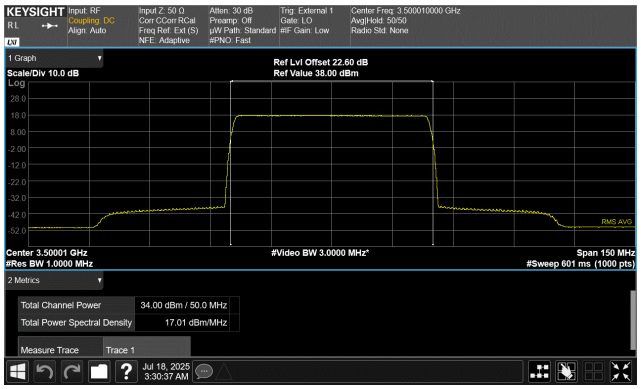
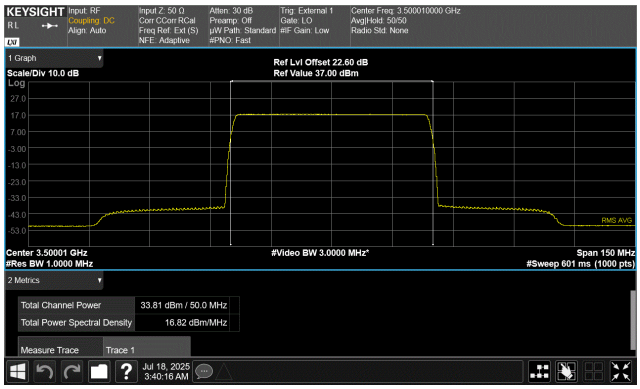
OUTPUT POWER – ALL PORTS

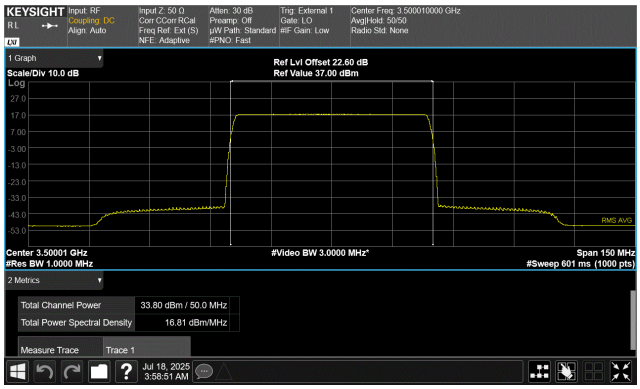


50 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3500.01 MHz
Port 61



50 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3500.01 MHz
Port 62

50 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3500.01 MHz
Port 63



50 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3500.01 MHz
Port 64

OUTPUT POWER - 3400 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

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 fundamental emission Output Power (maximum average conducted output 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.

RF conducted emissions testing was performed only on one port. The AVQQA antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The output power was measured for a single carrier over the carrier channel bandwidth. The total output power for multiport (64x64 MIMO) operations was determined based per ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log N_{out}). The total output power for Sixty-Four port operation is single power +18.1 dB [i.e. 10*log(64)].

The transmitter RF output power requirements are define in FCC 2.1046 and FCC Part 27.50(k). The RF output power - average power measurement method for FCC is detailed in section 5.2 of KDB 971168 D01v03r01 and in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

All Measurements were synchronized with the measurement receiver - gated with external trigger input (frame clock (100Hz) provided by the system module. Duty cycle correction is not needed for this testing since the transmit “on” time is synchronized with the measurement receiver.

In 3.45GHz band single carrier operating mode - carriers were enabled at maximum power levels. Simultaneously, 3.7GHz band NR10 carrier were enabled to operate at 30 watts or 0.468W(26.7dBm)/per carrier on the middle channel. All measured power values are expected within tolerance (i.e.: Rated Power ±2.0 dB).

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.

OUTPUT POWER - 3400 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

EUT:	Airscale Base Transceiver Station Radio Unit Model AVQQA	Work Order:	NOKI0086
Serial Number:	L1242501908	Date:	2025-07-16
Customer:	Nokia Solutions and Networks	Temperature:	26.5°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	42.2%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54 VDC	Configuration:	NOKI0086-3

COMMENTS

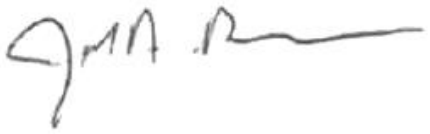
All losses in the measurement path were accounted for in the spectrum analyzer reference level offset; attenuators, filters, cables, and DC blocks.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass



Tested By

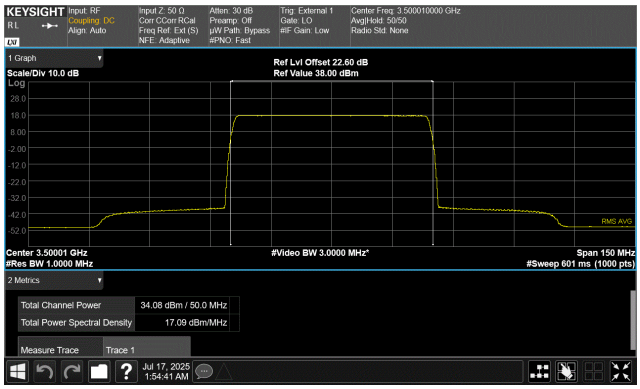
TEST RESULTS

	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
Port 1				
50 MHz Channel Bandwidth				
QPSK Modulation				
Low Channel, 3475.02 MHz	34.042	0	34	52.1
Middle Channel, 3500.01 MHz	34.078	0	34.1	52.2
High Channel, 3525.00 MHz	33.823	0	33.8	51.9
16QAM Modulation				
Middle Channel, 3500.01 MHz	34.179	0	34.2	52.3
64QAM Modulation				
Middle Channel, 3500.01 MHz	34.098	0	34.1	52.2
256QAM Modulation				
Middle Channel, 3500.01 MHz	34.249	0	34.2	52.3
10 MHz Channel Bandwidth, 3.7G Band				
QPSK Modulation				
Middle Channel, 3840.00 MHz	25.522	0	25.5	43.6

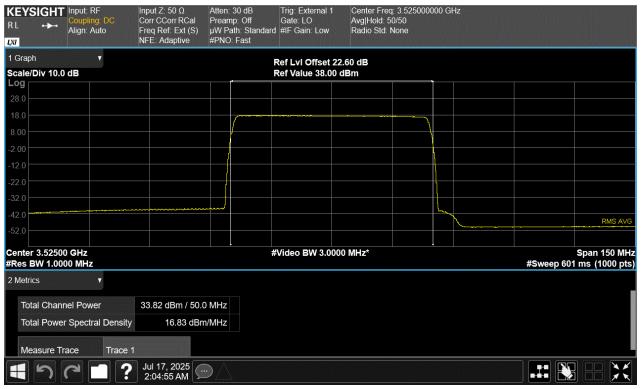
OUTPUT POWER - 3400 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

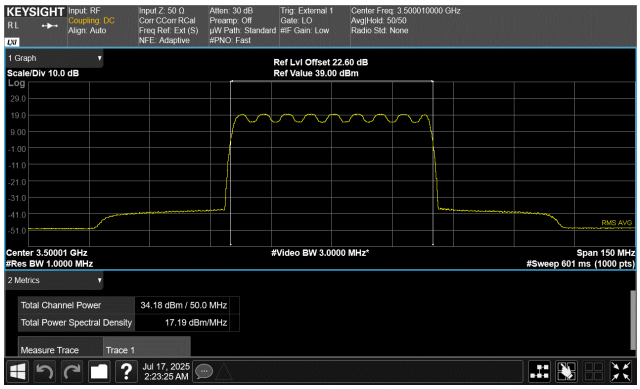
Port 1
50 MHz Channel Bandwidth
QPSK Modulation
Low Channel, 3475.02 MHz



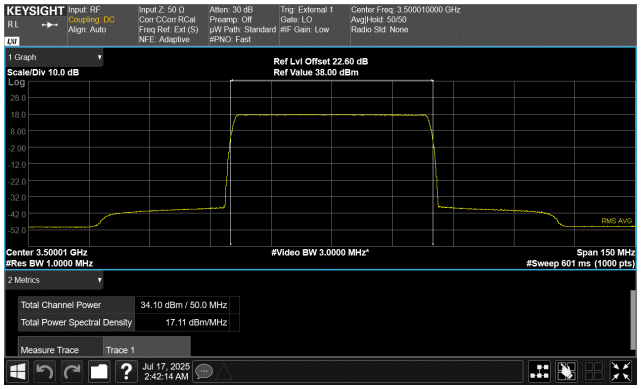
Port 1
50 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3500.01 MHz



Port 1
50 MHz Channel Bandwidth
QPSK Modulation
High Channel, 3525.00 MHz



Port 1
50 MHz Channel Bandwidth
16QAM Modulation
Middle Channel, 3500.01 MHz



Port 1
50 MHz Channel Bandwidth
64QAM Modulation
Middle Channel, 3500.01 MHz

Port 1
50 MHz Channel Bandwidth
256QAM Modulation
Middle Channel, 3500.01 MHz

OUTPUT POWER - MULTICARRIER, 3400 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

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 fundamental emission Output Power (maximum average conducted output 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.

RF conducted emissions testing was performed only on one port. The AVQQA antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The transmitter RF output power requirements are defined in FCC 2.1046 and FCC Part 27.50(k). The RF output power - average power measurement method for FCC is detailed in section 5.2 of KDB 971168 D01v03r01 and in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

All Measurements were synchronized with the measurement receiver - gated with external trigger input (frame clock (100Hz) provided by the system module. Duty cycle correction is not needed for this testing since the transmit “on” time is synchronized with the measurement receiver.

In 3.45GHz band single carrier operating mode - carriers were enabled at maximum power levels. Simultaneously, 3.7GHz band NR10 carrier were enable to operate at 30 watts or 0.468W(26.7dBm)/per carrier on middle channel. All measured power values are expected within tolerance (i.e.: Rated Power ±2.0 dB).

The output power was measured for a single carrier over the carrier channel bandwidth. The total output power for multiport (64x64 MIMO) operations was determined based per ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log N_{out}). The total output power for Sixty-Four port operation is single power +18.1 dB [i.e. 10*log(64)].

Multicarrier test cases have been developed as shown below:

a) 3.45GHz Band Multicarrier: Two contiguous NR50 carriers with maximum spacing between carrier frequencies at the lower/upper band edges (3475.02 & 3525MHz). The largest channel bandwidth is selected to maximize available radio power and occupied bandwidth. The carriers are operated at maximum power (~1.56W/carrier). At the same time, 3.7GHz Band NR10 Carrier operates at 30 watts on middle channel with a total radio power of 230 watts.

b) 3.45GHz Band Multicarrier: In 3.45GMHz band, Two contiguous NR20 carriers with minimum spacing between carrier frequencies at the lower band edge (3460.02 & 3480.00MHz). The smallest channel bandwidth is selected to maximized available radio power. The carriers are operated at maximum power (~1.56W/carrier). At the same time, 3.7GHz Band NR10 Carrier operates at 30 watts on middle channel with a total radio power of 230 watts.

c) 3.45GHz Band Multicarrier: In 3.45GMHz band, Two contiguous NR20 carriers with minimum spacing between carrier frequencies at the upper band edge (3520.02 & 3540.00MHz). The channel bandwidth is selected to maximized available radio power. The carriers are operated at maximum power (~1.56W/carrier). At the same time, 3.7GHz Band NR10 Carrier operates at 30 watts on middle channel with a total radio power of 230 watts.

d) 3.45GHz Band Multicarrier: In 3.45GMHz band, Two non-contiguous NR20 carriers with maximum spacing between carrier frequencies at the lower/upper band edge (3460.02 & 3540.00MHz). The channel bandwidth is selected to maximized available radio power and occupied bandwidth. The carriers are operated at maximum power (~1.56W/carrier). At the same time, 3.7GHz Band NR10 Carrier operates at 30 watts on middle channel with a total radio power of 230 watts.

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.

OUTPUT POWER - MULTICARRIER, 3400 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

EUT:	Airscale Base Transceiver Station Radio Unit Model AVQQA	Work Order:	NOKI0086
Serial Number:	L1242501908	Date:	2025-07-16
Customer:	Nokia Solutions and Networks	Temperature:	23.9°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	51.3%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54 VDC	Configuration:	NOKI0086-3

COMMENTS

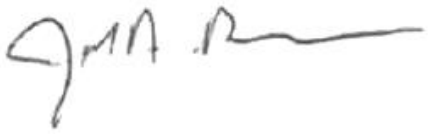
All losses in the measurement path were accounted for in the spectrum analyzer reference level offset; attenuators, filters, cables, and DC blocks.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

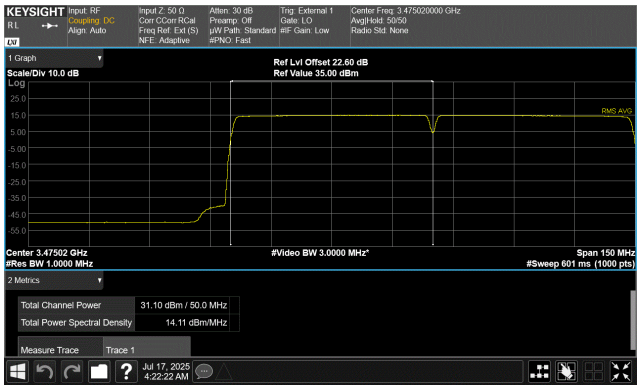


Tested By

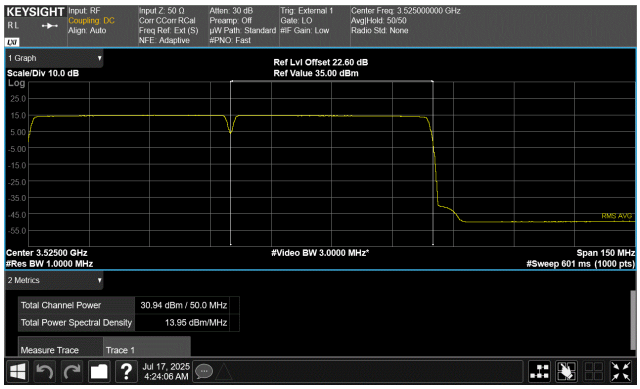
TEST RESULTS

	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
Port 1				
Test Case A				
NR50, 3475.02 MHz	31.097	0	31.1	49.2
NR50, 3525.00 MHz	30.936	0	30.9	49.0
NR10, 3840.00 MHz	25.951	0	26	44.1
Test Case B				
NR20, 3460.02 MHz	31.066	0	31.1	49.2
NR20, 3480.00 MHz	31.467	0	31.5	49.6
NR10, 3840.00 MHz	26.36	0	26.4	44.5
Test Case C				
NR20, 3520.02 MHz	31.277	0	31.3	49.4
NR20, 3540.00 MHz	30.828	0	30.8	48.9
NR10, 3840.00 MHz	26.324	0	26.3	44.4
Test Case D				
NR20, 3460.02 MHz	30.976	0	31	49.1
NR20, 3540.00 MHz	30.749	0	30.7	48.8
NR10, 3840.00 MHz	26.309	0	26.3	44.4

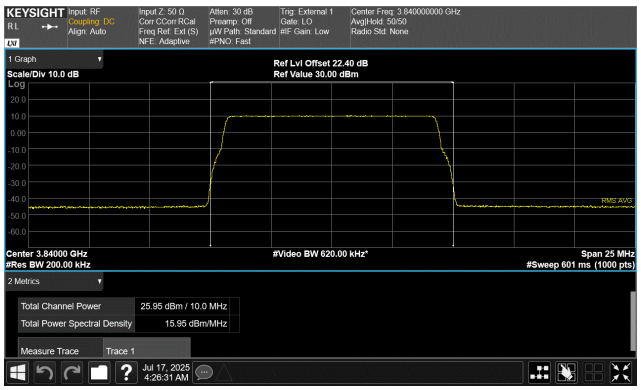
OUTPUT POWER - MULTICARRIER, 3400 BAND



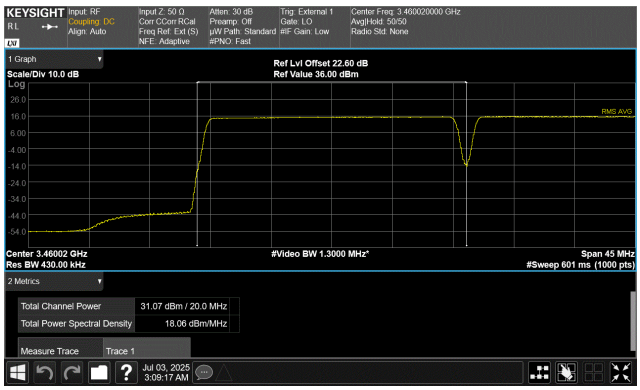
Port 1
Test Case A
NR50, 3475.02 MHz



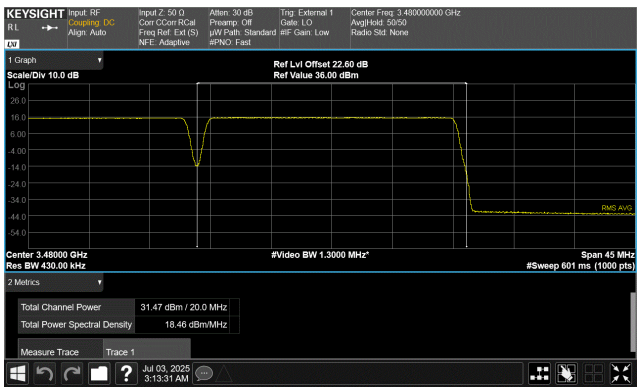
Port 1
Test Case A
NR50, 3525.00 MHz



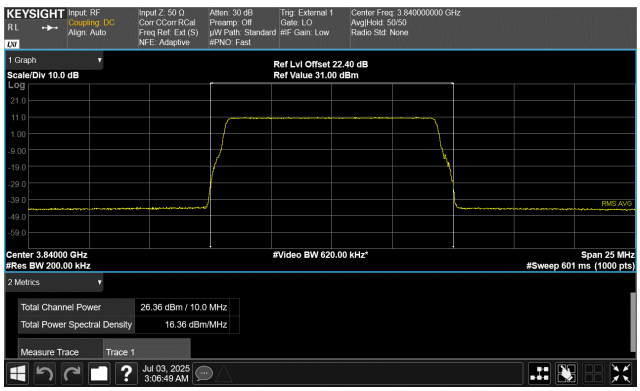
Port 1
Test Case A
NR10, 3840.00 MHz



Port 1
Test Case B
NR20, 3460.02 MHz



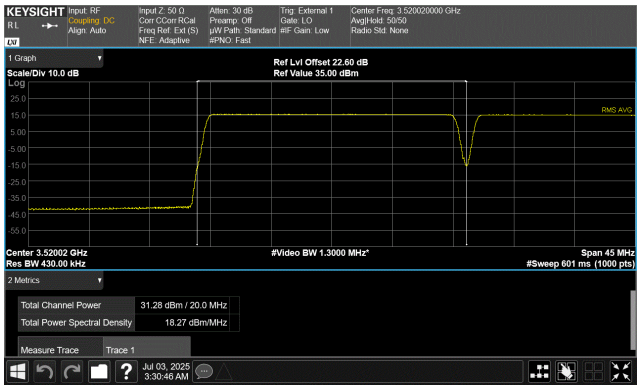
Port 1
Test Case B
NR20, 3480.00 MHz



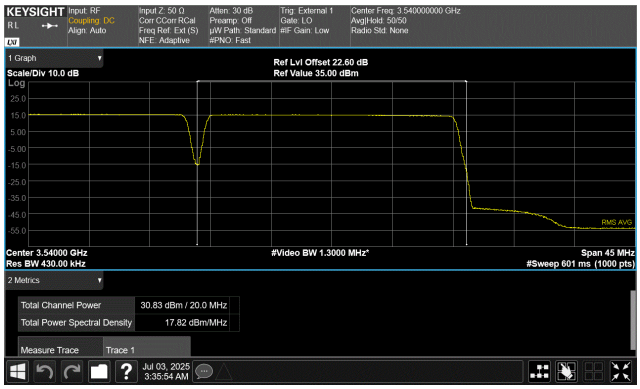
Port 1
Test Case B
NR10, 3840.00 MHz

OUTPUT POWER - MULTICARRIER, 3400 BAND

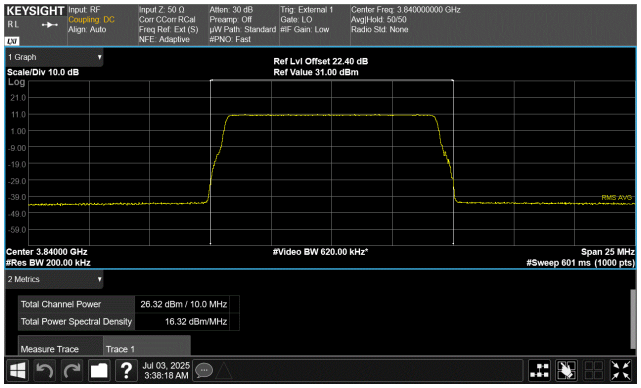
element
TbtTx 2025.05.09.1
WTD.2025.03.25.0



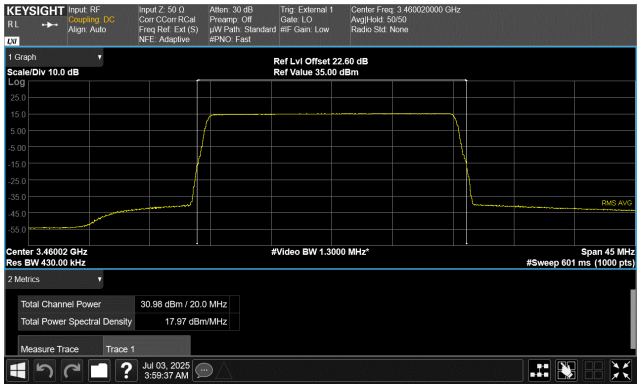
Port 1
Test Case C
NR20, 3520.02 MHz



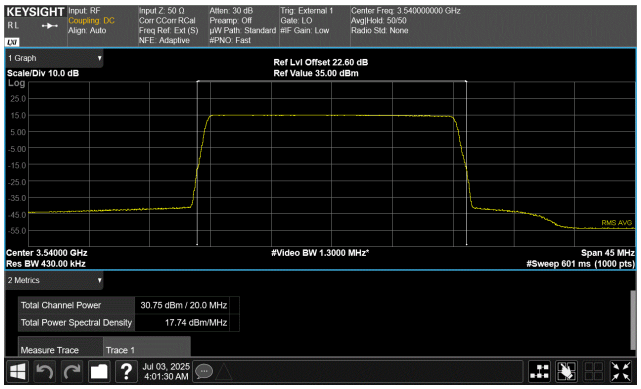
Port 1
Test Case C
NR20, 3540.00 MHz



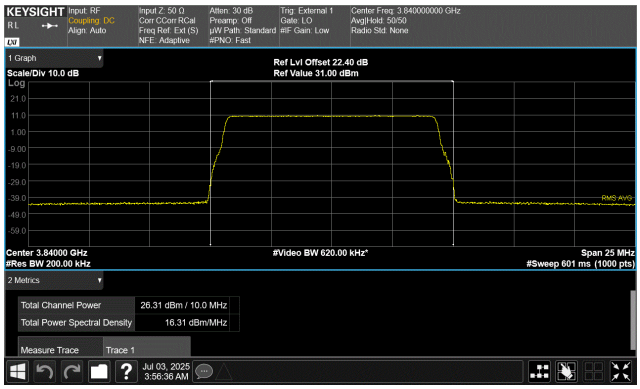
Port 1
Test Case C
NR10, 3840.00 MHz



Port 1
Test Case D
NR20, 3460.02 MHz



Port 1
Test Case D
NR20, 3540.00 MHz



Port 1
Test Case D
NR10, 3840.00 MHz

OUTPUT POWER - 3700 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

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 fundamental emission Output Power (maximum average conducted output 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.

RF conducted emissions testing was performed only on one port. The AVQQA antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The transmitter RF output power requirements are defined in FCC 2.1046 and FCC Part 27.50(j). The RF output power - average power measurement method for FCC is detailed in section 5.2 of KDB 971168 D01v03r01 and in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

All Measurements were synchronized with the measurement receiver - gated with external trigger input (frame clock (100Hz) provided by the system module. Duty cycle correction is not needed for this testing since the transmit “on” time is synchronized with the measurement receiver.

In 3.7GHz band single carrier operating mode - carriers were enabled at maximum power levels. All measured power values are expected within tolerance (i.e.: Rated Power ±2.0 dB).

The output power was measured for a single carrier over the carrier channel bandwidth. The total output power for multiport (64x64 MIMO) operations was determined based per ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log N_{out}). The total output power for Sixty-Four port operation is single power +18.1 dB [i.e. 10*log(64)].

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.

OUTPUT POWER - 3700 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

EUT:	Airscale Base Transceiver Station Radio Unit Model AVQQA	Work Order:	NOKI0086
Serial Number:	L1242501908	Date:	2025-07-02
Customer:	Nokia Solutions and Networks	Temperature:	24°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	50.2%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54 VDC	Configuration:	NOKI0086-3

COMMENTS

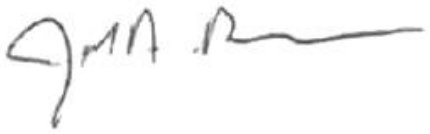
All losses in the measurement path were accounted for in the spectrum analyzer reference level offset; attenuators, filters, cables, and DC blocks.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass



Tested By

TEST RESULTS

	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
Port 1				
10 MHz Channel Bandwidth				
QPSK Modulation				
Low Channel, 3705.00 MHz	27.884	0	27.9	45.2
Middle Channel, 3840.00 MHz	28.397	0	28.4	45.7
High Channel, 3975.00 MHz	27.757	0	27.8	45.1
30 MHz Channel Bandwidth				
QPSK Modulation				
Low Channel, 3715.02 MHz	32.59	0	32.6	49.9
Middle Channel, 3840.00 MHz	33.008	0	33	50.3
High Channel, 3964.98 MHz	32.494	0	32.5	49.8
50 MHz Channel Bandwidth				
QPSK Modulation				
Low Channel, 3725.01 MHz	36.323	0	36.3	53.6
Middle Channel, 3840.00 MHz	36.623	0	36.6	53.9
High Channel, 3954.99 MHz	36.254	0	36.3	53.6
70 MHz Channel Bandwidth				
QPSK Modulation				
Low Channel, 3735.00 MHz	36.389	0	36.4	53.7
Middle Channel, 3840.00 MHz	36.69	0	36.7	54.0
High Channel, 3945.00 MHz	36.165	0	36.2	53.5

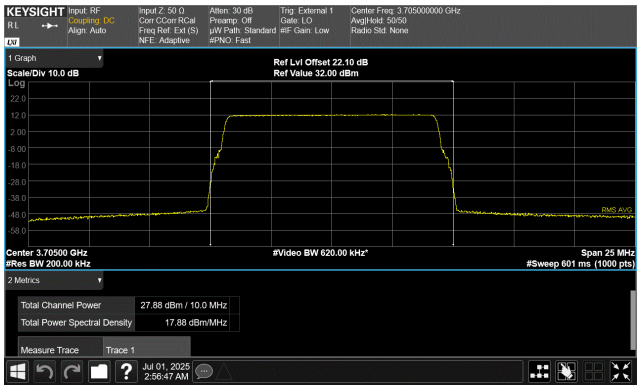
OUTPUT POWER - 3700 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

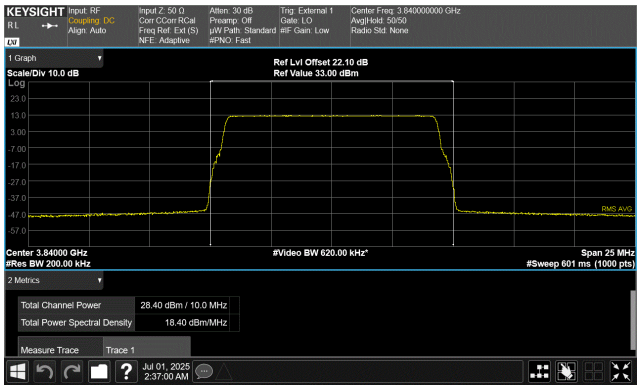
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
90 MHz Channel Bandwidth				
QPSK Modulation				
Low Channel, 3745.02 MHz	36.358	0	36.4	53.7
Middle Channel, 3840.00 MHz	36.7	0	36.7	54.0
High Channel, 3934.98 MHz	36.236	0	36.2	53.5

OUTPUT POWER - 3700 BAND

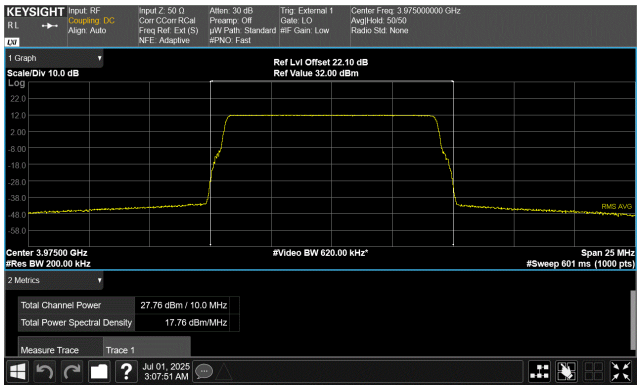
element
TbtTx 2025.05.09.1
WTD.2025.03.25.0



Port 1
10 MHz Channel Bandwidth
QPSK Modulation
Low Channel, 3705.00 MHz

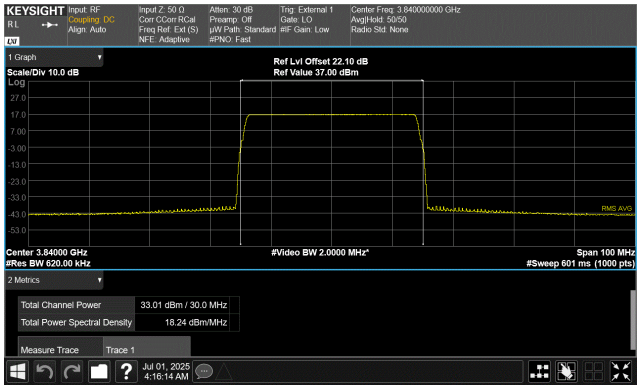


Port 1
10 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3840.00 MHz

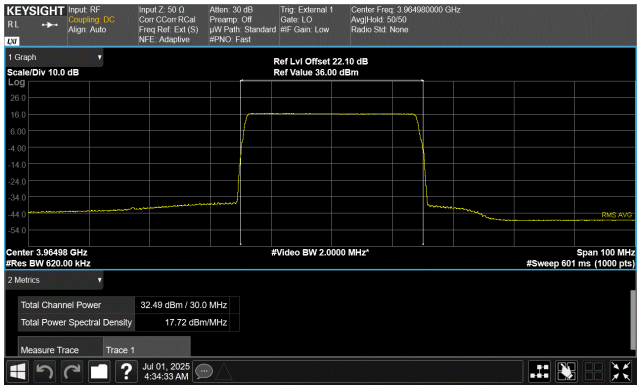


Port 1
10 MHz Channel Bandwidth
QPSK Modulation
High Channel, 3975.00 MHz

Port 1
30 MHz Channel Bandwidth
QPSK Modulation
Low Channel, 3715.02 MHz



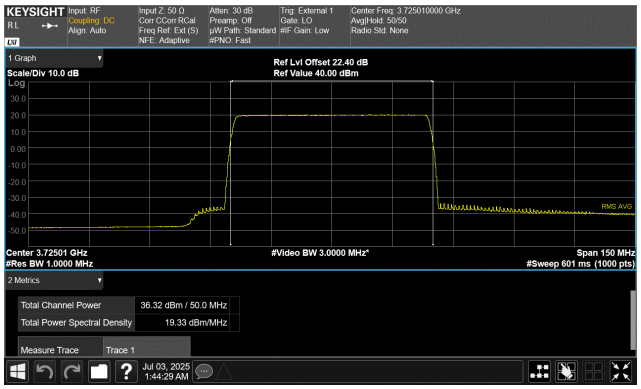
Port 1
30 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3840.00 MHz



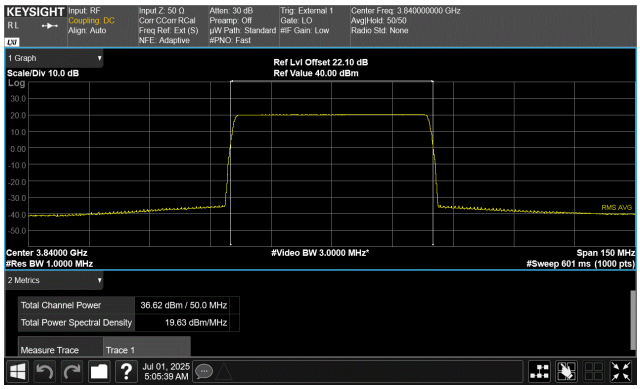
Port 1
30 MHz Channel Bandwidth
QPSK Modulation
High Channel, 3964.98 MHz

OUTPUT POWER - 3700 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

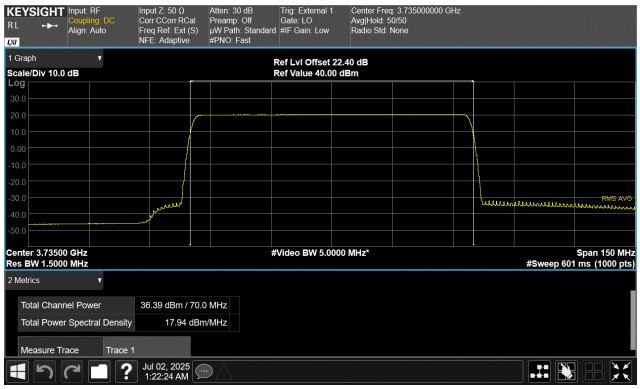


Port 1
50 MHz Channel Bandwidth
QPSK Modulation
Low Channel, 3725.01 MHz

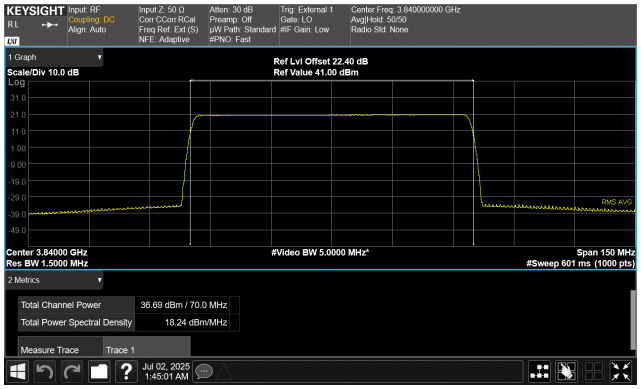


Port 1
50 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3840.00 MHz

Port 1
50 MHz Channel Bandwidth
QPSK Modulation
High Channel, 3954.99 MHz



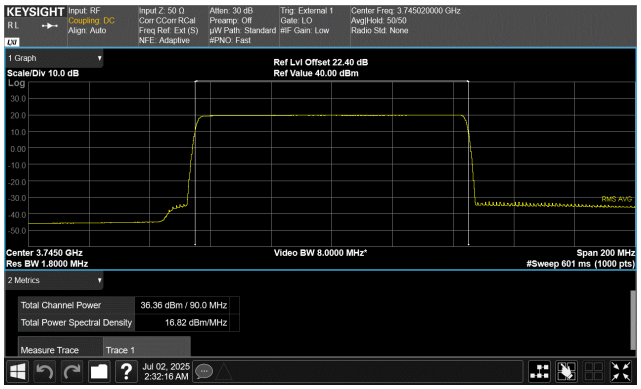
Port 1
70 MHz Channel Bandwidth
QPSK Modulation
Low Channel, 3735.00 MHz



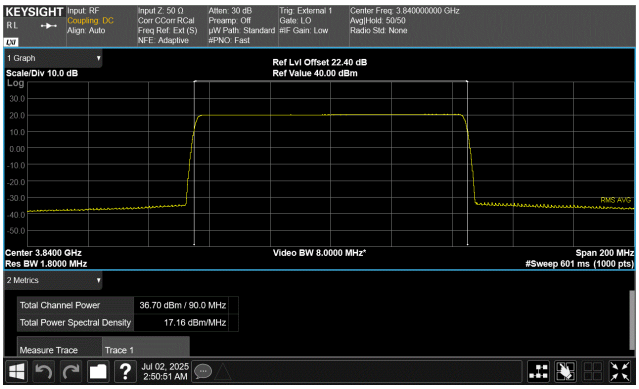
Port 1
70 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3840.00 MHz

Port 1
70 MHz Channel Bandwidth
QPSK Modulation
High Channel, 3945.00 MHz

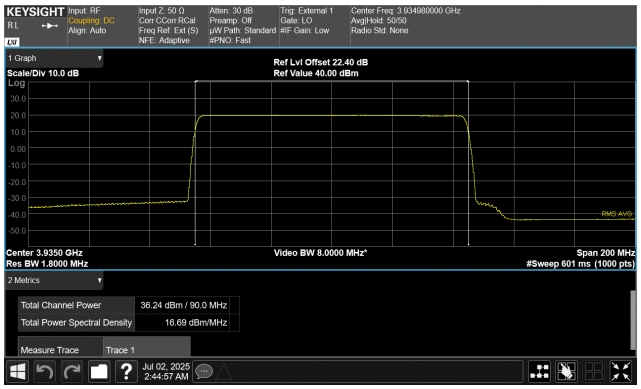
OUTPUT POWER - 3700 BAND



Port 1
90 MHz Channel Bandwidth
QPSK Modulation
Low Channel, 3745.02 MHz



Port 1
90 MHz Channel Bandwidth
QPSK Modulation
Middle Channel, 3840.00 MHz



Port 1
90 MHz Channel Bandwidth
QPSK Modulation
High Channel, 3934.98 MHz

OUTPUT POWER - MULTICARRIER, 3700 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

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 fundamental emission Output Power (maximum average conducted output 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.

RF conducted emissions testing was performed only on one port. The AVQQA antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The transmitter RF output power requirements are defined in FCC 2.1046 and FCC Part 27.50(j). The RF output power - average power measurement method for FCC is detailed in section 5.2 of KDB 971168 D01v03r01 and in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

All Measurements were synchronized with the measurement receiver - gated with external trigger input (frame clock (100Hz) provided by the system module. Duty cycle correction is not needed for this testing since the transmit “on” time is synchronized with the measurement receiver.

In 3.7GHz band single carrier operating mode - carriers were enabled at maximum power levels. All measured power values are expected within tolerance (i.e.: Rated Power ±2.0 dB).

The output power was measured for a single carrier over the carrier channel bandwidth. The total output power for multiport (64x64 MIMO) operations was determined based per ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log N_{out}). The total output power for Sixty-Four port operation is single power +18.1 dB [i.e. 10*log(64)].

Multicarrier test cases have been developed as shown below:

a) 3.7GHz Band Multicarrier: Two non-contiguous NR50 carriers with maximum spacing between carrier frequencies at the lower band edges (3725.01 & 3874.98MHz). The highest spectral density channel bandwidth is selected to maximize available PSD and occupied bandwidth. The carriers are operated at maximum power (~2.65W/carrier) with a total radio power of 340 watts.

b) 3.7GHz Band Multicarrier: Two non-contiguous NR50 carriers with maximum spacing between carrier frequencies at the Upper band edges (3805.02 & 3954.99MHz). The highest spectral density channel bandwidth is selected to maximize available PSD and occupied bandwidth. The carriers are operated at maximum power (~2.65W/carrier) with a total radio power of 340 watts.

c) 3.7GHz Band Multicarrier: Two contiguous NR50 carriers with minimum spacing between carrier frequencies at the lower band edges (3725.01 & 3774.99MHz). The highest spectral density channel bandwidth is selected to maximize available PSD. The carriers are operated at maximum power (~2.65W/carrier) with a total radio power of 340 watts.

d) 3.7GHz Band Multicarrier: Two contiguous NR50 carriers with minimum spacing between carrier frequencies at the upper band edges (3905.01 & 3954.99MHz). The highest spectral density channel bandwidth is selected to maximize available PSD. The carriers are operated at maximum power (~2.65W/carrier) with a total radio power of 340 watts.

e) 3.7GHz Band Multicarrier: Two contiguous NR100 carriers with minimum spacing between carrier frequencies at the lower band edges (3750.00 & 3849.99MHz). The largest channel bandwidth is selected to maximize radio power and occupied bandwidth. The carriers are operated at maximum power (~2.65W/carrier) with a total radio power of 340 watts.

f) 3.7GHz Band Multicarrier: Two contiguous NR100 carriers with minimum spacing between carrier frequencies at the Upper band edges (3830.01 & 3930.00MHz). The largest channel bandwidth is selected to maximize radio power and occupied bandwidth. The carriers are operated at maximum power (~2.65W/carrier) with a total radio power of 340 watts.

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.

OUTPUT POWER - MULTICARRIER, 3700 BAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

EUT:	Airscale Base Transceiver Station Radio Unit Model AVQQA	Work Order:	NOKI0086
Serial Number:	L1242501908	Date:	2025-07-03
Customer:	Nokia Solutions and Networks	Temperature:	24.2°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54 VDC	Configuration:	NOKI0086-3

COMMENTS

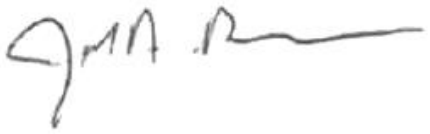
All losses in the measurement path were accounted for in the spectrum analyzer reference level offset; attenuators, filters, cables, and DC blocks.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

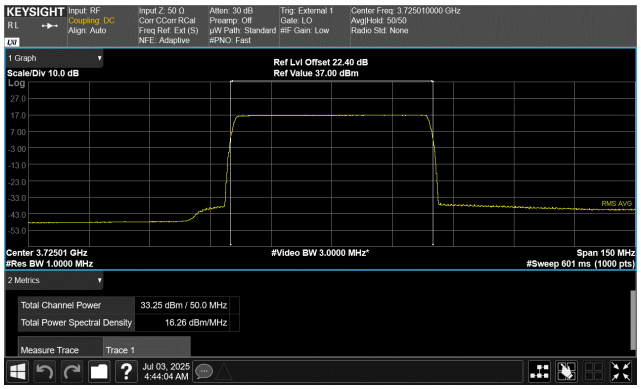


Tested By

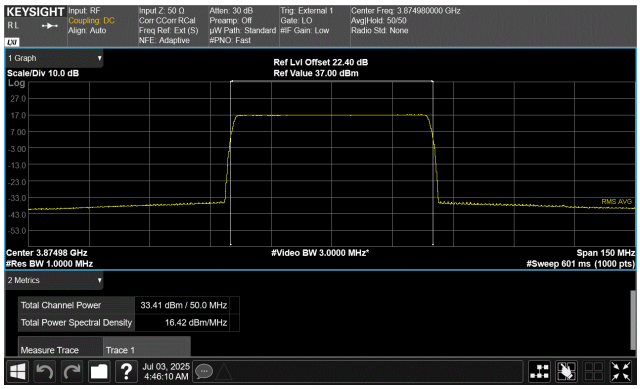
TEST RESULTS

	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
Port 1				
Test Case A				
NR50, 3725.01 MHz	33.247	0	33.2	51.3
NR50, 3874.98 MHz	33.414	0	33.4	51.5
Test Case B				
NR50, 3805.02 MHz	33.535	0	33.5	51.6
NR50, 3954.99 MHz	32.971	0	33	51.1
Test Case C				
NR50, 3725.01 MHz	33.346	0	33.3	51.4
NR50, 3774.99 MHz	33.301	0	33.3	51.4
Test Case D				
NR50, 3905.01 MHz	33.243	0	33.2	51.3
NR50, 3954.99 MHz	33.045	0	33	51.1
Test Case E				
NR100, 3750.00 MHz	33.168	0	33.2	51.3
NR100, 3849.99 MHz	33.5	0	33.5	51.6
Test Case F				
NR100, 3830.01 MHz	33.719	0	33.7	51.8
NR100, 3930.00 MHz	32.861	0	32.9	51.0

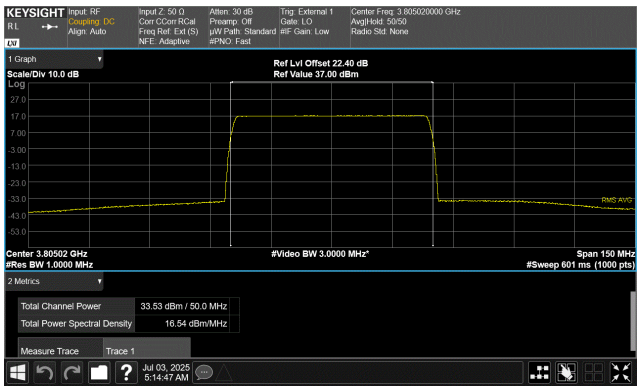
OUTPUT POWER - MULTICARRIER, 3700 BAND



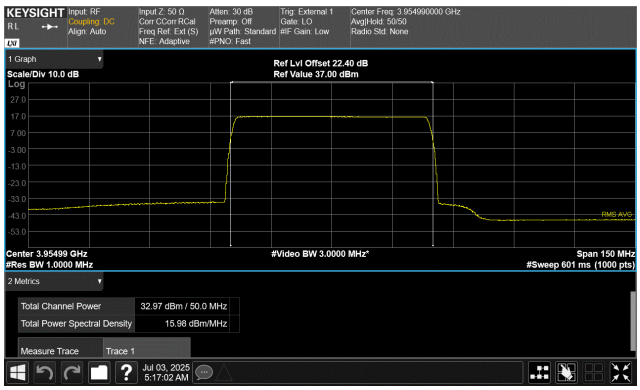
Port 1
Test Case A
NR50, 3725.01 MHz



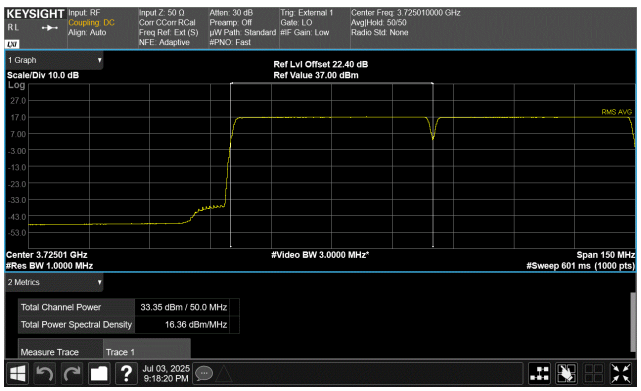
Port 1
Test Case A
NR50, 3874.98 MHz



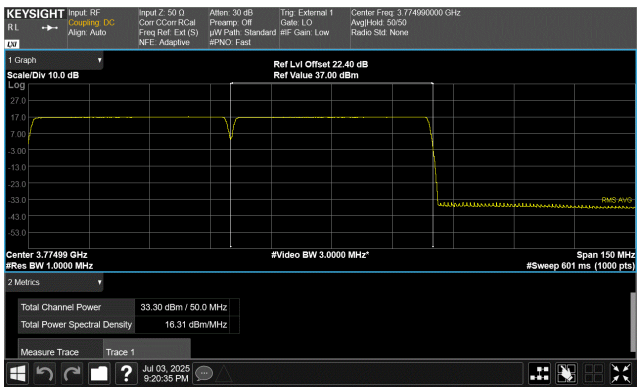
Port 1
Test Case B
NR50, 3805.02 MHz



Port 1
Test Case B
NR50, 3954.99 MHz

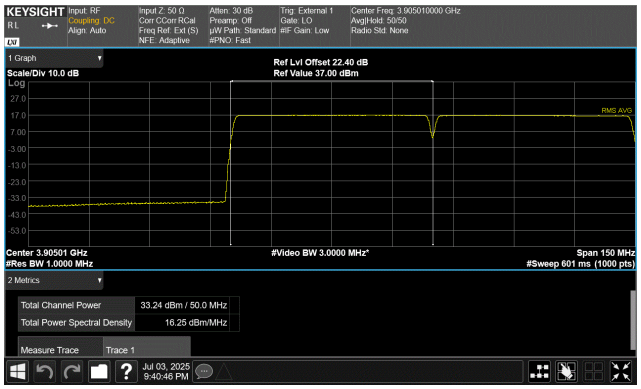


Port 1
Test Case C
NR50, 3725.01 MHz

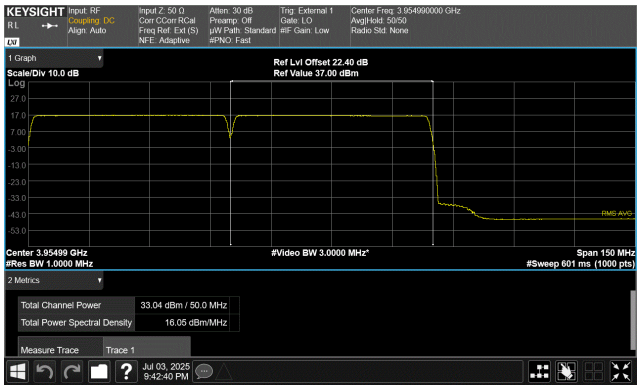


Port 1
Test Case C
NR50, 3774.99 MHz

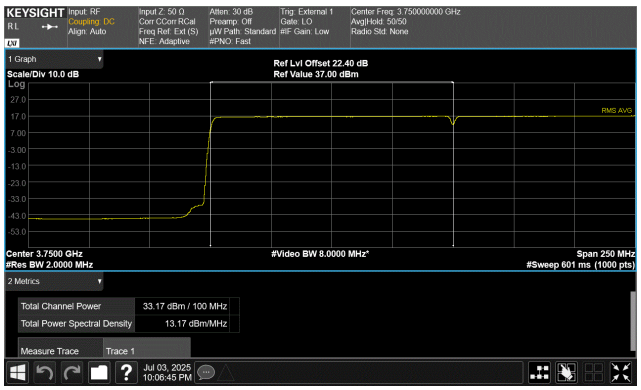
OUTPUT POWER - MULTICARRIER, 3700 BAND



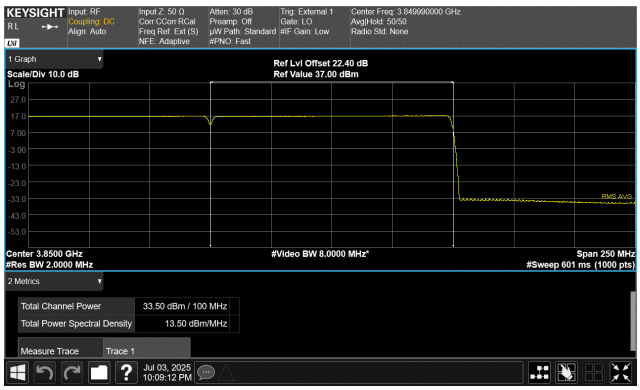
Port 1
Test Case D
NR50, 3905.01 MHz



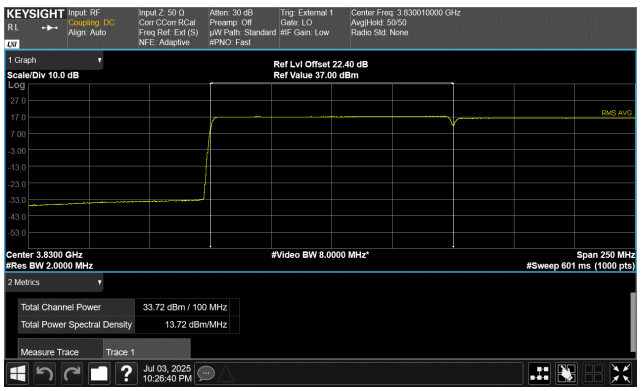
Port 1
Test Case D
NR50, 3954.99 MHz



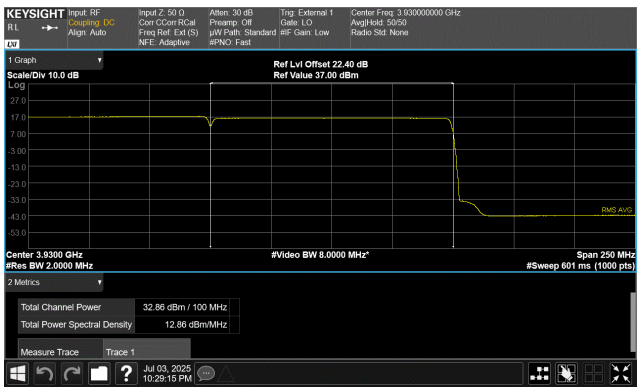
Port 1
Test Case E
NR100, 3750.00 MHz



Port 1
Test Case E
NR100, 3849.99 MHz



Port 1
Test Case F
NR100, 3830.01 MHz



Port 1
Test Case F
NR100, 3930.00 MHz

OUTPUT POWER - MULTIBAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

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 fundamental emission Output Power (maximum average conducted output 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.

RF conducted emissions testing was performed only on one port. The AVQQA antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The transmitter RF output power requirements are defined in FCC 2.1046 and FCC Part 27.50(j),(k). The RF output power - average power measurement method for FCC is detailed in section 5.2 of KDB 971168 D01v03r01 and in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

All Measurements were synchronized with the measurement receiver - gated with external trigger input (frame clock (100Hz) provided by the system module. Duty cycle correction is not needed for this testing since the transmit “on” time is synchronized with the measurement receiver.

Multi band/Multi carrier operating mode - carriers were enabled at maximum power levels. All measured power values are expected within tolerance (i.e.: Rated Power ±2.0 dB).

The output power was measured for a single carrier over the carrier channel bandwidth. The total output power for multiport (64x64 MIMO) operations was determined based per ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log N_{out}). The total output power for Sixty-Four port operation is single power +18.1 dB [i.e. 10*log(64)].

Multicarrier test cases have been developed as shown below:

a) Multiband Multicarrier: In 3.7GHz Band, Two contiguous NR10 carriers with minimum spacing between carrier frequencies at the lower band edge (3705.00 & 3715.02MHz). In 3.45GMHz band. Two contiguous NR10 carriers with minimum spacing between carrier frequencies at the upper band edge (3534.99 & 3544.98MHz). The smallest channel bandwidth is selected to maximized available power spectral density. The carriers are operated at maximum power (~0.78W/carrier) with a total radio power of 200 watts.

b) Multiband Multicarrier: In 3.7GHz Band, Two contiguous NR10 carriers with minimum spacing between carrier frequencies at the upper band edge (3964.98 & 3975.00MHz). In 3.45GHz band. Two contiguous NR10 carriers with minimum spacing between carrier frequencies at the lower band edge (3455.01 & 3465.00MHz). The smallest channel bandwidth is selected to maximized available power spectral density. The carriers are operated at maximum power (~0.78W/carrier) with a total radio power of 200 watts.

c) Multiband Multicarrier: In 3.7GHz Band, Two non-contiguous NR10 carriers with maximum spacing between carrier frequencies at the lower band edge (3705.00 & 3894.99MHz). In 3.45GHz band. Two non-contiguous NR10 carriers with maximum spacing between carrier frequencies at the lower/upper band edge (3455.01 & 3544.98MHz). The smallest channel bandwidth is selected to maximized available power spectral density and

occupied bandwidth. The carriers are operated at maximum power (~0.78W/carrier) with a total radio power of 200 watts.

d) Multiband Multicarrier: In 3.7GHz Band, Two non-contiguous NR10 carriers with maximum spacing between carrier frequencies at the Upper band edge (3784.98 & 3975.00MHz). In 3.45GHz band. Two non-contiguous NR10 carriers with maximum spacing between carrier frequencies at the lower/upper band edge (3455.01 & 3544.98MHz). The smallest channel bandwidth is selected to maximized available power spectral density and occupied bandwidth. The carriers are operated at maximum power (~0.78W/carrier) with a total radio power of 200 watts.

e) Multiband Multicarrier: In 3.7GHz Band, Two non-contiguous NR50 carriers with maximum spacing between carrier frequencies at the lower band edge (3725.01 & 3874.98MHz). In 3450 3.45GHz band. Two contiguous NR50 carriers at the lower/upper band edges (3475.02 & 3525.00MHz). The channel bandwidth is selected to maximized available power spectral density and occupied bandwidth. The carriers are operated at maximum power (~1.32W/NR50 carrier) with a total radio power of ~340 watts.

f) Multiband Multicarrier: In 3.7GHz Band, Two non-contiguous NR50 carriers with maximum spacing between carrier frequencies at the Upper band edge (3805.02 & 3954.99MHz). In 3.45GMHz band. Two contiguous NR50 carriers at the lower/upper band edges (3475.02 & 3525.00MHz). The channel bandwidth is selected to maximized available power spectral density and occupied bandwidth. The carriers are operated at maximum power (~1.32W/NR50 carrier) with a total radio power of ~340 watts.

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.

OUTPUT POWER - MULTIBAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

EUT:	Airscale Base Transceiver Station Radio Unit Model AVQQA	Work Order:	NOKI0086
Serial Number:	L1242501908	Date:	2025-07-14
Customer:	Nokia Solutions and Networks	Temperature:	26.4°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	44.7%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Jarrod Brenden	Job Site:	PT14
Power:	54 VDC	Configuration:	NOKI0086-3

COMMENTS

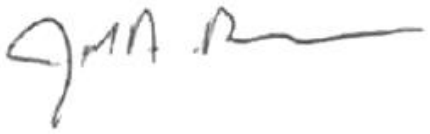
All losses in the measurement path were accounted for in the spectrum analyzer reference level offset; attenuators, filters, cables, and DC blocks.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass



Tested By

TEST RESULTS

	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
Port 1				
Test Case A				
NR10, 3705.00 MHz	28.151	0	28.2	46.3
NR10, 3715.02 MHz	28.28	0	28.3	46.4
NR10, 3534.99 MHz	28.117	0	28.1	46.2
NR10, 3544.98 MHz	27.715	0	27.7	45.8
Test Case B				
NR10, 3964.98 MHz	27.741	0	27.7	45.8
NR10, 3975.00 MHz	27.743	0	27.7	45.8
NR10, 3455.01 MHz	27.808	0	27.8	45.9
NR10, 3465.00 MHz	28.235	0	28.2	46.3
Test Case C				
NR10, 3705.00 MHz	27.918	0	27.9	46.0
NR10, 3894.99 MHz	27.916	0	27.9	46.0
NR10, 3455.01 MHz	27.743	0	27.7	45.8
NR10, 3544.98 MHz	27.621	0	27.6	45.7
Test Case D				
NR10, 3784.98 MHz	28.152	0	28.2	46.3
NR10, 3975.00 MHz	27.59	0	27.6	45.7
NR10, 3455.01 MHz	27.69	0	27.7	45.8
NR10, 3544.98 MHz	27.542	0	27.5	45.6

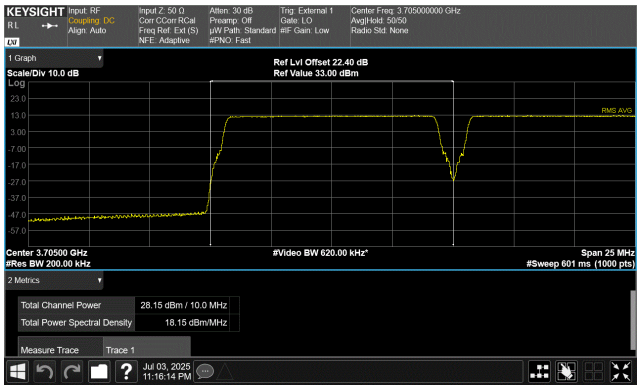
OUTPUT POWER - MULTIBAND

element
TbtTx 2025.05.09.1
WTD.2025.03.25.0

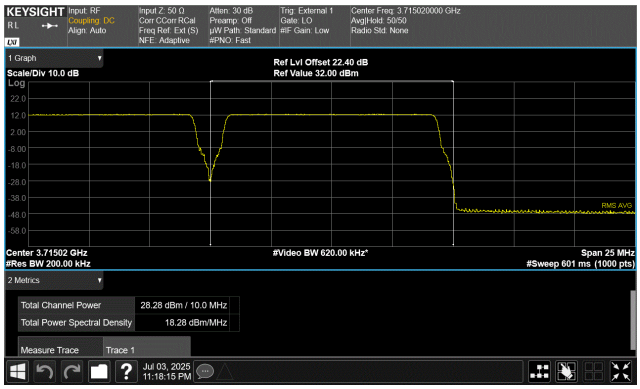
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty-four Port (64x64 MIMO) dBm/carrier BW
Test Case E				
NR50, 3725.01 MHz	30.357	0	30.4	48.5
NR50, 3874.98 MHz	30.317	0	30.3	48.4
NR50, 3475.02 MHz	30.405	0	30.4	48.5
NR50, 3525.00 MHz	30.268	0	30.3	48.4
Test Case F				
NR50, 3805.02 MHz	30.081	0	30.1	48.2
NR50, 3954.99 MHz	29.553	0	29.6	47.7
NR50, 3475.02 MHz	29.942	0	29.9	48.0
NR50, 3525.00 MHz	29.83	0	29.8	47.9

OUTPUT POWER - MULTIBAND

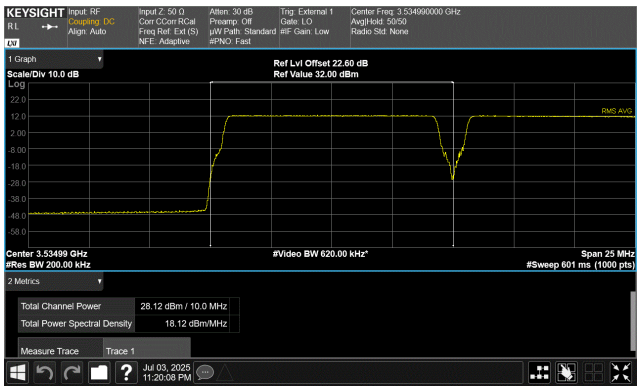
element
TbtTx 2025.05.09.1
WTD.2025.03.25.0



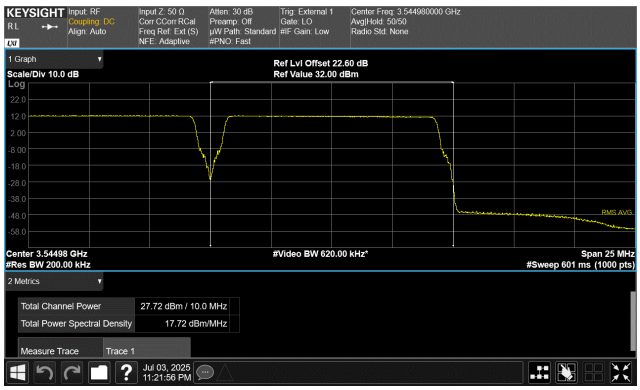
Port 1
Test Case A
NR10, 3705.00 MHz



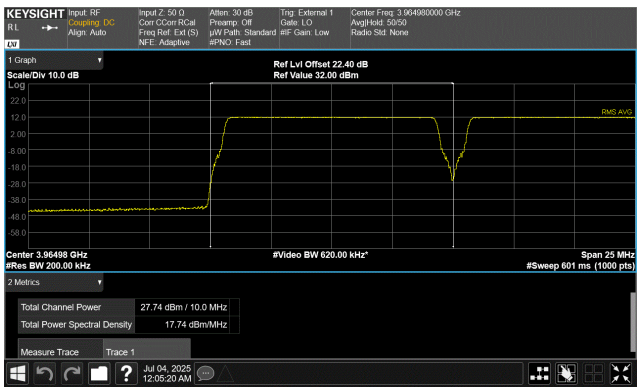
Port 1
Test Case A
NR10, 3715.02 MHz



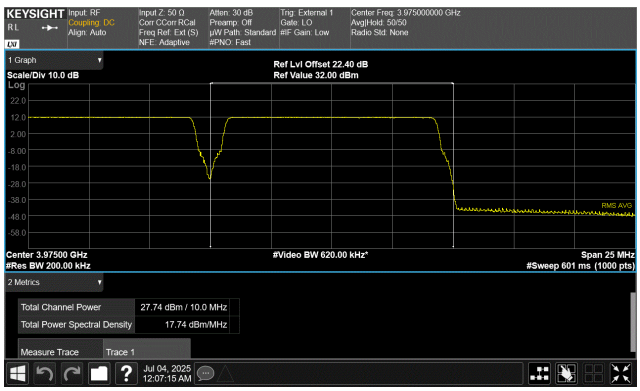
Port 1
Test Case A
NR10, 3534.99 MHz



Port 1
Test Case A
NR10, 3544.98 MHz



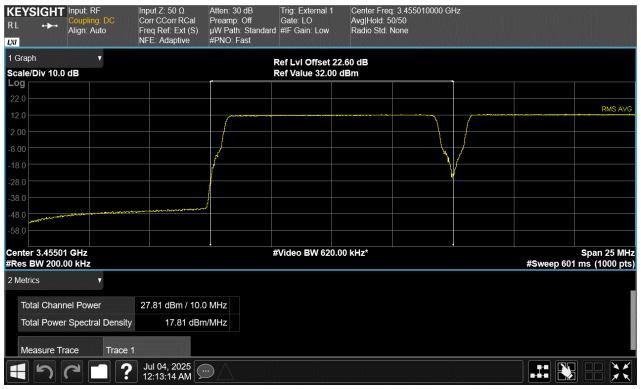
Port 1
Test Case B
NR10, 3964.98 MHz



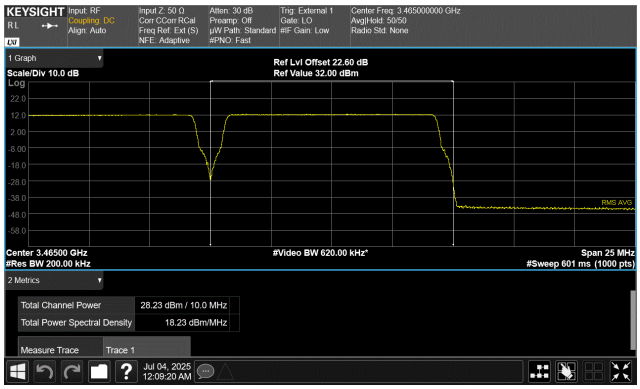
Port 1
Test Case B
NR10, 3975.00 MHz

OUTPUT POWER - MULTIBAND

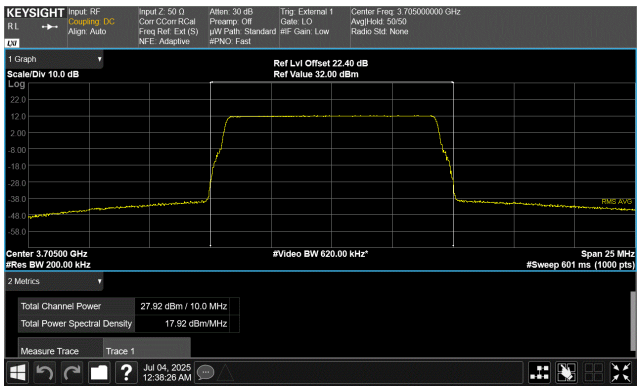
element
TbtTx 2025.05.09.1
WTD.2025.03.25.0



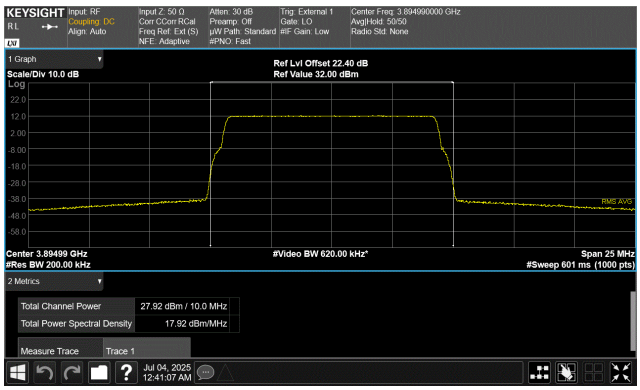
Port 1
Test Case B
NR10, 3455.01 MHz



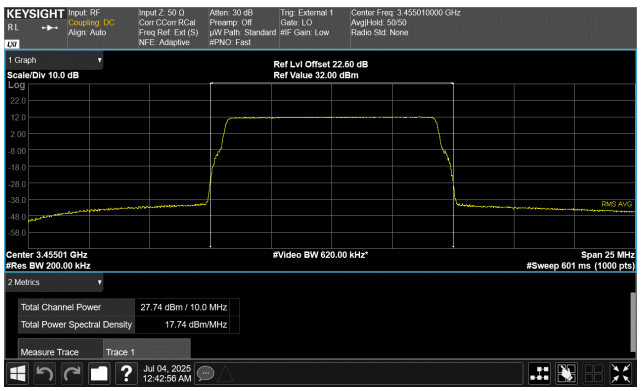
Port 1
Test Case B
NR10, 3465.00 MHz



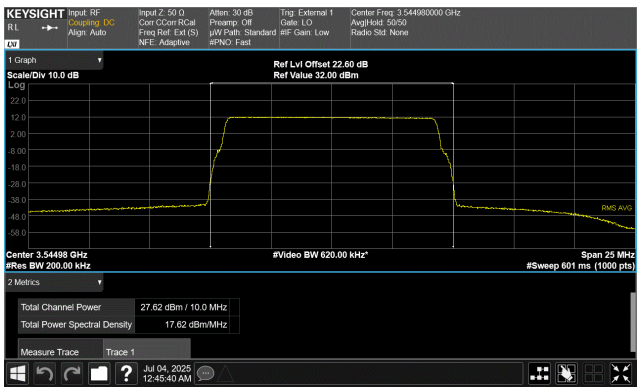
Port 1
Test Case C
NR10, 3705.00 MHz



Port 1
Test Case C
NR10, 3894.99 MHz



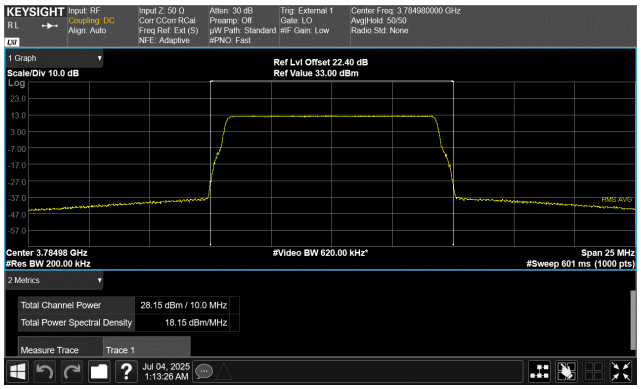
Port 1
Test Case C
NR10, 3455.01 MHz



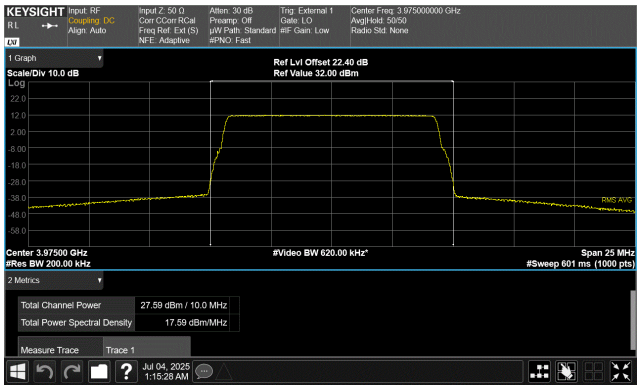
Port 1
Test Case C
NR10, 3544.98 MHz

OUTPUT POWER - MULTIBAND

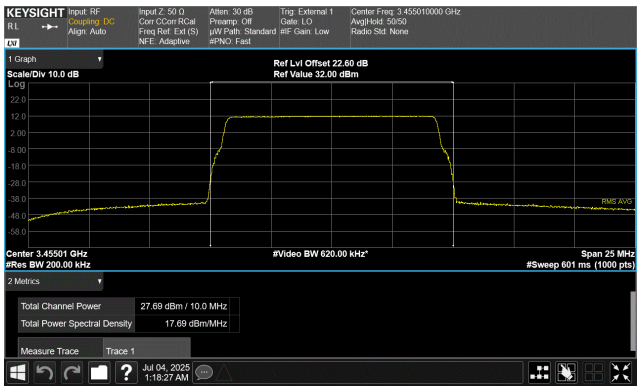
element
TbtTx 2025.05.09.1
WTD.2025.03.25.0



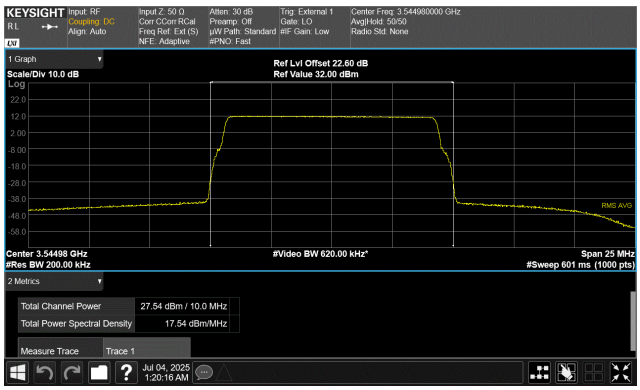
Port 1
Test Case D
NR10, 3784.98 MHz



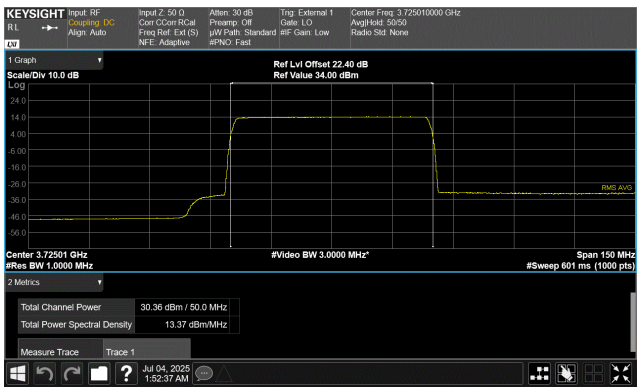
Port 1
Test Case D
NR10, 3975.00 MHz



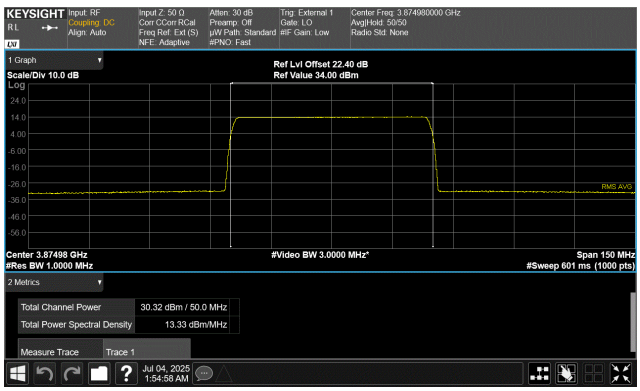
Port 1
Test Case D
NR10, 3455.01 MHz



Port 1
Test Case D
NR10, 3544.98 MHz



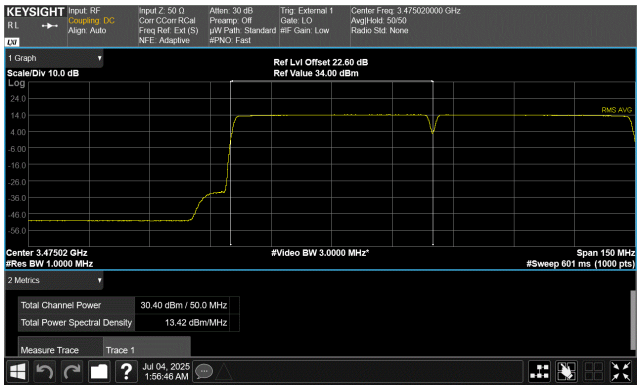
Port 1
Test Case E
NR50, 3725.01 MHz



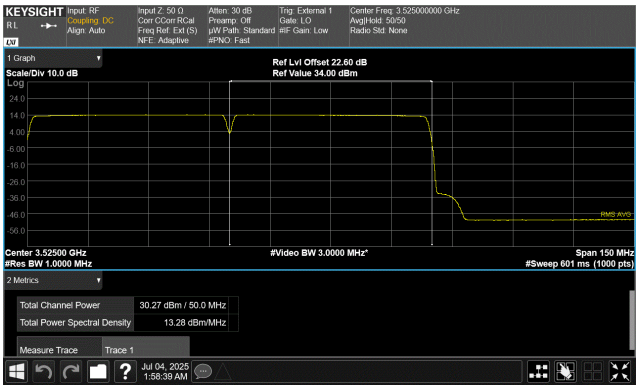
Port 1
Test Case E
NR50, 3874.98 MHz

OUTPUT POWER - MULTIBAND

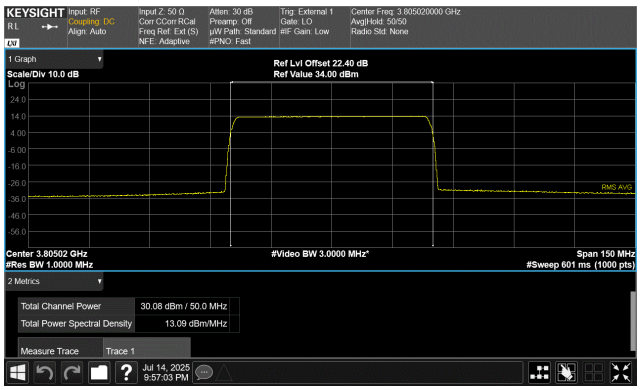
element
TbtTx 2025.05.09.1
WTD.2025.03.25.0



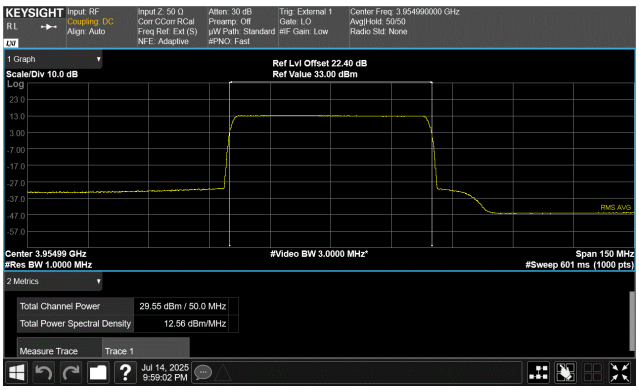
Port 1
Test Case E
NR50, 3475.02 MHz



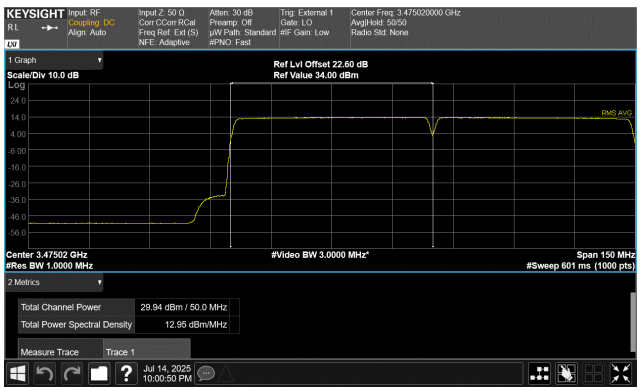
Port 1
Test Case E
NR50, 3525.00 MHz



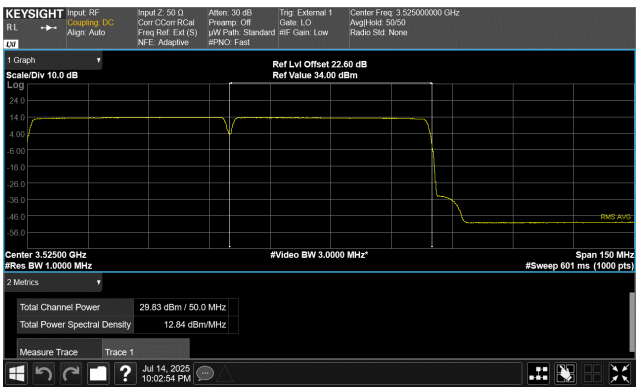
Port 1
Test Case F
NR50, 3805.02 MHz



Port 1
Test Case F
NR50, 3954.99 MHz



Port 1
Test Case F
NR50, 3475.02 MHz



Port 1
Test Case F
NR50, 3525.00 MHz