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

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

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

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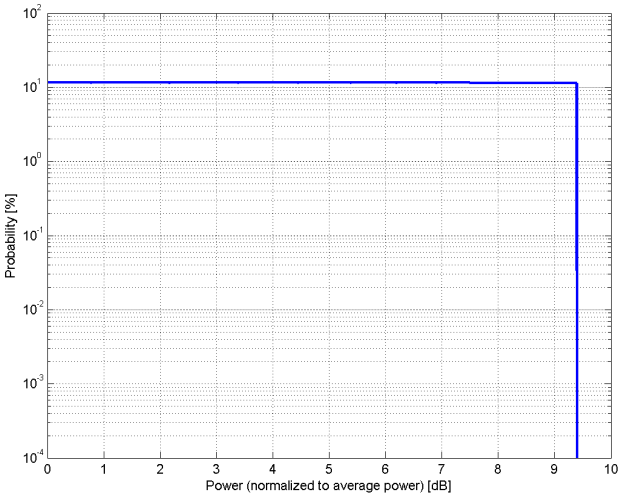
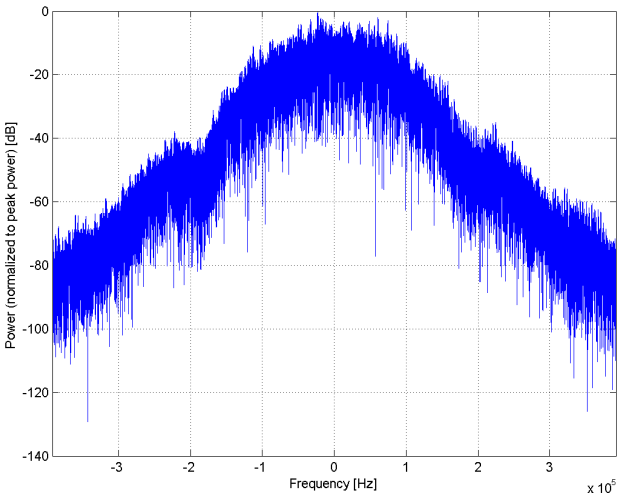
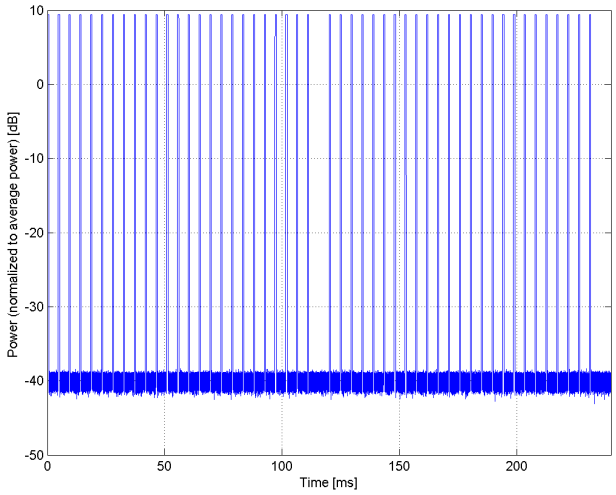



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **UMTS-FDD (WCDMA)** |
| Group: | WCDMA |
| UID: | 10011-CAC |
| PAR: [1] | **2.91 dB** |
| MIF: [2] | **-27.23 dB** |
| Standard Reference: | 3GPP TS 25.141 Annex A<br>FCC OET KDB 941225 D01 SAR test for 3G devices v02 |
| Category: | Random amplitude modulation |
| Modulation: | QPSK |
| Frequency Band: | Band 1 (1920.0 - 1980.0 MHz)<br>Band 2 (1850.0 - 1910.0 MHz)<br>Band 3 (1710.0 - 1785.0 MHz)<br>Band 4 (1710.0 - 1755.0 MHz)<br>Band 5 (824.0 - 849.0 MHz)<br>Band 6 (830.0 - 840.0 MHz)<br>Band 7 (2500.0 - 2570.0 MHz)<br>Band 8 (880.0 - 915.0 MHz)<br>Band 9 (1749.9 - 1784.9 MHz)<br>Band 10 (1710.0 - 1770.0 MHz)<br>Band 11 (1427.9 - 1452.9 MHz)<br>Band 12 (698.0 - 716.0 MHz)<br>Band 13 (777.0 - 787.0 MHz)<br>Band 14 (788.0 - 798.0 MHz)<br>Band 19 (830.0 - 845.0 MHz)<br>Band 20 (832.0 - 862.0 MHz)<br>Band 21 (1447.9 - 1462.9 MHz)<br>Band 22 (3410.0 - 3490.0 MHz)<br>Band 25 (1850.0 - 1915.0 MHz)<br>Band 26 (814.0 - 849.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Dedicated Channel Type: RMC<br>Bitrate: 12.2 kbps<br>DPDCH: 60 kbps<br>DPCCH: 15 kbps<br>DPCCH/DPDCH power ratio: -5.46 dB |
| Bandwidth: | 5.0 MHz |
| Integration Time: | 100.0 ms |

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

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

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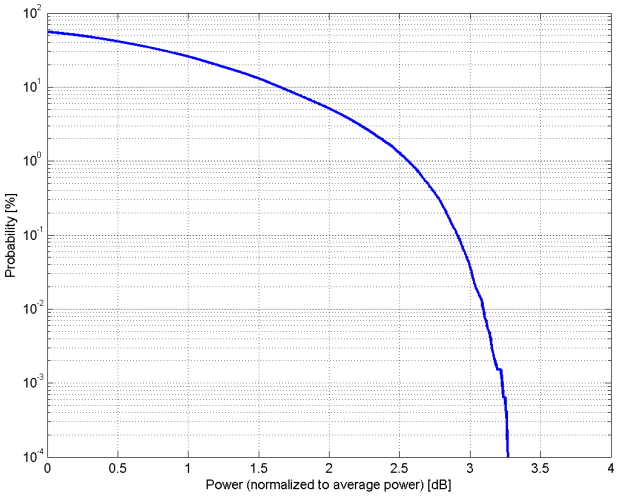
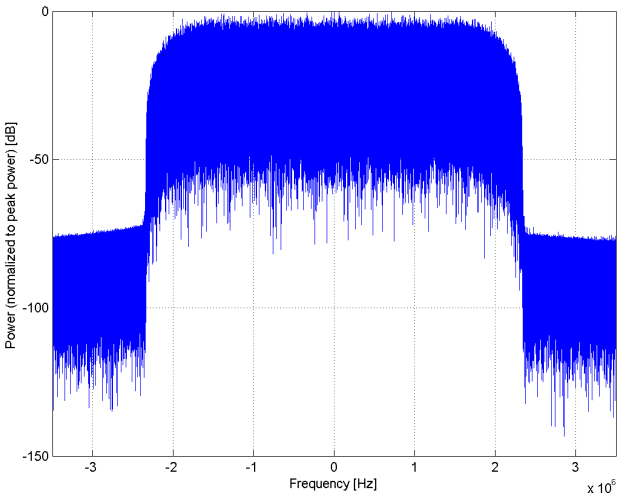
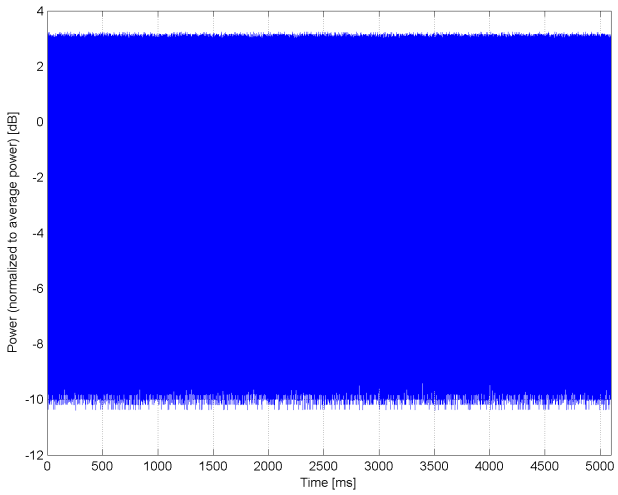



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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

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

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

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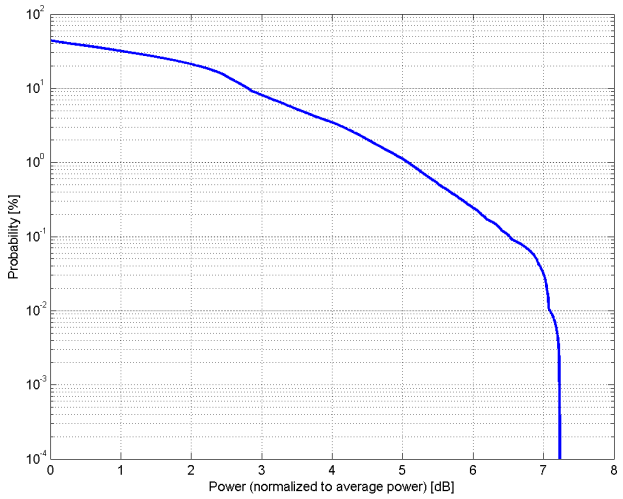
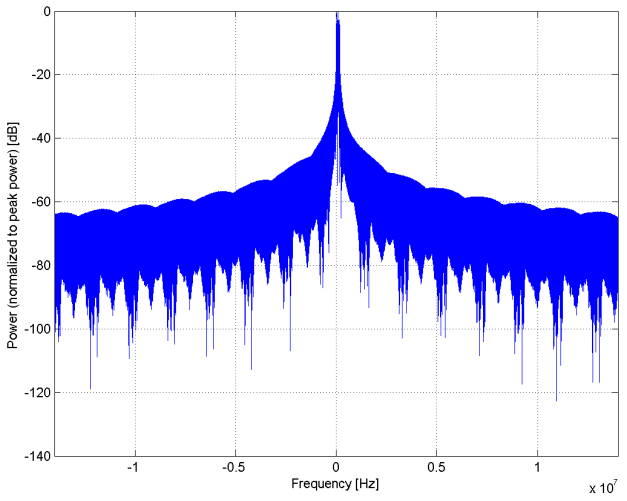
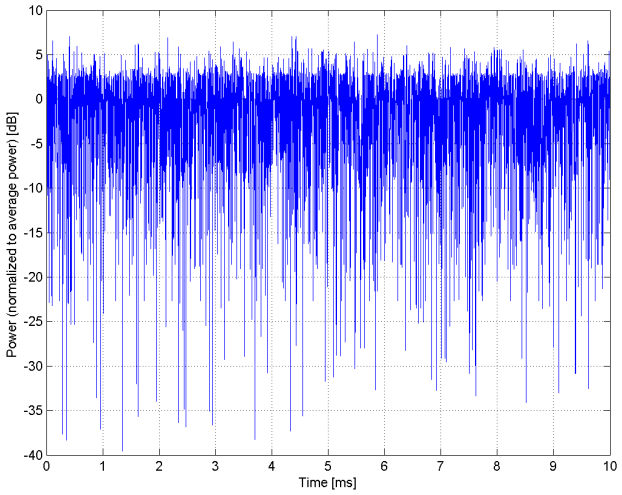



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)** |
| Group: | LTE-FDD |
| UID: | 10182-CAF |
| PAR: [1] | **6.52 dB** |
| MIF: [2] | **-9.76 dB** |
| Standard Reference: | 3GPP / ETSI TS 136.101 V8.4.0<br>3GPP / ETSI TS 136.213 V8.4.0<br>FCC OET KDB 941225 D05 SAR for LTE Devices v01 |
| Category: | Random amplitude modulation |
| Modulation: | 16-QAM |
| Frequency Band: | Band 1 (1920.0 - 1980.0 MHz)<br>Band 2 (1850.0 - 1910.0 MHz)<br>Band 3 (1710.0 - 1785.0 MHz)<br>Band 4 (1710.0 - 1755.0 MHz)<br>Band 7 (2500.0 - 2570.0 MHz)<br>Band 9 (1749.9 - 1784.9 MHz)<br>Band 10 (1710.0 - 1770.0 MHz)<br>Band 18 (815.0 - 830.0 MHz)<br>Band 19 (830.0 - 845.0 MHz)<br>Band 20 (832.0 - 862.0 MHz)<br>Band 21 (1447.9 - 1462.9 MHz)<br>Band 22 (3410.0 - 3490.0 MHz)<br>Band 23 (2000.0 - 2020.0 MHz)<br>Band 25 (1850.0 - 1915.0 MHz)<br>Band 26 (814.0 - 849.0 MHz)<br>Band 28 (703.0 - 748.0 MHz)<br>Band 65 (1920.0 - 2010.0 MHz)<br>Band 66 (1710.0 - 1780.0 MHz)<br>Band 68 (698.0 - 728.0 MHz)<br>Band 70 (1695.0 - 1710.0 MHz)<br>Band 71 (663.0 - 698.0 MHz)<br>Band 74 (1427.0 - 1470.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Modulation Scheme: SC-FDMA<br>Number of PUSCHs: 1<br>Settings for Subframe #0 to #9:<br>Modulation Scheme: 16QAM<br>Data Type: UL-SCH<br>Number RB: 1<br>Transport Block Size: 256<br>TBS Index: 14<br>MCS Index: 15<br>Data Type: PN9 |
| Bandwidth: | 15.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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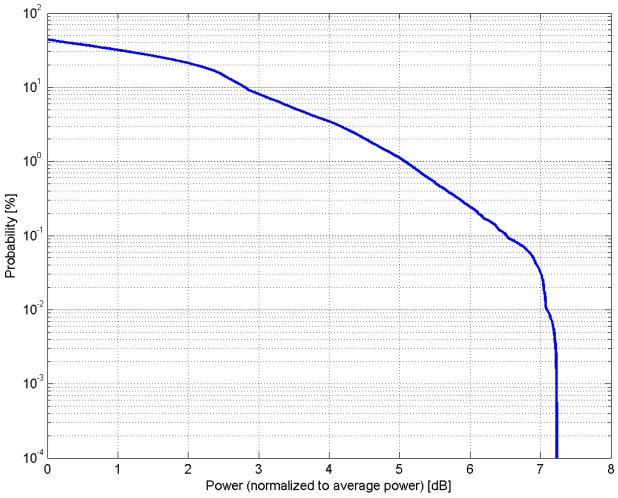
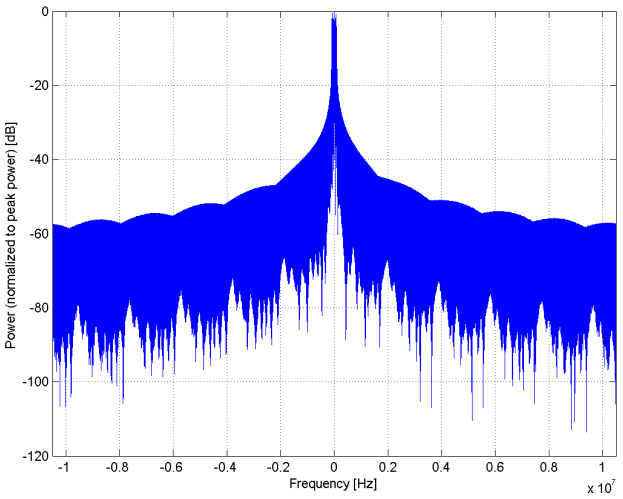
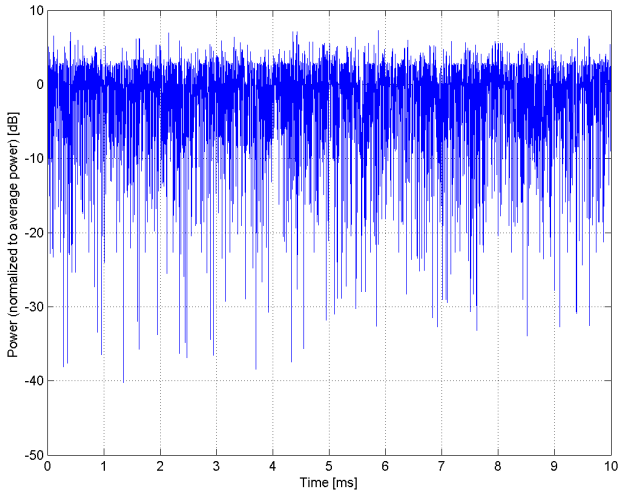



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)** |
| Group: | LTE-FDD |
| UID: | 10176-CAH |
| PAR: [1] | **6.52 dB** |
| MIF: [2] | **-9.76 dB** |
| Standard Reference: | 3GPP / ETSI TS 136.101 V8.4.0<br>3GPP / ETSI TS 136.213 V8.4.0<br>FCC OET KDB 941225 D05 SAR for LTE Devices v01 |
| Category: | Random amplitude modulation |
| Modulation: | 16-QAM |
| Frequency Band: | Band 1 (1920.0 - 1980.0 MHz)<br>Band 2 (1850.0 - 1910.0 MHz)<br>Band 3 (1710.0 - 1785.0 MHz)<br>Band 4 (1710.0 - 1755.0 MHz)<br>Band 5 (824.0 - 849.0 MHz)<br>Band 6 (830.0 - 840.0 MHz)<br>Band 7 (2500.0 - 2570.0 MHz)<br>Band 8 (880.0 - 915.0 MHz)<br>Band 9 (1749.9 - 1784.9 MHz)<br>Band 10 (1710.0 - 1770.0 MHz)<br>Band 11 (1427.9 - 1447.9 MHz)<br>Band 12 (699.0 - 716.0 MHz)<br>Band 13 (777.0 - 787.0 MHz)<br>Band 14 (788.0 - 798.0 MHz)<br>Band 17 (704.0 - 716.0 MHz)<br>Band 18 (815.0 - 830.0 MHz)<br>Band 19 (830.0 - 845.0 MHz)<br>Band 20 (832.0 - 862.0 MHz)<br>Band 21 (1447.9 - 1462.9 MHz)<br>Band 22 (3410.0 - 3490.0 MHz)<br>Band 23 (2000.0 - 2020.0 MHz)<br>Band 24 (1626.5 - 1660.5 MHz)<br>Band 25 (1850.0 - 1915.0 MHz)<br>Band 26 (814.0 - 849.0 MHz)<br>Band 27 (807.0 - 824.0 MHz)<br>Band 28 (703.0 - 748.0 MHz)<br>Band 30 (2305.0 - 2315.0 MHz)<br>Band 65 (1920.0 - 2010.0 MHz)<br>Band 66 (1710.0 - 1780.0 MHz)<br>Band 68 (698.0 - 728.0 MHz)<br>Band 70 (1695.0 - 1710.0 MHz)<br>Band 71 (663.0 - 698.0 MHz)<br>Band 74 (1427.0 - 1470.0 MHz)<br>Band 85 (698.0 - 716.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Modulation Scheme: SC-FDMA<br>Number of PUSCHs: 1<br>Settings for Subframe #0 to #9:<br>Modulation Scheme: QPSK<br>Data Type: UL-SCH<br>Number RB: 1<br>Transport Block Size: 256<br>TBS Index: 14<br>MCS Index: 15<br>Data Type: PN9 |
| Bandwidth: | 10.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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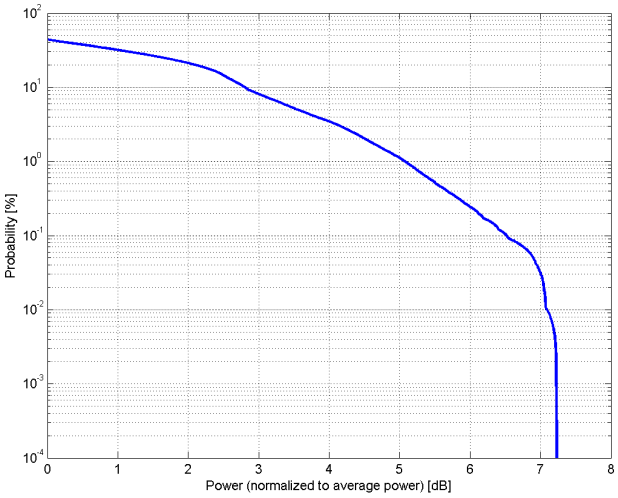
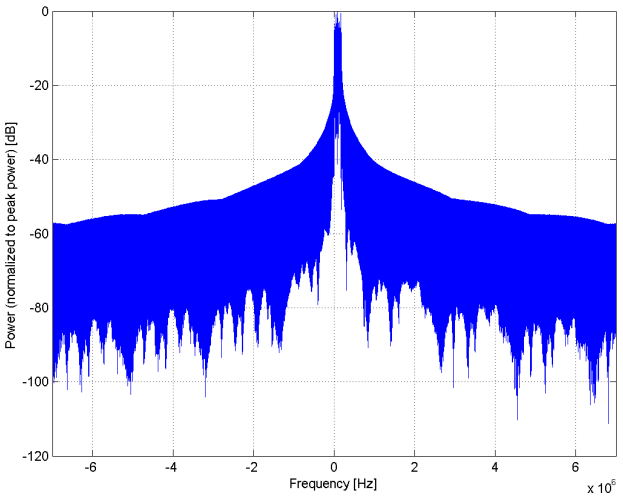
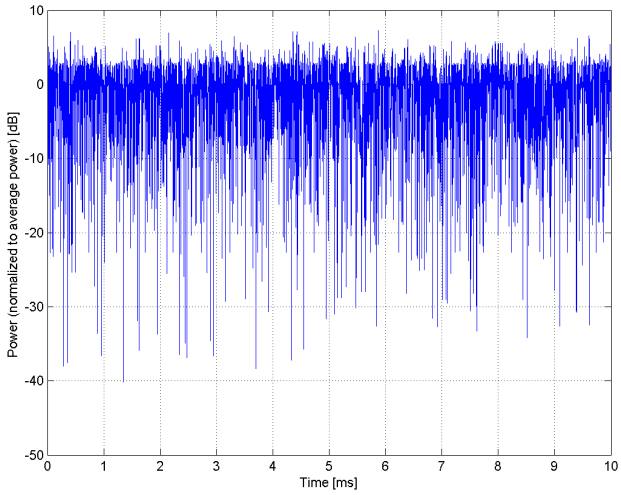



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)** |
| Group: | LTE-TDD |
| UID: | 10173-CAH |
| PAR: [1] | **9.48 dB** |
| MIF: [2] | **-1.44 dB** |
| Standard Reference: | 3GPP / ETSI TS 136.101 V8.4.0<br>3GPP / ETSI TS 136.213 V8.4.0<br>FCC OET KDB 941225 D05 SAR for LTE Devices v02 |
| Category: | Random amplitude modulation |
| Modulation: | 16-QAM |
| Frequency Band: | Band 33 (1900.0 - 1920.0 MHz)<br>Band 35 (1850.0 - 1910.0 MHz)<br>Band 36 (1930.0 - 1990.0 MHz)<br>Band 37 (1910.0 - 1930.0 MHz)<br>Band 38 (2570.0 - 2620.0 MHz)<br>Band 39 (1880.0 - 1920.0 MHz)<br>Band 40 (2300.0 - 2400.0 MHz)<br>Band 41 (2496.0 - 2690.0 MHz)<br>Band 42 (3400.0 - 3600.0 MHz)<br>Band 43 (3600.0 - 3800.0 MHz)<br>Band 44 (703.0 - 803.0 MHz)<br>Band 45 (1447.0 - 1467.0 MHz)<br>Band 46 (5150.0 - 5925.0 MHz)<br>Band 47 (5855.0 - 5925.0 MHz)<br>Band 48 (3550.0 - 3700.0 MHz)<br>Band 49 (3550.0 - 3700.0 MHz)<br>Band 50 (1432.0 - 1517.0 MHz)<br>Band 52 (3300.0 - 3400.0 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Modulation Scheme: SC-FDMA<br>Uplink-downlink configuration: 1<br>Special Subframe configuration: 4<br>Number of Frames: 1<br>Settings for UL Subframe 2,3,7,8:<br>Number of PUSCHs: 1<br>Modulation Scheme: 16QAM<br>Allocated RB: 1<br>Start Number of RB: 50<br>Data Type: PN9fix |
| Bandwidth: | 20.0 MHz |
| Integration Time: | 6.0 ms |

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

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

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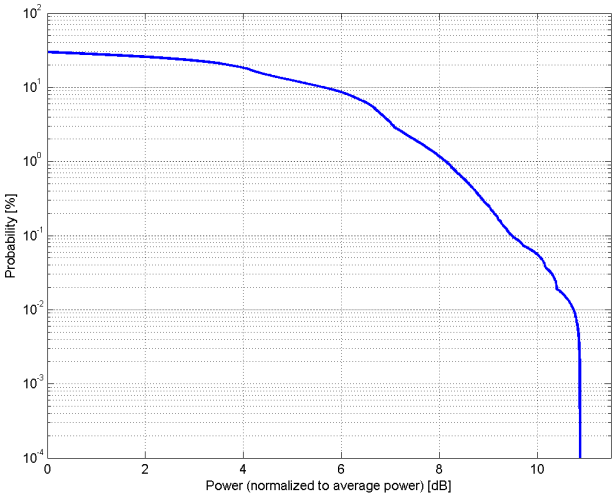
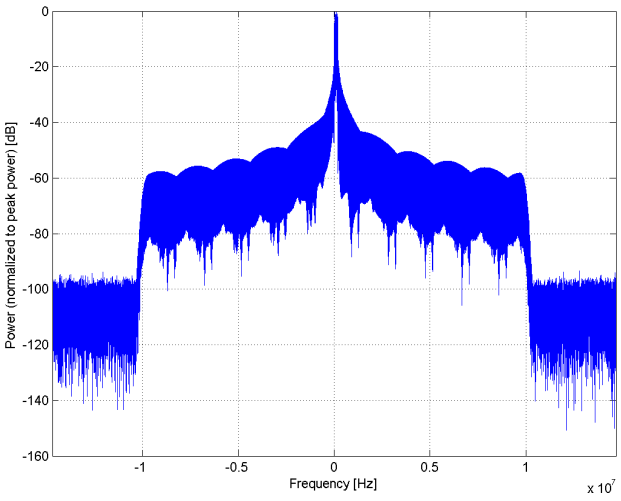
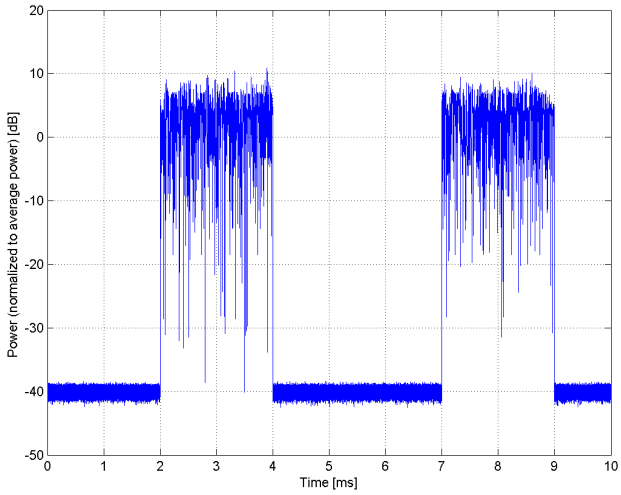



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)** |
| Group: | 5G NR FR1 FDD |
| UID: | 10934-AAC |
| PAR: [1] | **5.51 dB** |
| MIF: [2] | **-15.07 dB** |
| Standard Reference: | SPEAG |
| Category: | Random amplitude modulation |
| Modulation: | QPSK |
| Frequency Band: | Band n25 (1850 - 1915 MHz)<br>Band n66 (1710 - 1780 MHz)<br>Band n1 (1920 - 1980 MHz)<br>Band n3 (1710 - 1785 MHz)<br>Band n7 (2500 - 2570 MHz)<br>Band n86 (1710 - 1780 MHz)<br>Band n97 (2300 - 2400 MHz)<br>Band n98 (1880 - 1920 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: DFT-s-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 15 kHz<br>Number RBs: 1<br>Data Type: PN9 |
| Bandwidth: | 40.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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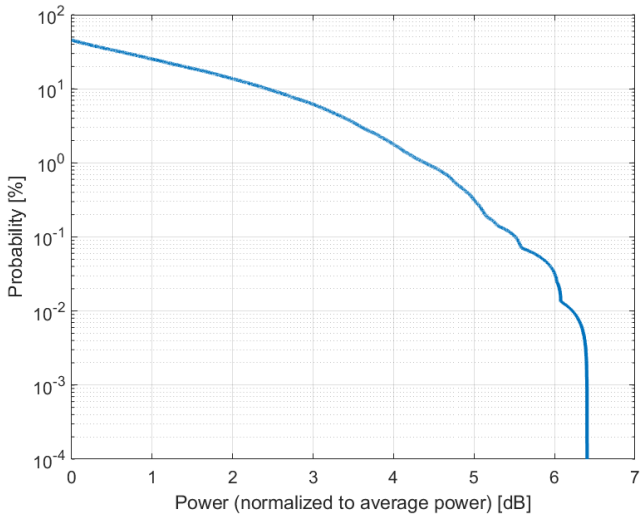
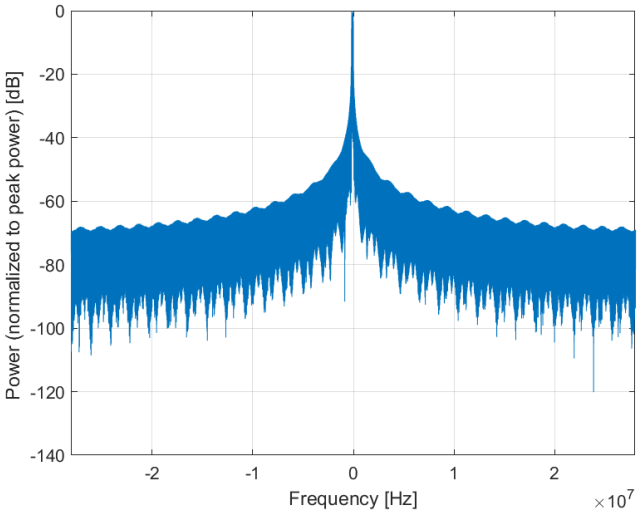
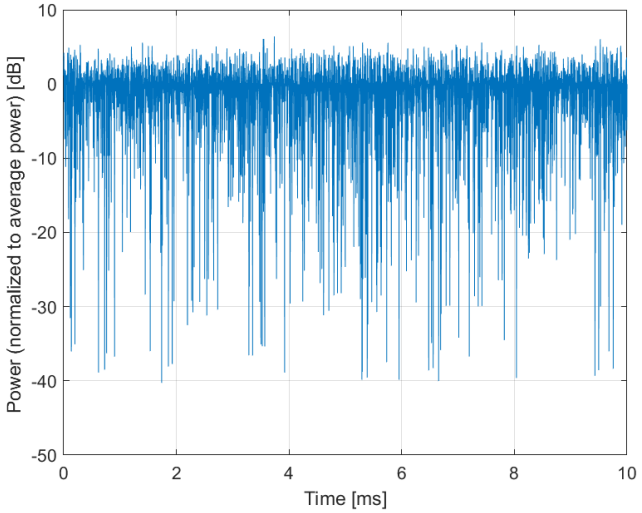



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

**Calibration Laboratory of**
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| | |
|---|---|
| Name: | **5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)** |
| Group: | 5G NR FR1 FDD |
| UID: | 10931-AAC |
| PAR: [1] | **5.51 dB** |
| MIF: [2] | **-15.06 dB** |
| Standard Reference: | SPEAG |
| Category: | Random amplitude modulation |
| Modulation: | QPSK |
| Frequency Band: | Band n2 (1850 - 1910 MHz)<br>Band n5 (824 - 849 MHz)<br>Band n25 (1850 - 1915 MHz)<br>Band n66 (1710 - 1780 MHz)<br>Band n71 (663 - 698 MHz)<br>Band n1 (1920 - 1980 MHz)<br>Band n3 (1710 - 1785 MHz)<br>Band n7 (2500 - 2570 MHz)<br>Band n8 (880 - 915 MHz)<br>Band n20 (832 - 862 MHz)<br>Band n26 (814 - 849 MHz)<br>Band n28 (703 - 748 MHz)<br>Band n65 (1920 - 2010 MHz)<br>Band n74 (1427 - 1470 MHz)<br>Band n92 (832 - 862 MHz)<br>Band n94 (880 - 915 MHz)<br>Band n80 (1710 - 1785 MHz)<br>Band n81 (880 - 915 MHz)<br>Band n82 (832 - 862 MHz)<br>Band n83 (703 - 748 MHz)<br>Band n84 (1920 - 1980 MHz)<br>Band n86 (1710 - 1780 MHz)<br>Band n89 (824 - 849 MHz)<br>Band n97 (2300 - 2400 MHz)<br>Band n98 (1880 - 1920 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: DFT-s-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 15 kHz<br>Number RBs: 1<br>Data Type: PN9 |
| Bandwidth: | 20.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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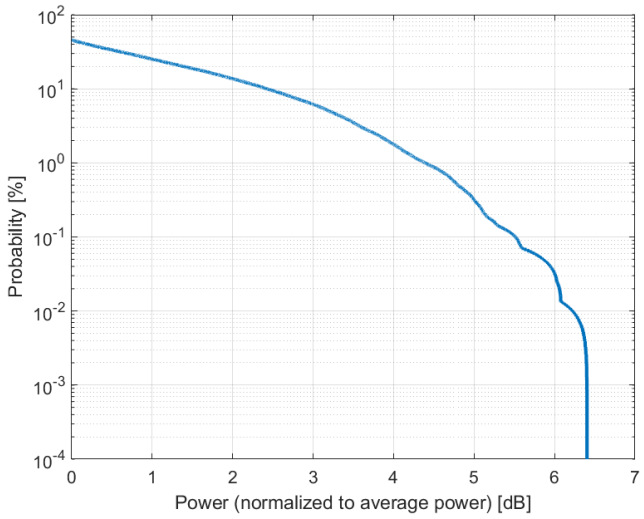
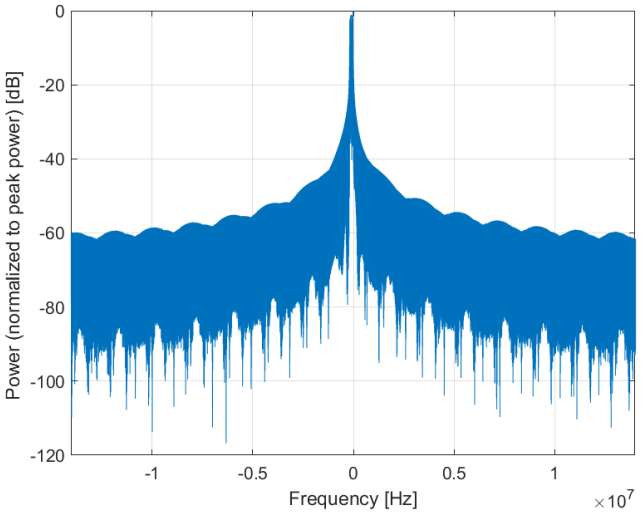
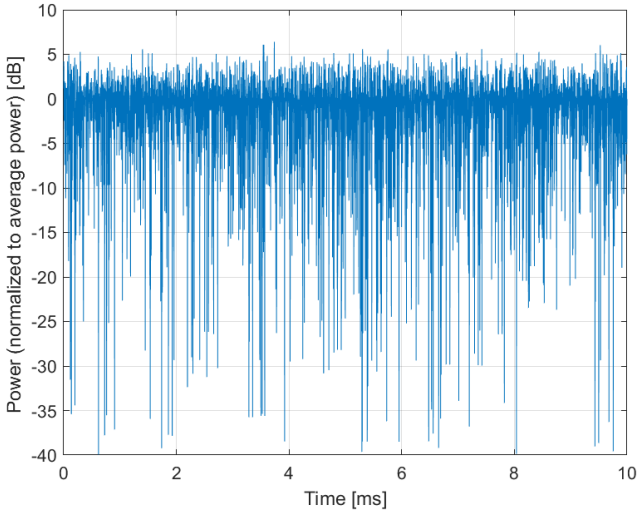



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)** |
| Group: | 5G NR FR1 FDD |
| UID: | 10930-AAC |
| PAR: [1] | **5.52 dB** |
| MIF: [2] | **-15.06 dB** |
| Standard Reference: | SPEAG |
| Category: | Random amplitude modulation |
| Modulation: | QPSK |
| Frequency Band: | Band n2 (1850 - 1910 MHz)<br>Band n5 (824 - 849 MHz)<br>Band n25 (1850 - 1915 MHz)<br>Band n66 (1710 - 1780 MHz)<br>Band n71 (663 - 698 MHz)<br>Band n1 (1920 - 1980 MHz)<br>Band n3 (1710 - 1785 MHz)<br>Band n7 (2500 - 2570 MHz)<br>Band n8 (880 - 915 MHz)<br>Band n12 (699 - 716 MHz)<br>Band n18 (815 - 830 MHz)<br>Band n20 (832 - 862 MHz)<br>Band n26 (814 - 849 MHz)<br>Band n28 (703 - 748 MHz)<br>Band n65 (1920 - 2010 MHz)<br>Band n70 (1695 - 1710 MHz)<br>Band n74 (1427 - 1470 MHz)<br>Band n92 (832 - 862 MHz)<br>Band n94 (880 - 915 MHz)<br>Band n80 (1710 - 1785 MHz)<br>Band n81 (880 - 915 MHz)<br>Band n82 (832 - 862 MHz)<br>Band n83 (703 - 748 MHz)<br>Band n84 (1920 - 1980 MHz)<br>Band n86 (1710 - 1780 MHz)<br>Band n89 (824 - 849 MHz)<br>Band n95 (2010 - 2025 MHz)<br>Band n97 (2300 - 2400 MHz)<br>Band n98 (1880 - 1920 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: DFT-s-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 15 kHz<br>Number RBs: 1<br>Data Type: PN9 |
| Bandwidth: | 15.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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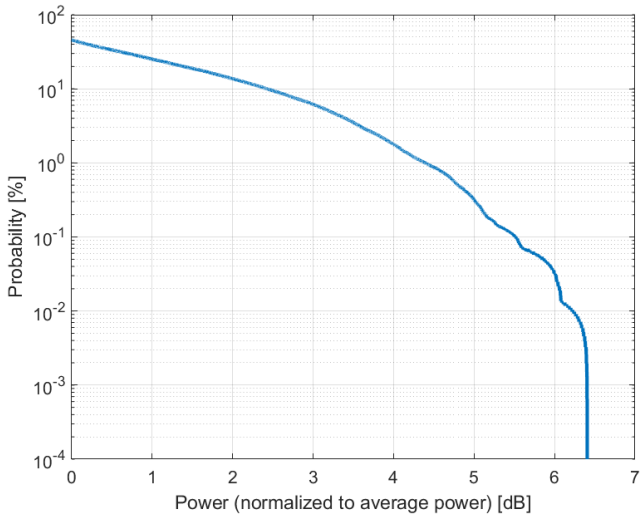
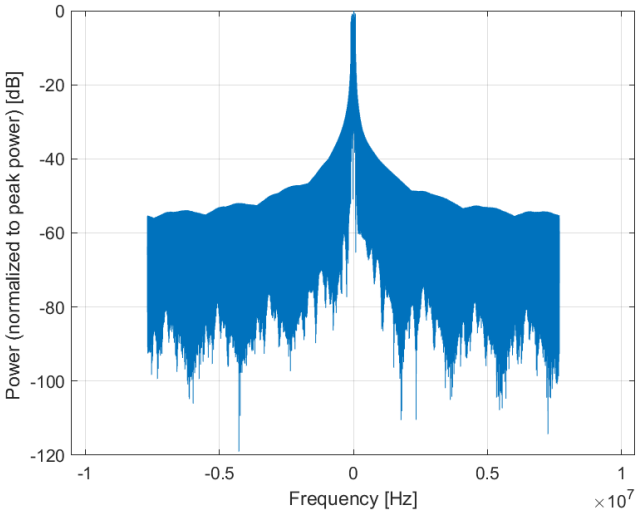
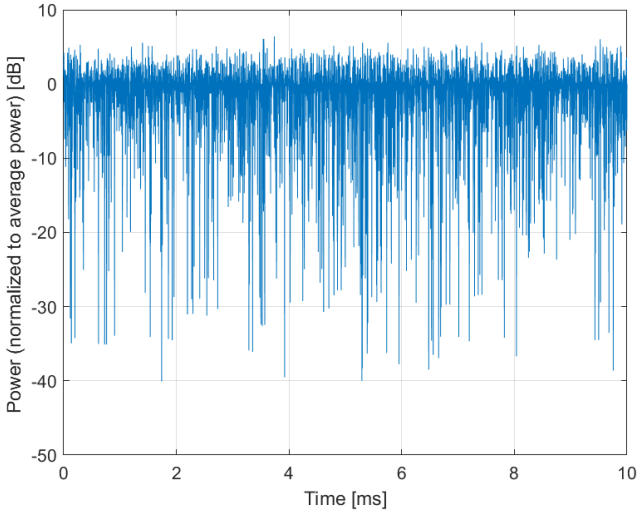



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)** |
| Group: | 5G NR FR1 FDD |
| UID: | 10929-AAD |
| PAR: [1] | **5.52 dB** |
| MIF: [2] | **-15.06 dB** |
| Standard Reference: | SPEAG |
| Category: | Random amplitude modulation |
| Modulation: | QPSK |
| Frequency Band: | Band n2 (1850 - 1910 MHz)<br>Band n5 (824 - 849 MHz)<br>Band n25 (1850 - 1915 MHz)<br>Band n66 (1710 - 1780 MHz)<br>Band n71 (663 - 698 MHz)<br>Band n1 (1920 - 1980 MHz)<br>Band n3 (1710 - 1785 MHz)<br>Band n7 (2500 - 2570 MHz)<br>Band n8 (880 - 915 MHz)<br>Band n12 (699 - 716 MHz)<br>Band n14 (788 - 798 MHz)<br>Band n18 (815 - 830 MHz)<br>Band n20 (832 - 862 MHz)<br>Band n26 (814 - 849 MHz)<br>Band n28 (703 - 748 MHz)<br>Band n30 (2305 - 2315 MHz)<br>Band n65 (1920 - 2010 MHz)<br>Band n70 (1695 - 1710 MHz)<br>Band n74 (1427 - 1470 MHz)<br>Band n91 (832 - 862 MHz)<br>Band n92 (832 - 862 MHz)<br>Band n93 (880 - 915 MHz)<br>Band n94 (880 - 915 MHz)<br>Band n80 (1710 - 1785 MHz)<br>Band n81 (880 - 915 MHz)<br>Band n82 (832 - 862 MHz)<br>Band n83 (703 - 748 MHz)<br>Band n84 (1920 - 1980 MHz)<br>Band n86 (1710 - 1780 MHz)<br>Band n89 (824 - 849 MHz)<br>Band n95 (2010 - 2025 MHz)<br>Band n24 (1626.5 - 1660.5 MHz)<br>Band n97 (2300 - 2400 MHz)<br>Band n98 (1880 - 1920 MHz)<br>Band n99 (1626.5 - 1660.5 MHz)<br>Band n13 (777 - 787 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: DFT-s-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 15 kHz<br>Number RBs: 1<br>Data Type: PN9 |
| Bandwidth: | 10.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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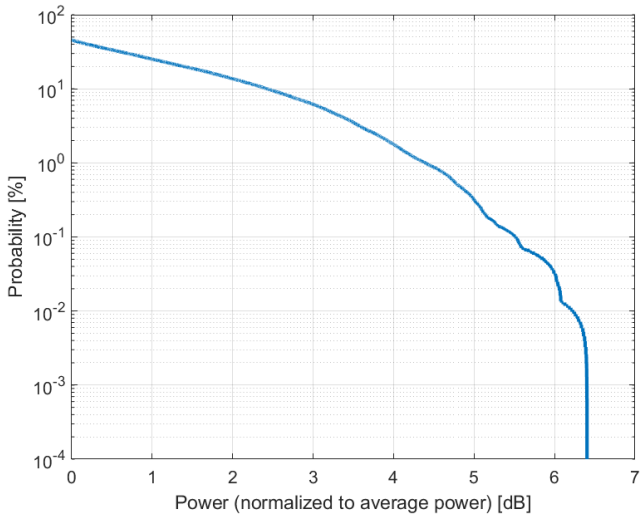
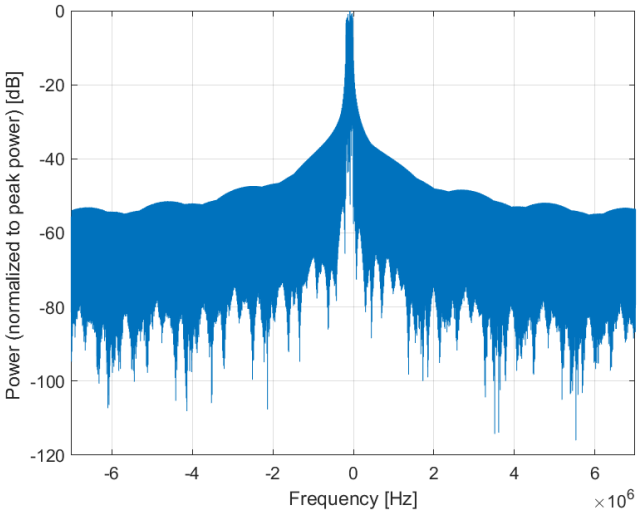
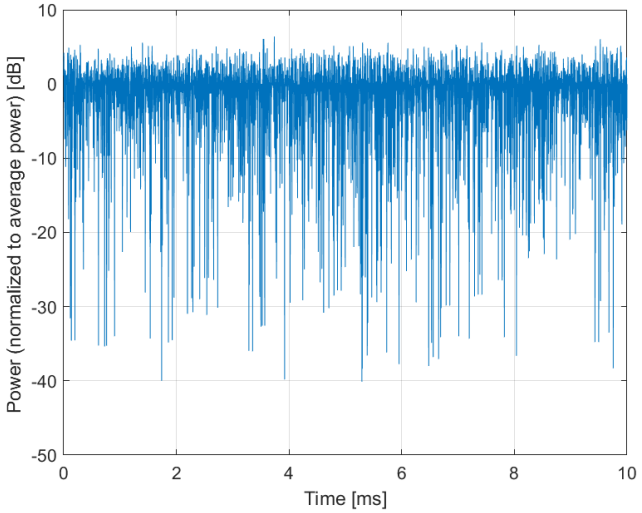



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)** |
| Group: | 5G NR FR1 TDD |
| UID: | 10973-AAD |
| PAR: [1] | **9.06 dB** |
| MIF: [2] | **-1.64 dB** |
| Standard Reference: | SPEAG |
| Category: | Random amplitude modulation |
| Modulation: | QPSK |
| Frequency Band: | Band n41 (2496 - 2690 MHz)<br>Band n48 (3550 - 3700 MHz)<br>Band n77 (3300 - 4200 MHz)<br>Band n78 (3300 - 3800 MHz)<br>Band n79 (4400 - 5000 MHz)<br>Band n90 (2496 - 2690 MHz)<br>Band n46 (5150 - 5925 MHz)<br>Band n96 (5925 - 7125 MHz)<br>Band n102 (5925 - 6425 MHz)<br>Band n104 (6425 - 7125 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Multiplexing Scheme: DFT-s-OFDM<br>Modulation Scheme: QPSK<br>Subcarrier Spacing: 30 kHz<br>Number RBs: 1<br>Slot Format Index: -<br>Data Type: PN9 |
| Bandwidth: | 100.0 MHz |
| Integration Time: | 10.0 ms |

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

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

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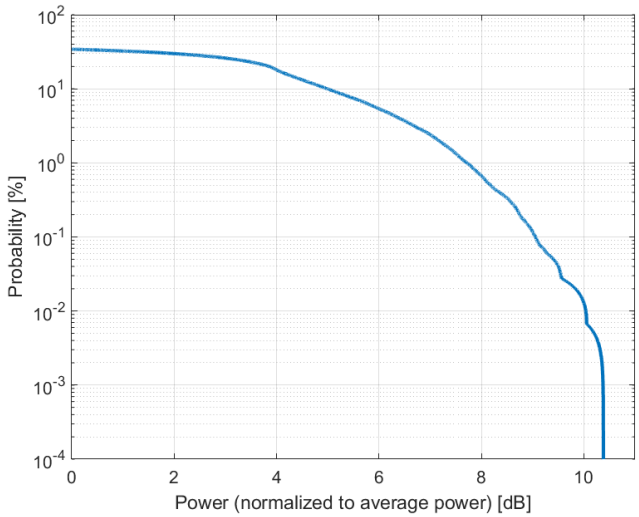
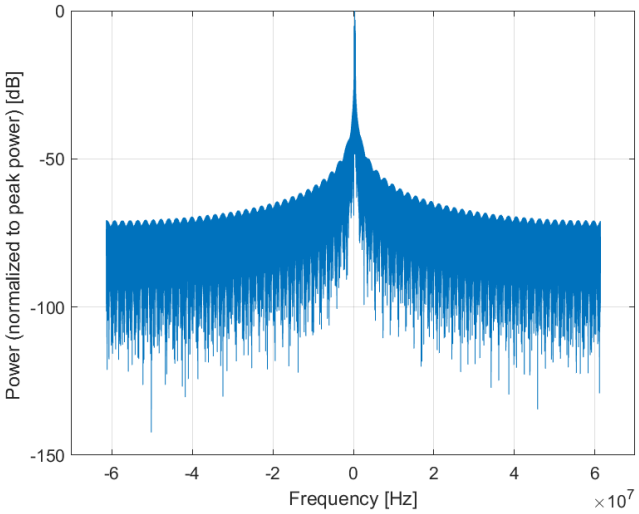
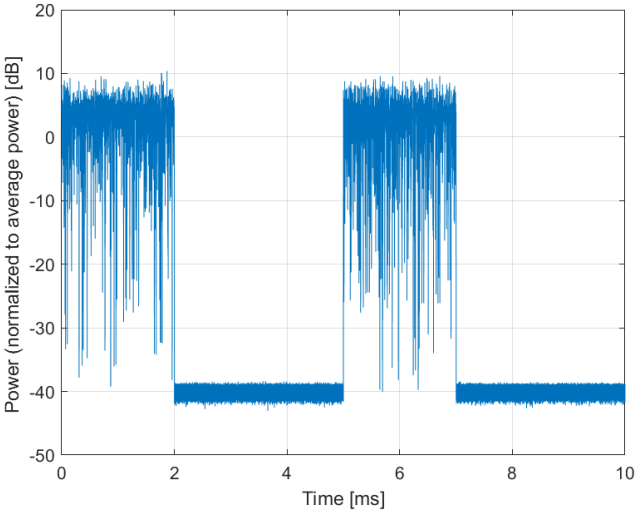



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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

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

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

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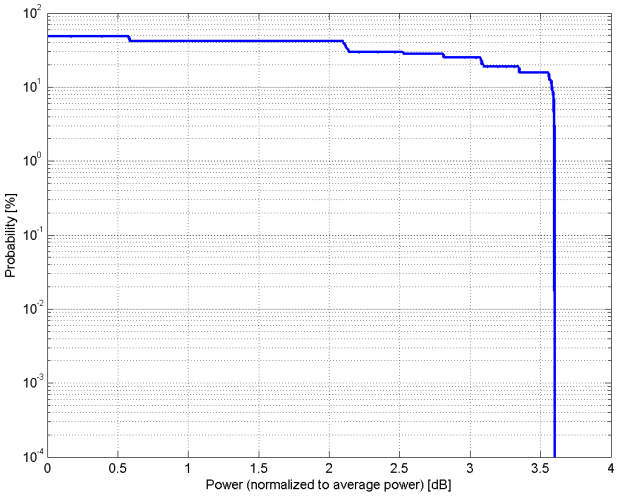
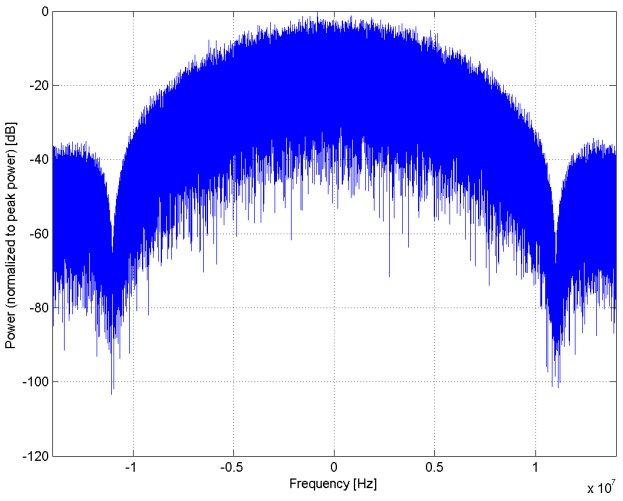
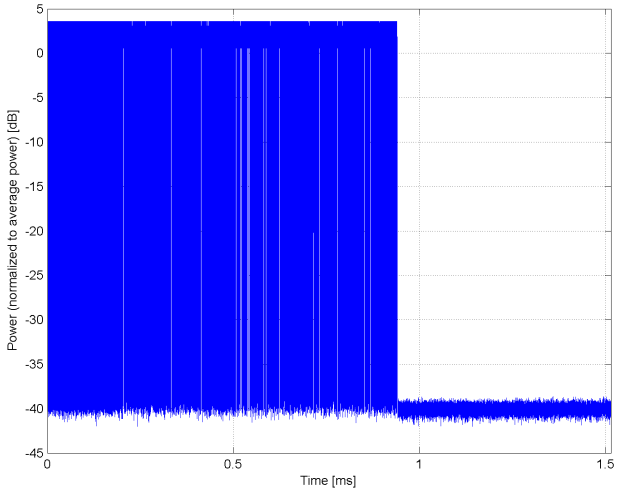



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)** |
| Group: | WLAN |
| UID: | 10077-CAB |
| PAR: [1] | **11.00 dB** |
| MIF: [2] | **0.12 dB** |
| Standard Reference: | IEEE 802.11g-2003 , Part 11<br>FCC SAR meas for 802 11 a b g v01r02 (248227 D01) |
| Category: | Random amplitude modulation |
| Modulation: | 64-QAM |
| Frequency Band: | WLAN 2.4GHz (2412.0-2484.0 MHz, 20230) |
| Detailed Specification: | Data Rate: 54 Mbps<br>Coding Rate: 3/4<br>Coded bits per subcarrier: 6<br>Coded bits per OFDM symbol: 288<br>Data bits per OFDM symbol: 216<br>PSDU Length: 1000 Bytes<br>PSDU Data: PN9 |
| Bandwidth: | 20.0 MHz |
| Integration Time: | 0.9 ms |

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

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

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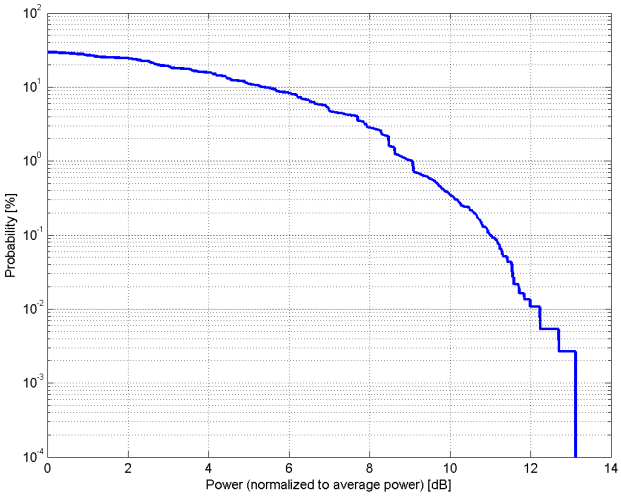
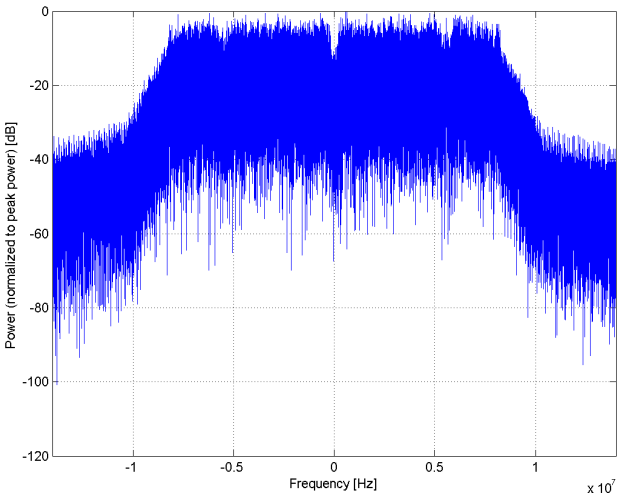
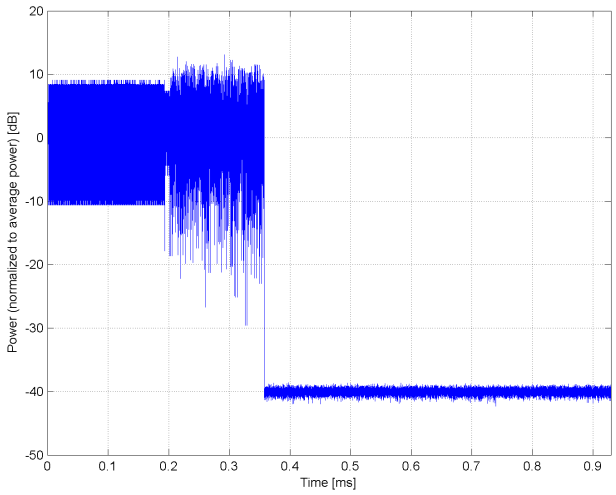



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)** |
| Group: | WLAN |
| UID: | 10069-CAE |
| PAR: [1] | **10.56 dB** |
| MIF: [2] | **-3.15 dB** |
| Standard Reference: | IEEE 802.11a-1999 (R2003) , Part 11<br>IEEE 802.11h-2003 , Part 11<br>FCC SAR meas for 802 11 a b g v01r02 (248227 D01) |
| Category: | Random amplitude modulation |
| Modulation: | 64-QAM |
| Frequency Band: | WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5825 - 5925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Data Rate: 54 Mbps<br>Coding Rate: 3/4<br>Coded bits per subcarrier: 6<br>Coded bits per OFDM symbol: 288<br>Data bits per OFDM symbol: 216<br>PSDU Length: 1000 Bytes<br>PSDU Data: PN9 |
| Bandwidth: | 20.0 MHz |
| Integration Time: | 0.3 ms |

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

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

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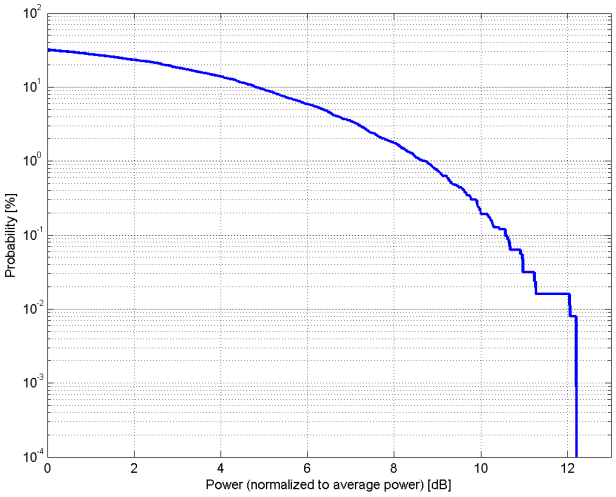
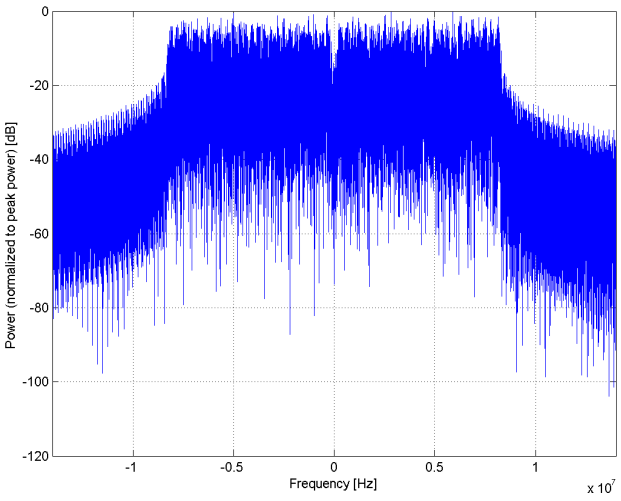
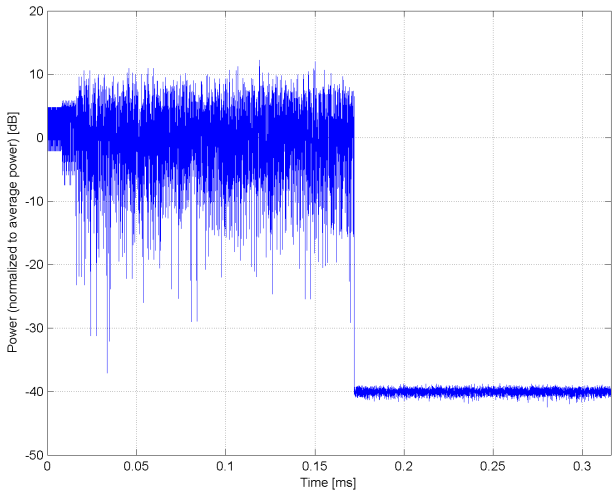



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)** |
| Group: | WLAN |
| UID: | 10591-AAD |
| PAR: [1] | **8.63 dB** |
| MIF: [2] | **-5.59 dB** |
| Standard Reference: | IEEE 802.11-2012<br>FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01 |
| Category: | Random amplitude modulation |
| Modulation: | BPSK |
| Frequency Band: | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5825 - 5925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Duty cycle: 90%<br>MPDU length: 4096 bytes<br>MCS: 0<br>Guard interval: long |
| Bandwidth: | 20.0 MHz |
| Integration Time: | 5.6 ms |

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

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

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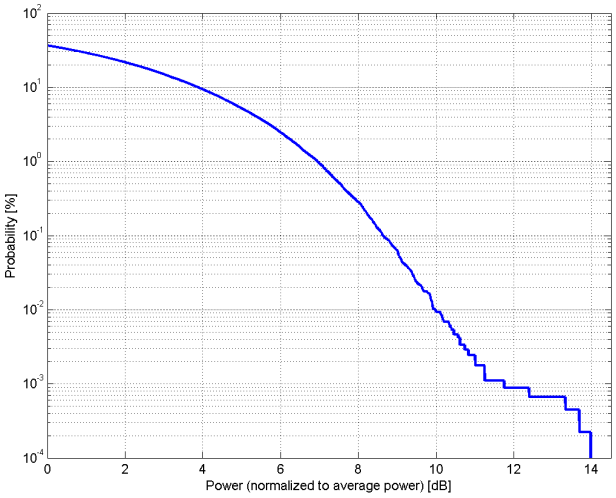
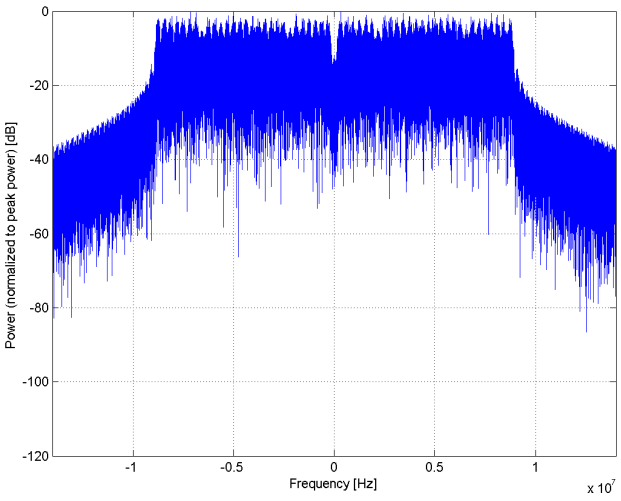
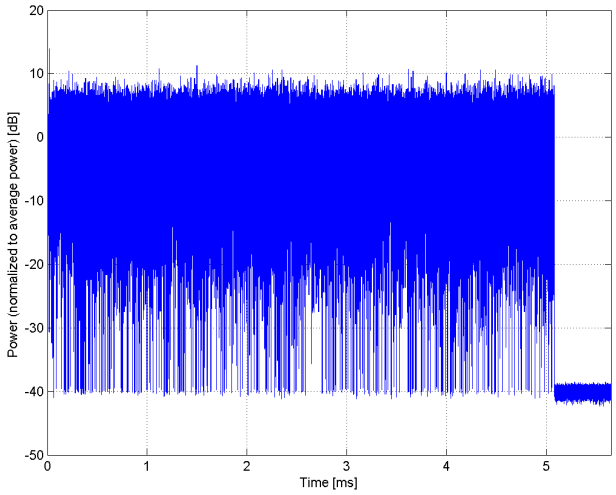



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

**Calibration Laboratory of**
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| | |
|---|---|
| Name: | **IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)** |
| Group: | WLAN |
| UID: | 10599-AAD |
| PAR: [1] | **8.79 dB** |
| MIF: [2] | **-5.59 dB** |
| Standard Reference: | IEEE 802.11-2012<br>FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01 |
| Category: | Random amplitude modulation |
| Modulation: | BPSK |
| Frequency Band: | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5825 - 5925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Duty cycle: 90%<br>MPDU length: 4096 bytes<br>MCS: 0<br>Guard interval: long |
| Bandwidth: | 40.0 MHz |
| Integration Time: | 2.7 ms |

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

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

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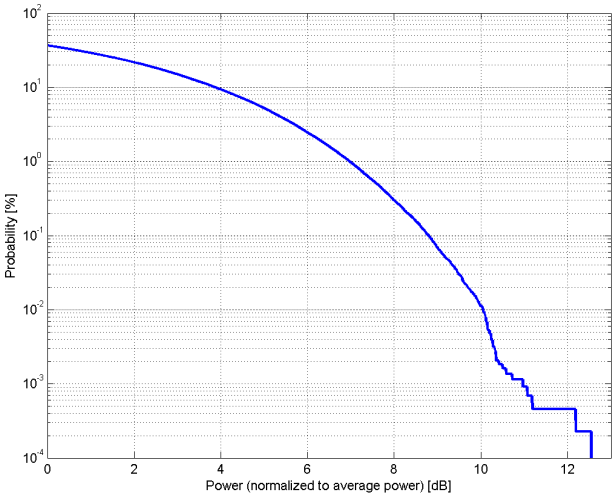
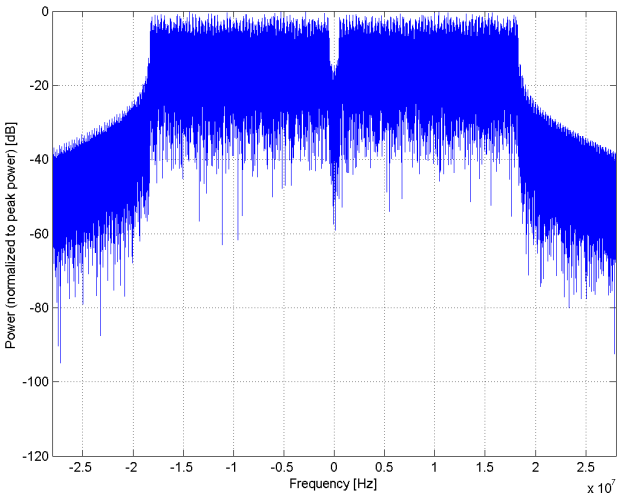
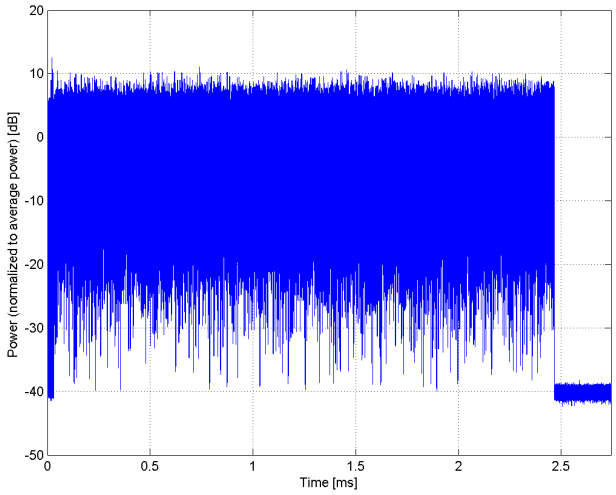



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)** |
| Group: | WLAN |
| UID: | 10607-AAD |
| PAR: [1] | **8.64 dB** |
| MIF: [2] | **-5.60 dB** |
| Standard Reference: | IEEE 802.11-2013<br>FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01 |
| Category: | Random amplitude modulation |
| Modulation: | BPSK |
| Frequency Band: | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5825 - 5925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Bandwidth: 20MHz<br>Duty cycle: 90%<br>MCS: 0<br>Number of spatial streams: 1<br>MPDU length: 4096 |
| Bandwidth: | 20.0 MHz |
| Integration Time: | 5.7 ms |

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

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

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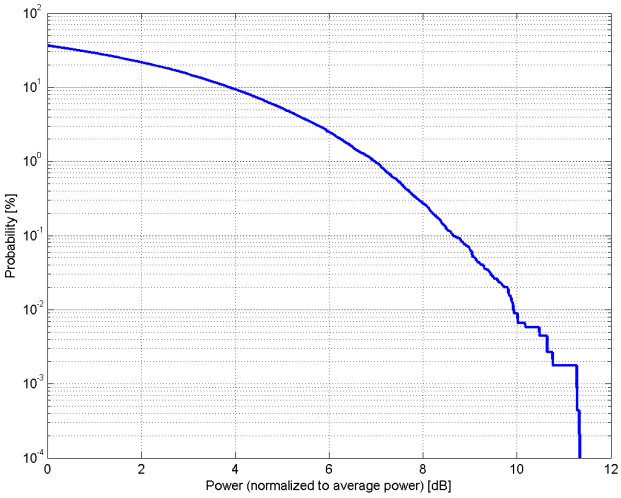
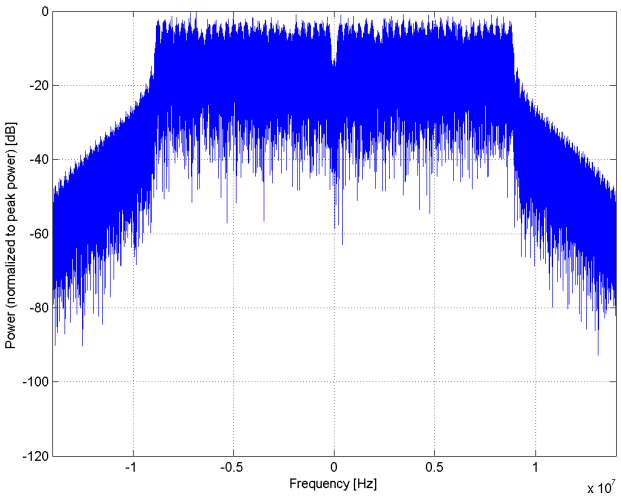
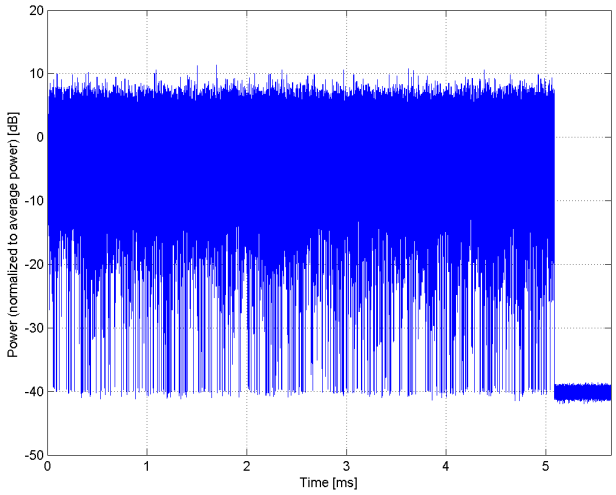



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)** |
| Group: | WLAN |
| UID: | 10616-AAD |
| PAR: [1] | **8.82 dB** |
| MIF: [2] | **-5.57 dB** |
| Standard Reference: | IEEE 802.11-2013<br>FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01 |
| Category: | Random amplitude modulation |
| Modulation: | BPSK |
| Frequency Band: | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5825 - 5925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Bandwidth: 40MHz<br>Duty cycle: 90%<br>MCS: 0<br>Number of spatial streams: 1<br>MPDU length: 8192 |
| Bandwidth: | 40.0 MHz |
| Integration Time: | 5.4 ms |

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

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

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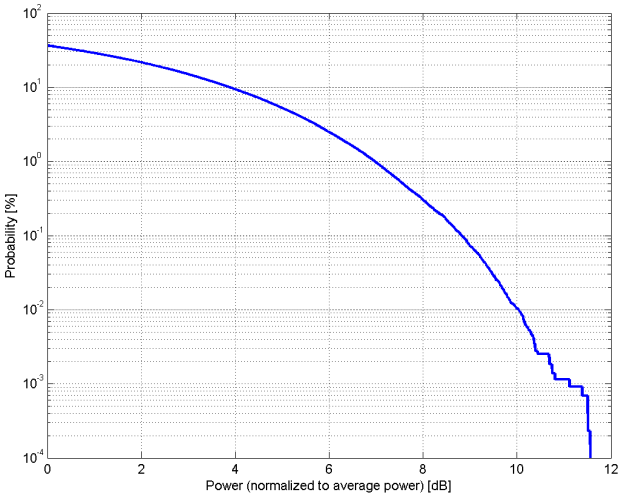
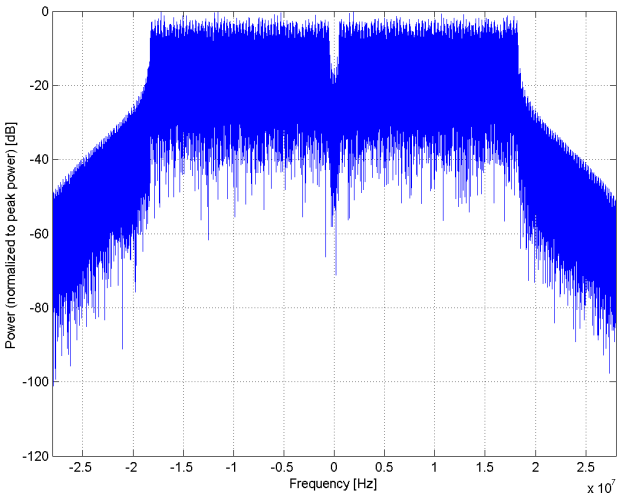
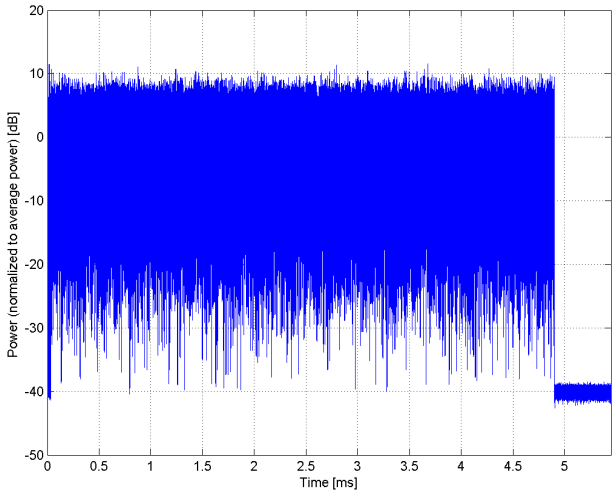



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**

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| | |
|---|---|
| Name: | **IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)** |
| Group: | WLAN |
| UID: | 10626-AAD |
| PAR: [1] | **8.83 dB** |
| MIF: [2] | **-5.64 dB** |
| Standard Reference: | IEEE 802.11-2013<br>FCC OET KDB 248227 D01 802.11 Wi-Fi SAR v02r01 |
| Category: | Random amplitude modulation |
| Modulation: | BPSK |
| Frequency Band: | WLAN 2.4GHz (2412.0 - 2484.0 MHz)<br>WLAN 5GHz (4915.0 - 5825.0 MHz)<br>U-NII-1, U-NII-2A (5170 - 5330 MHz)<br>U-NII-2C Standalone (5490 - 5710 MHz)<br>U-NII-2C <5.65 GHz (5490 - 5650 MHz)<br>U-NII-3 Standalone (5735 - 5835 MHz)<br>U-NII-2C, U-NII-3 (5650 - 5835 MHz)<br>U-NII-5 (5925 - 6425 MHz)<br>U-NII-6 (6425 - 6525 MHz)<br>U-NII-7 (6525 - 6875 MHz)<br>U-NII-8 (6875 - 7125 MHz)<br>U-NII-4 (5825 - 5925 MHz)<br>Validation band (0.0 - 6000.0 MHz) |
| Detailed Specification: | Bandwidth: 80MHz<br>Duty cycle: 90%<br>MCS: 0<br>Number of spatial streams: 1<br>MPDU length: 8192 |
| Bandwidth: | 80.0 MHz |
| Integration Time: | 2.5 ms |

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

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

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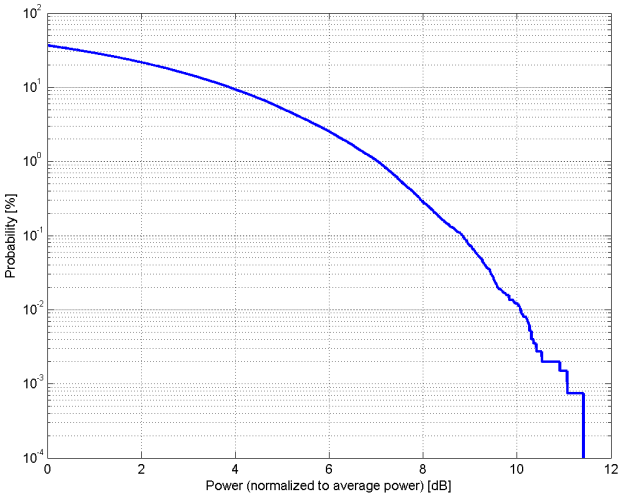
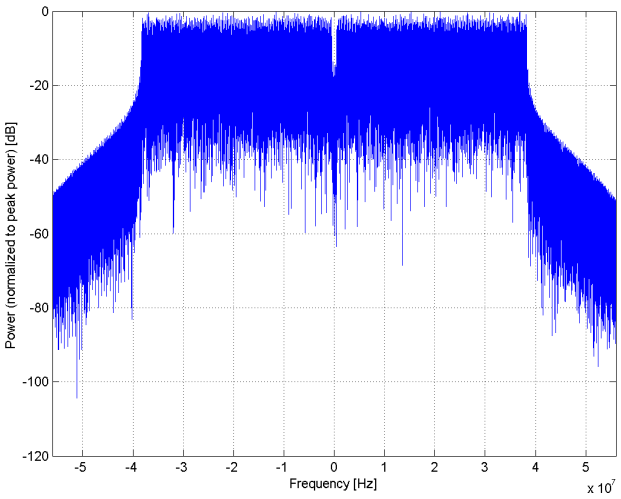
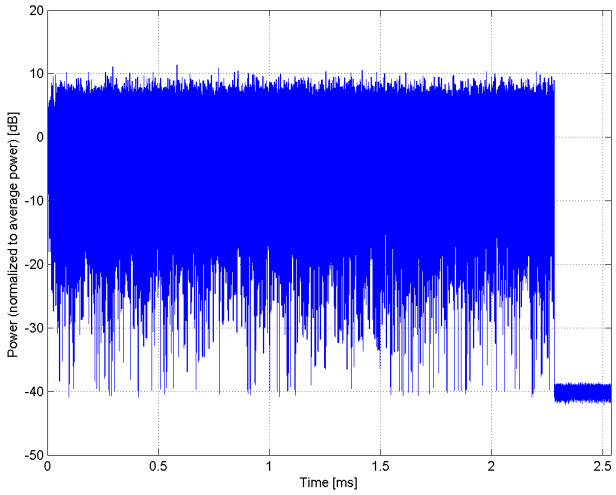



**Complementary Cumulative Distribution Function (CCDF)**




**Frequency Domain**




**Time Domain**