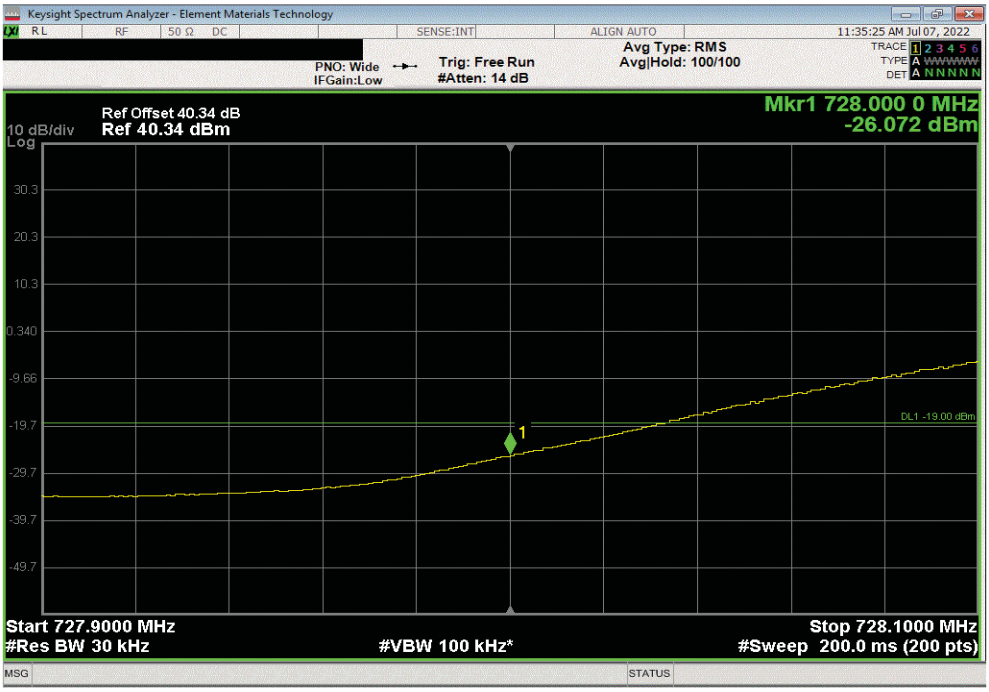
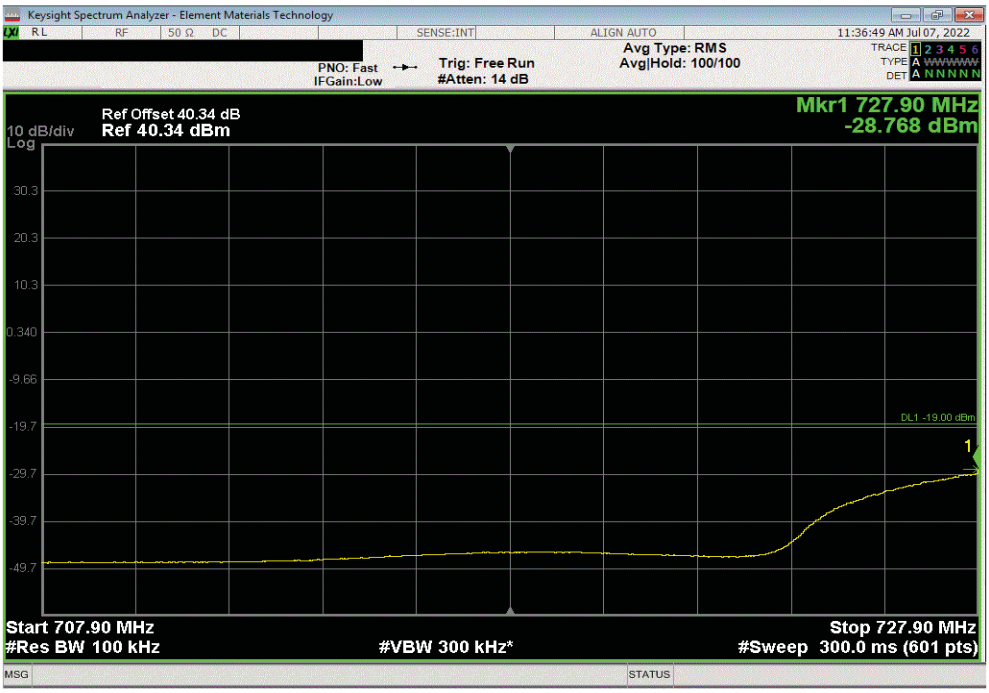
BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

TbtTx 2022.05.02.0 XMit 2022.02.07.0

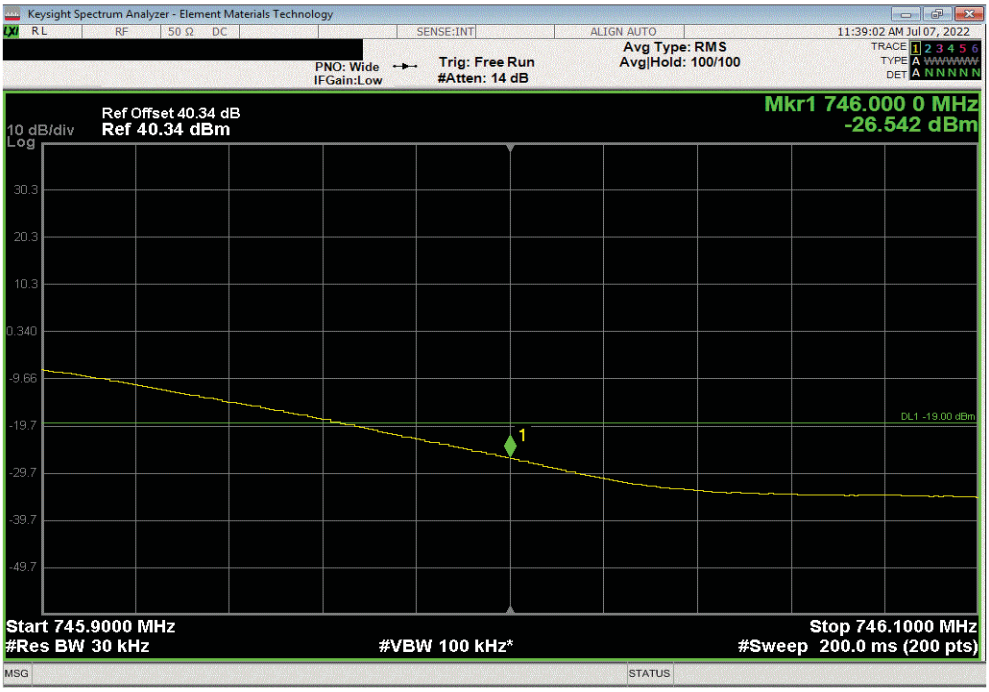
LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 3, LTE5 Carrier 1, 730.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	1		728	-26.07	-19	Pass



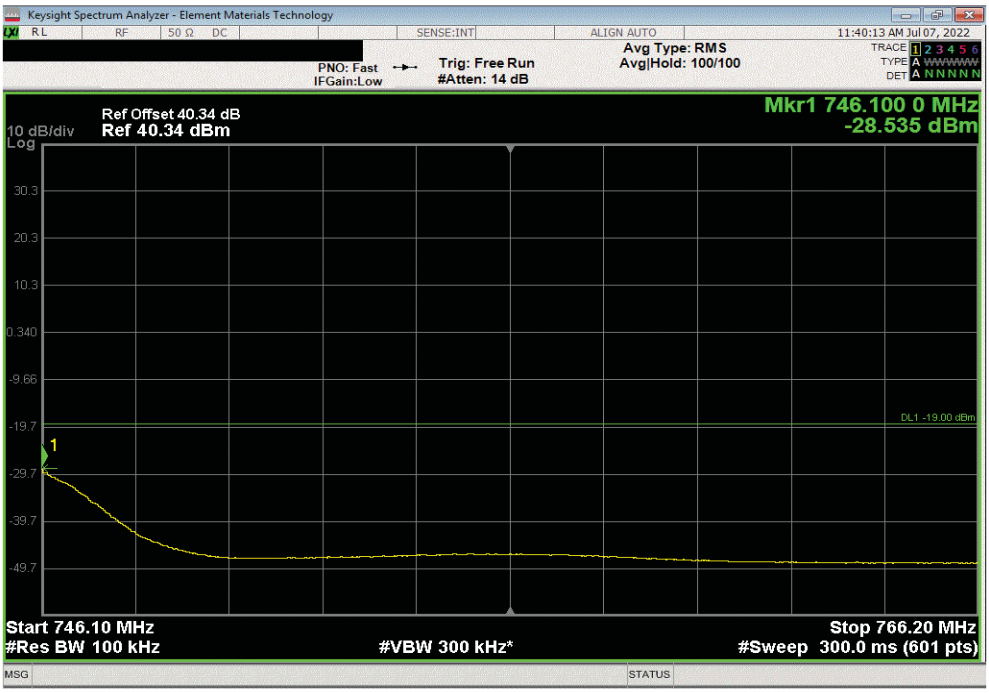
LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 3, LTE5 Carrier 1, 730.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	2		727.9	-28.77	-19	Pass



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 3, LTE5 Carrier 2, 743.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	1		746	-26.54	-19	Pass



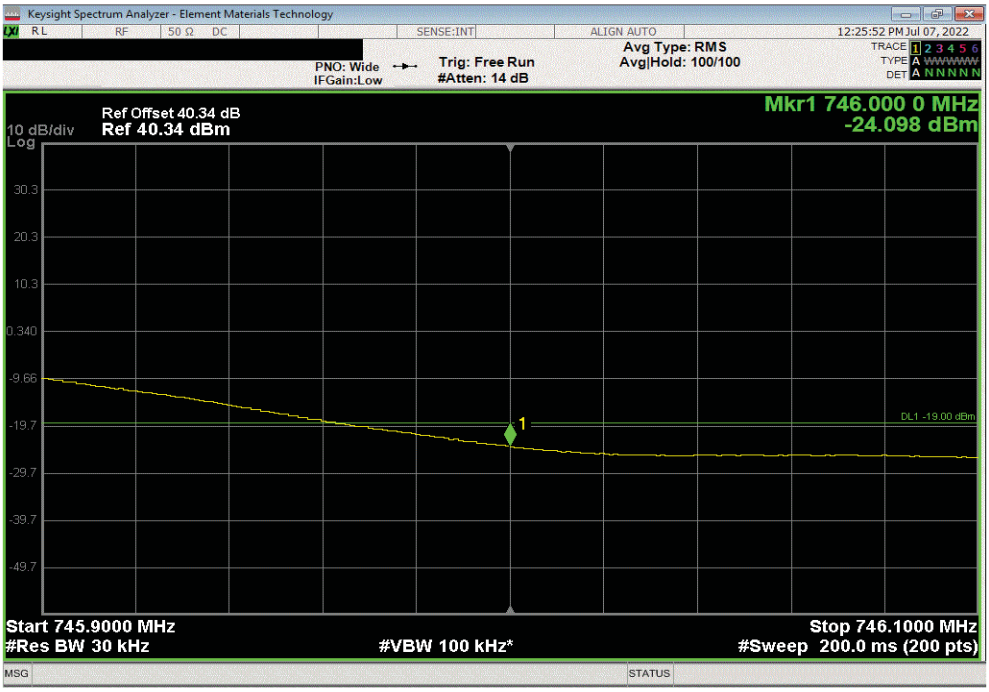
LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 3, LTE5 Carrier 2, 743.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	2		746.1	-28.54	-19	Pass



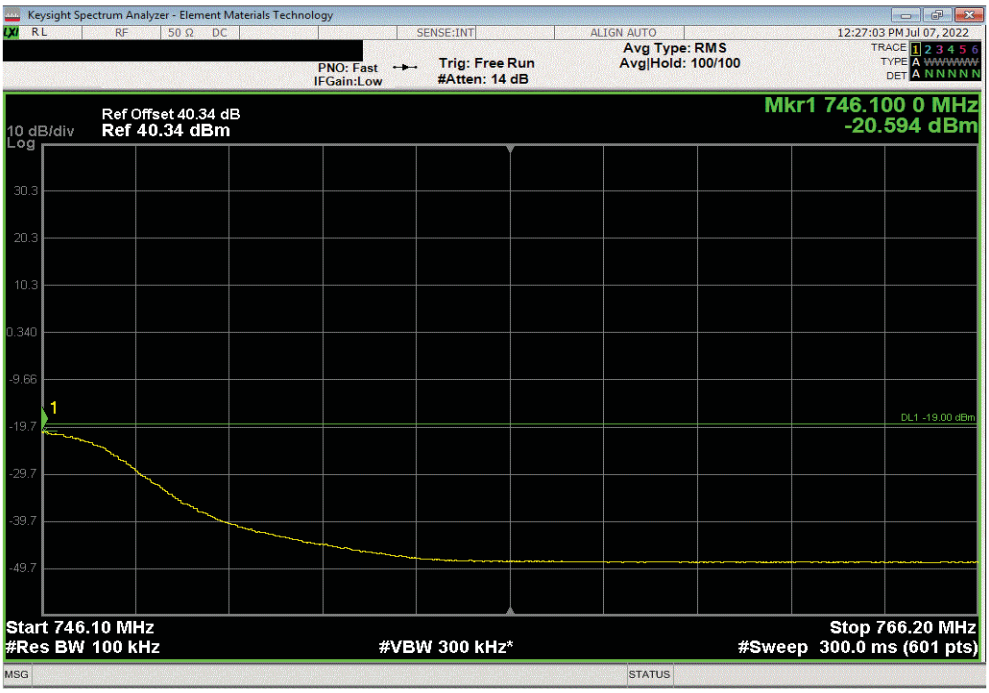
BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

TbtTx 2022.05.02.0 XMit 2022.02.07.0

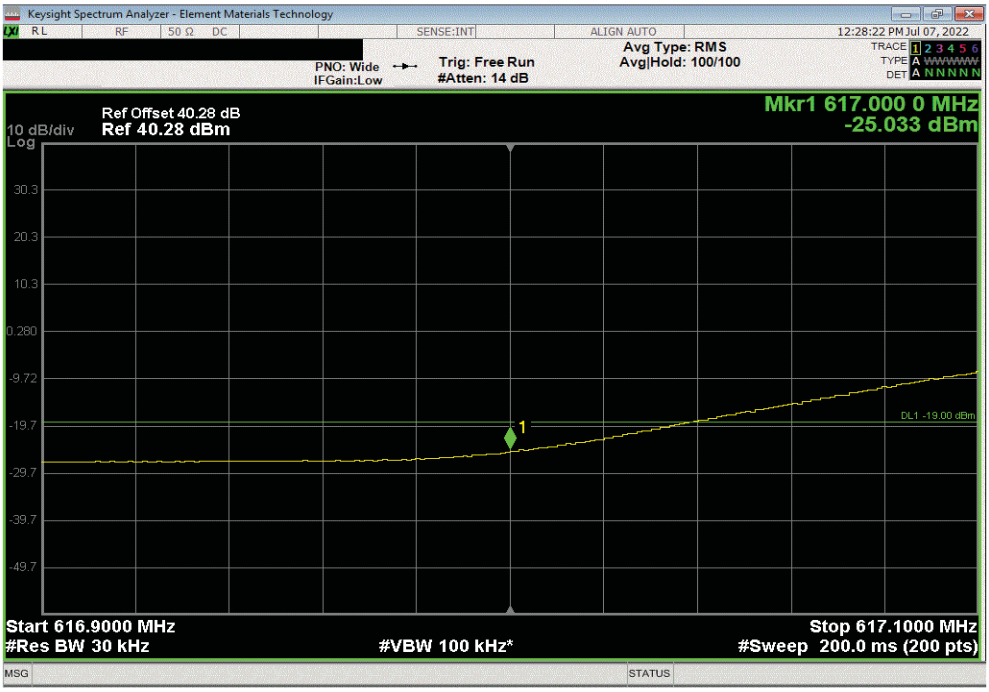
LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 4, LTE5 n85 Carrier 1, 743.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	1		746	-24.1	-19	Pass



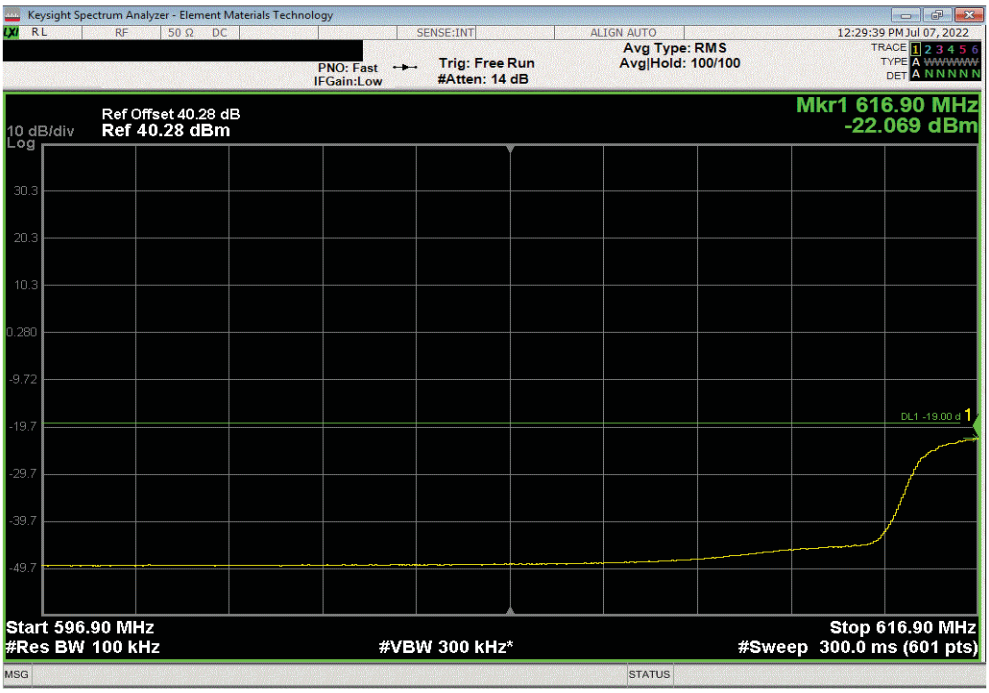
LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 4, LTE5 n85 Carrier 1, 743.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	2		746.1	-20.59	-19	Pass



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 4, LTE5 n71 Carrier 1, 619.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	1		617	-25.03	-19	Pass



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 4, LTE5 n71 Carrier 1, 619.5 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	2		616.9	-22.07	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - Band 71 LTE

XMit 2022.02.07.0

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANE	2022-03-02	2023-03-02
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 3 different attenuation configurations which continues through to the RF input of the spectrum analyzer. Analyzer plots utilizing a resolution bandwidth called out by the client's test plan were made for each modulation type from 9 KHz to 8 GHz. The conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than the limits also called out by the client's test plan shown below.

The measurement methods are detailed in KDB 971168 D01v03 section 6 and ANSI C63.26-2015.

Per FCC 2.1057(a)(1) and RSS Gen 6.13, the upper level of measurement is the 10th harmonic of the highest fundamental frequency.

These measurements are for the frequency band after the first 100 kHz bands immediately outside and adjacent to the frequency block.

RF conducted emissions testing was performed only on one port. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in output power testing) and antenna port 2 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.

Per section 27.53(g) and RSS 130 4.7, the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm. The limit is adjusted to -19 dBm [-13 dBm -10 log (4)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

The limit for the 9kHz to 150kHz frequency range was adjusted to –39dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 100kHz [i.e.: -39dBm = -19dBm -10log(100kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to –29dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 100kHz [i.e.: -29dBm = -19dBm -10log(100kHz/10kHz)]. The required limit of -19dBm with a RBW of > 100kHz was used for all other frequency ranges. (See ANSI C63.26-2015 paragraph 5.7.2a for details on the Limit/RBW scaling method)

SPURIOUS CONDUCTED EMISSIONS - Band 71 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AHLOB	Work Order:	NOKI0043
Serial Number:	YK220900029	Date:	11-Jul-22
Customer:	Nokia Solutions and Networks	Temperature:	21.1 °C
Attendees:	Mitchell Hill, John Rattanavong	Humidity:	56.1% RH
Project:	None	Barometric Pres.:	1014 mbar
Tested by:	Marty Martin	Power: 54 VDC	Job Site: TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-130 Issue 2:2019	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. The carriers were enabled at maximum power on the middle channels of the respective bands. The port power is at maximum. The following carrier configurations were tested: B71 LTE5 (40W) + B85 LTE5 (40W), B71 LTE10 (60W) + B85 NB IoT SA (20W), B71 LTE15 (80W), and B71 LTE20 (80W).

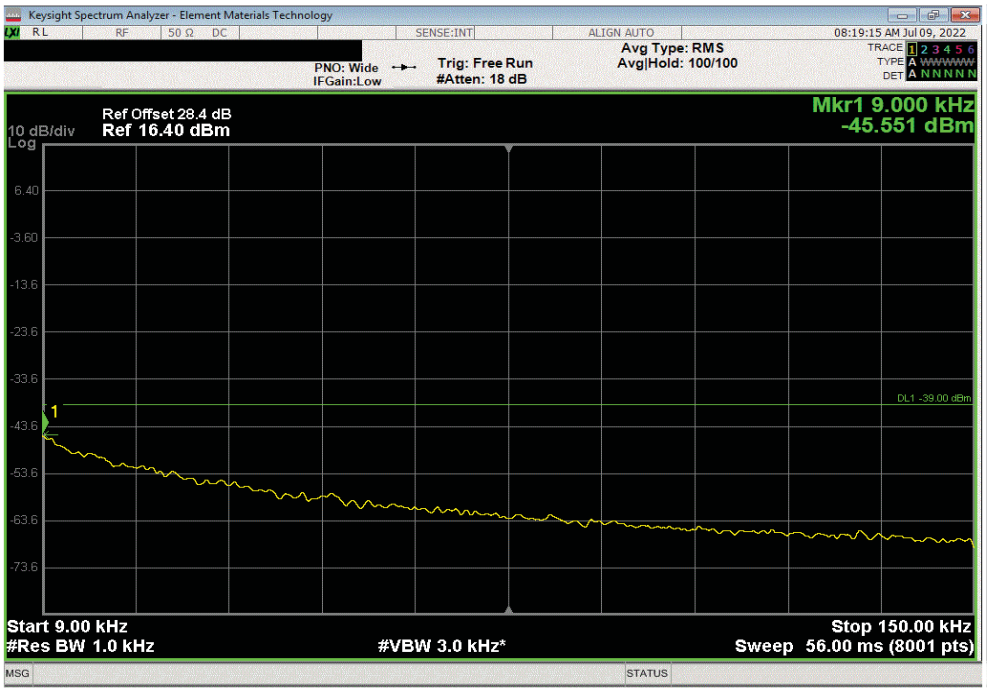
DEVIATIONS FROM TEST STANDARD

None

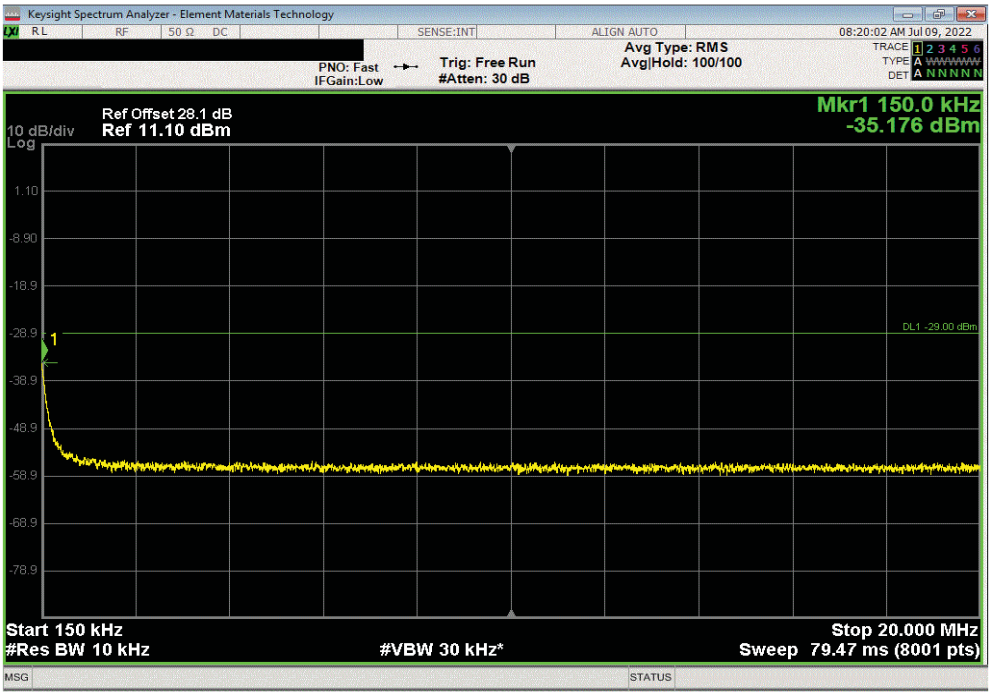
Configuration #	1, 2, 3	Signature

	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
Port 2, LTE, Band 71, 617 MHz - 652 MHz					
5 MHz Bandwidth					
256-QAM Modulation					
Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz	9 kHz - 150 kHz	0.01	-45.551	-39	Pass
Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz	150 kHz - 20 MHz	0.15	-35.176	-29	Pass
Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz	20 MHz - 1.2 GHz	766	-31.93	-19	Pass
Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz	1.2 GHz - 8 GHz	4031.07	-43.27	-19	Pass
10 MHz Bandwidth					
256-QAM Modulation					
Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz	9 kHz - 150 kHz	0.01	-45.436	-39	Pass
Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz	150 kHz - 20 MHz	0.15	-34.772	-29	Pass
Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz	20 MHz - 1.2 GHz	765.76	-32.03	-19	Pass
Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz	1.2 GHz - 8 GHz	4021.55	-43.21	-19	Pass
15 MHz Bandwidth					
QPSK Modulation					
Mid Ch. 634.5 MHz	9 kHz - 150 kHz	0.01	-45.088	-39	Pass
Mid Ch. 634.5 MHz	150 kHz - 20 MHz	0.15	-34.356	-29	Pass
Mid Ch. 634.5 MHz	20 MHz - 1.2 GHz	737.29	-25.43	-19	Pass
Mid Ch. 634.5 MHz	1.2 GHz - 8 GHz	3999.33	-43.15	-19	Pass
16-QAM Modulation					
Mid Ch. 634.5 MHz	9 kHz - 150 kHz	0.01	-45.09	-39	Pass
Mid Ch. 634.5 MHz	150 kHz - 20 MHz	0.15	-34.42	-29	Pass
Mid Ch. 634.5 MHz	20 MHz - 1.2 GHz	737.29	-25.09	-19	Pass
Mid Ch. 634.5 MHz	1.2 GHz - 8 GHz	4012.48	-43	-19	Pass
64-QAM Modulation					
Mid Ch. 634.5 MHz	9 kHz - 150 kHz	0.01	-45.823	-39	Pass
Mid Ch. 634.5 MHz	150 kHz - 20 MHz	0.15	-34.126	-29	Pass
Mid Ch. 634.5 MHz	20 MHz - 1.2 GHz	737.29	-26	-19	Pass
Mid Ch. 634.5 MHz	1.2 GHz - 8 GHz	4017.92	-43.05	-19	Pass
256-QAM Modulation					
Mid Ch. 634.5 MHz	9 kHz - 150 kHz	0.01	-45.258	-39	Pass
Mid Ch. 634.5 MHz	150 kHz - 20 MHz	0.16	-34.671	-29	Pass
Mid Ch. 634.5 MHz	20 MHz - 1.2 GHz	737.29	-25.38	-19	Pass
Mid Ch. 634.5 MHz	1.2 GHz - 8 GHz	4010.21	-43.12	-19	Pass
20 MHz Bandwidth					
256-QAM Modulation					
Mid Ch. 634.5 MHz	9 kHz - 150 kHz	0.01	-45.711	-39	Pass
Mid Ch. 634.5 MHz	150 kHz - 20 MHz	0.15	-35.676	-29	Pass
Mid Ch. 634.5 MHz	20 MHz - 1.2 GHz	737.25	-25.99	-19	Pass
Mid Ch. 634.5 MHz	1.2 GHz - 8 GHz	4028.35	-43.02	-19	Pass

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz					
	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
	9 kHz - 150 kHz	0.01	-45.551	-39	Pass



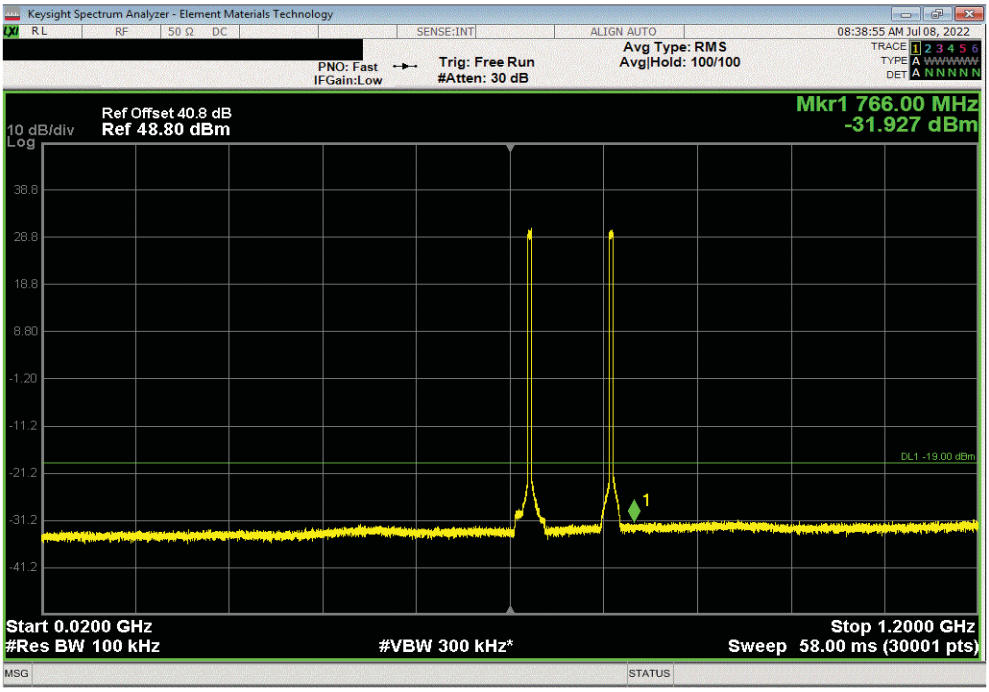
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.15	-35.176	-29	Pass



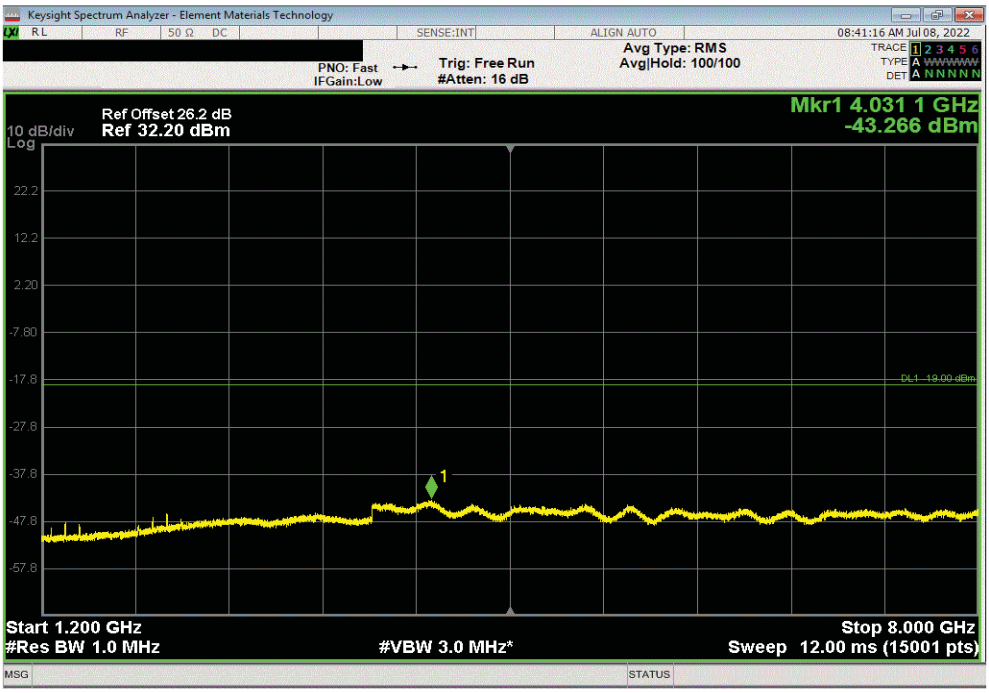
SPURIOUS CONDUCTED EMISSIONS - Band 71 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

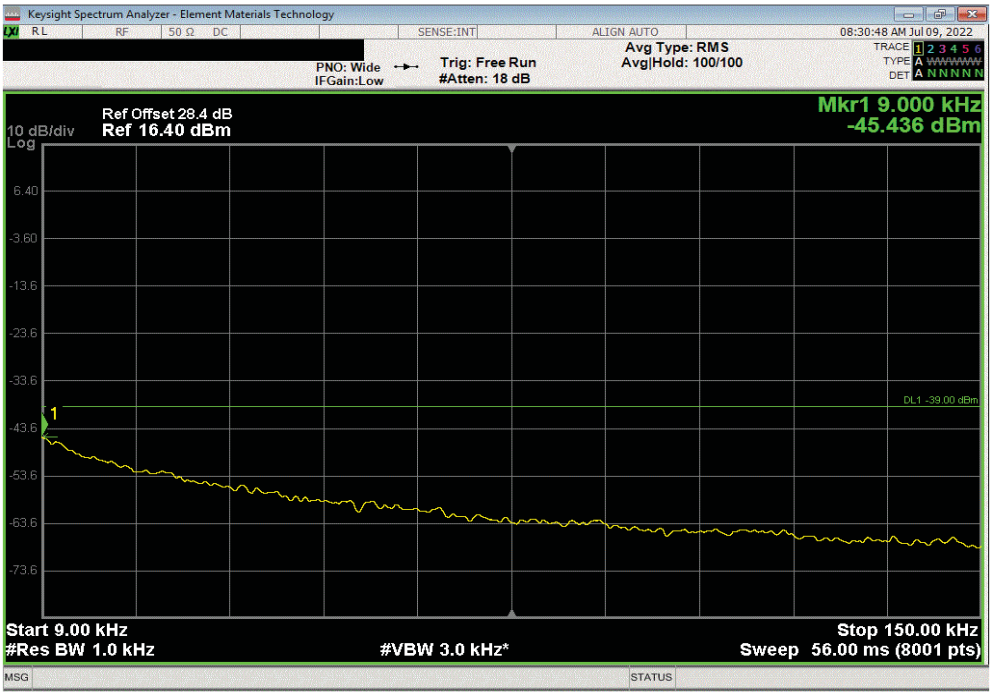
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	766	-31.93	-19	Pass



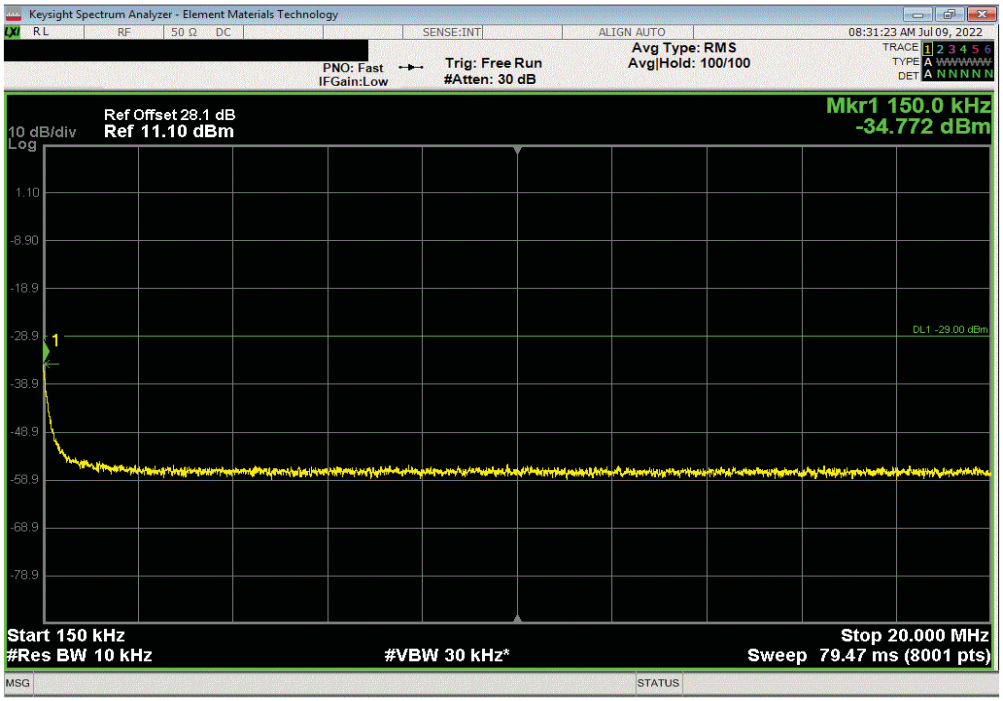
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE5 634.5MHz + B85 LTE5 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	4031.07	-43.27	-19	Pass



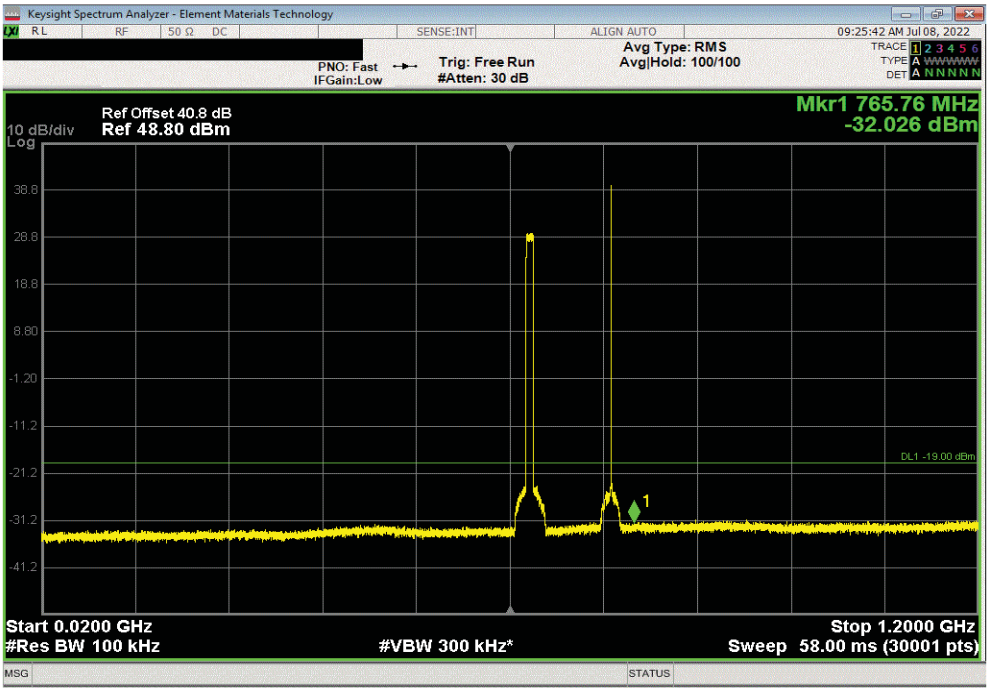
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.436	-39	Pass	



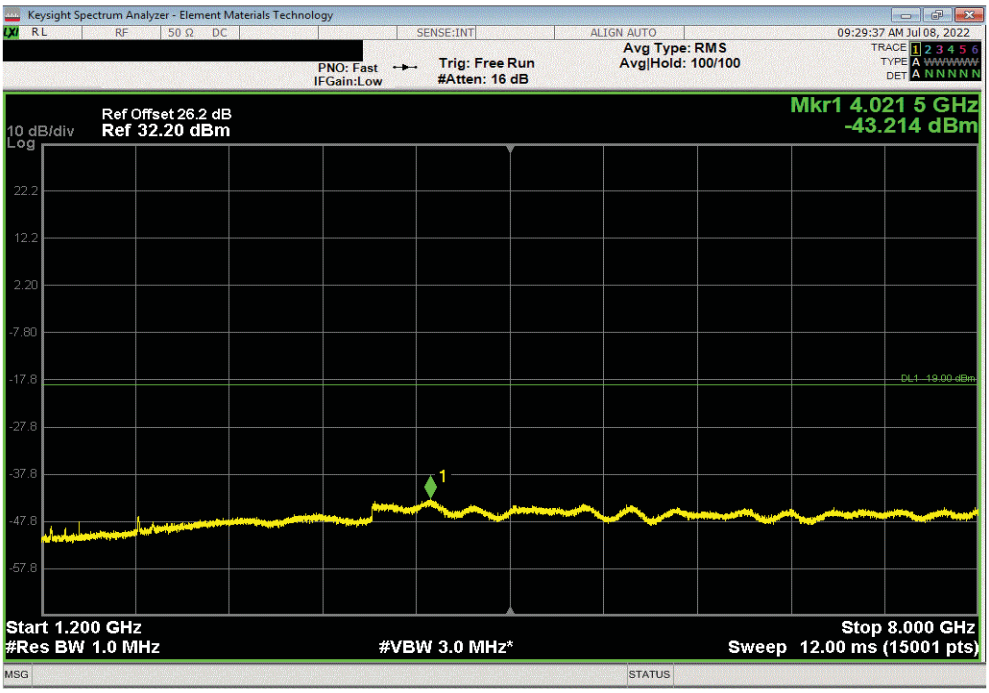
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.15	-34.772	-29	Pass



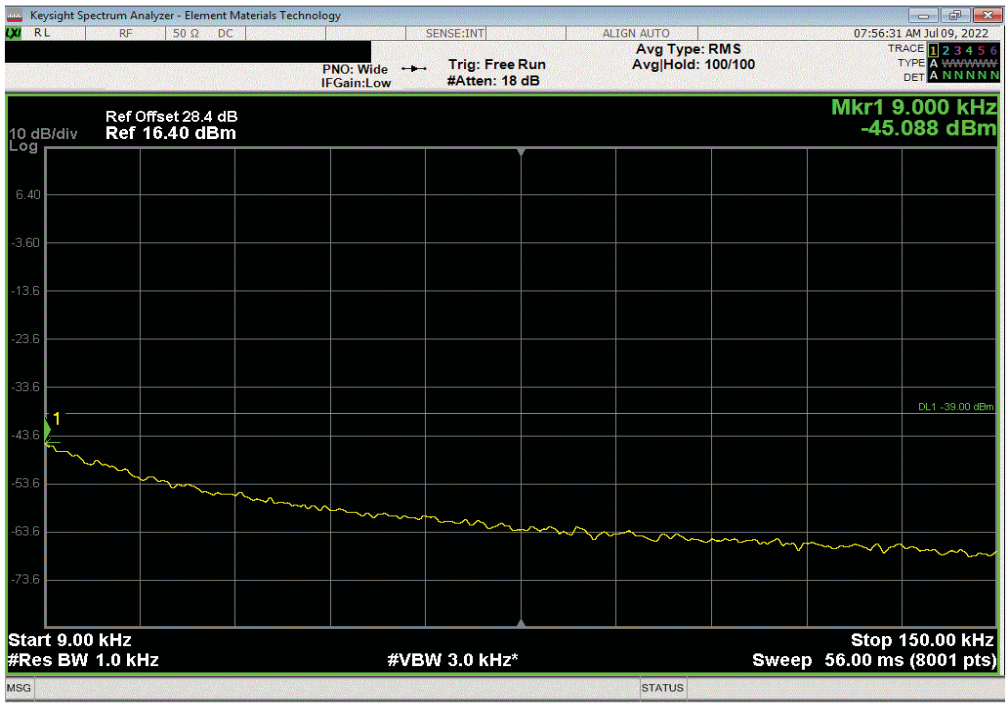
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	765.76	-32.03	-19	Pass



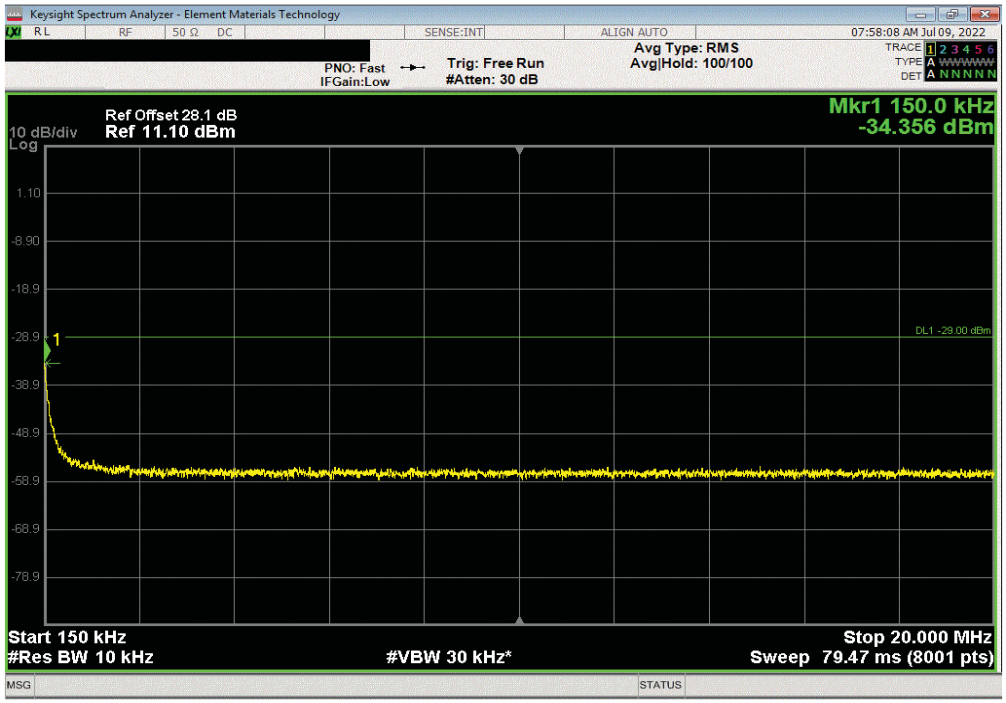
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B71 LTE10 634.5 MHz + B85 NB IoT SA 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	4021.55	-43.21	-19	Pass



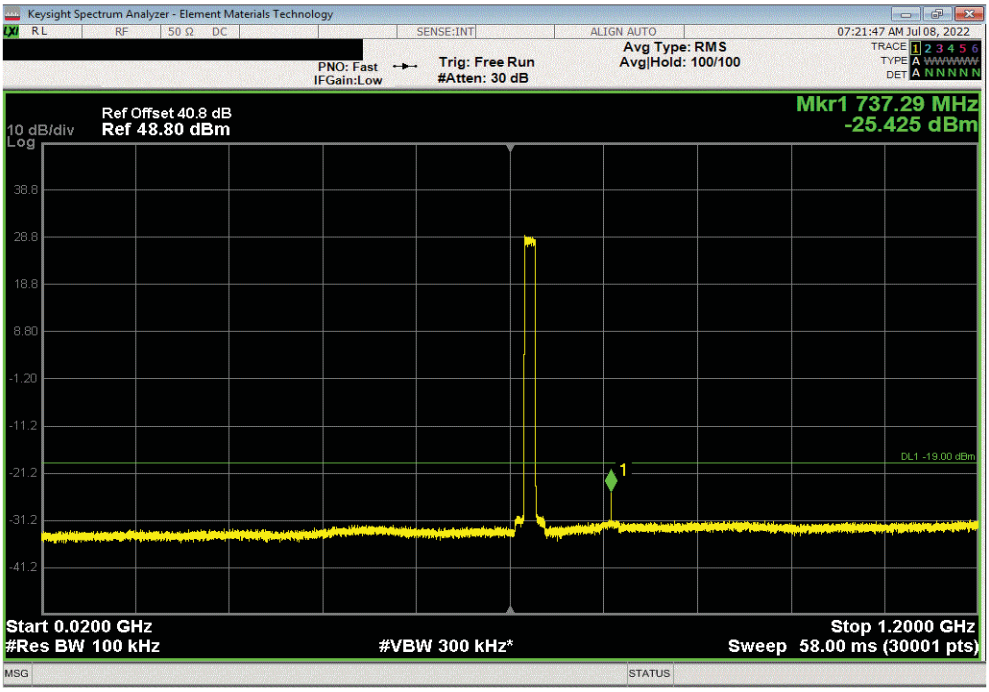
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 634.5 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
	9 kHz - 150 kHz	0.01	-45.088	-39	Pass



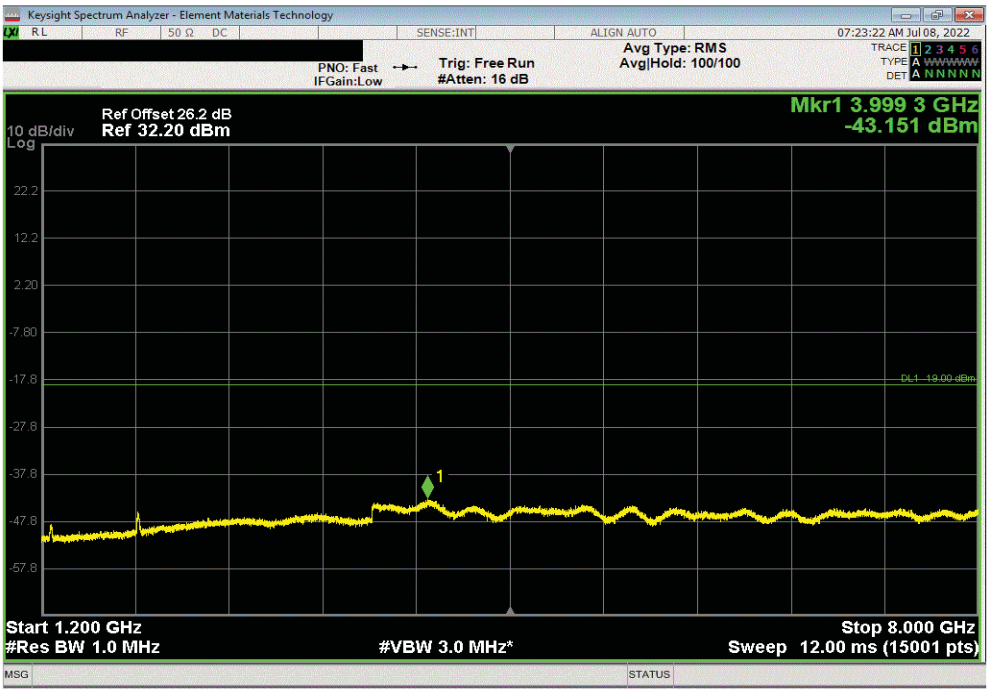
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.15	-34.356	-29	Pass



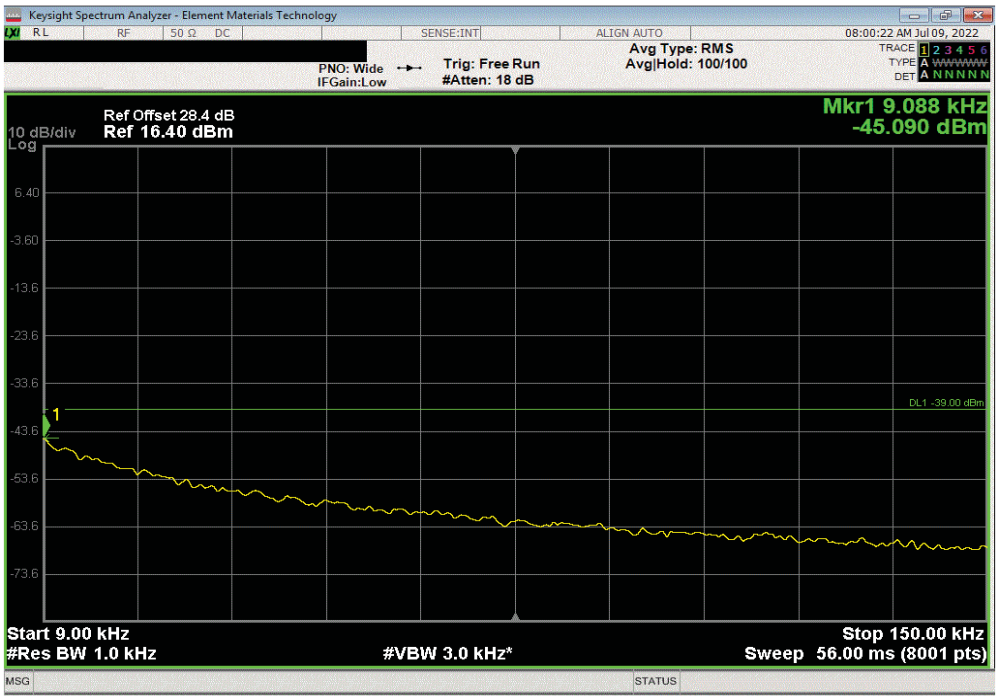
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	737.29	-25.43	-19	Pass



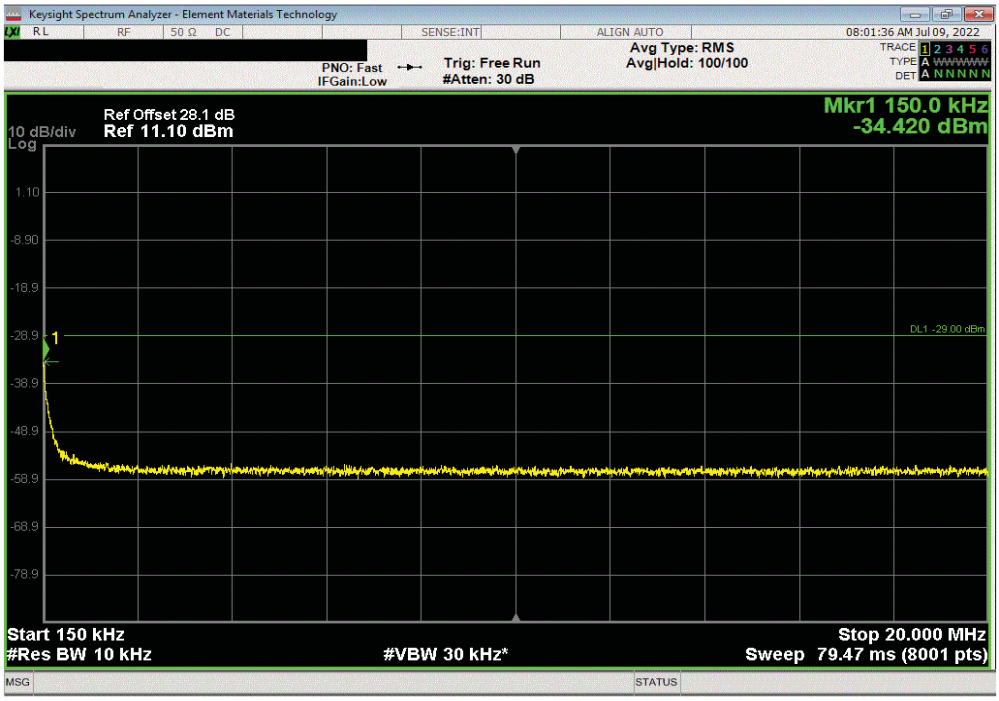
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	3999.33	-43.15	-19	Pass



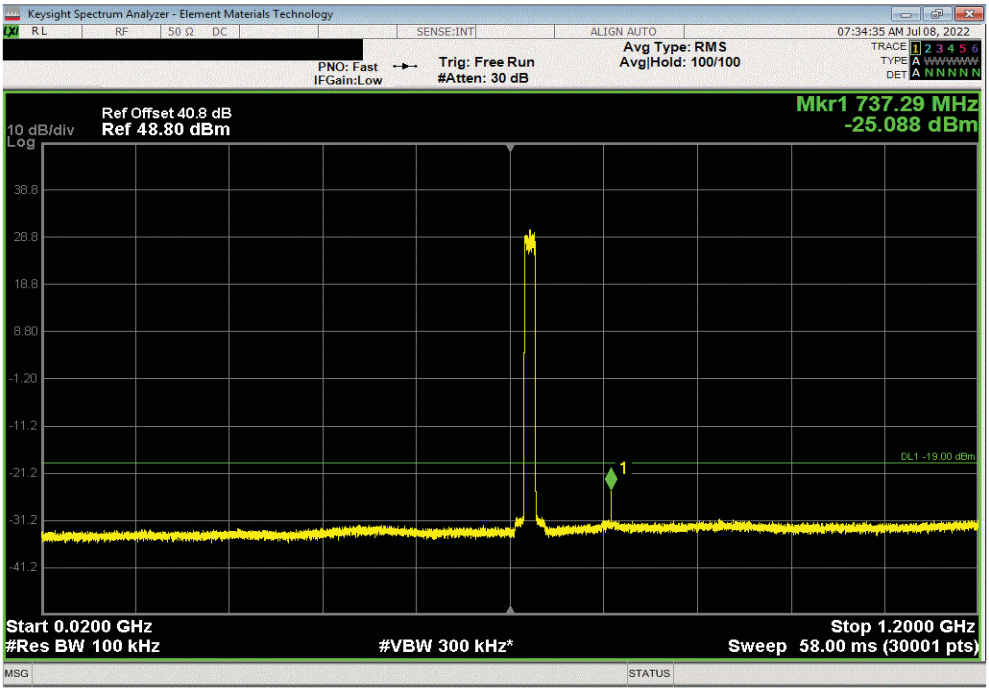
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 634.5 MHz					
	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
	9 kHz - 150 kHz	0.01	-45.09	-39	Pass



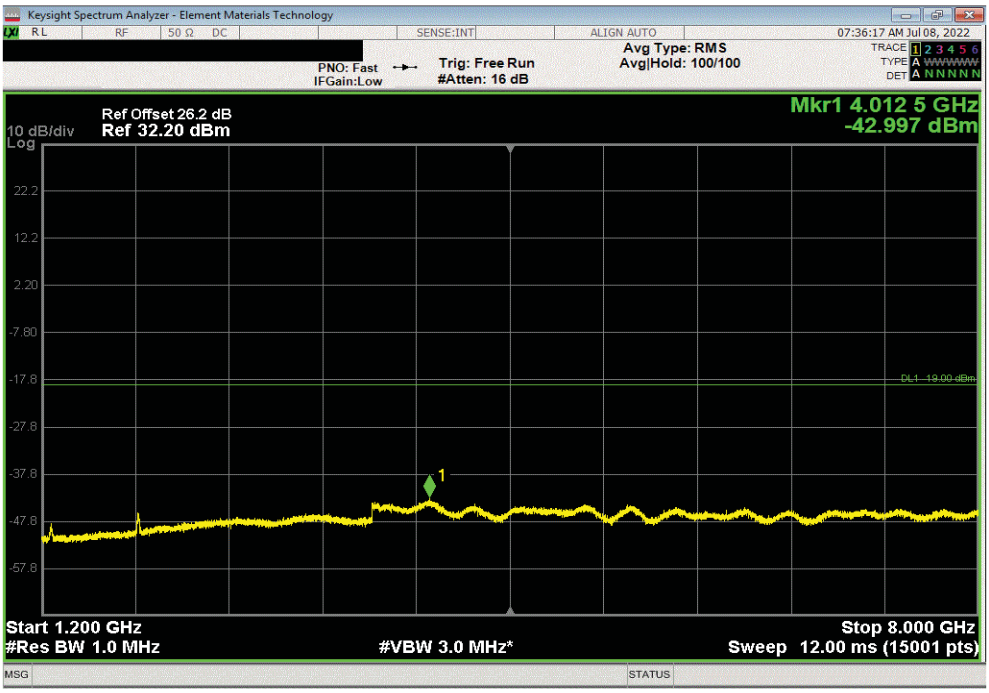
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.15	-34.42	-29	Pass



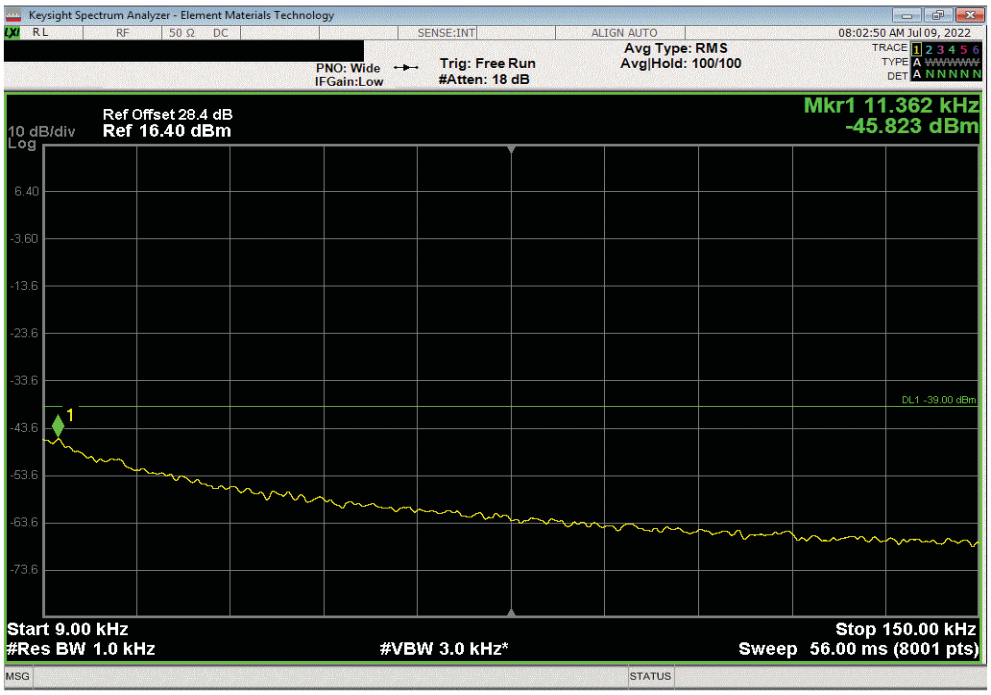
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	737.29	-25.09	-19	Pass



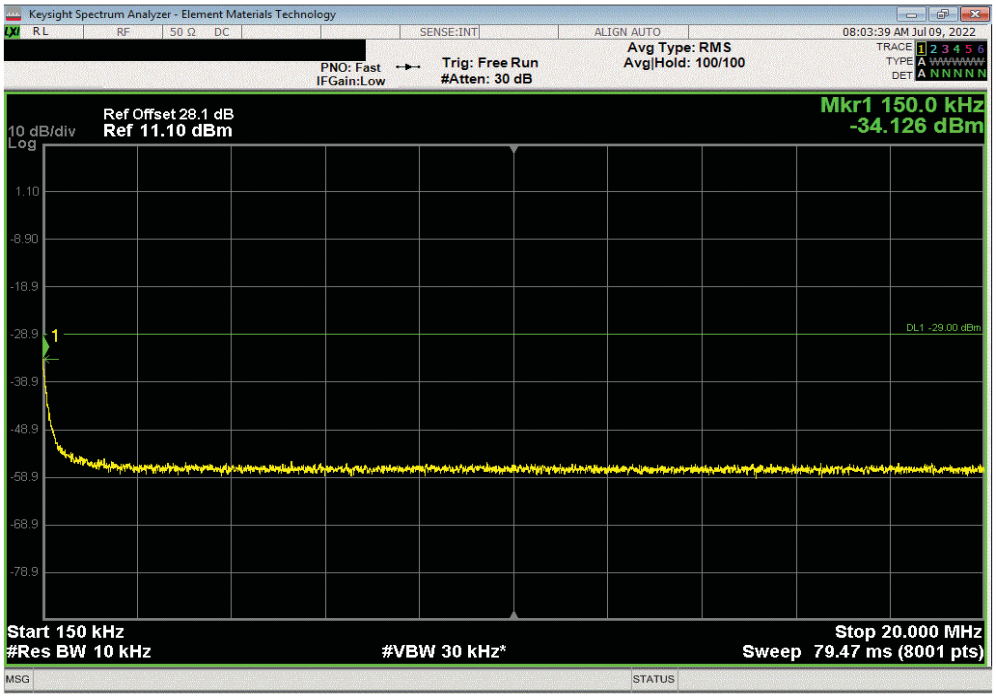
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	4012.48	-43	-19	Pass



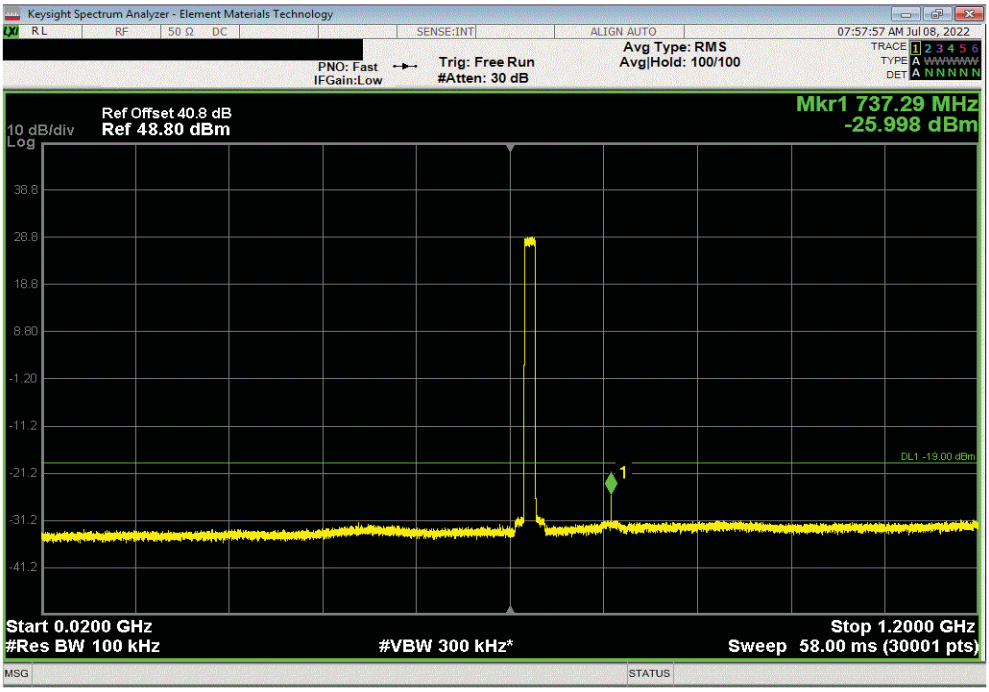
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 634.5 MHz					
	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
	9 kHz - 150 kHz	0.01	-45.823	-39	Pass



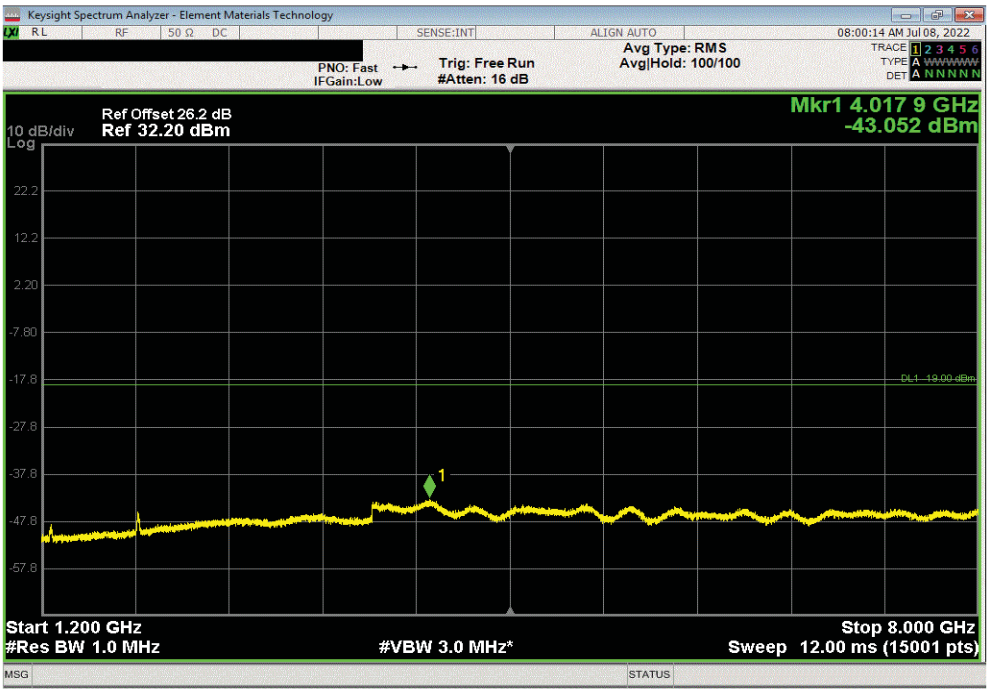
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.15	-34.126	-29	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	737.29	-26	-19	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	4017.92	-43.05	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - Band 71 LTE

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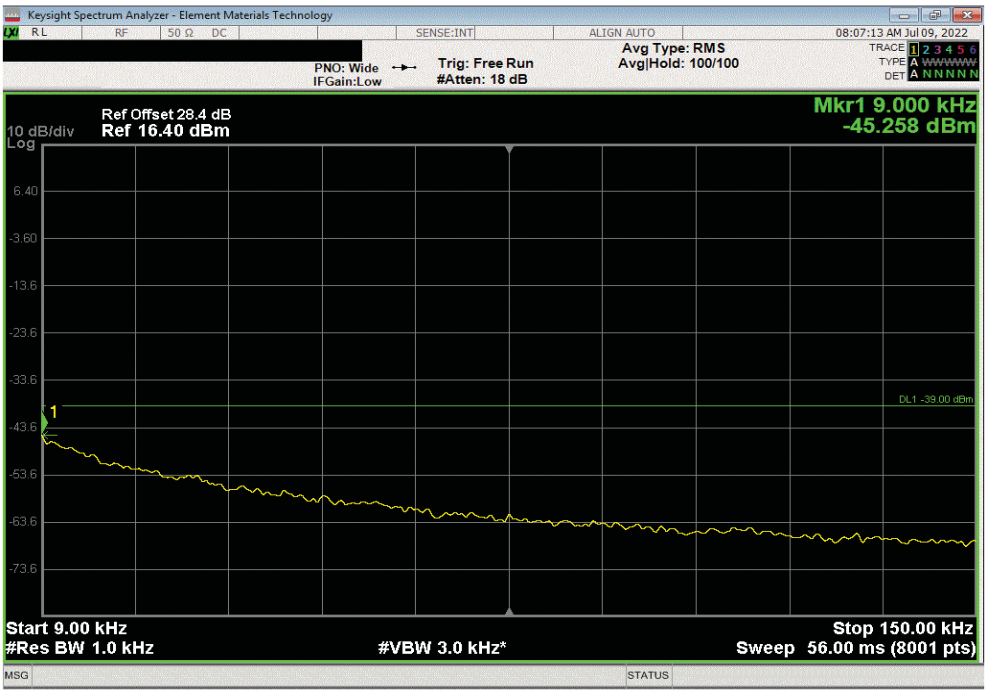
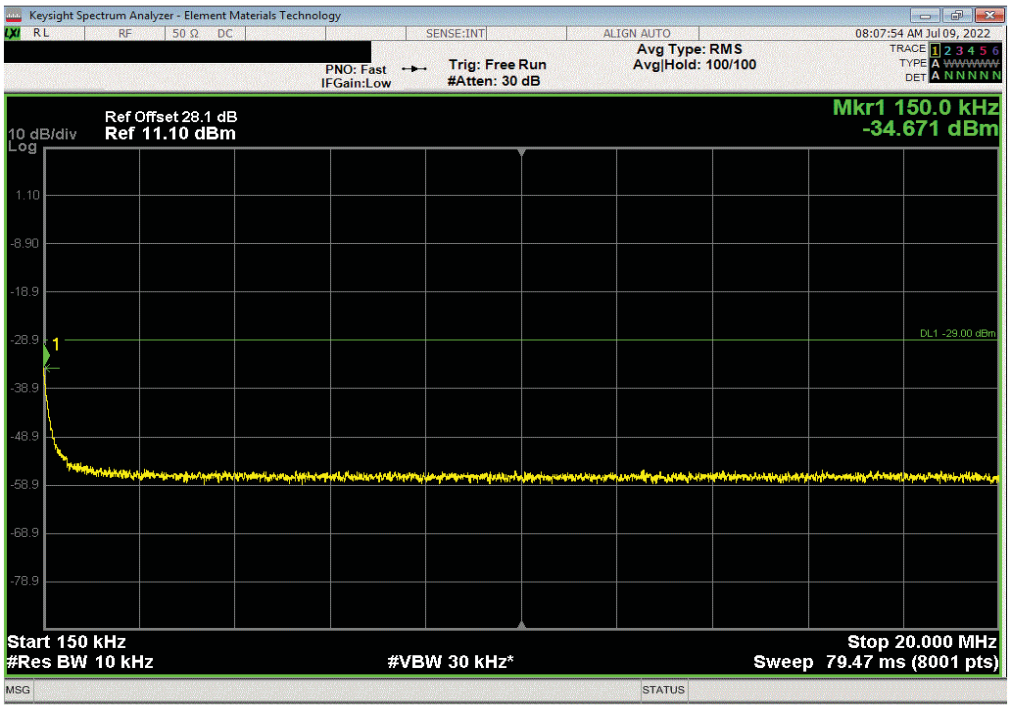
TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz	0.01	-45.258	-39	Pass

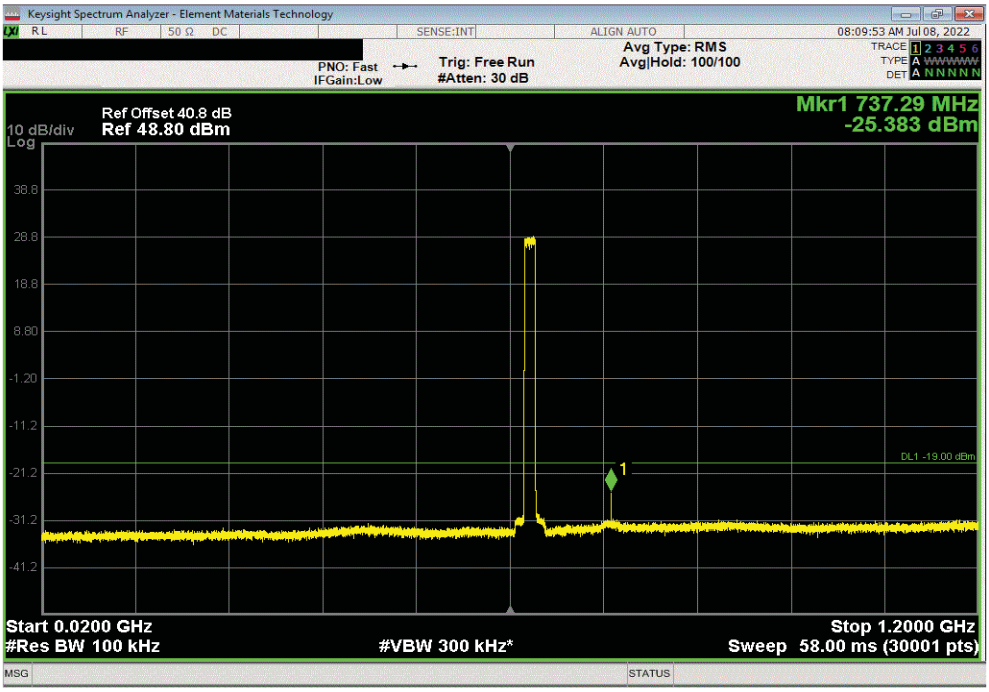


Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.16	-34.671	-29	Pass

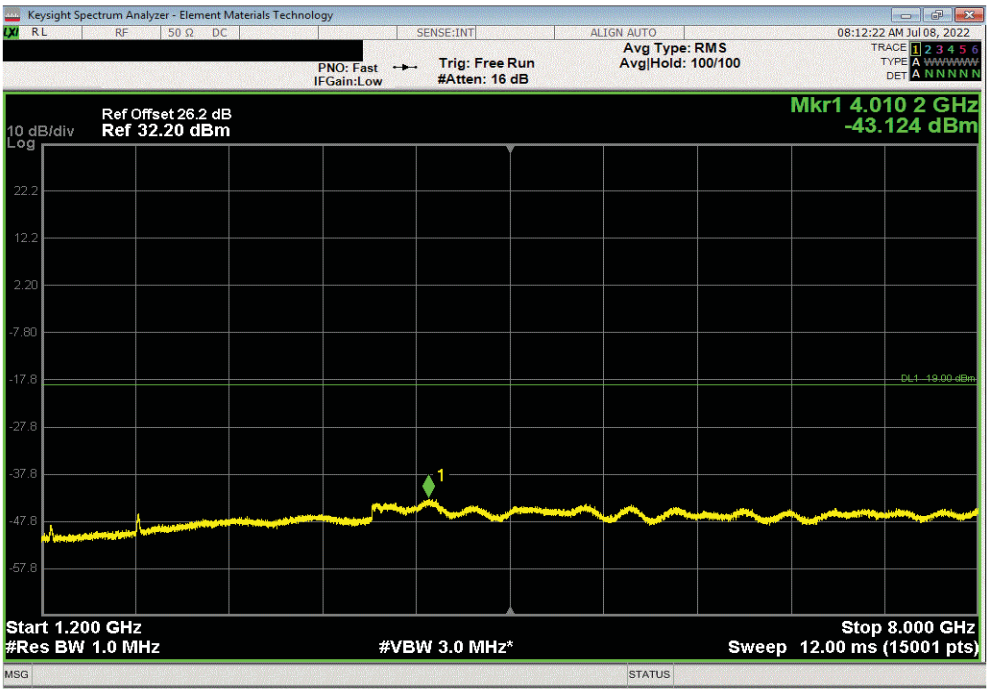


SPURIOUS CONDUCTED EMISSIONS - Band 71 LTE

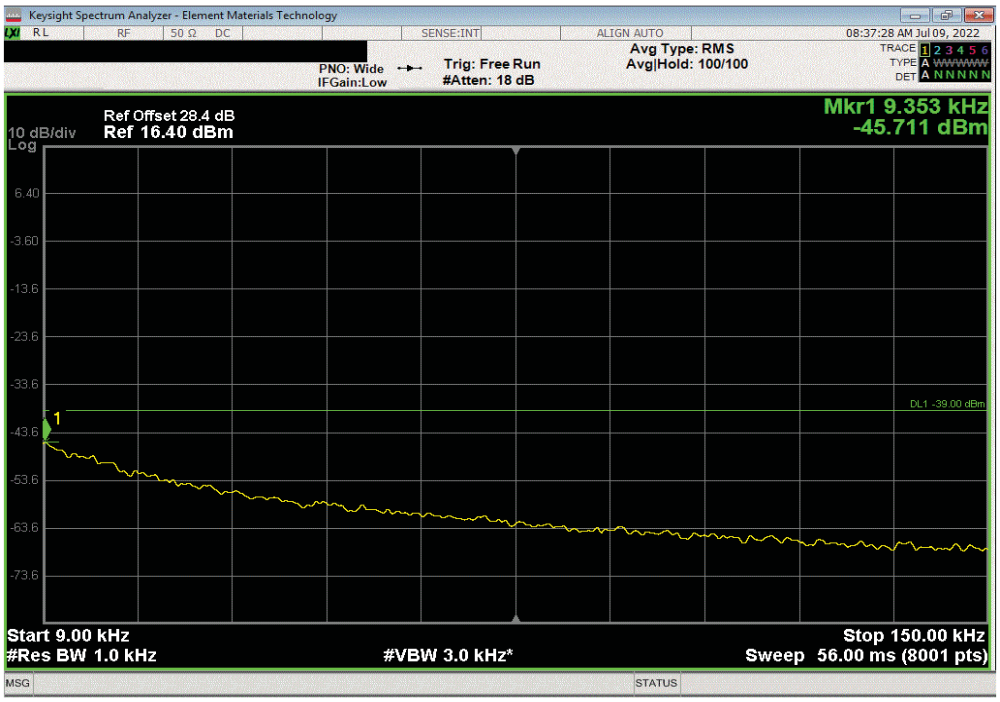
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	737.29	-25.38	-19	Pass



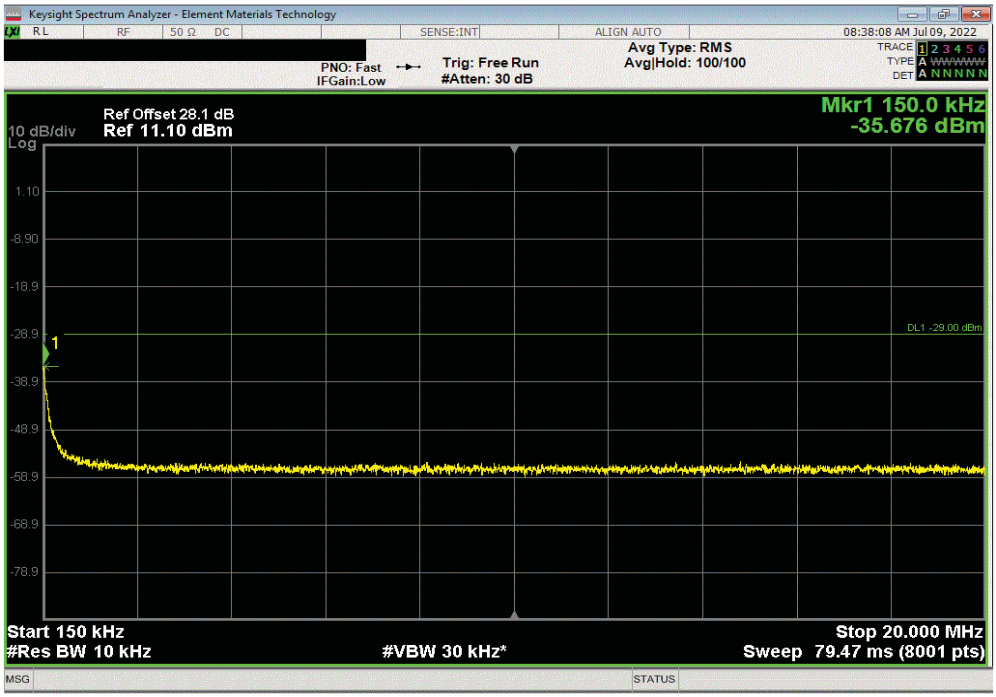
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	4010.21	-43.12	-19	Pass



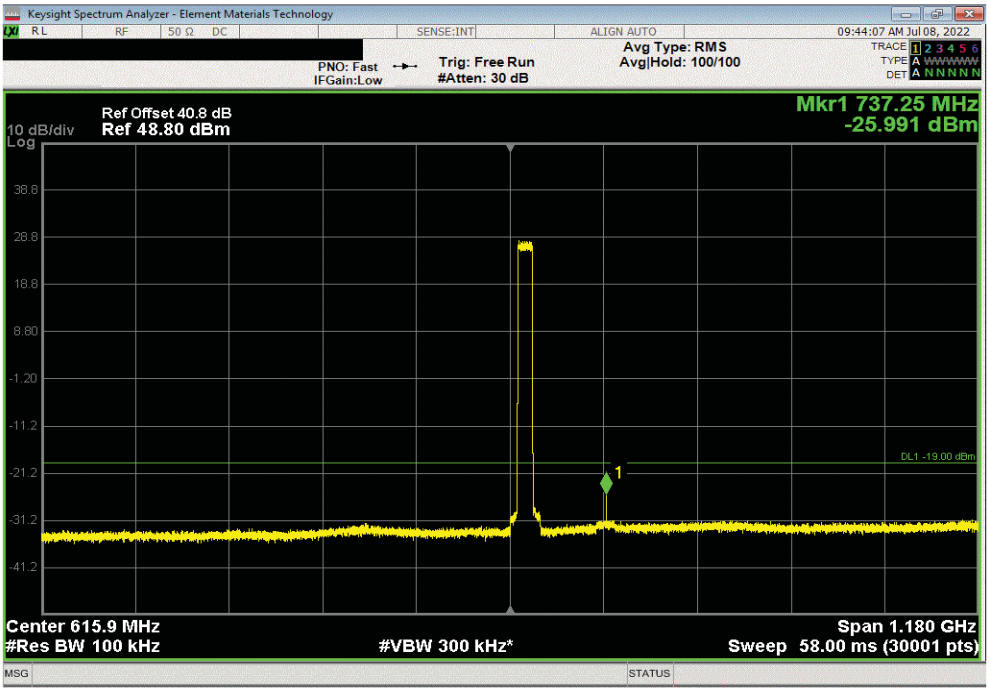
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
	9 kHz - 150 kHz	0.01	-45.711	-39	Pass



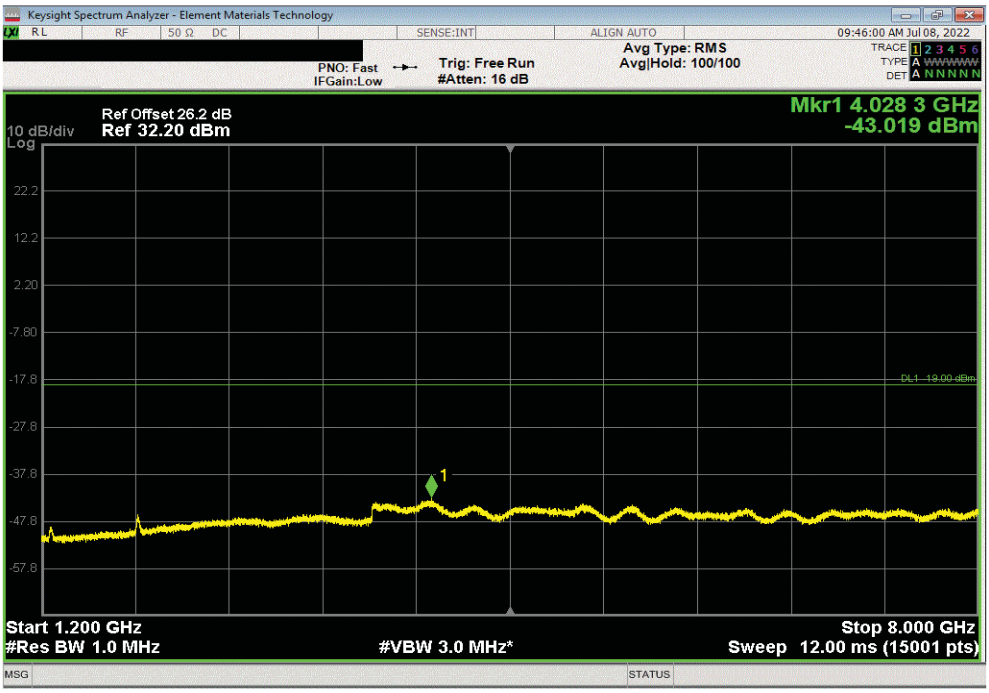
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	0.15	-35.676	-29	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
20 MHz - 1.2 GHz	737.25	-25.99	-19	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit (dBm)	Result
1.2 GHz - 8 GHz	4028.35	-43.02	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

XMit 2022.02.07.0

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANE	2022-03-02	2023-03-02
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 3 different attenuation configurations which continues through to the RF input of the spectrum analyzer. Analyzer plots utilizing a resolution bandwidth called out by the client's test plan were made for each modulation type from 9 KHz to 8 GHz. The conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than the limits also called out by the client's test plan shown below.

The measurement methods are detailed in KDB 971168 D01v03 section 6 and ANSI C63.26-2015.

Per FCC 2.1057(a)(1) and RSS Gen 6.13, the upper level of measurement is the 10th harmonic of the highest fundamental frequency.

These measurements are for the frequency band after the first 100 kHz bands immediately outside and adjacent to the frequency block.

RF conducted emissions testing was performed only on one port. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in output power testing) and antenna port 2 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.

Per section 27.53(g) and RSS 130 4.7, the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm. The limit is adjusted to -19 dBm [-13 dBm -10 log (4)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

The limit for the 9kHz to 150kHz frequency range was adjusted to –39dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 100kHz [i.e.: -39dBm = -19dBm -10log(100kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to –29dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 100kHz [i.e.: -29dBm = -19dBm -10log(100kHz/10kHz)]. The required limit of -19dBm with a RBW of > 100kHz was used for all other frequency ranges. (See ANSI C63.26-2015 paragraph 5.7.2a for details on the Limit/RBW scaling method)

SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AHLOB	Work Order:	NOKI0043
Serial Number:	YK220900029	Date:	14-Jul-22
Customer:	Nokia Solutions and Networks	Temperature:	20.5 °C
Attendees:	Mitchell Hill, John Rattanavong	Humidity:	56.2% RH
Project:	None	Barometric Pres.:	1020 mbar
Tested by:	Marty Martin	Job Site:	TX07
Power:	54 VDC		

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-130 Issue 2:2019	ANSI C63.26:2015

COMMENTS

The carriers were enabled at maximum power on the middle channels of the respective bands. The port power is at maximum. The following carrier configurations were tested: B85 LTE10 (60W) + B71 NB IoT SA (20W), and B85 LTE15 (80W). The B85 LTE5 (40W) carrier was tested in previous report section.

DEVIATIONS FROM TEST STANDARD

None

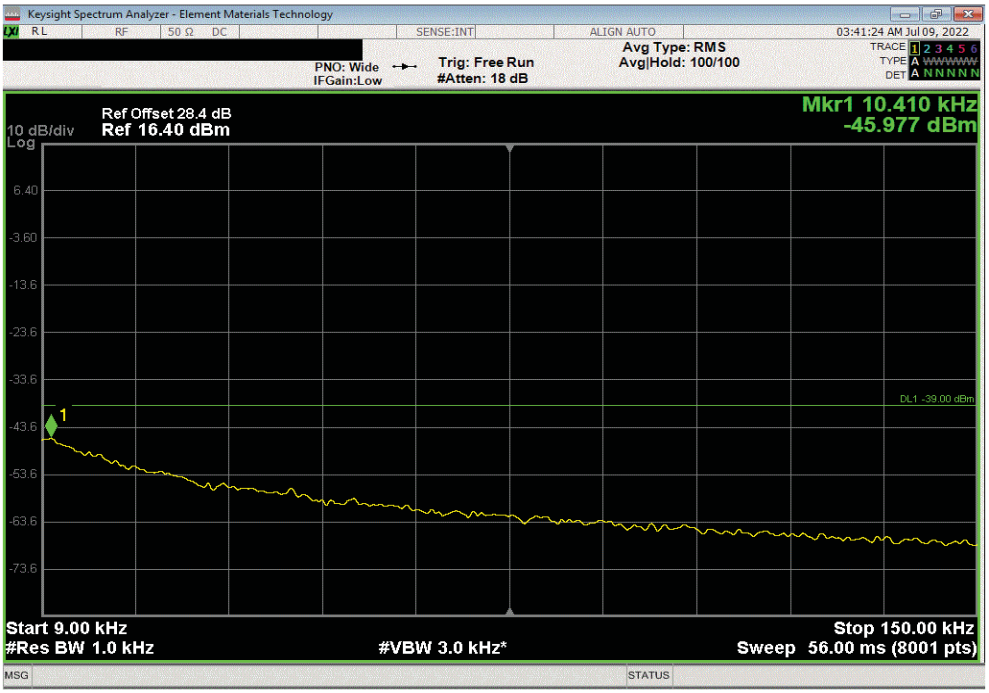
Configuration #	1,2,3	Signature

	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
Port 2, LTE, Band 85, 728 MHz - 746 MHz					
10 MHz Bandwidth					
QPSK Modulation					
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	9 kHz - 150 kHz	0.01	-45.98	-39	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	150 kHz - 20 MHz	0.15	-34.49	-29	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	20 MHz - 1.2 GHz	765.76	-32.75	-19	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	1.2 GHz - 8 GHz	3993.44	-42.83	-19	Pass
16-QAM Modulation					
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	9 kHz - 150 kHz	0.01	-45.13	-39	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	150 kHz - 20 MHz	0.15	-34.91	-29	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	20 MHz - 1.2 GHz	766	-32.27	-19	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	1.2 GHz - 8 GHz	4014.29	-42.91	-19	Pass
64-QAM Modulation					
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	9 kHz - 150 kHz	0.01	-46.13	-29	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	150 kHz - 20 MHz	0.15	-34.72	-29	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	20 MHz - 1.2 GHz	765.88	-32.26	-19	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	1.2 GHz - 8 GHz	4000.69	-43.24	-19	Pass
256-QAM Modulation					
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	9 kHz - 150 kHz	0.01	-45.78	-39	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	150 kHz - 20 MHz	0.15	-34.8	-29	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	20 MHz - 1.2 GHz	765.69	-32.63	-19	Pass
Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz	1.2 GHz - 8 GHz	4011.12	-43.05	-19	Pass
15 MHz Bandwidth					
QPSK Modulation					
Mid Ch. 737 MHz	9 kHz - 150 kHz	0.01	-45.67	-39	Pass
Mid Ch. 737 MHz	150 kHz - 20 MHz	0.15	-34.27	-29	Pass
Mid Ch. 737 MHz	20 MHz - 1.2 GHz	765.96	-32.16	-19	Pass
Mid Ch. 737 MHz	1.2 GHz - 8 GHz	4023.36	-43.2	-19	Pass
16-QAM Modulation					
Mid Ch. 737 MHz	9 kHz - 150 kHz	0.01	-45.49	-39	Pass
Mid Ch. 737 MHz	150 kHz - 20 MHz	0.15	-35.5	-29	Pass
Mid Ch. 737 MHz	20 MHz - 1.2 GHz	766	-32.69	-19	Pass
Mid Ch. 737 MHz	1.2 GHz - 8 GHz	3988.91	-43.14	-19	Pass
64-QAM Modulation					
Mid Ch. 737 MHz	9 kHz - 150 kHz	0.01	-46.17	-39	Pass
Mid Ch. 737 MHz	150 kHz - 20 MHz	0.15	-34.11	-29	Pass
Mid Ch. 737 MHz	20 MHz - 1.2 GHz	765.72	-32.31	-19	Pass
Mid Ch. 737 MHz	1.2 GHz - 8 GHz	4004.32	-43.15	-19	Pass
256-QAM Modulation					
Mid Ch. 737 MHz	9 kHz - 150 kHz	0.01	-45.71	-39	Pass
Mid Ch. 737 MHz	150 kHz - 20 MHz	0.15	-33.84	-29	Pass
Mid Ch. 737 MHz	20 MHz - 1.2 GHz	765.92	-32.42	-19	Pass
Mid Ch. 737 MHz	1.2 GHz - 8 GHz	4007.49	-43.02	-19	Pass

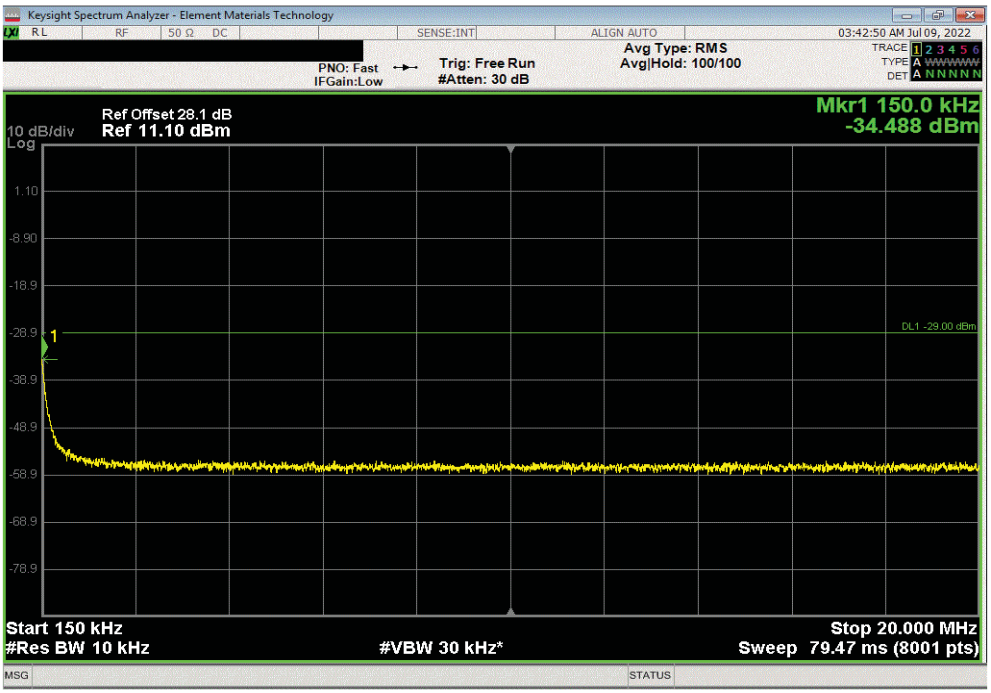
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.98	-39	Pass	



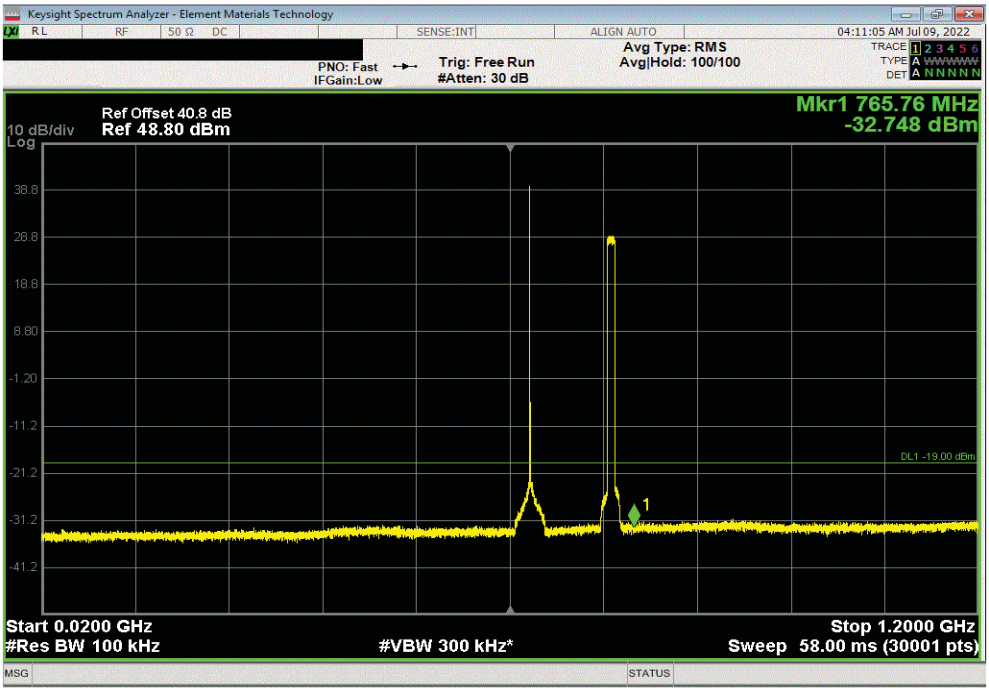
Port 2, LTE, Band n85,, 728 MHz - 746 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.49	-29	Pass



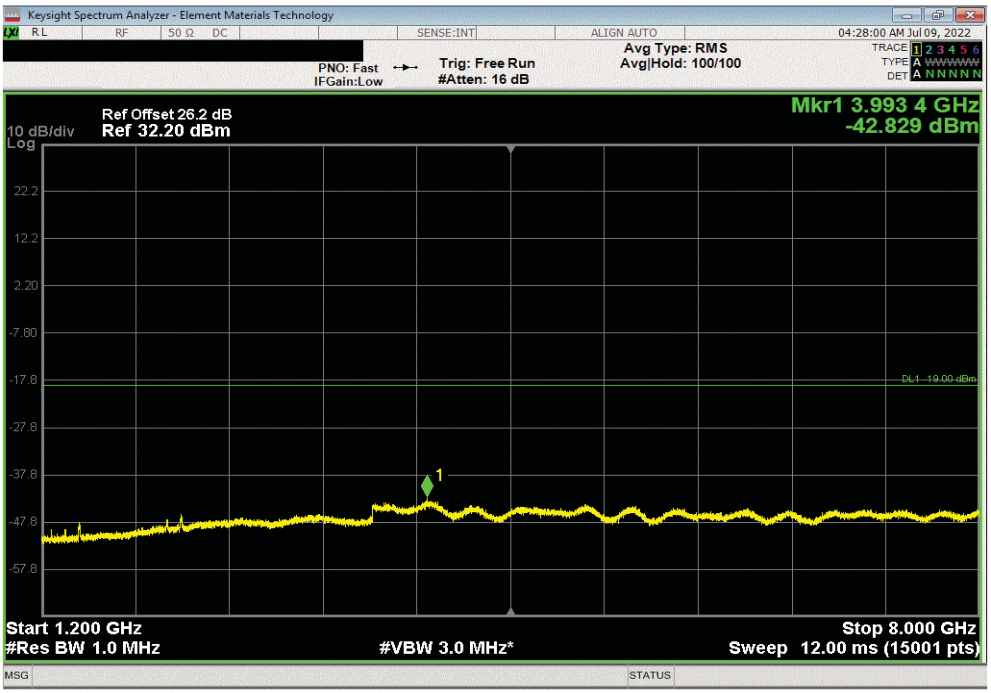
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.76	-32.75	-19	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	3993.44	-42.83	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

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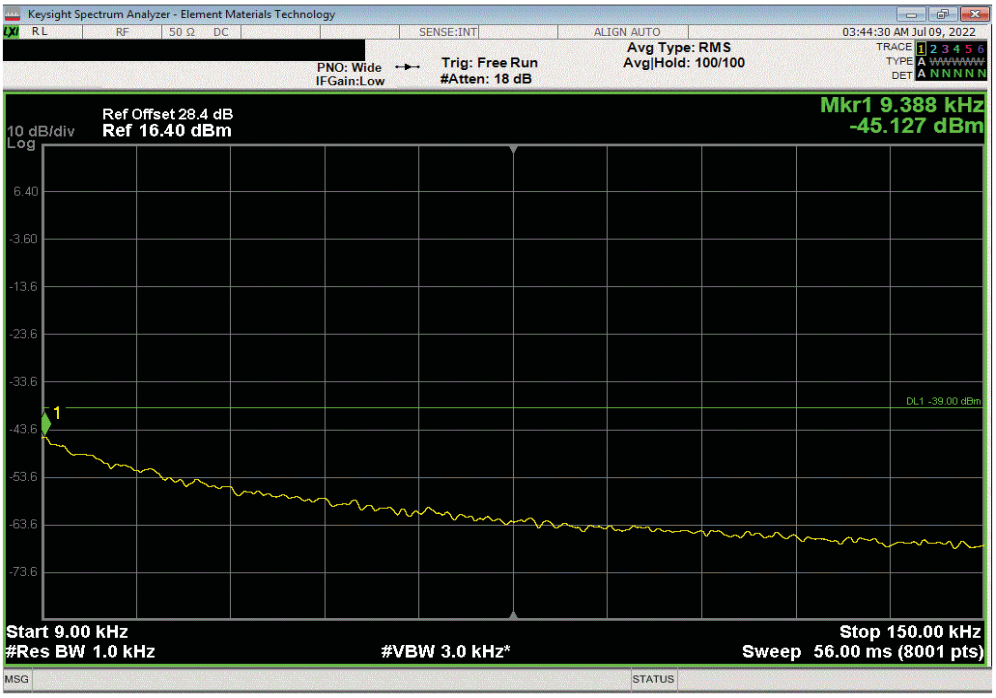
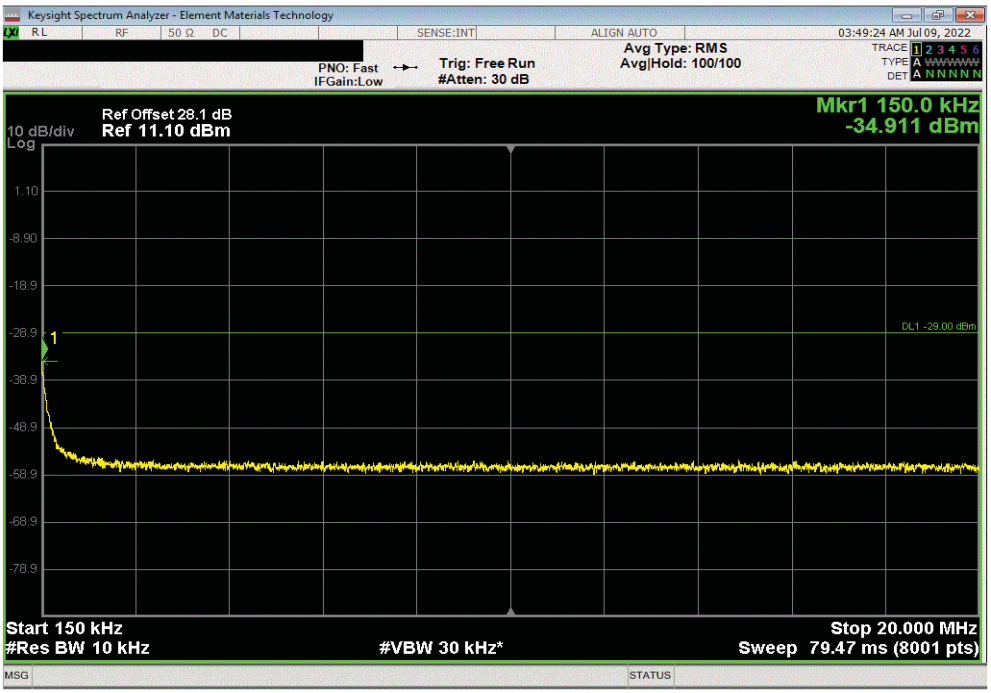
TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 16-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz					
	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	9 kHz - 150 kHz	0.01	-45.13	-39	Pass



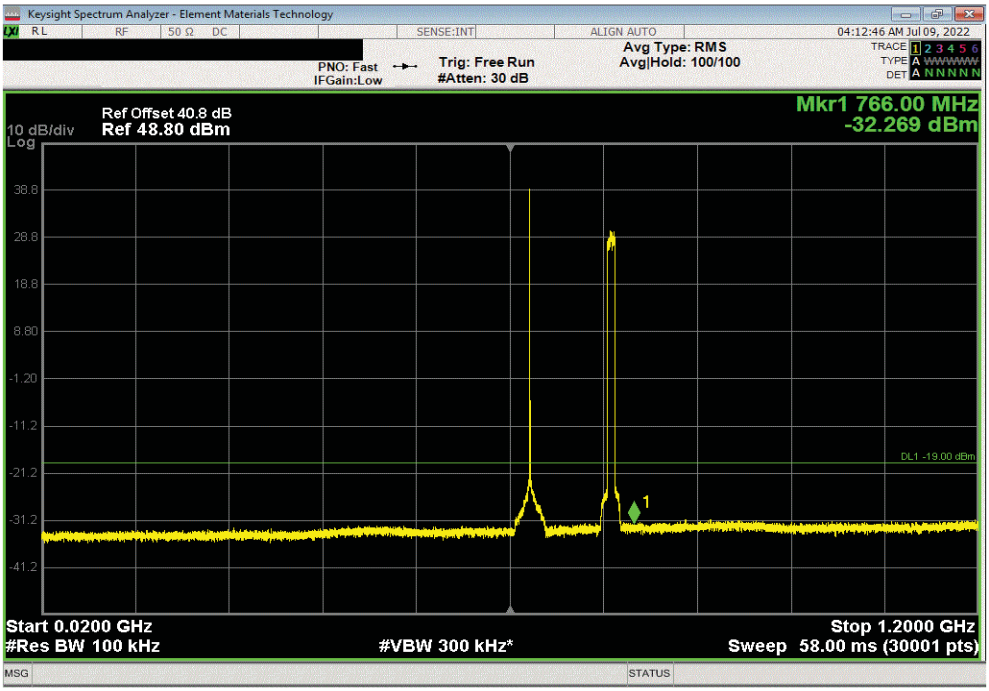
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 16-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.91	-29	Pass



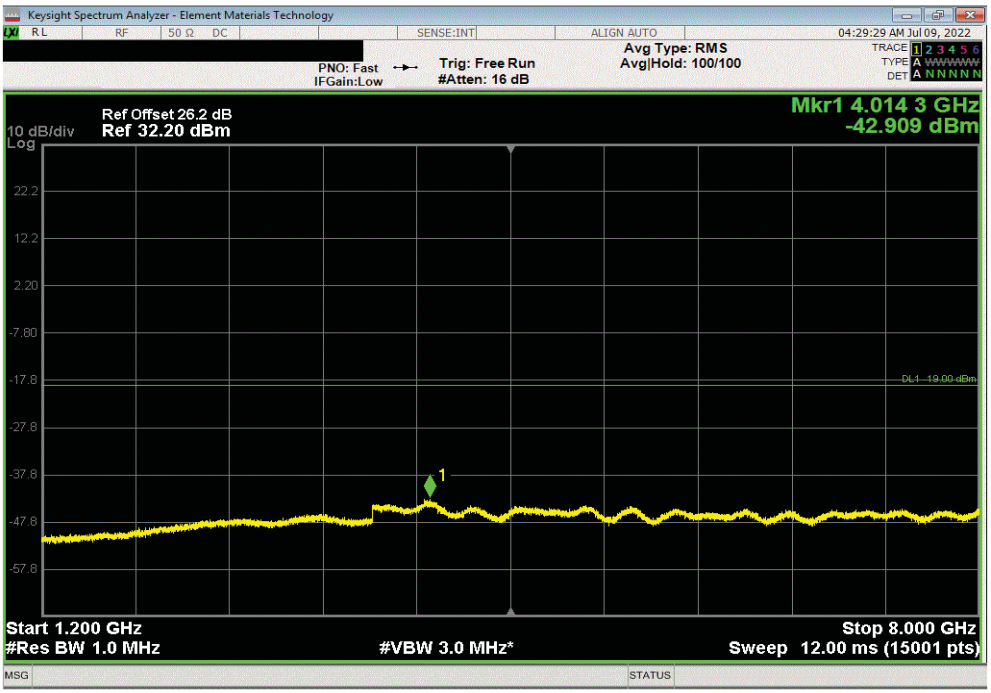
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 16-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	766	-32.27	-19	Pass

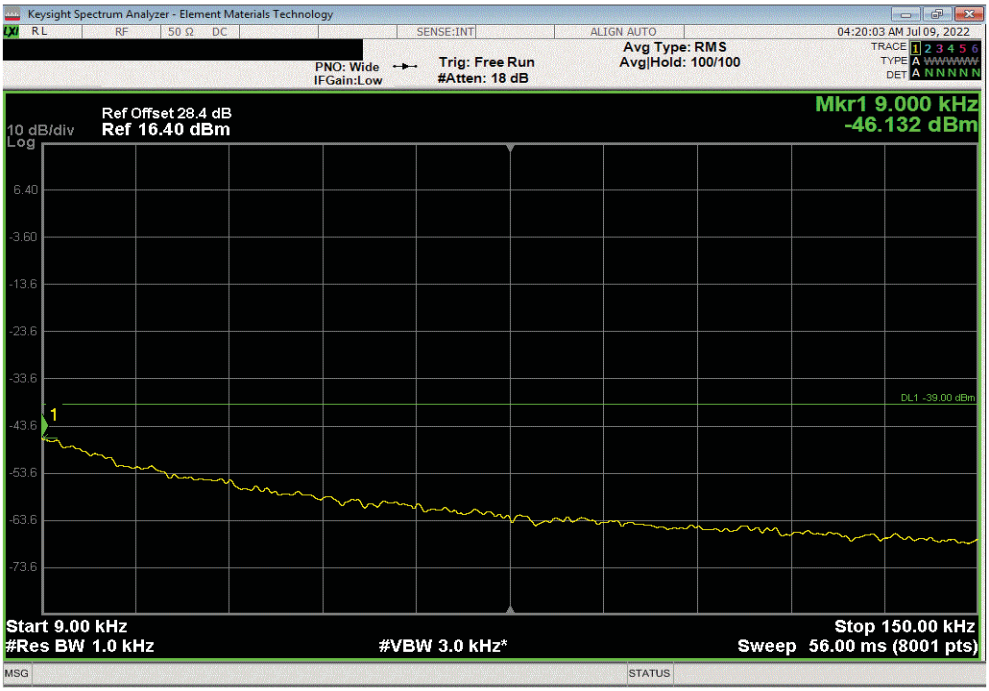


Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 16-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4014.29	-42.91	-19	Pass



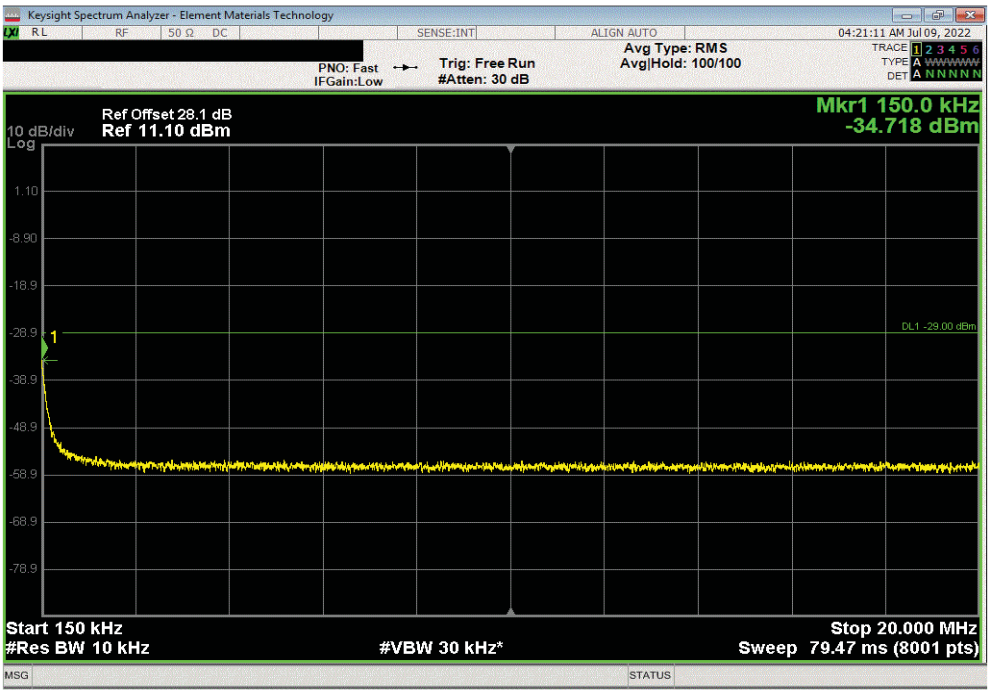
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 64-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz

Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
9 kHz - 150 kHz	0.01	-46.13	-29	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 64-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz

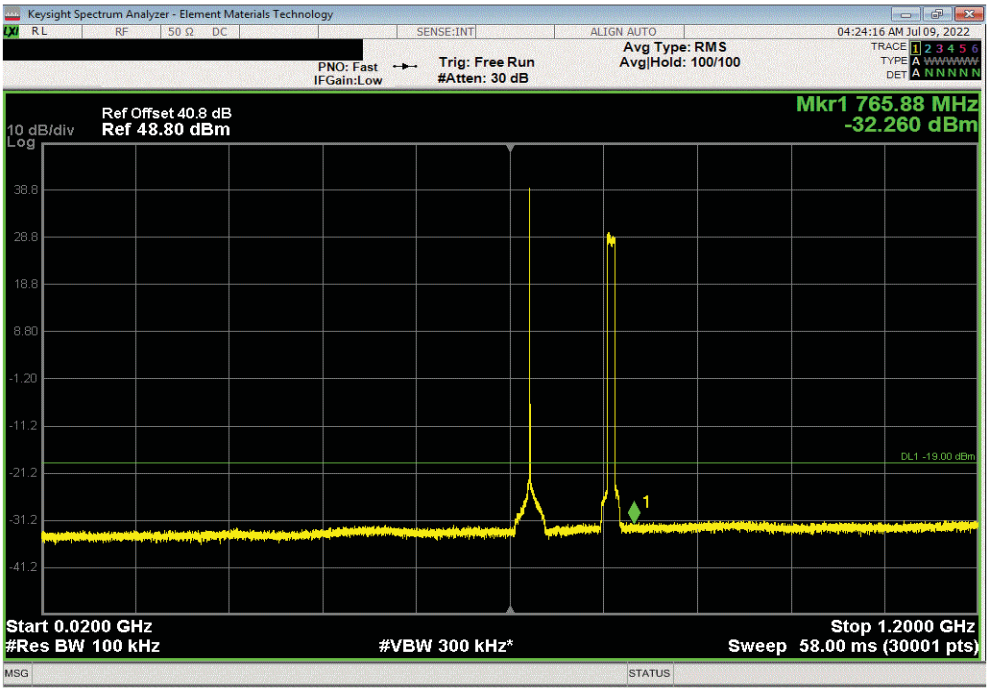
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.72	-29	Pass



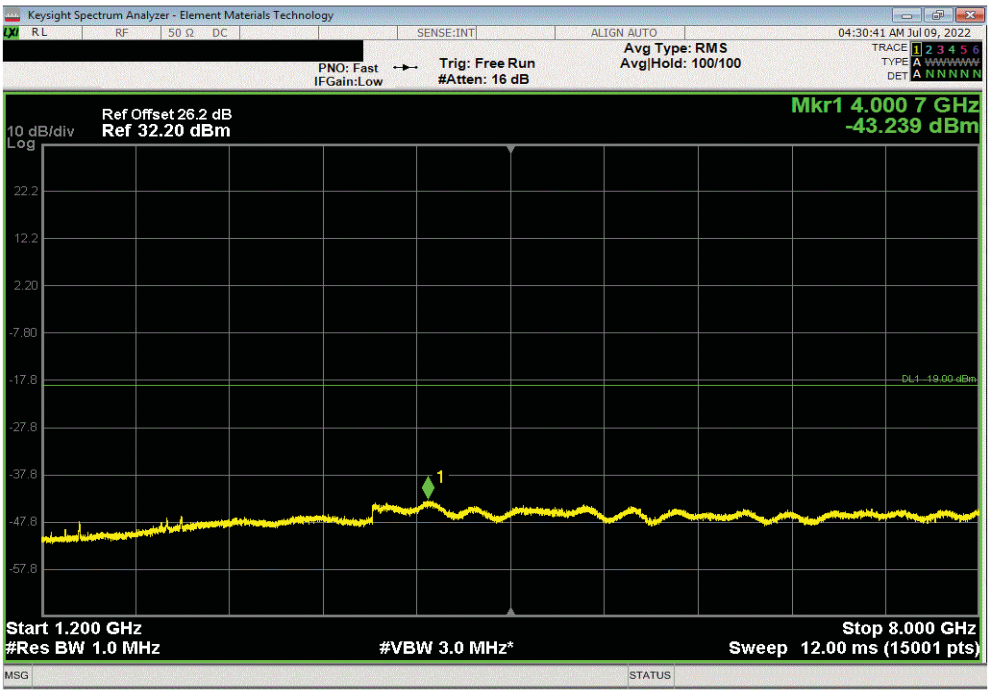
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 64-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.88	-32.26	-19	Pass



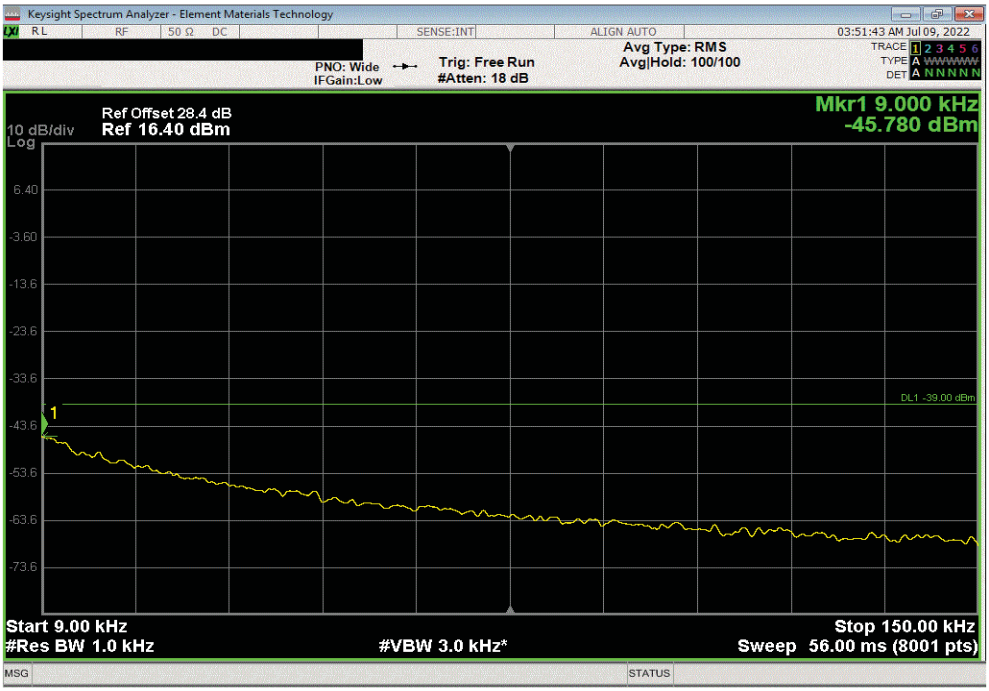
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 64-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4000.69	-43.24	-19	Pass



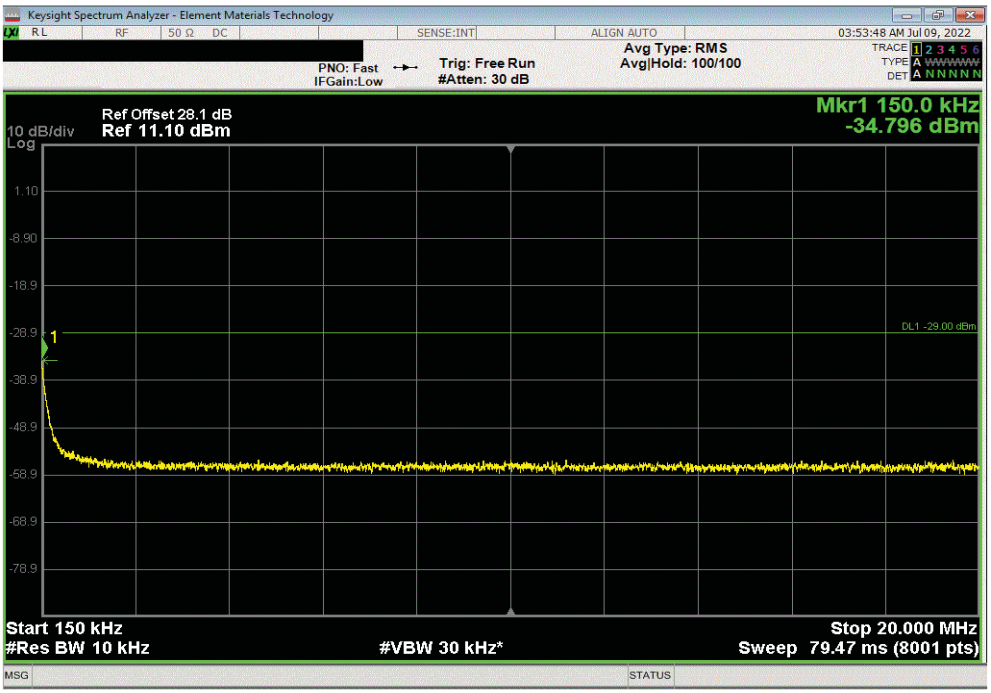
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.78	-39	Pass	



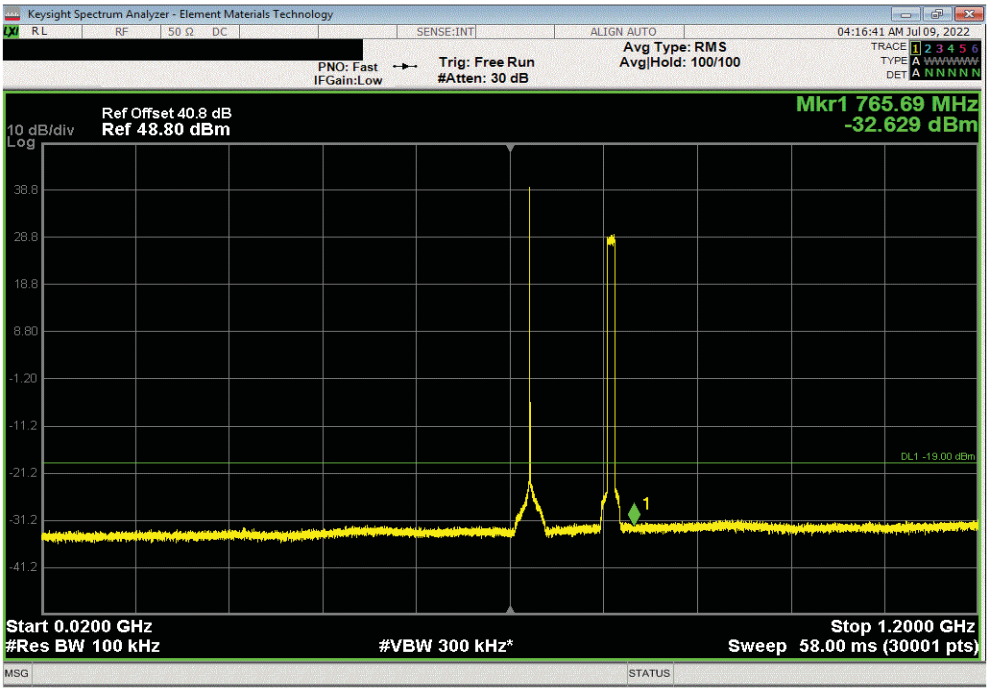
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.8	-29	Pass



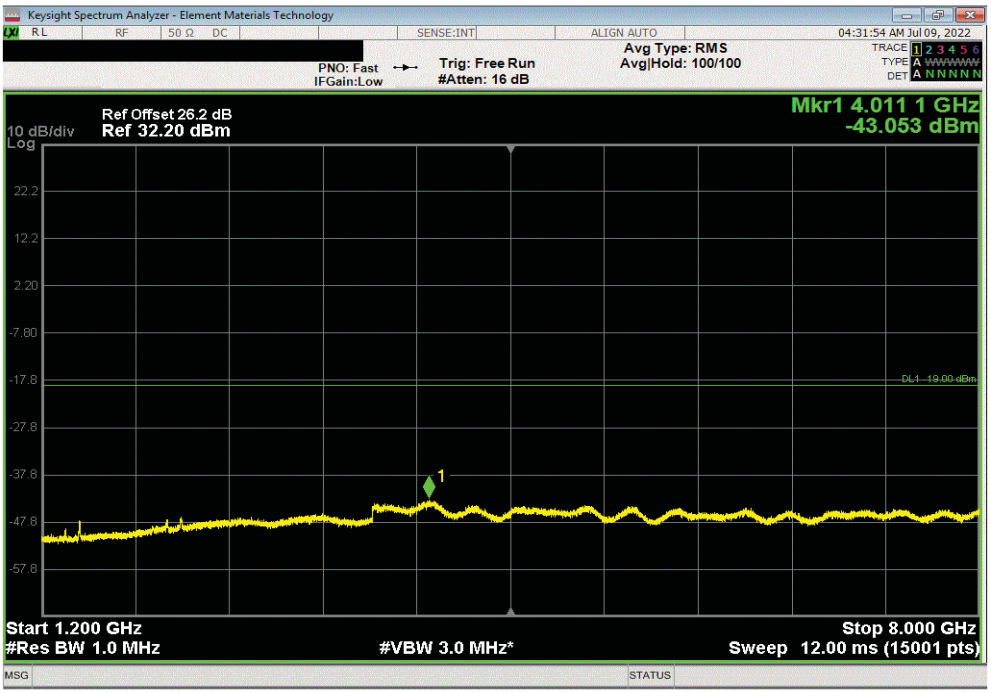
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.69	-32.63	-19	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Ch. B85 LTE10 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4011.12	-43.05	-19	Pass

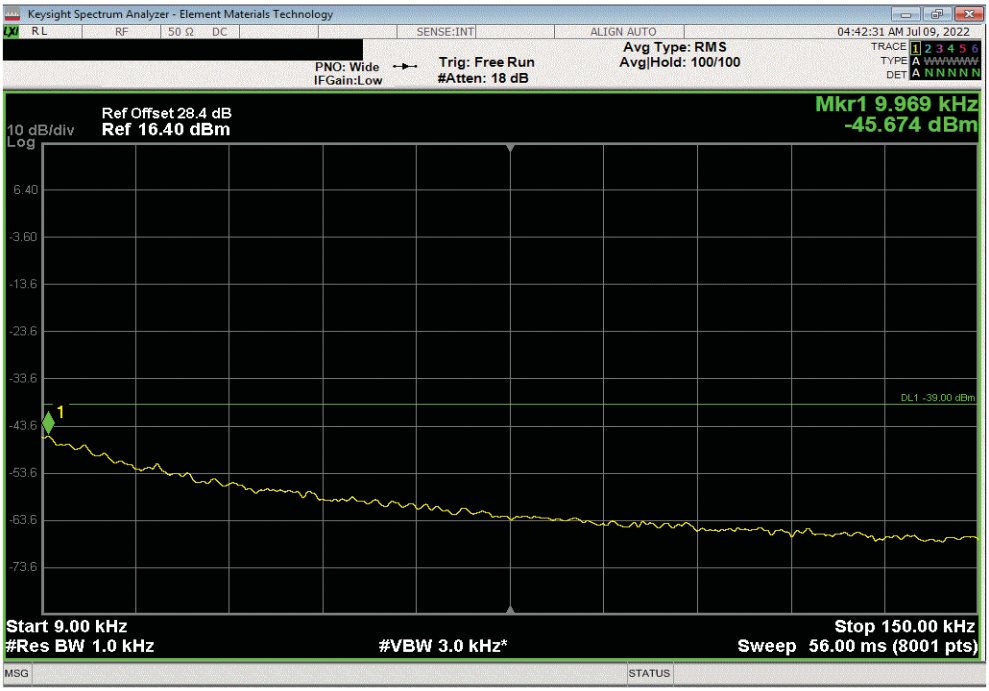


SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

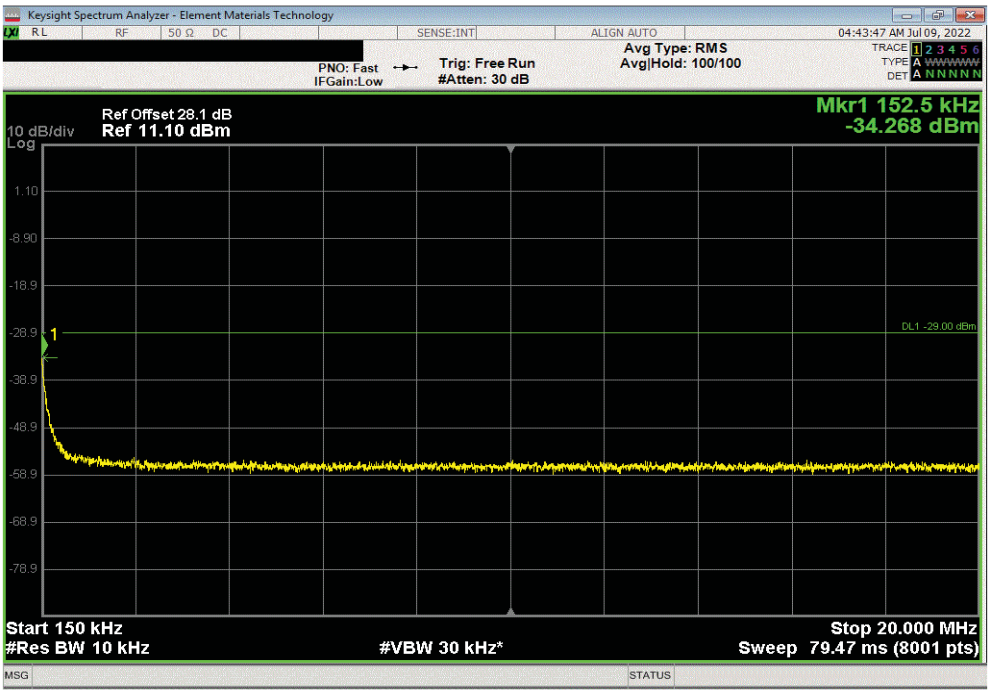
element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 737 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.67	-39	Pass	



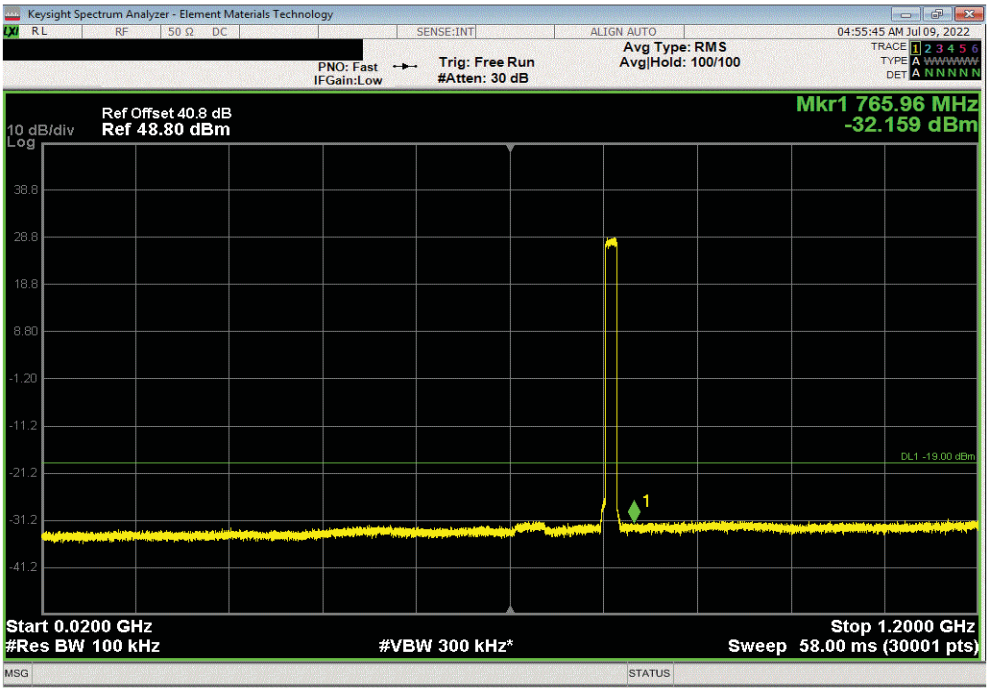
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.27	-29	Pass



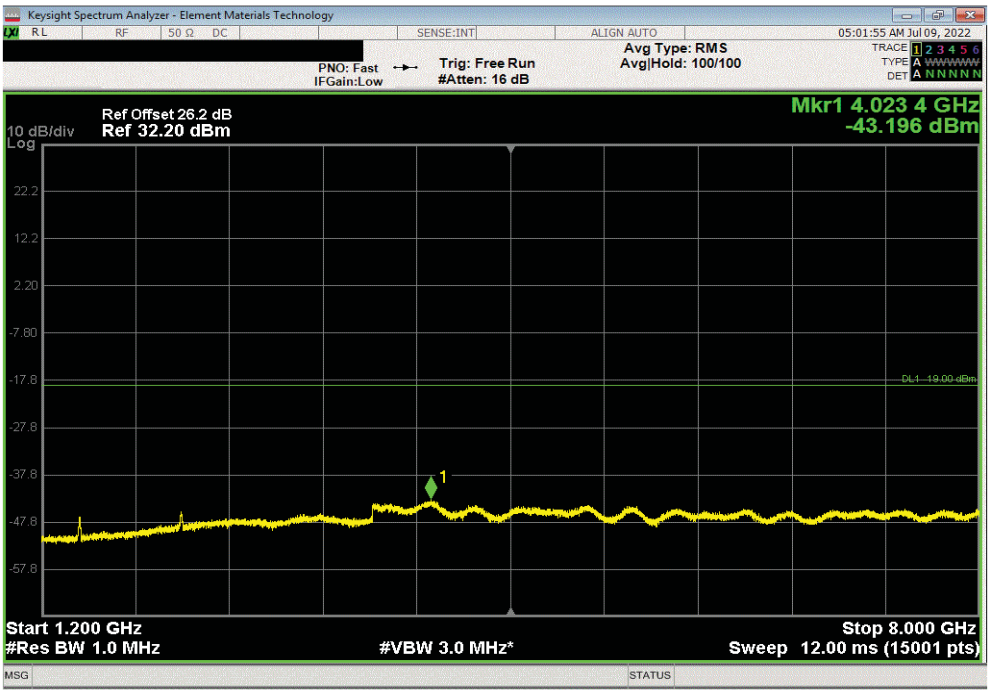
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.96	-32.16	-19	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4023.36	-43.2	-19	Pass

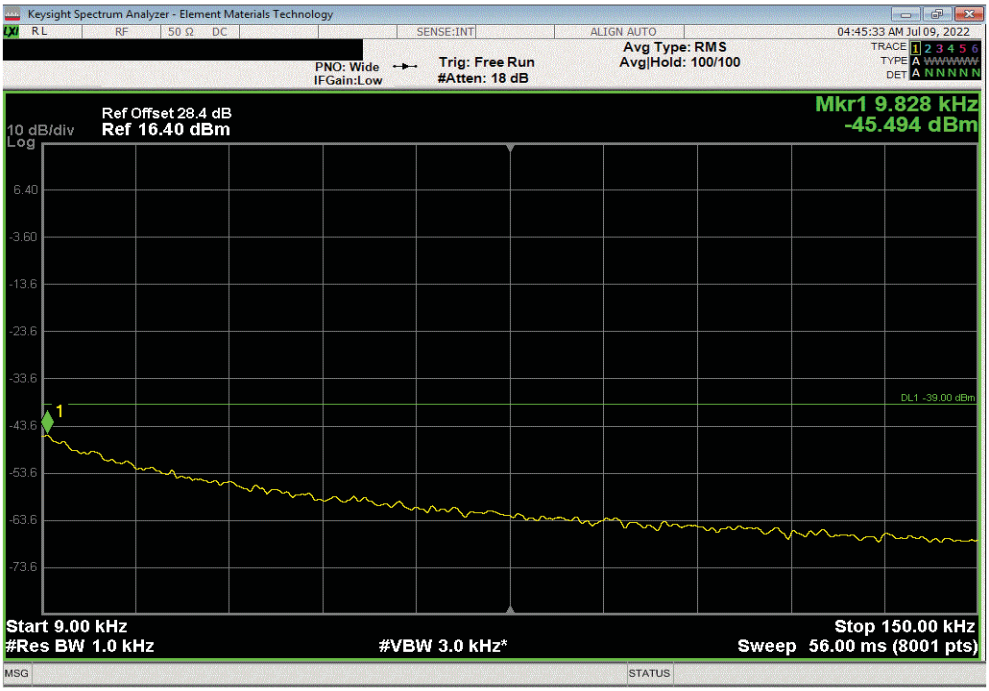


SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

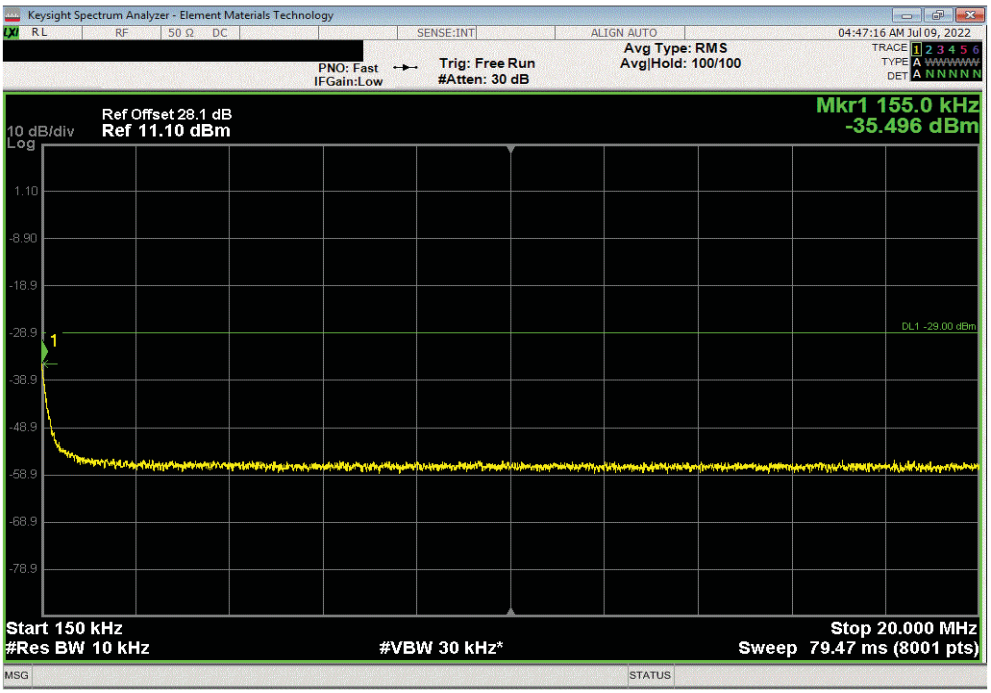
element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 737 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.49	-39	Pass	

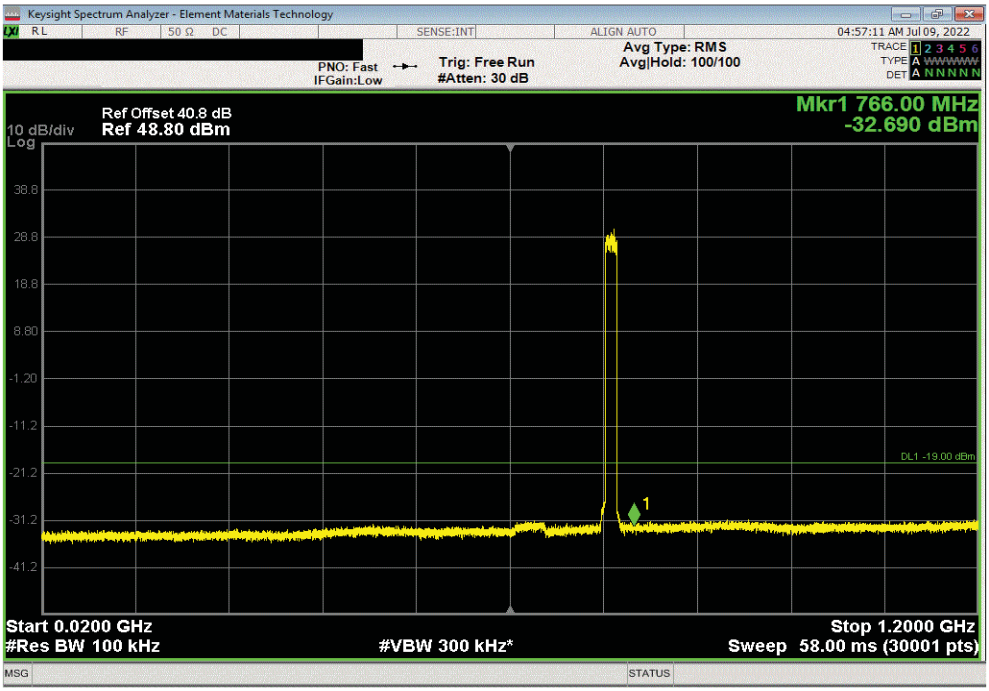


Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-35.5	-29	Pass

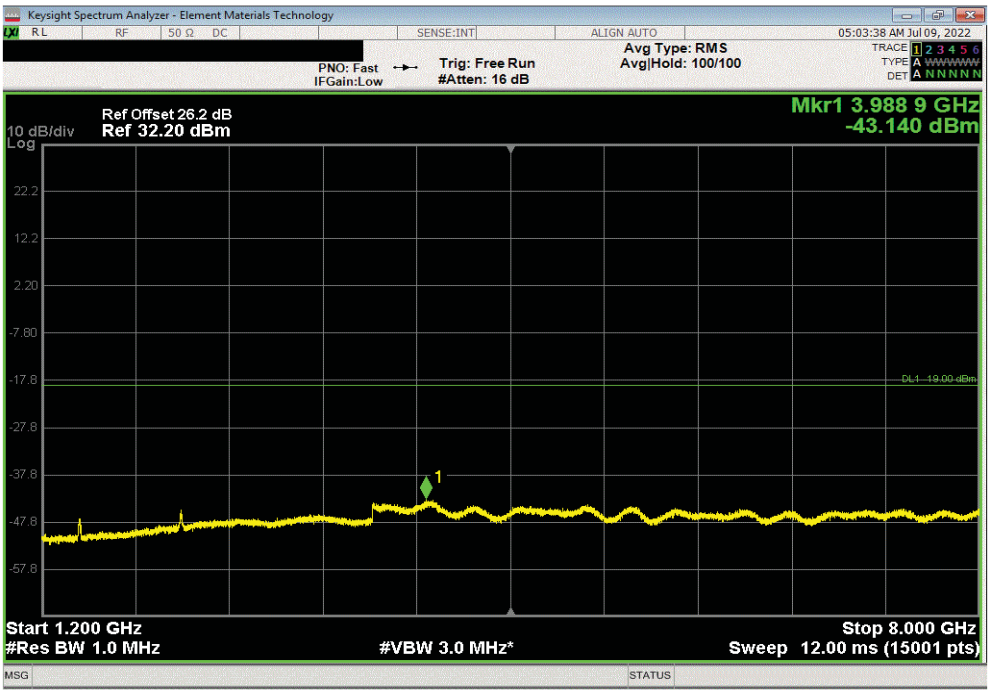


SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	766	-32.69	-19	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	3988.91	-43.14	-19	Pass

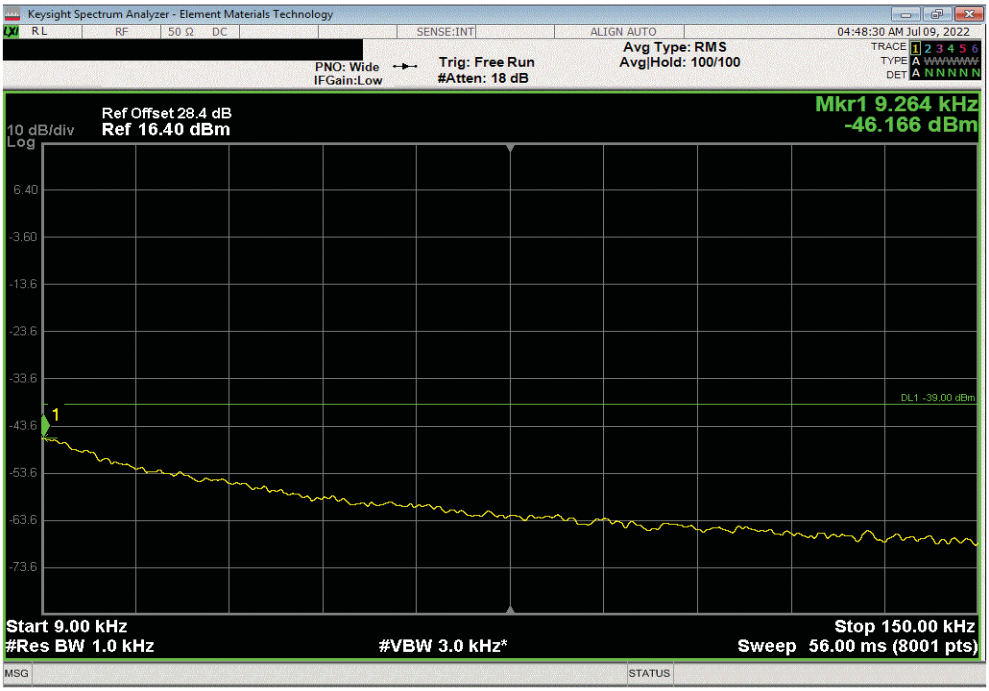


SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

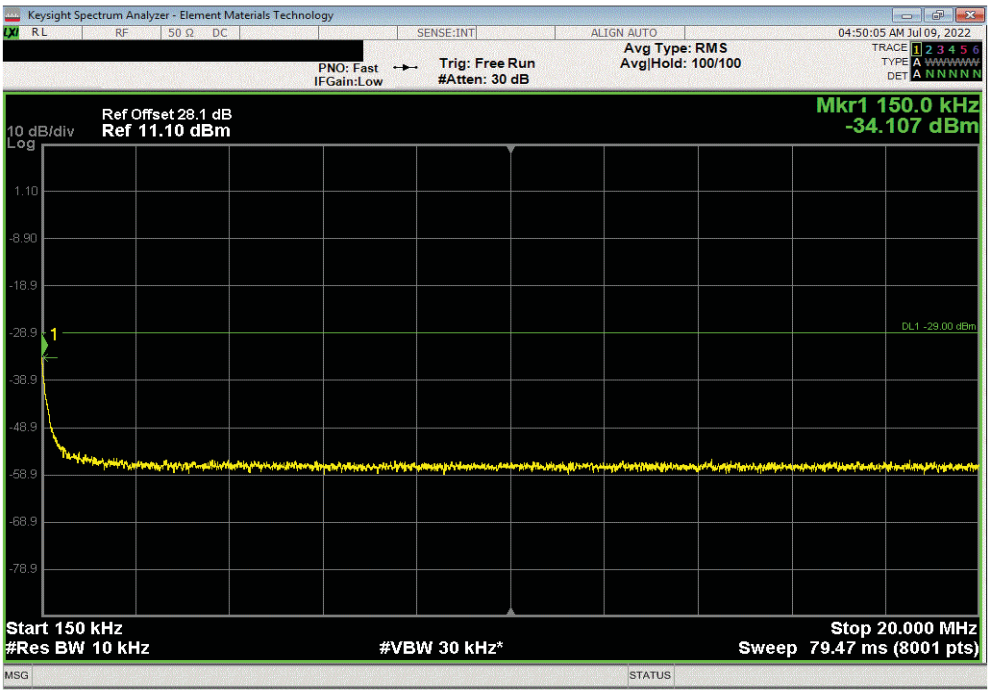
element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

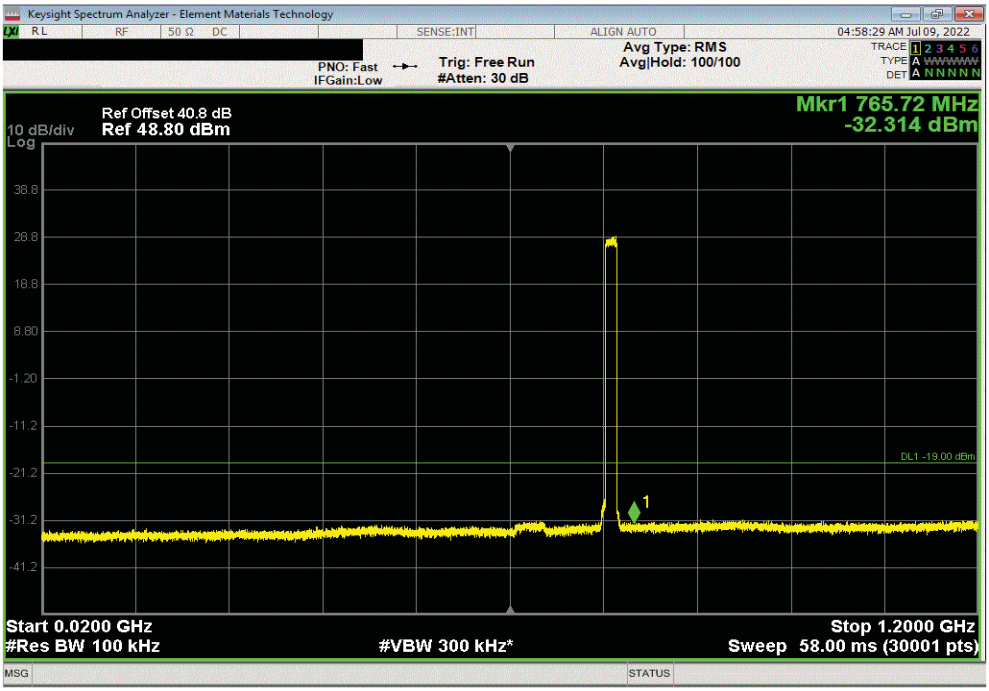
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 737 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-46.17	-39	Pass	



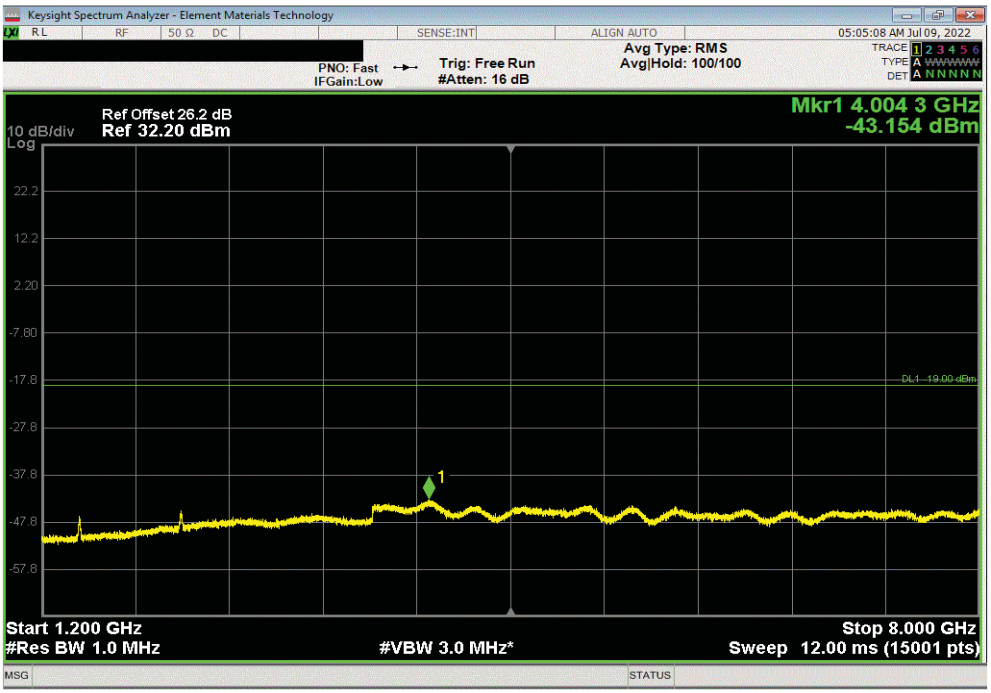
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.11	-29	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.72	-32.31	-19	Pass



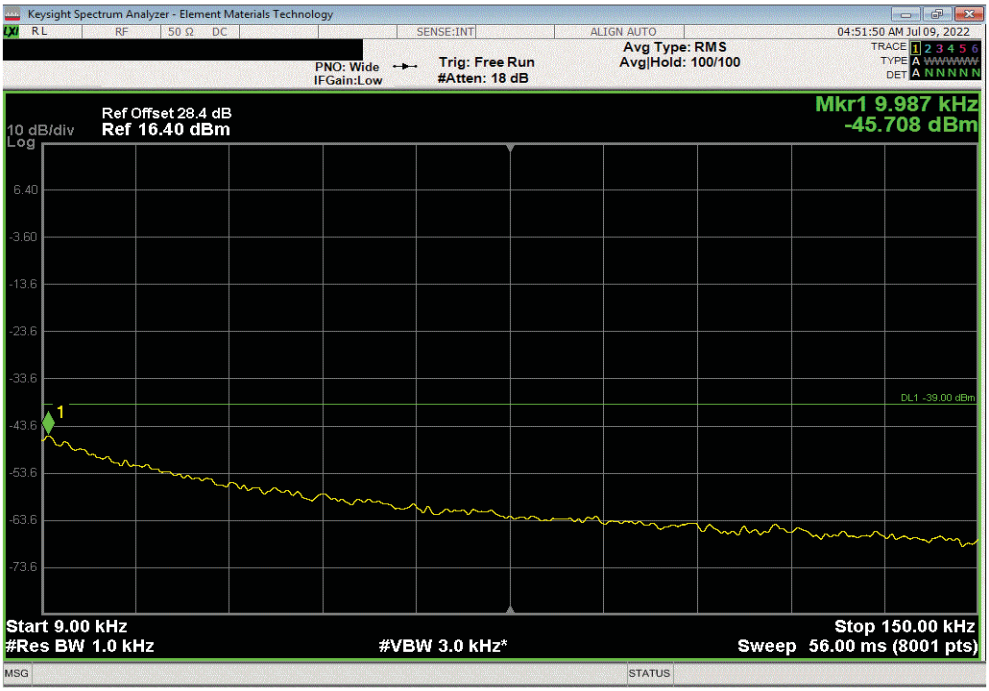
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4004.32	-43.15	-19	Pass



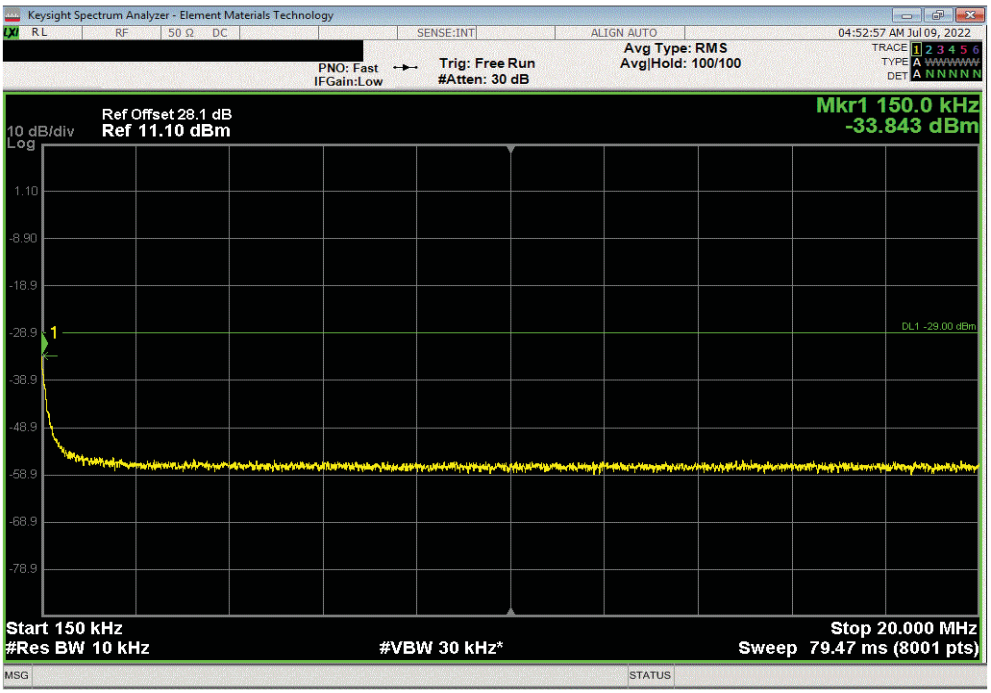
SPURIOUS CONDUCTED EMISSIONS - Band 85 LTE

TbtTx 2022.06.03.0 XMit 2022.02.07.0

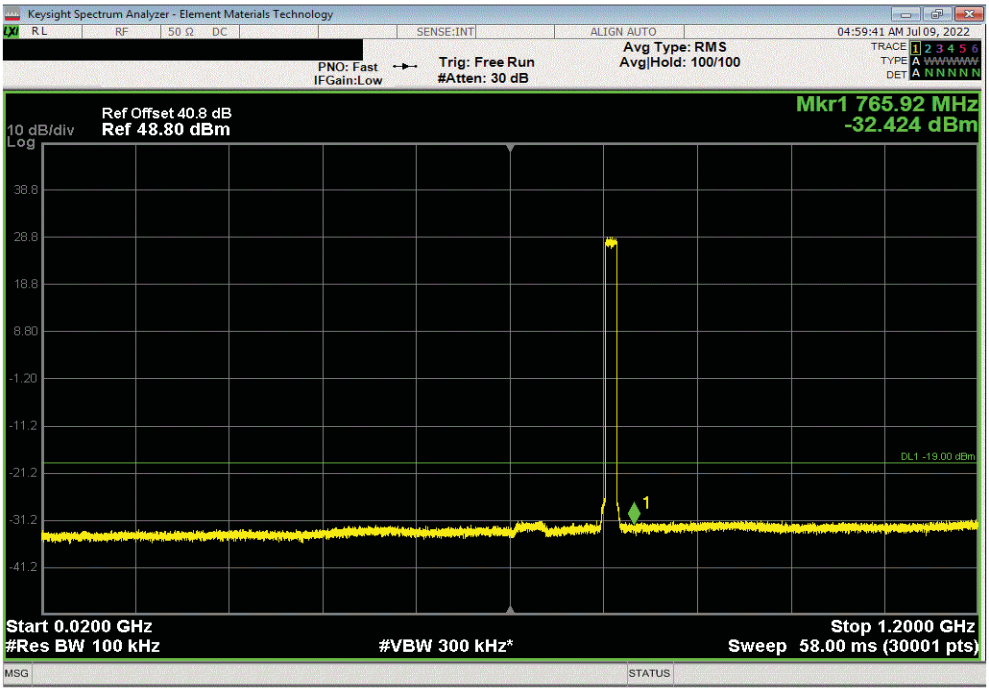
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 737 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
9 kHz - 150 kHz	0.01	-45.71	-39	Pass



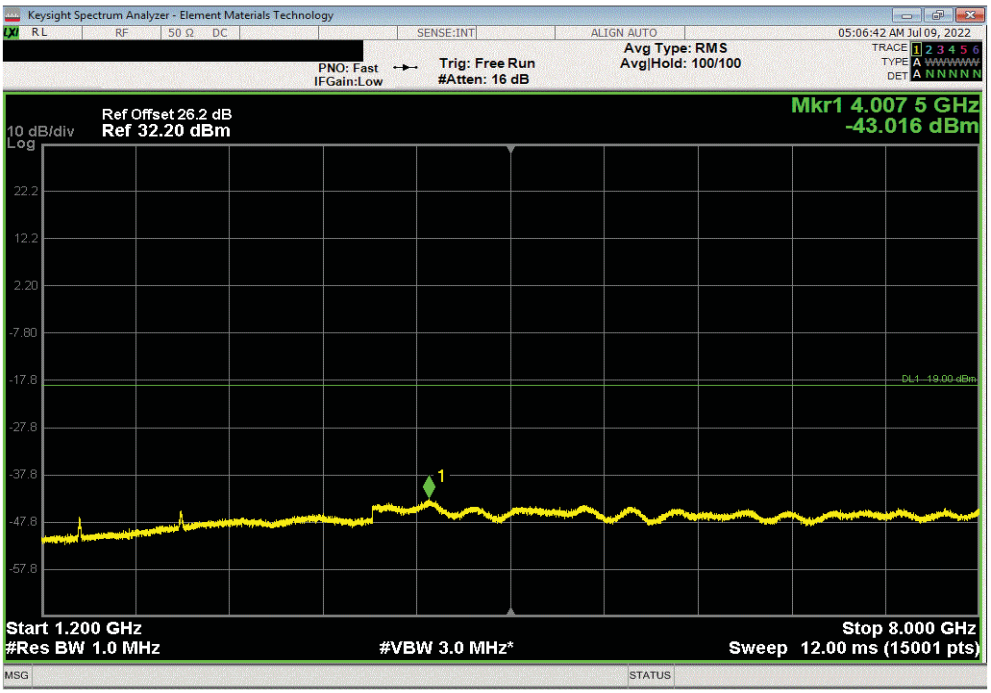
Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-33.84	-29	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.92	-32.42	-19	Pass



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4007.49	-43.02	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - Band 71 NB IoT GB

XMit 2022.02.07.0

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANE	2022-03-02	2023-03-02
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 3 different attenuation configurations which continues through to the RF input of the spectrum analyzer. Analyzer plots utilizing a resolution bandwidth called out by the client's test plan were made for each modulation type from 9 KHz to 8 GHz. The conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than the limits also called out by the client's test plan shown below.

The measurement methods are detailed in KDB 971168 D01v03 section 6 and ANSI C63.26-2015.

Per FCC 2.1057(a)(1) and RSS Gen 6.13, the upper level of measurement is the 10th harmonic of the highest fundamental frequency.

These measurements are for the frequency band after the first 100 kHz bands immediately outside and adjacent to the frequency block.

RF conducted emissions testing was performed only on one port. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in output power testing) and antenna port 2 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.

Per section 27.53(g) and RSS 130 4.7, the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm. The limit is adjusted to -19 dBm [-13 dBm -10 log (4)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

The limit for the 9kHz to 150kHz frequency range was adjusted to –39dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 100kHz [i.e.: -39dBm = -19dBm -10log(100kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to –29dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 100kHz [i.e.: -29dBm = -19dBm -10log(100kHz/10kHz)]. The required limit of -19dBm with a RBW of > 100kHz was used for all other frequency ranges. (See ANSI C63.26-2015 paragraph 5.7.2a for details on the Limit/RBW scaling method)

SPURIOUS CONDUCTED EMISSIONS - Band 71 NB IoT GB

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AHLOB	Work Order:	NOKI0043
Serial Number:	YK220900029	Date:	13-Jul-22
Customer:	Nokia Solutions and Networks	Temperature:	20.5 °C
Attendees:	Mitchell Hill, John Rattanavong	Humidity:	55.7% RH
Project:	None	Barometric Pres.:	1018 mbar
Tested by:	Marty Martin Power: 54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-130 Issue 2:2019	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. The carriers were enabled at maximum power on the middle channels of the respective bands. The port power is at maximum. The following carrier configurations were tested: B71 LTE10 NB IoT GB (60W) + B85 NB IoT SA (20W), B71 LTE15 NB IoT GB (80W), and B71 LTE20 NB IoT GB (80W).

DEVIATIONS FROM TEST STANDARD

None

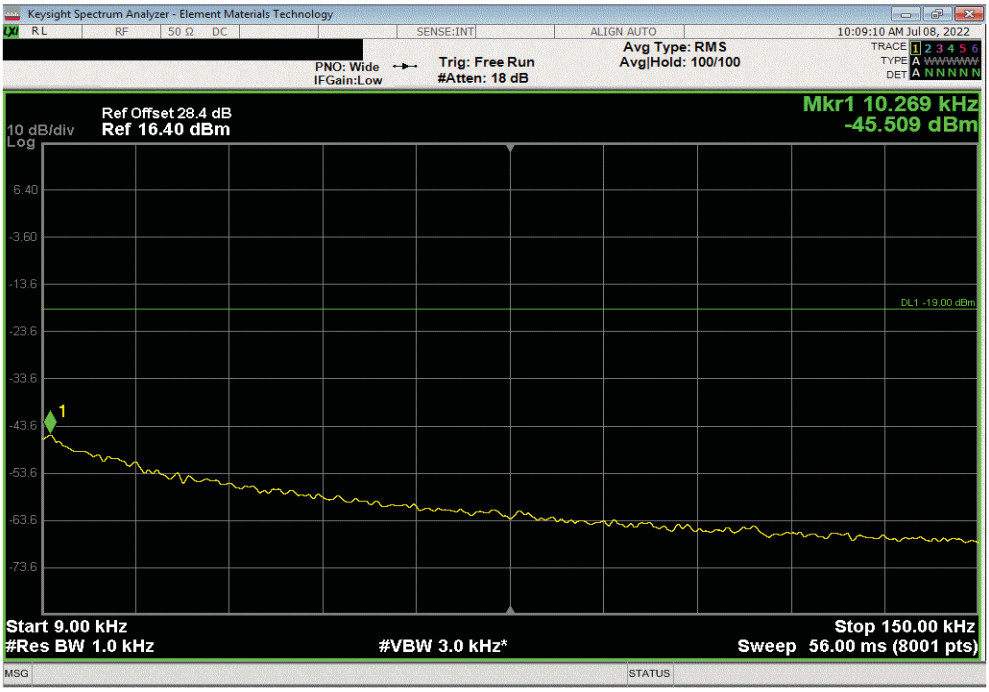
Configuration #	1, 2, 3	Signature

			Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
Port 2, LTE, Band 71, 617 MHz - 652 MHz							
10 MHz Bandwidth							
N-TM							
	Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz		9 kHz - 150 kHz	0.01	-45.51	-39	Pass
	Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz		150 kHz - 20 MHz	0.15	-34.12	-29	Pass
	Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz		20 MHz - 1.2 GHz	766	-32.25	-19	Pass
	Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz		1.2 GHz - 8 GHz	4044.67	-43.18	-19	Pass
15 MHz Bandwidth							
N-TM							
	Mid Ch. 634.5 MHz		9 kHz - 150 kHz	0.01	-45.59	-39	Pass
	Mid Ch. 634.5 MHz		150 kHz - 20 MHz	0.15	-34.65	-29	Pass
	Mid Ch. 634.5 MHz		20 MHz - 1.2 GHz	737.29	-25.86	-19	Pass
	Mid Ch. 634.5 MHz		1.2 GHz - 8 GHz	3997.52	-43.2	-19	Pass
20 MHz Bandwidth							
N-TM							
	Mid Ch. 634.5 MHz		9 kHz - 150 kHz	0.01	-44.65	-39	Pass
	Mid Ch. 634.5 MHz		150 kHz - 20 MHz	0.15	-34.7	-29	Pass
	Mid Ch. 634.5 MHz		20 MHz - 1.2 GHz	737.29	-24.4	-19	Pass
	Mid Ch. 634.5 MHz		1.2 GHz - 8 GHz	4005.23	-43.19	-19	Pass

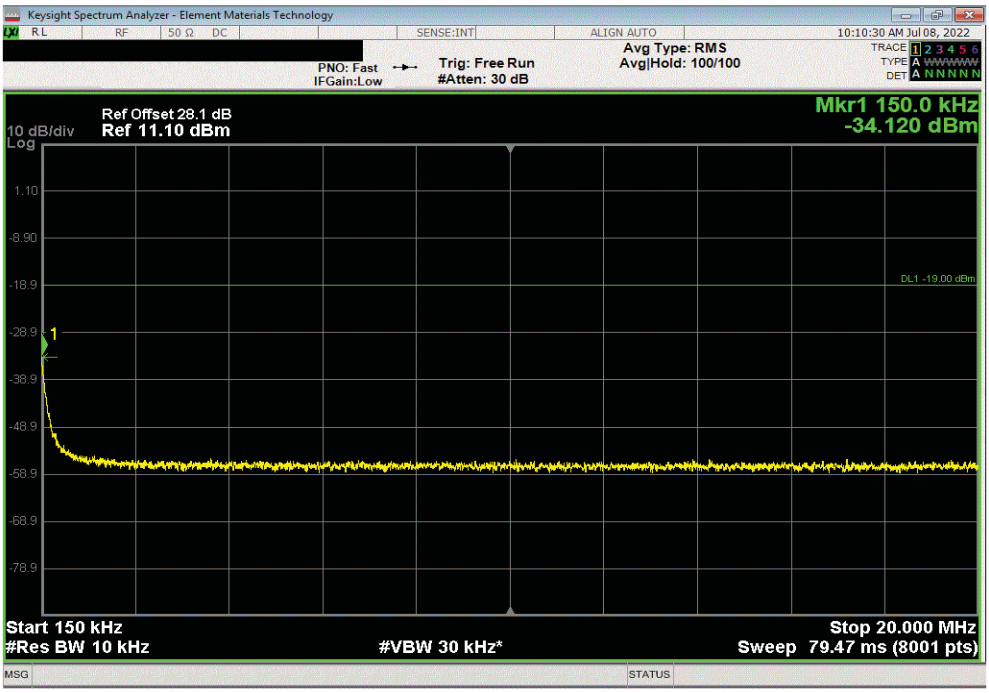
SPURIOUS CONDUCTED EMISSIONS - Band 71 NB IoT GB

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, N-TM, Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.51	-39	Pass	



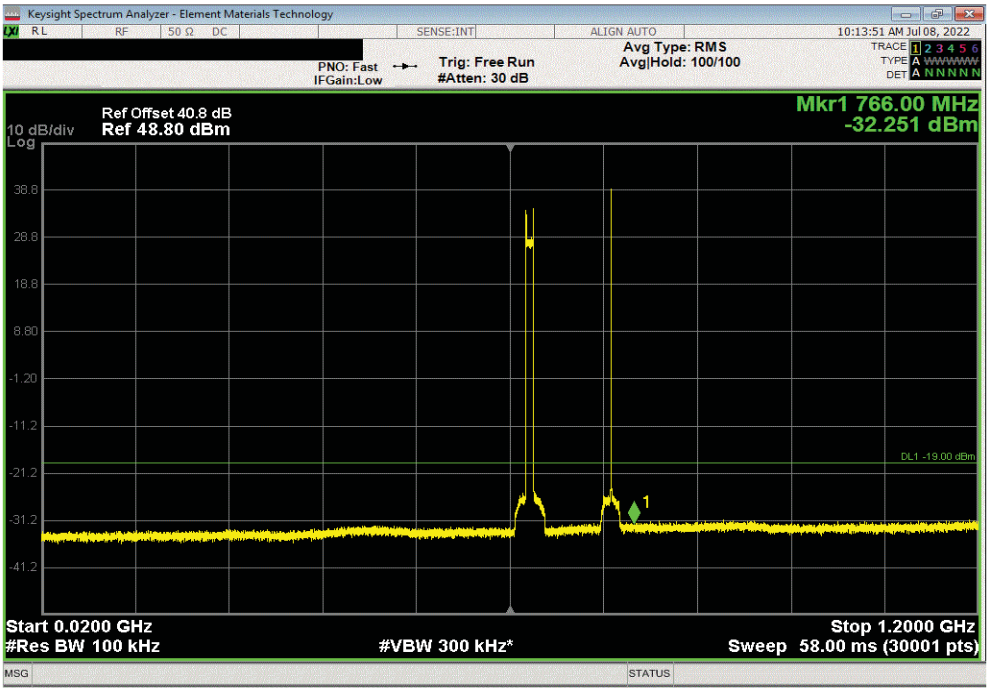
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, N-TM, Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.12	-29	Pass



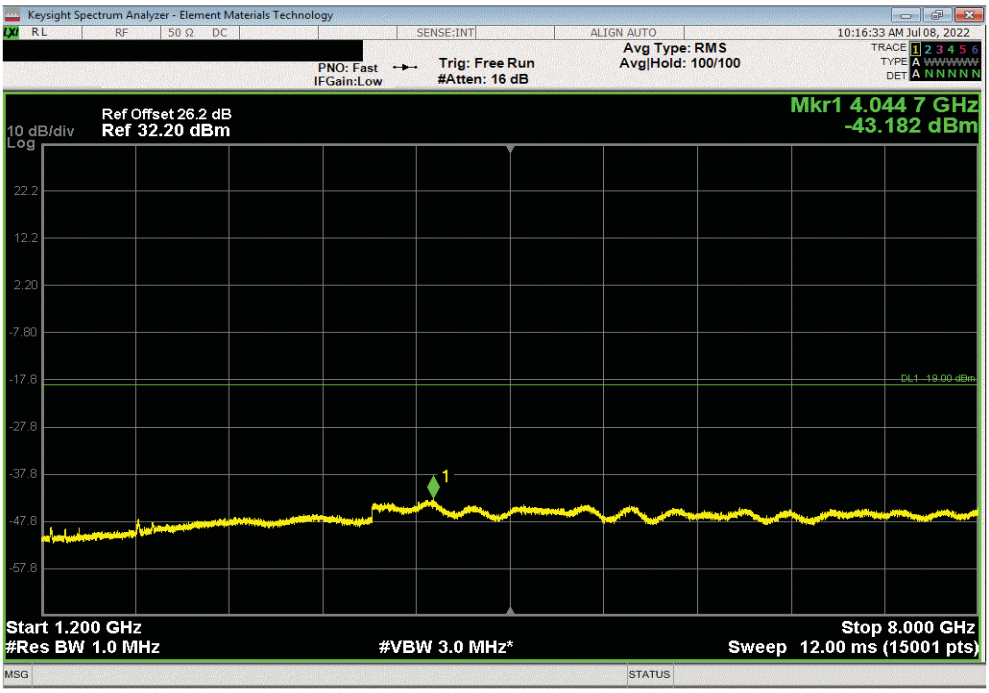
SPURIOUS CONDUCTED EMISSIONS - Band 71 NB IoT GB

TbtTx 2022.06.03.0 XMit 2022.02.07.0

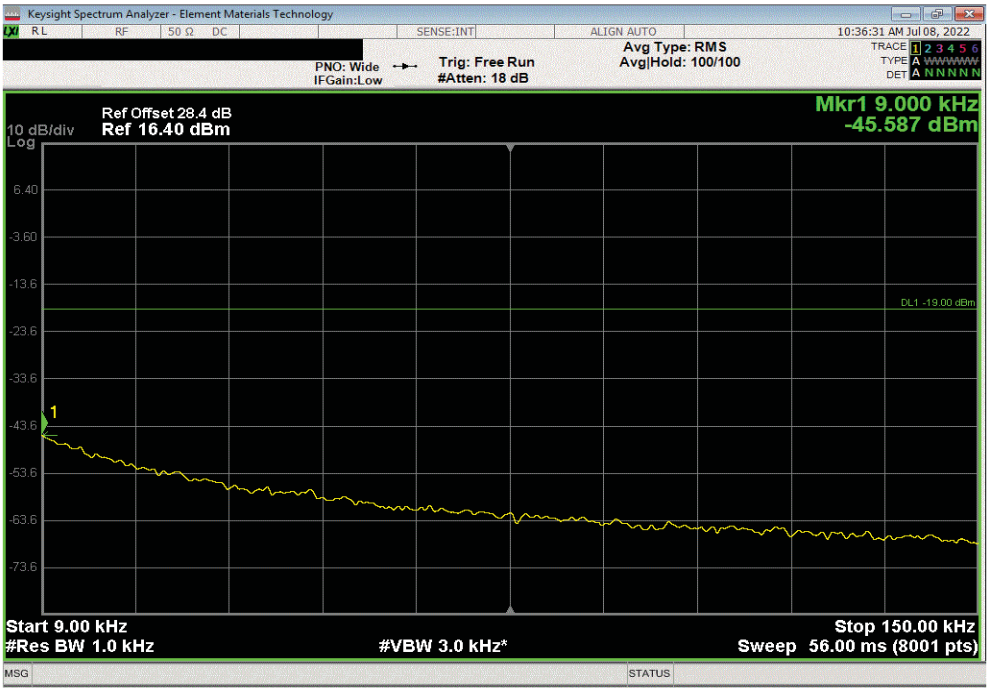
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, N-TM, Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	766	-32.25	-19	Pass



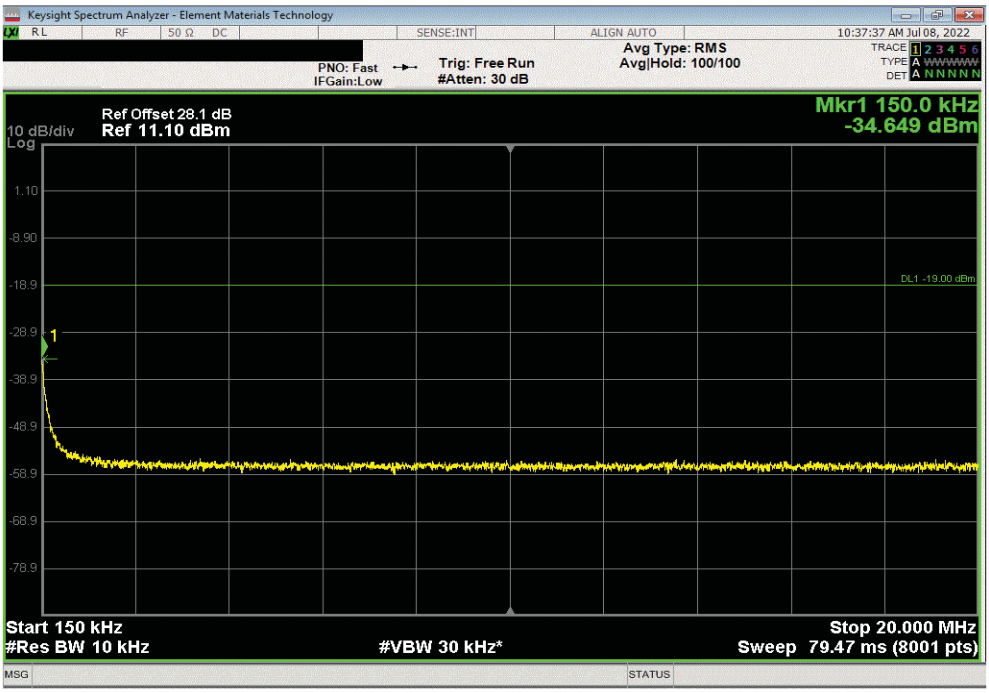
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, N-TM, Mid Ch. B71 LTE10 NB IoT GB 634.5 MHz + B85 NB IoT SA 737.0MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4044.67	-43.18	-19	Pass



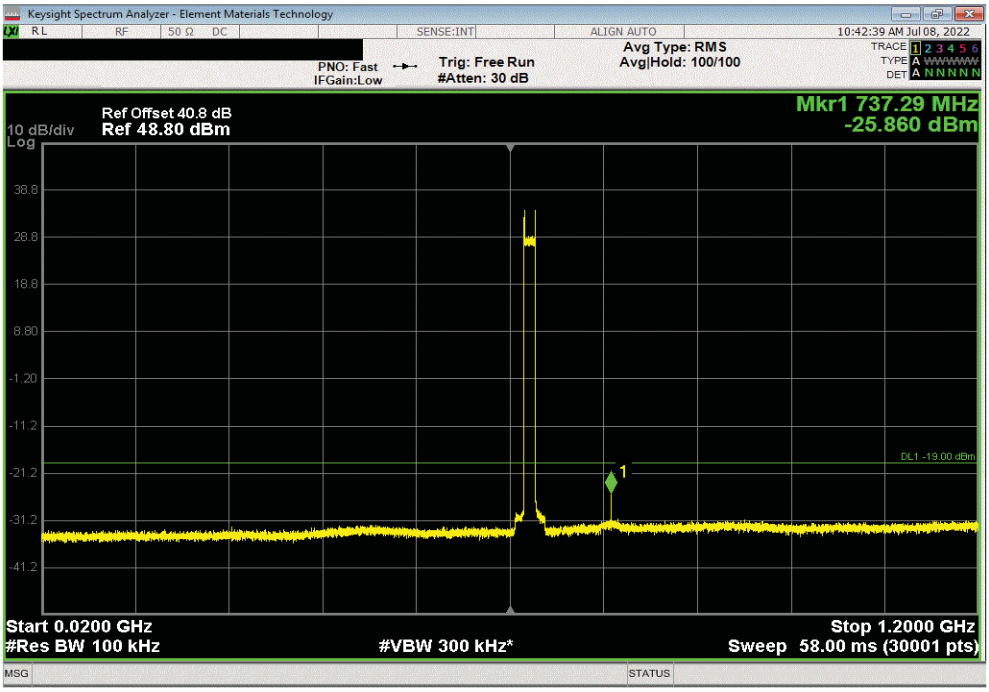
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, N-TM , Mid Ch. 634.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.59	-39	Pass	



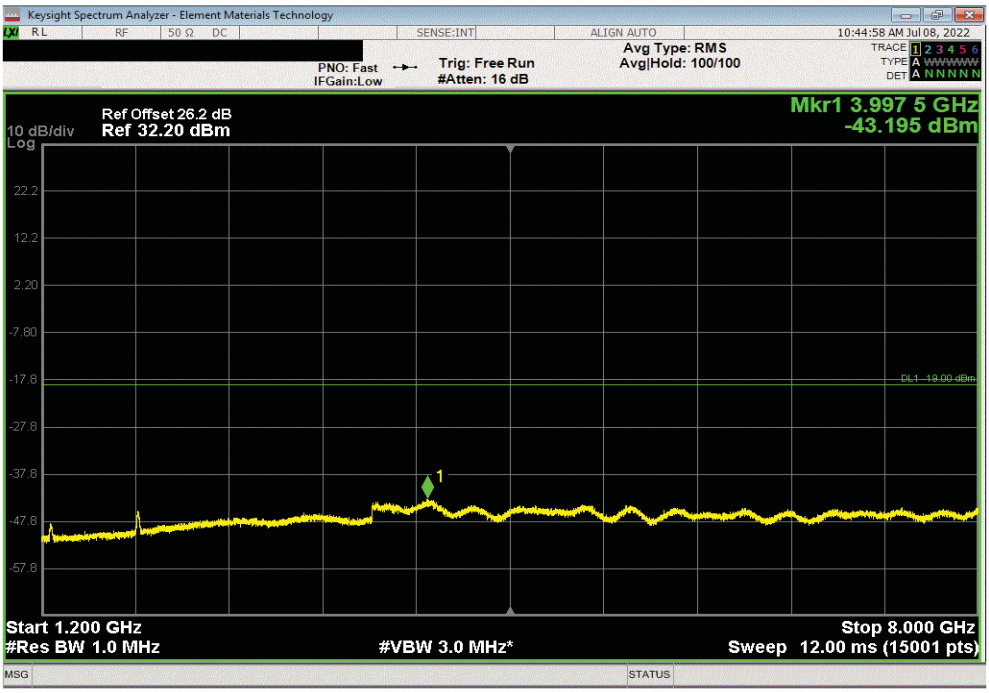
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, N-TM , Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.65	-29	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, N-TM , Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	737.29	-25.86	-19	Pass



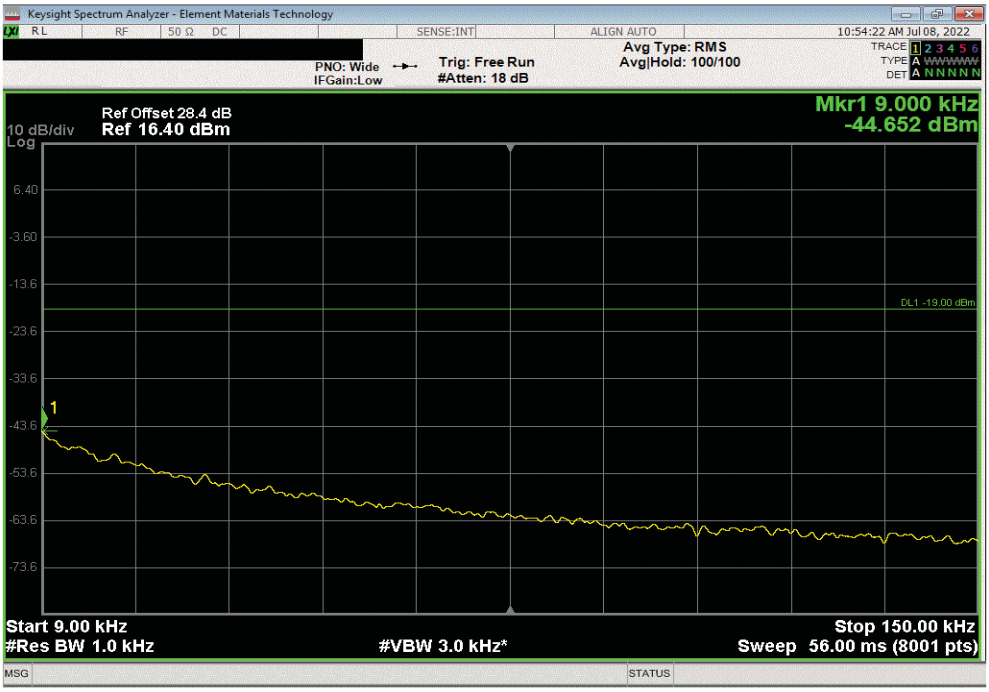
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, N-TM , Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	3997.52	-43.2	-19	Pass



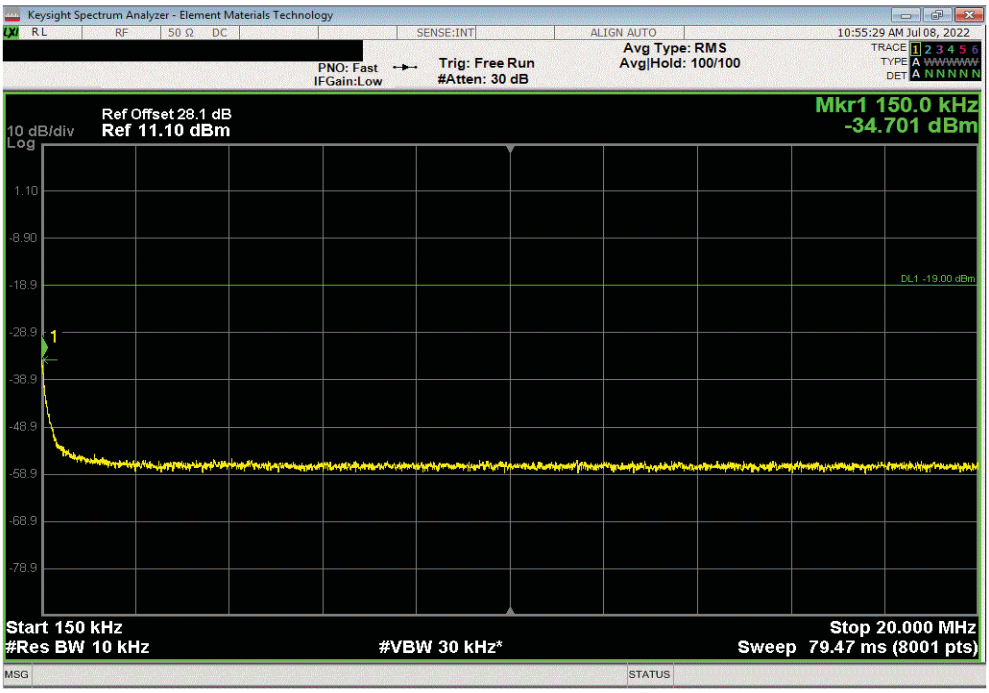
SPURIOUS CONDUCTED EMISSIONS - Band 71 NB IoT GB

TbtTx 2022.06.03.0 XMit 2022.02.07.0

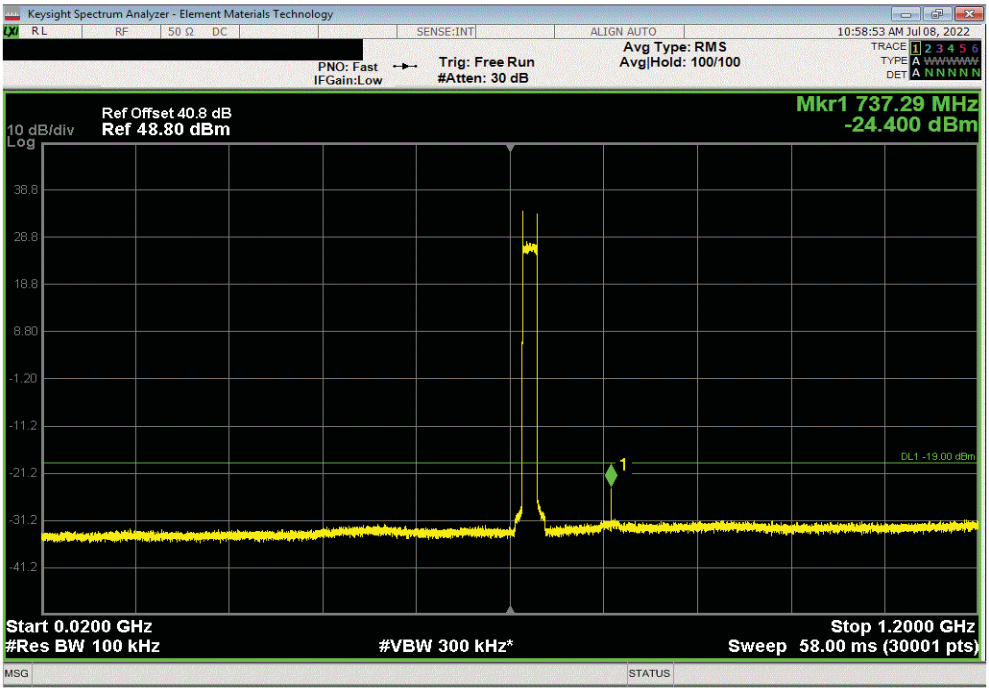
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, N-TM , Mid Ch. 634.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-44.65	-39	Pass	



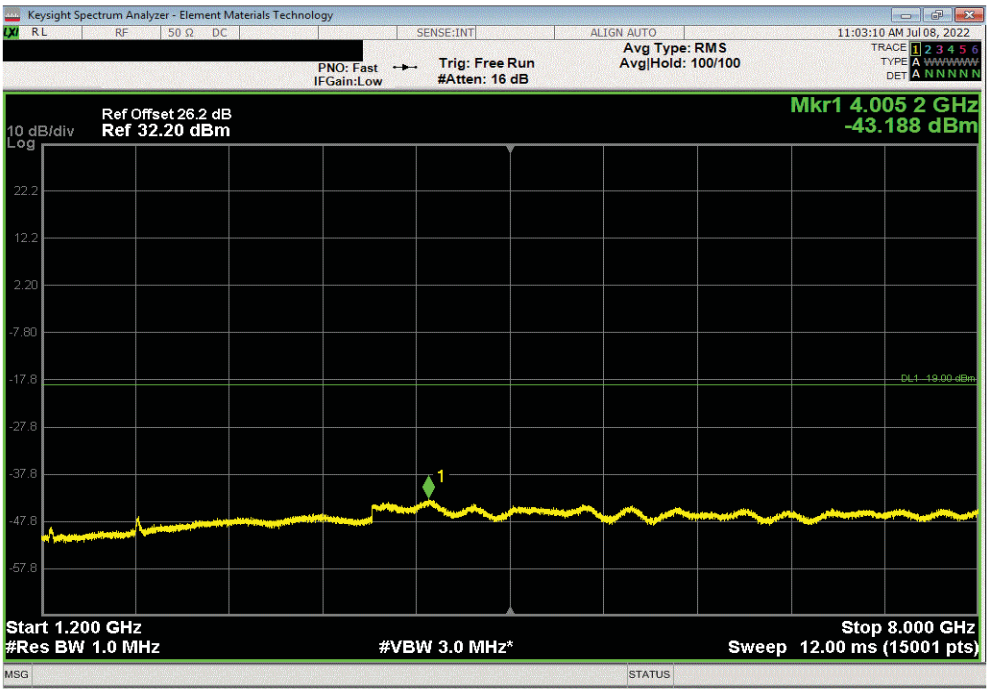
Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, N-TM , Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.7	-29	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, N-TM, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	737.29	-24.4	-19	Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, N-TM, Mid Ch. 634.5 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4005.23	-43.19	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - Band 85 NB IoT GB

XMit 2022.02.07.0

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANE	2022-03-02	2023-03-02
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 3 different attenuation configurations which continues through to the RF input of the spectrum analyzer. Analyzer plots utilizing a resolution bandwidth called out by the client's test plan were made for each modulation type from 9 KHz to 8 GHz. The conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than the limits also called out by the client's test plan shown below.

The measurement methods are detailed in KDB 971168 D01v03 section 6 and ANSI C63.26-2015.

Per FCC 2.1057(a)(1) and RSS Gen 6.13, the upper level of measurement is the 10th harmonic of the highest fundamental frequency.

These measurements are for the frequency band after the first 100 kHz bands immediately outside and adjacent to the frequency block.

RF conducted emissions testing was performed only on one port. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in output power testing) and antenna port 2 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.

Per section 27.53(g) and RSS 130 4.7, the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm. The limit is adjusted to -19 dBm [-13 dBm -10 log (4)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

The limit for the 9kHz to 150kHz frequency range was adjusted to –39dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 100kHz [i.e.: -39dBm = -19dBm -10log(100kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to –29dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 100kHz [i.e.: -29dBm = -19dBm -10log(100kHz/10kHz)]. The required limit of -19dBm with a RBW of > 100kHz was used for all other frequency ranges. (See ANSI C63.26-2015 paragraph 5.7.2a for details on the Limit/RBW scaling method)

SPURIOUS CONDUCTED EMISSIONS - Band 85 NB IoT GB

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AHLOB	Work Order:	NOKI0043
Serial Number:	YK220900029	Date:	13-Jul-22
Customer:	Nokia Solutions and Networks	Temperature:	21.1 °C
Attendees:	Mitchell Hill, John Rattanavong	Humidity:	53% RH
Project:	None	Barometric Pres.:	1017 mbar
Tested by:	Marty Martin Power: 54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-130 Issue 2:2019	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. The carriers were enabled at maximum power on the middle channels of the respective bands. The port power is at maximum. The following carrier configurations were tested: B85 LTE10 NB IoT GB (60W) + B71 NB IoT SA (20W), and B85 LTE15 NB IoT GB (80W).

DEVIATIONS FROM TEST STANDARD

None

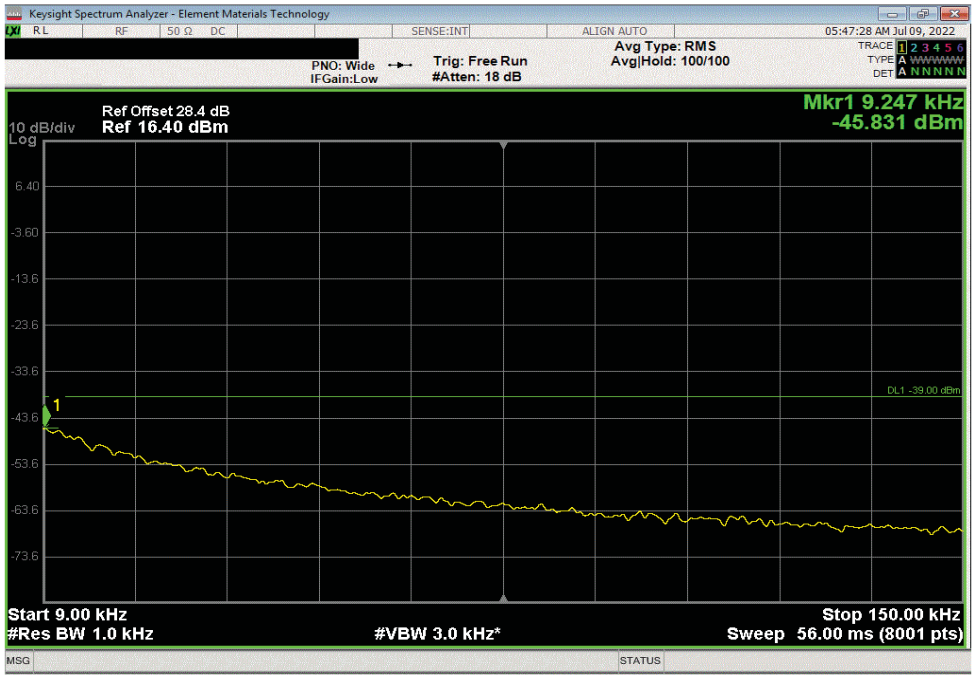
Configuration #	1, 2, 3	Signature

	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
Port 2, LTE					
10 MHz Bandwidth + NB IoT SA 200 kHz					
E-TM1.1 with N-TM					
Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz	9 kHz - 150 kHz	0.01	-45.83	-39	Pass
Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz	150 kHz - 20 MHz	0.15	-34.35	-29	Pass
Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz	20 MHz - 1.2 GHz	766.04	-32.4	-19	Pass
Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz	1.2 GHz - 8 GHz	4013.39	-43.18	-19	Pass
15 MHz Bandwidth					
E-TM1.1 with N-TM Modulation					
Mid Ch. 737 MHz	9 kHz - 150 kHz	0.01	-46.04	-39	Pass
Mid Ch. 737 MHz	150 kHz - 20 MHz	0.15	-34.18	-29	Pass
Mid Ch. 737 MHz	20 MHz - 1.2 GHz	765.72	-32.36	-19	Pass
Mid Ch. 737 MHz	1.2 GHz - 8 GHz	3982.11	-43.06	-19	Pass

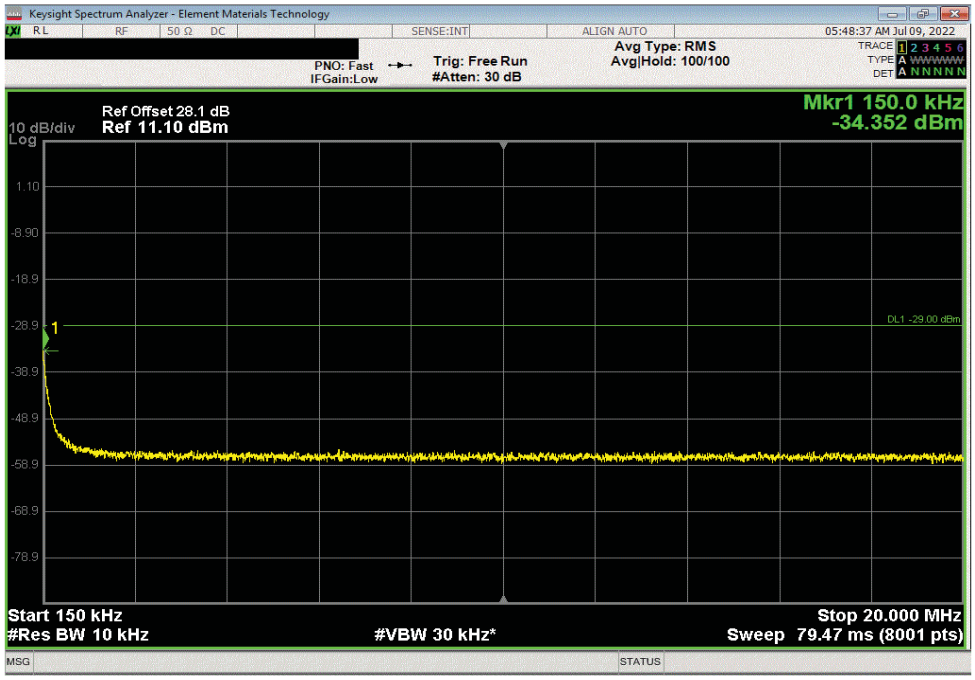
SPURIOUS CONDUCTED EMISSIONS - Band 85 NB IoT GB

TbtTx 2022.06.03.0 XMit 2022.02.07.0

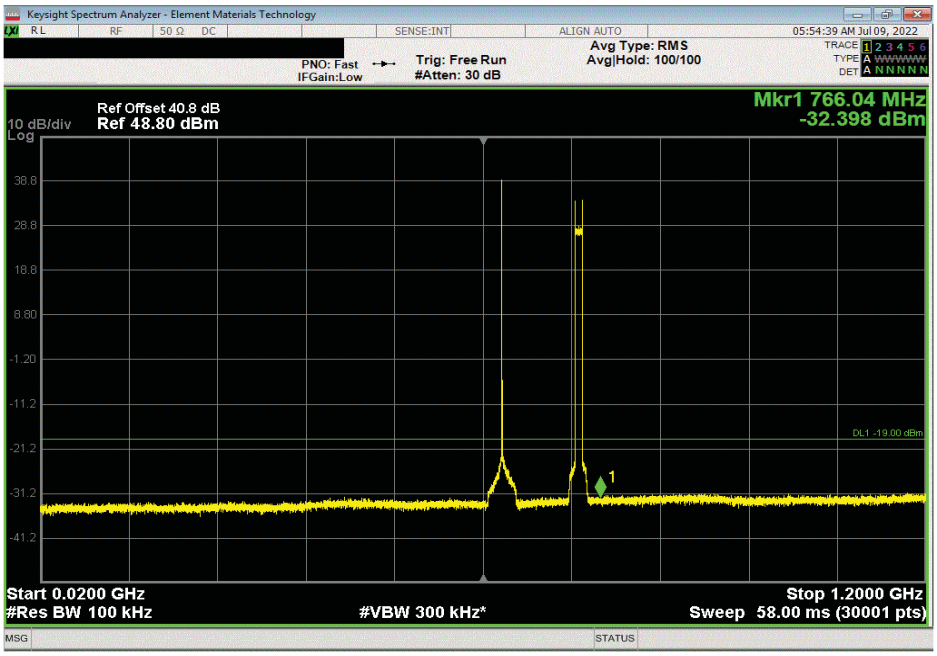
Port 2, LTE, MultiBand MultiCarrier, 10 MHz Bandwidth + NB IoT SA 200 kHz, E-TM1.1 with N-TM Modulation, Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
9 kHz - 150 kHz	0.01	-45.83	-39	Pass



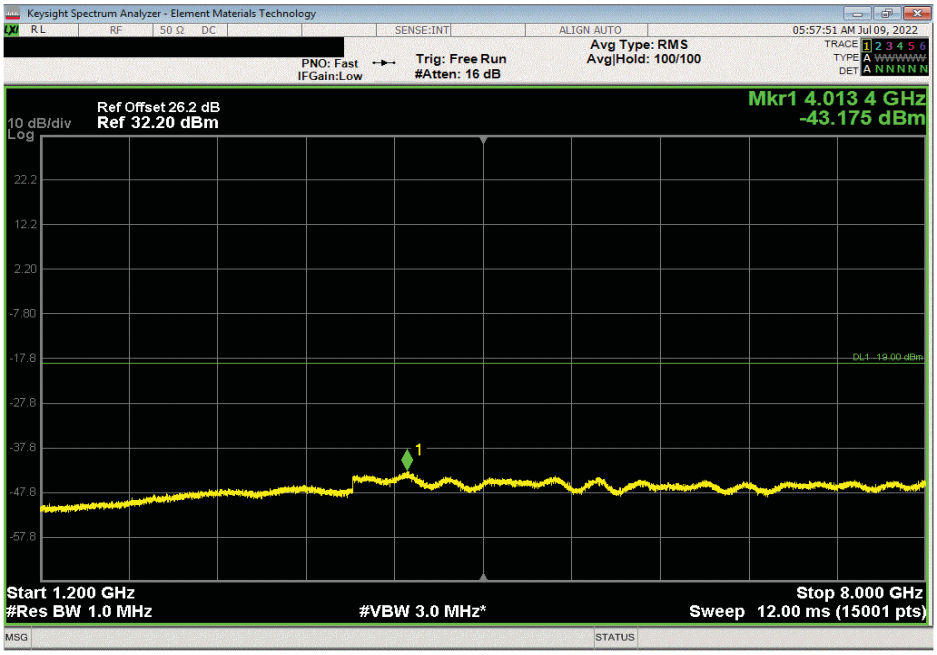
Port 2, LTE, MultiBand MultiCarrier, 10 MHz Bandwidth + NB IoT SA 200 kHz, E-TM1.1 with N-TM Modulation, Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.35	-29	Pass



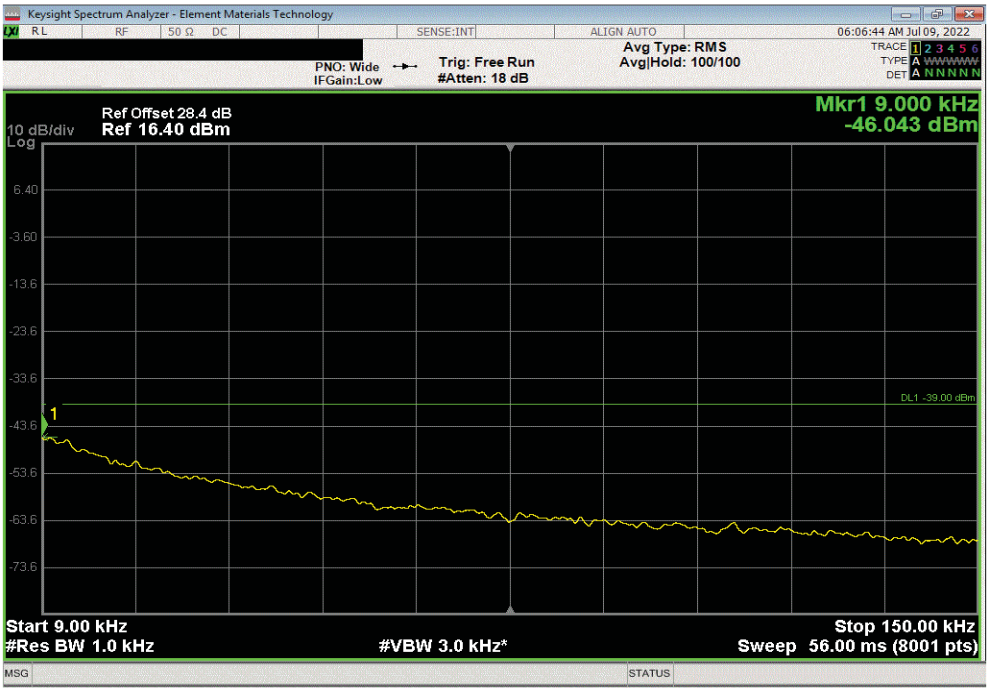
Port 2, LTE, MultiBand MultiCarrier, 10 MHz Bandwidth + NB IoT SA 200 kHz, E-TM1.1 with N-TM Modulation, Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	766.04	-32.4	-19	Pass



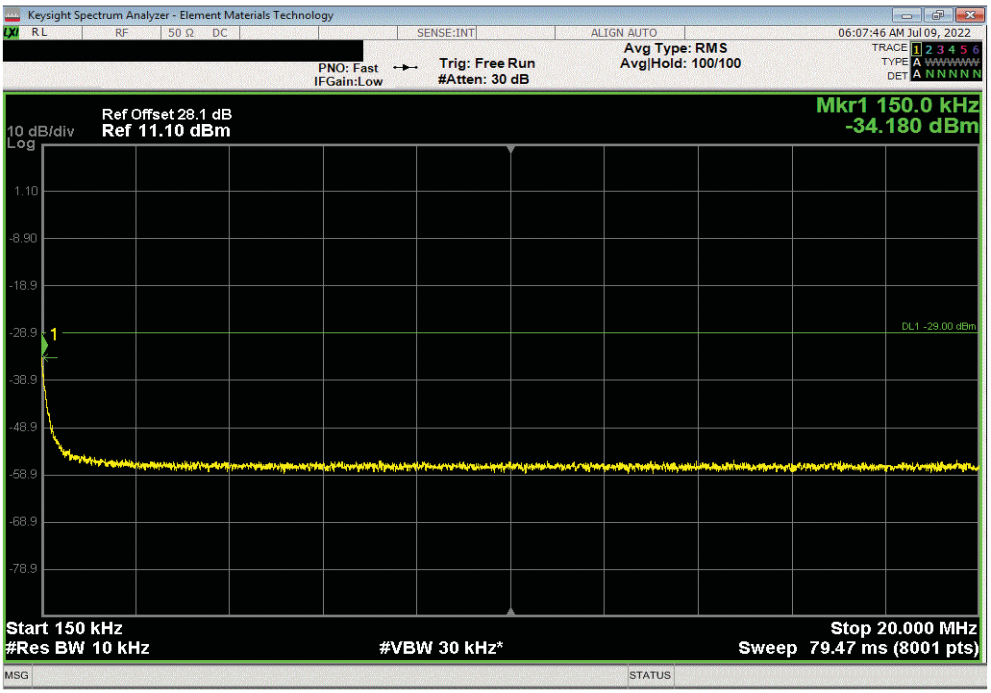
Port 2, LTE, MultiBand MultiCarrier, 10 MHz Bandwidth + NB IoT SA 200 kHz, E-TM1.1 with N-TM Modulation, Mid Ch. B85 LTE10 NB IoT GB 737 MHz + B71 NB IoT SA 634.5MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4013.39	-43.18	-19	Pass



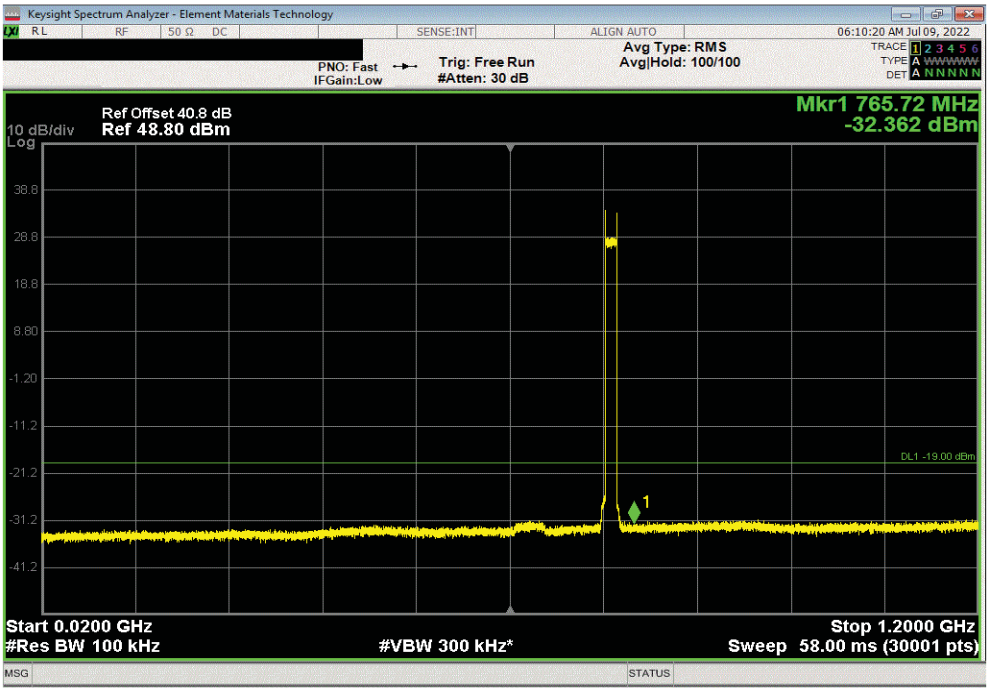
Port 2, LTE, MultiBand MultiCarrier, 15 MHz Bandwidth,E-TM1.1 with N-TM Modulation, Mid Ch. 737 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	9 kHz - 150 kHz	0.01	-46.04	-39	Pass



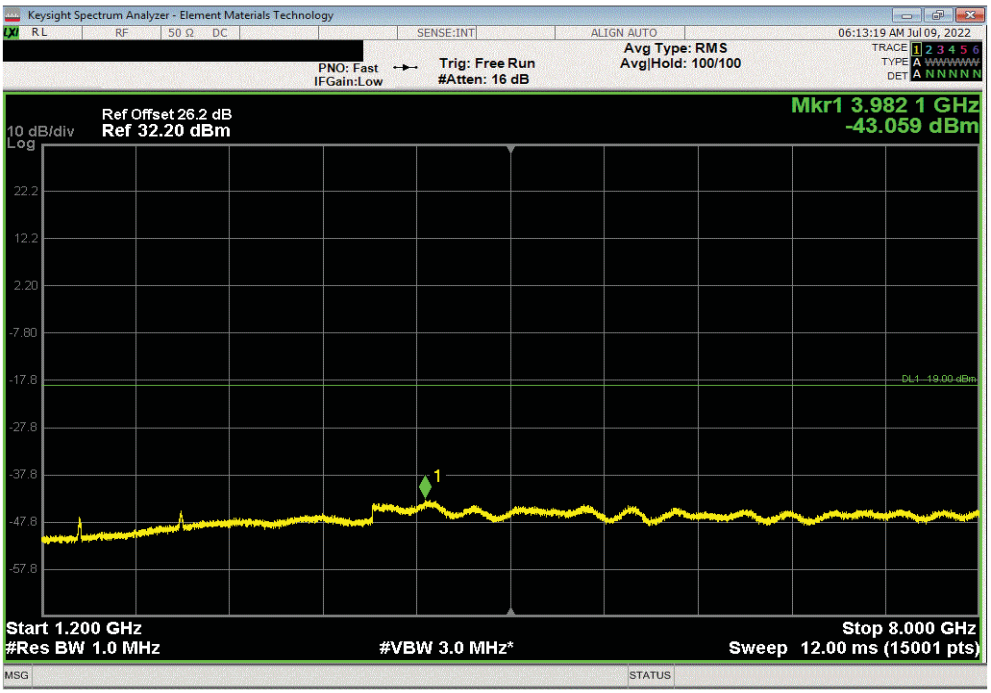
Port 2, LTE, MultiBand MultiCarrier, 15 MHz Bandwidth, E-TM1.1 with N-TM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.18	-29	Pass



Port 2, LTE, MultiBand MultiCarrier, 15 MHz Bandwidth, E-TM1.1 with N-TM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	765.72	-32.36	-19	Pass



Port 2, LTE, MultiBand MultiCarrier, 15 MHz Bandwidth, E-TM1.1 with N-TM Modulation, Mid Ch. 737 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	3982.11	-43.06	-19	Pass



SPURIOUS CONDUCTED EMISSIONS - NB IoT SA

XMit 2022.02.07.0

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.

TEST DESCRIPTION

The Band 71 and Band 85 Narrow Band IoT Standalone spurious emission test cases were performed as part of the spurious emission tests for other channel types. See Spurious emission test section of other channel types for details.

SPURIOUS CONDUCTED EMISSIONS - MULTIBAND MULTICARRIER

XMit 2022.02.07.0

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANE	2022-03-02	2023-03-02
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 3 different attenuation configurations which continues through to the RF input of the spectrum analyzer. Analyzer plots utilizing a resolution bandwidth called out by the client's test plan were made for each modulation type from 9 kHz to 8 GHz. The conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than the limits also called out by the client's test plan shown below. The measurement methods are detailed in KDB 971168 D01v03 section 6 and ANSI C63.26-2015.

These measurements are for frequency band after the first 100 kHz bands immediately outside and adjacent to the frequency block. RF conducted emissions testing was performed only on one port. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in output power testing) and antenna port 2 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.

Per section 27.53(g) and RSS 130 4.7, the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm. The limit is adjusted to -19 dBm [-13 dBm -10 log (4)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

The limit for the 9kHz to 150kHz frequency range was adjusted to –39dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 100kHz [i.e.: -39dBm = -19dBm -10log(100kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to –29dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 100kHz [i.e.: -29dBm = -19dBm -10log(100kHz/10kHz)]. The required limit of -19dBm with a RBW of $\geq$ 100kHz was used for all other frequency ranges.

Multi-carrier test cases have been developed as shown below:
Multi-Carrier Test Case 1: 3GPP Band 71 Multicarriers _Three LTE5 carriers using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (619.5 & 624.5MHz) and a third carrier with maximum spacing between the other two carrier frequencies (649.5MHz) at the upper band edge. The LTE5 channel bandwidth was selected to maximize carrier power spectral density. The carriers are operated at maximum power for a total port power of 80 watts (~26.6W/Band 71 carriers). 3GPP Band 85 carrier is not enabled.

Multi-Carrier Test Case 2: 3GPP Band 71 Multicarriers_ One LTE 20MHz carrier (627.0 MHz) and one LTE 15MHz carrier (644.5MHz) cover all of the Band 71 bandwidth. The largest channel bandwidth is selected to maximize carrier OBW. The carriers are operated at maximum power for a total port power of 80 watts (~40W/Band 71 carriers). 3GPP Band 85 carrier is not enabled.

Multi-Carrier Test Case 3: 3GPP Band 85 Multicarrier_Two LTE5 carriers using two carriers (with maximum spacing between carrier frequencies) at the lower band edge (730.5MHz) and at the upper band edge (743.5MHz). The LTE5 channel bandwidth was selected to maximize carrier power spectral density. The carriers are operated at maximum power for a total port power of 80 watts (~40W/Band 85 carrier). 3GPP Band 71 carrier is not enabled.

Multi-Carrier Test Case 4: 3GPP Band 71 and Band 85 Multicarrier Multiband: Three LTE 5MHz carriers using two carriers (with minimum spacing between carrier frequencies) at the Band 71 lower band edge (619.5 & 624.5MHz) and a third carrier with maximum spacing between the other two carrier frequencies (743.5MHz) at the Band 85 upper band edge. The smallest channel bandwidth was selected to maximize carrier power spectral density. The carriers were operated at maximum power (~26.6W/ Band 71 carrier and ~26.6W Band 85 carrier) for a total port power of 80 watts.

SPURIOUS CONDUCTED EMISSIONS - MULTIBAND MULTICARRIER

element

TMTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AHLOB	Work Order:	NOKI0043
Serial Number:	YK220900029	Date:	11-Jul-22
Customer:	Nokia Solutions and Networks	Temperature:	21.3 °C
Attendees:	Mitchell Hill, John Rattanavong	Humidity:	55.2% RH
Project:	None	Barometric Pres.:	1014 mbar
Tested by:	Marty Martin	Job Site:	TX07
Power:	54 VDC		

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-130 Issue 2:2019	ANSI C63.26:2015

COMMENTS

All measurement path losses were accounted for in the reference level offest including any attenuators, filters and DC blocks. Band 71 and Band 85 carriers were operating at maximum power in each applicable test case to achieve a total port power of 80 watts. The following are measurements for a single output port.

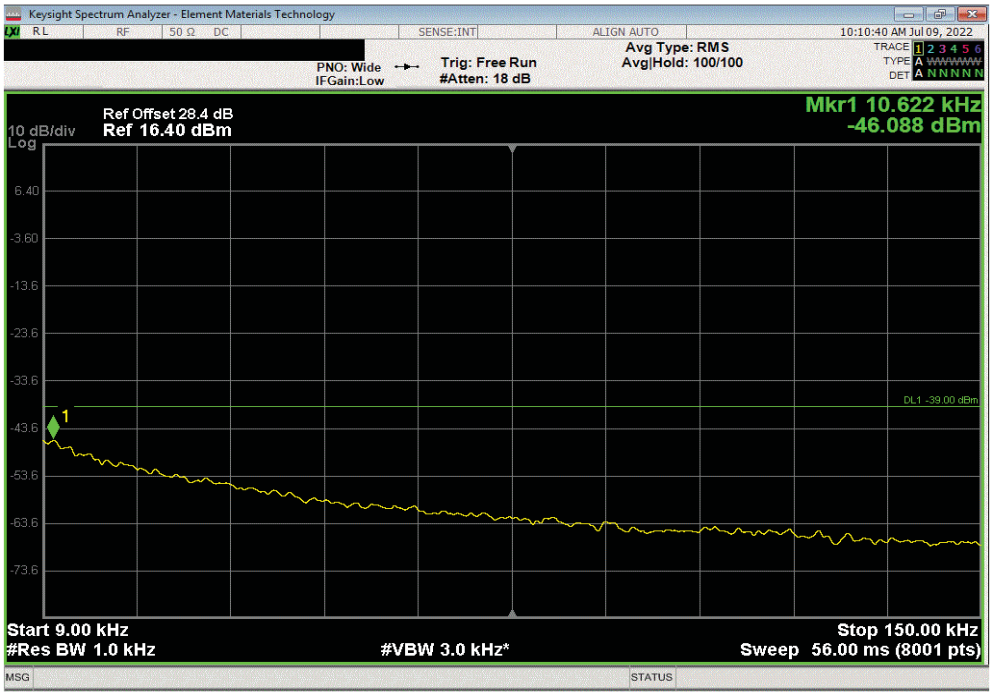
DEVIATIONS FROM TEST STANDARD

None

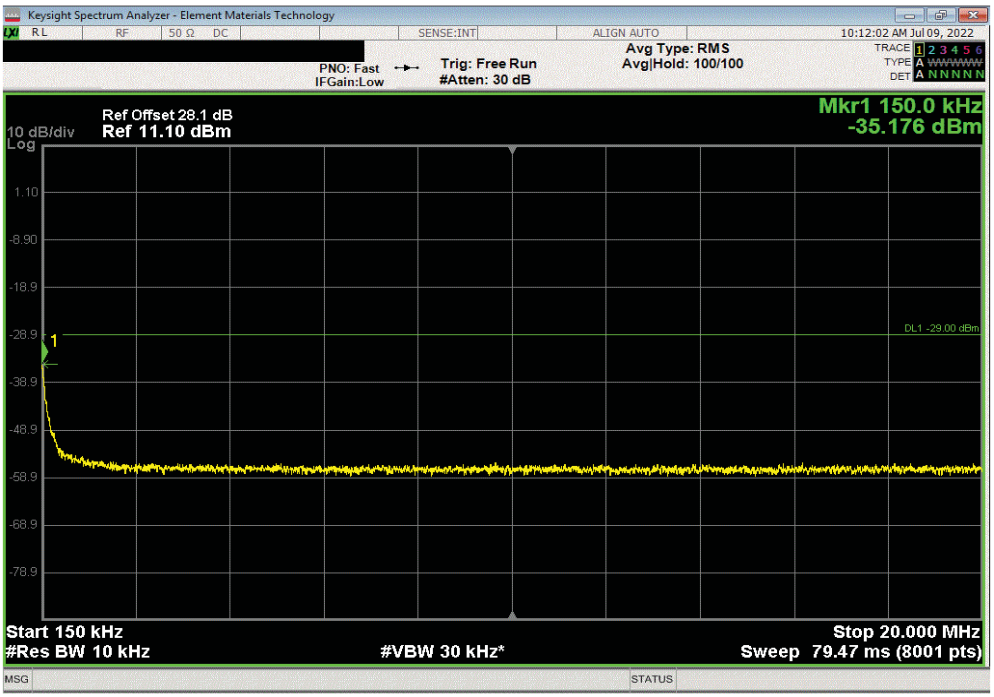
Configuration #	1, 2, 3	Signature

	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
LTE Multicarrier Multiband					
Port 2					
QPSK Modulation					
Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)	9 kHz - 150 kHz	0.01	-46.088	-39	Pass
Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)	150 kHz - 20 MHz	0.15	-35.176	-29	Pass
Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)	20 MHz - 1.2 GHz	737.29	-24.56	-19	Pass
Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)	1.2 GHz - 8 GHz	4026.53	-42.91	-19	Pass
Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)	9 kHz - 150 kHz	0.01	-45.509	-39	Pass
Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)	150 kHz - 20 MHz	0.15	-34.879	-29	Pass
Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)	20 MHz - 1.2 GHz	737.29	-24.71	-19	Pass
Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)	1.2 GHz - 8 GHz	3992.08	-44.02	-19	Pass
Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)	9 kHz - 150 kHz	0.01	-46.28	-39	Pass
Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)	150 kHz - 20 MHz	0.15	-34.574	-29	Pass
Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)	20 MHz - 1.2 GHz	639.16	-31.25	-19	Pass
Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)	1.2 GHz - 8 GHz	4030.16	-43.14	-19	Pass
Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)	9 kHz - 150 kHz	0.01	-45.162	-39	Pass
Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)	150 kHz - 20 MHz	0.15	-34.718	-29	Pass
Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)	20 MHz - 1.2 GHz	766.2	-32.36	-19	Pass
Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)	1.2 GHz - 8 GHz	4029.25	-43.26	-19	Pass

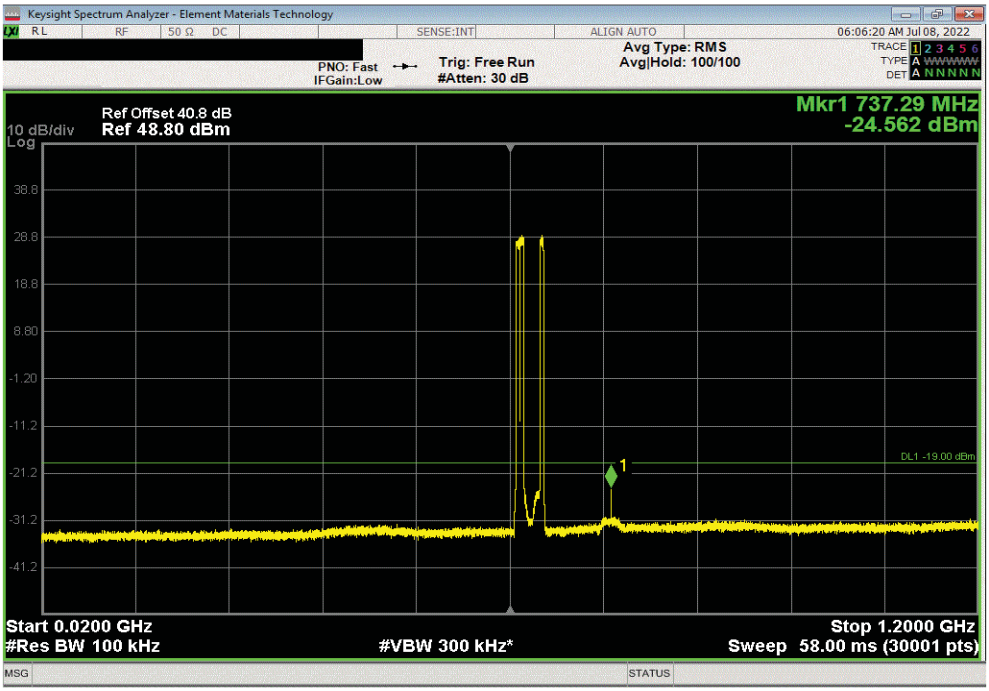
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-46.088	-39	Pass	



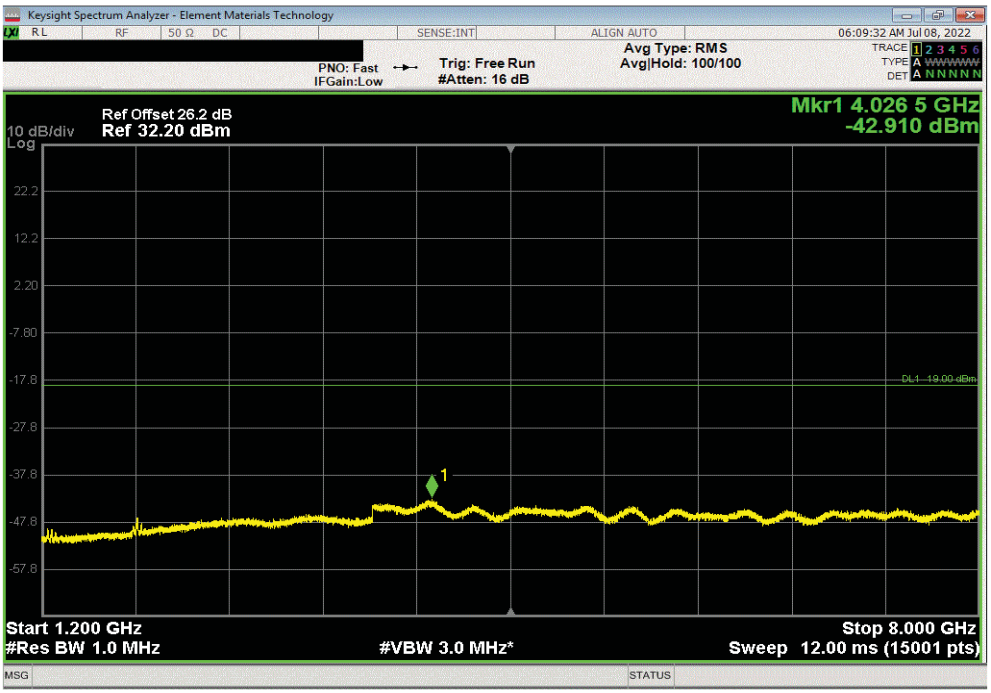
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-35.176	-29	Pass



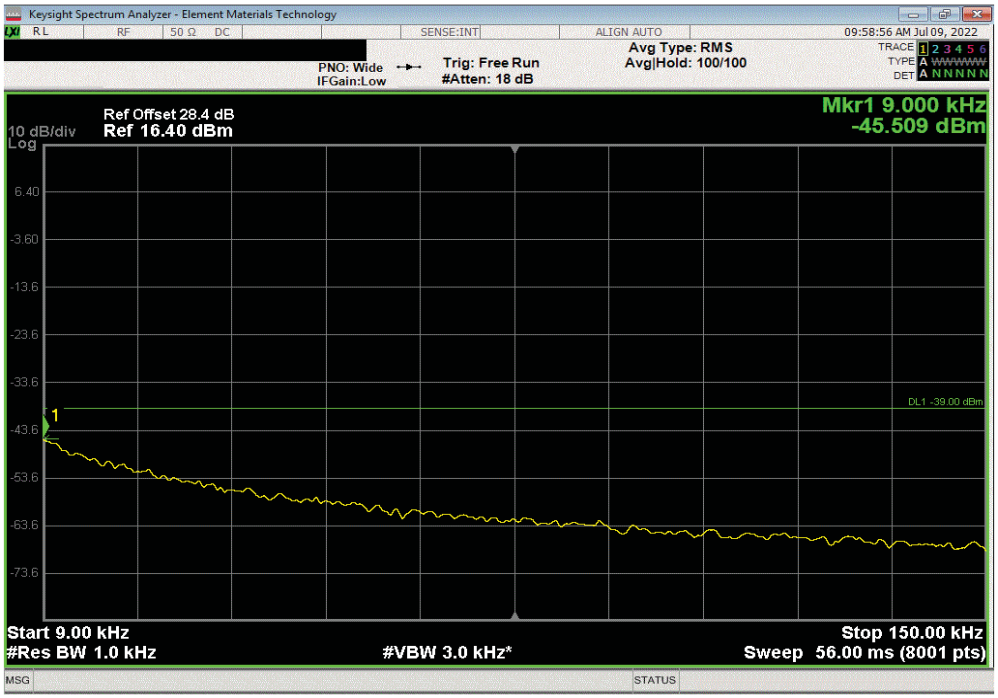
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	737.29	-24.56	-36	Pass



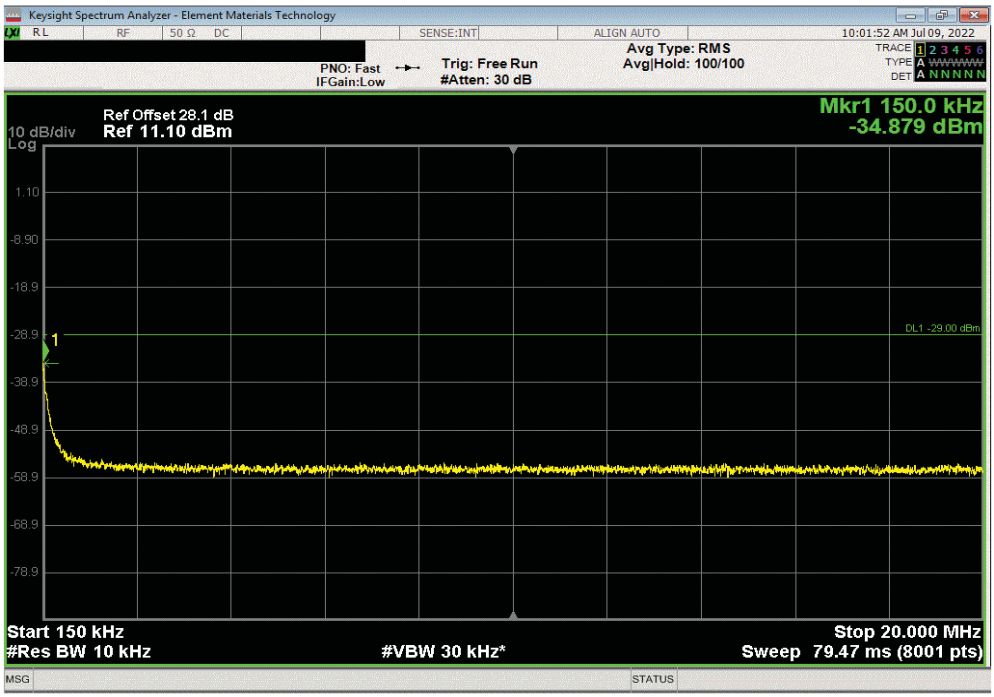
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1: Band 71 LTE5 (3 Carriers: 619.5 MHz, 624.5 MHz, 649.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4026.53	-42.91	-30	Pass



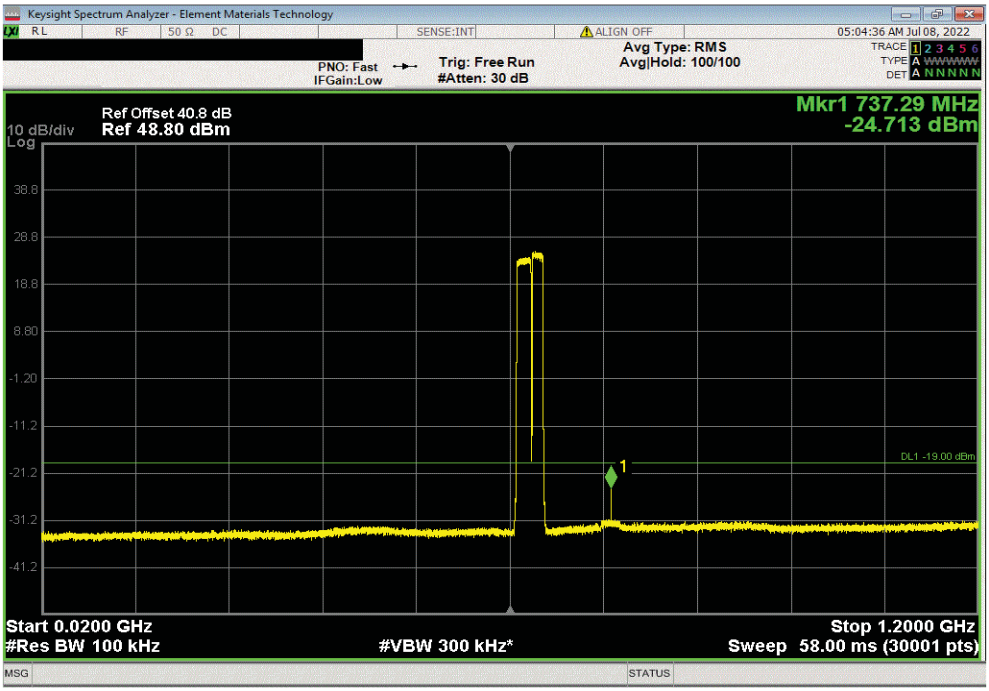
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.509	-39	Pass	



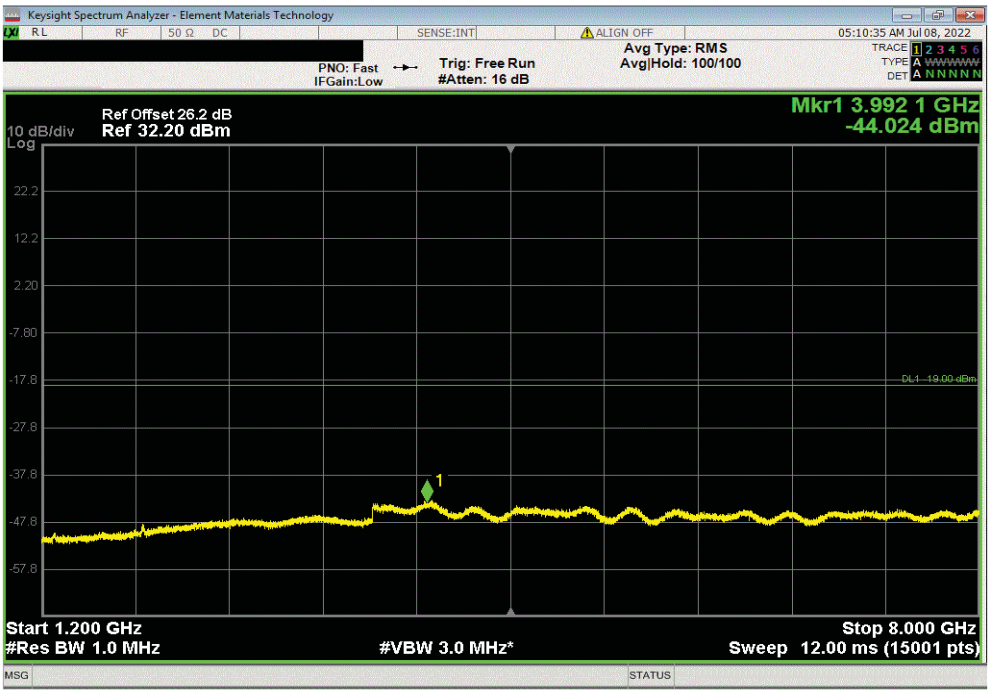
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.879	-29	Pass



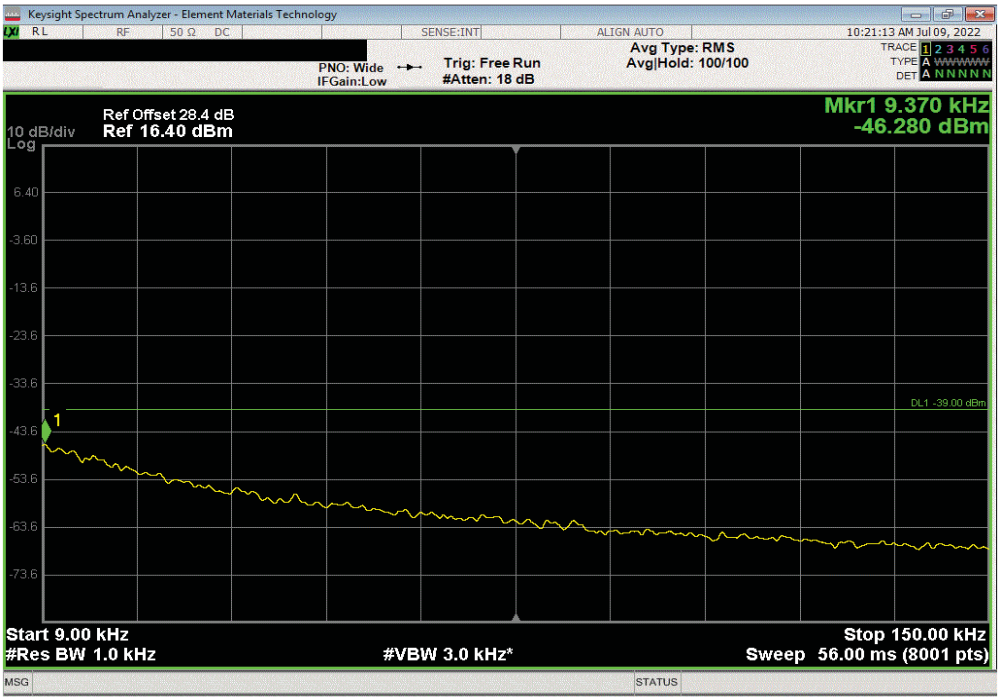
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	737.29	-24.71	-36	Pass



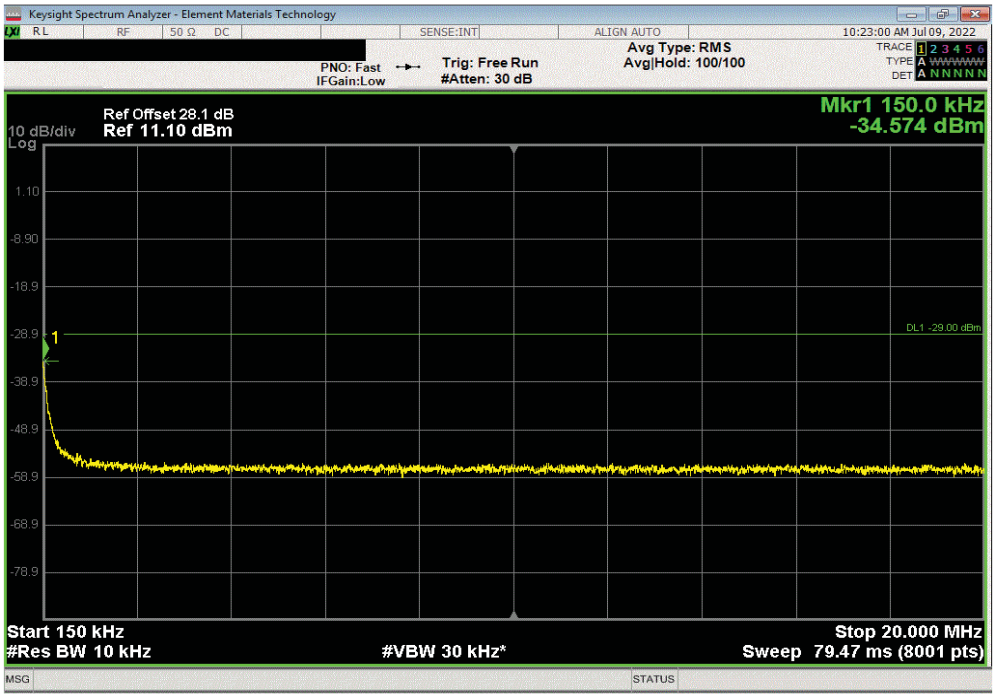
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2: Band 71 LTE15 (Single Carriers: 644.5 MHz), Band 71 LTE20 (Single Carrier: 627 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	3992.08	-44.02	-30	Pass



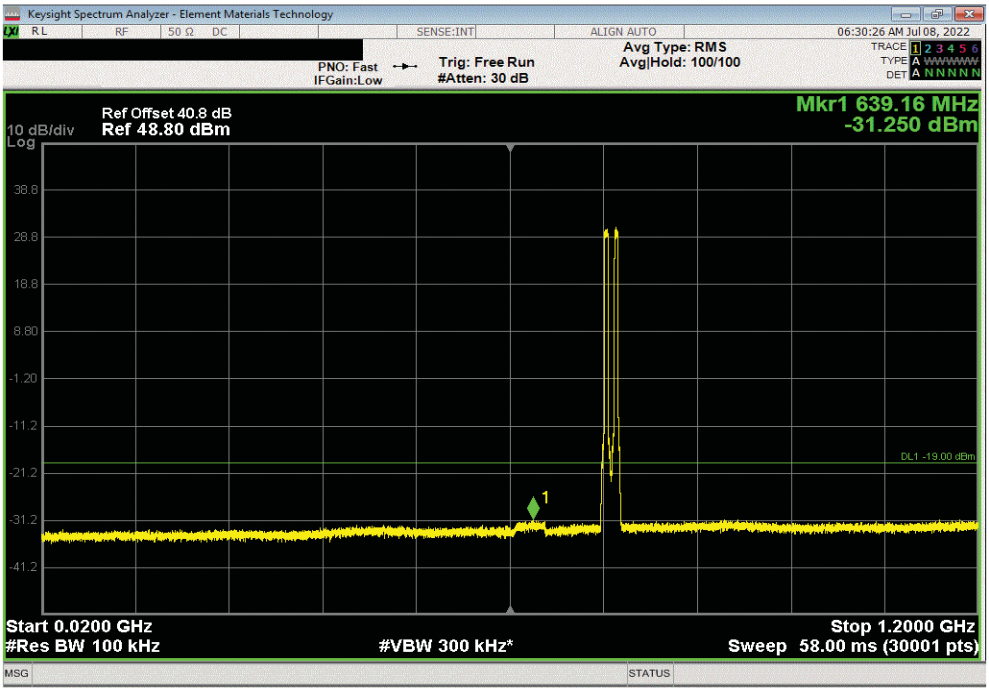
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)					
	Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
	9 kHz - 150 kHz	0.01	-46.28	-39	Pass



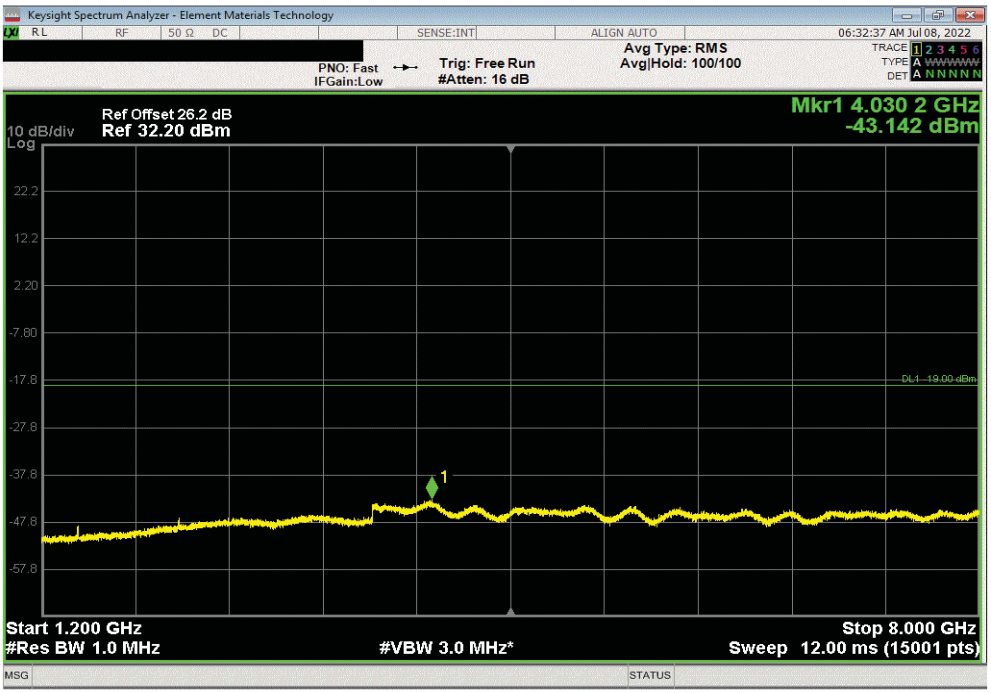
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.574	-29	Pass



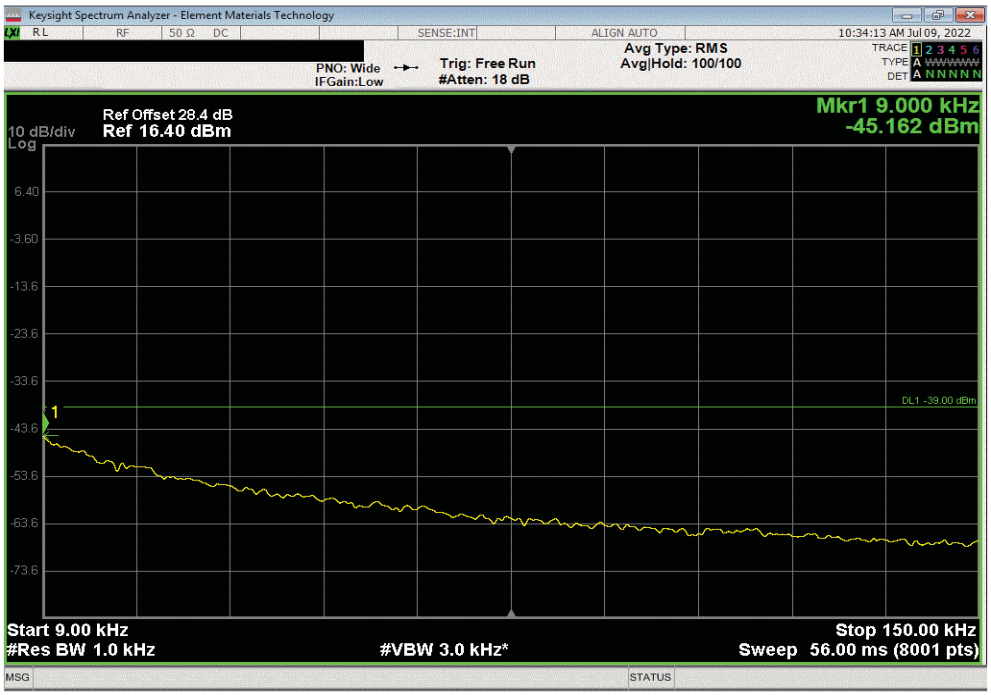
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	639.16	-31.25	-54	Pass



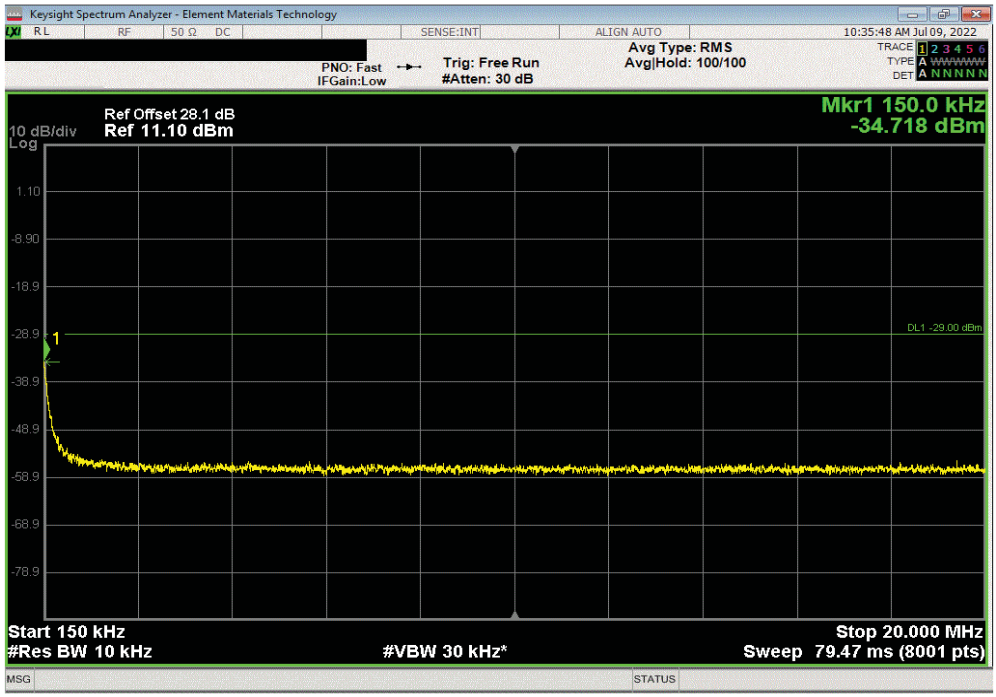
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3: Band 85 LTE5 (2 Carriers: 730.5 MHz, 743.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4030.16	-43.14	-30	Pass



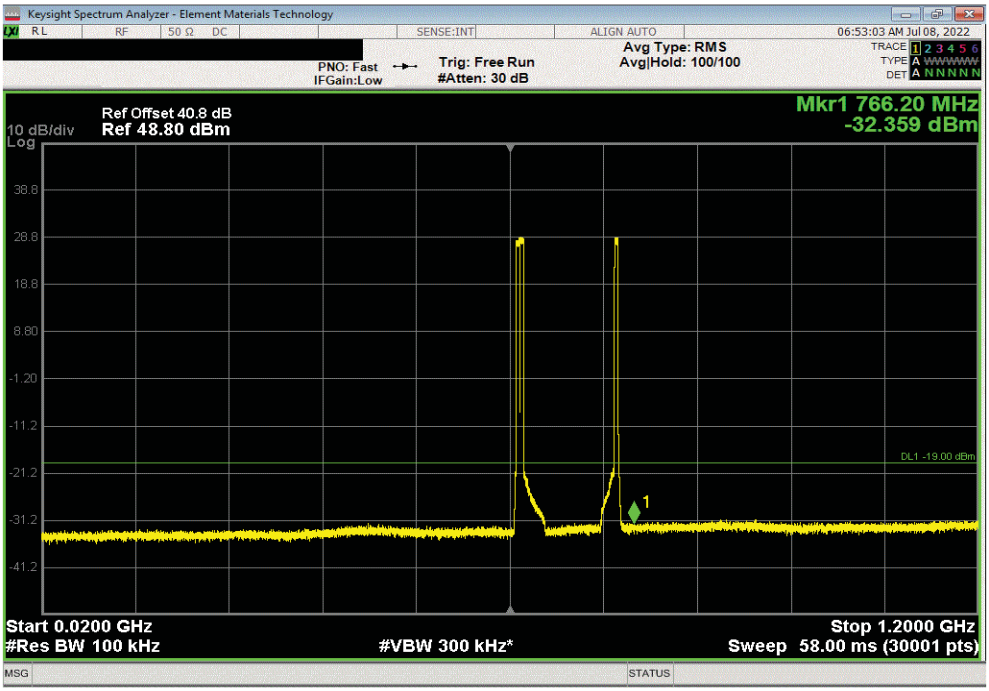
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-45.162	-39	Pass	



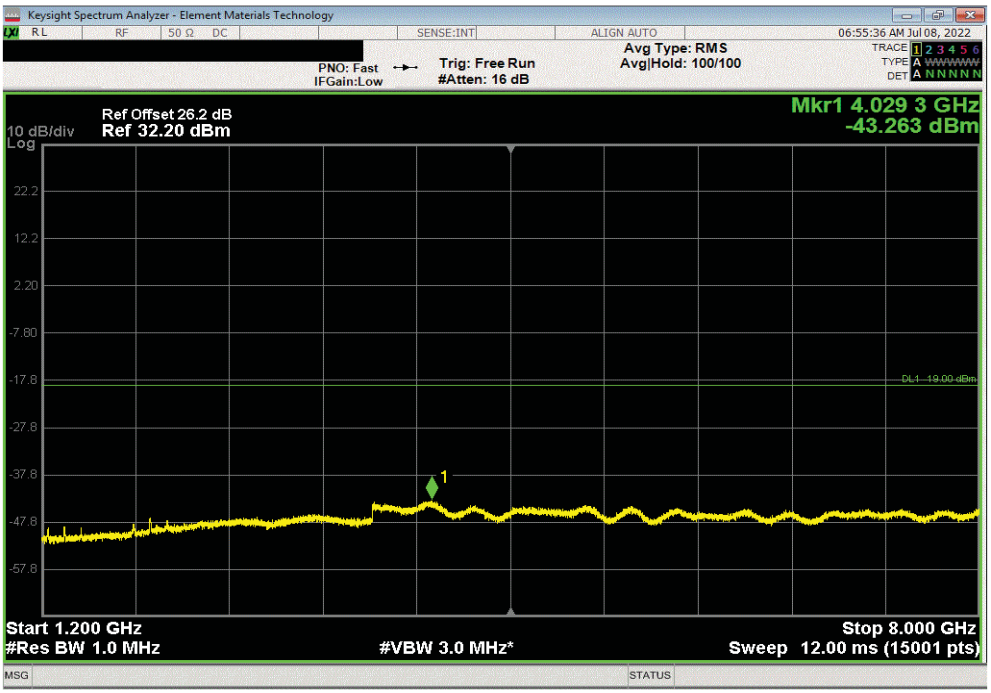
LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	0.15	-34.718	-29	Pass



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 1.2 GHz	766.2	-32.36	-36	Pass



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4: Band 71 LTE5 (2 Carriers: 619.5 MHz, 624.5 MHz), Band 85 LTE5 (Single Carrier: 743.5 MHz)				
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result
1.2 GHz - 8 GHz	4029.25	-43.26	-30	Pass



End of Test Report