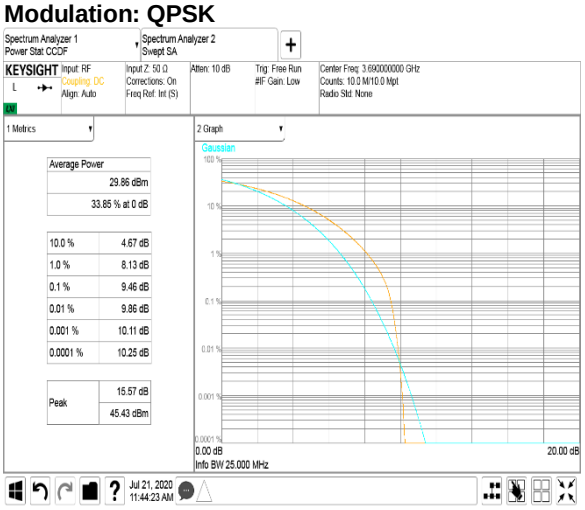
Test specification:	Section 96.41(g), Peak-to- average power ratio		
Test procedure:	Section 96.41(g)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	21-Jul-20		
Temperature: 24.3. ºC	Relative Humidity: 48 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

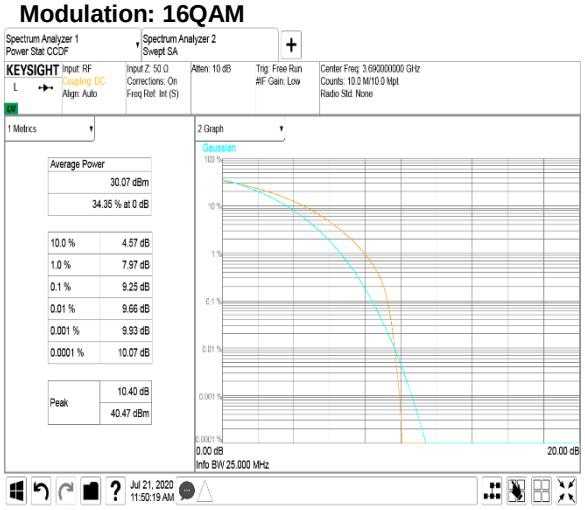
Plot 7.2.6 Peak-to-average power ratio test results at high frequency

CHANNEL SPACING: 20 MHz
ANTENNA PORT: 1

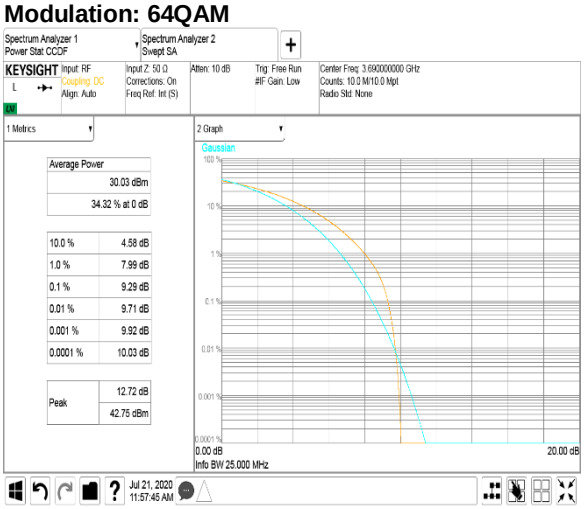
Modulation: QPSK



Modulation: 16QAM



Modulation: 64QAM



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

7.3 Occupied bandwidth test

7.3.1 General

This test was performed to measure transmitter occupied bandwidth. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Occupied bandwidth limits

Assigned frequency, MHz	Modulation envelope reference points*, %	Maximum allowed bandwidth, MHz
3550 - 3700	99	10 / 20 MHz

* - Modulation envelope reference points are provided in terms of attenuation below the unmodulated carrier.

7.3.2 Test procedure

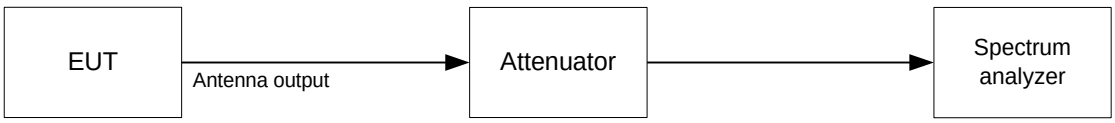
7.3.2.1 The EUT was set up as shown in Figure 7.3.1, energized and its proper operation was checked.

7.3.2.2 The EUT was set to transmit the unmodulated carrier and the reference peak power level was measured.

7.3.2.3 The EUT was set to transmit the normally modulated carrier.

7.3.2.4 The transmitter occupied bandwidth was measured with spectrum analyzer as a frequency delta between the reference points on modulation envelope and provided in Table 7.3.2 and the associated plots.

Figure 7.3.1 Occupied bandwidth test setup



Test specification:	**Section2.1049, Occupied bandwidth**		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	**Relative Humidity:** 52 %	**Air Pressure:** 1012 hPa	**Power:** 48 VDC
Remarks:			

Table 7.3.2 Occupied bandwidth test results

DETECTOR USED: Peak hold
RESOLUTION BANDWIDTH: 1 – 5% of the OBW
VIDEO BANDWIDTH: > RBW
MODULATION ENVELOPE REFERENCE POINTS: 99%

Carrier frequency, MHz	Occupied bandwidth, MHz	Limit, MHz	Margin, MHz	Verdict
Channel spacing 10 MHz				
Modulation QPSK				
3555.0	9.0416	10.0	-0.9584	Pass
3625.0	9.0169	10.0	-0.9831	Pass
3695.0	9.0238	10.0	-0.9762	Pass
Modulation 16QAM				
3555.0	9.0300	10.0	-0.9700	Pass
3625.0	9.0470	10.0	-0.9530	Pass
3695.0	9.0474	10.0	-0.9526	Pass
Modulation 64QAM				
3555.0	9.0166	10.0	-0.9834	Pass
3625.0	9.0247	10.0	-0.9753	Pass
3695.0	9.0236	10.0	-0.9764	Pass
Channel spacing 20 MHz				
Modulation QPSK				
3560.0	17.8964	20.0	-2.1036	Pass
3625.0	17.9111	20.0	-2.0889	Pass
3690.0	17.8914	20.0	-2.1086	Pass
Modulation 16QAM				
3560.0	17.8302	20.0	-2.1698	Pass
3625.0	17.8831	20.0	-2.1169	Pass
3690.0	17.8436	20.0	-2.1564	Pass
Modulation 64QAM				
3560.0	17.9101	20.0	-2.0899	Pass
3625.0	17.9057	20.0	-2.0943	Pass
3690.0	17.8970	20.0	-2.1030	Pass

Reference numbers of test equipment used

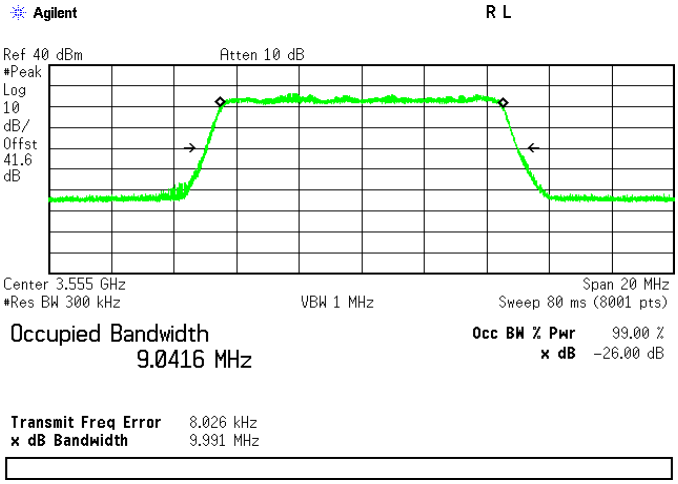
HL 2909	HL 5593	HL 5409					

Full description is given in Appendix A.

Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

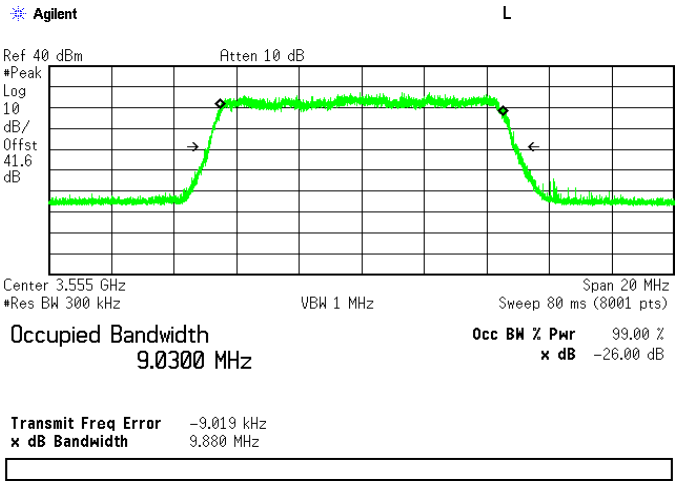
Plot 7.3.1 Occupied bandwidth test result at low frequency

MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.2 Occupied bandwidth test result at low frequency

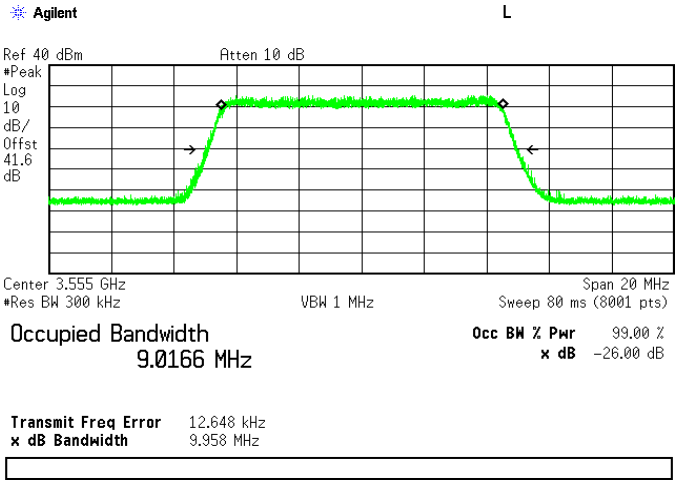
MODULATION: 16QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.3 Occupied bandwidth test result at low frequency

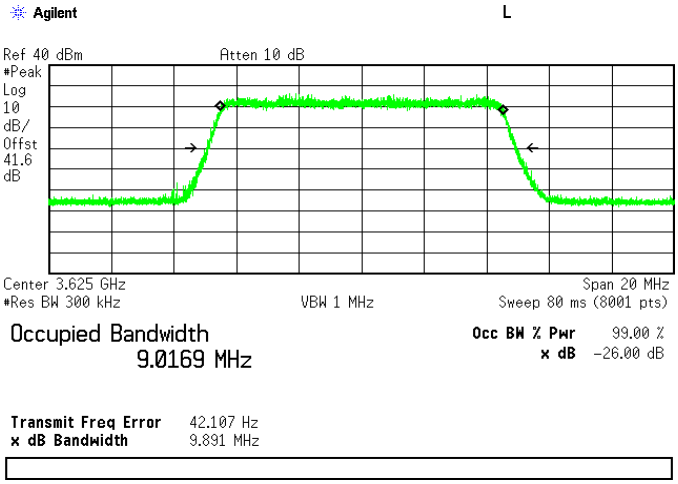
MODULATION:	64QAM
CHANNEL SPACING:	10 MHz
ANTENNA CHAIN:	1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

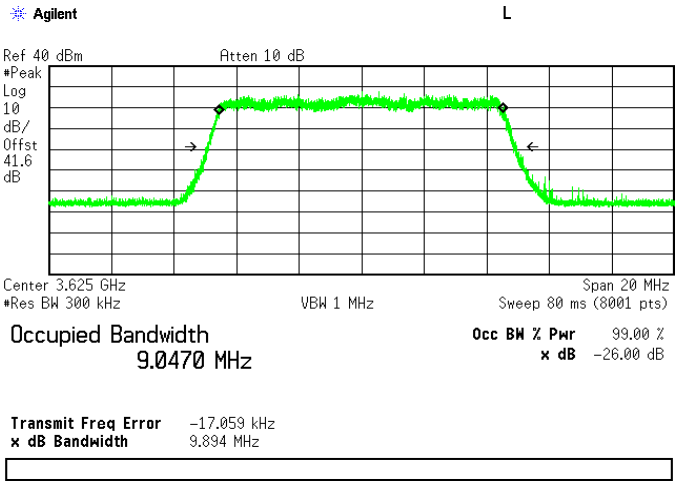
Plot 7.3.4 Occupied bandwidth test result at mid frequency

MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.5 Occupied bandwidth test result at mid frequency

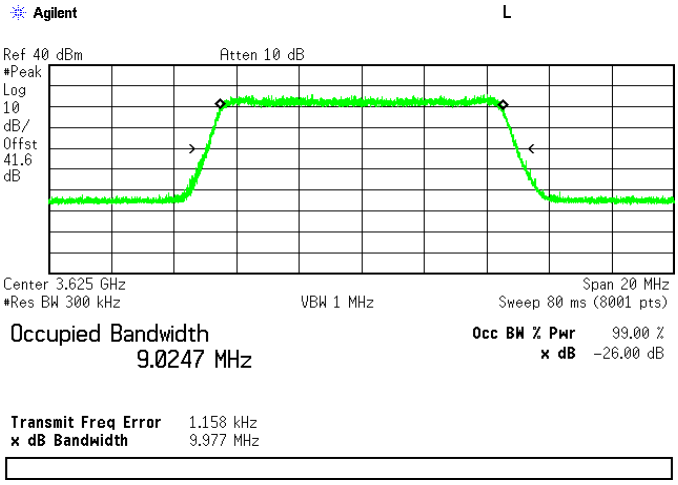
MODULATION: 16QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.6 Occupied bandwidth test result at mid frequency

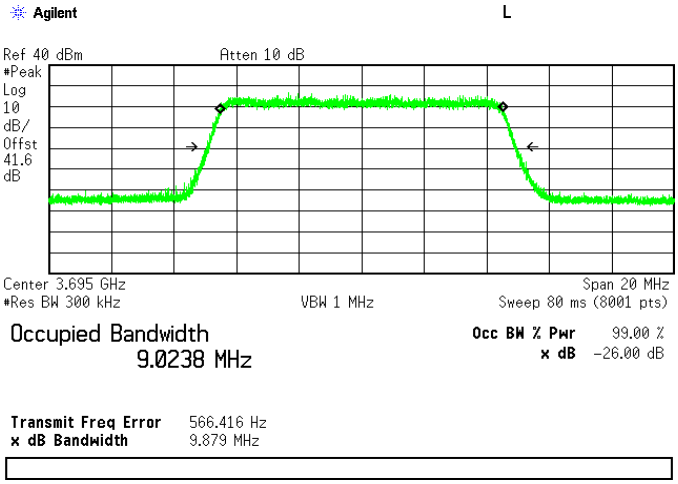
MODULATION:	64QAM
CHANNEL SPACING:	10 MHz
ANTENNA CHAIN:	1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

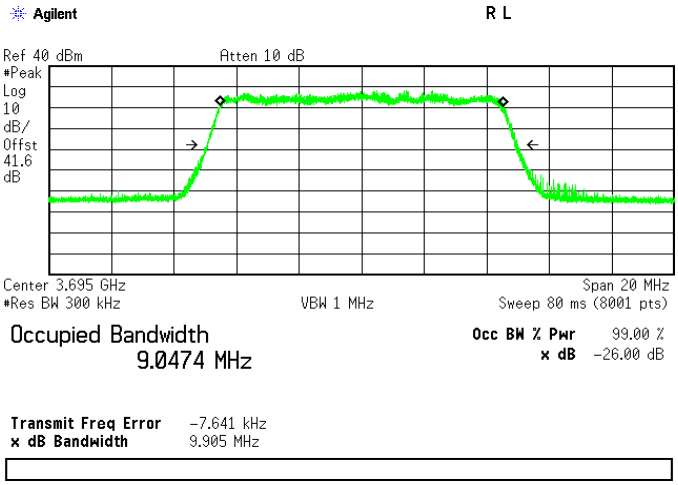
Plot 7.3.7 Occupied bandwidth test result at high frequency

MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.8 Occupied bandwidth test result at high frequency

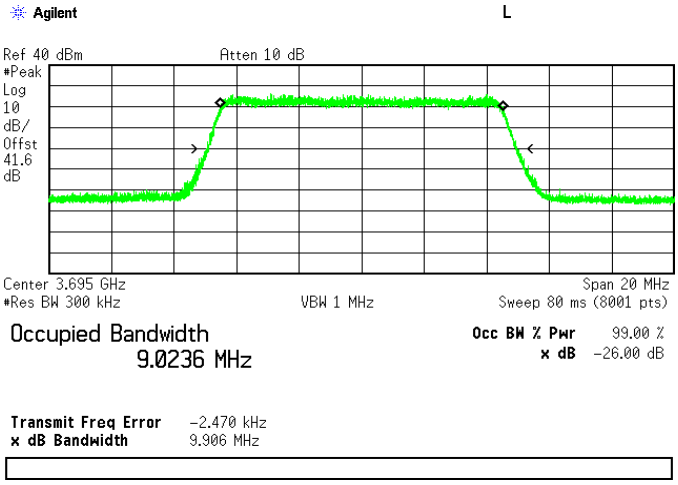
MODULATION: 16QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.9 Occupied bandwidth test result at high frequency

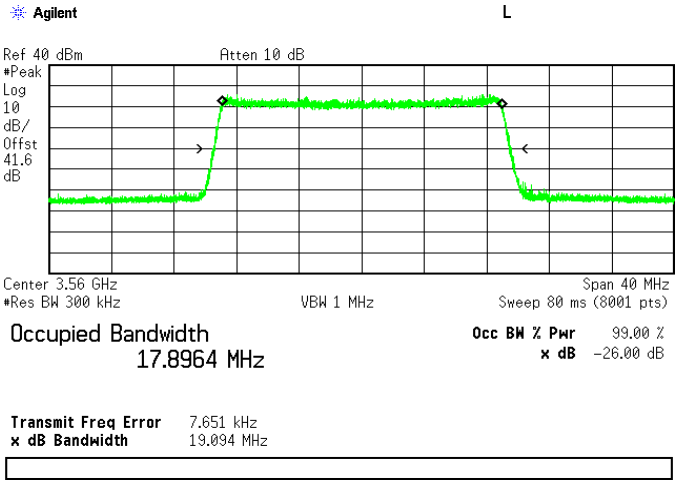
MODULATION:	64QAM
CHANNEL SPACING:	10 MHz
ANTENNA CHAIN:	1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

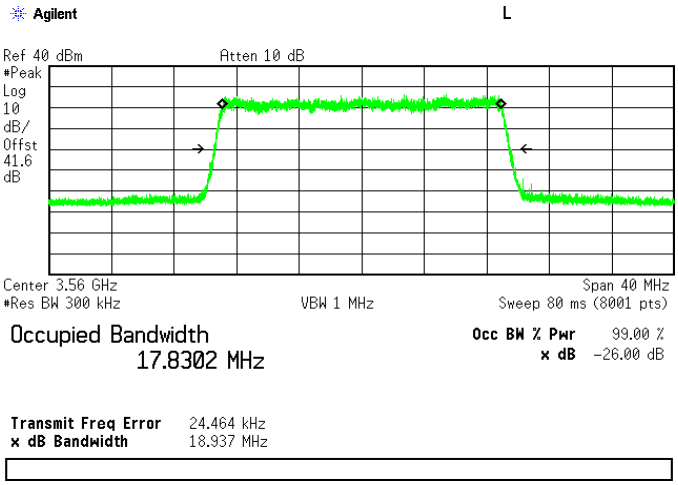
Plot 7.3.10 Occupied bandwidth test result at low frequency

MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Plot 7.3.11 Occupied bandwidth test result at low frequency

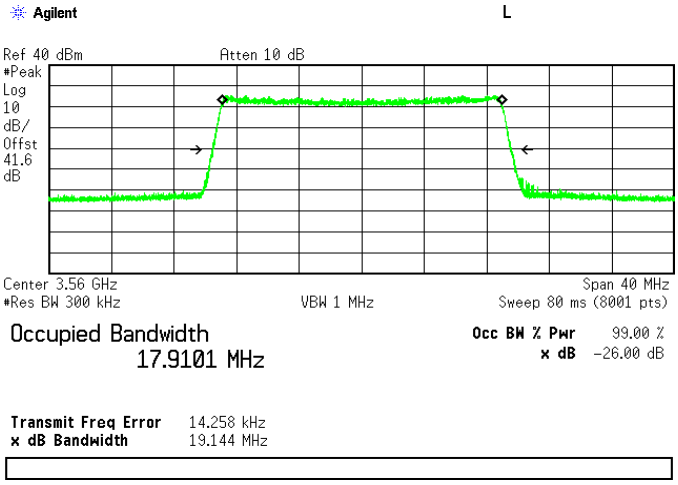
MODULATION: 16QAM
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.12 Occupied bandwidth test result at low frequency

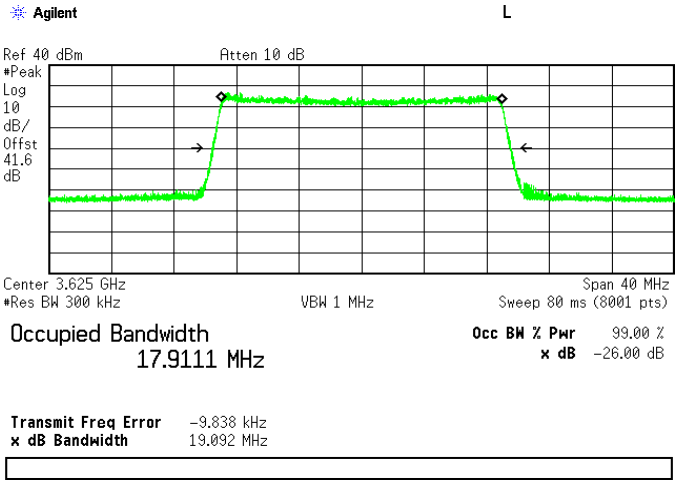
MODULATION:	64QAM
CHANNEL SPACING:	20 MHz
ANTENNA CHAIN:	1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

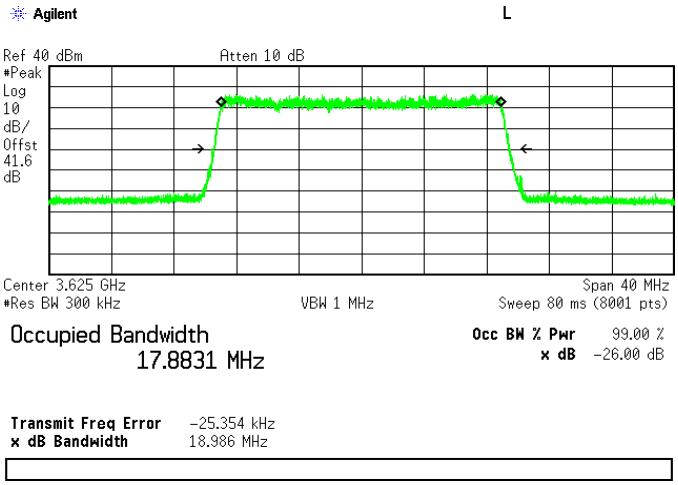
Plot 7.3.13 Occupied bandwidth test result at mid frequency

MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Plot 7.3.14 Occupied bandwidth test result at mid frequency

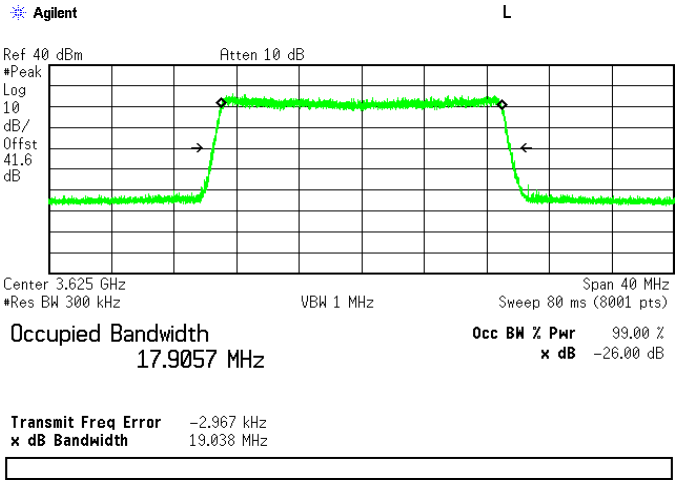
MODULATION: 16QAM
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.15 Occupied bandwidth test result at mid frequency

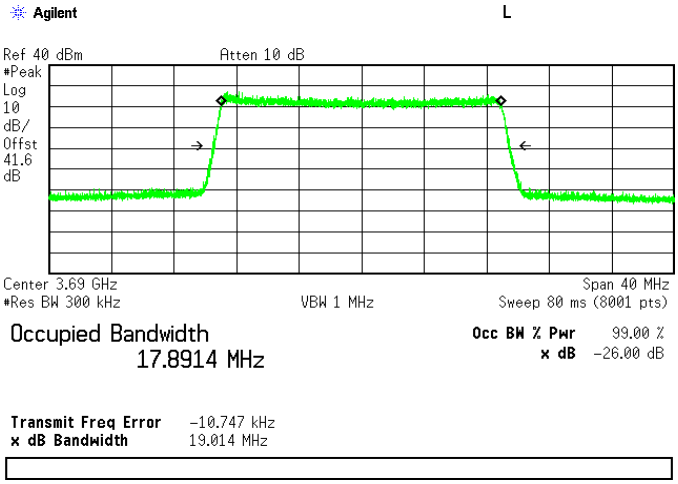
MODULATION:	64QAM
CHANNEL SPACING:	20 MHz
ANTENNA CHAIN:	1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

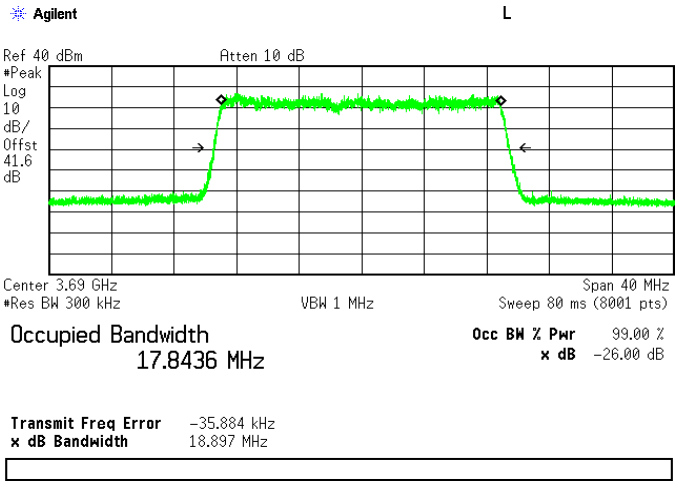
Plot 7.3.16 Occupied bandwidth test result at high frequency

MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Plot 7.3.17 Occupied bandwidth test result at high frequency

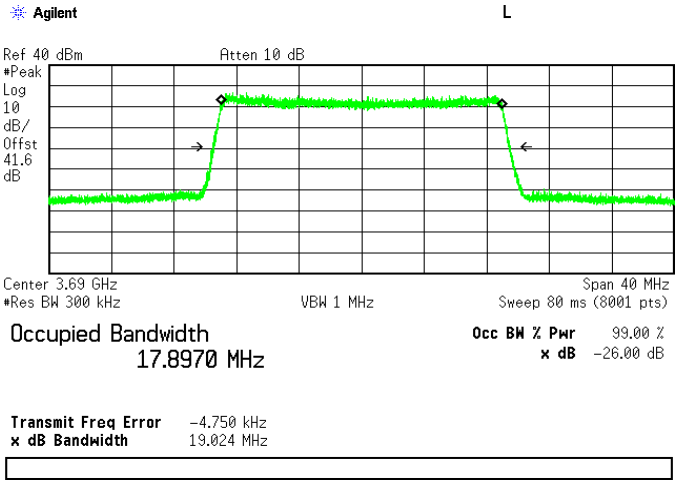
MODULATION: 16QAM
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Test specification:	Section2.1049, Occupied bandwidth		
Test procedure:	47 CFR, Section 2.1049		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Apr-20		
Temperature: 24 ºC	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.18 Occupied bandwidth test result at high frequency

MODULATION:	64QAM
CHANNEL SPACING:	20 MHz
ANTENNA CHAIN:	1



Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

7.4 Emission outside the fundamental test

7.4.1 General

This test was performed to measure Emission outside the fundamental at RF antenna connector. Specification test limits are given in Table 7.4.1.

Table 7.4.1 Emission outside the fundamental limits

Frequency displacement from frequency block	Limit*, dBm/MHz	RBW, kHz
Channel Spacing 10 MHz		
0 – 1 MHz	- 13	100
0 – 10 MHz	- 13	1000
10 – 20 MHz	- 25	1000
Above 3530 MHz and below 3720 MHz	- 25	1000
Below 3530 MHz and above 3720 MHz	- 40	1000
Channel Spacing 20 MHz		
0 – 1 MHz	- 13	100
0 – 10 MHz	- 13	1000
10 – 20 MHz	- 25	1000
Above 3530 MHz and below 3720 MHz	- 25	1000
Below 3530 MHz and above 3720 MHz	- 40	1000

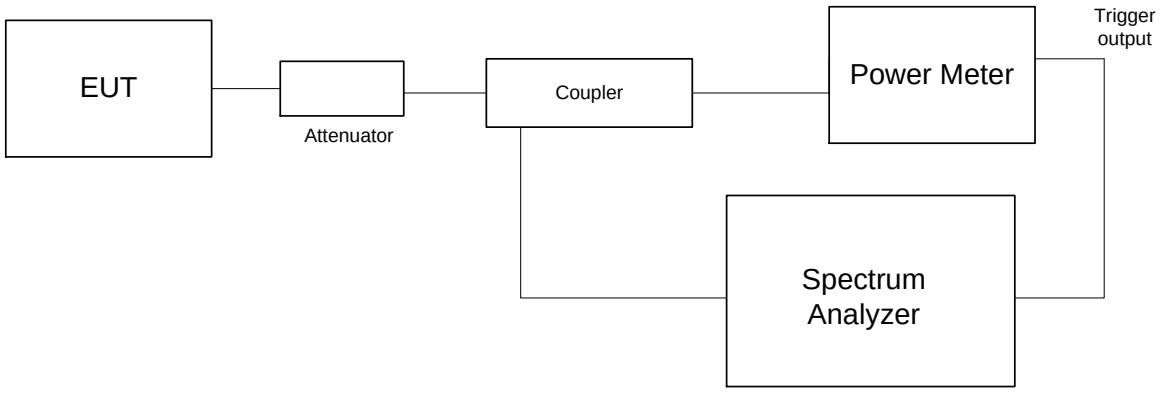
* - Limit at each antenna connector (amount of antennas N = 2)

7.4.2 Test procedure

7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and its proper operation was checked.

7.4.2.2 The Emission outside the fundamental was measured with spectrum analyzer as provided in Table 7.4.2, Table 7.4.3 and the the associated plots.

Figure 7.4.1 Emission outside the fundamental test setup



Test specification:	**Section 96.41(e), Emission mask**		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	**Relative Humidity:** 49 %	**Air Pressure:** 1010 hPa	**Power:** 48 VDC
Remarks:			

Table 7.4.2 Emission outside the fundamental test results

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
EBW: 10 MHz
NUMBER OF CHAINS: 2
ANTENNA PORT: Worst case

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Integration BW, kHz	Limit, dBm	Verdict
QPSK							
Low frequency 3555.0 MHz							
3549.50	Low	-27.17	-24.17	100	1000	-13.0	Pass
3539.50	Low	-41.72	-38.72	100	1000	-25.0	
3560.50	High	-25.38	-22.38	100	1000	-13.0	
3570.50	High	-38.87	-35.87	100	1000	-25.0	
Mid frequency 3625.0 MHz							
3619.50	Low	-25.52	-22.52	100	1000	-13.0	Pass
3609.50	Low	-38.70	-35.70	100	1000	-25.0	
3630.50	High	-24.23	-21.23	100	1000	-13.0	
3640.50	High	-38.52	-35.52	100	1000	-25.0	
High frequency 3695.0 MHz							
3689.50	Low	-26.91	-23.91	100	1000	-13.0	Pass
3679.50	Low	-33.66	-30.66	100	1000	-25.0	
3700.50	High	-27.21	-24.21	100	1000	-13.0	
3710.50	High	-37.18	-34.18	100	1000	-25.0	
64 QAM							
Low frequency 3555.0 MHz							
3549.50	Low	-26.45	-23.45	100	1000	-13.0	Pass
3539.50	Low	-40.45	-37.45	100	1000	-25.0	
3560.50	High	-26.04	-23.04	100	1000	-13.0	
3570.50	High	-38.35	-35.35	100	1000	-25.0	
Mid frequency 3625.0 MHz							
3619.50	Low	-26.14	-23.14	100	1000	-13.0	Pass
3609.50	Low	-38.79	-35.79	100	1000	-25.0	
3630.50	High	-26.67	-23.67	100	1000	-13.0	
3640.50	High	-38.53	-35.53	100	1000	-25.0	
High frequency 2680.0 MHz							
3689.50	Low	-23.42	-20.42	100	1000	-13.0	Pass
3679.50	Low	-31.03	-28.03	100	1000	-25.0	
3700.50	High	-23.94	-20.94	100	1000	-13.0	
3710.50	High	-33.50	-30.50	100	1000	-25.0	

* - SA Reading over 1 chain = Max SA reading (Chains #1&2 and #3&4)
** - Total band edge = SA Reading over 1 chain + 10*log(N) = SA reading +3 dB
*** - Margin = Total band edge – Specification limit

Test specification:	**Section 96.41(e), Emission mask**		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	**Relative Humidity:** 49 %	**Air Pressure:** 1010 hPa	**Power:** 48 VDC
Remarks:			

Table 7.4.3 Emission outside the fundamental test results

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
EBW: 20 MHz
NUMBER OF CHAINS: 2
ANTENNA PORT: Worst case

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Integration BW, kHz	Limit, dBm	Verdict
QPSK							
Low frequency 3560.0 MHz							
3549.50	Low	-32.91	-29.91	100	1000	-13.0	Pass
3539.50	Low	-39.12	-36.12	100	1000	-25.0	
3570.50	High	-31.06	-28.06	100	1000	-13.0	
3580.50	High	-36.11	-33.11	100	1000	-25.0	
Mid frequency 3625.0 MHz							
3615.50	Low	-32.91	-29.91	100	1000	-13.0	Pass
3604.50	Low	-39.12	-36.12	100	1000	-25.0	
3635.50	High	-31.06	-28.06	100	1000	-13.0	
3645.50	High	-36.11	-33.11	100	1000	-25.0	
High frequency 3690.0 MHz							
3679.50	Low	-27.87	-24.87	100	1000	-13.0	Pass
3669.50	Low	-31.24	-28.24	100	1000	-25.0	
3700.50	High	-30.05	-27.05	100	1000	-13.0	
3710.50	High	-37.77	-34.77	100	1000	-25.0	
64 QAM							
Low frequency 3560.0 MHz							
3549.50	Low	-32.62	-29.62	100	1000	-13.0	Pass
3539.50	Low	-38.70	-35.70	100	1000	-25.0	
3570.50	High	-31.67	-28.67	100	1000	-13.0	
3580.50	High	-36.06	-33.06	100	1000	-25.0	
Mid frequency 3625.0 MHz							
3615.50	Low	-29.75	-26.75	100	1000	-13.0	Pass
3604.50	Low	-36.62	-33.62	100	1000	-25.0	
3635.50	High	-30.81	-27.81	100	1000	-13.0	
3645.50	High	-36.38	-33.38	100	1000	-25.0	
High frequency 3690.0 MHz							
3679.50	Low	-30.28	-27.28	100	1000	-13.0	Pass
3669.50	Low	-32.46	-29.46	100	1000	-25.0	
3700.50	High	-29.63	-26.63	100	1000	-13.0	
3710.50	High	-36.04	-33.04	100	1000	-25.0	

* - SA Reading over 1 chain = Max SA reading (Chains #1&2 and #3&4)
** - Total band edge = SA Reading over 1 chain + 10*log(N) = SA reading +3 dB
*** - Margin = Total band edge – Specification limit

Reference numbers of test equipment used

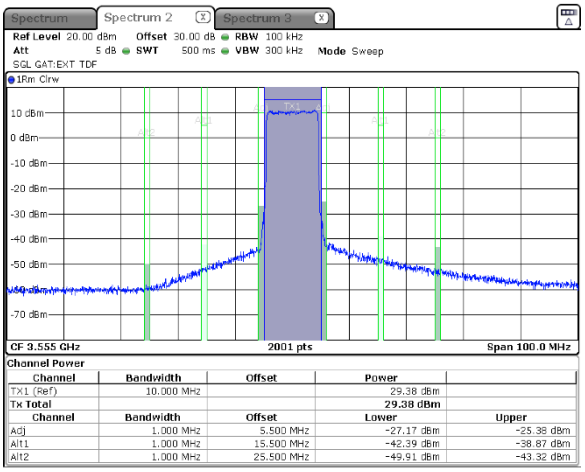
HL 3301	HL 3302	HL 3818	HL 3868	HL 3903	HL 4355	HL 3901	HL 4366

Full description is given in Appendix A.

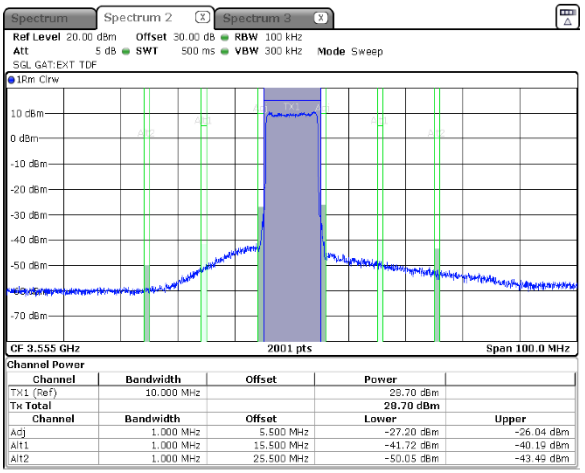
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.1 Emission outside the fundamental test results in 3505 - 3605 GHz range at low carrier frequency

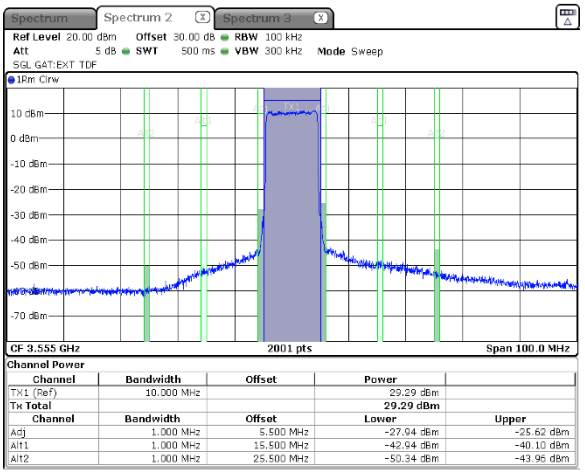
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



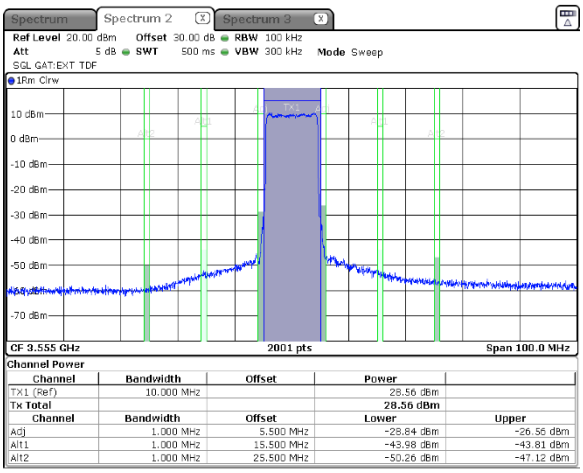
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



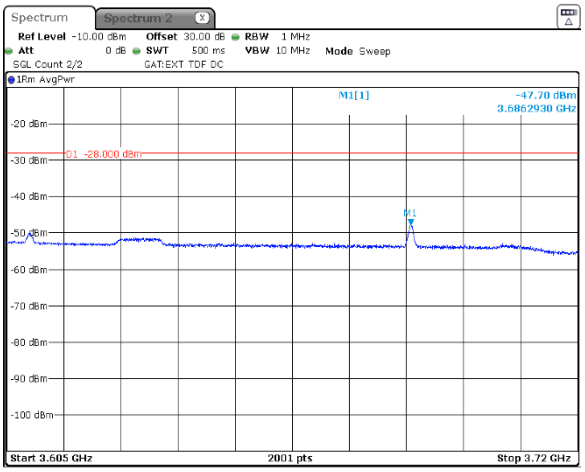
ANTENNA CHAIN: #4



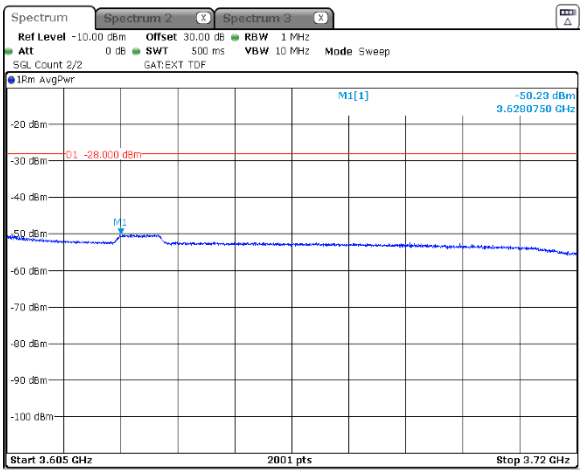
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.2 Emission outside the fundamental test results in 3605 - 3720 GHz range at low carrier frequency

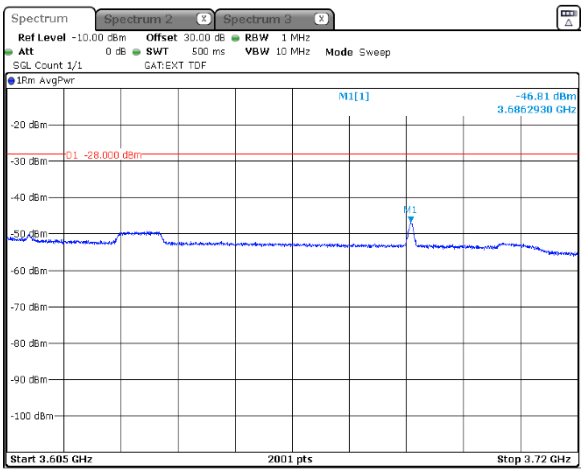
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



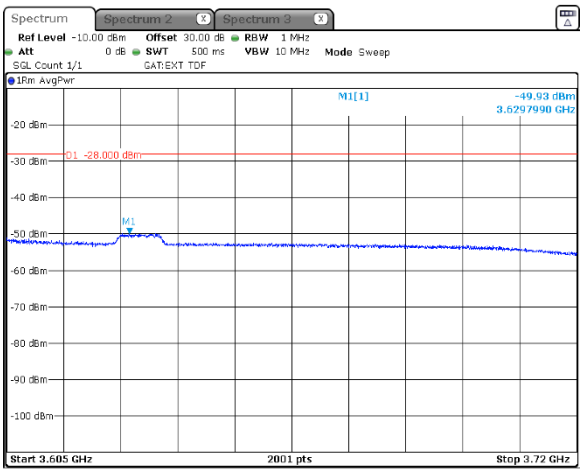
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



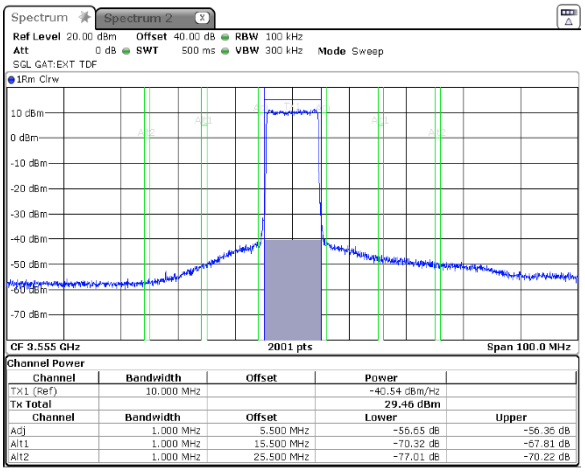
ANTENNA CHAIN: #4



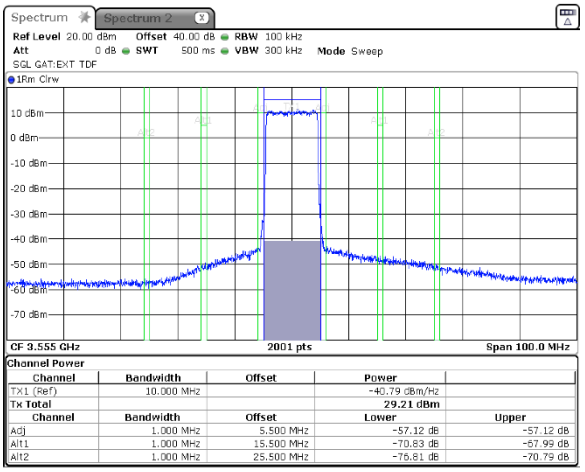
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.3 Emission outside the fundamental test results in 3505 - 3605 GHz range at low carrier frequency

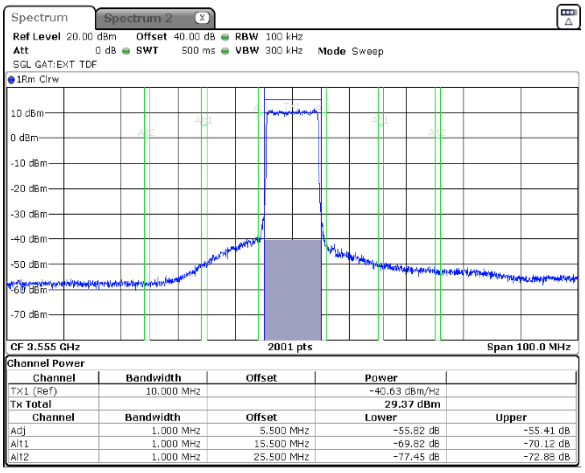
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



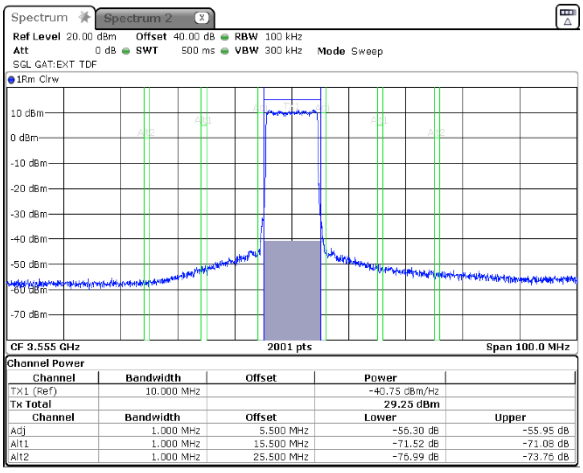
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



ANTENNA CHAIN: #4

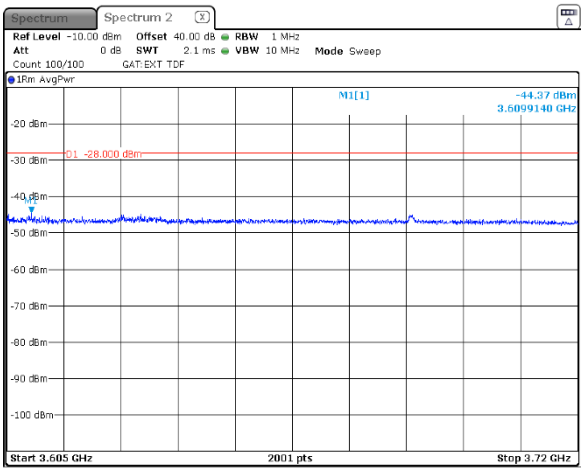


Note: SA Reading over 1 chain = Tx Total Power + Attenuation below carrier

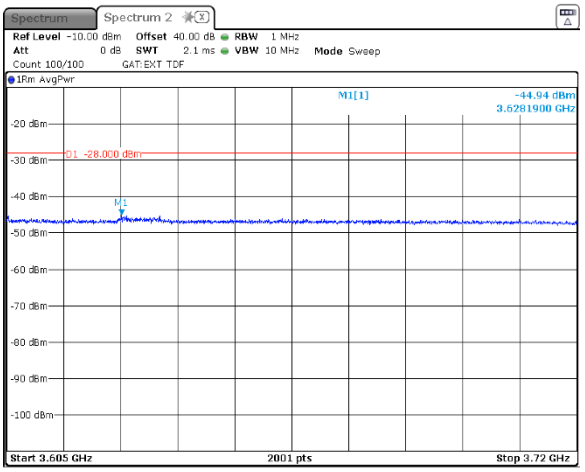
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.4 Emission outside the fundamental test results in 3605 - 3720 GHz range at low carrier frequency

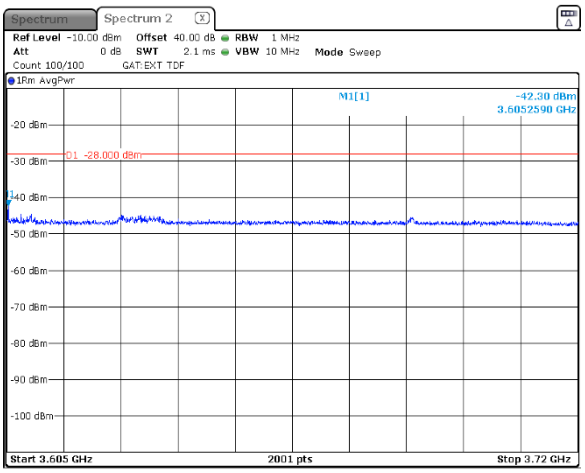
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



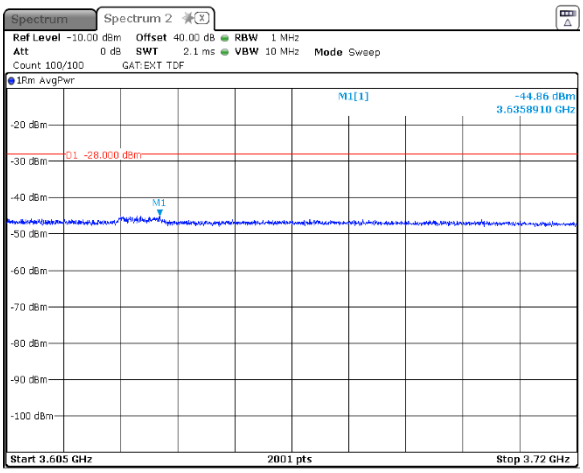
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



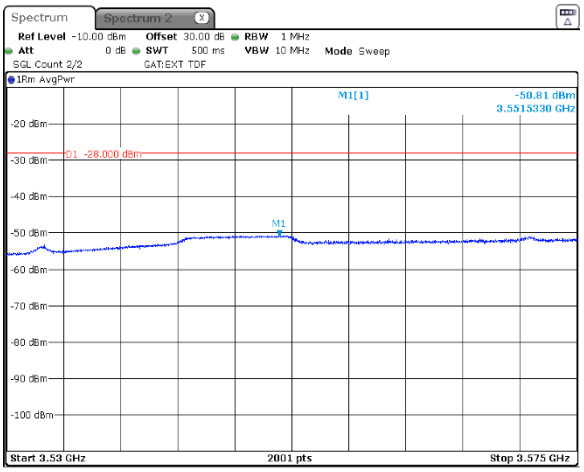
ANTENNA CHAIN: #4



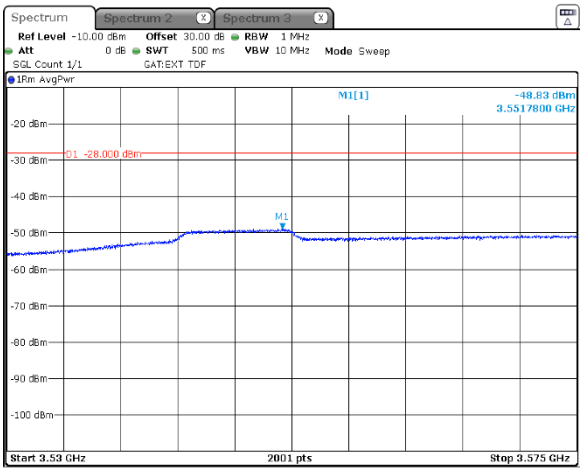
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.5 Emission outside the fundamental test results in 3530 - 3575 GHz range at mid carrier frequency

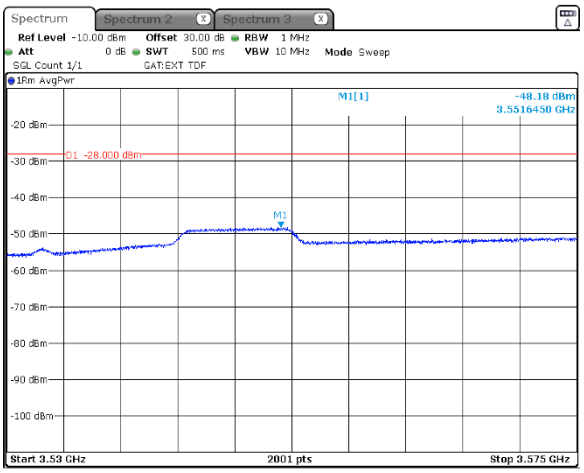
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



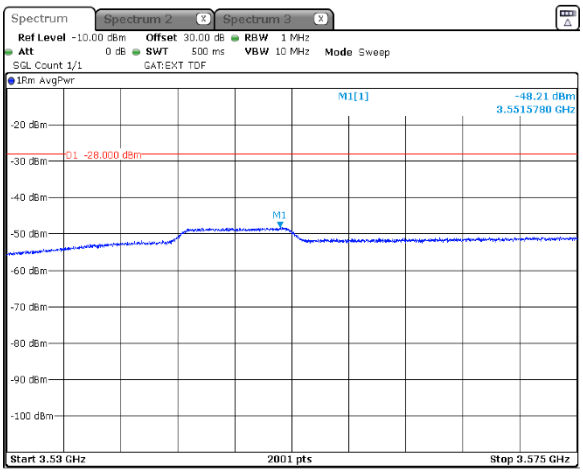
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



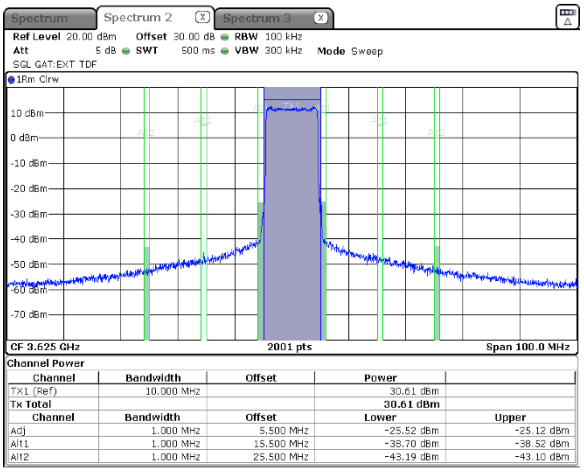
ANTENNA CHAIN: #4



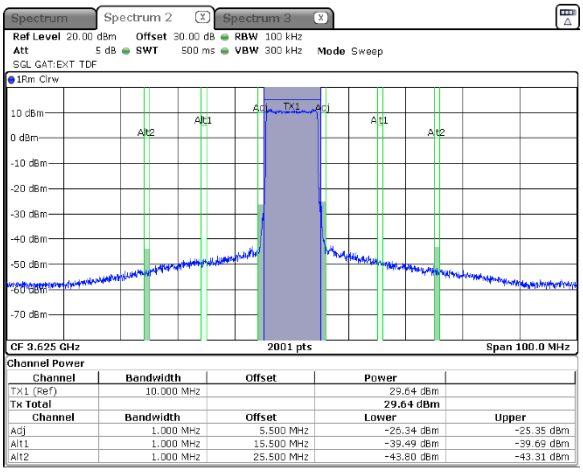
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.6 Emission outside the fundamental test results in 3575 - 3675 GHz range at mid carrier frequency

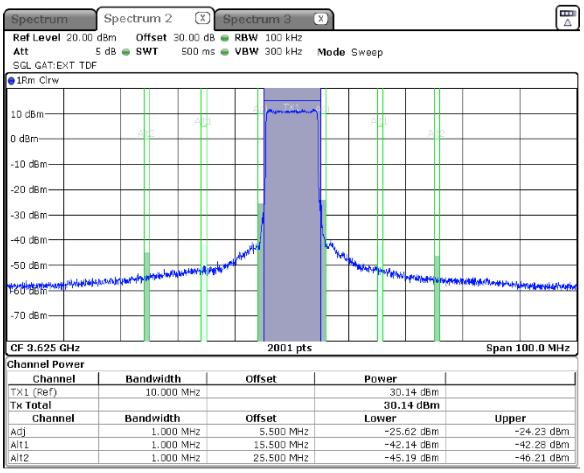
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



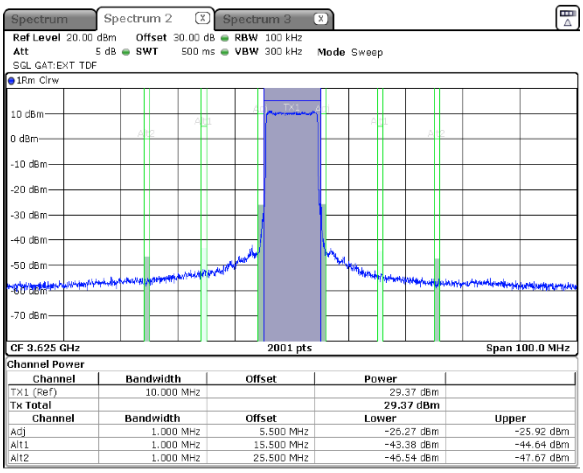
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



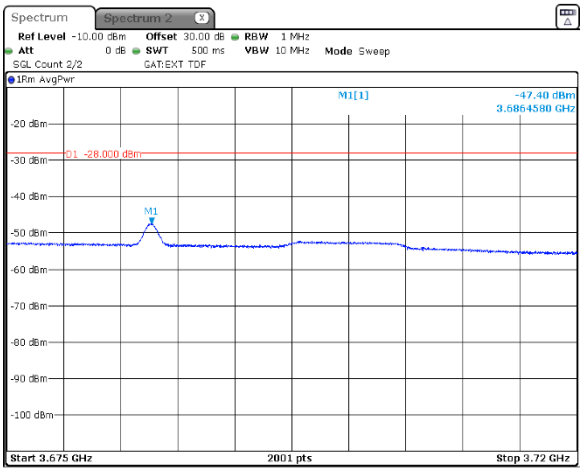
ANTENNA CHAIN: #4



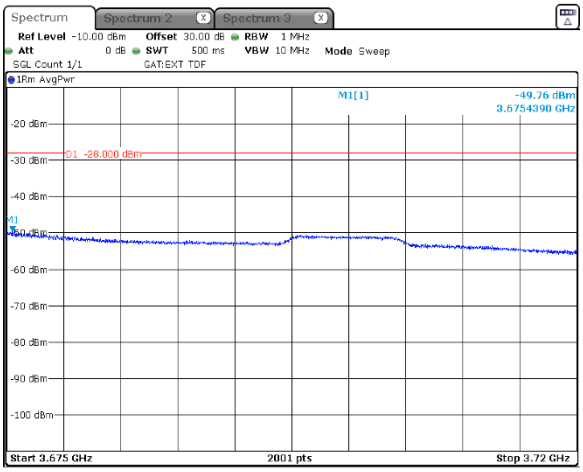
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.7 Emission outside the fundamental test results in 3675 - 3720 GHz range at mid carrier frequency

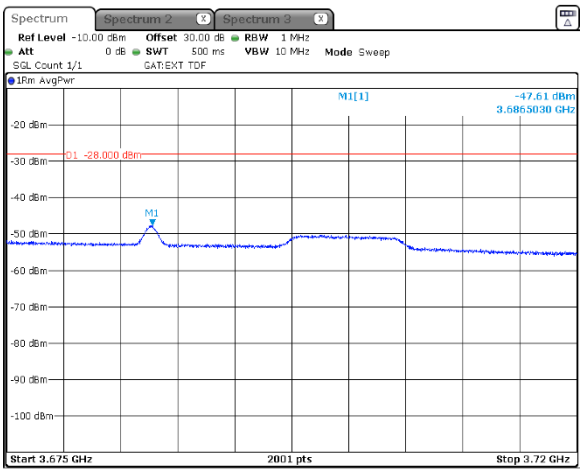
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



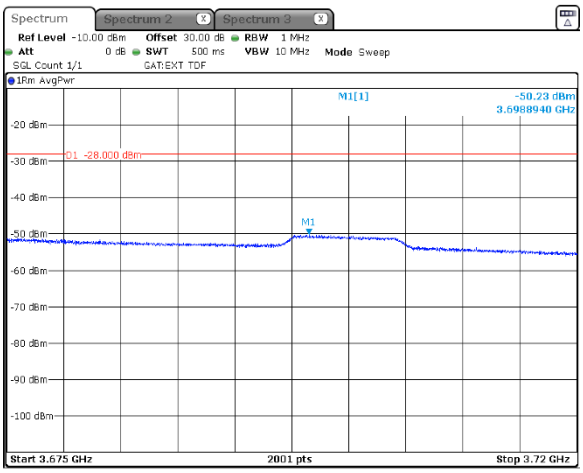
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



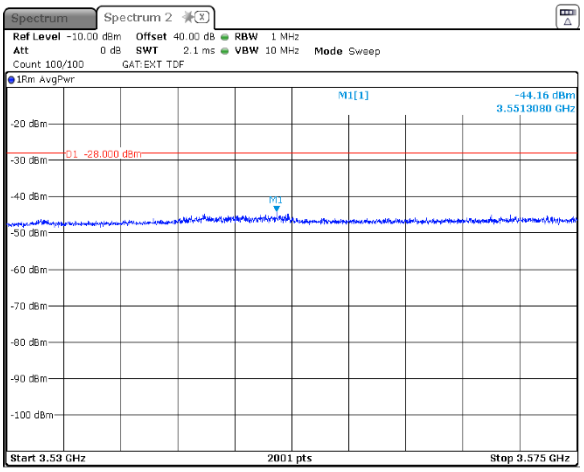
ANTENNA CHAIN: #4



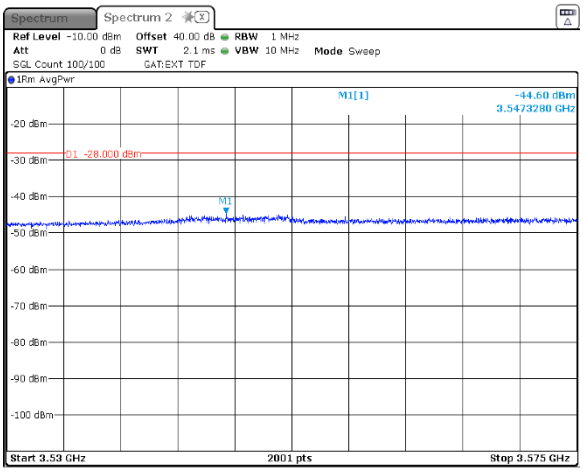
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.8 Emission outside the fundamental test results in 3530 - 3575 GHz range at mid carrier frequency

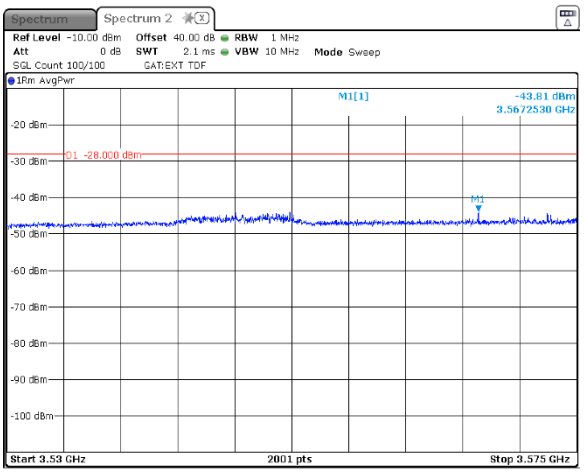
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



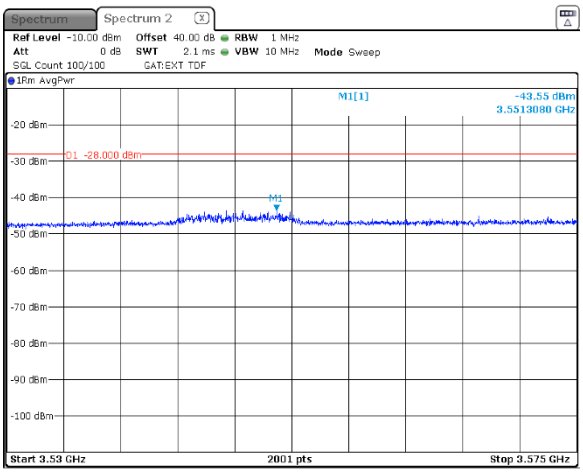
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



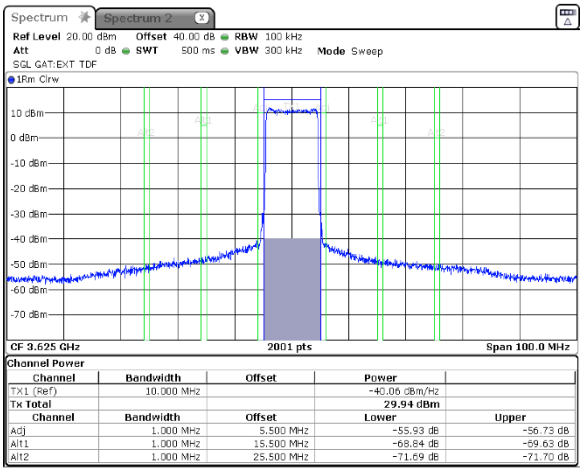
ANTENNA CHAIN: #4



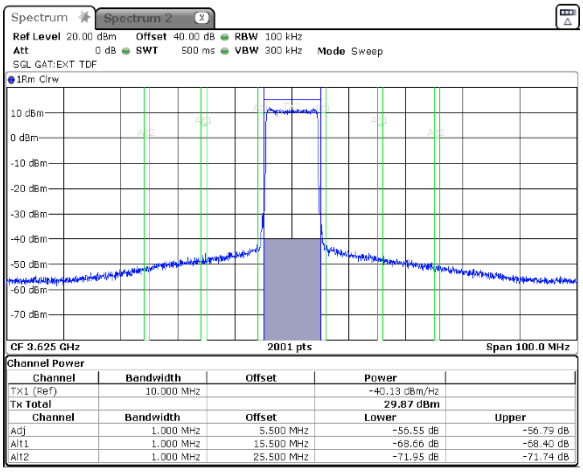
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.9 Emission outside the fundamental test results in 3575 - 3675 GHz range at mid carrier frequency

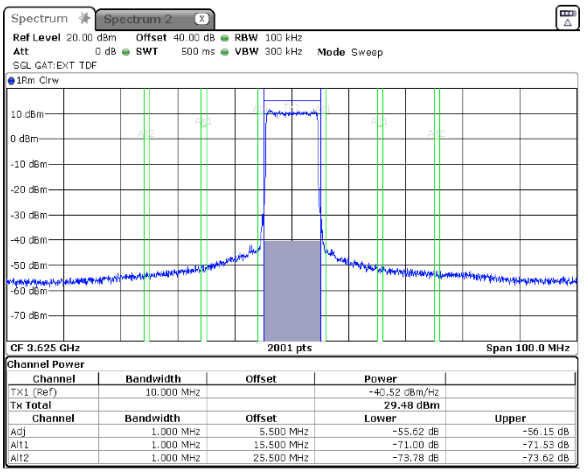
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



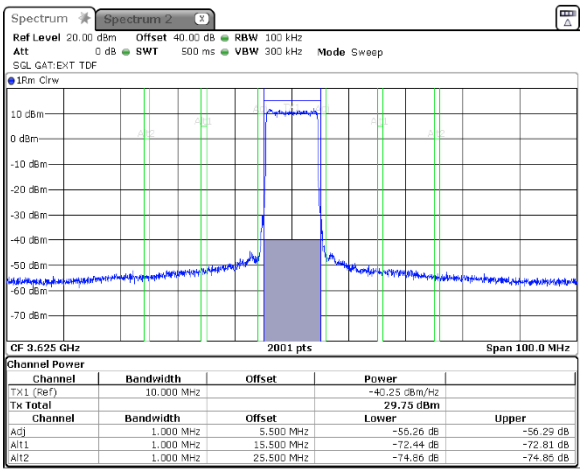
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



ANTENNA CHAIN: #4

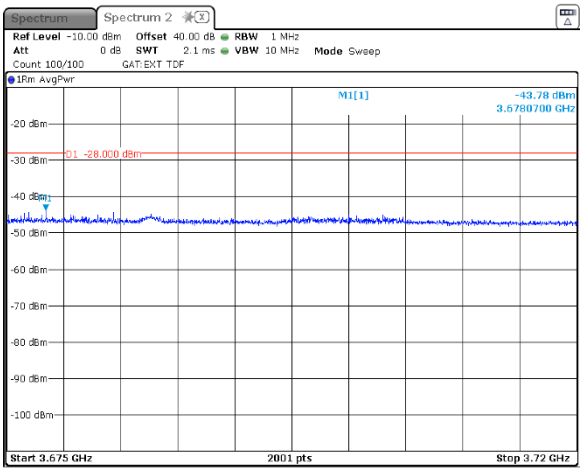


Note: SA Reading over 1 chain = Tx Total Power + Attenuation below carrier

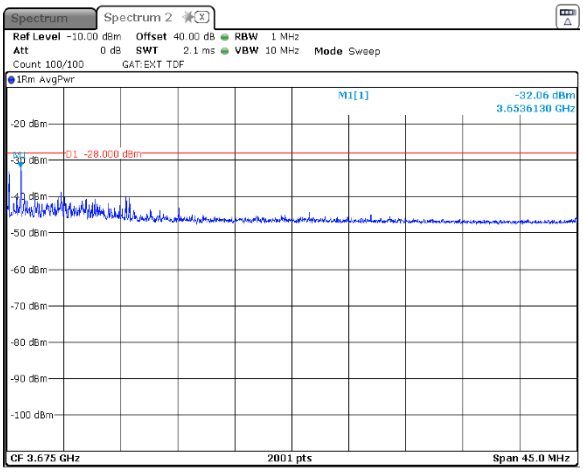
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.10 Emission outside the fundamental test results in 3675 - 3720 GHz range at mid carrier frequency

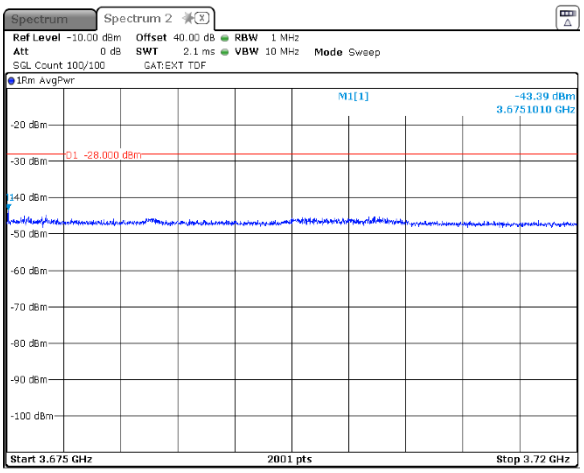
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



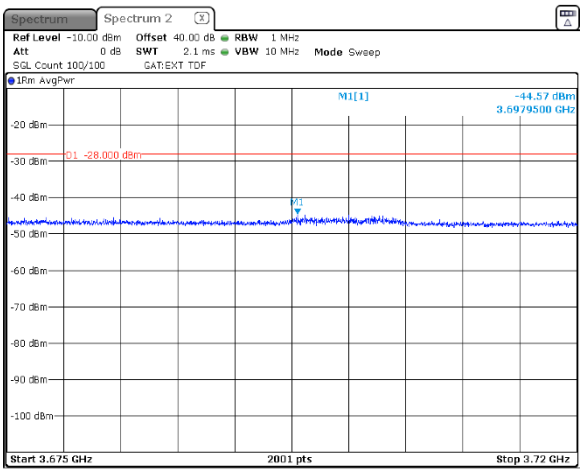
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



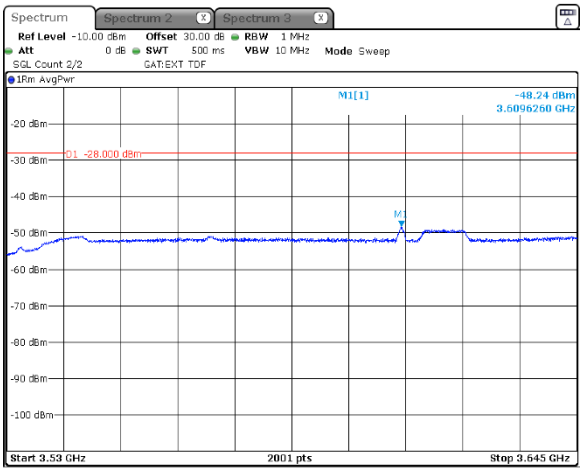
ANTENNA CHAIN: #4



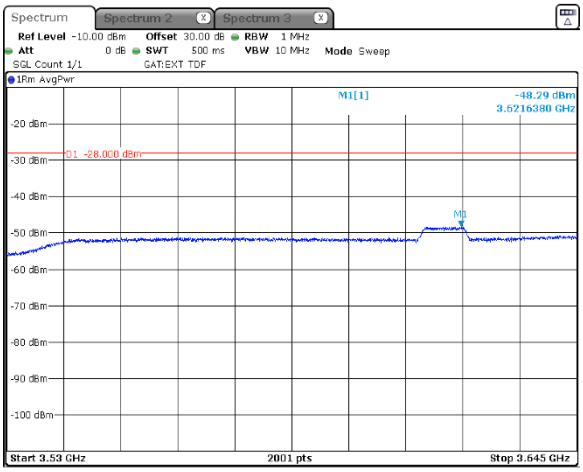
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.11 Emission outside the fundamental test results in 3530 - 3645 GHz range at high carrier frequency

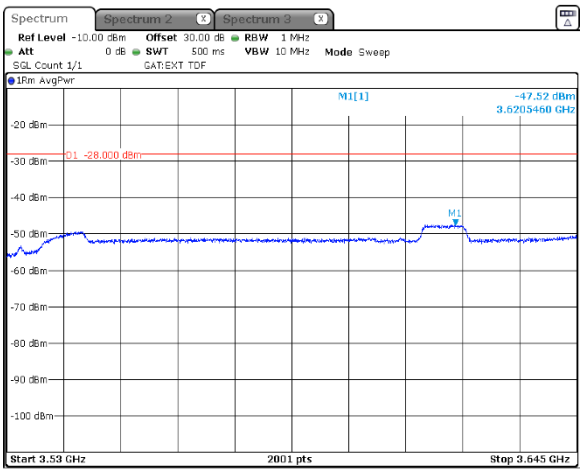
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



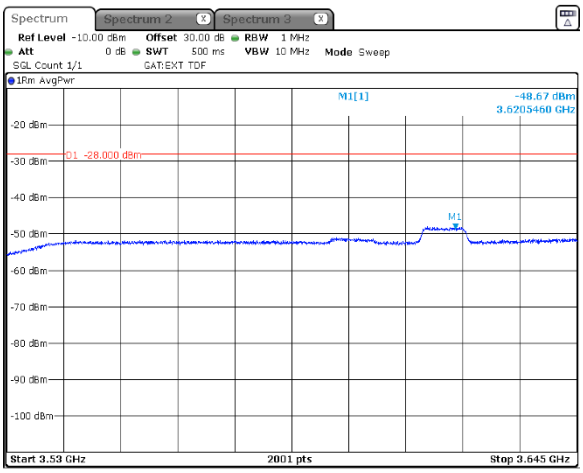
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



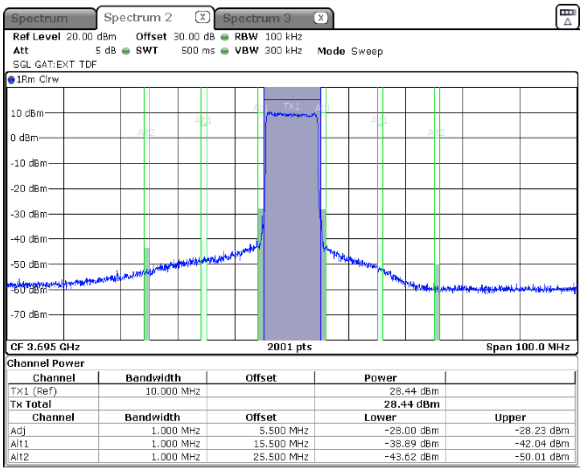
ANTENNA CHAIN: #4



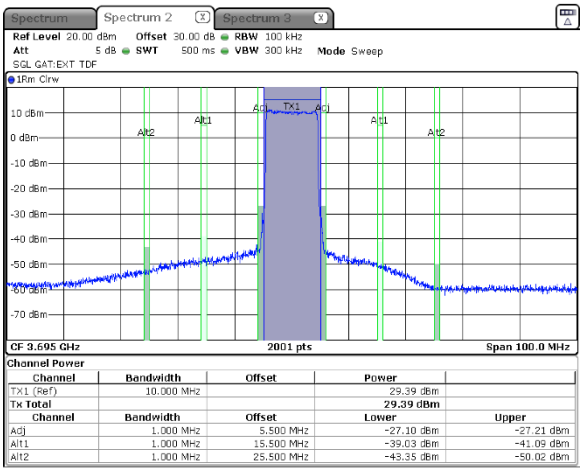
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.12 Emission outside the fundamental test results in 3645 - 3745 GHz range at high carrier frequency

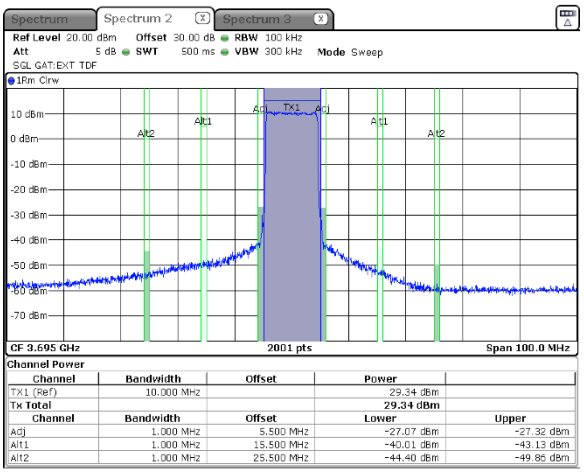
MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



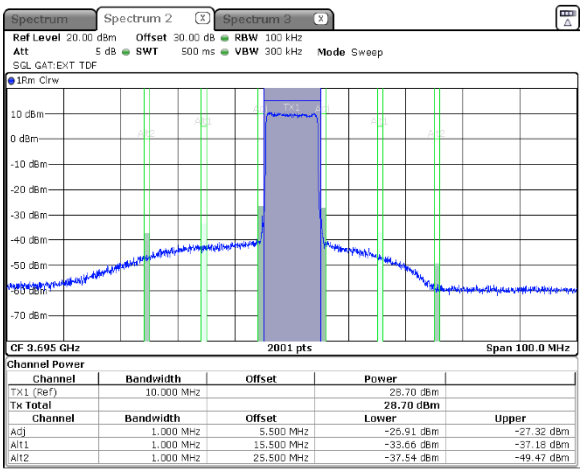
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



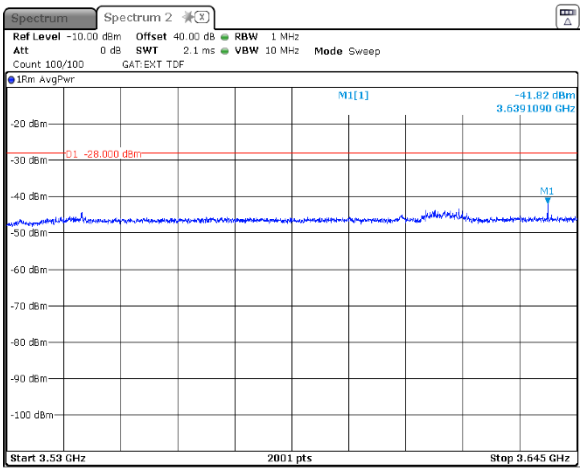
ANTENNA CHAIN: #4



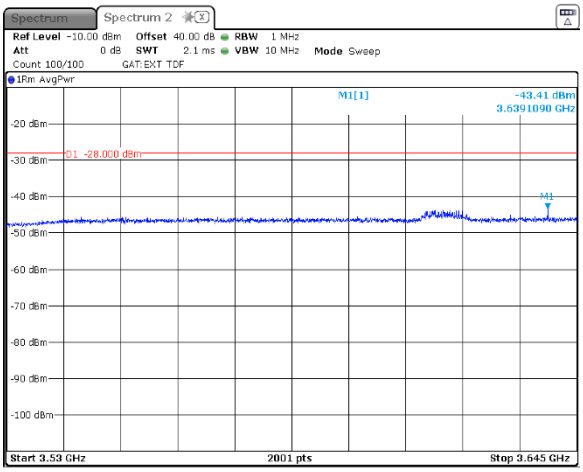
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.13 Emission outside the fundamental test results in 3530 - 3645 GHz range at high carrier frequency

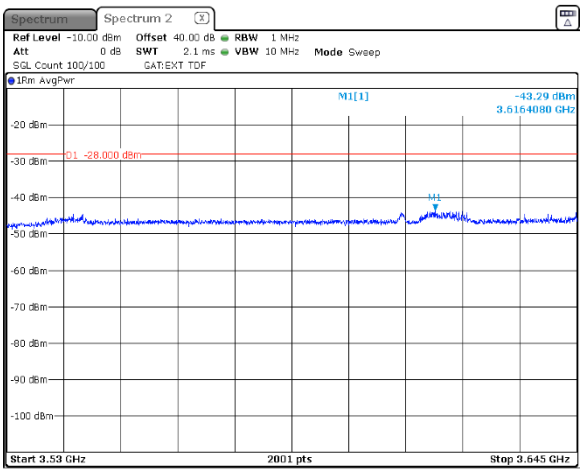
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



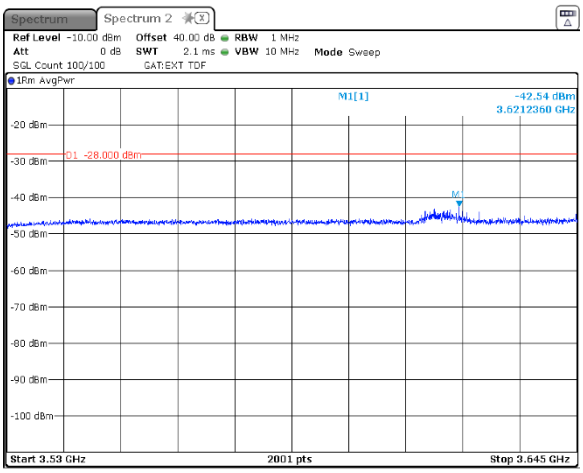
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



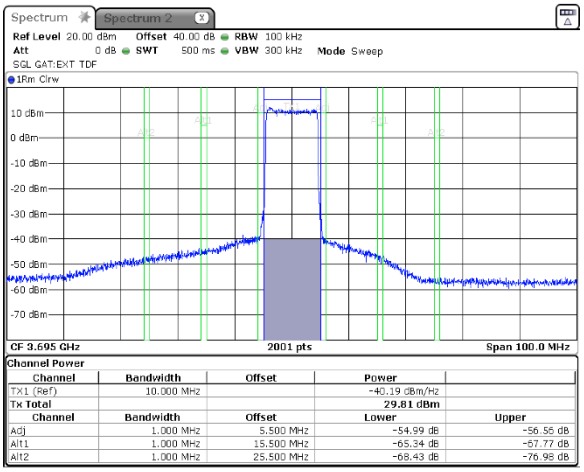
ANTENNA CHAIN: #4



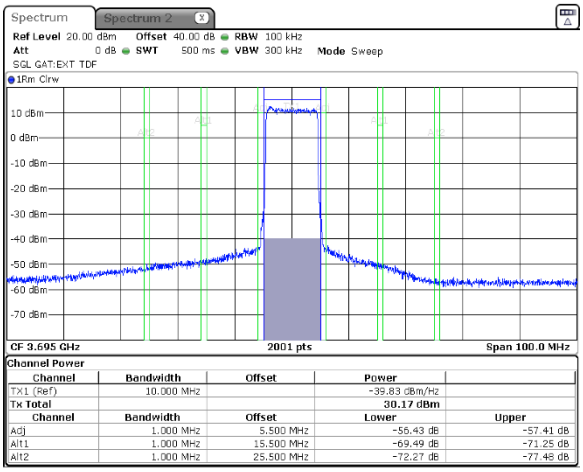
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.14 Emission outside the fundamental test results in 3645 - 3745 GHz range at high carrier frequency

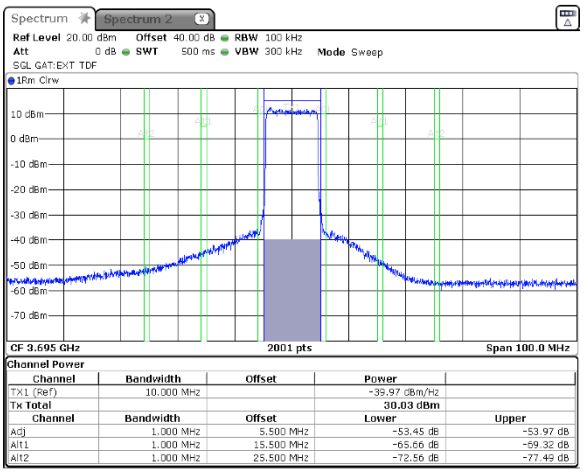
MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: #1



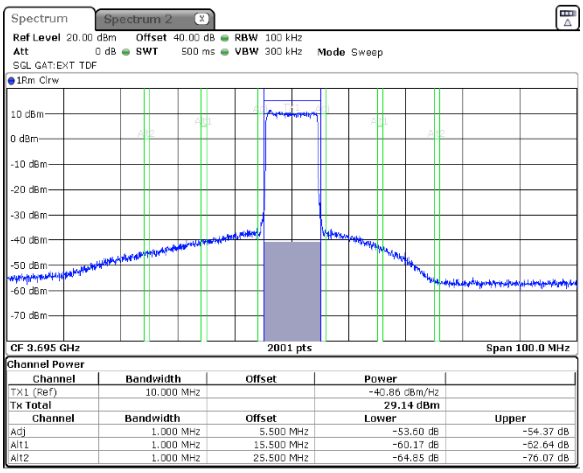
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



ANTENNA CHAIN: #4

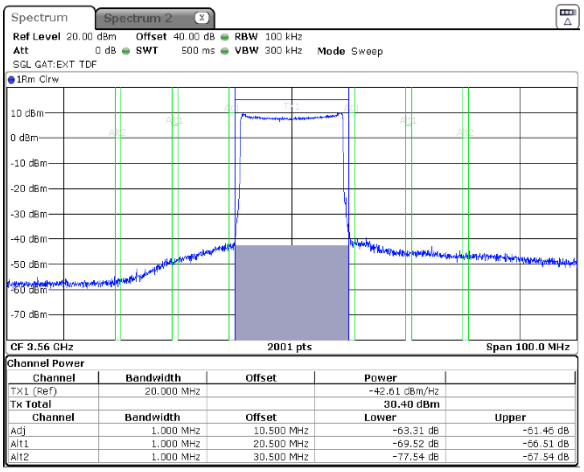


Note: SA Reading over 1 chain = Tx Total Power + Attenuation below carrier

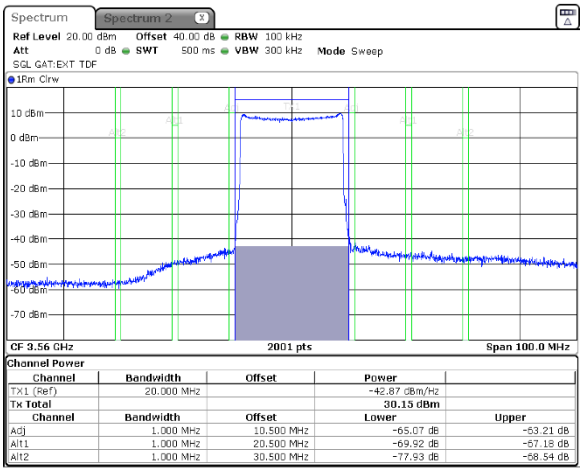
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.15 Emission outside the fundamental test results in 3510 - 3610 GHz range at low carrier frequency

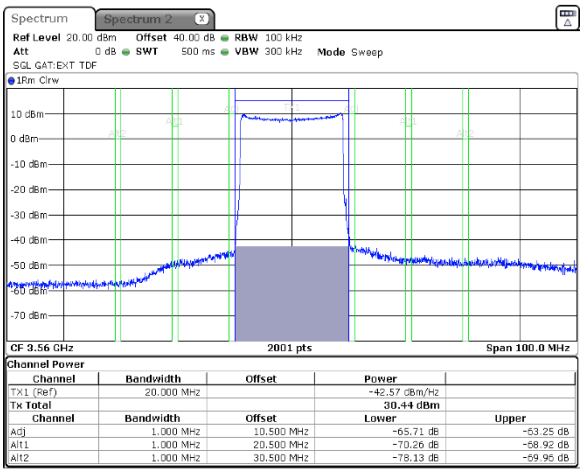
MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: #1



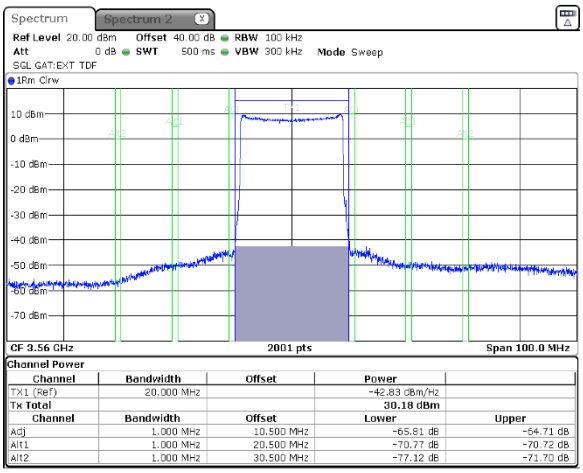
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



ANTENNA CHAIN: #4

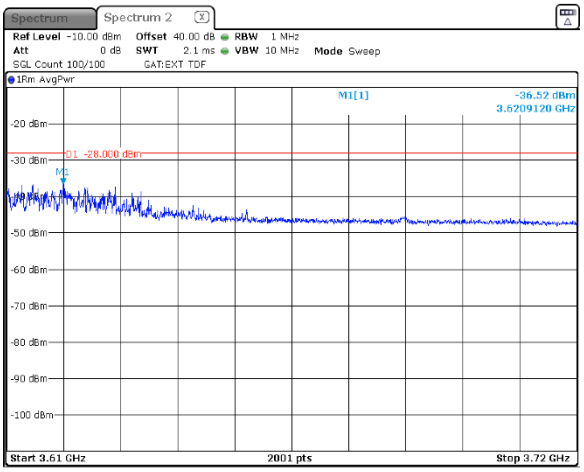


Note: SA Reading over 1 chain = Tx Total Power + Attenuation below carrier

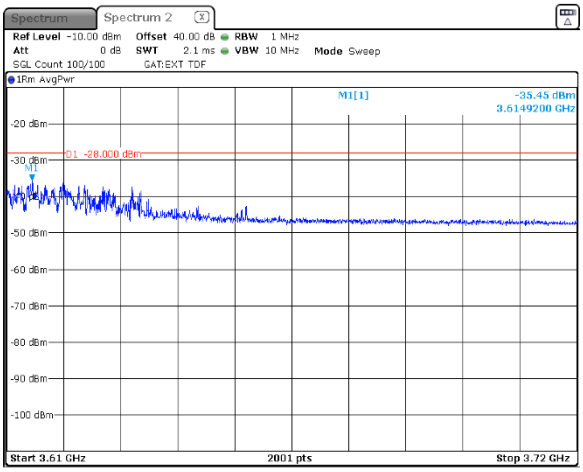
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.16 Emission outside the fundamental test results in 3610 - 3720 GHz range at low carrier frequency

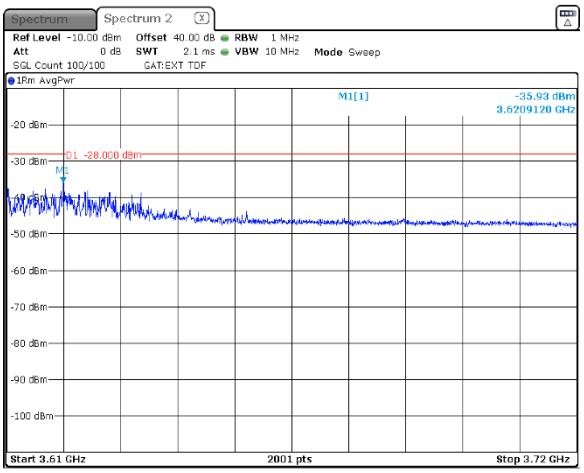
MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: #1



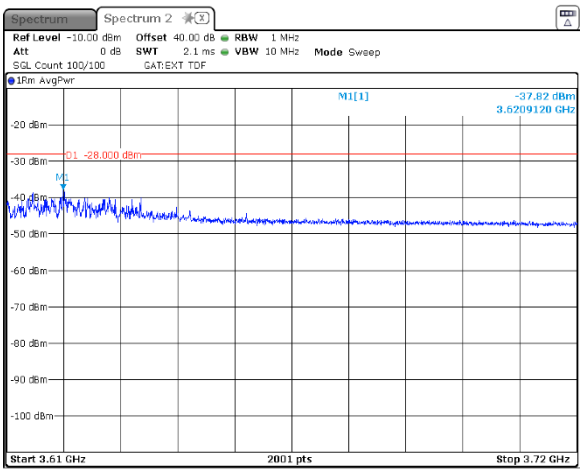
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



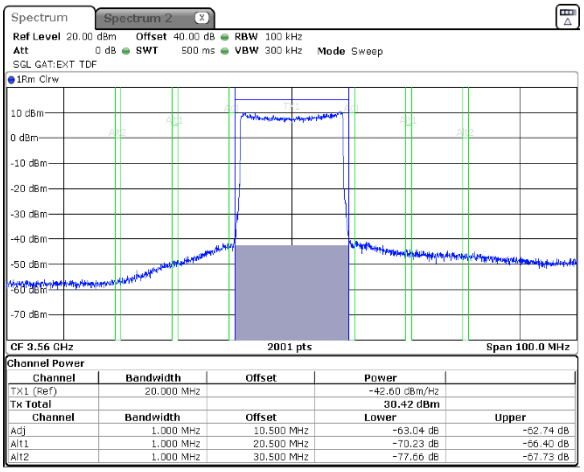
ANTENNA CHAIN: #4



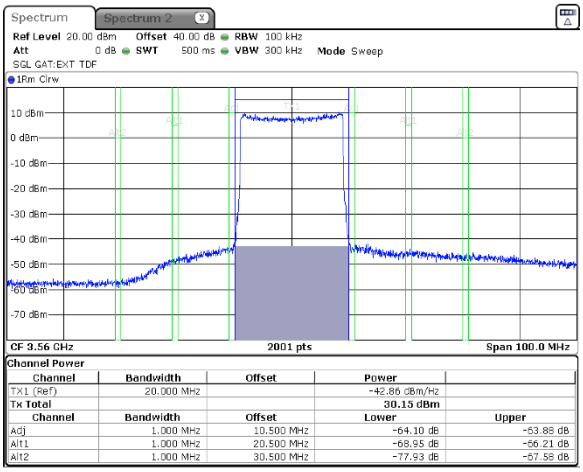
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.17 Emission outside the fundamental test results in 3510 - 3610 GHz range at low carrier frequency

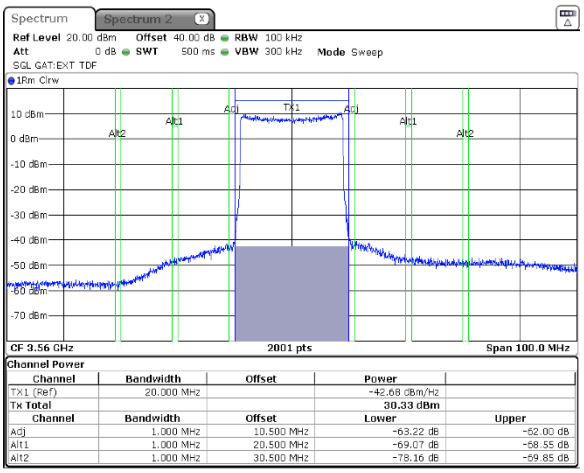
MODULATION: 64QAM
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: #1



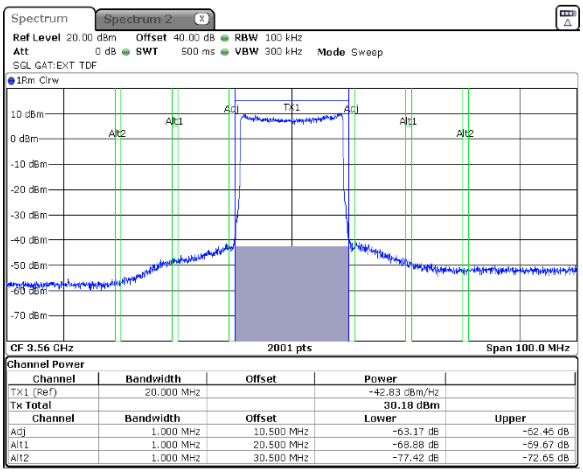
ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



ANTENNA CHAIN: #4

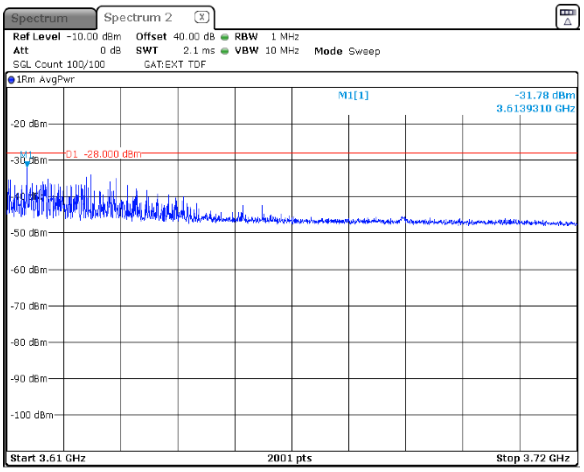


Note: SA Reading over 1 chain = Tx Total Power + Attenuation below carrier

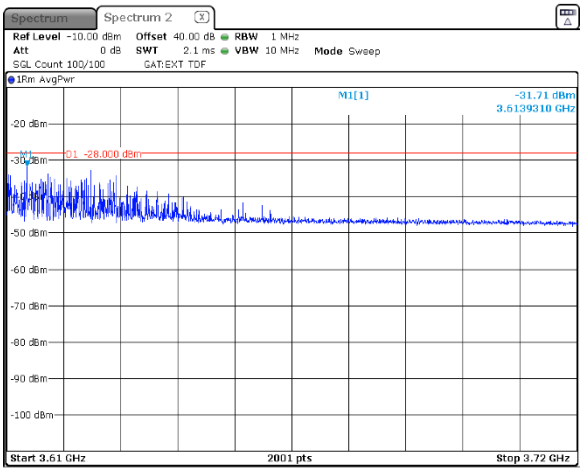
Test specification:	Section 96.41(e), Emission mask		
Test procedure:	Section 96.41(e)(3)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	19-Jul-20		
Temperature: 24.2 ºC	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.18 Emission outside the fundamental test results in 3610 - 3720 GHz range at low carrier frequency

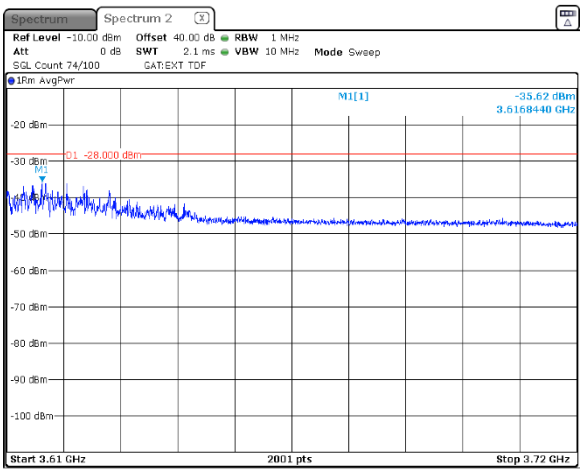
MODULATION: 64QAM
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: #1



ANTENNA CHAIN: #2



ANTENNA CHAIN: #3



ANTENNA CHAIN: #4