



**RF SAFETY
LAB**

A NEXT GENERATION
TEST LABORATORY™

Next Generation Test Laboratory (RF Safety Laboratory, LLC)
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ANAB 17025 Certificate Number: AT-3274
☎ +1 202 240 9240; ✉ info@rfsafetylab.com

Appendix C: UID Specification Sheet



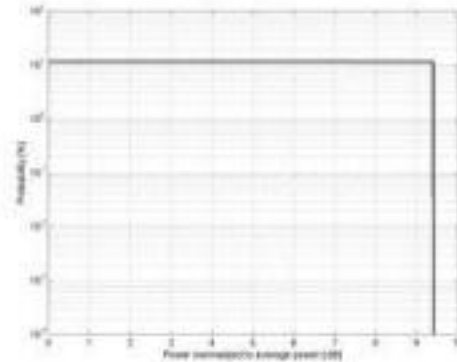
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Zeughausstrasse 43, 8004 Zurich, Switzerland

Name:	GSM-FDD (TDMA, GMSK)
Group:	GSM
UID:	10021-DAC
PAP ¹ :	9.30 dB
MIF ² :	3.63 dB
Standard Reference:	ETSI TS 100 909 V9.6.0 (2005-01) FCC OET KDB 941225, D03 and D04 Periodic pulsed modulation
Category:	GMSK
Modulation:	
Frequency Band:	GSM 455 (450.4 - 457.6 MHz) GSM 485 (478.8 - 486.0 MHz) GSM 710 (698.0 - 716.0 MHz) GSM 750 (747.0 - 763.0 MHz) GSM 850 (824.0 - 849.0 MHz) P-GSM 900 (893.0 - 915.0 MHz) E-GSM 900 (893.0 - 915.0 MHz) R-GSM 900 (876.6 - 915.0 MHz) DCS 1800 (1710.0 - 1785.0 MHz) PCS 1900 (1850.0 - 1910.0 MHz) E-R-GSM 900 (873.0 - 915.0 MHz) Validation band (3.0 - 6000.0 MHz)
Detailed Specification:	Active Slot: TxD Data: PMS continuous Frame: composed out of 8 Slots Multiframe: 20th (idle) Frame set blank Slot type & timing: Normal burst for GMSK
Bandwidth:	0.2 MHz
Integration Time:	125.0 ms

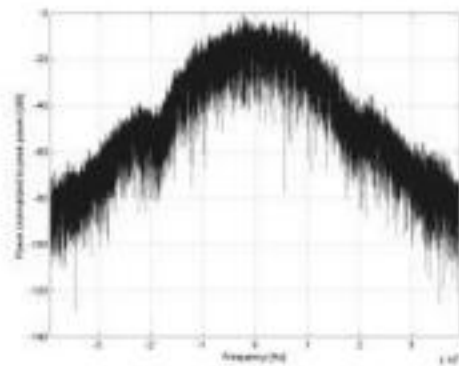
¹ PAP (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



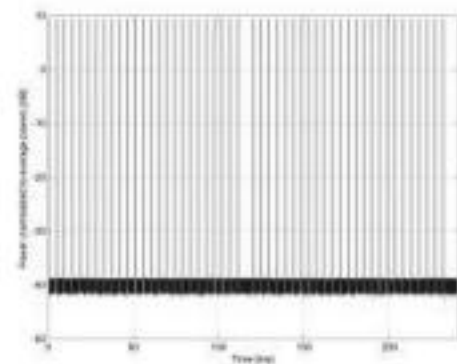
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



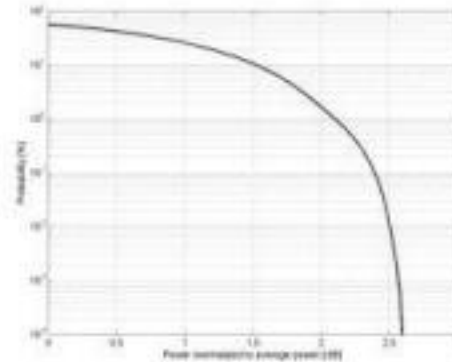
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Name:	UMTS-FDD (WCDMA, AMR)
Group:	WCDMA
UID:	10460-AAB
PAR: ¹	3.26 dB
MIF: ²	-25.43 dB
Standard Reference:	FCC OET KDB 941225 D01 SAR test for 3G devices v02
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band 1 (930.0 - 1000.0 MHz) Band 2 (1850.0 - 1910.0 MHz) Band 3 (1710.0 - 1785.0 MHz) Band 4 (1710.0 - 1755.0 MHz) Band 5 (824.0 - 849.0 MHz) Band 6 (830.0 - 849.0 MHz) Band 7 (2500.0 - 2570.0 MHz) Band 8 (850.0 - 915.0 MHz) Band 9 (1749.9 - 1794.9 MHz) Band 10 (1710.0 - 1770.0 MHz) Band 11 (1427.9 - 1452.9 MHz) Band 12 (698.0 - 716.0 MHz) Band 13 (777.0 - 787.0 MHz) Band 14 (786.0 - 796.0 MHz) Band 19 (830.0 - 845.0 MHz) Band 20 (832.0 - 862.0 MHz) Band 21 (1447.9 - 1462.9 MHz) Band 22 (3410.0 - 3490.0 MHz) Band 25 (1850.0 - 1915.0 MHz) Band 26 (814.0 - 840.0 MHz) Validation band (0.0 - 9000.0 MHz)
Detailed Specification:	Dedicated Channel Type: 12.2 kbps AMR 3.4 kbps SRB
Bandwidth:	5.0 MHz
Integration Time:	100.0 ms

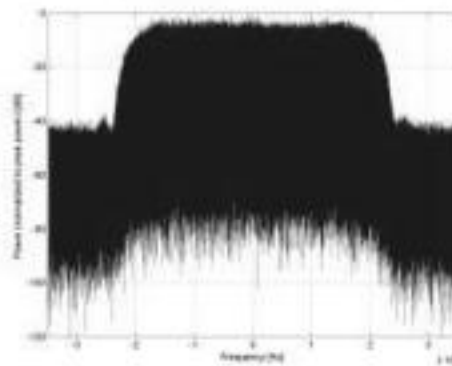
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



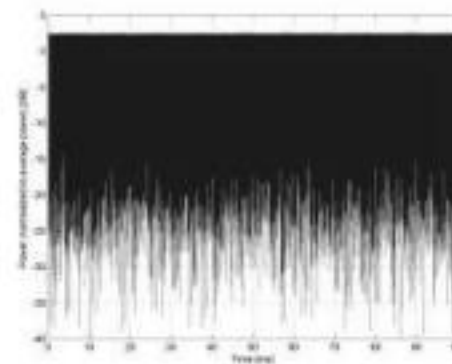
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



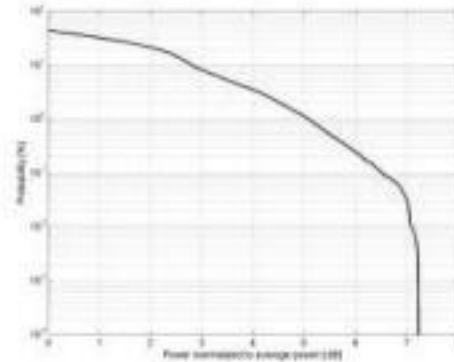
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Name:	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)
Group:	LTE-FDD
UID:	10175-CAH
PAP ¹ :	6.52 dB
MIF ² :	-4.79 dB
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0 3GPP / ETSI TS 136.210 V8.4.0 FCC OET KDB 941225 O60 SAR for LTE Devices v01
Category:	Random amplitude modulation
Modulation:	16-QAM
Frequency Band:	Band 1 (1920.0 - 1980.0 MHz) Band 2 (1850.0 - 1910.0 MHz) Band 3 (1710.0 - 1785.0 MHz) Band 4 (1710.0 - 1755.0 MHz) Band 5 (824.0 - 849.0 MHz) Band 6 (800.0 - 840.0 MHz) Band 7 (2500.0 - 2570.0 MHz) Band 8 (880.0 - 915.0 MHz) Band 9 (1749.0 - 1794.0 MHz) Band 10 (1710.0 - 1770.0 MHz) Band 11 (1447.0 - 1447.0 MHz) Band 12 (699.0 - 716.0 MHz) Band 13 (777.0 - 787.0 MHz) Band 14 (786.0 - 798.0 MHz) Band 17 (704.0 - 716.0 MHz) Band 18 (815.0 - 830.0 MHz) Band 19 (820.0 - 845.0 MHz) Band 20 (802.0 - 867.0 MHz) Band 21 (1447.0 - 1462.0 MHz) Band 22 (3410.0 - 3490.0 MHz) Band 23 (2000.0 - 2020.0 MHz) Band 24 (1626.0 - 1660.0 MHz) Band 25 (1850.0 - 1910.0 MHz) Band 26 (814.0 - 849.0 MHz) Band 27 (807.0 - 834.0 MHz) Band 28 (703.0 - 748.0 MHz) Band 30 (2305.0 - 2315.0 MHz) Band 40 (1920.0 - 2010.0 MHz) Band 66 (1710.0 - 1780.0 MHz) Band 68 (896.0 - 926.0 MHz) Band 70 (1660.0 - 1710.0 MHz) Band 71 (863.0 - 890.0 MHz) Band 74 (1427.0 - 1470.0 MHz) Band 86 (896.0 - 916.0 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Modulation Scheme: SC-FDMA Number of PUSCHs: 1 Settings for Subcarriers #0 to #9 Modulation Scheme: QPSK Data Type: UL SCH Number RBs: 1 Transport Block Size: 256 TBS Index: 14 MCS Index: 15 Data Type: PUSCH Bandwidth: Integration Time:
	10.0 MHz 10.0 ms

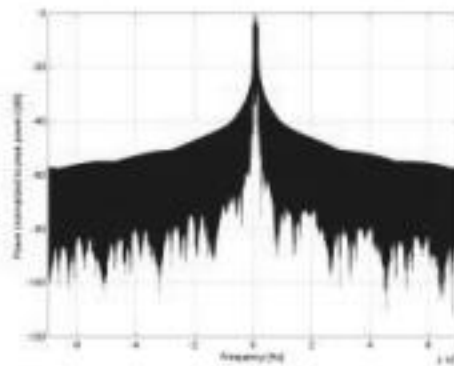
¹ PAP (0.1%) in accordance with FCC KDB 971168, Section 5.6 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



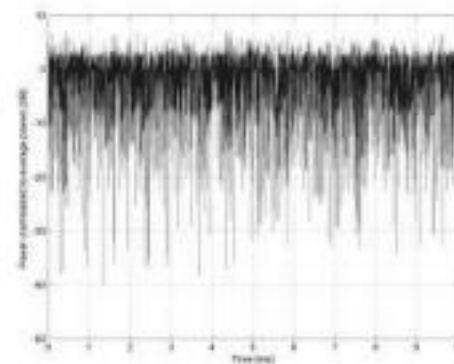
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



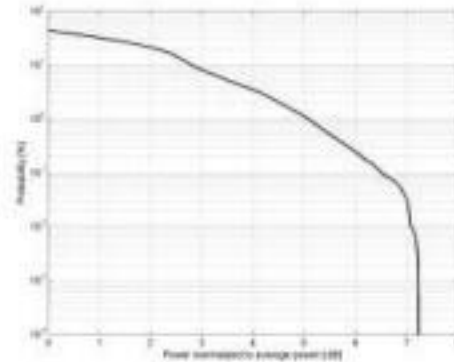
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Name:	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)
Group:	LTE-FDD
UID:	10182-CAF
PAR: ¹	6.52 dB
MIF: ²	-9.79 dB
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0 3GPP / ETSI TS 136.210 V8.4.0 FCC OET KDB 941225 O60 SAR for LTE Devices v01
Category:	Random amplitude modulation
Modulation:	16-QAM
Frequency Band:	Band 1 (1920.0 - 1980.0 MHz) Band 2 (1850.0 - 1910.0 MHz) Band 3 (1710.0 - 1785.0 MHz) Band 4 (1710.0 - 1755.0 MHz) Band 7 (2500.0 - 2570.0 MHz) Band 9 (1748.0 - 1794.0 MHz) Band 10 (1710.0 - 1770.0 MHz) Band 18 (815.0 - 830.0 MHz) Band 19 (820.0 - 845.0 MHz) Band 20 (802.0 - 852.0 MHz) Band 21 (1447.0 - 1462.0 MHz) Band 22 (3410.0 - 3490.0 MHz) Band 23 (2000.0 - 2025.0 MHz) Band 25 (1850.0 - 1915.0 MHz) Band 26 (814.0 - 849.0 MHz) Band 28 (703.0 - 748.0 MHz) Band 40 (500.0 - 5010.0 MHz) Band 66 (1710.0 - 1785.0 MHz) Band 68 (690.0 - 725.0 MHz) Band 70 (1690.0 - 1710.0 MHz) Band 71 (600.0 - 698.0 MHz) Band 74 (1407.0 - 1470.0 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Modulation Scheme: SC-FDMA Number of PUSCHs: 1 Settings for Subframe #0 to #9: Modulation Scheme: 16QAM Data Type: UL-SCH Number RBs: 1 Transport Block Size: 256 TBS Index: 14 MCS Index: 15 Data Type: PUSCH Bandwidth: 15.0 MHz Integration Time: 10.0 ms

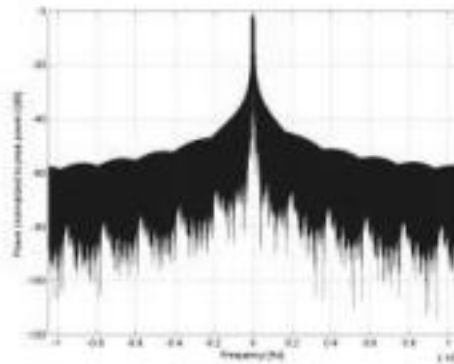
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



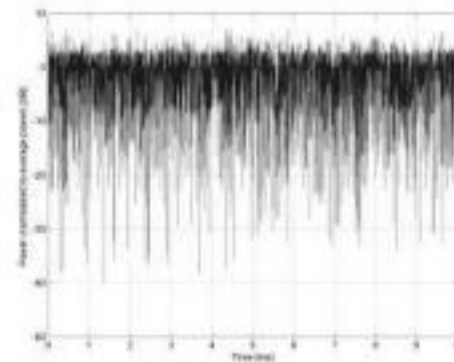
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



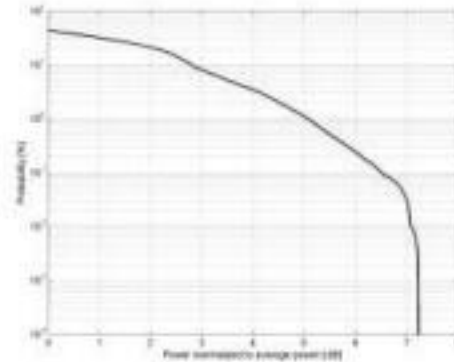
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Name	LTE-FDD (SC-FDMA, 1 RB, 36 MHz, 16-QAM)
Group	LTE-FDD
UID	10170-CAF
PAR: ¹	6.52 dB
MIF: ²	-4.79 dB
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0 3GPP / ETSI TS 136.210 V8.4.0 FCC OET KDB 941225 O60 SAR for LTE Devices v01
Category	Random amplitude modulation
Modulation	16-QAM
Frequency Band	Band 1 (1920.0 - 1980.0 MHz) Band 2 (1850.0 - 1910.0 MHz) Band 3 (1710.0 - 1785.0 MHz) Band 4 (1710.0 - 1755.0 MHz) Band 7 (2500.0 - 2570.0 MHz) Band 9 (1748.0 - 1794.9 MHz) Band 10 (1710.0 - 1770.0 MHz) Band 20 (800.0 - 850.0 MHz) Band 22 (3410.0 - 3490.0 MHz) Band 25 (2000.0 - 2025.0 MHz) Band 26 (1850.0 - 1915.0 MHz) Band 28 (700.0 - 748.0 MHz) Band 66 (1920.0 - 2010.0 MHz) Band 68 (1710.0 - 1790.0 MHz) Band 70 (1660.0 - 1710.0 MHz) Band 71 (660.0 - 698.0 MHz) Band 74 (1427.0 - 1470.0 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Modulation Scheme: SC-FDMA Number of PUSCHs: 1 Settings for Subframe 30 to 49 Modulation Scheme: 16QAM Data Type: UL-SCH Number RB: 1 Transport Block Size: 256 TBS Index: 14 MCS Index: 15 Data Type: PUSCH
Bandwidth	20.0 MHz
Integration Time	10.0 ms

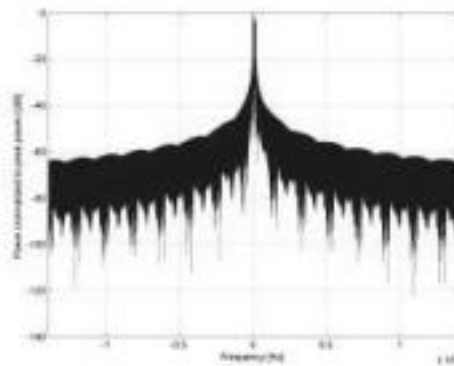
¹ PAR (0.1%) in accordance with FCC KDB 971166, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



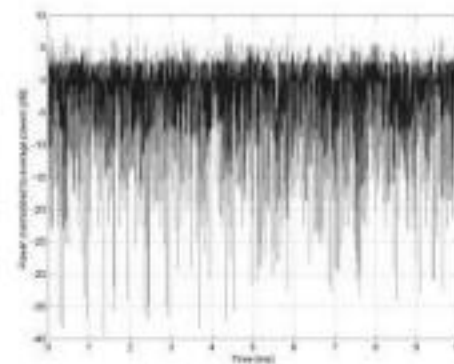
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



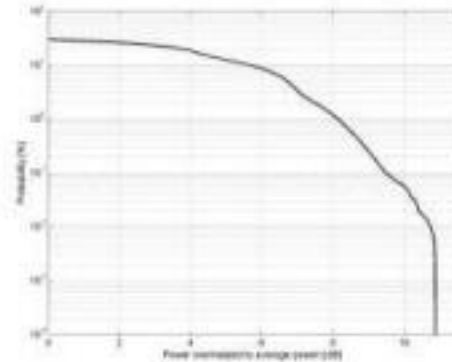
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Name:	LTE-TDD (SC-FDMA, 1 RB, 36 MHz, 16-QAM)
Group:	LTE-TDD
UID:	10173-CAH
PAR: ¹	-9.46 dB
MIF: ²	-1.41 dB
Standard Reference:	3GPP / ETSI TS 136.101 V8.4.0 3GPP / ETSI TS 136.210 V8.4.0 FCC OET KDB 941225 O60 SAR for LTE Devices v02
Category:	Random amplitude modulation
Modulation:	16-QAM
Frequency Band:	Band 30 (1900.0 - 1920.0 MHz) Band 35 (1850.0 - 1910.0 MHz) Band 36 (1930.0 - 1990.0 MHz) Band 37 (1910.0 - 1930.0 MHz) Band 38 (2570.0 - 2620.0 MHz) Band 39 (1880.0 - 1920.0 MHz) Band 40 (2300.0 - 2400.0 MHz) Band 41 (2486.0 - 2590.0 MHz) Band 42 (2466.0 - 2600.0 MHz) Band 43 (2600.0 - 2800.0 MHz) Band 44 (700.0 - 800.0 MHz) Band 45 (1447.0 - 1467.0 MHz) Band 46 (5150.0 - 5925.0 MHz) Band 47 (5655.0 - 5925.0 MHz) Band 48 (3550.0 - 3700.0 MHz) Band 49 (3550.0 - 3700.0 MHz) Band 50 (1432.0 - 1517.0 MHz) Band 52 (3300.0 - 3400.0 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Modulation Scheme: SC-FDMA Uplink-downlink configuration: 1 Special Subframe configuration: 4 Number of Frames: 1 Settings for UL Subframe 2,3,7,8: Number of PUSCHs: 1 Modulation Scheme: 16QAM Allocated RB: 1 Start Number of RB: 50 Data Type: PUSCH Bandwidth: 20.0 MHz Integration Time: 6.0 ms

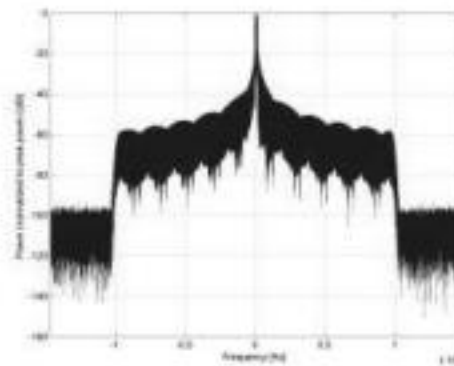
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)";
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



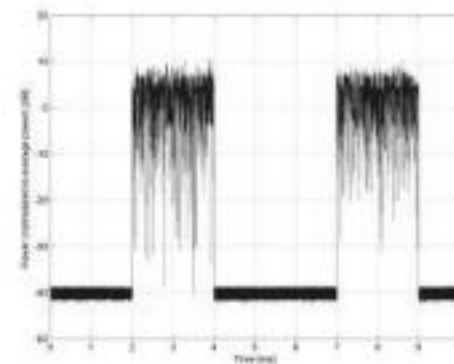
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



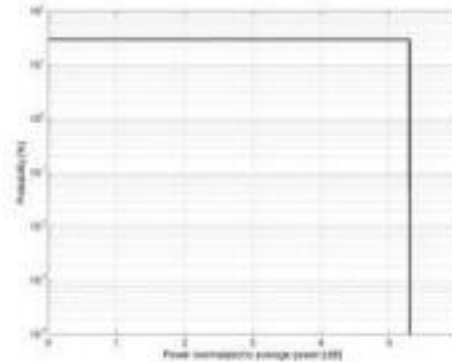
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Name:	IEEE 802.15.1 Bluetooth (GFSK, DH1)
Group:	Bluetooth
UID:	10030-CAA
PAR: ¹	5.30 dB
MIF: ²	1.02 dB
Standard Reference:	Bluetooth 1.2 (IEEE Standard 802.15.1-2005)
Category:	Periodic pulsed modulation
Modulation:	GFSK
Frequency Band:	ISM 2.4 GHz Band (2400.0-2483.5 MHz, 20052)
Detailed Specification:	Basic Rate, 1 Slot active Data Rate: 1 Mbps Packet Type: DH1 Payload Body: 27 Bytes PN9 data is inserted into the payload body Modulation for Payload: GFSK Modulation Index: 0.32
Bandwidth:	1.4 MHz
Integration Time:	2.5 ms

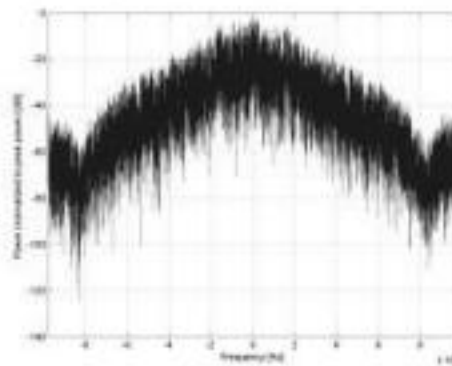
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.9 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



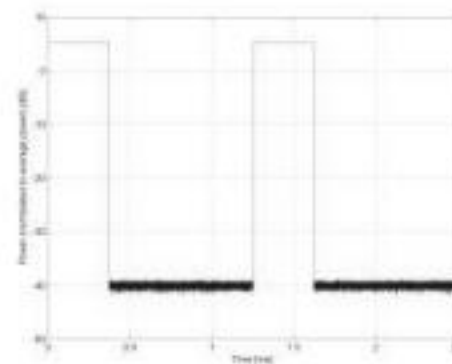
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



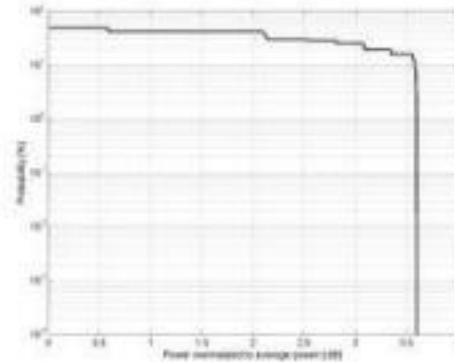
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Name:	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)
Group:	WLAN
UID:	10061-CAB
PAR: ¹	3.60 dB
MIF: ²	-2.02 dB
Standard Reference:	IEEE 802.11b-1999, Part 11, FCC SAR meas for 802.11 a b g v01r02 (248227 D01)
Category:	Random amplitude modulation
Modulation: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

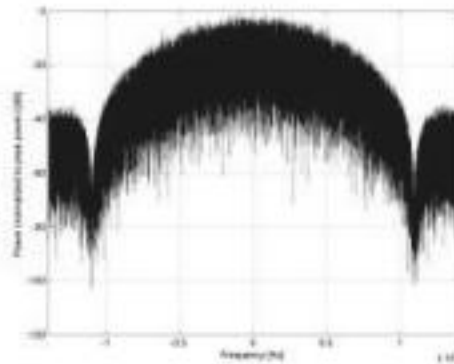
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.9 "Measurement of the Peak-to-Average Power Ratio (PARP)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



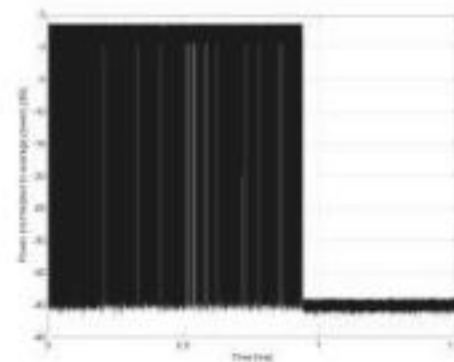
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



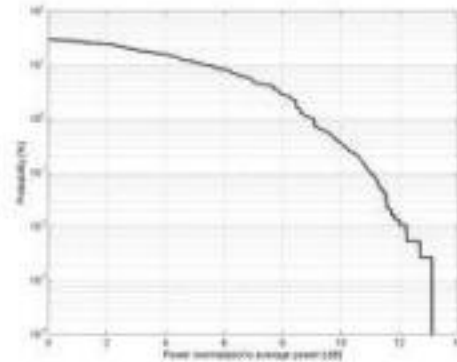
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Name:	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)
Group:	WLAN
UID:	10077-CAB
PAR: ¹	11.00 dB
MIF: ²	0.12 dB
Standard Reference:	IEEE 802.11g-2003, Part 11 FCC SAR meas for 802.11 a b g v01r02 (248227 D01)
Category:	Random amplitude modulation
Modulation: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

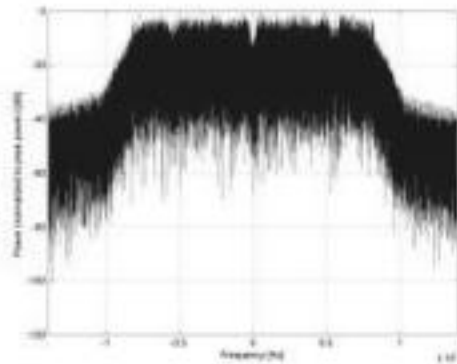
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



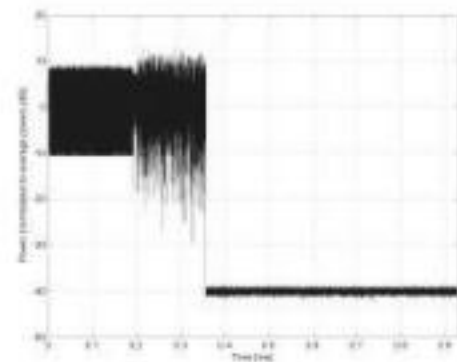
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



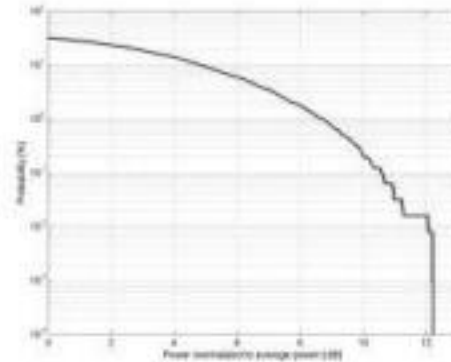
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Name:	IEEE 802.11a/b/WiFi 5 GHz (OFDM, 54 Mbps)
Group:	WLAN
UID:	10069-CAE
PAPR: ¹	18.56 dB
MIF: ²	-3.15 dB
Standard Reference:	IEEE 802.11a-1999 (PS003) - Part 11 IEEE 802.11b-2003 - Part 11 FCC SAR rules for 802.11 a b g v01-02 (24822T D01)
Category:	Random amplitude modulation
Modulation:	64-QAM
Frequency Band:	WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5175 - 5330 MHz) U-NR-2C Standalone (5490 - 5715 MHz) U-NR-2C < 5.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Data Rate: 54 Mbps Coding Rate: 3/4 Coded bits per subcarrier: 8 Coded bits per OFDM symbol: 268 Data bits per OFDM symbol: 216 PDU Length: 1000 Bytes PDU Data: PHY
Bandwidth:	20.0 MHz
Integration Time:	0.3 ms

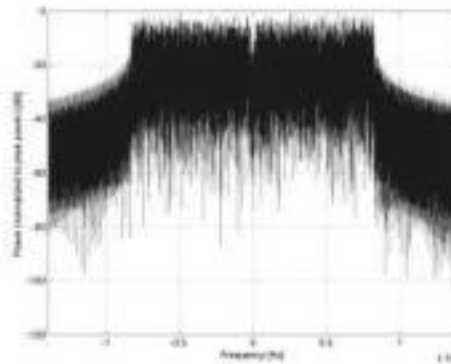
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



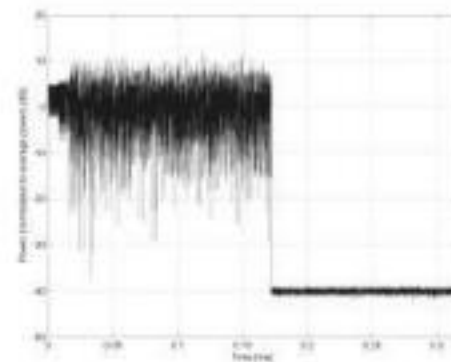
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



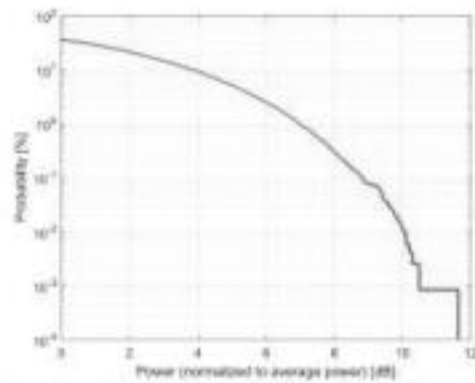
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Name:	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)
Group:	WLAN
UID:	10743-AAC
PAPR: ¹	8.54 dB
MIF: ²	-6.80 dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 160MHz Duty Cycle: 99% Number of spatial stream: 1
Bandwidth:	160.0 MHz
Integration Time:	0.3 ms

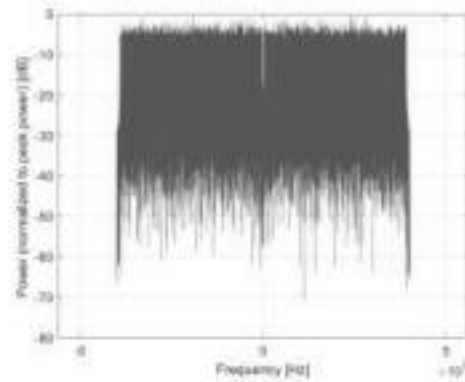
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



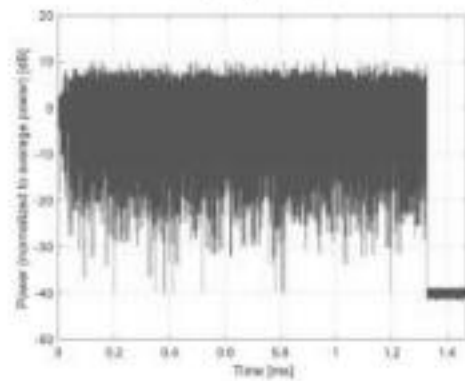
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



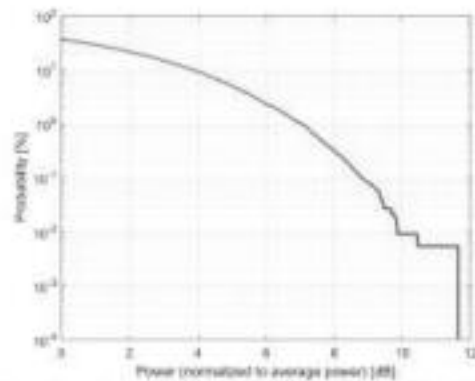
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Name:	IEEE 802.11ax (80MHz, MCS9, 90% duty cycle)
Group:	WLAN
UID:	10719-AAC
PAPR: ¹	8.01dB
MIF: ²	-6.94dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 80MHz Duty Cycle: 90% Number of spatial streams: 1
Bandwidth:	80.0 MHz
Integration Time:	1.5 ms

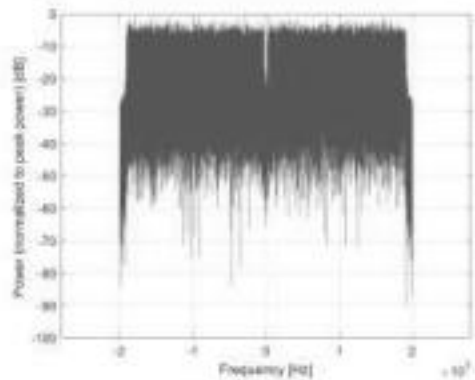
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



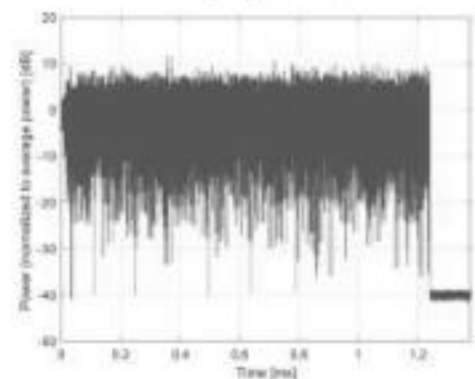
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



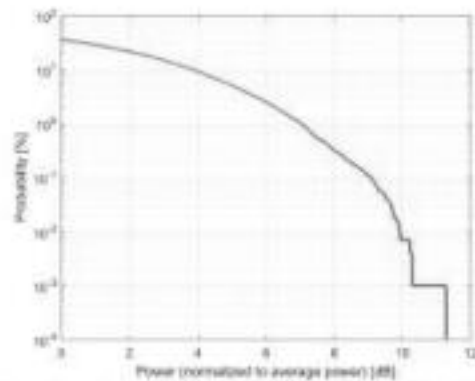
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Name:	IEEE 802.11ax (80MHz, MCS9, 90% duty cycle)
Group:	WLAN
UID:	10695-AAC
PAPR: ¹	8.75 dB
MIF: ²	-6.01 dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 40MHz Duty Cycle: 90% Number of spatial streams: 1
Bandwidth:	40.0 MHz
Integration Time:	1.4 ms

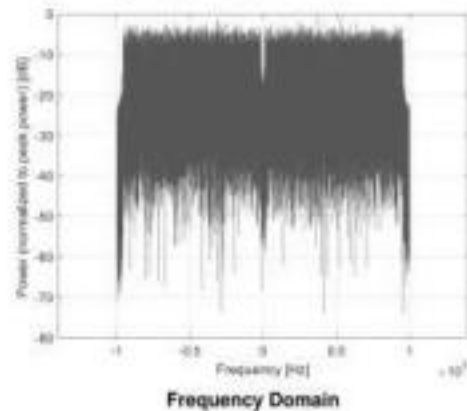
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



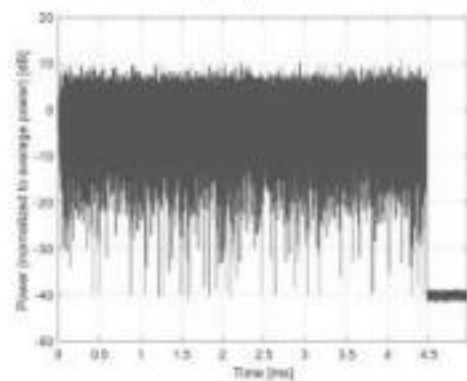
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



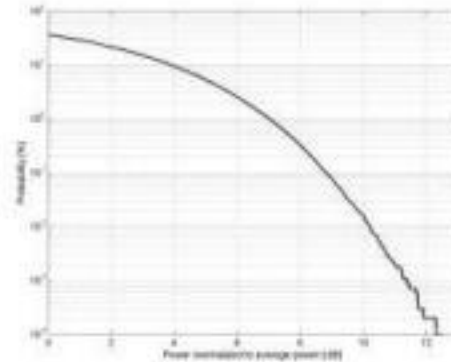
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Name:	IEEE 802.11ax (20MHz, MCS9, 90% duty cycle)
Group:	WLAN
UID:	10671-AAC
PAPR: ¹	8.08 dB
MIF: ²	-5.58 dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 20MHz Duty Cycle: 90% Number of spatial streams: 1
Bandwidth:	20.0 MHz
Integration Time:	5.0 ms

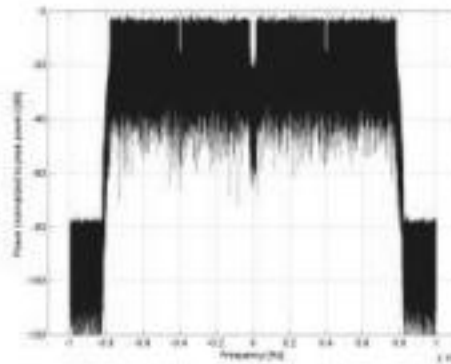
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



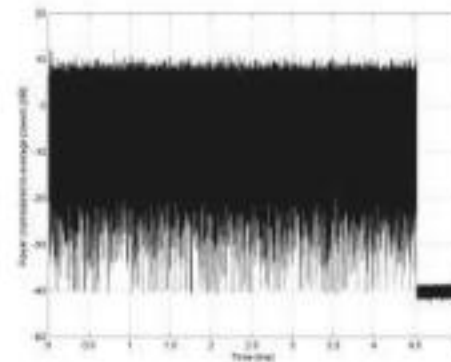
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



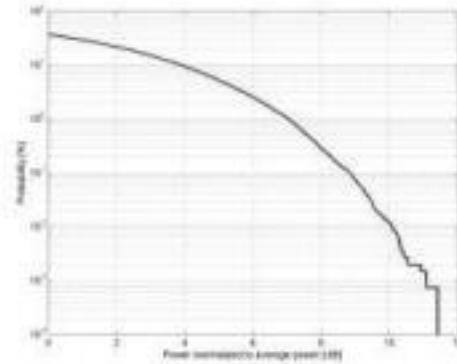
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Name	IEEE 802.11ac WiFi (160MHz, MCS0, 90% duty cycle)
Group	WLAN
UID	10636-AAE
PAPR ¹	8.03 dB
MIF ²	-5.55 dB
Standard Reference	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category	Random amplitude modulation
Modulation	8PSK
Frequency Band	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C < 5.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification	Bandwidth: 160MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 NPDU length: 32768
Bandwidth	160.0 MHz
Integration Time	5.0 ms

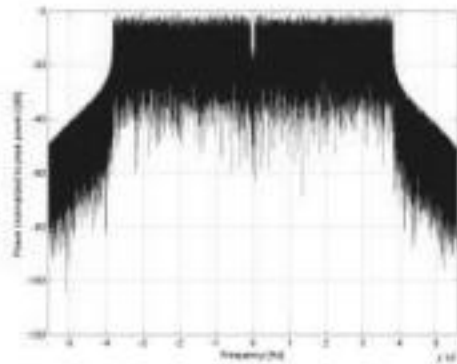
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



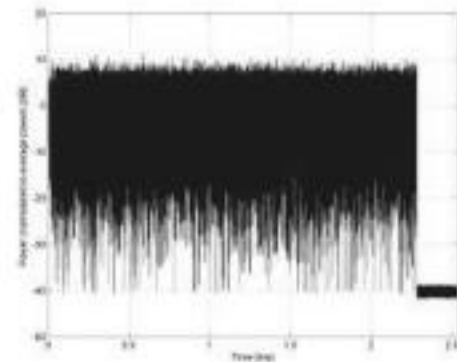
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



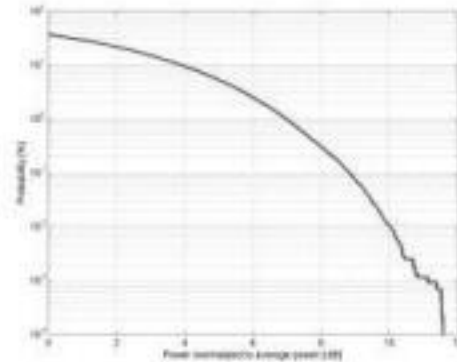
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Name:	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)
Group:	WLAN
UID:	10626-AAD
PAR: ¹	8.03 dB
MIF: ²	-5.84 dB
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5175 - 5330 MHz) U-NR-2C Standalone (5490 - 5715 MHz) U-NR-2C < 5.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 80MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 MPOU length: 8192
Bandwidth:	80.0 MHz
Integration Time:	2.5 ms

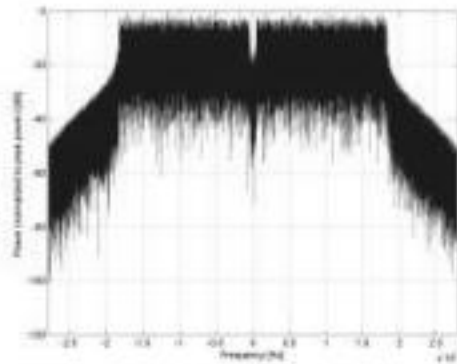
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



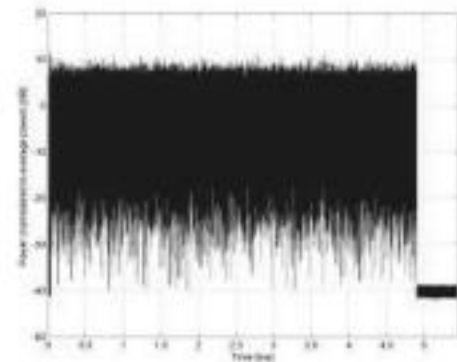
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



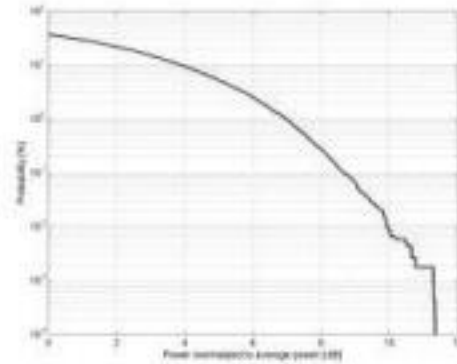
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Name:	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)
Group:	WLAN
UID:	10616-AAD
PAR: ¹	8.32 dB
MIF: ²	-5.37 dB
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5175 - 5330 MHz) U-NR-2C Standalone (5490 - 5715 MHz) U-NR-2C < 5.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 40MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 NPDU length: 8192
Bandwidth:	40.0 MHz
Integration Time:	5.4 ms

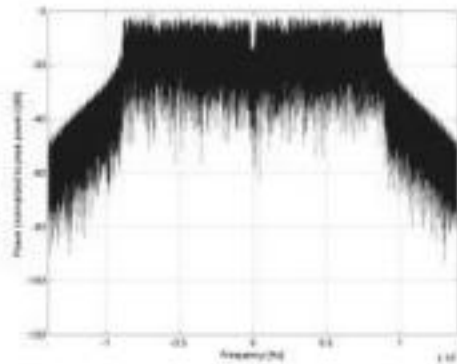
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



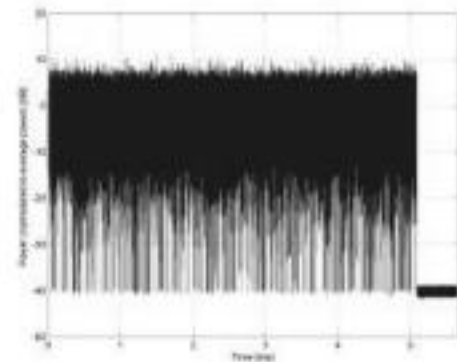
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



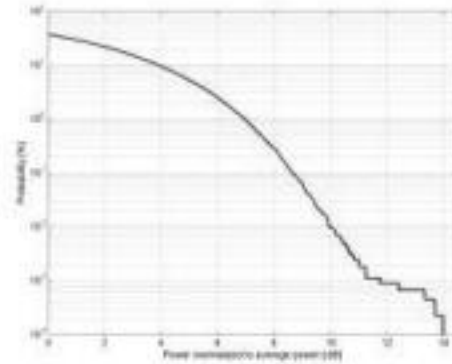
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Name:	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)
Group:	WLAN
UID:	10607-AAD
PAR: ¹	8.64 dB
MIF: ²	-5.80 dB
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category:	Random amplitude modulation
Modulation:	BPSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C < 5.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 20MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 NPDU length: 4395
Bandwidth:	20.0 MHz
Integration Time:	5.7 ms

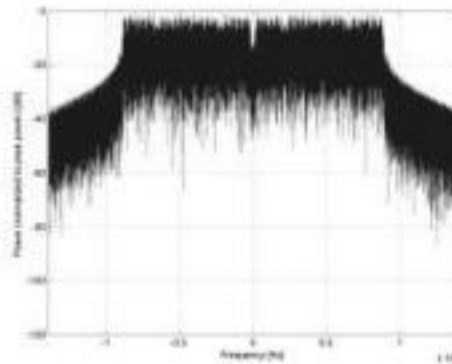
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



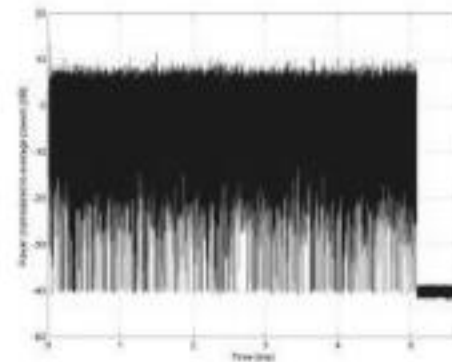
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



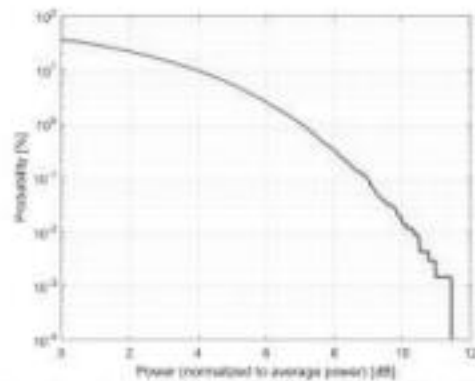
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Name	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)
Group	WLAN
UID	10591-AAD
PAR: ¹	8.63 dB
MIF: ²	-5.59 dB
Standard Reference	IEEE 802.11-2012 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category	Random amplitude modulation
Modulation	8PSK
Frequency Band	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C < 5.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification	Duty cycle: 90% MPDU length: 4096 bytes MCS: 0 Guard interval: long
Bandwidth	20.0 MHz
Integration Time	5.6 ms

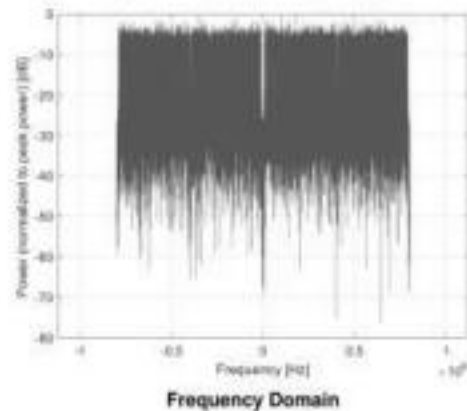
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



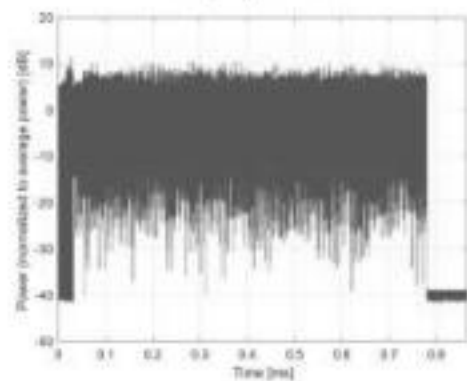
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



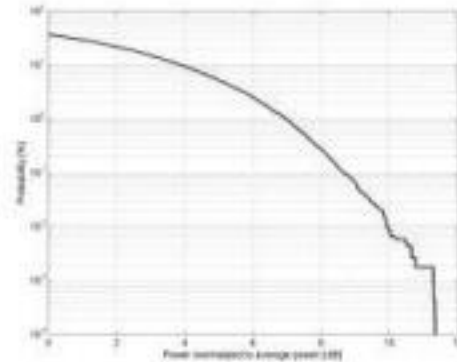
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Name:	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)
Group:	WLAN
UID:	10607-AAD
PAR: ¹	8.64 dB
MIF: ²	-5.80 dB
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C < 5.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 20MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 NPDU length: 4395
Bandwidth:	20.0 MHz
Integration Time:	5.7 ms

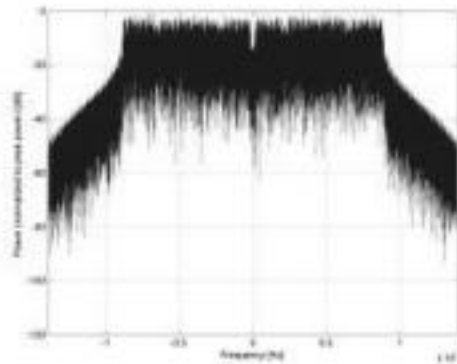
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



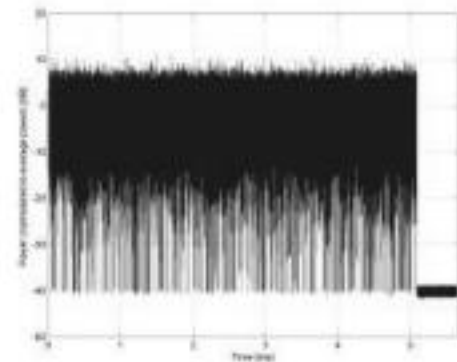
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



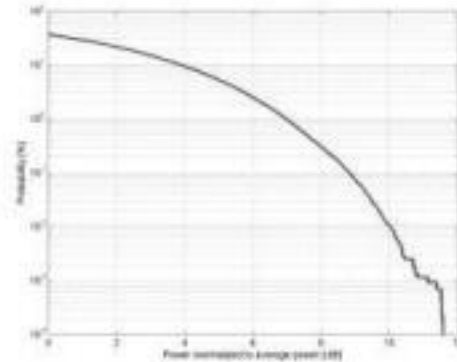
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Name:	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)
Group:	WLAN
UID:	10616-AAD
PAR: ¹	8.32 dB
MIF: ²	-5.37 dB
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5175 - 5330 MHz) U-NR-2C Standalone (5490 - 5715 MHz) U-NR-2C < 5.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 40MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 NPDU length: 8192
Bandwidth:	40.0 MHz
Integration Time:	5.4 ms

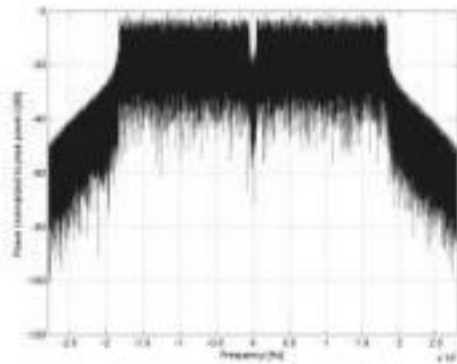
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



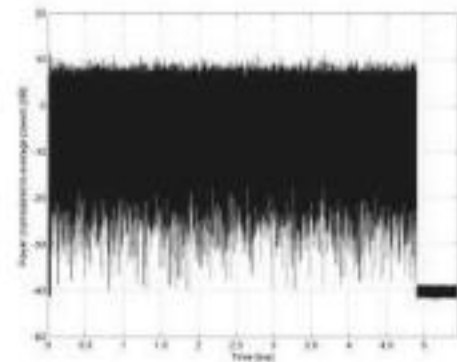
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



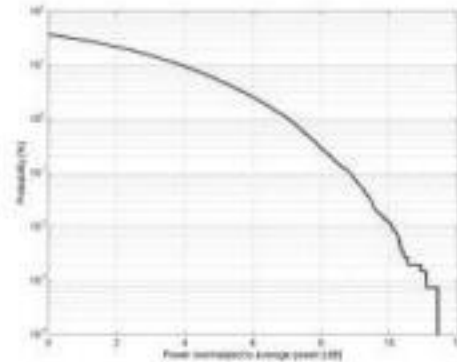
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Name:	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)
Group:	WLAN
UID:	10626-AAD
PAR: ¹	8.03 dB
MIF: ²	-5.84 dB
Standard Reference:	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5175 - 5330 MHz) U-NR-2C Standalone (5490 - 5715 MHz) U-NR-2C < 5.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 80MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 MPOU length: 8192
Bandwidth:	80.0 MHz
Integration Time:	2.5 ms

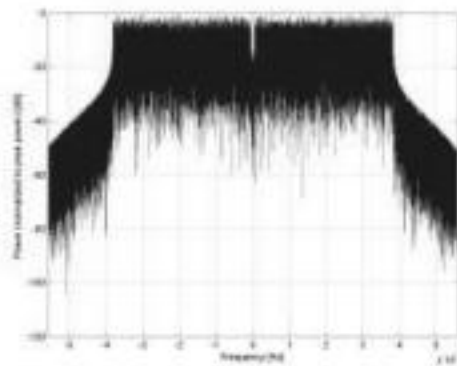
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



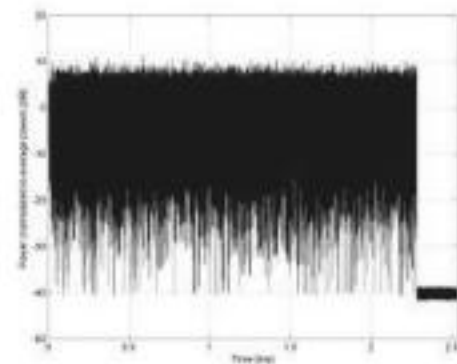
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



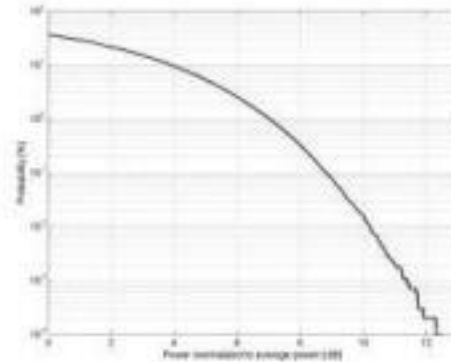
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Name	IEEE 802.11ac WiFi (160MHz, MCS0, 90% duty cycle)
Group	WLAN
UID	10636-AAE
PAR ¹	8.03 dB
MIF ²	-5.55 dB
Standard Reference	IEEE 802.11-2013 FCC OET KDB 348227 D01 802.11 WLAN SAR v02b01
Category	Random amplitude modulation
Modulation	8PSK
Frequency Band	WLAN 2.4GHz (2412.0 - 2464.0 MHz) WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5175 - 5330 MHz) U-NR-2C Standalone (5490 - 5715 MHz) U-NR-2C < 5.65 GHz (5490 - 5695 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5695 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification	Bandwidth: 160MHz Duty cycle: 90% MCS: 0 Number of spatial streams: 1 NPDU length: 32768
Bandwidth	160.0 MHz
Integration Time	5.0 ms

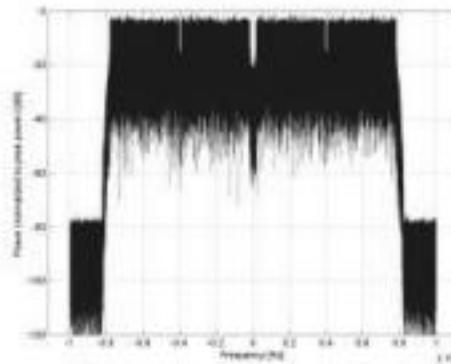
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PARP)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



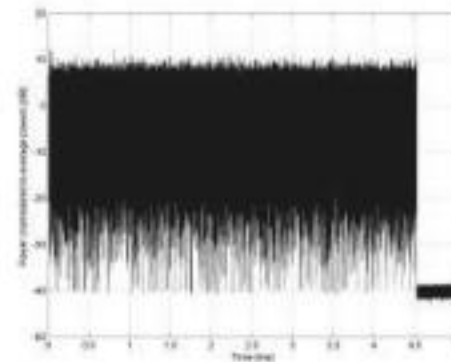
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



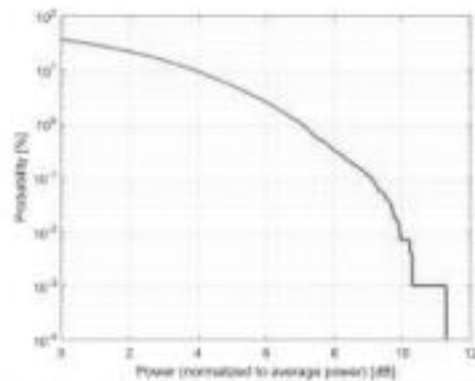
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Name:	IEEE 802.11ax (20MHz, MCS9, 90% duty cycle)
Group:	WLAN
UID:	10671-AAC
PAPR: ¹	8.08 dB
MIF: ²	-5.58 dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 20MHz Duty Cycle: 90% Number of spatial streams: 1
Bandwidth:	20.0 MHz
Integration Time:	5.0 ms

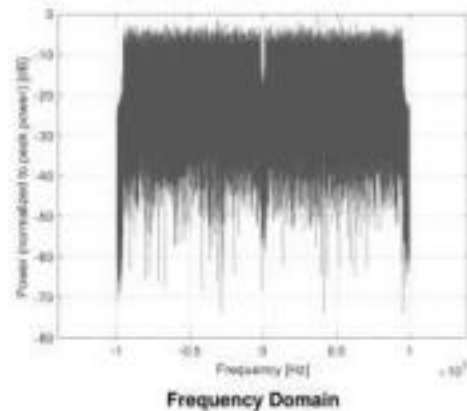
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



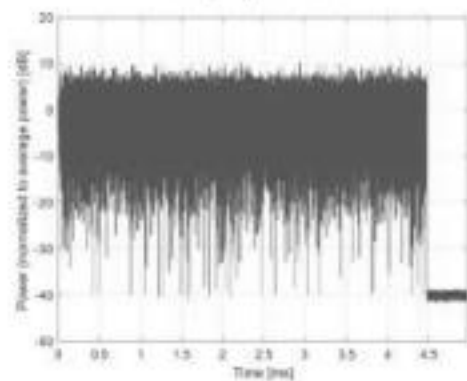
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



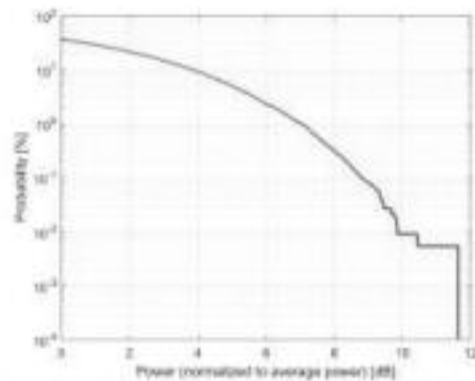
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Name:	IEEE 802.11ax (80MHz, MCS9, 90% duty cycle)
Group:	WLAN
UID:	10695-AAC
PAPR: ¹	8.75 dB
MIF: ²	-6.01 dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 40MHz Duty Cycle: 90% Number of spatial stream: 1
Bandwidth:	40.0 MHz
Integration Time:	1.4 ms

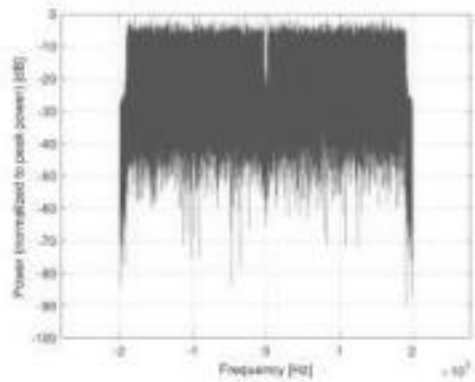
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



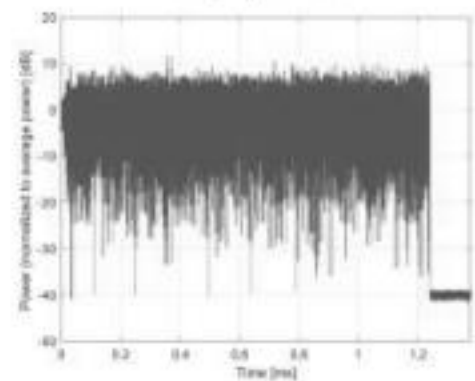
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



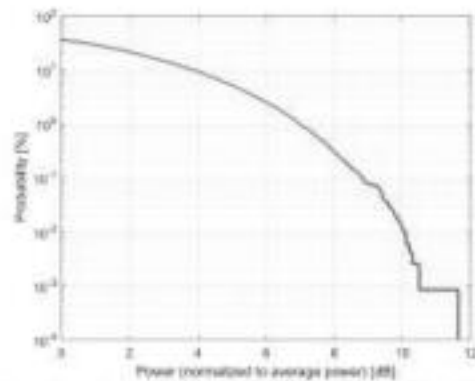
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Name:	IEEE 802.11ax (80MHz, MCS9, 90% duty cycle)
Group:	WLAN
UID:	10719-AAC
PAPR: ¹	8.01dB
MIF: ²	-6.94dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 80MHz Duty Cycle: 90% Number of spatial stream: 1
Bandwidth:	80.0 MHz
Integration Time:	1.5 ms

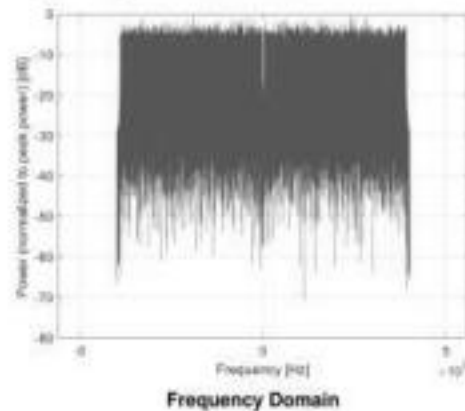
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



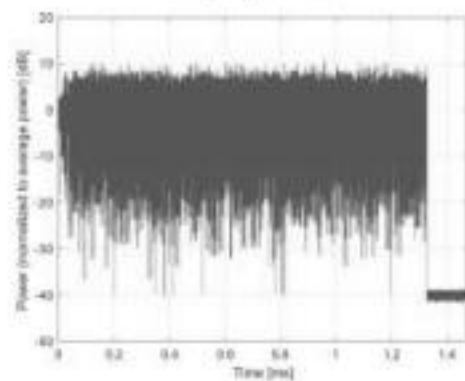
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



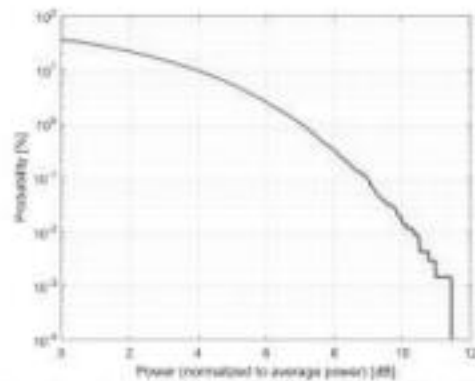
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Name:	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)
Group:	WLAN
UID:	10743-AAC
PAPR: ¹	8.54 dB
MIF: ²	-6.80 dB
Standard Reference:	SPSAG
Category:	Random amplitude modulation
Modulation:	8PSK
Frequency Band:	WLAN 2.4GHz (2412.0 - 2484.0 MHz) WLAN 5GHz (5915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <3.65 GHz (5490 - 5690 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5690 - 5835 MHz) U-NR-5 (5925 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6875 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5.925 - 5.925 MHz) Validation band (0.0 - 8000.0 MHz)
Detailed Specification:	Bandwidth: 160MHz Duty Cycle: 99% Number of spatial stream: 1
Bandwidth:	160.0 MHz
Integration Time:	0.3 ms

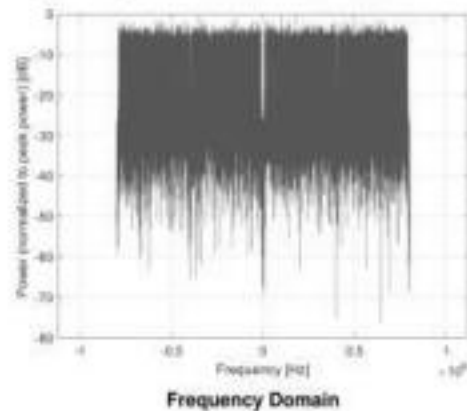
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



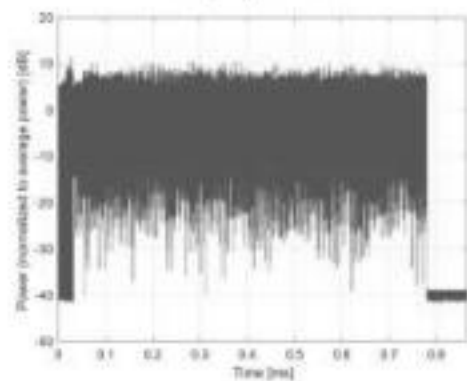
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



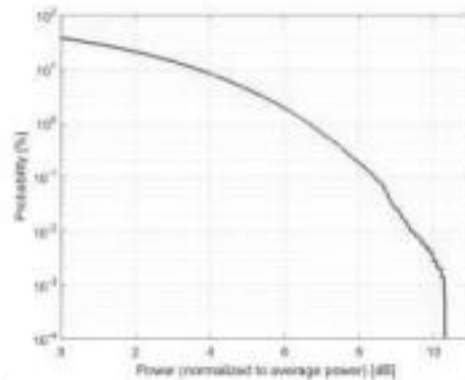
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Name:	IEEE 802.11be (20MHz, MCS9, 99% duty cycle)
Group:	WLAN
UID:	11026-AAB
PAPR: ¹	8.26 dB
MIF: ²	-26.73 dB
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	OFDM
Frequency Band:	WLAN 5GHz (4915.0 - 5825.0 MHz) U-NR-1, U-NR-2A (5170 - 5330 MHz) U-NR-2C Standalone (5490 - 5710 MHz) U-NR-2C <5.85 GHz (5490 - 5650 MHz) U-NR-3 Standalone (5735 - 5835 MHz) U-NR-2C, U-NR-3 (5650 - 5835 MHz) U-NR-5 (5825 - 6425 MHz) U-NR-6 (6425 - 6525 MHz) U-NR-7 (6525 - 6675 MHz) U-NR-8 (6875 - 7125 MHz) U-NR-4 (5825 - 5925 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Bandwidth: 320 MHz Duty Cycle: 99% Duty Cycle Number of Spatial Streams: 1
Bandwidth:	320.0 MHz
Integration Time:	0.6 ms

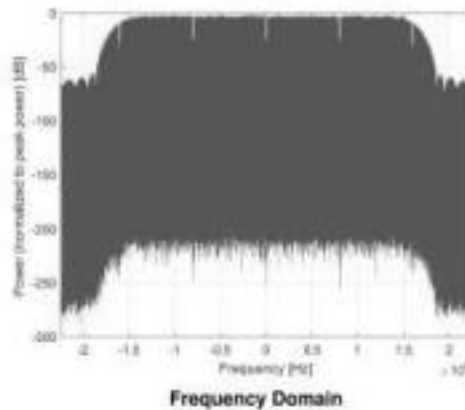
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



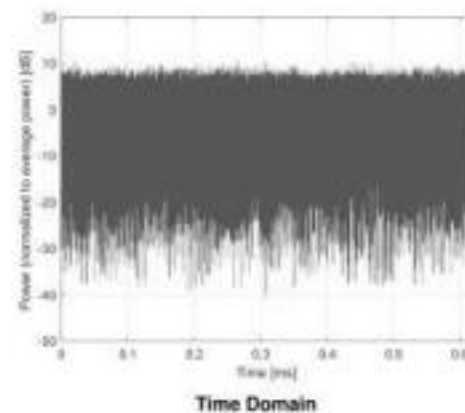
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain

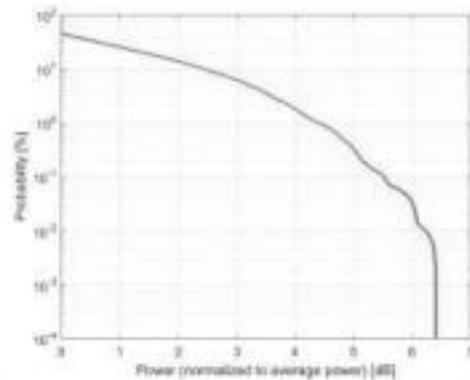


Time Domain

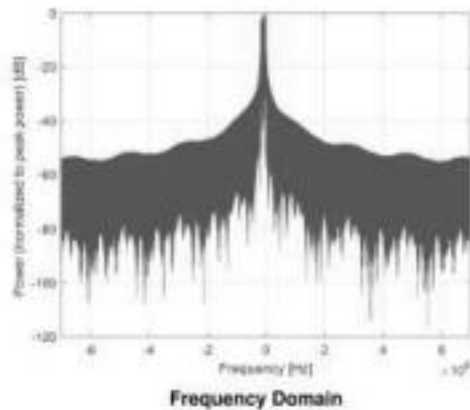




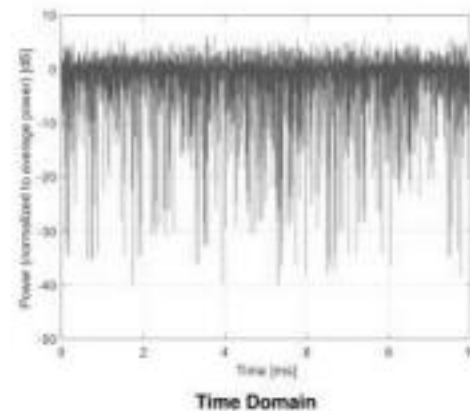
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



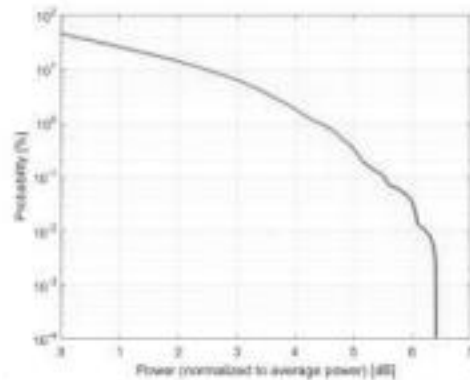
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Name:	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)
Group:	5G NR FR1 FDD
UID:	10930-AAC
PAR: ¹	5.52 dB
MIF: ²	-15.06 dB
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n2 (1980 - 1995 MHz) Band n5 (824 - 849 MHz) Band n25 (1850 - 1915 MHz) Band n66 (1710 - 1785 MHz) Band n71 (663 - 698 MHz) Band n1 (1920 - 1980 MHz) Band n3 (1710 - 1785 MHz) Band n7 (2500 - 2570 MHz) Band n6 (880 - 915 MHz) Band n12 (698 - 716 MHz) Band n10 (915 - 928 MHz) Band n20 (832 - 862 MHz) Band n26 (814 - 845 MHz) Band n28 (703 - 748 MHz) Band n65 (1500 - 2010 MHz) Band n70 (1695 - 1710 MHz) Band n74 (1427 - 1470 MHz) Band n82 (832 - 862 MHz) Band n94 (960 - 915 MHz) Band n80 (1710 - 1785 MHz) Band n81 (960 - 915 MHz) Band n82 (832 - 862 MHz) Band n83 (703 - 748 MHz) Band n84 (1920 - 1980 MHz) Band n86 (1710 - 1785 MHz) Band n89 (824 - 849 MHz) Band n95 (2010 - 2025 MHz) Band n97 (2300 - 2400 MHz) Band n98 (1660 - 1700 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Multiplexing Scheme: DFT-s-OFDM Modulation Scheme: QPSK Subcarrier Spacing: 15 kHz Number RBs: 1 Data Type: PUSCH
Bandwidth:	15.0 MHz
Integration Time:	10.0 ms

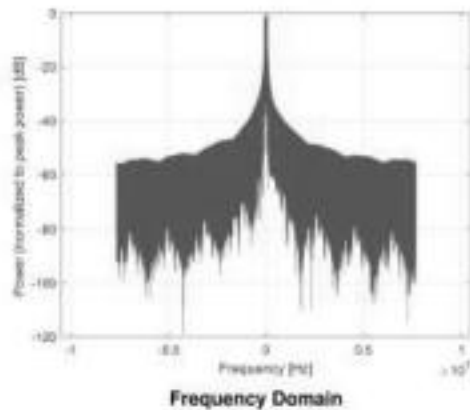
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



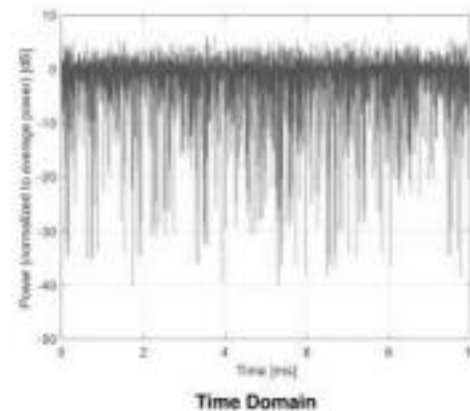
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



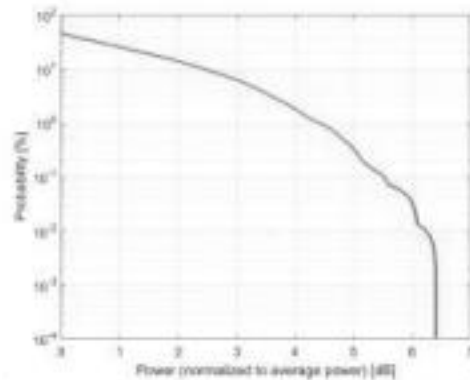
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Name:	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)
Group:	5G NR FR1 FDD
UID:	10931 AAC
PAR: ¹	5.81 dB
MIF: ²	-15.06 dB
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n2 (1900 - 1910 MHz) Band n5 (824 - 848 MHz) Band n25 (1850 - 1915 MHz) Band n66 (1710 - 1780 MHz) Band n71 (663 - 698 MHz) Band n1 (1920 - 1980 MHz) Band n3 (1710 - 1785 MHz) Band n7 (2500 - 2570 MHz) Band n6 (800 - 915 MHz) Band n20 (832 - 862 MHz) Band n26 (814 - 848 MHz) Band n28 (703 - 748 MHz) Band n65 (1900 - 2010 MHz) Band n74 (1427 - 1470 MHz) Band n32 (832 - 862 MHz) Band n94 (880 - 915 MHz) Band n80 (1710 - 1785 MHz) Band n81 (880 - 915 MHz) Band n82 (832 - 862 MHz) Band n83 (703 - 748 MHz) Band n64 (1920 - 1980 MHz) Band n66 (1710 - 1780 MHz) Band n80 (824 - 848 MHz) Band n87 (2300 - 2400 MHz) Band n88 (1880 - 1920 MHz) Validation Band (0.0 - 6000.0 MHz)
Detailed Specification:	Multiplexing Scheme: DFT-s-OFDM Modulation Scheme: QPSK Subcarrier Spacing: 15 kHz Number RBs: 1 Data Type: PUSCH
Bandwidth:	20.0 MHz
Integration Time:	10.0 ms

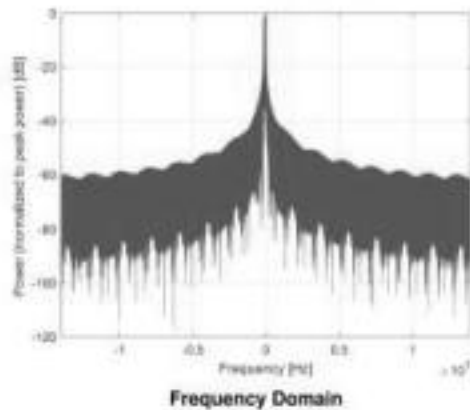
¹ PAR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)";
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



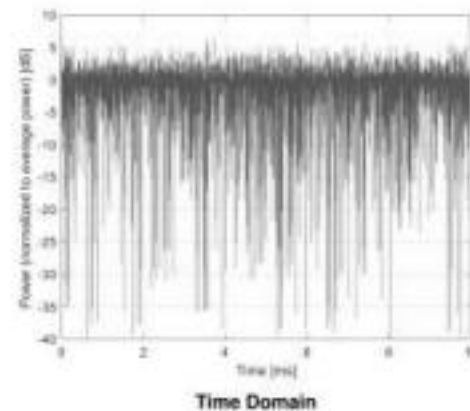
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Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



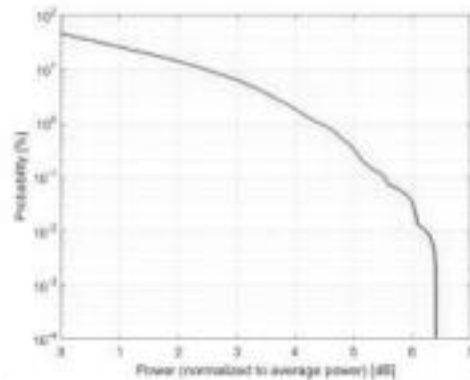
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Name:	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)
Group:	5G NR FR1 FDD
UID:	10934-AAC
PAPR: ¹	5.81 dB
MIF: ²	-15.07 dB
Standard Reference:	3GPP
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n25 (1850 - 1915 MHz) Band n66 (1710 - 1780 MHz) Band n1 (1920 - 1980 MHz) Band n3 (1710 - 1785 MHz) Band n7 (2500 - 2670 MHz) Band n96 (1710 - 1780 MHz) Band n97 (2500 - 2670 MHz) Band n98 (1850 - 1920 MHz) Validation band (0.0 - 5000.0 MHz)
Detailed Specification:	Multiplexing Scheme: DFT-s-OFDM Modulation Scheme: QPSK Subcarrier Spacing: 15 kHz Number RBs: 1 Data Type: PUSCH
Bandwidth:	40.0 MHz
Integration Time:	10.0 ms

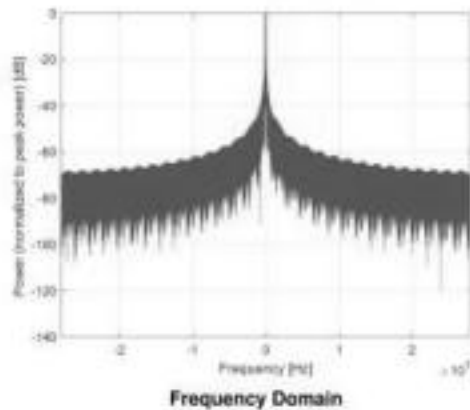
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.2 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



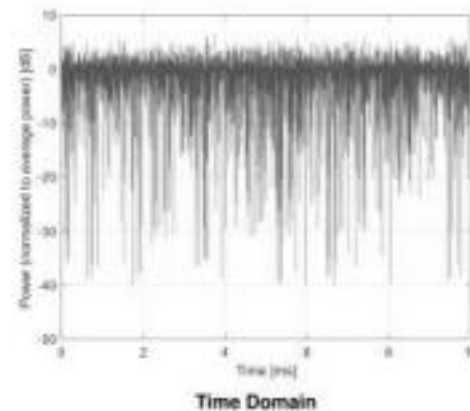
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



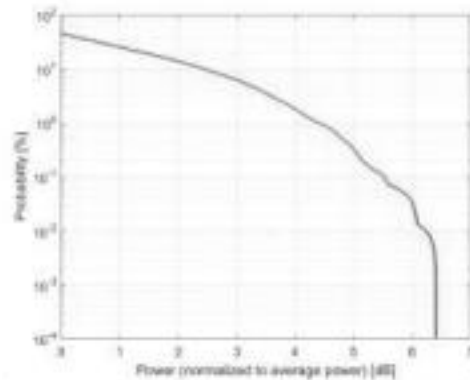
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Name:	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)
Group:	5G NR FR1 FDD
UID:	10935-AAD
PAPR: ¹	5.81 dB
MIF: ²	-15.07 dB
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n1 (1920 - 1980 MHz) Band n2 (2500 - 2570 MHz) Band n65 (1920 - 2510 MHz) Band n97 (2300 - 2400 MHz) Validation band (0.0 - 6000.0 MHz)
Detailed Specification:	Multiplexing Scheme: DFT-s-OFDM Modulation Scheme: QPSK Subcarrier Spacing: 15 kHz Number RBs: 1 Data Type: PUSCH
Bandwidth:	30.0 MHz
Integration Time:	10.0 ms

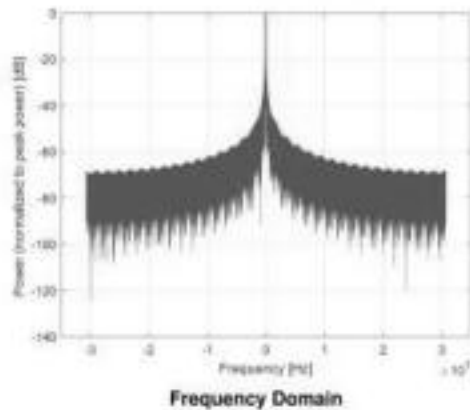
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



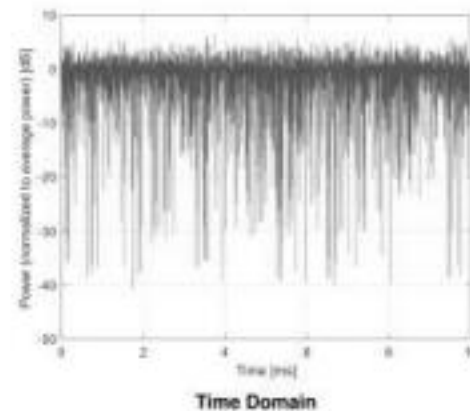
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Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



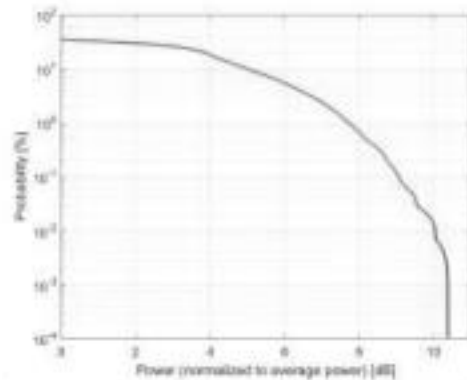
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Name:	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)
Group:	5G NR FR1 TDD
UID:	10973-AAD
PAPR: ¹	9.06 dB
MIF: ²	-1.84 dB
Standard Reference:	SPEAG
Category:	Random amplitude modulation
Modulation:	QPSK
Frequency Band:	Band n41 (2486 - 2690 MHz) Band n46 (3550 - 3790 MHz) Band n77 (3300 - 4200 MHz) Band n78 (3300 - 3800 MHz) Band n79 (4400 - 5000 MHz) Band n90 (2450 - 2690 MHz) Band n96 (5150 - 5825 MHz) Band n96 (5925 - 7125 MHz) Band n102 (5925 - 6425 MHz) Band n104 (6425 - 7125 MHz) Validation band (5.0 - 5000.0 MHz)
Detailed Specification:	Multiplexing Scheme: DFT-s-OFDM Modulation Scheme: QPSK Subcarrier Spacing: 30 kHz Number RBs: 1 Slot Format Index: - Data Type: PUSCH
Bandwidth:	100.0 MHz
Integration Time:	10.0 ms

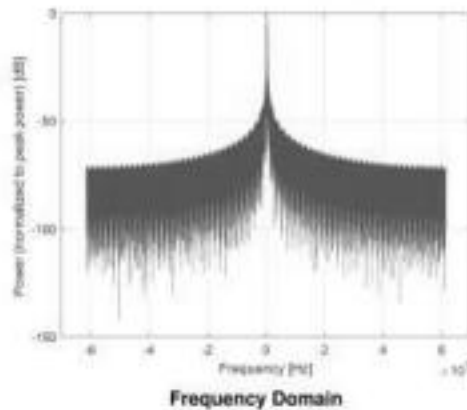
¹ PAPR (0.1%) in accordance with FCC KDB 971168, Section 5.0 "Measurement of the Peak-to-Average Power Ratio (PAPR)"
² Modulation Interference Factor (MIF) value valid only in conjunction with advanced probe response linearization calibration for the same communication system (same UID and version).



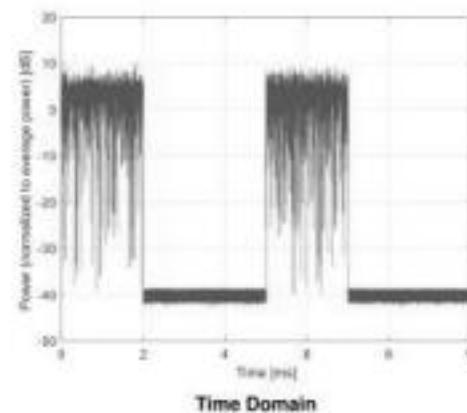
**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



Complementary Cumulative Distribution Function (CCDF)



Frequency Domain



Time Domain



**RF SAFETY
LAB**

A NEXT GENERATION
TEST LABORATORY™

Next Generation Test Laboratory (RF Safety Laboratory, LLC)
5520 Research Park Drive, Suite 140, Catonsville, Maryland 21228 USA
ANAB 17025 Certificate Number: AT-3274
☎ +1 202 240 9240; ✉ info@rfsafetylab.com

Appendix D: Calibration Certificates



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



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **RF Safety Lab**
Catonsville, USA

Certificate No. **EF-4101_Aug25**

CALIBRATION CERTIFICATE

Object **EF3DV3 - SN:4101**

MAR 9/1/25

Calibration procedure(s) **QA CAL-02.v9, QA CAL-25.v8**
Calibration procedure for E-field probes optimized for close near field
evaluations in air

Calibration date **August 20, 2025**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.
All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3) °C and humidity < 70%.
Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Calibration Date (Certificate No.)	Sched. Cal.
Power Sensor RLS NRP-33T	SN: 100967	30-Apr-25 (No. 1020-300791789)	Apr-26
N-type mismatch combination	SN: L1119	28-Mar-25 (No. 217-04202)	Mar-26
OCP DAK-12	SN: 1016	24-Sept-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sept-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	10-Jan-25 (No. EX3-7349_Jan25)	Jan-26
DAE4	SN: 1301	07-Nov-24 (No. DAE4-1301_Nov24)	Nov-25

Secondary Standards	ID	Check Date (in house)	Sched. Check
ACAP 2020 Setup 1	SN: L1404	30-Sept-24 (No. Report ACAP2020E-Cave_20240930s)	Sep-25

	Name	Function	Signature
Calibrated by	Jeton Kasirali	Laboratory Technician	<i>[Signature]</i>
Approved by	Sven Kühn	Technical Manager	<i>[Signature]</i>
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

Issued: August 20, 2025



Calibration Laboratory of

Schmid & Partner
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Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary

NORM _{x,y,z}	sensitivity in free space
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
En	incident E-field orientation normal to probe axis
Ep	incident E-field orientation parallel to probe axis
Polarization φ	φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1309-2005, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005
- CTIA Test Plan for Hearing Aid Compatibility, Rev 3.1.1, May 2017

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}: Assessed for E-field polarization $\theta = 0$ for XY sensors and $\theta = 90$ for Z sensor ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz in R22 waveguide).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response (see Frequency Response Chart).
- DCP_{x,y,z}: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- Spherical isotropy (3D deviation from isotropy): in a locally homogeneous field realized using an open waveguide setup.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).



EF3DV3 - SN:4101

August 20, 2025

Parameters of Probe: EF3DV3 - SN:4101

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k = 2)
Norm ($\mu V/(V/m)^2$)	1.15	1.09	1.73	$\pm 10.1\%$
DCP (mV) ^B	102.1	103.2	104.6	$\pm 4.7\%$

Calibration Results for Frequency Response (30 MHz – 5.8 GHz)

Frequency MHz	Target E-field (En) V/m	Measured E-field (En) V/m	Deviation E-field (En)	Target E-field (Ep) V/m	Measured E-field (Ep) V/m	Deviation E-field (Ep)	Unc (k = 2)
30	77.1	76.7	-0.6%	77.2	76.1	-1.1%	$\pm 5.1\%$
100	77.1	76.5	-1.7%	77.1	76.5	-1.6%	$\pm 5.1\%$
450	77.1	76.7	-2.0%	77.1	76.4	-1.7%	$\pm 5.1\%$
600	77.1	76.2	-1.4%	77.0	77.9	1.1%	$\pm 5.1\%$
750	77.1	77.8	1.0%	77.1	77.6	0.7%	$\pm 5.1\%$
1800	142.3	139.8	-1.8%	142.1	139.6	-1.7%	$\pm 5.1\%$
2000	134.9	129.8	-3.8%	134.9	129.9	-3.7%	$\pm 5.1\%$
2200	127.6	125.1	-2.1%	127.8	126.4	-1.1%	$\pm 5.1\%$
2500	125.0	120.0	-4.0%	125.0	121.1	-3.2%	$\pm 5.1\%$
3000	79.4	76.1	-4.2%	79.5	77.4	-2.6%	$\pm 5.1\%$
3500	256.0	253.6	-0.9%	255.7	250.6	-2.0%	$\pm 5.1\%$
3700	250.3	244.4	-2.4%	250.5	243.3	-2.9%	$\pm 5.1\%$
5200	50.8	50.5	-0.6%	50.7	51.1	0.7%	$\pm 5.1\%$
5500	46.7	46.6	-0.2%	46.7	46.2	-1.1%	$\pm 5.1\%$
5800	46.7	45.6	-2.4%	46.8	45.5	-2.8%	$\pm 5.1\%$

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^B Linearization parameter uncertainty for maximum specified field strength.

^C Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



EF3DV3 - SN:4101

August 20, 2025

Parameters of Probe: EF3DV3 - SN:4101

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu V}$	C	D dB	VR mV	Max dev.	Max Unc [®] k = 2
0	CW	X	0.00	0.00	1.00	0.00	123.7	±2.7%	±4.7%
		Y	0.00	0.00	1.00		116.9		
		Z	0.00	0.00	1.00		121.8		
10352	Pulse Waveform (200Hz, 10%)	X	20.00	85.39	17.25	10.00	60.0	±6.0%	±9.6%
		Y	2.44	60.00	7.33		60.0		
		Z	2.37	60.14	7.24		60.0		
10353	Pulse Waveform (200Hz, 20%)	X	20.00	88.92	17.42	6.99	80.0	±4.6%	±9.6%
		Y	2.25	62.48	7.26		80.0		
		Z	2.28	62.89	7.36		80.0		
10354	Pulse Waveform (200Hz, 40%)	X	20.00	94.06	18.03	3.98	95.0	±1.3%	±9.6%
		Y	0.89	60.19	5.00		95.0		
		Z	0.92	60.47	5.11		95.0		
10355	Pulse Waveform (200Hz, 60%)	X	20.00	89.13	14.48	2.22	120.0	±1.4%	±9.6%
		Y	0.48	60.00	4.14		120.0		
		Z	0.50	60.00	4.14		120.0		
10387	QPSK Waveform, 1 MHz	X	1.53	82.49	21.69	1.00	150.0	±3.7%	±9.6%
		Y	1.01	74.25	17.69		150.0		
		Z	0.70	69.24	15.38		150.0		
10388	QPSK Waveform, 10 MHz	X	1.90	72.59	17.41	0.00	150.0	±1.4%	±9.6%
		Y	1.71	70.38	16.32		150.0		
		Z	1.53	68.85	15.29		150.0		
10396	64-QAM Waveform, 100 kHz	X	2.40	71.19	19.86	3.01	150.0	±1.0%	±9.6%
		Y	2.21	69.59	18.85		150.0		
		Z	2.06	68.15	17.65		150.0		
10399	64-QAM Waveform, 40 MHz	X	3.00	67.89	16.28	0.00	150.0	±2.1%	±9.6%
		Y	2.95	67.37	15.87		150.0		
		Z	2.83	66.86	15.52		150.0		
10414	WLAN CCDF, 64-QAM, 40 MHz	X	3.91	67.05	16.06	0.00	150.0	±3.8%	±9.6%
		Y	3.89	66.83	15.77		150.0		
		Z	3.88	66.90	15.79		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[®] Linearization parameter uncertainty for maximum specified field strength.

[®] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



EF3DV3 - SN:4101

August 20, 2025

Parameters of Probe: EF3DV3 - SN:4101

Sensor Frequency Model Parameters

	Sensor X	Sensor Y	Sensor Z
Frequency Corr. (LF)	-0.17	-0.23	9.91
Frequency Corr. (HF)	2.82	2.82	2.82

Sensor Model Parameters

	C1 fF	C2 fF	a V ⁻¹	T1 msV ⁻²	T2 msV ⁻¹	T3 ms	T4 V ⁻²	T5 V ⁻¹	T6
x	9.9	63.66	35.14	1.65	0.06	5.05	0.91	0.00	1.00
y	10.8	68.52	34.21	9.73	0.00	4.90	0.92	0.00	1.00
z	9.8	62.51	34.32	10.98	0.00	4.90	0.69	0.00	1.00

Other Probe Parameters

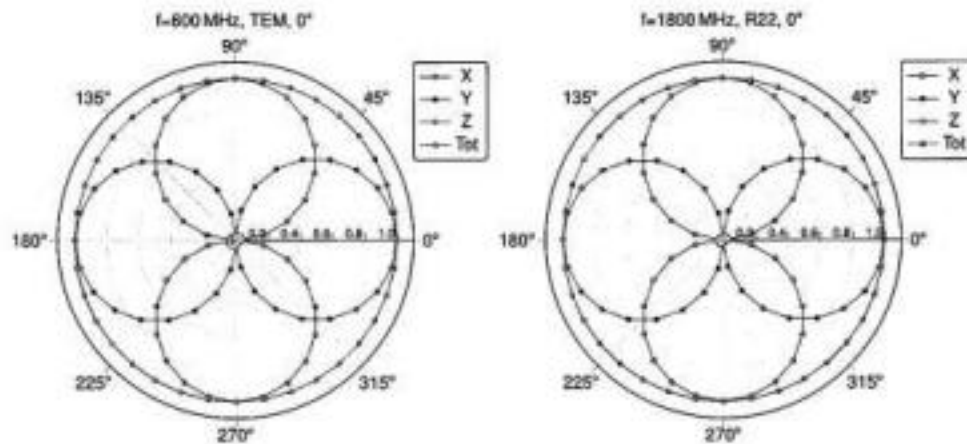
Sensor Arrangement	Rectangular
Connector Angle	-58.8°
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	12 mm
Tip Length	25 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	1.5 mm
Probe Tip to Sensor Y Calibration Point	1.5 mm
Probe Tip to Sensor Z Calibration Point	1.5 mm



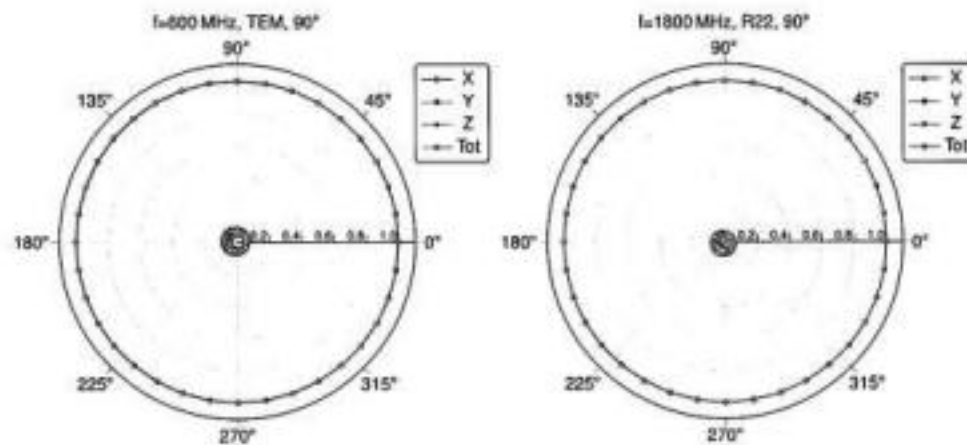
EF3DV3 - SN:4101

August 20, 2025

Receiving Pattern (ϕ), $\theta = 0^\circ$



Receiving Pattern (ϕ), $\theta = 90^\circ$

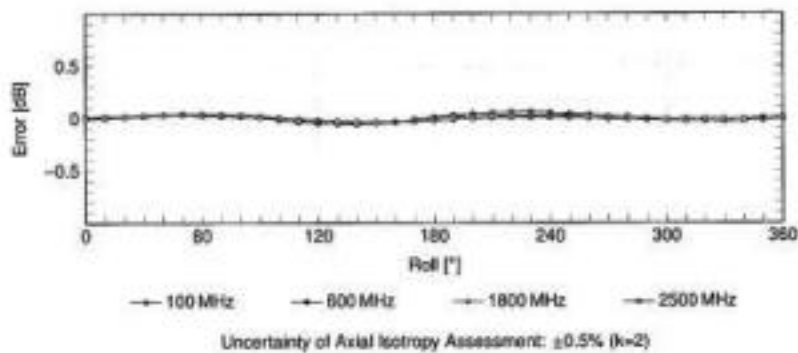




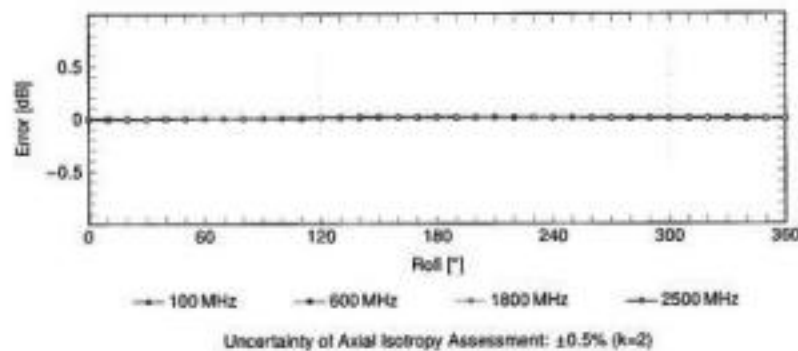
EF3DV3 - SN:4101

August 20, 2025

Receiving Pattern (ϕ), $\theta = 0^\circ$



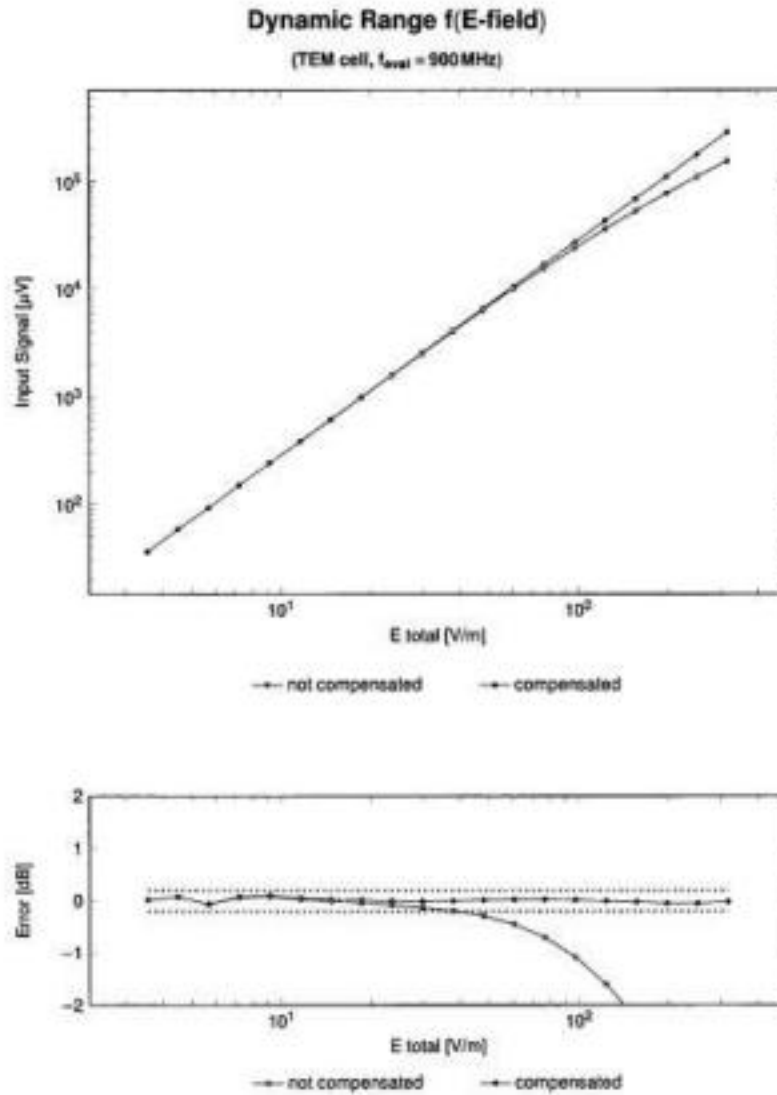
Receiving Pattern (ϕ), $\theta = 90^\circ$





EF3DV3 - SN:4101

August 20, 2025



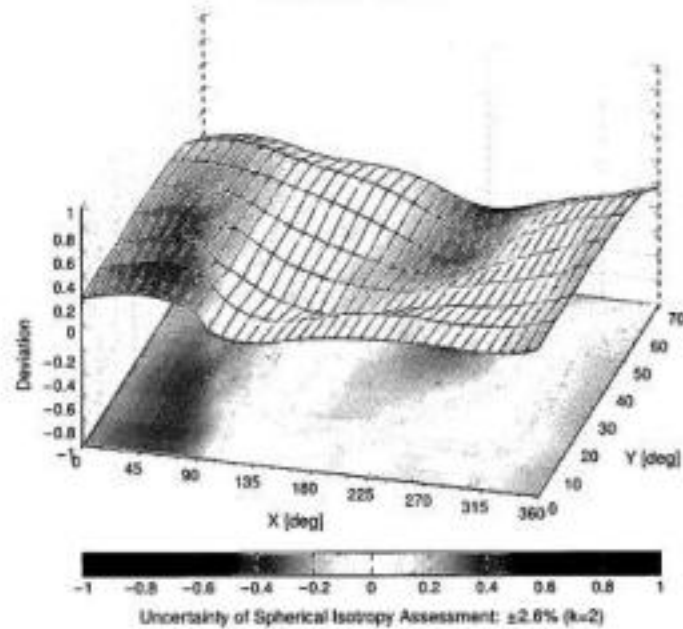


EF3DV3 - SN:4101

August 20, 2025

Deviation from Isotropy in Air

Error (ϕ, θ), $f = 900\text{MHz}$





EF3DV3 - SN:4101

August 20, 2025

Appendix: Modulation Calibration Parameters

LRD	Rev	Communication System Name	Group	PAR (dB)	Unc ^a k = 2
5		CW	CW	0.00	±4.7
10010	CAB	SAR Validation (Square, 100 ms, 10 ms)	Test	10.00	±9.8
10011	CAC	UMTS-FDD (WCDMA)	WCDMA	2.91	±9.8
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	±9.8
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 5 Mbps)	WLAN	9.46	±9.8
10021	CAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.8
10023	CAC	GPRS-FDD (TDMA, GMSK, TN 9-1)	GSM	9.57	±9.8
10024	CAC	GPRS-FDD (TDMA, GMSK, TN 9-1)	GSM	6.56	±9.8
10025	CAC	EDGE-FDD (TDMA, 8PSK, TN 9-1)	GSM	12.62	±9.8
10026	CAC	EDGE-FDD (TDMA, 8PSK, TN 9-1)	GSM	9.55	±9.8
10027	CAC	GPRS-FDD (TDMA, GMSK, TN 9-1-2)	GSM	4.90	±9.8
10028	CAC	GPRS-FDD (TDMA, GMSK, TN 9-1-2-3)	GSM	3.35	±9.8
10029	CAC	EDGE-FDD (TDMA, 8PSK, TN 9-1-2)	GSM	7.79	±9.8
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.8
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.8
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	±9.8
10033	CAA	IEEE 802.15.1 Bluetooth (P4-DQPSK, DH1)	Bluetooth	7.74	±9.8
10034	CAA	IEEE 802.15.1 Bluetooth (P4-DQPSK, DH3)	Bluetooth	4.53	±9.8
10035	CAA	IEEE 802.15.1 Bluetooth (P4-DQPSK, DH5)	Bluetooth	3.80	±9.8
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	±9.8
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	±9.8
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	±9.8
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	±9.8
10040	CAB	IS-54 / IS-136 FDD (TDMA/FDMA, P4-DQPSK, Fullrate)	AMPS	7.76	±9.8
10041	CAA	IS-54 / IS-136 FDD (TDMA/FDMA, P4-DQPSK, Fullrate)	AMPS	6.00	±9.8
10042	CAA	DECT (TDD, TDMA/FDMA, GFSK, Full Rate, 24)	DECT	13.80	±9.8
10043	CAA	DECT (TDD, TDMA/FDMA, GFSK, Double Slot, 12)	DECT	10.79	±9.8
10050	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mbps)	TD-SCDMA	11.01	±9.8
10058	CAC	EDGE-FDD (TDMA, 8PSK, TN 9-1-2-3)	GSM	6.52	±9.8
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	±9.8
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.80	±9.8
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.8
10062	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	9.68	±9.8
10063	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	±9.8
10064	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.8
10065	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.8
10066	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	±9.8
10067	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	±9.8
10068	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.8
10069	CAB	IEEE 802.11ah WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.55	±9.8
10070	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 3 Mbps)	WLAN	9.83	±9.8
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.82	±9.8
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	±9.8
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.38	±9.8
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	±9.8
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	±9.8
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	±9.8
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.57	±9.8
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDMA, P4-DQPSK, Fullrate)	AMPS	4.77	±9.8
10090	CAC	GPRS-FDD (TDMA, GMSK, TN 9-4)	GSM	6.56	±9.8
10097	CAC	UMTS-FDD (HSPA)	WCDMA	3.98	±9.8
10098	CAC	UMTS-FDD (HSPA, Subnet 2)	WCDMA	3.98	±9.8
10099	CAC	EDGE-FDD (TDMA, 8PSK, TN 9-4)	GSM	9.55	±9.8
10100	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.87	±9.8
10101	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.8
10102	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.8
10103	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	±9.8
10104	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	±9.8
10105	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	±9.8
10106	CAH	LTE-FDD (SC-FDMA, 100% RB, 13 MHz, QPSK)	LTE-FDD	5.80	±9.8
10109	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.8
10110	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	6.75	±9.8
10111	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	±9.8



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10112	CAH	LTE-FDD (SC-FDMA, 100% RB, 18 MHz, 64-QAM)	LTE-FDD	6.59	±0.6
10113	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	±0.6
10114	CAE	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	±0.6
10115	CAE	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	±0.6
10116	CAE	IEEE 802.11n (HT Greenfield, 125 Mbps, 64-QAM)	WLAN	8.15	±0.6
10117	CAE	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	±0.6
10118	CAE	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	±0.6
10119	CAE	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	±0.6
10140	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±0.6
10141	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±0.6
10142	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	±0.6
10143	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±0.6
10144	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	±0.6
10145	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±0.6
10146	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±0.6
10147	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	±0.6
10149	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±0.6
10150	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±0.6
10151	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.26	±0.6
10152	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	±0.6
10153	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	±0.6
10154	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	±0.6
10155	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±0.6
10156	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	±0.6
10157	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	±0.6
10158	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	±0.6
10159	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	±0.6
10160	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.80	±0.6
10161	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	±0.6
10162	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.56	±0.6
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±0.6
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	±0.6
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	±0.6
10169	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	±0.6
10170	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.50	±0.6
10171	AAP	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	±0.6
10172	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	±0.6
10173	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	±0.6
10174	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	±0.6
10175	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	±0.6
10176	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	±0.6
10177	CAJ	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	±0.6
10178	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	±0.6
10179	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±0.6
10180	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±0.6
10181	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	±0.6
10182	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	±0.6
10183	AAP	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	±0.6
10184	CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	±0.6
10185	CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.51	±0.6
10186	AAP	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±0.6
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.75	±0.6
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	±0.6
10189	AAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	±0.6
10190	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	±0.6
10194	CAE	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	±0.6
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	±0.6
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	±0.6
10197	CAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	±0.6
10198	CAE	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	±0.6
10219	CAE	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.30	±0.6
10220	CAE	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±0.6
10221	CAE	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±0.6
10222	CAE	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	±0.6
10223	CAE	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±0.6
10224	CAE	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.06	±0.6



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10225	CAC	UMTS-FDD (HSPA+)	WCDMA	5.97	±0.6
10226	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±0.6
10227	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.25	±0.6
10228	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.32	±0.6
10229	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±0.6
10230	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±0.6
10231	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±0.6
10232	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±0.6
10233	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±0.6
10234	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±0.6
10235	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±0.6
10236	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	±0.6
10237	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±0.6
10238	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±0.6
10239	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±0.6
10240	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±0.6
10241	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.62	±0.6
10242	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±0.6
10243	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±0.6
10244	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±0.6
10245	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	±0.6
10246	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±0.6
10247	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±0.6
10248	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±0.6
10249	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±0.6
10250	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±0.6
10251	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±0.6
10252	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±0.6
10253	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	±0.6
10254	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	±0.6
10255	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	±0.6
10256	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	±0.6
10257	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.06	±0.6
10258	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	±0.6
10259	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±0.6
10260	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±0.6
10261	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	±0.6
10262	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.80	±0.6
10263	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.18	±0.6
10264	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±0.6
10265	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±0.6
10266	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	±0.6
10267	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±0.6
10268	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	±0.6
10269	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±0.6
10270	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.36	±0.6
10274	CAC	UMTS-FDD (HSPA, Subtest 5, 3GPP Rel8 10)	WCDMA	4.87	±0.6
10275	CAC	UMTS-FDD (HSPA, Subtest 5, 3GPP Rel8 4)	WCDMA	3.96	±0.6
10277	CAA	PHS (QPSK)	PHS	11.81	±0.6
10278	CAA	PHS (QPSK, BW 894 MHz, Roll-off 0.5)	PHS	11.81	±0.6
10279	CAA	PHS (QPSK, BW 894 MHz, Roll-off 0.35)	PHS	12.18	±0.6
10280	AAB	CDMA2000, RC1, SCSS, Full Rate	CDMA2000	3.91	±0.6
10291	AAB	CDMA2000, RC3, SCSS, Full Rate	CDMA2000	3.46	±0.6
10292	AAB	CDMA2000, RC3, SCSS, Full Rate	CDMA2000	3.39	±0.6
10293	AAB	CDMA2000, RC3, SCSS, Full Rate	CDMA2000	3.50	±0.6
10295	AAB	CDMA2000, RC1, SCSS, 1.8M Rate 25 R	CDMA2000	12.49	±0.6
10297	AAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	±0.6
10298	AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	±0.6
10299	AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	±0.6
10300	AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	±0.6
10301	AAA	IEEE 802.16e WMAX (2018, 5 ms, 10 MHz, QPSK, PUSC)	WMAX	12.03	±0.6
10302	AAA	IEEE 802.16e WMAX (2018, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols)	WMAX	12.57	±0.6
10303	AAA	IEEE 802.16e WMAX (2018, 5 ms, 10 MHz, 64QAM, PUSC)	WMAX	12.52	±0.6
10304	AAA	IEEE 802.16e WMAX (2018, 5 ms, 10 MHz, 64QAM, PUSC)	WMAX	11.89	±0.6
10305	AAA	IEEE 802.16e WMAX (2018, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)	WMAX	15.24	±0.6
10306	AAA	IEEE 802.16e WMAX (2018, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)	WMAX	14.67	±0.6

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10307	AAA	IEEE 802.16e WIMAX (20MHz, 10ms, 16MHz, QPSK, PUSC, 16 symbols)	WIMAX	14.49	±0.6
10308	AAA	IEEE 802.16e WIMAX (20MHz, 10ms, 16MHz, 16QAM, PUSC)	WIMAX	14.48	±0.6
10309	AAA	IEEE 802.16e WIMAX (20MHz, 10ms, 16MHz, 16QAM, AMC 2x3, 16 symbols)	WIMAX	14.58	±0.6
10310	AAA	IEEE 802.16e WIMAX (20MHz, 10ms, 16MHz, QPSK, AMC 2x3, 16 symbols)	WIMAX	14.57	±0.6
10311	AAE	LTE-FDD (SC-FDMA, 100% RB, 15MHz, QPSK)	LTE-FDD	6.98	±0.6
10312	AAA	iDEN 1.3	iDEN	10.51	±0.6
10314	AAA	iDEN 1.5	iDEN	13.48	±0.6
10315	AAB	IEEE 802.11b WiFi 2.4GHz (DSSS, 1Mbps, 90pc duty cycle)	WLAN	1.71	±0.6
10316	AAB	IEEE 802.11g WiFi 2.4GHz (ERP-OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.36	±0.6
10317	AAB	IEEE 802.11a WiFi 5GHz (OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.30	±0.6
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	±0.6
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	8.99	±0.6
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	±0.6
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.20	±0.6
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	±0.6
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	±0.6
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	±0.6
10396	AAA	64-QAM Waveform, 100 MHz	Generic	6.27	±0.6
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	±0.6
10400	AAI	IEEE 802.11ac WiFi (20MHz, 64-QAM, 90pc duty cycle)	WLAN	8.37	±0.6
10401	AAI	IEEE 802.11ac WiFi (40MHz, 64-QAM, 90pc duty cycle)	WLAN	8.60	±0.6
10402	AAI	IEEE 802.11ac WiFi (80MHz, 64-QAM, 90pc duty cycle)	WLAN	8.50	±0.6
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.70	±0.6
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	±0.6
10405	AAB	CDMA2000, RCS, SCSS, SCH0, Full Rate	CDMA2000	5.20	±0.6
10410	AAH	LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Cont=6)	LTE-TDD	7.82	±0.6
10414	AAA	WLAN CCK, 64-QAM, 40 MHz	Generic	8.54	±0.6
10415	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS, 1Mbps, 90pc duty cycle)	WLAN	1.54	±0.6
10416	AAA	IEEE 802.11g WiFi 2.4GHz (ERP-OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.20	±0.6
10417	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.23	±0.6
10418	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 6Mbps, 90pc duty cycle, Long preamble)	WLAN	8.14	±0.6
10419	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 6Mbps, 90pc duty cycle, Short preamble)	WLAN	8.19	±0.6
10422	AAD	IEEE 802.11n (HT Greenfield, 7.2Mbps, BPSK)	WLAN	8.30	±0.6
10423	AAD	IEEE 802.11n (HT Greenfield, 43.3Mbps, 16-QAM)	WLAN	8.47	±0.6
10424	AAD	IEEE 802.11n (HT Greenfield, 72.2Mbps, 64-QAM)	WLAN	8.40	±0.6
10425	AAD	IEEE 802.11n (HT Greenfield, 15Mbps, BPSK)	WLAN	8.41	±0.6
10426	AAD	IEEE 802.11n (HT Greenfield, 30Mbps, 16-QAM)	WLAN	8.45	±0.6
10427	AAD	IEEE 802.11n (HT Greenfield, 150Mbps, 64-QAM)	WLAN	8.41	±0.6
10430	AAE	LTE-FDD (OFDMA, 5MHz, E-TM 3.1)	LTE-FDD	8.28	±0.6
10431	AAE	LTE-FDD (OFDMA, 10MHz, E-TM 3.1)	LTE-FDD	8.38	±0.6
10432	AAD	LTE-FDD (OFDMA, 15MHz, E-TM 3.1)	LTE-FDD	8.34	±0.6
10433	AAD	LTE-FDD (OFDMA, 20MHz, E-TM 3.1)	LTE-FDD	8.34	±0.6
10434	AAB	WCDMA (BS Test Model 1, 64 DPCCH)	WCDMA	8.60	±0.6
10435	AAQ	LTE-TDD (SC-FDMA, 1 RB, 5MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.80	±0.6
10447	AAE	LTE-FDD (OFDMA, 5MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	±0.6
10448	AAE	LTE-FDD (OFDMA, 10MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	±0.6
10449	AAD	LTE-FDD (OFDMA, 15MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	±0.6
10450	AAD	LTE-FDD (OFDMA, 20MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	±0.6
10451	AAB	WCDMA (BS Test Model 1, 64 DPCCH, Clipping 44%)	WCDMA	7.56	±0.6
10453	AAE	Validation (Square, 10ms, 1 ms)	Test	10.00	±0.6
10456	AAD	IEEE 802.11ac WiFi (160MHz, 64-QAM, 90pc duty cycle)	WLAN	8.60	±0.6
10457	AAE	UMTS-FDD (DC-HS2PA)	WCDMA	4.62	±0.6
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	8.55	±0.6
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	±0.6
10460	AAE	UMTS-FDD (WCDMA, AMR)	WCDMA	3.29	±0.6
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±0.6
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	±0.6
10463	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±0.6
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±0.6
10465	AAD	LTE-TDD (SC-FDMA, 1 RB, 3MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±0.6
10466	AAD	LTE-TDD (SC-FDMA, 1 RB, 3MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±0.6
10467	AAD	LTE-TDD (SC-FDMA, 1 RB, 5MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±0.6
10468	AAD	LTE-TDD (SC-FDMA, 1 RB, 5MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±0.6
10469	AAD	LTE-TDD (SC-FDMA, 1 RB, 5MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.58	±0.6
10470	AAD	LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±0.6
10471	AAD	LTE-TDD (SC-FDMA, 1 RB, 10MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±0.6

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10472	AAG	LTE-TDD (SC-FDMA, 1 RB, 18 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.57	±0.6
10473	AAF	LTE-TDD (SC-FDMA, 1 RB, 18 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.82	±0.6
10474	AAF	LTE-TDD (SC-FDMA, 1 RB, 18 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.32	±0.6
10475	AAF	LTE-TDD (SC-FDMA, 1 RB, 18 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.57	±0.6
10477	AAQ	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.32	±0.6
10478	AAQ	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.57	±0.6
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.74	±0.6
10480	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.18	±0.6
10481	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.45	±0.6
10482	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.71	±0.6
10483	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.38	±0.6
10484	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.47	±0.6
10485	AAQ	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.59	±0.6
10486	AAQ	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.38	±0.6
10487	AAQ	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.60	±0.6
10488	AAQ	LTE-TDD (SC-FDMA, 50% RB, 18 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.70	±0.6
10489	AAQ	LTE-TDD (SC-FDMA, 50% RB, 18 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.31	±0.6
10490	AAQ	LTE-TDD (SC-FDMA, 50% RB, 18 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.54	±0.6
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 18 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.74	±0.6
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 18 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.41	±0.6
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 18 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.65	±0.6
10494	AAQ	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.74	±0.6
10495	AAQ	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.37	±0.6
10496	AAQ	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.54	±0.6
10497	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.67	±0.6
10498	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.40	±0.6
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.68	±0.6
10500	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.67	±0.6
10501	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.44	±0.6
10502	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.52	±0.6
10503	AAQ	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.72	±0.6
10504	AAQ	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.31	±0.6
10505	AAQ	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.54	±0.6
10506	AAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.74	±0.6
10507	AAQ	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.36	±0.6
10508	AAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.55	±0.6
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.88	±0.6
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.48	±0.6
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.51	±0.6
10512	AAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe-2,3,4,7,8,9)	LTE-TDD	7.74	±0.6
10513	AAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.42	±0.6
10514	AAQ	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)	LTE-TDD	8.45	±0.6
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99% duty cycle)	WLAN	1.58	±0.6
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99% duty cycle)	WLAN	1.57	±0.6
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99% duty cycle)	WLAN	1.58	±0.6
10518	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 9 Mbps, 99% duty cycle)	WLAN	8.23	±0.6
10519	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 12 Mbps, 99% duty cycle)	WLAN	8.36	±0.6
10520	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 18 Mbps, 99% duty cycle)	WLAN	8.12	±0.6
10521	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 24 Mbps, 99% duty cycle)	WLAN	7.87	±0.6
10522	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 36 Mbps, 99% duty cycle)	WLAN	8.45	±0.6
10523	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 48 Mbps, 99% duty cycle)	WLAN	8.68	±0.6
10524	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 54 Mbps, 99% duty cycle)	WLAN	8.27	±0.6
10525	AAD	IEEE 802.11ac WiFi (20 MHz, MCS0, 99% duty cycle)	WLAN	8.26	±0.6
10526	AAD	IEEE 802.11ac WiFi (20 MHz, MCS1, 99% duty cycle)	WLAN	8.42	±0.6
10527	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 99% duty cycle)	WLAN	8.21	±0.6
10528	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 99% duty cycle)	WLAN	8.36	±0.6
10529	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 99% duty cycle)	WLAN	8.36	±0.6
10531	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 99% duty cycle)	WLAN	8.43	±0.6
10532	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 99% duty cycle)	WLAN	8.29	±0.6
10533	AAD	IEEE 802.11ac WiFi (20 MHz, MCS8, 99% duty cycle)	WLAN	8.38	±0.6
10534	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 99% duty cycle)	WLAN	8.43	±0.6
10535	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 99% duty cycle)	WLAN	8.45	±0.6
10536	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 99% duty cycle)	WLAN	8.32	±0.6
10537	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 99% duty cycle)	WLAN	8.44	±0.6
10538	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 99% duty cycle)	WLAN	8.54	±0.6
10540	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 99% duty cycle)	WLAN	8.39	±0.6



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10541	AAD	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.46	± 0.6
10542	AAD	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.65	± 0.6
10543	AAD	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.85	± 0.6
10544	AAD	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.47	± 0.6
10545	AAD	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.55	± 0.6
10546	AAD	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.55	± 0.6
10547	AAD	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.49	± 0.6
10548	AAD	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.37	± 0.6
10550	AAD	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.38	± 0.6
10551	AAD	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 0.6
10552	AAD	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.42	± 0.6
10553	AAD	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.45	± 0.6
10554	AAD	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.48	± 0.6
10555	AAD	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.47	± 0.6
10556	AAD	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.50	± 0.6
10557	AAD	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.52	± 0.6
10558	AAD	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.81	± 0.6
10560	AAD	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	8.73	± 0.6
10561	AAD	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.56	± 0.6
10562	AAD	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	8.69	± 0.6
10563	AAD	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	8.77	± 0.6
10564	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 9Mbps, 90pc duty cycle)	WLAN	8.25	± 0.6
10565	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 12Mbps, 90pc duty cycle)	WLAN	8.45	± 0.6
10566	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 18Mbps, 90pc duty cycle)	WLAN	8.13	± 0.6
10567	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 24Mbps, 90pc duty cycle)	WLAN	8.00	± 0.6
10568	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 36Mbps, 90pc duty cycle)	WLAN	8.37	± 0.6
10569	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 48Mbps, 90pc duty cycle)	WLAN	8.10	± 0.6
10570	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 54Mbps, 90pc duty cycle)	WLAN	8.30	± 0.6
10571	AAA	IEEE 802.11b WiFi 2.4GHz (DSSS, 1Mbps, 90pc duty cycle)	WLAN	1.99	± 0.6
10572	AAA	IEEE 802.11b WiFi 2.4GHz (DSSS, 2Mbps, 90pc duty cycle)	WLAN	1.99	± 0.6
10573	AAA	IEEE 802.11b WiFi 2.4GHz (DSSS, 5.5Mbps, 90pc duty cycle)	WLAN	1.96	± 0.6
10574	AAA	IEEE 802.11b WiFi 2.4GHz (DSSS, 11Mbps, 90pc duty cycle)	WLAN	1.96	± 0.6
10575	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.59	± 0.6
10576	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 9Mbps, 90pc duty cycle)	WLAN	8.60	± 0.6
10577	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 12Mbps, 90pc duty cycle)	WLAN	8.70	± 0.6
10578	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 18Mbps, 90pc duty cycle)	WLAN	8.49	± 0.6
10579	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 24Mbps, 90pc duty cycle)	WLAN	8.36	± 0.6
10580	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 36Mbps, 90pc duty cycle)	WLAN	8.76	± 0.6
10581	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 48Mbps, 90pc duty cycle)	WLAN	8.35	± 0.6
10582	AAA	IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 54Mbps, 90pc duty cycle)	WLAN	8.67	± 0.6
10583	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.58	± 0.6
10584	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 9Mbps, 90pc duty cycle)	WLAN	8.60	± 0.6
10585	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 12Mbps, 90pc duty cycle)	WLAN	8.70	± 0.6
10586	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 18Mbps, 90pc duty cycle)	WLAN	8.48	± 0.6
10587	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 24Mbps, 90pc duty cycle)	WLAN	8.36	± 0.6
10588	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 36Mbps, 90pc duty cycle)	WLAN	8.76	± 0.6
10589	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 48Mbps, 90pc duty cycle)	WLAN	8.35	± 0.6
10590	AAD	IEEE 802.11ah WiFi 5GHz (OFDM, 54Mbps, 90pc duty cycle)	WLAN	8.67	± 0.6
10591	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 0.6
10592	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 0.6
10593	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 0.6
10594	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 0.6
10595	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 0.6
10596	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 0.6
10597	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 0.6
10598	AAD	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 0.6
10599	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 0.6
10600	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 0.6
10601	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 0.6
10602	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 0.6
10603	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	8.83	± 0.6
10604	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 0.6
10605	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 0.6
10606	AAD	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 0.6
10607	AAD	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 0.6
10608	AAD	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 0.6

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10609	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.57	±0.6
10610	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.78	±0.6
10611	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±0.6
10612	AAD	IEEE 802.11ac WiFi (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±0.6
10613	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.94	±0.6
10614	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.59	±0.6
10615	AAD	IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±0.6
10616	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.82	±0.6
10617	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.81	±0.6
10618	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.58	±0.6
10619	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.88	±0.6
10620	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.87	±0.6
10621	AAD	IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±0.6
10622	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.68	±0.6
10623	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±0.6
10624	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.96	±0.6
10625	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.96	±0.6
10626	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±0.6
10627	AAD	IEEE 802.11ac WiFi (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±0.6
10628	AAD	IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.71	±0.6
10629	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±0.6
10630	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.72	±0.6
10631	AAD	IEEE 802.11ac WiFi (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.81	±0.6
10632	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±0.6
10633	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.83	±0.6
10634	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.80	±0.6
10635	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±0.6
10636	AAD	IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±0.6
10637	AAD	IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±0.6
10638	AAD	IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.86	±0.6
10639	AAD	IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±0.6
10640	AAD	IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)	WLAN	8.88	±0.6
10641	AAD	IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)	WLAN	8.86	±0.6
10642	AAD	IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)	WLAN	8.80	±0.6
10643	AAD	IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.89	±0.6
10644	AAD	IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)	WLAN	8.85	±0.6
10645	AAD	IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.71	±0.6
10646	AAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±0.6
10647	AAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±0.6
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	±0.6
10652	AAF	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	±0.6
10653	AAF	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±0.6
10654	AAF	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.86	±0.6
10655	AAF	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	±0.6
10656	AAB	Pulse Waveform (250Hz, 10%)	Test	10.00	±0.6
10659	AAB	Pulse Waveform (200Hz, 20%)	Test	6.96	±0.6
10660	AAB	Pulse Waveform (200Hz, 40%)	Test	3.38	±0.6
10661	AAB	Pulse Waveform (250Hz, 60%)	Test	3.22	±0.6
10662	AAB	Pulse Waveform (200Hz, 80%)	Test	0.97	±0.6
10670	AAA	Bluetooth Low Energy	Bluetooth	2.15	±0.6
10671	AAC	IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)	WLAN	8.56	±0.6
10672	AAC	IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.57	±0.6
10673	AAC	IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.78	±0.6
10674	AAC	IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±0.6
10675	AAC	IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.50	±0.6
10676	AAC	IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±0.6
10677	AAC	IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.75	±0.6
10678	AAC	IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.78	±0.6
10679	AAC	IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.69	±0.6
10680	AAC	IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)	WLAN	8.80	±0.6
10681	AAC	IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)	WLAN	8.62	±0.6
10682	AAC	IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)	WLAN	8.83	±0.6
10683	AAC	IEEE 802.11ax (20 MHz, MCS12, 90pc duty cycle)	WLAN	8.42	±0.6
10684	AAC	IEEE 802.11ax (20 MHz, MCS13, 90pc duty cycle)	WLAN	8.28	±0.6
10685	AAC	IEEE 802.11ax (20 MHz, MCS14, 90pc duty cycle)	WLAN	8.33	±0.6
10686	AAC	IEEE 802.11ax (20 MHz, MCS15, 90pc duty cycle)	WLAN	8.28	±0.6

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10687	AAC	IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.45	±0.6
10688	AAC	IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.29	±0.6
10689	AAC	IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.55	±0.6
10690	AAC	IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.29	±0.6
10691	AAC	IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.25	±0.6
10692	AAC	IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)	WLAN	8.29	±0.6
10693	AAC	IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)	WLAN	8.25	±0.6
10694	AAC	IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)	WLAN	8.57	±0.6
10695	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.78	±0.6
10696	AAC	IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.91	±0.6
10697	AAC	IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.61	±0.6
10698	AAC	IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.89	±0.6
10699	AAC	IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.82	±0.6
10700	AAC	IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.73	±0.6
10701	AAC	IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.86	±0.6
10702	AAC	IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.70	±0.6
10703	AAC	IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±0.6
10704	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.58	±0.6
10705	AAC	IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle)	WLAN	8.89	±0.6
10706	AAC	IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle)	WLAN	8.66	±0.6
10707	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.32	±0.6
10708	AAC	IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.55	±0.6
10709	AAC	IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.33	±0.6
10710	AAC	IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.29	±0.6
10711	AAC	IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.39	±0.6
10712	AAC	IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.67	±0.6
10713	AAC	IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.33	±0.6
10714	AAC	IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.26	±0.6
10715	AAC	IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.45	±0.6
10716	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.30	±0.6
10717	AAC	IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle)	WLAN	8.46	±0.6
10718	AAC	IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle)	WLAN	8.24	±0.6
10719	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±0.6
10720	AAC	IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.87	±0.6
10721	AAC	IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.76	±0.6
10722	AAC	IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.55	±0.6
10723	AAC	IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±0.6
10724	AAC	IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.90	±0.6
10725	AAC	IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±0.6
10726	AAC	IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.77	±0.6
10727	AAC	IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.88	±0.6
10728	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.65	±0.6
10729	AAC	IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle)	WLAN	8.64	±0.6
10730	AAC	IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle)	WLAN	8.67	±0.6
10731	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.42	±0.6
10732	AAC	IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.46	±0.6
10733	AAC	IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.40	±0.6
10734	AAC	IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.25	±0.6
10735	AAC	IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.30	±0.6
10736	AAC	IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.27	±0.6
10737	AAC	IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.36	±0.6
10738	AAC	IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.42	±0.6
10739	AAC	IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.29	±0.6
10740	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.48	±0.6
10741	AAC	IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle)	WLAN	8.43	±0.6
10742	AAC	IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle)	WLAN	8.43	±0.6
10743	AAC	IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.94	±0.6
10744	AAC	IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle)	WLAN	9.18	±0.6
10745	AAC	IEEE 802.11ax (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.93	±0.6
10746	AAC	IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle)	WLAN	9.11	±0.6
10747	AAC	IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle)	WLAN	9.04	±0.6
10748	AAC	IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle)	WLAN	8.93	±0.6
10749	AAC	IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle)	WLAN	8.90	±0.6
10750	AAC	IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.79	±0.6
10751	AAC	IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±0.6
10752	AAC	IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±0.6



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10753	AAC	IEEE 802.11ax (160 MHz, MCS10, 99pc duty cycle)	WLAN	9.00	±0.6
10754	AAC	IEEE 802.11ax (160 MHz, MCS11, 99pc duty cycle)	WLAN	8.94	±0.6
10755	AAC	IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.84	±0.6
10756	AAC	IEEE 802.11ax (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.77	±0.6
10757	AAC	IEEE 802.11ax (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.77	±0.6
10758	AAC	IEEE 802.11ax (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.69	±0.6
10759	AAC	IEEE 802.11ax (160 MHz, MCS4, 99pc duty cycle)	WLAN	8.58	±0.6
10760	AAC	IEEE 802.11ax (160 MHz, MCS5, 99pc duty cycle)	WLAN	8.49	±0.6
10761	AAC	IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.58	±0.6
10762	AAC	IEEE 802.11ax (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.49	±0.6
10763	AAC	IEEE 802.11ax (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.53	±0.6
10764	AAC	IEEE 802.11ax (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.54	±0.6
10765	AAC	IEEE 802.11ax (160 MHz, MCS10, 99pc duty cycle)	WLAN	8.54	±0.6
10766	AAC	IEEE 802.11ax (160 MHz, MCS11, 99pc duty cycle)	WLAN	8.51	±0.6
10767	AAE	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	±0.6
10768	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±0.6
10769	AAE	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±0.6
10770	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.00	±0.6
10771	AAE	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±0.6
10772	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.20	±0.6
10773	AAE	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.00	±0.6
10774	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±0.6
10775	AAE	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±0.6
10776	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±0.6
10777	AAE	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±0.6
10778	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	±0.6
10779	AAE	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	±0.6
10780	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±0.6
10781	AAE	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±0.6
10782	AAE	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	±0.6
10783	AAE	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±0.6
10784	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	±0.6
10785	AAE	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	±0.6
10786	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	±0.6
10787	AAE	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	±0.6
10788	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±0.6
10789	AAE	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	±0.6
10790	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±0.6
10791	AAE	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	±0.6
10792	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±0.6
10793	AAE	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	±0.6
10794	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±0.6
10795	AAE	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	±0.6
10796	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±0.6
10797	AAE	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	±0.6
10798	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.85	±0.6
10799	AAE	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±0.6
10800	AAE	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.86	±0.6
10802	AAE	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	±0.6
10803	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±0.6
10805	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.6
10806	AAE	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±0.6
10809	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.6
10810	AAE	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.6
10812	AAE	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±0.6
10817	AAE	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±0.6
10818	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.6
10819	AAE	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	±0.6
10820	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	±0.6
10821	AAE	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.6
10822	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.6
10823	AAE	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.38	±0.6
10824	AAE	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	±0.6
10825	AAE	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.6
10827	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	±0.6
10828	AAE	5G NR (CP-OFDM, 100% RB, 99 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	±0.6

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10629	AAF	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	±0.5
10630	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.63	±0.5
10631	AAE	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.75	±0.5
10632	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.74	±0.5
10633	AAE	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.70	±0.5
10634	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.75	±0.5
10635	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.70	±0.5
10636	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.66	±0.5
10637	AAF	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.68	±0.5
10638	AAF	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.70	±0.5
10640	AAE	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.67	±0.5
10641	AAF	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.71	±0.5
10643	AAE	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.49	±0.5
10644	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.5
10646	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.5
10654	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.5
10655	AAE	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.38	±0.5
10656	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±0.5
10657	AAE	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±0.5
10658	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	±0.5
10659	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±0.5
10660	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.5
10661	AAF	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	±0.5
10663	AAF	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.5
10664	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±0.5
10665	AAF	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±0.5
10666	AAF	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±0.5
10668	AAF	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	±0.5
10669	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±0.5
10670	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	±0.5
10671	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	±0.5
10672	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	±0.5
10673	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±0.5
10674	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±0.5
10675	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±0.5
10676	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	±0.5
10677	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.96	±0.5
10678	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	±0.5
10679	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	±0.5
10680	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	±0.5
10681	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±0.5
10682	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	±0.5
10683	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	±0.5
10684	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	±0.5
10685	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±0.5
10686	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±0.5
10687	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±0.5
10688	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	±0.5
10689	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.32	±0.5
10690	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	±0.5
10691	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	±0.5
10692	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	±0.5
10693	AAE	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±0.5
10694	AAC	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±0.5
10695	AAE	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±0.5
10696	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±0.5
10697	AAE	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±0.5
10698	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±0.5
10699	AAC	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±0.5
10700	AAC	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±0.5
10701	AAC	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±0.5
10702	AAC	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	±0.5
10703	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±0.5
10704	AAC	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	±0.5
10705	AAC	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±0.5
10706	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±0.5

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10911	AAR	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±0.6
10912	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10913	AAD	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10914	AAC	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	±0.6
10915	AAD	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	±0.6
10916	AAD	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±0.6
10917	AAD	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10918	AAR	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±0.6
10919	AAC	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±0.6
10920	AAB	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±0.6
10921	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10922	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	±0.6
10923	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10924	AAD	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10925	AAC	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	±0.6
10926	AAD	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10927	AAD	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10928	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±0.6
10929	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±0.6
10930	AAC	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±0.6
10931	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10932	AAC	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10933	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10934	AAC	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10935	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10936	AAD	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±0.6
10937	AAD	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	±0.6
10938	AAC	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±0.6
10939	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	±0.6
10940	AAC	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.88	±0.6
10941	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±0.6
10942	AAC	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±0.6
10943	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±0.6
10944	AAD	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	±0.6
10945	AAD	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±0.6
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±0.6
10947	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±0.6
10948	AAC	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.84	±0.6
10949	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±0.6
10950	AAC	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.84	±0.6
10951	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	±0.6
10952	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	±0.6
10953	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	±0.6
10954	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	±0.6
10955	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	±0.6
10956	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	±0.6
10957	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	±0.6
10958	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	±0.6
10959	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	±0.6
10960	AAC	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	±0.6
10961	AAC	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.38	±0.6
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.49	±0.6
10963	AAC	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	±0.6
10964	AAC	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	±0.6
10965	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	±0.6
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	±0.6
10967	AAC	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	±0.6
10968	AAD	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.45	±0.6
10972	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.56	±0.6
10973	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	±0.6
10974	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	±0.6
10978	AAA	ULLA SDR	ULLA	1.16	±0.6
10979	AAA	ULLA HDRM	ULLA	8.56	±0.6
10980	AAA	ULLA HDRB	ULLA	10.32	±0.6
10981	AAA	ULLA HDRp4	ULLA	3.19	±0.6
10982	AAA	ULLA HDRp8	ULLA	3.43	±0.6



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10983	AAC	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.31	±0.6
10984	AAB	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.42	±0.6
10985	AAC	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.54	±0.6
10986	AAB	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.50	±0.6
10987	AAC	5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.53	±0.6
10988	AAB	5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.36	±0.6
10989	AAC	5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.33	±0.6
10990	AAB	5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.52	±0.6
11003	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	10.24	±0.6
11004	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	10.73	±0.6
11005	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.70	±0.6
11006	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.58	±0.6
11007	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.40	±0.6
11008	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.51	±0.6
11009	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.76	±0.6
11010	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.96	±0.6
11011	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.96	±0.6
11012	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.66	±0.6
11013	AAB	IEEE 802.11be (320 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±0.6
11014	AAB	IEEE 802.11be (320 MHz, MCS2, 99pc duty cycle)	WLAN	8.45	±0.6
11015	AAB	IEEE 802.11be (320 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±0.6
11016	AAB	IEEE 802.11be (320 MHz, MCS4, 99pc duty cycle)	WLAN	8.44	±0.6
11017	AAB	IEEE 802.11be (320 MHz, MCS5, 99pc duty cycle)	WLAN	8.41	±0.6
11018	AAB	IEEE 802.11be (320 MHz, MCS6, 99pc duty cycle)	WLAN	8.40	±0.6
11019	AAB	IEEE 802.11be (320 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±0.6
11020	AAB	IEEE 802.11be (320 MHz, MCS8, 99pc duty cycle)	WLAN	8.27	±0.6
11021	AAB	IEEE 802.11be (320 MHz, MCS9, 99pc duty cycle)	WLAN	8.46	±0.6
11022	AAB	IEEE 802.11be (320 MHz, MCS10, 99pc duty cycle)	WLAN	8.36	±0.6
11023	AAB	IEEE 802.11be (320 MHz, MCS11, 99pc duty cycle)	WLAN	8.09	±0.6
11024	AAB	IEEE 802.11be (320 MHz, MCS12, 99pc duty cycle)	WLAN	8.42	±0.6
11025	AAB	IEEE 802.11be (320 MHz, MCS13, 99pc duty cycle)	WLAN	8.37	±0.6
11026	AAB	IEEE 802.11be (320 MHz, MCS0, 99pc duty cycle)	WLAN	8.38	±0.6

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



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Accreditation No.: **SCS 0108**

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Client: **RF Safety Lab**
Catonsville, USA

Certificate No. **CD835V3-1225_Aug25**

CALIBRATION CERTIFICATE

Object: **CD835V3 - SN: 1225**

Calibration procedure(s): **QA.CAL-20.v7**
Calibration Procedure for Validation Sources in air

*MRS
9/1/25*

Calibration date: **August 19, 2025**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility, environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&E critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-25 (No. 217-04289)	Mar-26
Power sensor NRP-Z91	SN: 103245	26-Mar-25 (No. 217-04289)	Mar-26
Reference 20 dB Attenuator	SN: BH9394 (20k)	26-Mar-25 (No. 217-04284)	Mar-26
3.5mm mismatch combination	SN: 1152	24-Mar-25 (No. 217-04293)	Mar-26
Probe EF3DV3	SN: 4013	26-Nov-24 (No. EF3-4013_Nov24)	Nov-25
DAB4	SN: 781	07-Feb-25 (No. DAB4-781_Feb25)	Feb-26

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power Sensor R&S NRP-Z23	SN: 100063	29-Nov-24 (No. HAC Tower-4HC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41498738	29-Nov-24 (No. HAC Tower-4HC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41502623	29-Nov-24 (No. HAC Tower-4HC-202411)	In house check: Nov-25
Signal Generator R&S SMT-06	SN: 837633/005	29-Nov-24 (No. HAC Tower-4HC-202411)	In house check: Nov-25
Network Analyzer Agilent E8358A	SN: US41060477	30-Sep-24 (No. 675-CAL18-S4454-Sep24)	In house check: Sep-26

Calibrated by: **Name**
Claudio Leubler **Function**
Laboratory Technician

Approved by: **Sven Kohn** **Technical Manager**

[Signature]
[Signature]

Issued: August 22, 2025

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Accreditation No.: SCS 0108

References

- [1] ANSI-C63.19-2019 (ANSI-C63.19-2011)
American National Standard, Methods of Measurement of Compatibility between Wireless Communications
Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- **Coordinate System:** y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with the standards [1], the measurement planes (probe sensor center) are selected to be at a distance of 15 mm above the top metal edge of the dipole arms.
- **Measurement Conditions:** Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- **Antenna Positioning:** The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASY5 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- **Feed Point Impedance and Return Loss:** These parameters are measured using a Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminated by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- **E-field distribution:** E field is measured in the x-y-plane with an isotropic E-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 15 mm (in z) above the metal top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, in the plane above the dipole surface.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

**Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.4
Phantom	HAC Test Arch	
Distance Dipole Top - Probe Center	15 mm	
Scan resolution	dx, dy = 5 mm	
Frequency	835 MHz ± 1 MHz	
Input power drift	< 0.05 dB	

Maximum Field values at 835 MHz

E-field 15 mm above dipole surface	condition	interpolated maximum
Maximum measured above high end	100 mW input power	106.9 V/m = 40.74 dBV/m
Maximum measured above low end	100 mW input power	106.8 V/m = 40.57 dBV/m
Averaged maximum above arm	100 mW input power	107.9 V/m ± 12.8 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)**Antenna Parameters**

Frequency	Return Loss	Impedance
800 MHz	16.7 dB	39.9 Ω - 8.6 jΩ
835 MHz	26.8 dB	52.0 Ω + 4.2 jΩ
880 MHz	17.2 dB	59.6 Ω - 11.7 jΩ
900 MHz	17.3 dB	49.6 Ω - 13.6 jΩ
945 MHz	21.4 dB	49.0 Ω + 8.5 jΩ

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.



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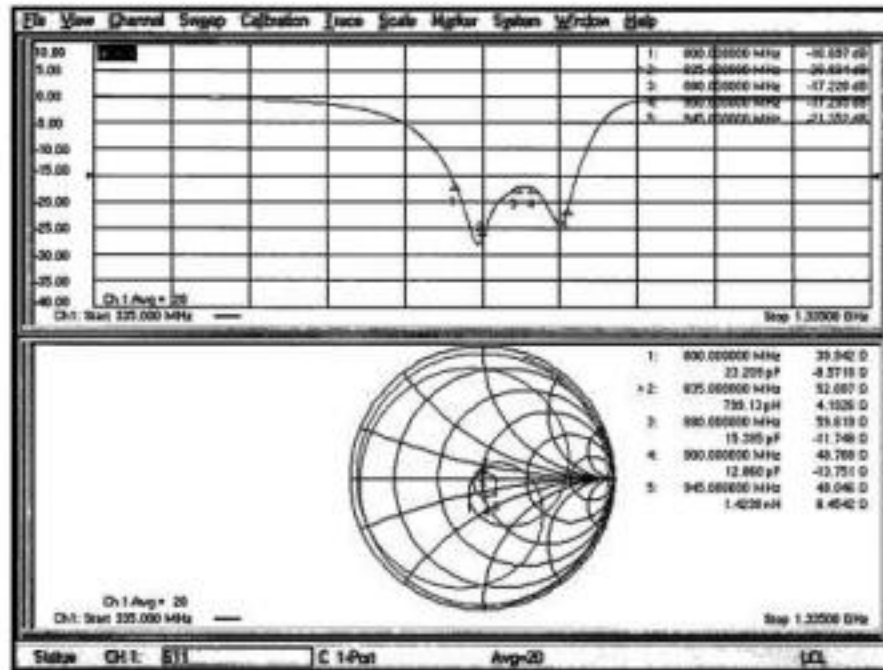
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ANAB 17025 Certificate Number: AT-3274

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Impedance Measurement Plot





DASY5 E-field Result

Date: 19.08.2025

Test Laboratory: SPEAG Lab2

DUT: HAC-Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN: 1225

Communication System: UID 0 - CW ; Frequency: 835 MHz
Medium parameters used: $\epsilon = 0$ S/m, $\sigma = 1$; $\rho = 0$ kg/m³
Phantom section: RF Section
Measurement Standard: DASY5 (IEC/ANSI C63.19-2011)

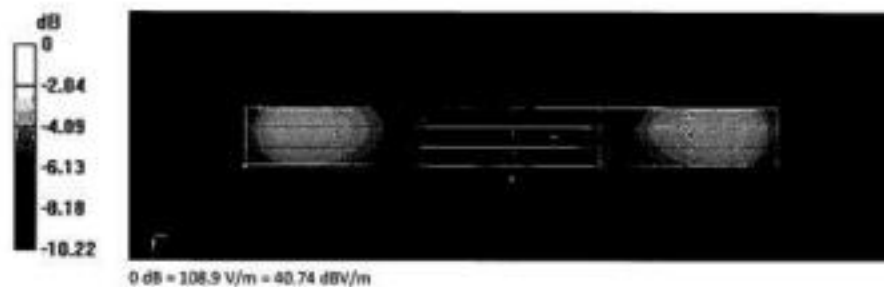
DASY52 Configuration:

- Probe: EF3DV3 - SN4033; ConvF(1, 1, 1) @ 835 MHz; Calibrated: 26.11.2024
- Sensor-Surface: (Flx Surface)
- Electronics: DA84 Sn781; Calibrated: 07.02.2025
- Phantom: HAC Test Arch with AMCC; Type: SD HAC F01 BA; Serial: 1070
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole E-Field measurement @ 835MHz/E-Scan - 835MHz d=15mm/Hearing Aid Compatibility Test (41x361x1):
Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 131.2 V/m; Power Drift = 0.02 dB
Applied MIF = 0.00 dB
RF audio interference level = 40.74 dBV/m
Emission category: M3

MIF scaled E-field

Grid 1 M3	Grid 2 M3	Grid 3 M3
40.15 dBV/m	40.57 dBV/m	40.54 dBV/m
Grid 4 M4	Grid 5 M4	Grid 6 M4
35.63 dBV/m	35.97 dBV/m	35.94 dBV/m
Grid 7 M3	Grid 8 M3	Grid 9 M3
40.35 dBV/m	40.74 dBV/m	40.7 dBV/m





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Client: **RF Safety Lab**
Catonsville, USA

Certificate No. **CD1880V3-1114_Sep25**

CALIBRATION CERTIFICATE

Object: **CD1880V3 - SN: 1114**

Calibration procedure(s): **QA CAL-20.v7**
Calibration Procedure for Validation Sources in air

MPB
9/15/25

Calibration date: **September 15, 2025**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-25 (No. 217-04289)	Mar-26
Power sensor NRP-Z91	SN: 103245	26-Mar-25 (No. 217-04289)	Mar-26
Reference 20 dB Attenuator	SN: BH9394 (20k)	26-Mar-25 (No. 217-04284)	Mar-26
3.5mm mismatch combination	SN: 1152	24-Mar-25 (No. 217-04293)	Mar-26
Probe EF30V3	SN: 4013	26-Nov-24 (No. EF3-4013_Nov24)	Nov-25
DAE4	SN: 781	07-Feb-25 (No. DAE4-781_Feb25)	Feb-26

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power Sensor R&S NRP-Z23	SN: 100063	29-Nov-24 (No. HAC Tower-BHC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41498700	29-Nov-24 (No. HAC Tower-BHC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41502623	29-Nov-24 (No. HAC Tower-BHC-202411)	In house check: Nov-25
Signal Generator R&S SMT-06	SN: 837633/005	29-Nov-24 (No. HAC Tower-BHC-202411)	In house check: Nov-25
Network Analyzer Agilent E8358A	SN: US41080477	30-Sep-24 (No. 675-CAL18-S4454-Sep24)	In house check: Sep-26

Calibrated by: **Name** **Leif Klyner** **Function** **Laboratory Technician** **Signature**

Approved by: **Sven Köhn** **Technical Manager**

Leif Klyner
S. Köhn

Issued: September 15, 2025

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Certificate No: CD1880V3-1114_Sep25

Page 1 of 5



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

References

- [1] ANSI-C63.19-2019 (ANSI-C63.19-2011)
American National Standard, Methods of Measurement of Compatibility between Wireless Communications
Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- **Coordinate System:** y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with the standards [1], the measurement planes (probe sensor center) are selected to be at a distance of 15 mm above the top metal edge of the dipole arms.
- **Measurement Conditions:** Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- **Antenna Positioning:** The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASY5 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- **Feed Point Impedance and Return Loss:** These parameters are measured using a Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- **E-field distribution:** E field is measured in the x-y-plane with an isotropic E-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 15 mm (in z) above the metal top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, in the plane above the dipole surface.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.



Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.4
Phantom	HAC Test Arch	
Distance Dipole Top - Probe Center	15 mm	
Scan resolution	dx, dy = 5 mm	
Frequency	1880 MHz ± 1 MHz	
Input power drift	< 0.05 dB	

Maximum Field values at 1880 MHz

E-field 15 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW input power	89.7 V/m = 39.06 dBV/m
Maximum measured above low end	100 mW input power	88.2 V/m = 38.91 dBV/m
Averaged maximum above arm	100 mW input power	89.0 V/m ± 12.8 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters

Frequency	Return Loss	Impedance
1730 MHz	32.9 dB	52.3 Ω - 0.5 jΩ
1880 MHz	20.0 dB	52.5 Ω + 10.0 jΩ
1900 MHz	20.7 dB	55.5 Ω + 8.0 jΩ
1950 MHz	28.4 dB	53.8 Ω + 1.2 jΩ
2000 MHz	20.8 dB	48.8 Ω + 8.3 jΩ

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

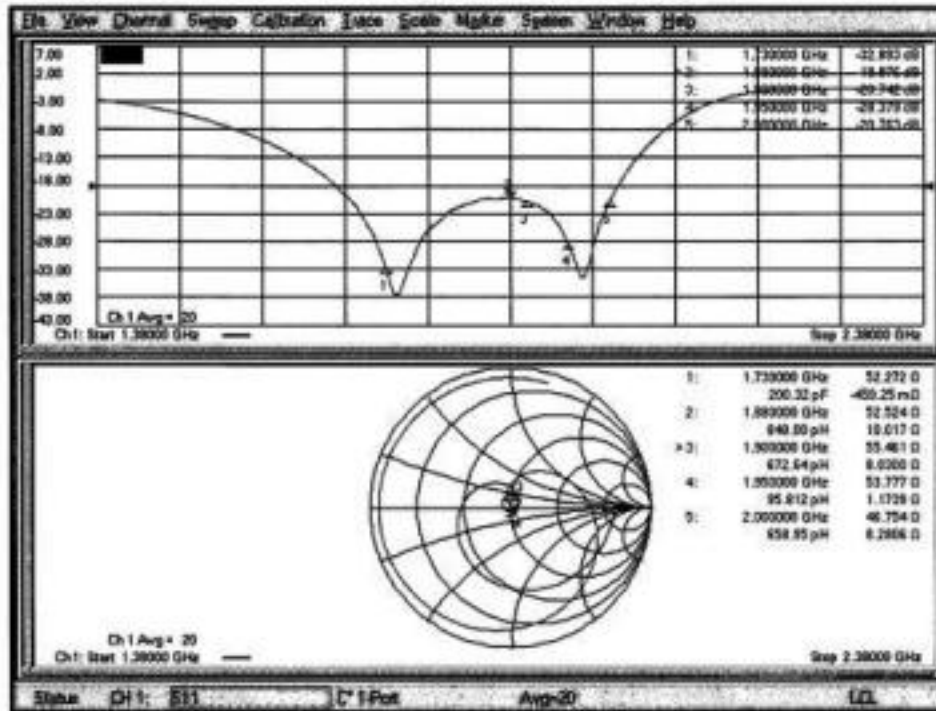
The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.



Impedance Measurement Plot





DASY5 E-field Result

Date: 15.09.2025

Test Laboratory: SPEAG Lab2

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: CD1880V3 - SN: 1114

Communication System: UID 0 - CW ; Frequency: 1880 MHz
Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³
Phantom section: RF Section
Measurement Standard: DASY5 (IEC/IEEE/ANSI C63.19-2011)

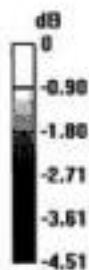
DASY52 Configuration:

- Probe: EF3DV3 - SN4013; ConvF(1, 1, 1) @ 1880 MHz; Calibrated: 26.11.2024
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 07.02.2025
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole E-Field measurement @ 1880MHz/E-Scan - 1880MHz d=15mm/Hearing Aid Compatibility Test (41x181x1):
Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 156.1 V/m; Power Drift = 0.01 dB
Applied MIF = 0.00 dB
RF audio interference level = 39.06 dBV/m
Emission category: M2

MIF scaled E-field

Grid 1 M2	Grid 2 M2	Grid 3 M2
38.54 dBV/m	39.06 dBV/m	39.05 dBV/m
Grid 4 M2	Grid 5 M2	Grid 6 M2
36.07 dBV/m	36.25 dBV/m	36.22 dBV/m
Grid 7 M2	Grid 8 M2	Grid 9 M2
38.63 dBV/m	38.91 dBV/m	38.81 dBV/m



0 dB = 89.72 V/m = 39.06 dBV/m



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Client **RF Safety Lab**
Catonsville, USA

Certificate No. **CD2600V3-1038_Sep25**

CALIBRATION CERTIFICATE

Object **CD2600V3 - SN: 1038**

Calibration procedure(s) **QA CAL-20.v7
Calibration Procedure for Validation Sources in air**

MPB 7/15/25

Calibration date **September 10, 2025**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (MATE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-25 (No. 217-04289)	Mar-26
Power sensor NRP-Z91	SN: 103245	26-Mar-25 (No. 217-04289)	Mar-26
Reference 20 dB Attenuator	SN: 886094 (20K)	26-Mar-25 (No. 217-04284)	Mar-26
3.5mm mismatch combination	SN: 1152	24-Mar-25 (No. 217-04293)	Mar-26
Probe EP3DV3	SN: 4013	26-Nov-24 (No. EP3-4013_Nov24)	Nov-25
DAE4	SN: 781	07-Feb-25 (No. DAE4-781_Feb25)	Feb-26

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power Sensor R&S NRP-Z23	SN: 100063	29-Nov-24 (No. HAC Tower-PHC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41498700	29-Nov-24 (No. HAC Tower-PHC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41502623	29-Nov-24 (No. HAC Tower-PHC-202411)	In house check: Nov-25
Signal Generator R&S SMT-26	SN: 837633035	29-Nov-24 (No. HAC Tower-PHC-202411)	In house check: Nov-25
Network Analyzer Agilent 83558A	SN: U541080477	30-Sep-24 (No. 575-CAL15-54454-Sep24)	In house check: Sep-26

Calibrated by: **Claudio Leubler** Name: Claudio Leubler Function: Laboratory Technician

Approved by: **Sven Köhn** Name: Sven Köhn Function: Technical Manager

[Signature]
[Signature]

Issued: September 10, 2025

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References

- [1] ANSI-C63.19-2019 (ANSI-C63.19-2011)
American National Standard, Methods of Measurement of Compatibility between Wireless Communications
Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- **Coordinate System:** y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with the standards [1], the measurement planes (probe sensor center) are selected to be at a distance of 15 mm above the top metal edge of the dipole arms.
- **Measurement Conditions:** Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- **Antenna Positioning:** The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASY5 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- **Feed Point Impedance and Return Loss:** These parameters are measured using a Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- **E-field distribution:** E field is measured in the x-y-plane with an isotropic E-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 15 mm (in z) above the metal top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, in the plane above the dipole surface.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.



Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.4
Phantom	HAC Test Arch	
Distance Dipole Top - Probe Center	15 mm	
Scan resolution	dx, dy = 5 mm	
Frequency	2600 MHz ± 1 MHz	
Input power drift	< 0.05 dB	

Maximum Field values at 2600 MHz

E-field 15 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW input power	87.2 V/m = 38.81 dBV/m
Maximum measured above low end	100 mW input power	85.5 V/m = 38.63 dBV/m
Averaged maximum above arm	100 mW input power	86.3 V/m ± 12.8 % (n=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters

Frequency	Return Loss	Impedance
2450 MHz	23.5 dB	47.3 Ω - 6.0 jΩ
2550 MHz	40.3 dB	50.4 Ω + 0.9 jΩ
2600 MHz	31.2 dB	52.8 Ω - 0.3 jΩ
2650 MHz	29.9 dB	52.7 Ω - 1.9 jΩ
2750 MHz	20.5 dB	50.5 Ω - 9.6 jΩ

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.



**RF SAFETY
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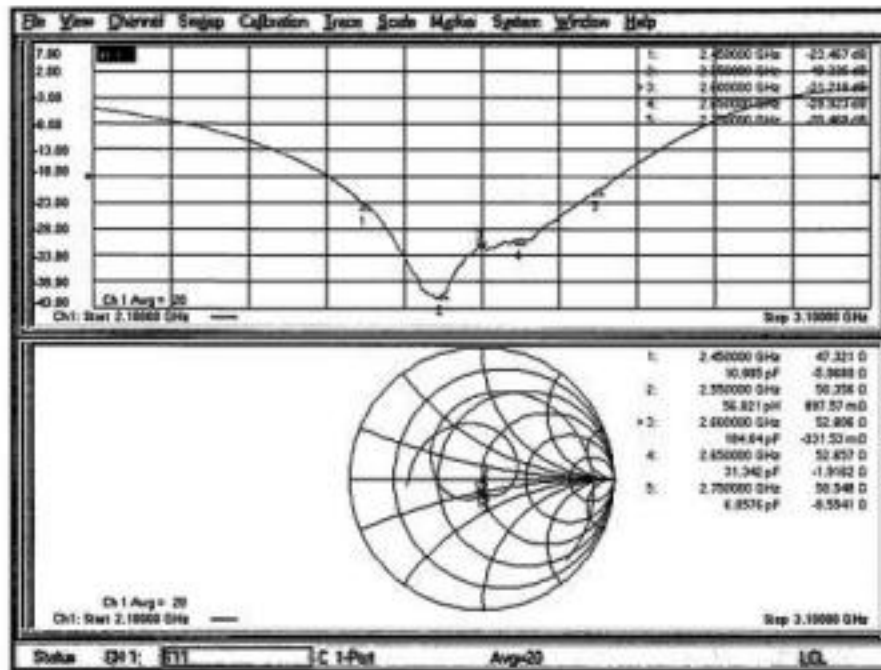
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Next Generation Test Laboratory (RF Safety Laboratory, LLC)
5520 Research Park Drive, Suite 140, Catonsville, Maryland 21228 USA

ANAB 17025 Certificate Number: AT-3274

+1 202 240 9240; info@rfsafetylab.com

Impedance Measurement Plot





DASY5 E-field Result

Date: 10.09.2025

Test Laboratory: SPEAG Lab2

DUT: HAC Dipole 2600 MHz; Type: CD2600V3; Serial: CD2600V3 - SN: 1038

Communication System: UID 0 - CW ; Frequency: 2600 MHz
Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 0 \text{ kg/m}^3$
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

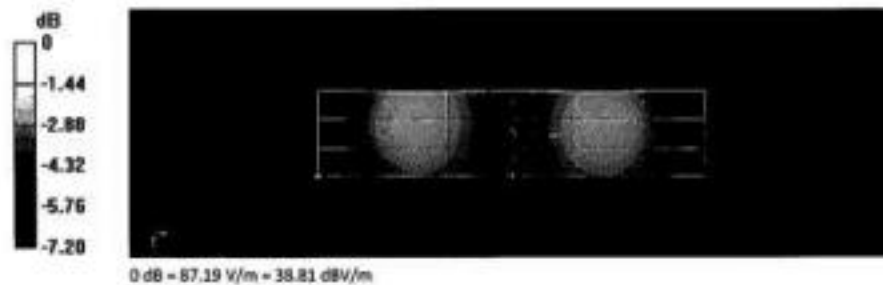
DASY52 Configuration:

- Probe: EF30V3 - SN4013; ConvF[1, 1, 1] @ 2600 MHz; Calibrated: 26.11.2024
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 07.02.2025
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole E-Field measurement @ 2600MHz/E-Scan - 2600MHz d=15mm/Hearing Aid Compatibility Test (41x181x1):
Interpolated grid: $dx=0.5000 \text{ mm}$, $dy=0.5000 \text{ mm}$
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 136.0 V/m; Power Drift = 0.00 dB
Applied MIF = 0.00 dB
RF audio interference level = 38.81 dBV/m
Emission category: M2

MIF scaled E-field

Grid 1 M2	Grid 2 M2	Grid 3 M2
38.41 dBV/m	38.81 dBV/m	38.77 dBV/m
Grid 4 M2	Grid 5 M2	Grid 6 M2
37.82 dBV/m	37.99 dBV/m	37.97 dBV/m
Grid 7 M2	Grid 8 M2	Grid 9 M2
38.4 dBV/m	38.63 dBV/m	38.52 dBV/m





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



S Schweizerischer Kalibrierdienst
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S Swiss Calibration Service

Accreditation No.: **SCS 0108**

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **RF Safety Lab**
Catonsville, USA

Certificate No. **CD3500V3-1025_Sep25**

CALIBRATION CERTIFICATE

Object **CD3500V3 - SN: 1025**

Calibration procedure(s) **QA CAL-20.v7**
Calibration Procedure for Validation Sources in air

MA3
9/17/25

Calibration date: **September 15, 2025**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (MSTE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	25-Mar-25 (No. 217-04289)	Mar-25
Power sensor NRP-Z91	SN: 103245	25-Mar-25 (No. 217-04289)	Mar-25
Reference 20 dB Attenuator	SN: BH9394 (20k)	25-Mar-25 (No. 217-04284)	Mar-25
3.5mm mismatch combination	SN: 1152	24-Mar-25 (No. 217-04293)	Mar-25
Probe EF3DV3	SN: 4013	26-Nov-24 (No. EF3-4013_Nov24)	Nov-25
DAE4	SN: 781	07-Feb-25 (No. DAE4-781_Feb25)	Feb-26

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power Sensor R&S NRP-Z23	SN: 100063	29-Nov-24 (No. HAC Tower-IHC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41498700	29-Nov-24 (No. HAC Tower-IHC-202411)	In house check: Nov-25
Power Sensor HP E4412A	SN: MY41502623	29-Nov-24 (No. HAC Tower-IHC-202411)	In house check: Nov-25
Signal Generator R&S SMT-06	SN: 837633/005	29-Nov-24 (No. HAC Tower-IHC-202411)	In house check: Nov-25
Network Analyzer Agilent E8358A	SN: US41080477	30-Sep-24 (No. 675-CAL18-S4454-Sep24)	In house check: Sep-26

Calibrated by: **Name** **Leif Klyser** **Function** **Laboratory Technician** **Signature**

Approved by: **Sven Kohn** **Technical Manager**

Leif Klyser
Sven Kohn

Issued: September 16, 2025

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



**Calibration Laboratory of
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Zeughausstrasse 43, 8004 Zurich, Switzerland



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S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

References

- [1] ANSI-C63.19-2019 (ANSI-C63.19-2011)
American National Standard, Methods of Measurement of Compatibility between Wireless Communications
Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- **Coordinate System:** y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with the standards [1], the measurement planes (probe sensor center) are selected to be at a distance of 15 mm above the top metal edge of the dipole arms.
- **Measurement Conditions:** Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- **Antenna Positioning:** The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASY5 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- **Feed Point Impedance and Return Loss:** These parameters are measured using a Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- **E-field distribution:** E field is measured in the x-y-plane with an isotropic E-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 15 mm (in z) above the metal top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, in the plane above the dipole surface.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

**Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.4
Phantom	HAC Test Arch	
Distance Dipole Top - Probe Center	15 mm	
Scan resolution	dx, dy = 5 mm	
Frequency	3500 MHz ± 1 MHz 3900 MHz ± 1 MHz	
Input power drift	< 0.05 dB	

Maximum Field values at 3500 MHz

E-field 15 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW input power	85.4 V/m = 38.63 dBV/m
Maximum measured above low end	100 mW input power	84.7 V/m = 38.56 dBV/m
Averaged maximum above arm	100 mW input power	85.0 V/m ± 12.8 % (k=2)

Maximum Field values at 3900 MHz

E-field 15 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW input power	81.5 V/m = 38.22 dBV/m
Maximum measured above low end	100 mW input power	80.2 V/m = 38.08 dBV/m
Averaged maximum above arm	100 mW input power	80.8 V/m ± 12.8 % (k=2)



Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters

Nominal Frequencies

Frequency	Return Loss	Impedance
3300 MHz	18.6 dB	62.8 Ω + 3.5 j Ω
3400 MHz	23.8 dB	56.7 Ω - 1.8 j Ω
3500 MHz	23.4 dB	56.5 Ω - 3.2 j Ω
3600 MHz	23.1 dB	51.2 Ω - 7.0 j Ω
3700 MHz	23.5 dB	44.0 Ω - 1.8 j Ω

Additional Frequencies

Frequency	Return Loss	Impedance
3900 MHz	18.9 dB	53.1 Ω + 11.3 j Ω

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

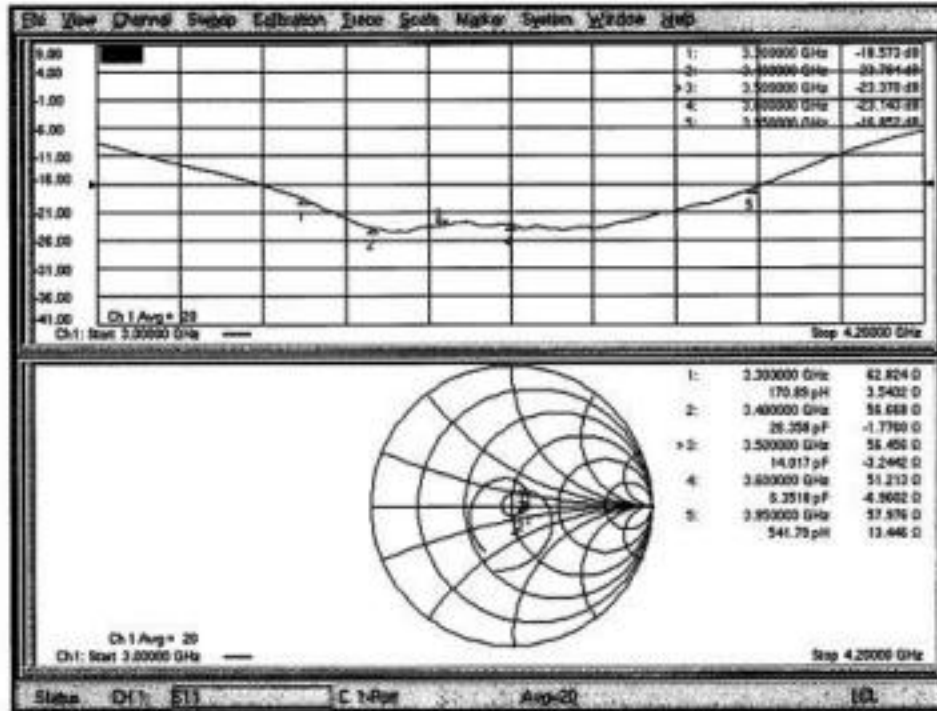
The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.



Impedance Measurement Plot





DASY5 E-field Result

Date: 15.09.2025

Test Laboratory: SPEAG Lab2

DUT: HAC Dipole 3500 MHz; Type: CD3500V3; Serial: CD3500V3 - SN: 1025

Communication System: UTD 0 - CW ; Frequency: 3500 MHz, Frequency: 3900 MHz

Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Phantom section: RF Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EF3DV3 - SN4013; ConvF(1, 1, 1) @ 3500 MHz, ConvF(1, 1, 1) @ 3900 MHz; Calibrated: 26.11.2024
- Sensor-Surface: (Fix Surface)
- Electronics: DA64 Sn781; Calibrated: 07.02.2025
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 S2.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole E-Field measurement @ 3500MHz/E-Scan - 3500MHz d=15mm/Hearing Aid Compatibility Test (41x121x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 153.4 V/m; Power Drift = 0.01 dB

Applied MIF = 0.00 dB

RF audio interference level = 38.63 dBV/m

Emission category: M2

MIF scaled E-field

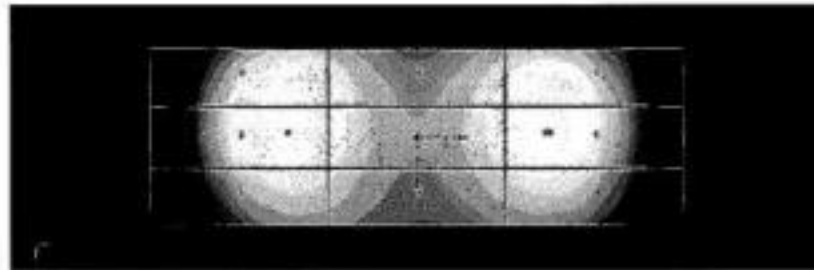
Grid 1 M2	Grid 2 M2	Grid 3 M2
38.34 dBV/m	38.56 dBV/m	38.49 dBV/m
Grid 4 M2	Grid 5 M2	Grid 6 M2
38.12 dBV/m	38.31 dBV/m	38.24 dBV/m
Grid 7 M2	Grid 8 M2	Grid 9 M2
38.39 dBV/m	38.63 dBV/m	38.56 dBV/m



Dipole E-Field measurement @ 3500MHz/E-Scan - 3900MHz, d=15mm/Hearing Aid Compatibility Test (41x121x1):
Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 138.5 V/m; Power Drift = 0.03 dB
Applied MIF = 0.00 dB
RF audio interference level = 38.22 dBV/m
Emission category: M2

MIF scaled E-field

Grid 1 M2	Grid 2 M2	Grid 3 M2
37.87 dBV/m	38.08 dBV/m	38.04 dBV/m
Grid 4 M2	Grid 5 M2	Grid 6 M2
37.88 dBV/m	38 dBV/m	37.94 dBV/m
Grid 7 M2	Grid 8 M2	Grid 9 M2
38.03 dBV/m	38.22 dBV/m	38.14 dBV/m



0 dB = 85.40 V/m = 38.63 dBV/m