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Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: CDMA2000 (1xRTT, RC3)

Group: CDMA2000 UID: 10081-CAA

PAR: ¹ **3.97 dB** MIF: ² **-19.71 dB**

Standard Reference: 3GPP2 C.S0002-C-1, Chapter 2.1.3.9.2.3

FCC OET KDB 941225 D01 SAR test for 3G devices (v02)

Category: Random amplitude modulation

Modulation: BPSK

Frequency Band: Band Class 0 (824.0-849.0 MHz, 20039)

Band Class 1 (1850.0-1910.0 MHz, 20040)
Band Class 2 (872.0-915.0 MHz, 20041)
Band Class 3 (887.0-925.0 MHz, 20042)
Band Class 4 (1750.0-1780.0 MHz, 20043)
Band Class 5 (411.7-483.5 MHz, 20044)
Band Class 6 (1920.0-1980.0 MHz, 20045)
Band Class 7 (776.0-794.0 MHz, 20046)
Band Class 8 (1710.0-1785.0 MHz, 20047)
Band Class 9 (880.0-915.0 MHz, 20048)
Band Class 10 (806.0-901.0 MHz, 20049)
Band Class 11 (410.0-462.5 MHz, 20050)

Detailed Specification: Radio Configurations 3 (RC3)

Output Slot: PICH, FCH 9.6 kpbs

Band Class 12 (870.0-876.0 MHz, 20051)

R-PITCH: Walsh Code 0, Code Power: -5.278 dB, Data Rate:

N/A. Data: All "0"

R-FCH: Walsh Code 4, Code Power -1.528 dB, Data Rate

9.6kpbs, Data: PN9fix

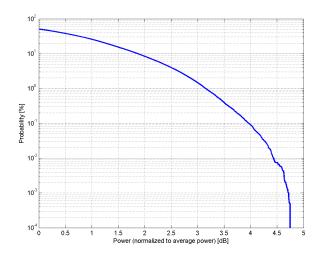
Bandwidth: 1.2 MHz Integration Time: 80.0 ms

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

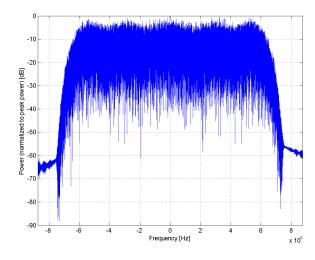
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

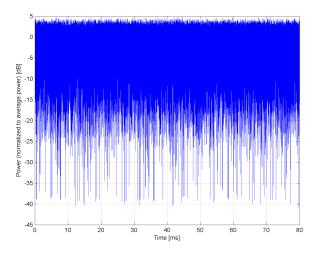
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)

Group: AMPS UID: 10082-CAA

PAR: ¹ **4.77 dB** MIF: ² **-2.91 dB**

Standard Reference: TIA/EIA-136-110-B

Category:

Modulation: Pi/4-DQPSK

Frequency Band: Band Class 0 (824.0-849.0 MHz, 20039)

Band Class 1 (1850.0-1910.0 MHz, 20040) Band Class 6 (1920.0-1980.0 MHz, 20045) Band Class 7 (776.0-794.0 MHz, 20046)

Band a2, UTRA/TDD (2010.0-2025.0 MHz, 20056) Band f, UTRA/TDD (1880.0-1920.0 MHz, 20062)

Detailed Specification: D-AMPS

Multiple Access Method: TDMA/FDM

Channel Spacing/Bandwidth: 30 kHz / 200 kHz

Channel Bit Rate: 48.6 kbit/s Spectrum Efficiency: 1.62 bit/s/Hz

Active Channels: 1 of 3 (Fullrate Channels)

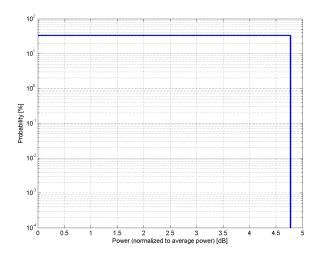
Bandwidth: 0.0 MHz Integration Time: 20.0 ms

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

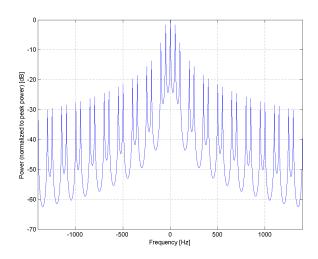
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

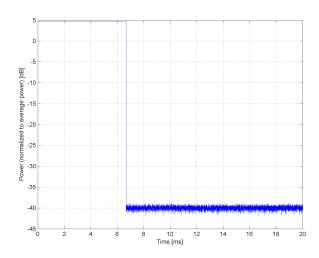
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: FSE MRI sequence (pi Sinc, 10ms, 2.5 ms)

Group: MRI

UID: 10084-CAA

PAR: ¹ **9.48 dB** MIF: ² **-99.00 dB**

Standard Reference: SPEAG

Category: Periodic pulsed modulation

Modulation: AM

Frequency Band: MRI 1.5T (59.0-69.0 MHz, 20063)

MRI 3T (123.0-133.0 MHz, 20064)

Detailed Specification: Calibration Sequence for Fast Spin Echo

Pulse Shape: Sinc +/- Pi Repetition Rate: 100 Hz

Duty Cycle: 25%

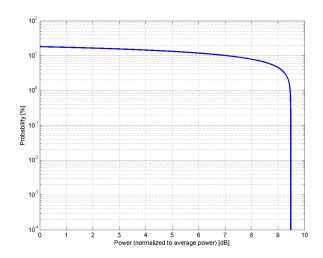
Bandwidth: 0.0 MHz Integration Time: 1.0 ms

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

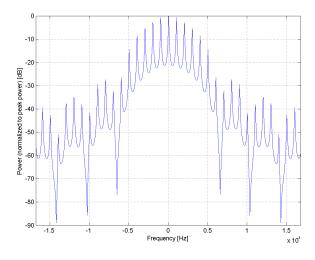
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

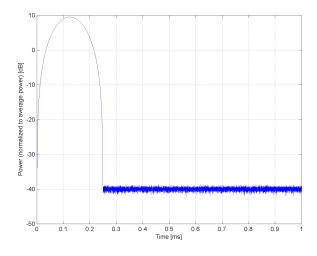
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: MRI (Square, 1ms, 0.4ms)

Group: MRI

UID: 10089-CAA

PAR: ¹ **3.98 dB** MIF: ² **-99.00 dB**

Standard Reference: SPEAG

Category: Periodic pulsed modulation

Modulation: AM

Frequency Band: MRI 1.5T (59.0-69.0 MHz, 20063)

MRI 3T (123.0-133.0 MHz, 20064)

Detailed Specification: Custom Calibration Sequence

Pulse Shape: rectangular Repetition Rate: 1 kHz

Duty Cycle: 40 %

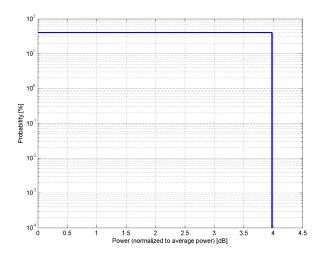
Bandwidth: 0.0 MHz Integration Time: 1.0 ms

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

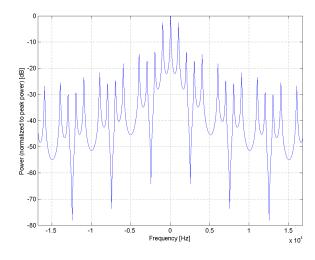
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

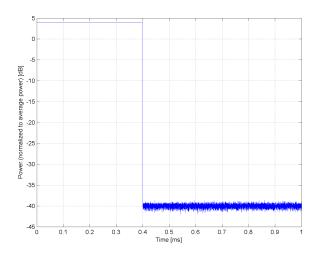
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: GPRS-FDD (TDMA, GMSK, TN 0-4)

Group: GSM

UID: 10090-DAA

PAR: ¹ **6.56 dB** MIF: ² **1.81 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, 20016)

GSM 480 (478.8-486.0 MHz, 20017) GSM 710 (698.0-716.0 MHz, 20018) GSM 750 (747.0-763.0 MHz, 20019) GSM 850 (824.0-849.0 MHz, 20021) P-GSM 900 (890.0-915.0 MHz, 20022) E-GSM 900 (880.0-915.0 MHz, 20023) R-GSM 900 (876.0-915.0 MHz, 20024) DCS 1800 (1710.0-1785.0 MHz, 20026) PCS 1900 (1850.0-1910.0 MHz, 20027)

Detailed Specification: Active Slots: TN0, TN4

Data: PN9 continuous

Frame: composed out of 8 Slots

Multiframe: 13th (PTCCH) and 26th (IDLE) Frame set blank

Slottype & -timing: Normal burst for GMSK

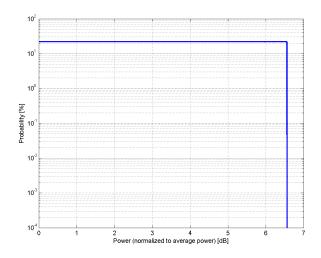
Bandwidth: 0.4 MHz Integration Time: 60.0 ms

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

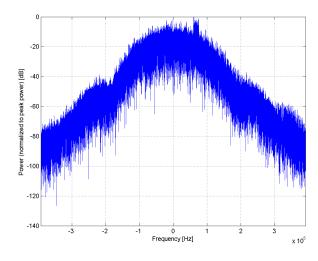
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

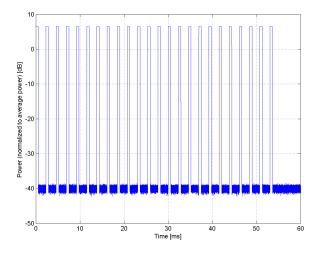
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: MITS (2pi Sinc, 1ms, 0.4ms)

Group: MRI

UID: 10091-CAA

PAR: ¹ **10.22 dB** MIF: ² **-99.00 dB**

Standard Reference: SPEAG

Category: Periodic pulsed modulation

Modulation: AM

Frequency Band: MRI 1.5T (59.0-69.0 MHz, 20063)

MRI 3T (123.0-133.0 MHz, 20064)

Detailed Specification: Calibration Sequence for Medical Implant Test System (MITS)

Pulse Shape: Sinc +/- 2 Pi Repetition Rate: 1 kHz

Duty Cycle: 40 %

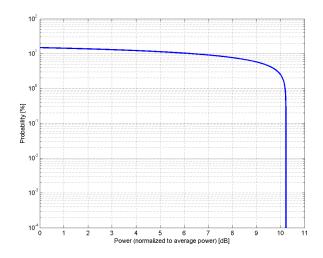
Bandwidth: 0.0 MHz Integration Time: 1.0 ms

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

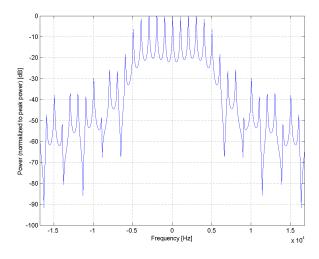
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

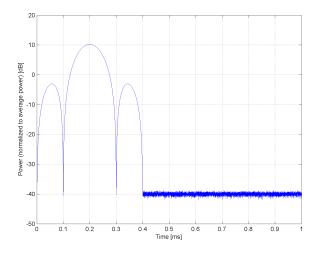
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: MRI (Square, 10ms, 0.4ms)

Group: MRI

UID: 10093-CAA

PAR: ¹ **13.98 dB** MIF: ² **-99.00 dB**

Standard Reference: SPEAG

Category: Periodic pulsed modulation

Modulation: AM

Frequency Band: MRI 1.5T (59.0-69.0 MHz, 20063)

MRI 3T (123.0-133.0 MHz, 20064)

Detailed Specification: Calibration Sequence for Medical Implant Test System (MITS)

Pulse Shape: rectangular Repetition Rate: 100 Hz

Duty Cycle: 4%

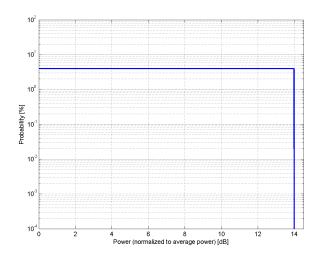
Bandwidth: 0.0 MHz Integration Time: 10.0 ms

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

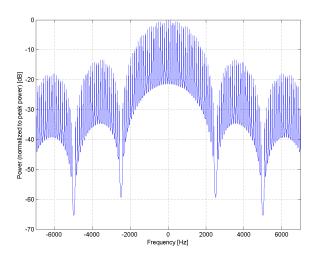
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

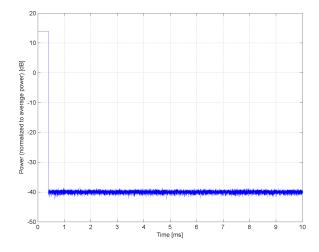
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: UMTS-FDD (HSDPA)

Group: WCDMA UID: 10097-CAA

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 (680.0-913.0 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 (7777.0-787.0 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)

Detailed Specification: CQI value: 2

Sub-test 2 Conditions:

DPCCH gain factor (Beta_c) = 12/15DPDCH gain factor (Beta_d): 15/15

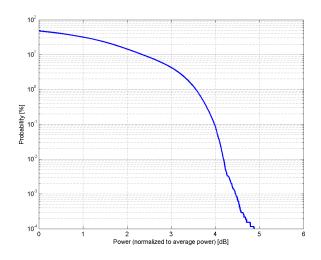
Bandwidth: 5.0 MHz Integration Time: 100.0 ms

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

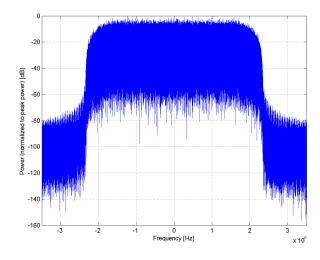
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

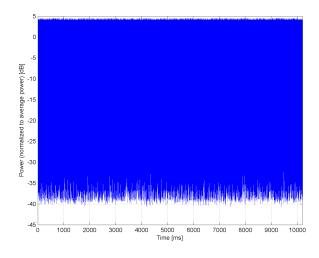
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: UMTS-FDD (HSUPA, Subtest 2)

Group: WCDMA UID: 10098-CAA

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

Standard Reference: 3GPP Rel 5 TS34.121

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)

Detailed Specification: 12.2 kbps RMC, FRC H-Set 1

CQI value: 2

Sub-test 2 Conditions:

DPCCH gain factor (Beta_c) = 12/15DPDCH gain factor (Beta_d): 15/15

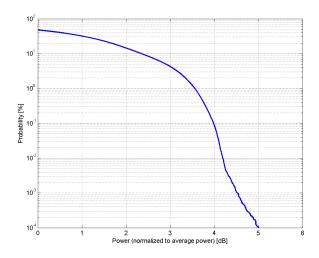
Bandwidth: 5.0 MHz
Integration Time: 100.0 ms

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

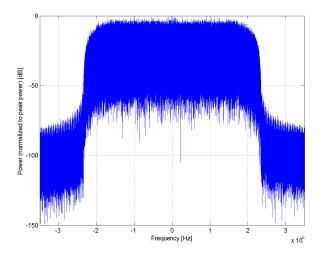
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

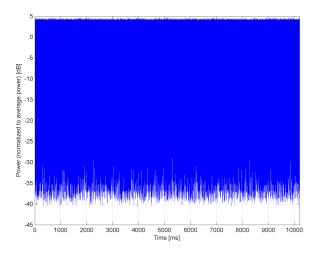
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: EDGE-FDD (TDMA, 8PSK, TN 0-4)

Group: GSM

UID: 10099-DAA

PAR: ¹ **9.55 dB** MIF: ² **1.88 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, 20016)

GSM 480 (478.8-486.0 MHz, 20017) GSM 710 (698.0-716.0 MHz, 20018) GSM 750 (747.0-763.0 MHz, 20019) GSM 850 (824.0-849.0 MHz, 20021) P-GSM 900 (890.0-915.0 MHz, 20022) E-GSM 900 (880.0-915.0 MHz, 20023) R-GSM 900 (876.0-915.0 MHz, 20024) DCS 1800 (1710.0-1785.0 MHz, 20026) PCS 1900 (1850.0-1910.0 MHz, 20027)

Detailed Specification: Active Slots: TN0, TN4

Data: PN9 continuous

Frame: composed out of 8 Slots

Multiframe: 13th (PTCCH) and 26th (IDLE) Frame set blank

Slottype & -timing: Normal burst for 8PSK

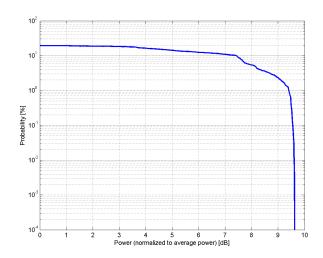
Bandwidth: 0.4 MHz Integration Time: 60.0 ms

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

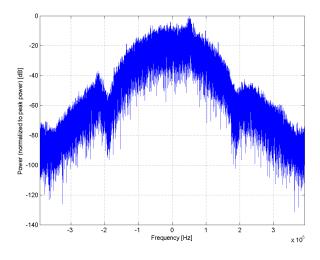
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

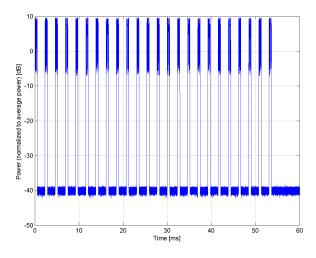
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 20 MHz, QPSK)

Group: LTE-FDD UID: 10100-CAB

PAR: ¹ **5.67 dB** MIF: ² **-23.48 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: QPSK

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 100

Transport Block Size: 8760

TBS Index: 5 MCS Index: 5 Data Type: PN9

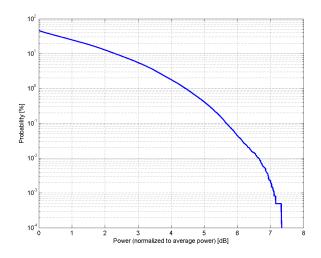
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

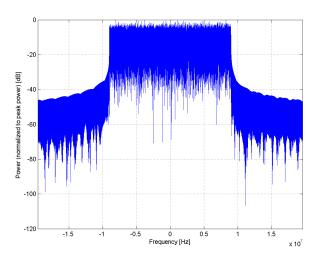
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

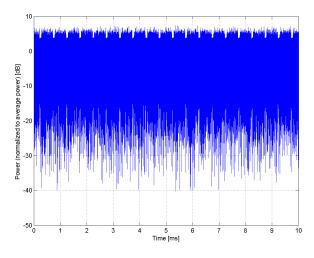
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 20 MHz, 16-QAM)

Group: LTE-FDD UID: 10101-CAB

PAR: ¹ **6.42 dB** MIF: ² **-17.86 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 16-QAM

Data Type: UL-SCH Number RB: 100

Transport Block Size: 28336

TBS Index: 14 MCS Index: 15 Data Type: PN9

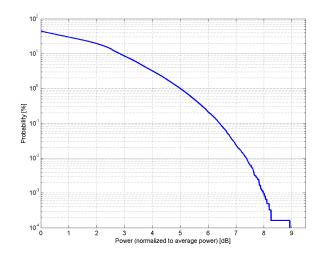
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

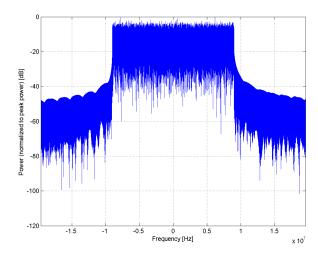
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

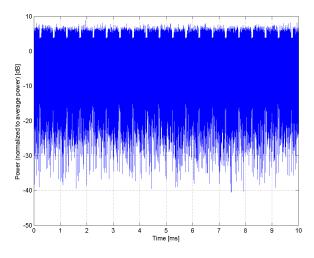
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

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Name: LTE-FDD (SC-FDMA, 100 % RB, 20 MHz, 64-QAM)

Group: LTE-FDD UID: 10102-CAB

PAR: ¹ **6.60 dB** MIF: ² **-17.05 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64-QAM

Data Type: UL-SCH Number RB: 100

Transport Block Size: 57336

TBS Index: 23 MCS Index: 25 Data Type: PN9

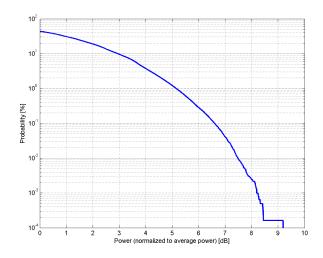
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

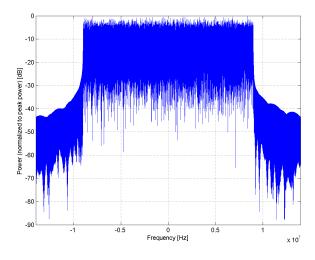
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

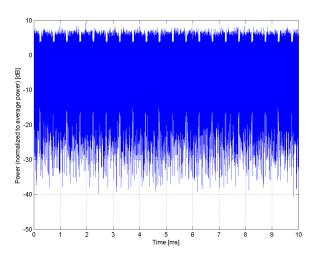
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

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Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-TDD (SC-FDMA, 100 % RB, 20 MHz, QPSK)

Group: LTE-TDD UID: 10103-CAB

PAR: ¹ **9.29 dB** MIF: ² **-1.64 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: QPSK

Frequency Band: Band 33, E-UTRA/TDD (1900.0-1920.0 MHz, 20148)

Band 35, E-UTRA/TDD (1850.0-1910.0 MHz, 20150)
Band 36, E-UTRA/TDD (1930.0-1990.0 MHz, 20151)
Band 37, E-UTRA/TDD (1910.0-1930.0 MHz, 20152)
Band 38, E-UTRA/TDD (2570.0-2620.0 MHz, 20153)
Band 39, E-UTRA/TDD (1880.0-1920.0 MHz, 20154)
Band 40, E-UTRA/TDD (2300.0-2400.0 MHz, 20155)
Band 41, E-UTRA/TDD (2496.0-2690.0 MHz, 20167)
Band 42, E-UTRA/TDD (3400.0-3600.0 MHz, 20168)
Band 43, E-UTRA/TDD (3600.0-3800.0 MHz, 20169)

Band 44, E-UTRA/TDD (703.0-803.0 MHz, 20214)

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: QPSK

Allocated RB: 100 Start Number of RB: 0 Data Type: PN9fix

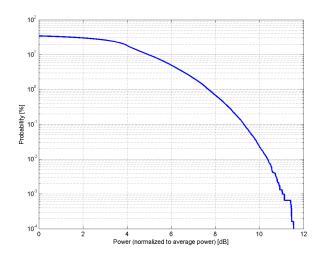
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

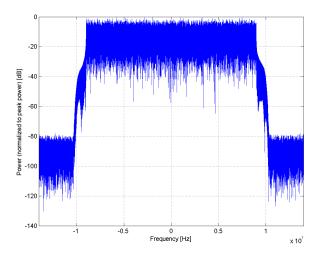
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

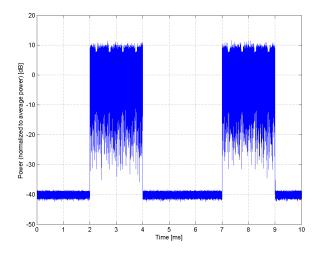
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-TDD (SC-FDMA, 100 % RB, 20 MHz, 16-QAM)

Group: LTE-TDD UID: 10104-CAB

PAR: ¹ **9.97 dB** MIF: ² **-1.66 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 33, E-UTRA/TDD (1900.0-1920.0 MHz, 20148)

Band 35, E-UTRA/TDD (1850.0-1910.0 MHz, 20150) Band 36, E-UTRA/TDD (1930.0-1990.0 MHz, 20151) Band 37, E-UTRA/TDD (1910.0-1930.0 MHz, 20152) Band 38, E-UTRA/TDD (2570.0-2620.0 MHz, 20153) Band 39, E-UTRA/TDD (1880.0-1920.0 MHz, 20154) Band 40, E-UTRA/TDD (2300.0-2400.0 MHz, 20155) Band 41, E-UTRA/TDD (2496.0-2690.0 MHz, 20167) Band 42, E-UTRA/TDD (3400.0-3600.0 MHz, 20168) Band 43, E-UTRA/TDD (3600.0-3800.0 MHz, 20169)

Band 44, E-UTRA/TDD (703.0-803.0 MHz, 20214)
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: 100 Start Number of RB: 0 Data Type: PN9fix

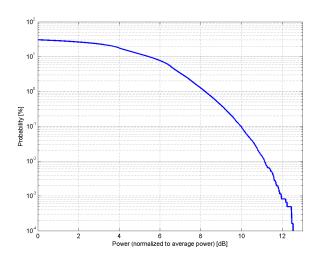
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

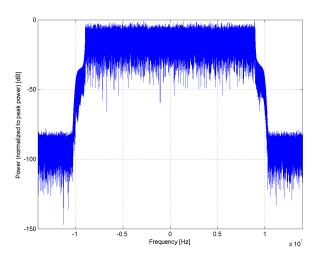
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

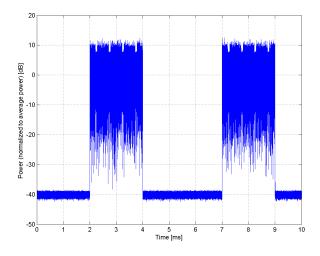
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-TDD (SC-FDMA, 100 % RB, 20 MHz, 64-QAM)

Group: LTE-TDD UID: 10105-CAB

PAR: ¹ **10.01 dB** MIF: ² **-1.67 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: 64-QAM

Frequency Band: Band 33, E-UTRA/TDD (1900.0-1920.0 MHz, 20148)

Band 35, E-UTRA/TDD (1850.0-1910.0 MHz, 20150)
Band 36, E-UTRA/TDD (1930.0-1990.0 MHz, 20151)
Band 37, E-UTRA/TDD (1910.0-1930.0 MHz, 20152)
Band 38, E-UTRA/TDD (2570.0-2620.0 MHz, 20153)
Band 39, E-UTRA/TDD (1880.0-1920.0 MHz, 20154)
Band 40, E-UTRA/TDD (2300.0-2400.0 MHz, 20155)
Band 41, E-UTRA/TDD (2496.0-2690.0 MHz, 20167)
Band 42, E-UTRA/TDD (3400.0-3600.0 MHz, 20168)
Band 43, E-UTRA/TDD (3600.0-3800.0 MHz, 20169)
Band 44, E-UTRA/TDD (703.0-803.0 MHz, 20214)

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: 64QAM

Allocated RB: 100 Start Number of RB: 0 Data Type: PN9fix

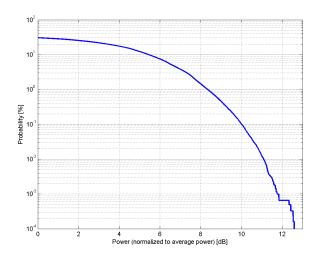
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

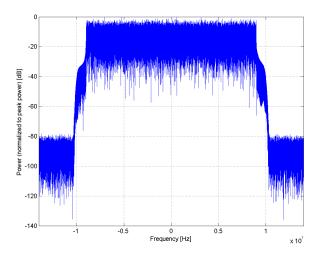
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

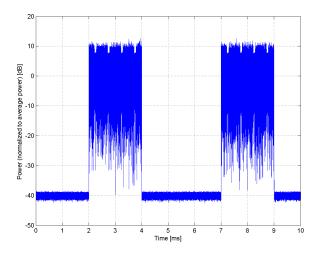
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 10 MHz, QPSK)

Group: LTE-FDD UID: 10108-CAB

PAR: ¹ **5.80 dB** MIF: ² **-21.57 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: QPSK

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)

Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)

Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 50

Transport Block Size: 4392

TBS Index: 5 MCS Index: 5 Data Type: PN9

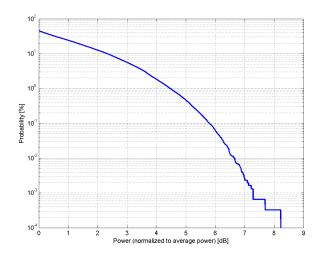
Bandwidth: 10.0 MHz
Integration Time: 10.0 ms

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

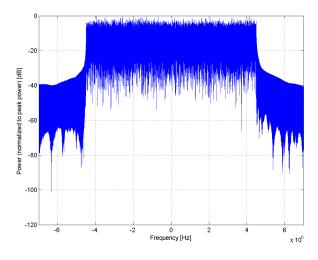
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

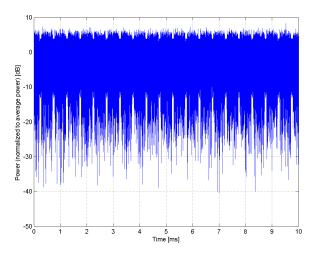
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 10 MHz, 16-QAM)

Group: LTE-FDD UID: 10109-CAB

PAR: ¹ **6.43 dB** MIF: ² **-16.87 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20145)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20146)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20147)

Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)

Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 16-QAM

Data Type: UL-SCH Number RB: 50

Transport Block Size: 14112

TBS Index: 14 MCS Index: 15 Data Type: PN9

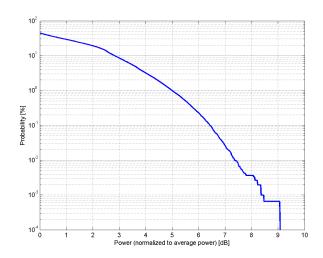
Bandwidth: 10.0 MHz
Integration Time: 10.0 ms

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

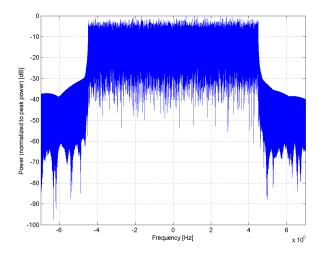
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

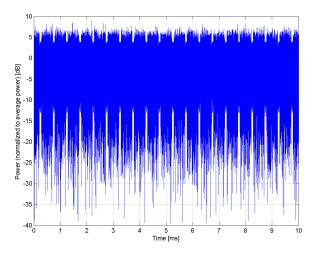
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 5 MHz, QPSK)

Group: LTE-FDD UID: 10110-CAB

PAR: ¹ **5.75 dB** MIF: ² **-23.39 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: QPSK

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)

Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)

Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 25

Transport Block Size: 2216

TBS Index: 5 MCS Index: 5 Data Type: PN9

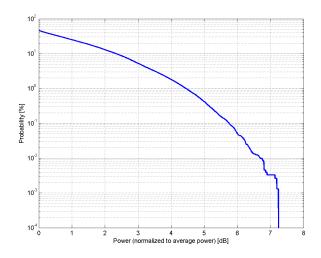
Bandwidth: 5.0 MHz
Integration Time: 10.0 ms

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

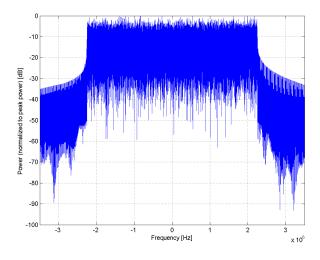
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

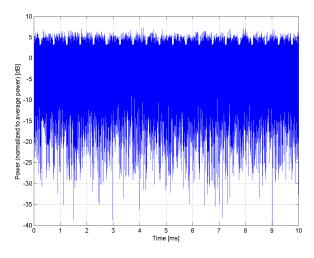
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 5 MHz, 16-QAM)

Group: LTE-FDD UID: 10111-CAB

PAR: ¹ **6.44 dB** MIF: ² **-16.35 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)

Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)

Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 16-QAM

Data Type: UL-SCH Number RB: 25

Transport Block Size: 7224

TBS Index: 14 MCS Index: 15 Data Type: PN9

Bandwidth: 5.0 MHz
Integration Time: 10.0 ms

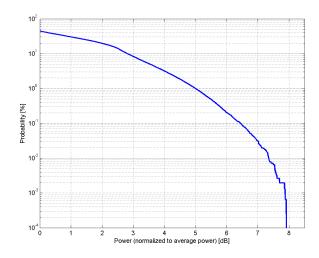
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "'Measurement of the Peak-to-Average Power Ratio (PAPR)"

UID Specification Sheet

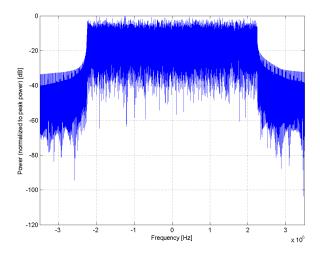
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

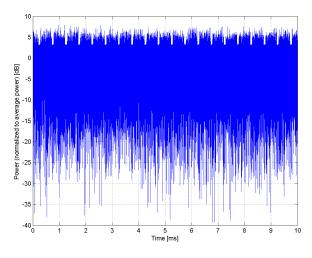
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 10 MHz, 64-QAM)

Group: LTE-FDD UID: 10112-CAB

PAR: ¹ **6.59 dB** MIF: ² **-16.34 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (699.0-716.0 MHz, 20210)

Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)

Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165) Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166) Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64-QAM

Data Type: UL-SCH Number RB: 50

Transport Block Size: 28336

TBS Index: 23 MCS Index: 25 Data Type: PN9

Bandwidth: 10.0 MHz
Integration Time: 10.0 ms

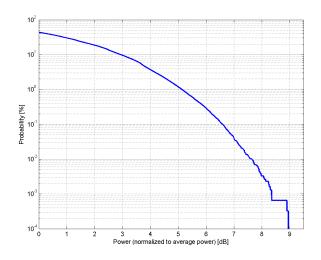
UID Specification Sheet

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

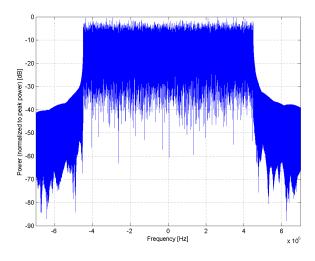
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

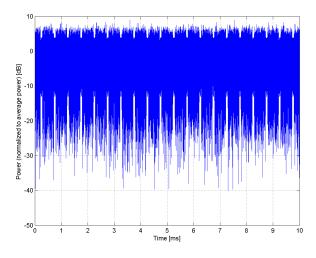
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 5 MHz, 64-QAM)

Group: LTE-FDD UID: 10113-CAB

PAR: ¹ **6.62 dB** MIF: ² **-15.98 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)

Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)

Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164) Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165) Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166) Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64-QAM

Data Type: UL-SCH Number RB: 25

Transport Block Size: 14112

TBS Index: 23 MCS Index: 25 Data Type: PN9

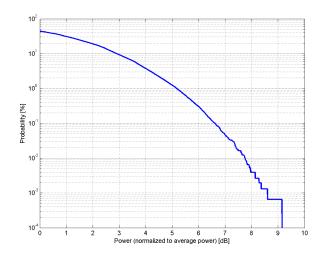
Bandwidth: 5.0 MHz
Integration Time: 10.0 ms

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

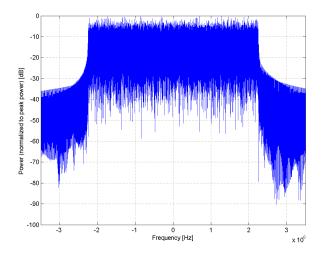
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

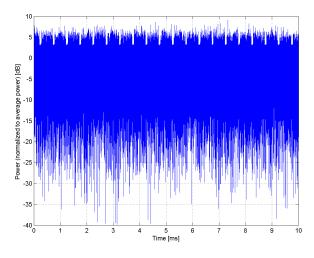
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)

Group: WLAN UID: 10114-CAA

PAR: ¹ **8.10 dB** MIF: ² **-17.24 dB**

Standard Reference: IEEE 802.11n-2009

Category: Random amplitude modulation

Modulation: BPSK

Frequency Band: IEEE 802.11n 2.4GHz band (2409.5-2474.5 MHz, 20029)

5 GHz Band (5030.0-5825.0 MHz, 20053)

Detailed Specification: Modulation: BPSK

Data Rate: 13.5 Mbps

PPDU Format: HT Greenfield

PPDU Type: 40 MHz

MCS Index: 0

Guard Interval: Long Payload Length: 3567

Bandwidth: 40.0 MHz Integration Time: 2.2 ms

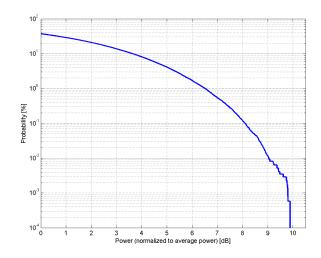
UID Specification Sheet

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

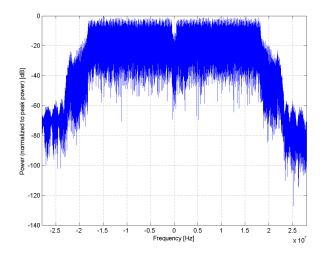
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

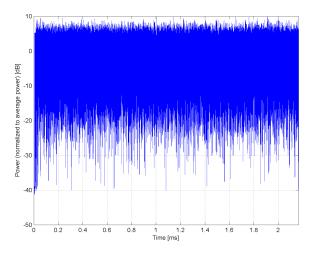
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)

Group: WLAN UID: 10115-CAA

PAR: ¹ **8.46 dB** MIF: ² **-17.11 dB**

Standard Reference: IEEE 802.11n-2009

Category: Random amplitude modulation

Modulation: 16-QAM

Frequency Band: IEEE 802.11n 2.4GHz band (2409.5-2474.5 MHz, 20029)

5 GHz Band (5030.0-5825.0 MHz, 20053)

Detailed Specification: Modulation: 16-QAM

Data Rate: 81 Mbps

PPDU Format: HT Greenfield

PPDU Type: 40 MHz

MCS Index: 4

Guard Interval: Long Payload Length: 21590

Bandwidth: 40.0 MHz Integration Time: 2.2 ms

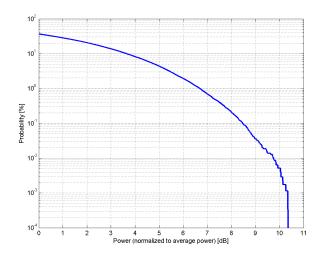
UID Specification Sheet

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

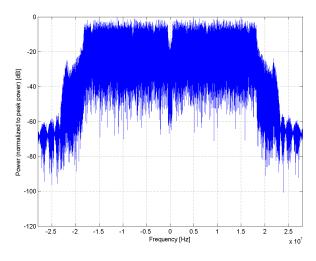
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

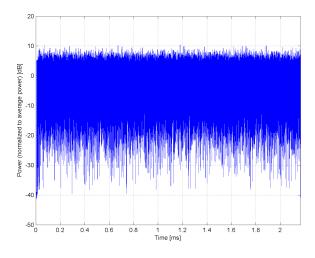
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)

Group: WLAN UID: 10116-CAA

PAR: ¹ **8.15 dB** MIF: ² **-17.09 dB**

Standard Reference: IEEE 802.11n-2009

Category: Random amplitude modulation

Modulation: 64-QAM

Frequency Band: IEEE 802.11n 2.4GHz band (2409.5-2474.5 MHz, 20029)

5 GHz Band (5030.0-5825.0 MHz, 20053)

Detailed Specification: Modulation: 64-QAM

Data Rate: 135 Mbps

PPDU Format: HT Greenfield

PPDU Type: 40 MHz

MCS Index: 7

Guard Interval: Long Payload Length: 36008

Bandwidth: 40.0 MHz Integration Time: 2.2 ms

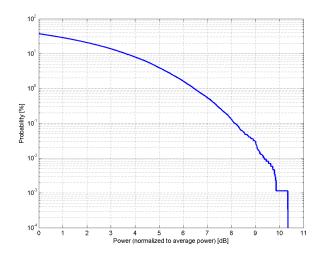
UID Specification Sheet

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

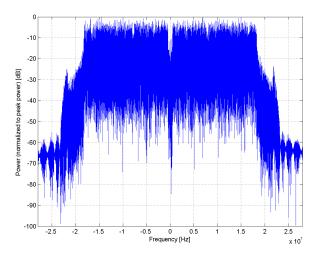
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

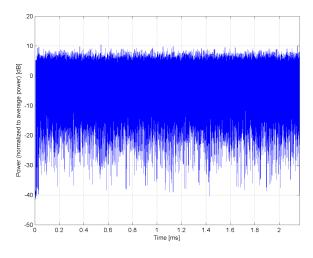
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)

Group: WLAN UID: 10117-CAA

PAR: ¹ **8.07 dB** MIF: ² **-17.16 dB**

Standard Reference: IEEE 802.11n-2009

Category: Random amplitude modulation

Modulation: BPSK

Frequency Band: IEEE 802.11n 2.4GHz band (2409.5-2474.5 MHz, 20029)

5 GHz Band (5030.0-5825.0 MHz, 20053)

Detailed Specification: Modulation: BPSK

Data Rate: 13.5 Mbps PPDU Format: HT Mixed PPDU Type: 40 MHz

MCS Index: 0

Guard Interval: Long Payload Length: 3567

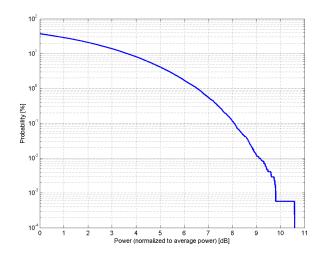
Bandwidth: 40.0 MHz Integration Time: 2.2 ms

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

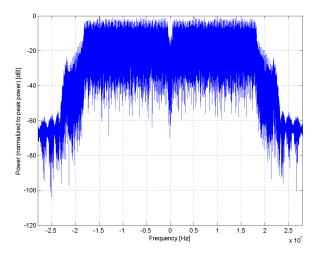
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

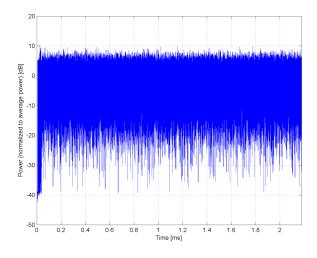
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)

Group: WLAN UID: 10118-CAA

PAR: ¹ **8.59 dB** MIF: ² **-17.09 dB**

Standard Reference: IEEE 802.11n-2009

Category: Random amplitude modulation

Modulation: 16-QAM

Frequency Band: IEEE 802.11n 2.4GHz band (2409.5-2474.5 MHz, 20029)

5 GHz Band (5030.0-5825.0 MHz, 20053)

Detailed Specification: Modulation: 16-QAM

Data Rate: 81 Mbps PPDU Format: HT Mixed PPDU Type: 40 MHz

MCS Index: 4

Guard Interval: Long Payload Length: 21590

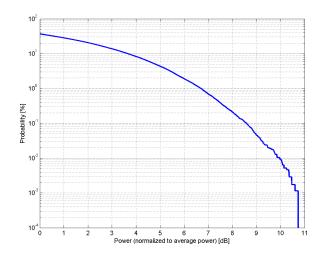
Bandwidth: 40.0 MHz Integration Time: 2.2 ms

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

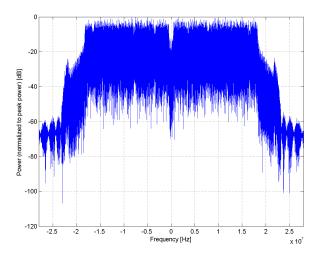
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

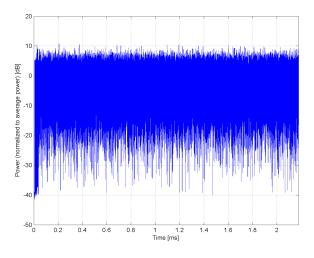
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)

Group: WLAN UID: 10119-CAA

PAR: ¹ **8.13 dB** MIF: ² **-17.00 dB**

Standard Reference: IEEE 802.11n-2009

Category: Random amplitude modulation

Modulation: 64-QAM

Frequency Band: IEEE 802.11n 2.4GHz band (2409.5-2474.5 MHz, 20029)

5 GHz Band (5030.0-5825.0 MHz, 20053)

Detailed Specification: Modulation: 64-QAM

Data Rate: 135 Mbps PPDU Format: HT Mixed PPDU Type: 40 MHz

MCS Index: 7

Guard Interval: Long Payload Length: 36008

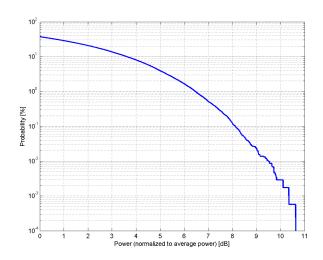
Bandwidth: 40.0 MHz Integration Time: 2.2 ms

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

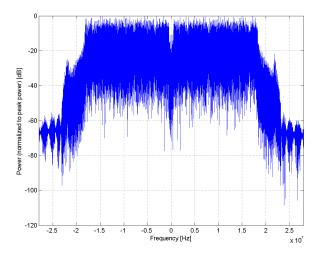
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

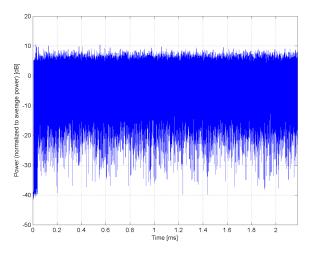
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 15 MHz, 16-QAM)

Group: LTE-FDD UID: 10140-CAB

PAR: ¹ **6.49 dB** MIF: ² **-19.37 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)

Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 75

Transport Block Size: 21384

TBS Index: 14 MCS Index: 15 Data Type: PN9

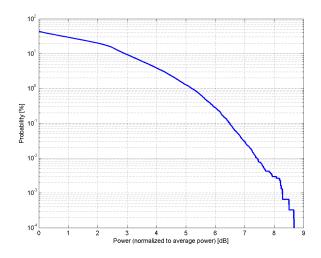
Bandwidth: 15.0 MHz Integration Time: 10.0 ms

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

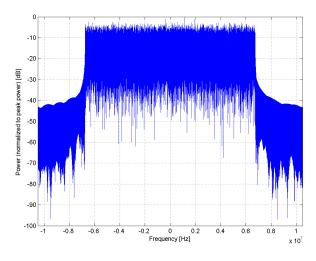
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

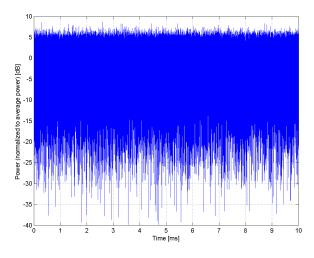
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

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Name: LTE-FDD (SC-FDMA, 100 % RB, 15 MHz, 64-QAM)

Group: LTE-FDD UID: 10141-CAB

PAR: ¹ **6.53 dB** MIF: ² **-19.44 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 v01

Category: Random amplitude modulation

Modulation: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)

Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 75

Transport Block Size: 43816

TBS Index: 23 MCS Index: 25 Data Type: PN9

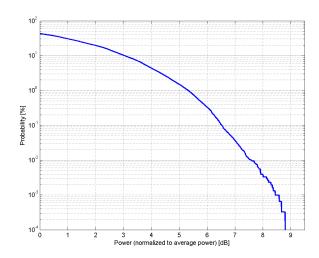
Bandwidth: 15.0 MHz Integration Time: 10.0 ms

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

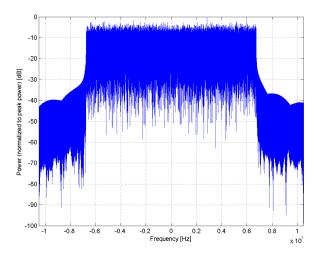
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

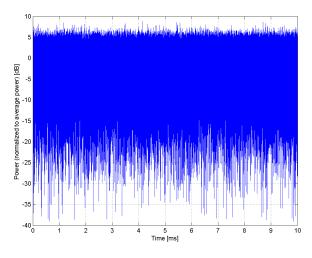
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 3 MHz, QPSK)

Group: LTE-FDD UID: 10142-CAB

PAR: ¹ **5.73 dB** MIF: ² **-22.36 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: QPSK

Frequency Band: Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)

Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212)
Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 15

Transport Block Size: 1320

TBS Index: 5 MCS Index: 5 Data Type: PN9

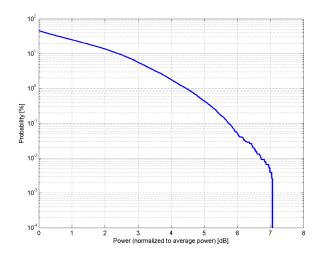
Bandwidth: 3.0 MHz
Integration Time: 10.0 ms

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

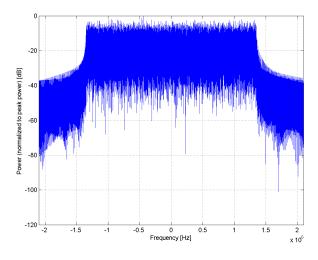
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

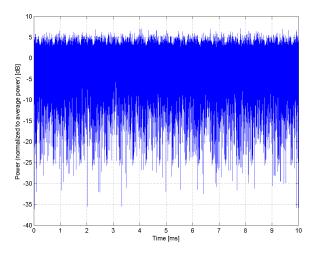
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 100 % RB, 3 MHz, 16-QAM)

Group: LTE-FDD UID: 10143-CAB

PAR: ¹ **6.35 dB** MIF: ² **-14.75 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 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)

Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212)
Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 15

Transport Block Size: 4264

TBS Index: 14 MCS Index: 15 Data Type: PN9

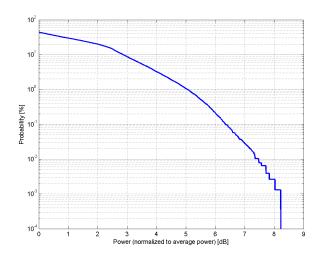
Bandwidth: 3.0 MHz
Integration Time: 10.0 ms

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

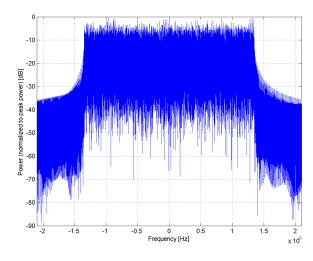
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

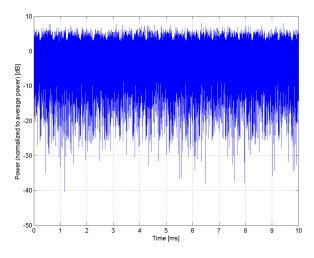
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 3 MHz, 64-QAM)

Group: LTE-FDD UID: 10144-CAB

PAR: ¹ **6.65 dB** MIF: ² **-15.02 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: 64-QAM

Frequency Band: Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)

Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212)

Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 15

Transport Block Size: 8504

TBS Index: 23 MCS Index: 25 Data Type: PN9

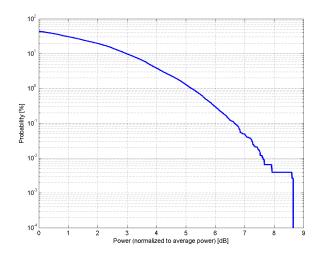
Bandwidth: 3.0 MHz
Integration Time: 10.0 ms

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

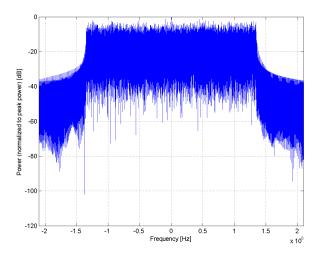
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

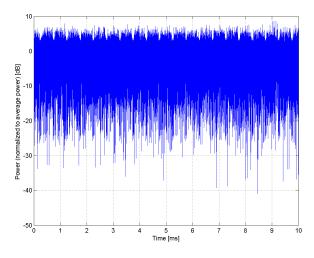
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 1.4 MHz, QPSK)

Group: LTE-FDD UID: 10145-CAB

PAR: ¹ **5.76 dB** MIF: ² **-17.39 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: QPSK

Frequency Band: Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)

Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212)

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: 6

Transport Block Size: 504

TBS Index: 5 MCS Index: 5 Data Type: PN9

Bandwidth: 1.4 MHz Integration Time: 10.0 ms

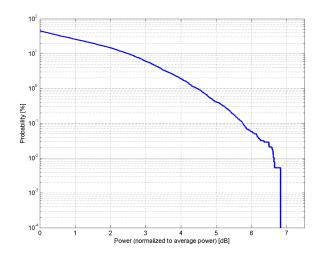
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 6.0 "'Measurement of the Peak-to-Average Power Ratio (PAPR)"

UID Specification Sheet

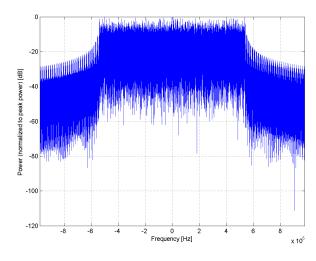
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

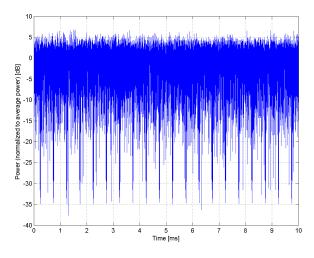
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 1.4 MHz, 16-QAM)

Group: LTE-FDD UID: 10146-CAB

PAR: ¹ **6.41 dB** MIF: ² **-13.60 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 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)

Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212)

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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: 15

Transport Block Size: 1736

TBS Index: 14 MCS Index: 15 Data Type: PN9

Bandwidth: 1.4 MHz Integration Time: 10.0 ms

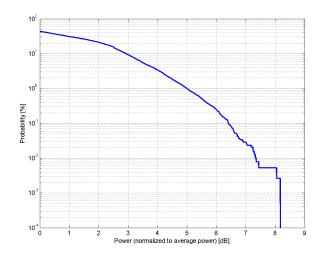
UID Specification Sheet

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

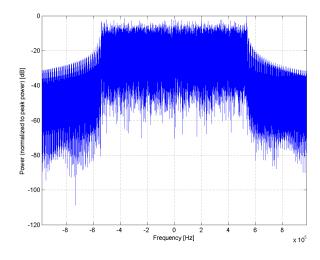
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

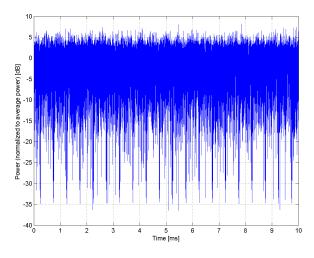
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 100 % RB, 1.4 MHz, 64-QAM)

Group: LTE-FDD UID: 10147-CAB

PAR: ¹ **6.72 dB** MIF: ² **-13.90 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: 64-QAM

Frequency Band: Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)

Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212)

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Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 6

Transport Block Size: 3496

TBS Index: 23 MCS Index: 25 Data Type: PN9

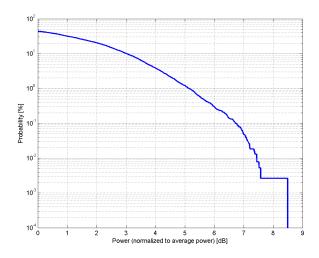
Bandwidth: 1.4 MHz Integration Time: 10.0 ms

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

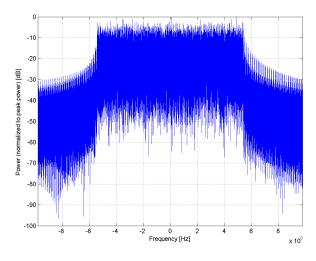
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

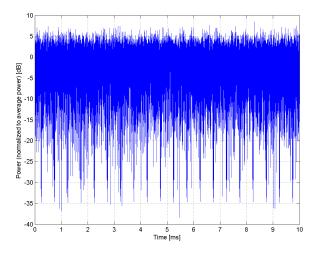
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 20 MHz, 16-QAM)

Group: LTE-FDD UID: 10149-CAB

PAR: ¹ **6.42 dB** MIF: ² **-16.87 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 50

Transport Block Size: 14112

TBS Index: 14 MCS Index: 15 Data Type: PN9

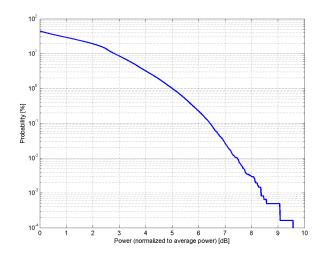
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

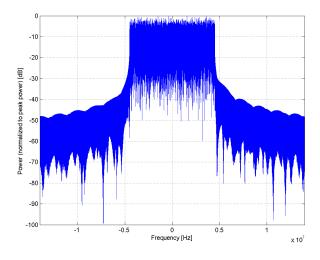
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

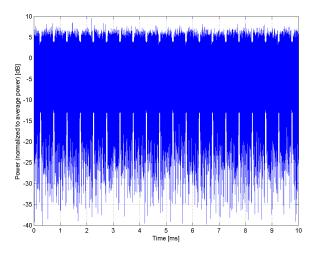
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 20 MHz, 64-QAM)

Group: LTE-FDD UID: 10150-CAB

PAR: ¹ **6.60 dB** MIF: ² **-16.33 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 50

Transport Block Size: 28336

TBS Index: 23 MCS Index: 25 Data Type: PN9

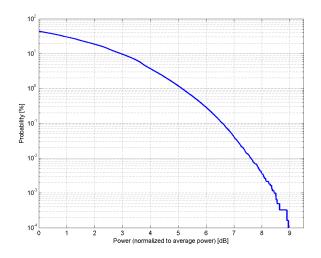
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

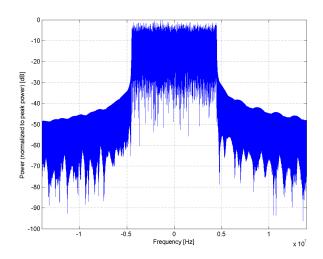
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

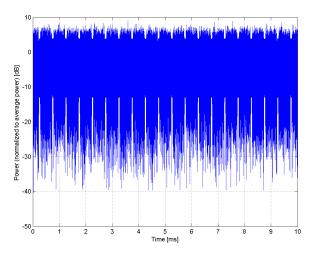
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

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Name: LTE-TDD (SC-FDMA, 50 % RB, 20 MHz, QPSK)

Group: LTE-TDD UID: 10151-CAB

PAR: ¹ **9.28 dB** MIF: ² **-1.64 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: QPSK

Frequency Band: Band 33, E-UTRA/TDD (1900.0-1920.0 MHz, 20148)

Band 35, E-UTRA/TDD (1850.0-1910.0 MHz, 20150) Band 36, E-UTRA/TDD (1930.0-1990.0 MHz, 20151) Band 37, E-UTRA/TDD (1910.0-1930.0 MHz, 20152) Band 38, E-UTRA/TDD (2570.0-2620.0 MHz, 20153) Band 39, E-UTRA/TDD (1880.0-1920.0 MHz, 20154) Band 40, E-UTRA/TDD (2300.0-2400.0 MHz, 20155) Band 41, E-UTRA/TDD (2496.0-2690.0 MHz, 20167) Band 42, E-UTRA/TDD (3400.0-3600.0 MHz, 20168) Band 43, E-UTRA/TDD (3600.0-3800.0 MHz, 20169)

Band 44, E-UTRA/TDD (703.0-803.0 MHz, 20214)

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: QPSK

Allocated RB: 50 Start Number of RB: 25 Data Type: PN9fix

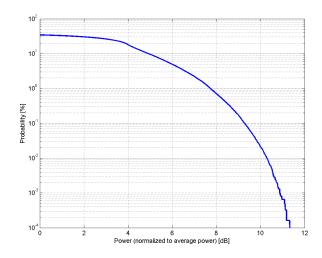
Bandwidth: 20.0 MHz
Integration Time: 10.0 ms

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

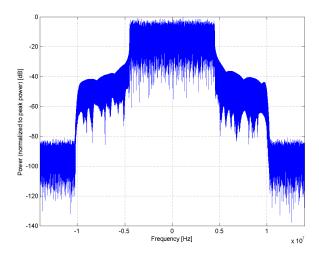
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

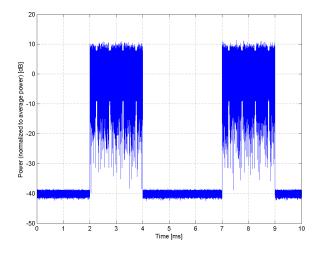
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

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Name: LTE-TDD (SC-FDMA, 50 % RB, 20 MHz, 16-QAM)

Group: LTE-TDD UID: 10152-CAB

PAR: ¹ **9.92 dB** MIF: ² **-1.66 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 33, E-UTRA/TDD (1900.0-1920.0 MHz, 20148)

Band 35, E-UTRA/TDD (1850.0-1910.0 MHz, 20150) Band 36, E-UTRA/TDD (1930.0-1990.0 MHz, 20151) Band 37, E-UTRA/TDD (1910.0-1930.0 MHz, 20152) Band 38, E-UTRA/TDD (2570.0-2620.0 MHz, 20153) Band 39, E-UTRA/TDD (1880.0-1920.0 MHz, 20154) Band 40, E-UTRA/TDD (2300.0-2400.0 MHz, 20155) Band 41, E-UTRA/TDD (2496.0-2690.0 MHz, 20167) Band 42, E-UTRA/TDD (3400.0-3600.0 MHz, 20168) Band 43, E-UTRA/TDD (3600.0-3800.0 MHz, 20169)

Band 44, E-UTRA/TDD (703.0-803.0 MHz, 20214)

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: 50 Start Number of RB: 25 Data Type: PN9fix

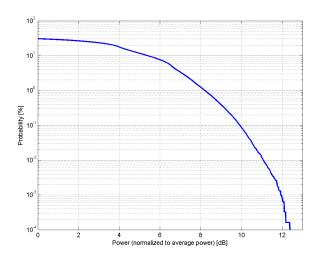
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

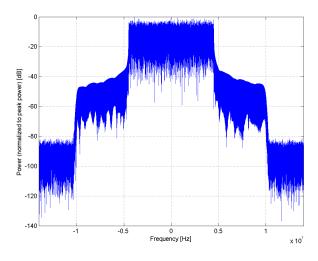
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

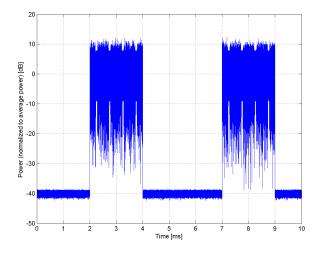
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-TDD (SC-FDMA, 50 % RB, 20 MHz, 64-QAM)

Group: LTE-TDD UID: 10153-CAB

PAR: ¹ **10.05 dB** MIF: ² **-1.66 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: 64-QAM

Frequency Band: Band 33, E-UTRA/TDD (1900.0-1920.0 MHz, 20148)

Band 35, E-UTRA/TDD (1850.0-1910.0 MHz, 20150) Band 36, E-UTRA/TDD (1930.0-1990.0 MHz, 20151) Band 37, E-UTRA/TDD (1910.0-1930.0 MHz, 20152) Band 38, E-UTRA/TDD (2570.0-2620.0 MHz, 20153) Band 39, E-UTRA/TDD (1880.0-1920.0 MHz, 20154) Band 40, E-UTRA/TDD (2300.0-2400.0 MHz, 20155) Band 41, E-UTRA/TDD (2496.0-2690.0 MHz, 20167) Band 42, E-UTRA/TDD (3400.0-3600.0 MHz, 20168) Band 43, E-UTRA/TDD (3600.0-3800.0 MHz, 20169)

Band 44, E-UTRA/TDD (703.0-803.0 MHz, 20214)

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: 64QAM

Allocated RB: 50 Start Number of RB: 25 Data Type: PN9fix

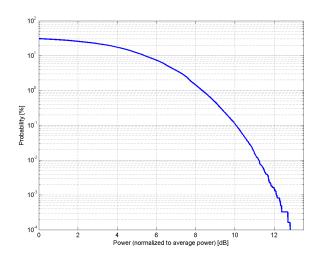
Bandwidth: 20.0 MHz Integration Time: 10.0 ms

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

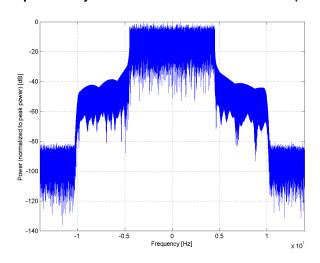
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

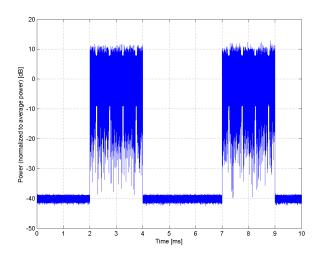
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 50 % RB, 10 MHz, QPSK)

Group: LTE-FDD UID: 10154-CAB

PAR: ¹ **5.75 dB** MIF: ² **-23.42 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: QPSK

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)

Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)

Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 25

Transport Block Size: 2216

TBS Index: 5 MCS Index: 5 Data Type: PN9

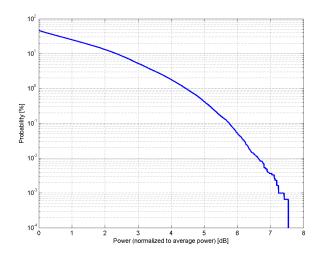
Bandwidth: 10.0 MHz
Integration Time: 10.0 ms

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

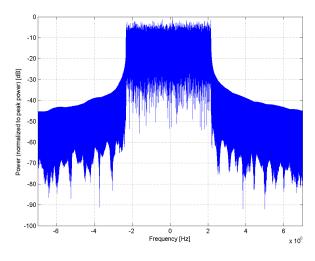
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

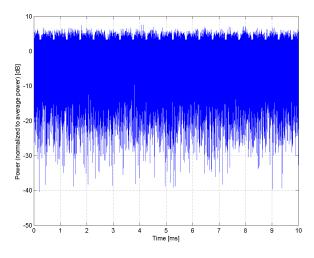
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 10 MHz, 16-QAM)

Group: LTE-FDD UID: 10155-CAB

PAR: ¹ **6.43 dB** MIF: ² **-16.36 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (699.0-716.0 MHz, 20210)

Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)

Band 25, E-UTRA/FDD (2000.0-2020.0 MHz, 20164) Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165) Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166) Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 25

Transport Block Size: 7224

TBS Index: 14
MCS Index: 15

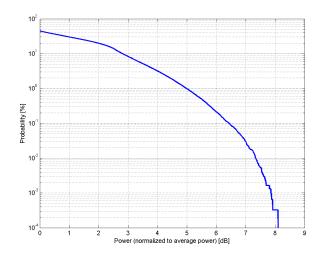
Data Type: PN9
Bandwidth: 10.0 MHz
Integration Time: 10.0 ms

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

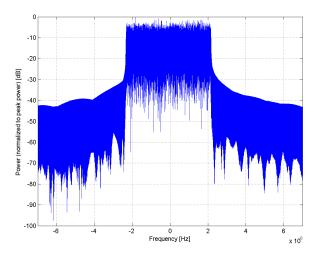
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

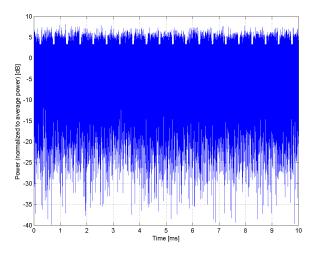
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 5 MHz, QPSK)

Group: LTE-FDD UID: 10156-CAB

PAR: ¹ **5.79 dB** MIF: ² **-21.71 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: QPSK

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)

Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 12

Transport Block Size: 1032

TBS Index: 5 MCS Index: 5 Data Type: PN9

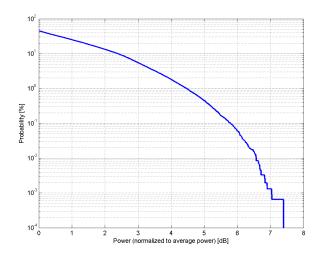
Bandwidth: 5.0 MHz
Integration Time: 10.0 ms

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

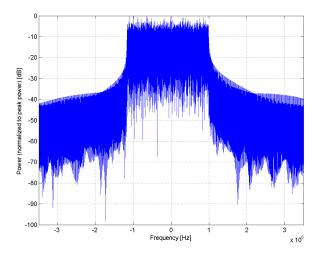
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

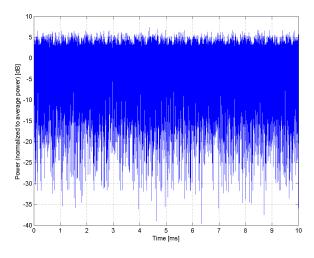
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 5 MHz, 16-QAM)

Group: LTE-FDD UID: 10157-CAB

PAR: ¹ **6.49 dB** MIF: ² **-15.78 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20145)

Band 13, E-UTRA/FDD (699.0-710.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 12

Transport Block Size: 3496

TBS Index: 14 MCS Index: 15 Data Type: PN9

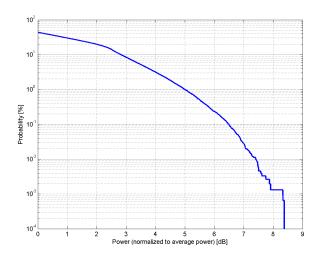
Bandwidth: 5.0 MHz
Integration Time: 10.0 ms

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

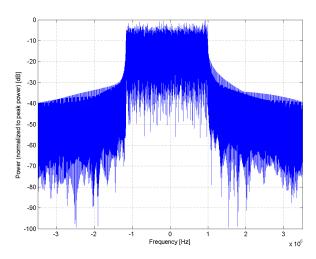
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

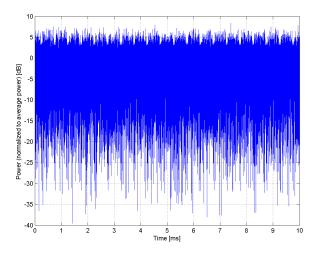
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 50 % RB, 10 MHz, 64-QAM)

Group: LTE-FDD UID: 10158-CAB

PAR: ¹ **6.62 dB** MIF: ² **-15.99 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20145)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (7788.0-798.0 MHz, 20146)

Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 25

Transport Block Size: 14112

TBS Index: 23 MCS Index: 25 Data Type: PN9

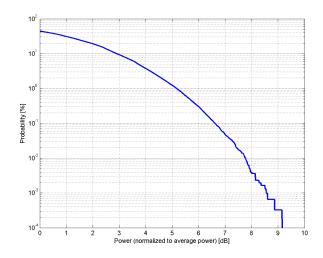
Bandwidth: 10.0 MHz
Integration Time: 10.0 ms

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

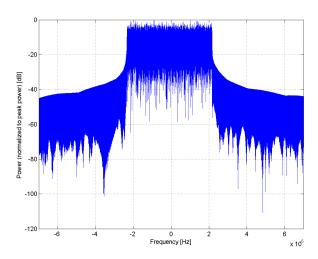
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

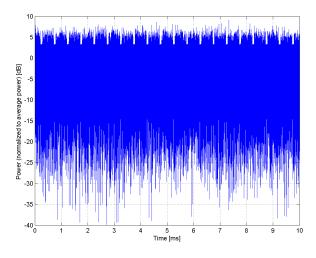
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

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Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 5 MHz, 64-QAM)

Group: LTE-FDD UID: 10159-CAB

PAR: ¹ **6.56 dB** MIF: ² **-14.49 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 5, E-UTRA/FDD (824.0-849.0 MHz, 20137)
Band 6, E-UTRA/FDD (830.0-840.0 MHz, 20138)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 8, E-UTRA/FDD (880.0-915.0 MHz, 20140)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)

Band 11, E-UTRA/FDD (1427.9-1447.9 MHz, 20209)
Band 12, E-UTRA/FDD (699.0-716.0 MHz, 20210)
Band 13, E-UTRA/FDD (777.0-787.0 MHz, 20145)
Band 14, E-UTRA/FDD (788.0-798.0 MHz, 20146)
Band 17, E-UTRA/FDD (704.0-716.0 MHz, 20147)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 24, E-UTRA/FDD (1626.5-1660.5 MHz, 20165)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)

Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 27 E-UTRA/FDD (807.0-824.0 MHz, 20212) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 12

Transport Block Size: 6968

TBS Index: 23 MCS Index: 25 Data Type: PN9

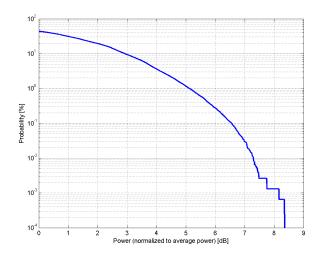
Bandwidth: 5.0 MHz
Integration Time: 10.0 ms

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

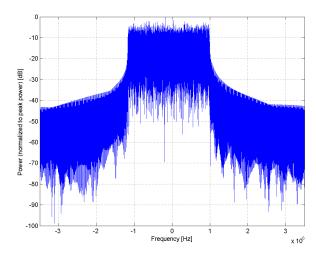
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

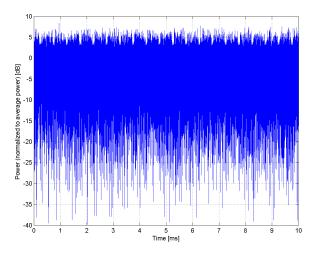
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

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Name: LTE-FDD (SC-FDMA, 50 % RB, 15 MHz, QPSK)

Group: LTE-FDD UID: 10160-CAB

PAR: ¹ **5.82 dB** MIF: ² **-17.95 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: QPSK

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)

Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190) Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164) Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166) Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211) Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 36

Transport Block Size: 3112

TBS Index: 5 MCS Index: 5 Data Type: PN9

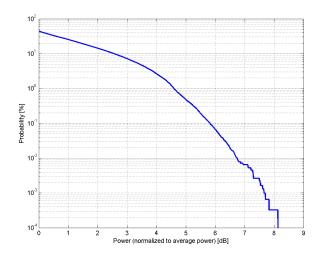
Bandwidth: 15.0 MHz
Integration Time: 10.0 ms

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

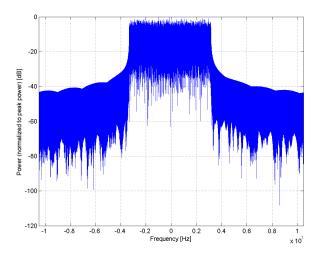
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

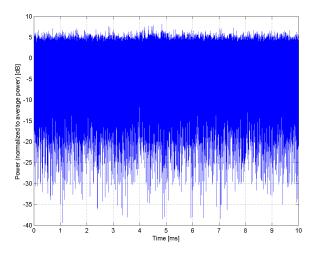
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

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Name: LTE-FDD (SC-FDMA, 50 % RB, 15 MHz, 16-QAM)

Group: LTE-FDD UID: 10161-CAB

PAR: ¹ **6.43 dB** MIF: ² **-17.54 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, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)

Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

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: 36

Transport Block Size: 10296

TBS Index: 14 MCS Index: 15 Data Type: PN9

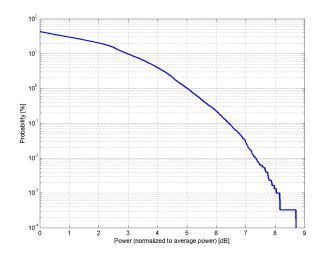
Bandwidth: 15.0 MHz Integration Time: 10.0 ms

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

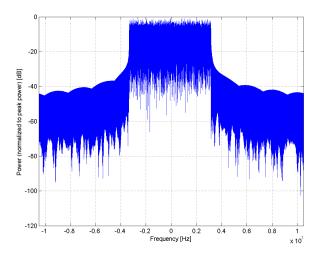
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

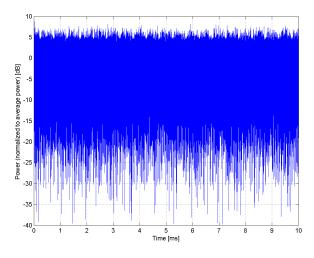
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Complementary Cumulative Distribution Function (CCDF)





Time Domain

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Name: LTE-FDD (SC-FDMA, 50 % RB, 15 MHz, 64-QAM)

Group: LTE-FDD UID: 10162-CAB

PAR: ¹ **6.58 dB** MIF: ² **-17.63 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: 64-QAM

Frequency Band: Band 1, E-UTRA/FDD (1920.0-1980.0 MHz, 20133)

Band 2, E-UTRA/FDD (1850.0-1910.0 MHz, 20134)
Band 3, E-UTRA/FDD (1710.0-1785.0 MHz, 20135)
Band 4, E-UTRA/FDD (1710.0-1755.0 MHz, 20136)
Band 7, E-UTRA/FDD (2500.0-2570.0 MHz, 20139)
Band 9, E-UTRA/FDD (1749.9-1784.9 MHz, 20141)
Band 10, E-UTRA/FDD (1710.0-1770.0 MHz, 20142)
Band 18, E-UTRA/FDD (815.0-830.0 MHz, 20157)
Band 19, E-UTRA/FDD (830.0-845.0 MHz, 20158)
Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)

Band 20, E-UTRA/FDD (832.0-862.0 MHz, 20159)
Band 21, E-UTRA/FDD (1447.9-1462.9 MHz, 20160)
Band 22, E-UTRA/FDD (3410.0-3490.0 MHz, 20190)
Band 23, E-UTRA/FDD (2000.0-2020.0 MHz, 20164)
Band 25, E-UTRA/FDD (1850.0-1915.0 MHz, 20166)
Band 26 E-UTRA/FDD (814.0-849.0 MHz, 20211)
Band 28 E-UTRA/FDD (703.0-748.0 MHz, 20213)

Detailed Specification: Modulation Scheme: SC-FDMA

Number of PUSCHs: 1

Settings for Subframe #0 to #9: Modulation Scheme: 64QAM

Data Type: UL-SCH Number RB: 36

Transport Block Size: 20616

TBS Index: 23 MCS Index: 25 Data Type: PN9

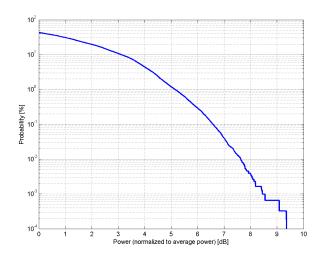
Bandwidth: 15.0 MHz
Integration Time: 10.0 ms

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

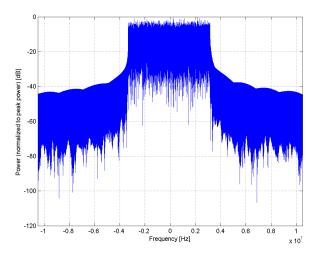
Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).

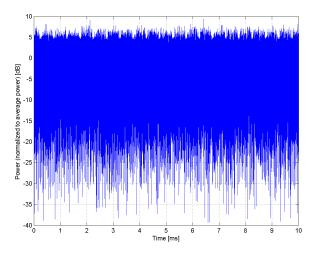
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Complementary Cumulative Distribution Function (CCDF)





Time Domain