

OCCUPIED BANDWIDTH



Thu Feb 2021 12:14:11 XMM 2022.02.07.0

EUT: AHFII Remote Radio Head		Work Order: NOKI0037	
Serial Number: YK214000036		Date: 28-Feb-22	
Customer: Nokia Solutions and Networks		Temperature: 22.6 °C	
Attendees: David Le, John Rattanavong		Humidity: 23.7% RH	
Project: None		Barometric Pres.: 1026 mbar	
Tested by: Mark Baytan	Power: 54 VDC	Job Site: TX09	
TEST SPECIFICATIONS		Test Method	
FCC 27:2022		ANSI C63.26:2015	
RSS-139 Issue 3:2015		RSS-139 Issue 3:2015	
RSS-170 Issue 3:2015		RSS-170 Issue 3:2015	
COMMENTS			
All measurement path losses accounted for in the reference level offset including any attenuators, filters, and DC blocks. Band 66 carriers enabled at maximum power is 80 watts/carrier.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature	
		Value	Value
		99% (MHz)	26dB (MHz)
		Limit	Result

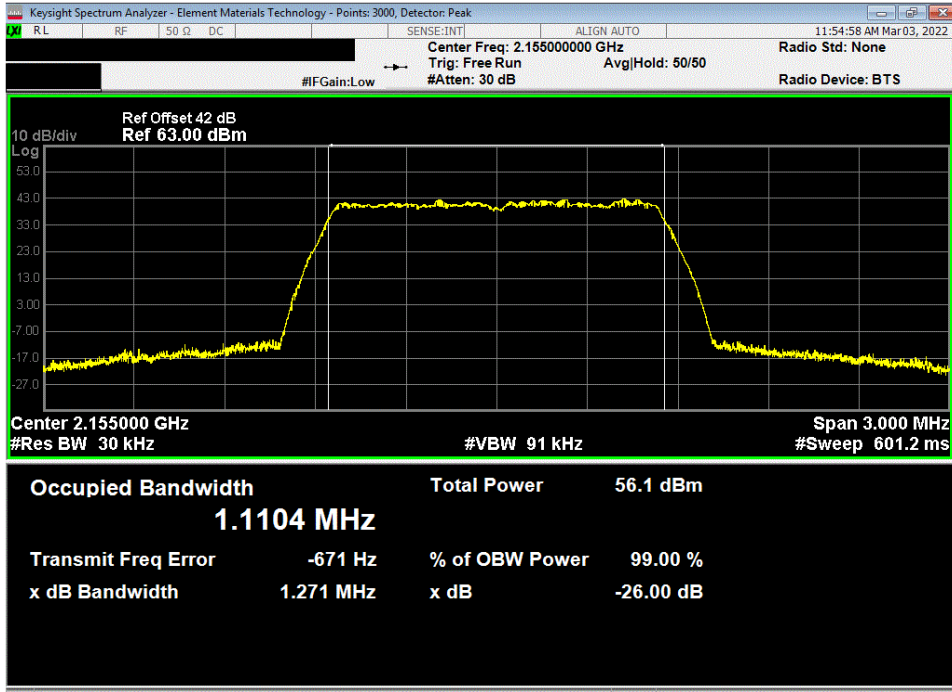
Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier					
Port 1					
1.4 MHz Bandwidth					
QPSK Modulation					
	Mid Channel, 2155 MHz	1.11	1.27	Within Band	Pass
16-QAM Modulation					
	Mid Channel, 2155 MHz	1.11	1.27	Within Band	Pass
64-QAM Modulation					
	Mid Channel, 2155 MHz	1.11	1.28	Within Band	Pass
256-QAM Modulation					
	Low Channel, 2110.7 MHz	1.11	1.28	Within Band	Pass
	Mid Channel, 2155 MHz	1.11	1.28	Within Band	Pass
	High Channel, 2199.3 MHz	1.11	1.27	Within Band	Pass
3 MHz Bandwidth					
QPSK Modulation					
	Mid Channel, 2155 MHz	2.71	2.93	Within Band	Pass
16-QAM Modulation					
	Mid Channel, 2155 MHz	2.71	2.93	Within Band	Pass
64-QAM Modulation					
	Mid Channel, 2155 MHz	2.71	2.93	Within Band	Pass
256-QAM Modulation					
	Low Channel, 2111.5 MHz	2.71	2.93	Within Band	Pass
	Mid Channel, 2155 MHz	2.71	2.93	Within Band	Pass
	High Channel, 2198.5 MHz	2.71	2.93	Within Band	Pass
5 MHz Bandwidth					
QPSK Modulation					
	Mid Channel, 2155 MHz	4.50	4.85	Within Band	Pass
16-QAM Modulation					
	Mid Channel, 2155 MHz	4.49	4.83	Within Band	Pass
64-QAM Modulation					
	Mid Channel, 2155 MHz	4.49	4.84	Within Band	Pass
256-QAM Modulation					
	Low Channel, 2112.5 MHz	4.50	4.85	Within Band	Pass
	Mid Channel, 2155 MHz	4.50	4.84	Within Band	Pass
	High Channel, 2197.5 MHz	4.50	4.85	Within Band	Pass
10 MHz Bandwidth					
QPSK Modulation					
	Mid Channel, 2155 MHz	8.97	9.68	Within Band	Pass
16-QAM Modulation					
	Mid Channel, 2155 MHz	8.99	9.67	Within Band	Pass
64-QAM Modulation					
	Mid Channel, 2155 MHz	8.97	9.67	Within Band	Pass
256-QAM Modulation					
	Low Channel, 2115 MHz	9.00	9.67	Within Band	Pass
	Mid Channel, 2155 MHz	9.00	9.68	Within Band	Pass
	High Channel, 2195 MHz	9.00	9.68	Within Band	Pass
15 MHz Bandwidth					
QPSK Modulation					
	Mid Channel, 2155 MHz	13.4	14.5	Within Band	Pass
16-QAM Modulation					
	Mid Channel, 2155 MHz	13.5	14.5	Within Band	Pass
64-QAM Modulation					
	Mid Channel, 2155 MHz	13.5	14.5	Within Band	Pass
256-QAM Modulation					
	Low Channel, 2117.5 MHz	13.5	14.5	Within Band	Pass
	Mid Channel, 2155 MHz	13.5	14.5	Within Band	Pass
	High Channel, 2192.5 MHz	13.5	14.5	Within Band	Pass
20 MHz Bandwidth					
QPSK Modulation					
	Mid Channel, 2155 MHz	17.9	19.3	Within Band	Pass
16-QAM Modulation					
	Mid Channel, 2155 MHz	18.0	19.3	Within Band	Pass
64-QAM Modulation					
	Mid Channel, 2155 MHz	17.9	19.3	Within Band	Pass
256-QAM Modulation					
	Low Channel, 2120 MHz	17.9	19.4	Within Band	Pass
	Mid Channel, 2155 MHz	17.9	19.4	Within Band	Pass
	High Channel, 2190 MHz	17.9	19.4	Within Band	Pass

OCCUPIED BANDWIDTH

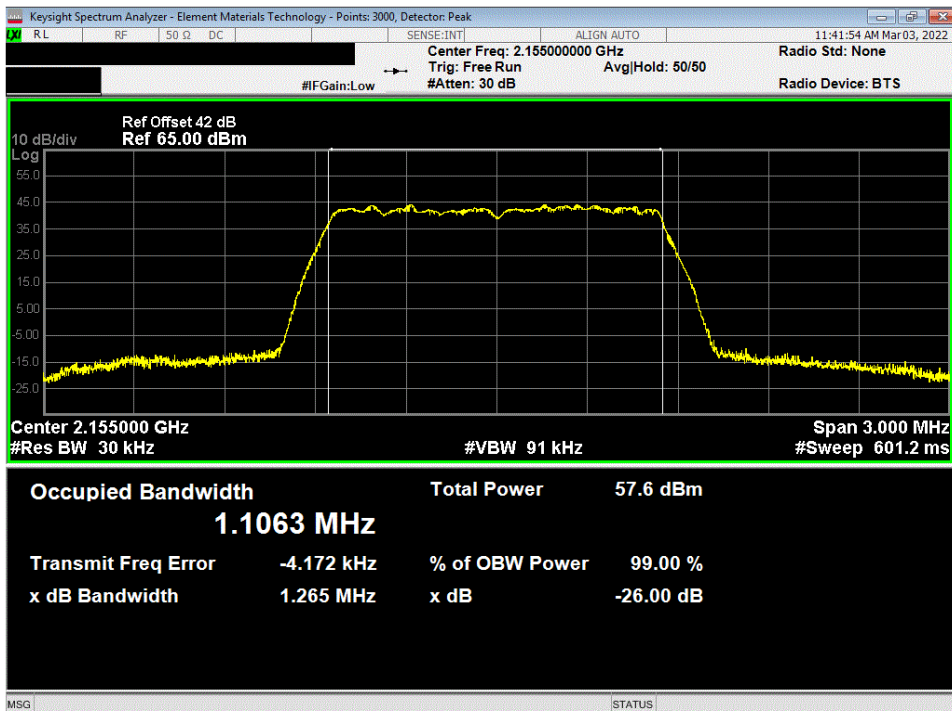


TbTfx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 1.4 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	1.11	1.27	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 1.4 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	1.11	1.27	Within Band	Pass		

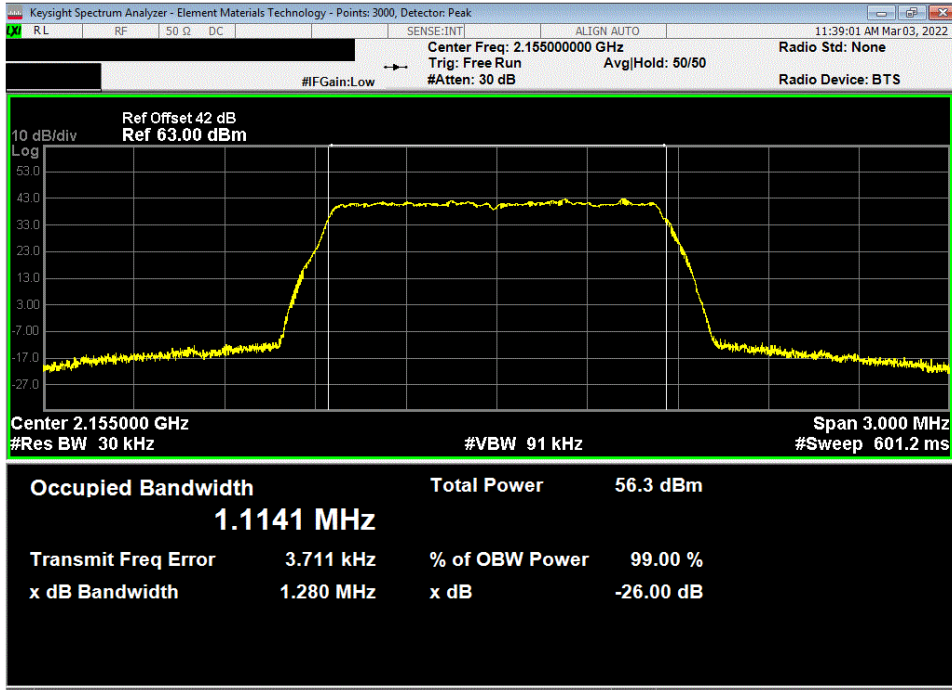


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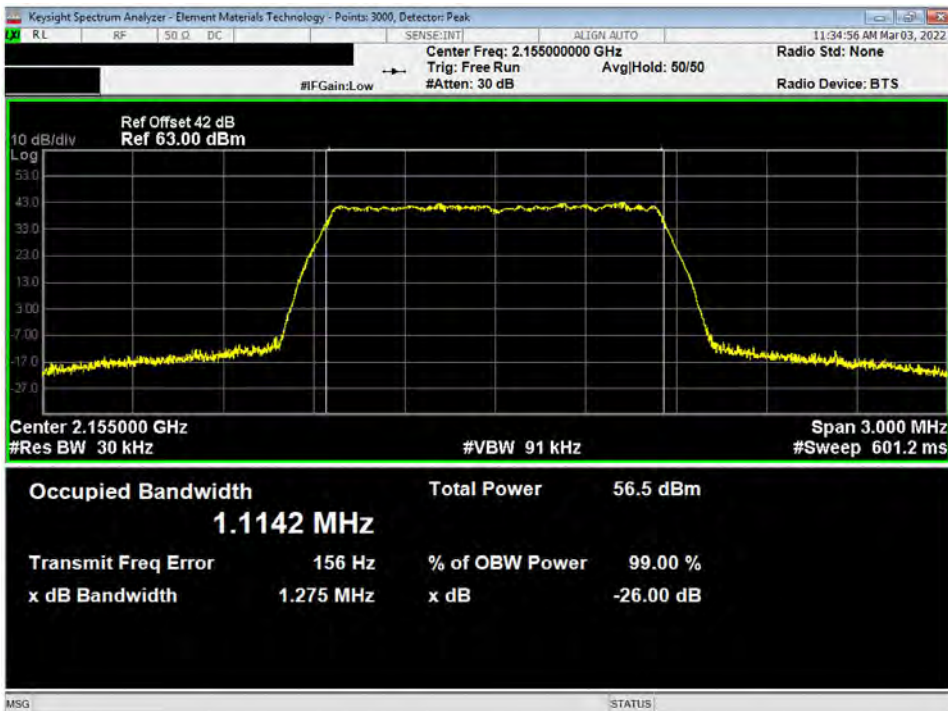


TbTfx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 1.4 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	1.11	1.28	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 1.4 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	1.11	1.28	Within Band	Pass		

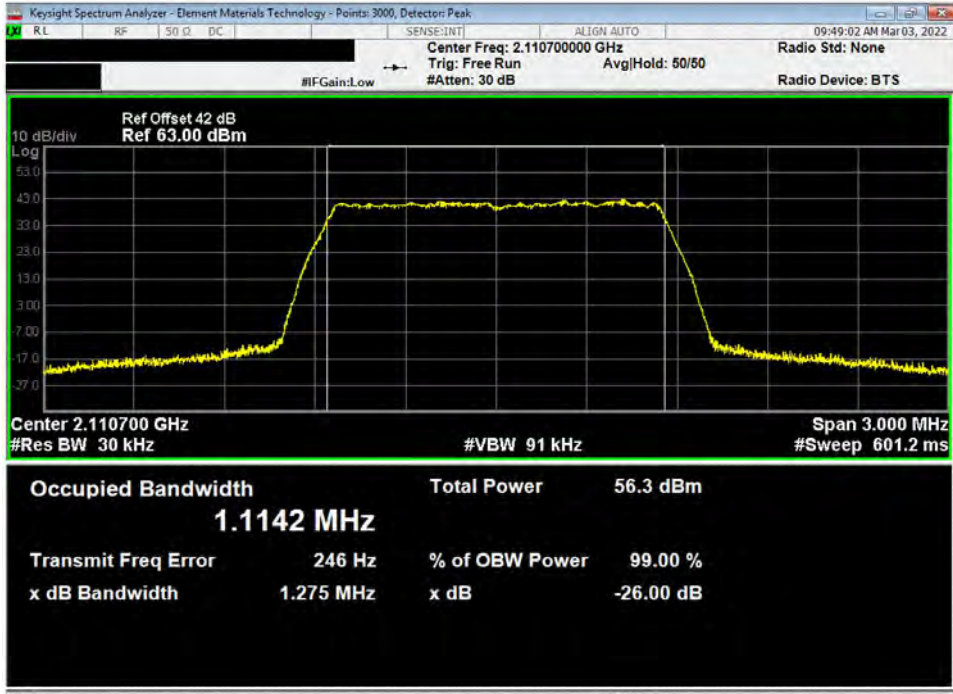


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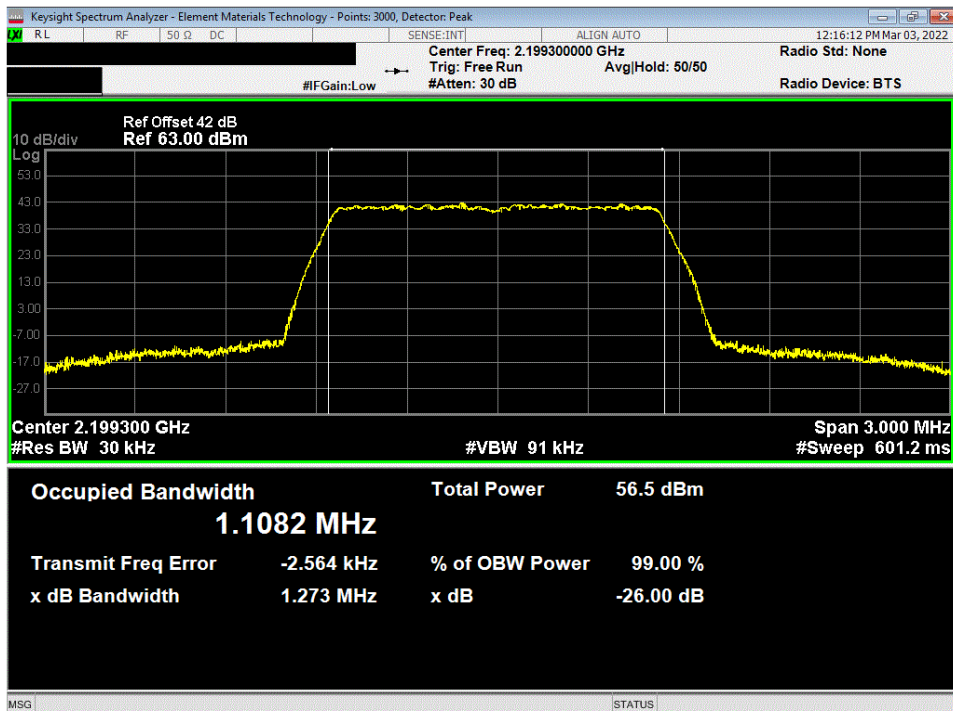


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 1.4 MHz Bandwidth, 256-QAM Modulation, Low Channel, 2110.7 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	1.11	1.28	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 1.4 MHz Bandwidth, 256-QAM Modulation, High Channel, 2199.3 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	1.11	1.27	Within Band	Pass		

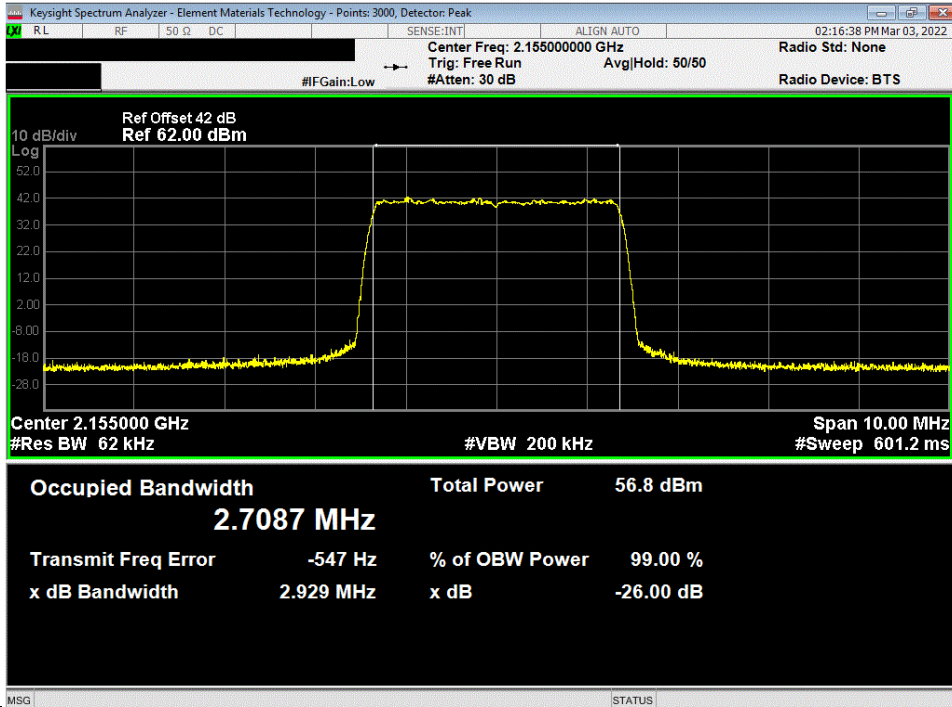


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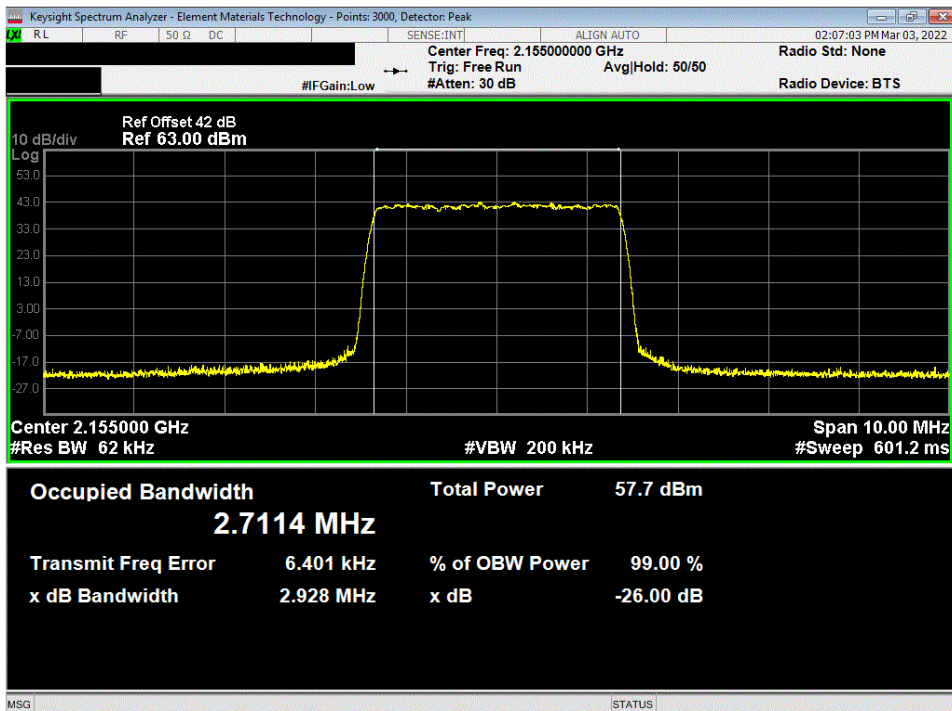


TbTfx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 3 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	2.71	2.93	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 3 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	2.71	2.93	Within Band	Pass

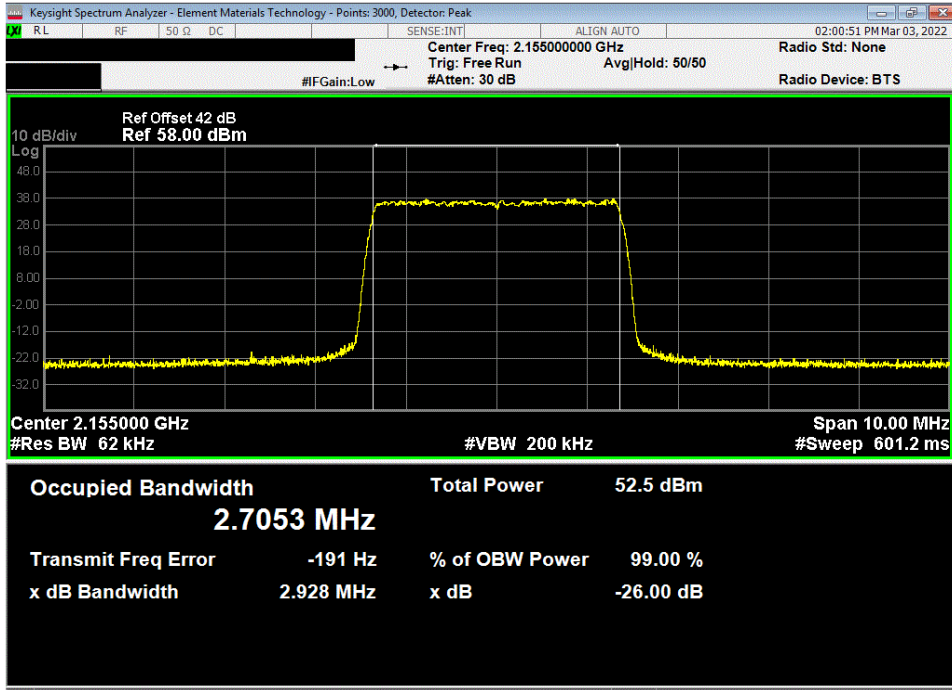


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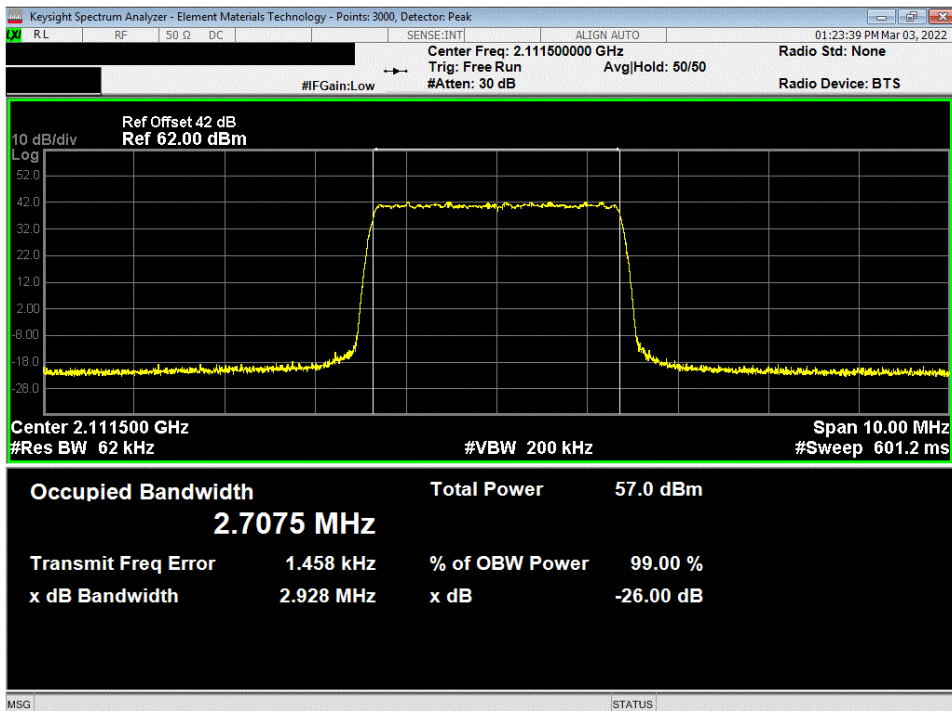


TbTfx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 3 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	2.71	2.93	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 3 MHz Bandwidth, 200-QAM Modulation, Low Channel, 2111.5 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	2.71	2.93	Within Band	Pass

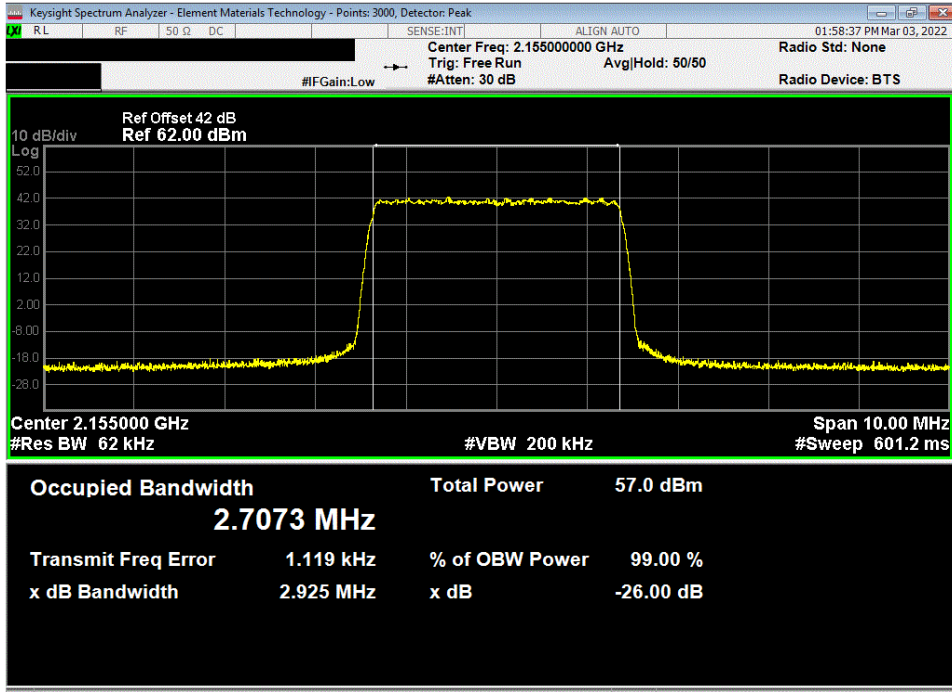


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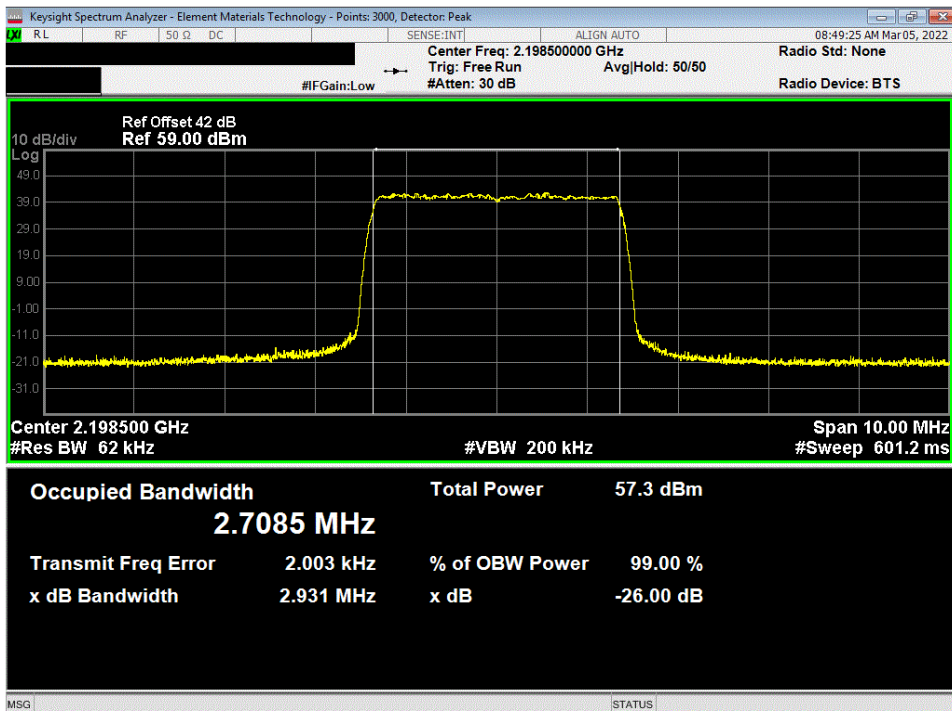


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 3 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	2.71	2.93	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 3 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	2.71	2.93	Within Band	Pass

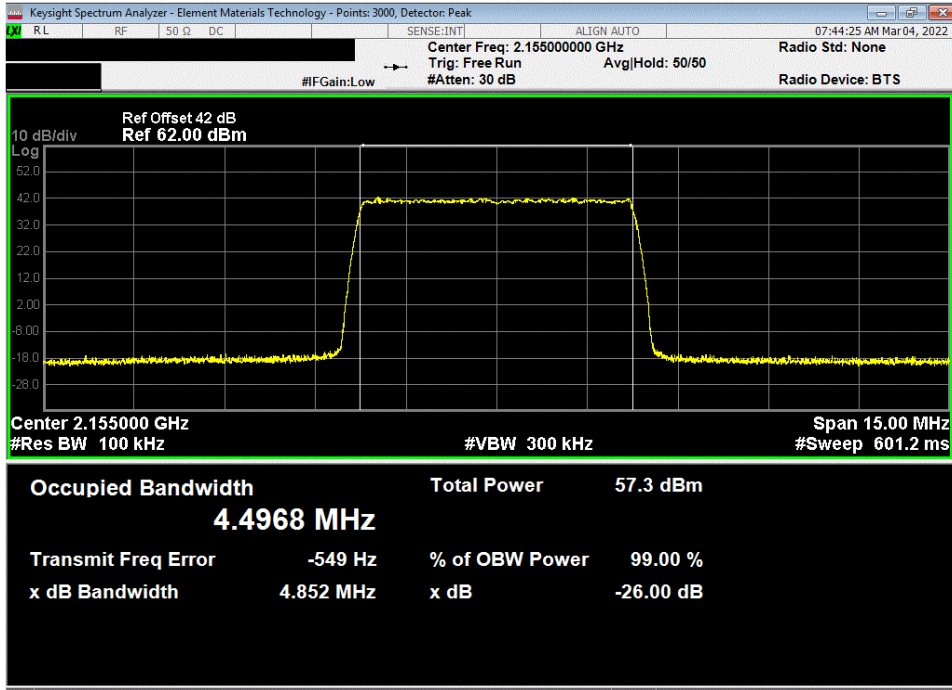


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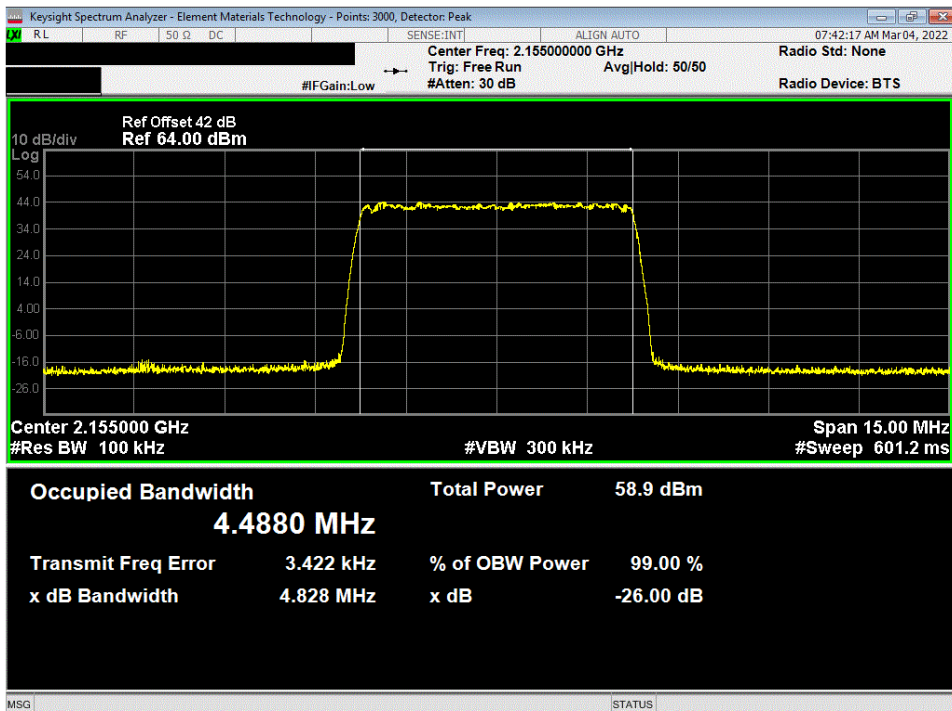


TbTfx 2021.12.14.1 XMIx 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	4.50	4.85	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	4.49	4.83	Within Band	Pass

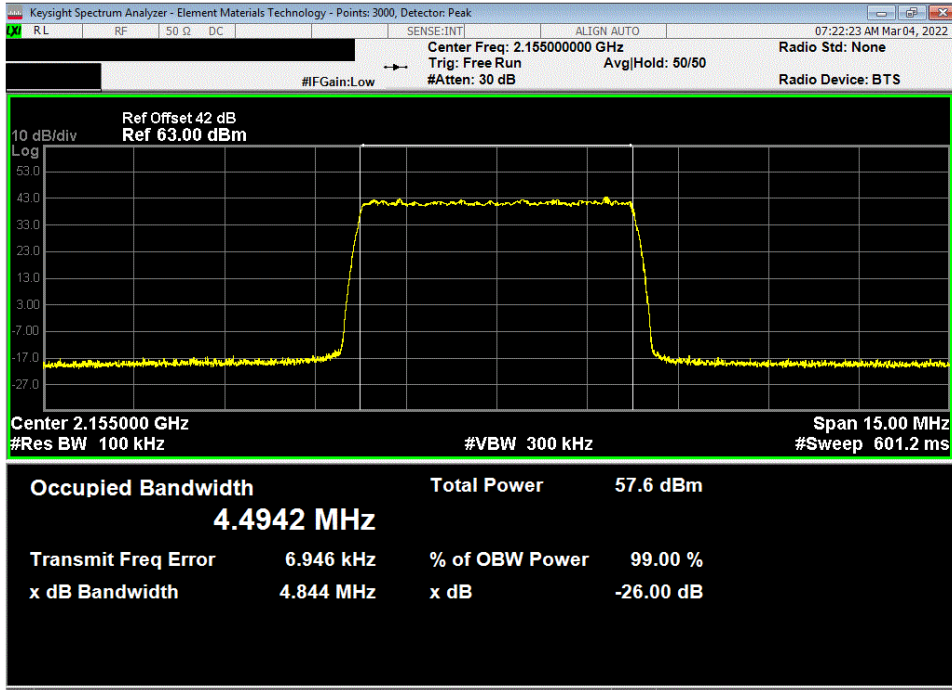


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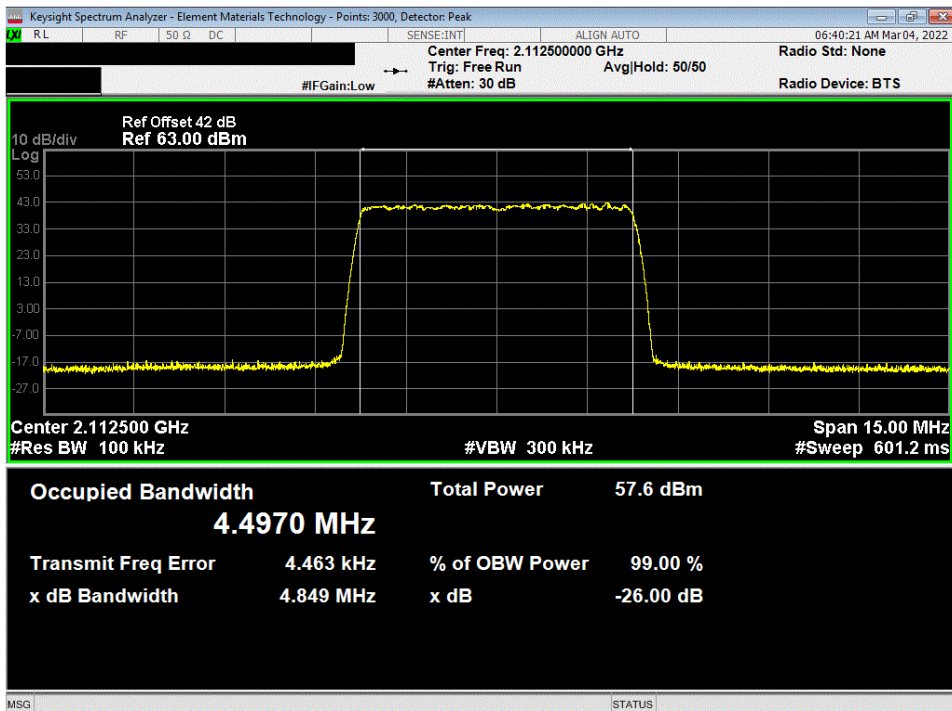


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	4.49	4.84	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Low Channel, 2125 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	4.50	4.85	Within Band	Pass

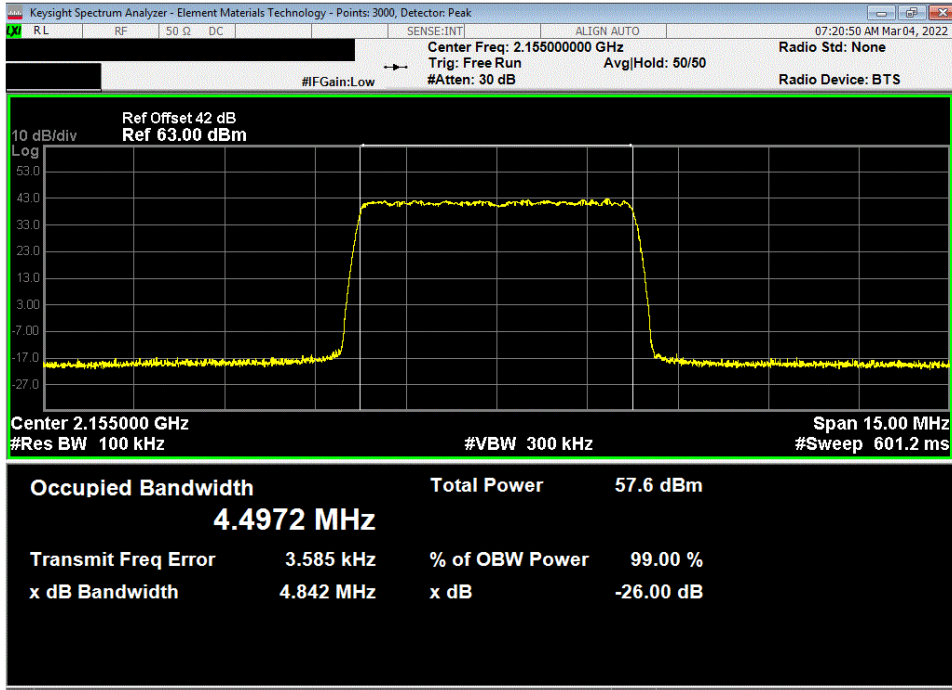


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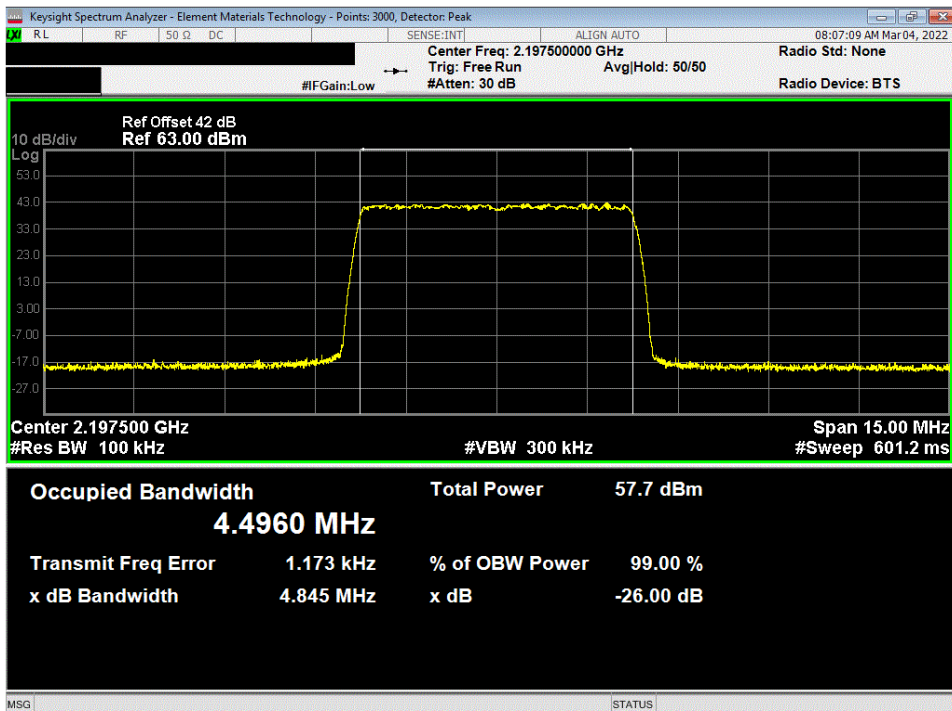


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	4.50	4.84	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2157.5 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	4.50	4.85	Within Band	Pass

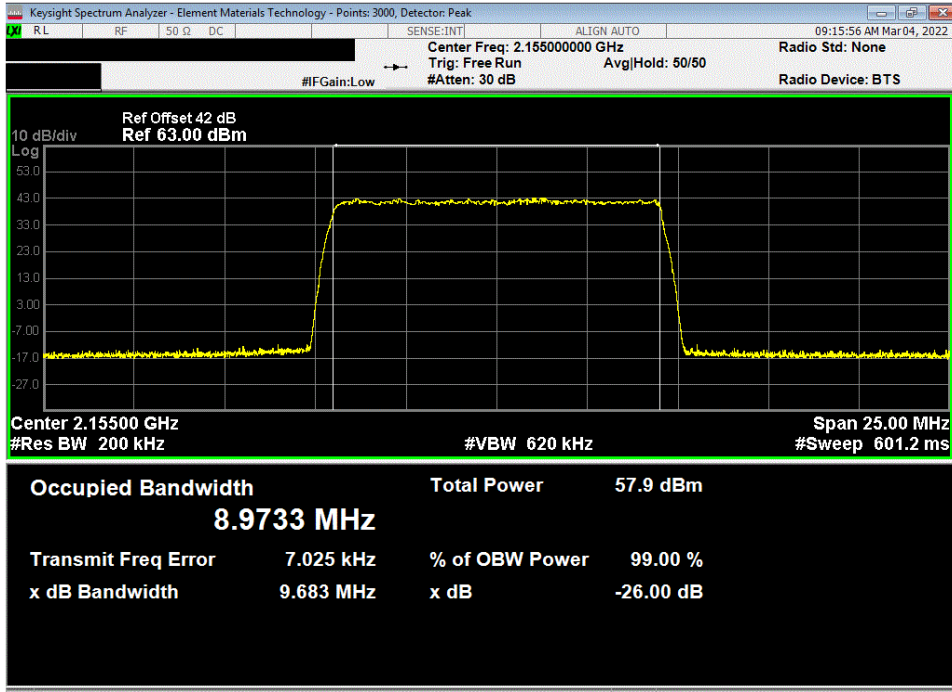


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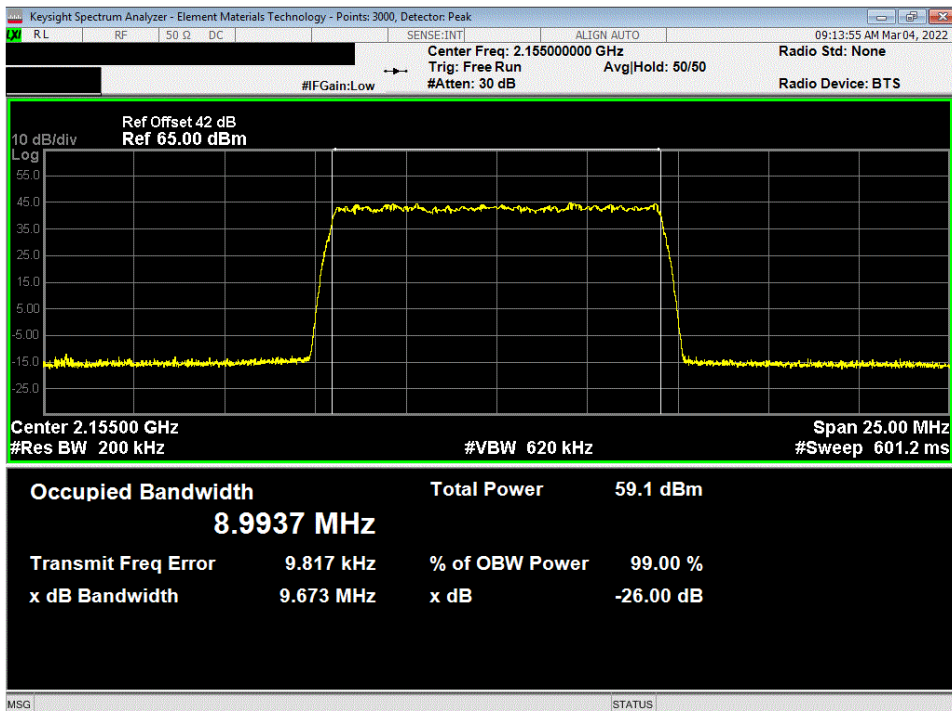


TbTfx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 10 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	8.97	9.68	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 10 MHz Bandwidth, 10-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	8.99	9.67	Within Band	Pass		

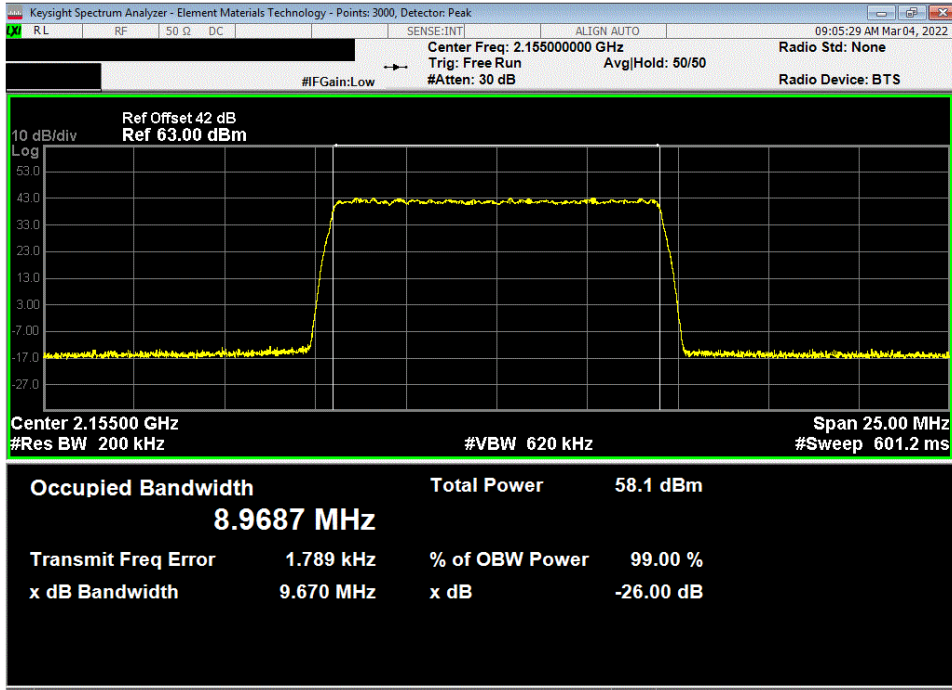


OCCUPIED BANDWIDTH

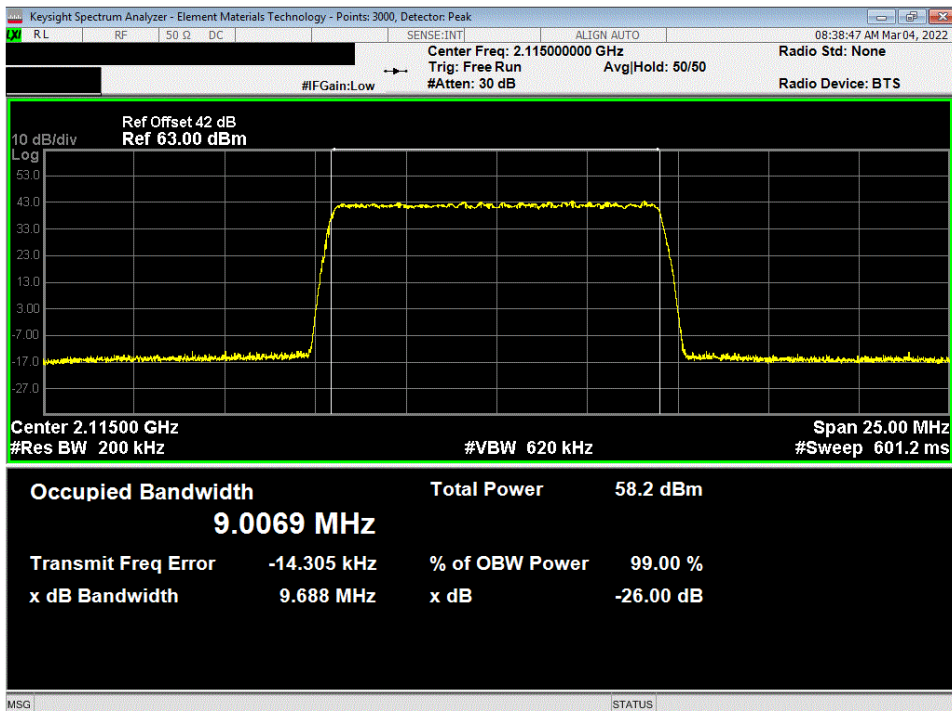


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 10 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	8.97	9.67	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 10 MHz Bandwidth, 64-QAM Modulation, Low Channel, 2115 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	9.00	9.67	Within Band	Pass

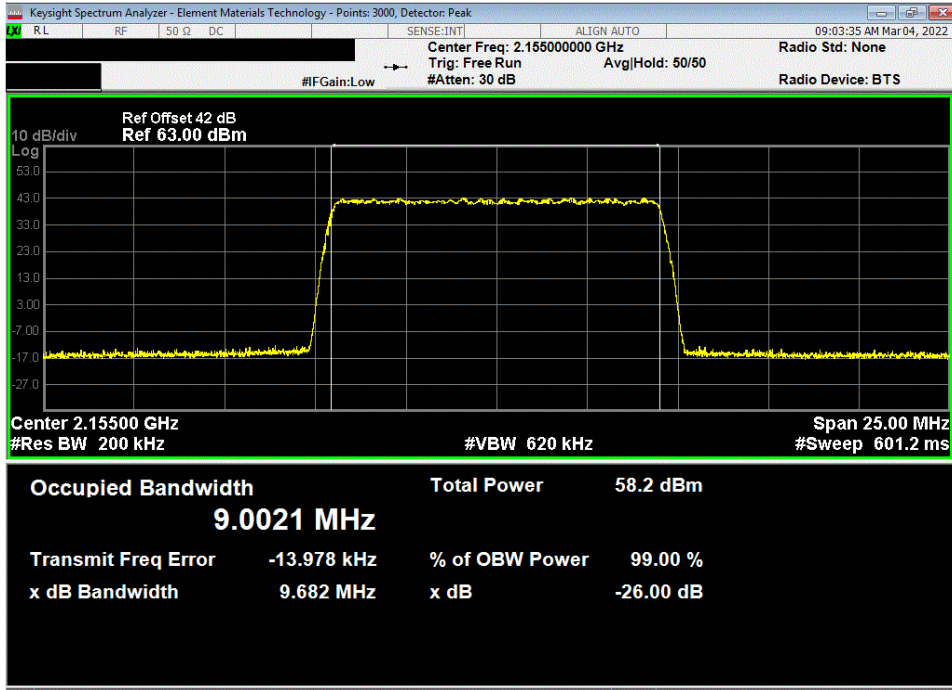


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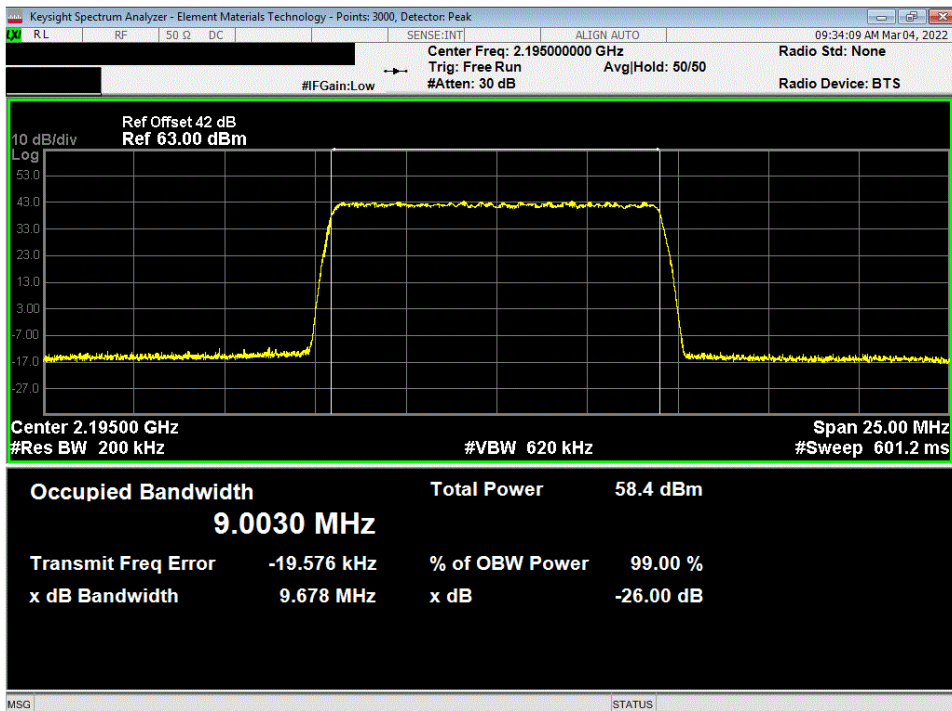


TbTfx 2021.12.14.1 XMIx 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	9.00	9.68	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2195 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	9.00	9.68	Within Band	Pass

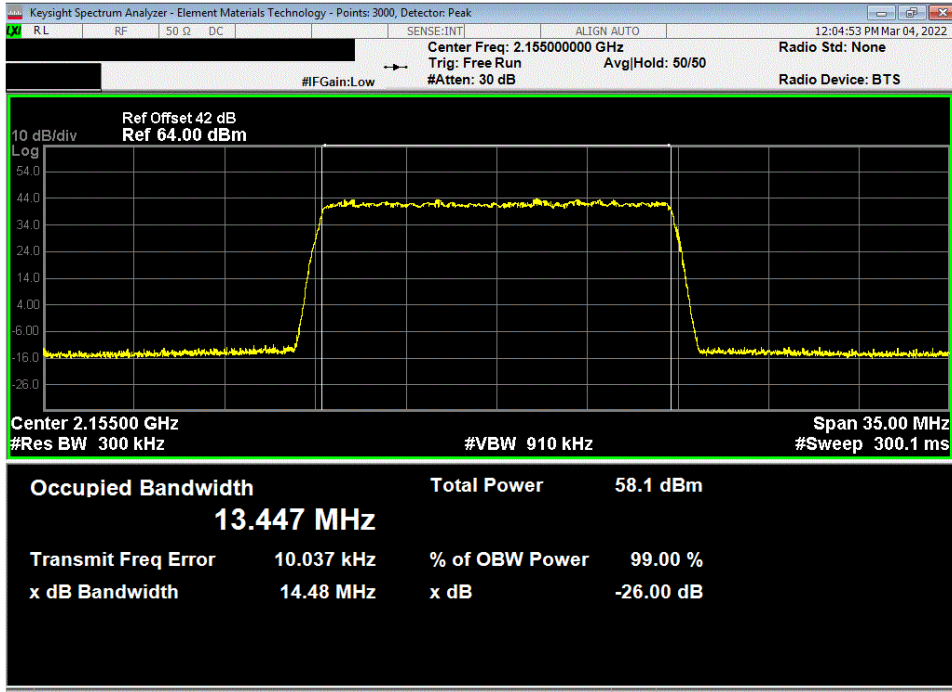


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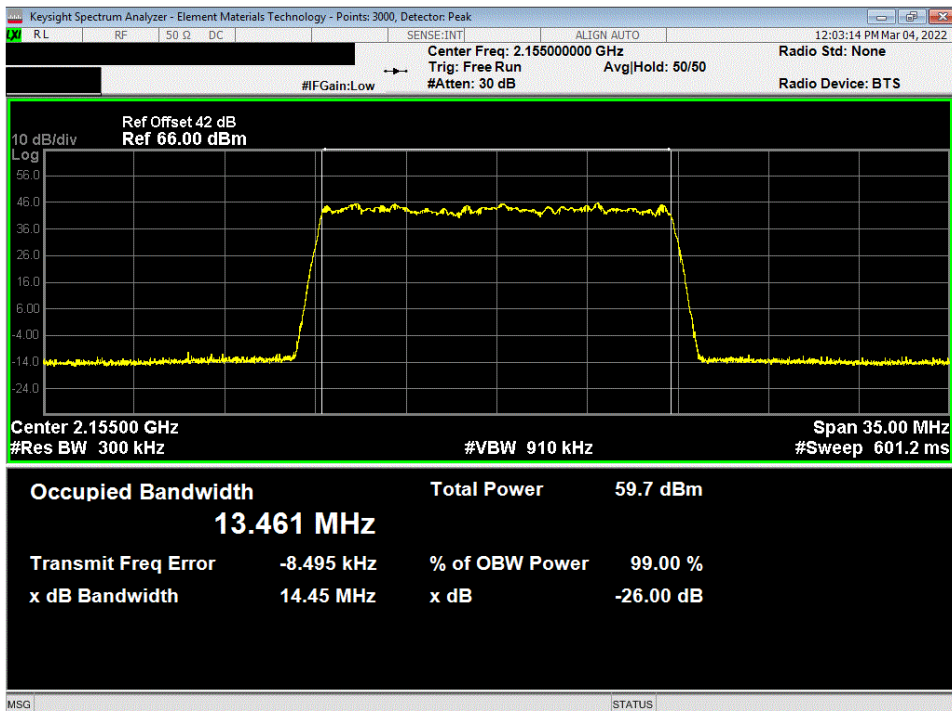


TbTfx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 15 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
		Value	Value	Limit	Result	
		99% (MHz)	26dB (MHz)			
		13.4	14.5	Within Band	Pass	



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 15 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
		Value	Value	Limit	Result	
		99% (MHz)	26dB (MHz)			
		13.5	14.5	Within Band	Pass	

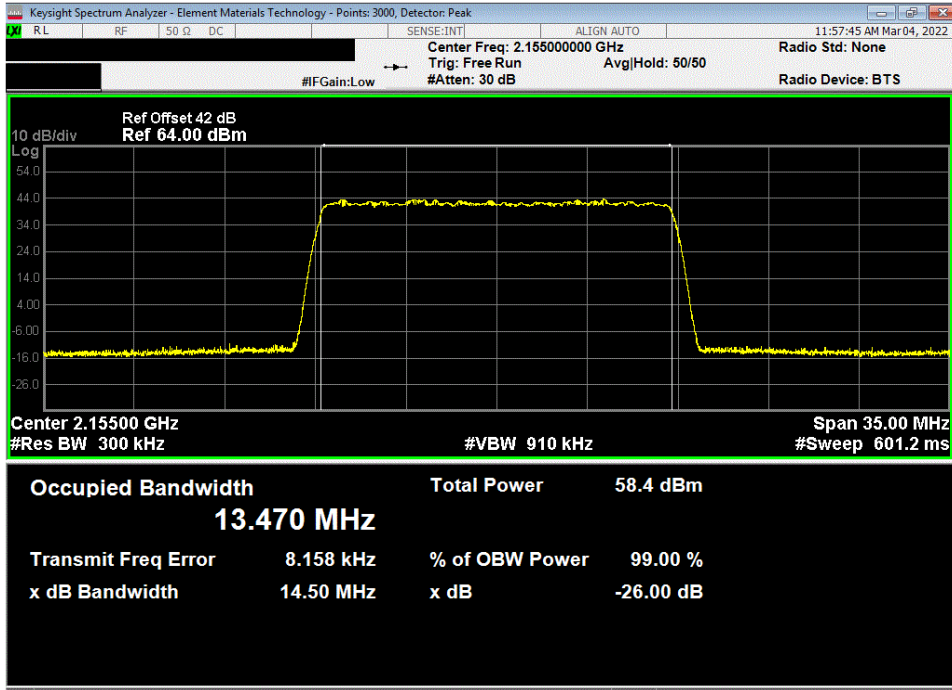


OCCUPIED BANDWIDTH

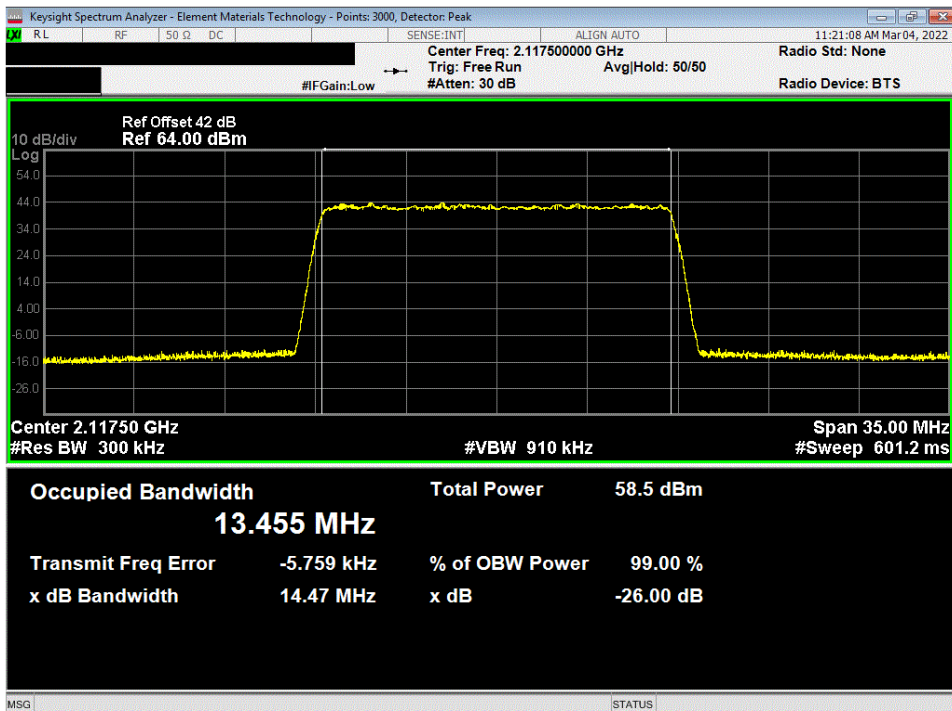


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 15 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	13.5	14.5	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 15 MHz Bandwidth, 64-QAM Modulation, Low Channel, 2117.5 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	13.5	14.5	Within Band	Pass		

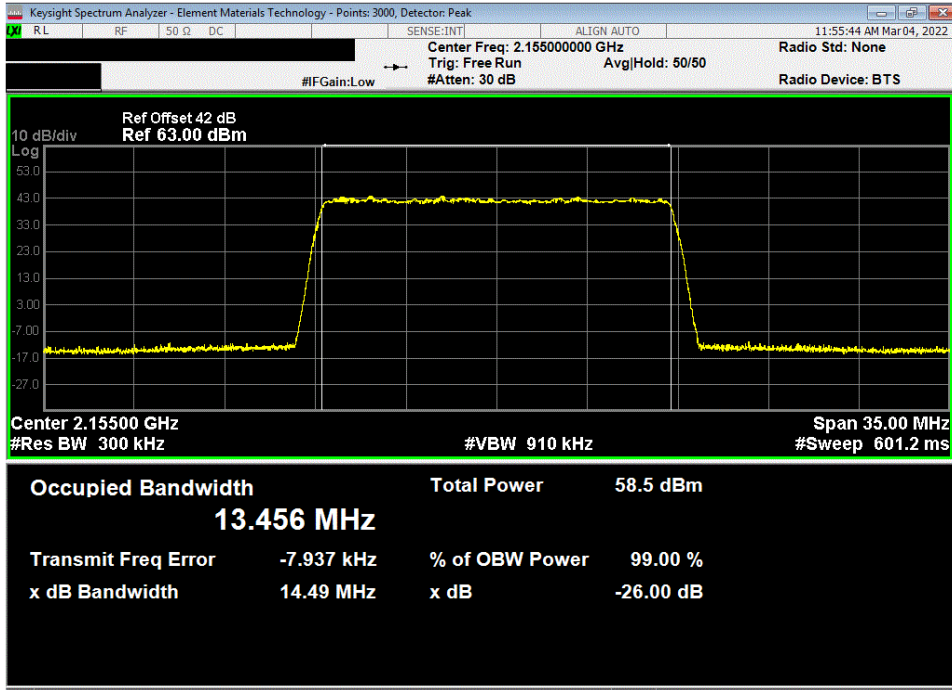


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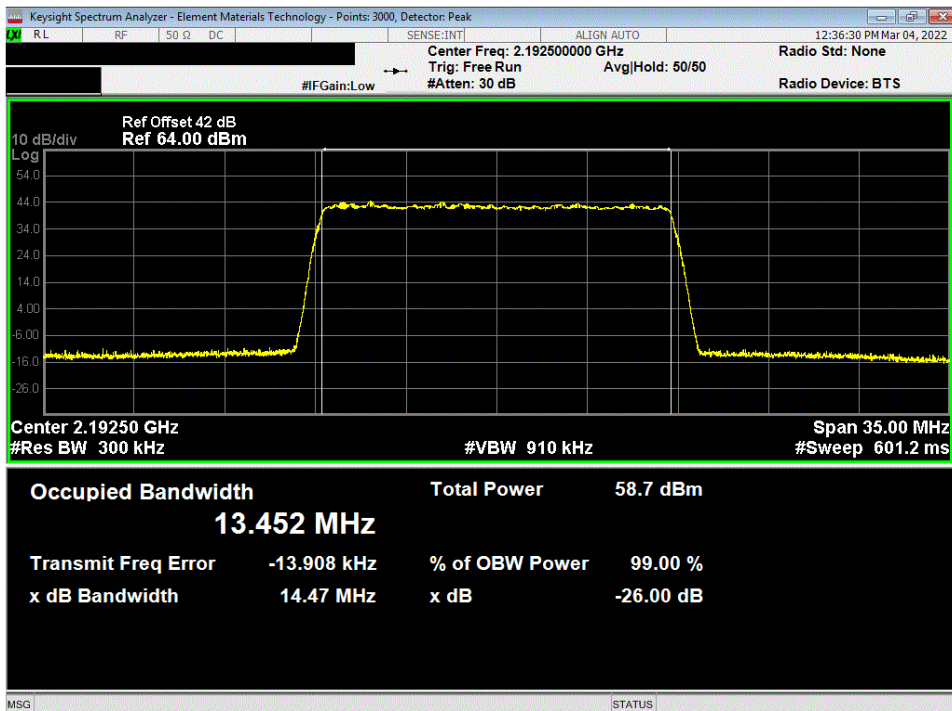


TbTfx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	13.5	14.5	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	13.5	14.5	Within Band	Pass		

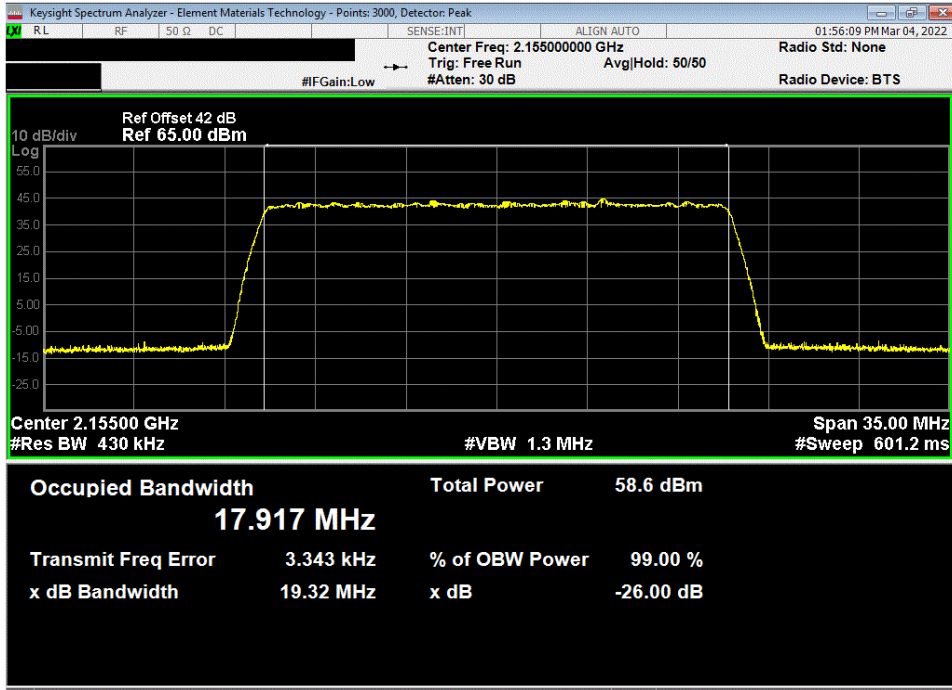


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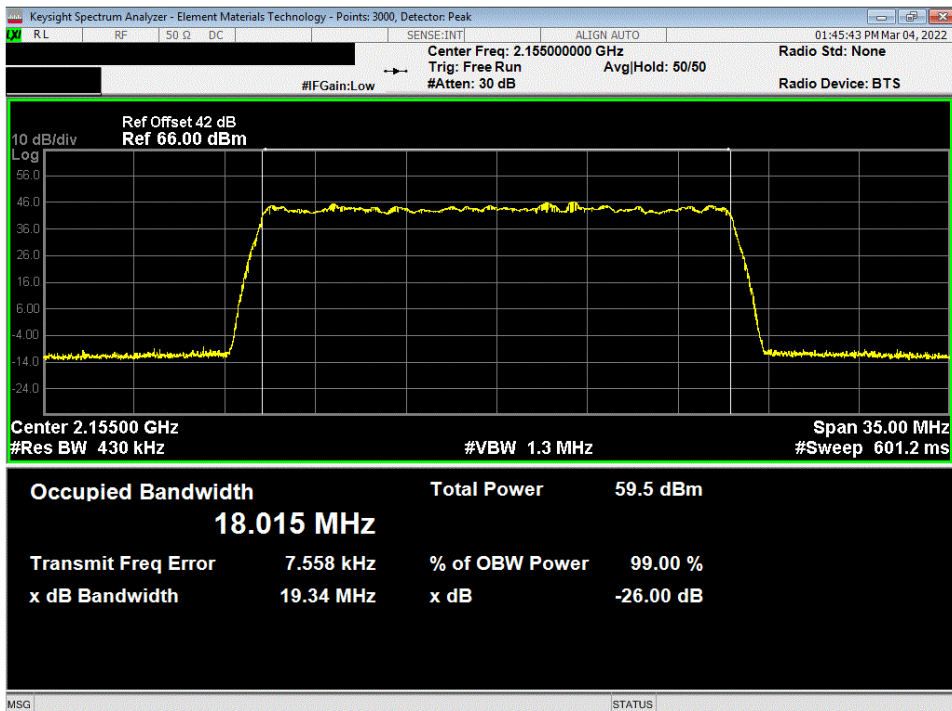


TbTfx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 20 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	17.9	19.3	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 20 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	18.0	19.3	Within Band	Pass		

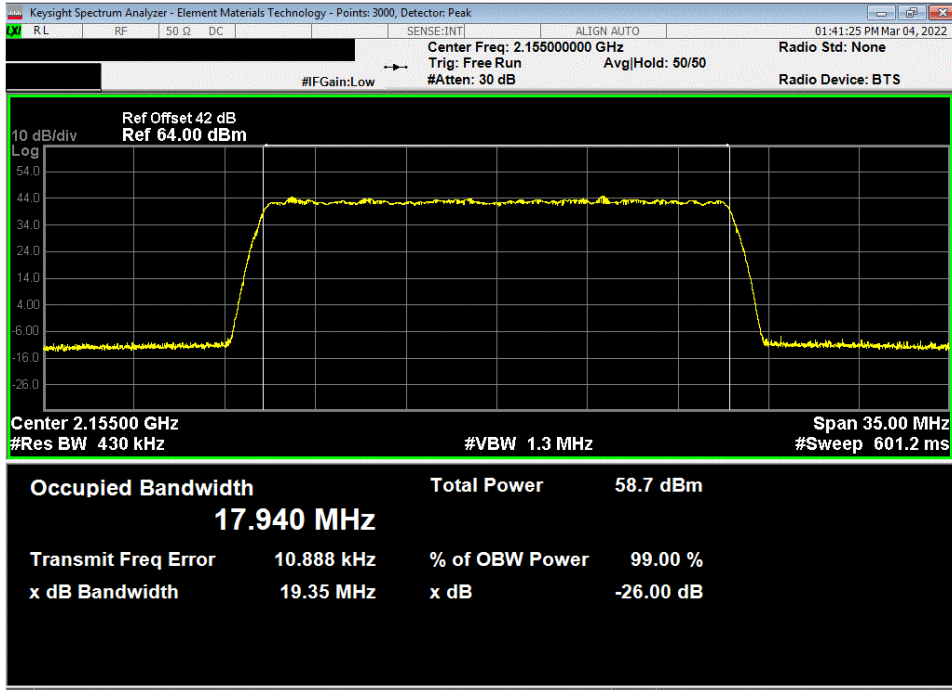


OCCUPIED BANDWIDTH

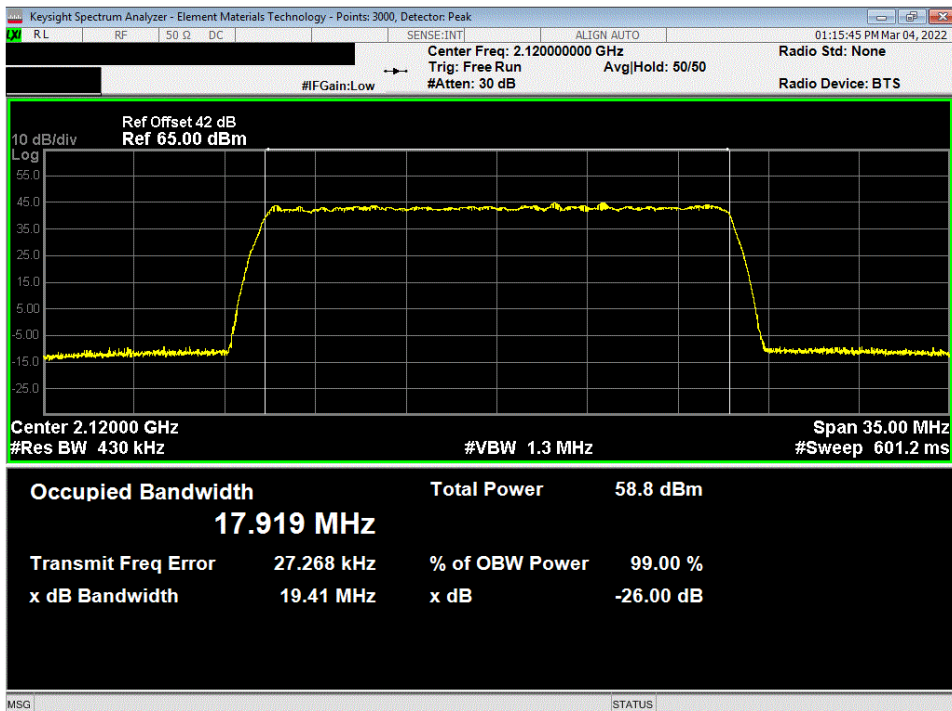


TbTx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 20 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	17.9	19.3	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 20 MHz Bandwidth, 200-QAM Modulation, Low Channel, 2120 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	17.9	19.4	Within Band	Pass		

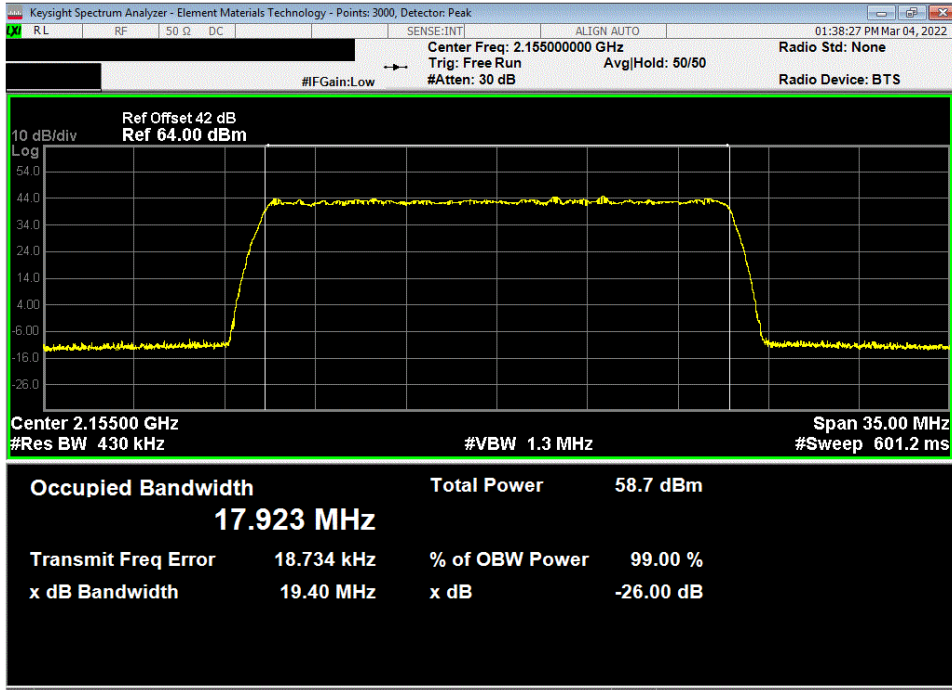


OCCUPIED BANDWIDTH

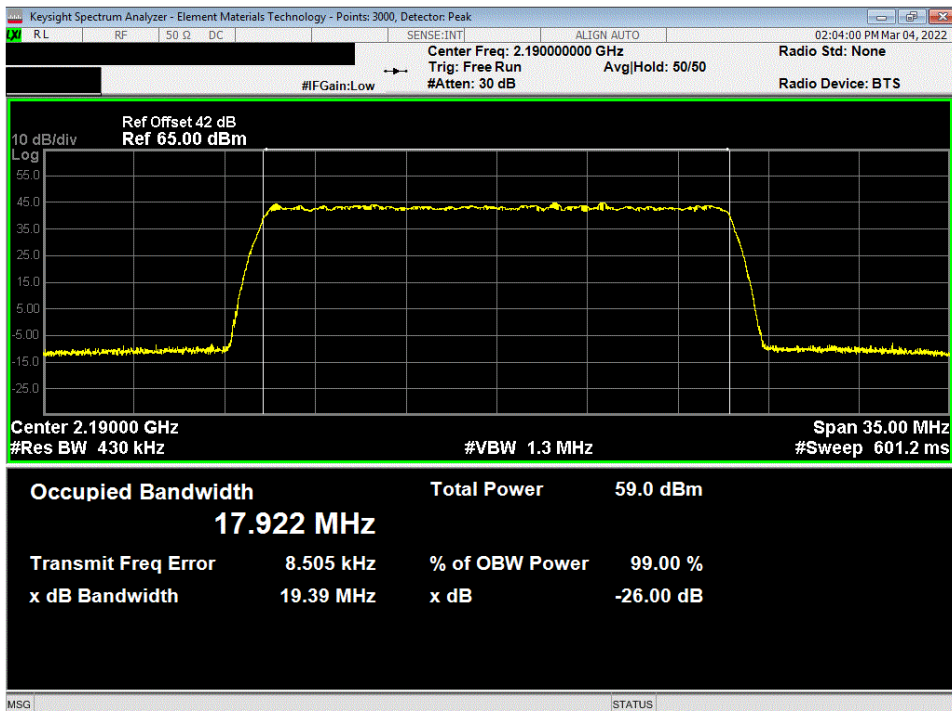


TbTfx 2021.12.14.1 XMt 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	17.9	19.4	Within Band	Pass



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2190 MHz				
	Value	Value	Limit	Result
	99% (MHz)	26dB (MHz)		
	17.9	19.4	Within Band	Pass





XMH 2022.02.07.0

OCCUPIED BANDWIDTH - GUARD BAND

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
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
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 the spectrum analyzer. The method in section 5.4 of ANSI C63.26 was used to make this measurement. The spectrum analyzer settings were as follows:

- RBW is 1% - 5% of the occupied bandwidth
- VBW is $\geq 3x$ the RBW
- Peak Detector was used
- Trace max hold was used

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

The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets. FCC 24.238(b) and FCC 27.53(h)(3) defines the 26dB emission bandwidth requirement. RSS GEN Section 6.7 defines the 99% emission bandwidth requirement.

FCC and ISED Emission Designators for Band 25 (1930MHz to 1995MHz) Narrow-Band IOT Guard Band				
Ch BW	Radio Channel	4G-LTE: E-TM1.1 with N-TM		
		FCC	ISED	
10MHz	Low	9M91F9W	9M50F9W	
	Mid	9M90F9W	9M50F9W	
	High	9M90F9W	9M49F9W	
15MHz	Low	14M8F9W	14M2F9W	
	Mid	14M8F9W	14M1F9W	
	High	14M8F9W	14M2F9W	
20MHz	Low	19M8F9W	18M7F9W	
	Mid	19M8F9W	18M7F9W	
	High	19M8F9W	18M7F9W	

Note: FCC emission designators are based on 26dB emission bandwidth. ISED emission designators are based on 99% emission bandwidth.

FCC and ISED Emission Designators for Band 66 (2110MHz to 2200MHz) Narrow-Band IOT Guard Band				
Ch BW	Radio Channel	4G-LTE: E-TM1.1 with N-TM		
		FCC	ISED	
10MHz	Low	9M90F9W	9M50F9W	
	Mid	9M90F9W	9M49F9W	
	High	9M90F9W	9M50F9W	
15MHz	Low	14M8F9W	14M1F9W	
	Mid	14M8F9W	14M1F9W	
	High	14M8F9W	14M1F9W	
20MHz	Low	19M8F9W	18M7F9W	
	Mid	19M8F9W	18M7F9W	
	High	19M8F9W	18M7F9W	

Note: FCC emission designators are based on 26dB emission bandwidth. ISED emission designators are based on 99% emission bandwidth.

OCCUPIED BANDWIDTH - GUARD BAND



Tel: 2021.12.14.1 XMI: 2022.02.07.0

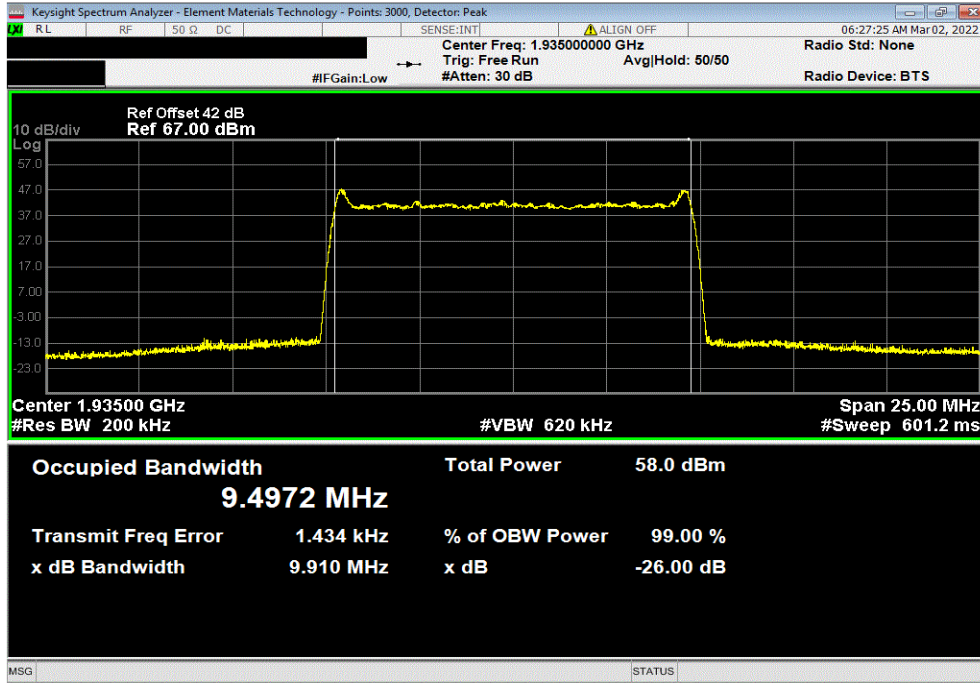
EUT: AHFII Remote Radio Head		Work Order: NOKI0037	
Serial Number: YK214000036		Date: 28-Feb-22	
Customer: Nokia Solutions and Networks		Temperature: 22.6 °C	
Attendees: David Le, John Rattanavong		Humidity: 23.7% RH	
Project: None		Barometric Pres.: 1026 mbar	
Tested by: Mark Baytan		Power: 54 VDC	
Job Site: TX09			
TEST SPECIFICATIONS			
FCC 24E:2022		Test Method	
RSS-133 Issue 6:2013+A1:2018		ANSI C63.26:2015	
		RSS-133 Issue 6:2013+A1:2018	
COMMENTS			
All measurement path losses accounted for in the reference level offset including any attenuators, filters, and DC blocks. Band 25 carriers enabled at maximum power is 80 watts/carrier.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature	
		Value	Value
		99% (MHz)	26dB (MHz)
		Limit	Result
Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band			
Port 1			
10 MHz Bandwidth			
E-TM1.1 with N-TM			
	Low Channel, 1935 MHz	9.50	9.91
	Mid Channel, 1962.5 MHz	9.50	9.90
	High Channel, 1990 MHz	9.49	9.90
		Within Band	Pass
		Within Band	Pass
		Within Band	Pass
15 MHz Bandwidth			
E-TM1.1 with N-TM			
	Low Channel, 1937.5 MHz	14.2	14.8
	Mid Channel, 1962.5 MHz	14.2	14.8
	High Channel, 1987.5 MHz	14.2	14.8
		Within Band	Pass
		Within Band	Pass
		Within Band	Pass
20 MHz Bandwidth			
E-TM1.1 with N-TM			
	Low Channel, 1940 MHz	18.7	19.8
	Mid Channel, 1962.5 MHz	18.7	19.8
	High Channel, 1985 MHz	18.7	19.8
		Within Band	Pass
		Within Band	Pass
		Within Band	Pass

OCCUPIED BANDWIDTH - GUARD BAND

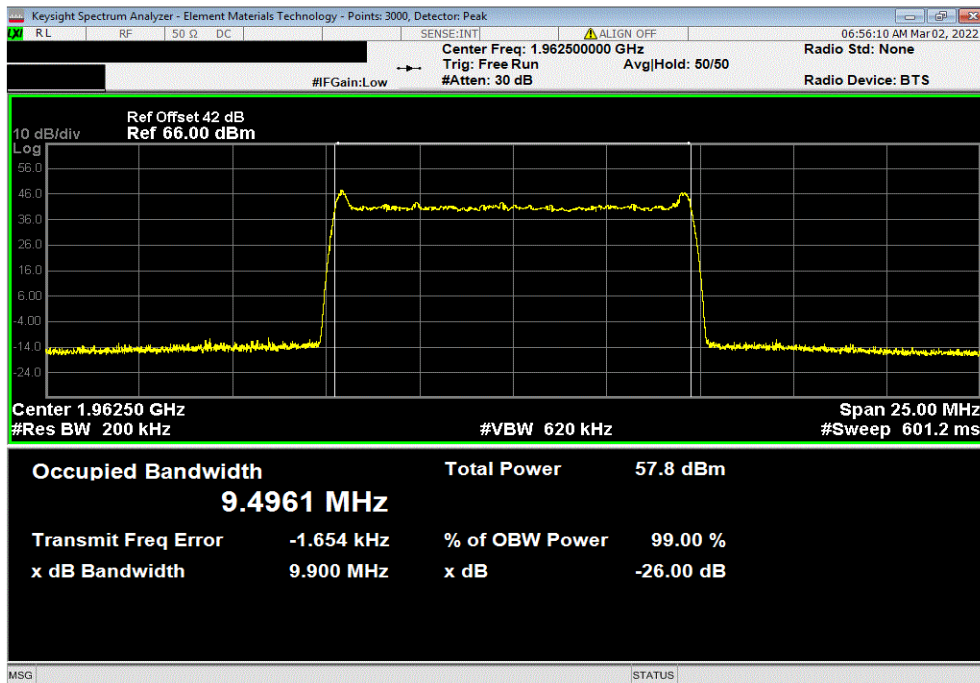


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 10 MHz Bandwidth, E-TM1.1 with N-TM, Low Channel, 1935 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	9.50	9.91	Within Band	Pass		



Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 10 MHz Bandwidth, E-TM1.1 with N-TM, Mid Channel, 1962.5 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	9.50	9.90	Within Band	Pass		

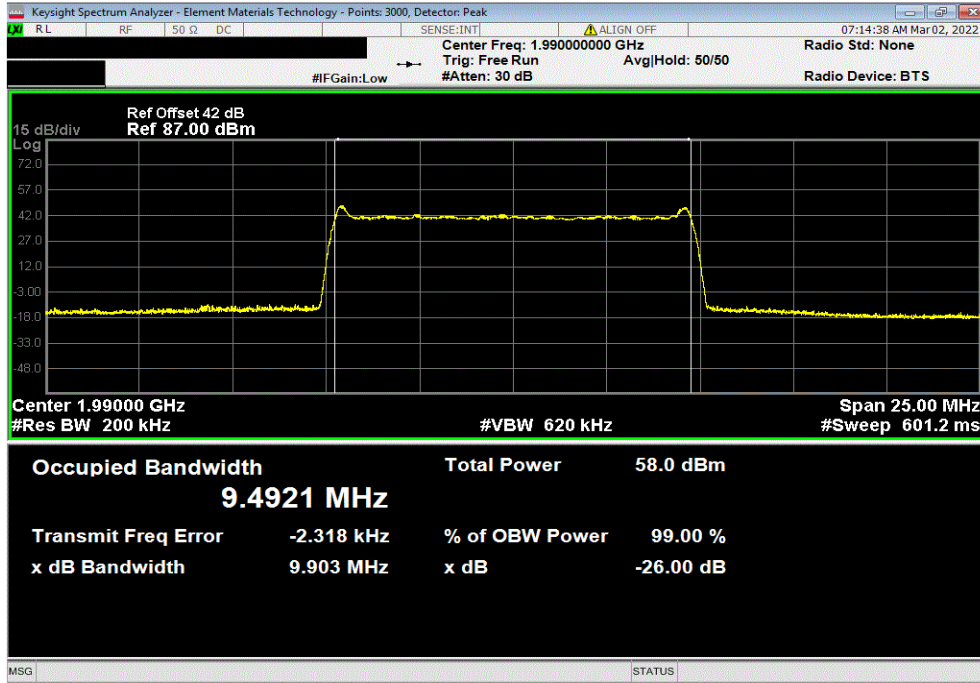


OCCUPIED BANDWIDTH - GUARD BAND

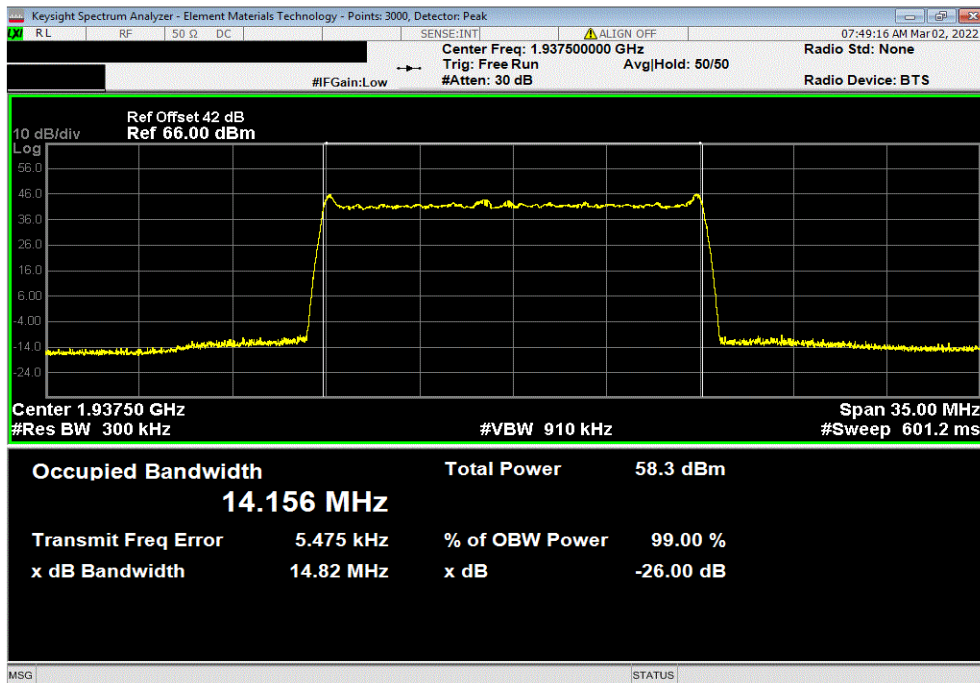


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 10 MHz Bandwidth, E-TM1.1 with N-TM, High Channel, 1990 MHz							
			Value	Value	Limit	Result	
			99% (MHz)	26dB (MHz)			
			9.49	9.90	Within Band	Pass	



Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 15 MHz Bandwidth, E-TM1.1 with N-TM, Low Channel, 1937.5 MHz							
			Value	Value	Limit	Result	
			99% (MHz)	26dB (MHz)			
			14.2	14.8	Within Band	Pass	

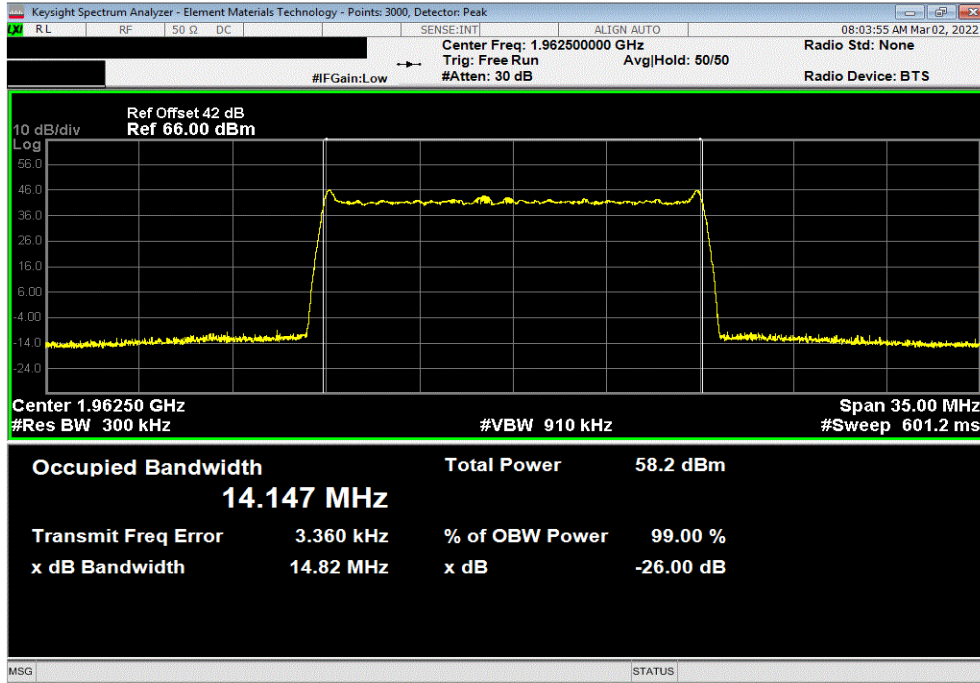


OCCUPIED BANDWIDTH - GUARD BAND

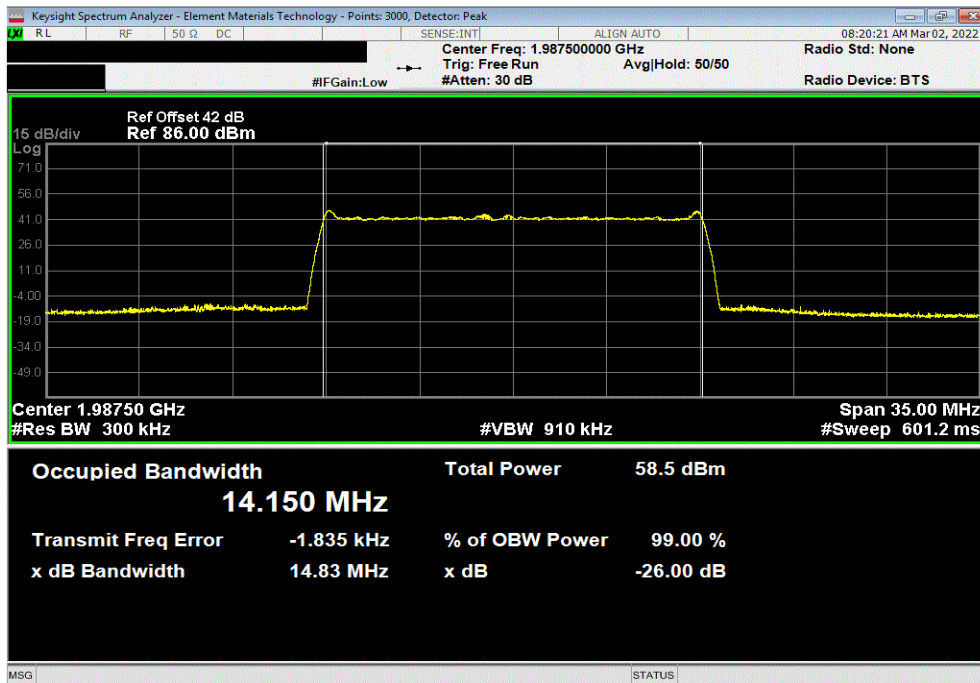


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 15 MHz Bandwidth, E-TM1.1 with N-TM, Mid Channel, 1962.5 MHz							
			Value	Value			
			99% (MHz)	26dB (MHz)	Limit		Result
			14.2	14.8	Within Band		Pass



Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 15 MHz Bandwidth, E-TM1.1 with N-TM, High Channel, 1987.5 MHz							
			Value	Value			
			99% (MHz)	26dB (MHz)	Limit		Result
			14.2	14.8	Within Band		Pass

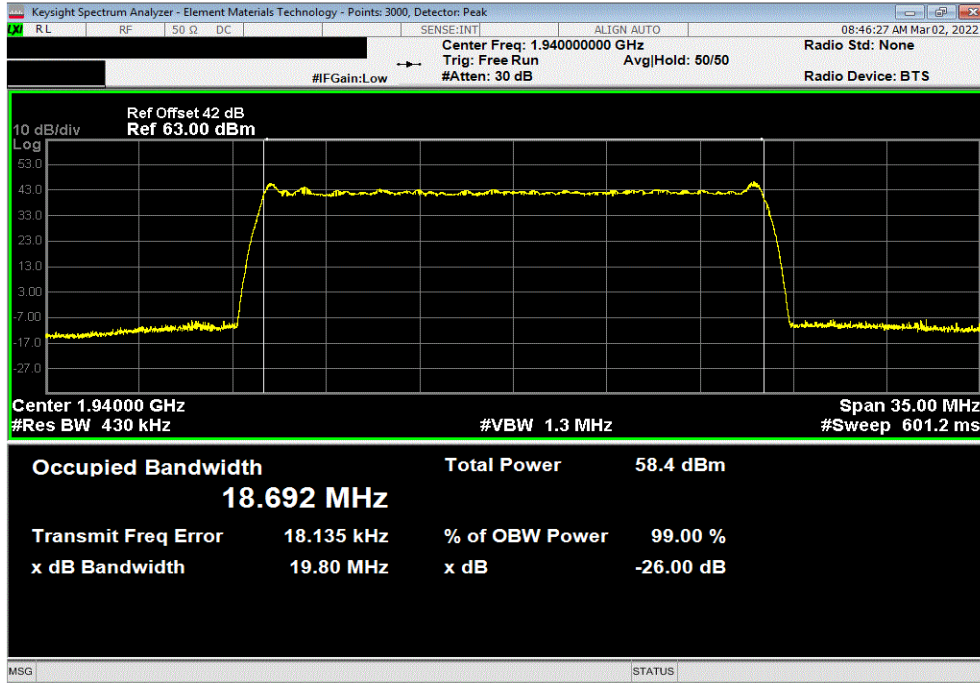


OCCUPIED BANDWIDTH - GUARD BAND

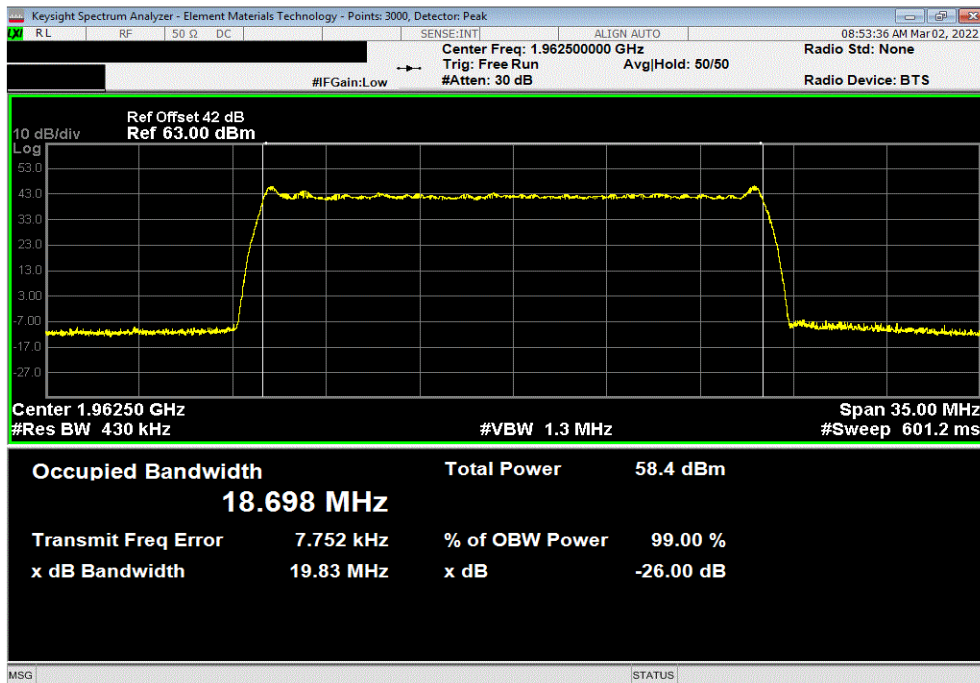


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 20 MHz Bandwidth, E-TM1.1 with N-TM, Low Channel, 1940 MHz							
		Value	Value				
		99% (MHz)	26dB (MHz)	Limit	Result		
		18.7	19.8	Within Band	Pass		



Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 20 MHz Bandwidth, E-TM1.1 with N-TM, Mid Channel, 1962.5 MHz							
		Value	Value				
		99% (MHz)	26dB (MHz)	Limit	Result		
		18.7	19.8	Within Band	Pass		

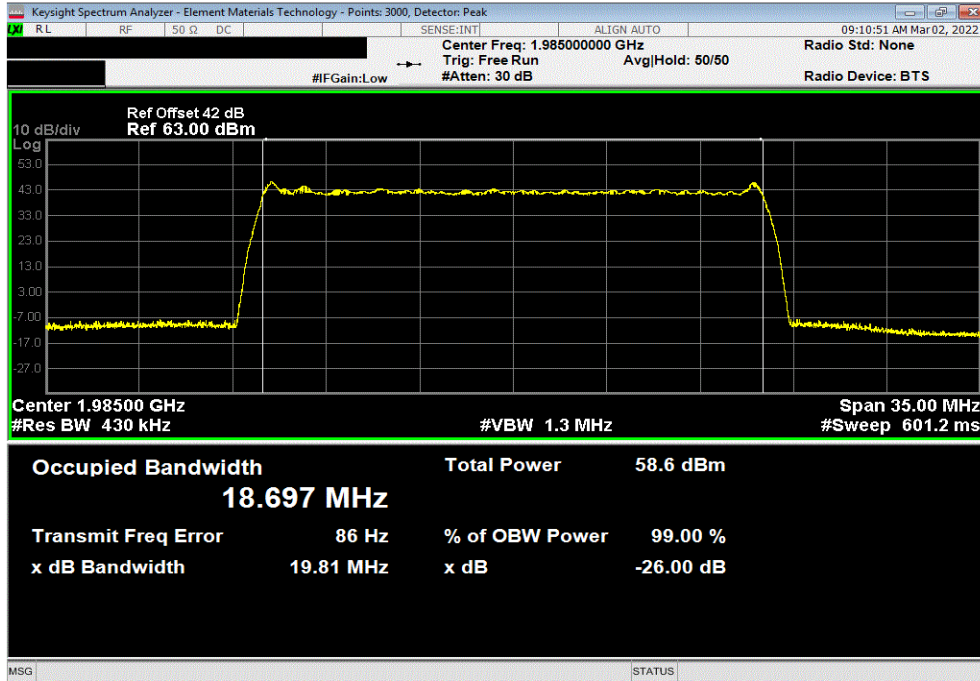


OCCUPIED BANDWIDTH - GUARD BAND



TbTx 2021.12.14.1 XMit 2022.02.07.0

Band 25, 1930 MHz - 1995 MHz, LTE Narrow Band IoT Guard Band, Port 1, 20 MHz Bandwidth, E-TM1.1 with N-TM, High Channel, 1985 MHz			
	Value	Value	
	99% (MHz)	26dB (MHz)	Limit
	18.7	19.8	Within Band
			Result
			Pass



OCCUPIED BANDWIDTH - GUARD BAND



Tel: 2021.12.14.1 XMI: 2022.02.07.0

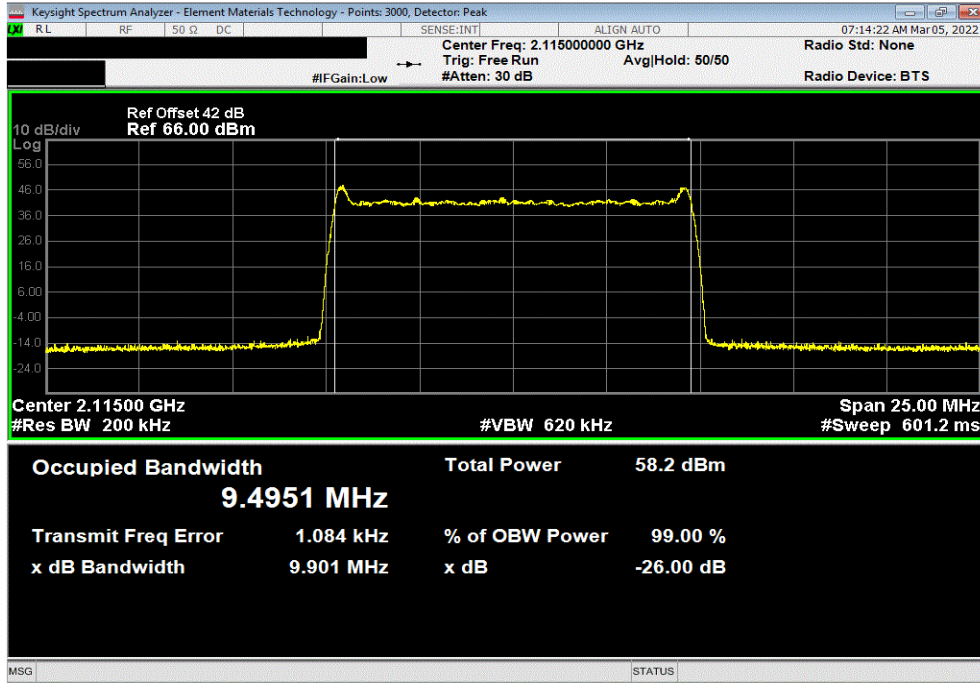
EUT: AHFII Remote Radio Head		Work Order: NOKI0037	
Serial Number: YK214000036		Date: 28-Feb-22	
Customer: Nokia Solutions and Networks		Temperature: 22.6 °C	
Attendees: David Le, John Rattanavong		Humidity: 23.7% RH	
Project: None		Barometric Pres.: 1026 mbar	
Tested by: Mark Baytan	Power: 54 VDC	Job Site: TX09	
TEST SPECIFICATIONS			
FCC 24E:2022		ANSI C63.26:2015	
RSS-139 Issue 3:2015		RSS-139 Issue 3:2015	
RSS-170 Issue 3:2015		RSS-170 Issue 3:2015	
COMMENTS			
All measurement path losses accounted for in the reference level offset including any attenuators, filters, and DC blocks. Band 66 carriers enabled at maximum power is 80 watts/carrier.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature	
		Value	Value
		99% (MHz)	26dB (MHz)
		Limit	Result
Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band			
Port 1			
10 MHz Bandwidth			
E-TM1.1 with N-TM			
	Low Channel, 2115 MHz	9.50	9.90
	Mid Channel, 2155 MHz	9.49	9.90
	High Channel, 2195 MHz	9.50	9.90
		Within Band	Pass
		Within Band	Pass
		Within Band	Pass
15 MHz Bandwidth			
E-TM1.1 with N-TM			
	Low Channel, 2117.5 MHz	14.1	14.8
	Mid Channel, 2155 MHz	14.1	14.8
	High Channel, 2192.5 MHz	14.1	14.8
		Within Band	Pass
		Within Band	Pass
		Within Band	Pass
20 MHz Bandwidth			
E-TM1.1 with N-TM			
	Low Channel, 2120 MHz	18.7	19.8
	Mid Channel, 2155 MHz..	18.7	19.8
	High Channel, 2190 MHz	18.7	19.8
		Within Band	Pass
		Within Band	Pass
		Within Band	Pass

OCCUPIED BANDWIDTH - GUARD BAND

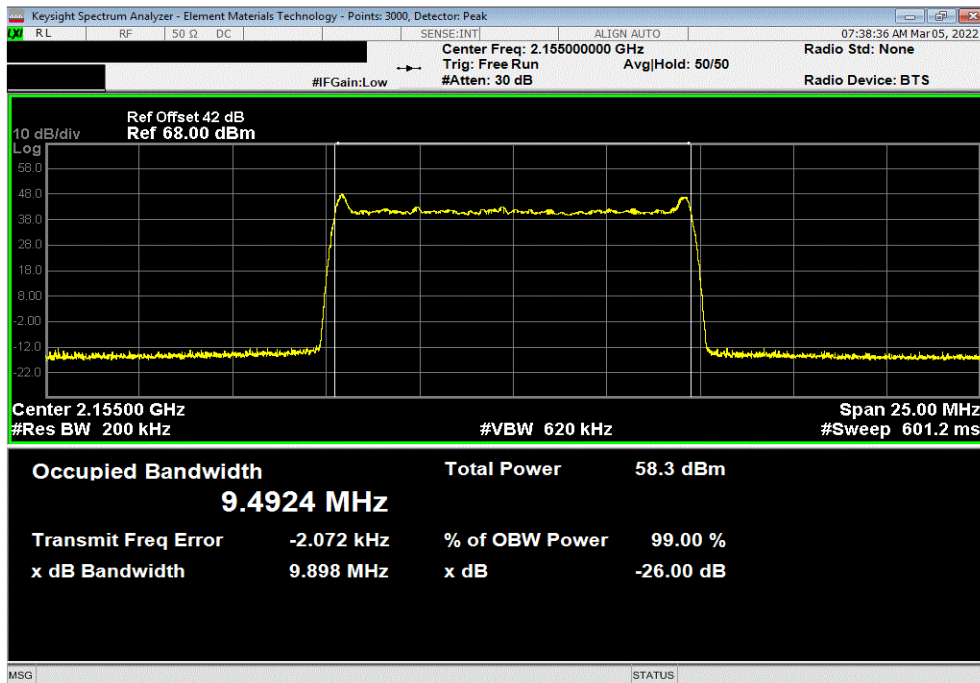


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 10 MHz Bandwidth, E-TM1.1 with N-TM, Low Channel, 2115 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	9.50	9.90	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 10 MHz Bandwidth, E-TM1.1 with N-TM, Mid Channel, 2155 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	9.49	9.90	Within Band	Pass		

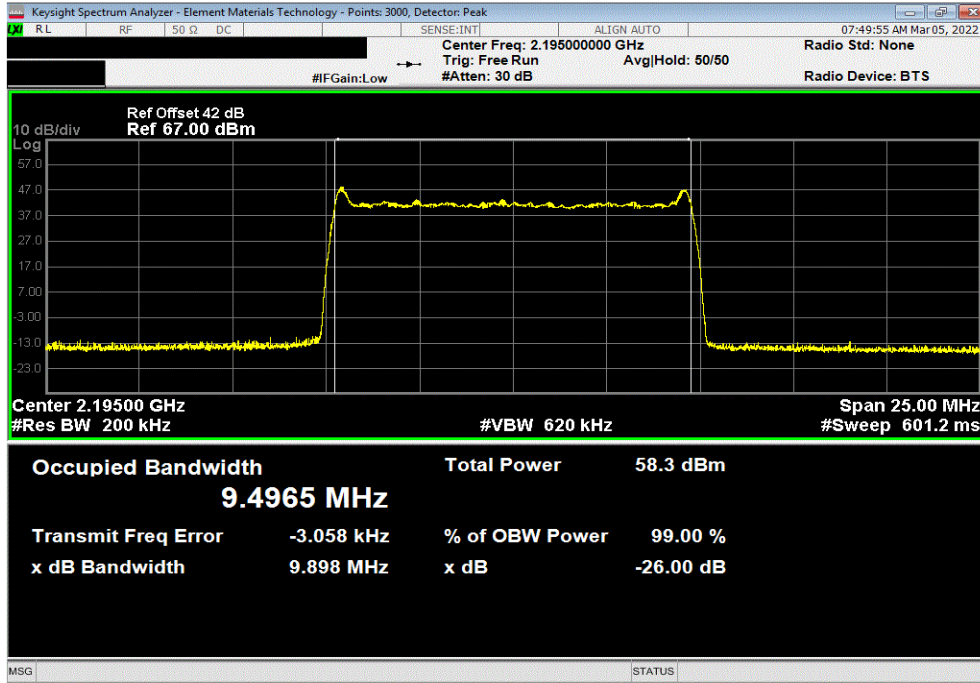


OCCUPIED BANDWIDTH - GUARD BAND

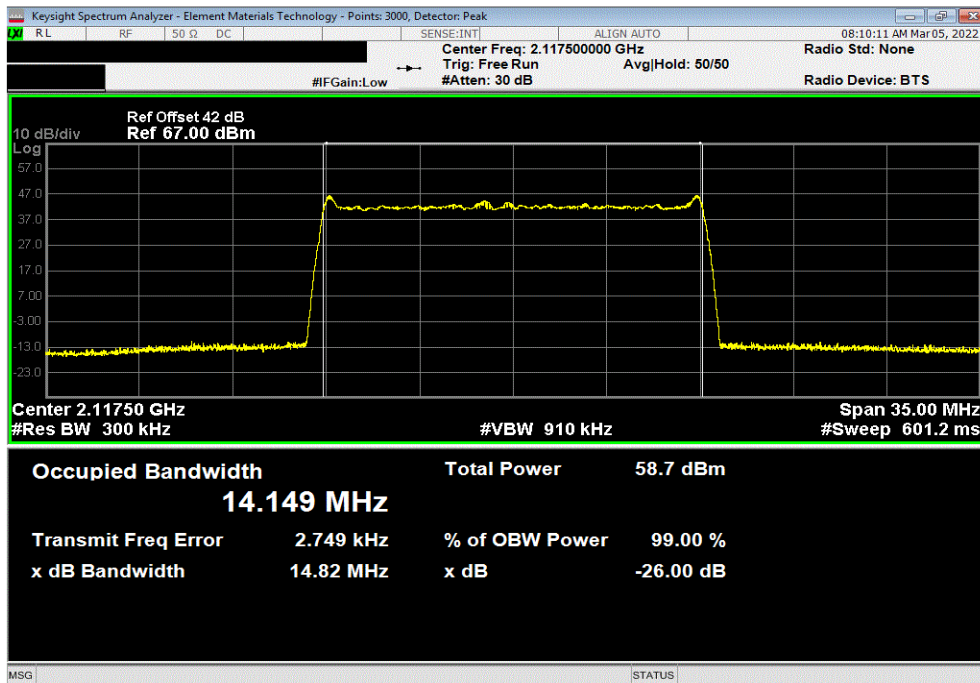


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 10 MHz Bandwidth, E-TM1.1 with N-TM, High Channel, 2195 MHz							
			Value	Value	Limit	Result	
			99% (MHz)	26dB (MHz)			
			9.50	9.90	Within Band	Pass	



Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 15 MHz Bandwidth, E-TM1.1 with N-TM, Low Channel, 2117.5 MHz							
			Value	Value	Limit	Result	
			99% (MHz)	26dB (MHz)			
			14.1	14.8	Within Band	Pass	

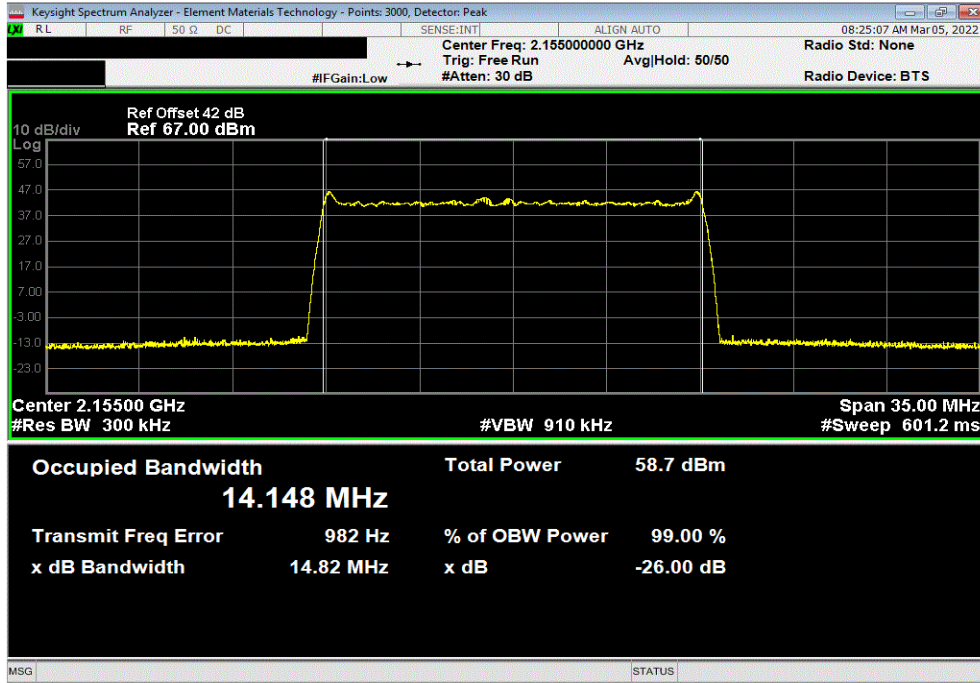


OCCUPIED BANDWIDTH - GUARD BAND

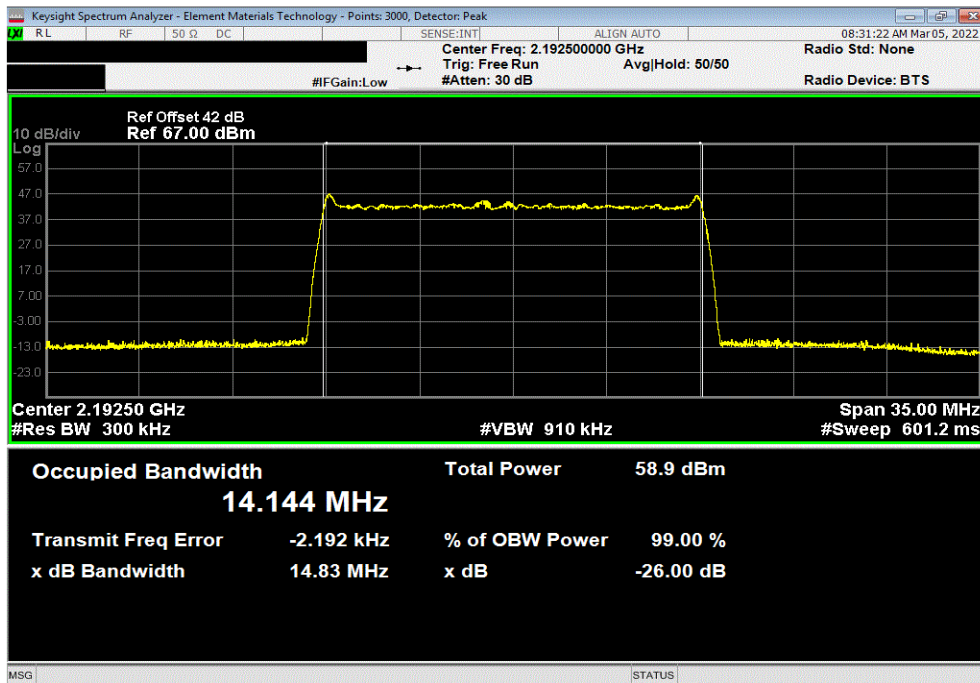


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 15 MHz Bandwidth, E-TM1.1 with N-TM, Mid Channel, 2155 MHz.							
			Value	Value	Limit	Result	
			99% (MHz)	26dB (MHz)			
			14.1	14.8	Within Band	Pass	



Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 15 MHz Bandwidth, E-TM1.1 with N-TM, High Channel, 2192.5 MHz							
			Value	Value	Limit	Result	
			99% (MHz)	26dB (MHz)			
			14.1	14.8	Within Band	Pass	

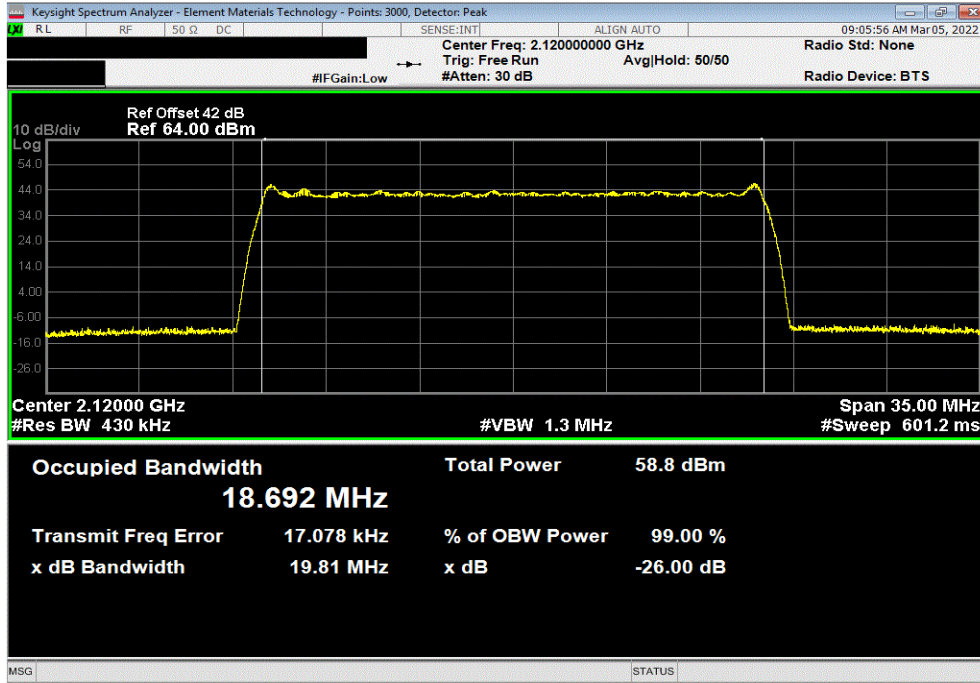


OCCUPIED BANDWIDTH - GUARD BAND

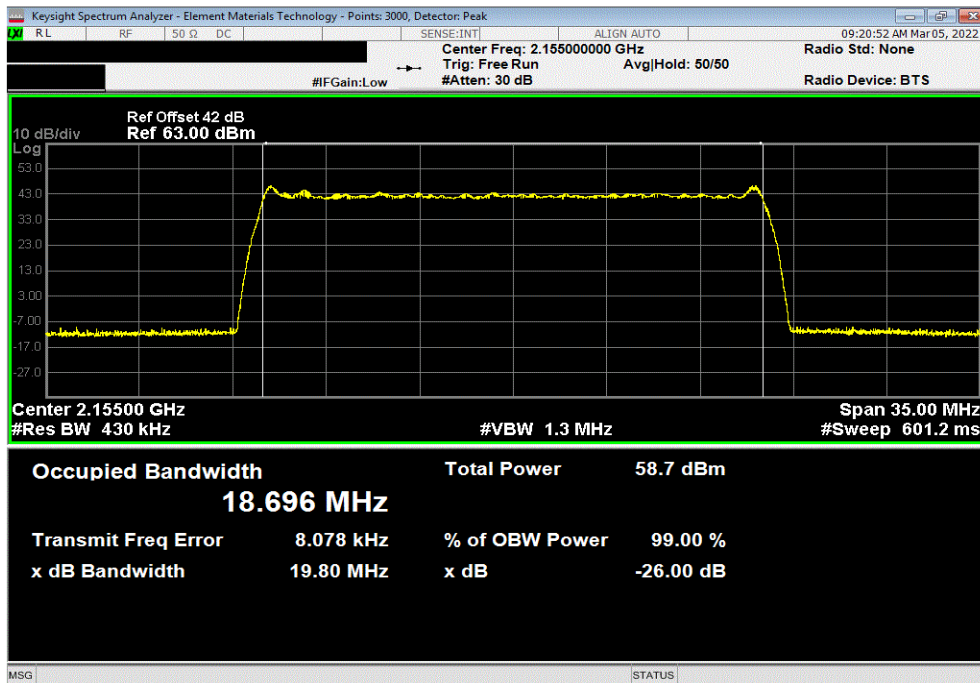


TbTx 2021.12.14.1 XMI 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 20 MHz Bandwidth, E-TM1.1 with N-TM, Low Channel, 2120 MHz							
		Value	Value				
		99% (MHz)	26dB (MHz)	Limit	Result		
		18.7	19.8	Within Band	Pass		



Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 20 MHz Bandwidth, E-TM1.1 with N-TM, Mid Channel, 2155 MHz..							
		Value	Value				
		99% (MHz)	26dB (MHz)	Limit	Result		
		18.7	19.8	Within Band	Pass		



OCCUPIED BANDWIDTH - GUARD BAND



TbTx 2021.12.14.1 XMit 2022.02.07.0

Band 66, 2110 MHz - 2200 MHz, LTE Narrow Band IoT Guard Band, Port 1, 20 MHz Bandwidth, E-TM1.1 with N-TM, High Channel, 2190 MHz						
	Value	Value	Limit	Result		
	99% (MHz)	26dB (MHz)				
	18.7	19.8	Within Band	Pass		

