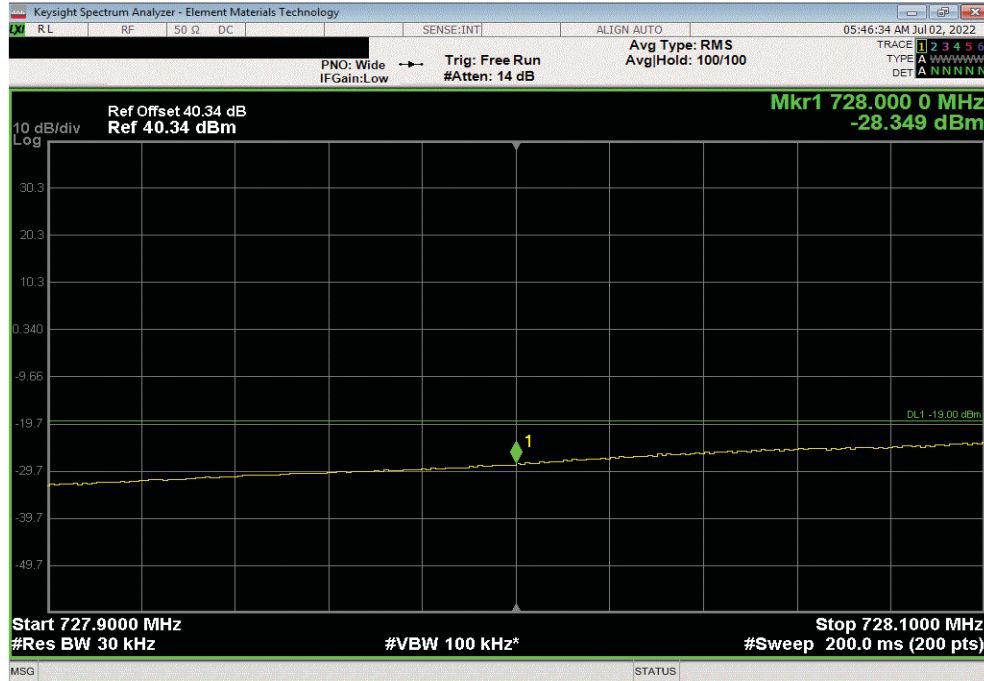


BAND EDGE COMPLIANCE - Band 85 LTE

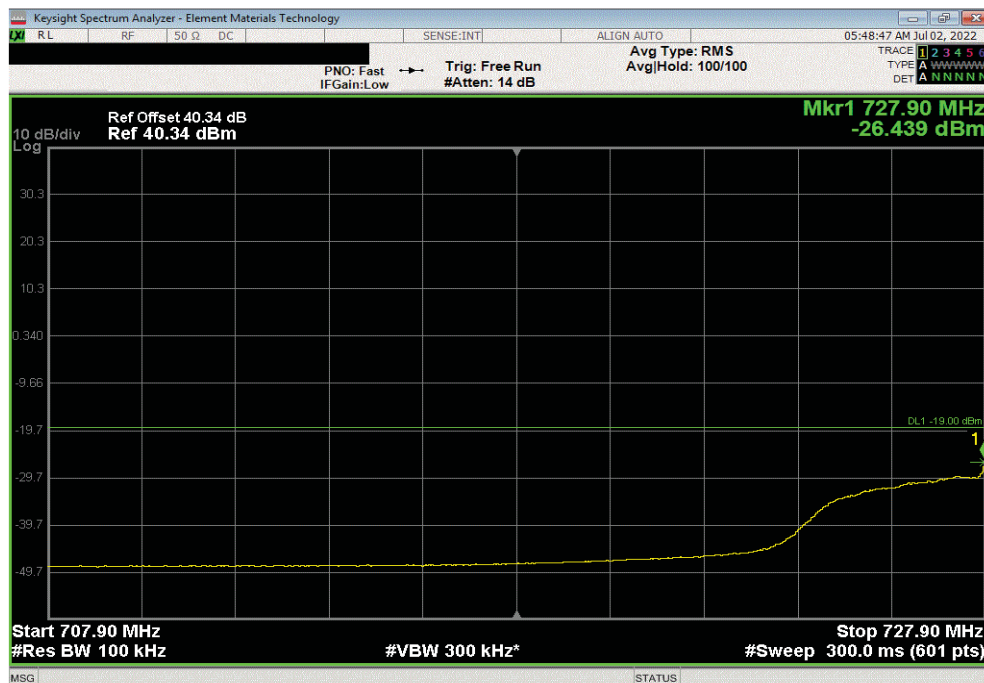


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Low Ch. 735.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-28.35	-19	Pass			



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Low Ch. 735.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-26.44	-19	Pass			

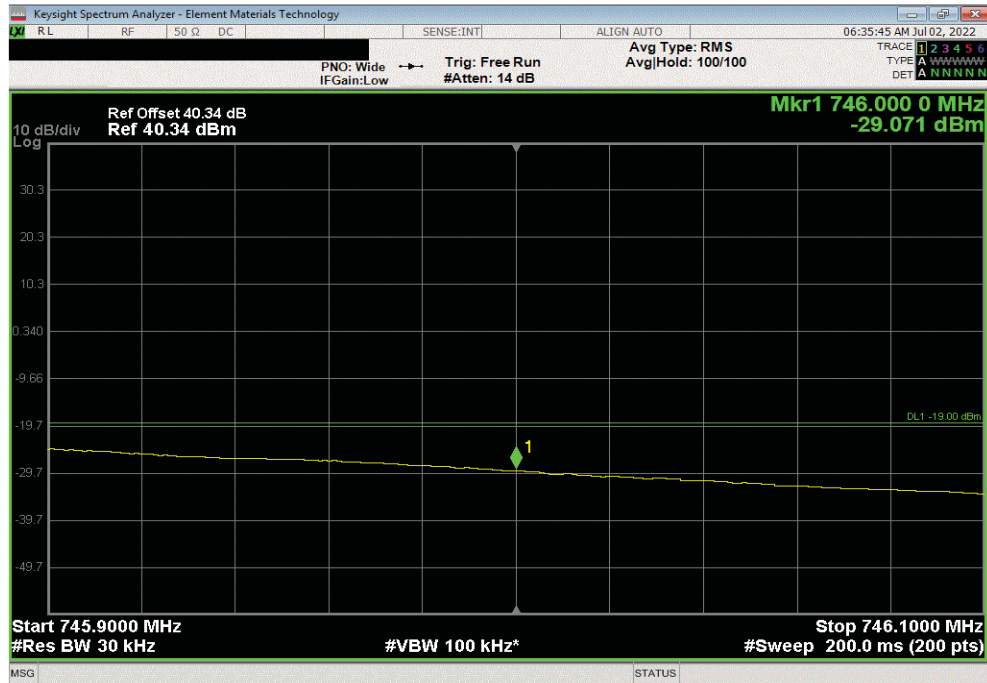


BAND EDGE COMPLIANCE - Band 85 LTE

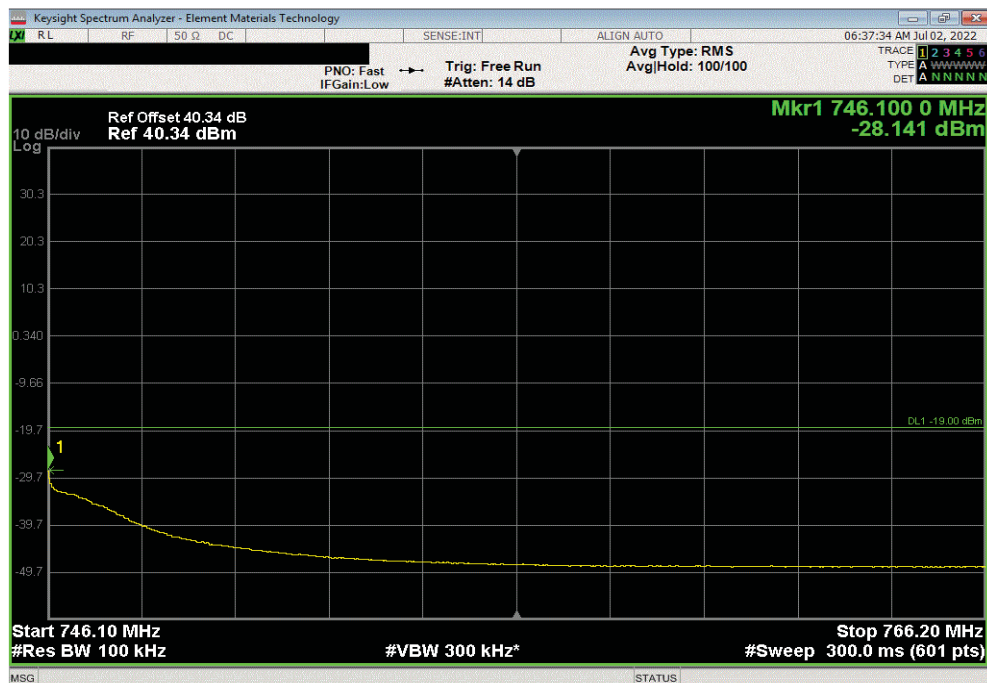


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, High Ch. 738.5 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
1		-29.07		-19		Pass



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 64-QAM Modulation, High Ch. 738.5 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
2		-28.14		-19		Pass

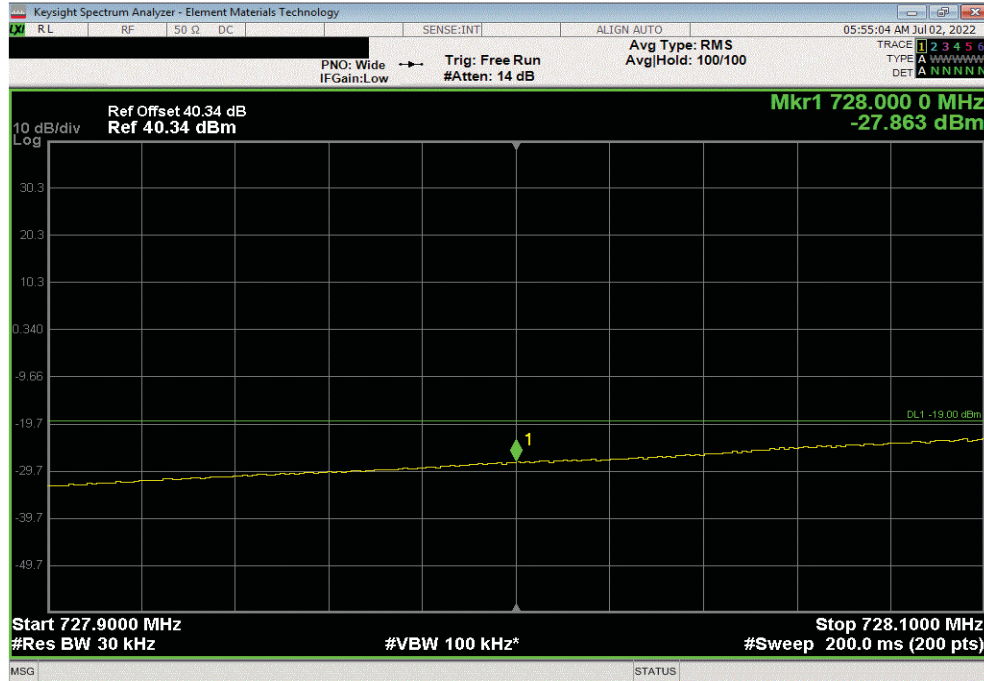


BAND EDGE COMPLIANCE - Band 85 LTE

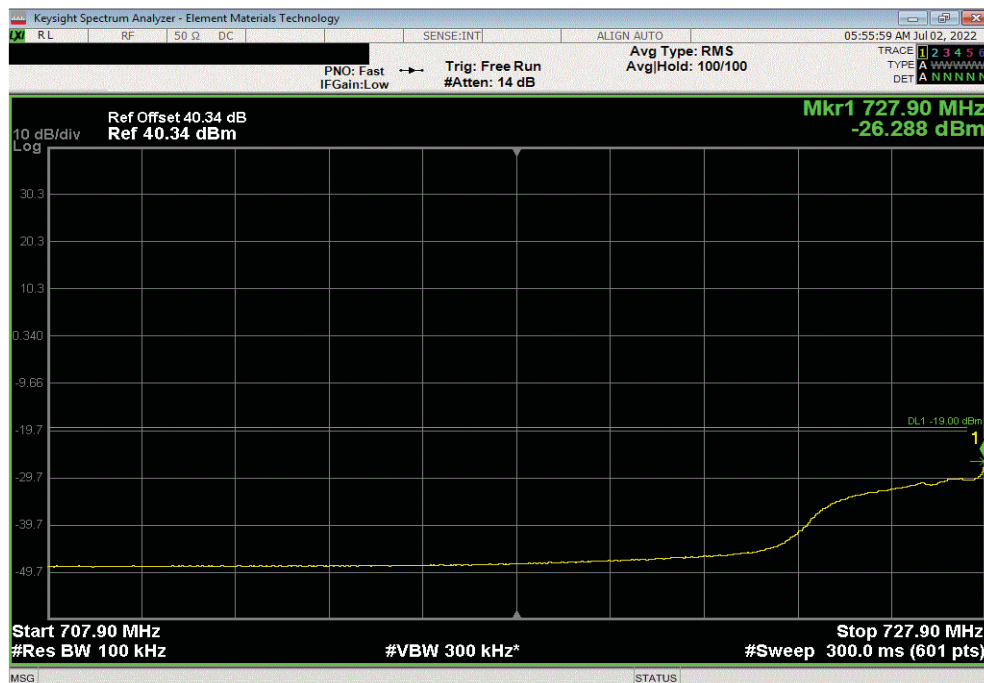


TbTtx 2022.05.02.0 XMIT 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Low Ch. 735.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-27.86	-19	Pass			



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Low Ch. 735.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-26.29	-19	Pass			

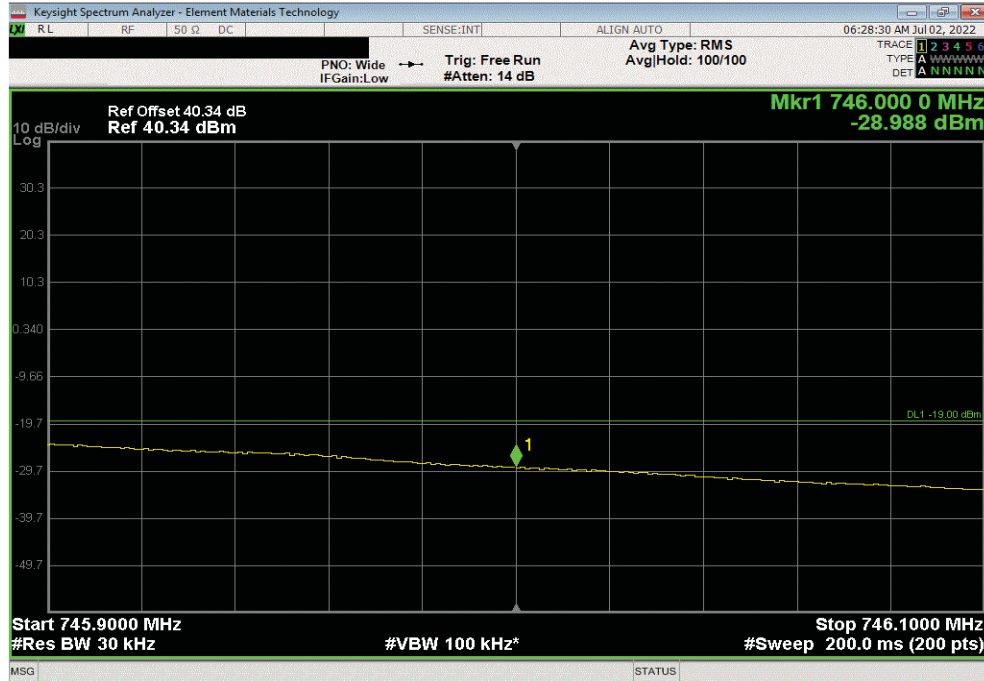


BAND EDGE COMPLIANCE - Band 85 LTE

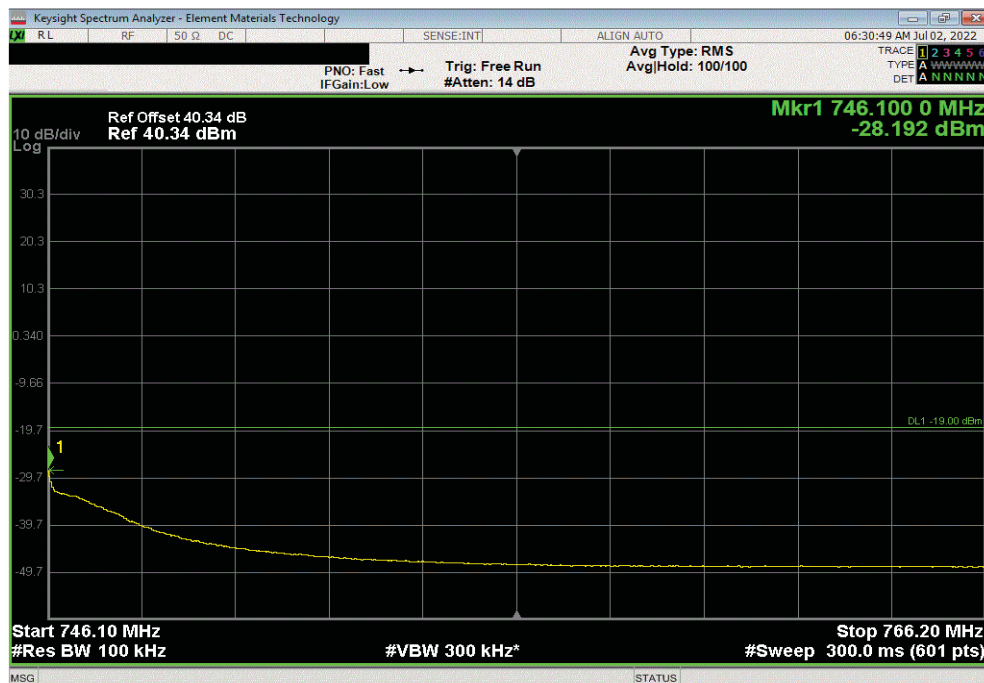


TbTtx 2022.05.02.0 XMIT 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, High Ch. 738.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-28.99	-19	Pass			



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15 MHz Bandwidth, 256-QAM Modulation, High Ch. 738.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-28.19	-19	Pass			



BAND EDGE COMPLIANCE - Band 71 NB IoT GB



XMH 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 measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

All limits were adjusted by a factor of $[-10 \cdot \log(4)]$ dB to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911.

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 $[-13 \text{ dBm} - 10 \log(4)]$ per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

Per FCC 27.53(g) and RSS 130 4.7 requires a >100 kHz measurement bandwidth for emissions 100 kHz outside of the RRH operating frequency range. FCC 27.53(g) and RSS 130 4.7 requires a >30 kHz measurement bandwidth for emissions between 100 kHz outside of the RRH operating frequency range and band edge of the operating frequency range.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHLOB) as the original certification test. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 2 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

BAND EDGE COMPLIANCE - Band 71 NB IoT GB



TstTx 2022.05.02.0 XMit 2022.02.07.0

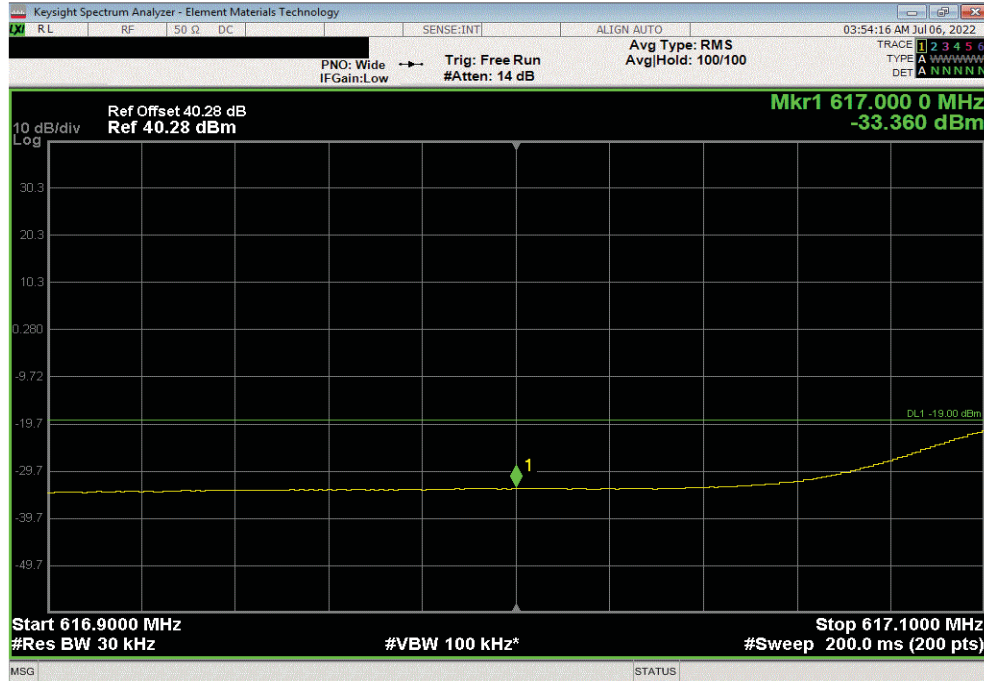
EUT: AHLOB		Work Order: NOKI0043	
Serial Number: YK220900029		Date: 12-Jul-22	
Customer: Nokia Solutions and Networks		Temperature: 20.7 °C	
Attendees: Mitchell Hill, John Rattanaovong		Humidity: 55% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Marty Martin	Power: 54 VDC	Job Site: TX07	
TEST SPECIFICATIONS			
FCC 27:2022		Test Method	
RSS-130 Issue 2:2019		ANSI C63.26:2015	
		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.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature <i>Marty Martin</i>	
		Frequency Range	Max Value (dBm) Limit < (dBm) Result
Port 2, LTE, Band 71, 617 MHz - 652 MHz			
10 MHz Bandwidth			
NB IoT GB			
	Low Ch. 622 MHz	1	-33.36 -19 Pass
	Low Ch. 622 MHz	2	-28.97 -19 Pass
	High Ch. 647 MHz	1	-33.05 -19 Pass
	High Ch. 647 MHz	2	-28.11 -19 Pass
15 MHz Bandwidth			
NB IoT GB			
	Low Ch. 624.5 MHz	1	-32.58 -19 Pass
	Low Ch. 624.5 MHz	2	-27.89 -19 Pass
	High Ch. 644.5 MHz	1	-31.03 -19 Pass
	High Ch. 644.5 MHz	2	-26.08 -19 Pass
20 MHz Bandwidth			
NB IoT GB			
	Low Ch. 627 MHz	1	-31.78 -19 Pass
	Low Ch. 627 MHz	2	-27.85 -19 Pass
	High Ch. 642 MHz	1	-29.32 -19 Pass
	High Ch. 642 MHz	2	-26.06 -19 Pass

BAND EDGE COMPLIANCE - Band 71 NB IoT GB

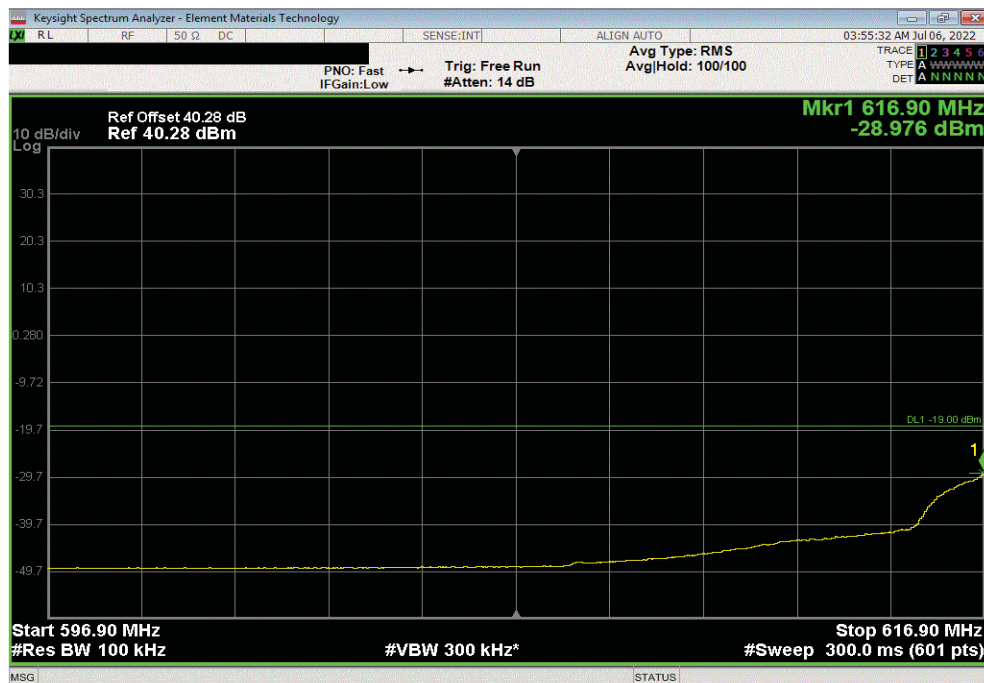


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, NB IoT GB, Low Ch. 622 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-33.36	-19	Pass			



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, NB IoT GB, Low Ch. 622 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-28.97	-19	Pass			

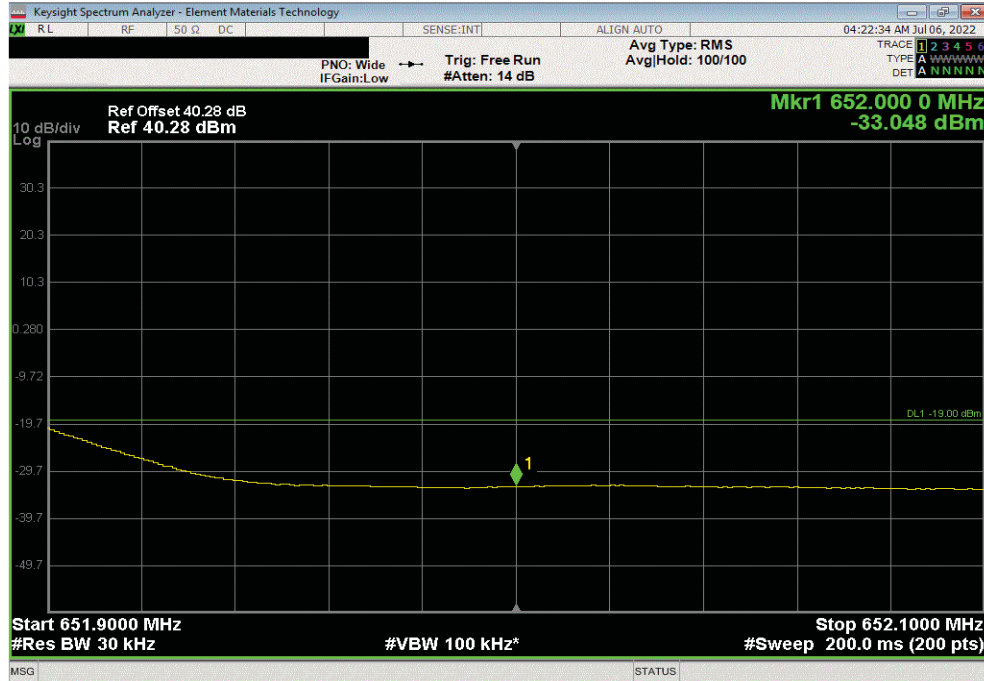


BAND EDGE COMPLIANCE - Band 71 NB IoT GB

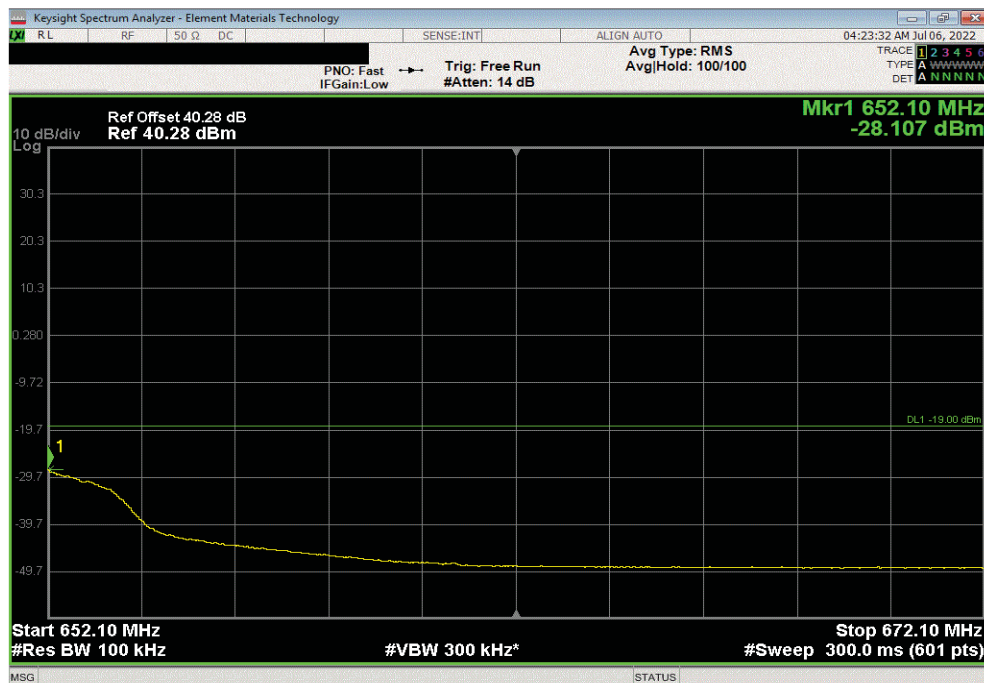


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, NB IoT GB, High Ch. 647 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-33.05	-19	Pass			



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 10 MHz Bandwidth, NB IoT GB, High Ch. 647 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-28.11	-19	Pass			

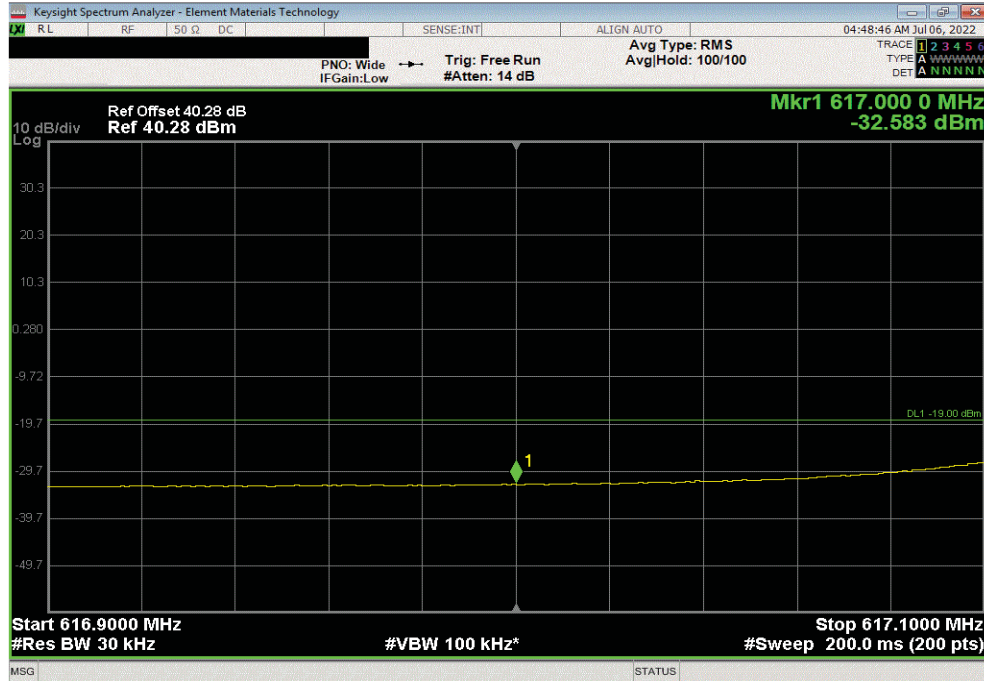


BAND EDGE COMPLIANCE - Band 71 NB IoT GB

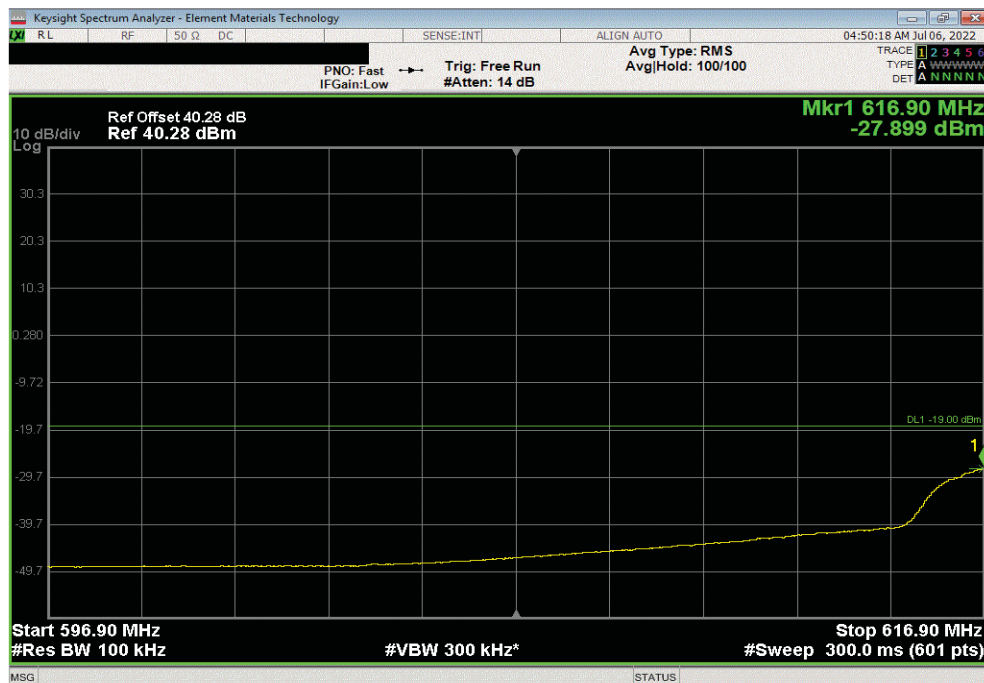


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, NB IoT GB, Low Ch. 624.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-32.58	-19	Pass			



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, NB IoT GB, Low Ch. 624.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-27.89	-19	Pass			

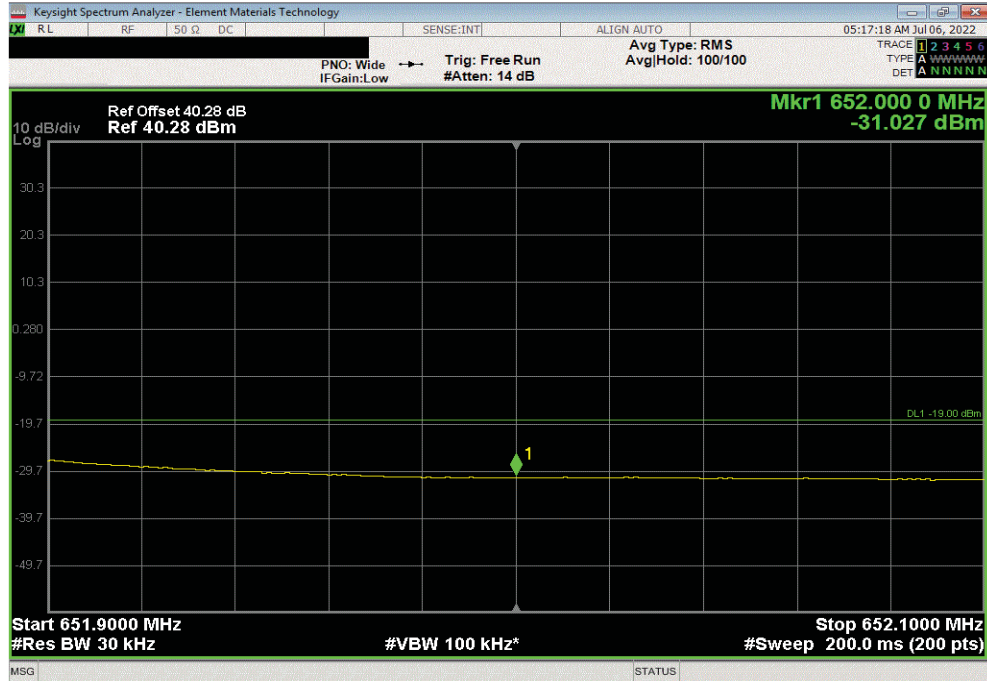


BAND EDGE COMPLIANCE - Band 71 NB IoT GB

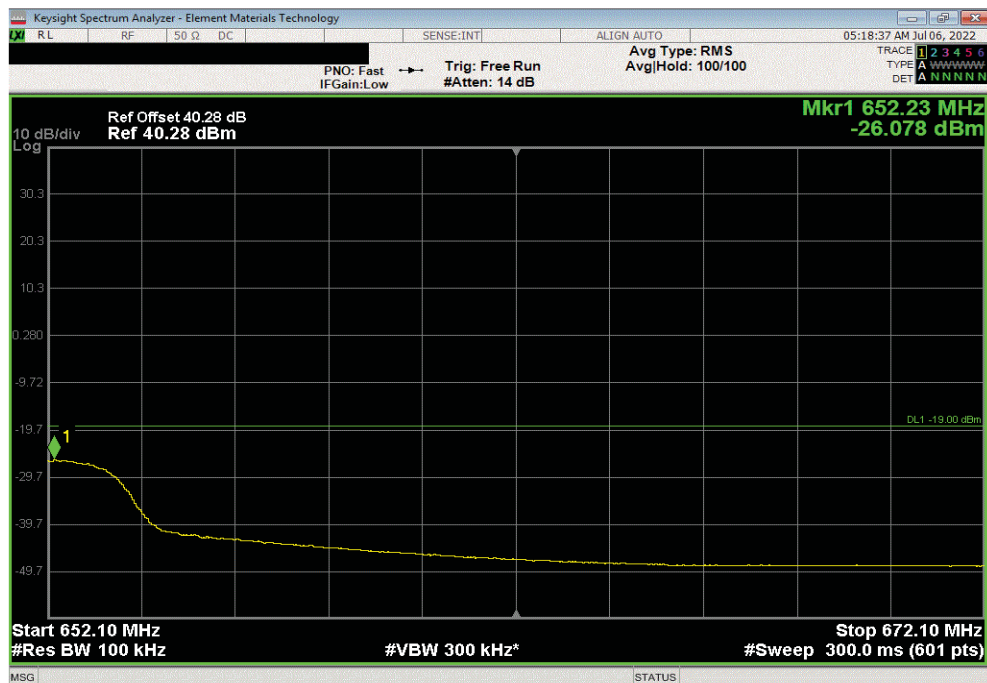


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, NB IoT GB, High Ch. 644.5 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
1		-31.03		-19		Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 15 MHz Bandwidth, NB IoT GB, High Ch. 644.5 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
2		-26.08		-19		Pass

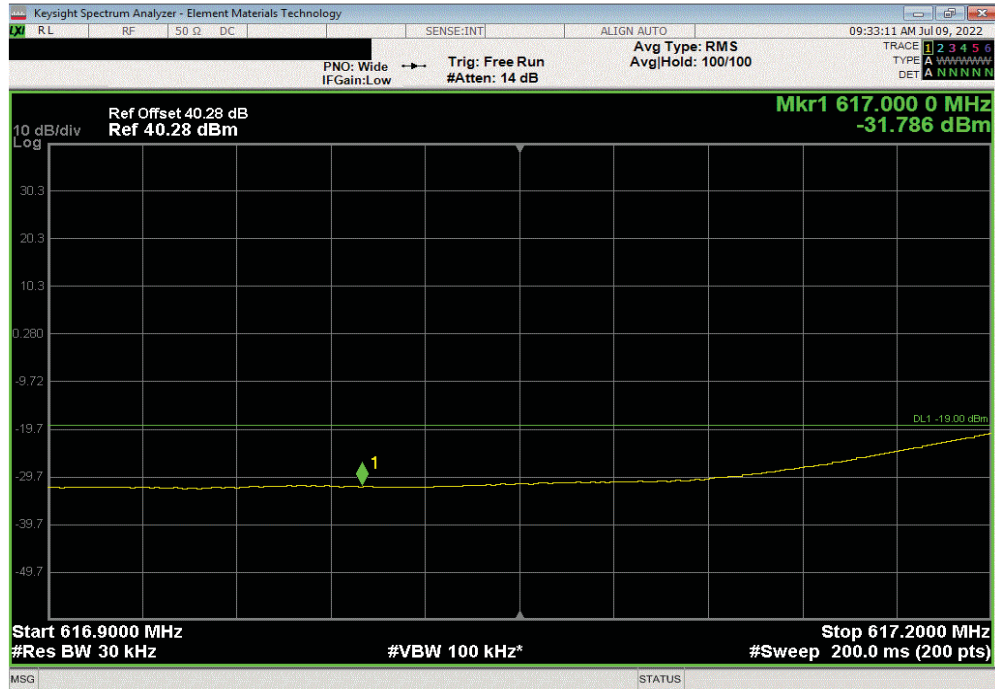


BAND EDGE COMPLIANCE - Band 71 NB IoT GB

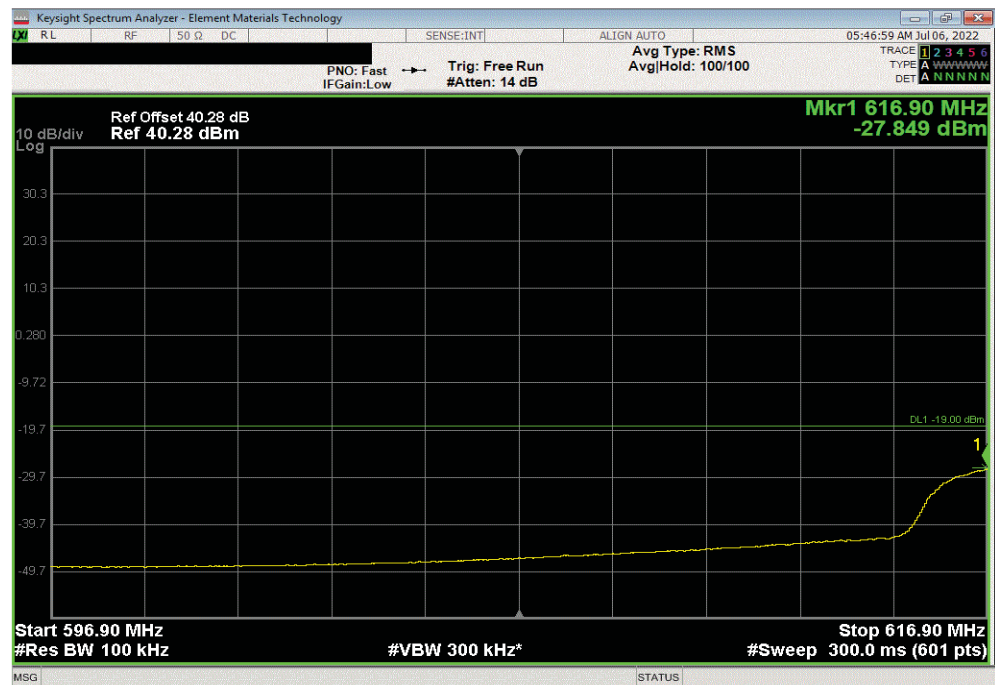


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, NB IoT GB, Low Ch. 627 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
1		-31.78		-19		Pass



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, NB IoT GB, Low Ch. 627 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
2		-27.85		-19		Pass

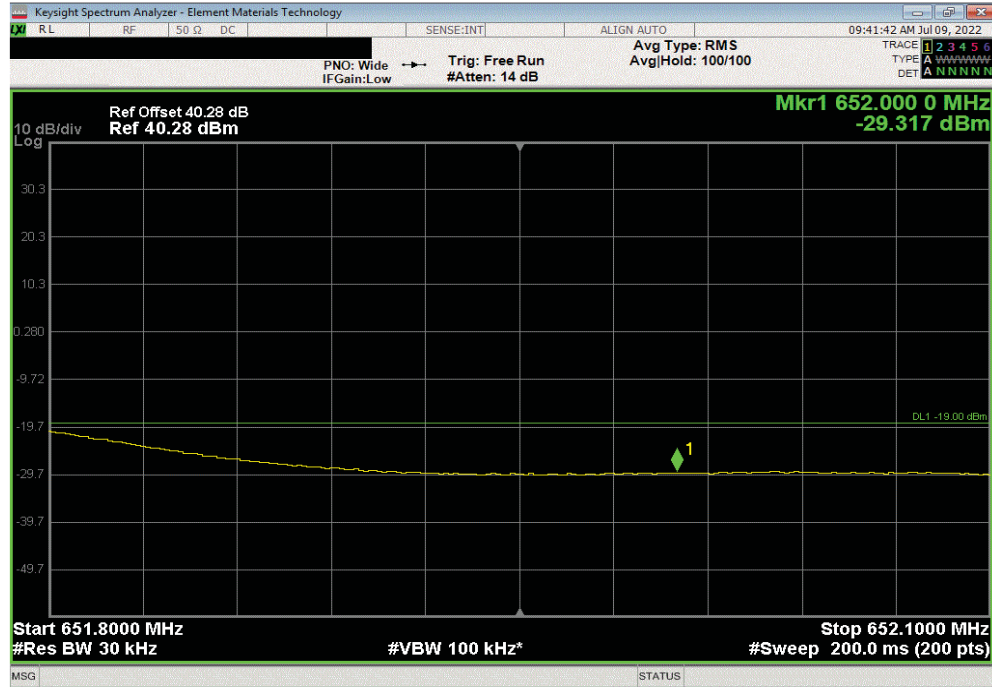


BAND EDGE COMPLIANCE - Band 71 NB IoT GB

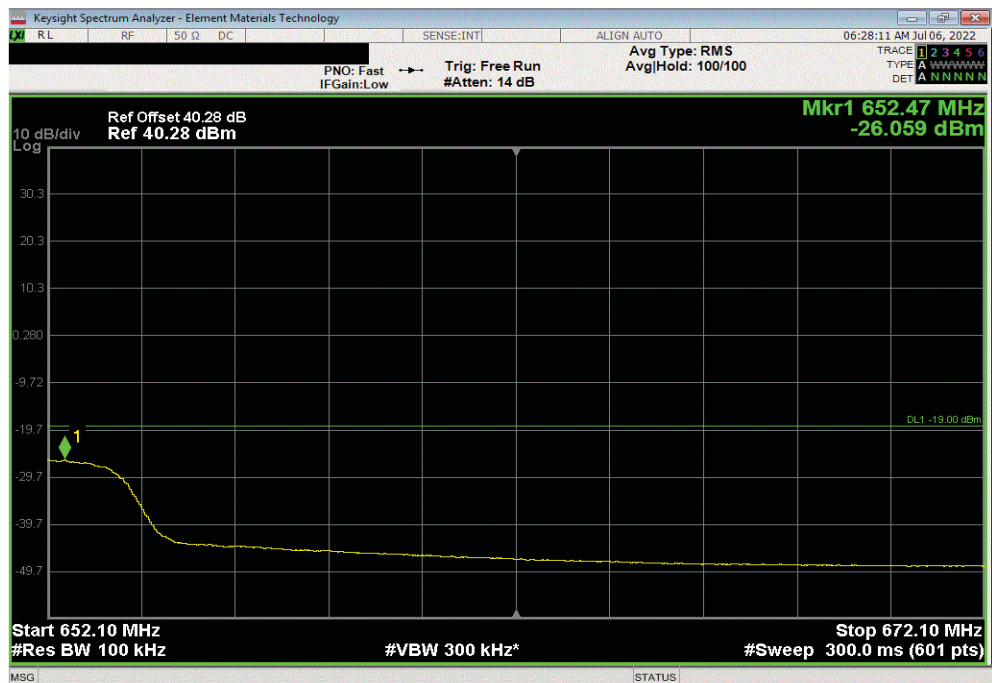


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, NB IoT GB, High Ch. 642 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-29.32	-19	Pass			



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 20 MHz Bandwidth, NB IoT GB, High Ch. 642 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-26.06	-19	Pass			



BAND EDGE COMPLIANCE Band 85 NB IoT GB



XMR 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 measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

All limits were adjusted by a factor of $[-10 \cdot \log(4)]$ dB to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911.

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 $[-13 \text{ dBm} - 10 \log(4)]$ per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

Per FCC 27.53(g) and RSS 130 4.7 requires a >100 kHz measurement bandwidth for emissions 100 kHz outside of the RRH operating frequency range. FCC 27.53(g) and RSS 130 4.7 requires a >30 kHz measurement bandwidth for emissions between 100 kHz outside of the RRH operating frequency range and band edge of the operating frequency range.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHLOB) as the original certification test. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 2 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

BAND EDGE COMPLIANCE Band 85 NB IoT GB



TstTx 2022.05.02.0 XMIT 2022.02.07.0

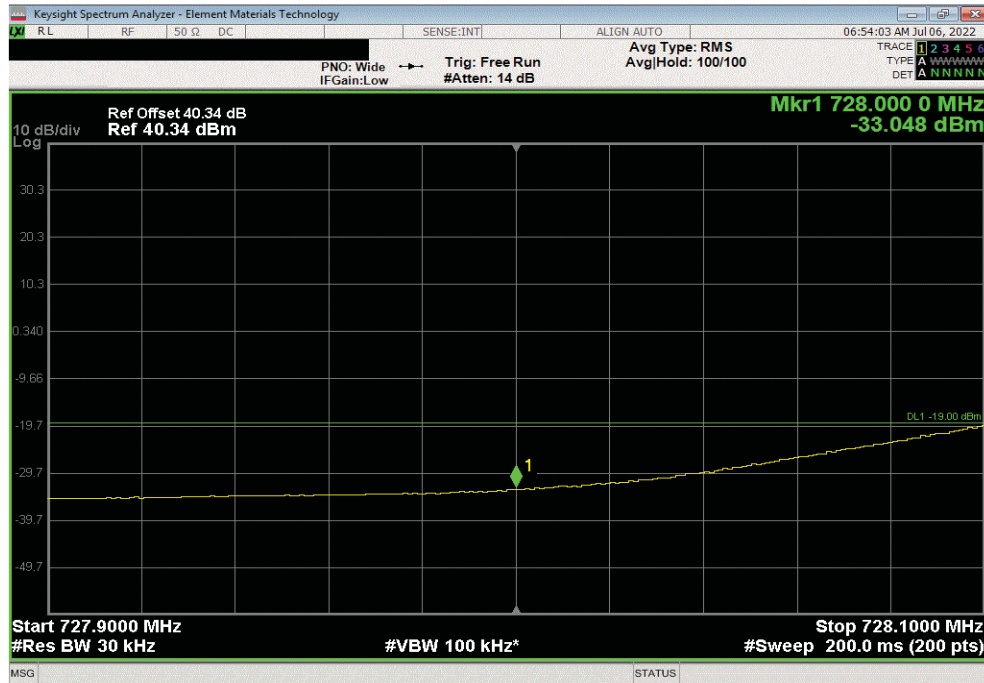
EUT: AHLOB		Work Order: NOKI0043	
Serial Number: YK220900029		Date: 13-Jul-22	
Customer: Nokia Solutions and Networks		Temperature: 21 °C	
Attendees: Mitchell Hill, John Rattanaovong		Humidity: 53.3% RH	
Project: None		Barometric Pres.: 1017 mbar	
Tested by: Marty Martin	Power: 54 VDC	Job Site: TX07	
TEST SPECIFICATIONS			
FCC 27:2022		Test Method	
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.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature <i>Marty Martin</i>	
		Frequency Range	Max Value (dBm)
			Limit < (dBm)
			Result
Port 2, LTE, Band 85, 728 MHz - 746 MHz			
10MHz Bandwidth			
NB IoT GB			
	Low Ch. 733 MHz	1	-33.05
	Low Ch. 733 MHz	2	-29.582
	High Ch. 741 MHz	1	-34.23
	High Ch. 741 MHz	2	-29.412
Port 2, LTE, Band 85, 728 MHz - 746 MHz			
15MHz Bandwidth			
NB IoT GB			
	Low Ch. 735.5 MHz	1	-33.37
	Low Ch. 735.5 MHz	2	-28.943
	High Ch. 738.5 MHz	1	-34.78
	High Ch. 738.5 MHz	2	-30.41

BAND EDGE COMPLIANCE Band 85 NB IoT GB

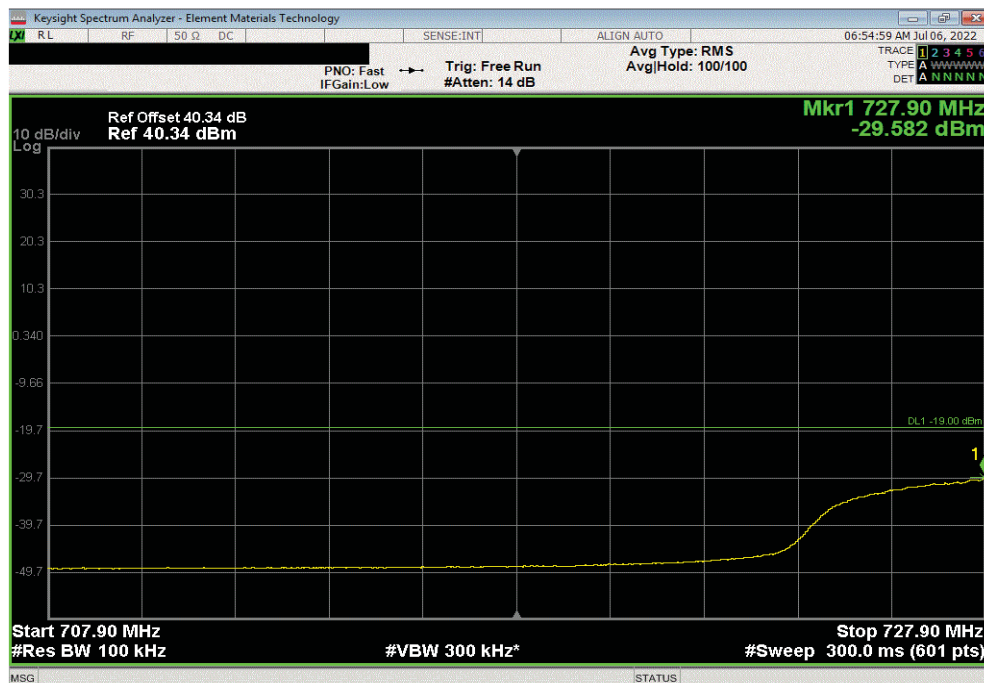


TbTtx 2022.05.02.0 XMIT 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 10MHz Bandwidth, NB IoT GB, Low Ch. 733 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-33.05	-19	Pass			



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 10MHz Bandwidth, NB IoT GB, Low Ch. 733 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-29.582	-19	Pass			

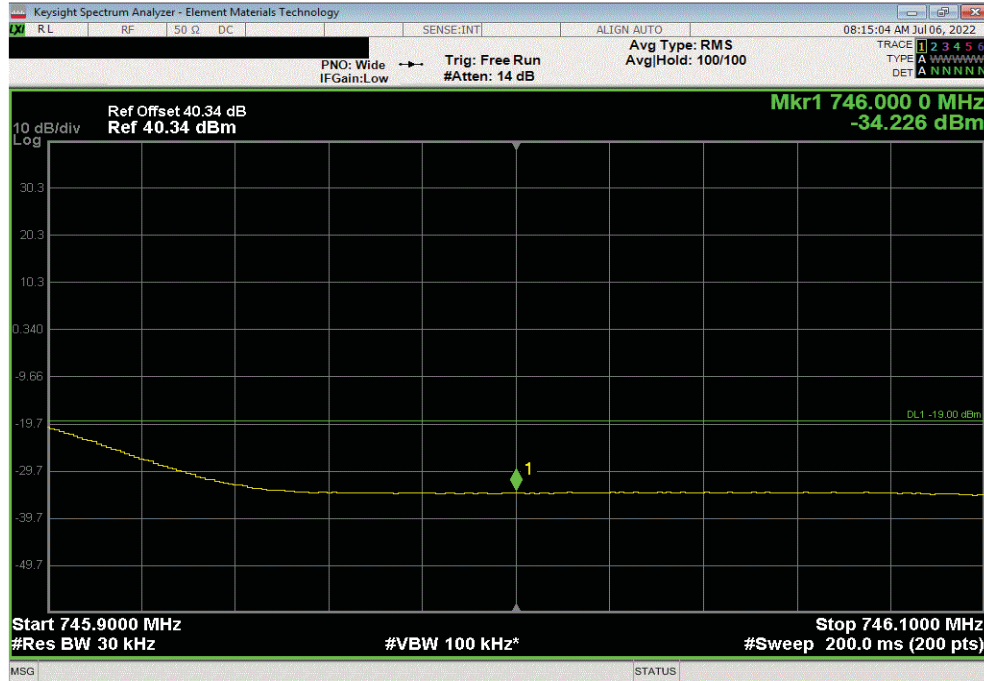


BAND EDGE COMPLIANCE Band 85 NB IoT GB

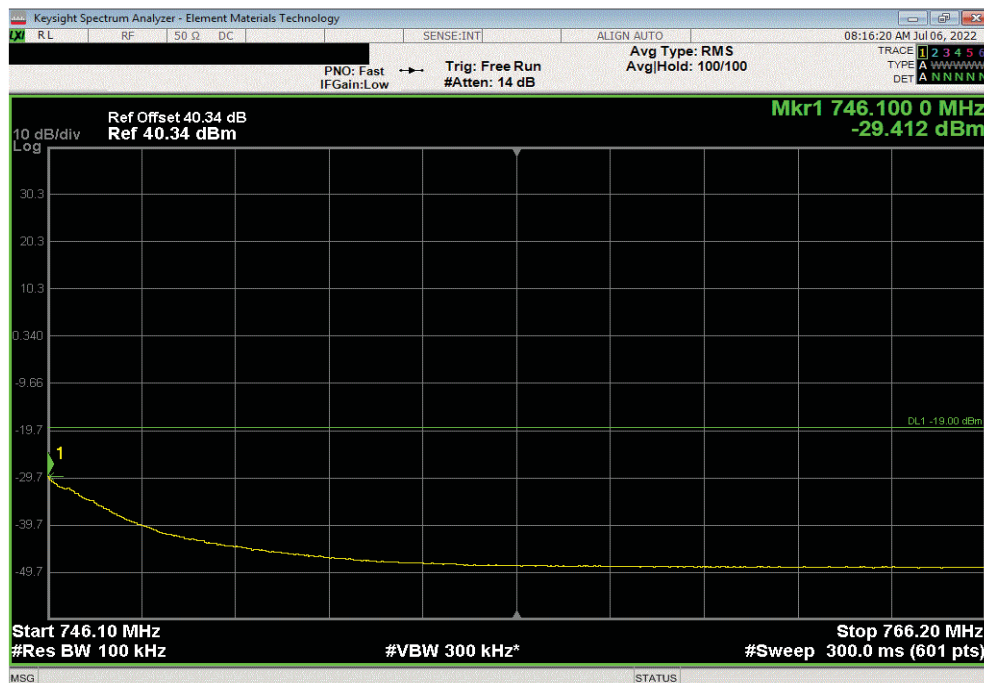


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 10MHz Bandwidth, NB IoT GB, High Ch. 741 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
1		-34.23		-19		Pass



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 10MHz Bandwidth, NB IoT GB, High Ch. 741 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)		Result
2		-29.412		-19		Pass

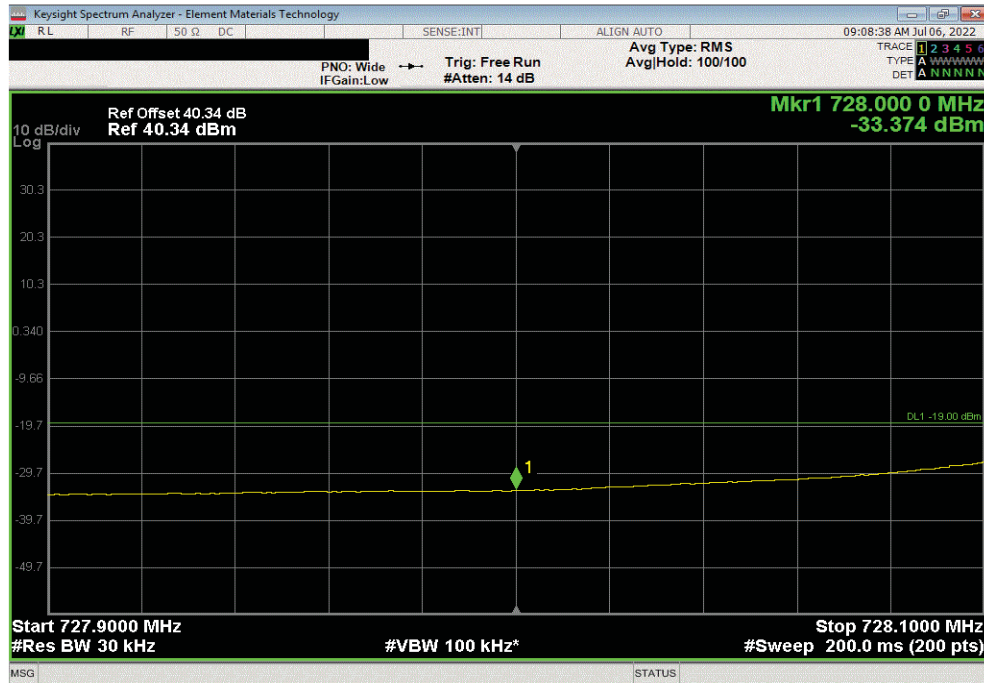


BAND EDGE COMPLIANCE Band 85 NB IoT GB

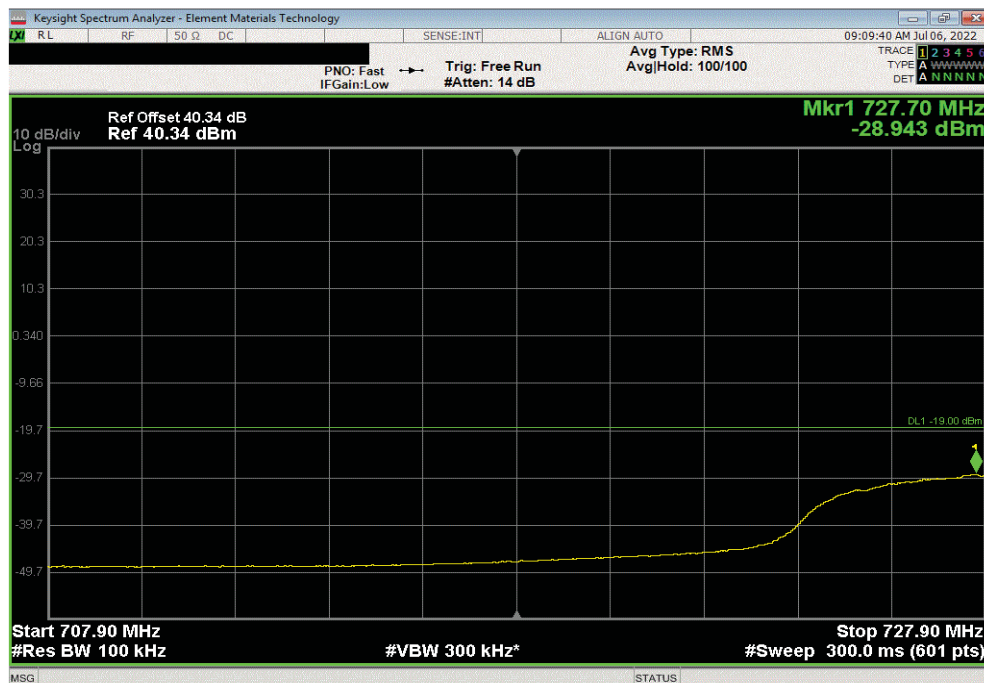


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15MHz Bandwidth, NB IoT GB, Low Ch. 735.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-33.37	-19	Pass			



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15MHz Bandwidth, NB IoT GB, Low Ch. 735.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-28.943	-19	Pass			

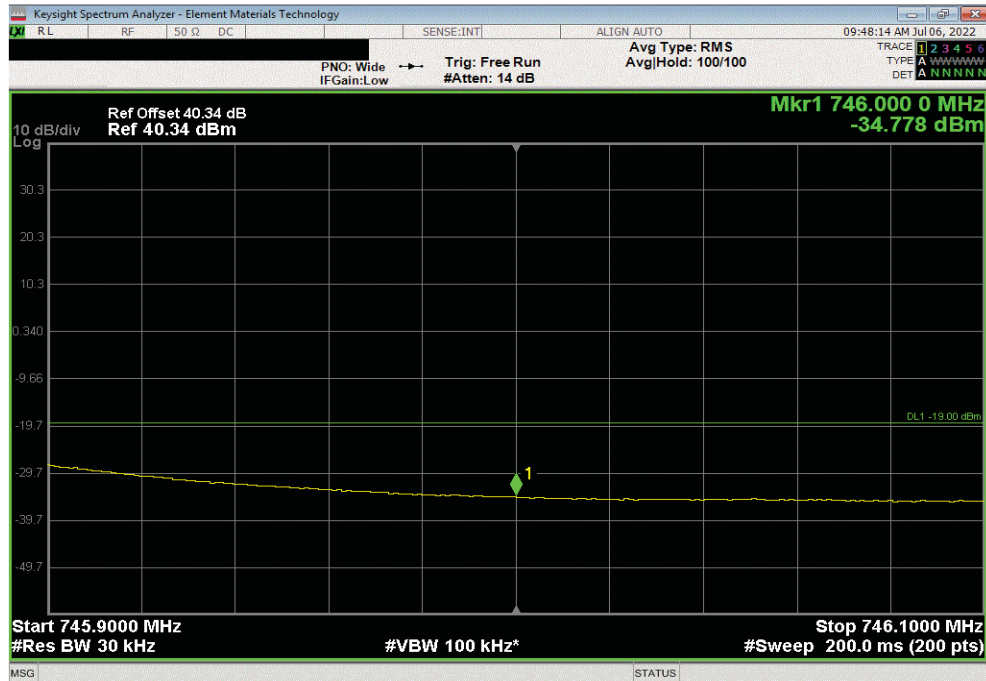


BAND EDGE COMPLIANCE Band 85 NB IoT GB

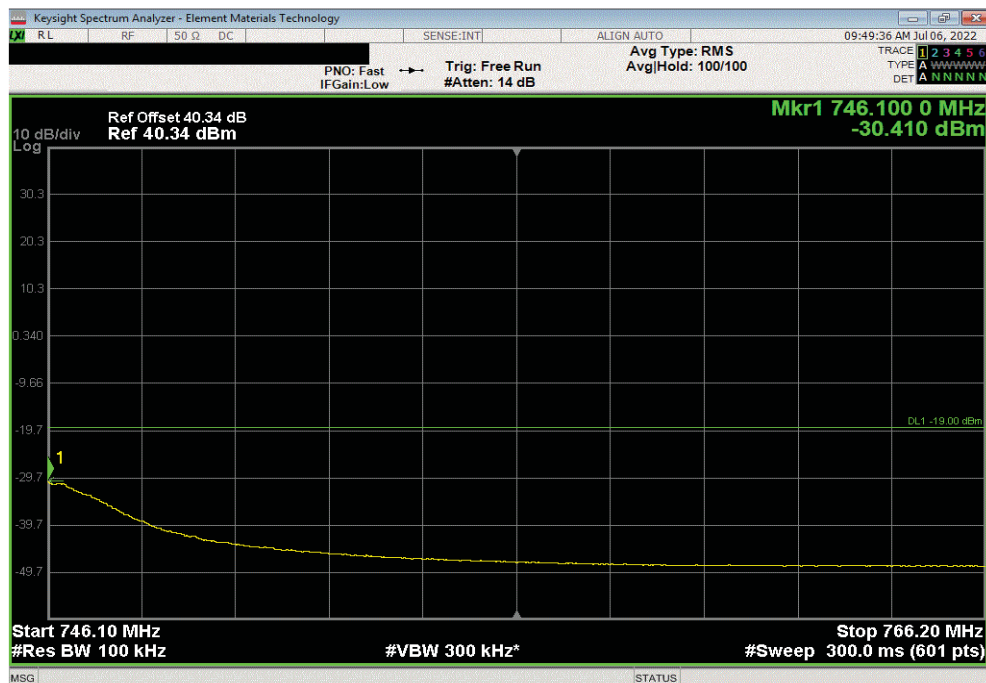


TbTtx 2022.05.02.0 XMIT 2022.02.07.0

Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15MHz Bandwidth, NB IoT GB, High Ch. 738.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-34.78	-19	Pass			



Port 2, LTE, Band 85, 728 MHz - 746 MHz, 15MHz Bandwidth, NB IoT GB, High Ch. 738.5 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-30.41	-19	Pass			



BAND EDGE COMPLIANCE - Band 71 NB IoT SA



XMH 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 measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

All limits were adjusted by a factor of $[-10 \cdot \log(4)]$ dB to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911.

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 $[-13 \text{ dBm} - 10 \log(4)]$ per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

Per FCC 27.53(g) and RSS 130 4.7 requires a >100 kHz measurement bandwidth for emissions 100 kHz outside of the RRH operating frequency range. FCC 27.53(g) and RSS 130 4.7 requires a >30 kHz measurement bandwidth for emissions between 100 kHz outside of the RRH operating frequency range and band edge of the operating frequency range.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHLOB) as the original certification test. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 2 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

BAND EDGE COMPLIANCE - Band 71 NB IoT SA



TstTx 2022.05.02.0 XMit 2022.02.07.0

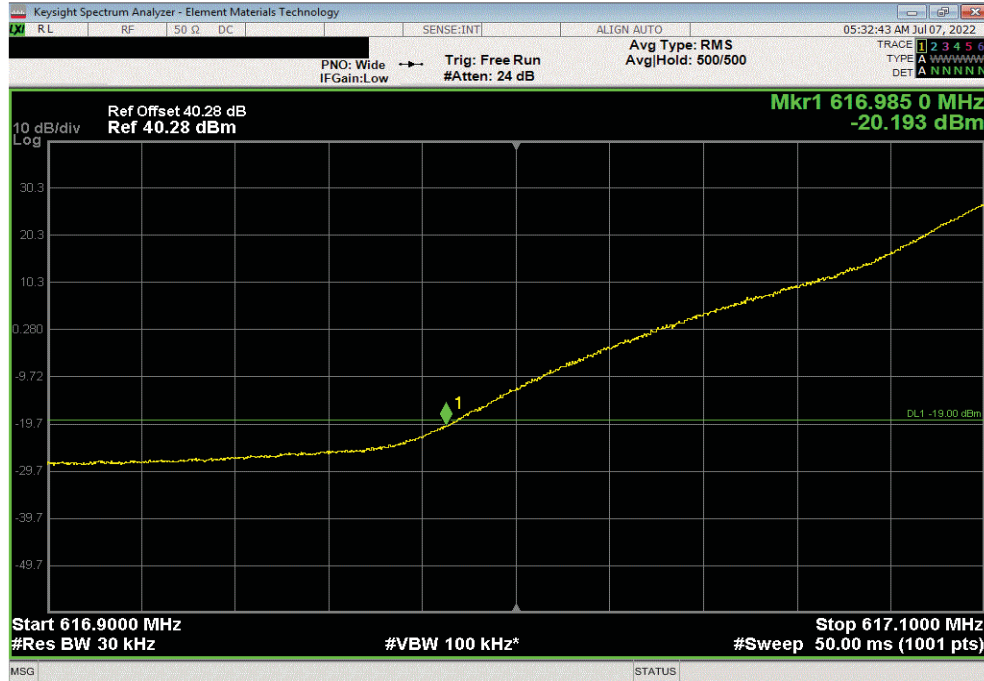
EUT: AHLOB		Work Order: NOKI0043	
Serial Number: YK220900029		Date: 11-Jul-22	
Customer: Nokia Solutions and Networks		Temperature: 21.4 °C	
Attendees: Mitchell Hill, John Rattavong		Humidity: 53.6% RH	
Project: None		Barometric Pres.: 1013 mbar	
Tested by: Marty Martin	Power: 54 VDC	Job Site: TX07	
TEST SPECIFICATIONS			
FCC 27:2022		Test Method	
RSS-130 Issue 2:2019		ANSI C63.26:2015	
COMMENTS		ANSI C63.26:2015	
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.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature <i>Marty Martin</i>	
		Frequency Range	Max Value (dBm)
			Limit < (dBm)
			Result
Port 2, LTE, Band 71, 617 MHz - 652 MHz			
200 kHz Bandwidth			
Standalone NB-IoT			
	Low Ch. 617.2 MHz	1	-20.19
	Low Ch. 617.2 MHz	2	-23.82
	Low Ch. 617.2 MHz	3	-23.82
	High Ch. 651.8 MHz	1	-24.21
	High Ch. 651.8 MHz	2	-26.26
	High Ch. 651.8 MHz	3	-20.3
			Pass
			Pass
			Pass
			Pass
			Pass
			Pass

BAND EDGE COMPLIANCE - Band 71 NB IoT SA

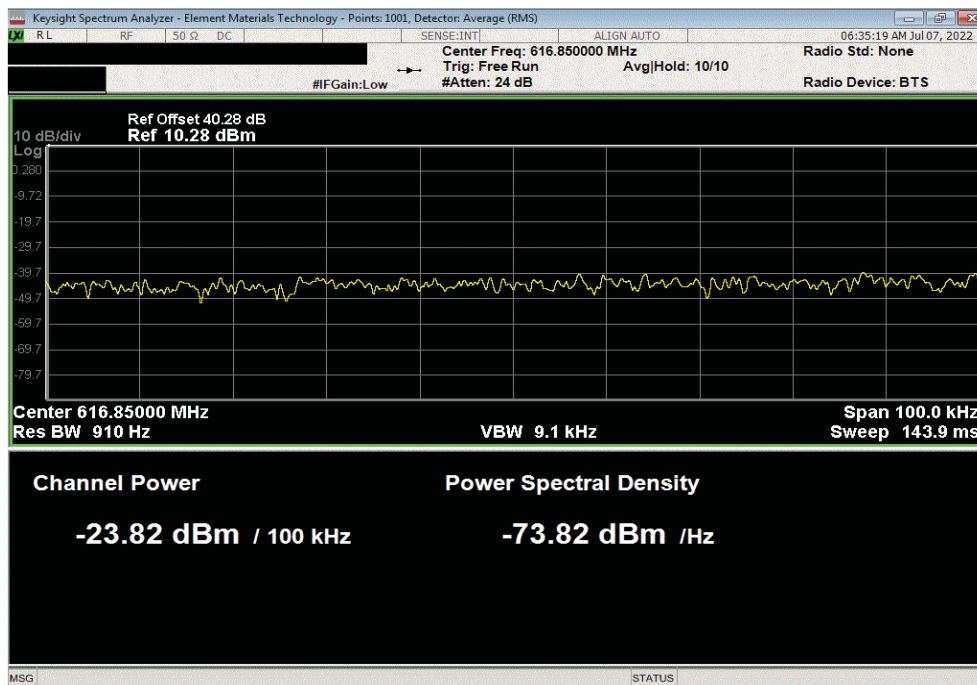


TbTx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band 71, 617 MHz - 652 MHz, 200 kHz Bandwidth, Standalone NB-IoT, Low Ch. 617.2 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-20.19	-19	Pass			



Port 2, LTE, Band n71, 617 MHz - 652 MHz, 200 kHz Bandwidth, Standalone NB-IoT Modulation, Low Ch. 617.2 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-23.82	-19	Pass			

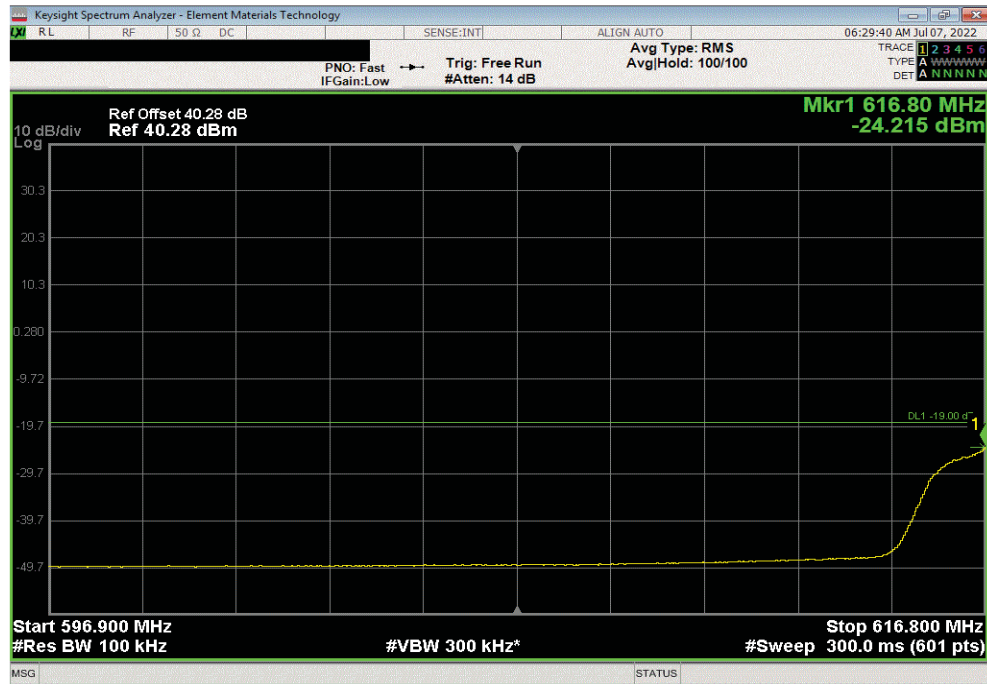


BAND EDGE COMPLIANCE - Band 71 NB IoT SA

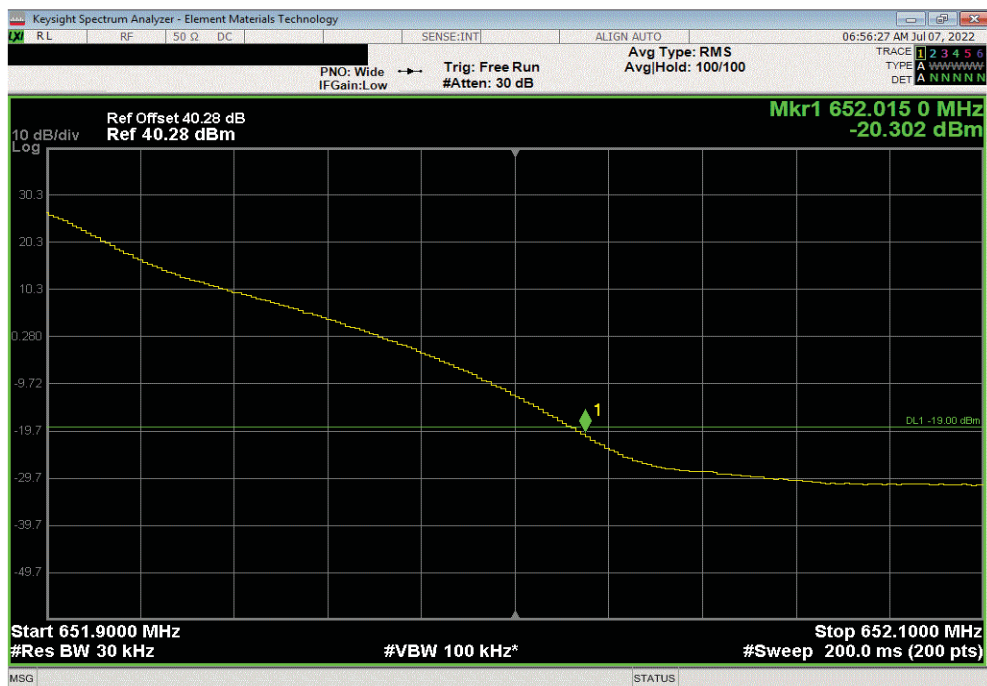


TbTtx 2022.05.02.0 XMIT 2022.02.07.0

Port 2, LTE, Band n71, 617 MHz - 652 MHz, 200 kHz Bandwidth, Standalone NB-IoT Modulation, Low Ch. 617.2 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
3	-24.21	-19	Pass			



Port 2, LTE, Band 71, 617 MHz - 652 MHz, 200 kHz Bandwidth, Standalone NB-IoT, High Ch. 651.8 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-20.3	-19	Pass			

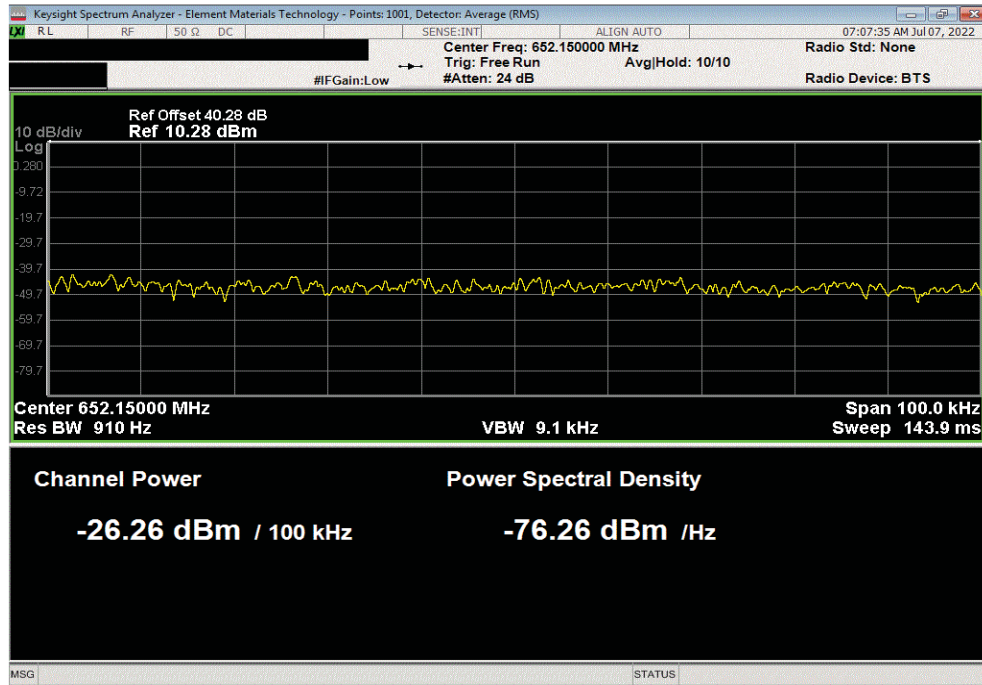


BAND EDGE COMPLIANCE - Band 71 NB IoT SA

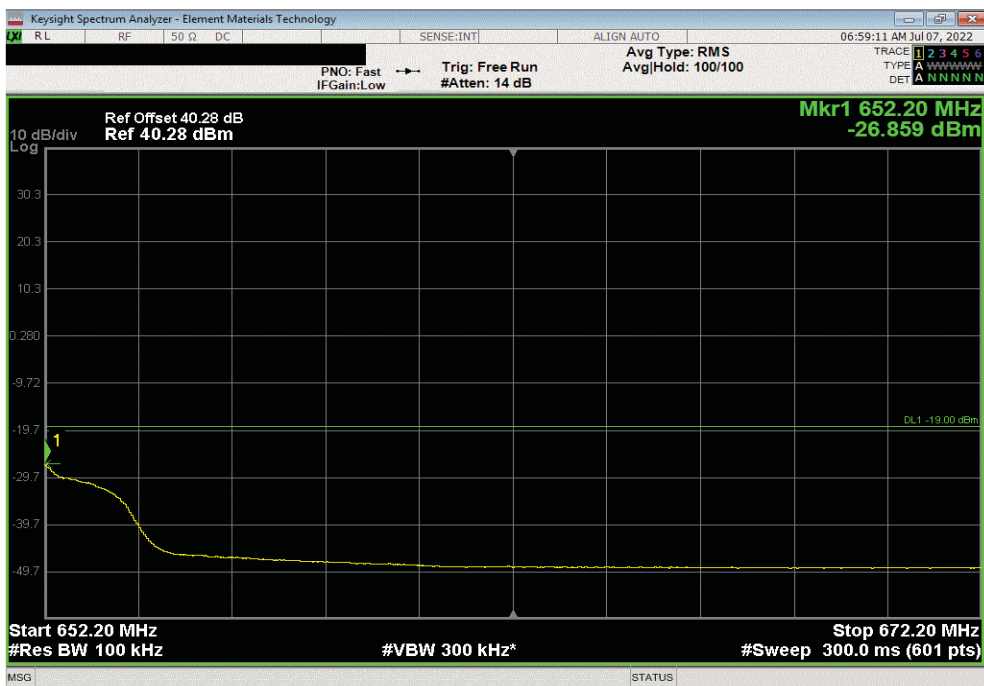


TbTx 2022.05.02.0 XbTx 2022.02.07.0

Port 2, LTE, Band 71, 617 MHz - 652 MHz, 200 kHz Bandwidth, Standalone NB-IoT, High Ch. 651.8 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)	Result	
2		-26.26		-19	Pass	



Port 2, LTE, Band 71, 617 MHz - 652 MHz, 200 kHz Bandwidth, Standalone NB-IoT, High Ch. 651.8 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)	Result	
3		-26.85		-19	Pass	



BAND EDGE COMPLIANCE - Band 85 NB IoT SA



XMR 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 measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

All limits were adjusted by a factor of $[-10 \cdot \log(4)]$ dB to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911.

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 $[-13 \text{ dBm} - 10 \log(4)]$ per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

Per FCC 27.53(g) and RSS 130 4.7 requires a >100 kHz measurement bandwidth for emissions 100 kHz outside of the RRH operating frequency range. FCC 27.53(g) and RSS 130 4.7 requires a >30 kHz measurement bandwidth for emissions between 100 kHz outside of the RRH operating frequency range and band edge of the operating frequency range.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHLOB) as the original certification test. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 2 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

BAND EDGE COMPLIANCE - Band 85 NB IoT SA



TstTx 2022.05.02.0 XMI 2022.02.07.0

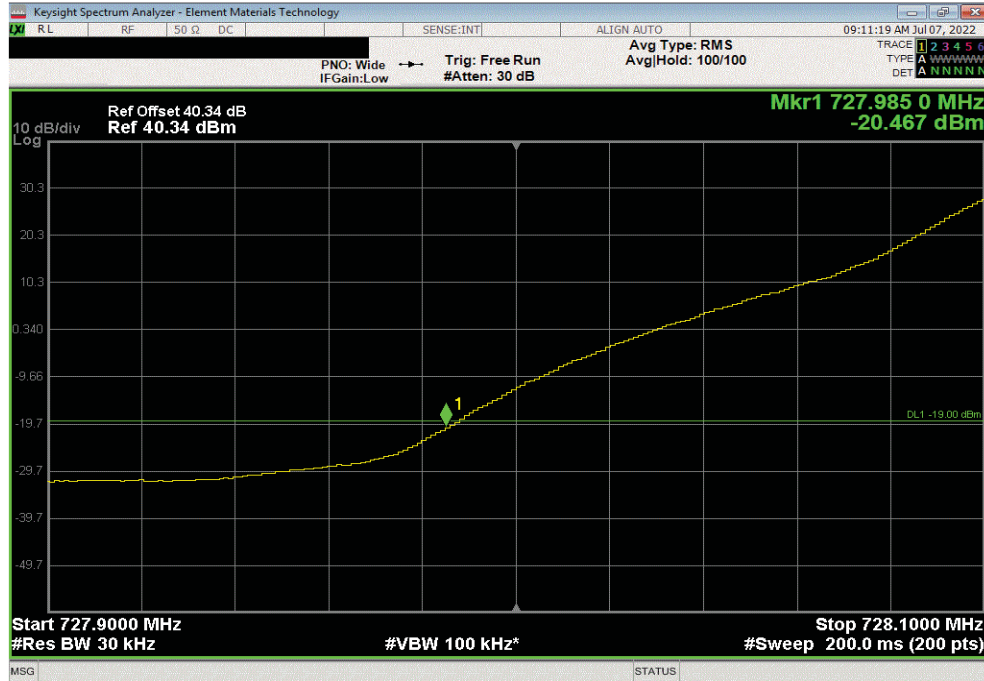
EUT: AHLOB		Work Order: NOKI0043	
Serial Number: YK220900029		Date: 13-Jul-22	
Customer: Nokia Solutions and Networks		Temperature: 21.4 °C	
Attendees: Mitchell Hill, John Rattanavong		Humidity: 51.7% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Marty Martin	Power: 54 VDC	Job Site: TX07	
TEST SPECIFICATIONS			
FCC 27:2022		Test Method	
RSS-130 Issue 2:2019		ANSI C63.26:2015	
COMMENTS		ANSI C63.26:2015	
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.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature <i>Marty Martin</i>	
		Frequency Range	Max Value (dBm)
			Limit < (dBm)
			Result
Port 2, LTE, Band 85, 728 MHz - 746 MHz			
200 kHz Bandwidth			
Standalone NB-IoT			
Low Ch. 728.2 MHz		1	-20.47
Low Ch. 728.2 MHz		2	-26.97
Low Ch. 728.2 MHz		3	-28.32
High Ch. 745.8 MHz		1	-20.27
High Ch. 745.8 MHz		2	-25.59
High Ch. 745.8 MHz		3	-27.5
			-19
			-19
			-19
			-19
			-19
			-19

BAND EDGE COMPLIANCE - Band 85 NB IoT SA

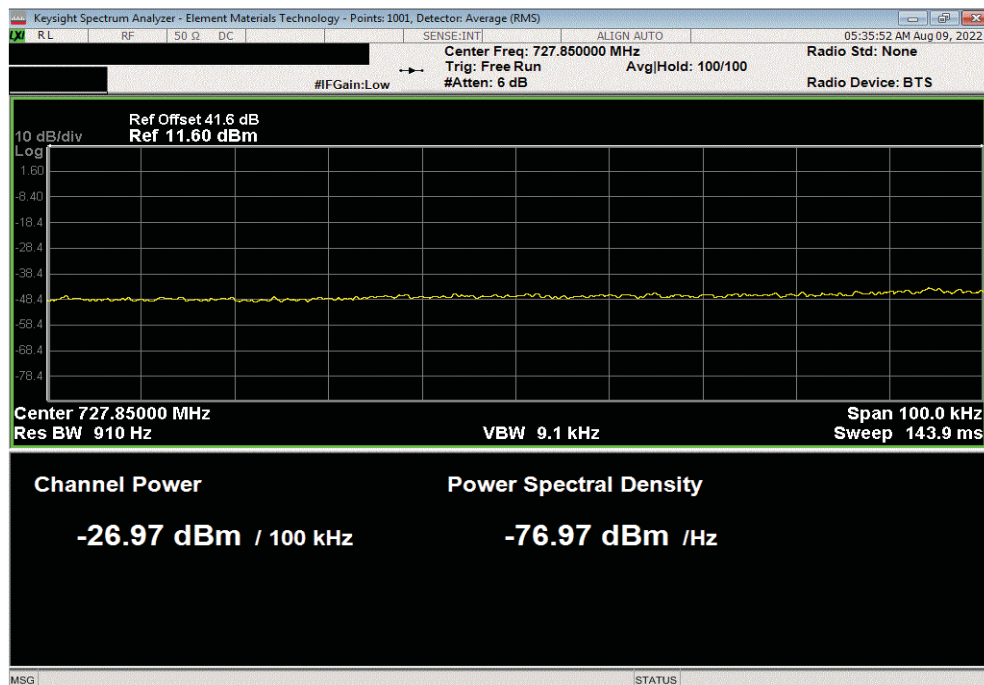


TbTx 2022.05.02.0 XbTx 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 200 kHz Bandwidth, Standalone NB-IoT, Low Ch. 728.2 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-20.47	-19	Pass			



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 200 kHz Bandwidth, Standalone NB-IoT, Low Ch. 728.2 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-26.97	-19	Pass			

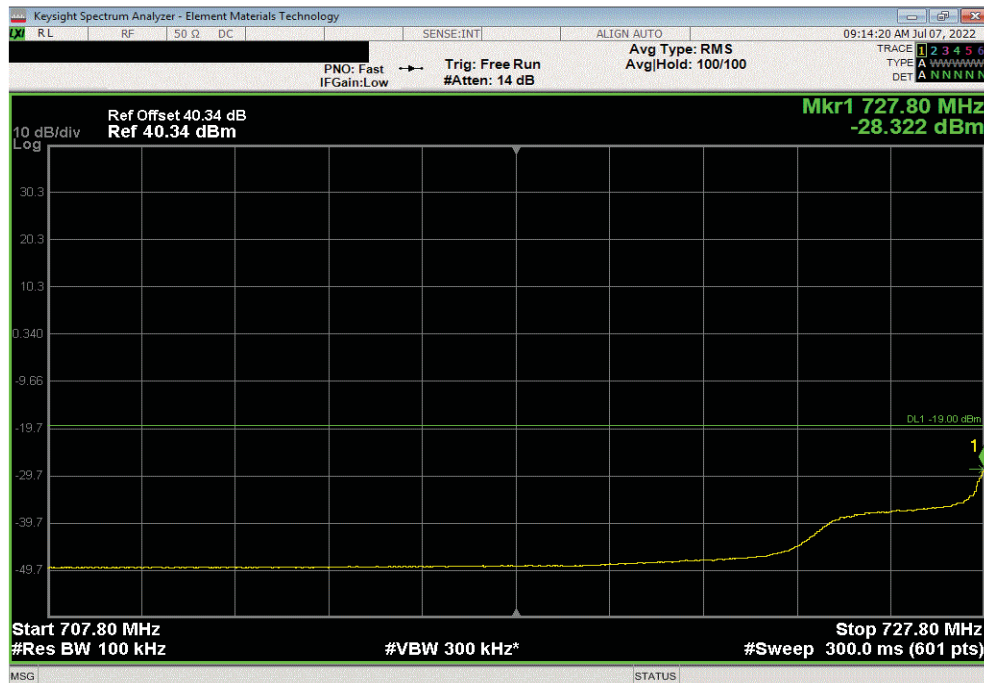


BAND EDGE COMPLIANCE - Band 85 NB IoT SA



TbTx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 200 kHz Bandwidth, Standalone NB-IoT, Low Ch. 728.2 MHz						
Frequency		Max Value		Limit	Result	
Range		(dBm)		< (dBm)		
3		-28.322		-19	Pass	

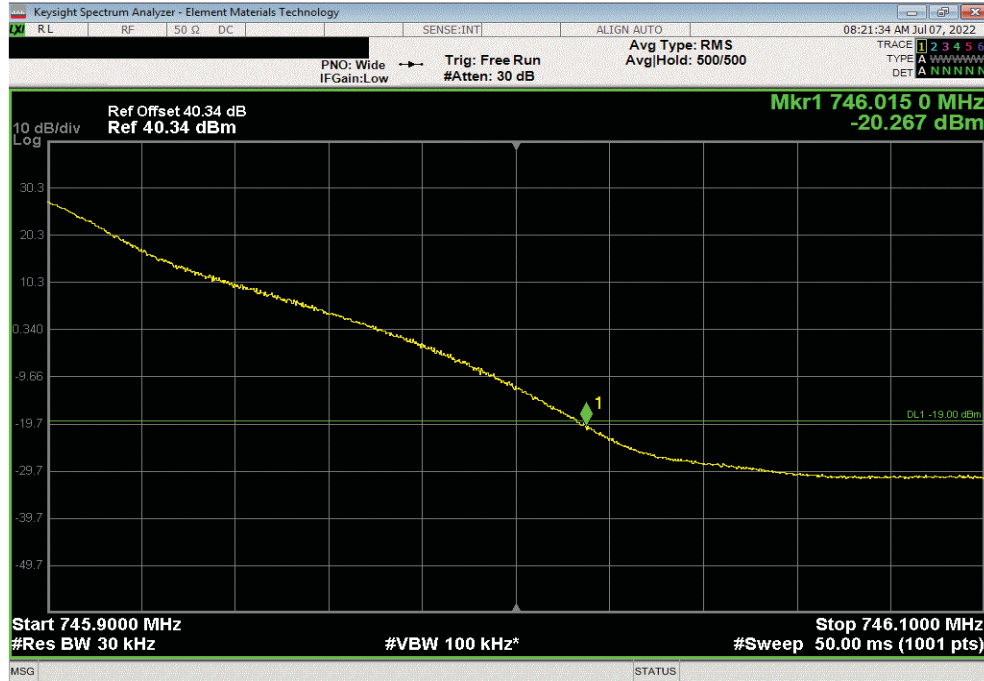


BAND EDGE COMPLIANCE - Band 85 NB IoT SA

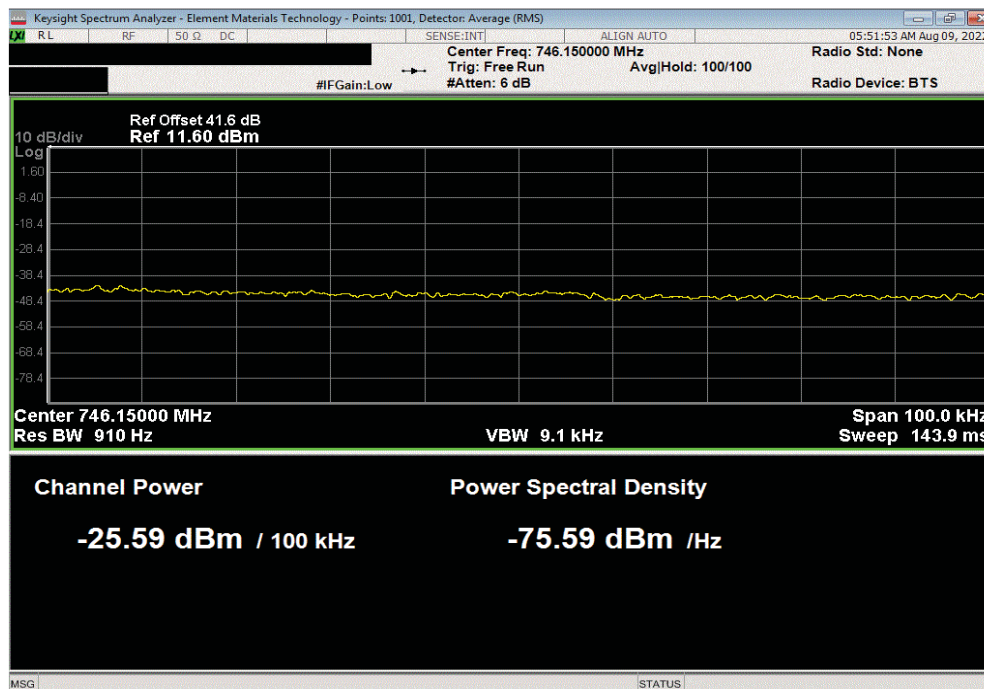


TbTtx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 200 kHz Bandwidth, Standalone NB-IoT, High Ch. 745.8 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
1	-20.27	-19	Pass			



Port 2, LTE, Band n85, 728 MHz - 746 MHz, 200 kHz Bandwidth, Standalone NB-IoT, High Ch. 745.8 MHz						
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result			
2	-25.59	-19	Pass			

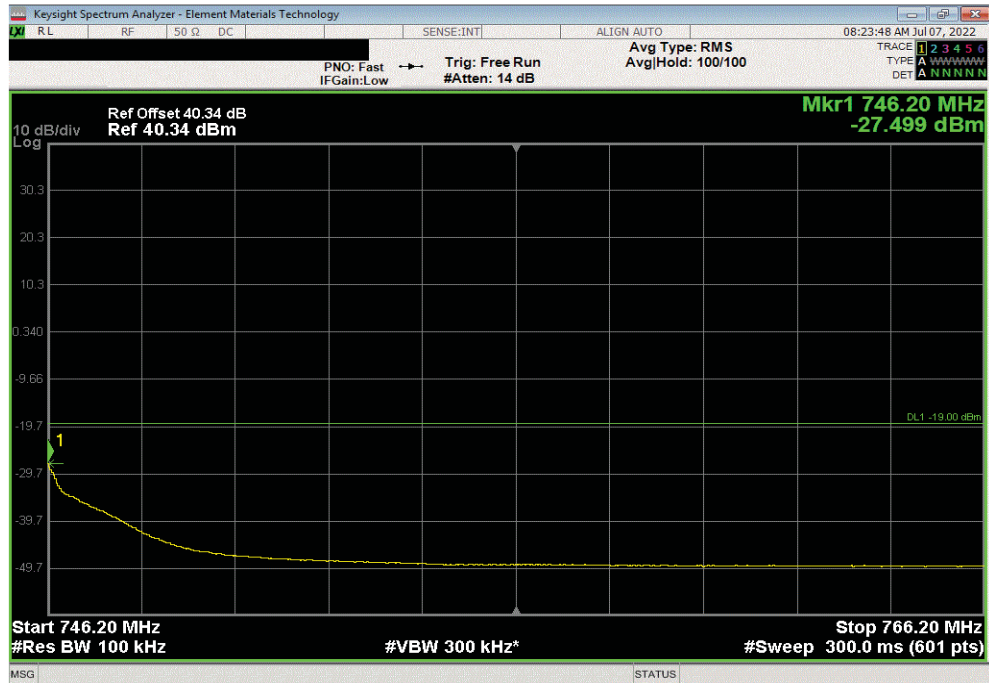


BAND EDGE COMPLIANCE - Band 85 NB IoT SA



TbTx 2022.05.02.0 XMit 2022.02.07.0

Port 2, LTE, Band n85, 728 MHz - 746 MHz, 200 kHz Bandwidth, Standalone NB-IoT, High Ch. 745.8 MHz						
Frequency Range		Max Value (dBm)		Limit < (dBm)	Result	
3		-27.499		-19	Pass	



BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER



XMH 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 measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge. All limits were adjusted by a factor of $[-10 \cdot \log(4)]$ dB to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911.

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 $[-13 \text{ dBm} - 10 \log(4)]$ per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter.

Per FCC 27.53(g) and RSS 130 4.7 requires a ≥ 100 kHz measurement bandwidth for emissions 100 kHz outside of the RRH operating frequency range. FCC 27.53(g) and RSS 130 4.7 requires a ≥ 30 kHz measurement bandwidth for emissions between 100 kHz outside of the RRH operating frequency range and band edge of the operating frequency range.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHLOB) as the original certification test. The AHLOB antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 2 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

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 ($\sim 26.6\text{W}/\text{Band 71 carriers}$). 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 ($\sim 40\text{W}/\text{Band 71 carriers}$). 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 ($\sim 40\text{W}/\text{Band 85 carrier}$). 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 ($\sim 26.6\text{W}/\text{Band 71 carrier}$ and $\sim 26.6\text{W}/\text{Band 85 carrier}$) for a total port power of 80 watts.

BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER



EUT: AHLOB

Serial Number: YK220900029

Customer: Nokia Solutions and Networks

Attendees: Mitchell Hill, John Rattanavong

Project: None

Tested by: Marty Martin

54 VDC

Test Method

ANSI C63.26:2015

ANSI C63.26:2015

Work Order: NOKI0043

Date: 11-Jul-22

Temperature: 20.7 °C

Humidity: 52.8% RH

Barometric Pres.: 1012 mbar

Job Site: TX07

TEST SPECIFICATIONS

FCC 27-2022

RSS-130 Issue 2:2019

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. 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.

DEVIATIONS FROM TEST STANDARD

None

Configuration #

2

Signature



Frequency Range

Measured Freq (MHz)

Max Value (dBm)

Limit < (dBm)

Result

LTE Multicarrier Multiband

Port 2

QPSK Modulation

Test Case 1, LTE5 Carrier 1, 619.5 MHz

1

617

-26.44

-19

Pass

Test Case 1, LTE5 Carrier 1, 619.5 MHz

2

616.9

-24.43

-19

Pass

Test Case 1, LTE5 Carrier 3, 649.5 MHz

1

652

-27.75

-19

Pass

Test Case 1, LTE5 Carrier 3, 649.5 MHz

2

652.1

-28.04

-19

Pass

Test Case 2, LTE20 Carrier 1, 627 MHz

1

617

-31.65

-19

Pass

Test Case 2, LTE20 Carrier 1, 627 MHz

2

616.9

-27.29

-19

Pass

Test Case 2, LTE15 Carrier 2, 644.5 MHz

1

652

-28.83

-19

Pass

Test Case 2, LTE15 Carrier 2, 644.5 MHz

2

652.1

-26.23

-19

Pass

Test Case 3, LTE5 Carrier 1, 730.5 MHz

1

728

-26.1

-19

Pass

Test Case 3, LTE5 Carrier 1, 730.5 MHz

2

727.9

-27.92

-19

Pass

Test Case 3, LTE5 Carrier 2, 743.5 MHz

1

746

-26.81

-19

Pass

Test Case 3, LTE5 Carrier 2, 743.5 MHz

2

746.1

-28.52

-19

Pass

Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz

1

746

-23.75

-19

Pass

Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz

2

746.1

-20.82

-19

Pass

Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz

1

617

-24.81

-19

Pass

Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz

2

616.9

-22.05

-19

Pass

16-QAM Modulation

Test Case 1, LTE5 Carrier 1, 619.5 MHz

1

617

-26.86

-19

Pass

Test Case 1, LTE5 Carrier 1, 619.5 MHz

2

616.9

-24.97

-19

Pass

Test Case 1, LTE5 Carrier 3, 649.5 MHz

1

652

-27.7

-19

Pass

Test Case 1, LTE5 Carrier 3, 649.5 MHz

2

652.1

-28.34

-19

Pass

Test Case 2, LTE20 Carrier 1, 627 MHz

1

617

-31.92

-19

Pass

Test Case 2, LTE20 Carrier 1, 627 MHz

2

616.9

-27.89

-19

Pass

Test Case 2, LTE15 Carrier 2, 644.5 MHz

1

652

-29.77

-19

Pass

Test Case 2, LTE15 Carrier 2, 644.5 MHz

2

652.1

-27.4

-19

Pass

Test Case 3, LTE5 Carrier 1, 730.5 MHz

1

728

-26.64

-19

Pass

Test Case 3, LTE5 Carrier 1, 730.5 MHz

2

727.9

-28.74

-19

Pass

Test Case 3, LTE5 Carrier 2, 743.5 MHz

1

746

-27.63

-19

Pass

Test Case 3, LTE5 Carrier 2, 743.5 MHz

2

746.1

-29.1

-19

Pass

Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz

1

746

-23.89

-19

Pass

Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz

2

746.1

-20.63

-19

Pass

Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz

1

617

-25.17

-19

Pass

Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz

2

616.9

-22.17

-19

Pass

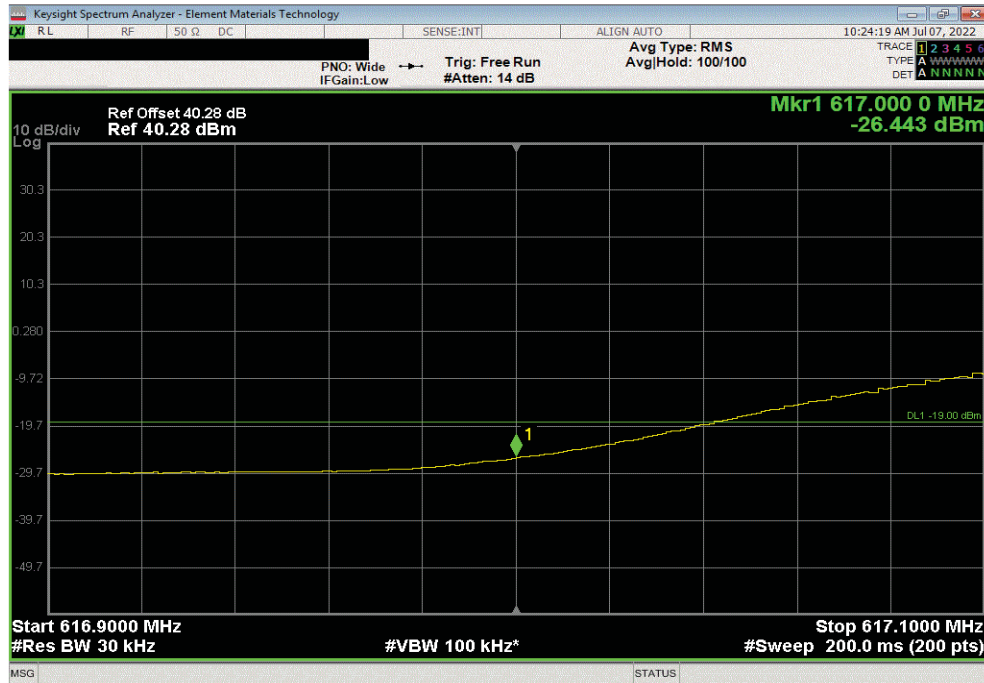
64-QAM Modulation						
Test Case 1, LTE5 Carrier 1, 619.5 MHz	1	617	-26.92	-19	Pass	
Test Case 1, LTE5 Carrier 1, 619.5 MHz	2	616.9	-24.54	-19	Pass	
Test Case 1, LTE5 Carrier 3, 649.5 MHz	1	652	-27.61	-19	Pass	
Test Case 1, LTE5 Carrier 3, 649.5 MHz	2	652.1	-28.05	-19	Pass	
Test Case 2, LTE20 Carrier 1, 627 MHz	1	617	-32.07	-19	Pass	
Test Case 2, LTE20 Carrier 1, 627 MHz	2	616.9	-27.9	-19	Pass	
Test Case 2, LTE15 Carrier 2, 644.5 MHz	1	652	-29.6	-19	Pass	
Test Case 2, LTE15 Carrier 2, 644.5 MHz	2	652.1	-27.3	-19	Pass	
Test Case 3, LTE5 Carrier 1, 730.5 MHz	1	728	-27.15	-19	Pass	
Test Case 3, LTE5 Carrier 1, 730.5 MHz	2	727.9	-28.42	-19	Pass	
Test Case 3, LTE5 Carrier 2, 743.5 MHz	1	746	-27.11	-19	Pass	
Test Case 3, LTE5 Carrier 2, 743.5 MHz	2	746.1	-28.26	-19	Pass	
Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz	1	746	-23.91	-19	Pass	
Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz	2	746.27	-20.78	-19	Pass	
Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz	1	617	-25.16	-19	Pass	
Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz	2	616.9	-21.89	-19	Pass	
256-QAM Modulation						
Test Case 1, LTE5 Carrier 1, 619.5 MHz	1	617	-27.31	-19	Pass	
Test Case 1, LTE5 Carrier 1, 619.5 MHz	2	616.9	-24.72	-19	Pass	
Test Case 1, LTE5 Carrier 3, 649.5 MHz	1	652	-27.95	-19	Pass	
Test Case 1, LTE5 Carrier 3, 649.5 MHz	2	652.1	-28.52	-19	Pass	
Test Case 2, LTE20 Carrier 1, 627 MHz	1	617	-35.01	-19	Pass	
Test Case 2, LTE20 Carrier 1, 627 MHz	2	616.9	-32.67	-19	Pass	
Test Case 2, LTE15 Carrier 2, 644.5 MHz	1	652	-42.03	-19	Pass	
Test Case 2, LTE15 Carrier 2, 644.5 MHz	2	652.1	-36.75	-19	Pass	
Test Case 3, LTE5 Carrier 1, 730.5 MHz	1	728	-26.07	-19	Pass	
Test Case 3, LTE5 Carrier 1, 730.5 MHz	2	727.9	-28.77	-19	Pass	
Test Case 3, LTE5 Carrier 2, 743.5 MHz	1	746	-26.54	-19	Pass	
Test Case 3, LTE5 Carrier 2, 743.5 MHz	2	746.1	-28.54	-19	Pass	
Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz	1	746	-24.1	-19	Pass	
Test Case 4, LTE5 Band 85 Carrier 1, 743.5 MHz	2	746.1	-20.59	-19	Pass	
Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz	1	617	-25.03	-19	Pass	
Test Case 4, LTE5 Band 71 Carrier 1, 619.5 MHz	2	616.9	-22.07	-19	Pass	

BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

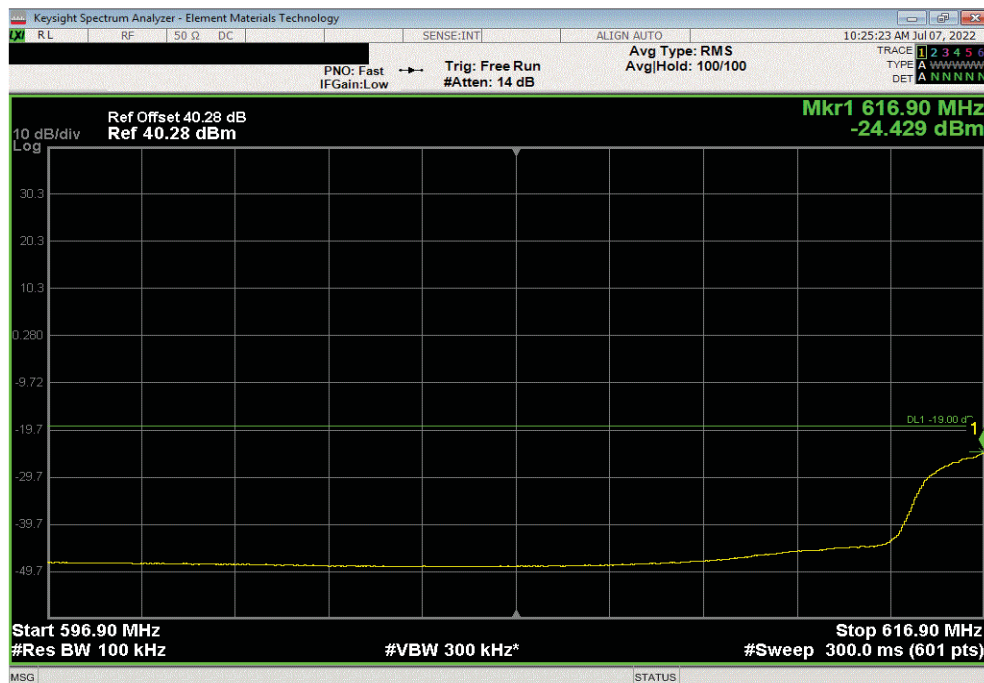


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-26.44	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-24.43	-19	Pass		

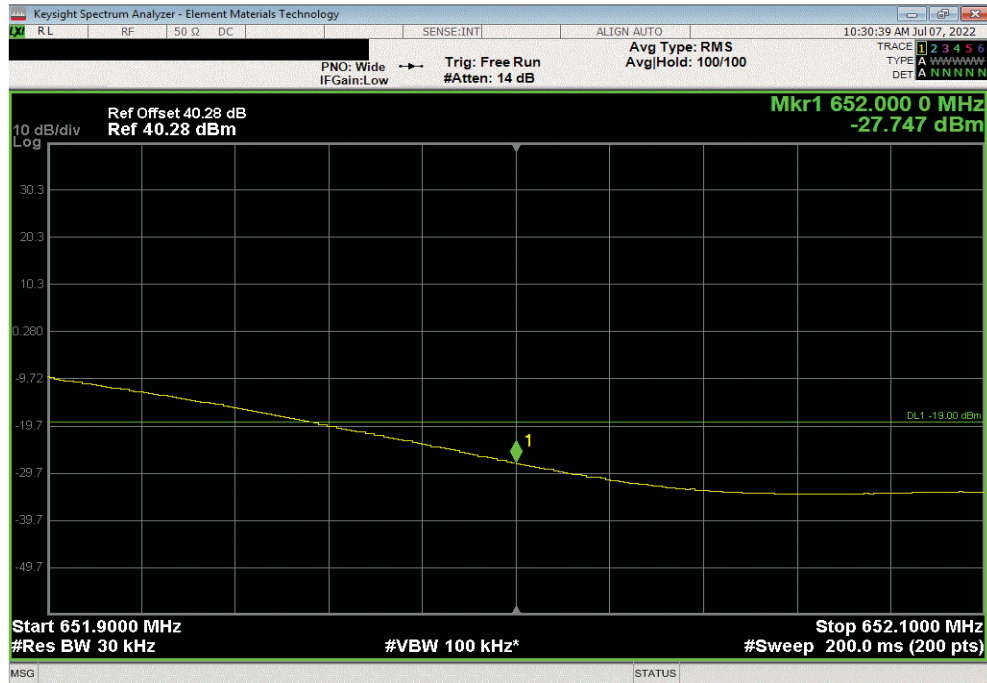


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

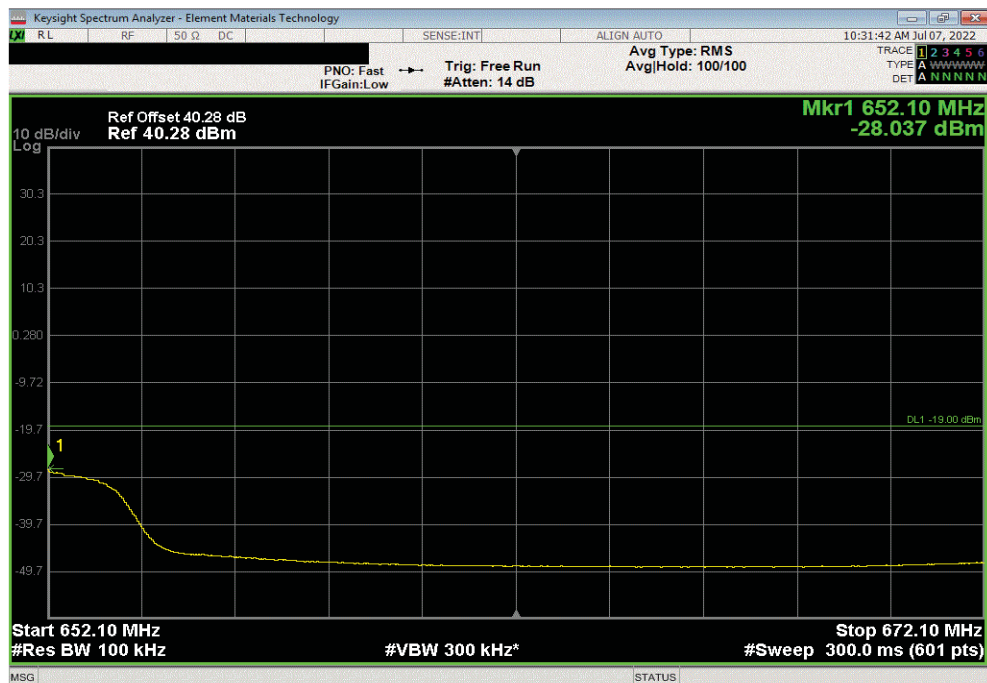


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-27.75	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-28.04	-19	Pass		

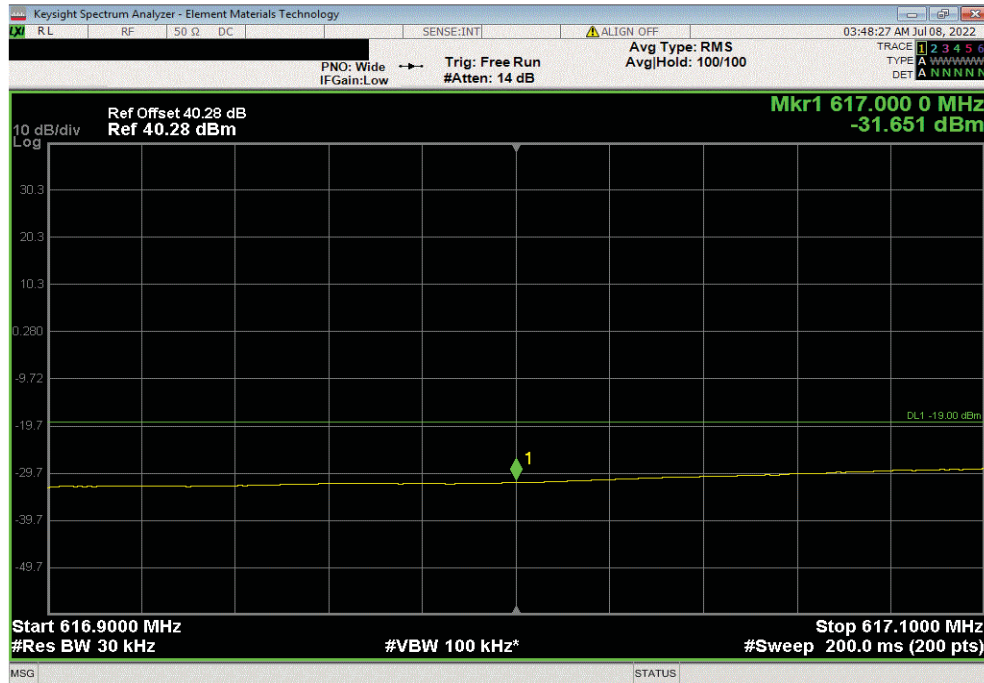


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

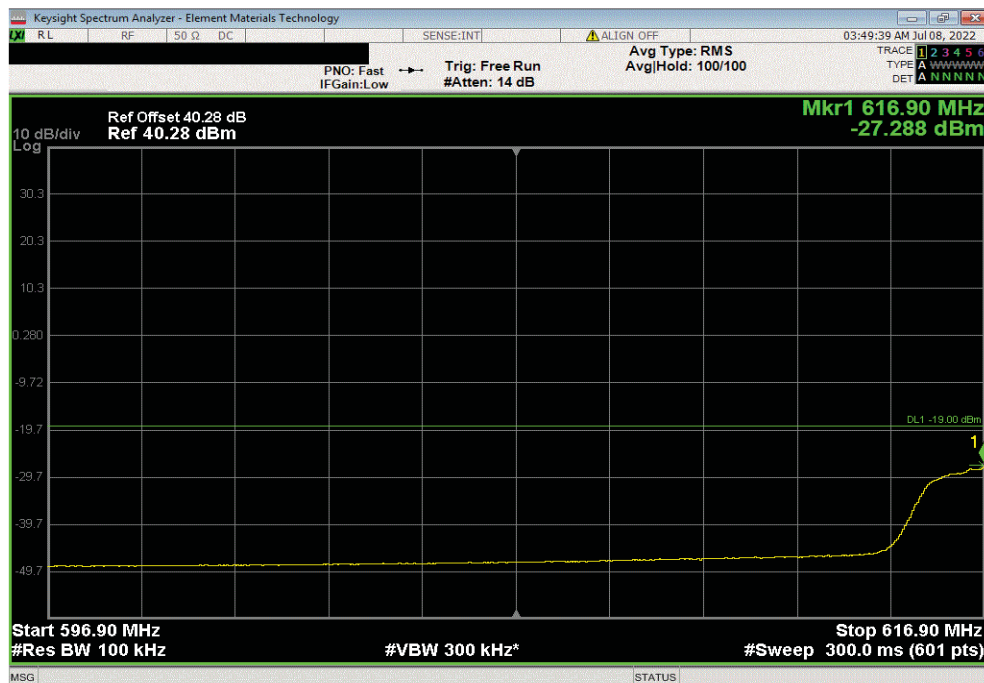


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-31.65	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-27.29	-19	Pass		

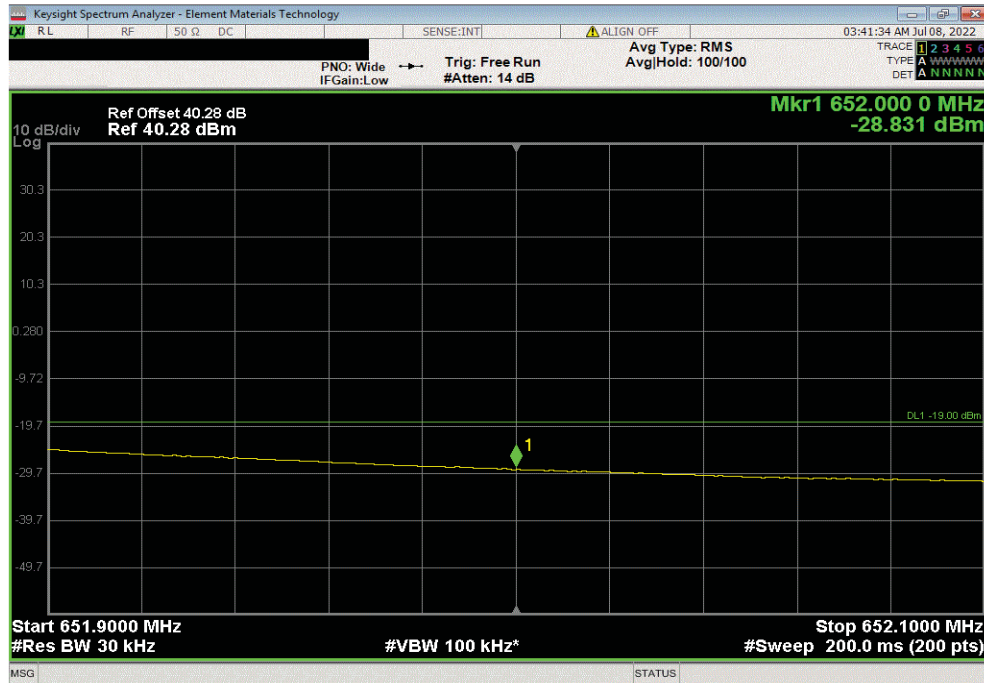


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

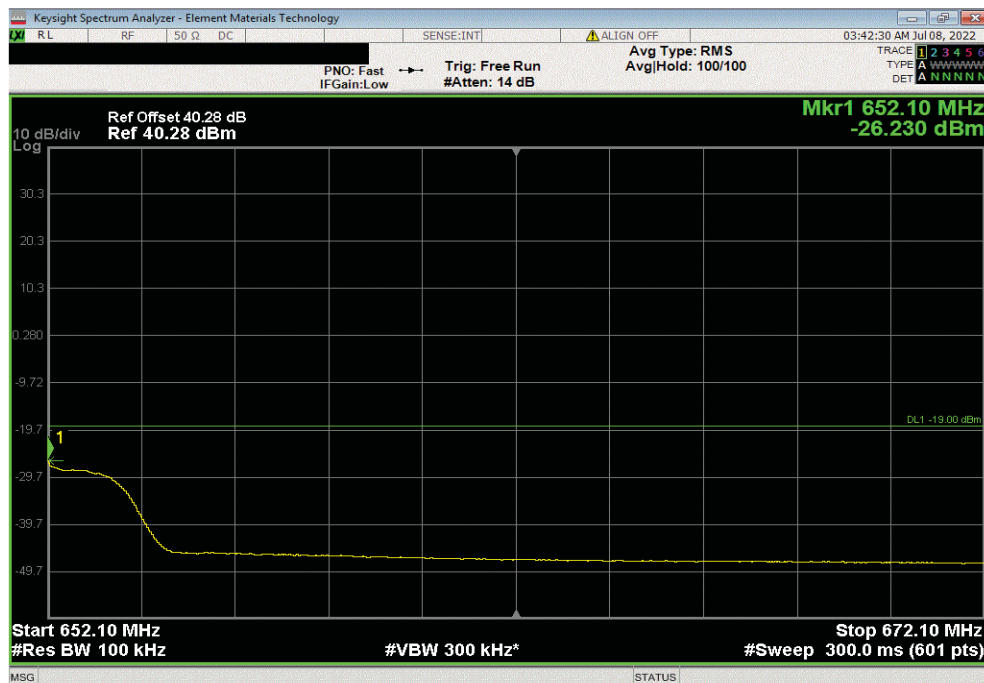


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-28.83	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-26.23	-19	Pass		

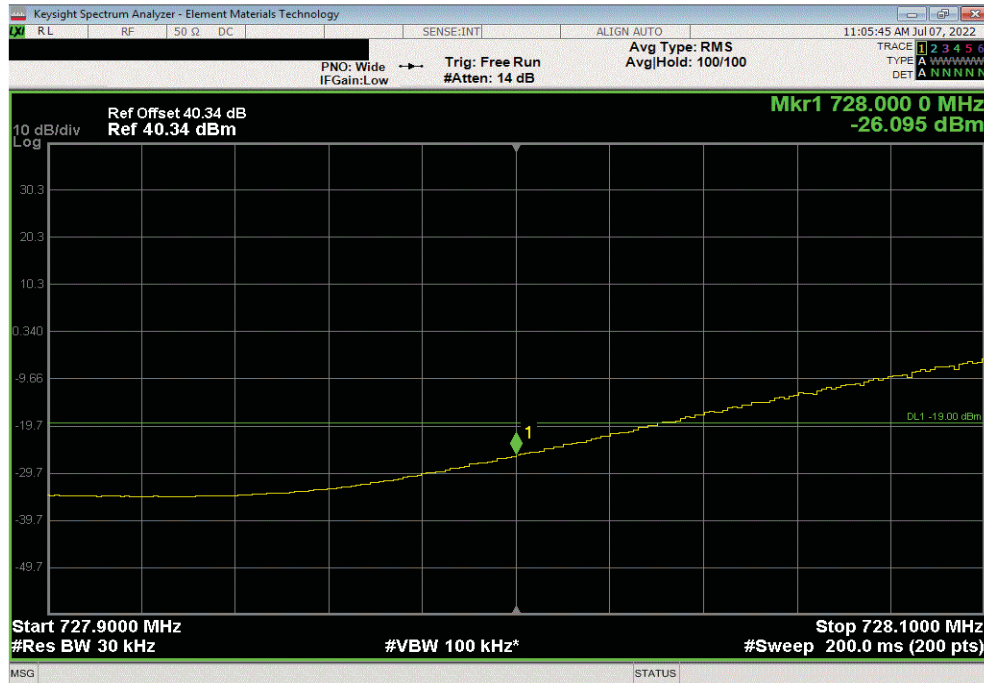


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

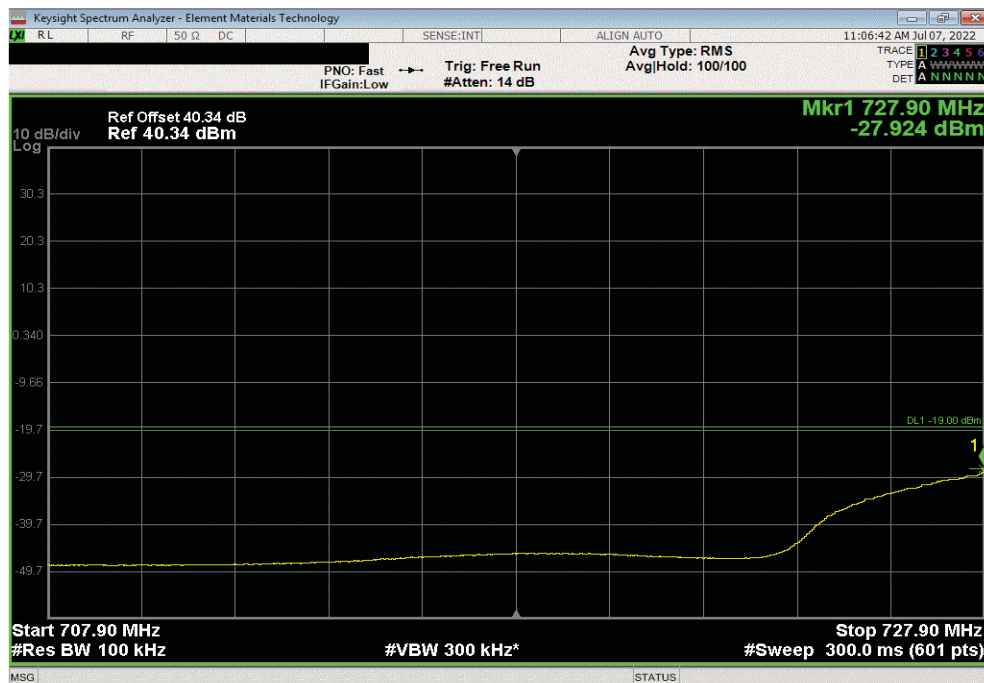


TbTtx 2022.05.02.0 XMIT 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3, LTE5 Carrier 1, 730.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	728	-26.1	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3, LTE5 Carrier 1, 730.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	727.9	-27.92	-19	Pass		

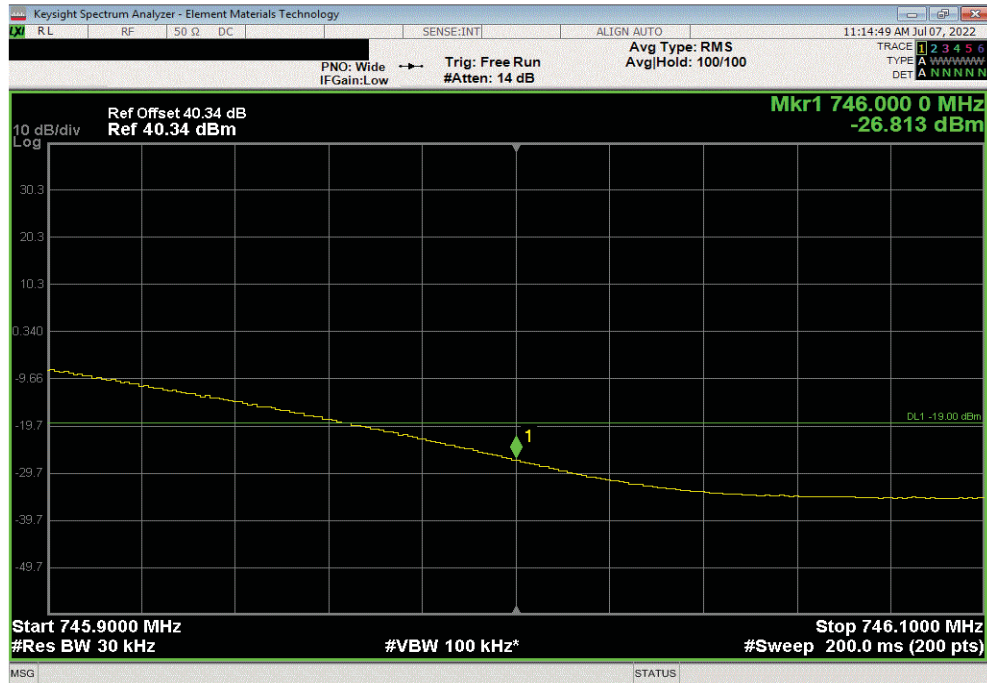


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

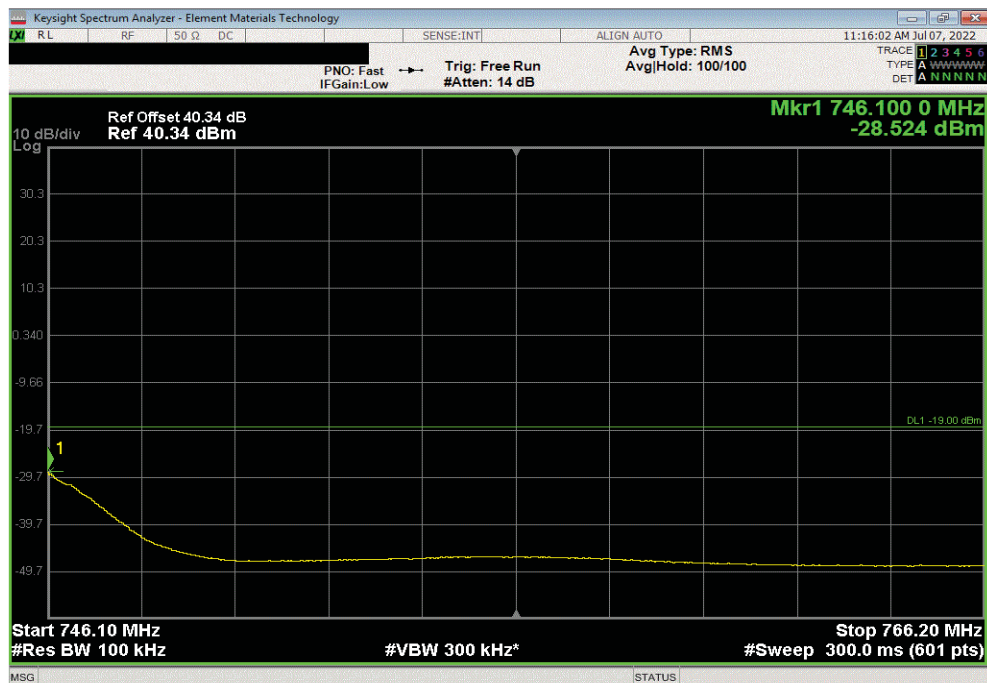


TbTx 2022.05.02.0 XMI 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3, LTE5 Carrier 2, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	746	-26.81	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 3, LTE5 Carrier 2, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	746.1	-28.52	-19	Pass		

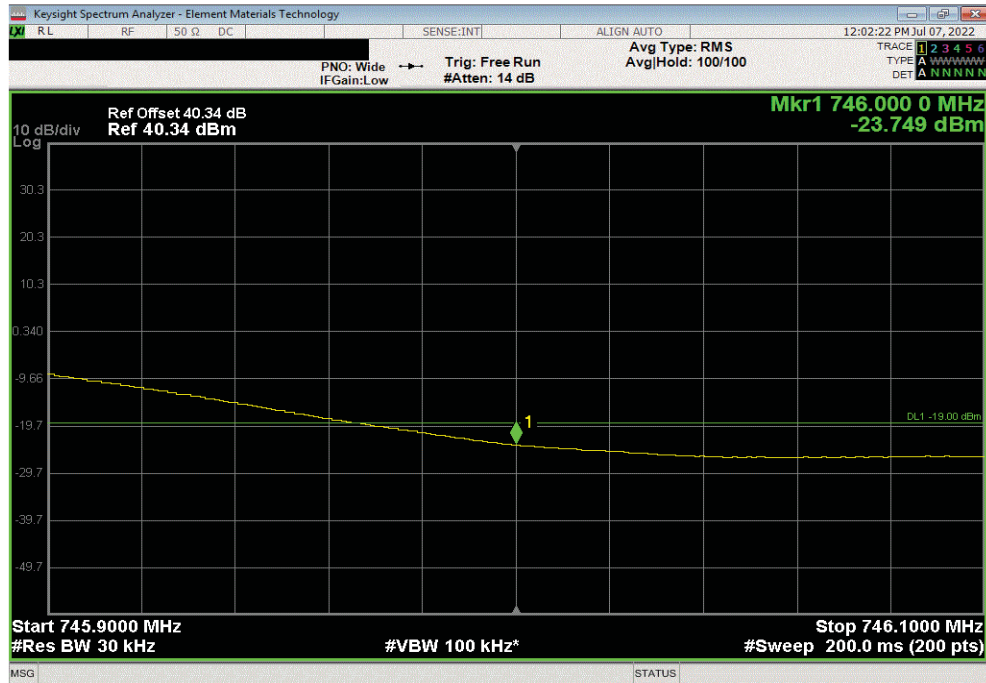


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

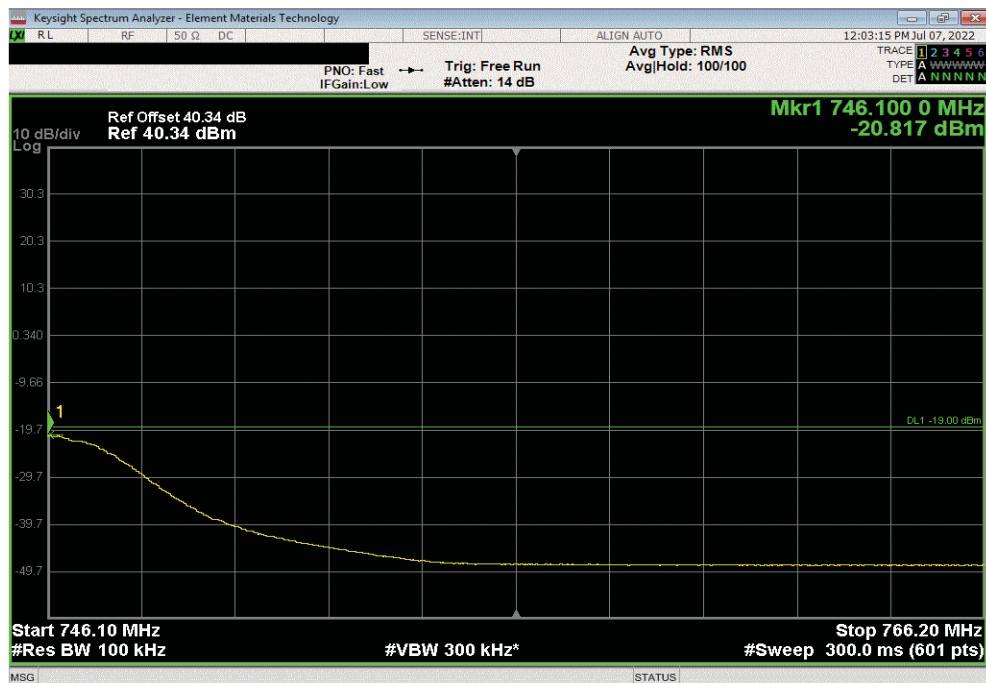


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4, LTE5 n85 Carrier 1, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	746	-23.75	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4, LTE5 n85 Carrier 1, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
6 GHz - 12.75 GHz	746.1	-20.82	-19	Pass		

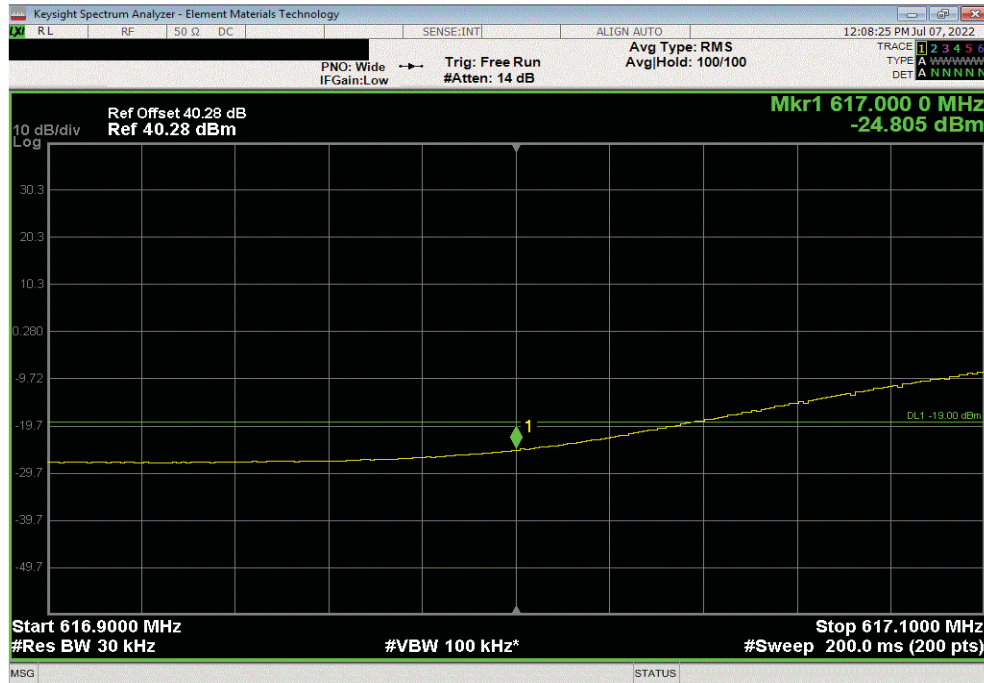


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

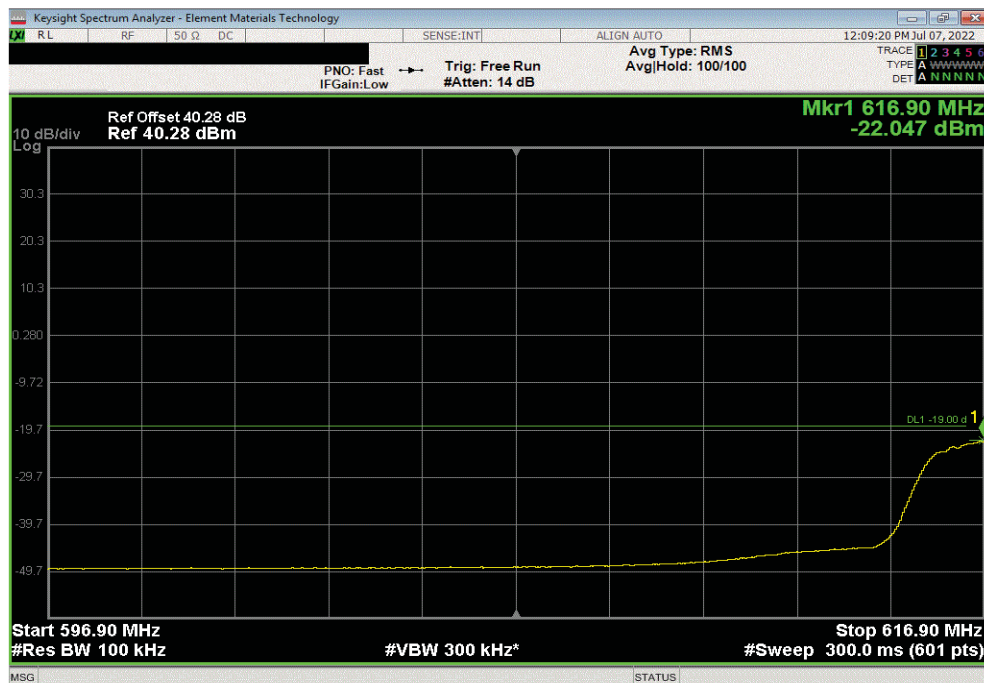


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, QPSK Modulation, Test Case 4, LTE5 n71 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-24.81	-19	Pass		



LTE Multicarrier Multiband, Port 2, QPSK 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	-22.05	-19	Pass		

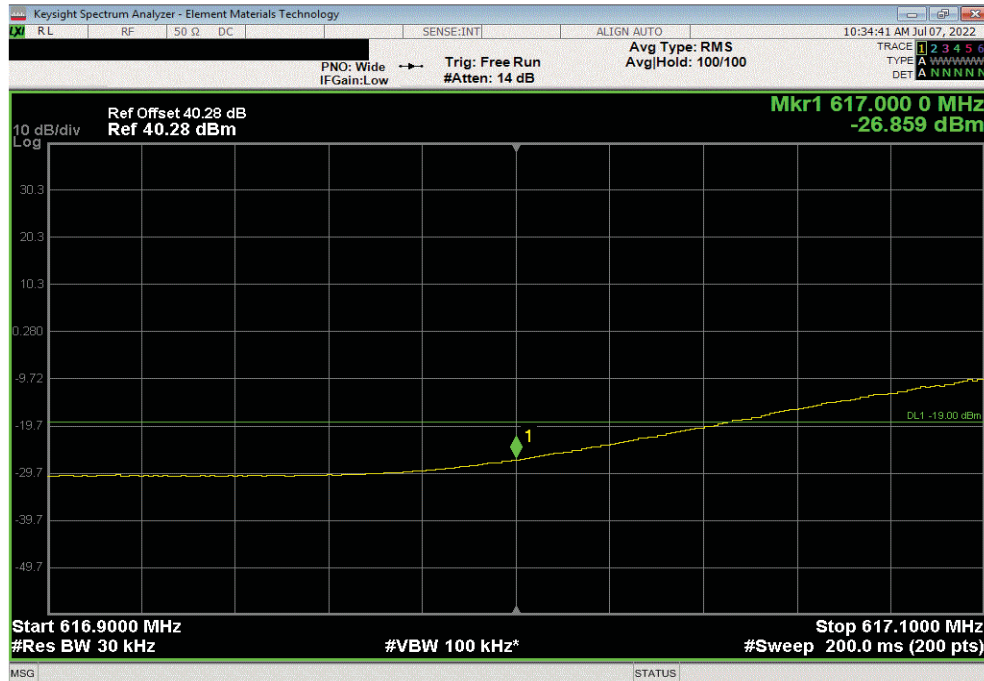


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

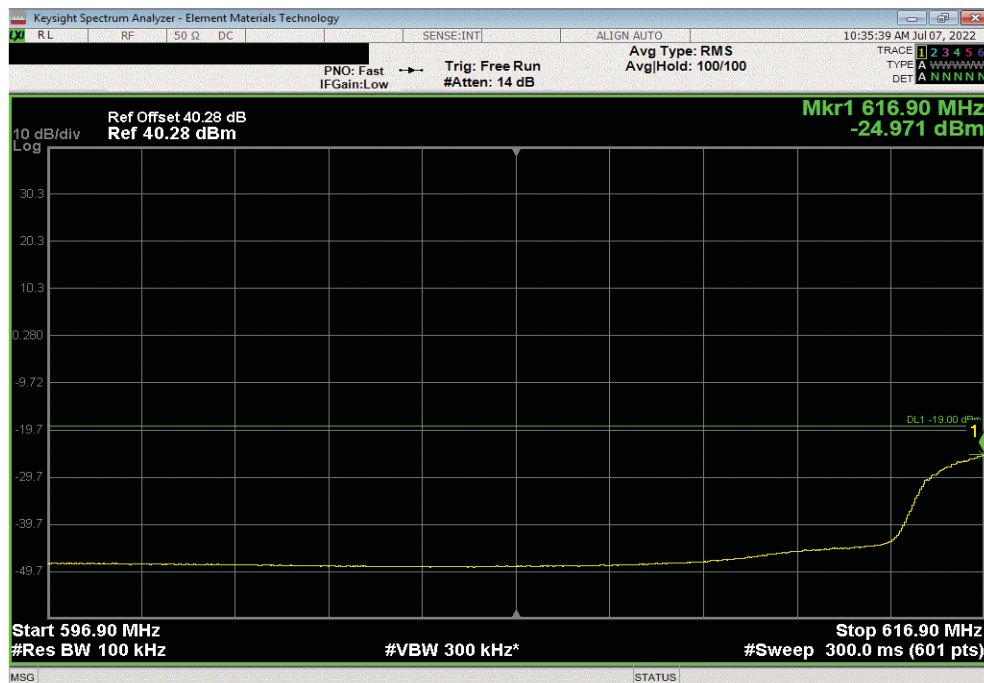


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-26.86	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-24.97	-19	Pass		



BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

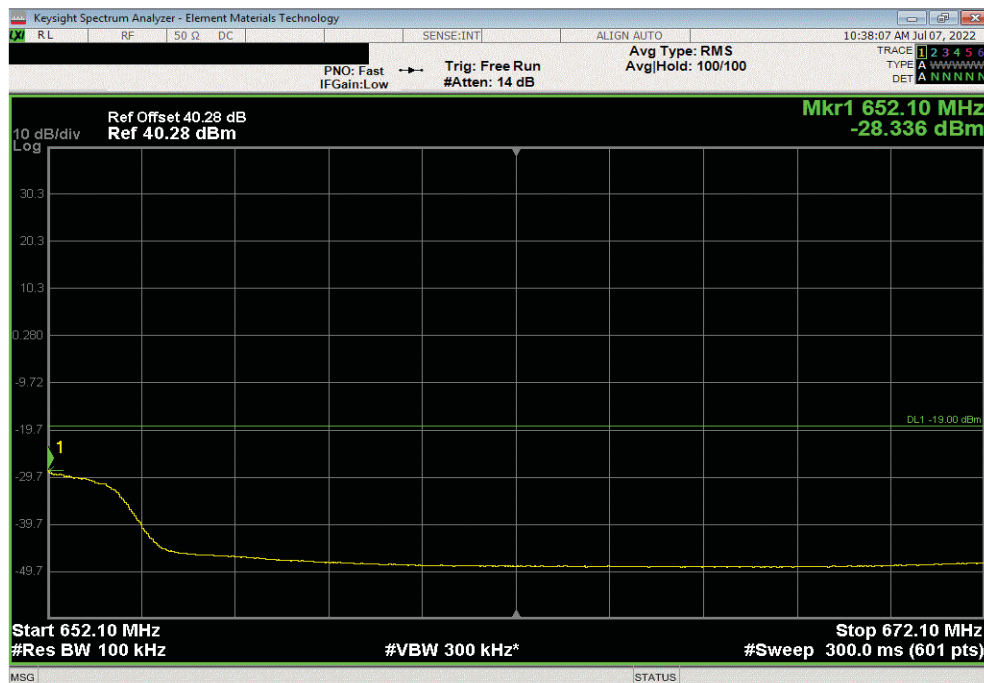


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-27.7	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-28.34	-19	Pass		

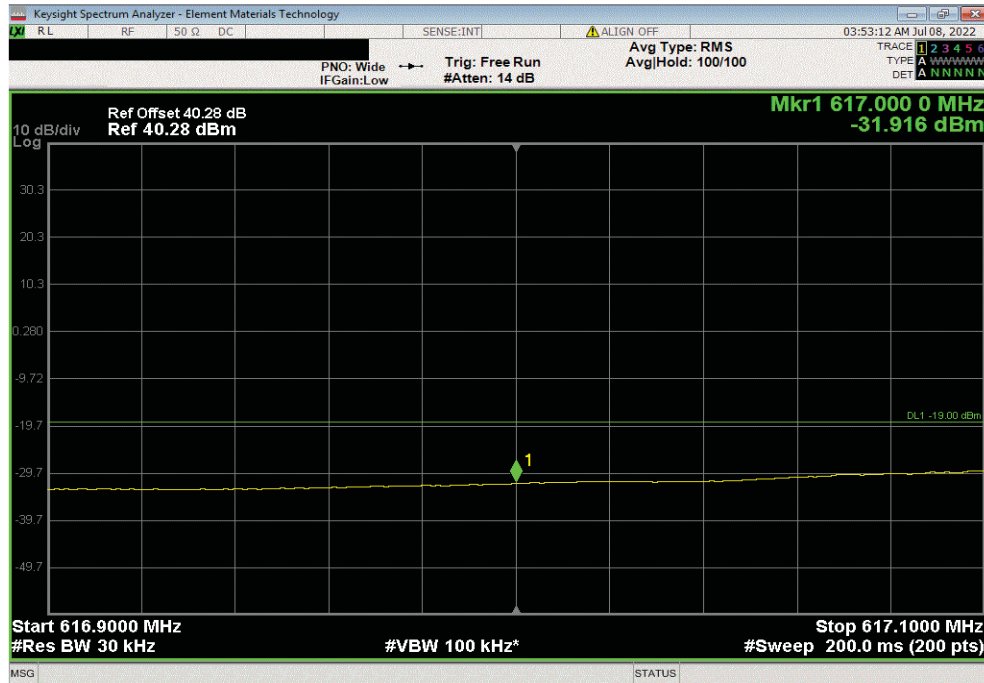


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

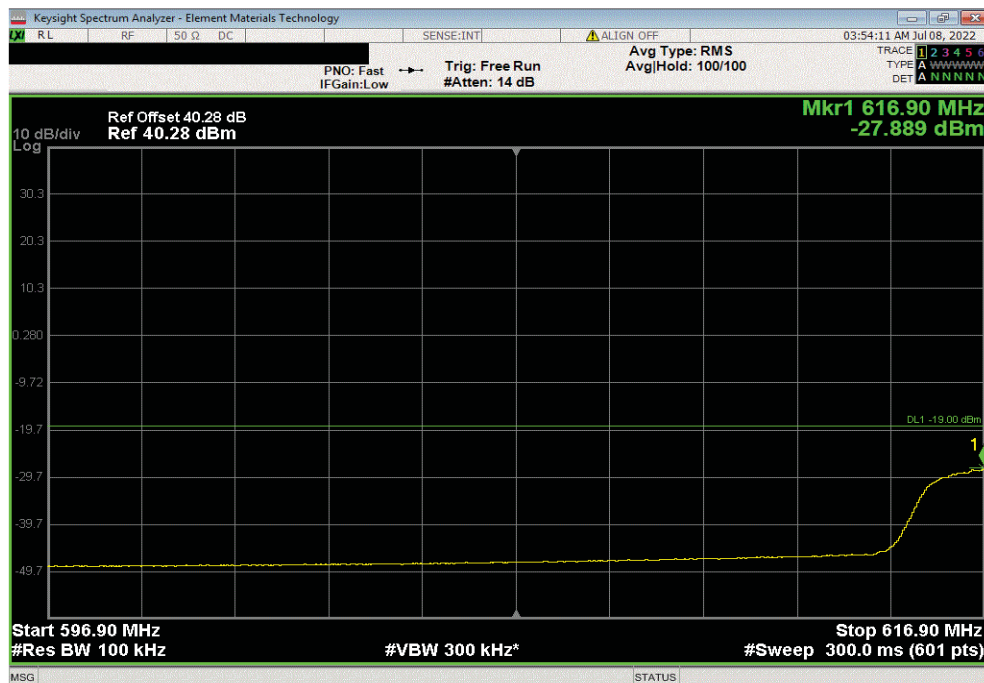


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-31.92	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-27.89	-19	Pass		

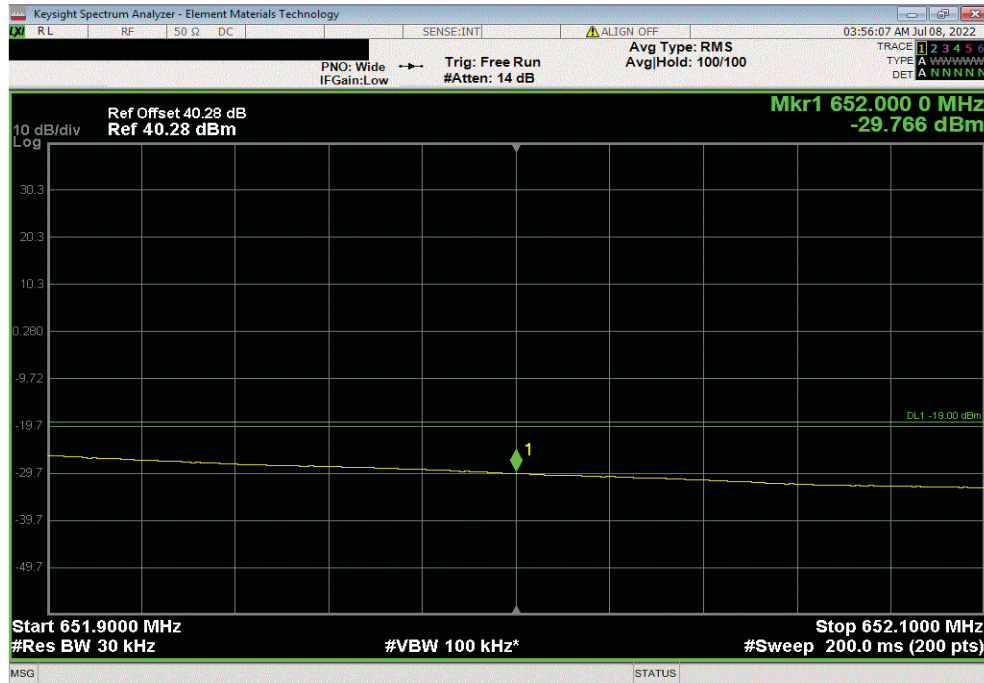


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

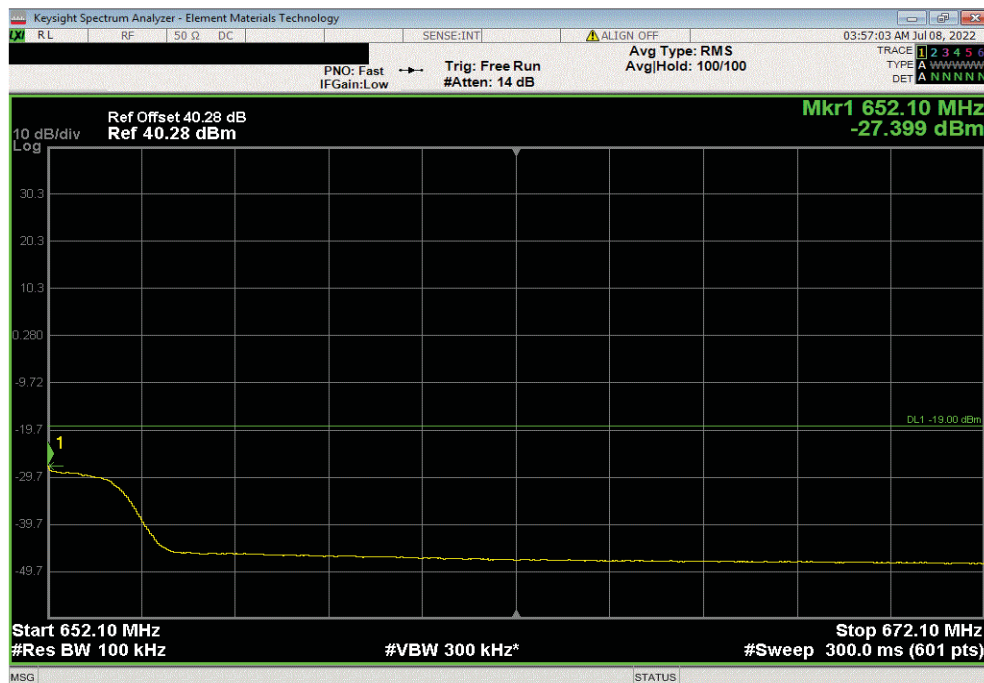


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-29.77	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-27.4	-19	Pass		

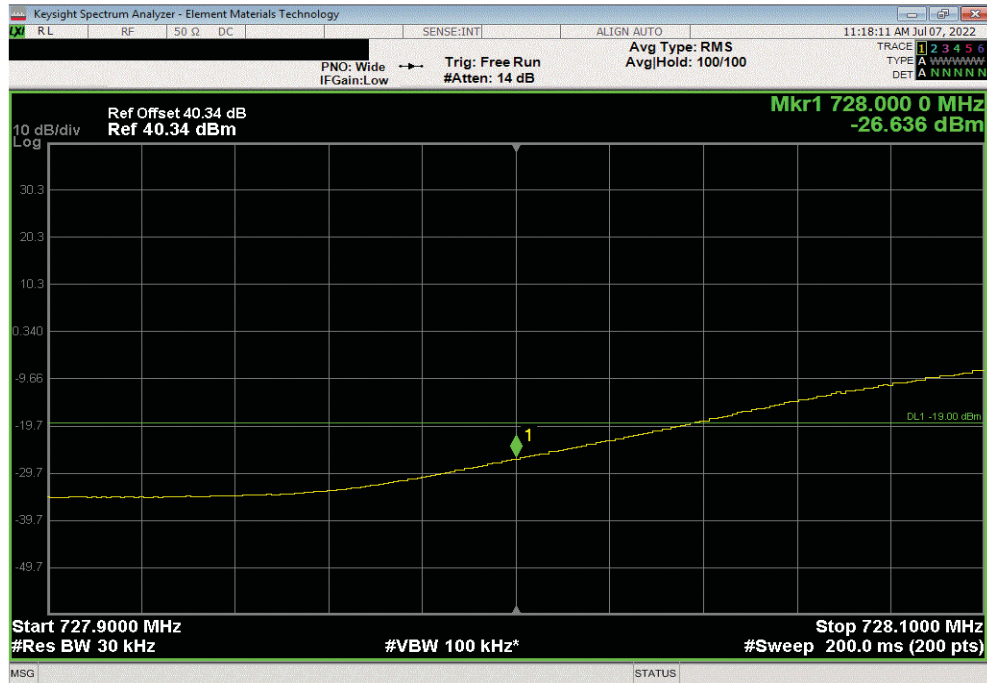


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

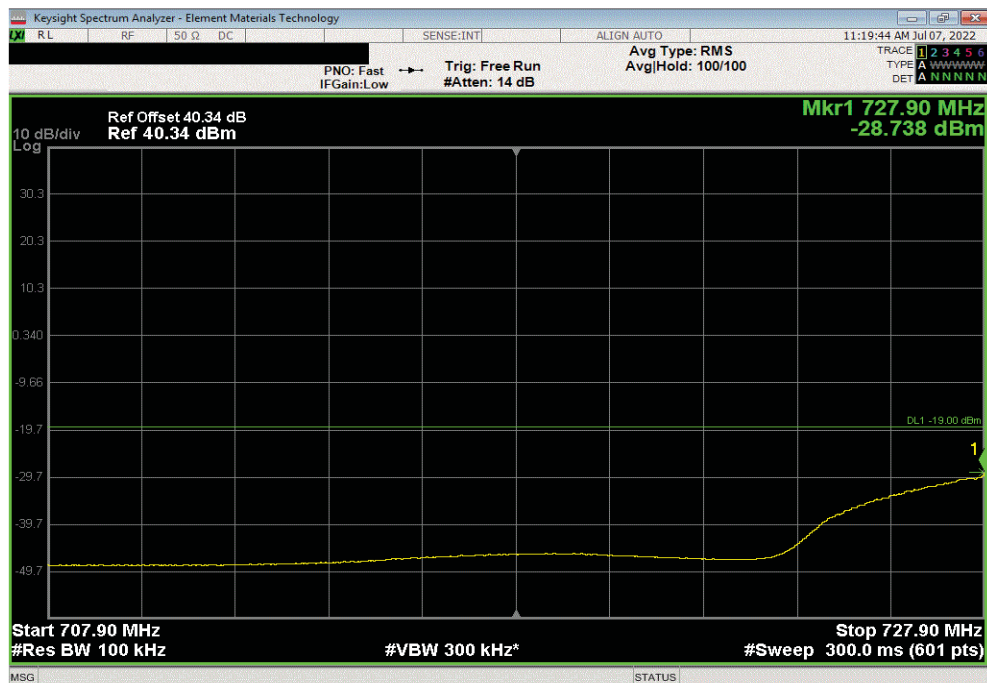


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 3, LTE5 Carrier 1, 730.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	728	-26.64	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-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	-28.74	-19	Pass		

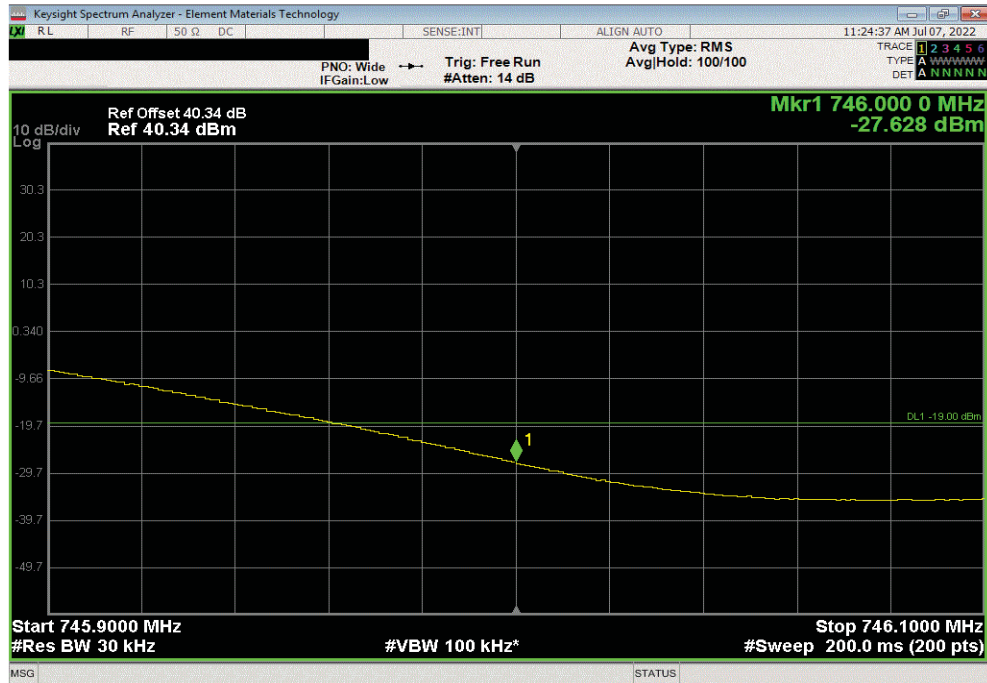


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

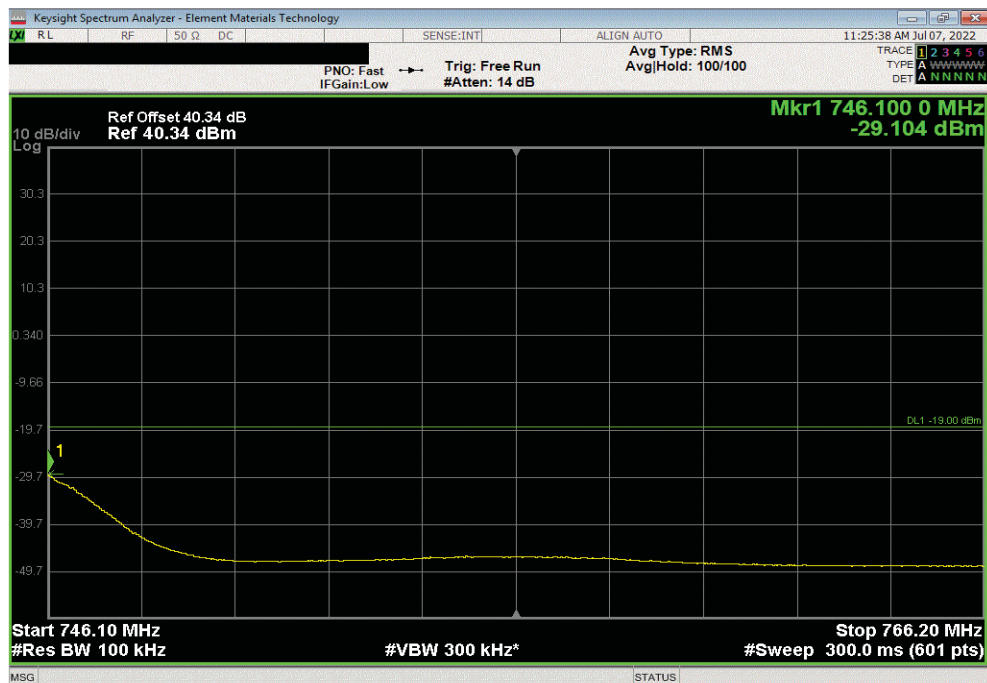


TbTx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-QAM Modulation, Test Case 3, LTE5 Carrier 2, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	746	-27.63	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-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	-29.1	-19	Pass		

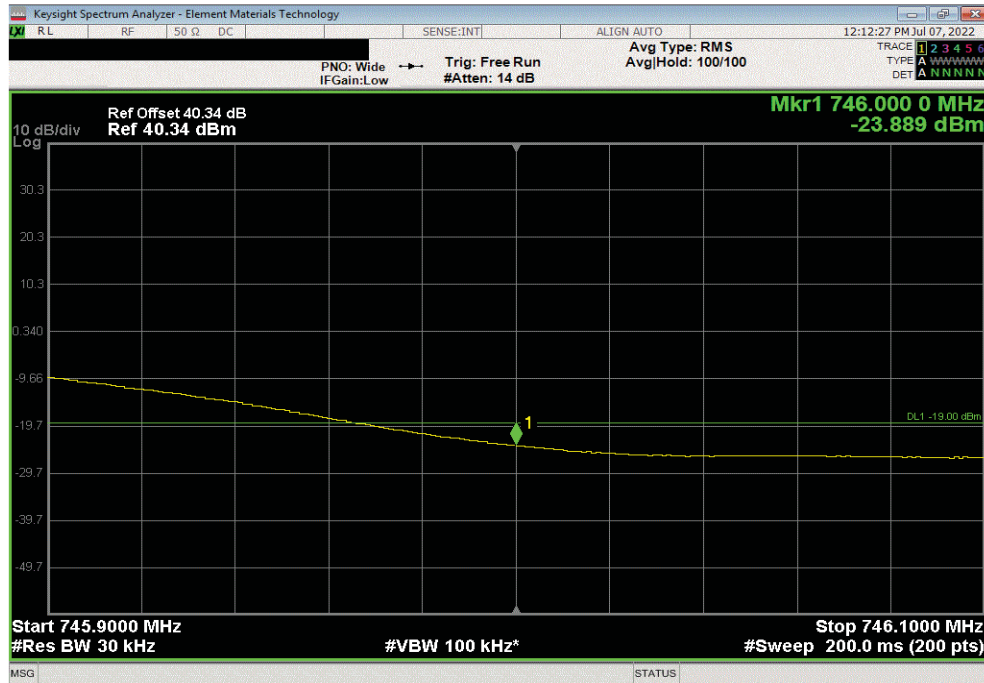


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

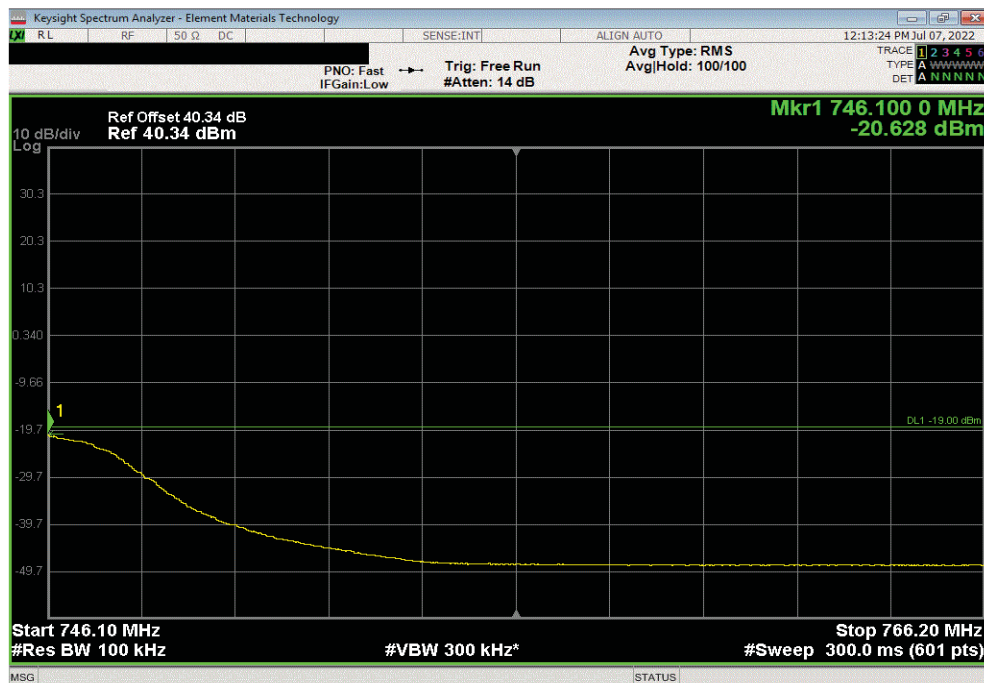


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-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	-23.89	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-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	-20.63	-19	Pass		

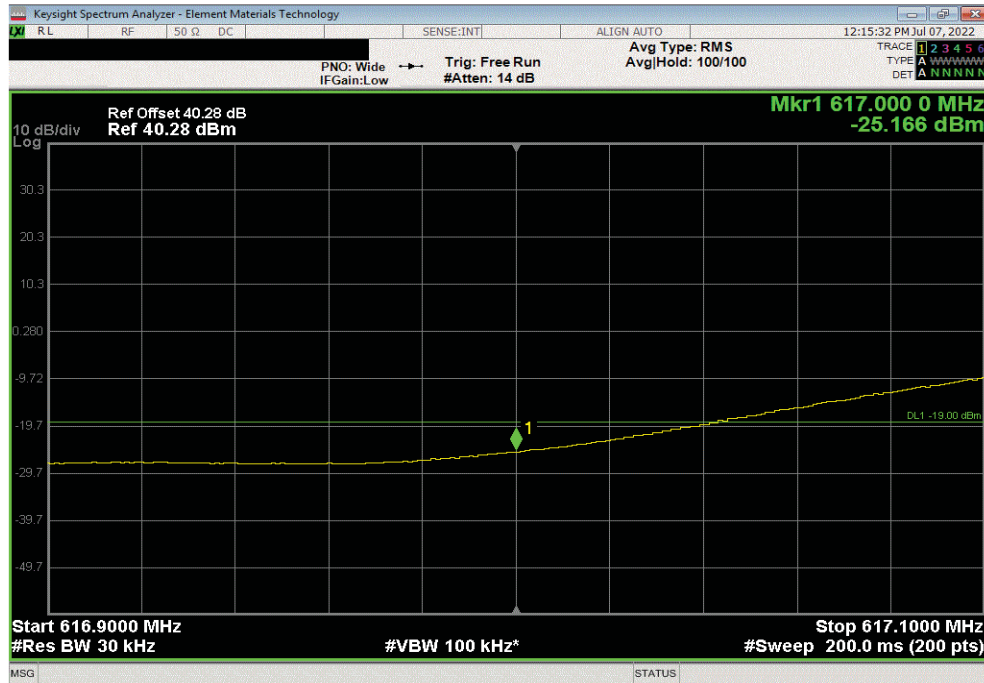


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

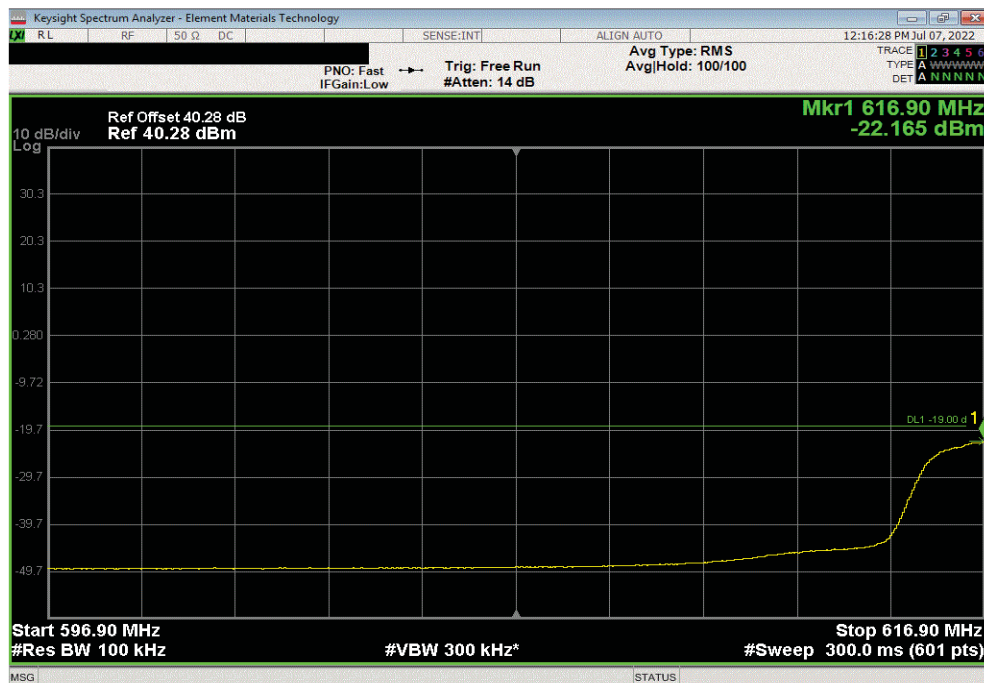


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 16-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	-25.17	-19	Pass		



LTE Multicarrier Multiband, Port 2, 16-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	-22.17	-19	Pass		

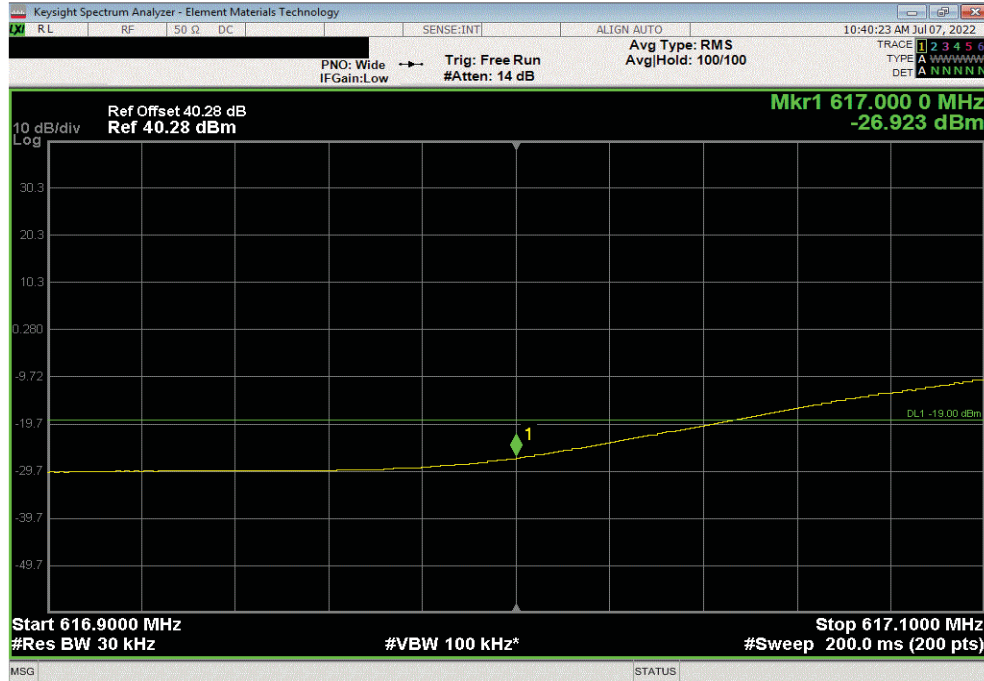


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

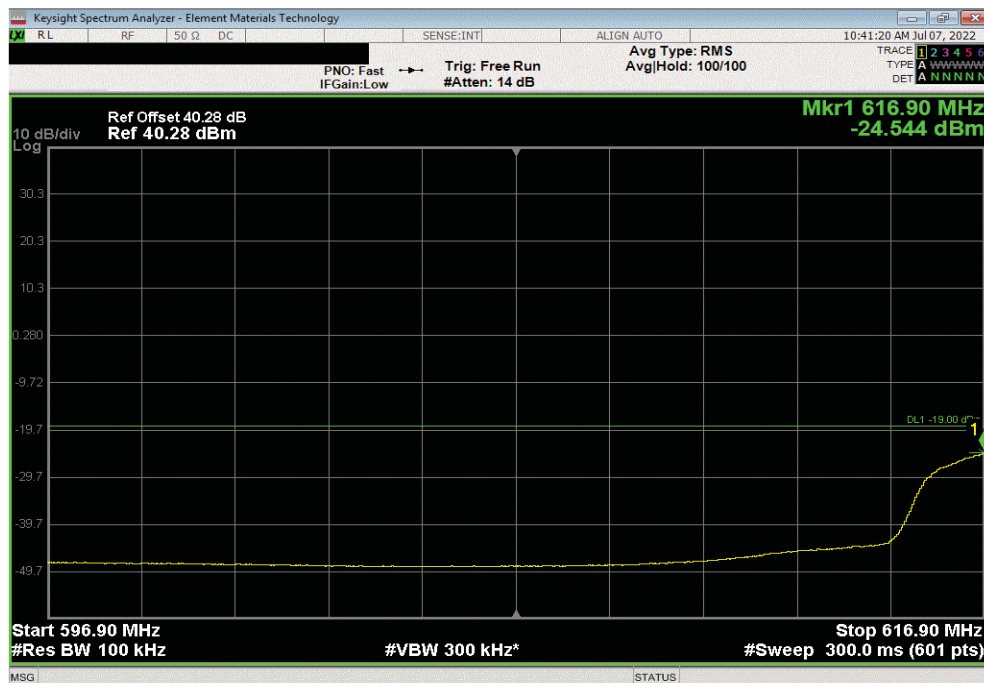


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-26.92	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-24.54	-19	Pass		

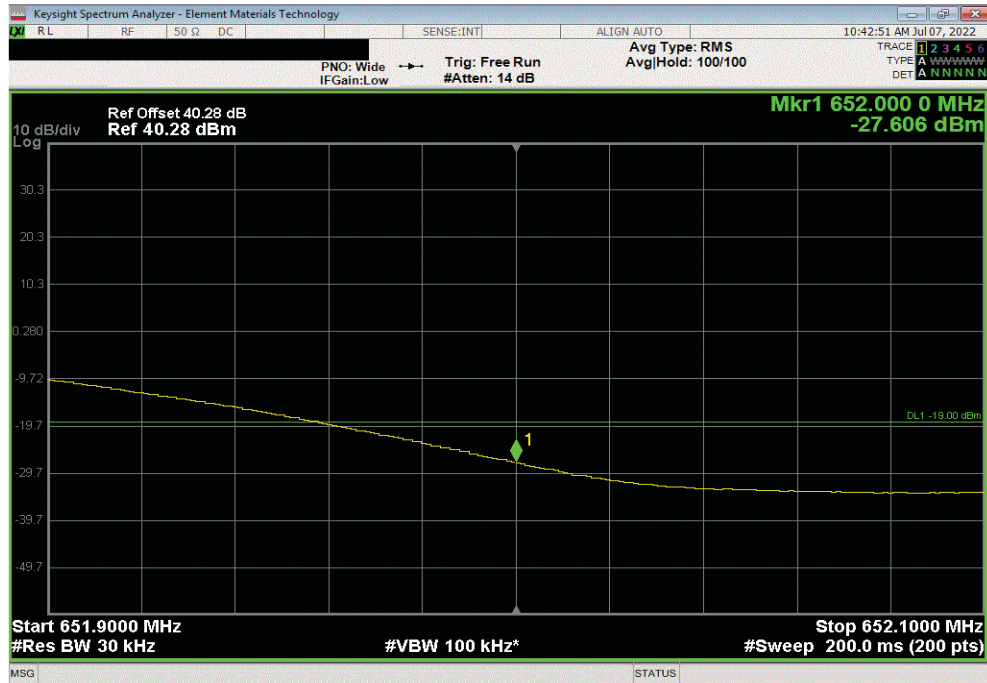


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

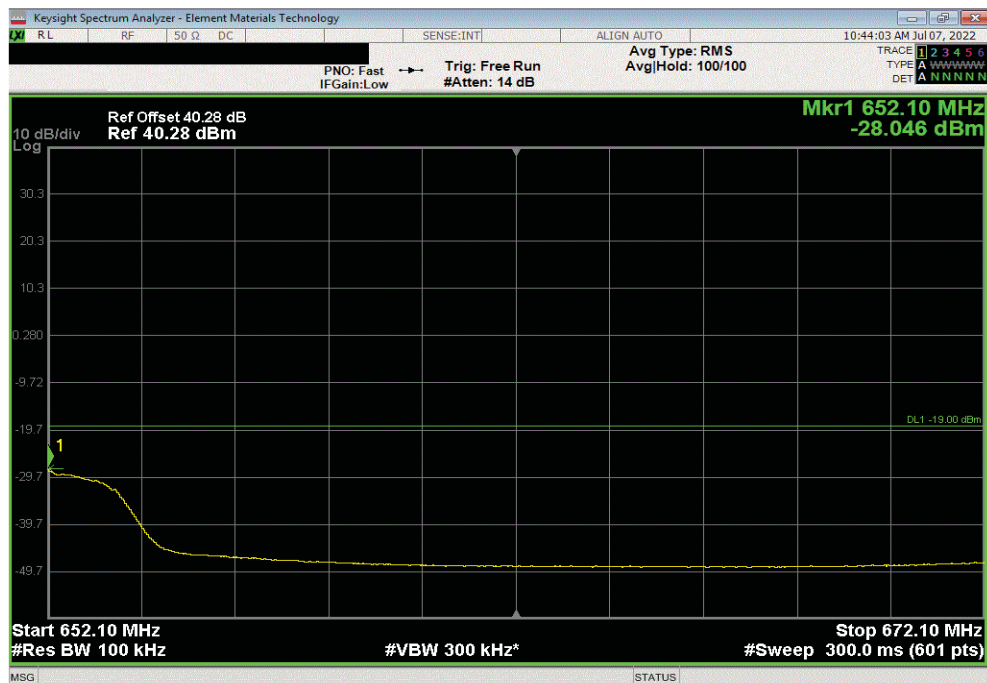


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-27.61	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-28.05	-19	Pass		

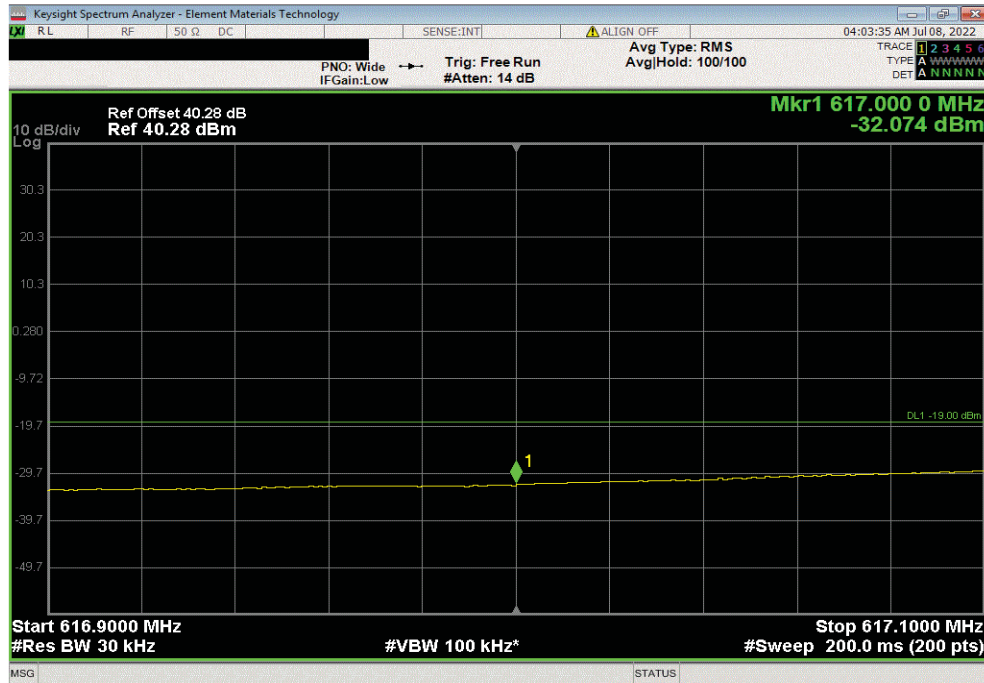


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

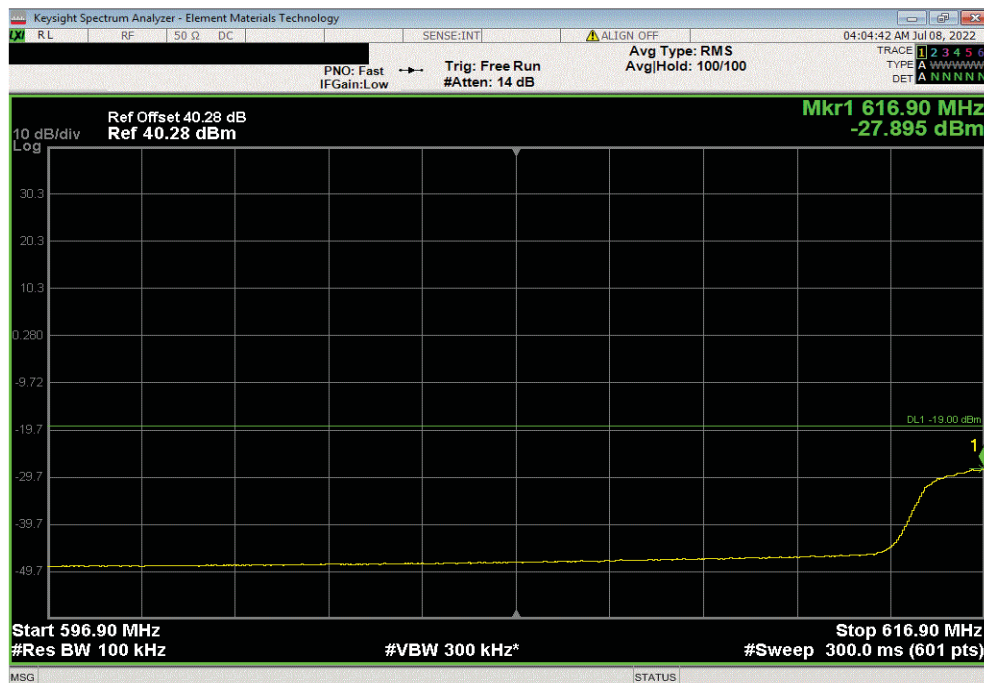


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-32.07	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-27.9	-19	Pass		

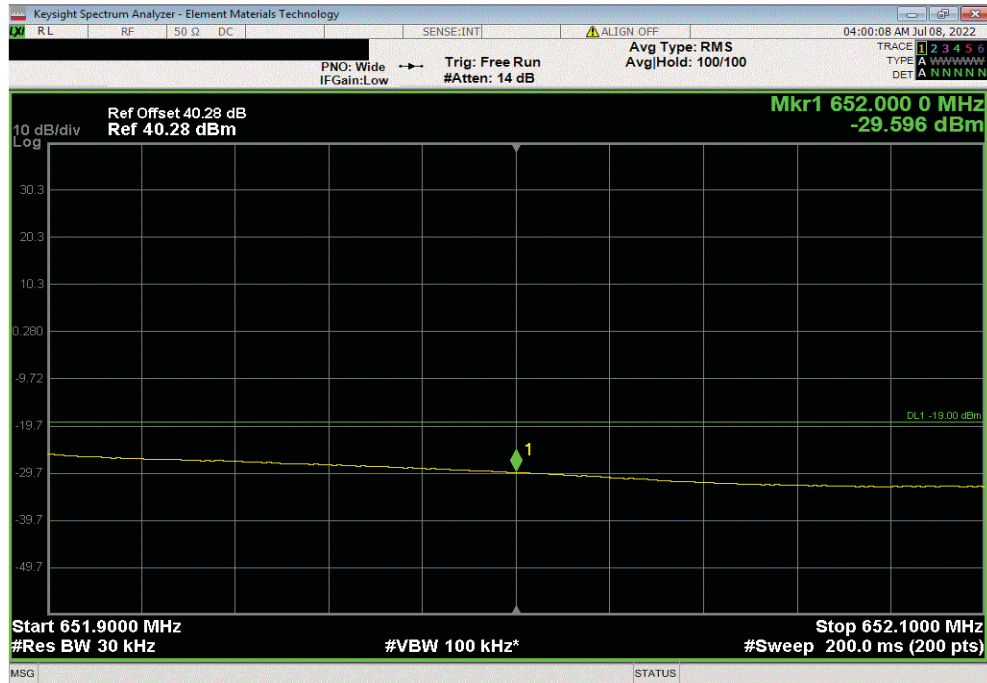


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

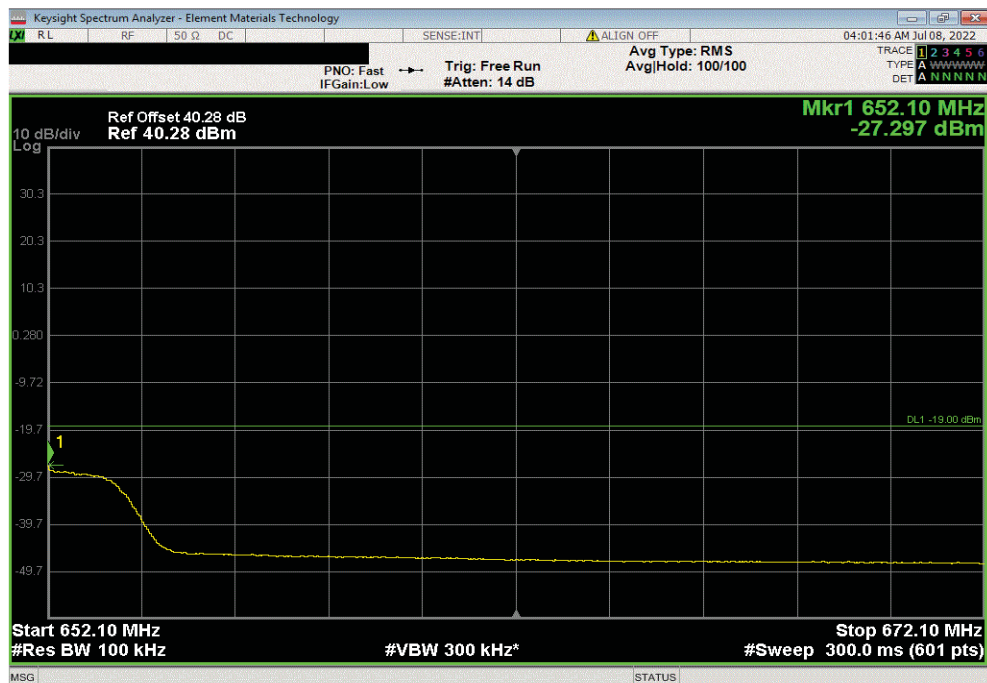


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-29.6	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-27.3	-19	Pass		

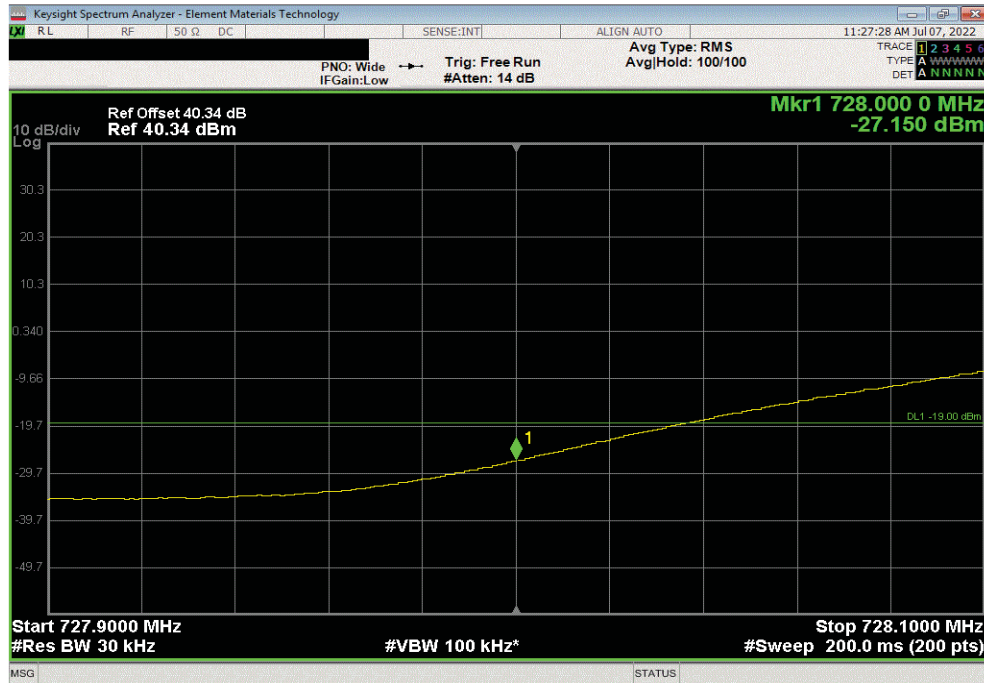


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

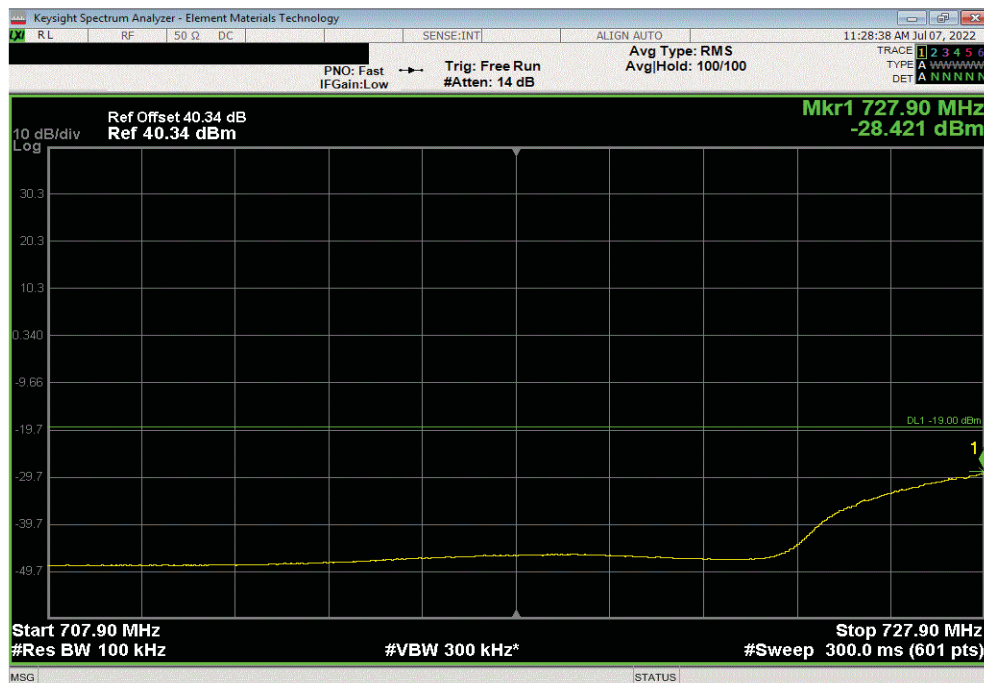


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 3, LTE5 Carrier 1, 730.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	728	-27.15	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-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	-28.42	-19	Pass		

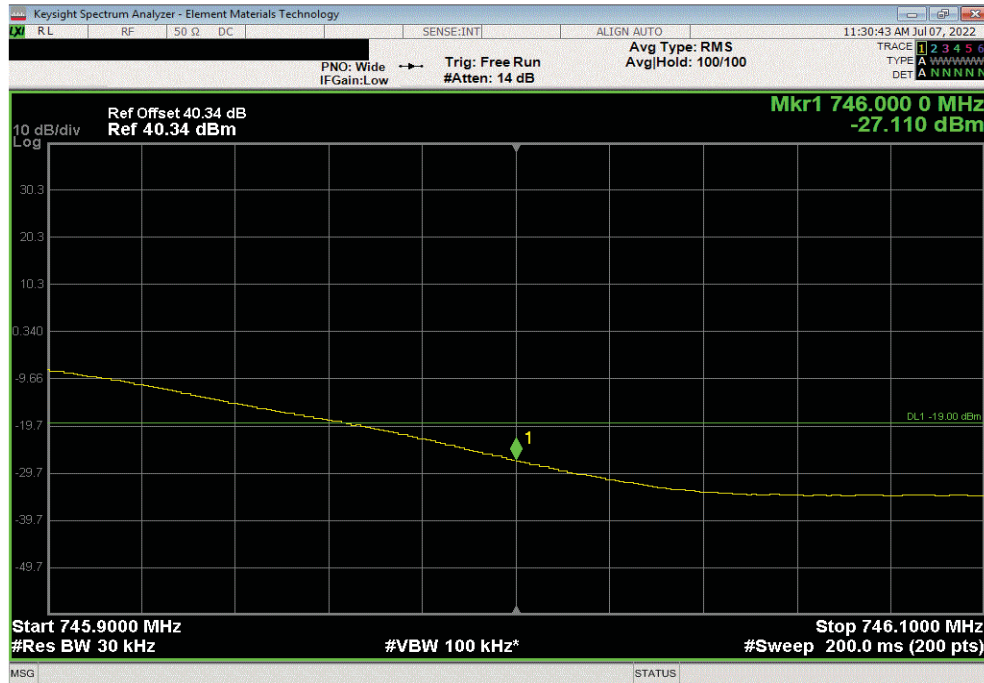


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

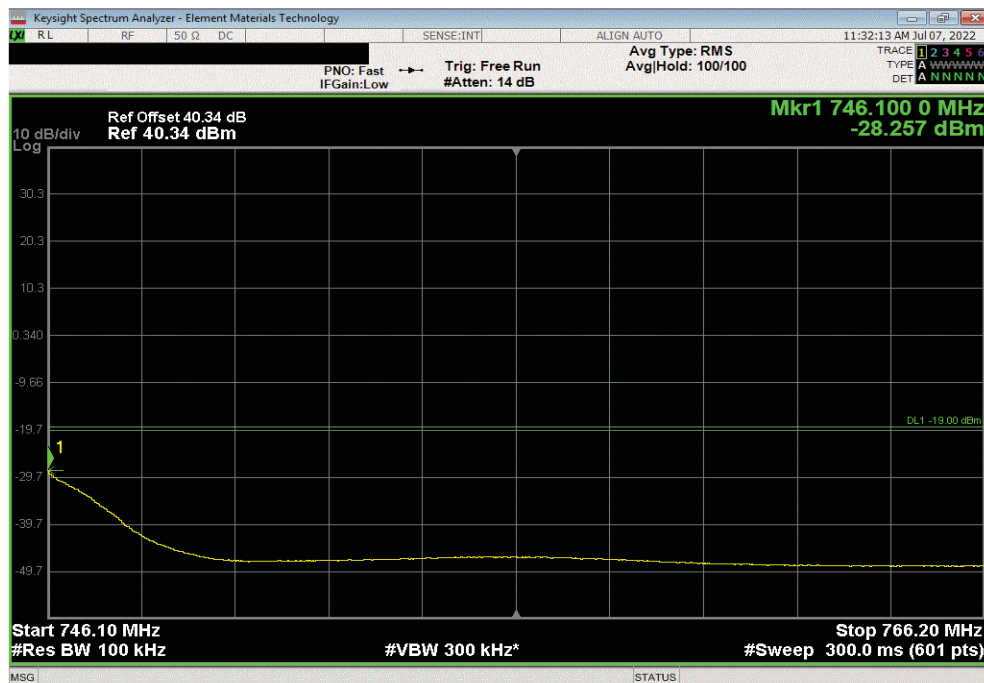


TbTx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 3, LTE5 Carrier 2, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	746	-27.11	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-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	-28.26	-19	Pass		

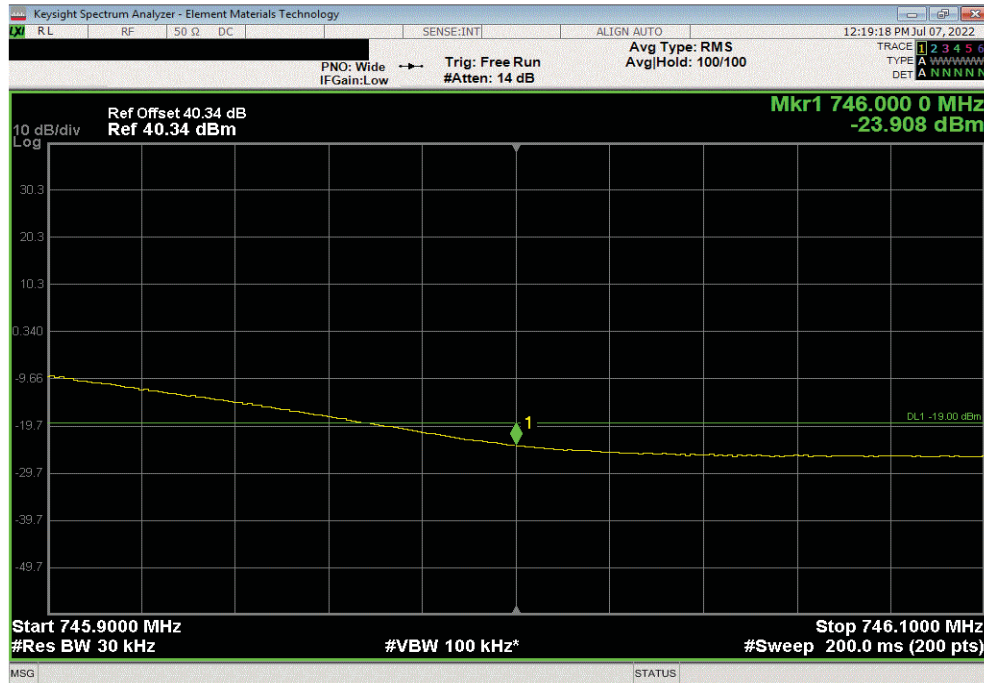


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

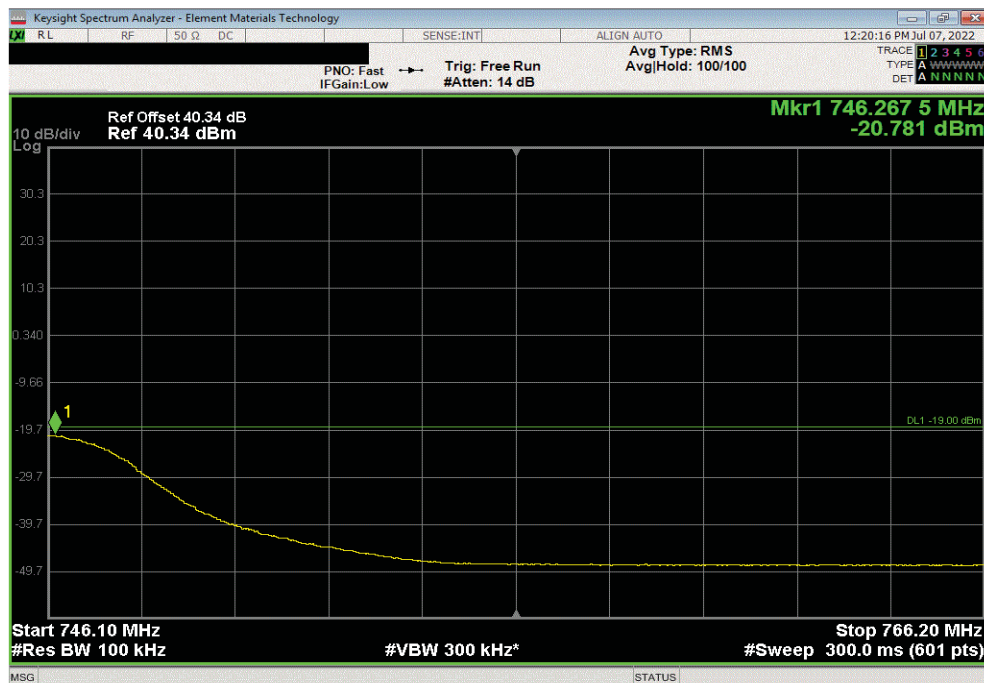


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-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	-23.91	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-QAM Modulation, Test Case 4, LTE5 n85 Carrier 1, 743.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	746.27	-20.78	-19	Pass		

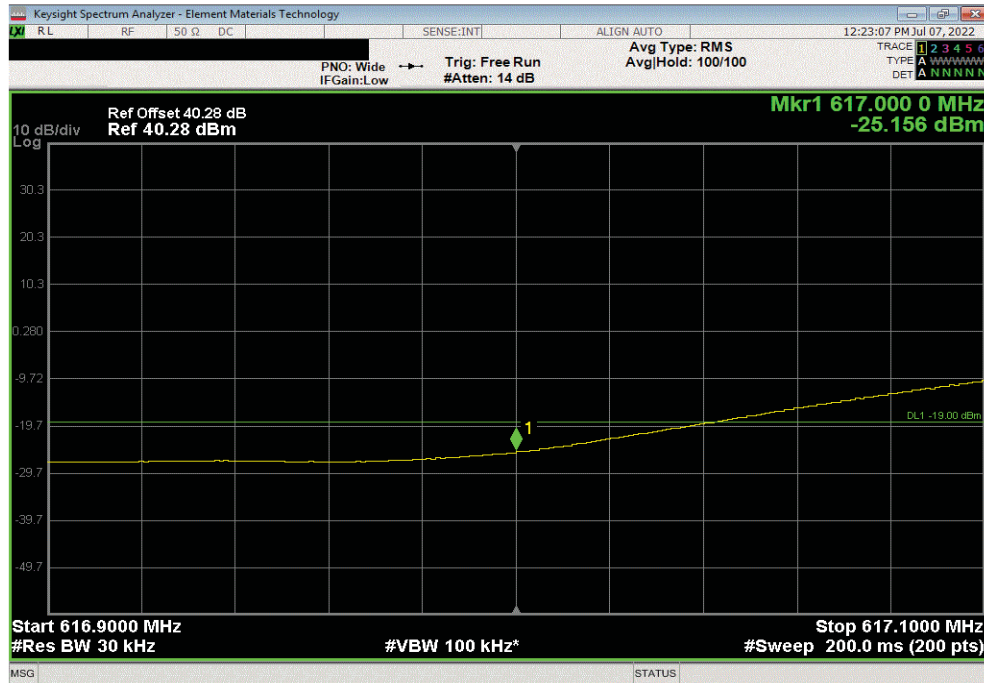


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

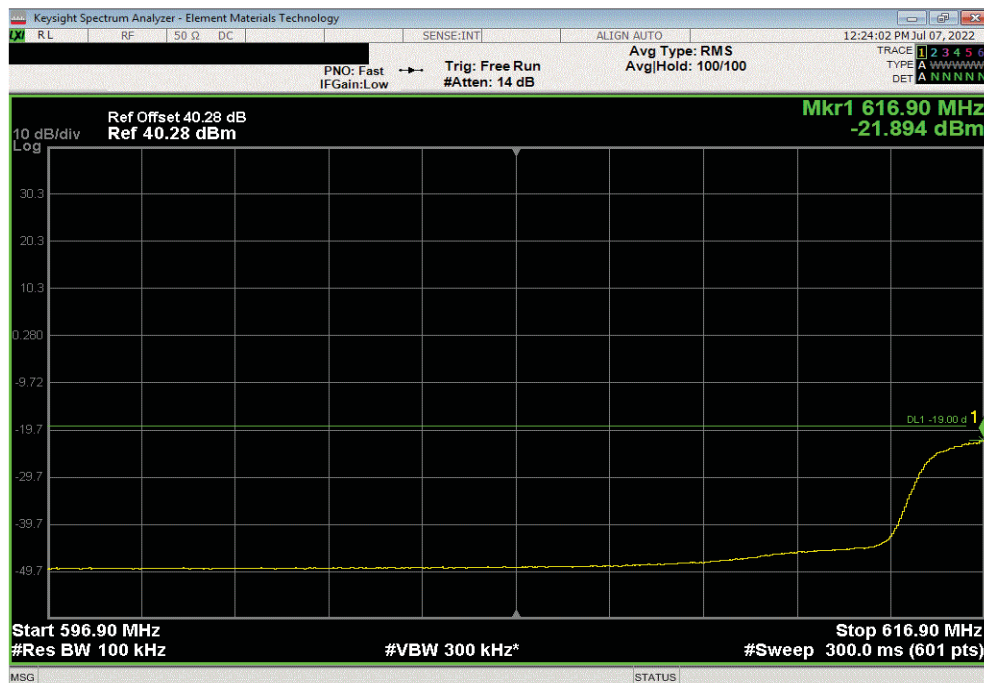


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 64-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	-25.16	-19	Pass		



LTE Multicarrier Multiband, Port 2, 64-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	-21.89	-19	Pass		

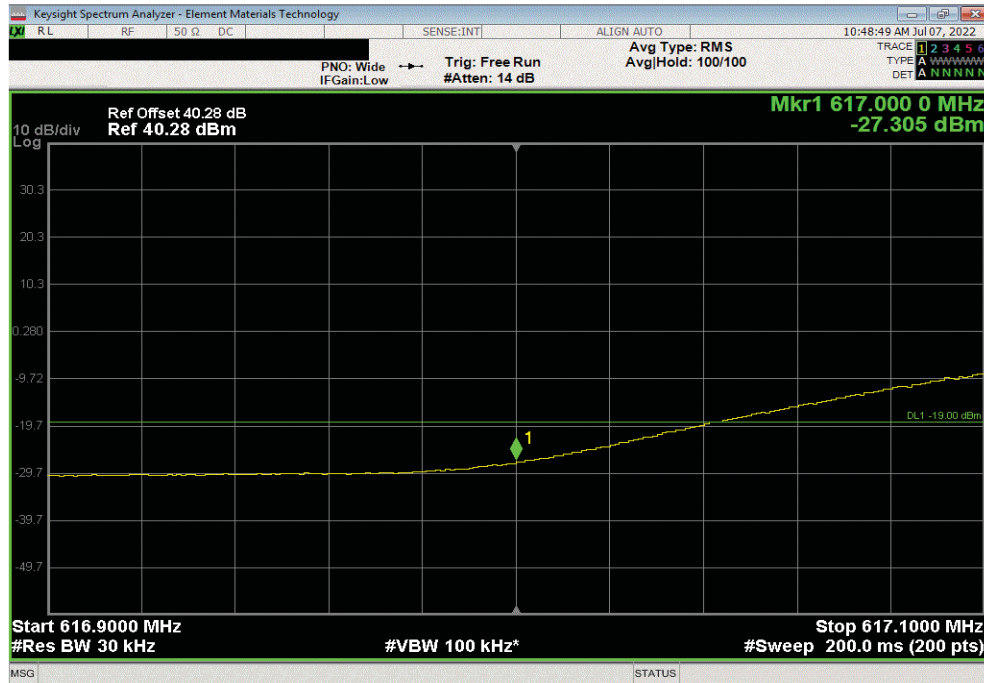


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

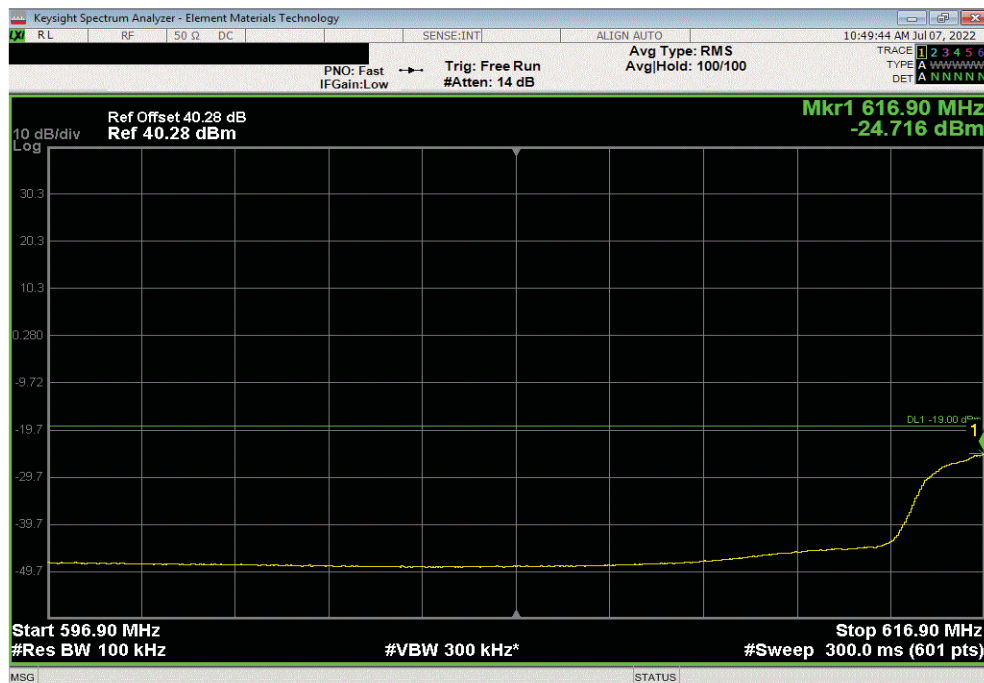


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-27.31	-19	Pass		



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 1, LTE5 Carrier 1, 619.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-24.72	-19	Pass		

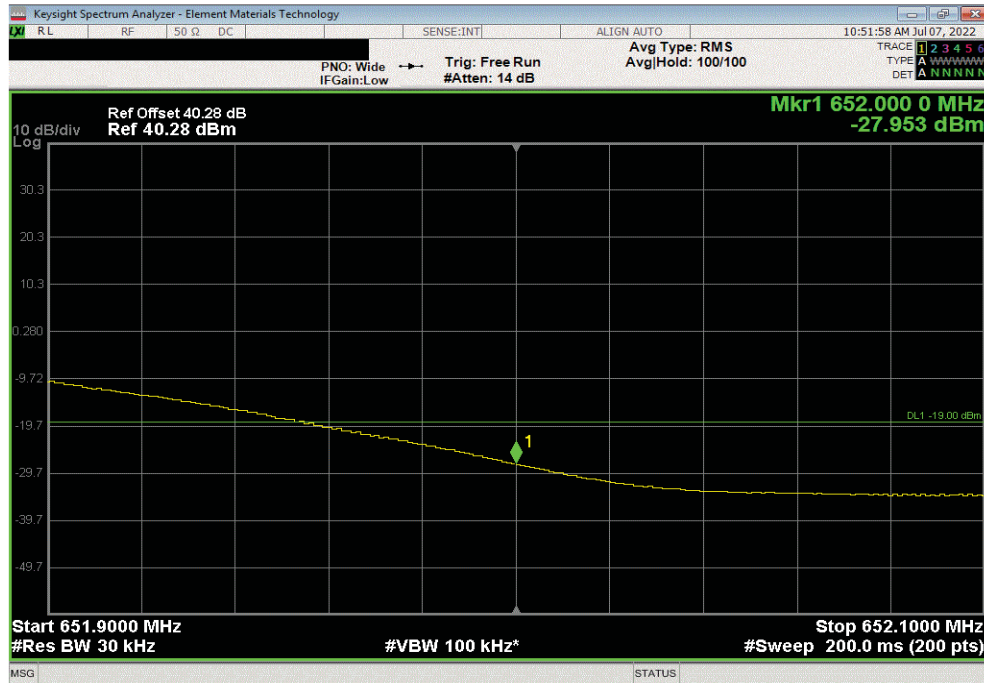


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

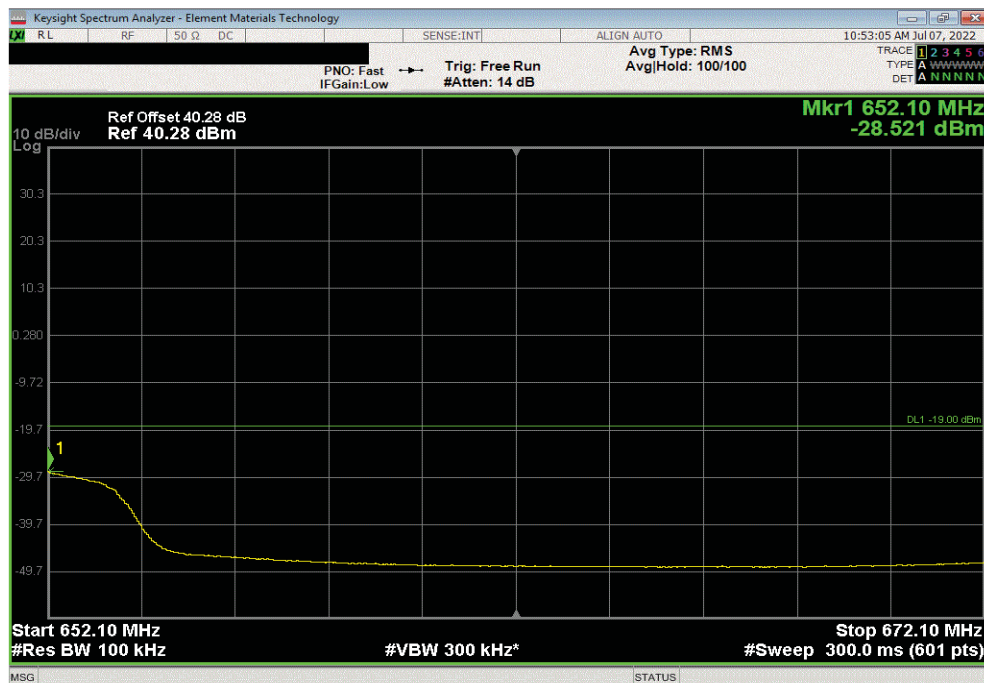


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-27.95	-19	Pass		



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 1, LTE5 Carrier 3, 649.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-28.52	-19	Pass		

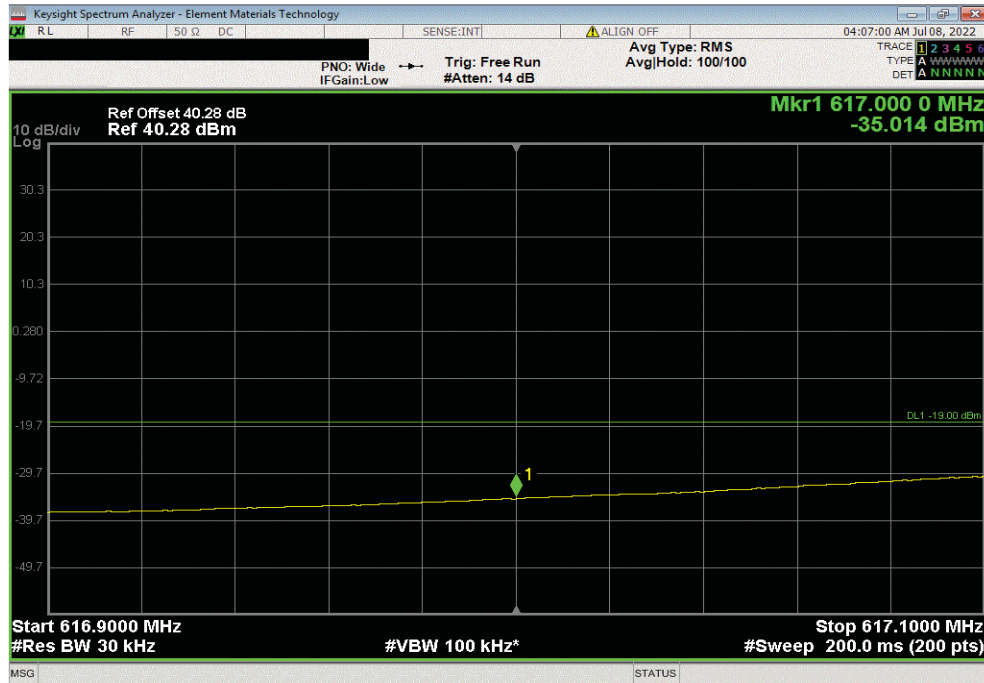


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER

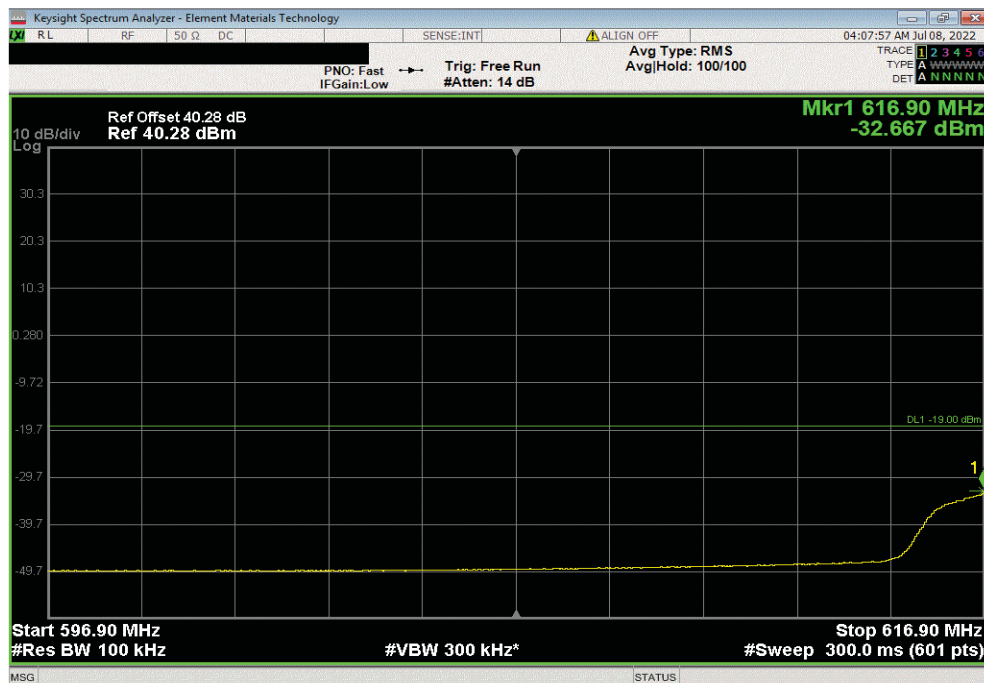


TbTtx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	617	-35.01	-19	Pass		



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 2, LTE20 Carrier 1, 627 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	616.9	-32.67	-19	Pass		

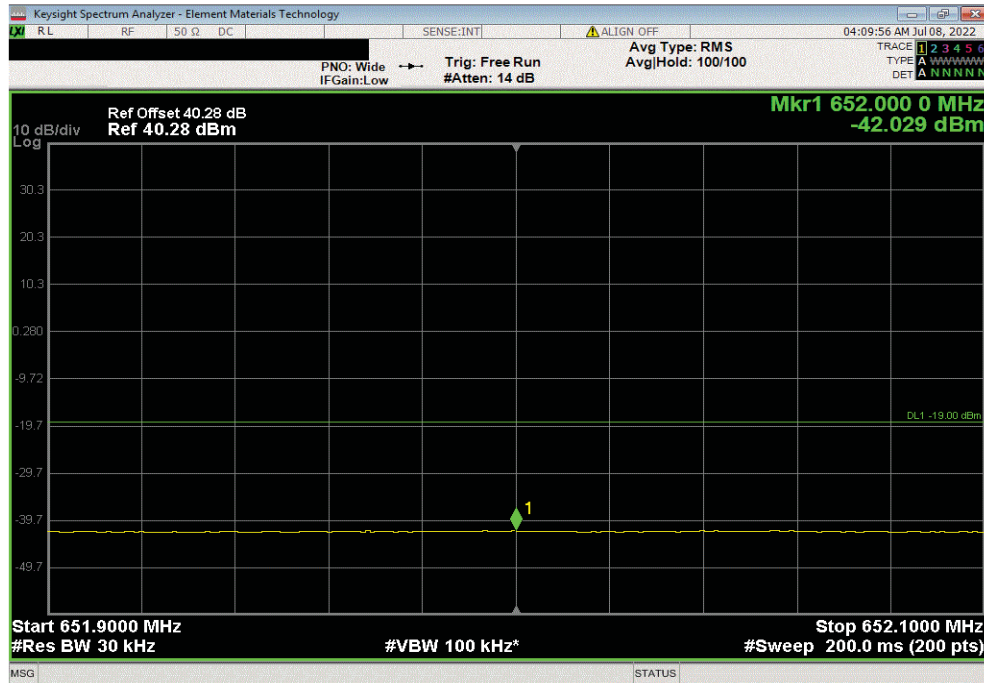


BAND EDGE COMPLIANCE - MULTIBAND MULTICARRIER



TbTx 2022.05.02.0 XMit 2022.02.07.0

LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
1	652	-42.03	-19	Pass		



LTE Multicarrier Multiband, Port 2, 256-QAM Modulation, Test Case 2, LTE15 Carrier 2, 644.5 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result		
2	652.1	-36.75	-19	Pass		

