

SPURIOUS CONDUCTED EMISSIONS



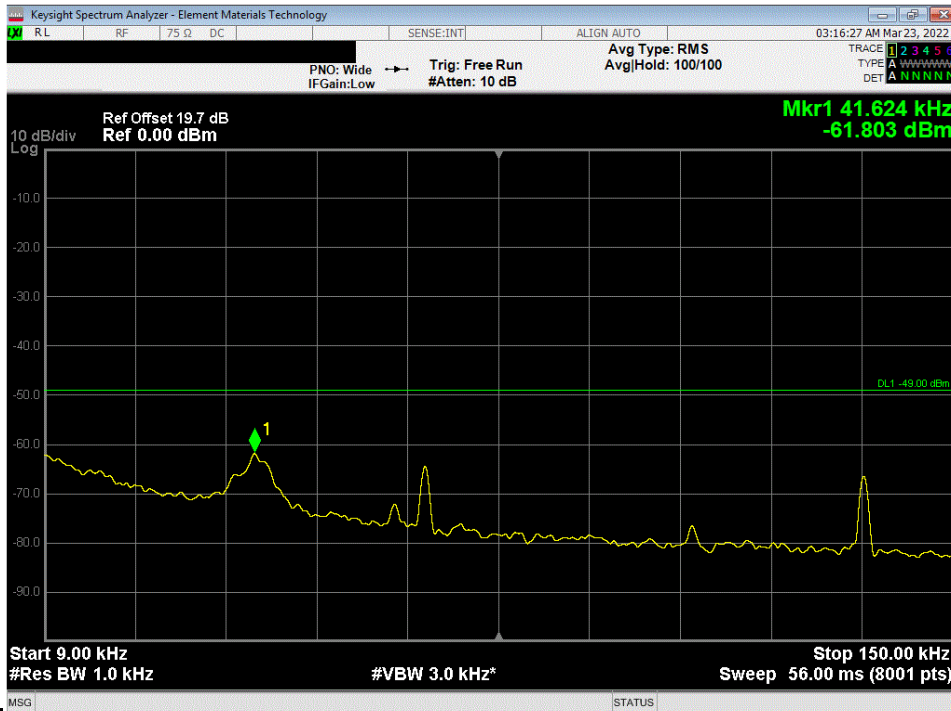
ThuTV 2022.03.14.0 XMI 2022.02.07.0

EUT: AHFII Remote Radio Head		Work Order: NOKI0038	
Serial Number: YK214000035		Date: 23-Mar-22	
Customer: Nokia of America Corporation		Temperature: 20.6 °C	
Attendees: Mitchell Hill		Humidity: 46.5% RH	
Project: None		Barometric Pres.: 1018 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-170 Issue 3:2015		RSS-139 Issue 3:2015, RSS-170 Issue 3:2015	
FCC 24E:2022		ANSI C63.26:2015	
RSS-133 Issue 6:2013+A1:2018		RSS-133 Issue 6:2013+A1:2018	
COMMENTS			
All measurement path losses were accounted for in the reference level ofset including any attenuators, filters and DC blocks. The Band n66 carrier was enabled at maximum power (80 watts/carrier). The Band n25 carrier was enabled on the middle channel (1962.5MHz) at 40 watts with the same channel bandwidth and modulation type as the Band n66 carrier. The port power was set at the maximum level of 120 Watts [Band 25 carrier (40W) and Band 66 carrier (80W)].			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1,2,3,4	Signature 	
		Frequency Range	Value (dBm) Limit (dBm) Result
Band n66, 2110 MHz - 2200 MHz, 5G NR			
Port 1			
5 MHz Bandwidth			
QPSK Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-61.8 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-53.5 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-24.7 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-25.1 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.1 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.7 -19 Pass
16-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-61.5 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-54.3 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-25.8 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-24.9 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.2 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.7 -19 Pass
64-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-61.8 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-53.4 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-23.7 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-25.4 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.0 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.8 -19 Pass
256-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-61.4 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-53.8 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-23.7 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-25.1 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-37.9 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.8 -19 Pass
10 MHz Bandwidth			
256-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-62.2 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-53.2 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-25.2 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-24.7 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.0 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.7 -19 Pass
15 MHz Bandwidth			
256-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-62.2 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-53.2 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-25.2 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-24.3 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.2 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.6 -19 Pass
20 MHz Bandwidth			
256-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-61.5 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-53.2 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-25.3 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-23.6 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.0 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.7 -19 Pass
30 MHz Bandwidth			
256-QAM Modulation			
	Mid Channel, 2155 MHz	9 kHz - 150 kHz	-61.6 -49 Pass
	Mid Channel, 2155 MHz	150 kHz - 20 MHz	-54.3 -39 Pass
	Mid Channel, 2155 MHz	20 MHz - 3.5 GHz	-25.4 -19 Pass
	Mid Channel, 2155 MHz	1.9 GHz - 2.2 GHz	-22.5 -19 Pass
	Mid Channel, 2155 MHz	3.5 GHz - 13 GHz	-38.0 -19 Pass
	Mid Channel, 2155 MHz	13 GHz - 22 GHz	-25.9 -19 Pass

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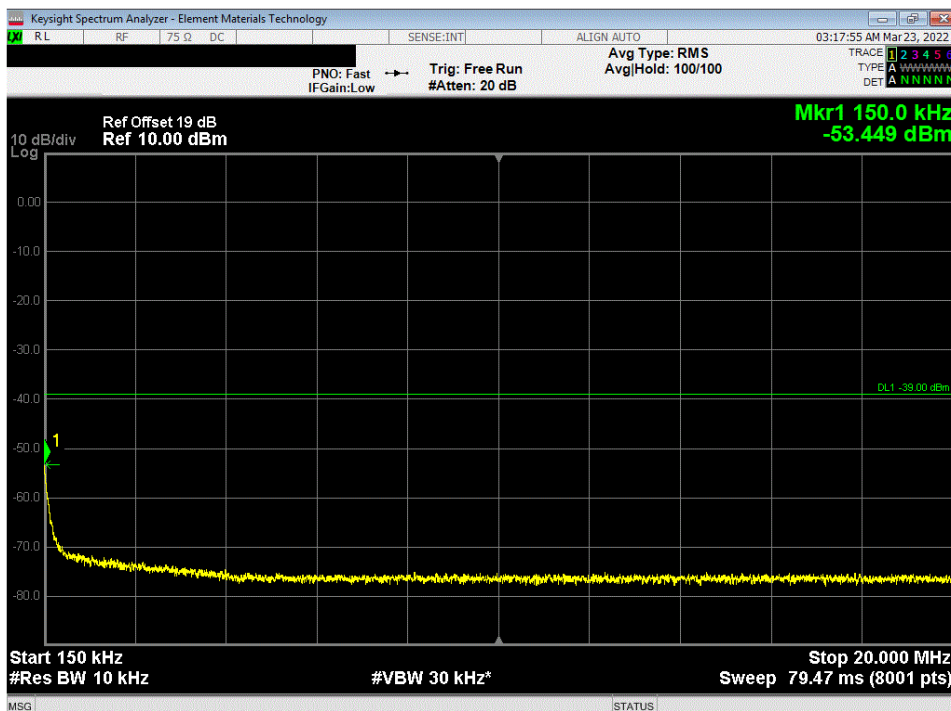
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz	-61.8	-49	Pass



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz

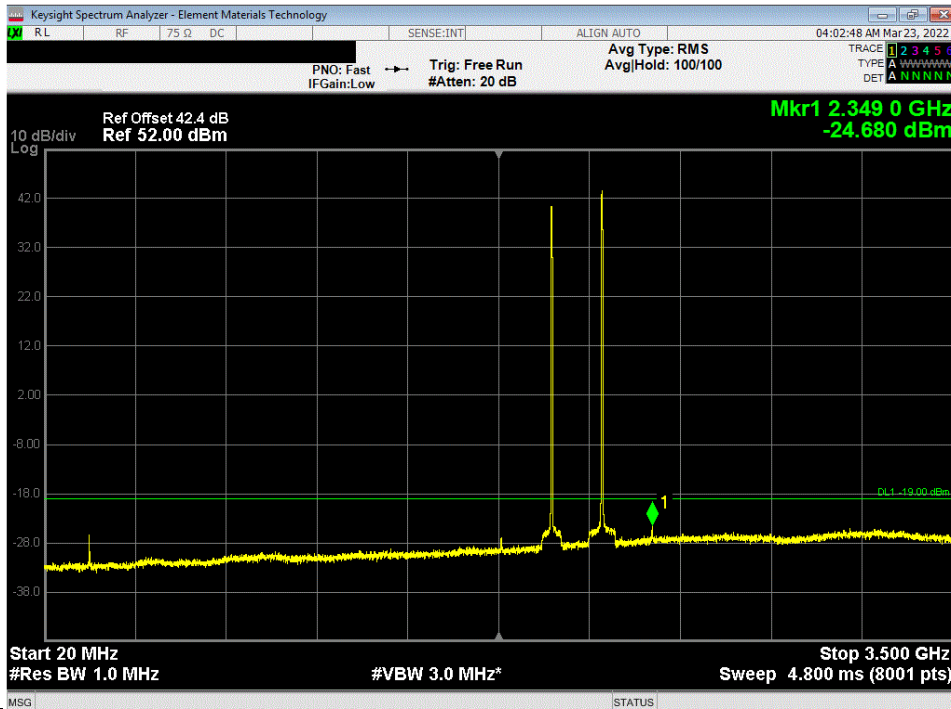
Frequency Range	Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	-53.45	-39	Pass



SPURIOUS CONDUCTED EMISSIONS

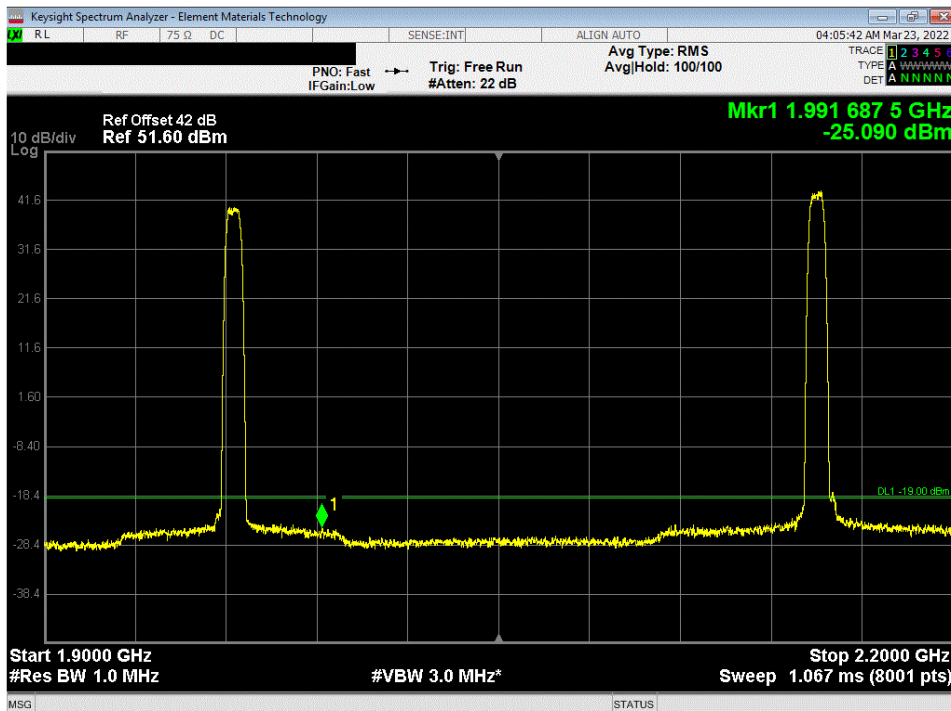
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3.5 GHz	-24.68	-19	Pass



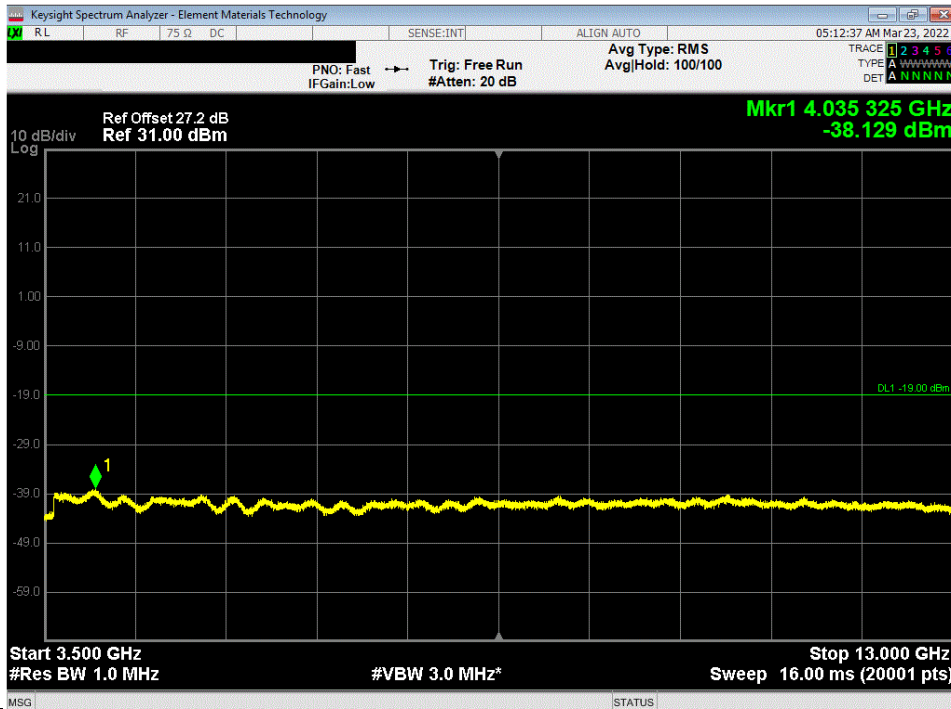
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-25.09	-19	Pass

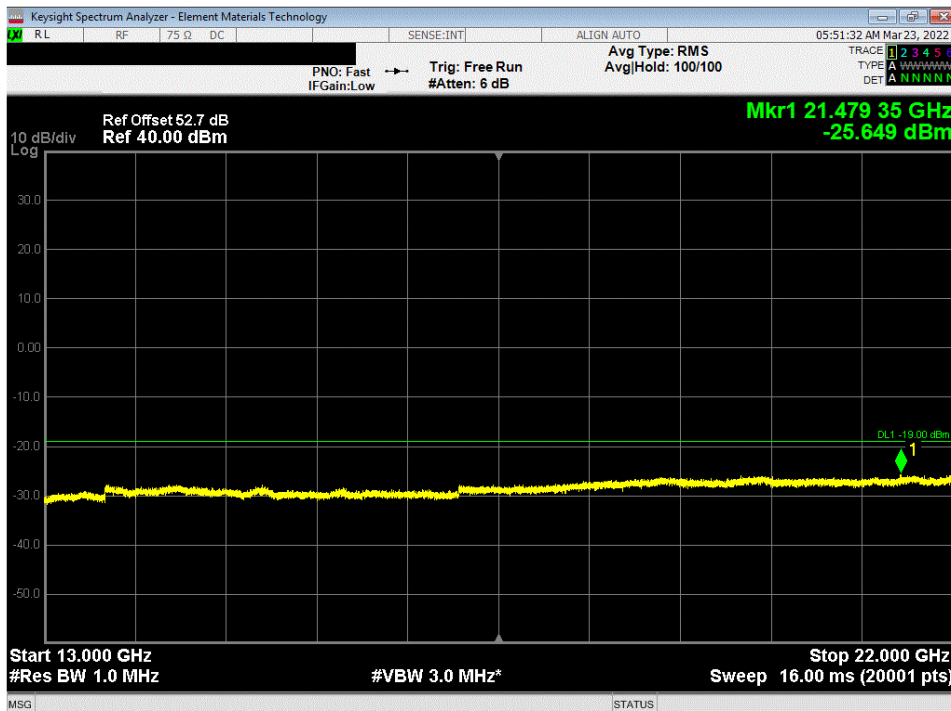


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz				
Frequency Range		Value (dBm)	Limit (dBm)	Result
3.5 GHz - 13 GHz		-38.13	-19	Pass



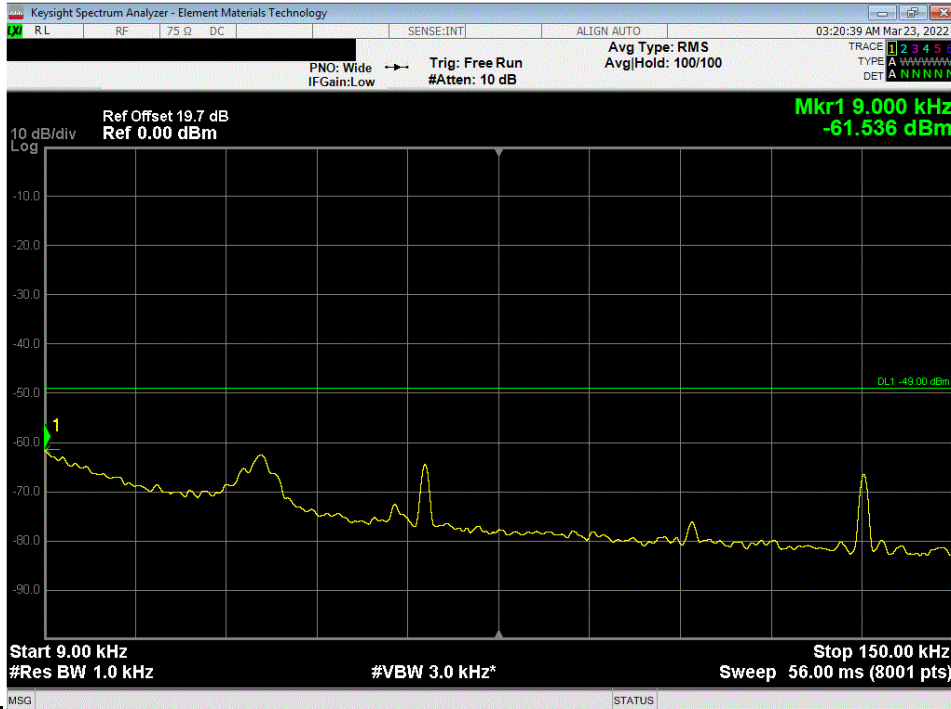
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz				
Frequency Range		Value (dBm)	Limit (dBm)	Result
13 GHz - 22 GHz		-25.65	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

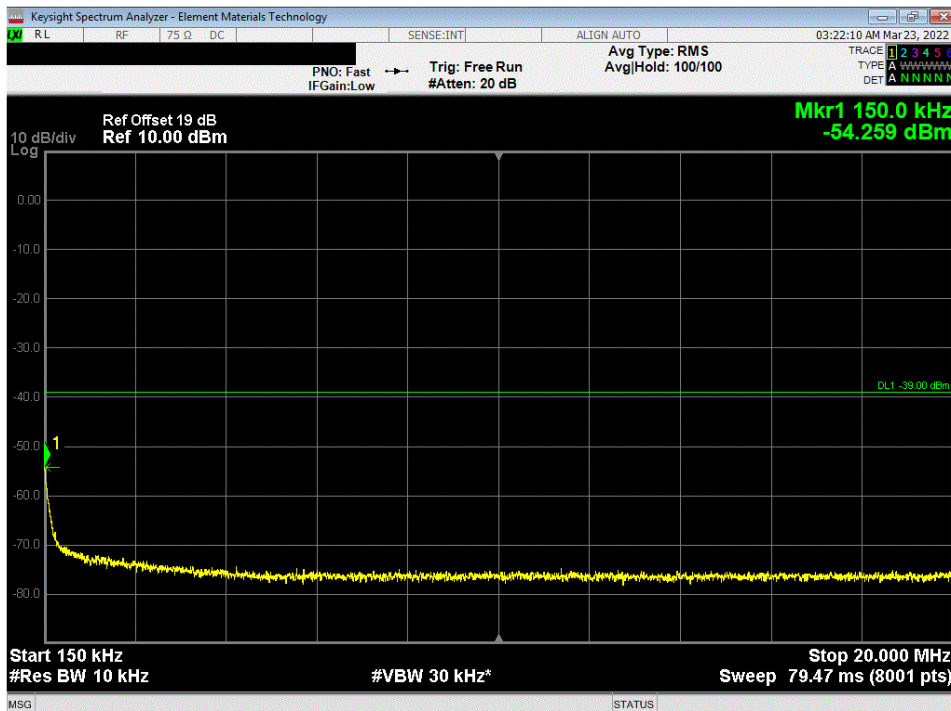
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz	-61.54	-49	Pass



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz

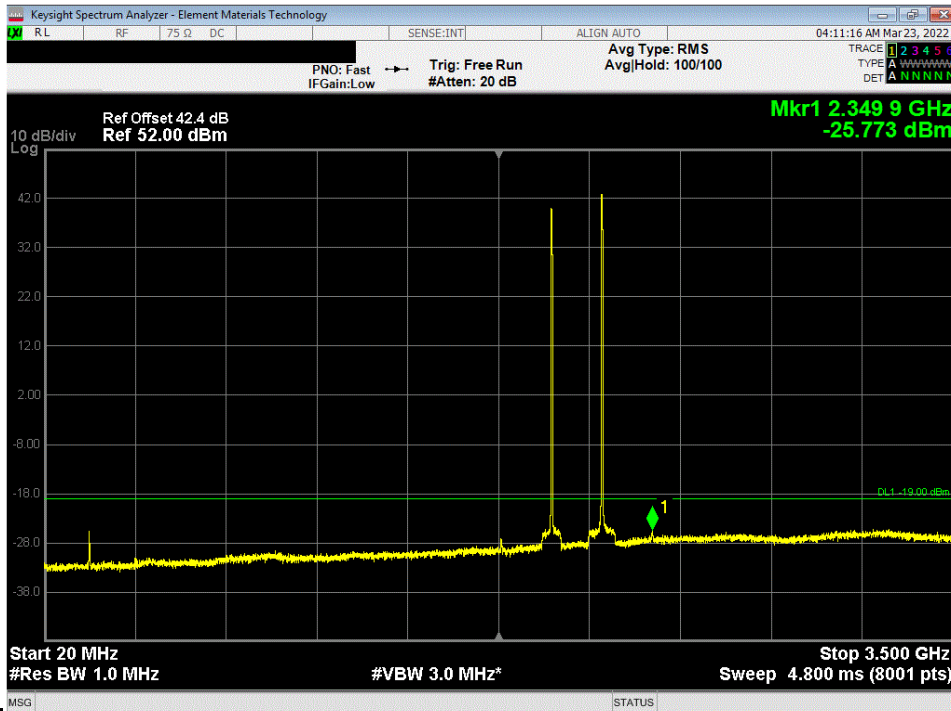
Frequency Range	Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	-54.26	-39	Pass



SPURIOUS CONDUCTED EMISSIONS

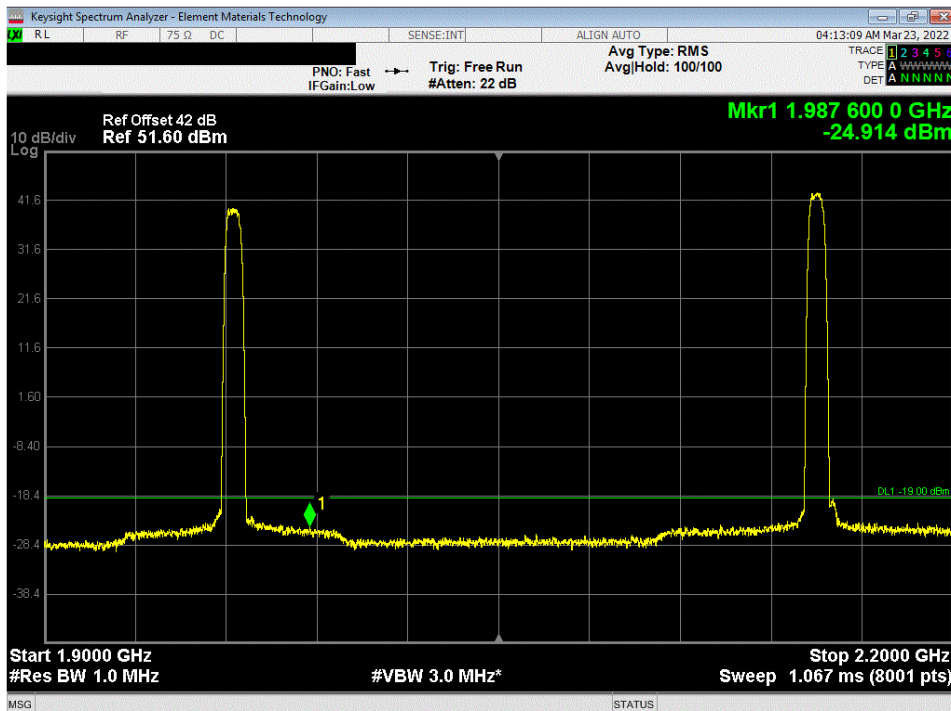
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3.5 GHz	-25.77	-19	Pass



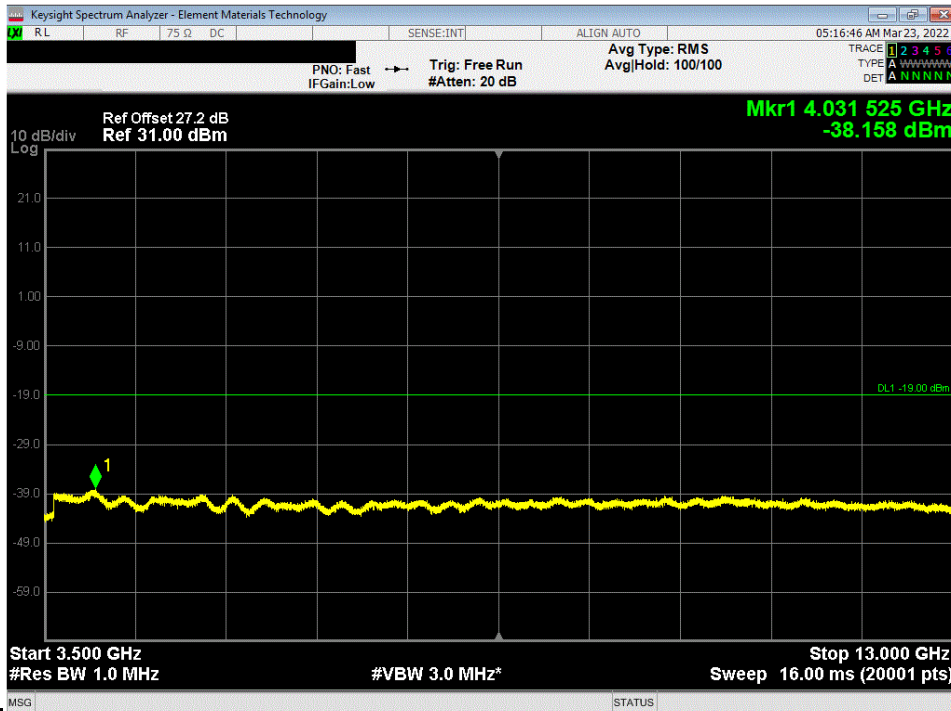
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-24.91	-19	Pass

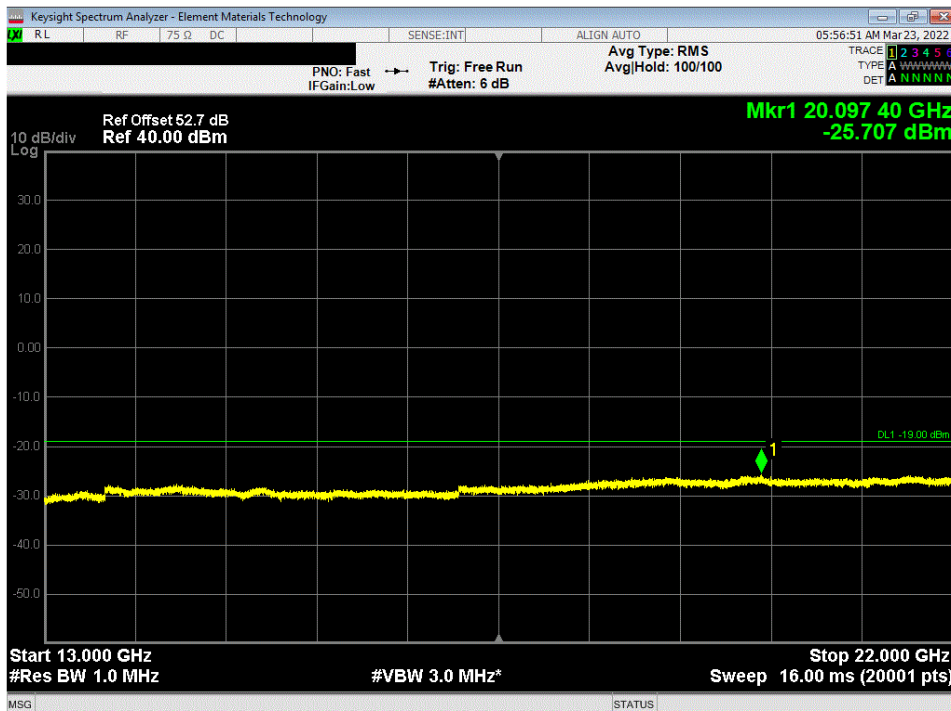


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
3.5 GHz - 13 GHz	-38.16	-19	Pass	



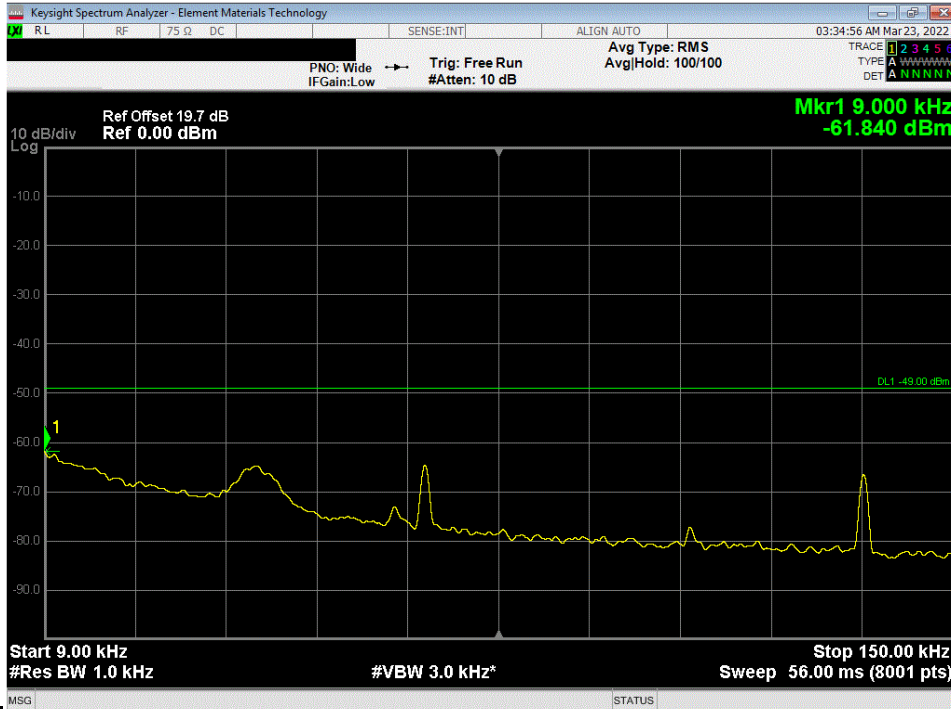
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
13 GHz - 22 GHz	-25.71	-19	Pass	



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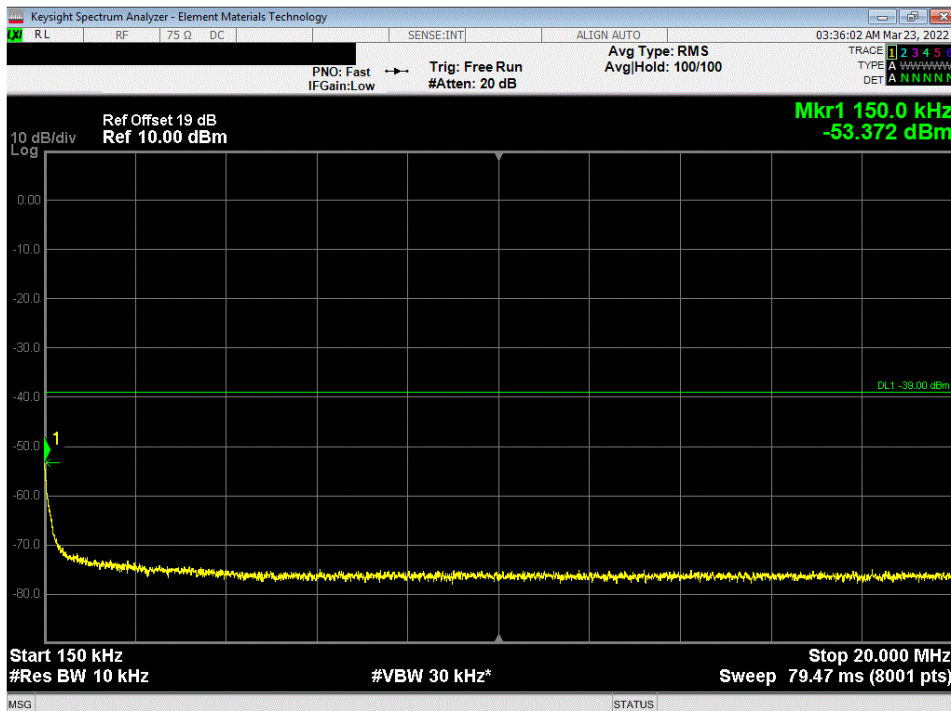
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz	-61.84	-49	Pass



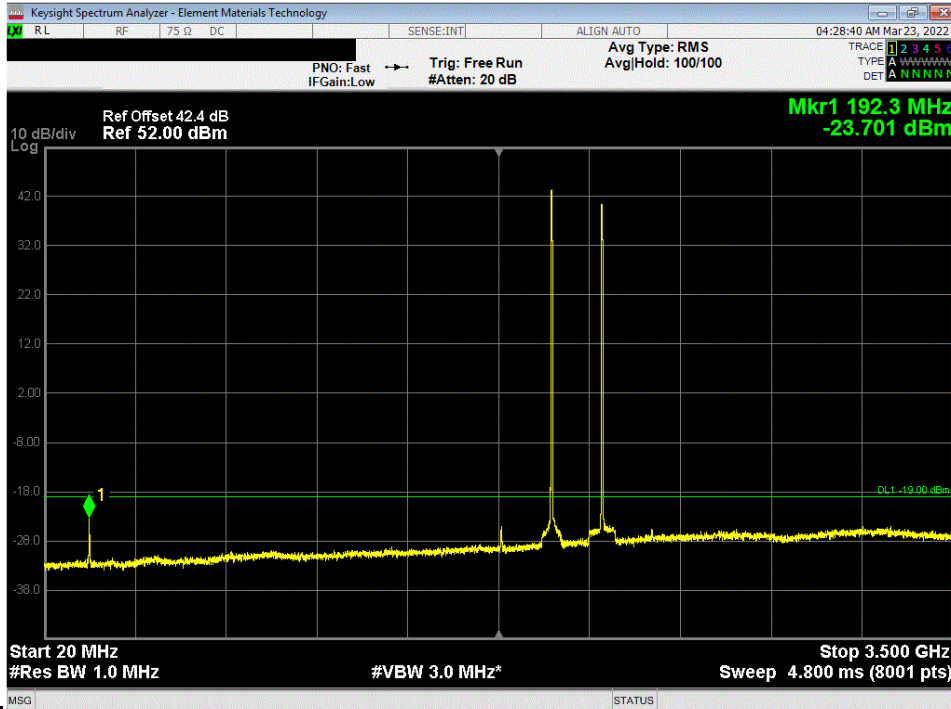
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	-53.37	-39	Pass

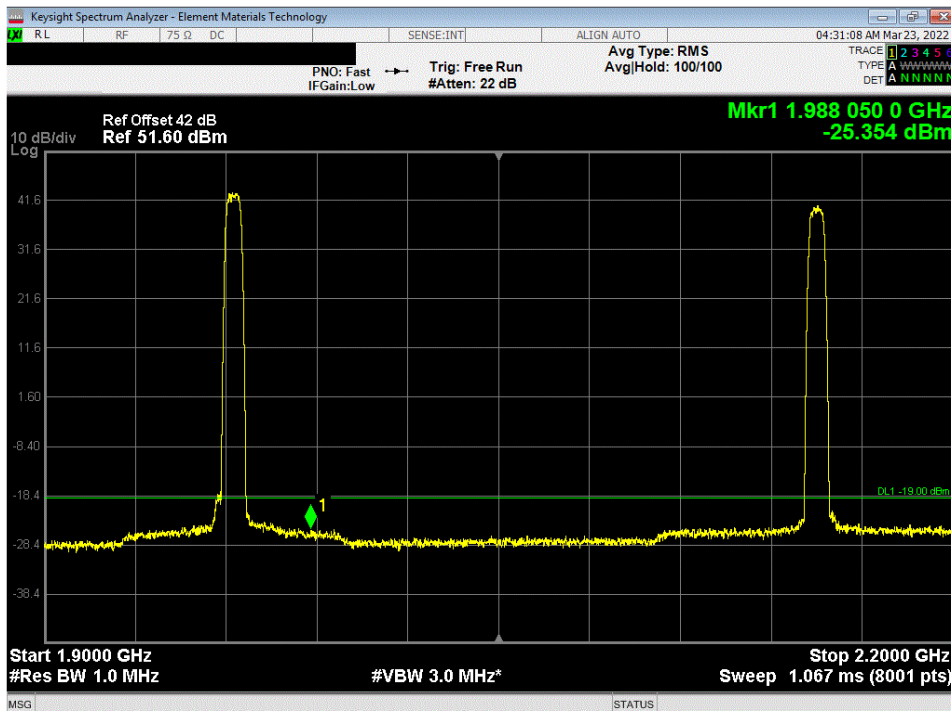


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
20 MHz - 3.5 GHz	-23.7	-19	Pass	

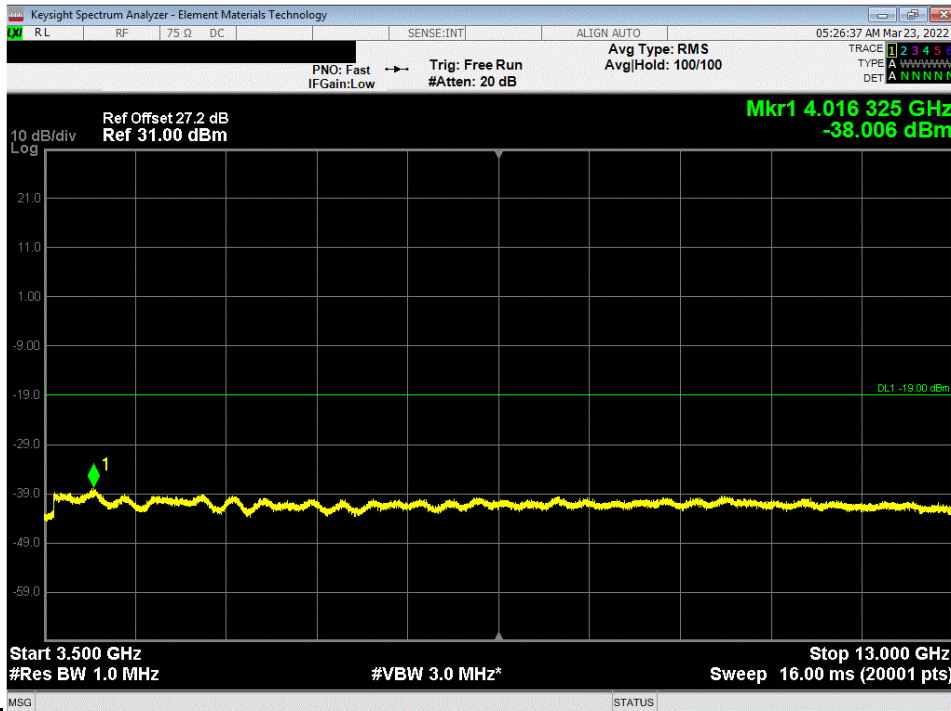


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
1.9 GHz - 2.2 GHz	-25.35	-19	Pass	

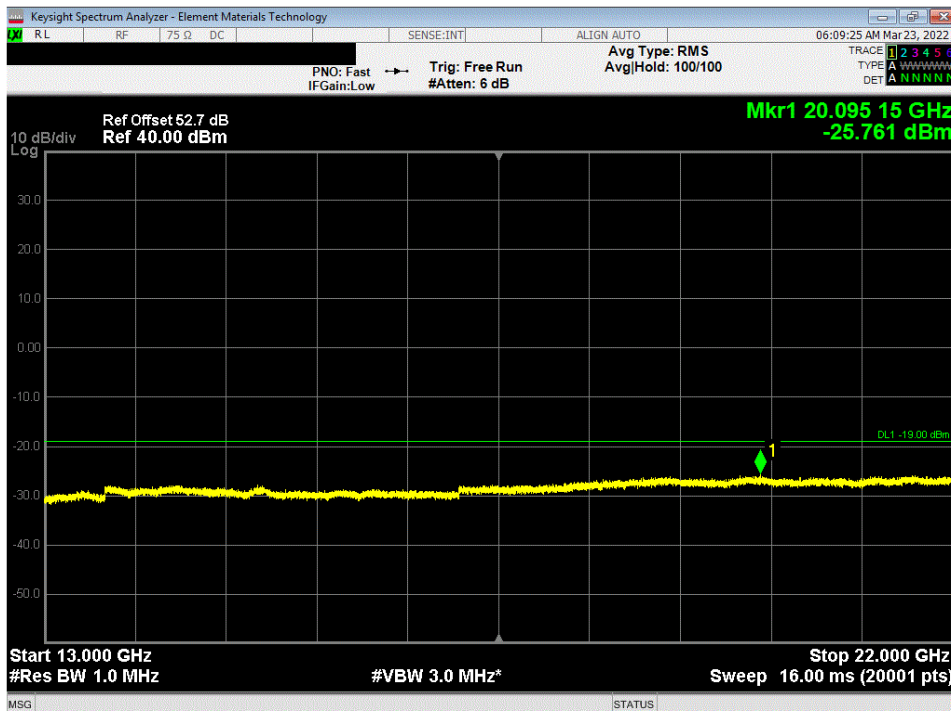


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
3.5 GHz - 13 GHz	-38.01	-19	Pass	

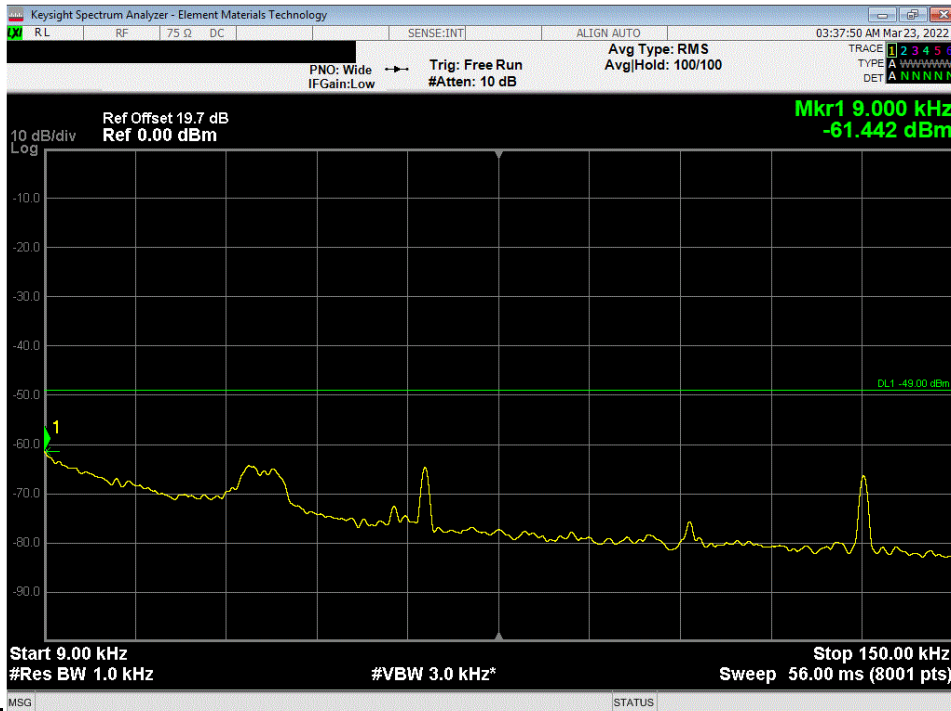


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
13 GHz - 22 GHz	-25.76	-19	Pass	

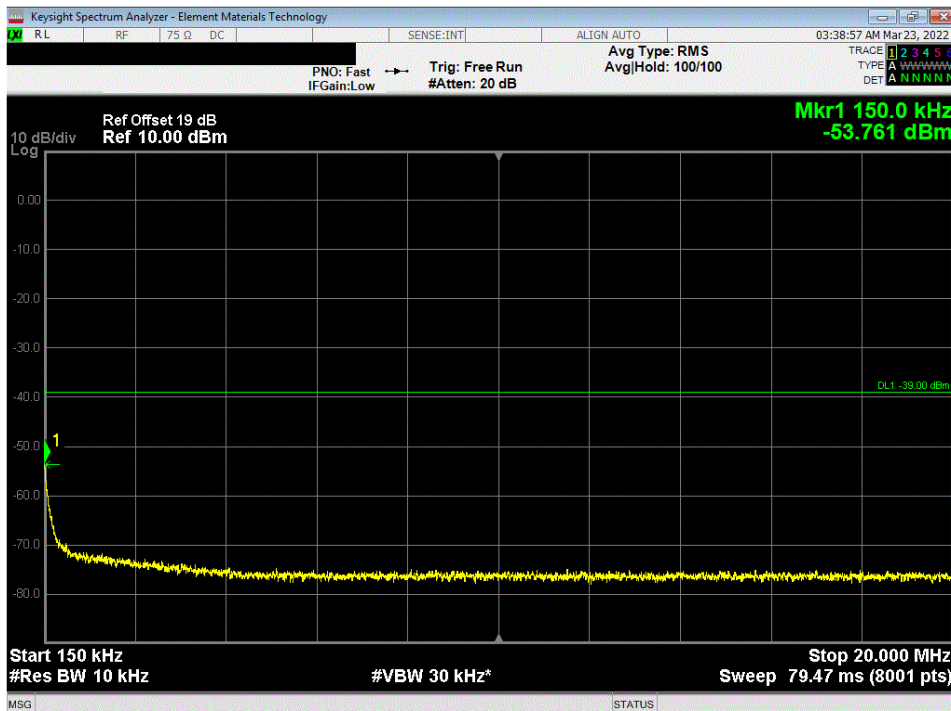


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
9 kHz - 150 kHz		-61.44	-49	Pass	

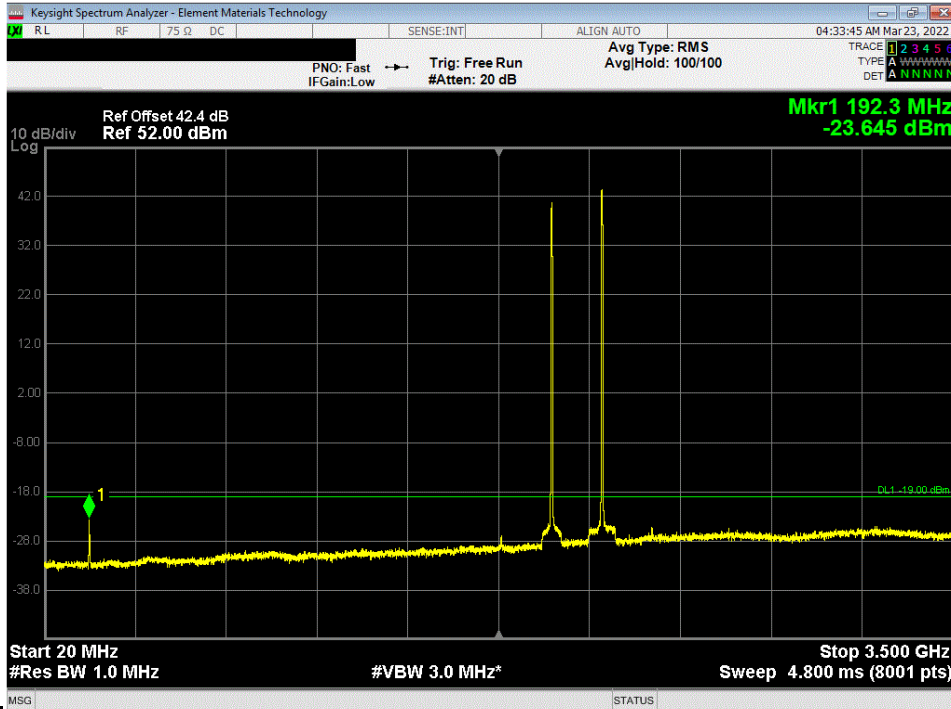


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
150 kHz - 20 MHz		-53.76	-39	Pass	

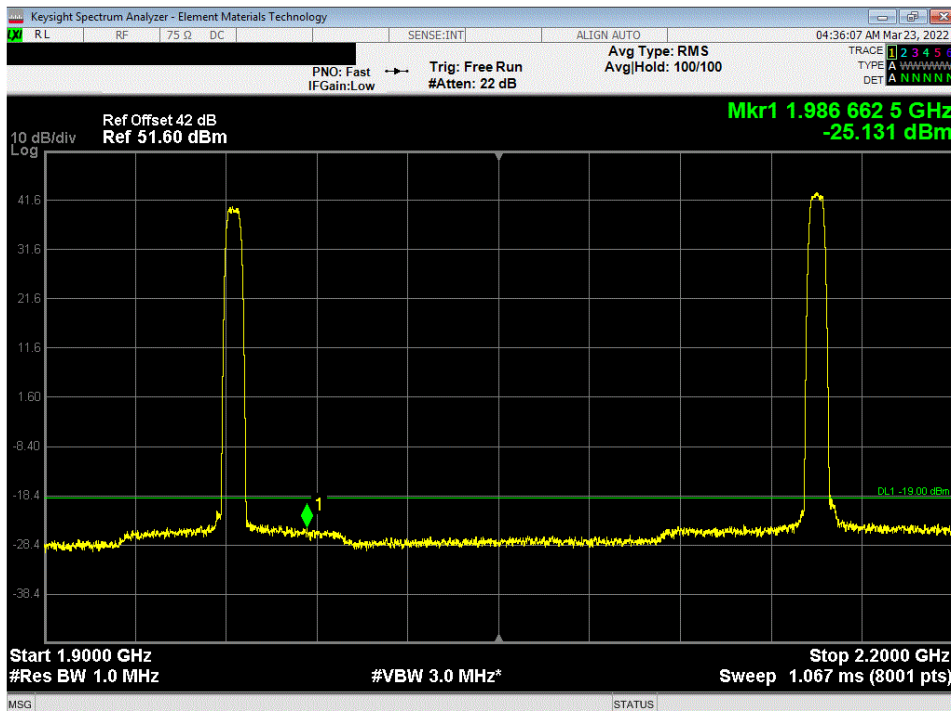


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
20 MHz - 3.5 GHz	-23.65	-19	Pass	

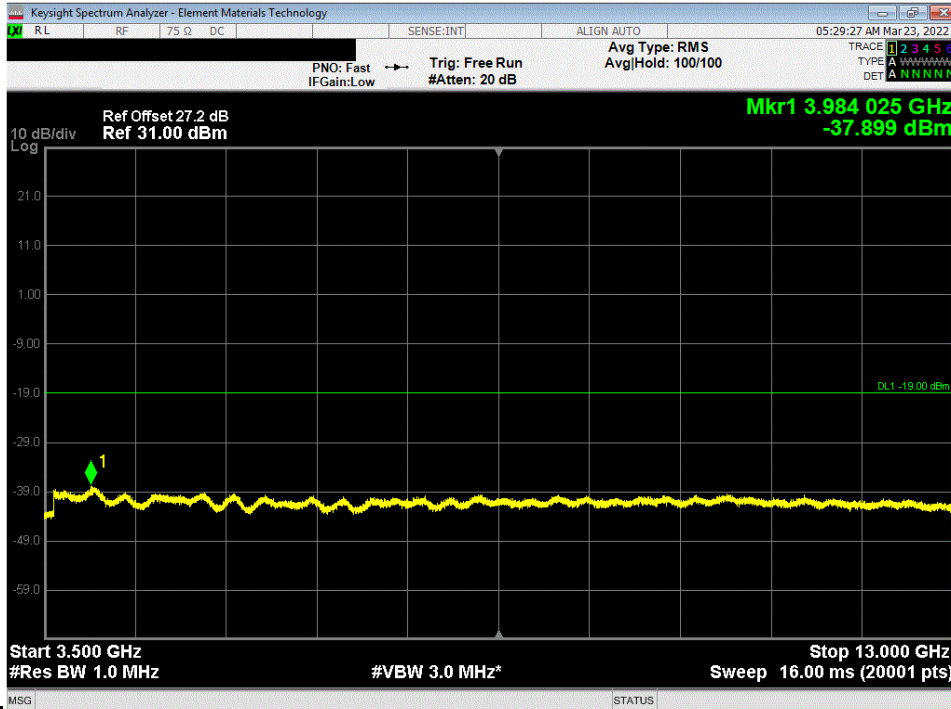


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
1.9 GHz - 2.2 GHz	-25.13	-19	Pass	

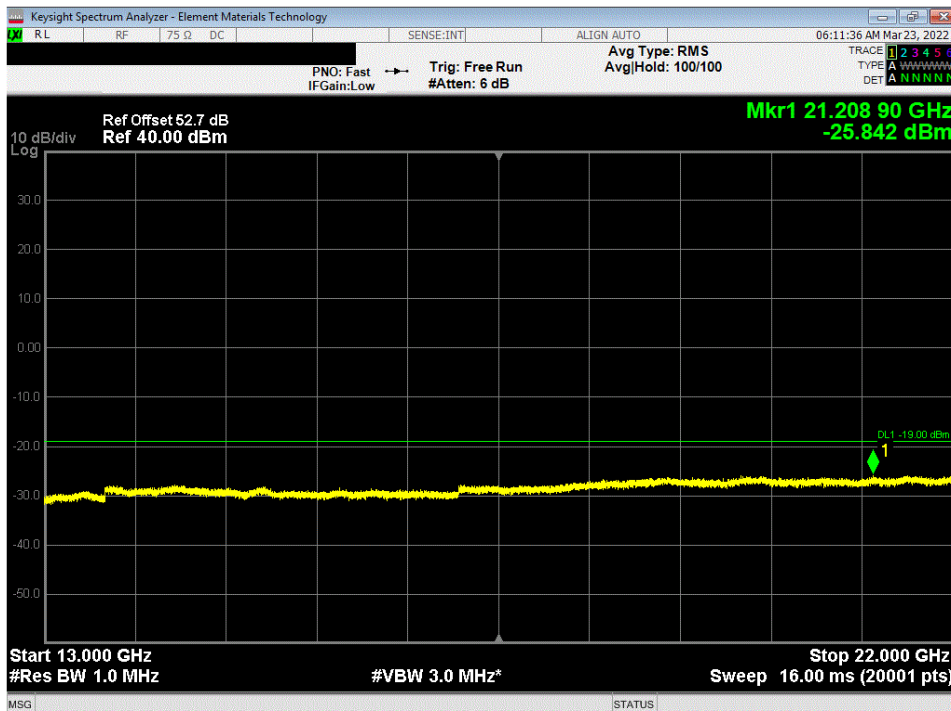


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
3.5 GHz - 13 GHz	-37.9	-19	Pass	

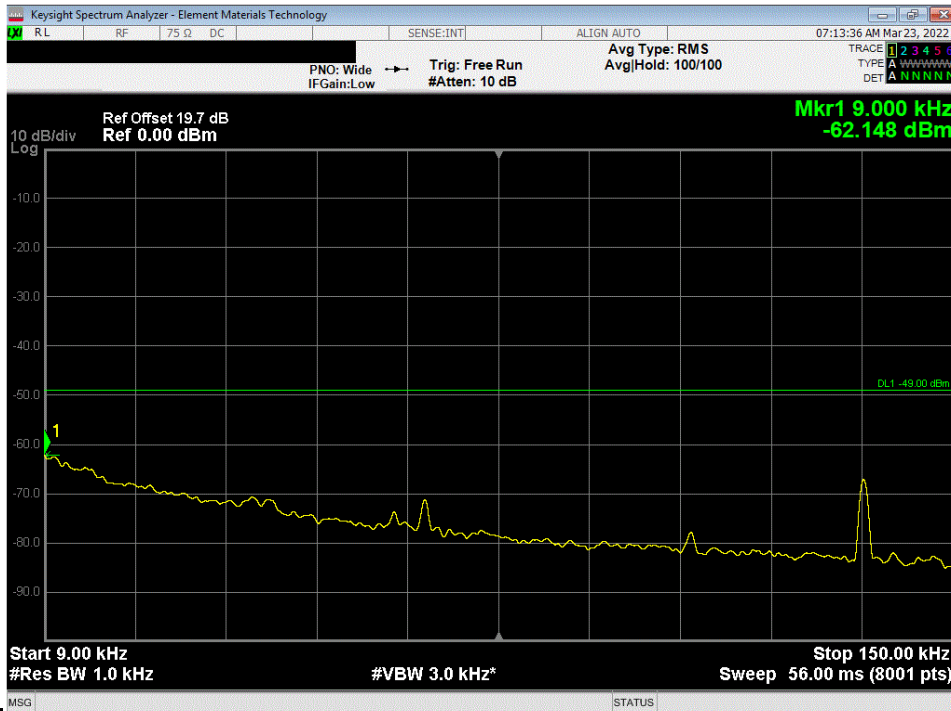


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
13 GHz - 22 GHz	-25.84	-19	Pass	

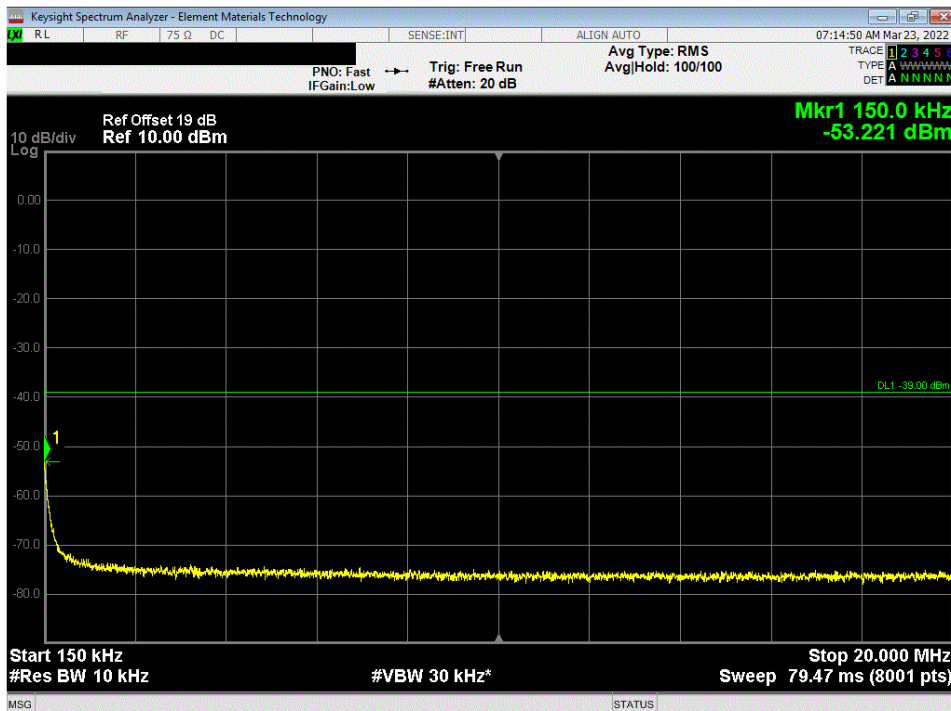


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range			Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz			-62.15	-49	Pass

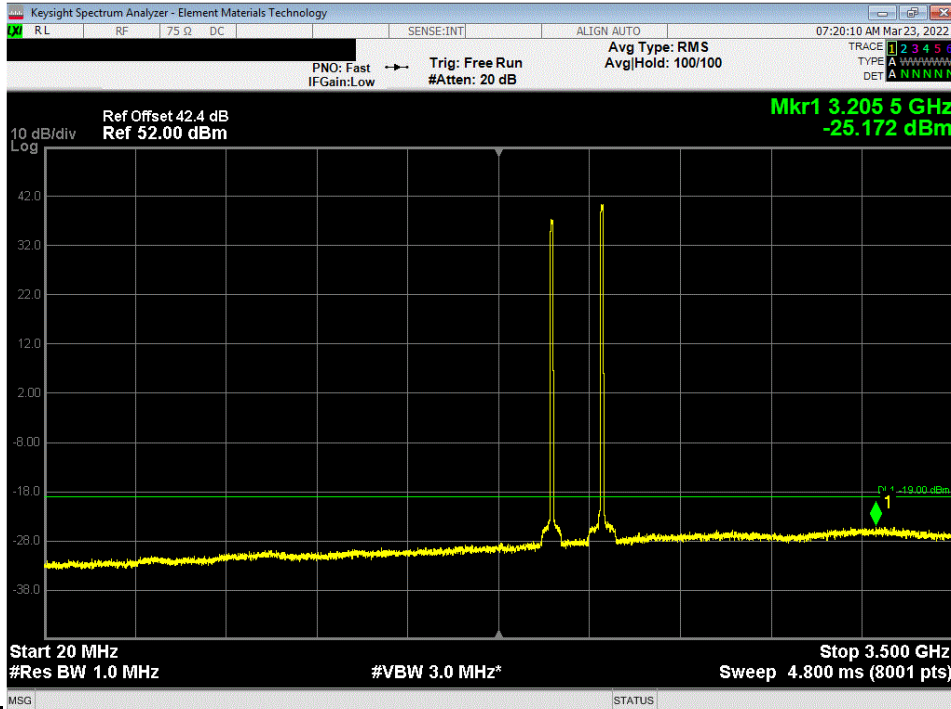


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range			Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz			-53.22	-39	Pass

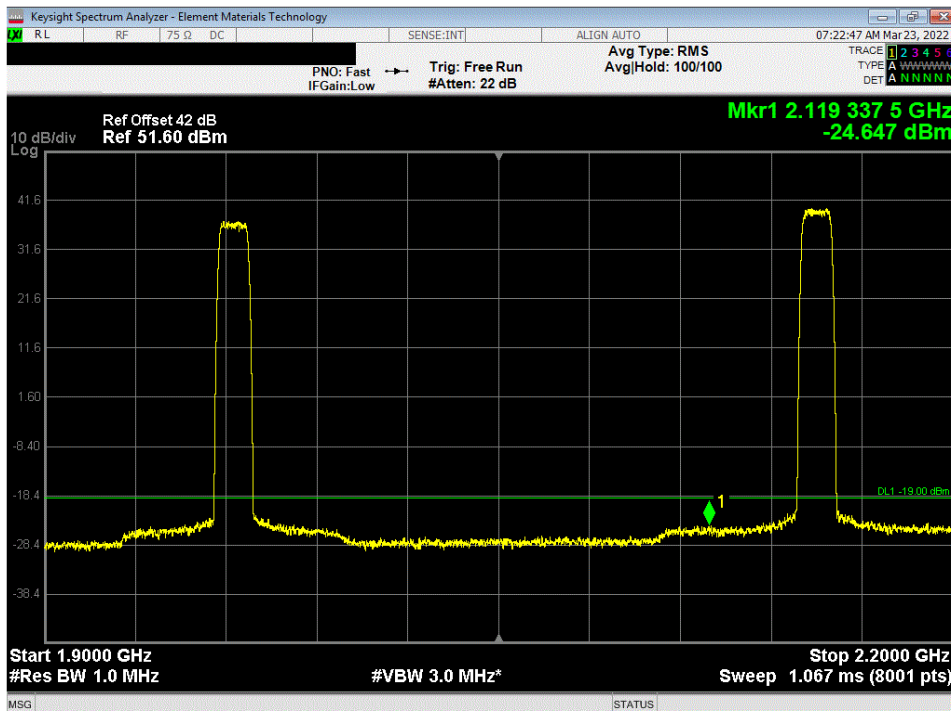


SPURIOUS CONDUCTED EMISSIONS

Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
20 MHz - 3.5 GHz	-25.17	-19	Pass	

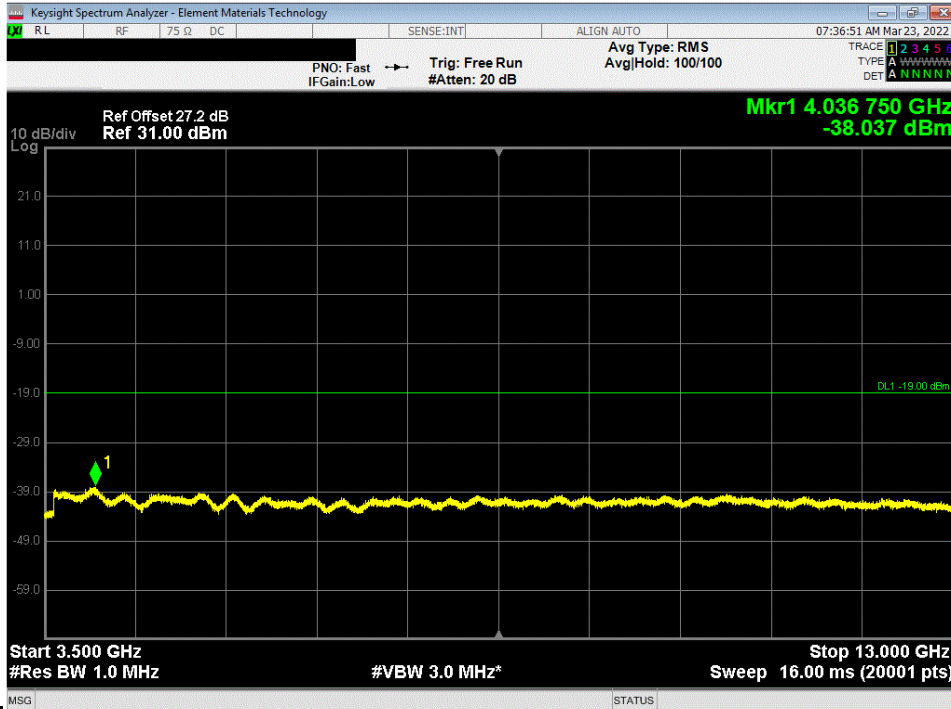


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
1.9 GHz - 2.2 GHz	-24.65	-19	Pass	

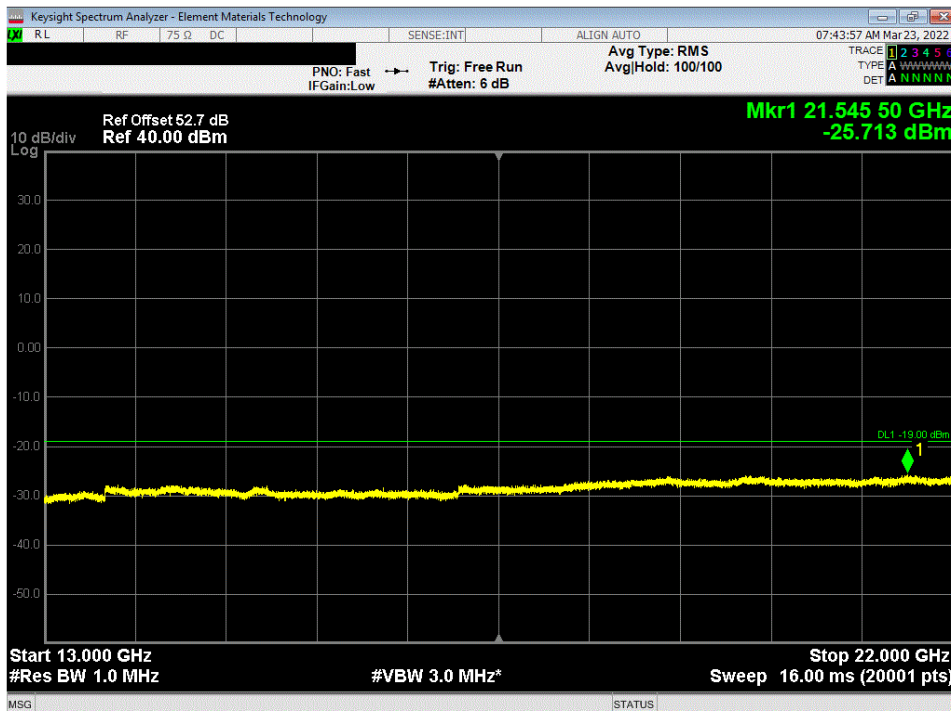


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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
3.5 GHz - 13 GHz	-38.04	-19	Pass	

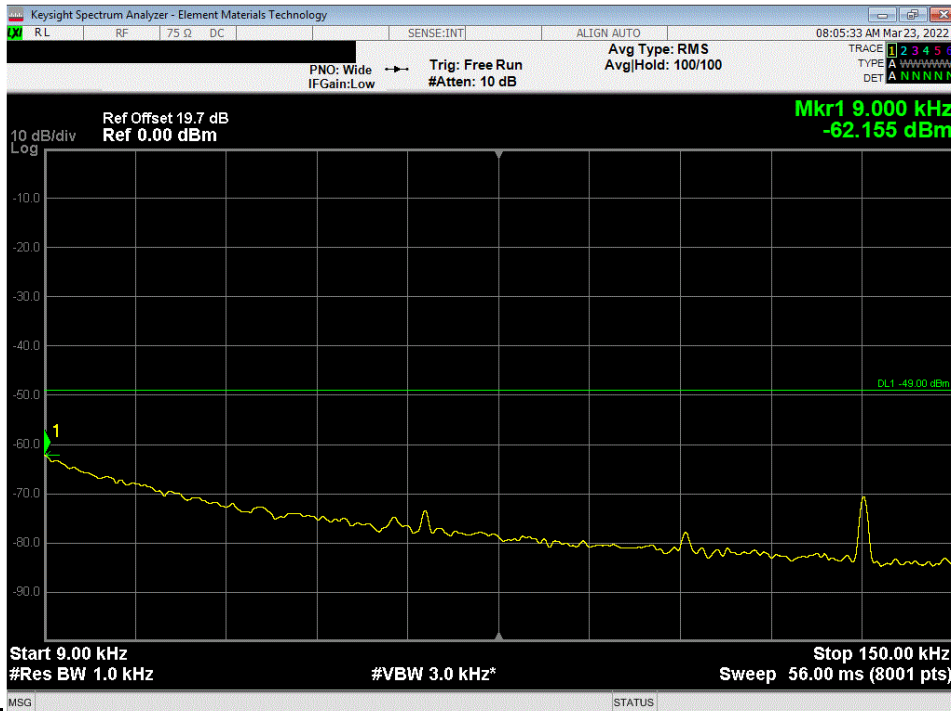


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
13 GHz - 22 GHz	-25.71	-19	Pass	

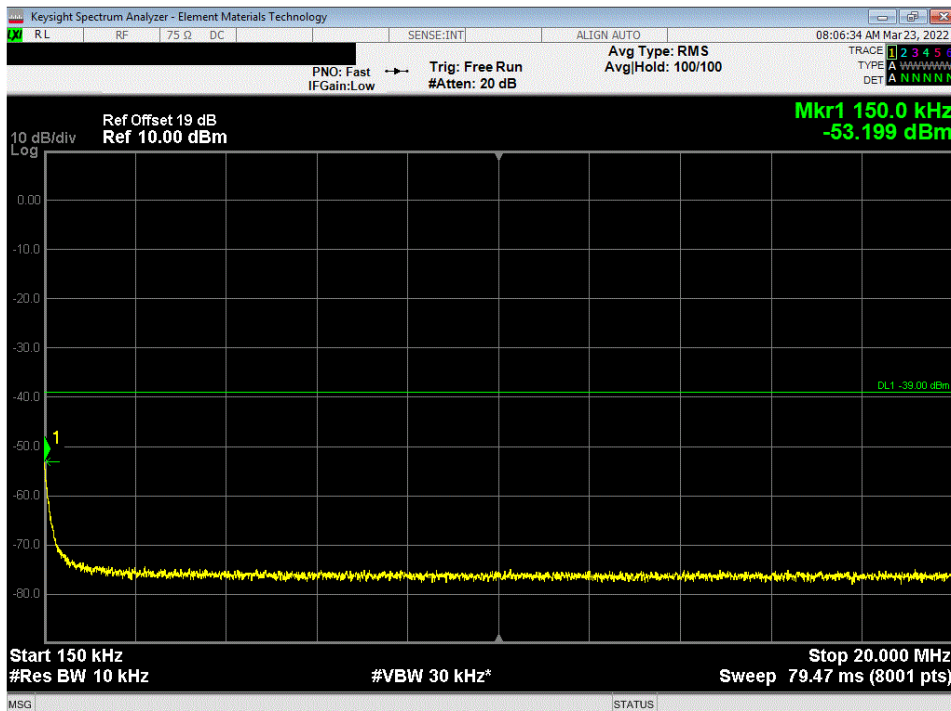


SPURIOUS CONDUCTED EMISSIONS

Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
9 kHz - 150 kHz		-62.16	-49	Pass	



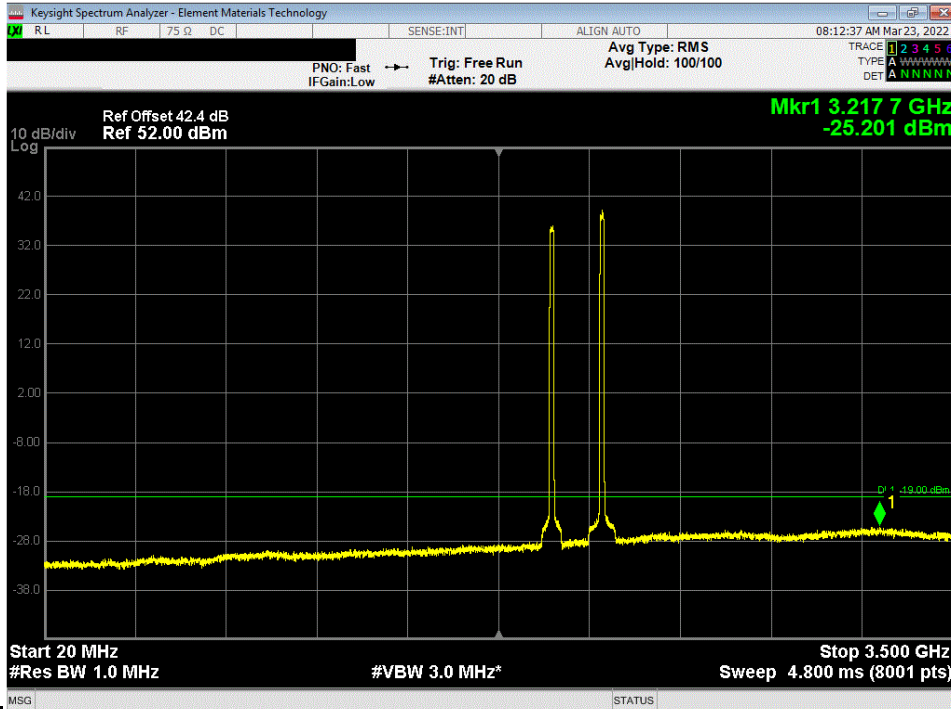
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
150 kHz - 20 MHz		-53.2	-39	Pass	



SPURIOUS CONDUCTED EMISSIONS

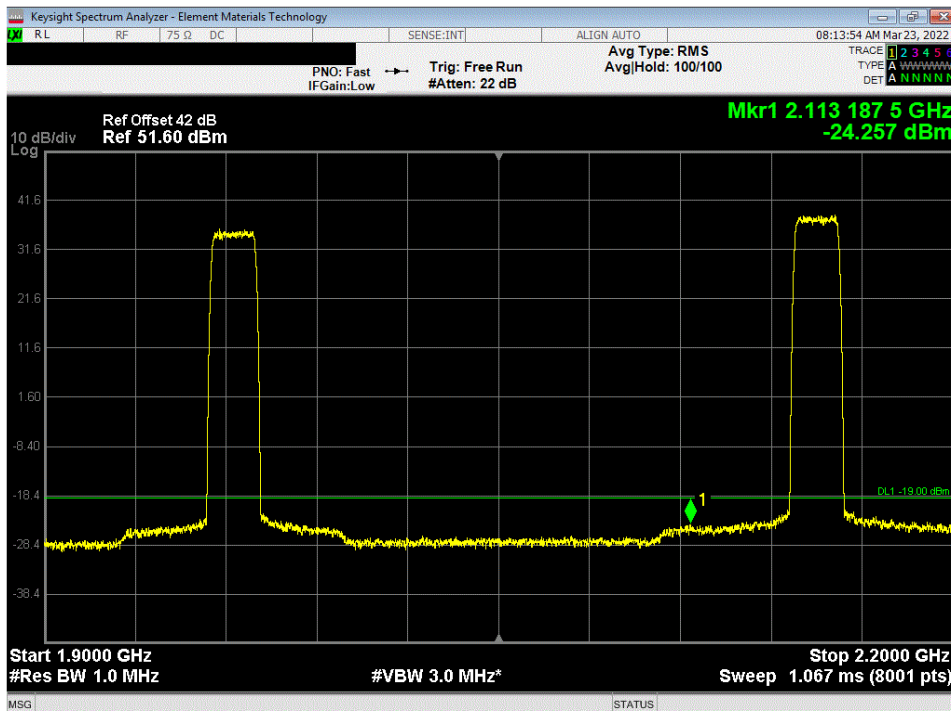
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3.5 GHz	-25.2	-19	Pass



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

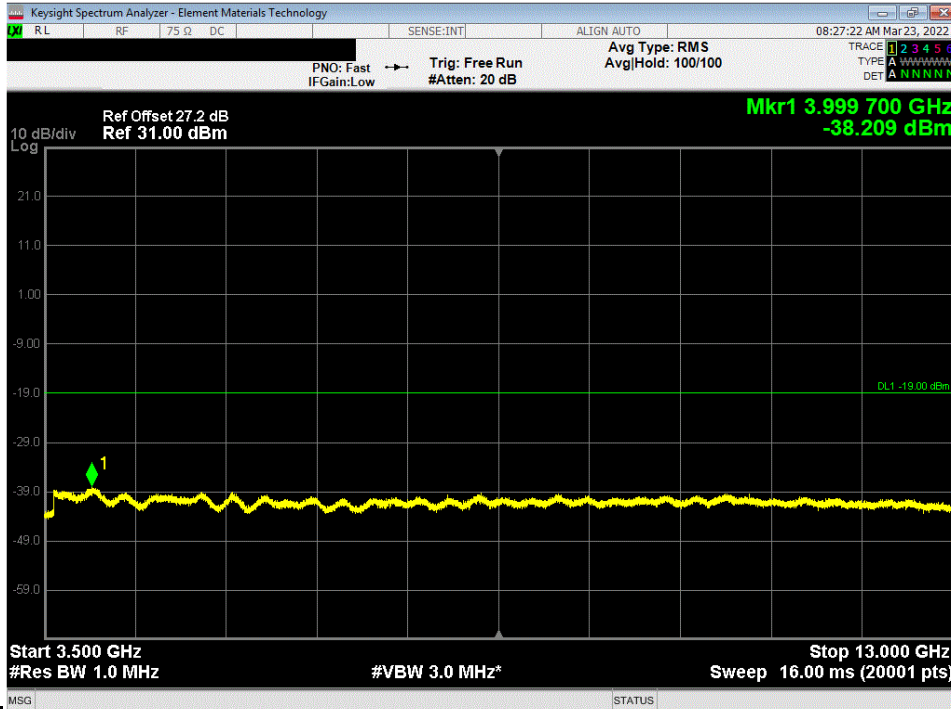
Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-24.26	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

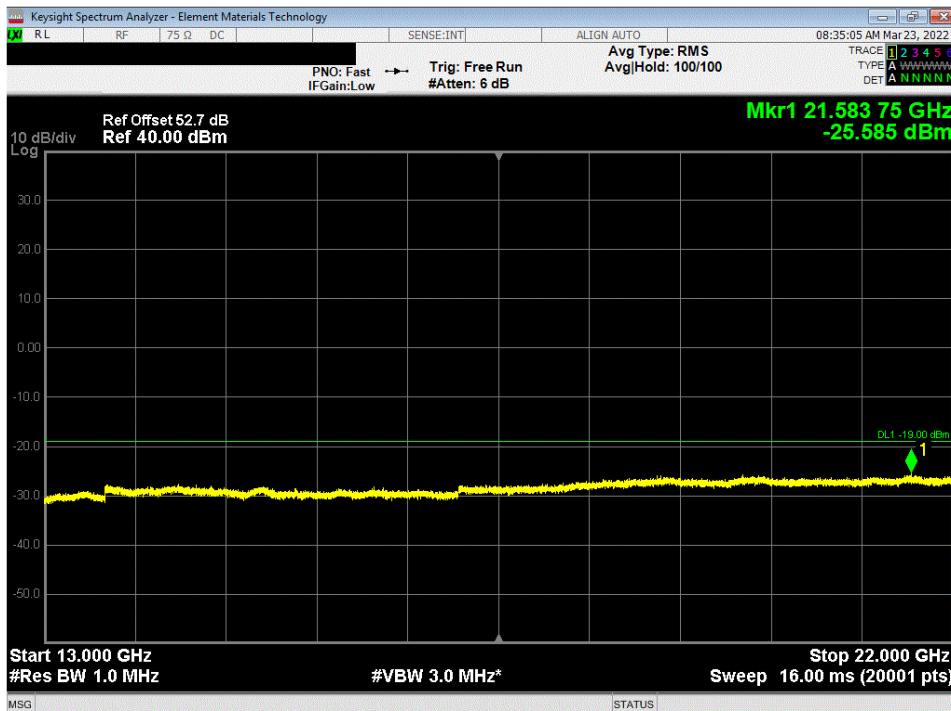
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
3.5 GHz - 13 GHz	-38.21	-19	Pass



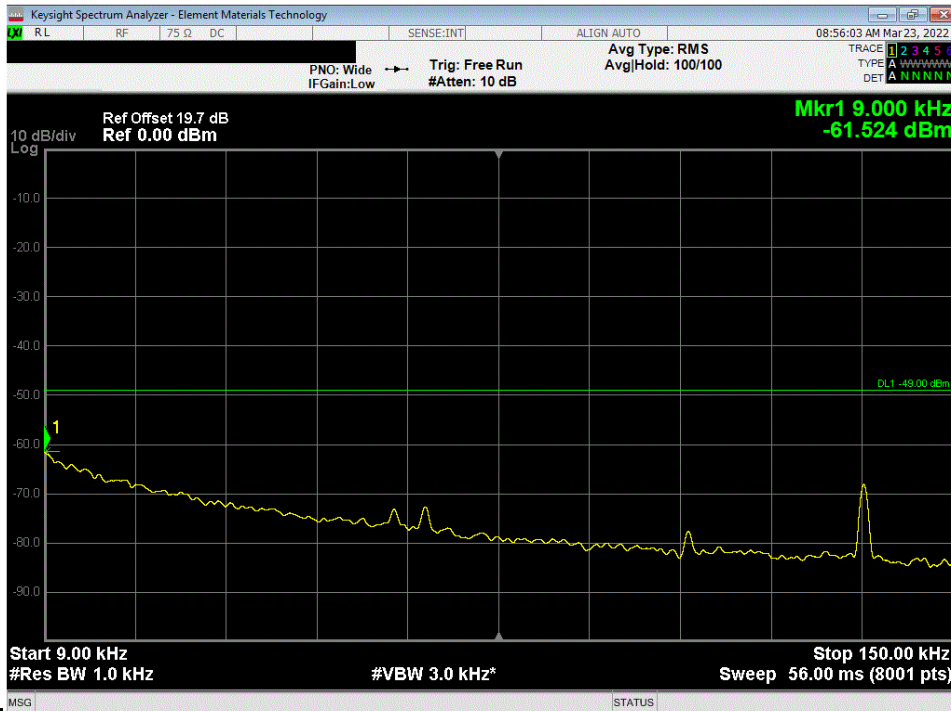
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
13 GHz - 22 GHz	-25.59	-19	Pass

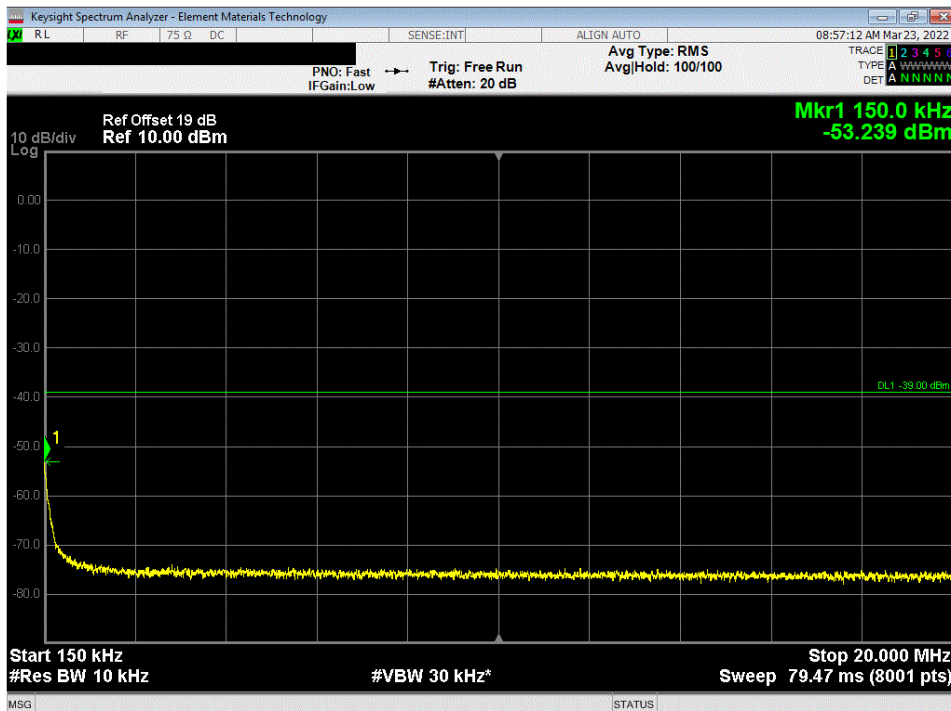


SPURIOUS CONDUCTED EMISSIONS

Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
9 kHz - 150 kHz		-61.52	-49	Pass	

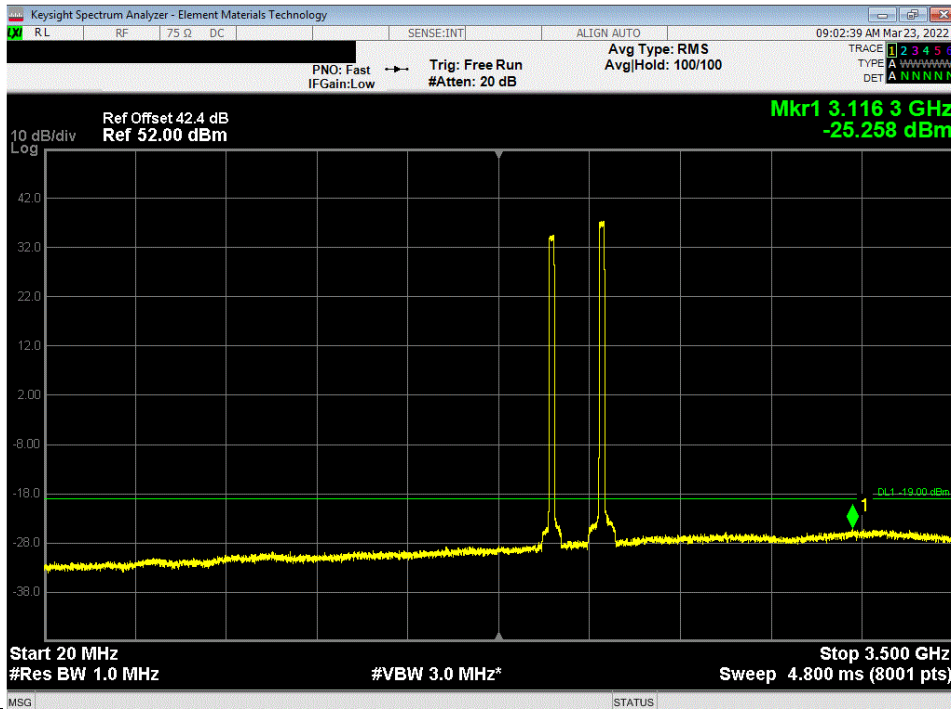


Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
150 kHz - 20 MHz		-53.24	-39	Pass	

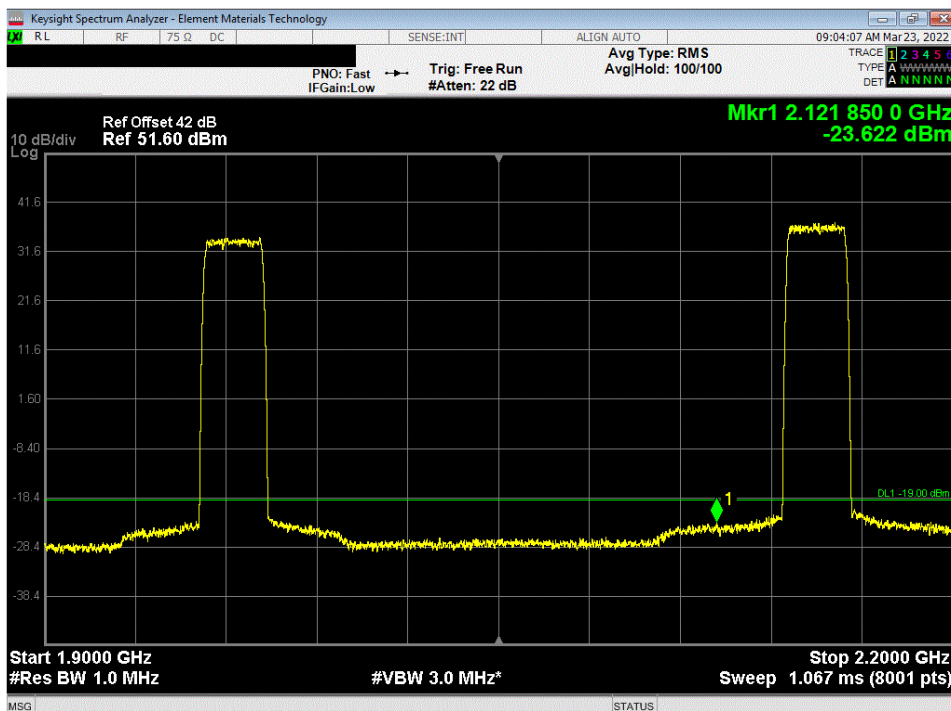


SPURIOUS CONDUCTED EMISSIONS

Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
20 MHz - 3.5 GHz	-25.26	-19	Pass	



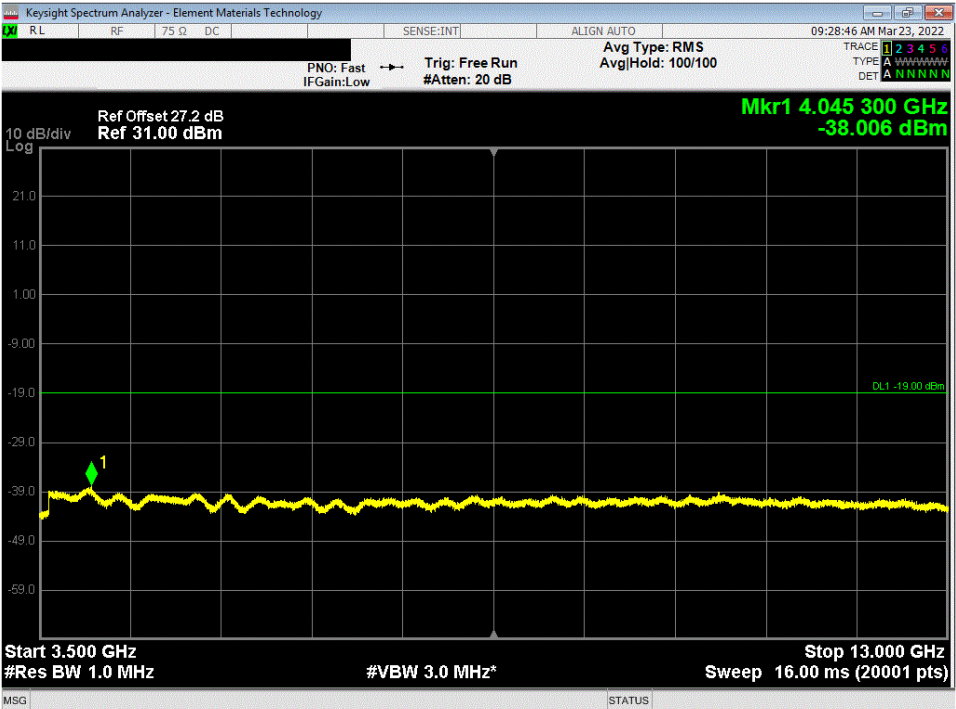
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
1.9 GHz - 2.2 GHz	-23.62	-19	Pass	



SPURIOUS CONDUCTED EMISSIONS

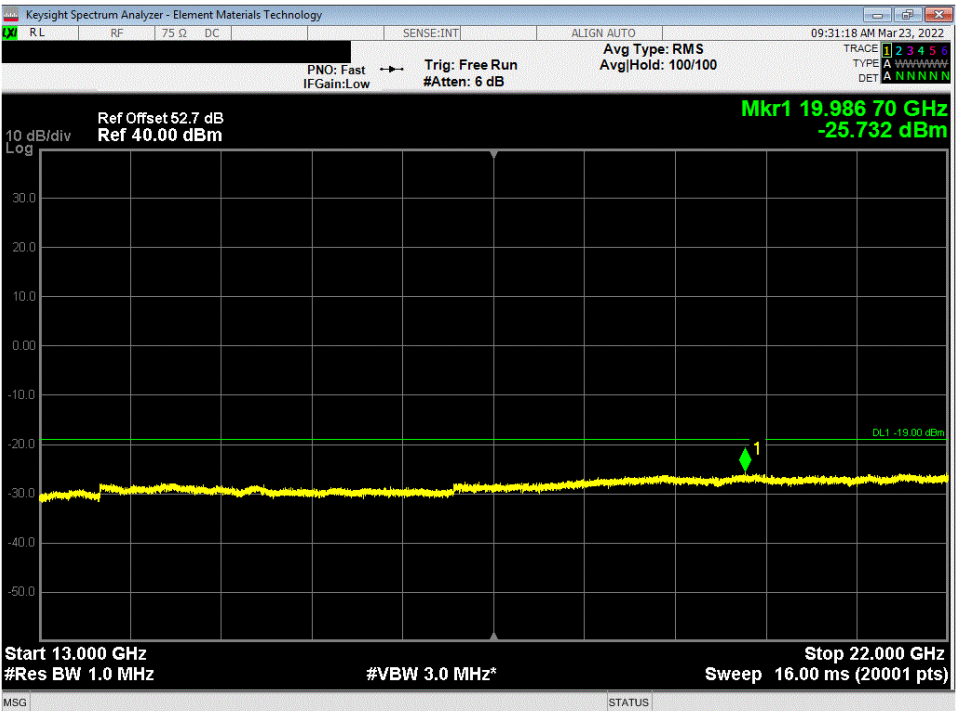
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
3.5 GHz - 13 GHz	-38.01	-19	Pass



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
13 GHz - 22 GHz	-25.73	-19	Pass

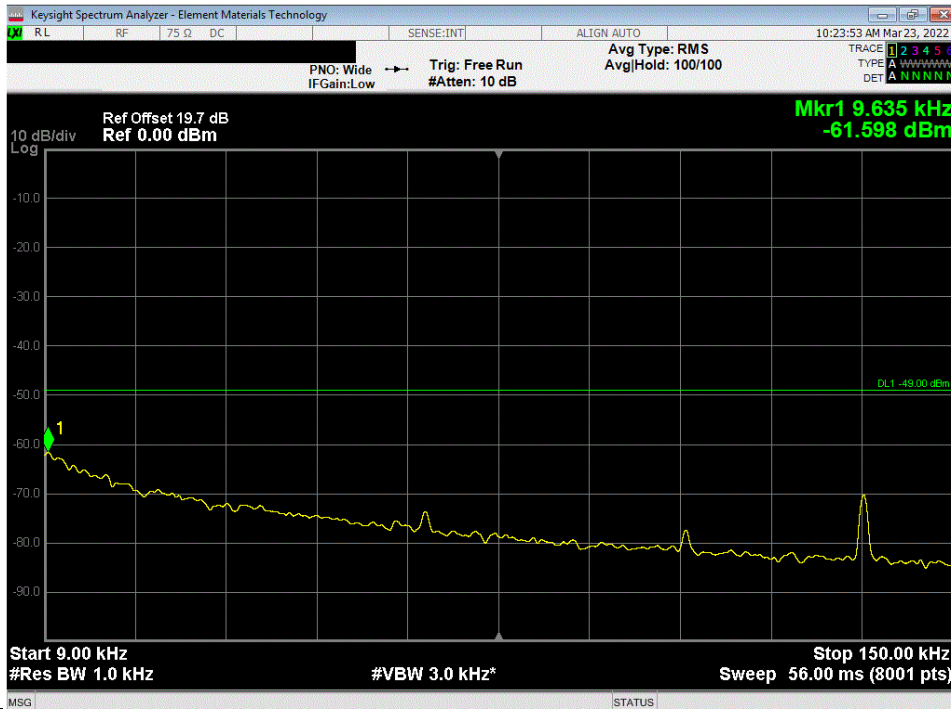


SPURIOUS CONDUCTED EMISSIONS

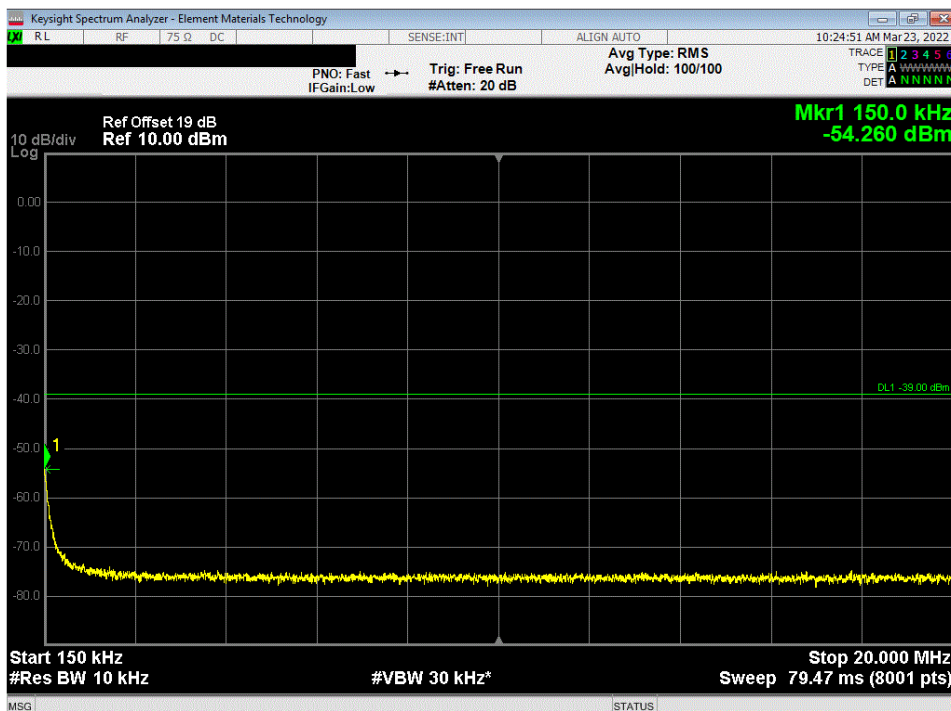


TbTxx 2022.03.14.0 XMt 2022.02.07.0

Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
9 kHz - 150 kHz		-61.6	-49	Pass	



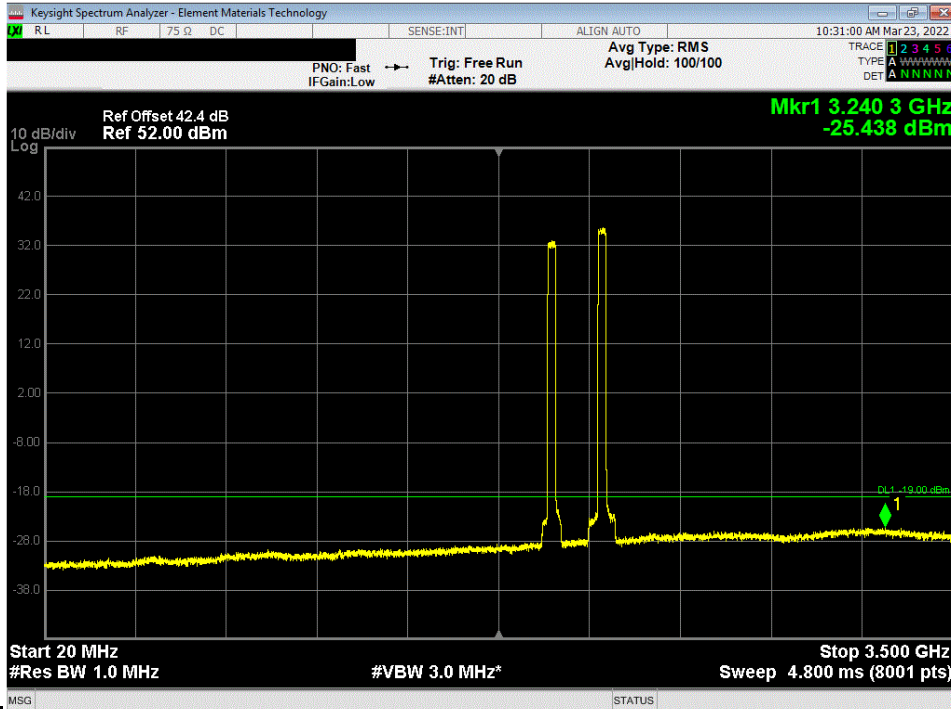
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
150 kHz - 20 MHz		-54.26	-39	Pass	



SPURIOUS CONDUCTED EMISSIONS

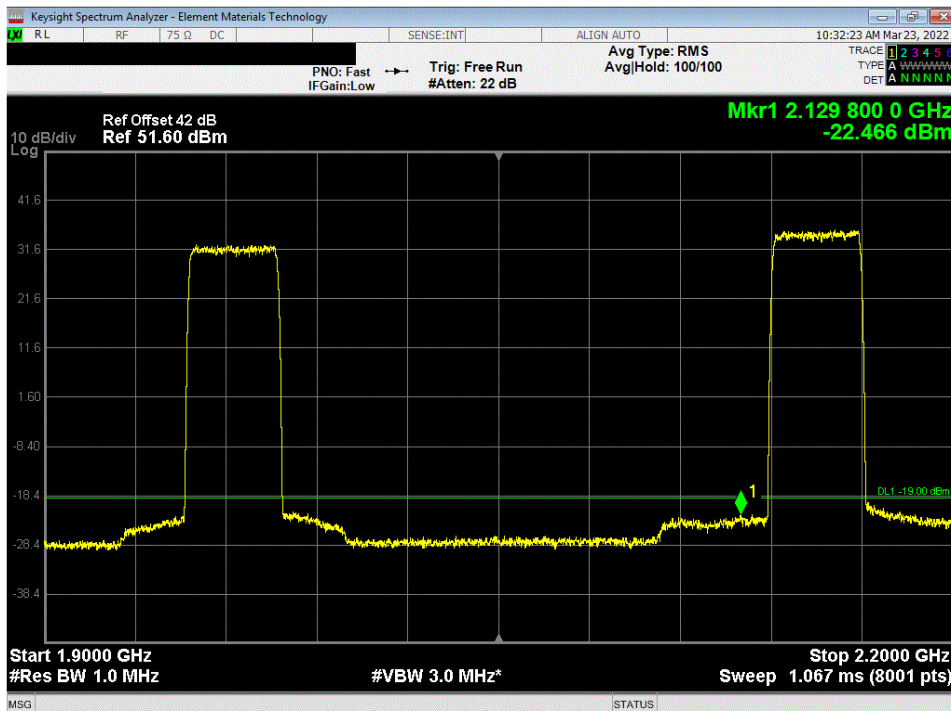
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3.5 GHz	-25.44	-19	Pass



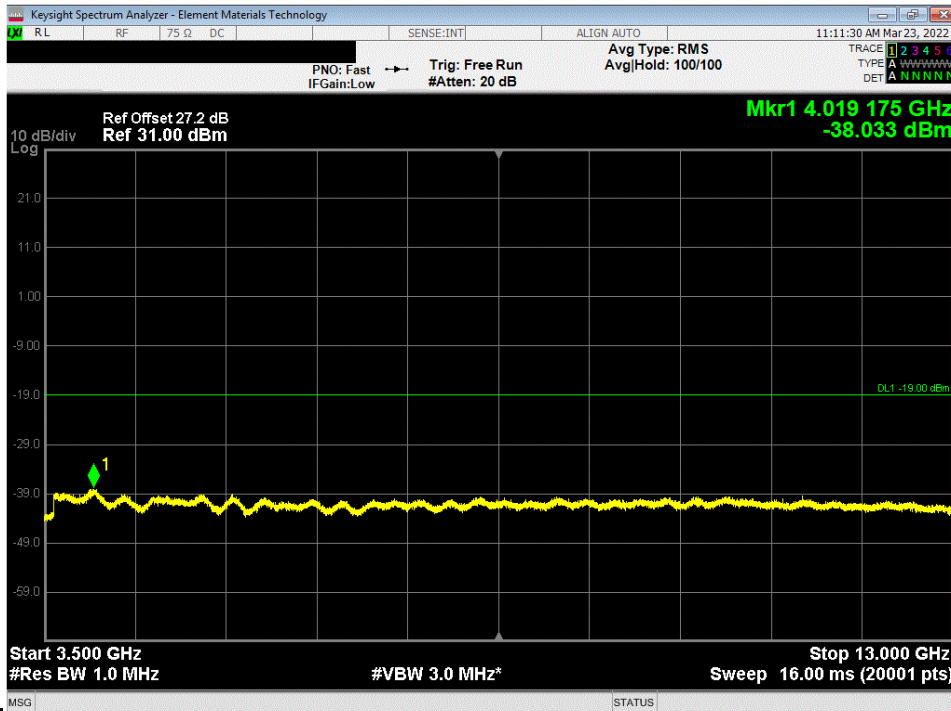
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz

Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-22.47	-19	Pass

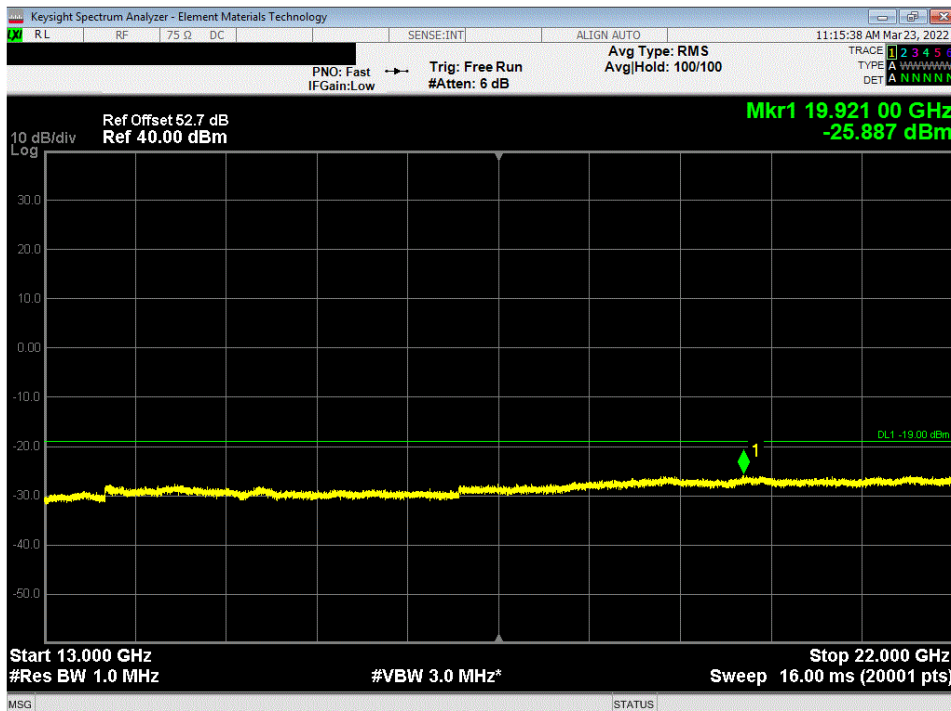


SPURIOUS CONDUCTED EMISSIONS

Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
3.5 GHz - 13 GHz	-38.03	-19	Pass	



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
13 GHz - 22 GHz	-25.89	-19	Pass	



SPURIOUS CONDUCTED EMISSIONS

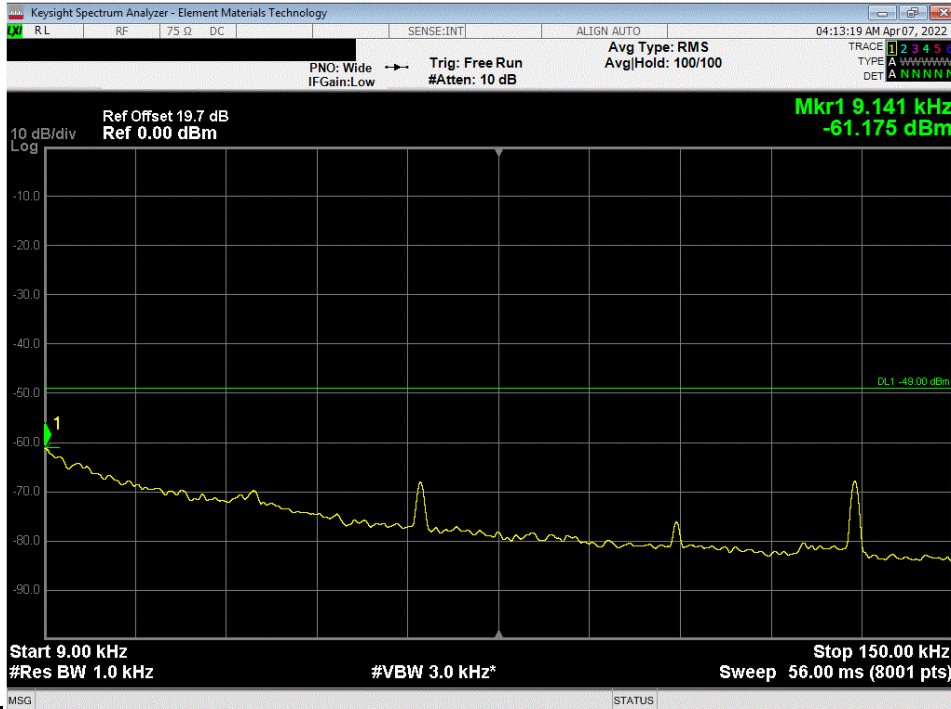


TMTv 2021.12.14.1 XMM 2022.02.07.0

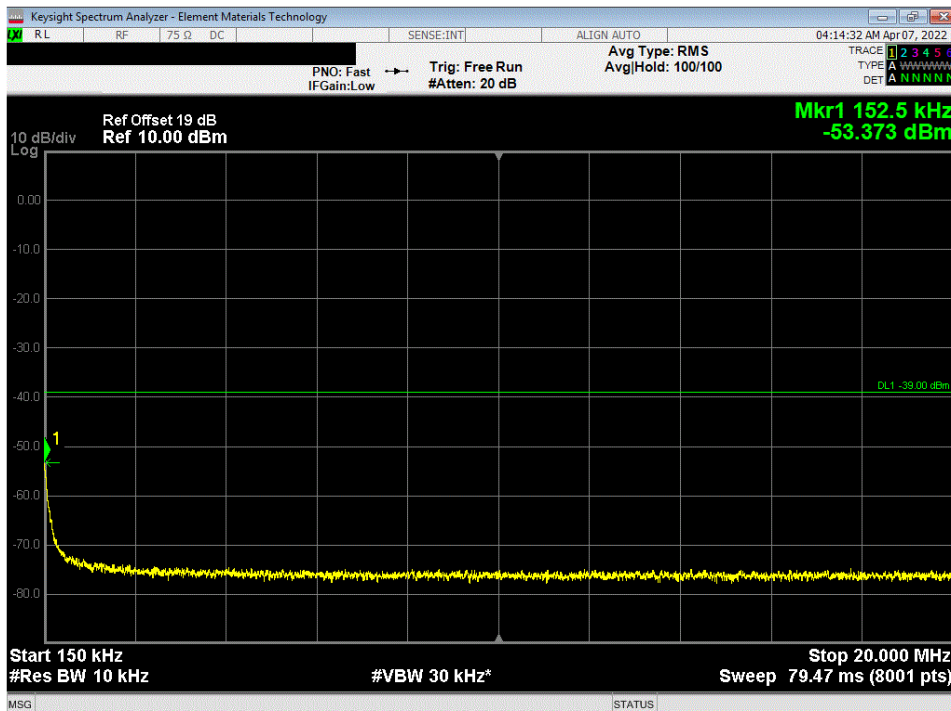
EUT: AHFI Remote Radio Head		Work Order: NOKI0038		
Serial Number: YK214000035		Date: 7-Apr-22		
Customer: Nokia of America Corporation		Temperature: 22.6 °C		
Attendees: Mitchell Hill		Humidity: 23.7% RH		
Project: None		Barometric Pres.: 1026 mbar		
Tested by: Mark Baytan		Job Site: TX09		
Power: 54 VDC				
TEST SPECIFICATIONS		Test Method		
FCC 24E:2022		ANSI C63.26:2015		
RSS-133 Issue 6:2013+A1:2018		RSS-133 Issue 6:2013+A1:2018		
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 were accounted for in the reference level offset including any attenuators, filters and DC blocks. For Test Case 1: the carriers are operated at maximum power (~26.6W or ~44.2dBm/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). For Test Case 2 and 3: the carriers are operated at maximum power (~40W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). Reference "Output Power" report section for all carrier frequencies. This testing is being performed per KDB 971168 D03v01 guidance for Test Case 1.				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1,2,3,4	Signature		
		Frequency Range	Value (dBm) Limit (dBm) Result	
PCS Multicarrier Multiband				
Port 1				
Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier)				
QPSK Modulation				
	9 kHz - 150 kHz	-61.2	-49	Pass
	150 kHz - 20 MHz	-53.4	-39	Pass
	20 MHz - 3.5 GHz	-25.3	-19	Pass
	1.9 GHz - 2.2 GHz	-24.8	-19	Pass
	3.5 GHz - 13 GHz	-38.0	-19	Pass
	13 GHz - 22 GHz	-25.6	-19	Pass
Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier)				
QPSK Modulation				
	9 kHz - 150 kHz	-61.8	-49	Pass
	150 kHz - 20 MHz	-54.1	-39	Pass
	20 MHz - 3 GHz	-25.6	-19	Pass
	1.9 GHz - 2.2 GHz	-27.1	-19	Pass
	3.5 GHz - 13 GHz	-37.9	-19	Pass
	18 GHz - 22 GHz	-25.6	-19	Pass
Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier)				
QPSK Modulation				
	9 kHz - 150 kHz	-61.8	-49	Pass
	150 kHz - 20 MHz	-53.4	-39	Pass
	20 MHz - 3.5 GHz	-25.1	-19	Pass
	1.9 GHz - 2.2 GHz	-26.4	-19	Pass
	3.5 GHz - 13 GHz	-37.9	-19	Pass
	13 GHz - 22 GHz	-25.4	-19	Pass

SPURIOUS CONDUCTED EMISSIONS

PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
9 kHz - 150 kHz		-61.18	-49	Pass	



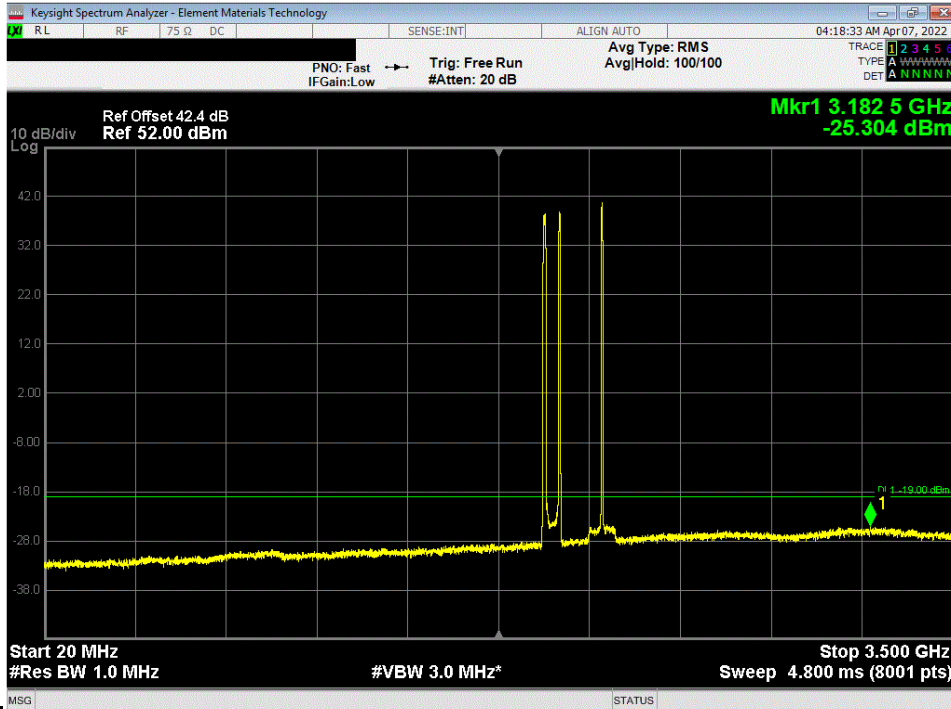
PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,					
Frequency Range		Value (dBm)	Limit (dBm)	Result	
150 kHz - 20 MHz		-53.37	-39	Pass	



SPURIOUS CONDUCTED EMISSIONS

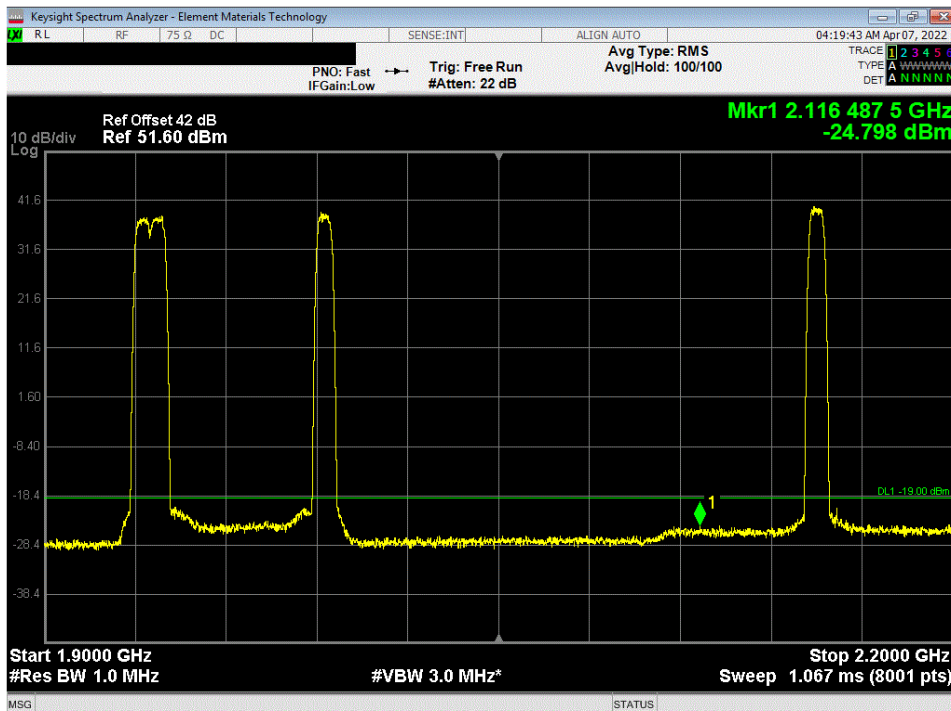
PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3.5 GHz	-25.3	-19	Pass



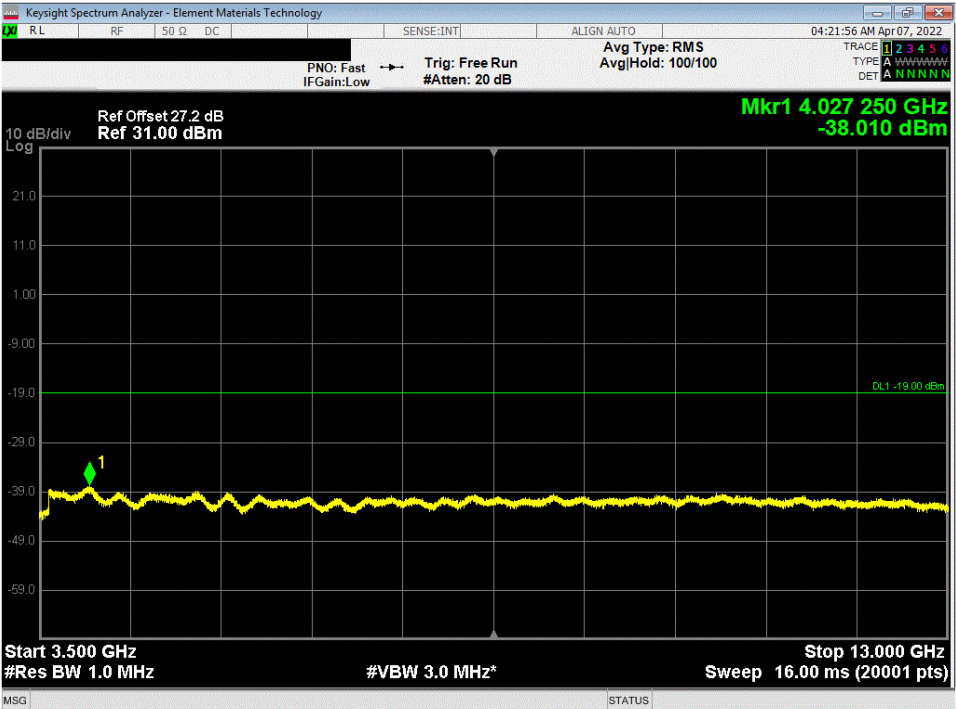
PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-24.8	-19	Pass

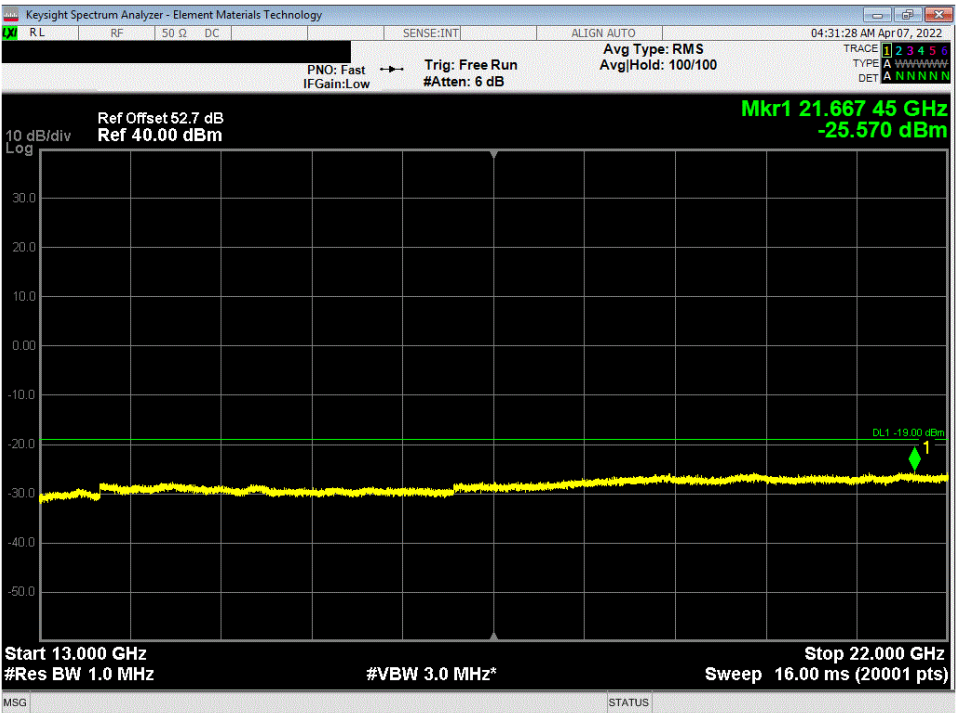


SPURIOUS CONDUCTED EMISSIONS

PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
3.5 GHz - 13 GHz	-38.01	-19	Pass	



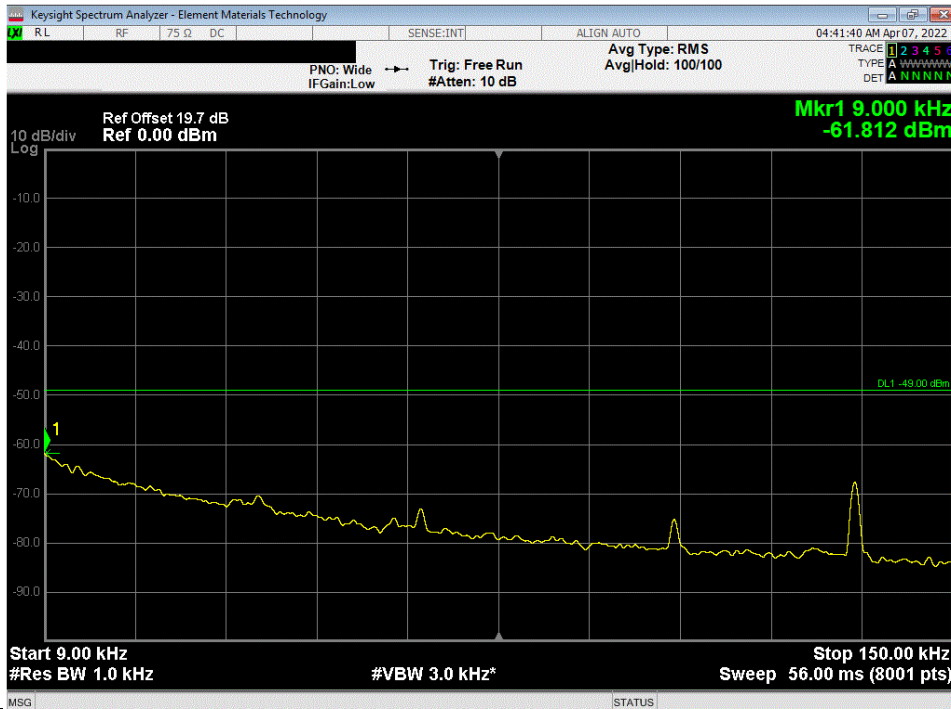
PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band NR5 (3 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Value (dBm)	Limit (dBm)	Result	
13 GHz - 22 GHz	-25.57	-19	Pass	



SPURIOUS CONDUCTED EMISSIONS

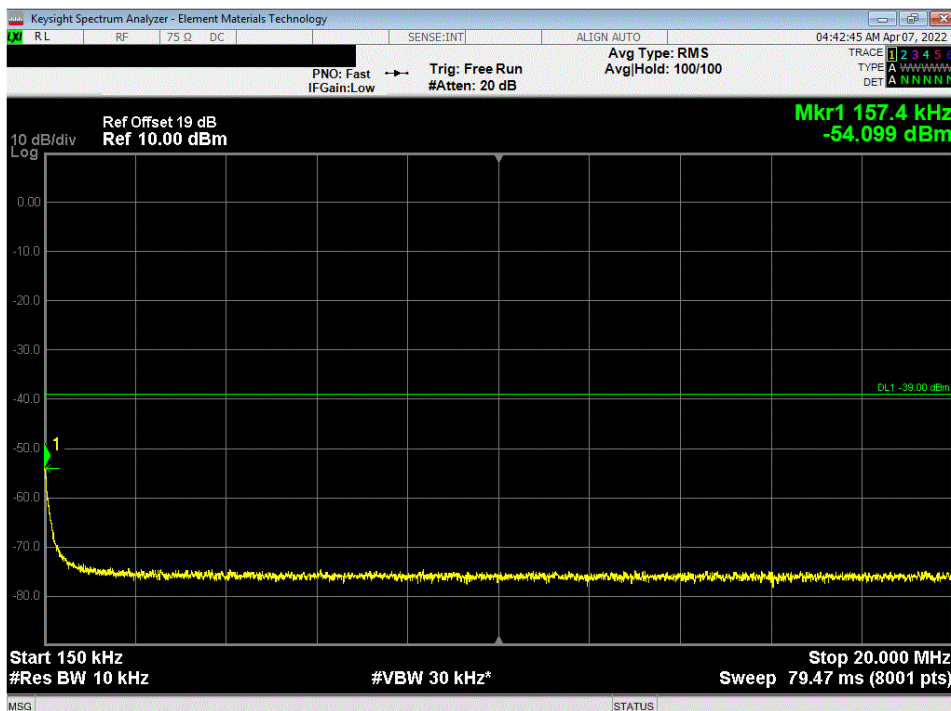
PCS Multicarrier Multiband, Port 1, Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz	-61.81	-49	Pass



PCS Multicarrier Multiband, Port 1, Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

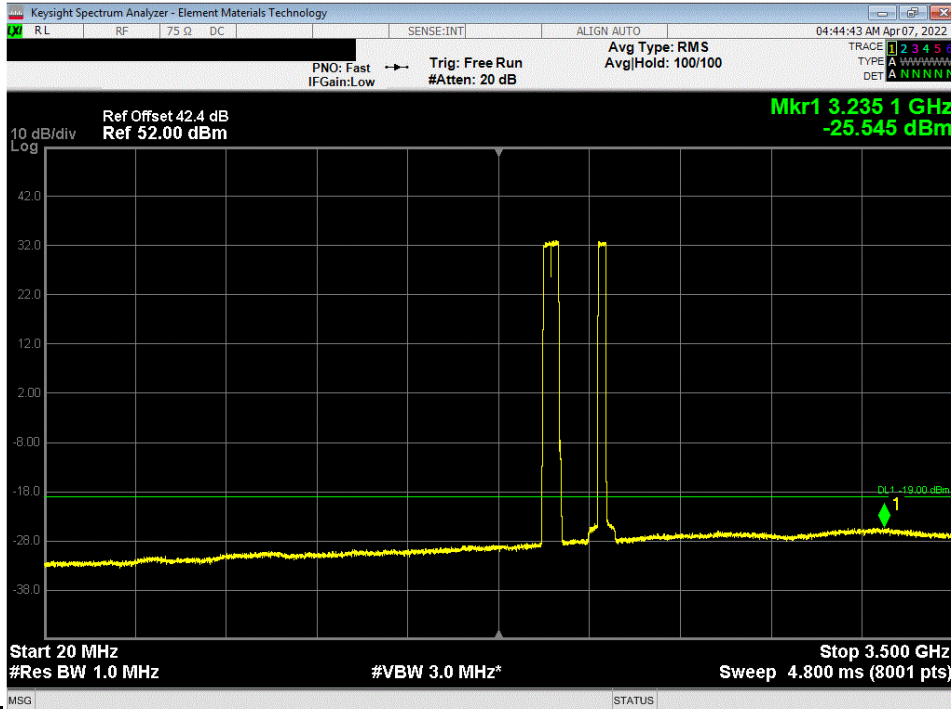
Frequency Range	Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	-54.1	-39	Pass



SPURIOUS CONDUCTED EMISSIONS

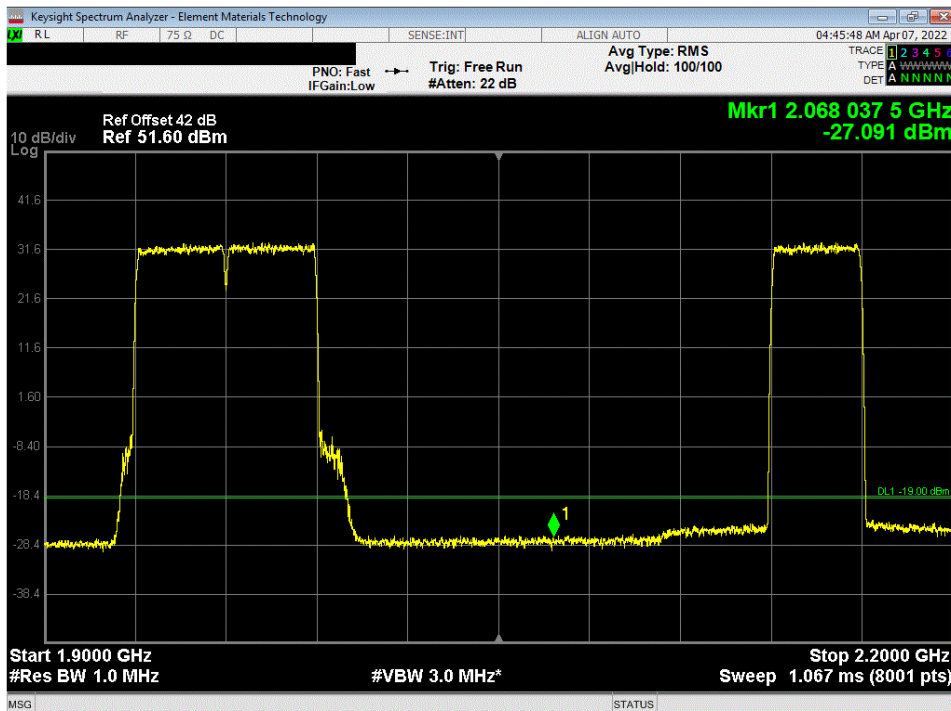
PCS Multicarrier Multiband, Port 1, Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3 GHz	-25.55	-19	Pass



PCS Multicarrier Multiband, Port 1, Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

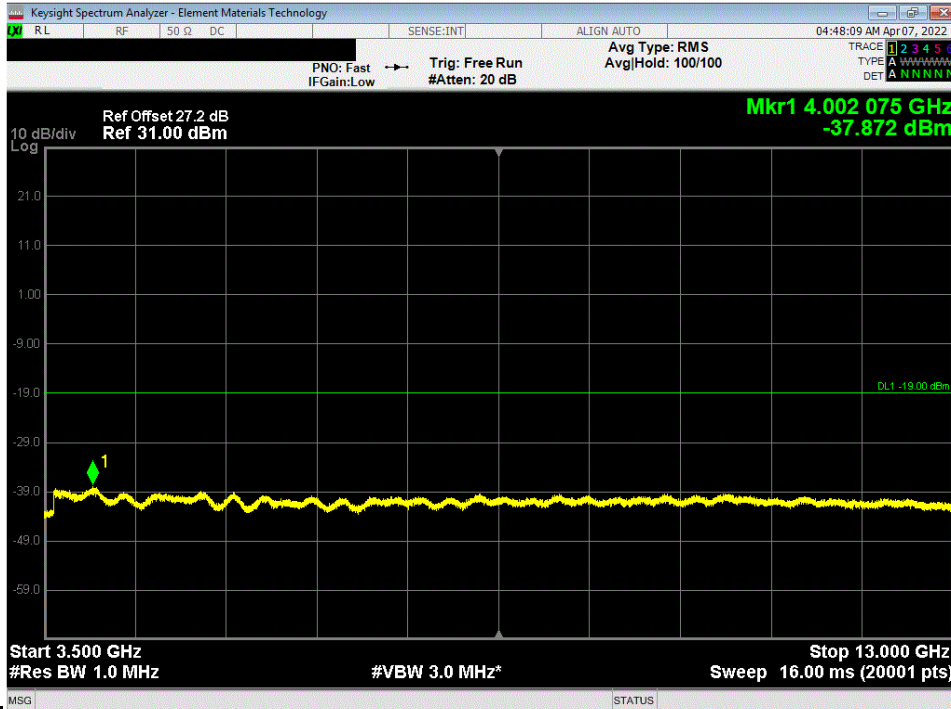
Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-27.09	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

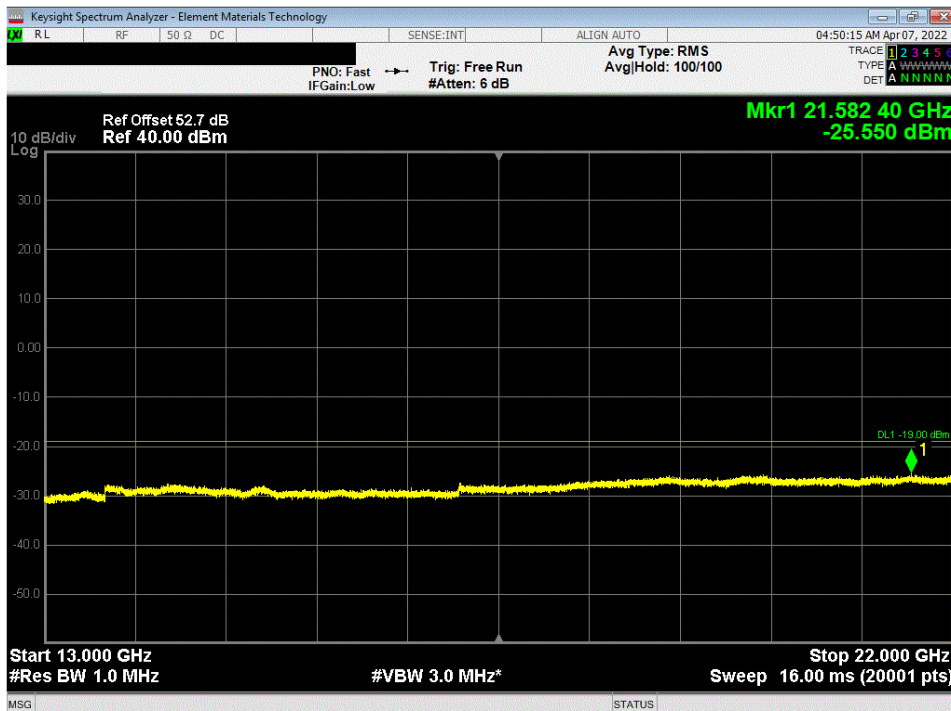
PCS Multicarrier Multiband, Port 1, Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
3.5 GHz - 13 GHz	-37.87	-19	Pass



PCS Multicarrier Multiband, Port 1, Test Case 2: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

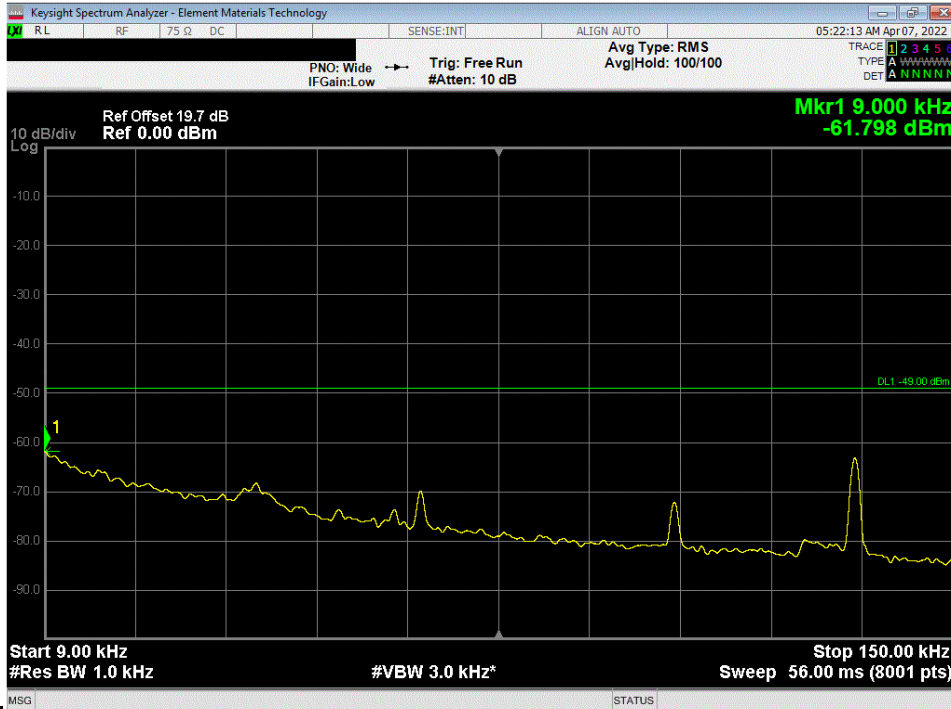
Frequency Range	Value (dBm)	Limit (dBm)	Result
18 GHz - 22 GHz	-25.55	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

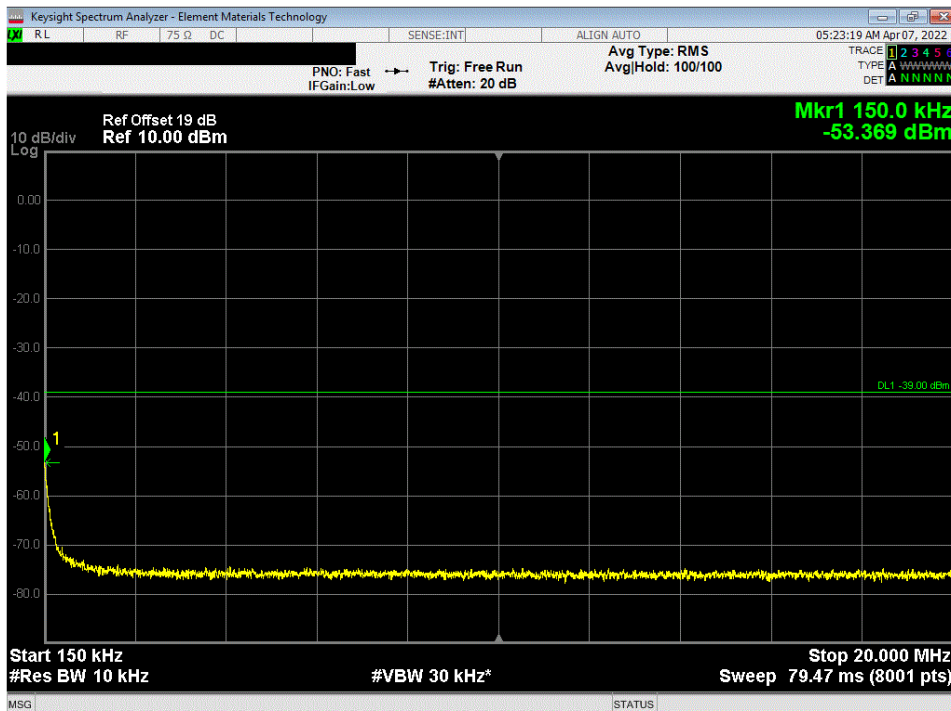
PCS Multicarrier Multiband, Port 1, Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
9 kHz - 150 kHz	-61.8	-49	Pass



PCS Multicarrier Multiband, Port 1, Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

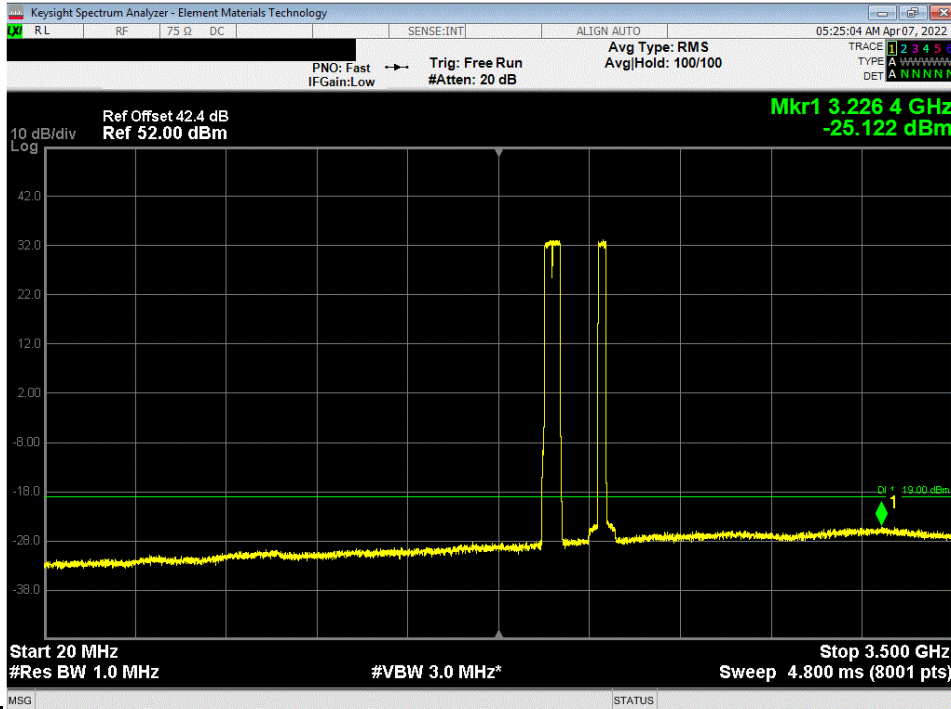
Frequency Range	Value (dBm)	Limit (dBm)	Result
150 kHz - 20 MHz	-53.37	-39	Pass



SPURIOUS CONDUCTED EMISSIONS

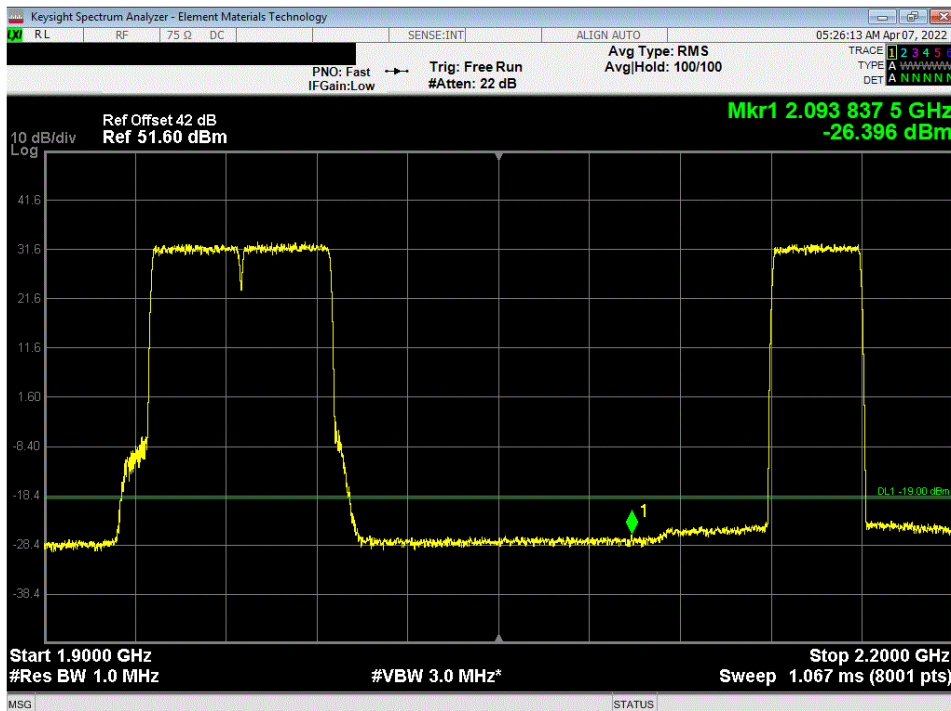
PCS Multicarrier Multiband, Port 1, Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
20 MHz - 3.5 GHz	-25.12	-19	Pass



PCS Multicarrier Multiband, Port 1, Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

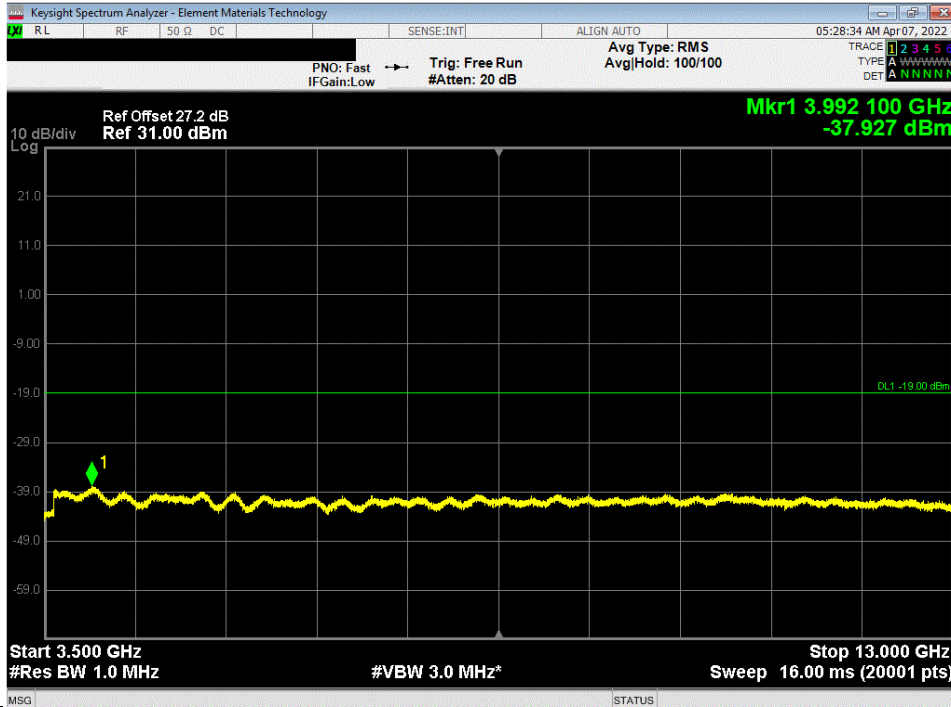
Frequency Range	Value (dBm)	Limit (dBm)	Result
1.9 GHz - 2.2 GHz	-26.4	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

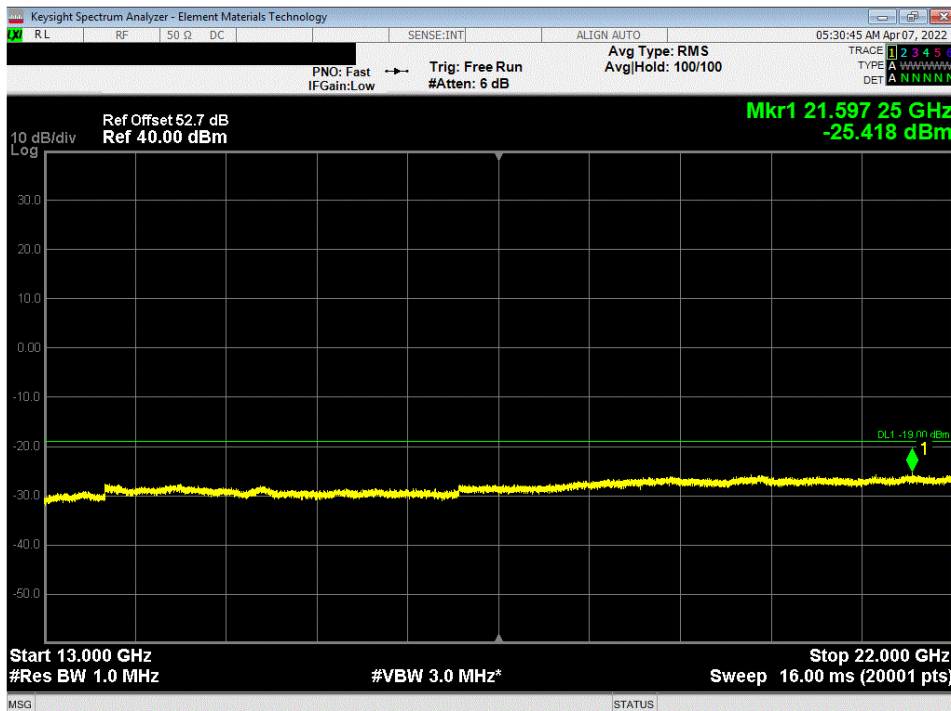
PCS Multicarrier Multiband, Port 1, Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
3.5 GHz - 13 GHz	-37.93	-19	Pass



PCS Multicarrier Multiband, Port 1, Test Case 3: PCS Band NR30 (2 Carriers), AWS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Value (dBm)	Limit (dBm)	Result
13 GHz - 22 GHz	-25.42	-19	Pass



SPURIOUS CONDUCTED EMISSIONS



TMx 2021.12.14.1 XMR 2022.02.07.0

EUT: AHFI Remote Radio Head		Work Order: NOKI0038	
Serial Number: YK214000035		Date: 7-Apr-22	
Customer: Nokia of America Corporation		Temperature: 22.6 °C	
Attendees: Mitchell Hill		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
FCC 24E:2022	ANSI C63.26:2015
RSS-133 Issue 6:2013+A1:2018	RSS-133 Issue 6:2013+A1:2018
RSS-170 Issue 3:2015	RSS-170 Issue 3:2015

COMMENTS

All measurement path losses were accounted for in the reference level offset including any attenuators, filters and DC blocks. For Test Case 1: the carriers are operated at maximum power (~26.6W or ~44.2dBm/AWS carrier and 40W/PCS carrier) with at total port power of 120 watts (80W for AWS band carriers + 40W for PCS band carrier). For Test Case 2 and 3: the carriers are operated at maximum power (~40W/AWS carrier and 40W/PCS carrier) with at total port power of 120 watts (80W for AWS band carriers + 40W for PCS band carrier). Reference "Output Power" report section for all carrier frequencies. This testing is being performed per KDB 971168 D03v01 guidance for Test Case 1.

DEVIATIONS FROM TEST STANDARD

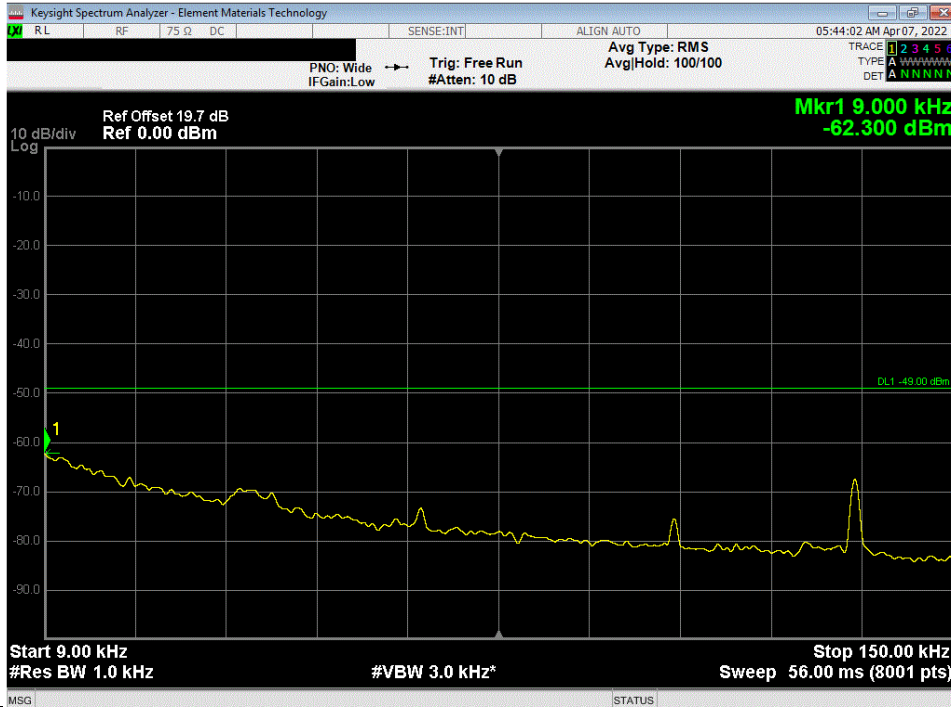
None

Configuration #	1,2,3,4	Signature

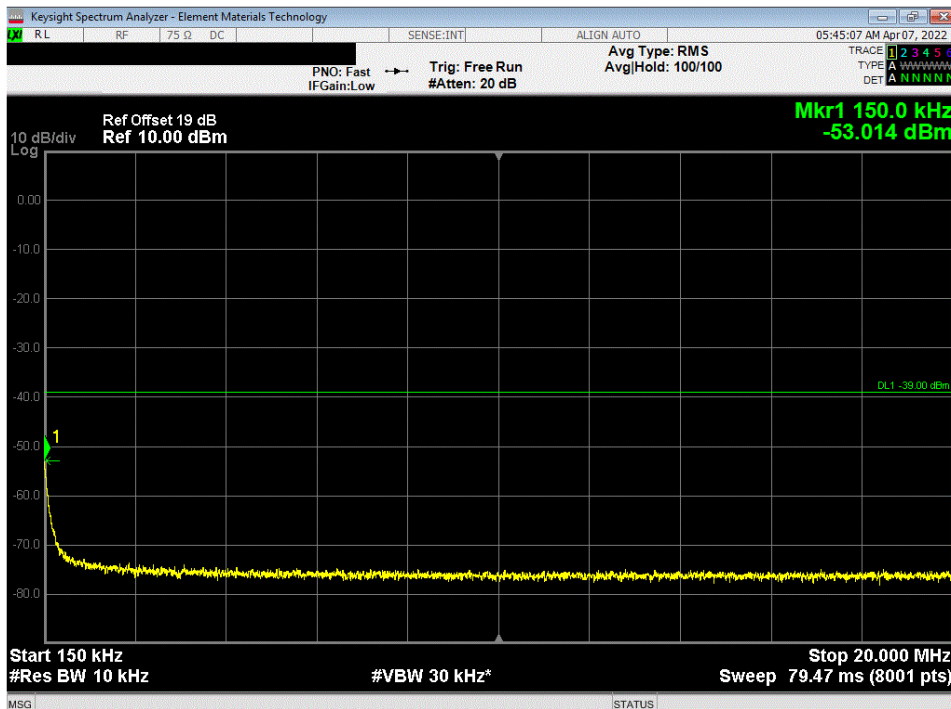
	Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
AWS Multicarrier Multiband				
Port 1				
Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier)				
QPSK Modulation				
	9 kHz - 150 kHz	-62.3	-49	Pass
	150 kHz - 20 MHz	-53.0	-39	Pass
	20 MHz - 3.5 GHz	-25.1	-19	Pass
	1.9 GHz - 2.2 GHz	-27.8	-19	Pass
	3.5 GHz - 13 GHz	-37.9	-19	Pass
	13 GHz - 22 GHz	-25.8	-19	Pass
Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier)				
QPSK Modulation				
	9 kHz - 150 kHz	-62.0	-49	Pass
	150 kHz - 20 MHz	-53.1	-39	Pass
	20 MHz - 3.5 GHz	-25.2	-19	Pass
	1.9 GHz - 2.2 GHz	-26.8	-19	Pass
	3.5 GHz - 13 GHz	-37.7	-19	Pass
	13 GHz - 22 GHz	-25.6	-19	Pass
Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier)				
QPSK Modulation				
	9 kHz - 150 kHz	-62.3	-49	Pass
	150 kHz - 20 MHz	-53.7	-39	Pass
	20 MHz - 3.5 GHz	-25.2	-19	Pass
	1.9 GHz - 2.2 GHz	-26.8	-19	Pass
	3.5 GHz - 13 GHz	-37.9	-19	Pass
	13 GHz - 22 GHz	-25.7	-19	Pass

SPURIOUS CONDUCTED EMISSIONS

AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	-62.3	-49	Pass	

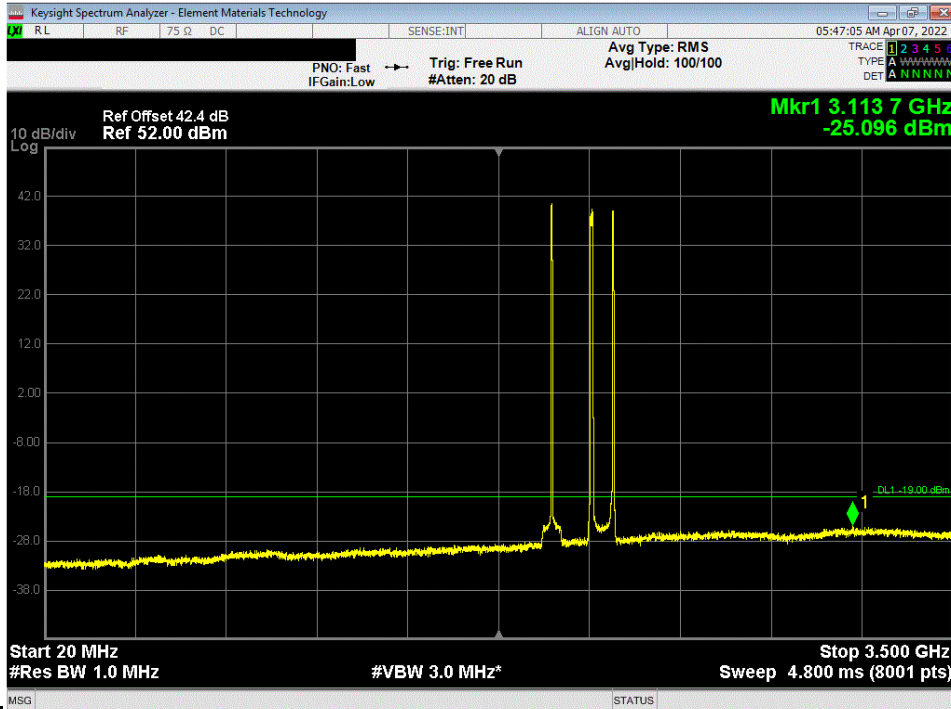


AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	-53.01	-39	Pass	

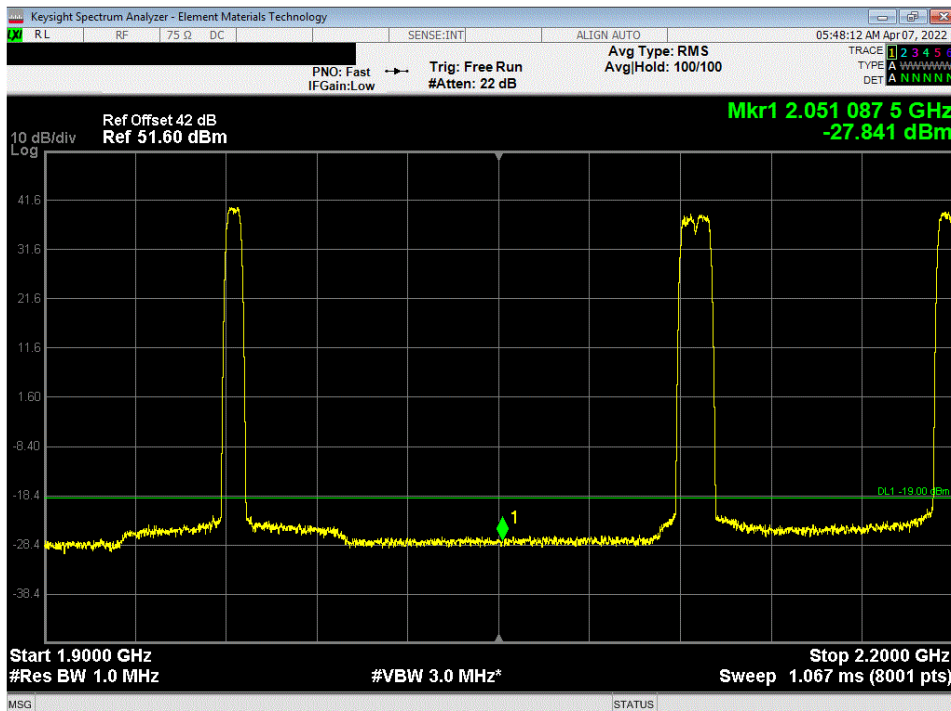


SPURIOUS CONDUCTED EMISSIONS

AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3.5 GHz	-25.1	-19	Pass	

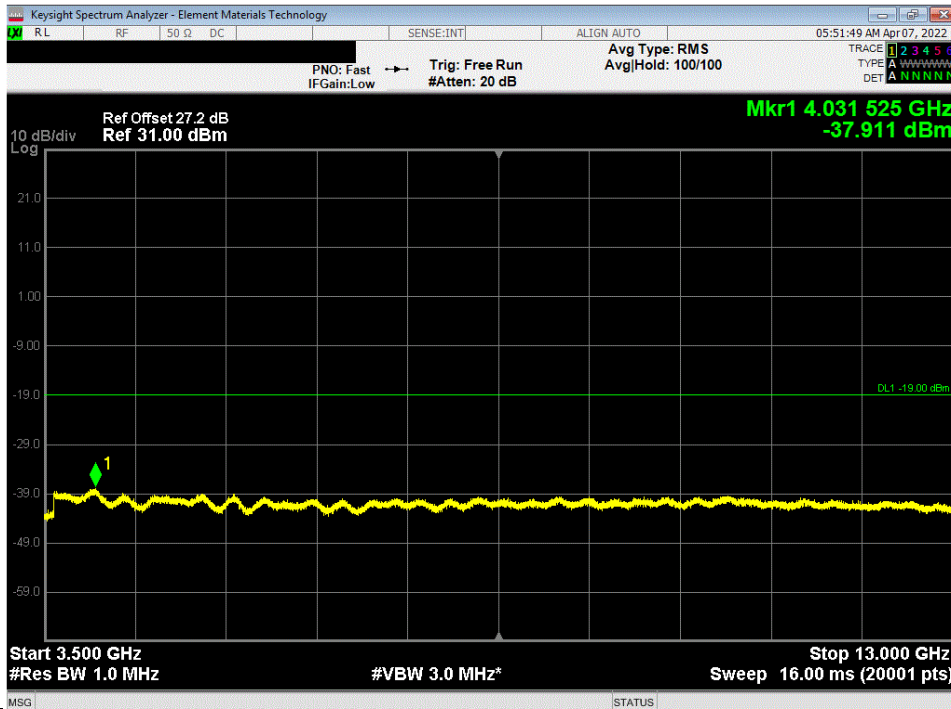


AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
1.9 GHz - 2.2 GHz	-27.84	-19	Pass	

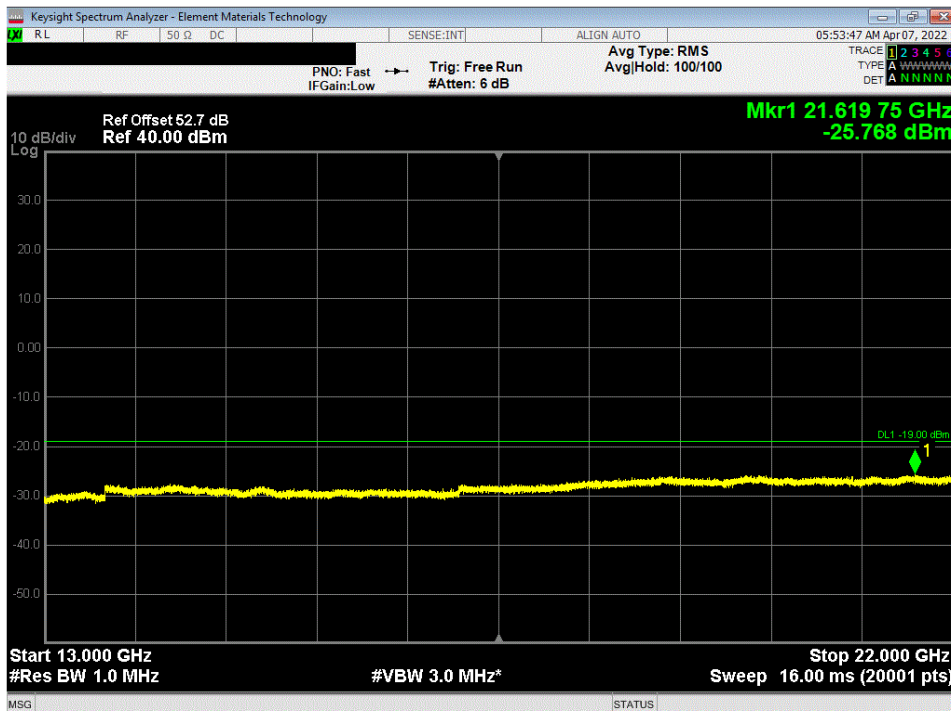


SPURIOUS CONDUCTED EMISSIONS

AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
3.5 GHz - 13 GHz	-37.91	-19	Pass	

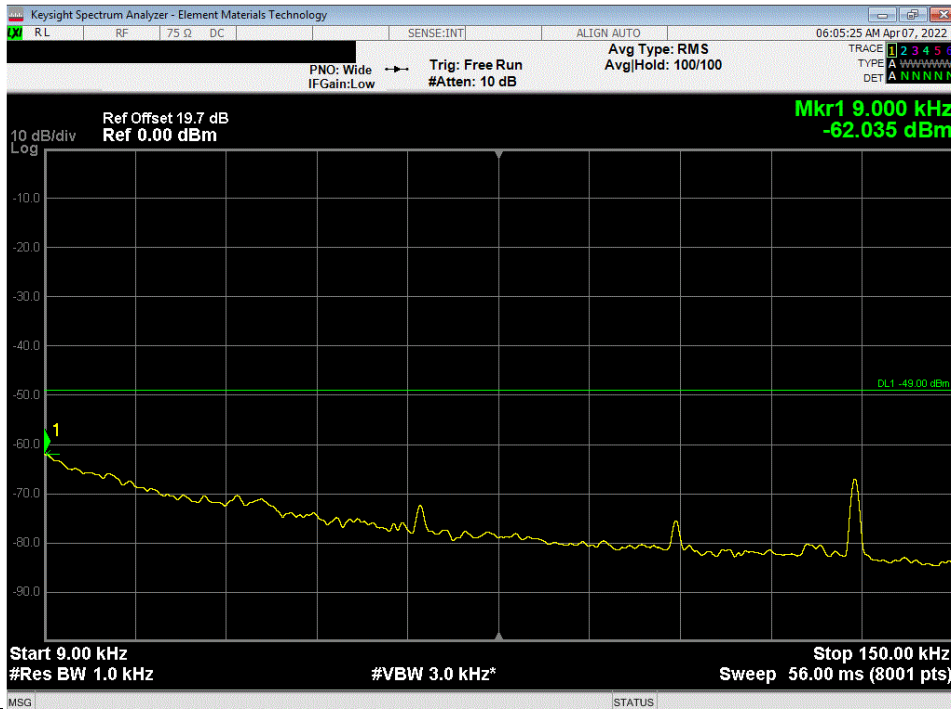


AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band NR5 (3 Carriers), PCS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
13 GHz - 22 GHz	-25.77	-19	Pass	

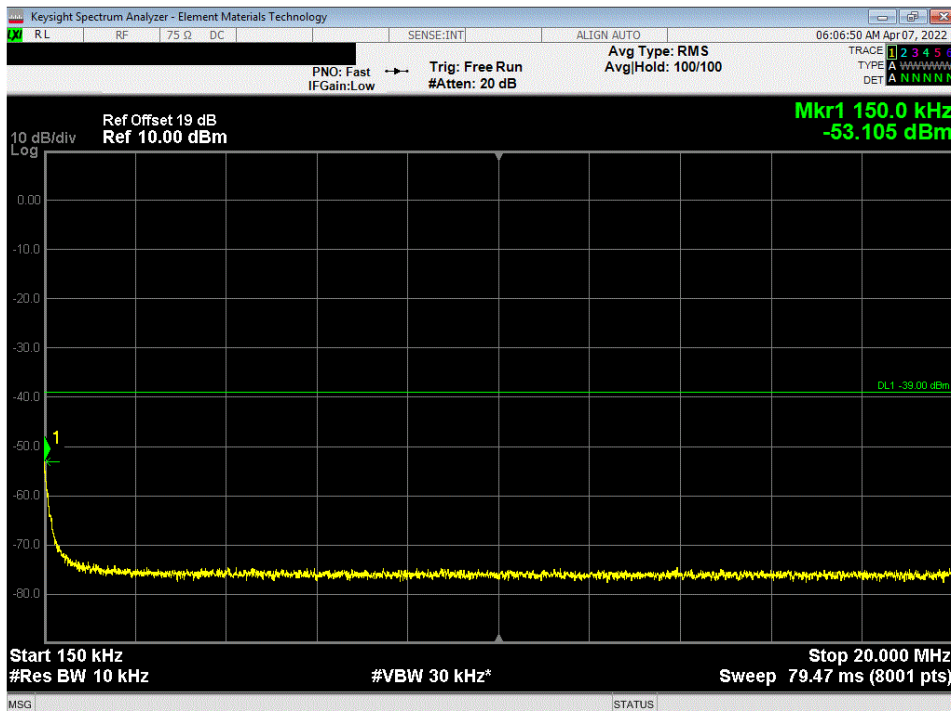


SPURIOUS CONDUCTED EMISSIONS

AWS Multicarrier Multiband, Port 1, Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	-62.04	-49	Pass	



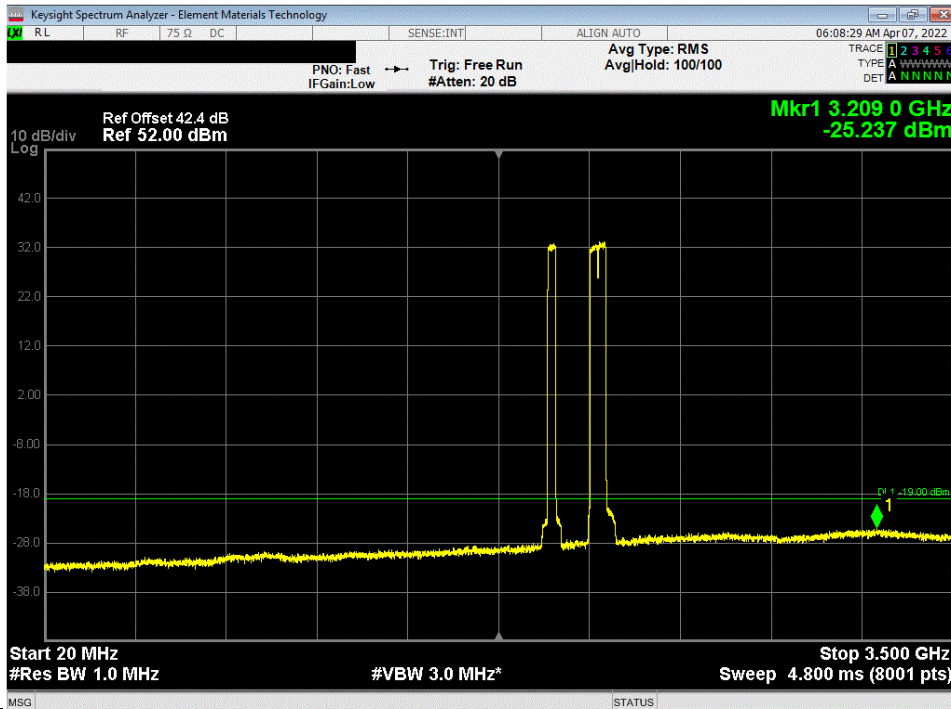
AWS Multicarrier Multiband, Port 1, Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	-53.11	-39	Pass	



SPURIOUS CONDUCTED EMISSIONS

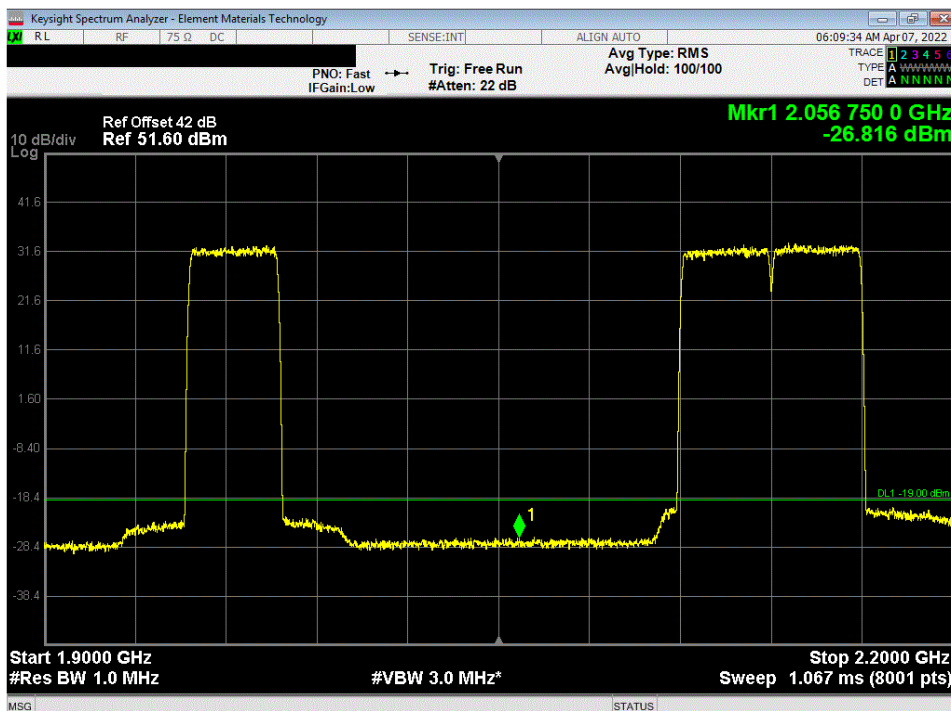
AWS Multicarrier Multiband, Port 1, Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 3.5 GHz	-25.24	-19	Pass



AWS Multicarrier Multiband, Port 1, Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

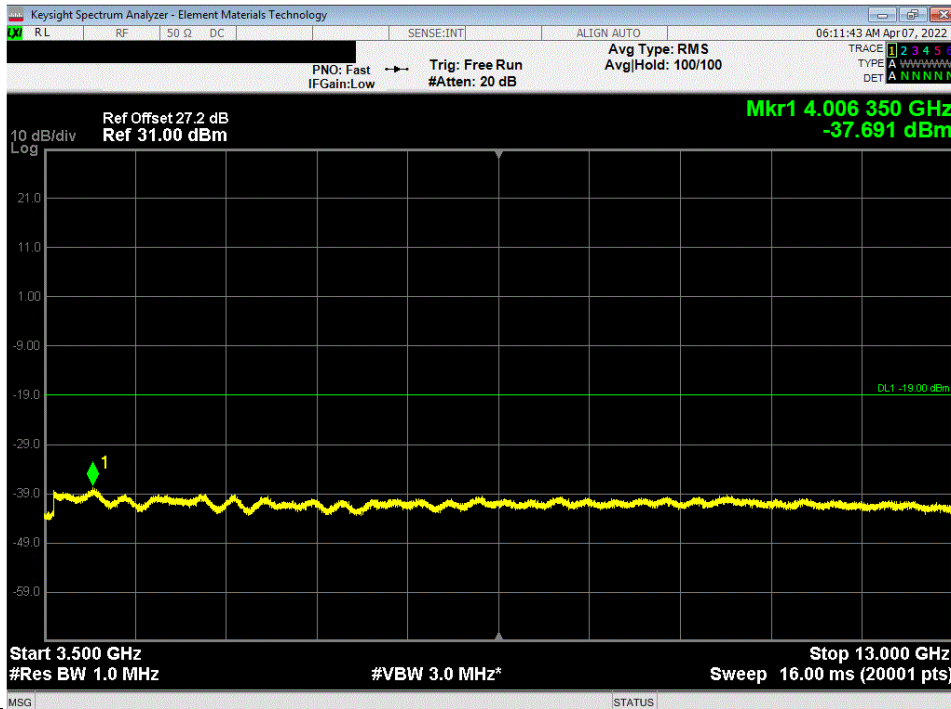
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
1.9 GHz - 2.2 GHz	-26.82	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

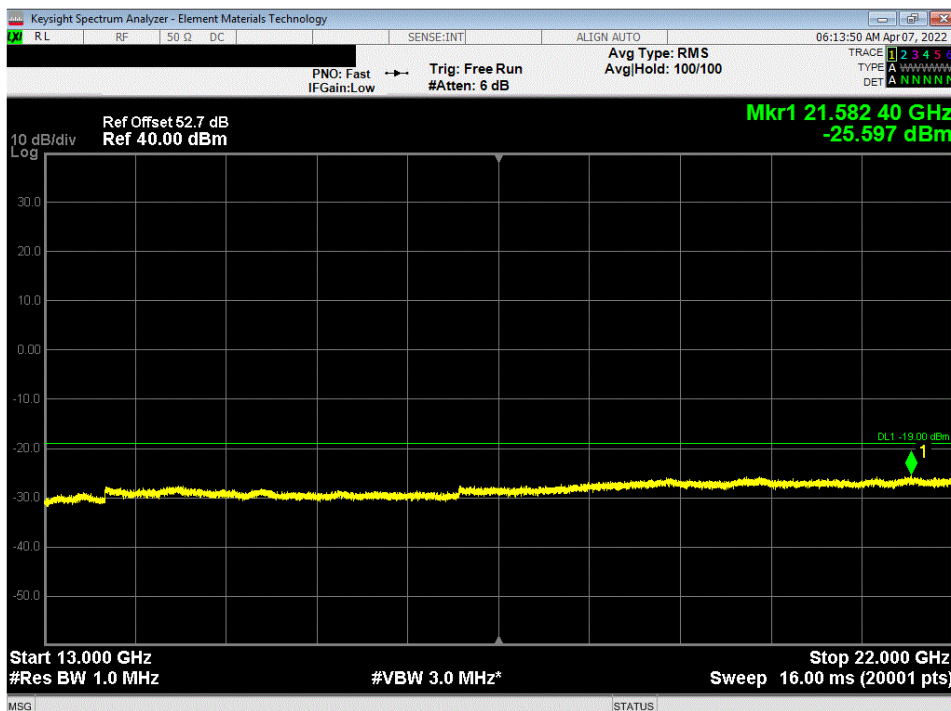
AWS Multicarrier Multiband, Port 1, Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
3.5 GHz - 13 GHz	-37.69	-19	Pass



AWS Multicarrier Multiband, Port 1, Test Case 2: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

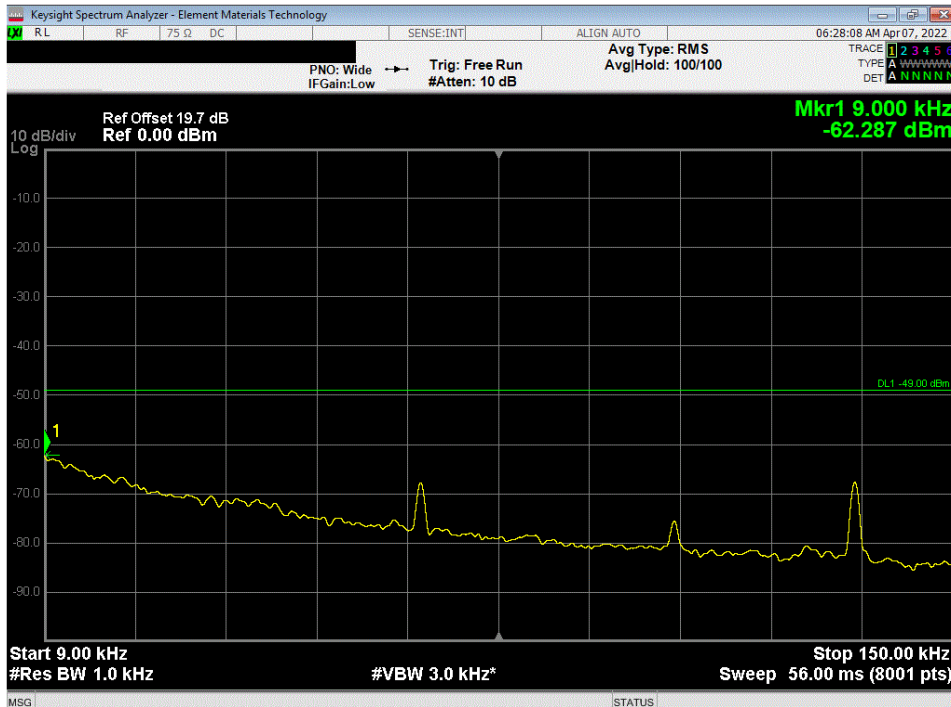
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
13 GHz - 22 GHz	-25.6	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

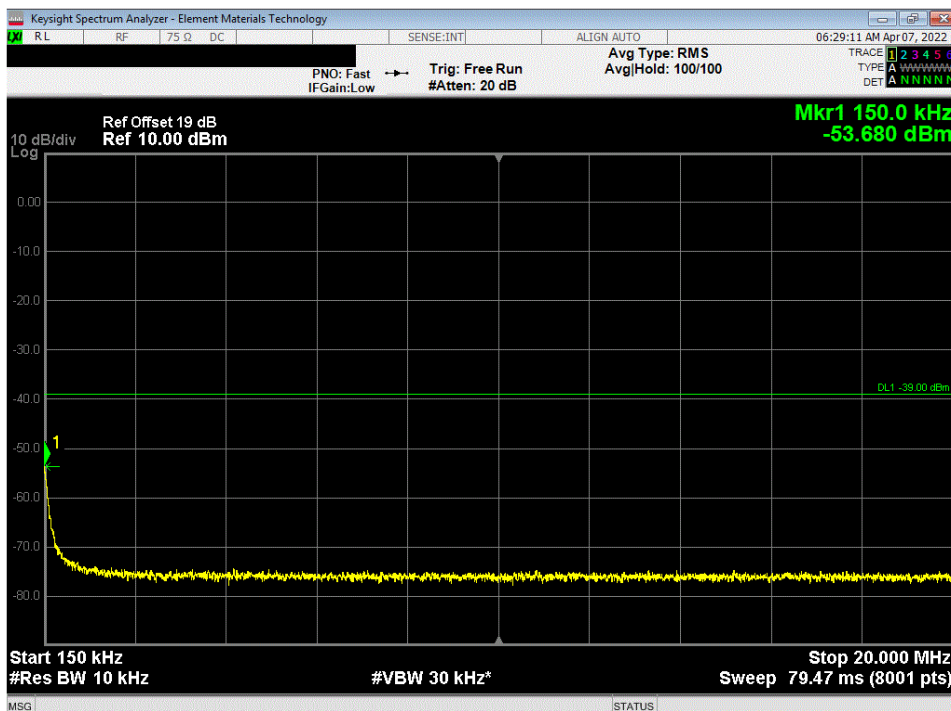
AWS Multicarrier Multiband, Port 1, Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
9 kHz - 150 kHz	-62.29	-49	Pass



AWS Multicarrier Multiband, Port 1, Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

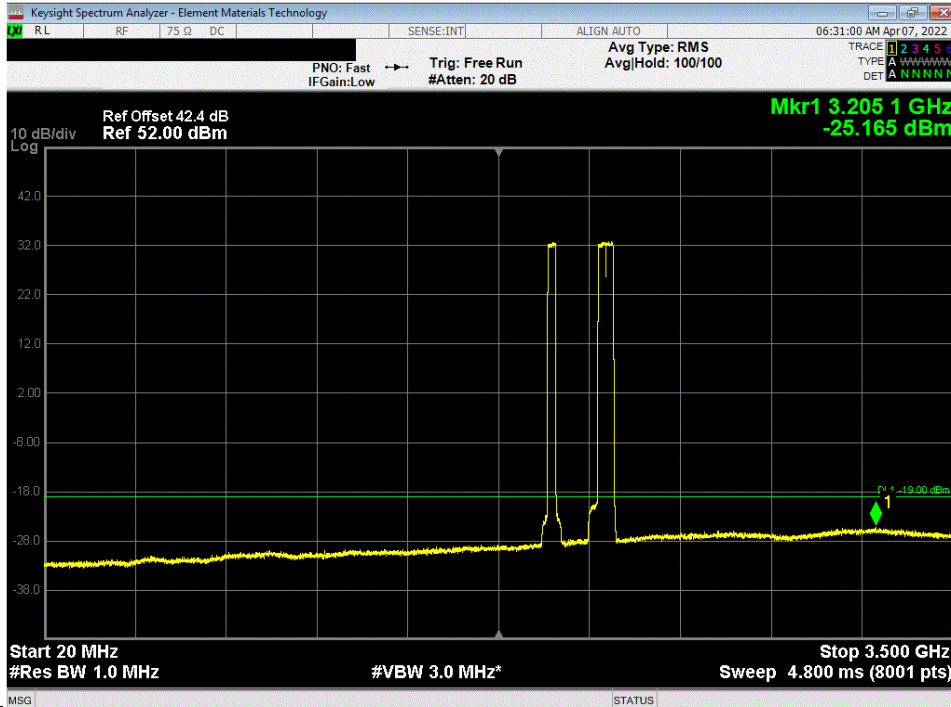
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
150 kHz - 20 MHz	-53.68	-39	Pass



SPURIOUS CONDUCTED EMISSIONS

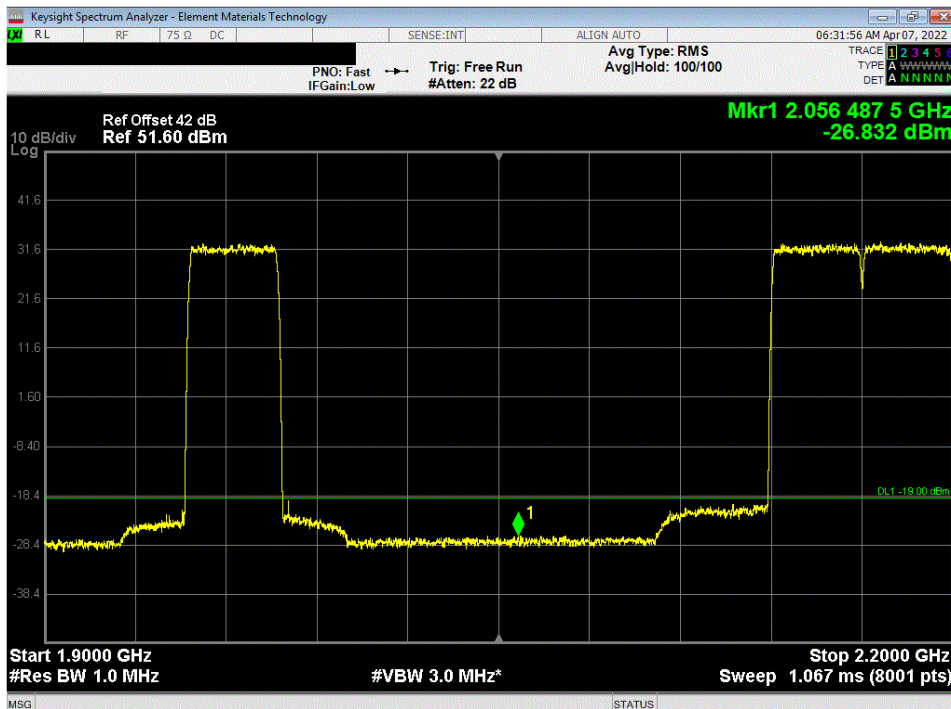
AWS Multicarrier Multiband, Port 1, Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
20 MHz - 3.5 GHz	-25.17	-19	Pass



AWS Multicarrier Multiband, Port 1, Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

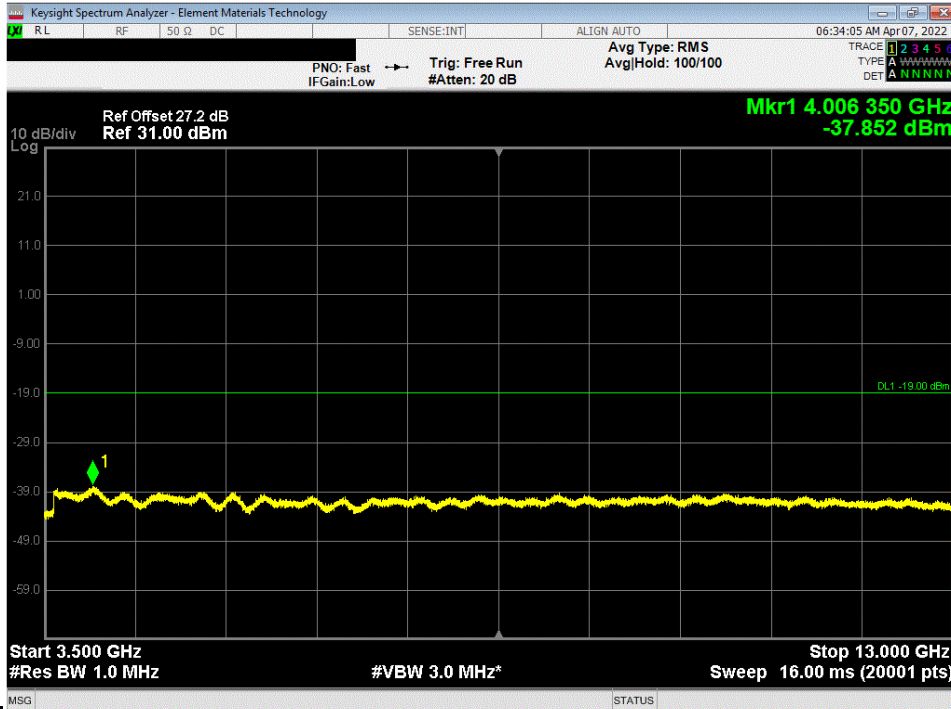
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
1.9 GHz - 2.2 GHz	-26.83	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

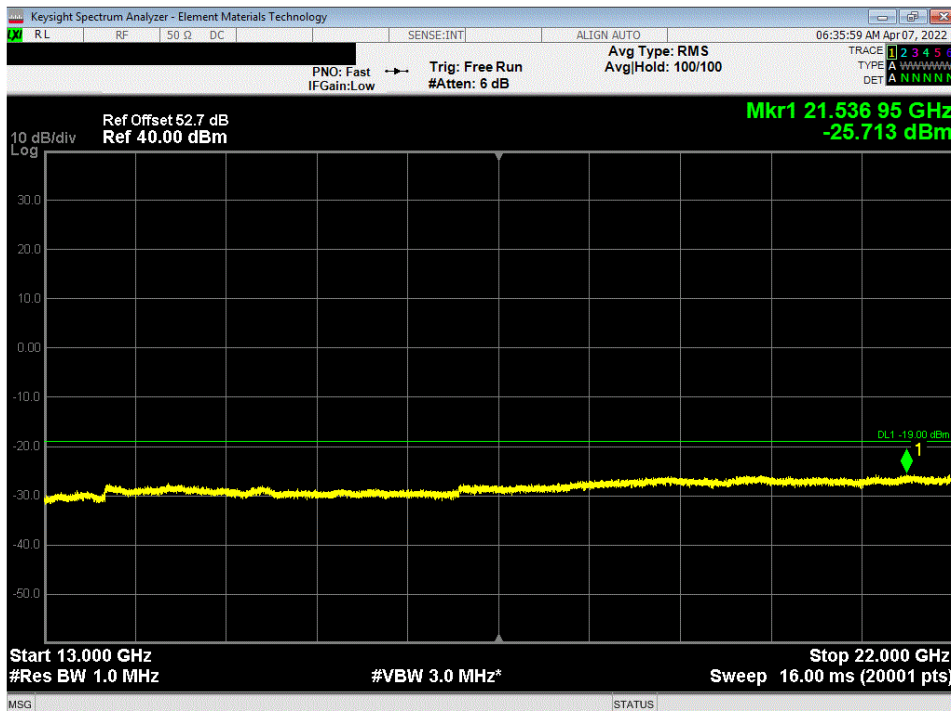
AWS Multicarrier Multiband, Port 1, Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
3.5 GHz - 13 GHz	-37.85	-19	Pass



AWS Multicarrier Multiband, Port 1, Test Case 3: AWS Band NR30 (2 Carriers), PCS Band NR30 (Single Carrier), QPSK Modulation,

Frequency Range	Max Value (dBm)	Limit < (dBm)	Result
13 GHz - 22 GHz	-25.71	-19	Pass



SPURIOUS CONDUCTED EMISSIONS

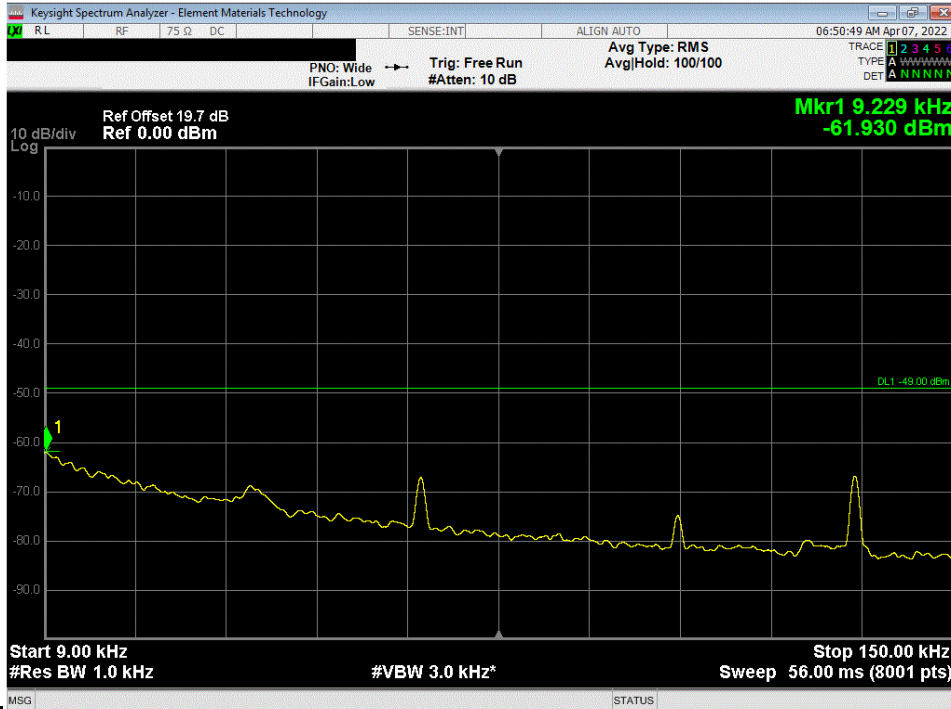


TbTx 2021.12.14.1 XM8 2022.02.07.0

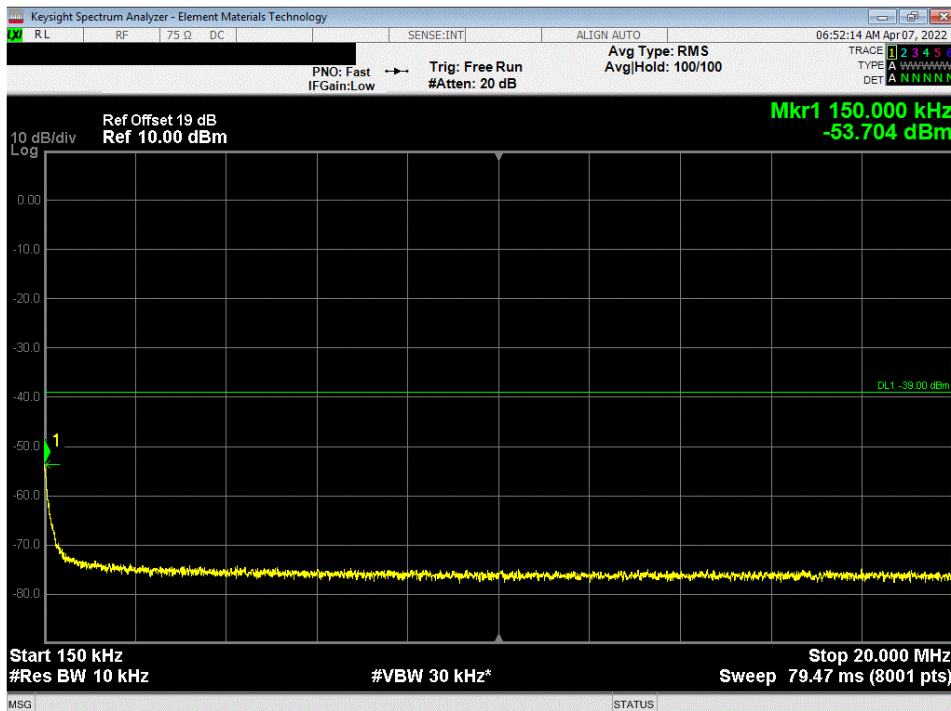
EUT: AHFII Remote Radio Head		Work Order: NOKI0038	
Serial Number: YK214000035		Date: 7-Apr-22	
Customer: Nokia of America Corporation		Temperature: 22.6 °C	
Attendees: Mitchell Hill		Humidity: 23.7% RH	
Project: None		Barometric Pres.: 1026 mbar	
Tested by: Mark Baytan	Power: 54 VDC	Job Site: TX09	
TEST SPECIFICATIONS		Test Method	
FCC 24E:2022	ANSI C63.26:2015		
RSS-133 Issue 6:2013+A1:2018	RSS-133 Issue 6:2013+A1:2018		
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 were accounted for in the reference level offset including any attenuators, filters and DC blocks. The carriers were operated at maximum power (40W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). Reference "Output Power" report section for all carrier frequencies. This testing is being performed per KDB 971168 D03v01 guidance.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1,2,3,4	Signature 	
		Frequency Range	Max Value (dBm) Limit < (dBm) Result
Multicarrier Multiband			
Port 1			
Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier)			
QPSK Modulation			
	9 kHz - 150 kHz	-61.93	-49 Pass
	150 kHz - 20 MHz	-53.7	-39 Pass
	20 MHz - 3.5 GHz	-25.49	-19 Pass
	1.9 GHz - 2.2 GHz	-27.2	-30 Pass
	3.5 GHz - 13 GHz	-37.92	-19 Pass
	13 GHz - 22 GHz	-25.61	-19 Pass

SPURIOUS CONDUCTED EMISSIONS

Multicarrier Multiband, Port 1, Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
9 kHz - 150 kHz	-61.93	-49	Pass	

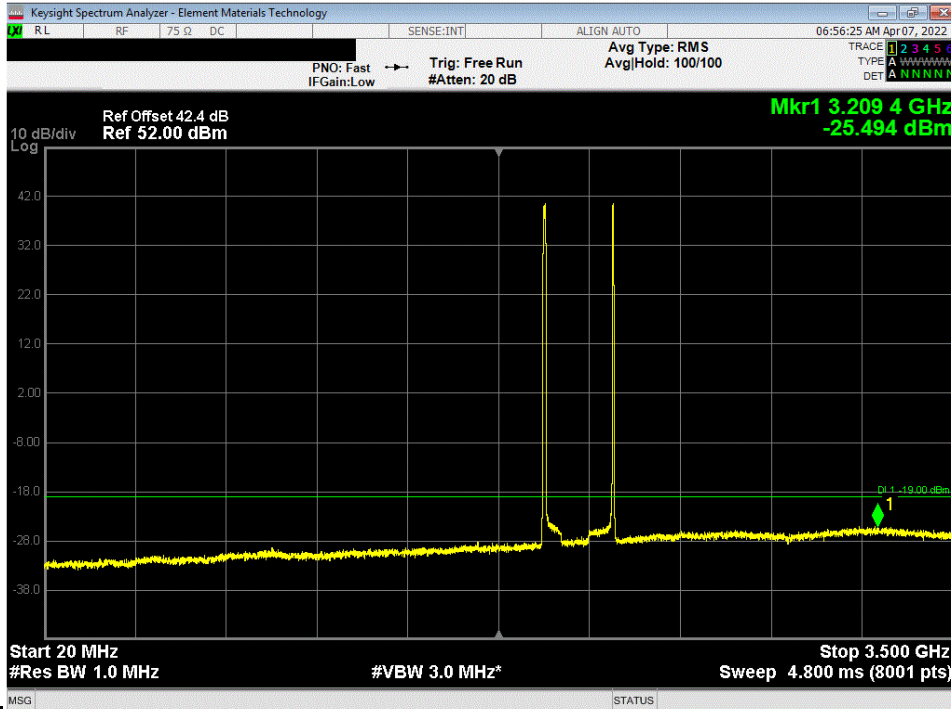


Multicarrier Multiband, Port 1, Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
150 kHz - 20 MHz	-53.7	-39	Pass	

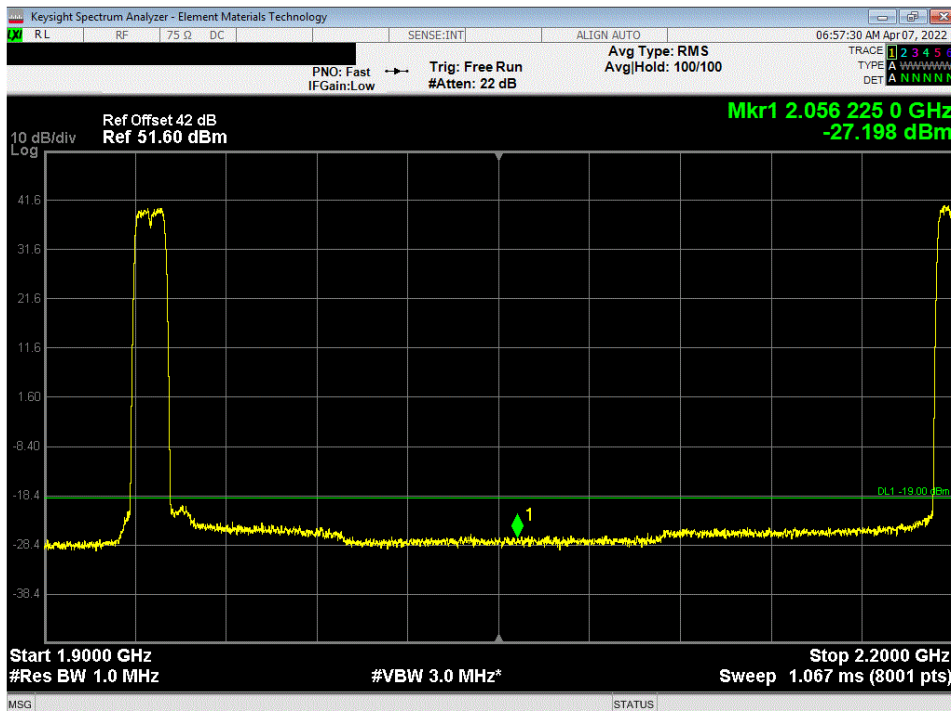


SPURIOUS CONDUCTED EMISSIONS

Multicarrier Multiband, Port 1, Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
20 MHz - 3.5 GHz	-25.49	-19	Pass	

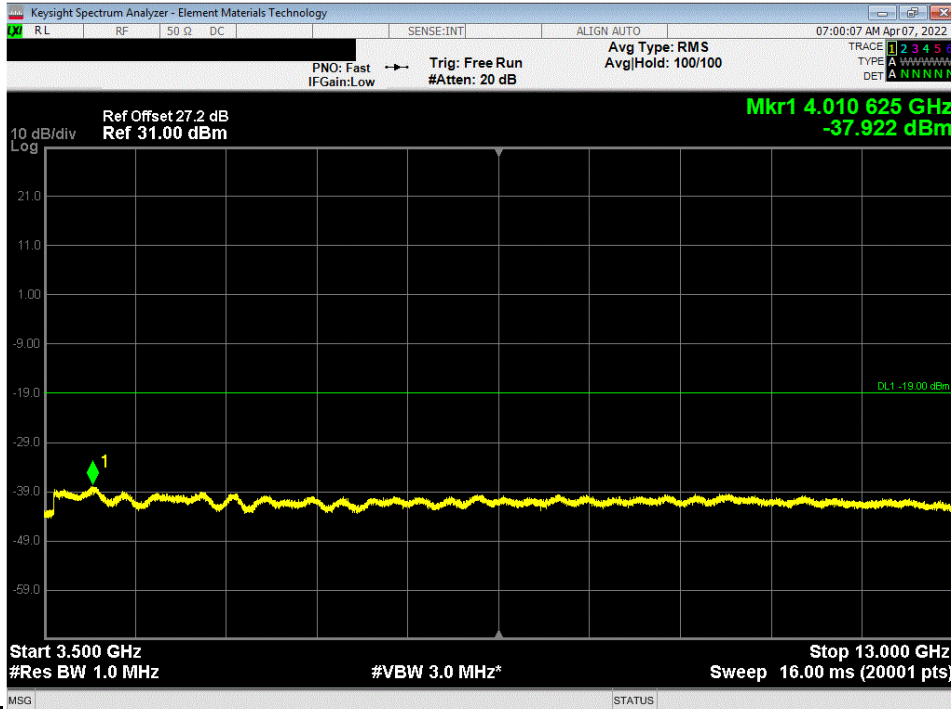


Multicarrier Multiband, Port 1, Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
1.9 GHz - 2.2 GHz	-27.2	-30	Pass	

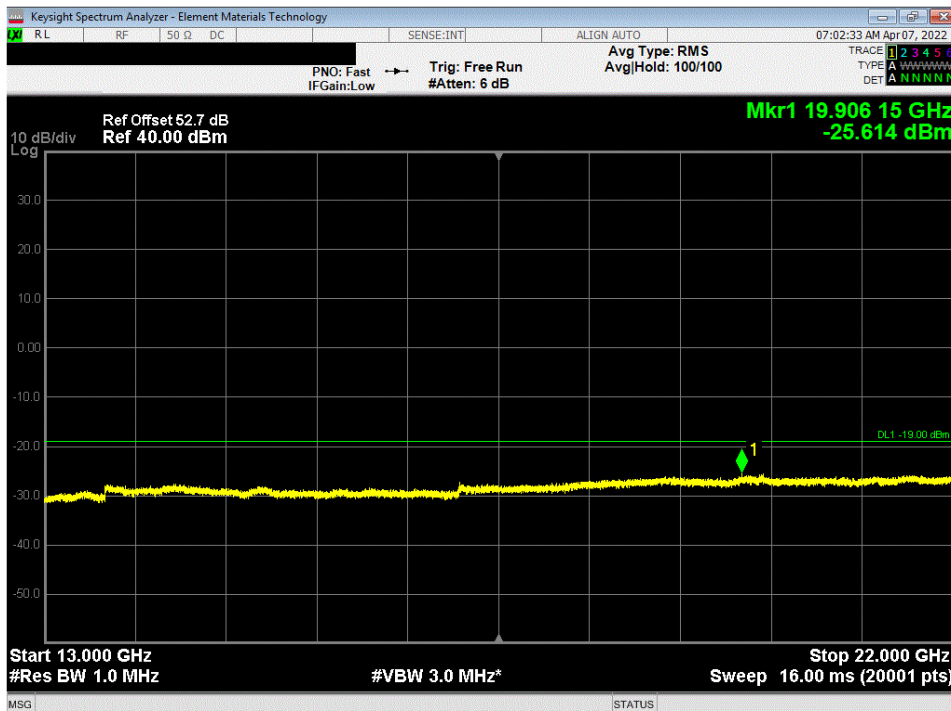


SPURIOUS CONDUCTED EMISSIONS

Multicarrier Multiband, Port 1, Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
3.5 GHz - 13 GHz	-37.92	-19	Pass	



Multicarrier Multiband, Port 1, Test Case: PCS Band NR5 (2 Carriers), AWS Band NR5 (Single Carrier), QPSK Modulation,				
Frequency Range	Max Value (dBm)	Limit < (dBm)	Result	
13 GHz - 22 GHz	-25.61	-19	Pass	



End of Test Report