788.0 - 798.0 MHz)
	Band 17, E-UTRA/FDD (704.0 - 716.0 MHz)
	Band 18, E-UTRA/FDD (815.0 - 830.0 MHz)
	Band 19, E-UTRA/FDD (830.0 - 845.0 MHz)
	Band 20, E-UTRA/FDD (832.0 - 862.0 MHz)
	Band 21, E-UTRA/FDD (1447.9 - 1462.9 MHz)
	Band 22, E-UTRA/FDD (3410.0 - 3490.0 MHz)
	Band 23, E-UTRA/FDD (2000.0 - 2020.0 MHz)
	Band 24, E-UTRA/FDD (1626.5 - 1660.5 MHz)
	Band 25, E-UTRA/FDD (1850.0 - 1915.0 MHz)
	Band 26 E-UTRA/FDD (814.0 - 849.0 MHz)
	Band 27 E-UTRA/FDD (807.0 - 824.0 MHz)
	Band 28 E-UTRA/FDD (703.0 - 748.0 MHz)
	Band 30, E-UTRA/FDD (2305.0 - 2315.0 MHz)
	Band 65, E-UTRA/FDD (1920.0 - 2010.0 MHz)
	Band 66, E-UTRA/FDD (1710.0 - 1780.0 MHz)
	Band 68, E-UTRA/FDD (698.0 - 728.0 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)
	Band 85, E-UTRA/FDD (698.0 - 716.0 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: QPSK
	Data Type: UL-SCH
	Number RB: 1
	Transport Block Size: 256
	TBS Index: 14
	MCS Index: 15
	Data Type: PN9
Bandwidth:	10.0 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).
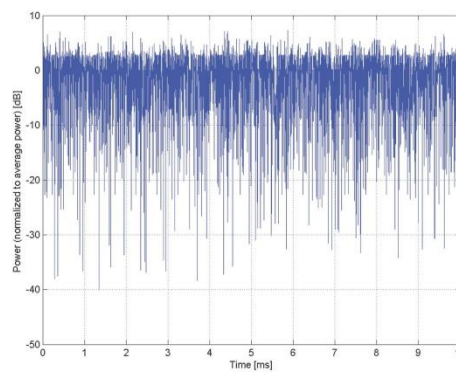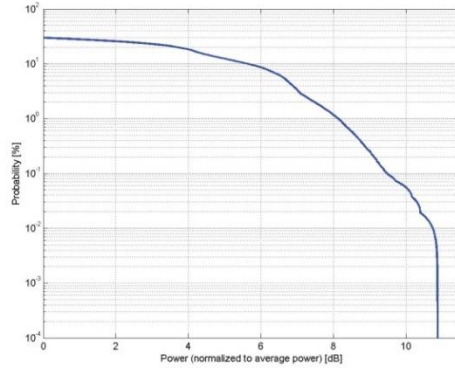

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Complementary Cumulative Distribution Function (CCDF)

Frequency Domain

Time Domain

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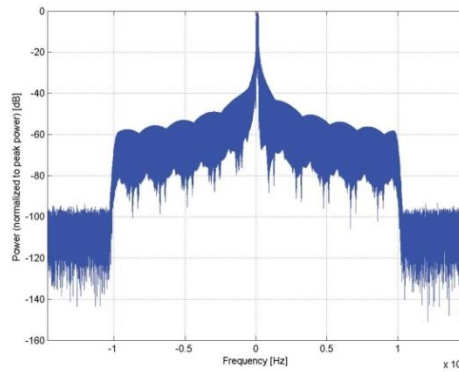 Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Name:	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)
Group:	LTE-TDD
UID:	10173-CAD
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)
	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).
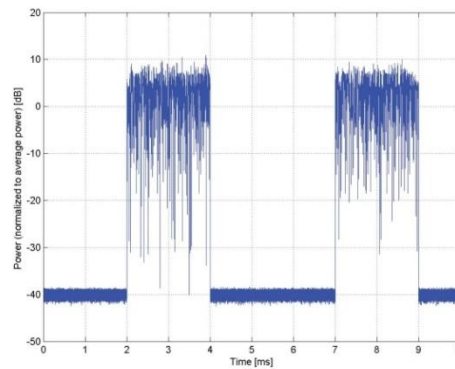
UID Specification Sheet   UID 10173-CAD page 1 / 2   27.07.2017

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

Complementary Cumulative Distribution Function (CCDF)

Frequency Domain

Time Domain

UID Specification Sheet   UID 10173-CAD page 2 / 2   27.07.2017

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

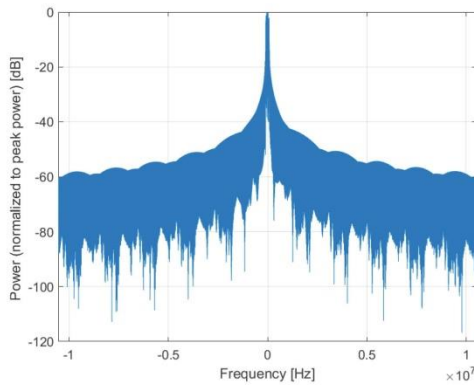|	
Name:	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)
Group:	5G NR FR1 TDD
UID:	10769-AAD
PAR: [1]	8.01 dB
MIF: [2]	-12.08 dB
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n34 (2010 - 2025 MHz)
	Band n38 (2570 - 2620 MHz)
	Band n39 (1880 - 1920 MHz)
	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).
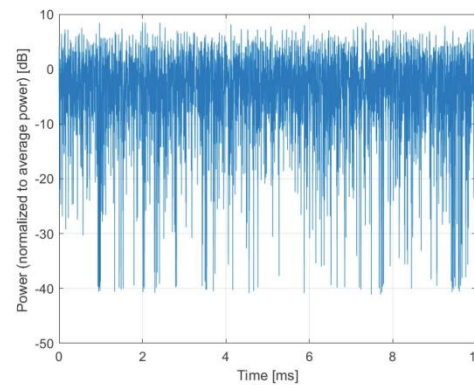

UID Specification Sheet   UID 10769-AAD page 1 / 2   04.09.2020

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

Complementary Cumulative Distribution Function (CCDF)

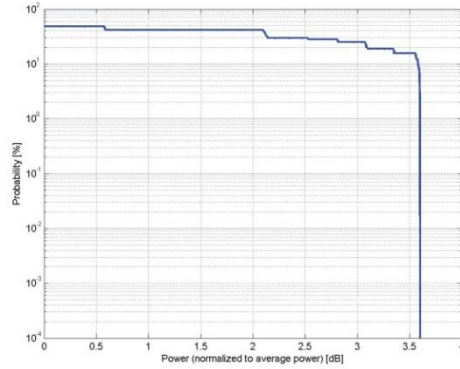

Frequency Domain

Time Domain

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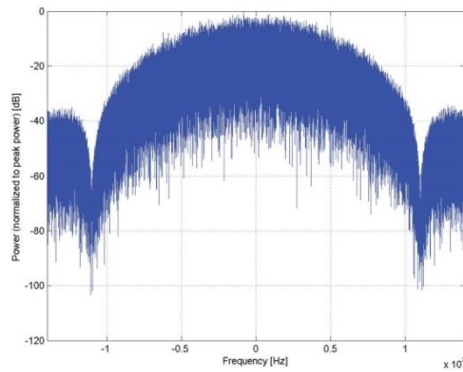 Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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).
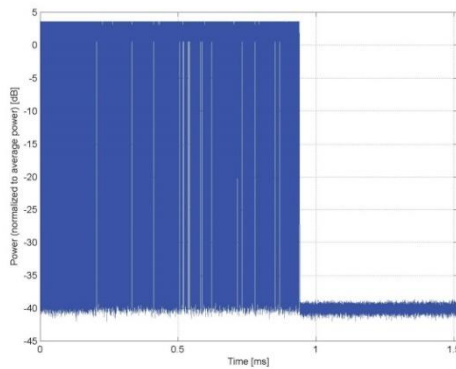

UID Specification Sheet   UID 10061-CAB page 1 / 2   26.11.2014

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

Complementary Cumulative Distribution Function (CCDF)
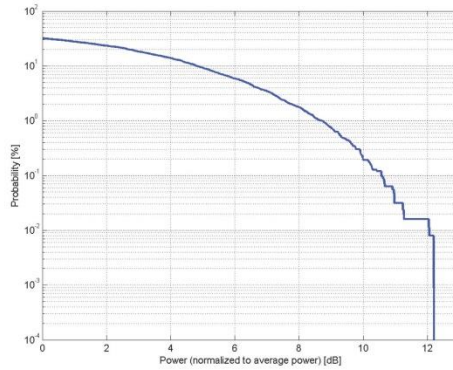

Frequency Domain

Time Domain

UID Specification Sheet   UID 10061-CAB page 2 / 2   26.11.2014

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

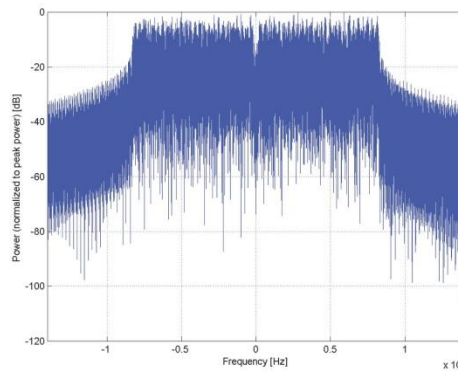|	
Name:	**IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)**
Group:	WLAN
UID:	10069-CAD
PAR: [1]	**10.56 dB**
MIF: [2]	**-3.15 dB**
Standard Reference:	IEEE 802.11a-1999 (R2003) , Part 11
	IEEE 802.11h-2003 , Part 11
	FCC SAR meas for 802 11 a b g v01r02 (248227 D01)
Category:	Random amplitude modulation
Modulation:	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).
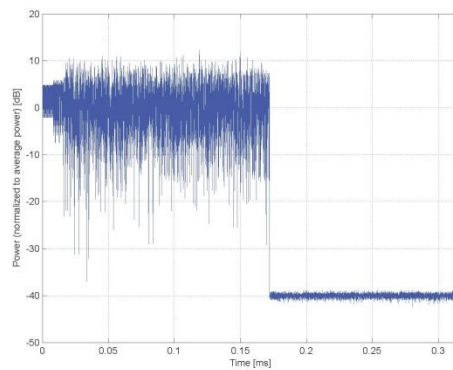

UID Specification Sheet   UID 10069-CAD page 1 / 2   04.09.2020

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

Complementary Cumulative Distribution Function (CCDF)

Frequency Domain

Time Domain

END OF REPORT