

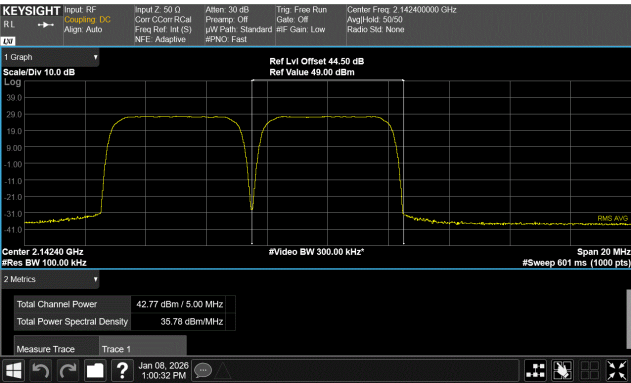
OUTPUT POWER - MULTICARRIER



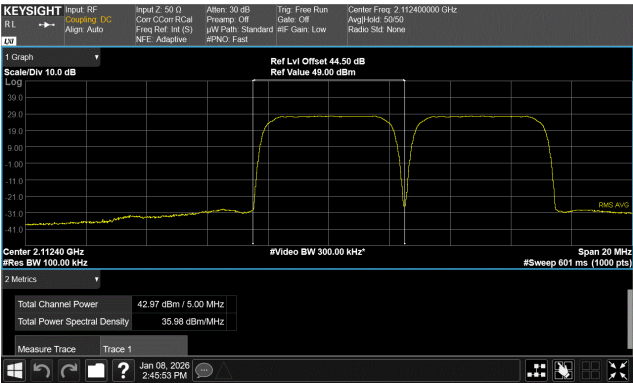
3G WCDMA
Test Case 2
1987.6 MHz, PCS Band



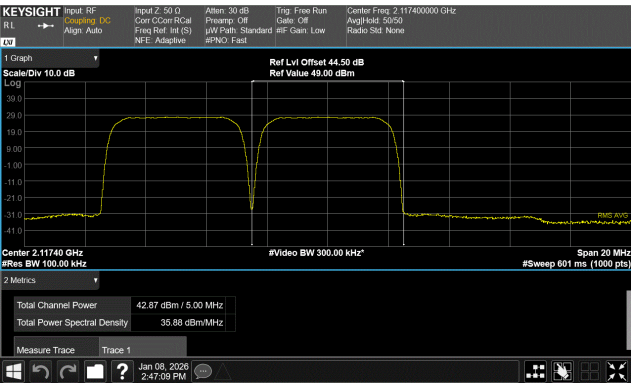
3G WCDMA
Test Case 2
2137.4 MHz, AWS Band



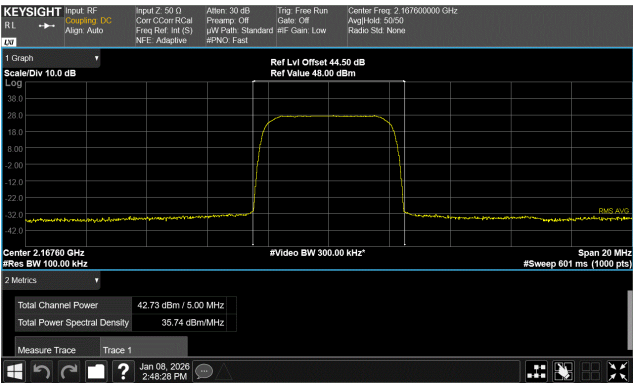
3G WCDMA
Test Case 2
2142.4 MHz, AWS Band



3G WCDMA
Test Case 3
2112.4 MHz, AWS Band



3G WCDMA
Test Case 3
2117.4 MHz, AWS Band



3G WCDMA
Test Case 3
2167.6 MHz, AWS Band

OUTPUT POWER - MULTICARRIER



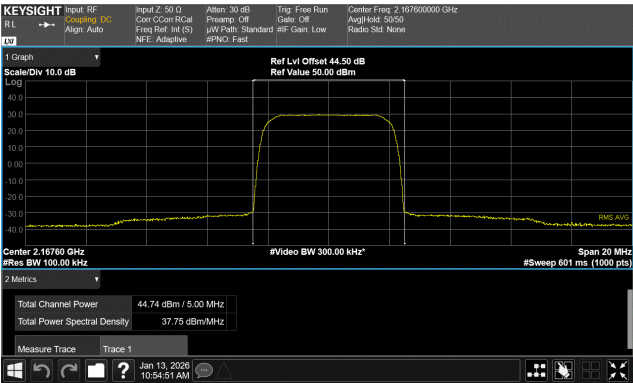
3G WCDMA
Test Case 3
1957.4 MHz, PCS Band



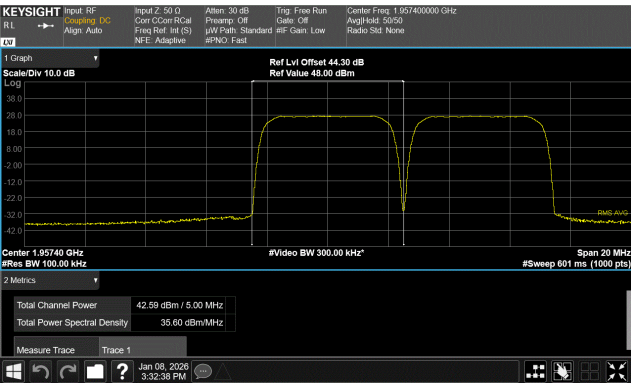
3G WCDMA
Test Case 3
1962.4 MHz, PCS Band



3G WCDMA
Test Case 4
2112.4 MHz, AWS Band



3G WCDMA
Test Case 4
2167.6 MHz, AWS Band

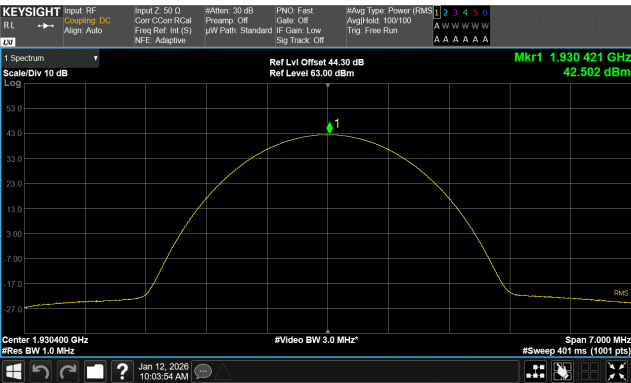


3G WCDMA
Test Case 4
1957.4 MHz, PCS Band

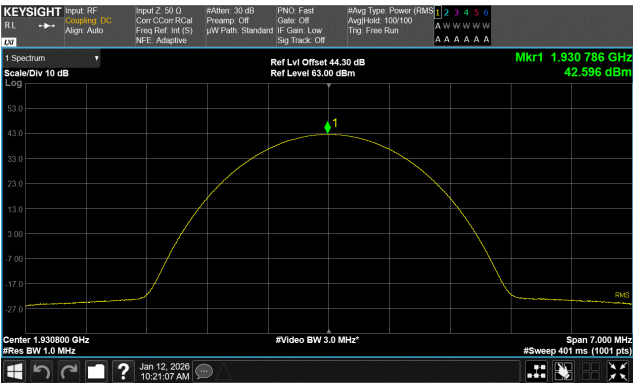


3G WCDMA
Test Case 4
1962.4 MHz, PCS Band

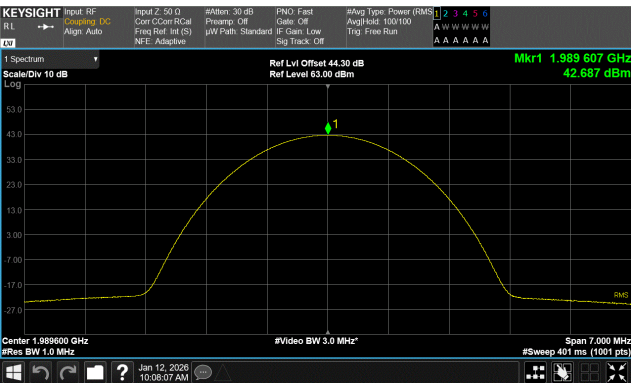
OUTPUT POWER - MULTICARRIER



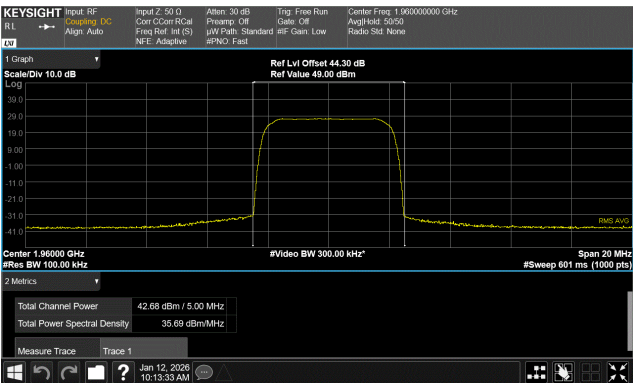
2G GSM/EDGE
Test Case 1
GMSK Modulation
1930.4 MHz, PCS Band



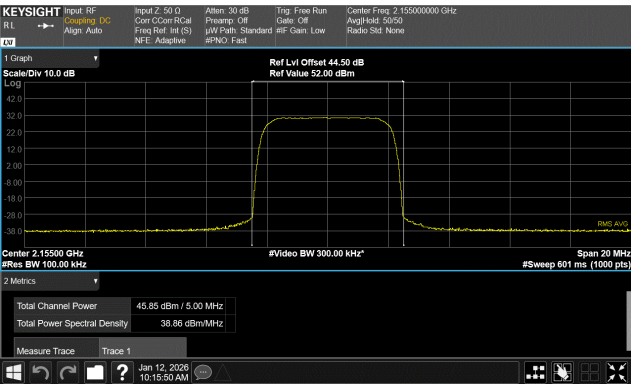
2G GSM/EDGE
Test Case 1
GMSK Modulation
1930.8 MHz, PCS Band



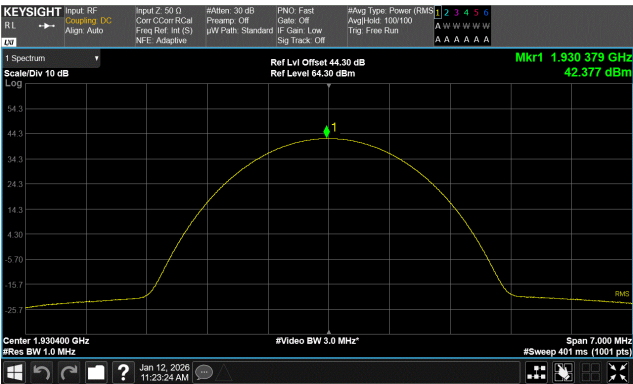
2G GSM/EDGE
Test Case 1
GMSK Modulation
1989.6 MHz, PCS Band



2G GSM/EDGE
Test Case 1
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA

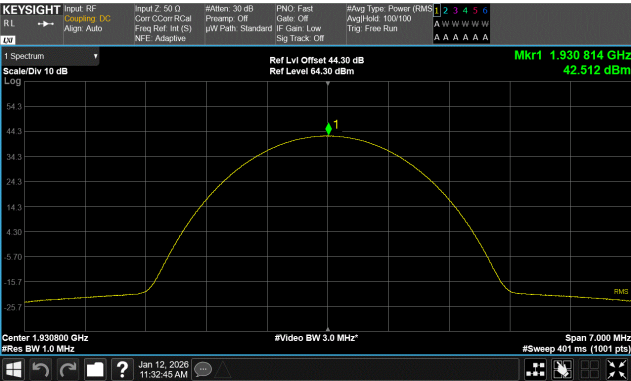


2G GSM/EDGE
Test Case 1
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA

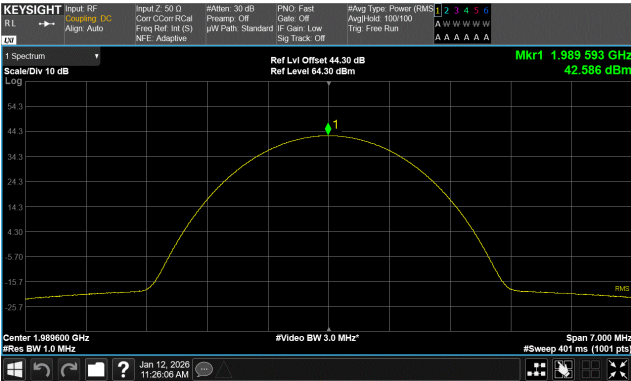


2G GSM/EDGE
Test Case 1
8PSK Modulation
1930.4 MHz, PCS Band

OUTPUT POWER - MULTICARRIER



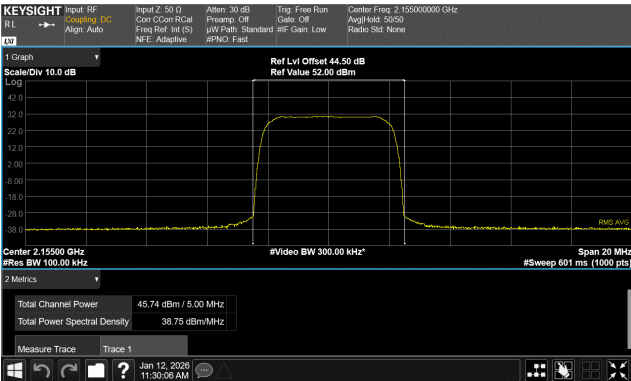
2G GSM/EDGE
Test Case 1
8PSK Modulation
1930.8 MHz, PCS Band



2G GSM/EDGE
Test Case 1
8PSK Modulation
1989.6 MHz, PCS Band



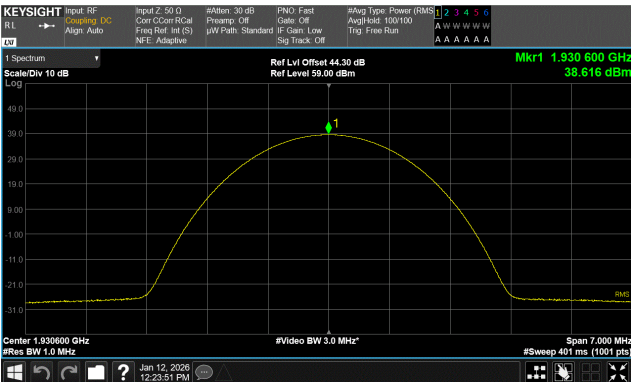
2G GSM/EDGE
Test Case 1
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA



2G GSM/EDGE
Test Case 1
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA

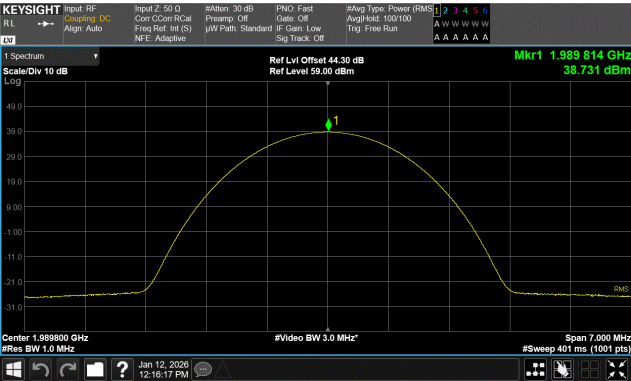


2G GSM/EDGE
Test Case 2
GMSK Modulation
1930.2 MHz, PCS Band



2G GSM/EDGE
Test Case 2
GMSK Modulation
1930.6 MHz, PCS Band

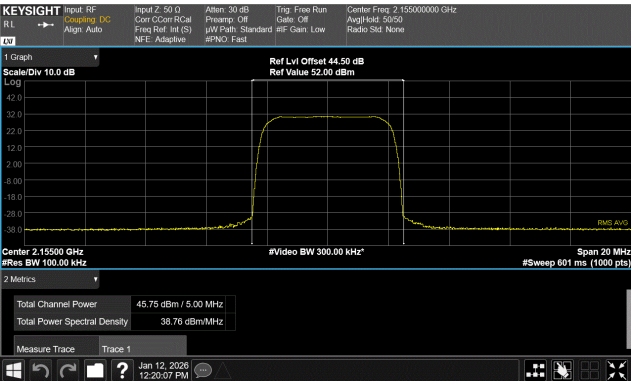
OUTPUT POWER - MULTICARRIER



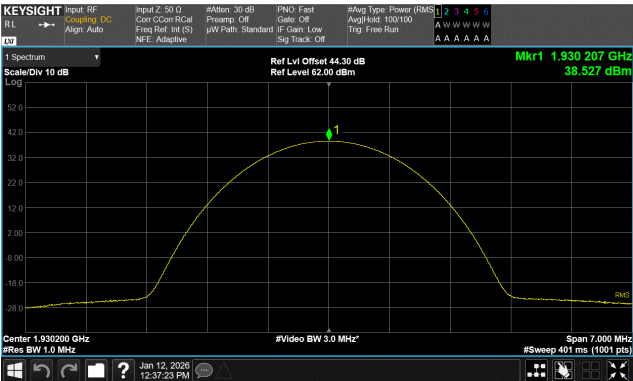
2G GSM/EDGE
Test Case 2
GMSK Modulation
1989.8 MHz, PCS Band



2G GSM/EDGE
Test Case 2
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA



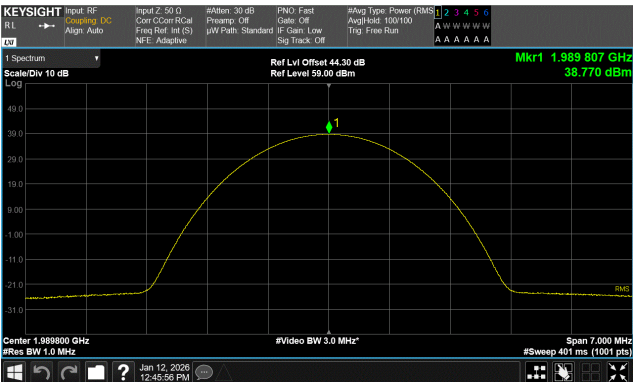
2G GSM/EDGE
Test Case 2
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA



2G GSM/EDGE
Test Case 2
8PSK Modulation
1930.2 MHz, PCS Band



2G GSM/EDGE
Test Case 2
8PSK Modulation
1930.6 MHz, PCS Band



2G GSM/EDGE
Test Case 2
8PSK Modulation
1989.8 MHz, PCS Band

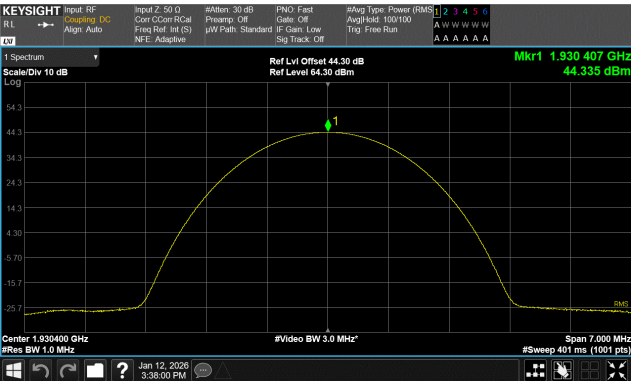
OUTPUT POWER - MULTICARRIER



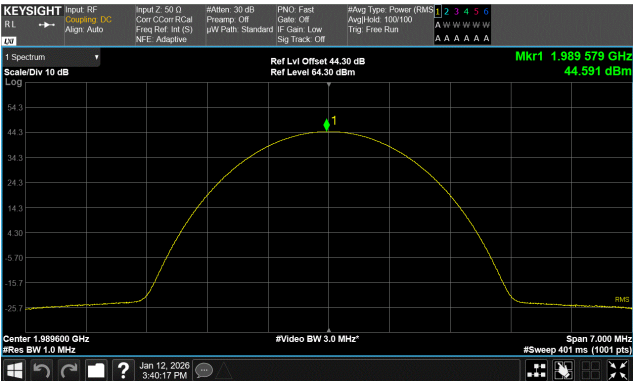
2G GSM/EDGE
Test Case 2
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA



2G GSM/EDGE
Test Case 2
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA



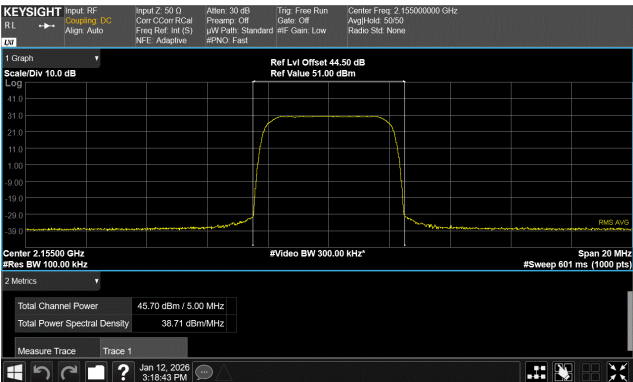
2G GSM/EDGE
Test Case 3
GMSK Modulation
1930.4 MHz, PCS Band



2G GSM/EDGE
Test Case 3
GMSK Modulation
1989.6 MHz, PCS Band

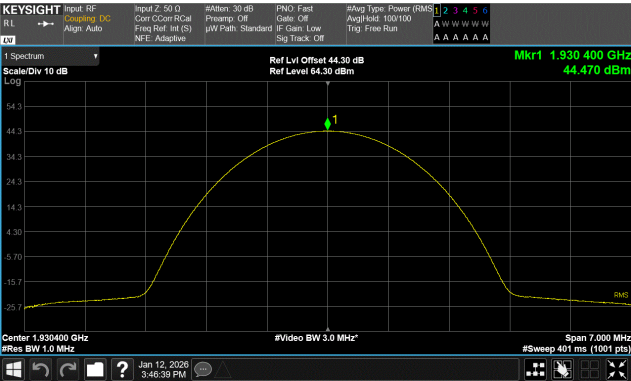


2G GSM/EDGE
Test Case 3
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA

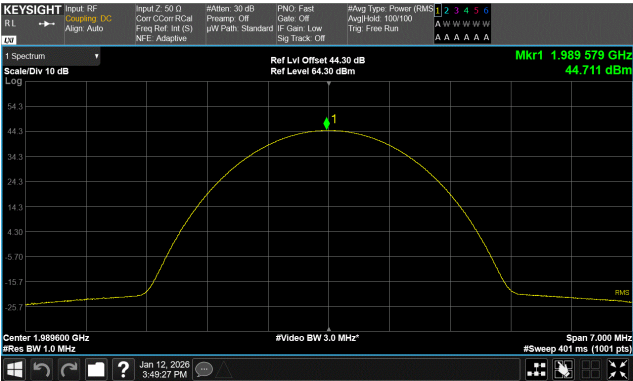


2G GSM/EDGE
Test Case 3
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA

OUTPUT POWER - MULTICARRIER



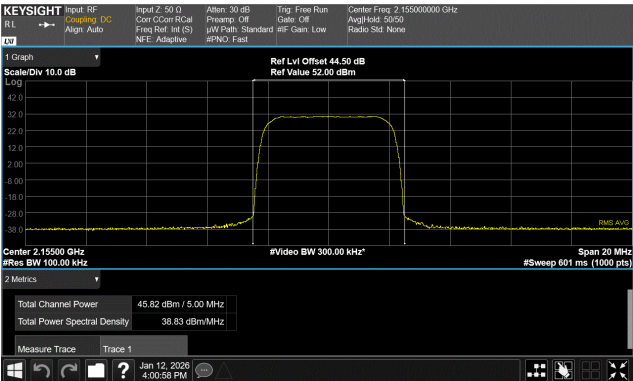
2G GSM/EDGE
Test Case 3
8PSK Modulation
1930.4 MHz, PCS Band



2G GSM/EDGE
Test Case 3
8PSK Modulation
1989.6 MHz, PCS Band



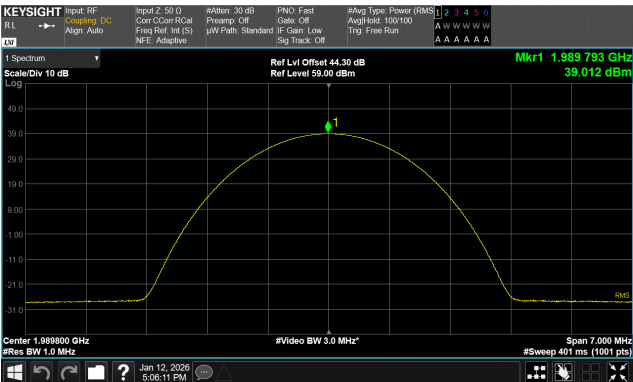
2G GSM/EDGE
Test Case 3
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA



2G GSM/EDGE
Test Case 3
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA

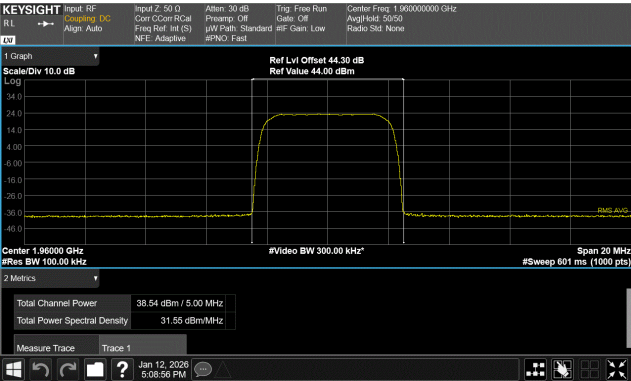


2G GSM/EDGE
Test Case 4
GMSK Modulation
1930.2 MHz, PCS Band



2G GSM/EDGE
Test Case 4
GMSK Modulation
1989.8 MHz, PCS Band

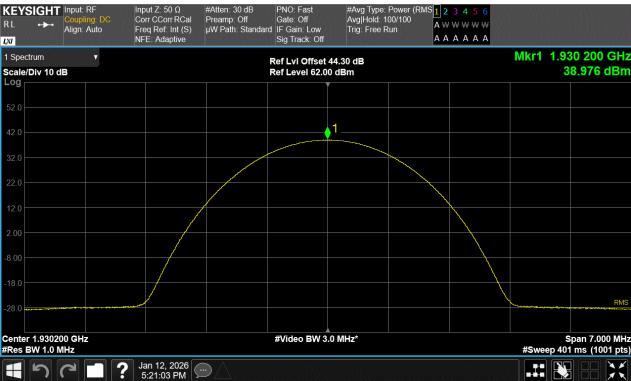
OUTPUT POWER - MULTICARRIER



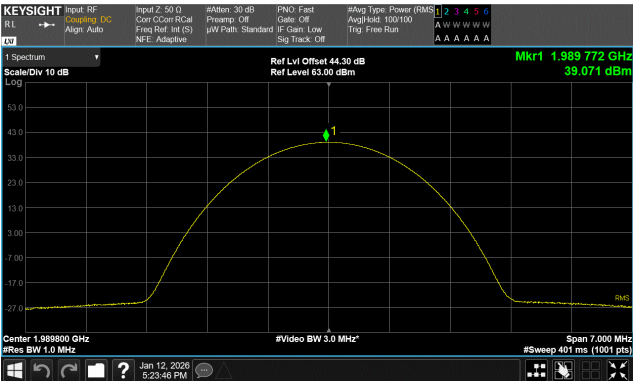
2G GSM/EDGE
Test Case 4
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA



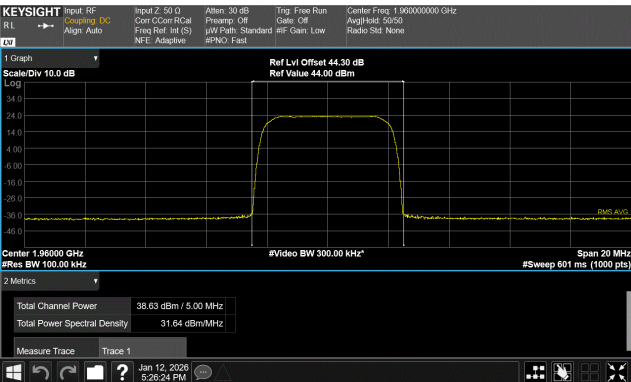
2G GSM/EDGE
Test Case 4
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA



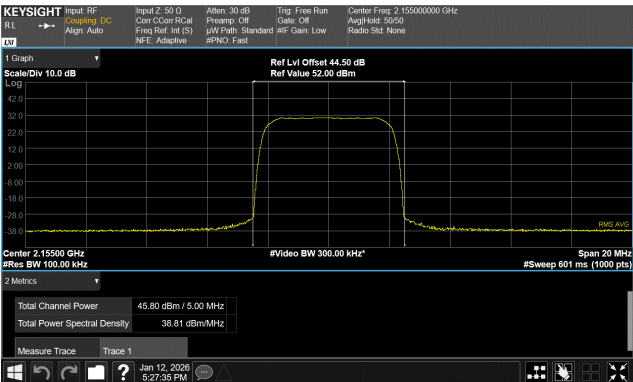
2G GSM/EDGE
Test Case 4
8PSK Modulation
1930.2 MHz, PCS Band



2G GSM/EDGE
Test Case 4
8PSK Modulation
1989.8 MHz, PCS Band



2G GSM/EDGE
Test Case 4
QPSK Modulation
1960.0 MHz, PCS Band, WCDMA



2G GSM/EDGE
Test Case 4
QPSK Modulation
2155.0 MHz, AWS Band, WCDMA

POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The AHFII antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in the "Output Power - All Ports" report section of this report). Antenna port 1 was selected to perform this testing as allowed by ANSI C63.26 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The method of ANSI C63.26-2015 section 5.2.4.5 was used to make this measurement.

The total PSD for all antenna ports (at the radio output) were determined per ANSI C63.26-2015 paragraph 6.4.3.2.4. The EIRP calculations are based upon ANSI C63.26-2015 paragraphs 6.4 for a two port MIMO base station.

FCC Requirements: Part 24.232 Power and antenna height limits.

(a)(2) Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.

(a)(3) Base station antenna heights may exceed 300 meters HAAT with a corresponding reduction in power; see Tables 2 and 4 of this section.

(b)(2) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, with an emission bandwidth greater than 1 MHz are limited to 3280 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT.

FCC Requirements: Part 27.50 Power limits and duty cycle

(d) The following power and antenna height requirements apply to stations transmitting in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz and 2180-2200 MHz bands:

(1) The power of each fixed or base station transmitting in the 1995-2000 MHz, 2110-2155 MHz, 2155-2180 MHz or 2180-2200 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to:

(ii) An EIRP of 3280 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

(2) The power of each fixed or base station transmitting in the 1995-2000 MHz, the 2110-2155 MHz 2155-2180 MHz band, or 2180-2200 MHz band and situated in any geographic location other than that described in paragraph (d)(1) of this section is limited to:

(ii) An EIRP of 1640 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA

EIRP Calculations for Two Port MIMO Operations for 1900 PCS Band Single WCDMA Carriers

EIRP calculations are needed at each transmitter location to optimize base station operational performance while meeting regulatory requirements. Each cell site installation needs to consider the power measurements in the radio certification report as well as site specific regulatory requirements (such as antenna height, population density, etc.), site installation parameters (line loss between antenna and radio, antenna parameters, etc.) and base station operational parameters (MIMO operational setup, carrier power level, channel bandwidth, modulation type, etc.) to optimize performance. Transmitter output power may be reduced (from maximum) by base station setup parameters. Base station antennas are selected by the customer.

The base station antenna is selected by the customer and this EIRP calculation is based upon a sample worst case antenna. The EIRP calculation is based upon Kathrein antenna assembly model "80011867". The maximum Band II gain (17.9dBi) for this antenna was used for the EIRP calculation.

Equivalent Isotropically Radiated Power (EIRP) is calculated (as specified in ANSI C63.26-2015 section 6.4 for two port MIMO) from the results of power measurements (highest measured PSD for each channel bandwidth type). The total worst case PSD for two port MIMO is calculated as the worst case PSD for a single port + 3dB [10log (2)] based upon ANSI C63.26 clause 6.4.3.2.4 (10 Log Nout). The maximum antenna gain was used for this calculation. The cable loss between the antenna and transmitter is site dependent (will not be 0 dB) but for this worst case EIRP calculation 0 dB was used. Calculations of worst case EIRP for two port MIMO are as follows:

Parameter	5 MHz Channel Bandwidth
Worst Case PSD/Antenna Port	40.5 dBm/MHz
Cable Loss (site dependent)	0 dB
Total PSD for Two Port MIMO 10Log(2) = + 3	43.5
Maximum Antenna Gain (G_{Ant})	17.9 dBi
Worst Case Two port MIMO EIRP Total	61.4 dBm/MHz

Calculation Summary

The worst case AHFII WCDMA two port MIMO PCS Band EIRP levels using antenna assembly model "80011867" are less than the FCC (3280 watts/MHz or 65.16 dBm/MHz and 1640 watts/MHz or 62.15 dBm/MHz) EIRP Regulatory Limits.

POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA

EIRP Calculations for Two Port MIMO Operations for 3G WCDMA AWS Band Single WCDMA Carriers

EIRP calculations are needed at each transmitter location to optimize base station operational performance while meeting regulatory requirements. Each cell site installation needs to consider the power measurements in the radio certification report as well as site specific regulatory requirements (such as antenna height, population density, etc.), site installation parameters (line loss between antenna and radio, antenna parameters, etc.) and base station operational parameters (MIMO operational setup, carrier power level, channel bandwidth, modulation type, etc.) to optimize performance. Transmitter output power may be reduced (from maximum) by base station setup parameters. Base station antennas are selected by the customer.

The base station antenna is selected by the customer and this EIRP calculation is based upon a sample worst case antenna. The EIRP calculation is based upon Kathrein antenna assembly model "80011867". The maximum Band X gain (18.2dBi) for this antenna was used for the EIRP calculation.

Equivalent Isotropically Radiated Power (EIRP) is calculated (as specified in ANSI C63.26-2015 section 6.4 for two port MIMO) from the results of power measurements (highest measured PSD for each channel bandwidth type). The total worst case PSD for two port MIMO is calculated as the worst case PSD for a single port + 3dB [$10\log(2)$] based upon ANSI C63.26 clause 6.4.3.2.4 (10 Log Nout). The maximum antenna gain was used for this calculation. The cable loss between the antenna and transmitter is site dependent (will not be 0 dB) but for this worst case EIRP calculation 0 dB was used. Calculations of worst case EIRP for two port MIMO are as follows:

Parameter	5 MHz Channel Bandwidth
Worst Case PSD/Antenna Port	40.7 dBm/MHz
Cable Loss (site dependent)	0 dB
Total PSD for Two Port MIMO $10\log(2) = +3$	43.7
Maximum Antenna Gain (G_{Ant})	18.2 dBi
Worst Case Two port MIMO EIRP Total	61.9 dBm/MHz

Calculation Summary

The worst case AHFII WCDMA two port MIMO AWS Band EIRP levels using antenna assembly model "80011867" are less than the FCC (3280 watts/MHz or 65.16 dBm/MHz and 1640 watts/MHz or 62.15 dBm/MHz) EIRP Regulatory Limits.

POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight Technologies	N9030B	AGA	2025-06-09	2026-06-09
Block - DC	Centric RF	C0140	ANJ	NCR	NCR
Generator - Signal	Agilent	N5173B	TIW	2023-08-07	2026-08-07

Note: The RF Test Setup/ Network (RF cables/Attenuators/filter/etc.) is defined in the configurations section for each test. The RF Test Setup/Network is calibrated using the signal generator and spectrum analyzer prior to test. The RF insertion loss of the RF Test Setup/Network is accounted for by the spectrum analyzer's reference level offset during the RF conducted testing.

POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA



EUT:	Airscale Base Transceiver Station Radio Unit Model AHFI	Work Order:	NOKI0090
Serial Number:	AH251400352	Date:	2026-01-13
Customer:	Nokia Solutions and Networks	Temperature:	28.6°C
Attendees:	John Rattanaovong, David Le	Relative Humidity:	17.9%
Customer Project:	None	Bar. Pressure (PMSL):	1022 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54VDC	Configuration:	NOKI0090-2

COMMENTS

All losses in the measurement path were accounted for in the reference level offset; attenuators, filters, cables, and DC blocks. Carriers were enabled at maximum power levels.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Tested By

TEST RESULTS

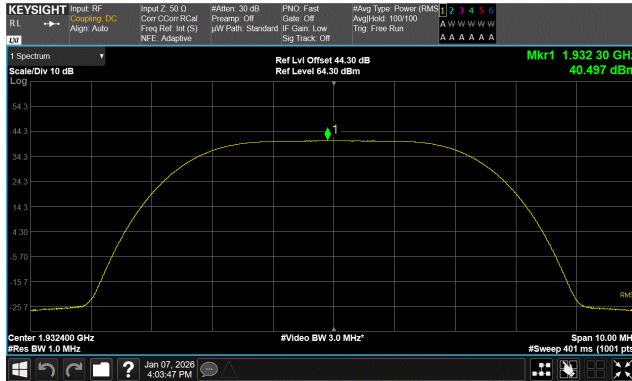
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/MHz	Two Port (2x2 MIMO) dBm/MHz
3G WCDMA, PCS Band				
QPSK Modulation				
Low Channel, 1932.4 MHz	40.497	0	40.5	43.5
Middle Channel, 1960.0 MHz	40.437	0	40.4	43.4
High Channel, 1987.6 MHz	40.49	0	40.5	43.5
16QAM Modulation				
Low Channel, 1932.4 MHz	40.473	0	40.5	43.5
Middle Channel, 1960.0 MHz	40.36	0	40.4	43.4
High Channel, 1987.6 MHz	40.452	0	40.5	43.5
64QAM Modulation				
Low Channel, 1932.4 MHz	40.478	0	40.5	43.5
Middle Channel, 1960.0 MHz	40.33	0	40.3	43.3
High Channel, 1987.6 MHz	40.477	0	40.5	43.5
3G WCDMA, AWS Band				
QPSK Modulation				
Low Channel, 2112.4 MHz	40.675	0	40.7	43.7
Middle Channel, 2140.0 MHz	40.617	0	40.6	43.6
High Channel, 2167.6 MHz	40.663	0	40.7	43.7
16QAM Modulation				
Low Channel, 2112.4 MHz	40.38	0	40.4	43.4
Middle Channel, 2140.0 MHz	40.54	0	40.5	43.6
High Channel, 2167.6 MHz	40.592	0	40.6	43.6

POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA

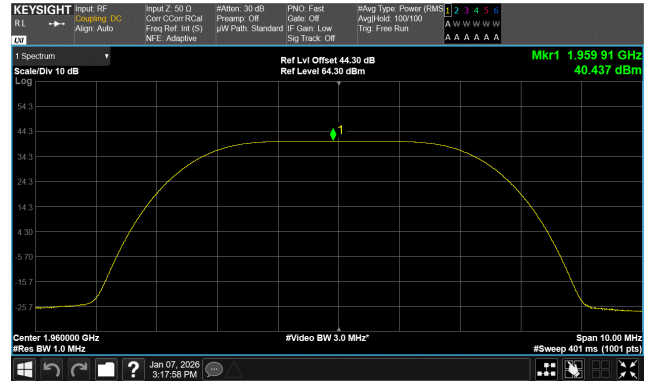


	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/MHz	Two Port (2x2 MIMO) dBm/MHz
64QAM Modulation				
Low Channel, 2112.4 MHz	40.634	0	40.6	43.6
Middle Channel, 2140.0 MHz	40.589	0	40.6	43.6
High Channel, 2167.6 MHz	40.545	0	40.5	43.6

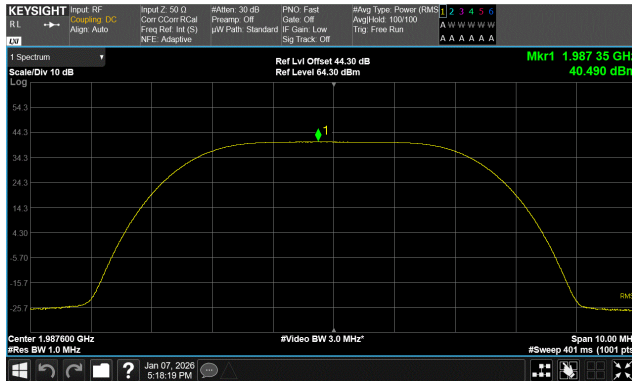
POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA



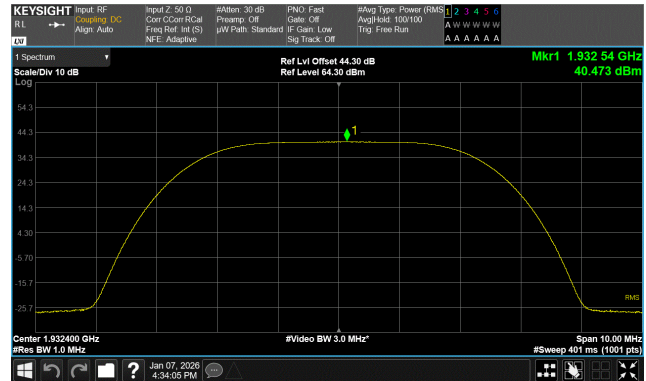
3G WCDMA, PCS Band
QPSK Modulation
Low Channel, 1932.4 MHz



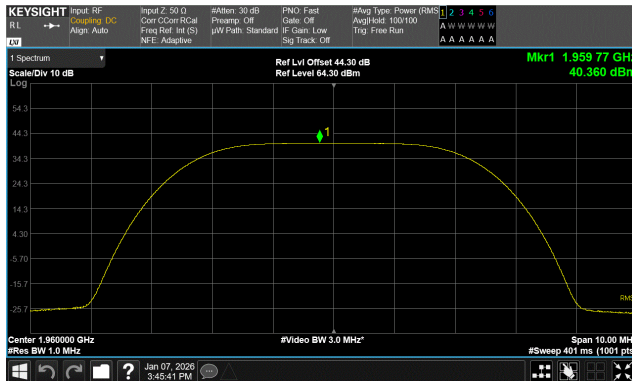
3G WCDMA, PCS Band
QPSK Modulation
Middle Channel, 1960.0 MHz



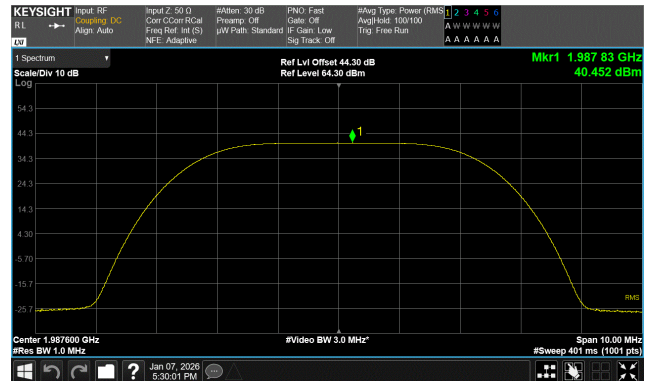
3G WCDMA, PCS Band
QPSK Modulation
High Channel, 1987.6 MHz



3G WCDMA, PCS Band
16QAM Modulation
Low Channel, 1932.4 MHz

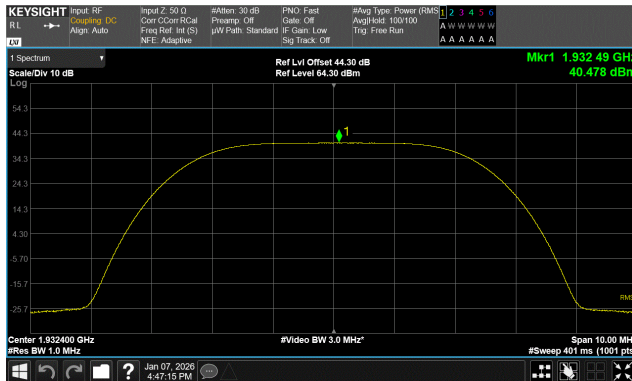


3G WCDMA, PCS Band
16QAM Modulation
Middle Channel, 1960.0 MHz

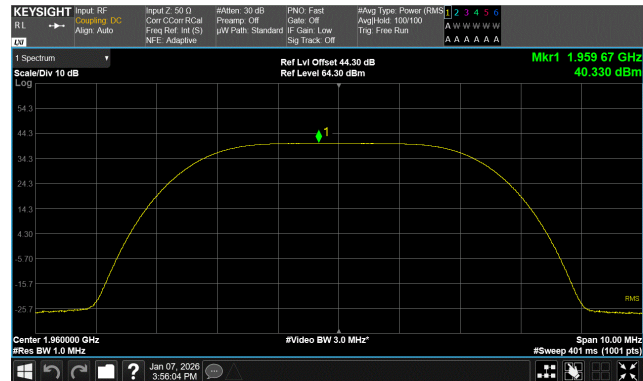


3G WCDMA, PCS Band
16QAM Modulation
High Channel, 1987.6 MHz

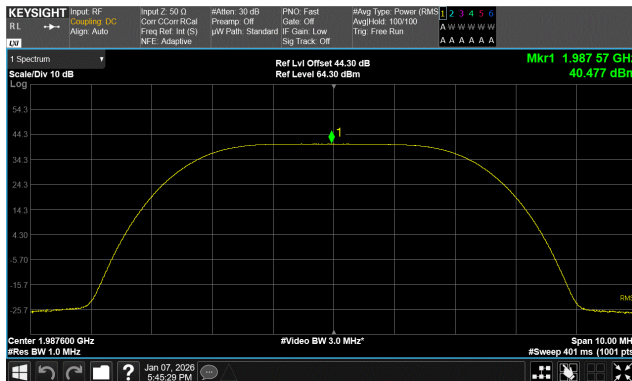
POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA



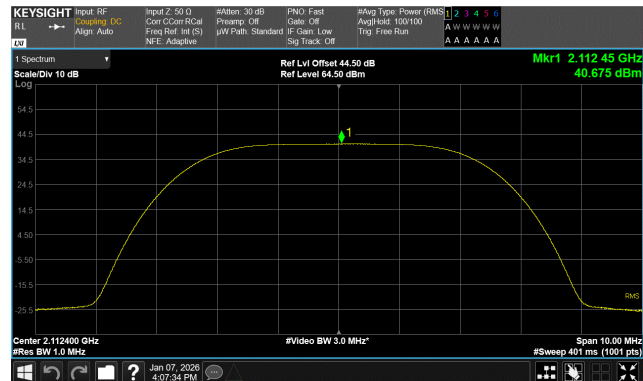
3G WCDMA, PCS Band
64QAM Modulation
Low Channel, 1932.4 MHz



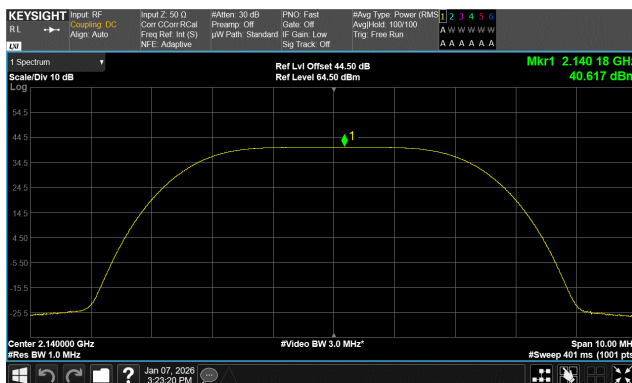
3G WCDMA, PCS Band
64QAM Modulation
Middle Channel, 1960.0 MHz



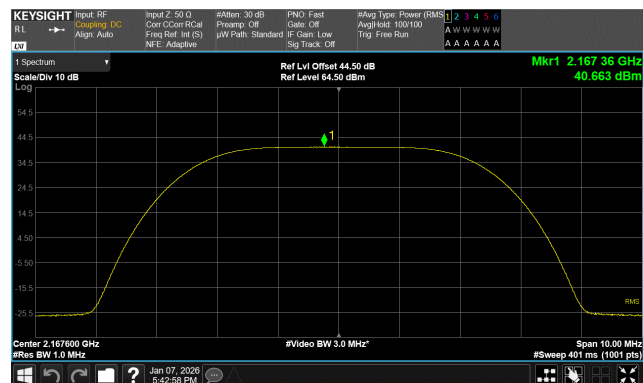
3G WCDMA, PCS Band
64QAM Modulation
High Channel, 1987.6 MHz



3G WCDMA, AWS Band
QPSK Modulation
Low Channel, 2112.4 MHz

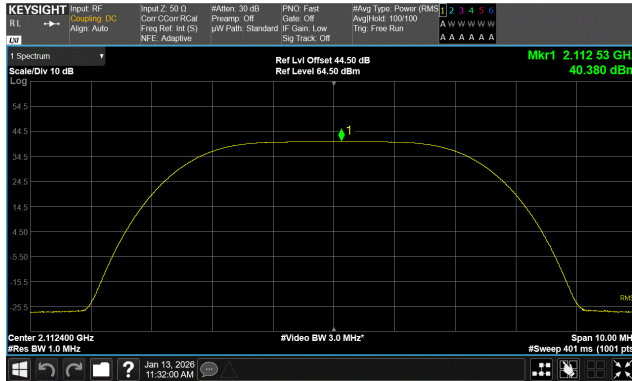


3G WCDMA, AWS Band
QPSK Modulation
Middle Channel, 2140.0 MHz

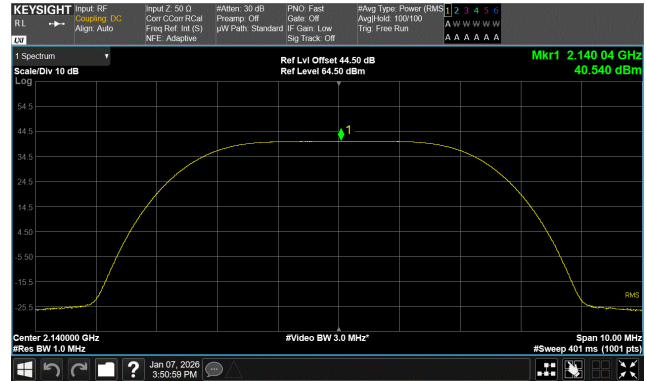


3G WCDMA, AWS Band
QPSK Modulation
High Channel, 2167.6 MHz

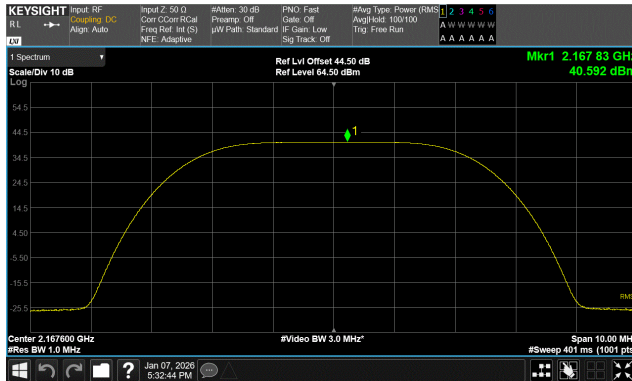
POWER SPECTRAL DENSITY AND EIRP CALCULATIONS - WCDMA



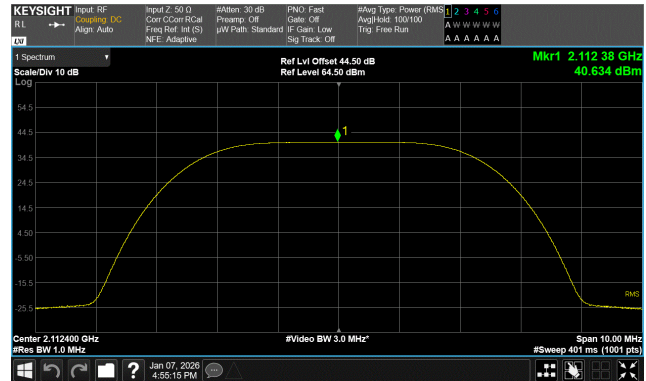
3G WCDMA, AWS Band
16QAM Modulation
Low Channel, 2112.4 MHz



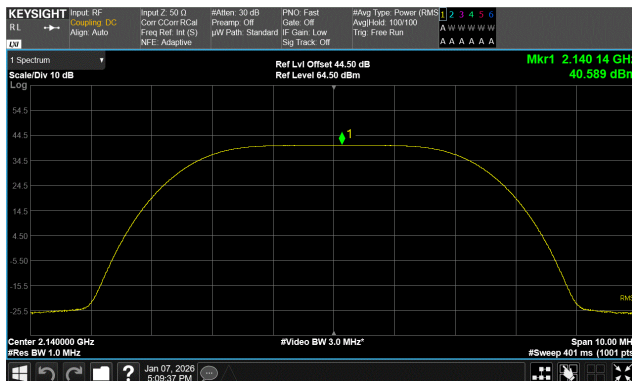
3G WCDMA, AWS Band
16QAM Modulation
Middle Channel, 2140.0 MHz



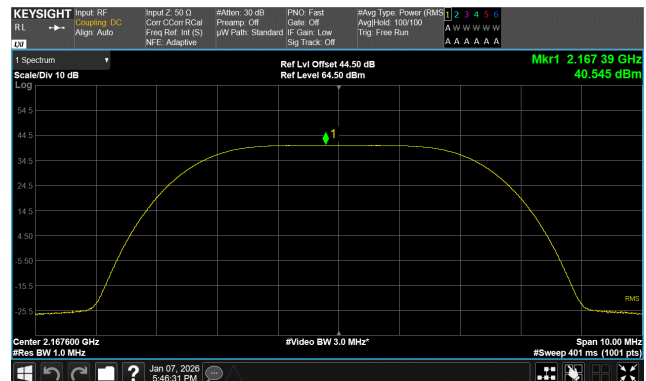
3G WCDMA, AWS Band
16QAM Modulation
High Channel, 2167.6 MHz



3G WCDMA, AWS Band
64QAM Modulation
Low Channel, 2112.4 MHz



3G WCDMA, AWS Band
64QAM Modulation
Middle Channel, 2140.0 MHz



3G WCDMA, AWS Band
64QAM Modulation
High Channel, 2167.6 MHz

PEAK AND AVERAGE (PAPR) CCDF - WCDMA



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The AHFII antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in the "Output Power - All Ports" report section of this report). Antenna port 1 was selected to perform this testing as allowed by ANSI C63.26 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The fundamental emission Peak to Average Power was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Power Ratio (PAPR) was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed the rule part defined limit.

Per FCC part 24.232(d), the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

Per FCC part 27.50(d)(5), the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

The PAPR was measured using the CCDF function of the spectrum analyzer.

The peak-to-average power ratio (PAPR) shall not exceed 13dB. The CCDF measurement method for FCC is detailed in section 5.7.2 of KDB971168 D01v03r01 and ANSI C63.26-2015 section 5.2.3.4.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight Technologies	N9030B	AGA	2025-06-09	2026-06-09
Block - DC	Centric RF	C0140	ANJ	NCR	NCR
Generator - Signal	Agilent	N5173B	TIW	2023-08-07	2026-08-07

Note: The RF Test Setup/ Network (RF cables/Attenuators/filter/etc.) is defined in the configurations section for each test. The RF Test Setup/Network is calibrated using the signal generator and spectrum analyzer prior to test. The RF insertion loss of the RF Test Setup/Network is accounted for by the spectrum analyzer's reference level offset during the RF conducted testing.

PEAK AND AVERAGE (PAPR) CCDF - WCDMA



EUT:	Airscale Base Transceiver Station Radio Unit Model AHFI	Work Order:	NOKI0090
Serial Number:	AH251400352	Date:	2026-01-07
Customer:	Nokia Solutions and Networks	Temperature:	28.6°C
Attendees:	John Rattanaovong, David Le	Relative Humidity:	17.9%
Customer Project:	None	Bar. Pressure (PMSL):	1022 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54VDC	Configuration:	NOKI0090-2

COMMENTS

All losses in the measurement path were accounted for in the reference level offset; attenuators, filters, cables, and DC blocks. Carriers were enabled at maximum power levels.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

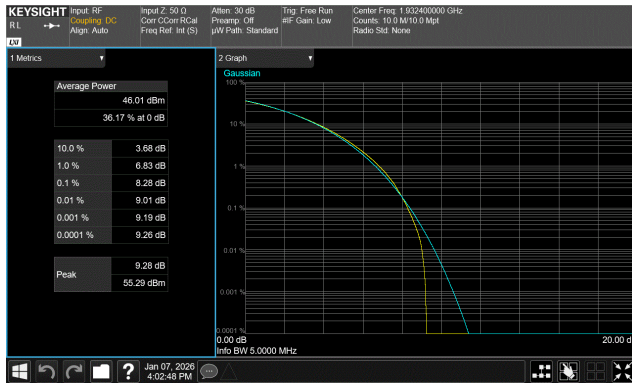
Pass

Tested By

TEST RESULTS

	0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
3G WCDMA, PCS Band			
QPSK Modulation			
Low Channel, 1932.4 MHz	8.28	13	Pass
Middle Channel, 1960.0 MHz	8.29	13	Pass
High Channel, 1987.6 MHz	8.29	13	Pass
16QAM Modulation			
Middle Channel, 1960.0 MHz	8.08	13	Pass
64QAM Modulation			
Middle Channel, 1960.0 MHz	8.12	13	Pass
3G WCDMA, AWS Band			
QPSK Modulation			
Low Channel, 2112.4 MHz	8.18	13	Pass
Middle Channel, 2140.0 MHz	8.18	13	Pass
High Channel, 2167.6 MHz	8.29	13	Pass
16QAM Modulation			
Middle Channel, 2140.0 MHz	8.05	13	Pass
64QAM Modulation			
Middle Channel, 2140.0 MHz	8.16	13	Pass

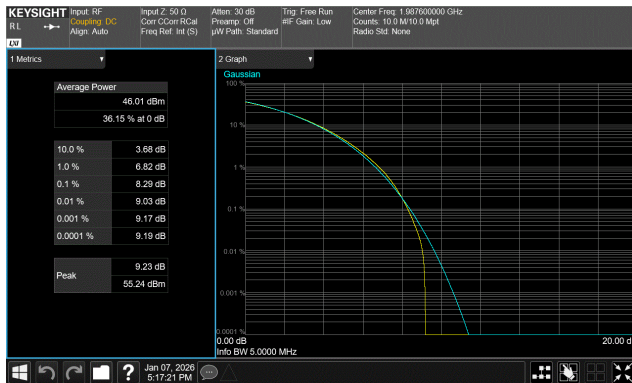
PEAK AND AVERAGE (PAPR) CCDF - WCDMA



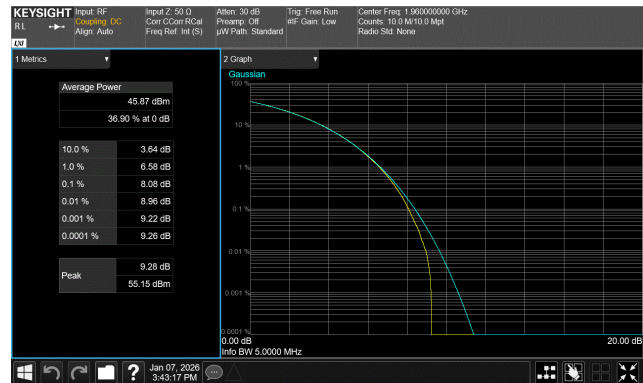
**3G WCDMA, PCS Band
QPSK Modulation
Low Channel, 1932.4 MHz**



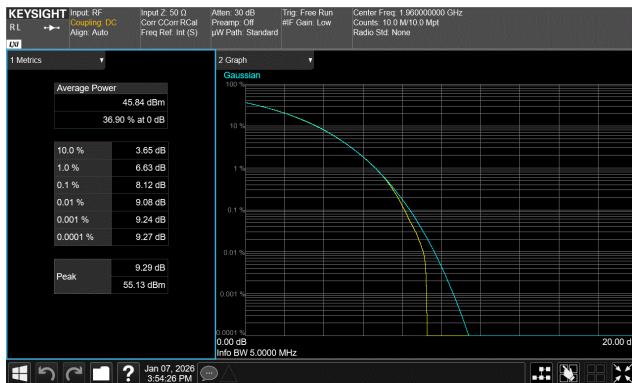
**3G WCDMA, PCS Band
QPSK Modulation
Middle Channel, 1960.0 MHz**



**3G WCDMA, PCS Band
QPSK Modulation
High Channel, 1987.6 MHz**



**3G WCDMA, PCS Band
16QAM Modulation
Middle Channel, 1960.0 MHz**



**3G WCDMA, PCS Band
64QAM Modulation
Middle Channel, 1960.0 MHz**



**3G WCDMA, AWS Band
QPSK Modulation
Low Channel, 2112.4 MHz**

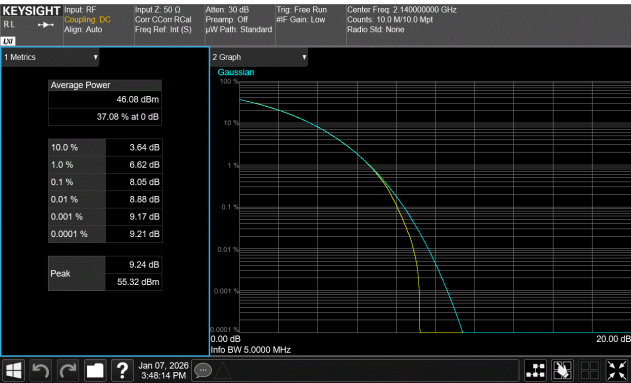
PEAK AND AVERAGE (PAPR) CCDF - WCDMA



3G WCDMA, AWS Band
QPSK Modulation
Middle Channel, 2140.0 MHz



3G WCDMA, AWS Band
QPSK Modulation
High Channel, 2167.6 MHz



3G WCDMA, AWS Band
16QAM Modulation
Middle Channel, 2140.0 MHz



3G WCDMA, AWS Band
64QAM Modulation
Middle Channel, 2140.0 MHz

PEAK TO AVERAGE POWER (PAPR) - GSM

TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The AHFII antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in the "Output Power - All Ports" report section of this report). Antenna port 1 was selected to perform this testing as allowed by ANSI C63.26 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The method in section 5.2.4.3 of ANSI C63.26 was used to make the measurements for 2G GSM. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzers' swept analysis mode (SA) trigger free run and RMS average detector. Peak marker function is used to determine the maximum amplitude level. Because the conducted Output Power was measured using an RMS Average detector, the Peak to Average Power Ratio (PAPR) was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed the rule part defined limit.

Per FCC part 24.232(d), the peak-to-average ratio (PAR) of the transmission shall not exceed 13 dB.

2G GSM carrier operations are required to be operate in MSR modes (Multi Standard Radio) with a different RAT (Radio Access Technologies) (3G WCDMA, 4G LTE, 5G NR) in the same 1900 PCS band. A WCDMA carrier in the same band will be used/enable simultaneously with single GSM carriers.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight Technologies	N9030B	AGA	2025-06-09	2026-06-09
Antenna - Double Ridge	ETS Lindgren	3115	AJN	2024-09-27	2026-09-27
Generator - Signal	Agilent	N5173B	TIW	2023-08-07	2026-08-07

Note: The RF Test Setup/ Network (RF cables/Attenuators/filter/etc.) is defined in the configurations section for each test. The RF Test Setup/Network is calibrated using the signal generator and spectrum analyzer prior to test. The RF insertion loss of the RF Test Setup/Network is accounted for by the spectrum analyzer's reference level offset during the RF conducted testing.

PEAK TO AVERAGE POWER (PAPR) - GSM



EUT:	AHFII RRH (Remote Radio Head)	Work Order:	NOKI0090
Serial Number:	AH251400352	Date:	2026-01-13
Customer:	Nokia Solutions and Networks	Temperature:	25.6°C
Attendees:	John Rattanaovong, David Le	Relative Humidity:	16.4%
Customer Project:	None	Bar. Pressure (PMSL):	1039 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54VDC	Configuration:	NOKI0090-2

COMMENTS

All losses in the measurement path were accounted for in the reference level offset; attenuators, filters, cables, and DC blocks. Carriers were enabled at maximum power levels.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

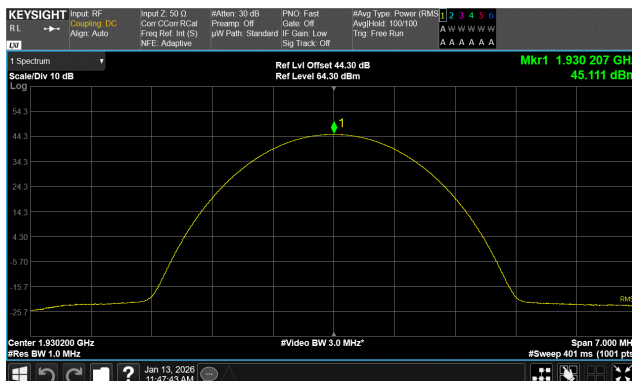
Pass

Tested By

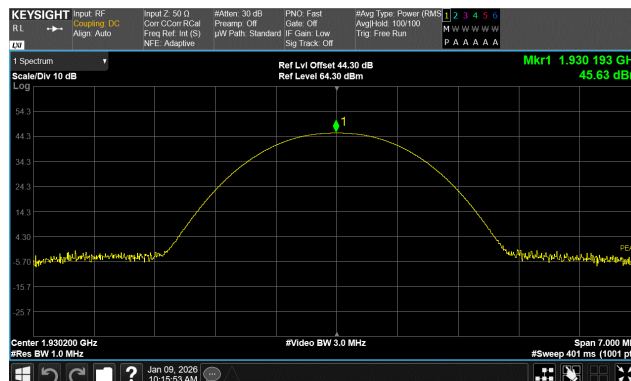
TEST RESULTS

		Detector Type Average / Peak	Value (dBm)	PAPR (dB)	PAPR Limit (dB)
2G GSM/EDGE, PCS Band					
GMSK Modulation					
Low Channel, 1930.2 MHz	AV	45.1	0.5	13	
	PK	45.6			
Low Channel +1, 1930.4 MHz	AV	45.1	0.3	13	
	PK	45.4			
Middle Channel, 1960.0 MHz	AV	45.3	0.4	13	
	PK	45.7			
High Channel -1, 1989.6 MHz	AV	45.2	0.4	13	
	PK	45.6			
High Channel, 1989.8 MHz	AV	45.4	0.4	13	
	PK	45.8			
8PSK Modulation					
Low Channel, 1930.2 MHz	AV	45.2	3.5	13	
	PK	48.7			
Low Channel +1, 1930.4 MHz	AV	45.1	3.4	13	
	PK	48.5			
Middle Channel, 1960.0 MHz	AV	45.2	3.5	13	
	PK	48.7			
High Channel -1, 1989.6 MHz	AV	45.2	3.5	13	
	PK	48.7			
High Channel, 1989.8 MHz	AV	45.3	3.5	13	
	PK	48.9			

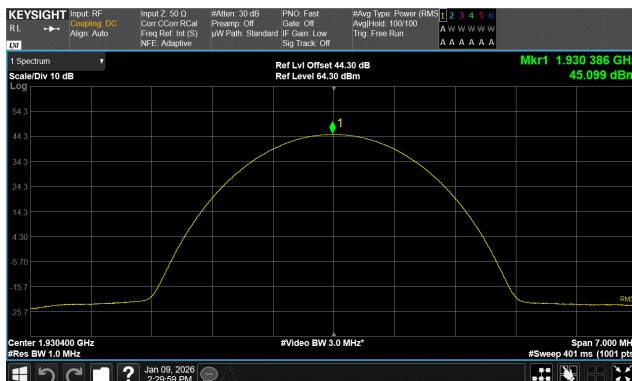
PEAK TO AVERAGE POWER (PAPR) - GSM



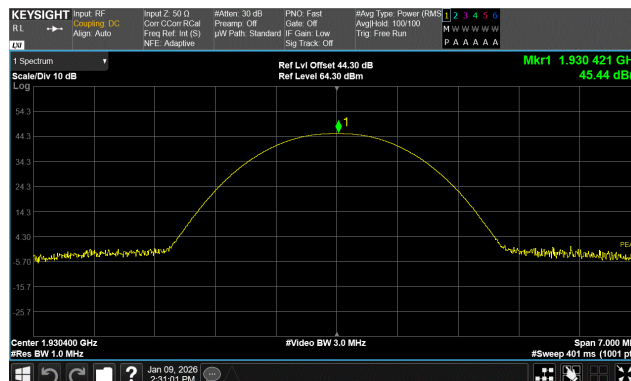
2G GSM/EDGE, PCS Band
GMSK Modulation
Low Channel, 1930.2 MHz



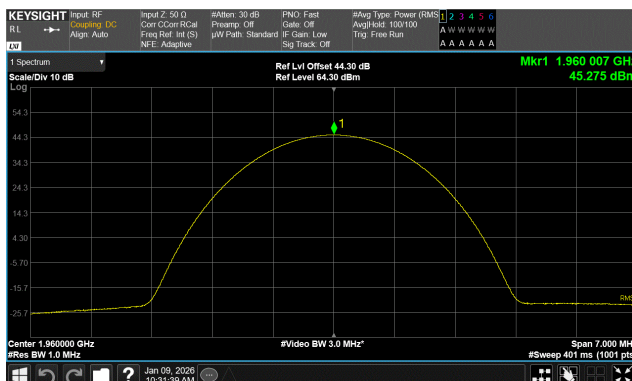
2G GSM/EDGE, PCS Band
GMSK Modulation
Low Channel, 1930.2 MHz



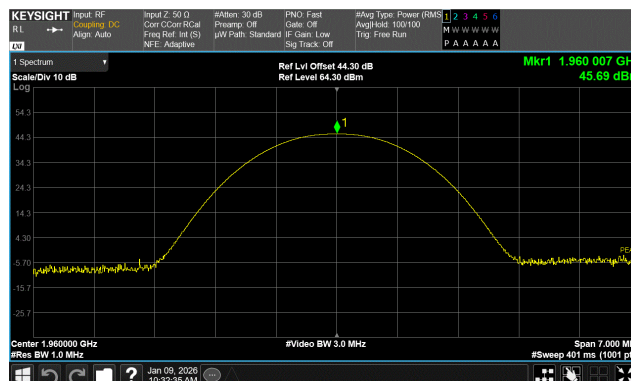
2G GSM/EDGE, PCS Band
GMSK Modulation
Low Channel +1, 1930.4 MHz



2G GSM/EDGE, PCS Band
GMSK Modulation
Low Channel +1, 1930.4 MHz



2G GSM/EDGE, PCS Band
GMSK Modulation
Middle Channel, 1960.0 MHz



2G GSM/EDGE, PCS Band
GMSK Modulation
Middle Channel, 1960.0 MHz