

PEAK TO AVERAGE POWER (PAPR)

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 measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Power Ratio (PAPR) was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed 13 dB.

The PAPR measurement method is described in ANSI C63.26 section 5.2.3.4.
The PAPR was measured using the CCDF function of the spectrum analyzer.

Per RSS-130 section 4.6, 27.50(d)(2), the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHBOA) as the original certification test. The AHBOA 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 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraph 5.7.2i.

PEAK TO AVERAGE POWER (PAPR)



TM17x 2020.06.06.0 BETA XM1 2020.03.25.0

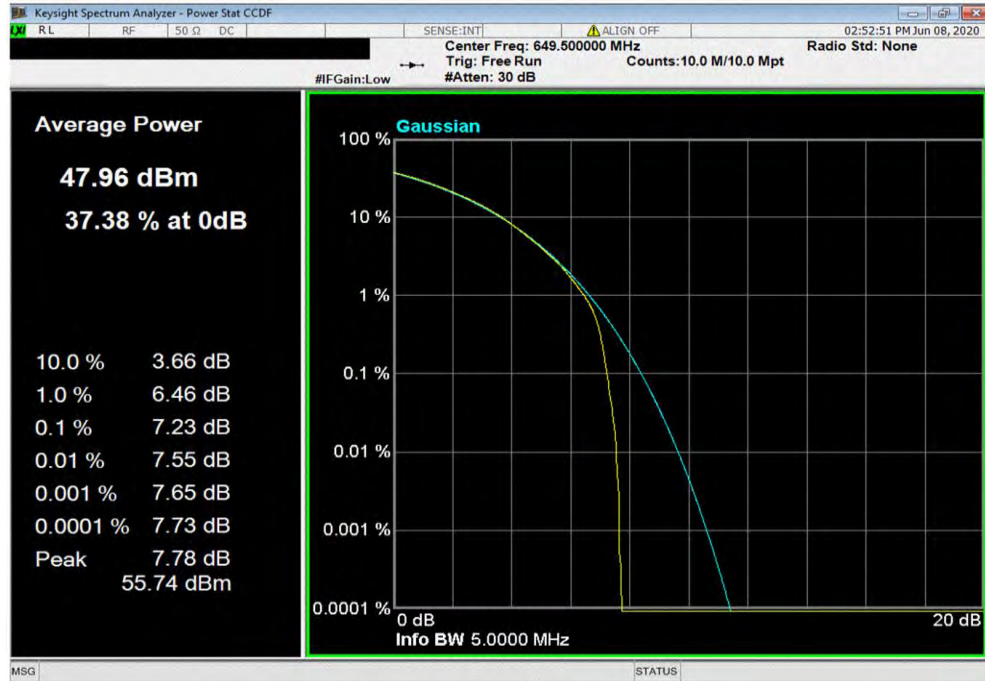
EUT: Aircscale Base Transceiver Station Remote Radio Head Model AHBOA		Work Order: NOKI0017
Serial Number: BL1943X1001		Date: 9-Jun-20
Customer: Nokia Solutions and Networks		Temperature: 23 °C
Attendees: Mitchell Hill, John Rattanavong		Humidity: 39% RH
Project: None		Barometric Pres.: 1023 mbar
Tested by: Brandon Hobbs	Power: 54 VDC	Job Site: TX05
TEST SPECIFICATIONS		
FCC 27:2020		Test Method
RSS-130:2019		ANSI C63.26:2015
COMMENTS		RSS-130:2019
All measurement path losses were accounted for in the reference level offset including any attenuators, filters and DC blocks. The carrier power was set to maximum for all testing.		
DEVIATIONS FROM TEST STANDARD		
None		
Configuration #	2	Signature
		Value 0.1% (dB)
		Limit < dB
		Results
Port 1, Band 71, 617 MHz - 652 MHz		
5 MHz Bandwidth		
QPSK Modulation		
Low Channel, 619.5 MHz		7.23
Mid Channel, 634.5 MHz		7.18
High Channel, 649.5 MHz		7.28
16-QAM Modulation		
Low Channel, 619.5 MHz		7.41
Mid Channel, 634.5 MHz		7.34
High Channel, 649.5 MHz		7.42
64-QAM Modulation		
Low Channel, 619.5 MHz		7.18
Mid Channel, 634.5 MHz		7.15
High Channel, 649.5 MHz		7.23
256-QAM Modulation		
Low Channel, 619.5 MHz		7.29
Mid Channel, 634.5 MHz		7.25
High Channel, 649.5 MHz		7.26
10 MHz Bandwidth		
QPSK Modulation		
Low Channel, 622 MHz		7.47
Mid Channel, 634.5 MHz		7.18
High Channel, 647 MHz		7.40
16-QAM Modulation		
Low Channel, 622 MHz		7.52
Mid Channel, 634.5 MHz		7.33
High Channel, 647 MHz		7.50
64-QAM Modulation		
Low Channel, 622 MHz		7.43
Mid Channel, 634.5 MHz		7.19
High Channel, 647 MHz		7.36
256-QAM Modulation		
Low Channel, 622 MHz		7.47
Mid Channel, 634.5 MHz		7.27
High Channel, 647 MHz		7.47
15 MHz Bandwidth		
QPSK Modulation		
Low Channel, 624.5 MHz		7.54
Mid Channel, 634.5 MHz		7.17
High Channel, 644.5 MHz		7.55
16-QAM Modulation		
Low Channel, 624.5 MHz		7.64
Mid Channel, 634.5 MHz		7.24
High Channel, 644.5 MHz		7.66
64-QAM Modulation		
Low Channel, 624.5 MHz		7.37
Mid Channel, 634.5 MHz		7.16
High Channel, 644.5 MHz		7.47
256-QAM Modulation		
Low Channel, 624.5 MHz		7.41
Mid Channel, 634.5 MHz		7.16
High Channel, 644.5 MHz		7.58
20 MHz Bandwidth		
QPSK Modulation		
Low Channel, 627 MHz		7.55
Mid Channel, 634.5 MHz		7.10
High Channel, 642 MHz		7.66
16-QAM Modulation		
Low Channel, 627 MHz		7.57
Mid Channel, 634.5 MHz		7.17
High Channel, 642 MHz		7.63
64-QAM Modulation		
Low Channel, 627 MHz		7.50
Mid Channel, 634.5 MHz		7.10
High Channel, 642 MHz		7.58
256-QAM Modulation		
Low Channel, 627 MHz		7.43
Mid Channel, 634.5 MHz		7.10
High Channel, 642 MHz		7.62

PEAK TO AVERAGE POWER (PAPR)

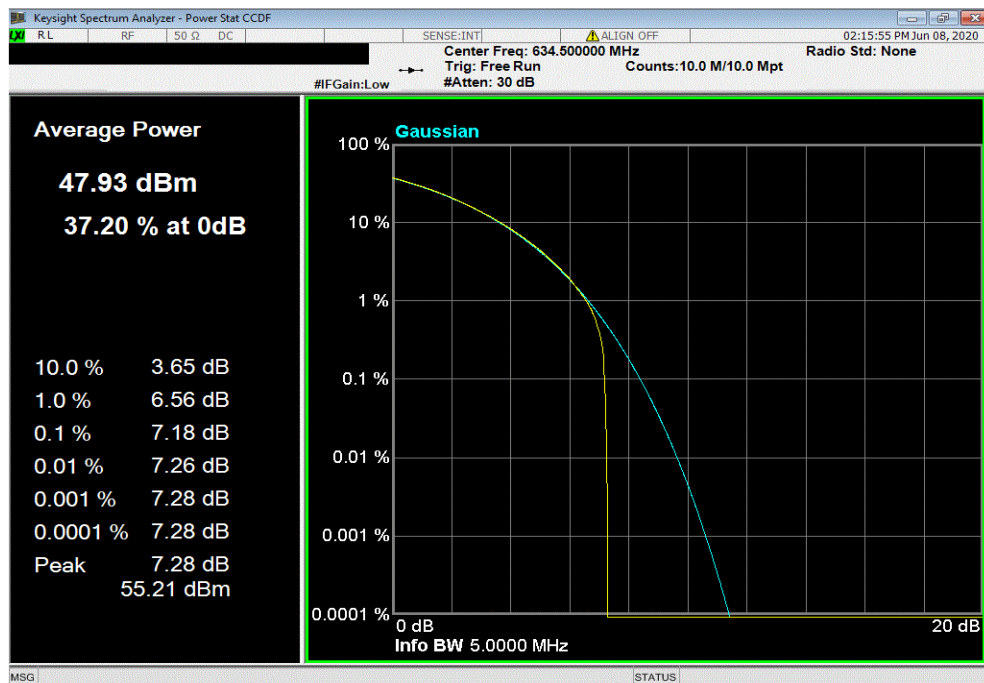


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Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, QPSK Modulation, Low Channel, 619.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.23	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.18	13	Pass			

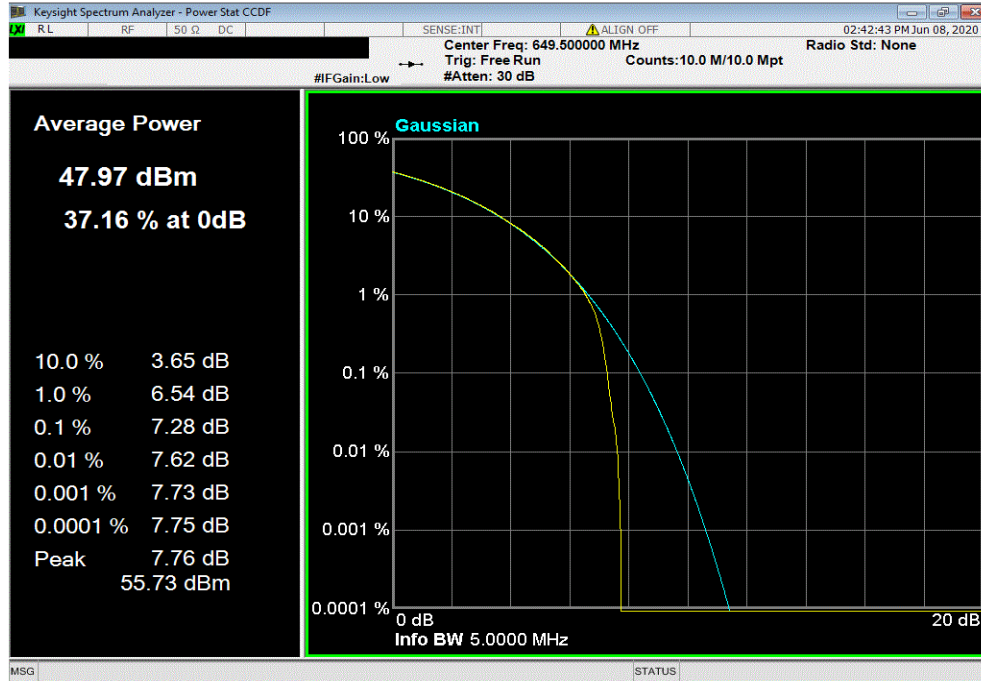


PEAK TO AVERAGE POWER (PAPR)

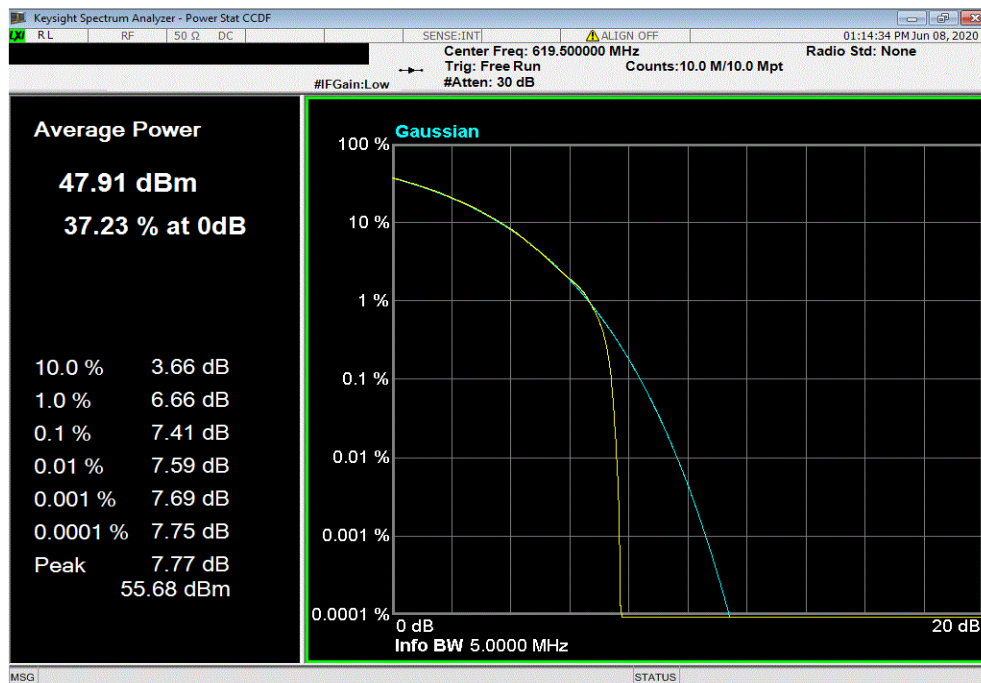


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Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, QPSK Modulation, High Channel, 649.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.28	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 16-QAM Modulation, Low Channel, 619.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.41	13	Pass			

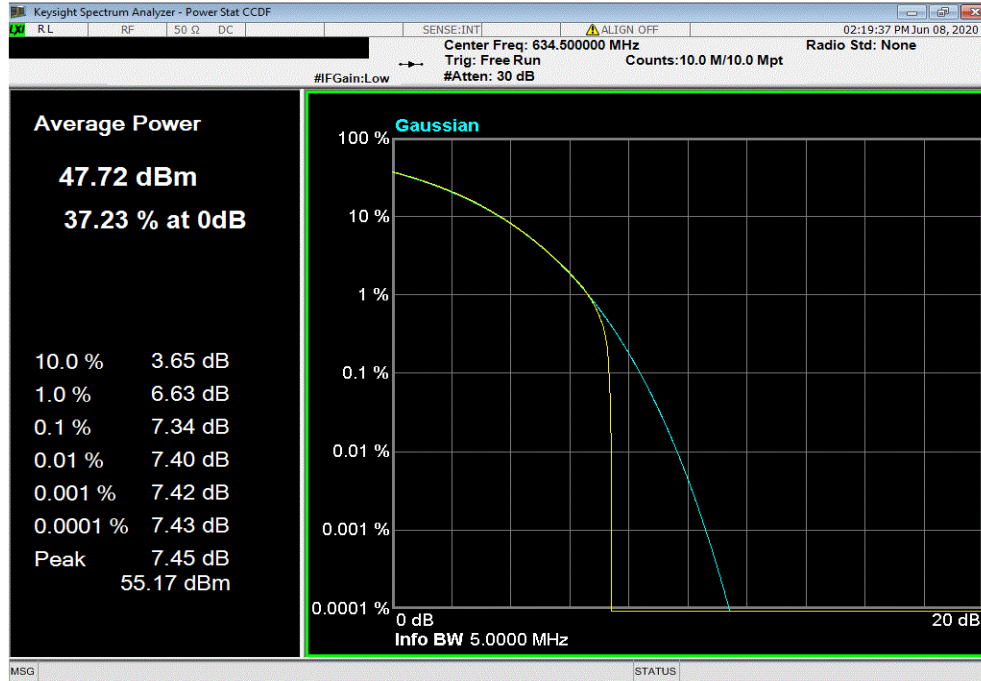


PEAK TO AVERAGE POWER (PAPR)

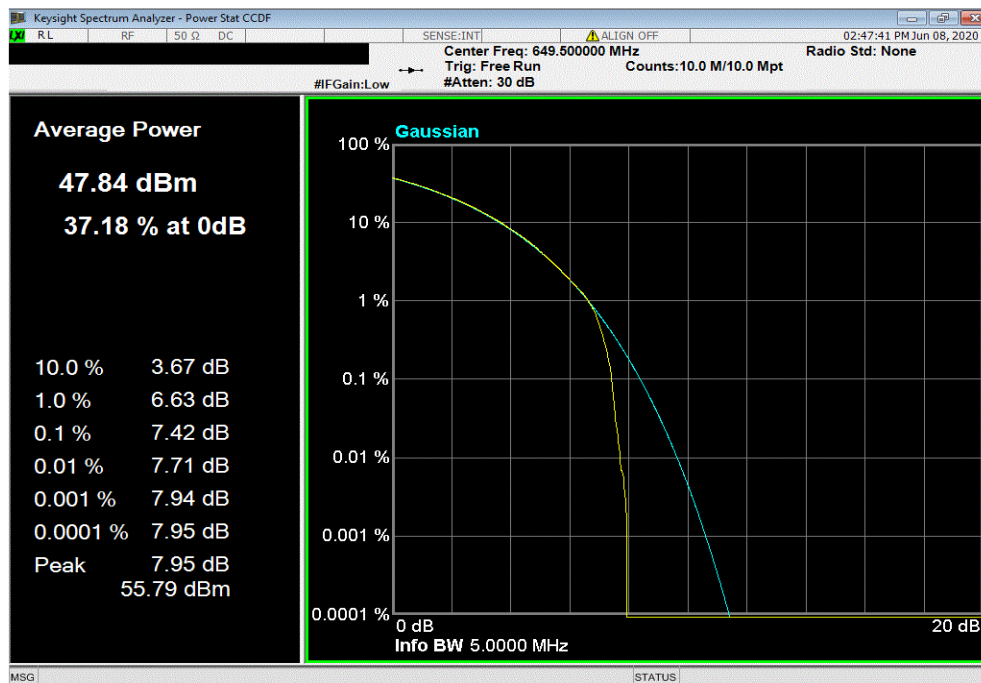


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Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.34	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 16-QAM Modulation, High Channel, 649.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.42	13	Pass			

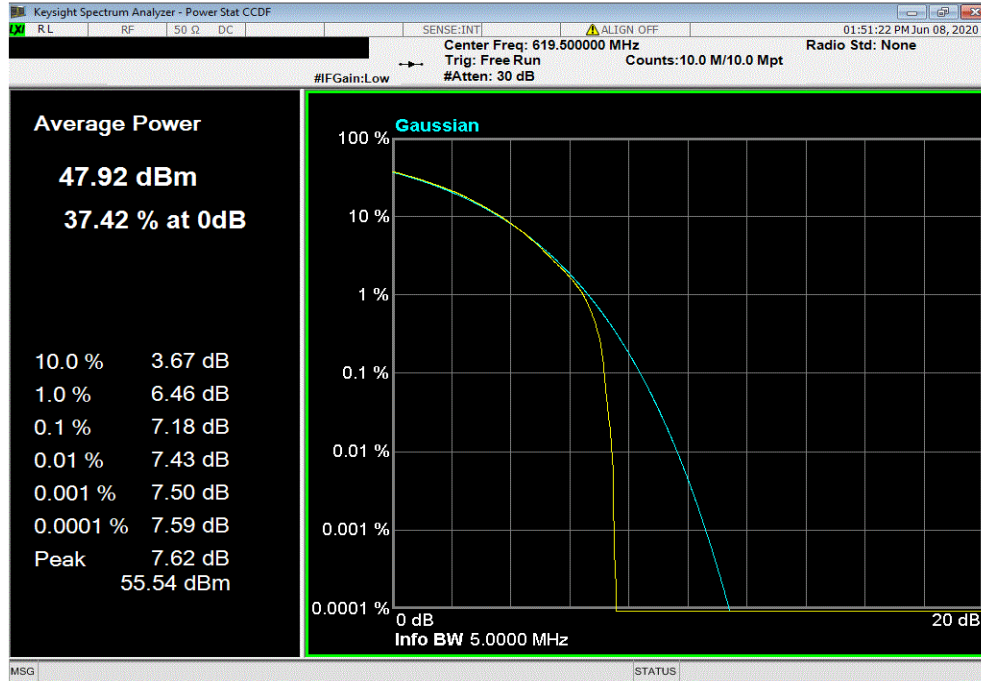


PEAK TO AVERAGE POWER (PAPR)

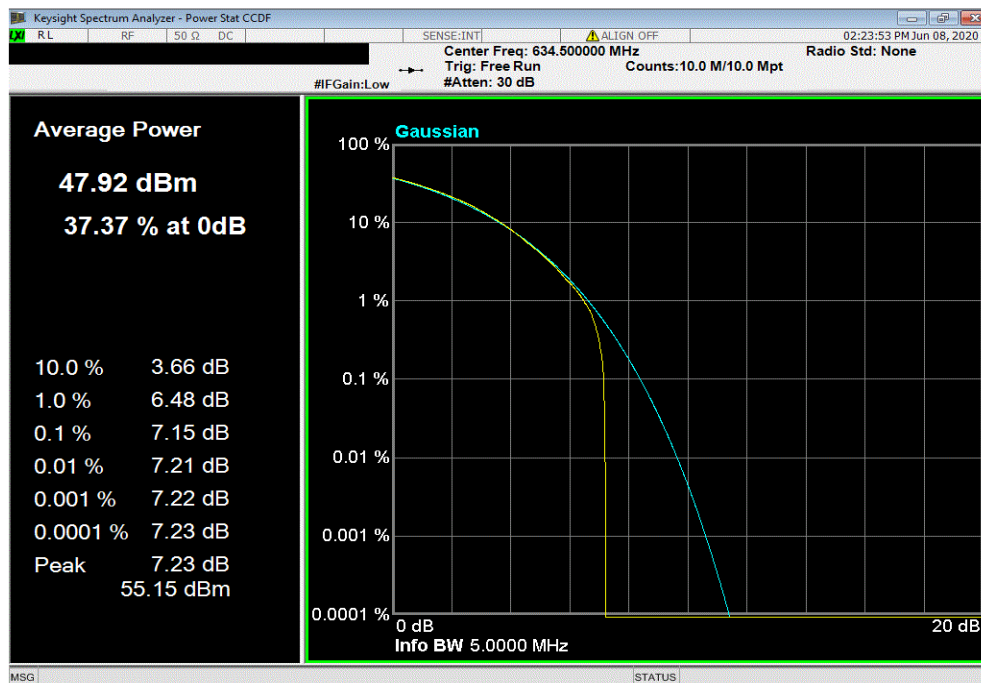


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Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 64-QAM Modulation, Low Channel, 619.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.18	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.15	13	Pass			

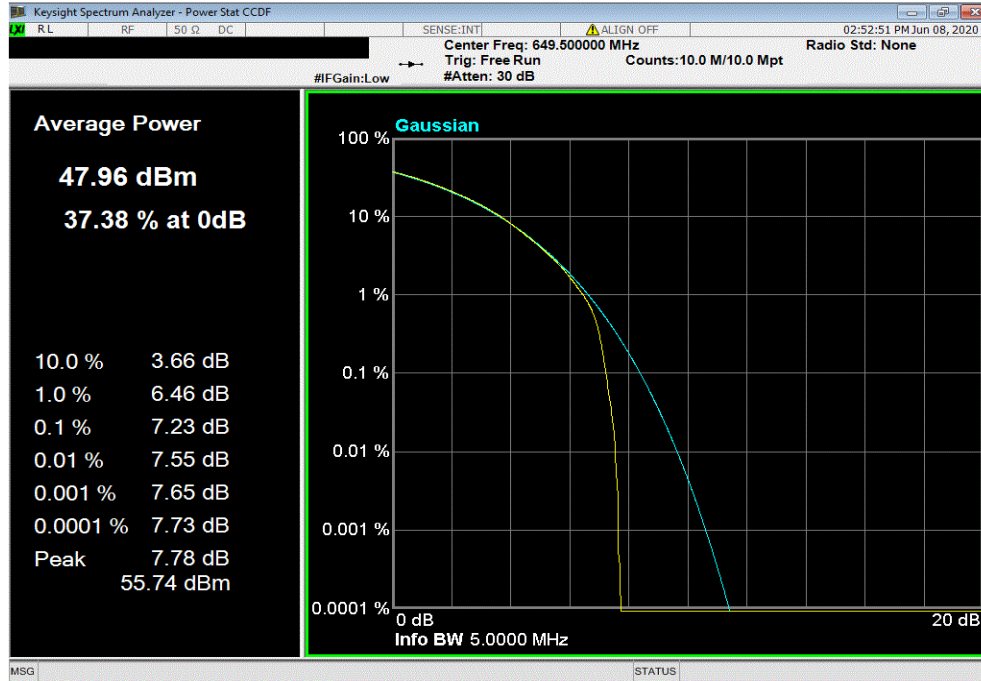


PEAK TO AVERAGE POWER (PAPR)

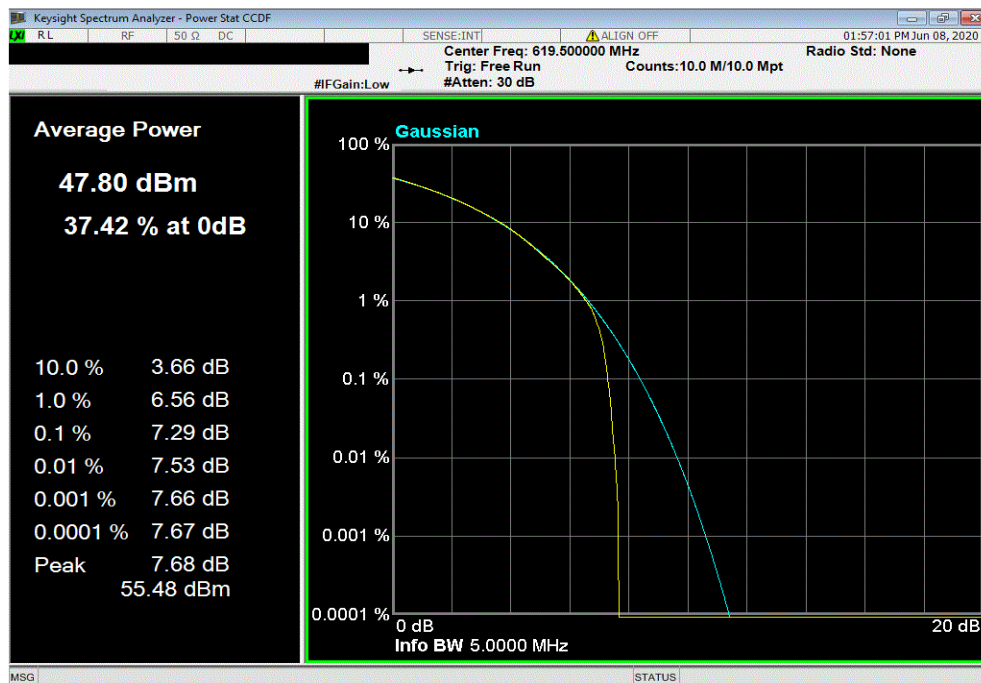


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Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 64-QAM Modulation, High Channel, 649.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.23	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, Low Channel, 619.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.29	13	Pass			

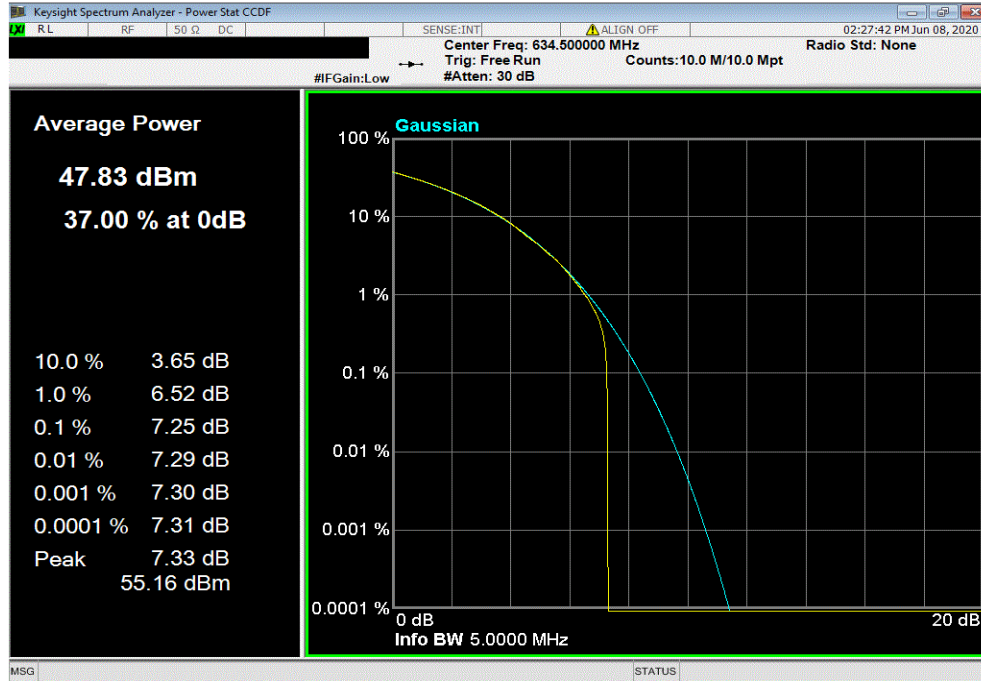


PEAK TO AVERAGE POWER (PAPR)

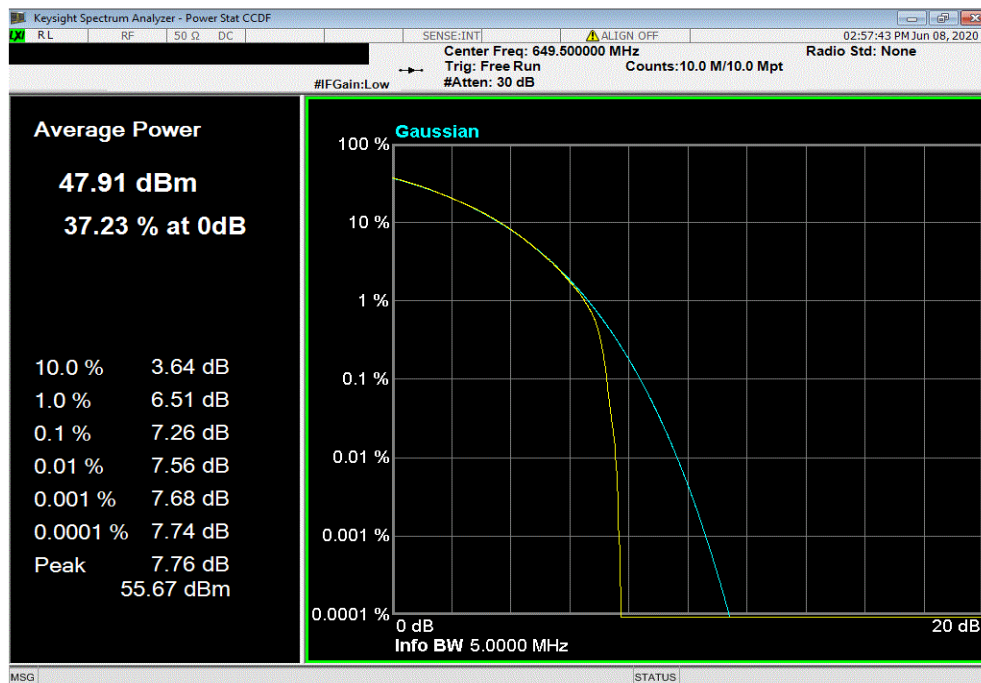


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Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.25	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 5 MHz Bandwidth, 256-QAM Modulation, High Channel, 649.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.26	13	Pass			

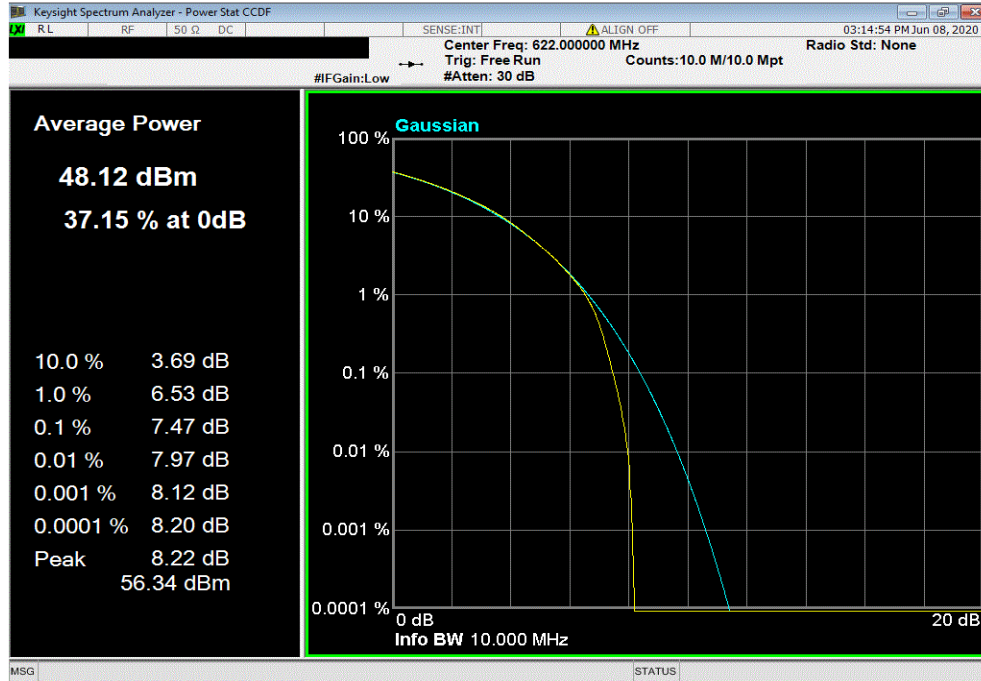


PEAK TO AVERAGE POWER (PAPR)

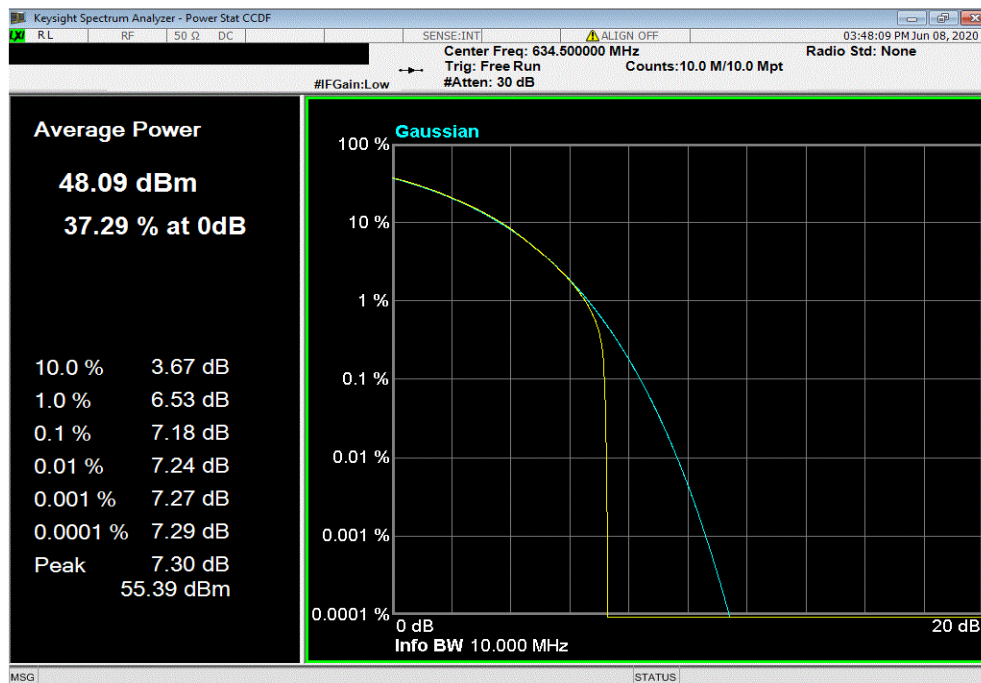


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Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, QPSK Modulation, Low Channel, 622 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.47	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, QPSK Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.18	13	Pass			

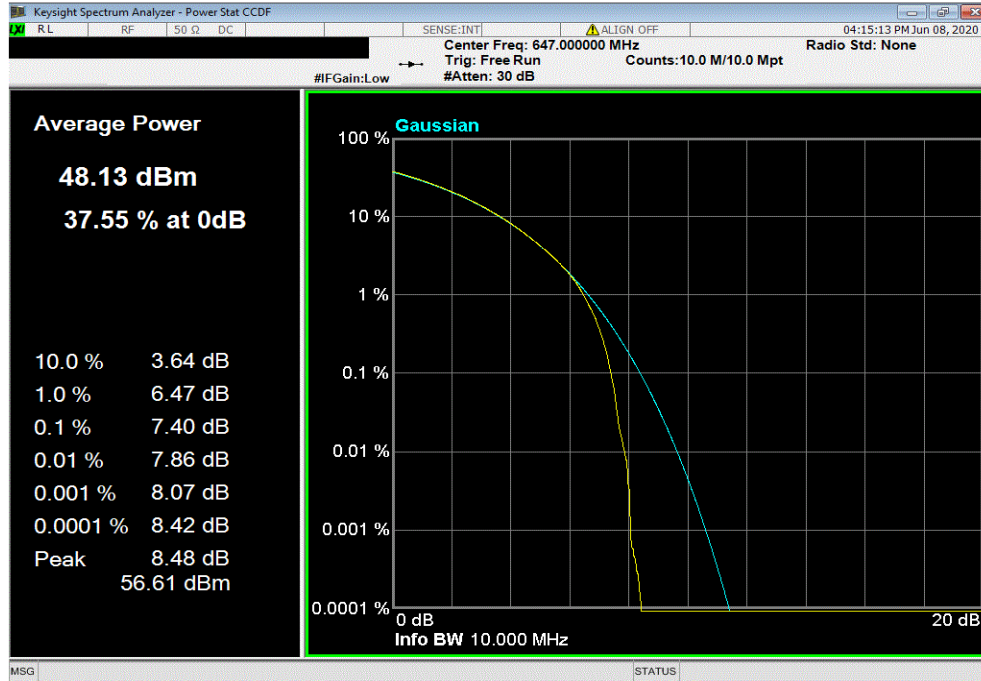


PEAK TO AVERAGE POWER (PAPR)

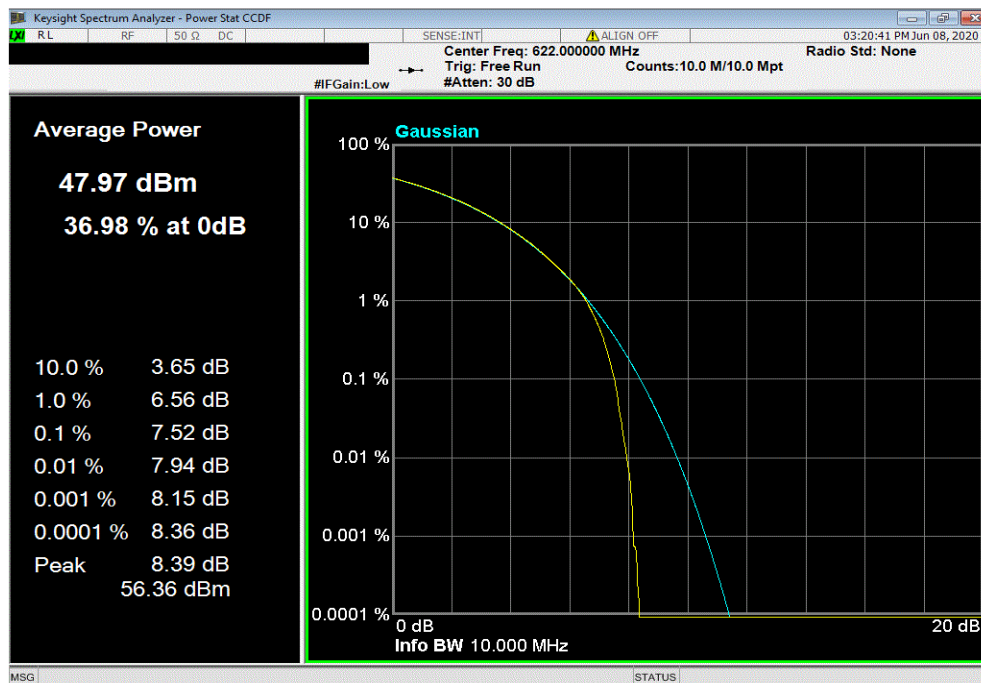


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Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, QPSK Modulation, High Channel, 647 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.4	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 16-QAM Modulation, Low Channel, 622 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.52	13	Pass			

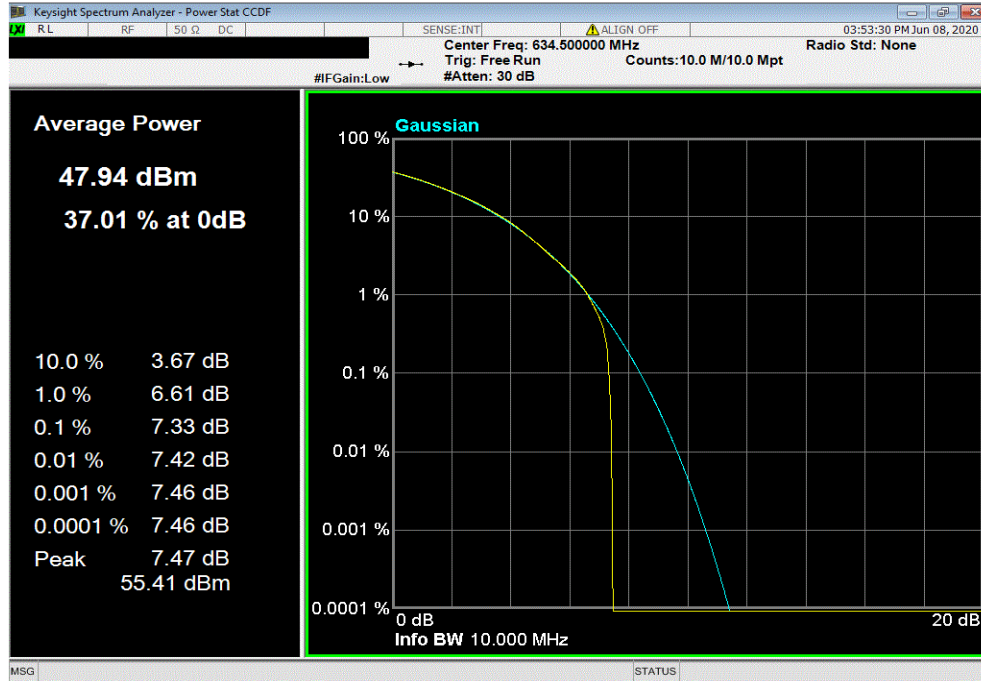


PEAK TO AVERAGE POWER (PAPR)

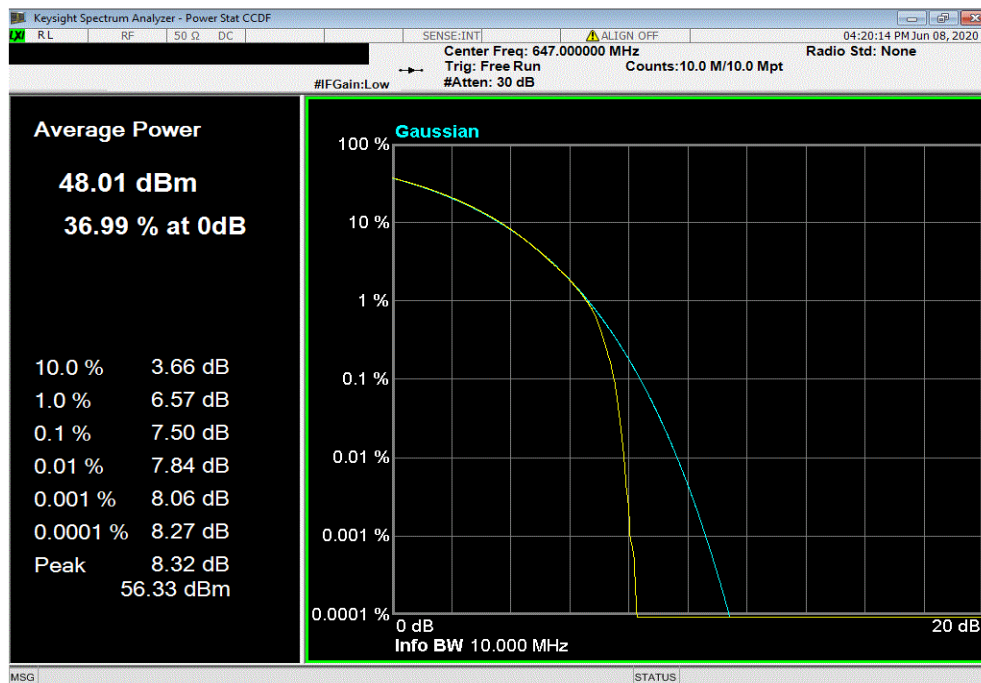


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.33	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 16-QAM Modulation, High Channel, 647 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.5	13	Pass			

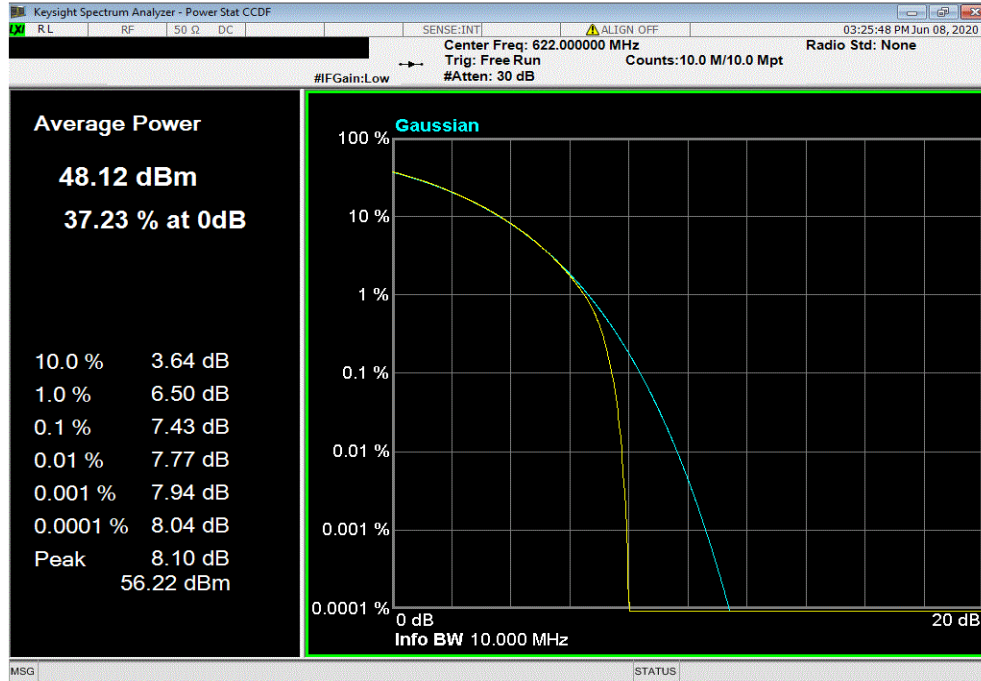


PEAK TO AVERAGE POWER (PAPR)

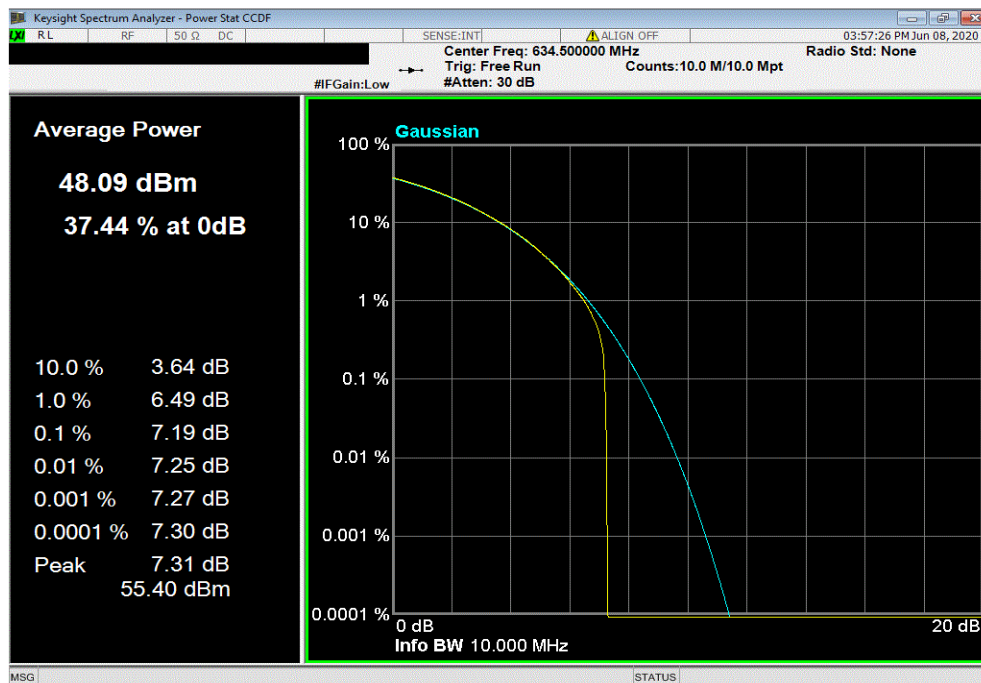


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 64-QAM Modulation, Low Channel, 622 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.43	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.19	13	Pass			

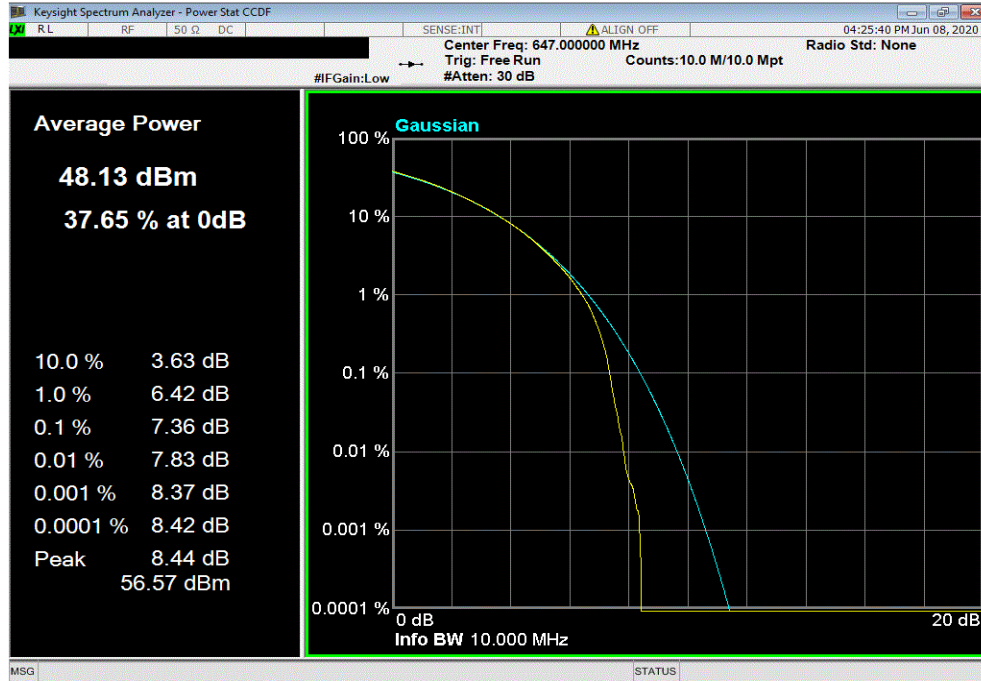


PEAK TO AVERAGE POWER (PAPR)

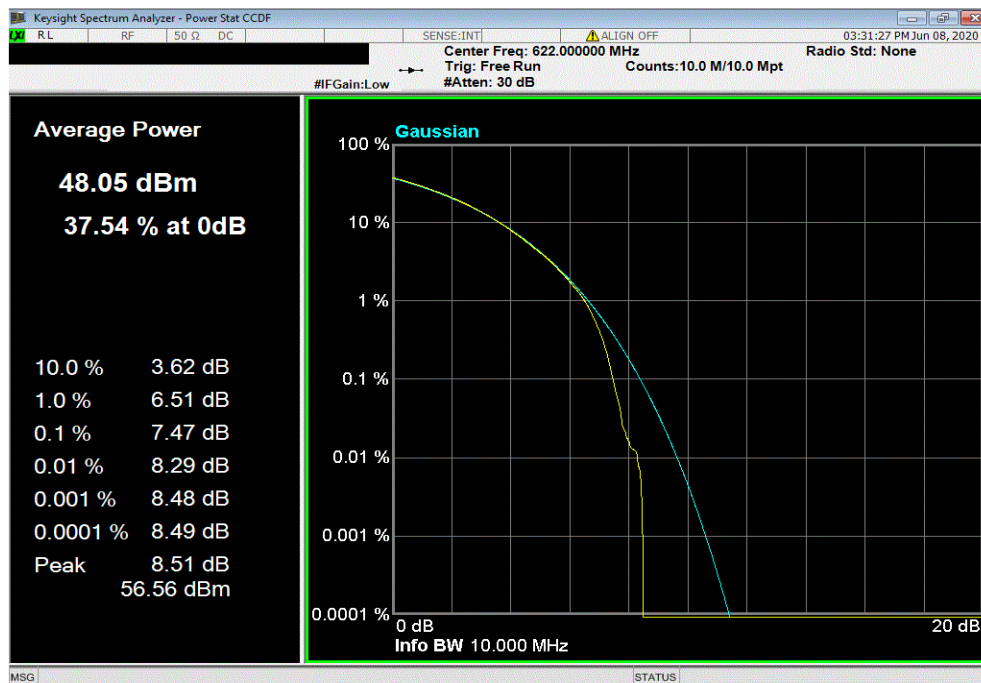


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 64-QAM Modulation, High Channel, 647 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.36	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Low Channel, 622 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.47	13	Pass			

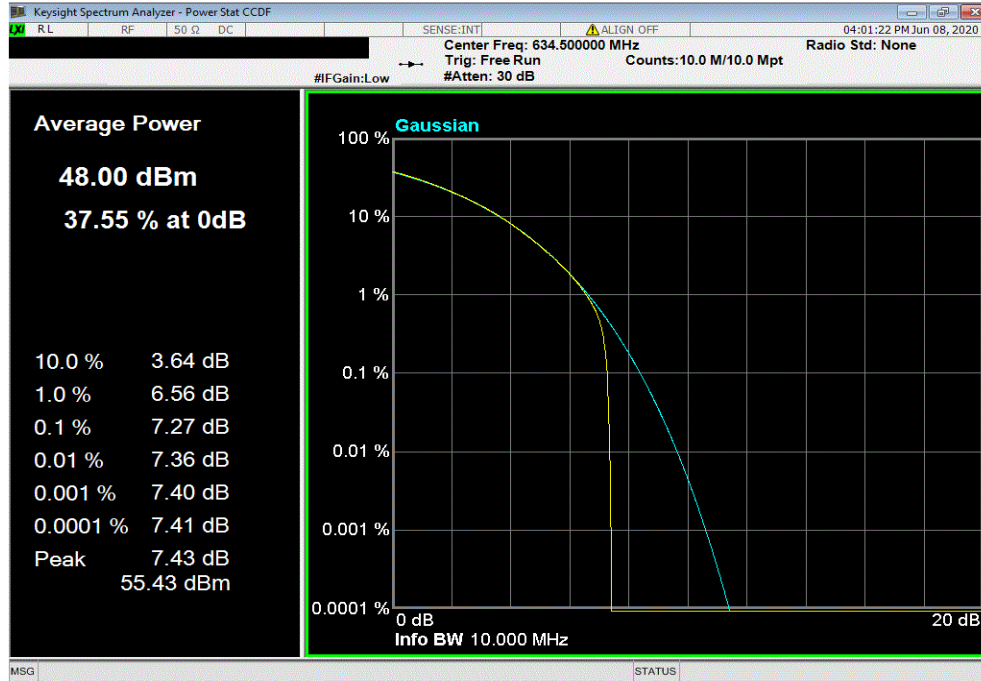


PEAK TO AVERAGE POWER (PAPR)

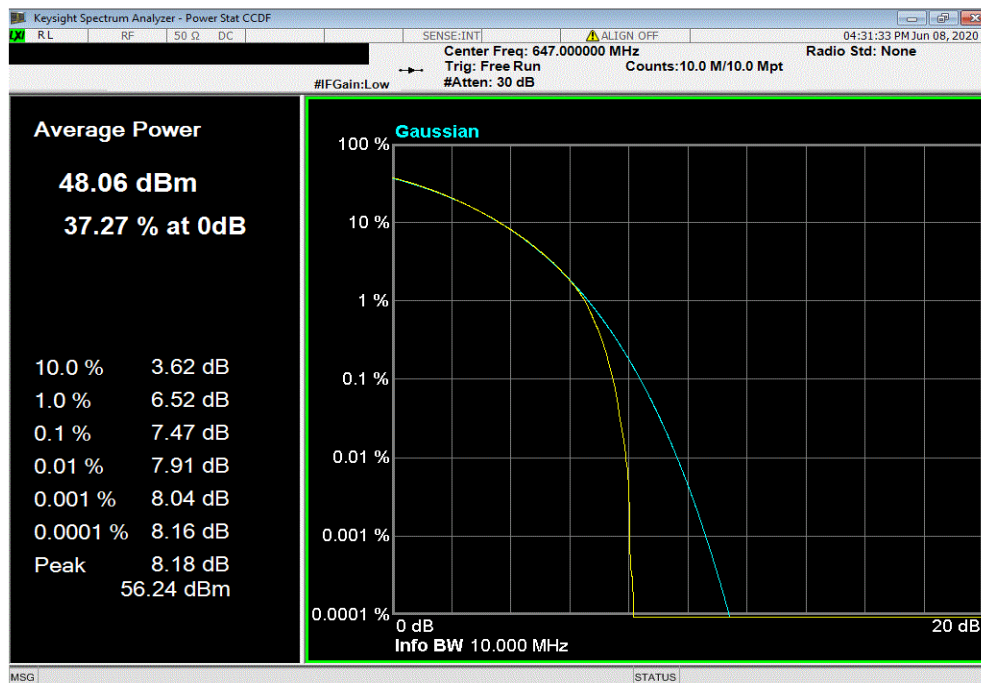


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.27	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 10 MHz Bandwidth, 256-QAM Modulation, High Channel, 647 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.47	13	Pass			

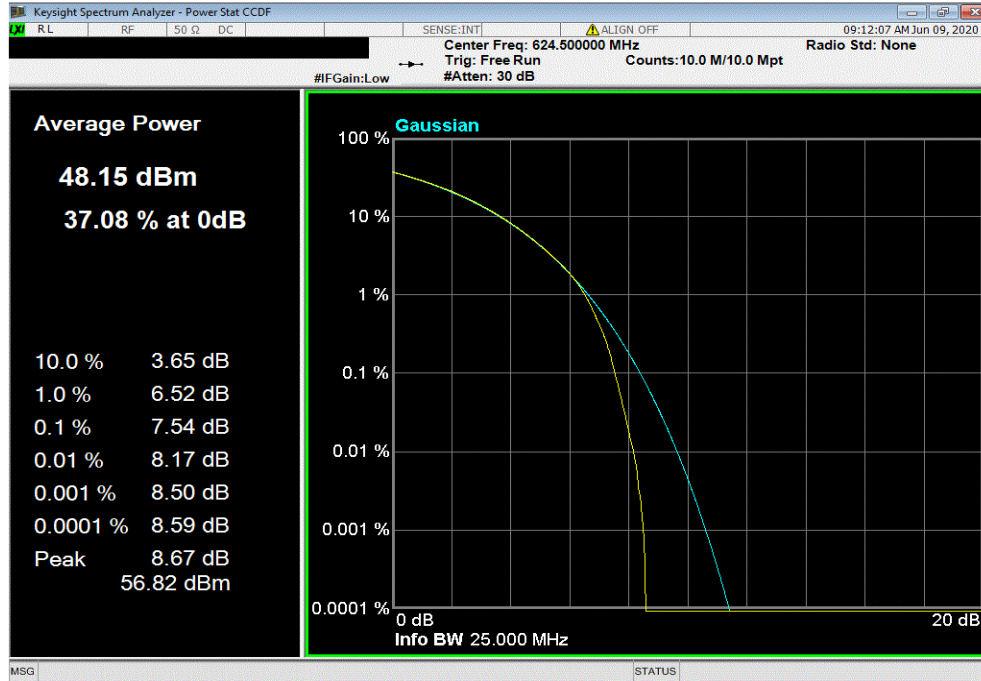


PEAK TO AVERAGE POWER (PAPR)

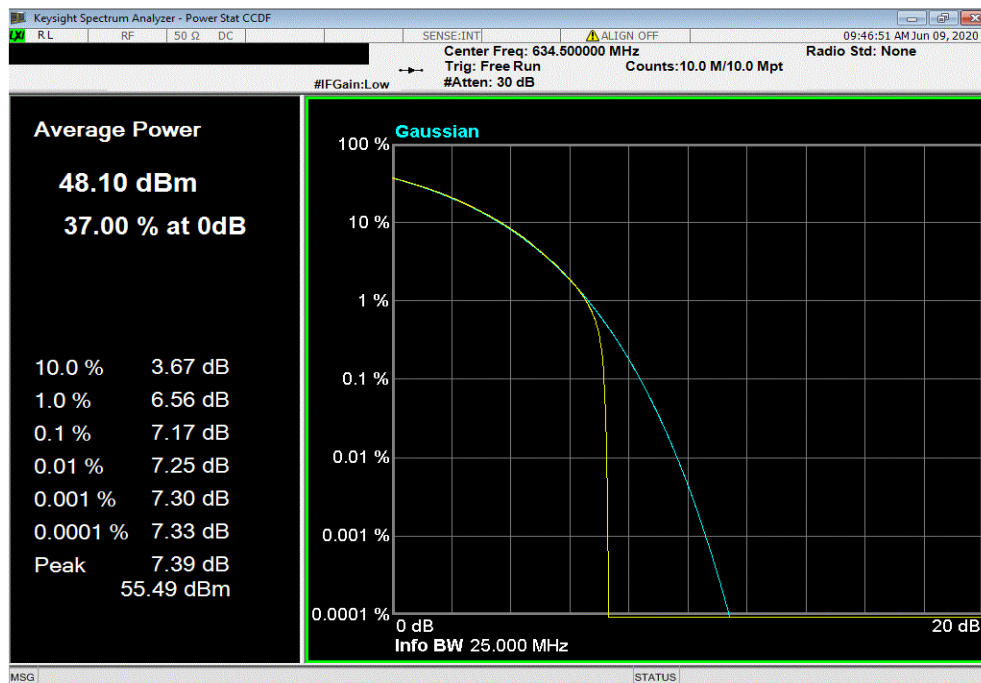


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, Low Channel, 624.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.54	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.17	13	Pass			

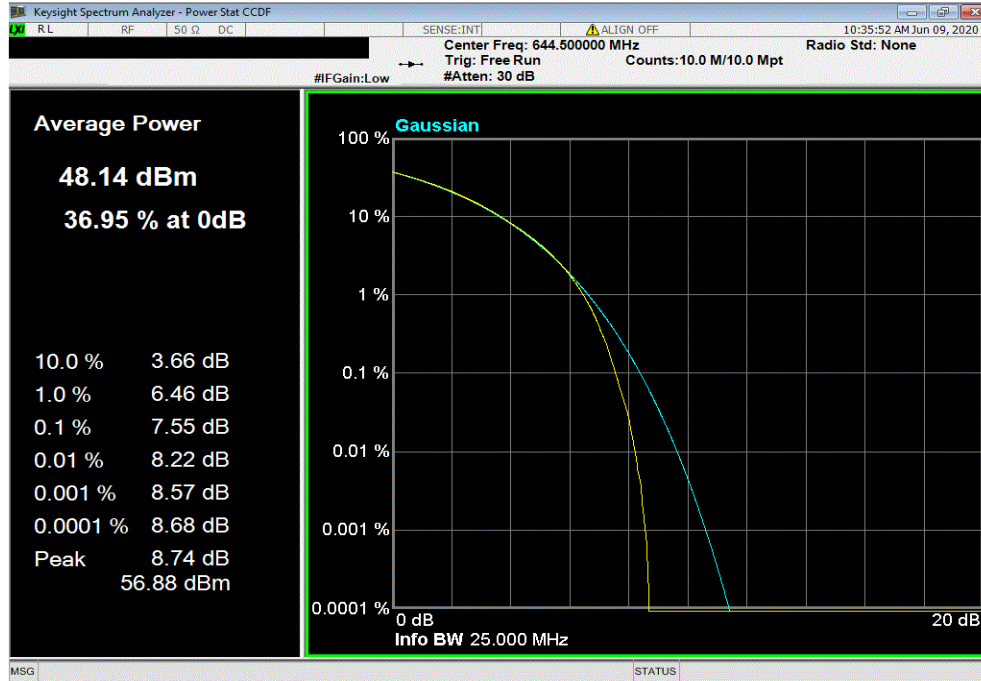


PEAK TO AVERAGE POWER (PAPR)

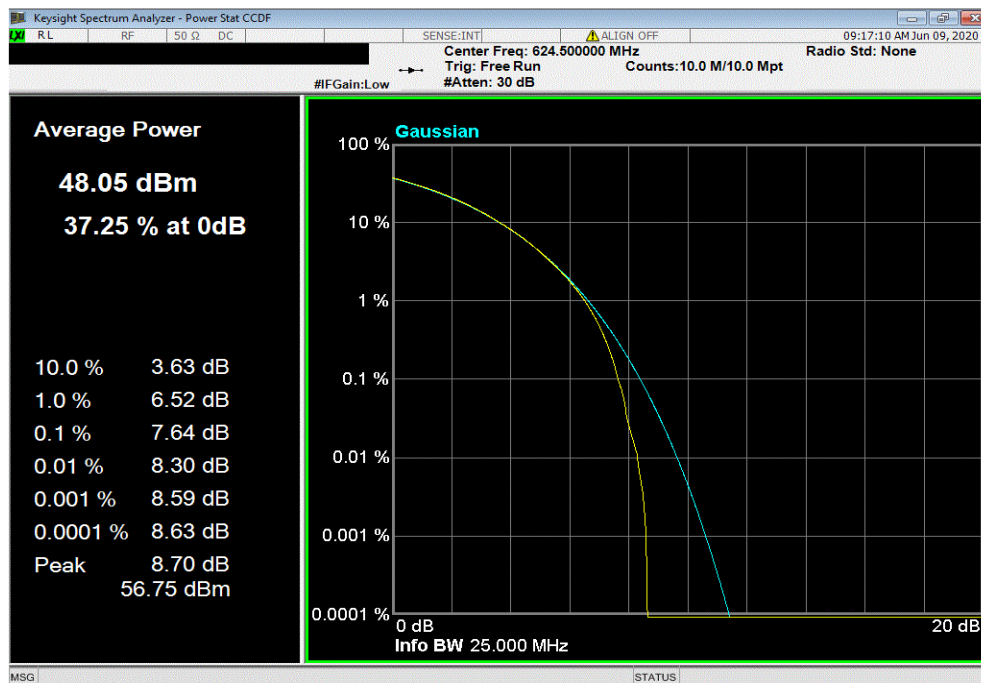


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, QPSK Modulation, High Channel, 644.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.55	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Low Channel, 624.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.64	13	Pass			

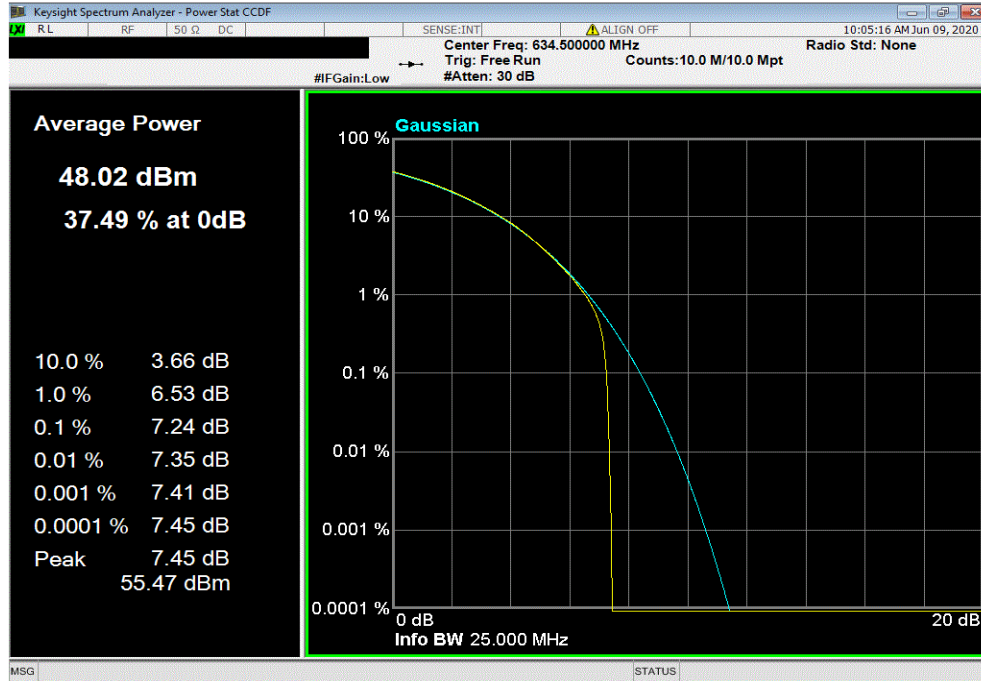


PEAK TO AVERAGE POWER (PAPR)

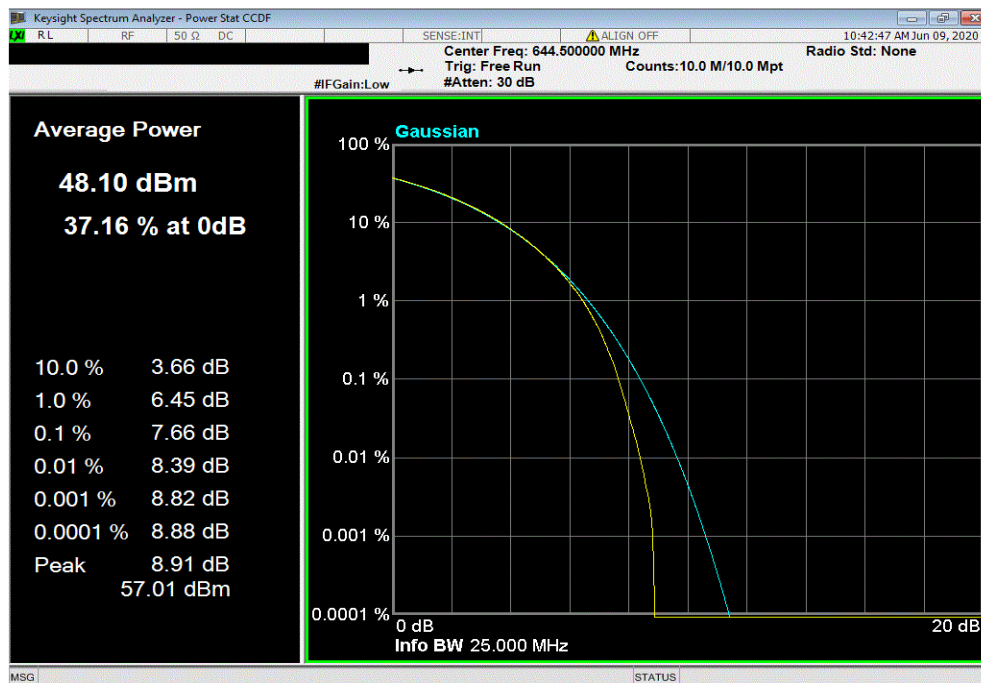


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.24	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 16-QAM Modulation, High Channel, 644.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.66	13	Pass			

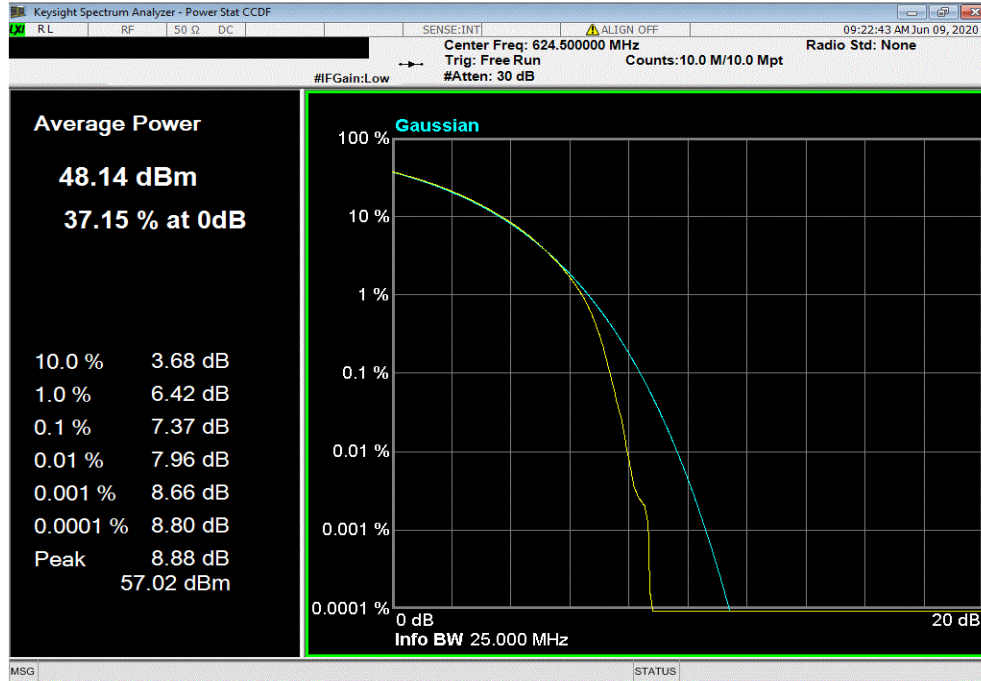


PEAK TO AVERAGE POWER (PAPR)

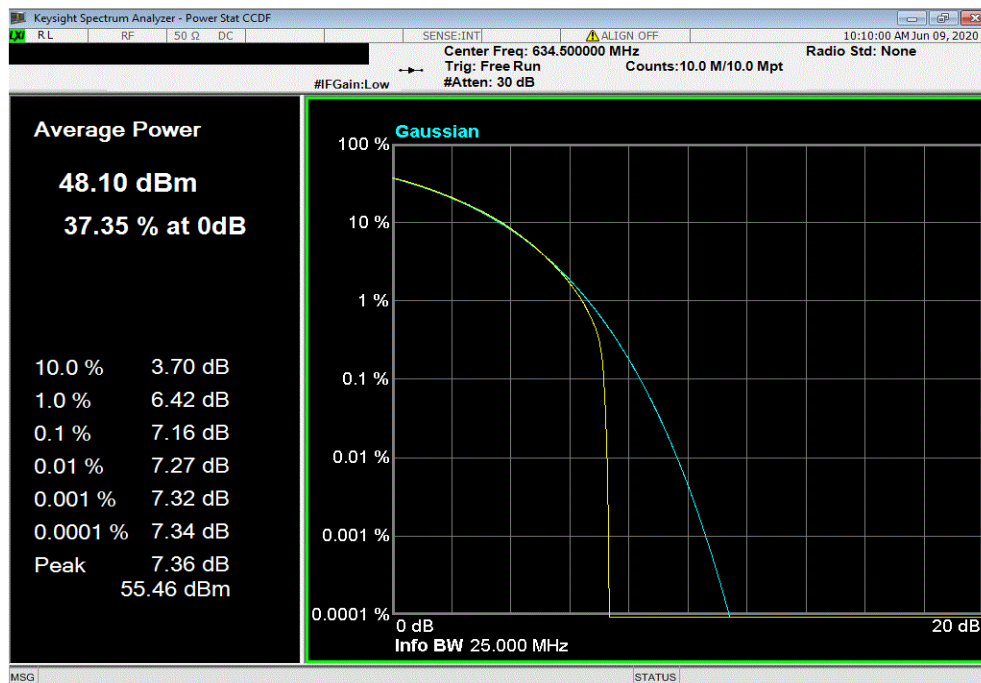


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Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Low Channel, 624.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.37	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.16	13	Pass			

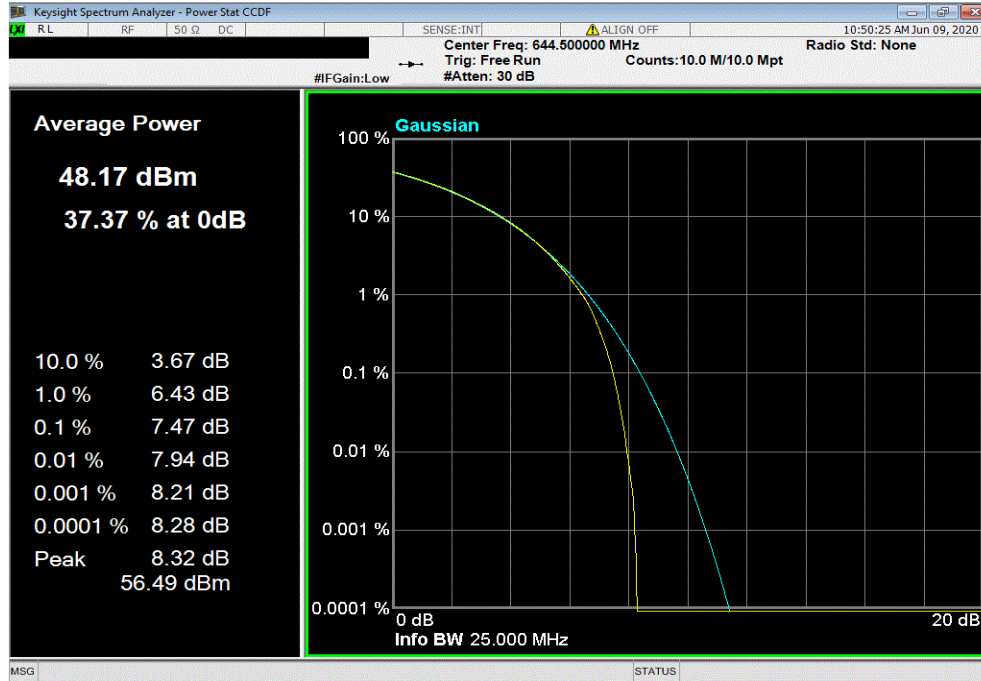


PEAK TO AVERAGE POWER (PAPR)

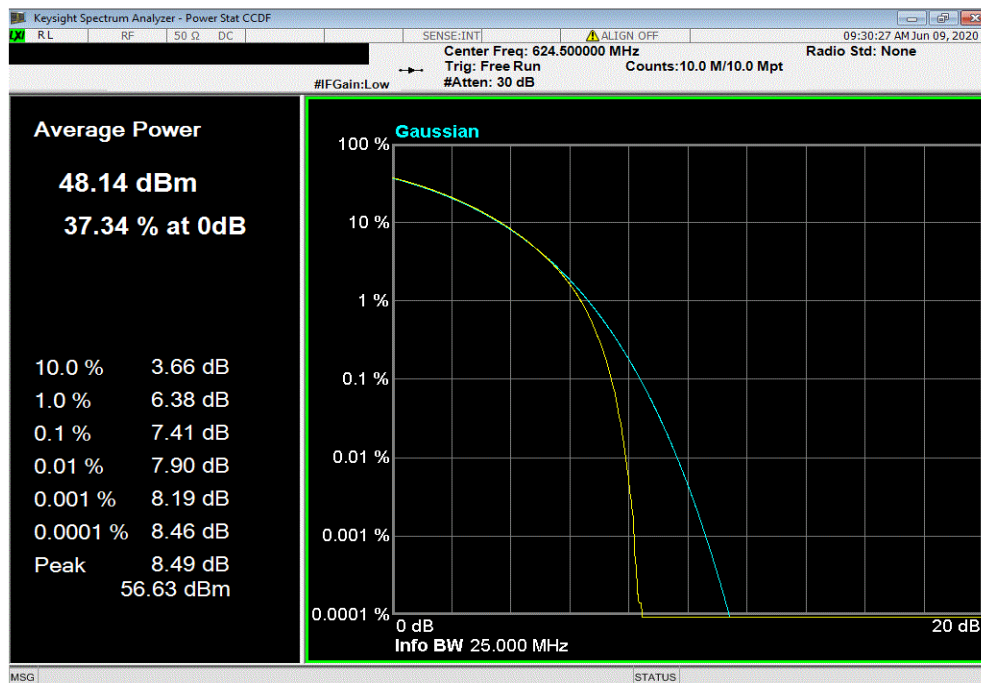


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 64-QAM Modulation, High Channel, 644.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.47	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Low Channel, 624.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.41	13	Pass			

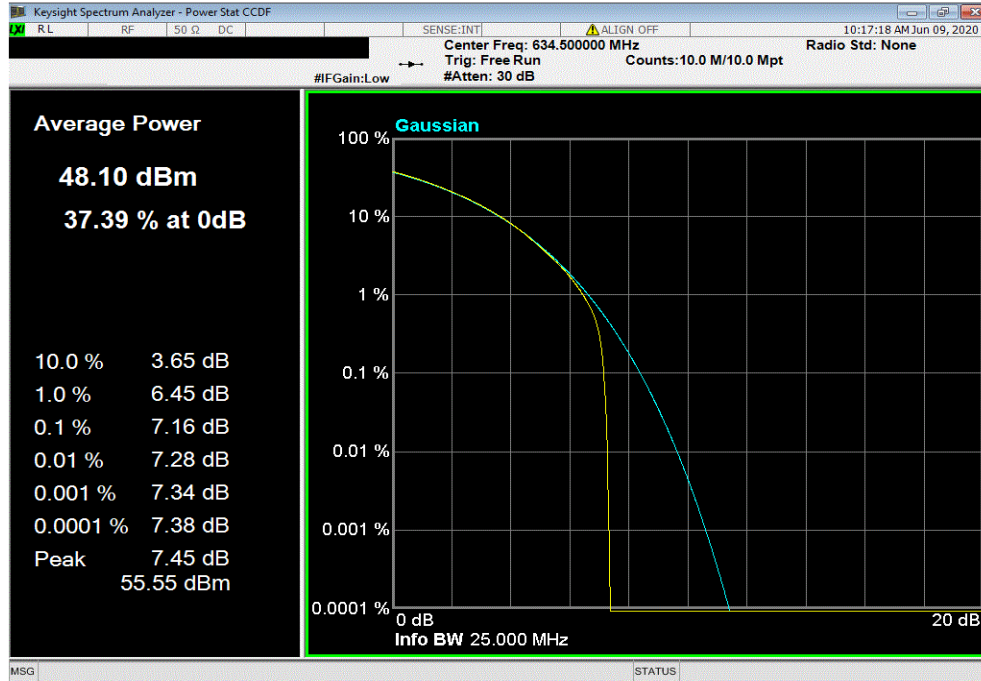


PEAK TO AVERAGE POWER (PAPR)

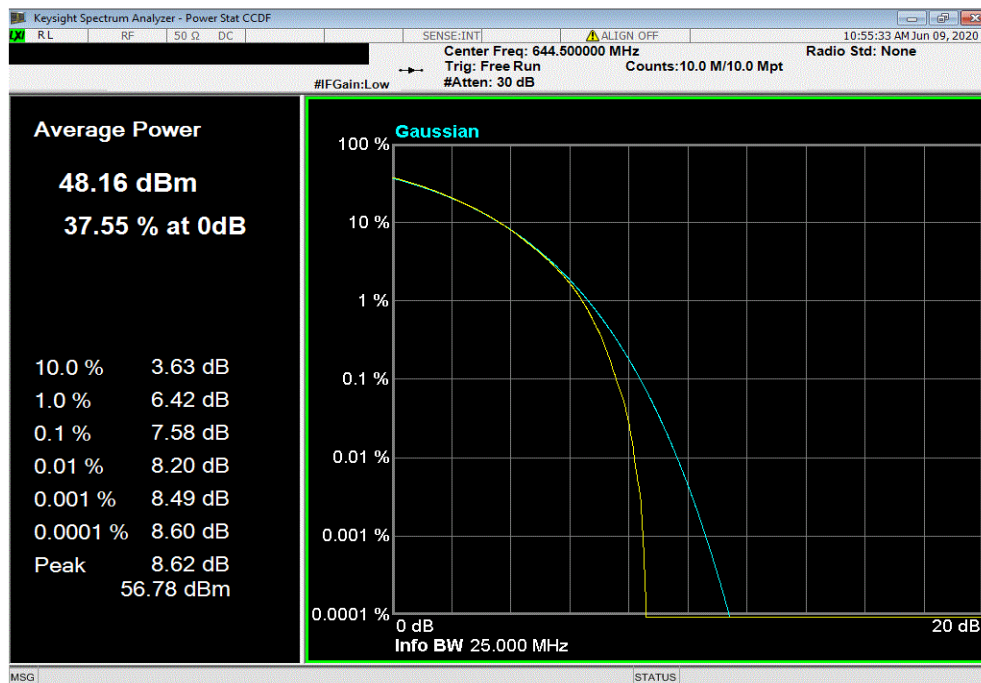


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.16	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 15 MHz Bandwidth, 256-QAM Modulation, High Channel, 644.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.58	13	Pass			

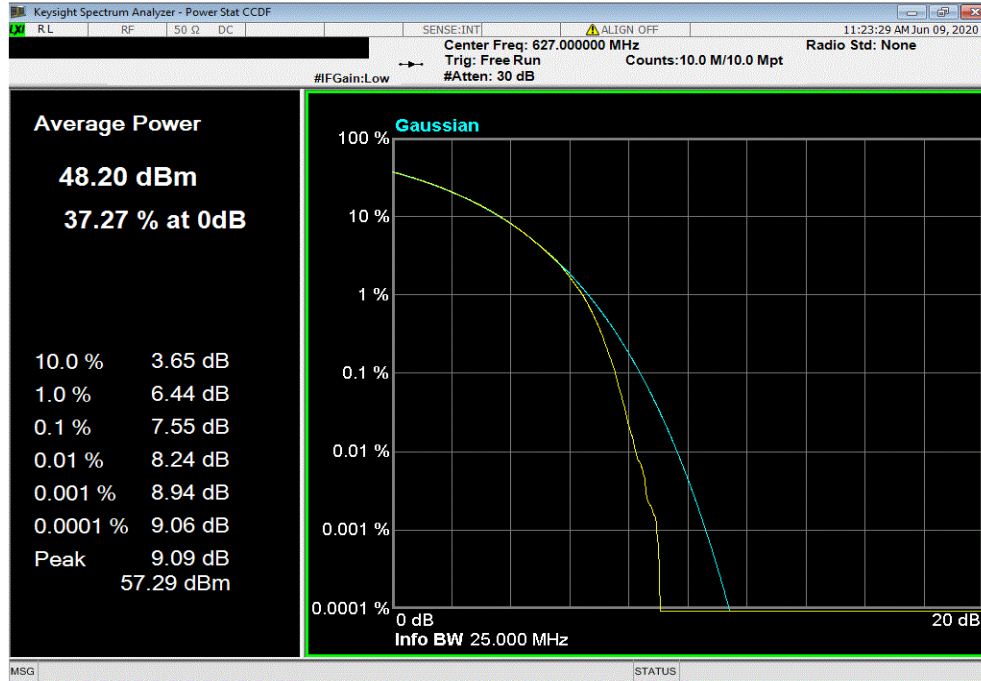


PEAK TO AVERAGE POWER (PAPR)

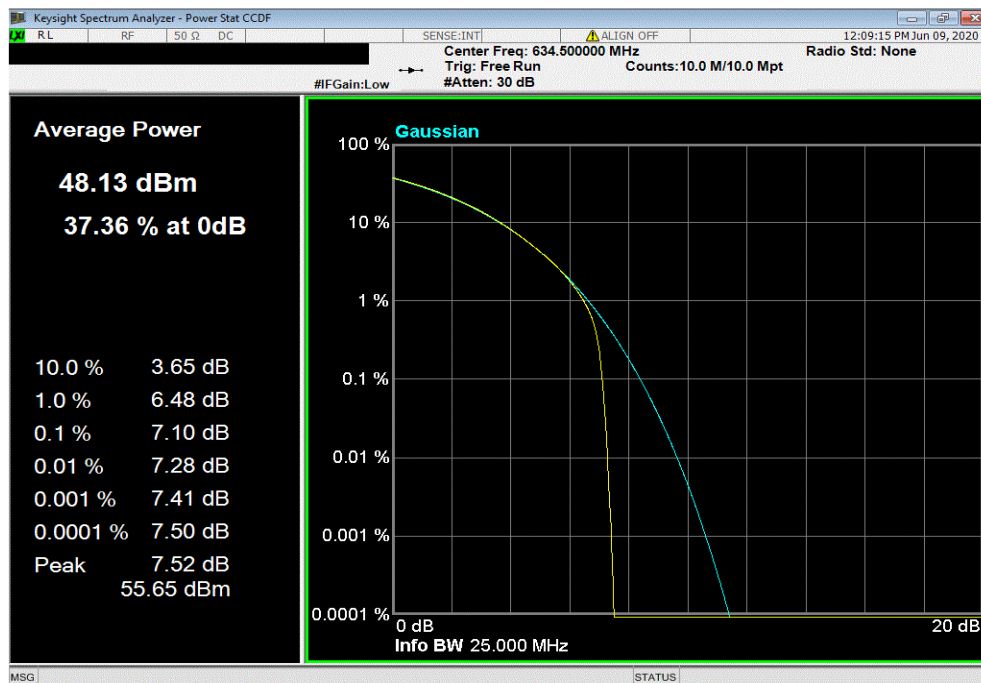


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, QPSK Modulation, Low Channel, 627 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.55	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, QPSK Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.1	13	Pass			

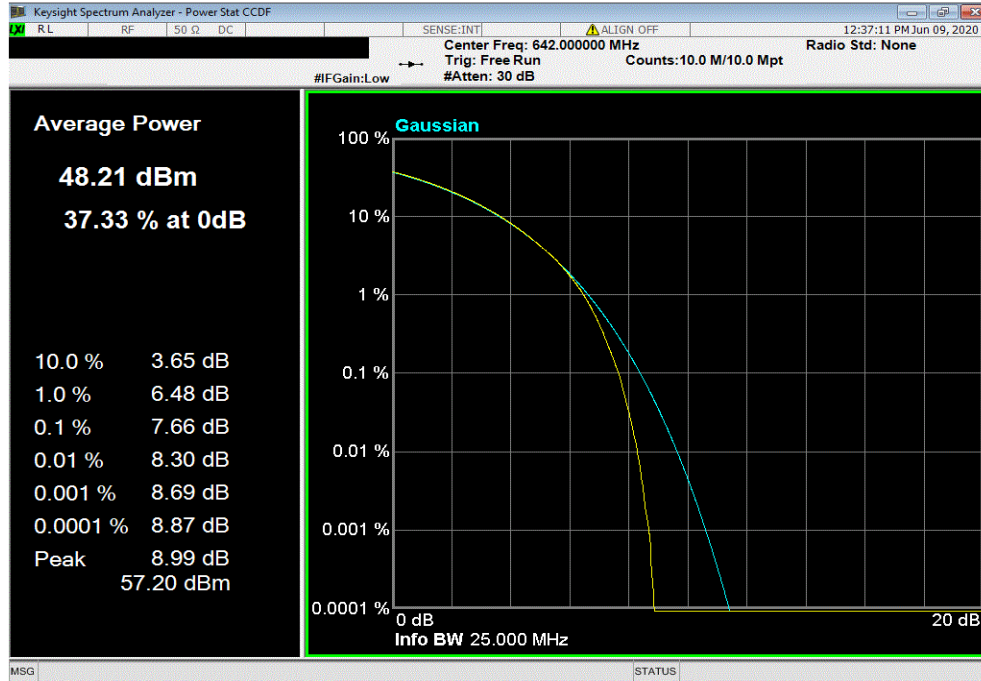


PEAK TO AVERAGE POWER (PAPR)

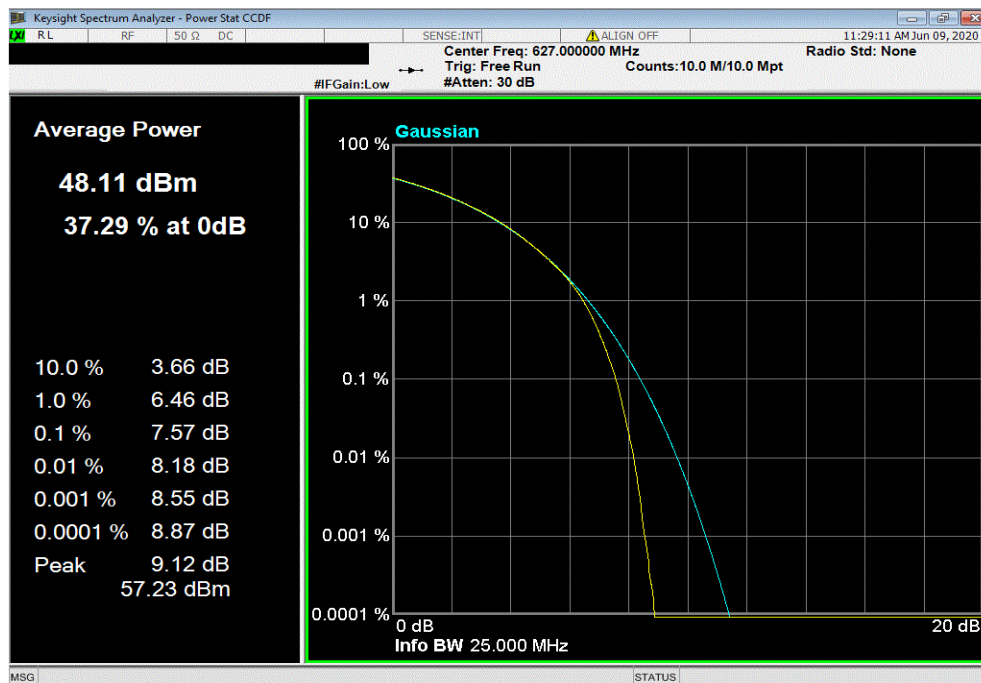


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, QPSK Modulation, High Channel, 642 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.66	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 16-QAM Modulation, Low Channel, 627 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.57	13	Pass			

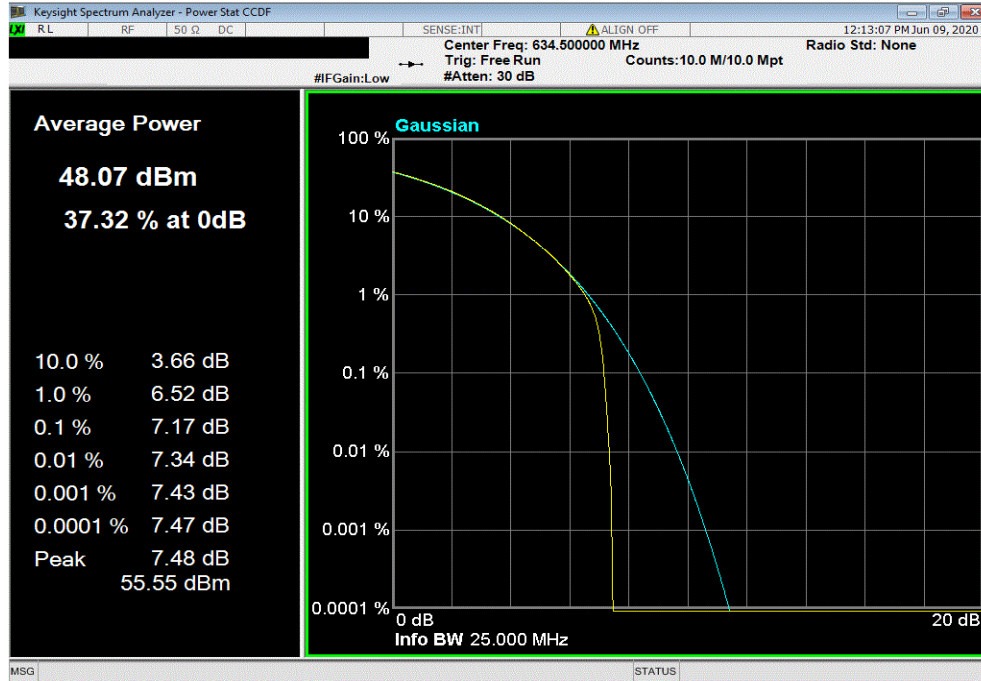


PEAK TO AVERAGE POWER (PAPR)

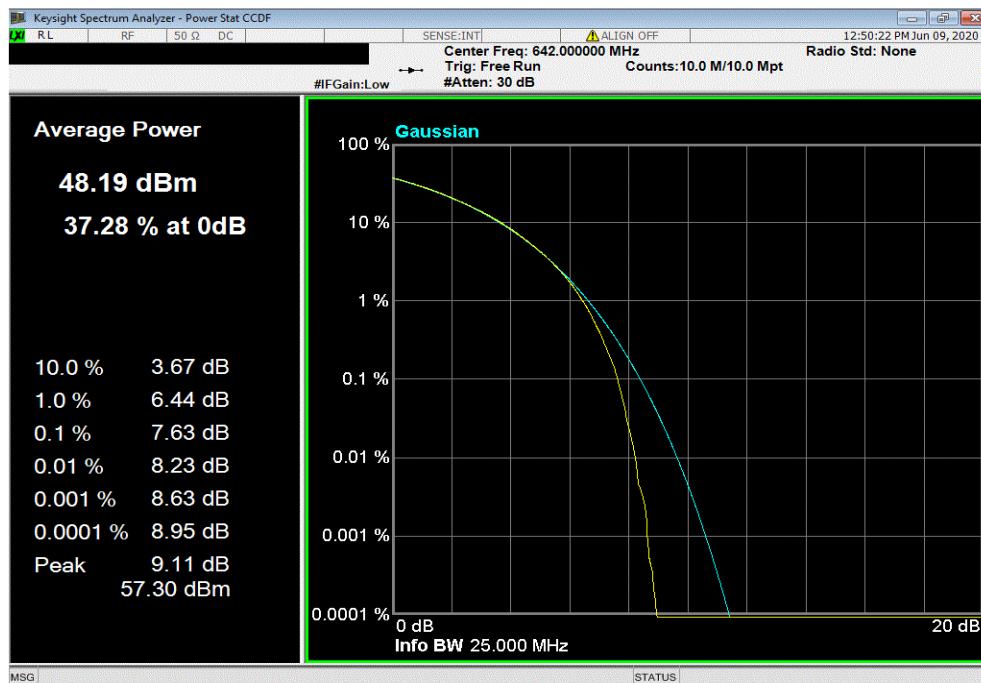


TMTx 2020.06.08.0 BETA XMI 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.17	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 16-QAM Modulation, High Channel, 642 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.63	13	Pass			

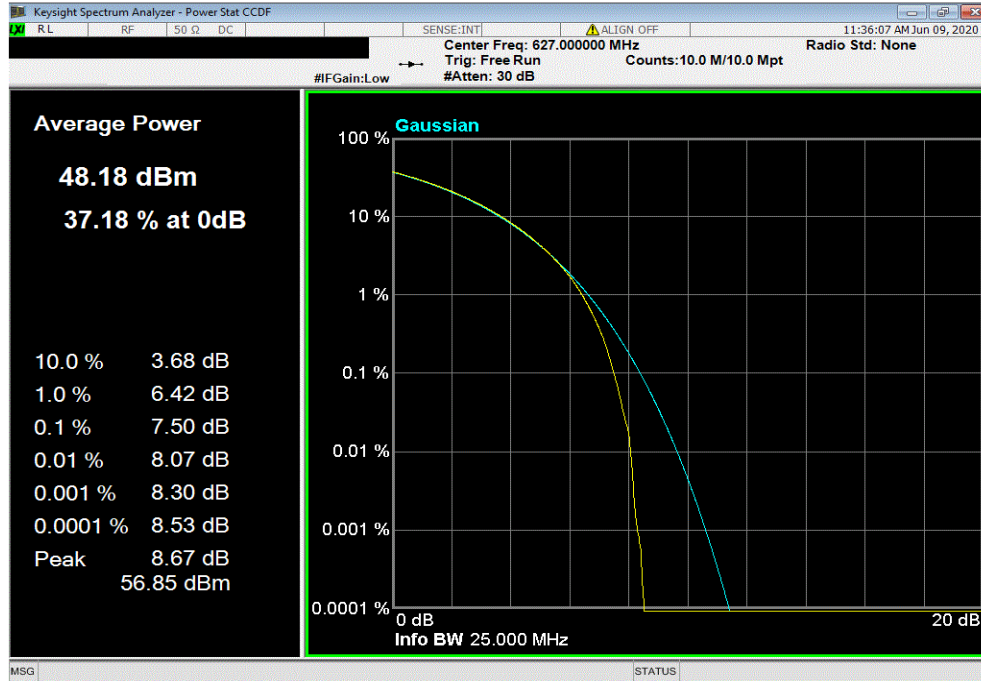


PEAK TO AVERAGE POWER (PAPR)

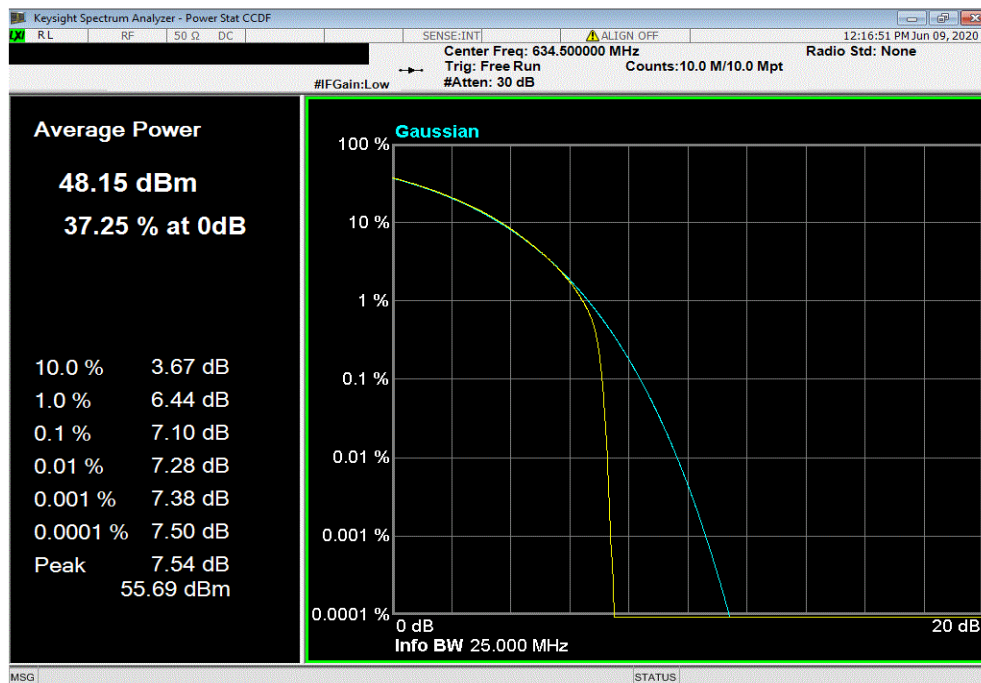


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 64-QAM Modulation, Low Channel, 627 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.5	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.1	13	Pass			

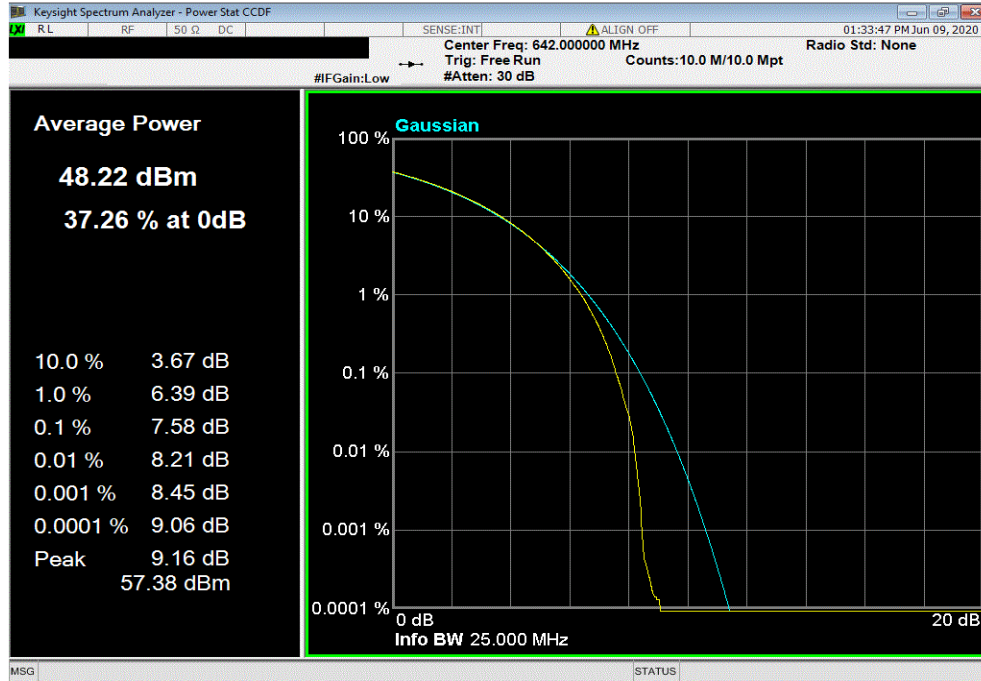


PEAK TO AVERAGE POWER (PAPR)

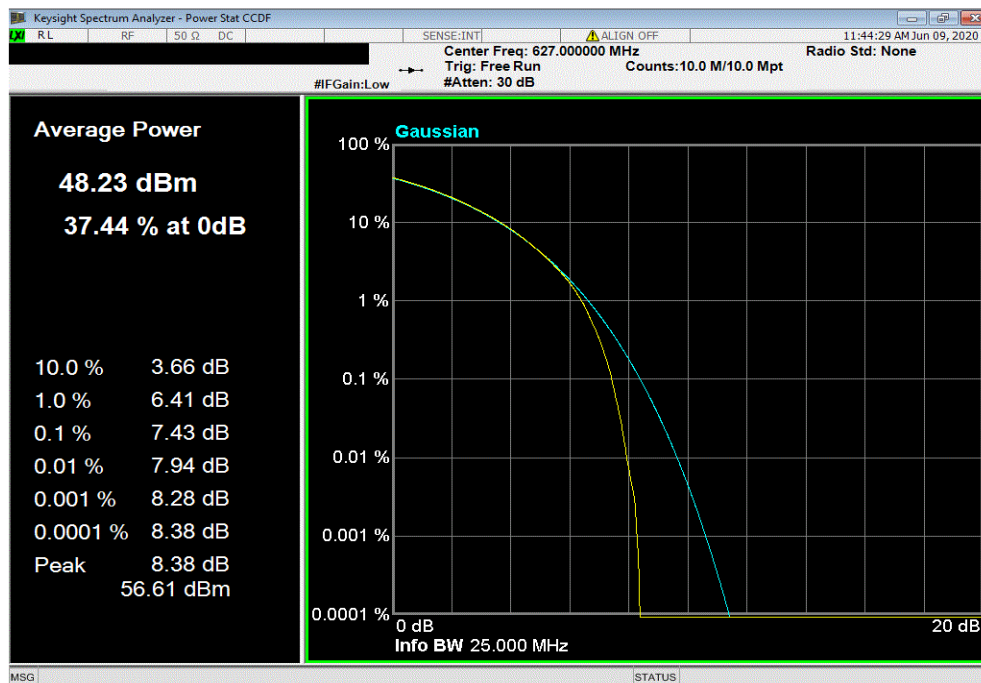


TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 64-QAM Modulation, High Channel, 642 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.58	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, Low Channel, 627 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.43	13	Pass			

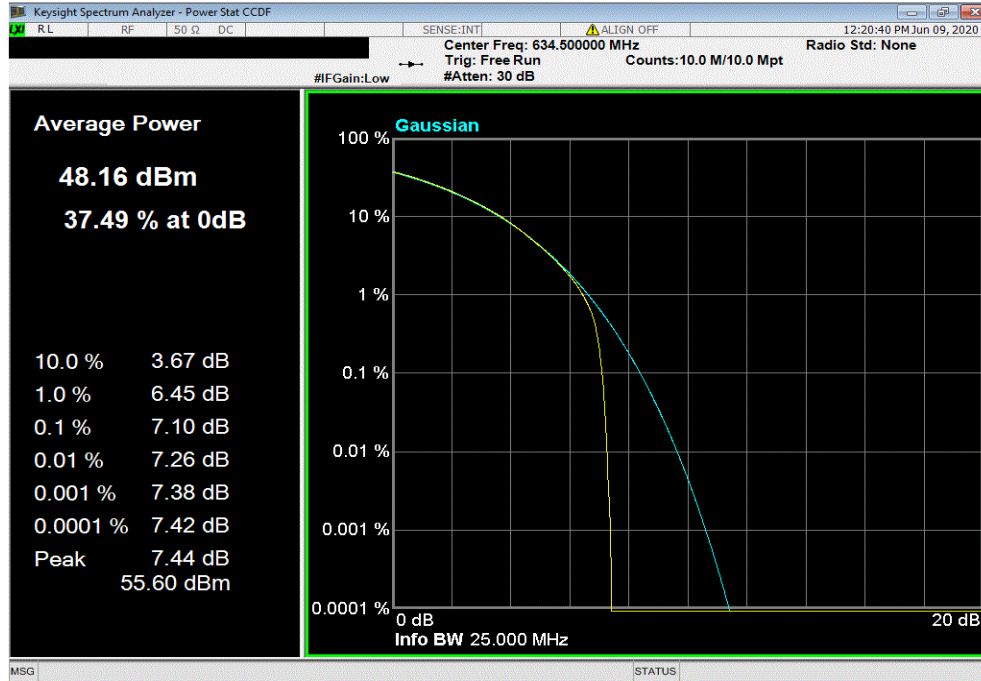


PEAK TO AVERAGE POWER (PAPR)



TMTx 2020.06.08.0 BETA XMR 2020.03.25.0

Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 634.5 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.1	13	Pass			



Port 1, Band 71, 617 MHz - 652 MHz, 20 MHz Bandwidth, 256-QAM Modulation, High Channel, 642 MHz						
	Value	Limit	Results			
	0.1% (dB)	< dB				
	7.62	13	Pass			

