

SPURIOUS CONDUCTED EMISSIONS - BAND 25



XMIT 2020.03.25.0

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
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	27-Feb-20	27-Feb-21
Generator - Signal	Keysight	N5171B-506	TEW	2-May-18	2-May-21
Generator - Signal	Agilent	N5173B	TIW	5-Jul-17	5-Jul-20

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 4 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 22 GHz. The peak 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 KDB971168 D01v03 section 6 and ANSI C63.26-2015.

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

These measurements are for frequency band after the first 1.0 MHz bands immediately outside and adjacent to the frequency block.

Per section FCC 24.238(a), the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm for a 1 MHz measurement bandwidth. 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.

The limit for the 9kHz to 150kHz frequency range was adjusted to -49dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 1MHz [i.e.: $-49\text{dBm} = -19\text{dBm} - 10\log(1\text{MHz}/1\text{kHz})$]. The limit for the 150kHz to 20MHz frequency range was adjusted to -39dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 1MHz [i.e.: $-39\text{dBm} = -19\text{dBm} - 10\log(1\text{MHz}/10\text{kHz})$]. The required limit of -19dBm with a RBW of > 1MHz was used for all other frequency ranges.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHFIG) as the original certification test. The AHFIG antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in the original certification testing) and antenna port 4 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

Carrier bandwidths of 10, 15, & 20MHz were verified using NB IoT GB carriers under this effort. The LTE modulation type for this testing was set up according to 3GPP TS 36.141 E-UTRA Test Models and is "E-TM 1.1 (QPSK modulation type) with N-TM (narrow band IoT)".

SPURIOUS CONDUCTED EMISSIONS - BAND 25



TstTx 2020.06.06.0 BETA XMIR 2020.03.25.0

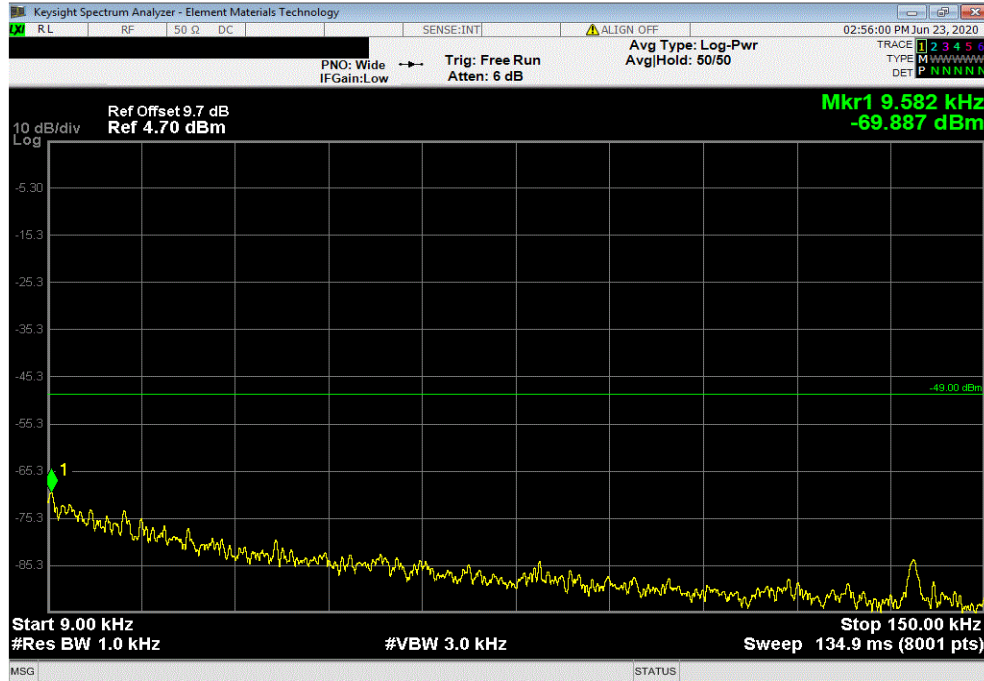
EUT: AHFIG		Work Order: NOKI0016	
Serial Number: K9191322351		Date: 23-Jun-20	
Customer: Nokia Solutions and Networks		Temperature: 23.1 °C	
Attendees: Mitchell Hill, John Rattanaovong		Humidity: 51.7% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Brandon Hobbs		Power: 54 VDC	
Job Site: TX05			
TEST SPECIFICATIONS		Test Method	
FCC 24E:2020		ANSI C63.26:2015	
COMMENTS			
All measurement path losses were accounted for in the reference level offset including any attenuators, filters and DC blocks. The carrier was set to maximum for all testing.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	5,6,7,8	Signature	
		Frequency Range	Measured Freq (MHz)
			Max Value (dBm)
			Limit < (dBm)
			Result
Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz			
10 MHz Bandwidth			
QPSK Modulation			
	Mid Channel 1962.5 MHz	9 kHz - 150 kHz	0.01
	Mid Channel 1962.5 MHz	150 kHz - 20 MHz	1.18
	Mid Channel 1962.5 MHz	20 MHz - 3 GHz	2646.13
	Mid Channel 1962.5 MHz	3 GHz - 10 GHz	3755.13
	Mid Channel 1962.5 MHz	10 GHz - 18 GHz	14809
	Mid Channel 1962.5 MHz	18 GHz - 22 GHz	21446
15 MHz Bandwidth			
QPSK Modulation			
	Mid Channel 1962.5 MHz	9 kHz - 150 kHz	0.01
	Mid Channel 1962.5 MHz	150 kHz - 20 MHz	1.18
	Mid Channel 1962.5 MHz	20 MHz - 3 GHz	2611.86
	Mid Channel 1962.5 MHz	3 GHz - 10 GHz	3756
	Mid Channel 1962.5 MHz	10 GHz - 18 GHz	14277
	Mid Channel 1962.5 MHz	18 GHz - 22 GHz	21839
20 MHz Bandwidth			
QPSK Modulation			
	Mid Channel 1962.5 MHz	9 kHz - 150 kHz	0.01
	Mid Channel 1962.5 MHz	150 kHz - 20 MHz	1.18
	Mid Channel 1962.5 MHz	20 MHz - 3 GHz	2643.15
	Mid Channel 1962.5 MHz	3 GHz - 10 GHz	3808.5
	Mid Channel 1962.5 MHz	10 GHz - 18 GHz	15739
	Mid Channel 1962.5 MHz	18 GHz - 22 GHz	21963

SPURIOUS CONDUCTED EMISSIONS - BAND 25

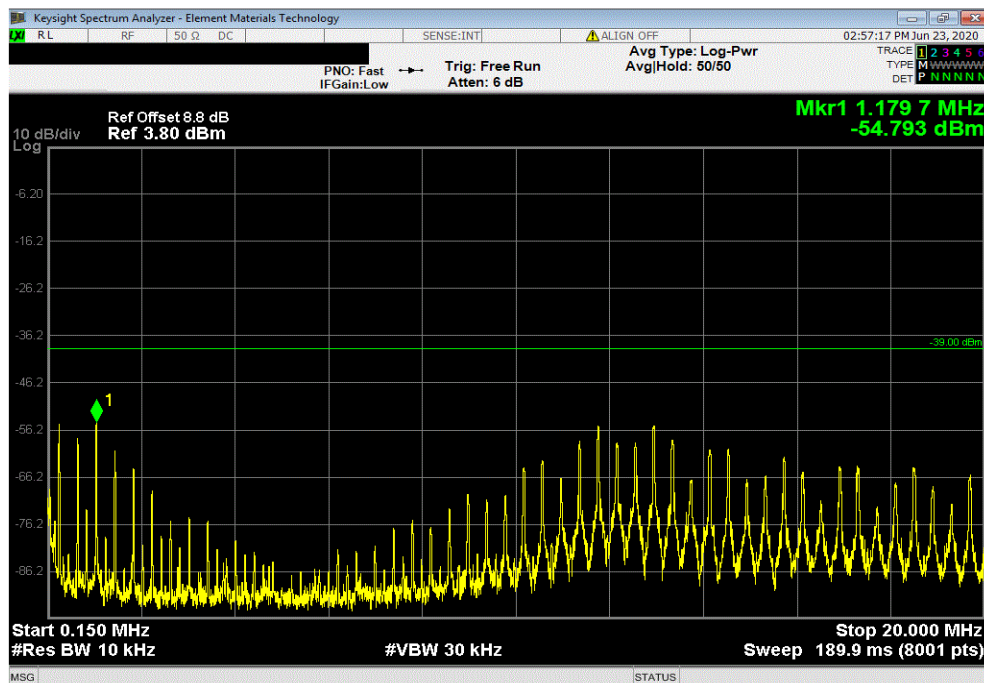


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-69.89	-49	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	1.18	-54.79	-39	Pass	

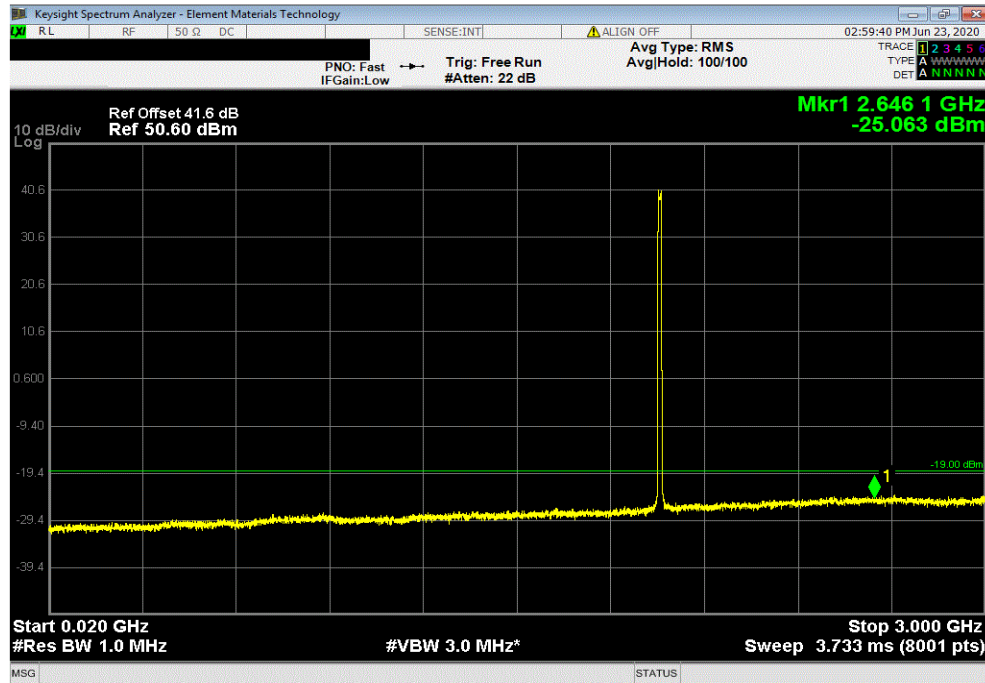


SPURIOUS CONDUCTED EMISSIONS - BAND 25

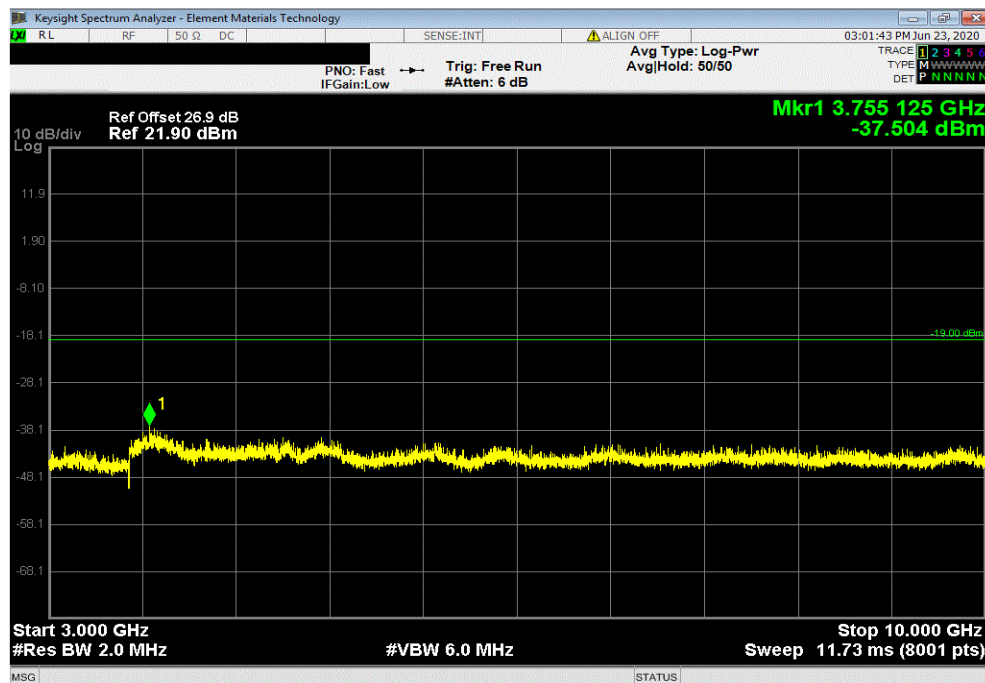


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3 GHz	2646.13	-25.06	-19	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
3 GHz - 10 GHz	3755.13	-37.5	-19	Pass	

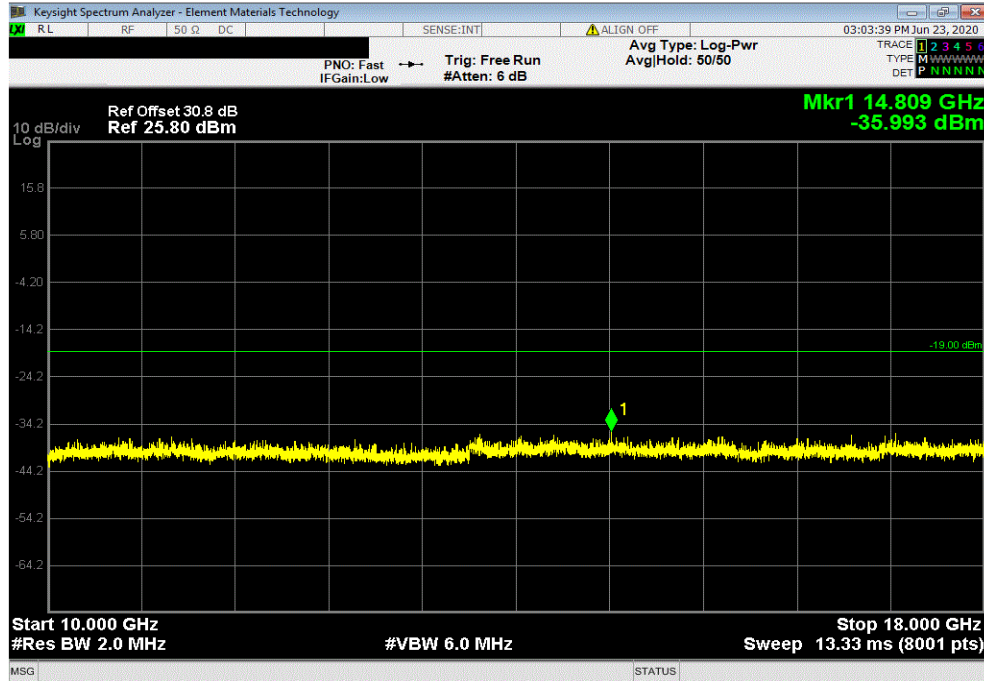


SPURIOUS CONDUCTED EMISSIONS - BAND 25

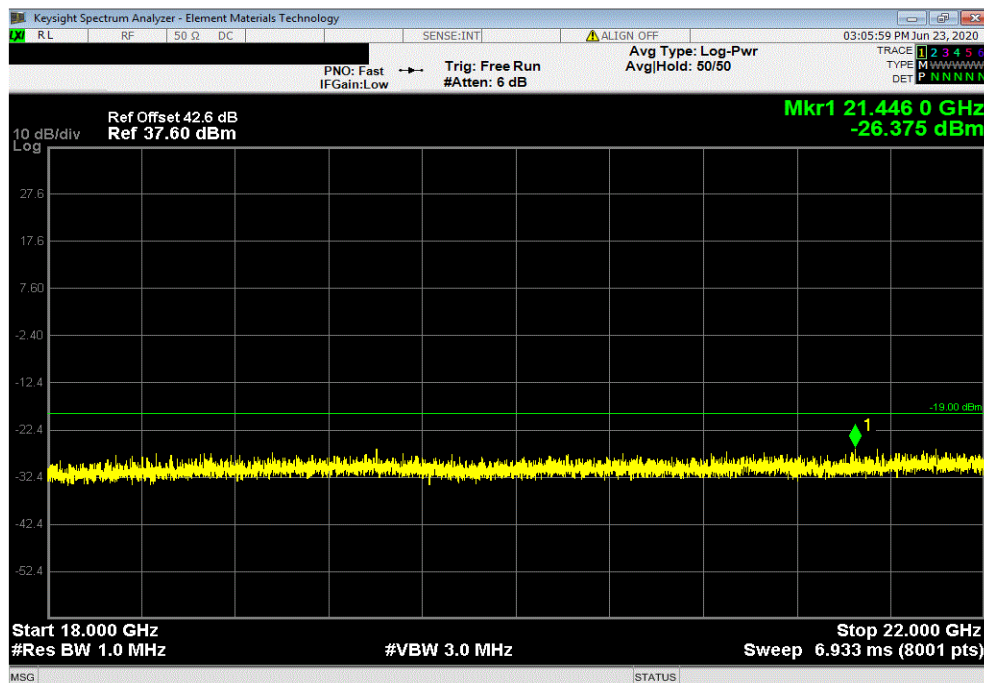


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
10 GHz - 18 GHz	14809	-35.99	-19	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
18 GHz - 22 GHz	21446	-26.38	-19	Pass	

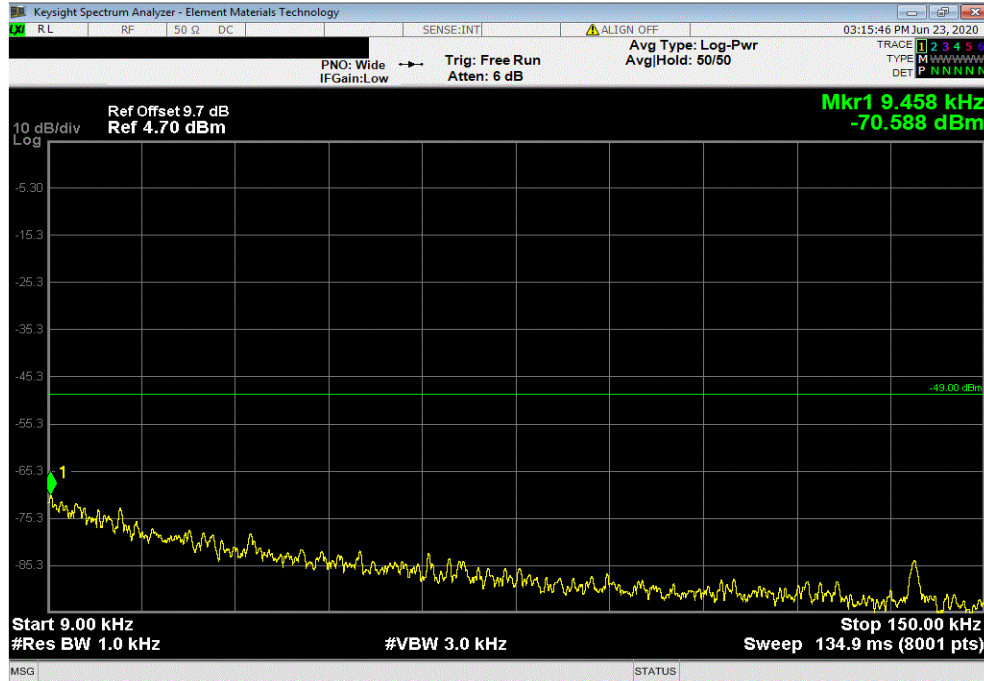


SPURIOUS CONDUCTED EMISSIONS - BAND 25

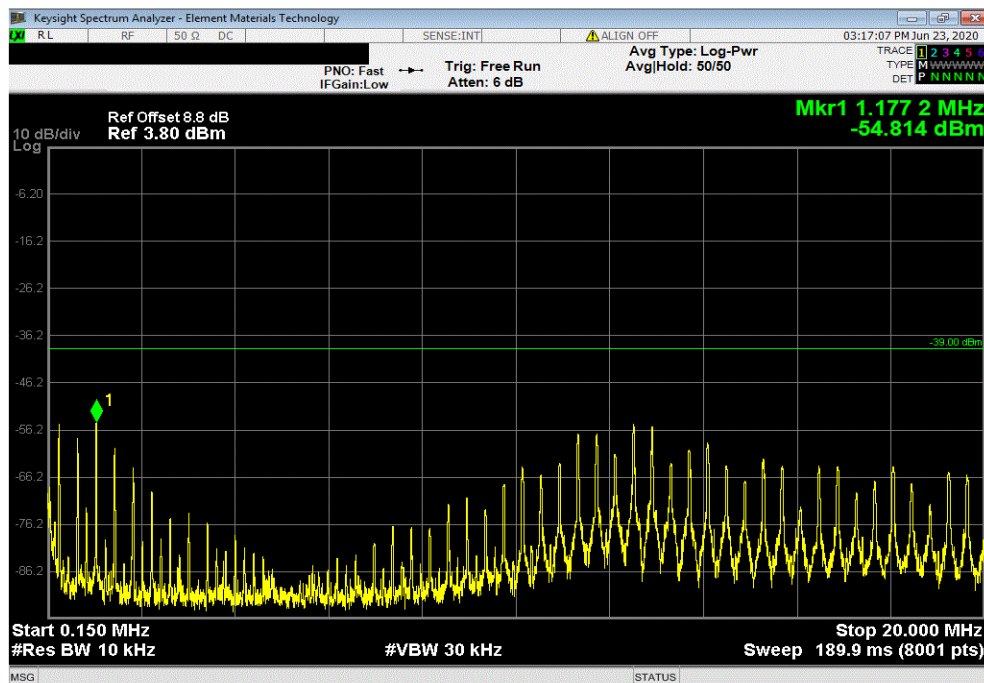


TbTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-70.59	-49	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	1.18	-54.81	-39	Pass	

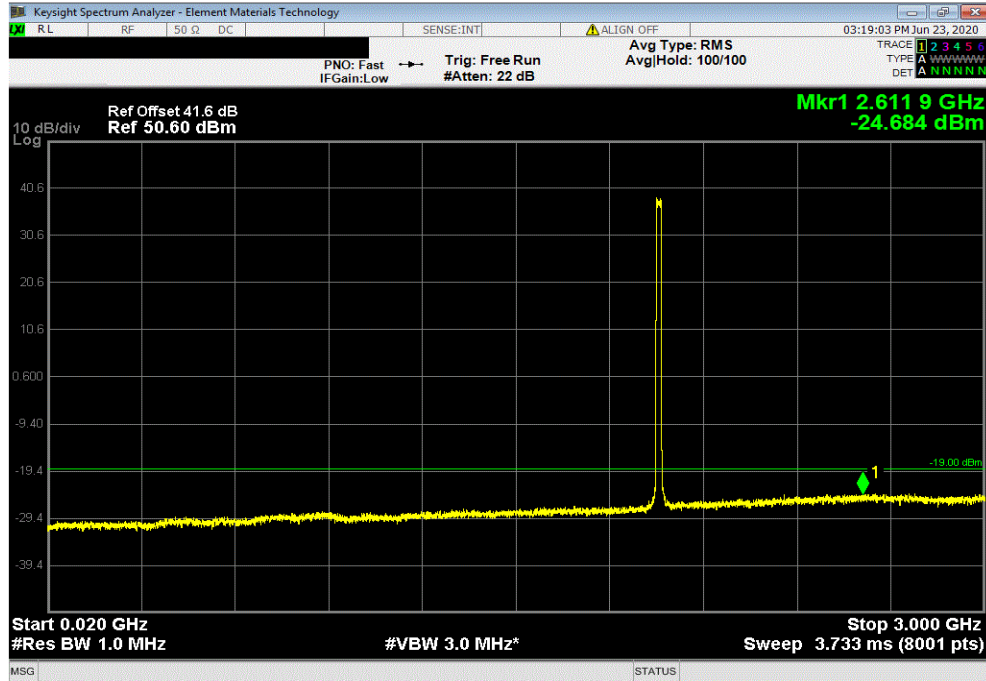


SPURIOUS CONDUCTED EMISSIONS - BAND 25

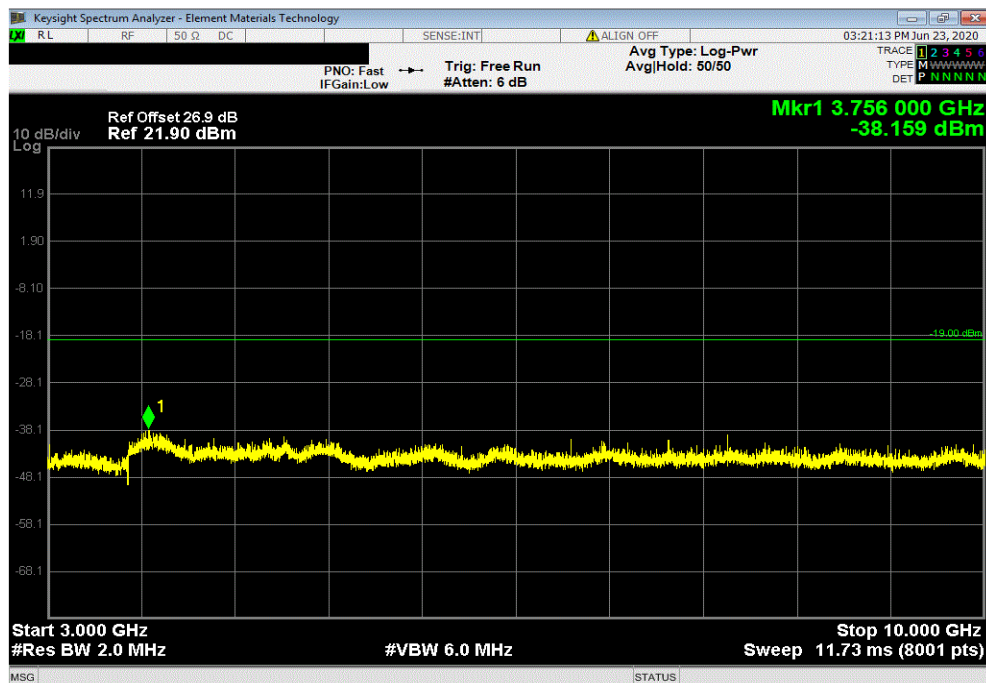


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3 GHz	2611.86	-24.68	-19	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
3 GHz - 10 GHz	3756	-38.16	-19	Pass	

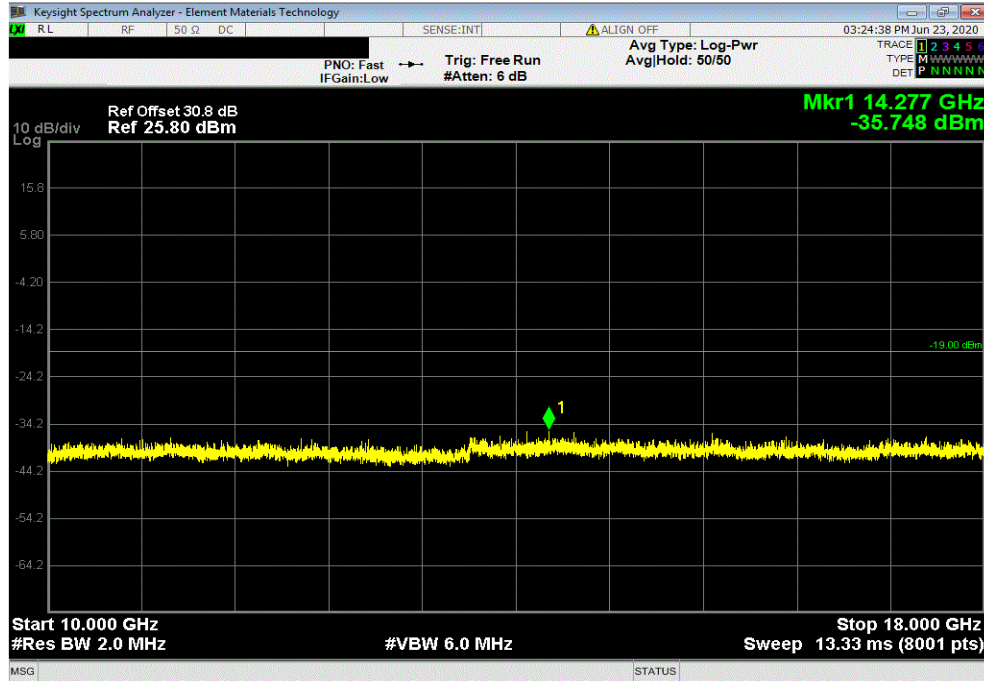


SPURIOUS CONDUCTED EMISSIONS - BAND 25

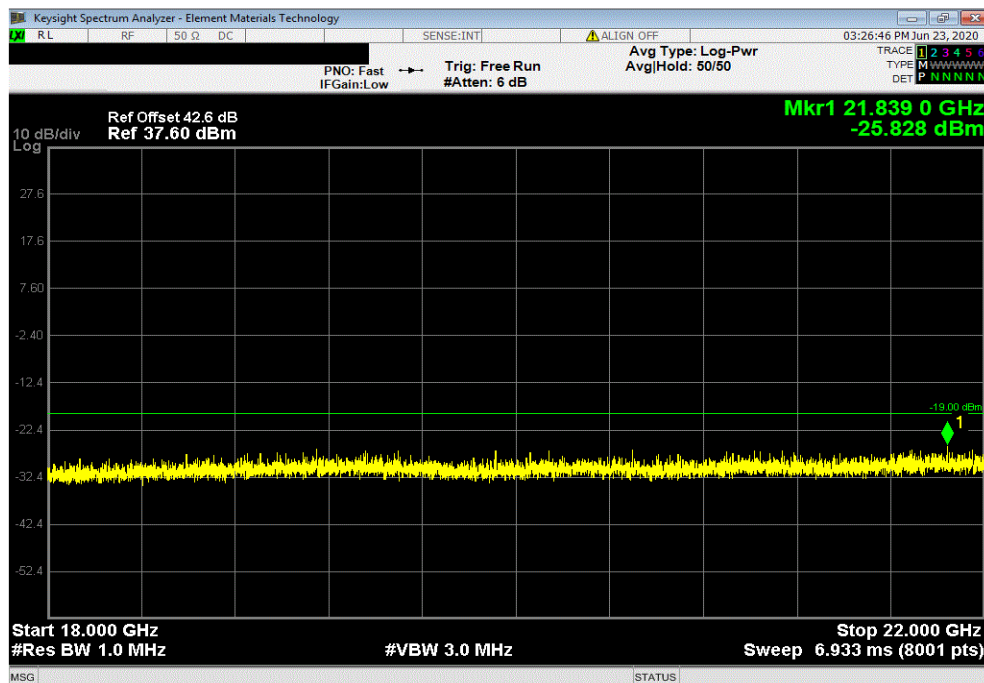


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
10 GHz - 18 GHz	14277	-35.75	-19	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
18 GHz - 22 GHz	21839	-25.83	-19	Pass	

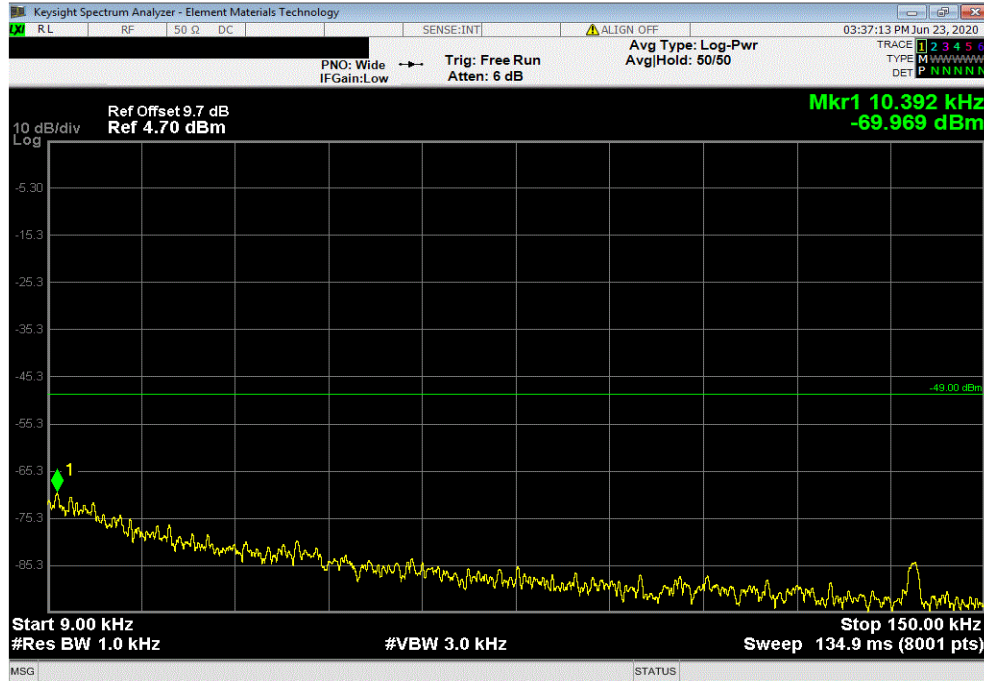


SPURIOUS CONDUCTED EMISSIONS - BAND 25

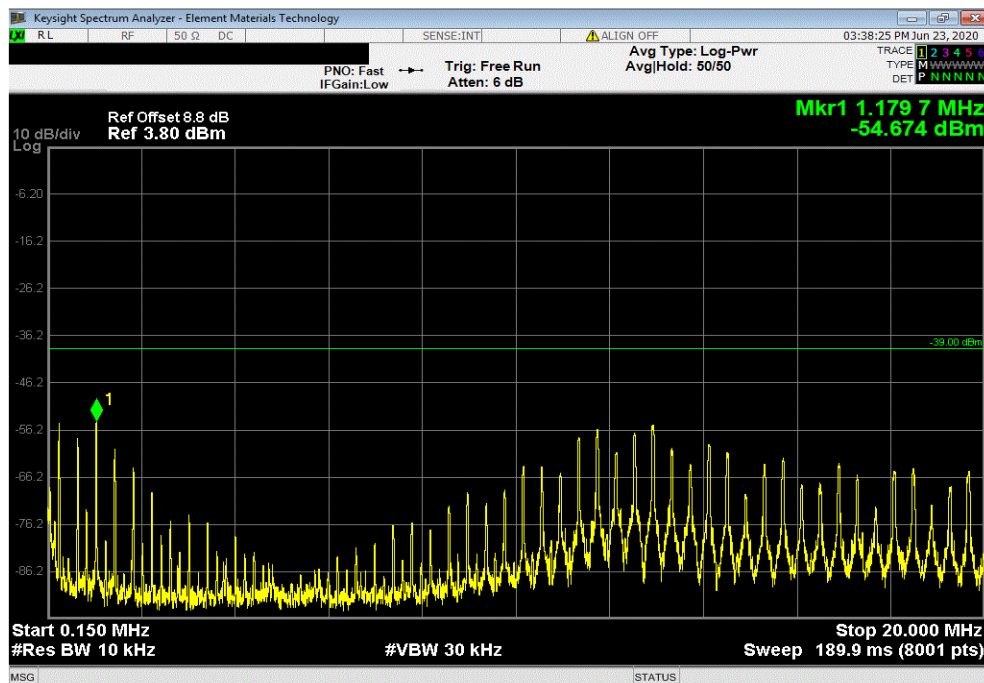


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-69.97	-49	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	1.18	-54.67	-39	Pass	

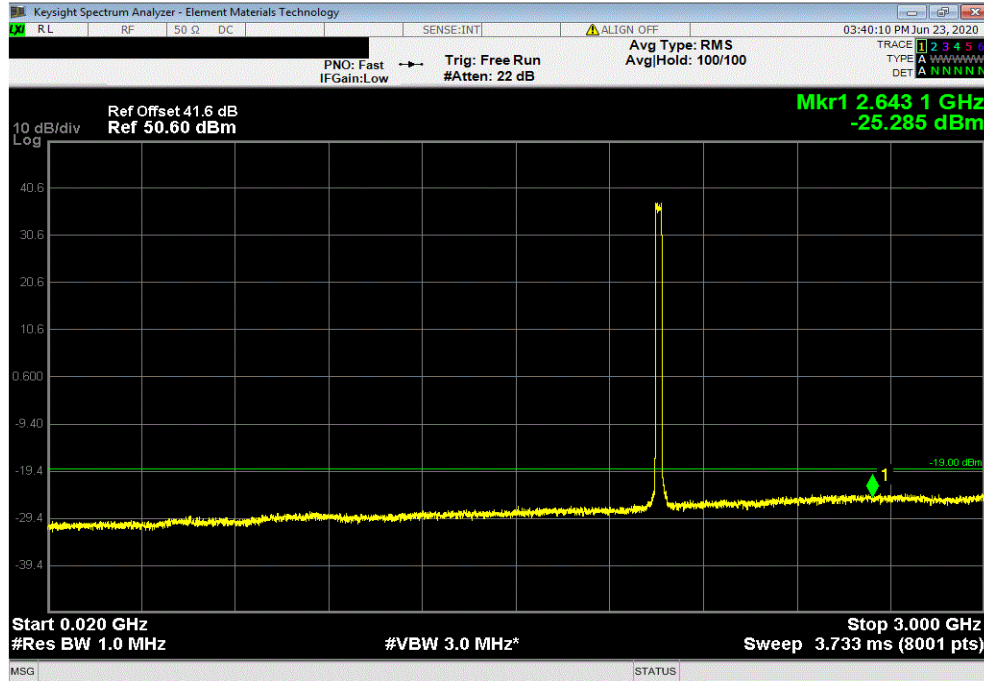


SPURIOUS CONDUCTED EMISSIONS - BAND 25

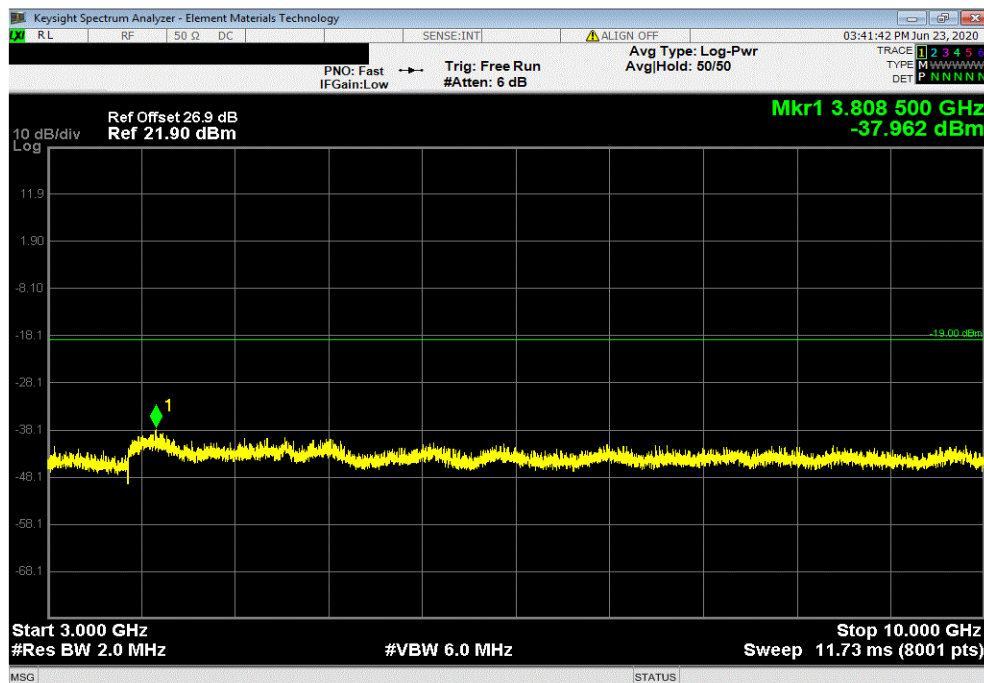


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3 GHz	2643.15	-25.29	-19	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
3 GHz - 10 GHz	3808.5	-37.96	-19	Pass	

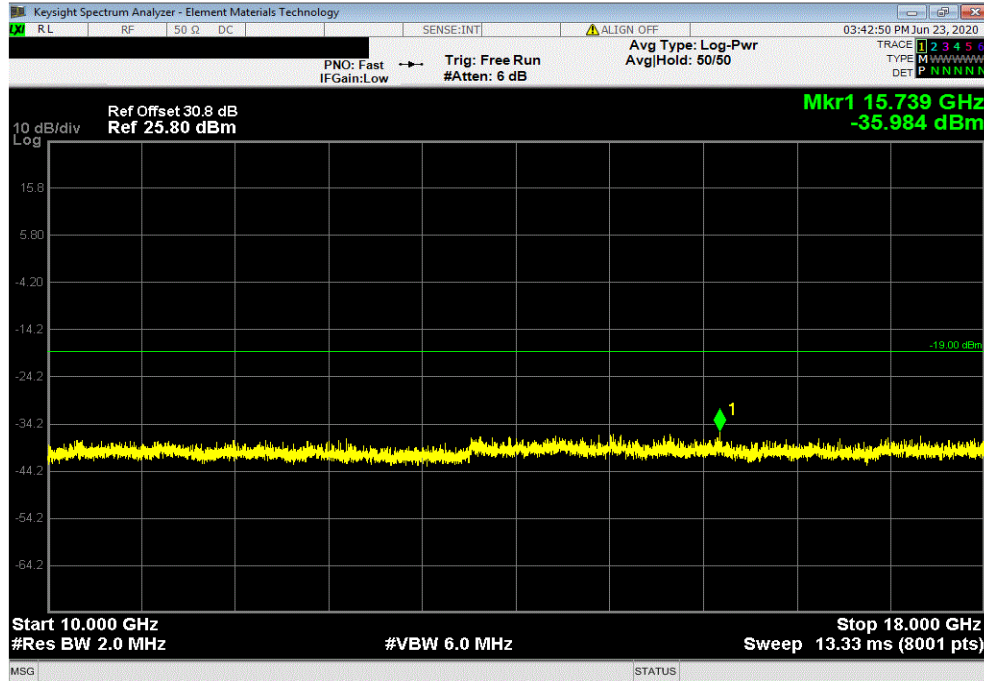


SPURIOUS CONDUCTED EMISSIONS - BAND 25

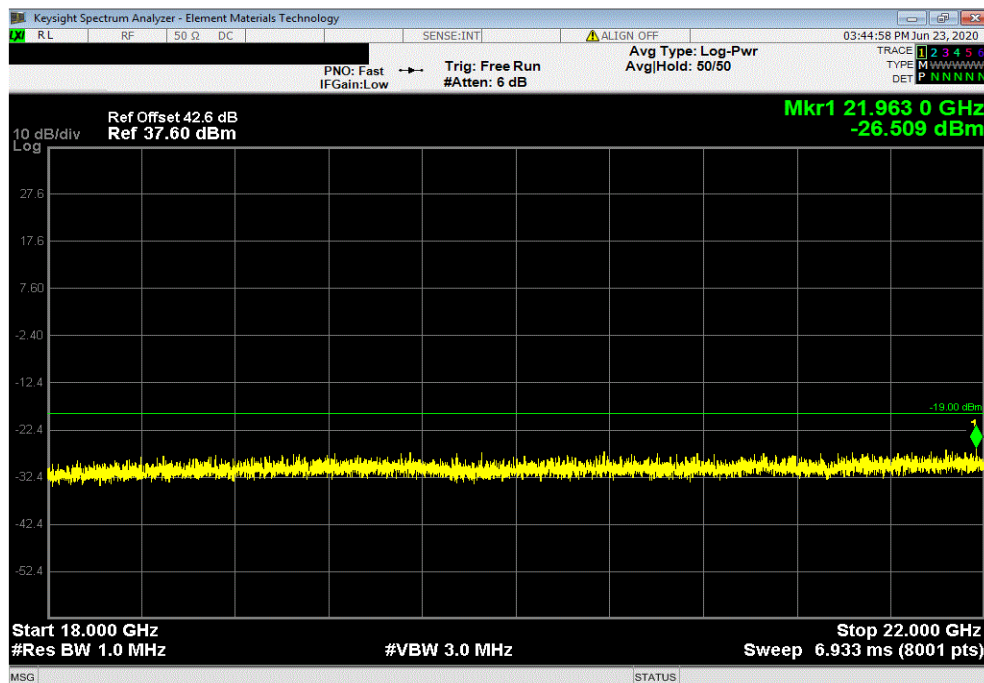


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
10 GHz - 18 GHz	15739	-35.98	-19	Pass	



Port 4, Band 25 NB IoT, 1930 MHz - 1995 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 1962.5 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
18 GHz - 22 GHz	21963	-26.51	-19	Pass	



SPURIOUS CONDUCTED EMISSIONS - BAND 66



XMIT 2020.03.25.0

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
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	27-Feb-20	27-Feb-21
Generator - Signal	Agilent	N5173B	TIW	5-Jul-17	5-Jul-20
Generator - Signal	Keysight	N5171B-506	TEW	2-May-18	2-May-21

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT through 4 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 22 GHz. The peak 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 KDB971168 D01v03 section 6 and ANSI C63.26-2015.

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

These measurements are for frequency band after the first 1.0 MHz bands immediately outside and adjacent to the frequency block.

Per section FCC 27.53(h)(1), the power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm for a 1 MHz measurement bandwidth. 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. The conducted emissions limits are shown in Table 2.

The limit for the 9kHz to 150kHz frequency range was adjusted to -49dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 1MHz [i.e.: $-49\text{dBm} = -19\text{dBm} - 10\log(1\text{MHz}/1\text{kHz})$]. The limit for the 150kHz to 20MHz frequency range was adjusted to -39dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 1MHz [i.e.: $-39\text{dBm} = -19\text{dBm} - 10\log(1\text{MHz}/10\text{kHz})$]. The required limit of -19dBm with a RBW of > 1MHz was used for all other frequency ranges.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHFIG) as the original certification test. The AHFIG antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in the original certification testing) and antenna port 4 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

Carrier bandwidths of 10, 15, & 20MHz were verified using NB IoT GB carriers under this effort. The LTE modulation type for this testing was set up according to 3GPP TS 36.141 E-UTRA Test Models and is "E-TM 1.1 (QPSK modulation type) with N-TM (narrow band IoT)".

SPURIOUS CONDUCTED EMISSIONS - BAND 66



TkTx 2020.06.06.0 BETA XMIR 2020.03.25.0

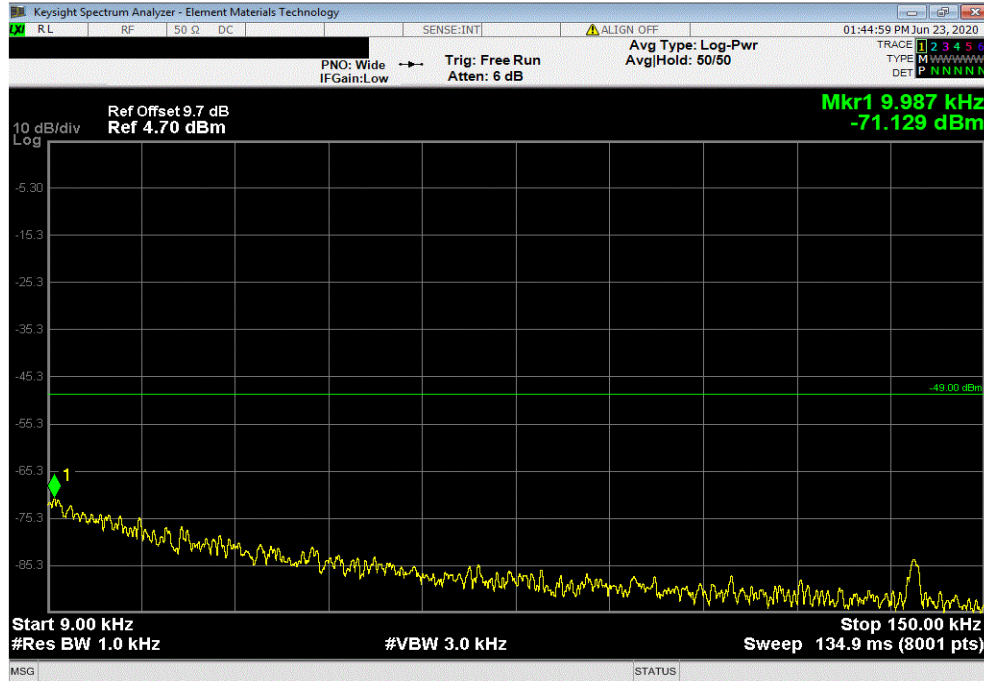
EUT: AHFIG		Work Order: NOKI0016	
Serial Number: K9191322351		Date: 23-Jun-20	
Customer: Nokia Solutions and Networks		Temperature: 23.3 °C	
Attendees: Mitchell Hill, John Rattanavong		Humidity: 51.9% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Brandon Hobbs		Power: 54 VDC	
Job Site: TX05			
TEST SPECIFICATIONS			
FCC 27:2020		Test Method	
		ANSI C63.26:2015	
COMMENTS			
All measurement path losses were accounted for in the reference level offset including any attenuators, filters and DC blocks. The carrier was set to maximum for all testing.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	5,6,7,8	Signature	
		Frequency Range	Measured Freq (MHz)
			Max Value (dBm)
			Limit < (dBm)
			Result
Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz			
10 MHz Bandwidth			
QPSK Modulation			
	Mid Channel 2155 MHz	9 kHz - 150 kHz	0.01
	Mid Channel 2155 MHz	150 kHz - 20 MHz	1.18
	Mid Channel 2155 MHz	20 MHz - 3 GHz	2618.93
	Mid Channel 2155 MHz	3 GHz - 10 GHz	3836.5
	Mid Channel 2155 MHz	10 GHz - 18 GHz	14411
	Mid Channel 2155 MHz	18 GHz - 22 GHz	21564
			-71.13
			-55.7
			-24.73
			-37.81
			-36.09
			-25.93
			-49
			-39
			-19
			-19
			-19
			-19
			-19
15 MHz Bandwidth			
QPSK Modulation			
	Mid Channel 2155 MHz	9 kHz - 150 kHz	0.01
	Mid Channel 2155 MHz	150 kHz - 20 MHz	1.18
	Mid Channel 2155 MHz	20 MHz - 3 GHz	2573.49
	Mid Channel 2155 MHz	3 GHz - 10 GHz	3704.38
	Mid Channel 2155 MHz	10 GHz - 18 GHz	16592
	Mid Channel 2155 MHz	18 GHz - 22 GHz	21915.5
			-71.81
			-55.7
			-24.73
			-38.11
			-36.08
			-26.15
			-49
			-39
			-19
			-19
			-19
			-19
20 MHz Bandwidth			
QPSK Modulation			
	Mid Channel 2155 MHz	9 kHz - 150 kHz	0.01
	Mid Channel 2155 MHz	150 kHz - 20 MHz	1.18
	Mid Channel 2155 MHz	20 MHz - 3 GHz	2612.23
	Mid Channel 2155 MHz	3 GHz - 10 GHz	3833
	Mid Channel 2155 MHz	10 GHz - 18 GHz	14006
	Mid Channel 2155 MHz	18 GHz - 22 GHz	21776.5
			-70.51
			-55.72
			-24.61
			-38.16
			-36.47
			-25.95
			-49
			-39
			-19
			-19
			-19
			-19

SPURIOUS CONDUCTED EMISSIONS - BAND 66

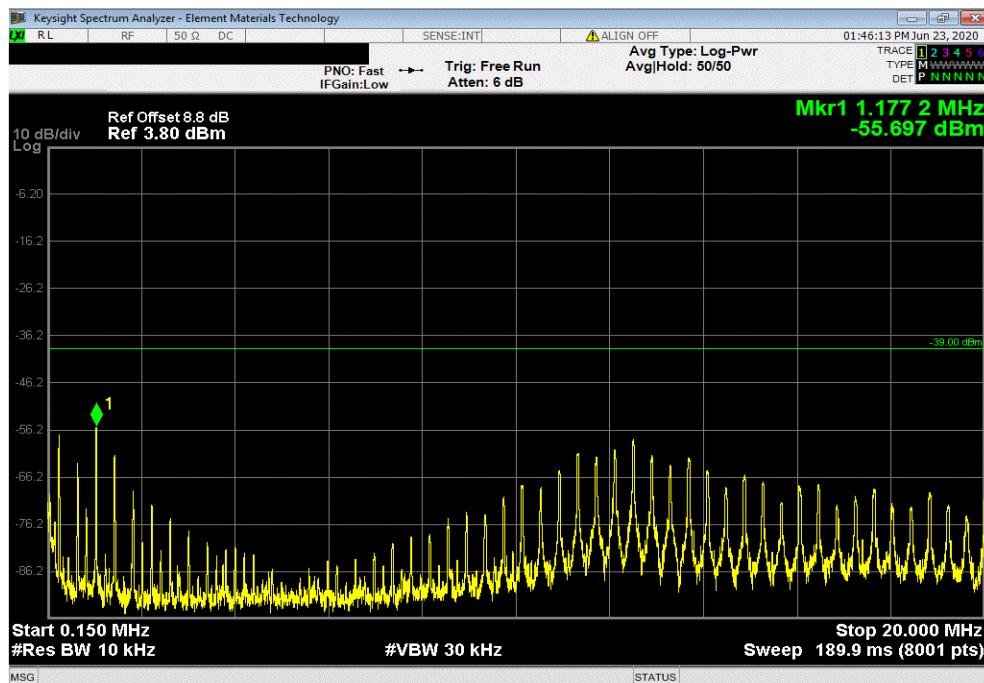


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-71.13	-49	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	1.18	-55.7	-39	Pass	

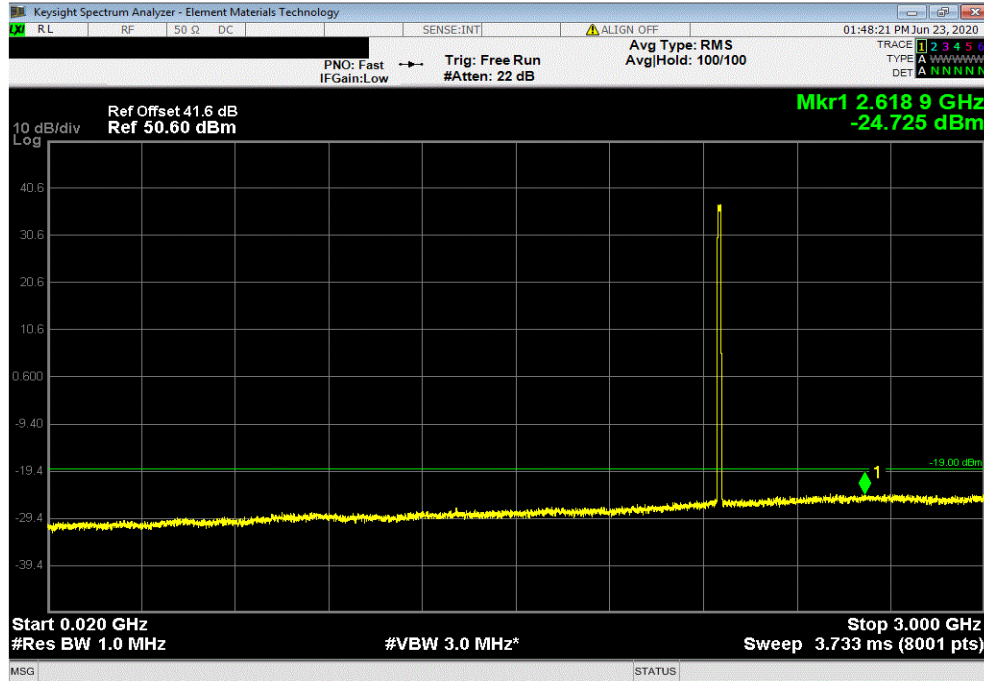


SPURIOUS CONDUCTED EMISSIONS - BAND 66

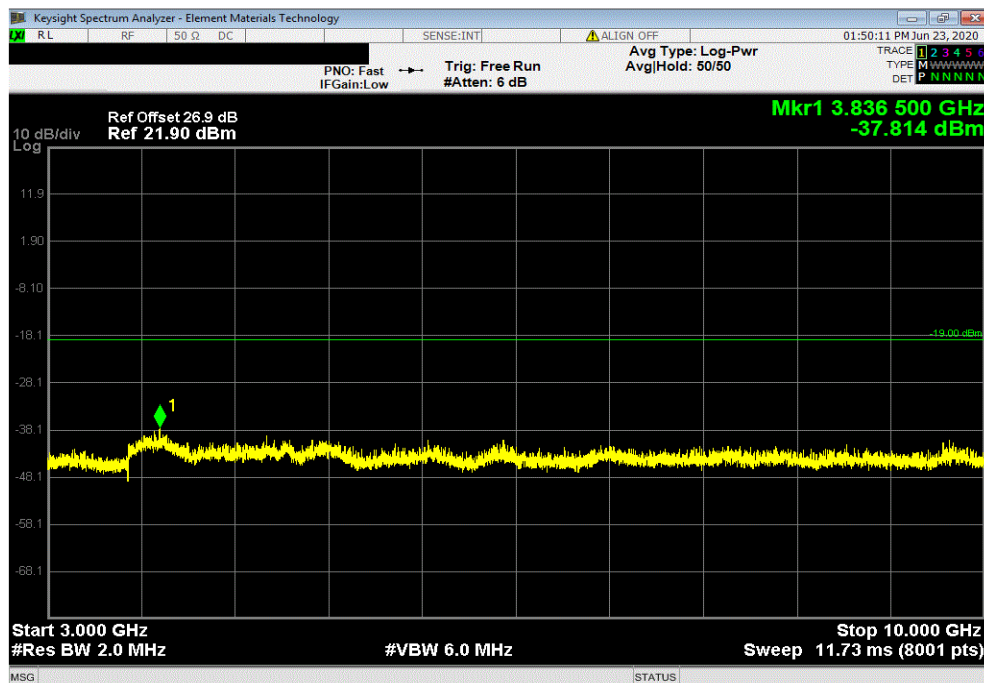


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3 GHz	2618.93	-24.73	-19	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
3 GHz - 10 GHz	3836.5	-37.81	-19	Pass	

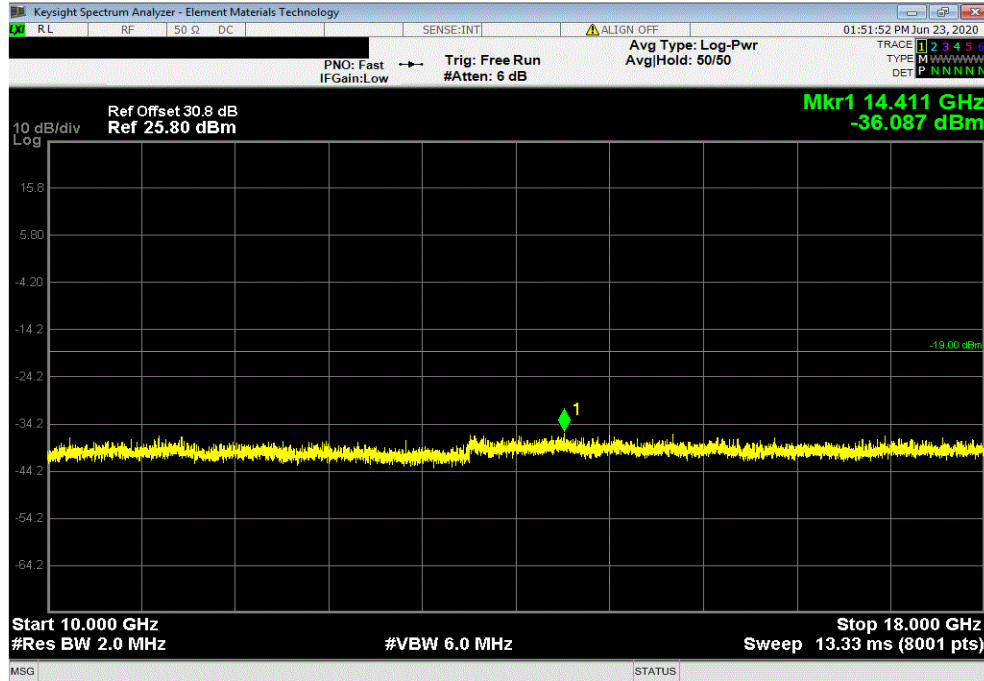


SPURIOUS CONDUCTED EMISSIONS - BAND 66

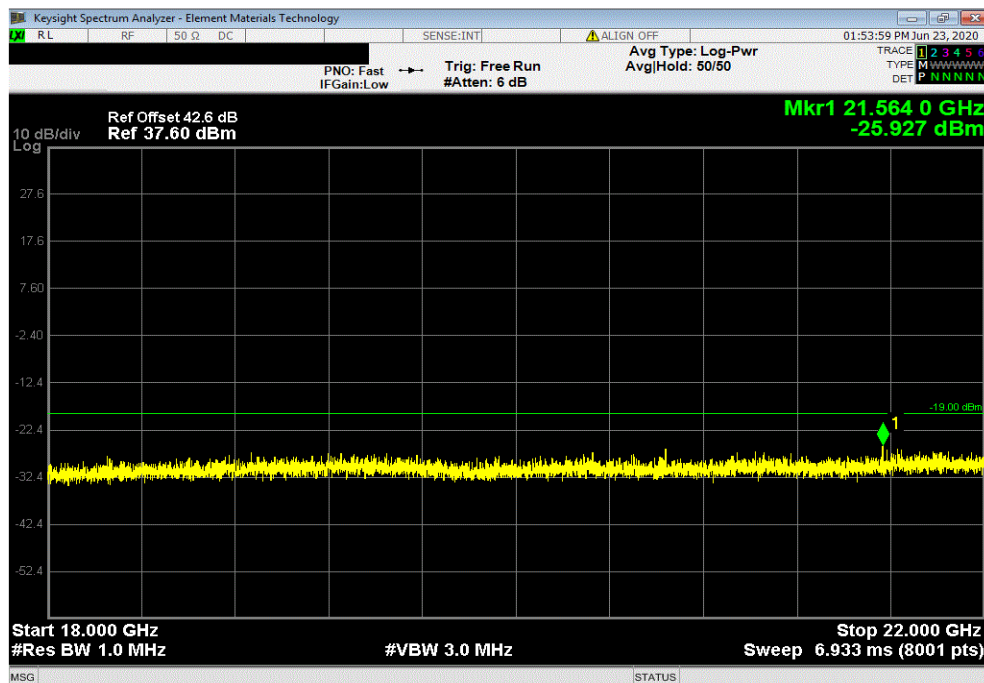


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
10 GHz - 18 GHz	14411	-36.09	-19	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
18 GHz - 22 GHz	21564	-25.93	-19	Pass	

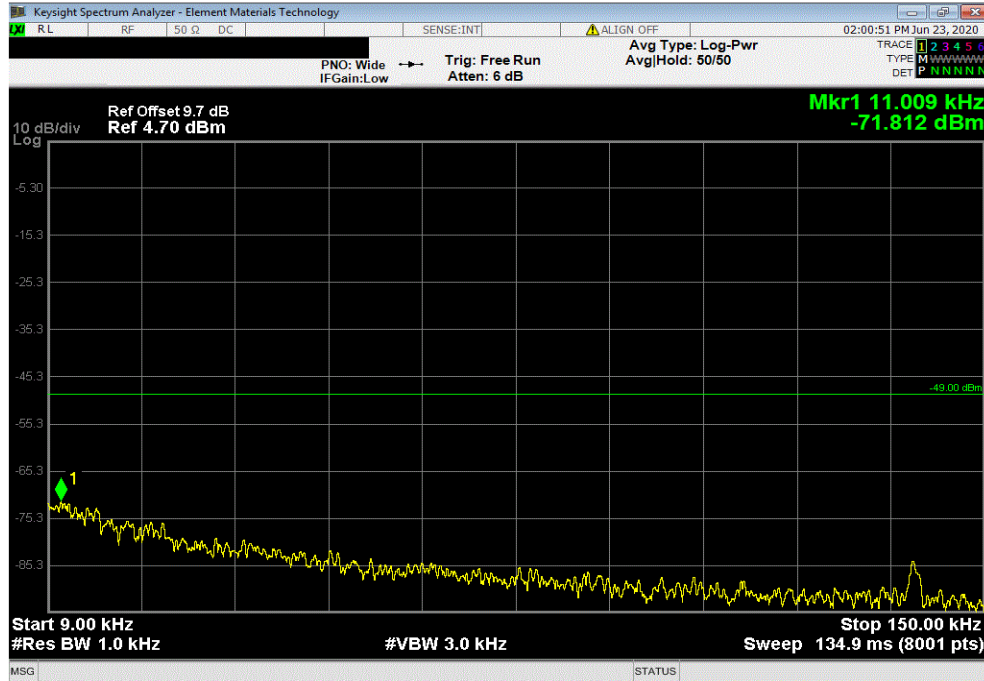


SPURIOUS CONDUCTED EMISSIONS - BAND 66

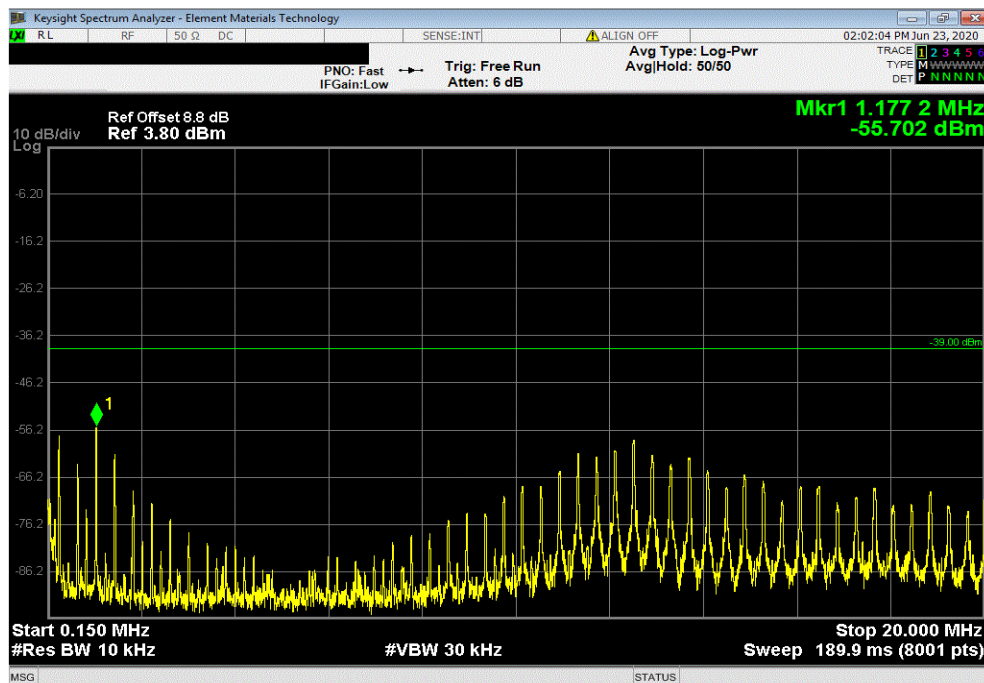


TbTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-71.81	-49	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	1.18	-55.7	-39	Pass	

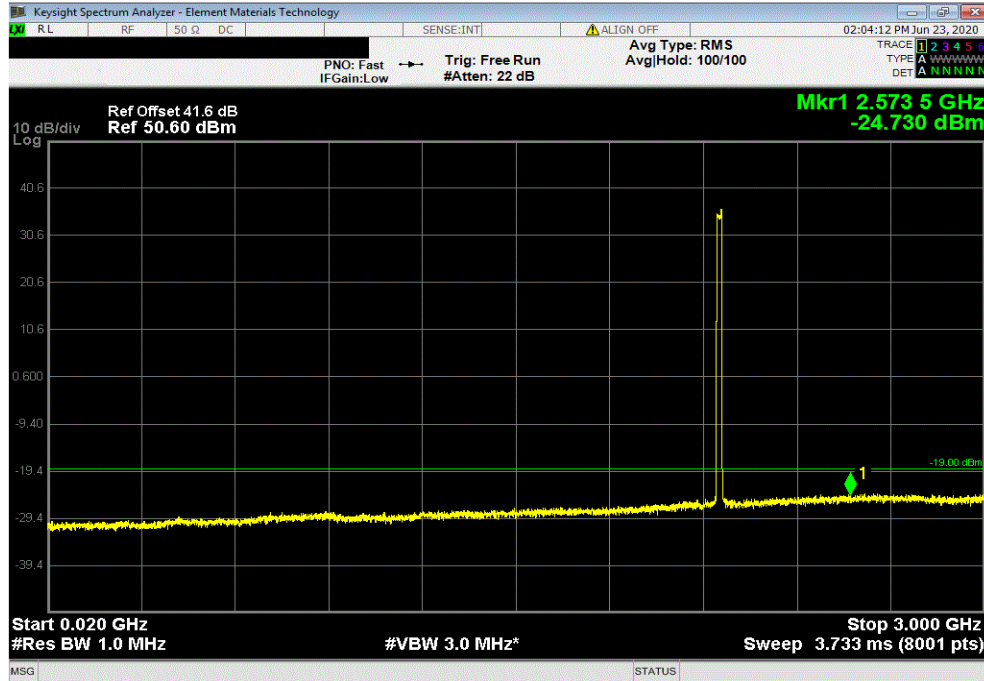


SPURIOUS CONDUCTED EMISSIONS - BAND 66

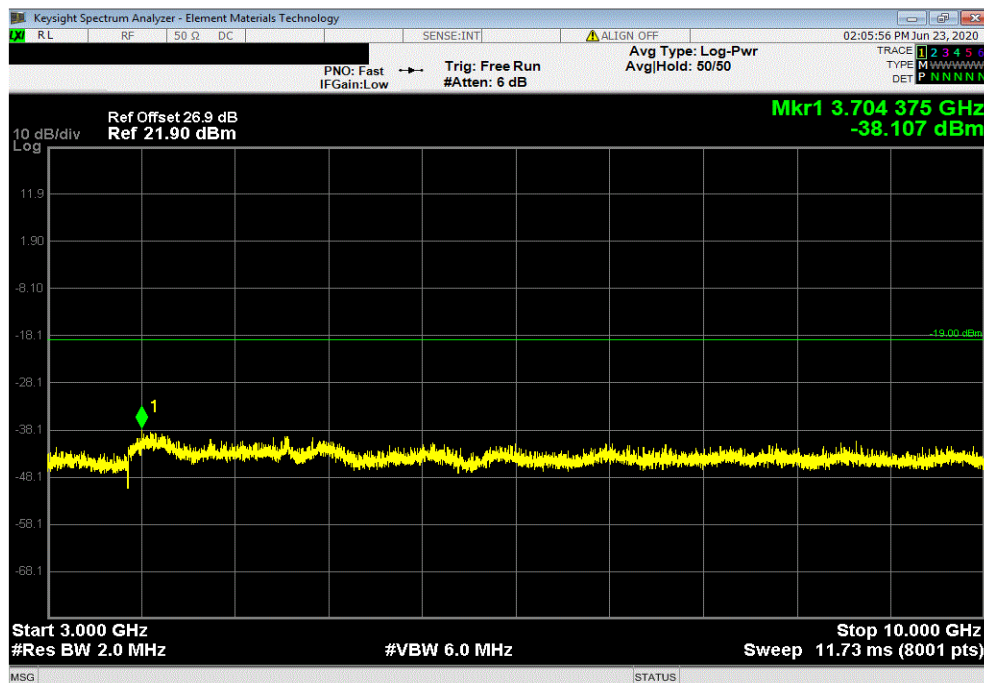


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3 GHz	2573.49	-24.73	-19	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
3 GHz - 10 GHz	3704.38	-38.11	-19	Pass	

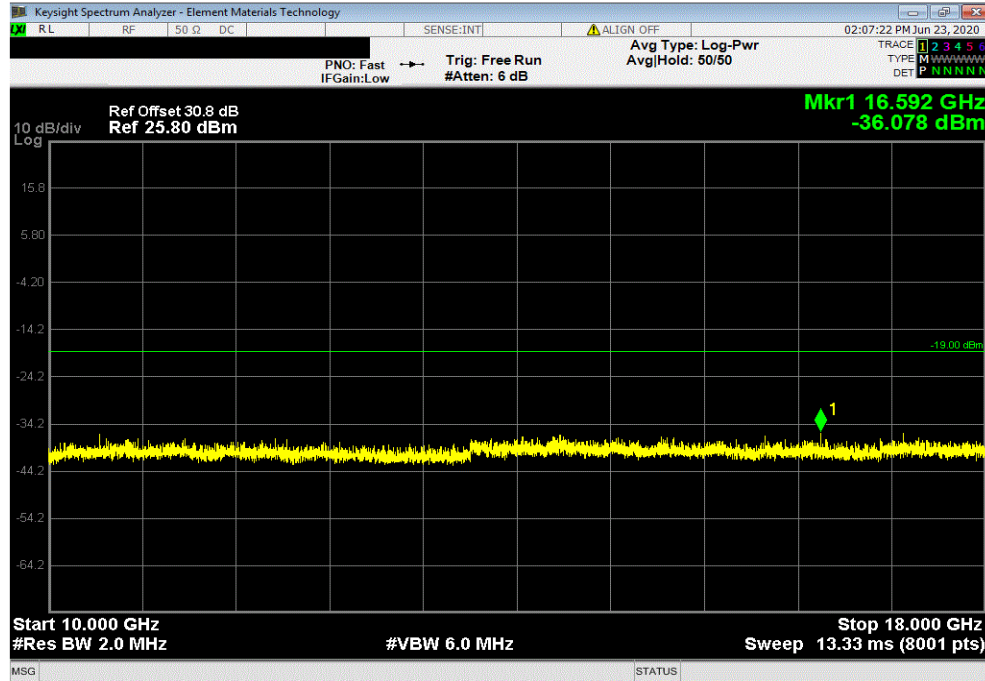


SPURIOUS CONDUCTED EMISSIONS - BAND 66

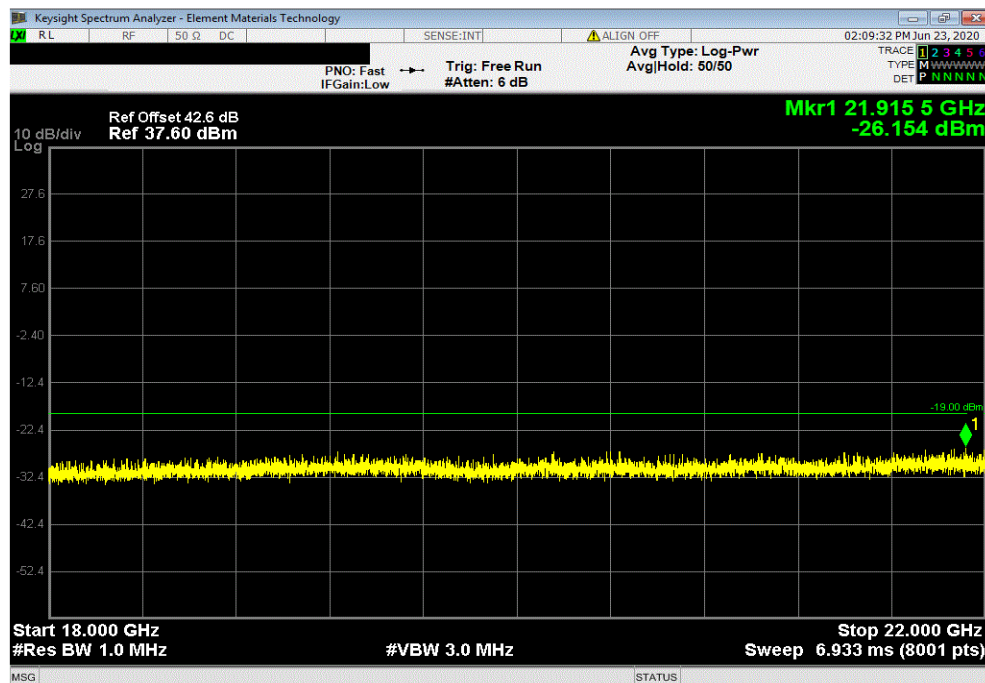


TbTx 2020.06.08.0 BETA XMit 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
10 GHz - 18 GHz	16592	-36.08	-19	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
18 GHz - 22 GHz	21915.5	-26.15	-19	Pass	

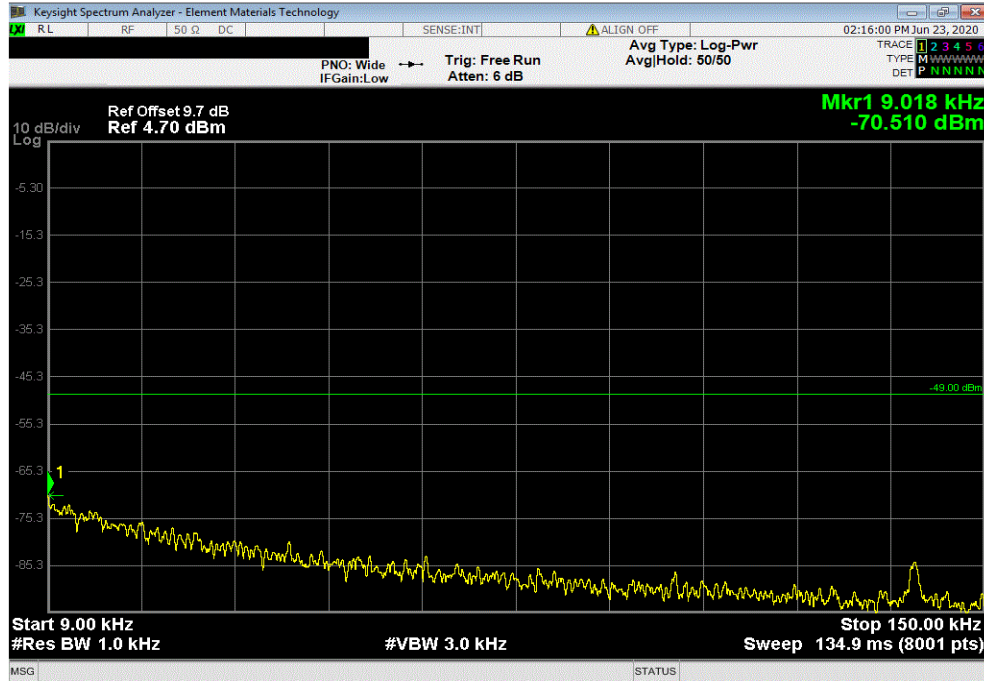


SPURIOUS CONDUCTED EMISSIONS - BAND 66

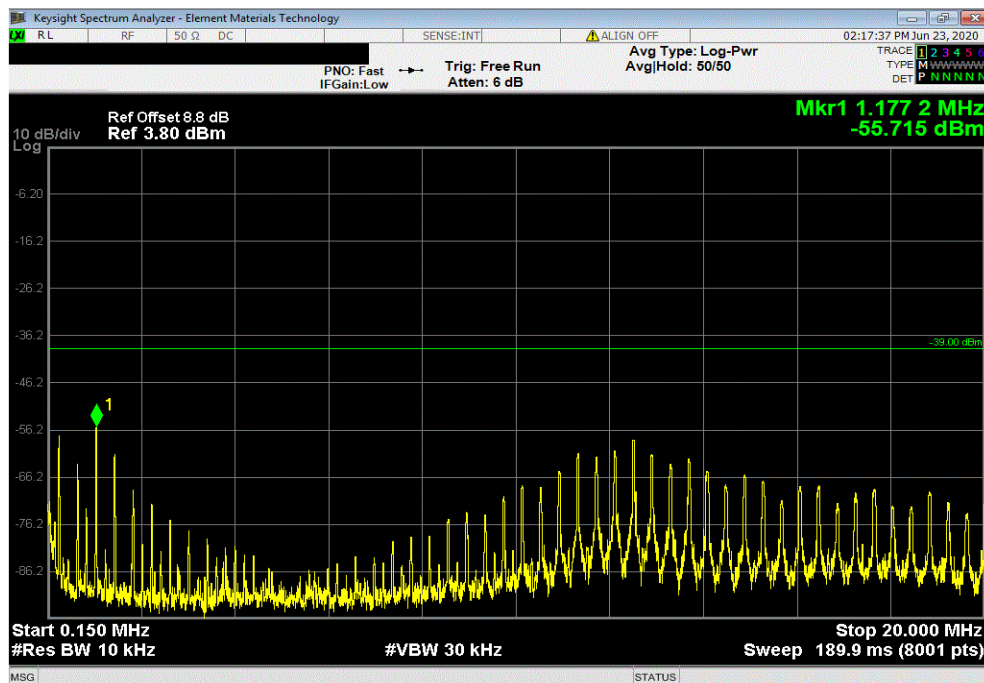


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	0.01	-70.51	-49	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	1.18	-55.72	-39	Pass	

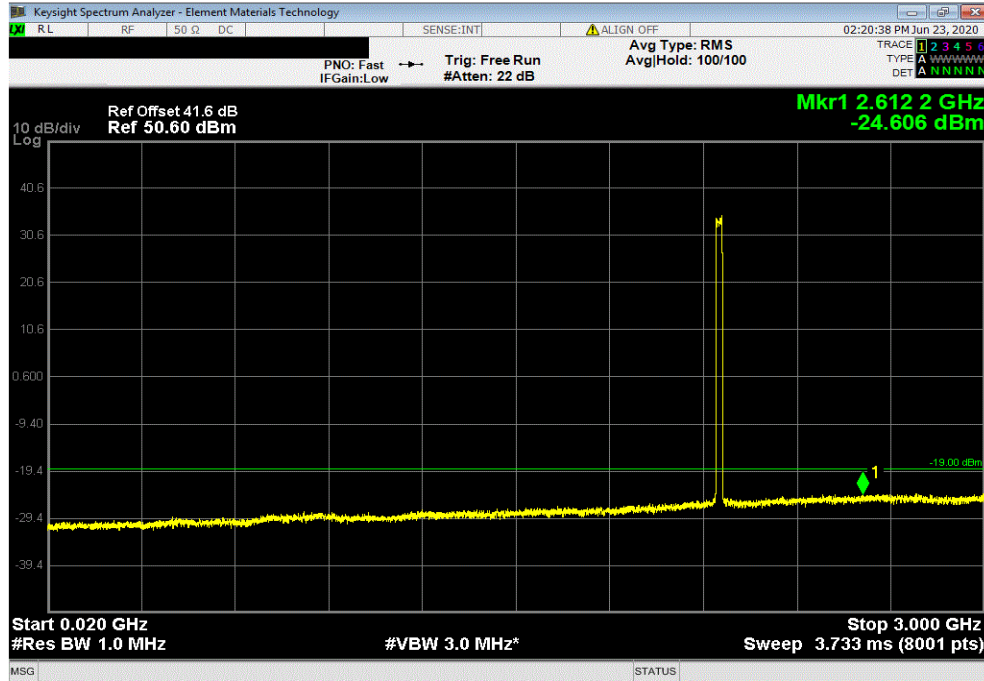


SPURIOUS CONDUCTED EMISSIONS - BAND 66

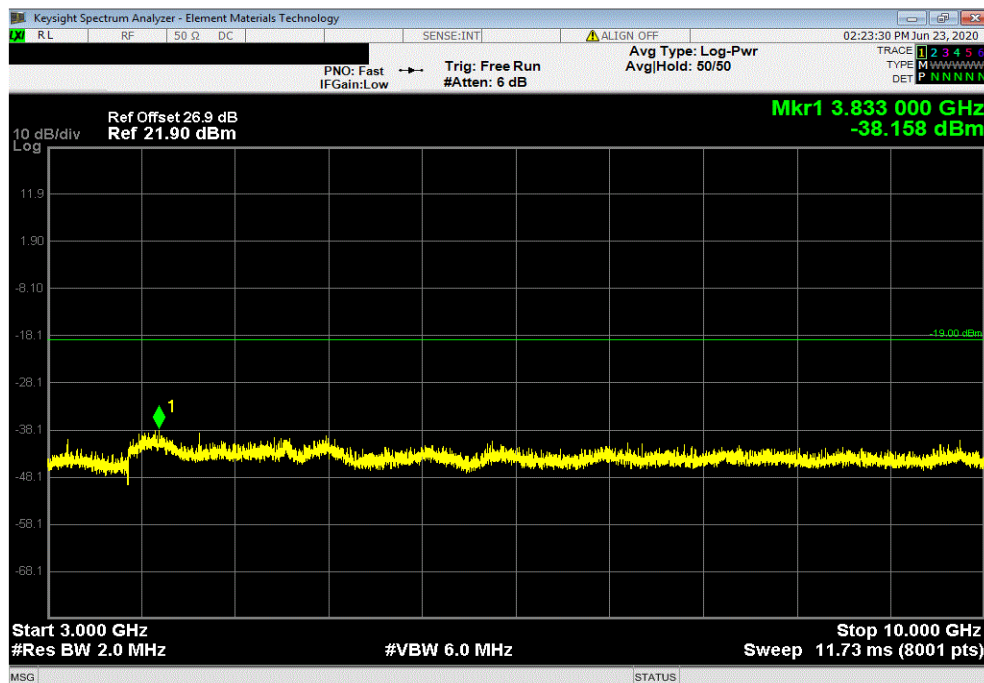


TbTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3 GHz	2612.23	-24.61	-19	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
3 GHz - 10 GHz	3833	-38.16	-19	Pass	

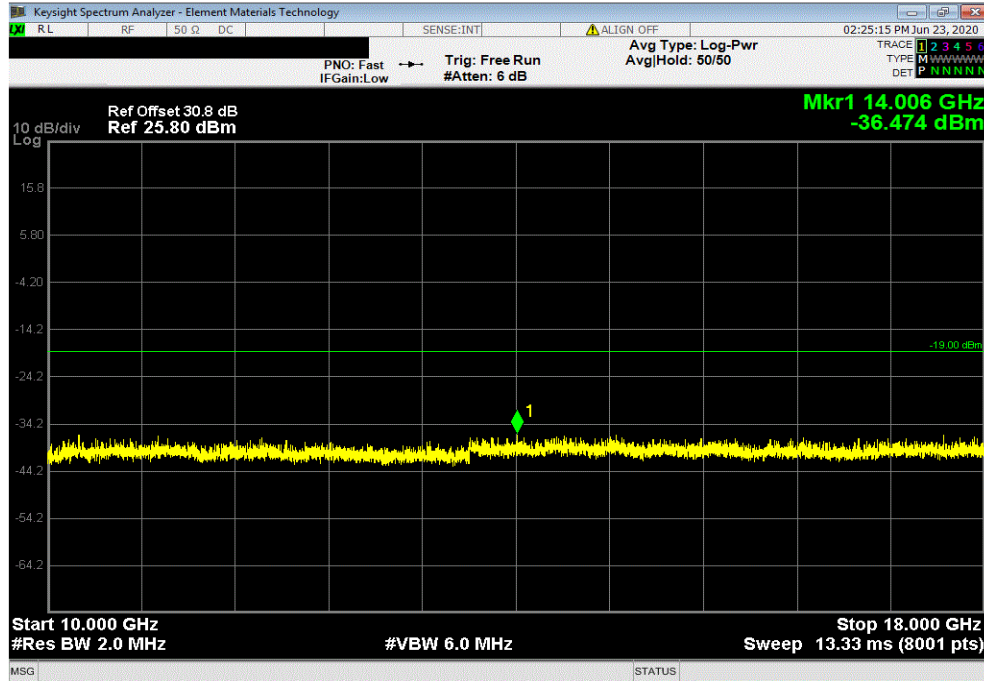


SPURIOUS CONDUCTED EMISSIONS - BAND 66



TMTx 2020.06.08.0 BETA XMt 2020.03.25.0

Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
10 GHz - 18 GHz	14006	-36.47	-19	Pass	



Port 4, Band 66 NB IoT, 2110 MHz - 2200 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel 2155 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBm)	Limit < (dBm)	Result	
18 GHz - 22 GHz	21776.5	-25.95	-19	Pass	

