

Measurement tables (showing the highest value "worst case") whit four antennas (4x4 MIMO)

At this tables the highest peak value of spurious radiation per frequency test band is shown.

C-Band. segment 1. downlink;						
Spurious Freq. [MHz]	Spurious Level [dBm]	Pin [dBm]	Detector	RBW [kHz]	Limit [dBm]	Margin to Limit [dB]
205.7/vert.	-57.4	-5.2	RMS	100	-23.0	34.4
274.5/hor.	-56.6	-5.2	RMS	100	-23.0	33.6
500/vert.	-62.1	-5.2	RMS	100	-23.0	39.1
17737/vert.	-23.5	-5.2	RMS	1000	-13.0	10.5
39167/hor.	-46.1	-5.2	RMS	1000	-13.0	33.1

C-Band. segment 2. downlink;						
Spurious Freq. [MHz]	Spurious Level [dBm]	Pin [dBm]	Detector	RBW [kHz]	Limit [dBm]	Margin to Limit [dB]
168.5/hor.	-63.1	-5.0	RMS	100	-23.0	40.1
204.4/vert.	-63.1	-5.0	RMS	100	-23.0	40.1
500/hor.	-65.5	-5.0	RMS	100	-23.0	42.4
17198/vert.	-23.7	-5.0	RMS	1000	-13.0	10.7
39896/hor.	-45.7	-5.0	RMS	1000	-13.0	32.7

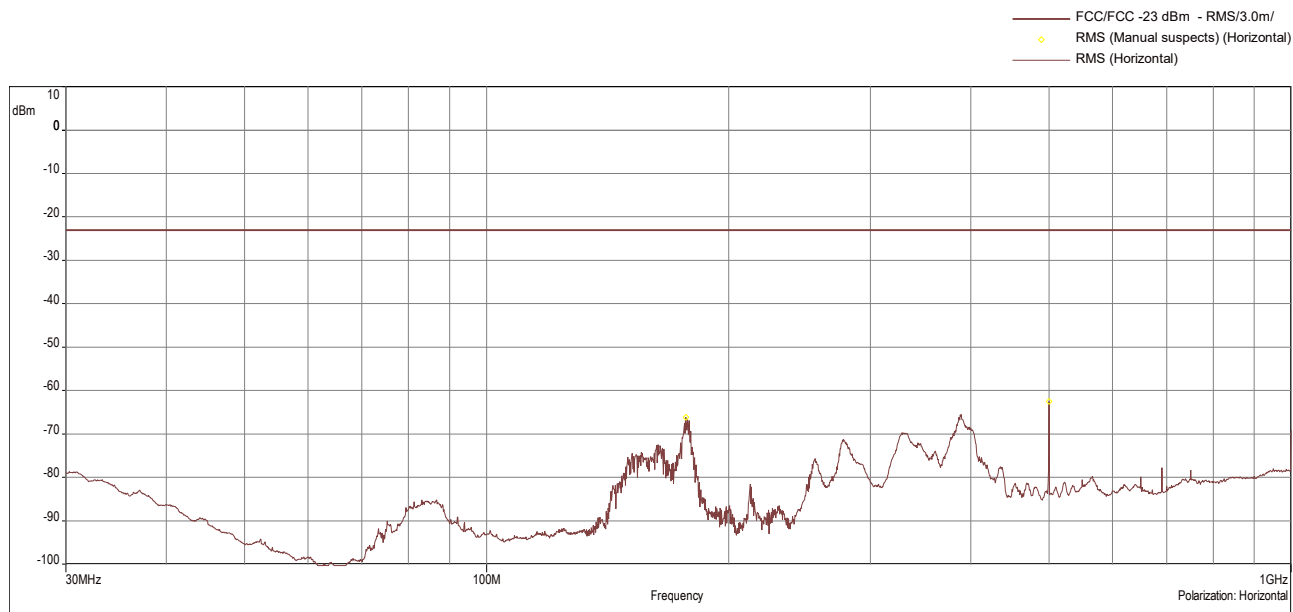
C-Band. segment 3. downlink;						
Spurious Freq. [MHz]	Spurious Level [dBm]	Pin [dBm]	Detector	RBW [kHz]	Limit [dBm]	Margin to Limit [dB]
168.3/hor.	-62.8	-4.2	RMS	100	-23.0	39.8
204.4/vert.	-65.6	-4.2	RMS	100	-23.0	42.6
500/vert.	-64.3	-4.2	RMS	100	-23.0	41.3
16296/vert.	-23.8	-4.2	RMS	1000	-13.0	10.8
39894/hor.	-45.6	-4.2	RMS	1000	-13.0	32.6

The test results relate only to the tested item. The sample has been provided by the client.
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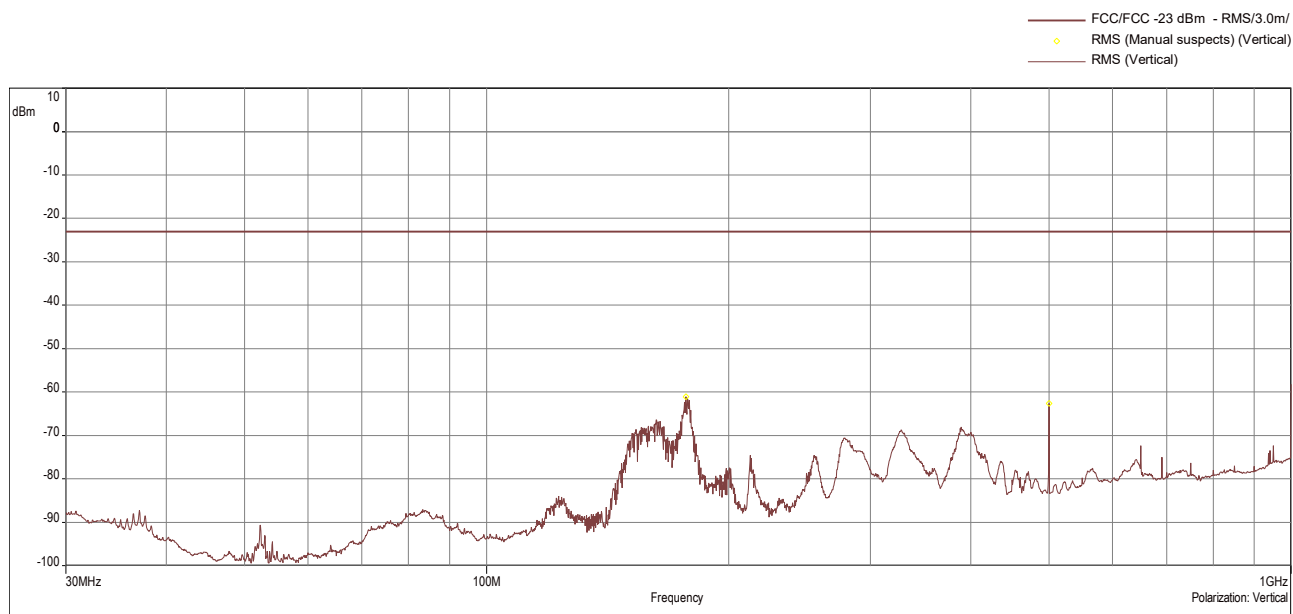
4.8.4 MEASUREMENT PLOTS (SHOWING THE HIGHEST VALUE. "WORST CASE") WHIT ONE ANTENNA

4.8.4.1 Frequency Band = C-Band. Segment 1. ANT 2. Direction = RF downlink

30 MHz - 1 GHz. horizontal

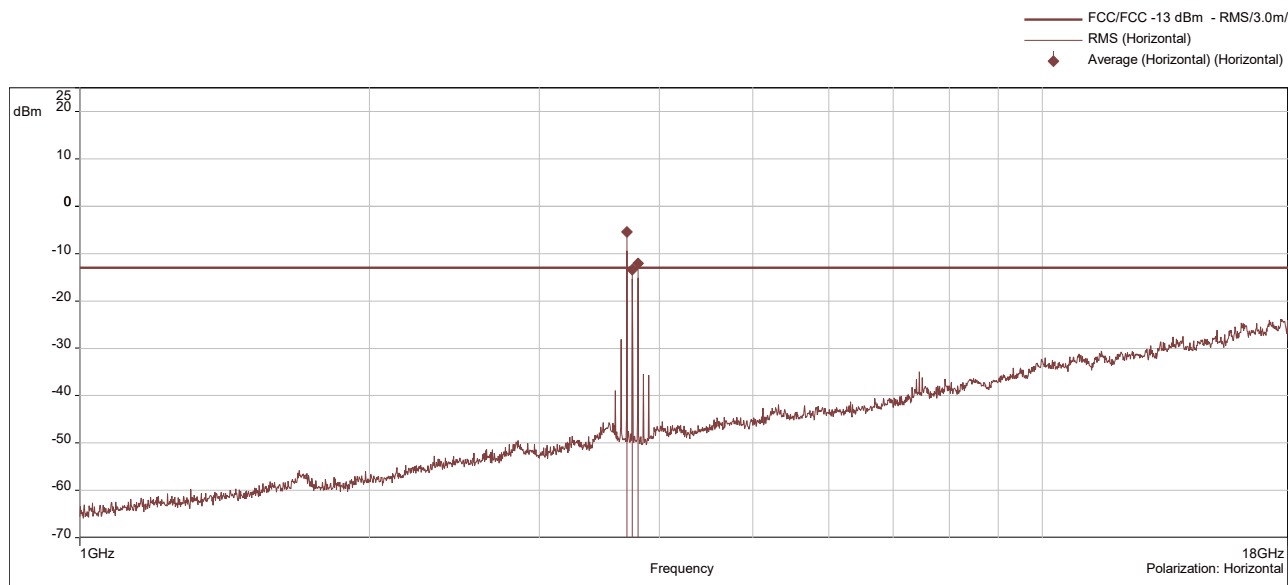


30 MHz - 1 GHz. vertical

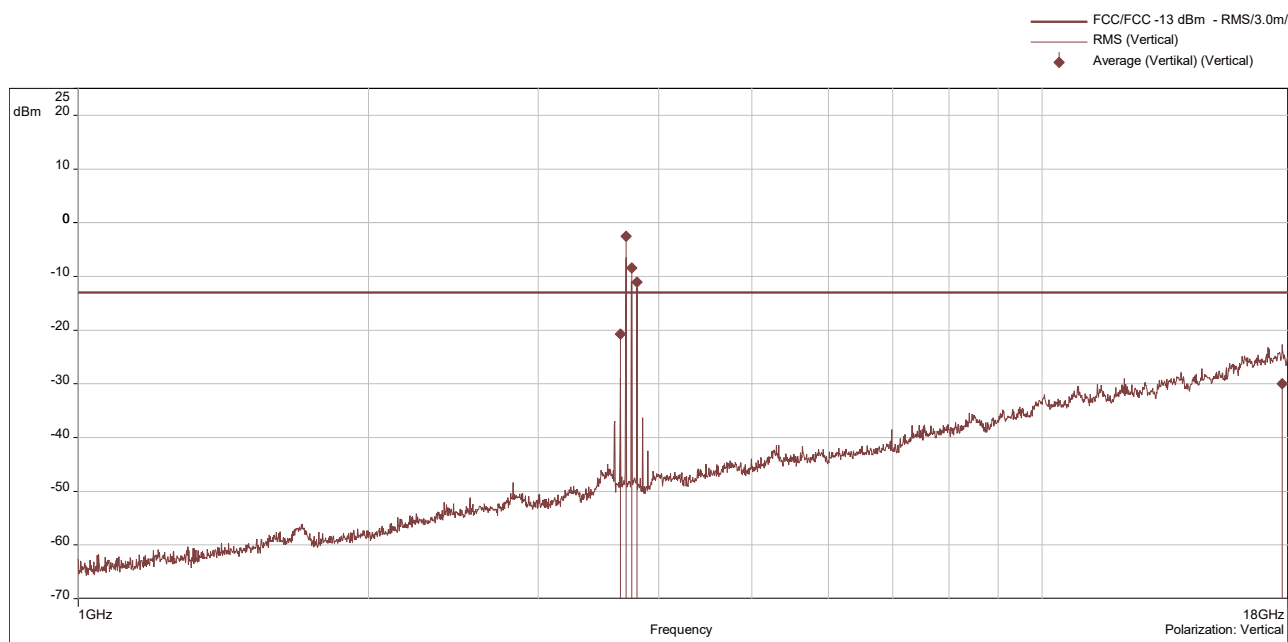


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1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical



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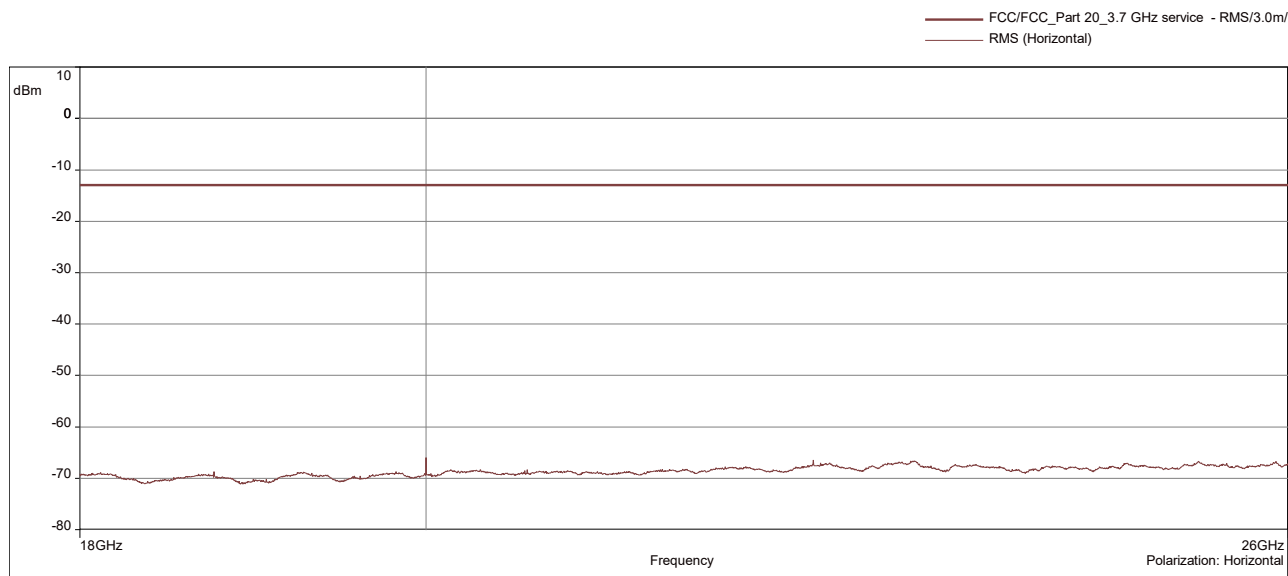


EMC Test Report No.: 23-0199

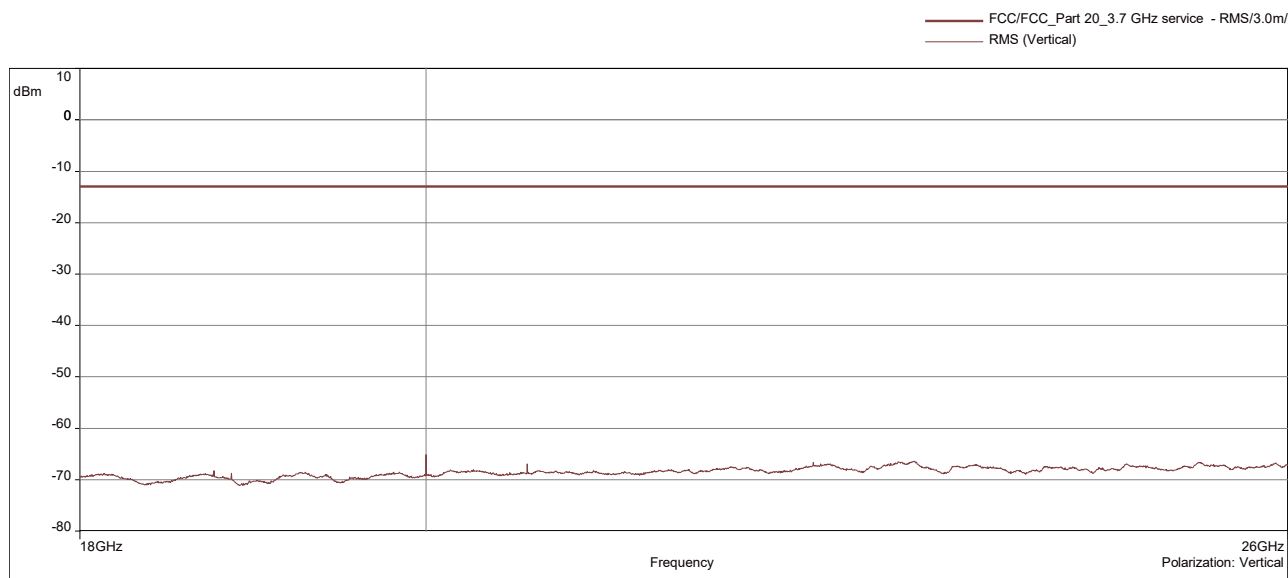
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



18 GHz - 26 GHz. horizontal



18 GHz - 26 GHz. vertical



The test results relate only to the tested item. The sample has been provided by the client.
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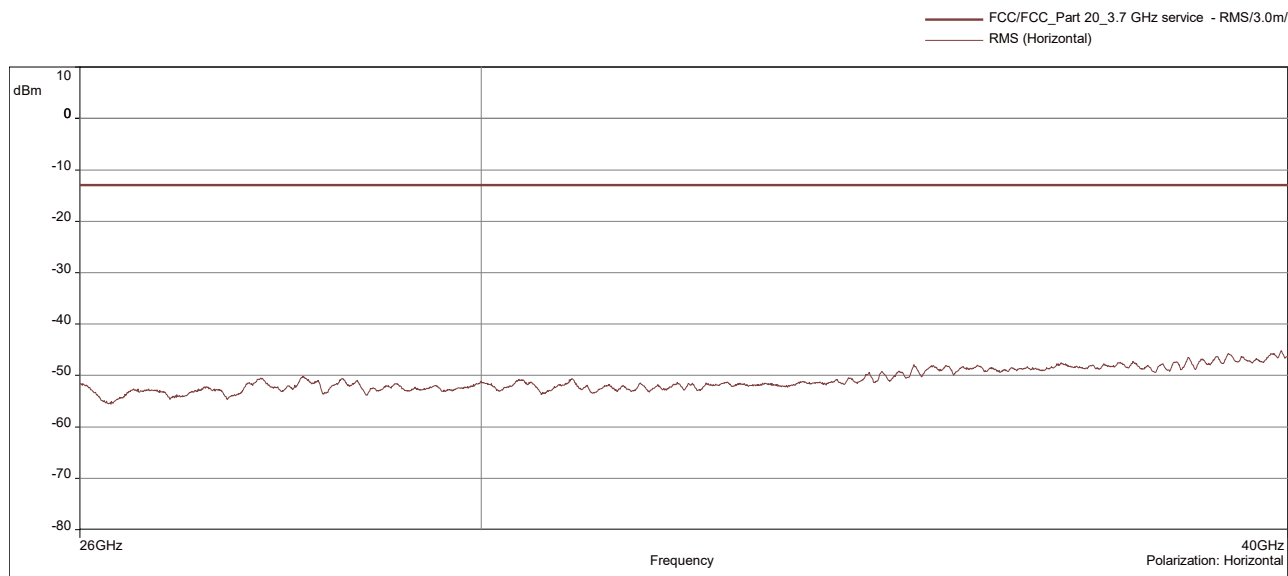


EMC Test Report No.: 23-0199

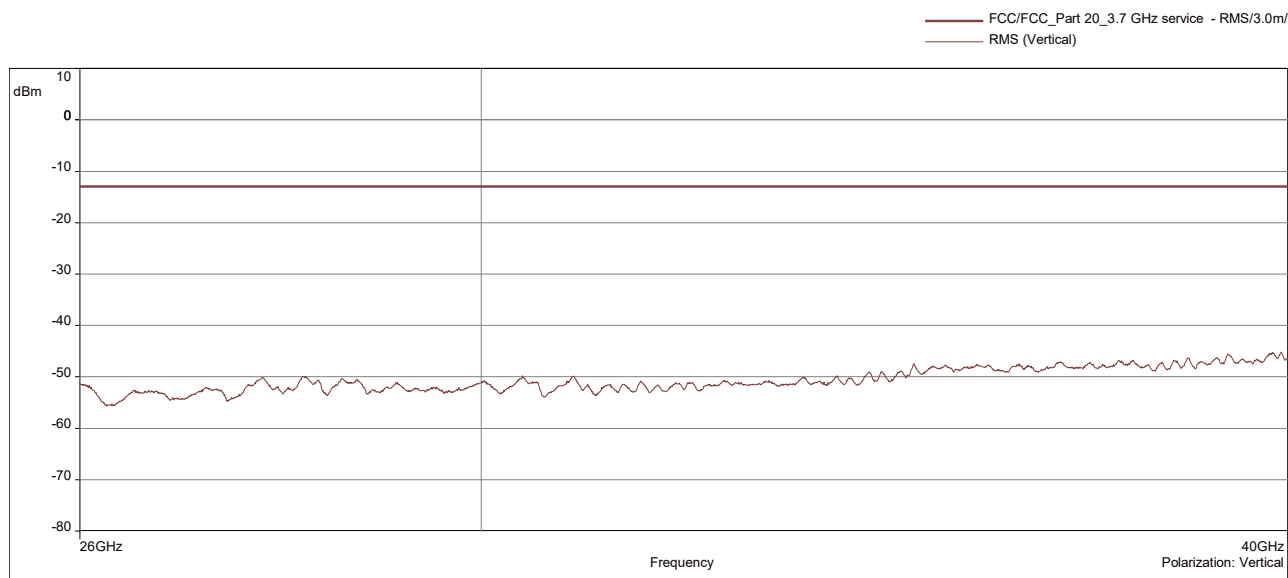
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical

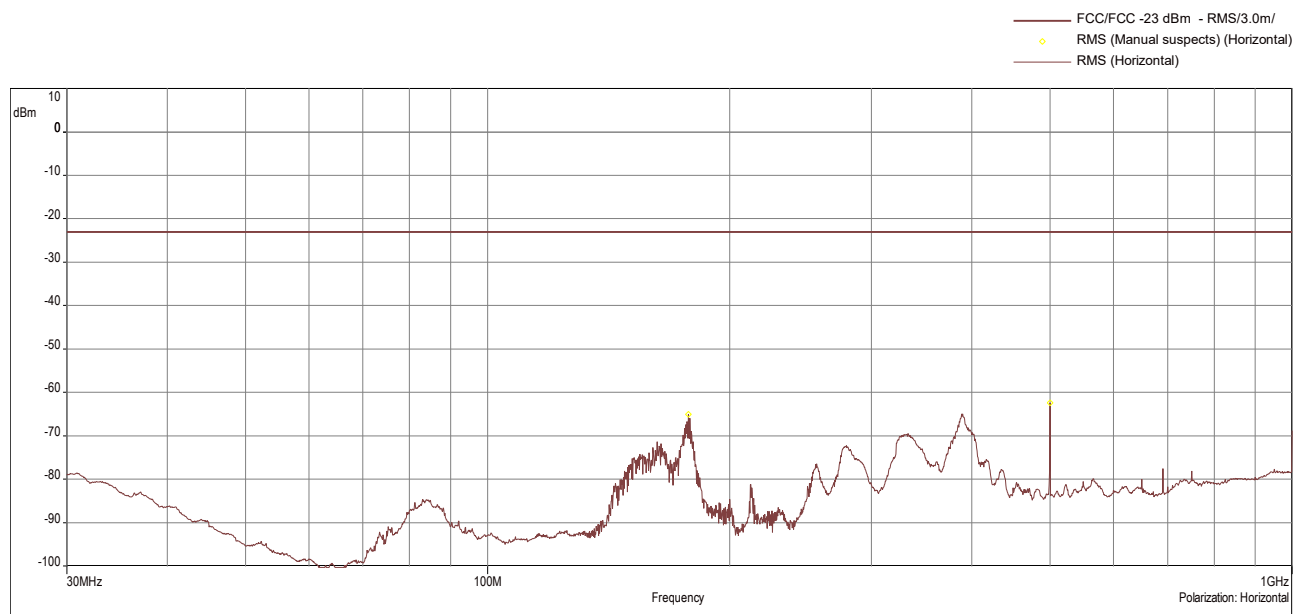


The test results relate only to the tested item. The sample has been provided by the client.
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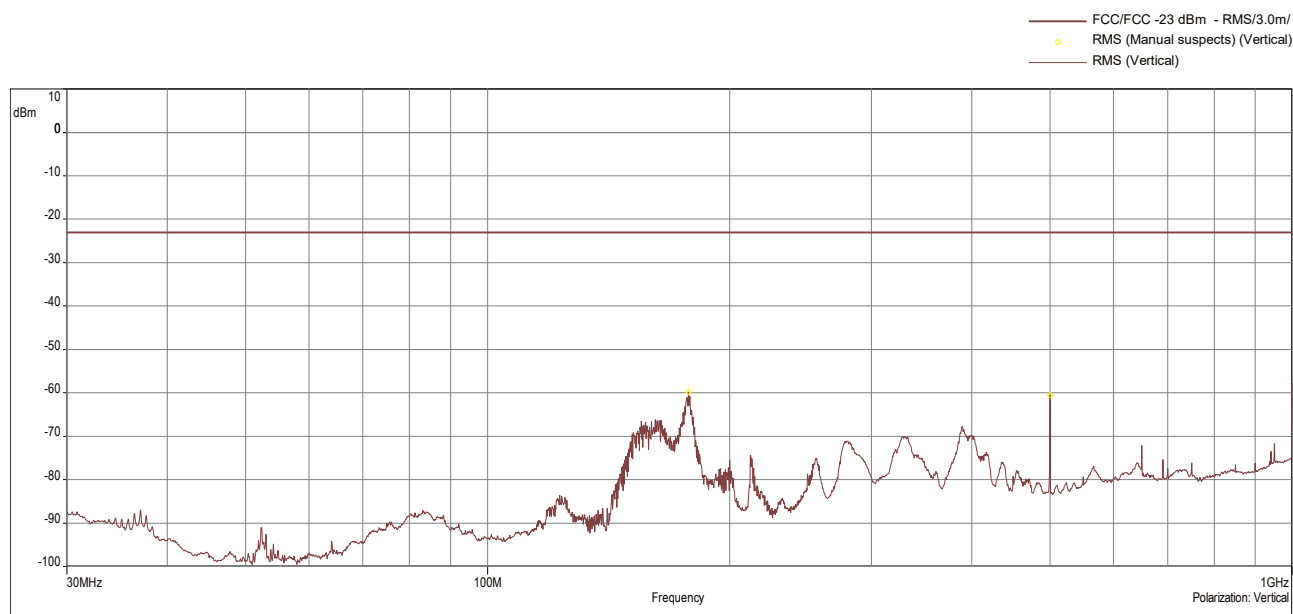
2023-0313-EMC-TR-23-0199-V02

4.8.4.2 Frequency Band = C-Band. Segment 2. ANT 2. Direction = RF downlink

30 MHz - 1 GHz. horizontal

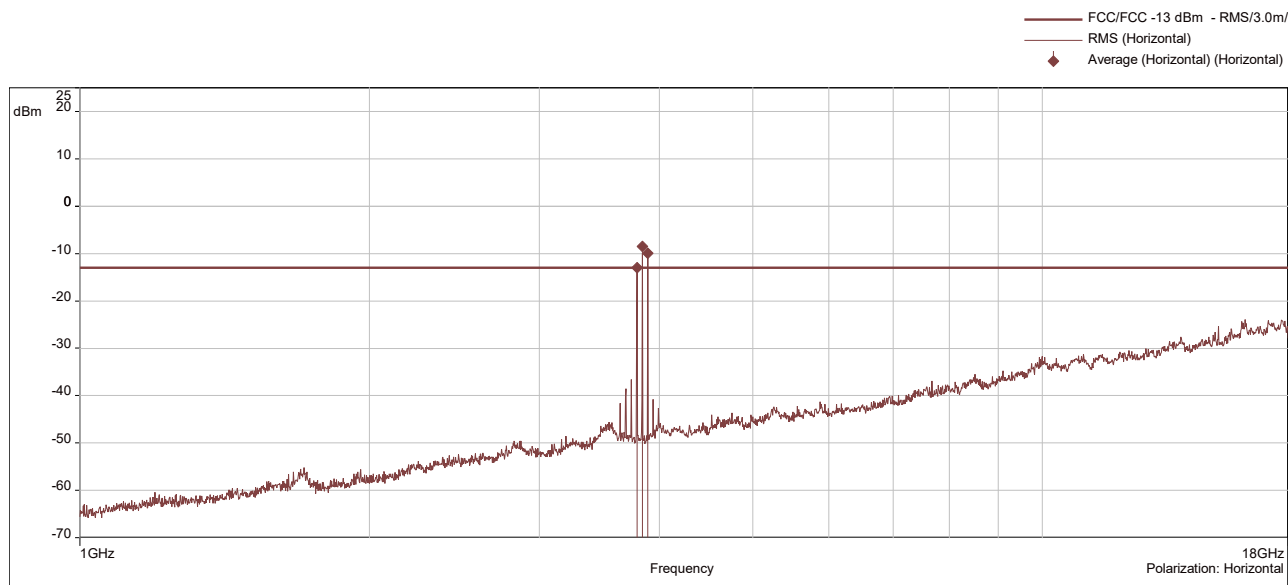


30 MHz - 1 GHz. vertical

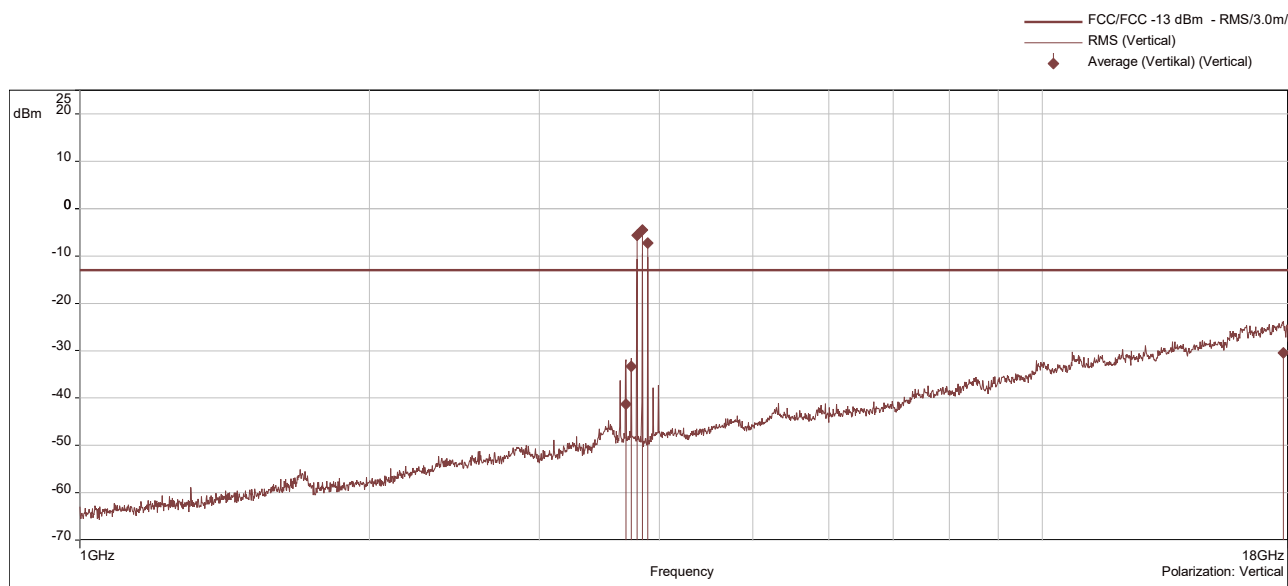


The test results relate only to the tested item. The sample has been provided by the client.
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1 GHz - 18 GHz. horizontal



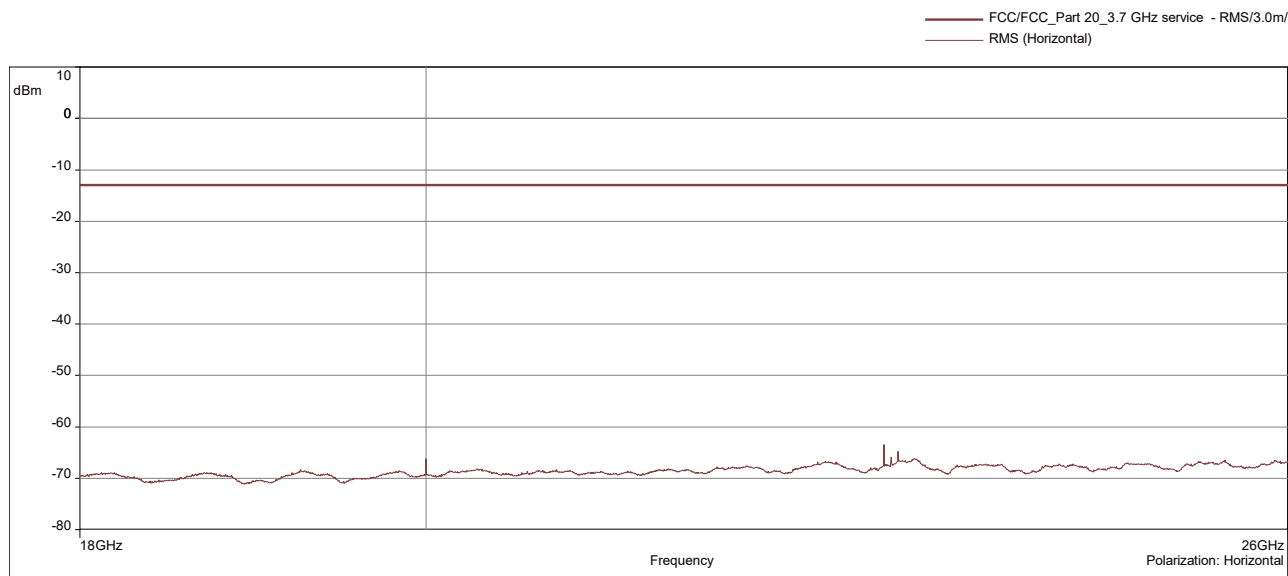
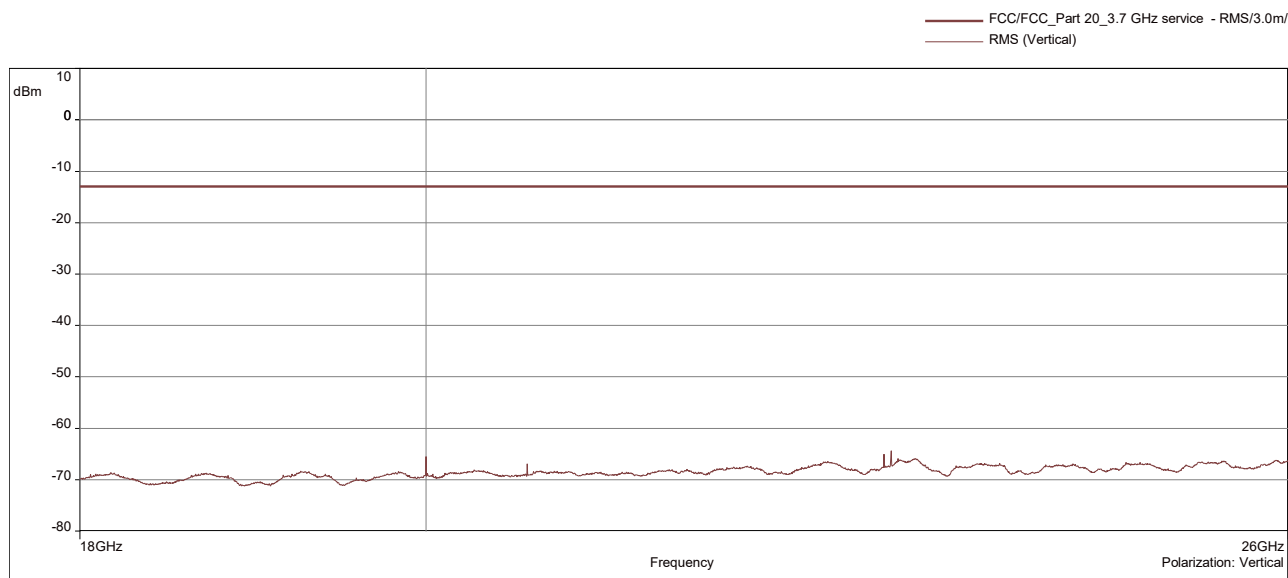
1 GHz - 18 GHz. vertical



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EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal**18 GHz - 26 GHz. vertical**

The test results relate only to the tested item. The sample has been provided by the client.
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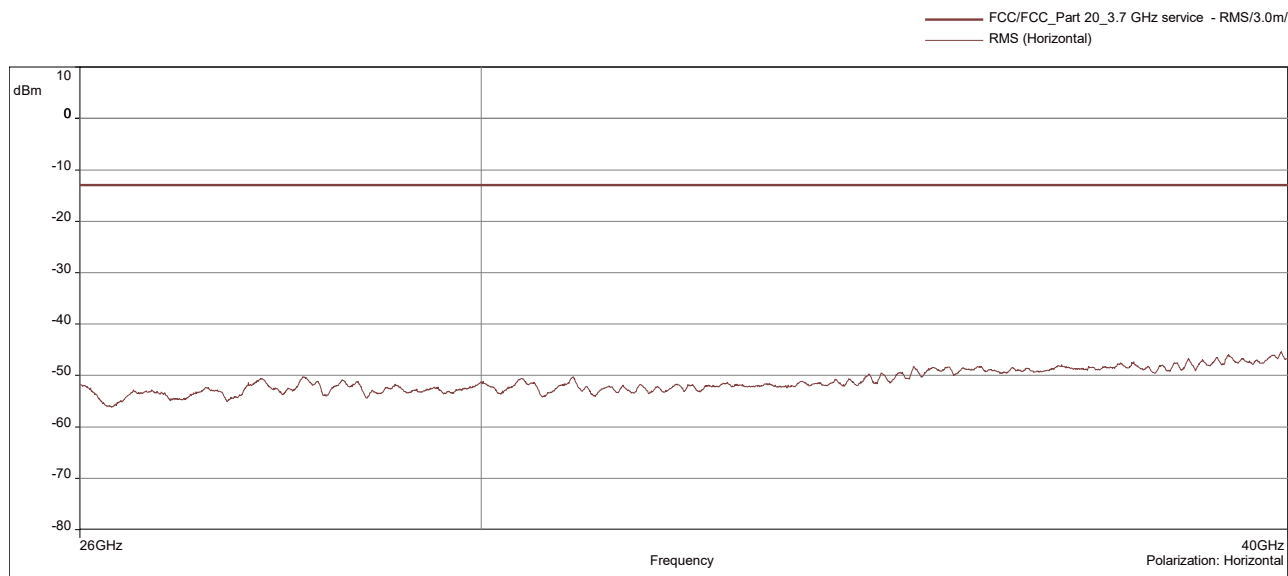


EMC Test Report No.: 23-0199

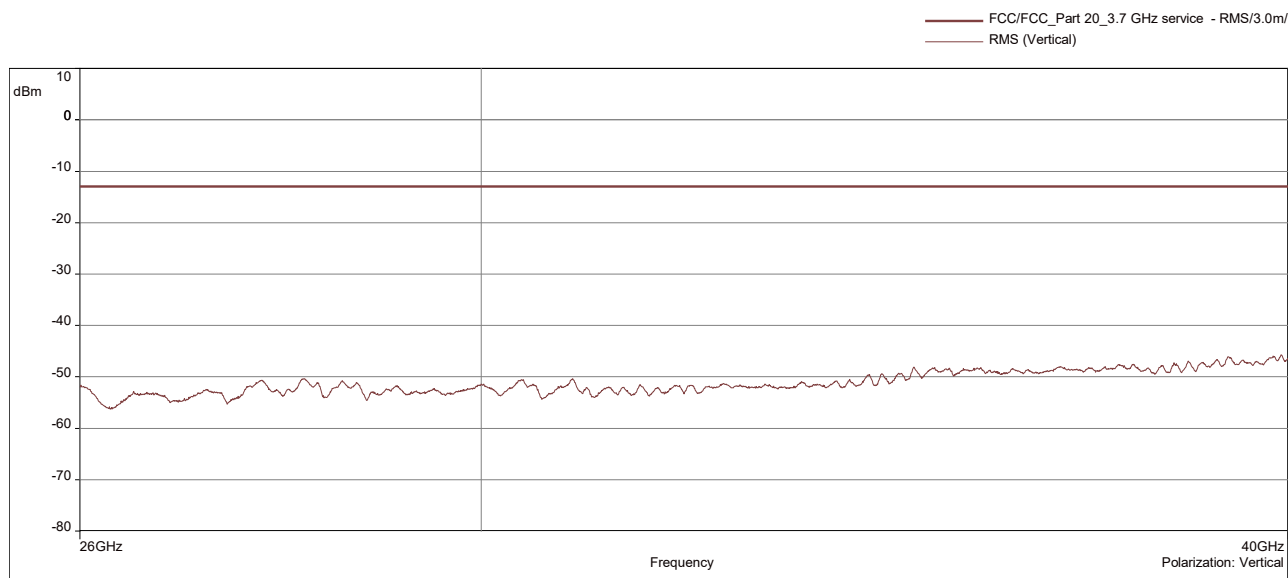
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical

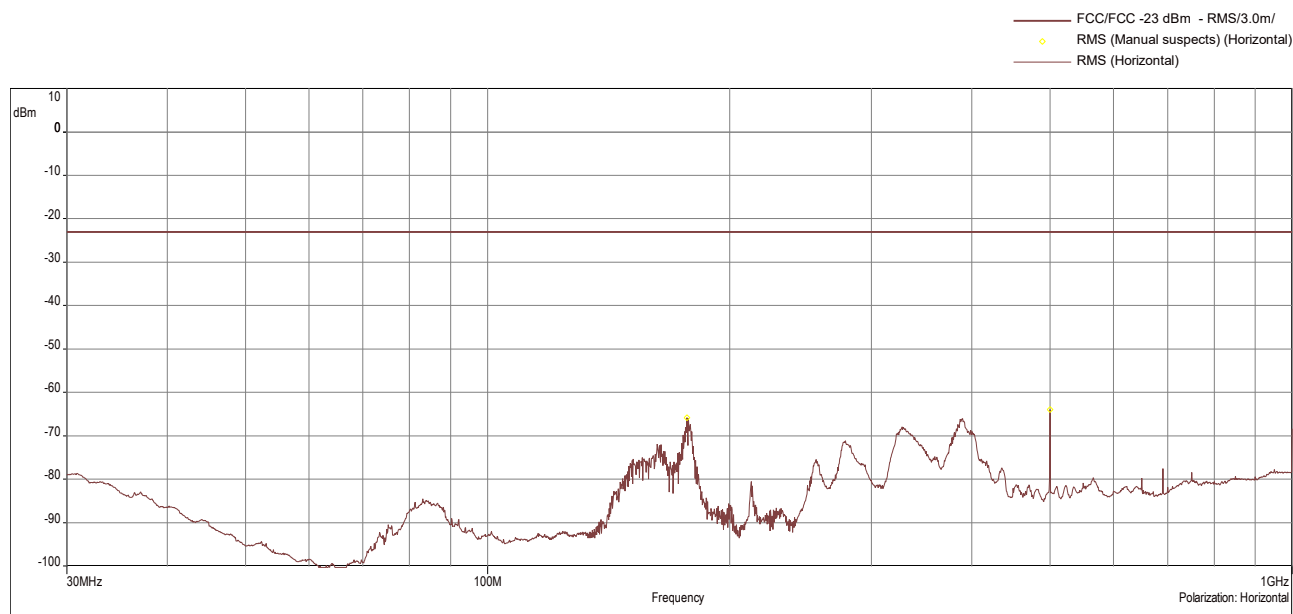


The test results relate only to the tested item. The sample has been provided by the client.
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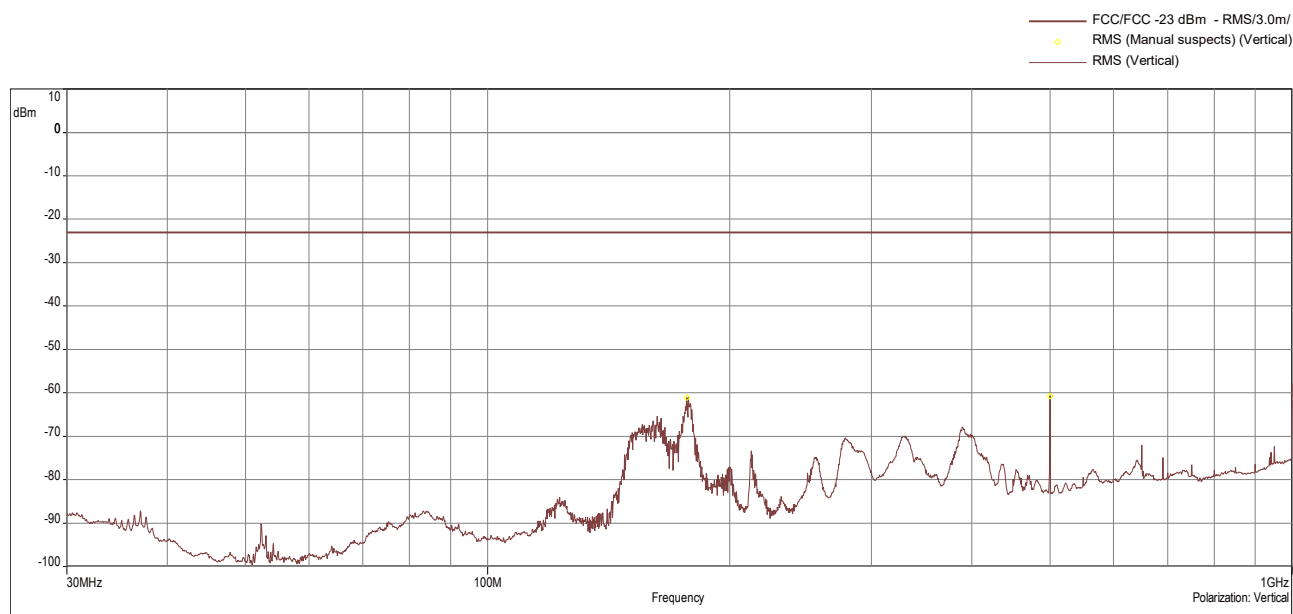
2023-0313-EMC-TR-23-0199-V02

4.8.4.3 Frequency Band = C-Band. Segment 3. ANT 2. Direction = RF downlink

30 MHz - 1 GHz. horizontal

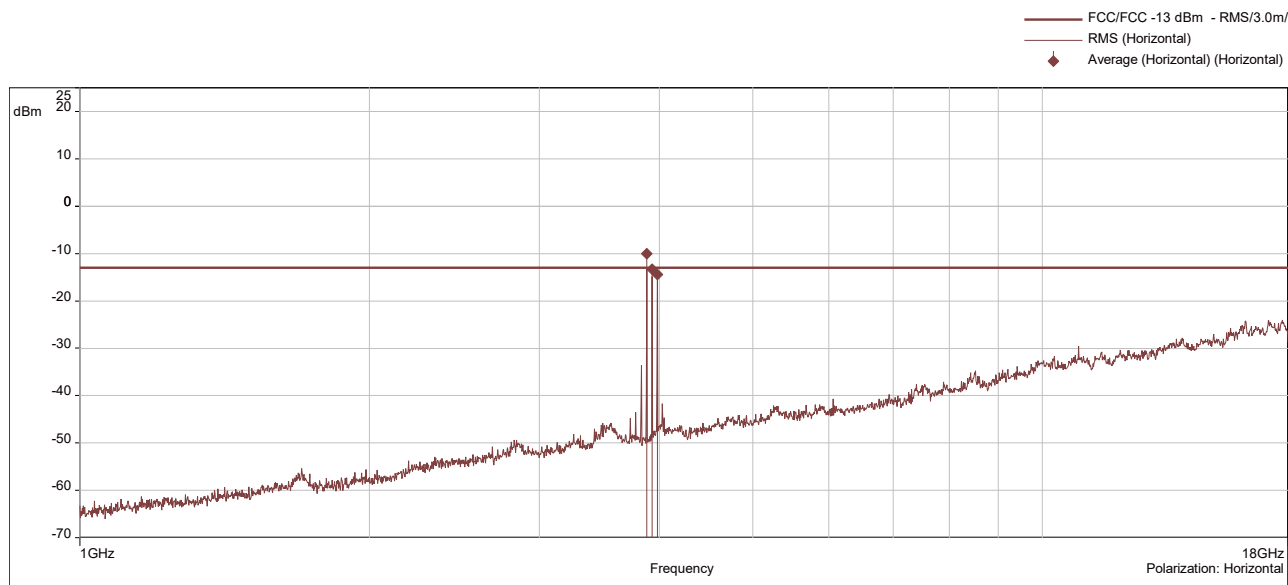


30 MHz - 1 GHz. vertical

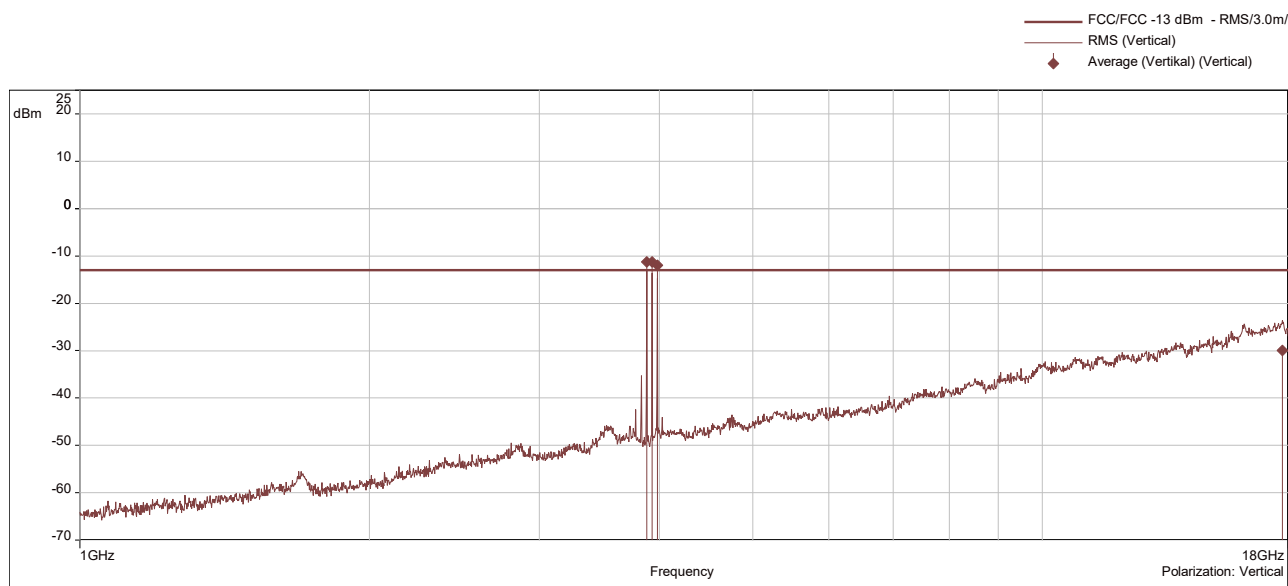


The test results relate only to the tested item. The sample has been provided by the client.
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1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical

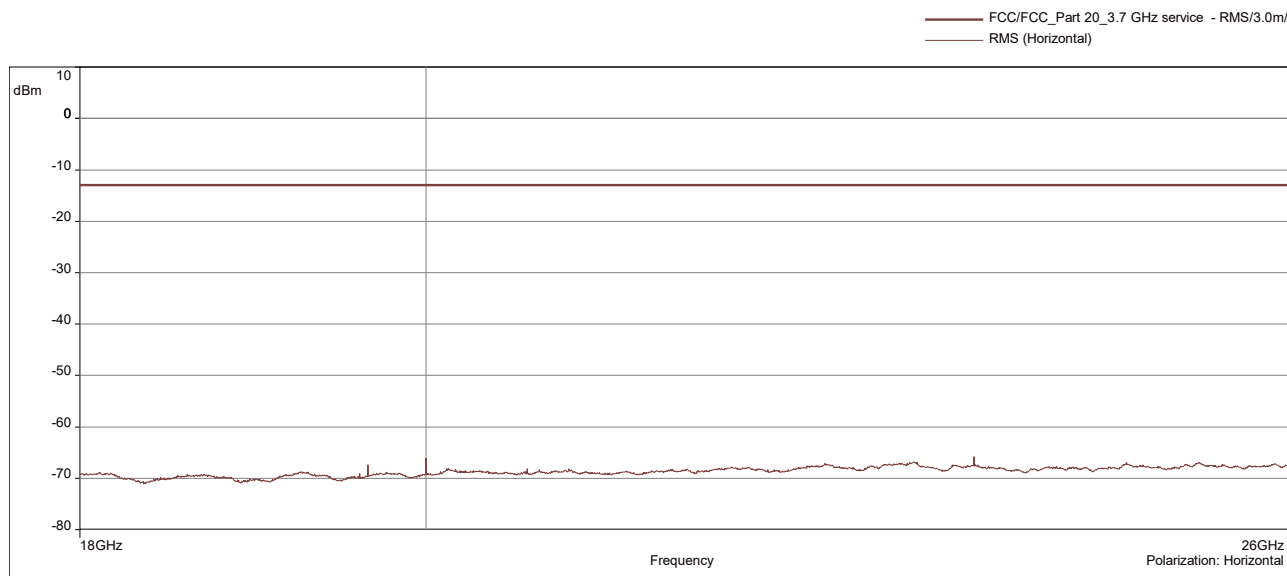


The test results relate only to the tested item. The sample has been provided by the client.
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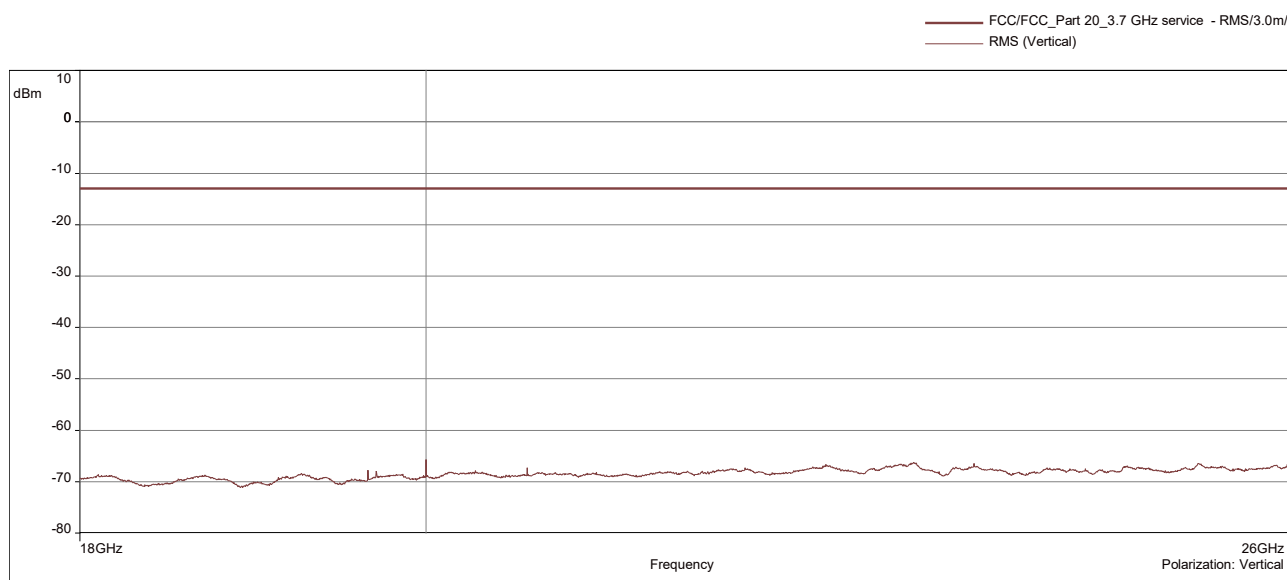
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal



18 GHz - 26 GHz. vertical



The test results relate only to the tested item. The sample has been provided by the client.
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2023-0313-EMC-TR-23-0199-V02

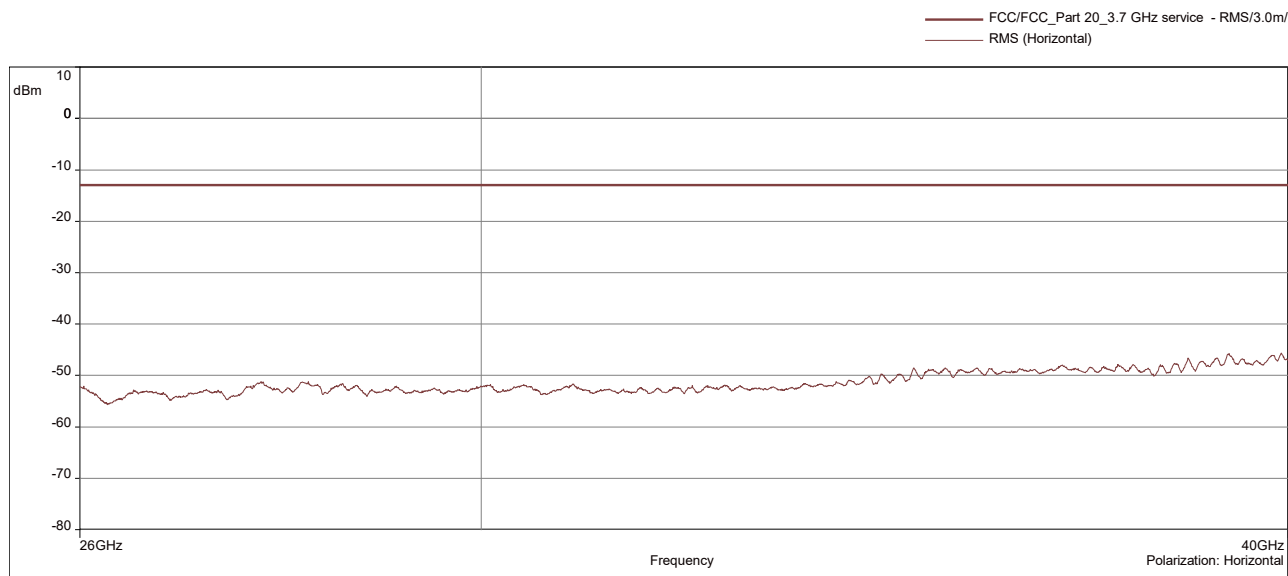


EMC Test Report No.: 23-0199

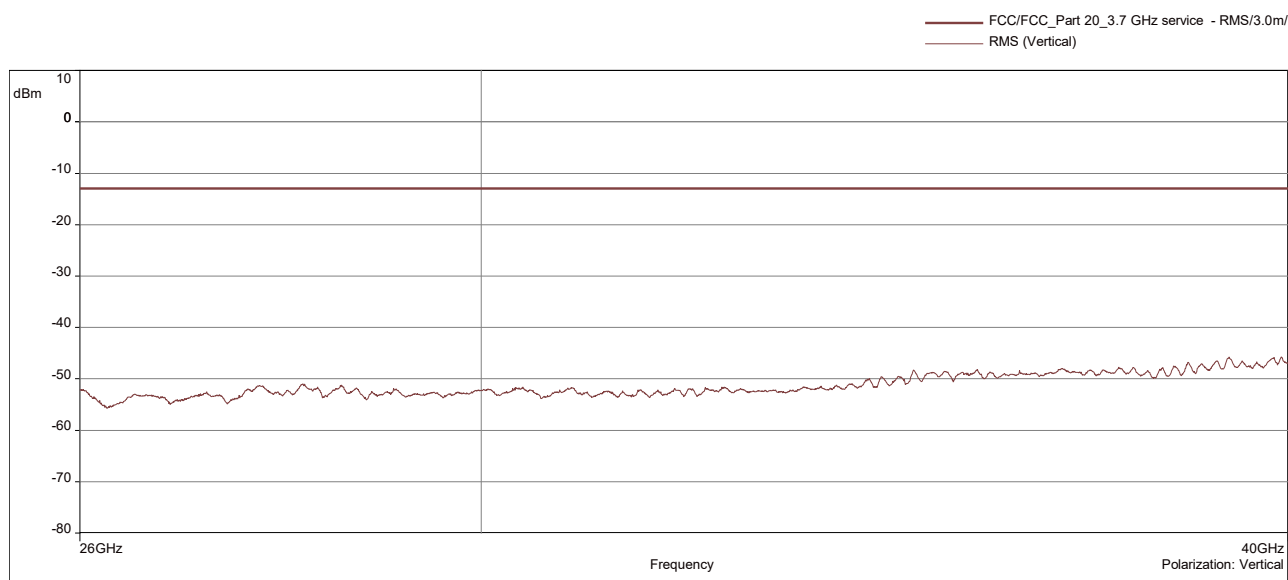
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical



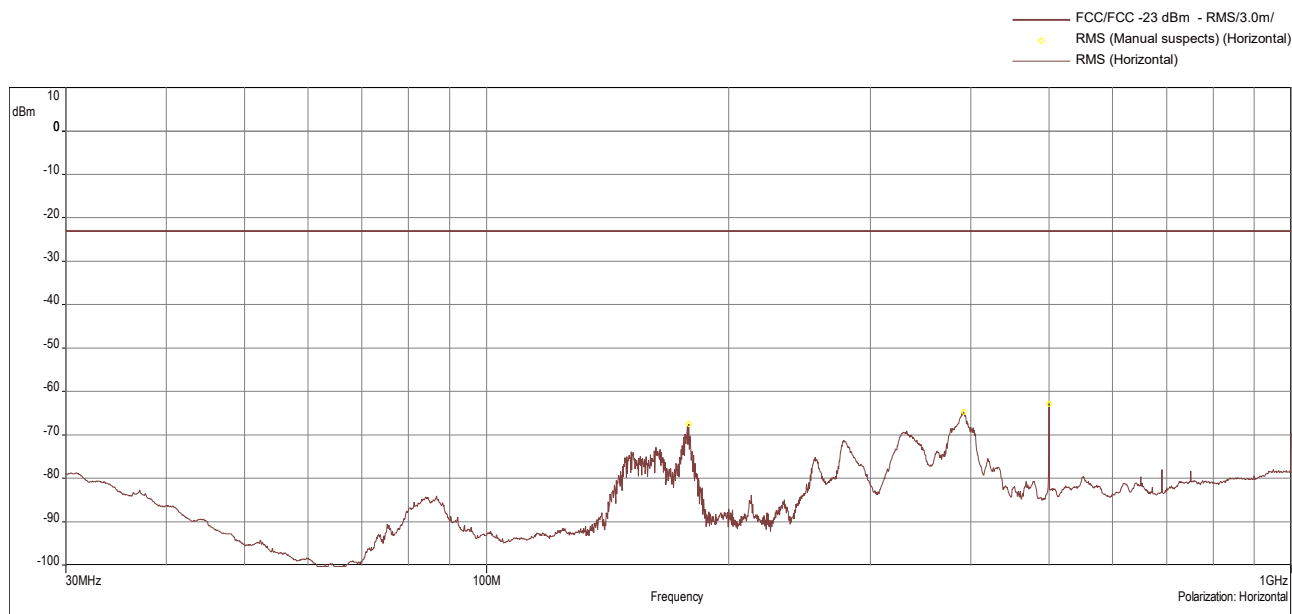
The test results relate only to the tested item. The sample has been provided by the client.
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2023-0313-EMC-TR-23-0199-V02

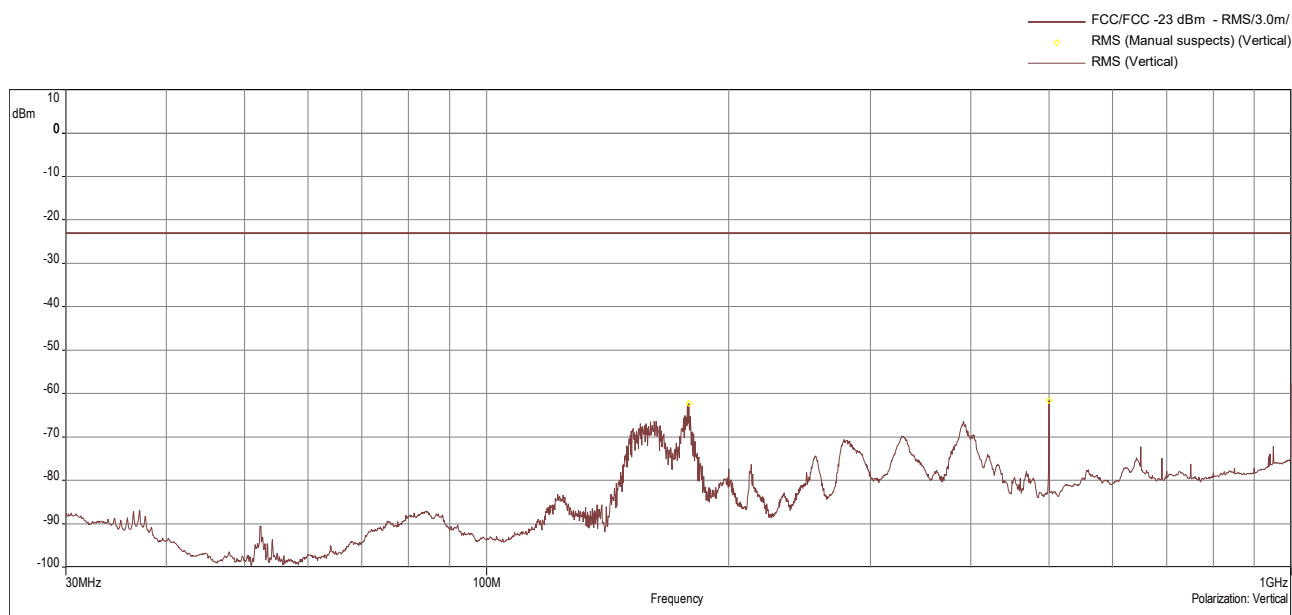
4.8.5 MEASUREMENT PLOTS (SHOWING THE HIGHEST VALUE. "WORST CASE") WHIT TWO ANTENNAS (MIMO)

4.8.5.1 Frequency Band = C-Band. Segment 1. ANT 2 and 4 (MIMO). Direction = RF downlink

30 MHz - 1 GHz. horizontal



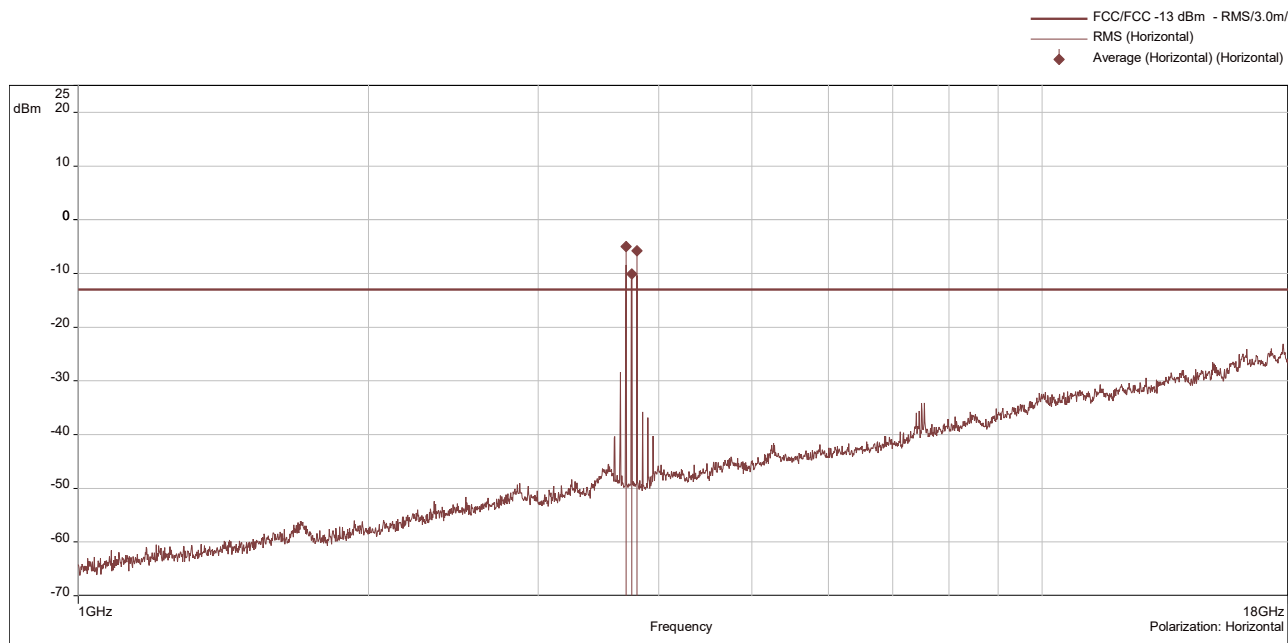
30 MHz - 1 GHz. vertical



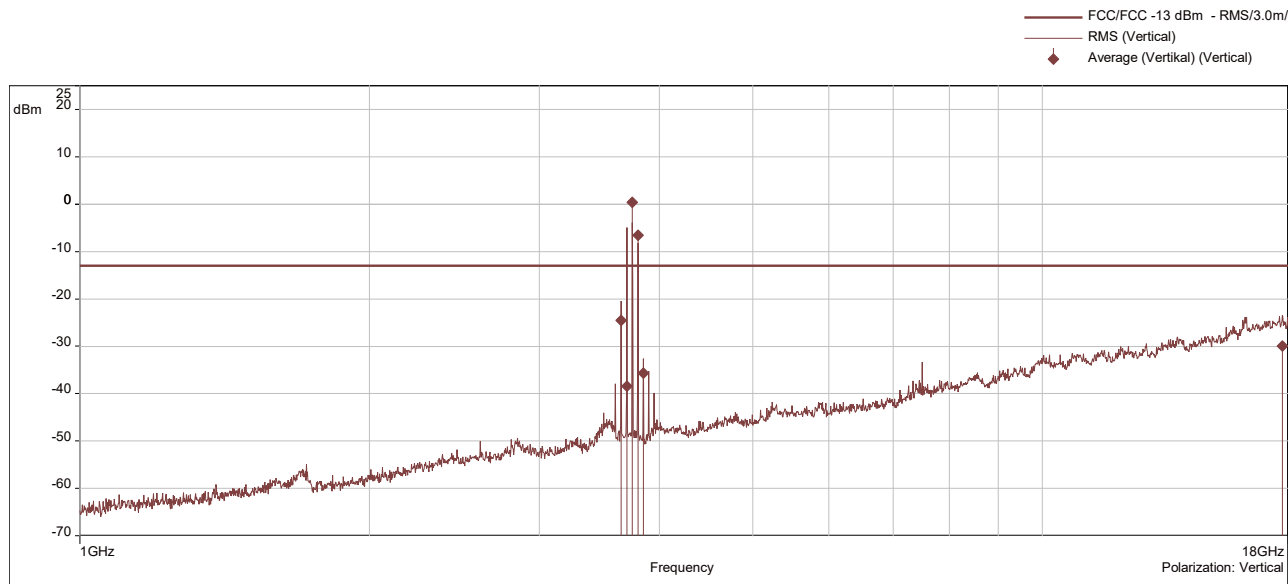
The test results relate only to the tested item. The sample has been provided by the client.

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1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical

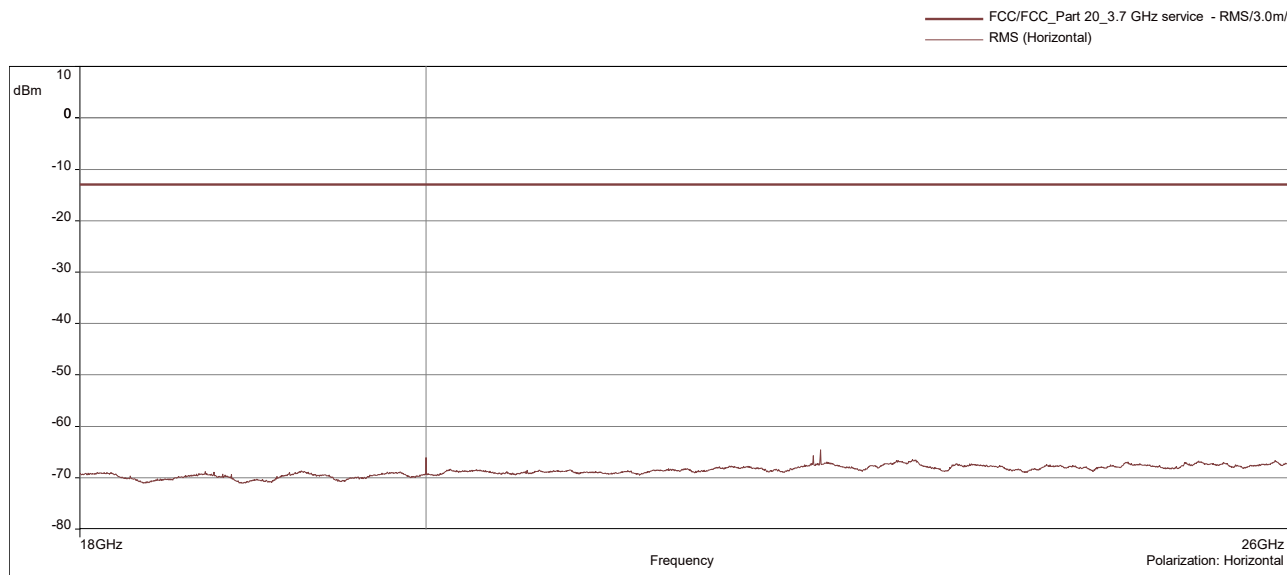


The test results relate only to the tested item. The sample has been provided by the client.
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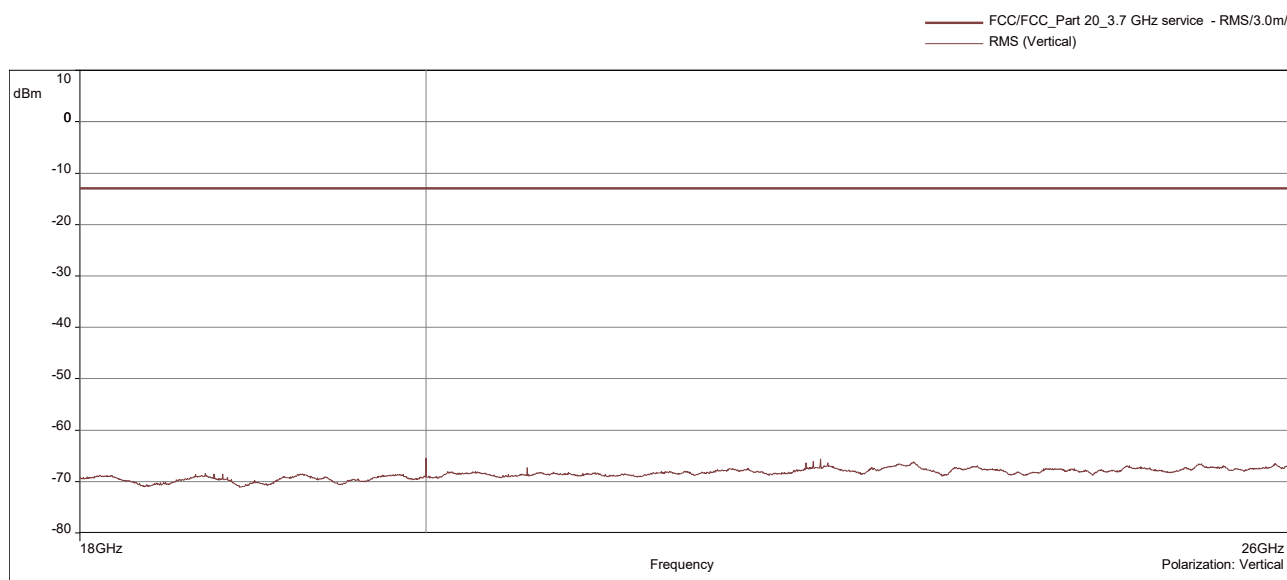
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal



18 GHz - 26 GHz. vertical



The test results relate only to the tested item. The sample has been provided by the client.
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2023-0313-EMC-TR-23-0199-V02

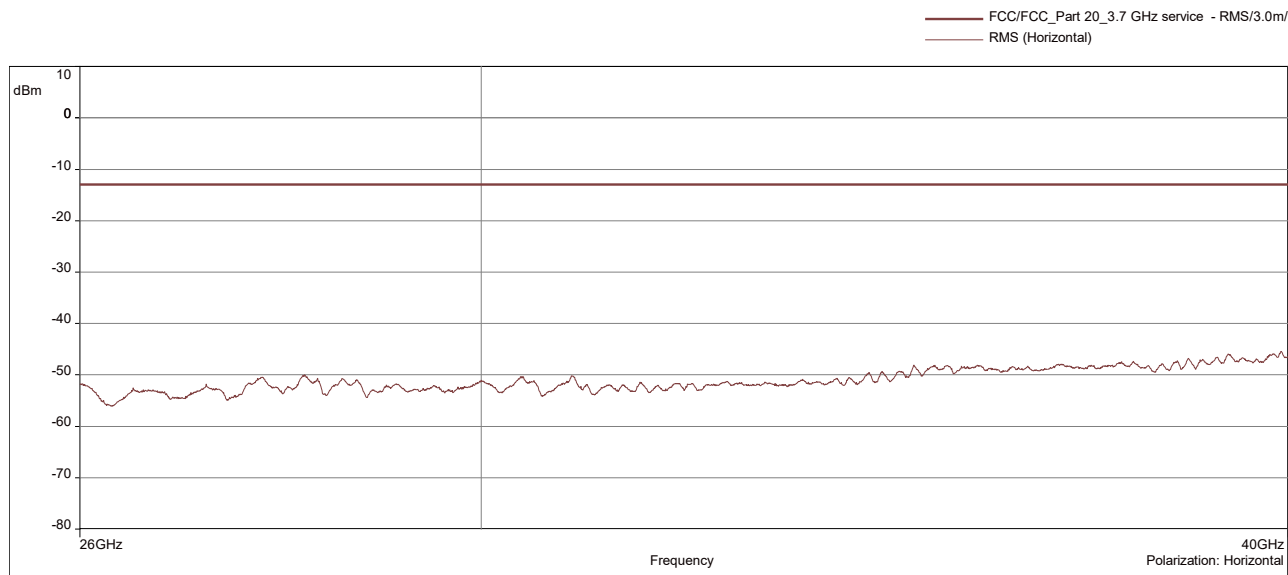


EMC Test Report No.: 23-0199

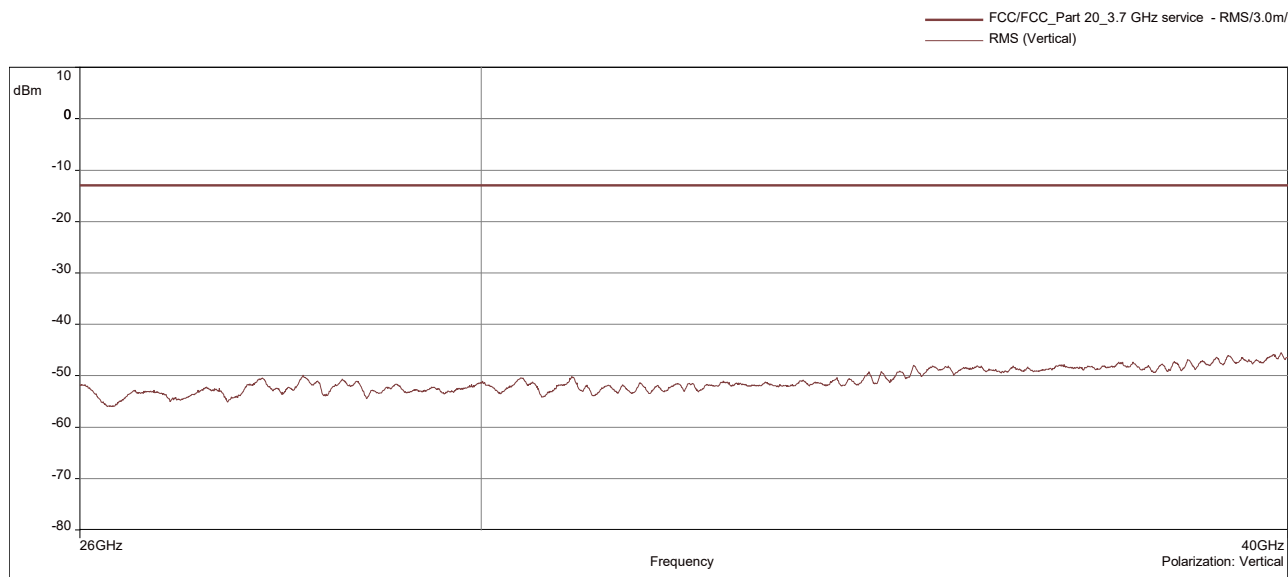
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical

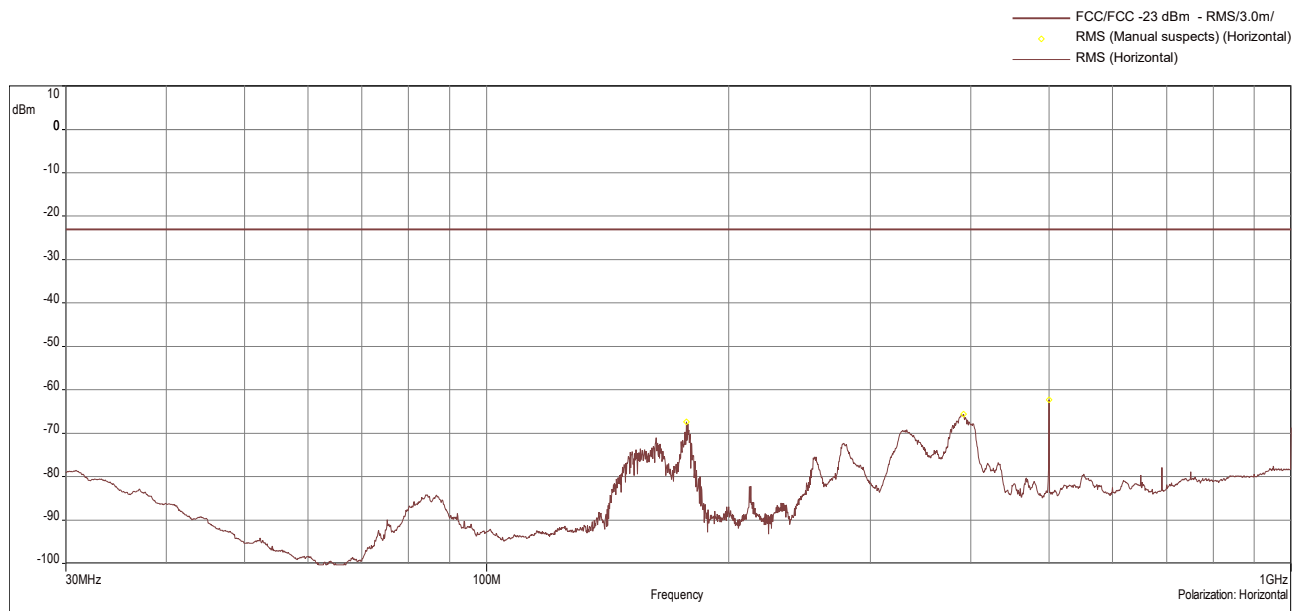


The test results relate only to the tested item. The sample has been provided by the client.
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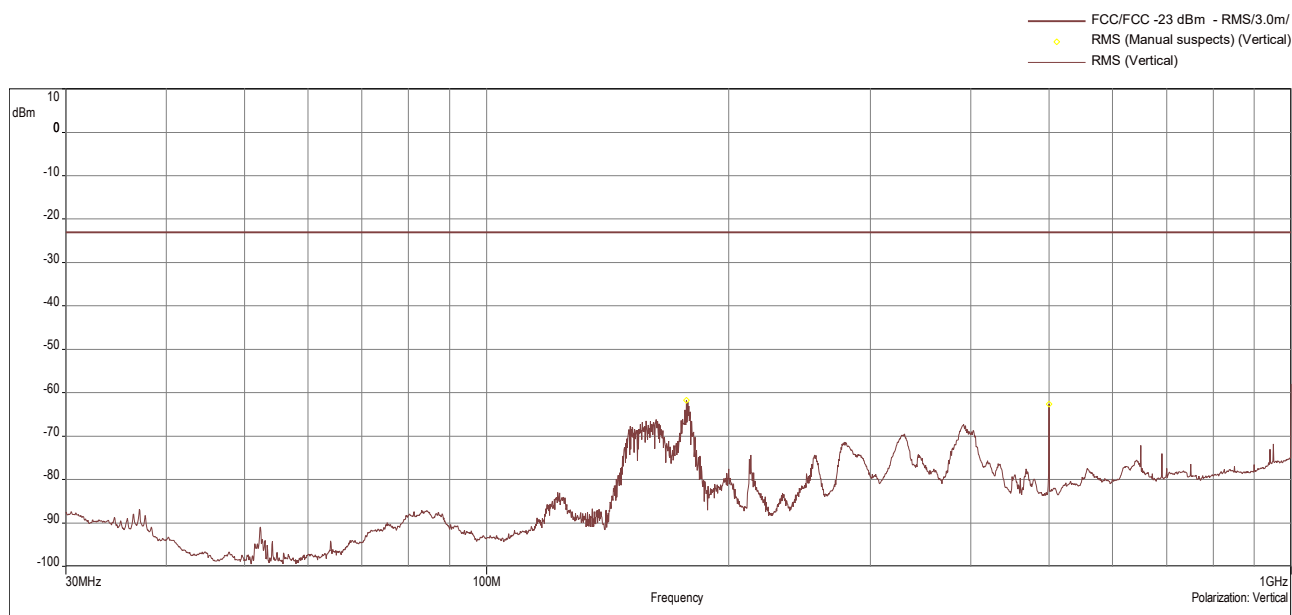
2023-0313-EMC-TR-23-0199-V02

4.8.5.3 Frequency Band = C-Band. Segment 2. ANT 2and 4 (MIMO). Direction = RF downlink

30 MHz - 1 GHz. horizontal

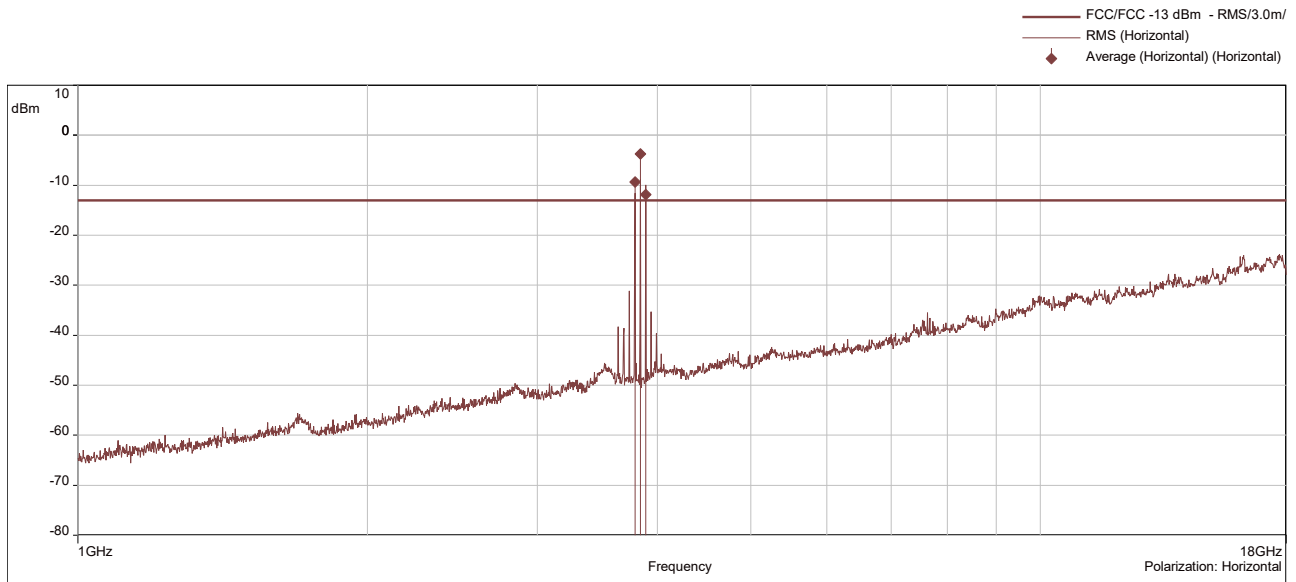


30 MHz - 1 GHz. vertical

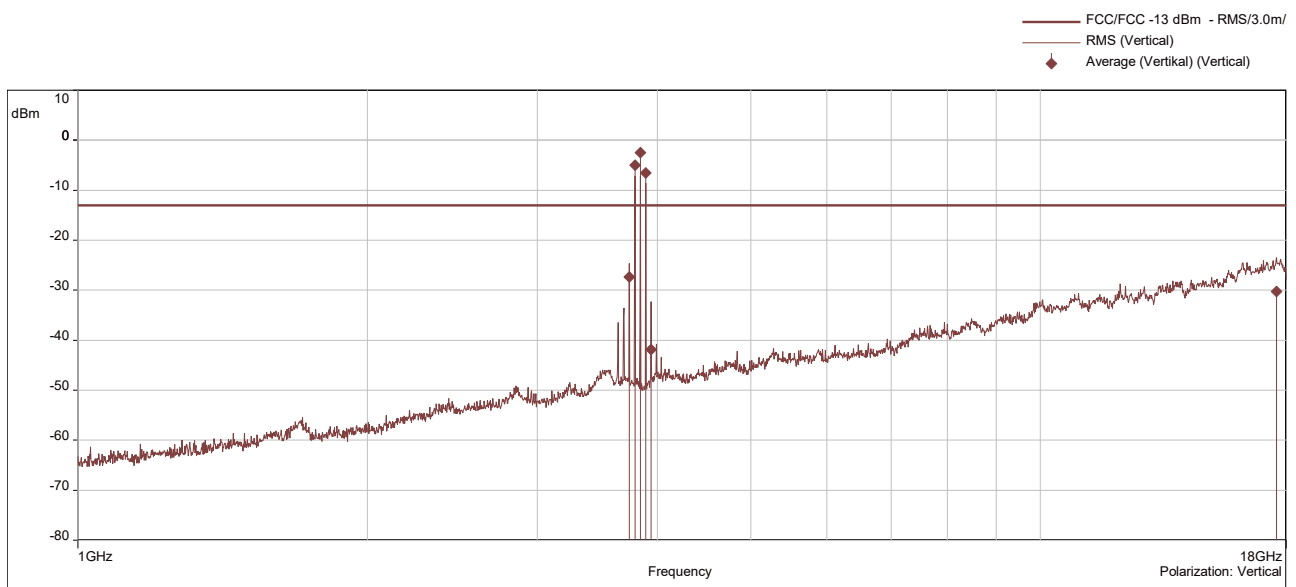


The test results relate only to the tested item. The sample has been provided by the client.
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1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical

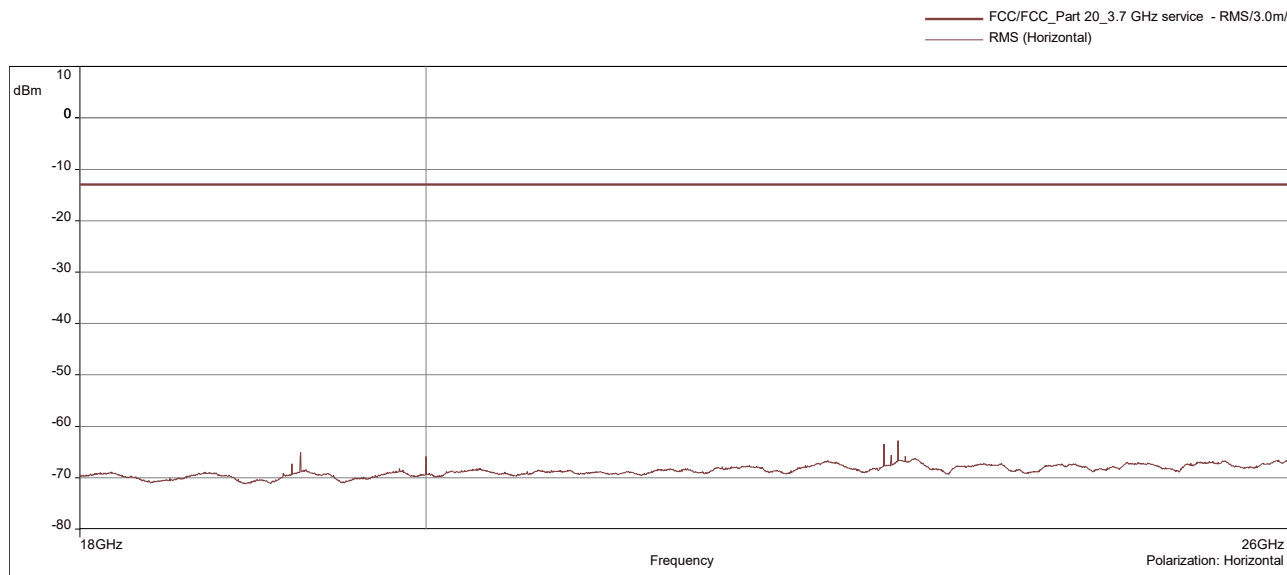


The test results relate only to the tested item. The sample has been provided by the client.
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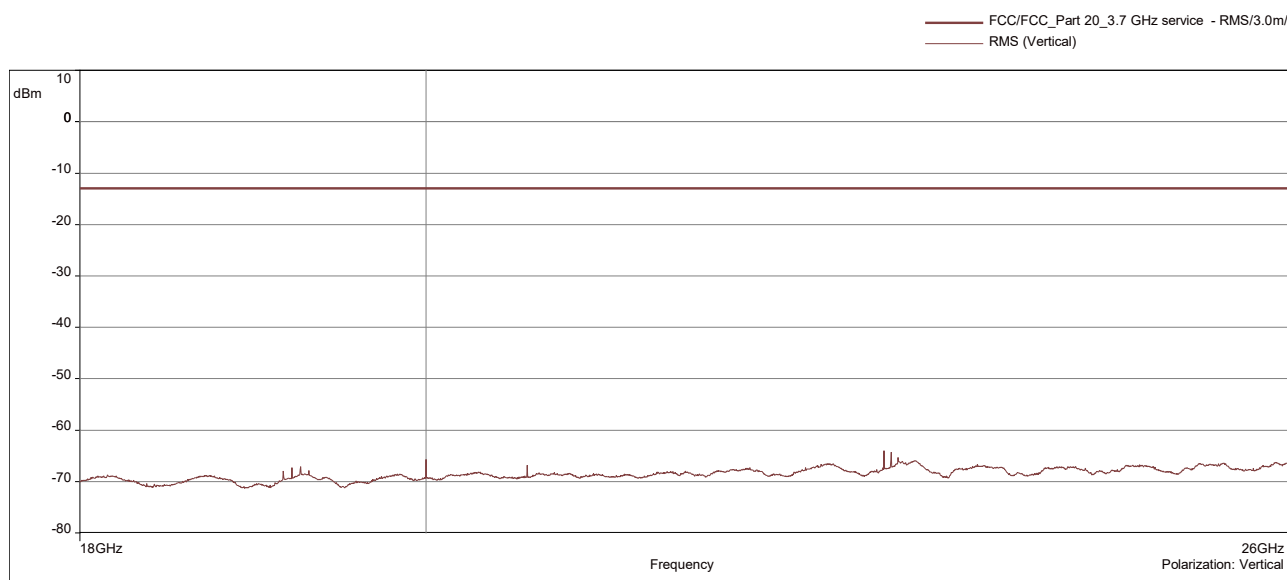
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal



18 GHz - 26 GHz. vertical

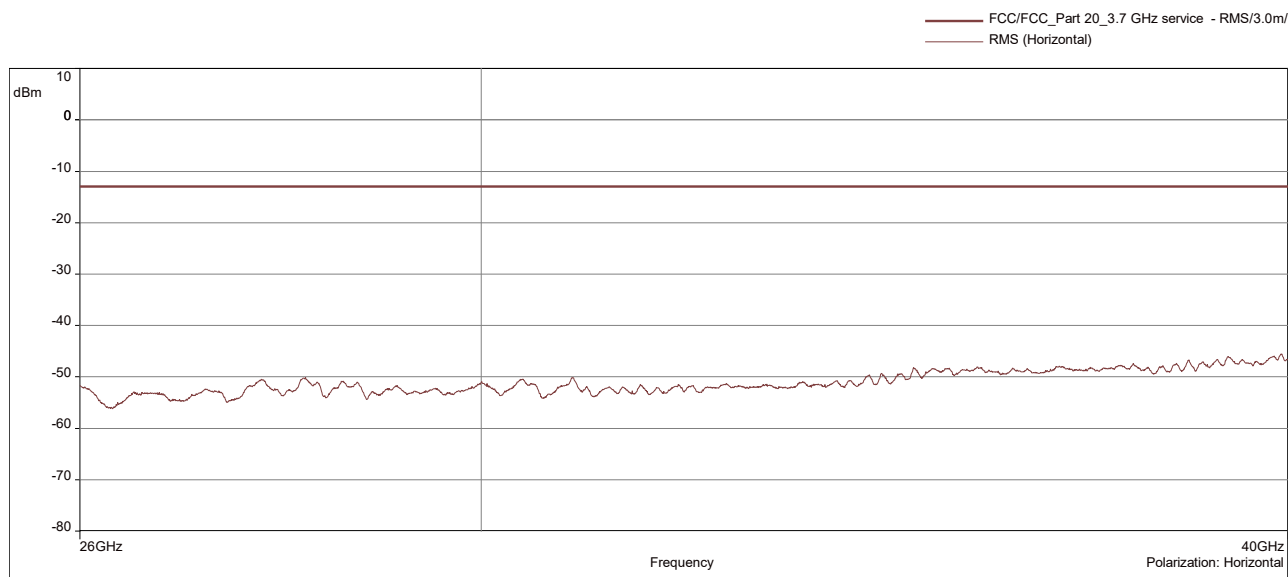
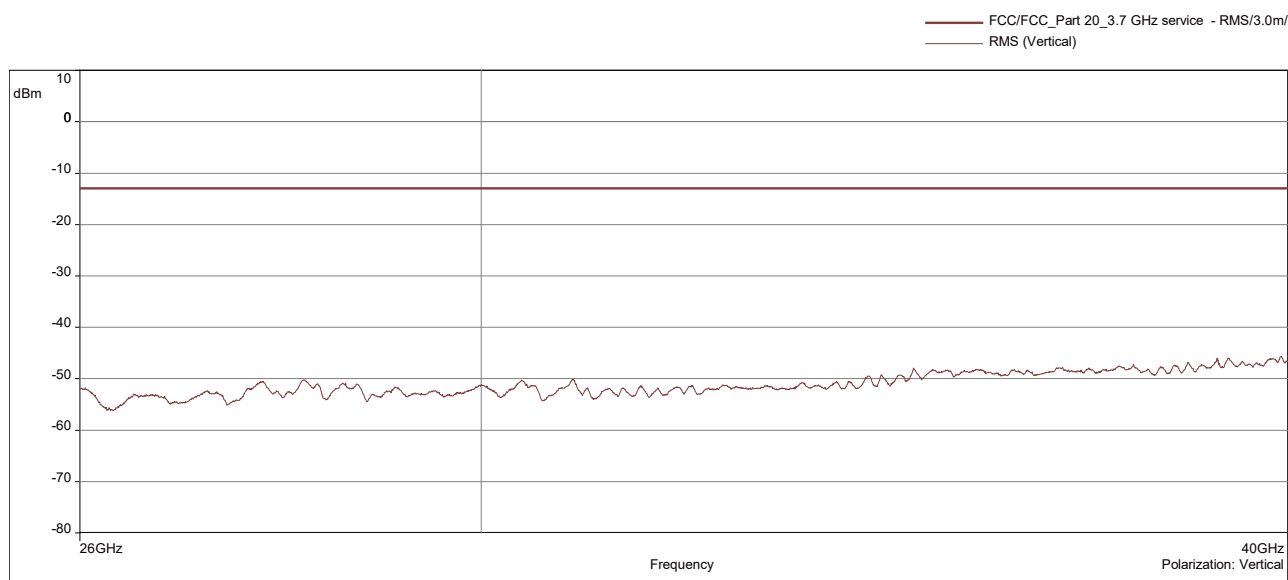


The test results relate only to the tested item. The sample has been provided by the client.
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2023-0313-EMC-TR-23-0199-V02

EMC Test Report No.: 23-0199

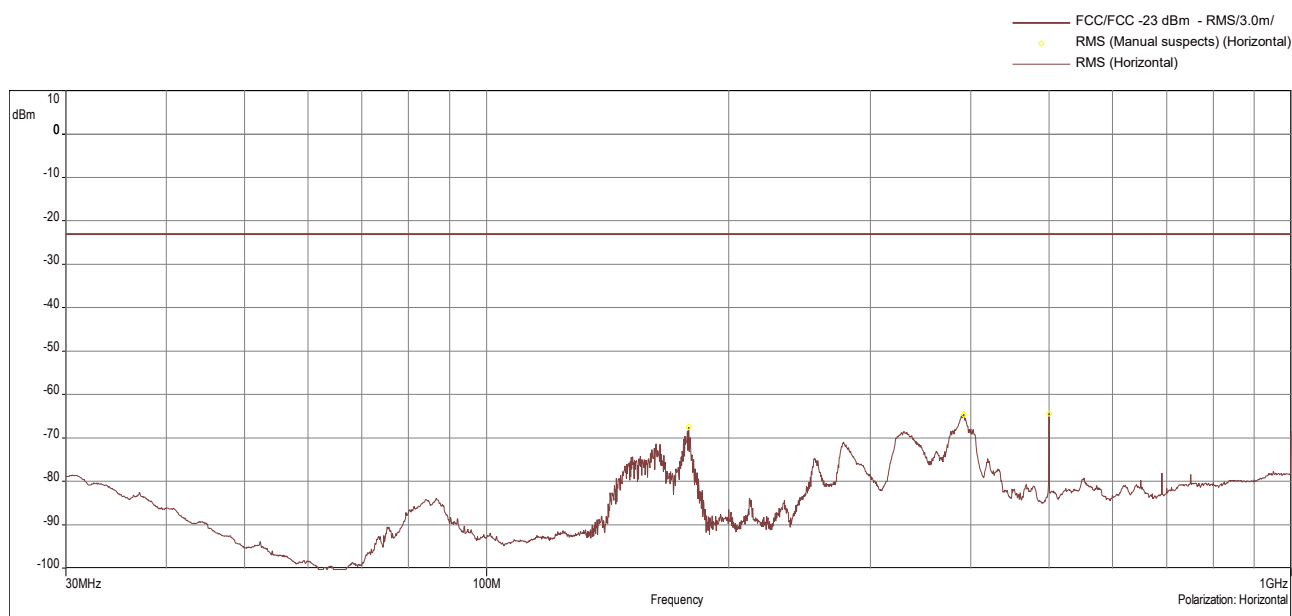
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

26 GHz - 40 GHz. horizontal**26 GHz - 40 GHz. vertical**

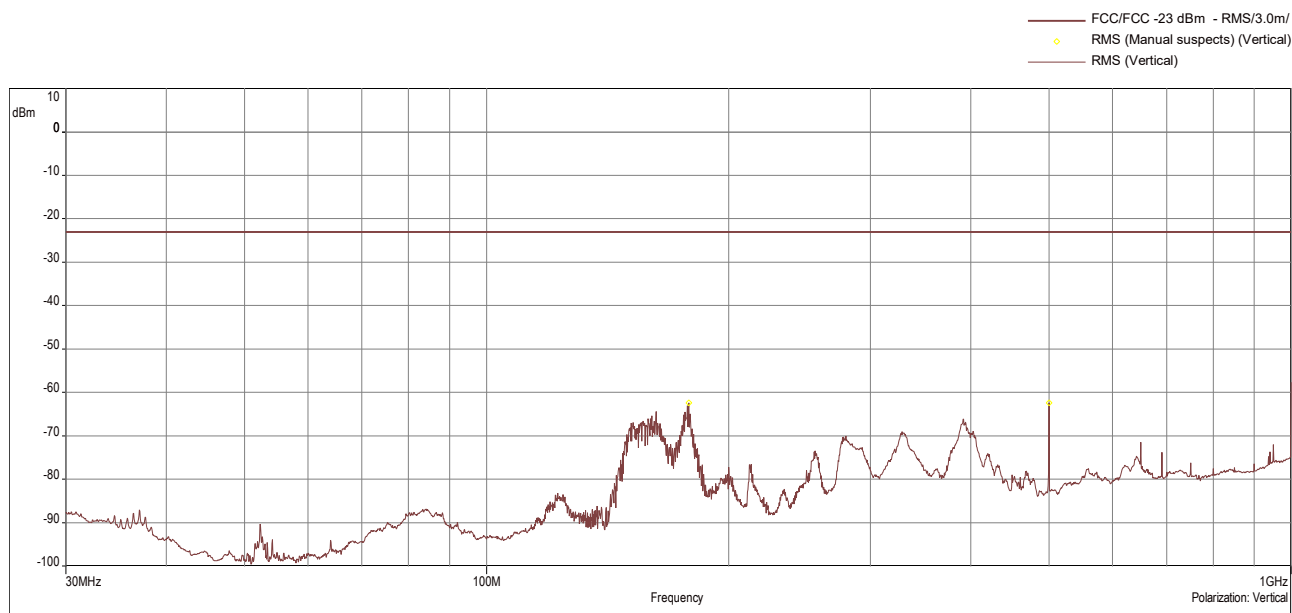
The test results relate only to the tested item. The sample has been provided by the client.
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4.8.5.4 Frequency Band = C-Band. Segment 3. ANT 2and 4 (MIMO). Direction = RF downlink

30 MHz - 1 GHz. horizontal

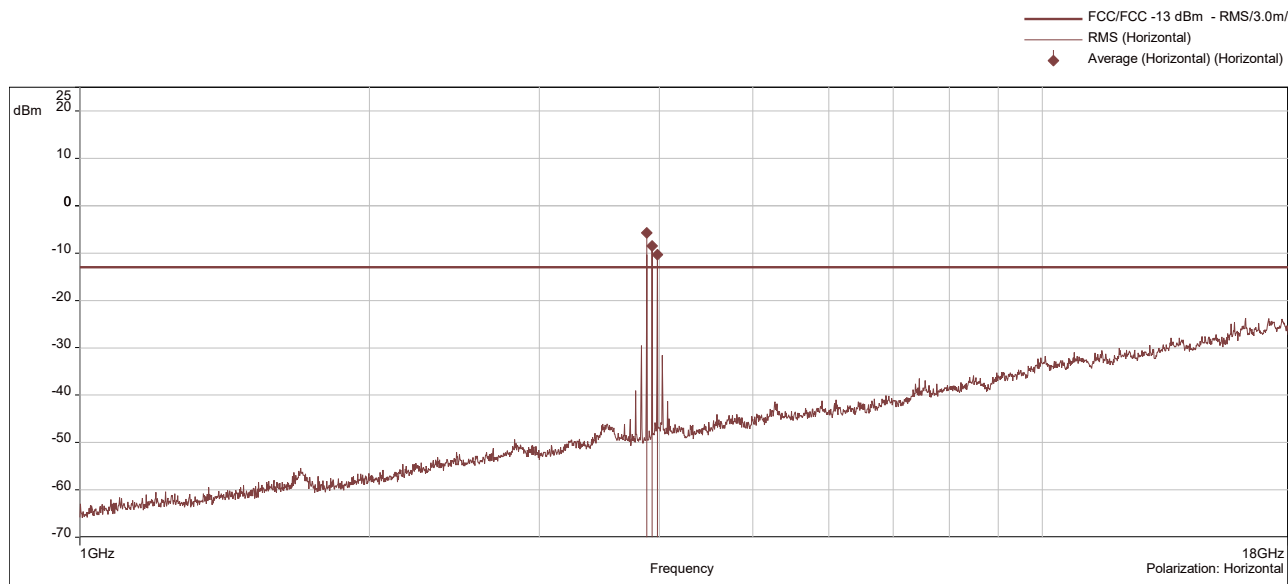


30 MHz - 1 GHz. vertical

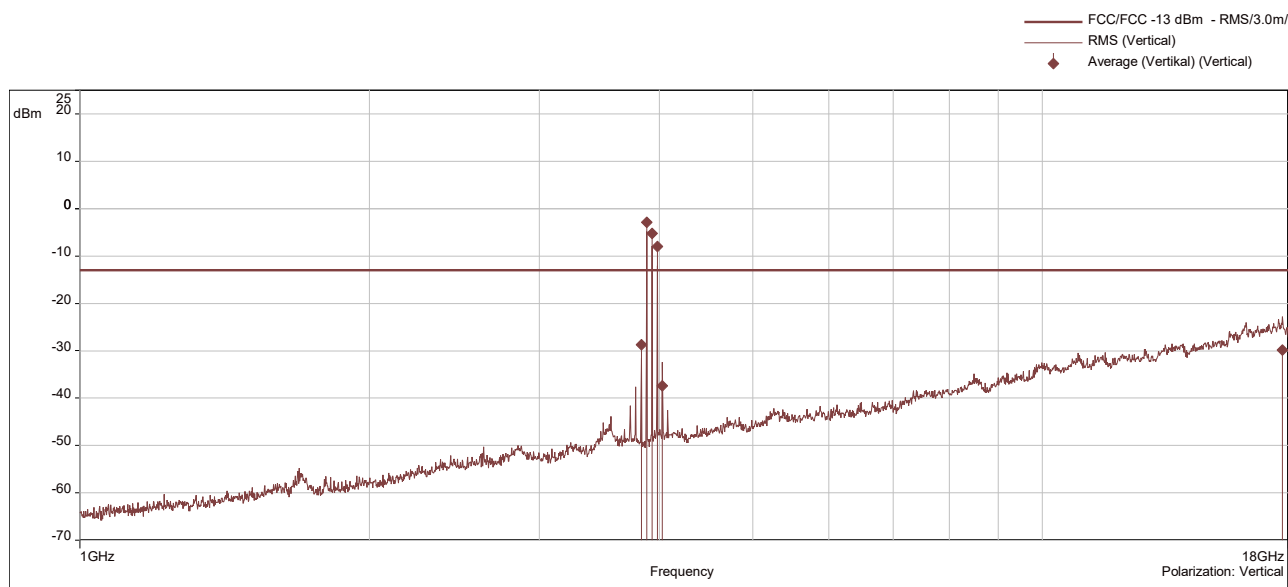


The test results relate only to the tested item. The sample has been provided by the client.
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1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical

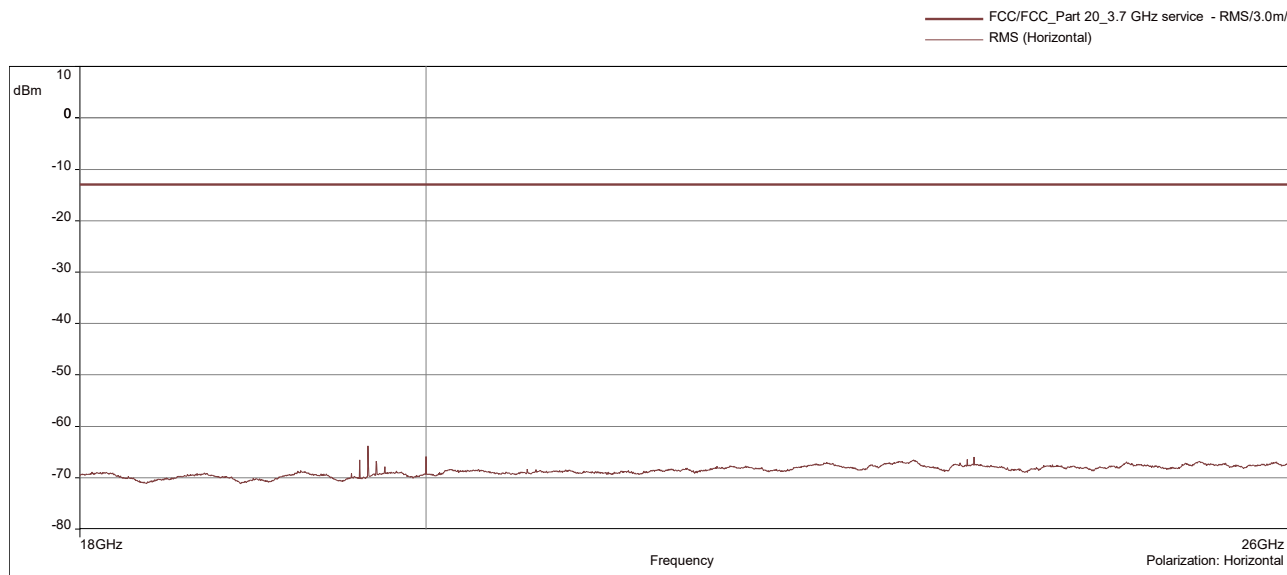


The test results relate only to the tested item. The sample has been provided by the client.
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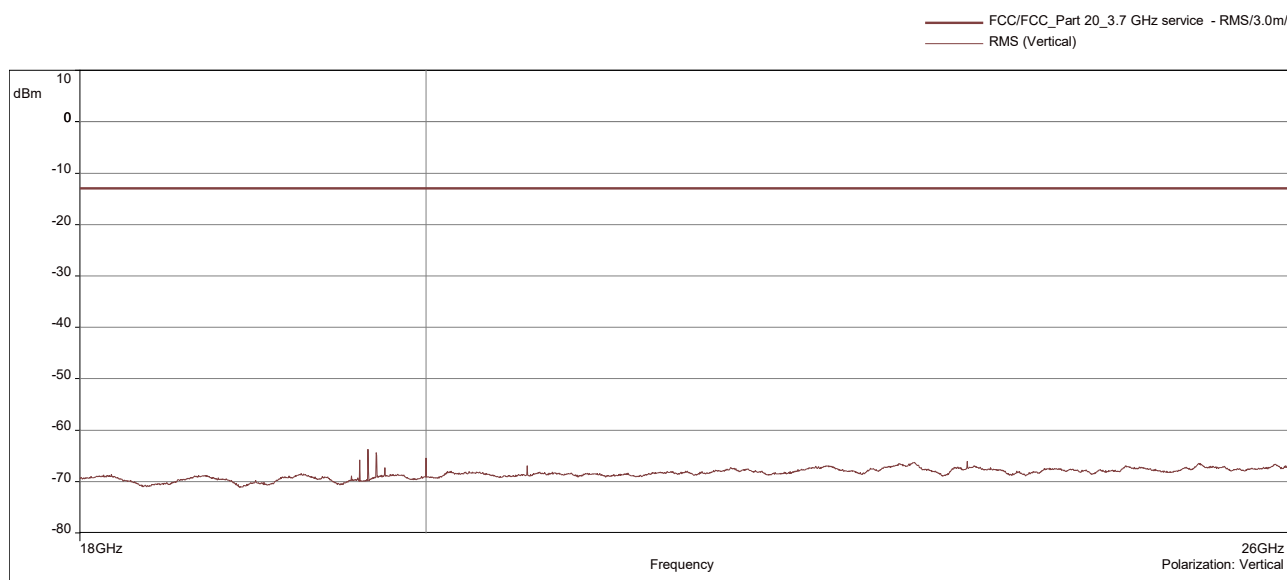
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal



18 GHz - 26 GHz. vertical



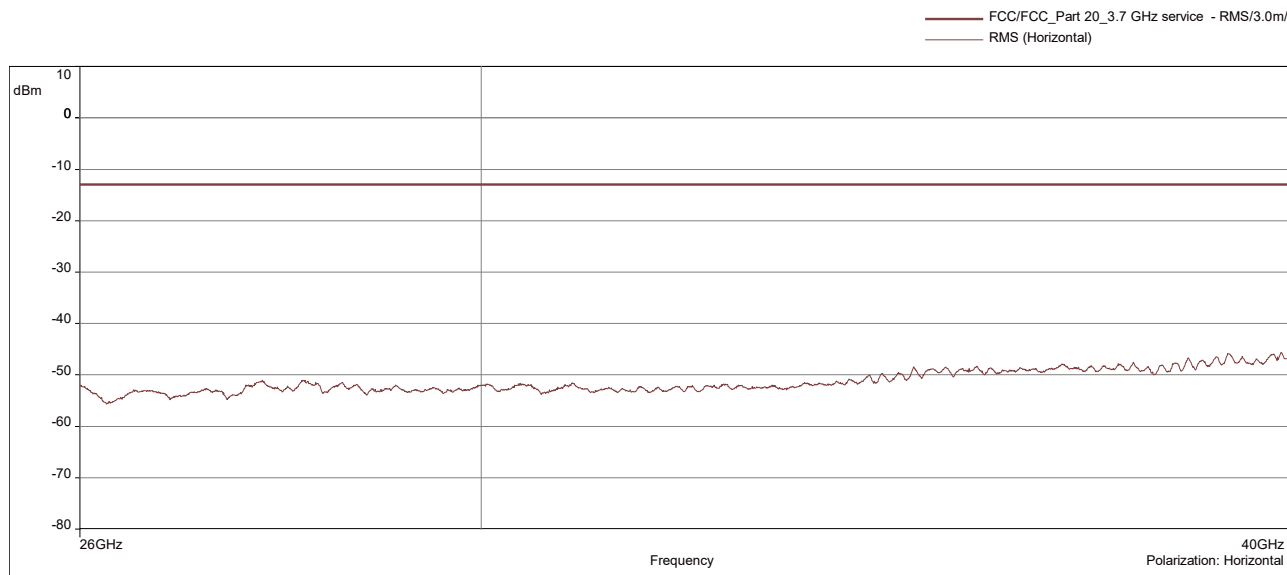
The test results relate only to the tested item. The sample has been provided by the client.
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2023-0313-EMC-TR-23-0199-V02

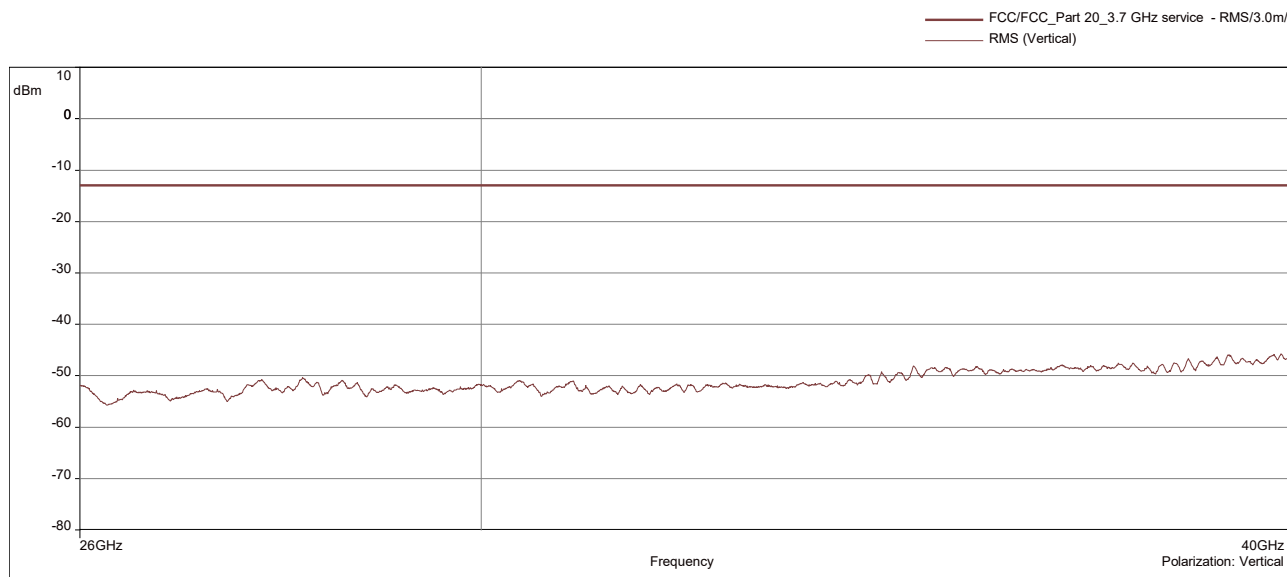
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical

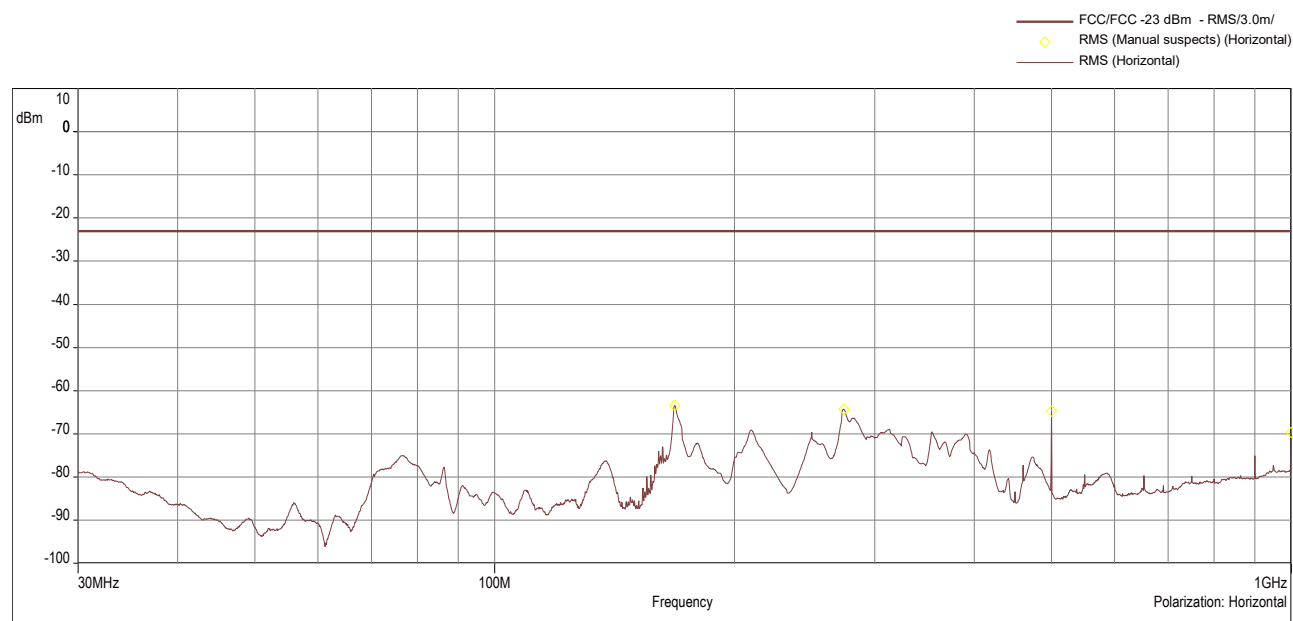


The test results relate only to the tested item. The sample has been provided by the client.
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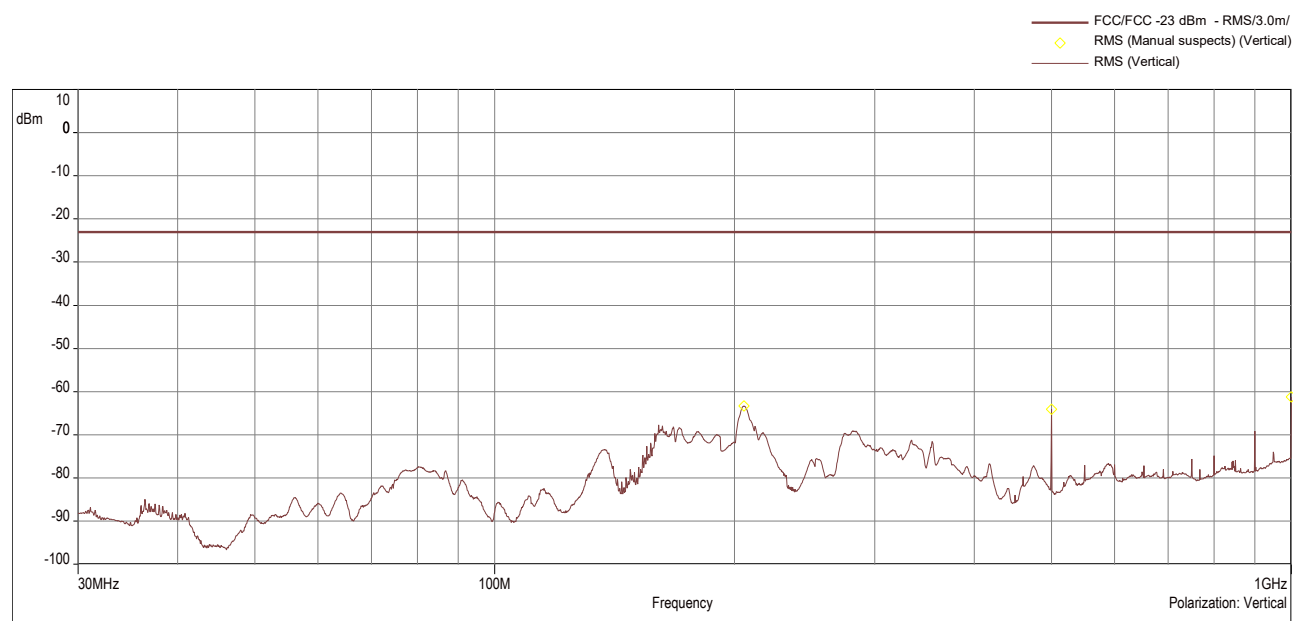
4.8.6 MEASUREMENT PLOTS (SHOWING THE HIGHEST VALUE. "WORST CASE") WHIT FOUR ANTENNAS (4x4 MIMO)

4.8.6.1 Frequency Band = C-Band. Segment 1. ANT 1,2,3 and 4 (4x4 MIMO).
Direction = RF downlink

30 MHz - 1 GHz. horizontal



30 MHz - 1 GHz. vertical



The test results relate only to the tested item. The sample has been provided by the client.
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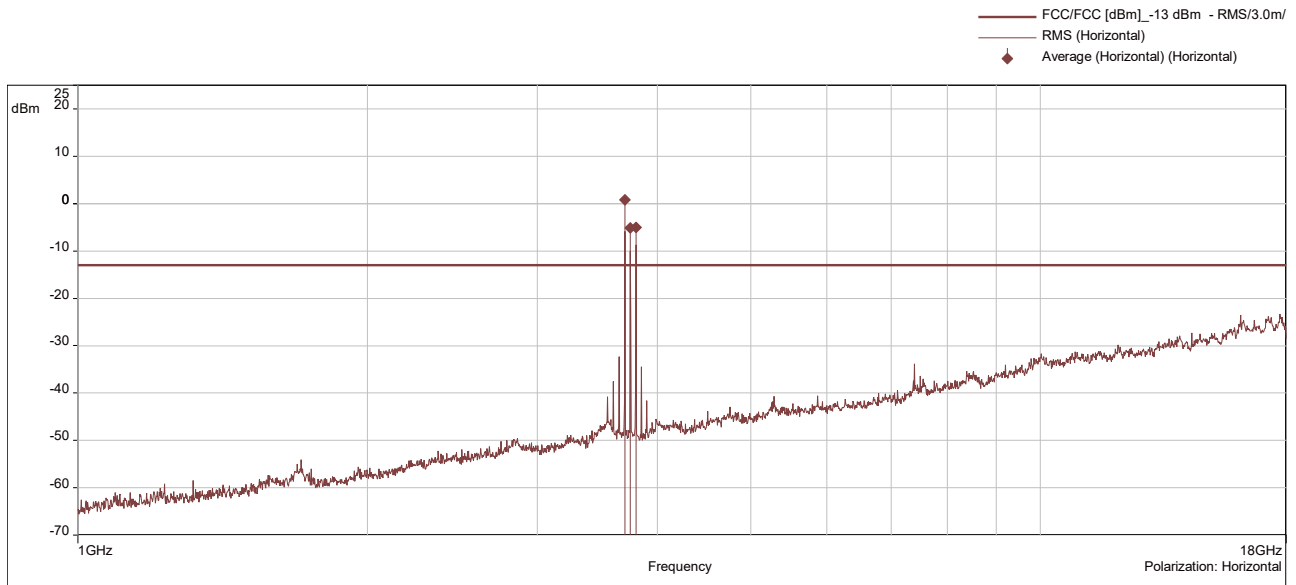


EMC Test Report No.: 23-0199

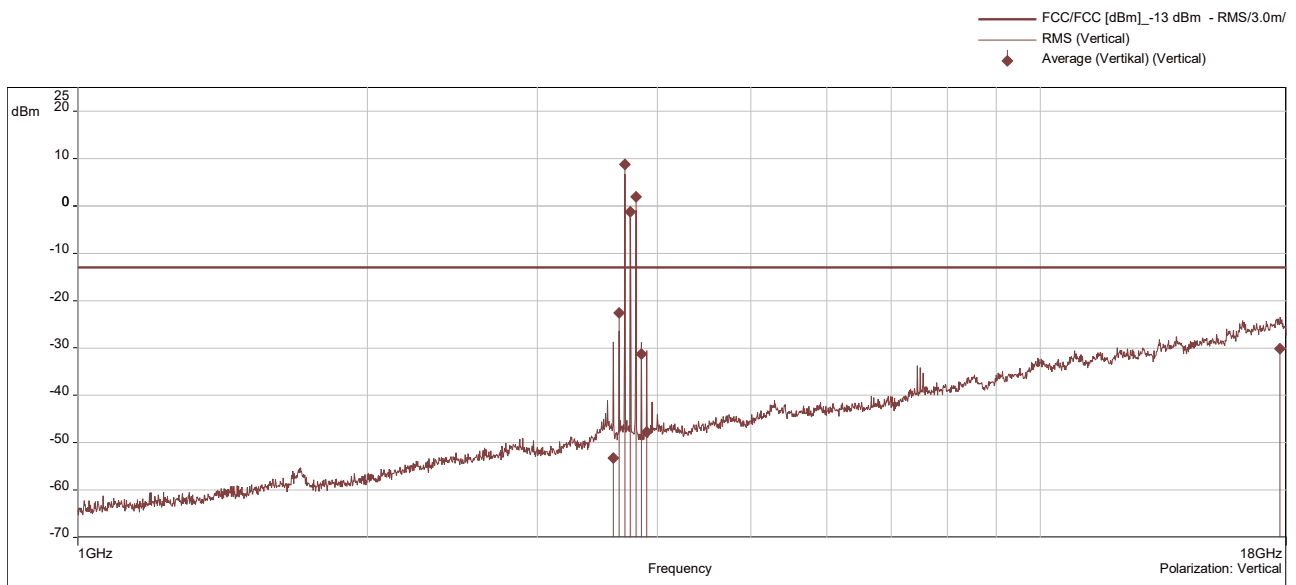
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical



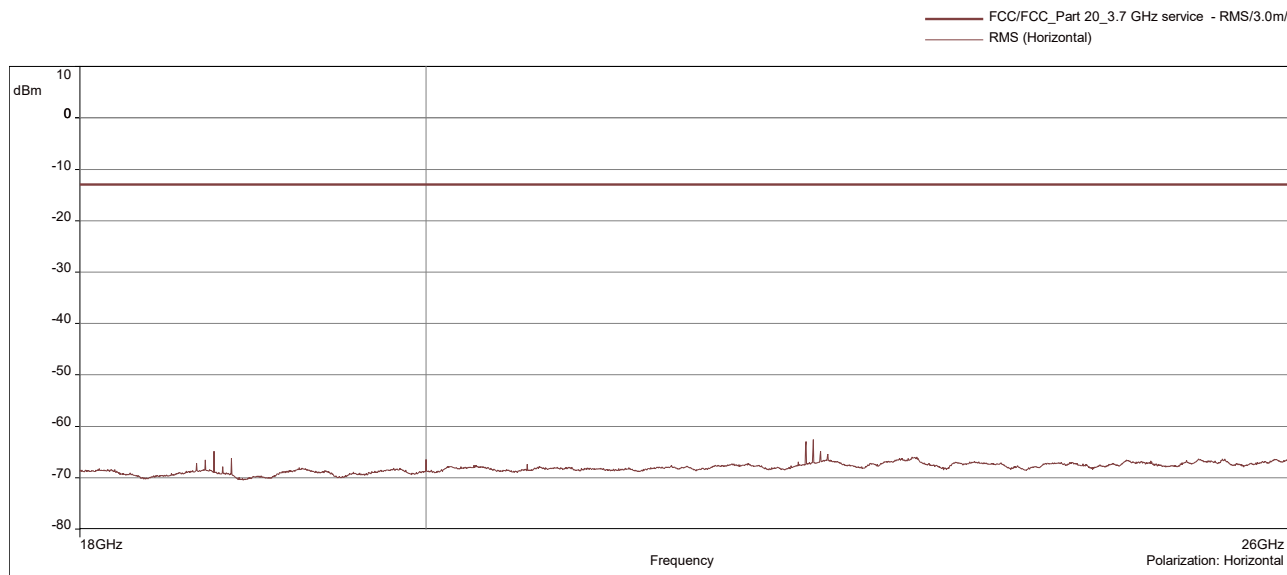
The test results relate only to the tested item. The sample has been provided by the client.
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2023-0313-EMC-TR-23-0199-V02

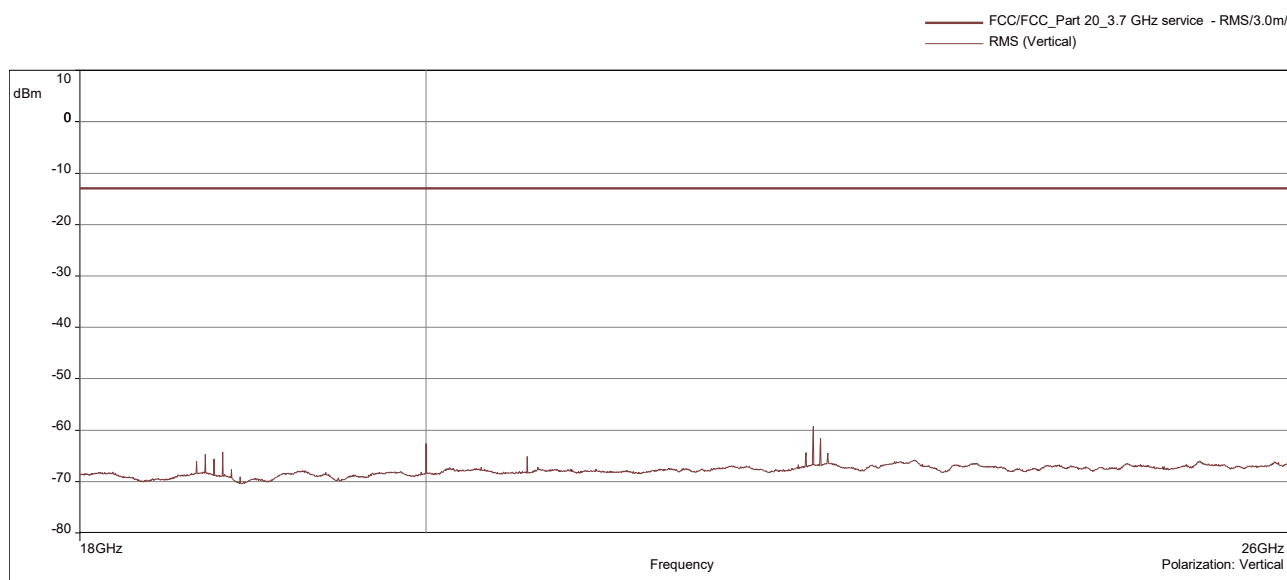
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal



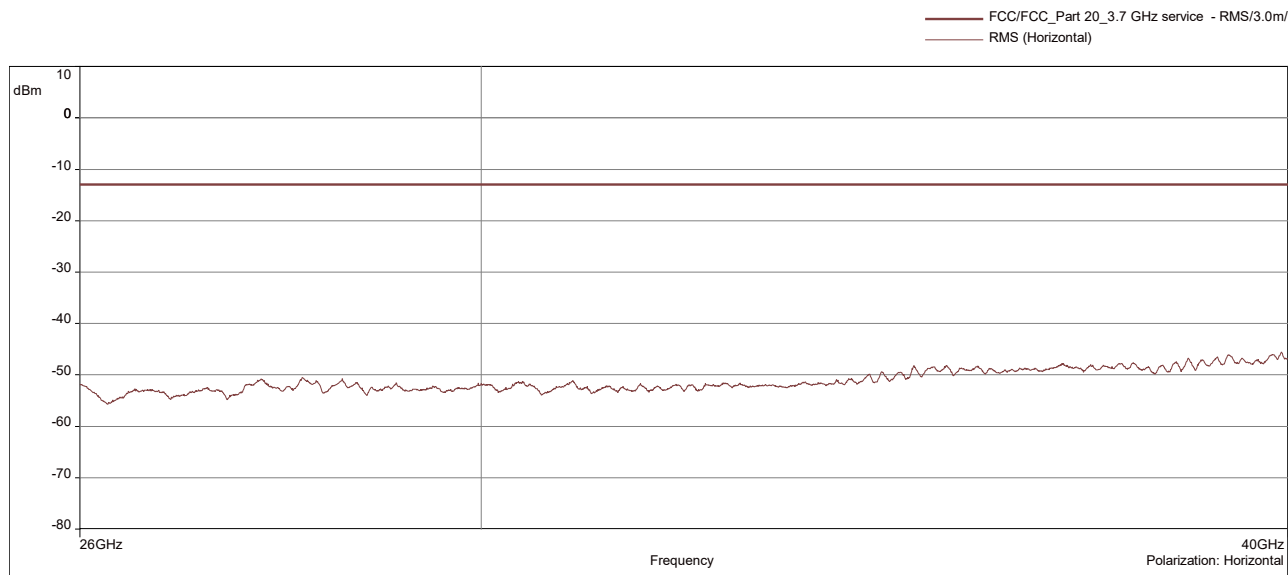
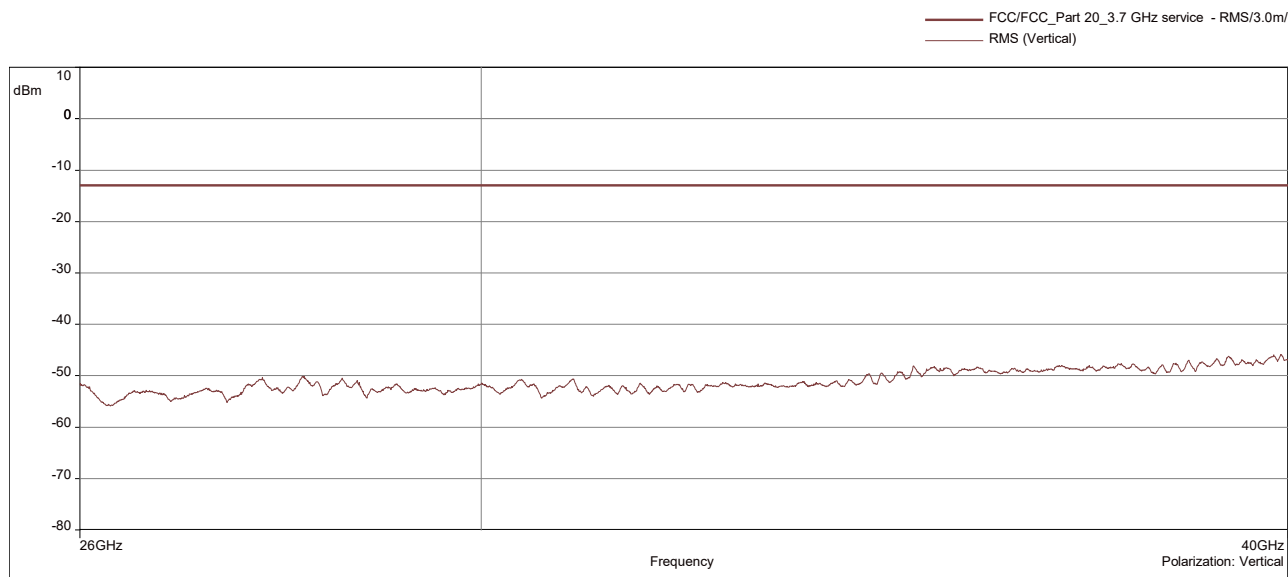
18 GHz - 26 GHz. vertical



The test results relate only to the tested item. The sample has been provided by the client.
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EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

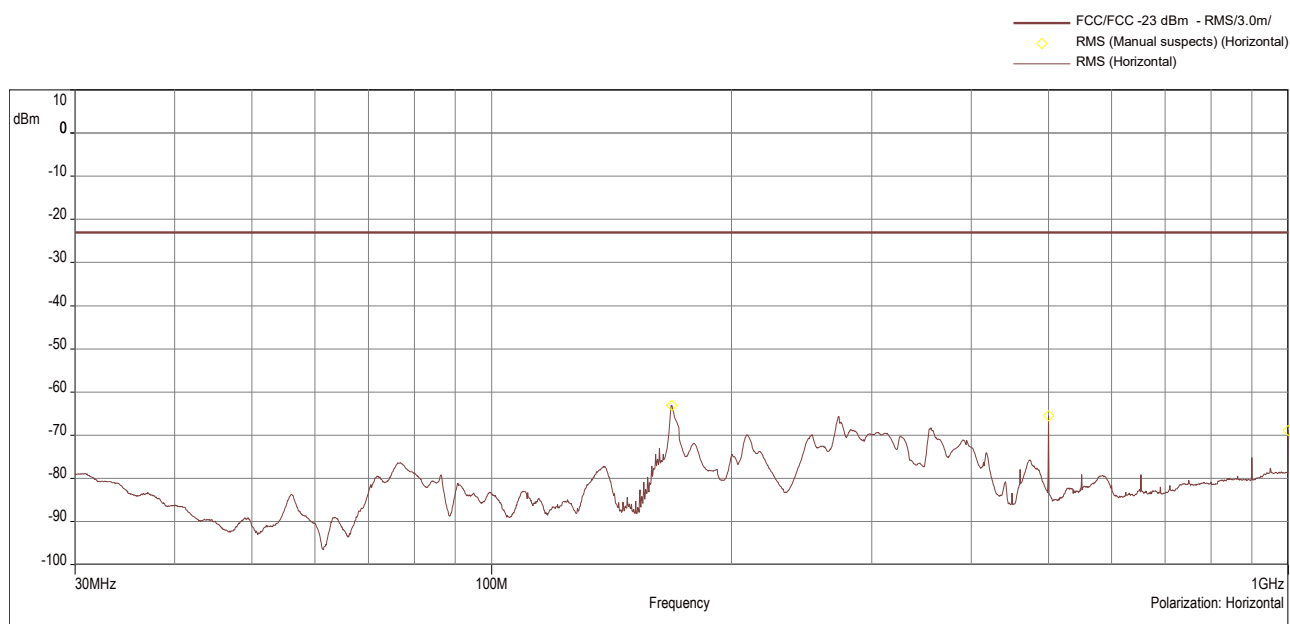
26 GHz - 40 GHz. horizontal**26 GHz - 40 GHz. vertical**

The test results relate only to the tested item. The sample has been provided by the client.
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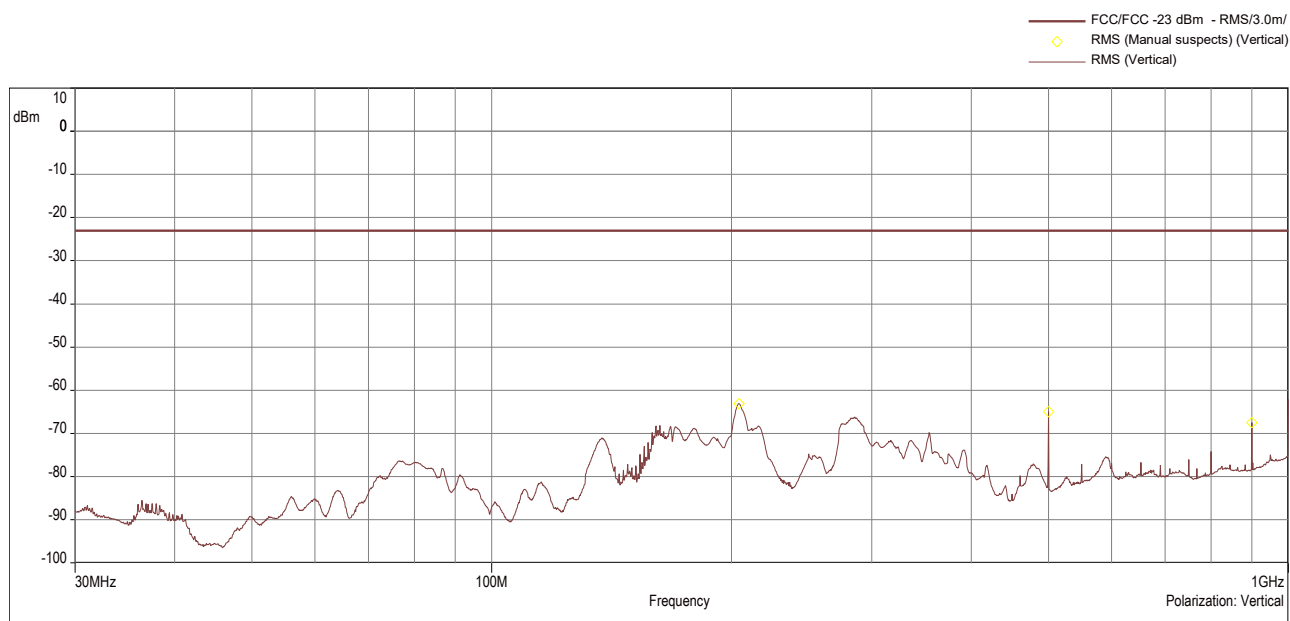
4.8.6.3 Frequency Band = C-Band. Segment 2. ANT 1,2,3 and 4 (4x4 MIMO).

Direction = RF downlink

30 MHz - 1 GHz. horizontal



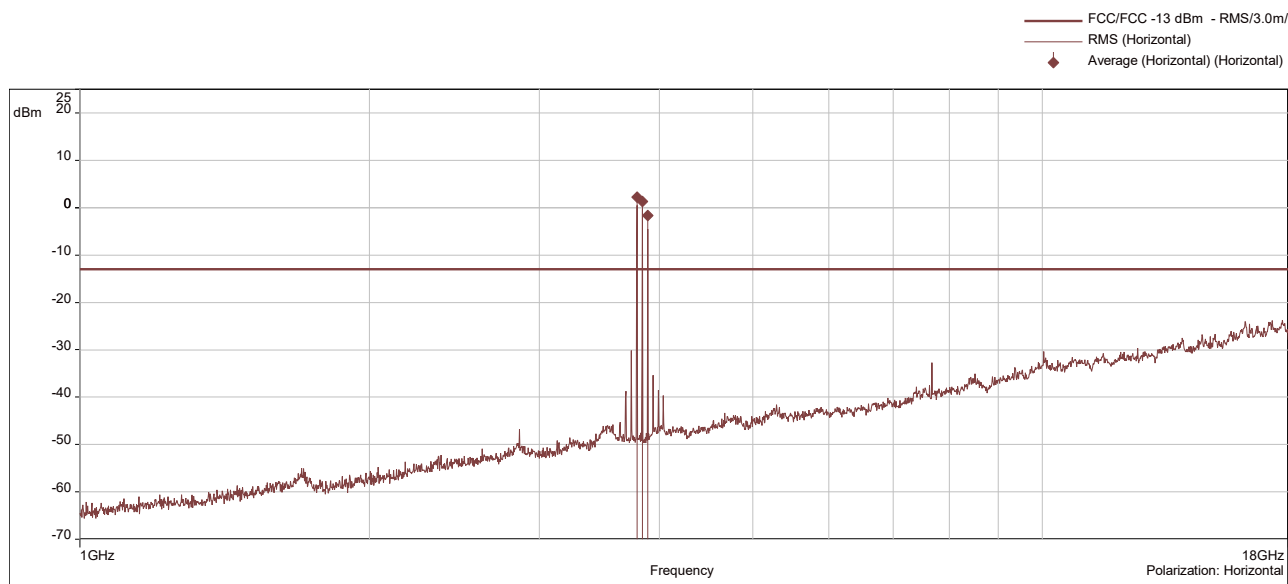
30 MHz - 1 GHz. vertical



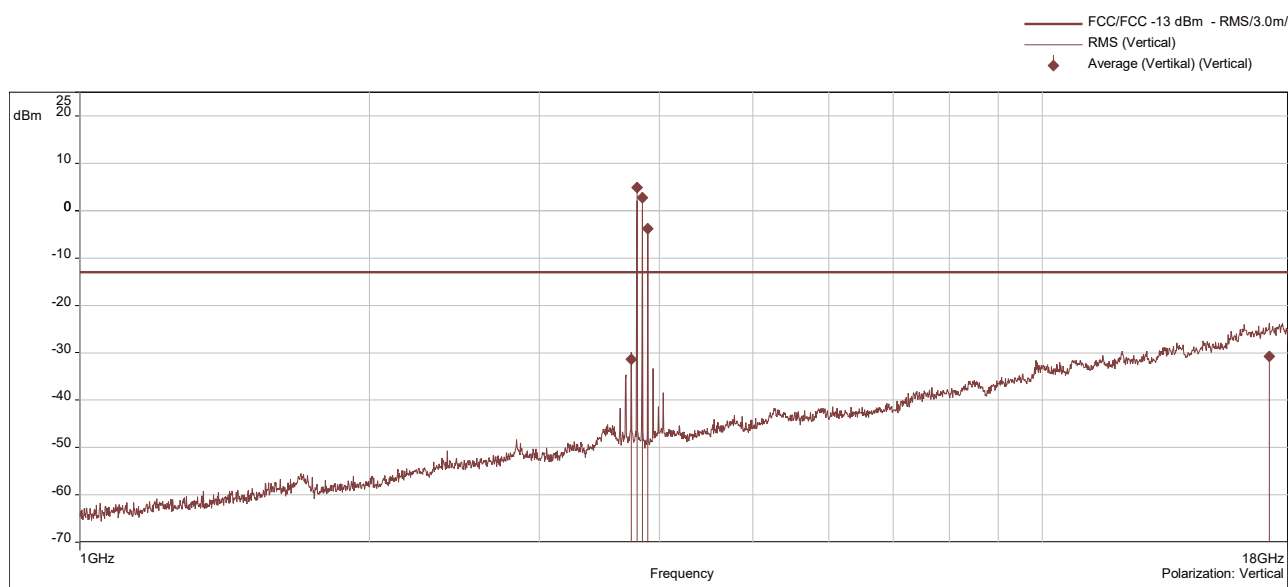
The test results relate only to the tested item. The sample has been provided by the client.

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1 GHz - 18 GHz. horizontal



1 GHz - 18 GHz. vertical

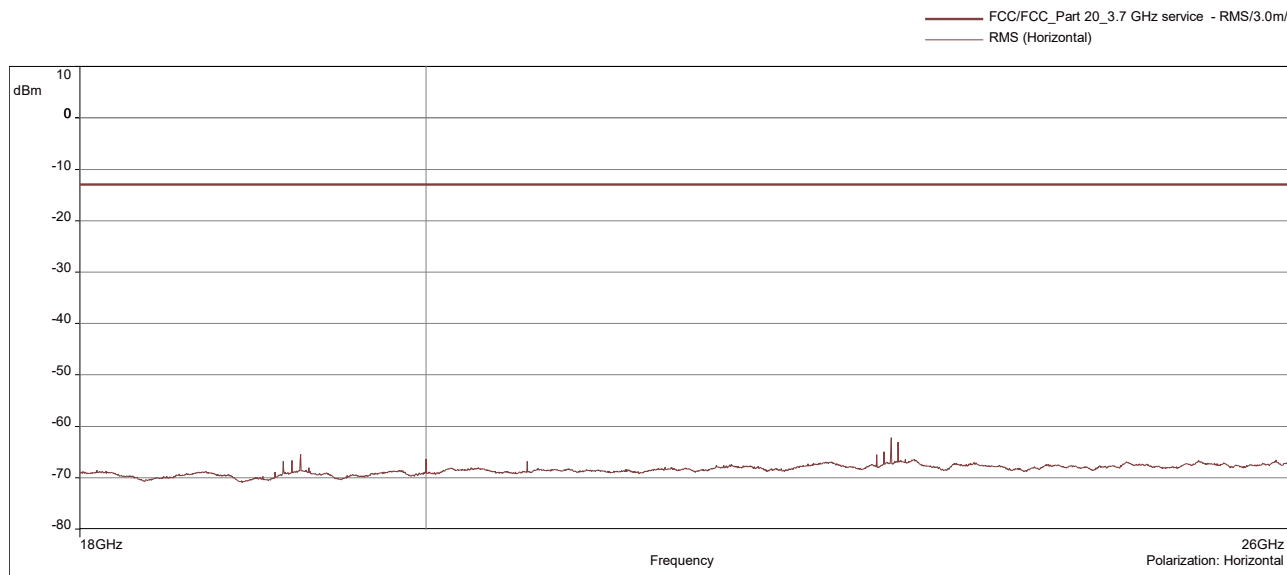


The test results relate only to the tested item. The sample has been provided by the client.
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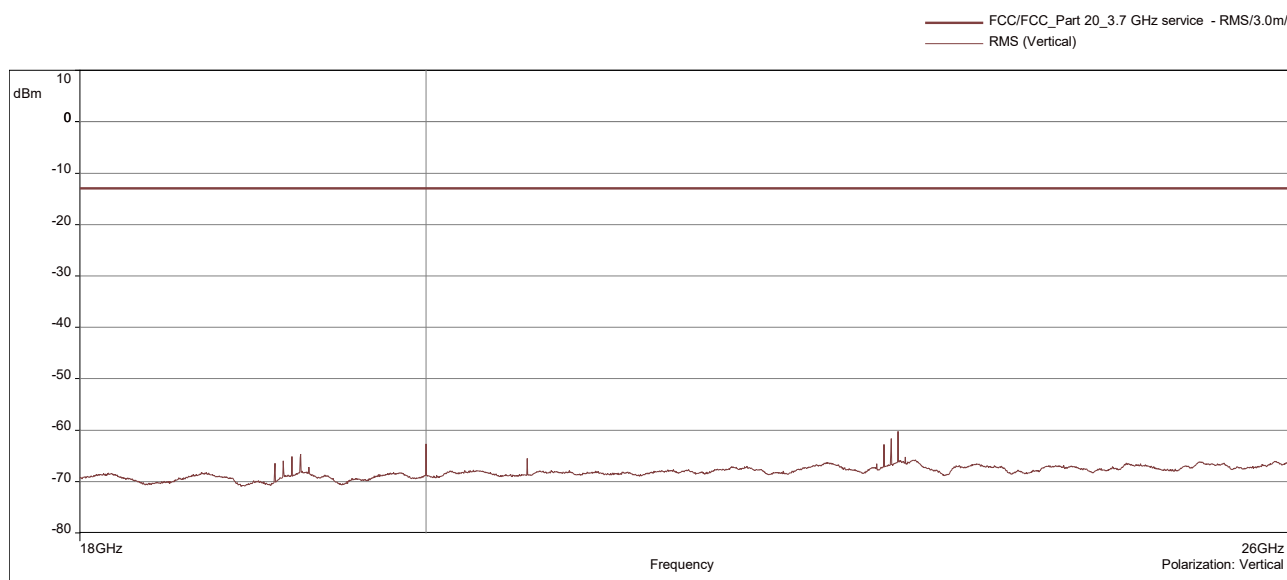
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

18 GHz - 26 GHz. horizontal



18 GHz - 26 GHz. vertical

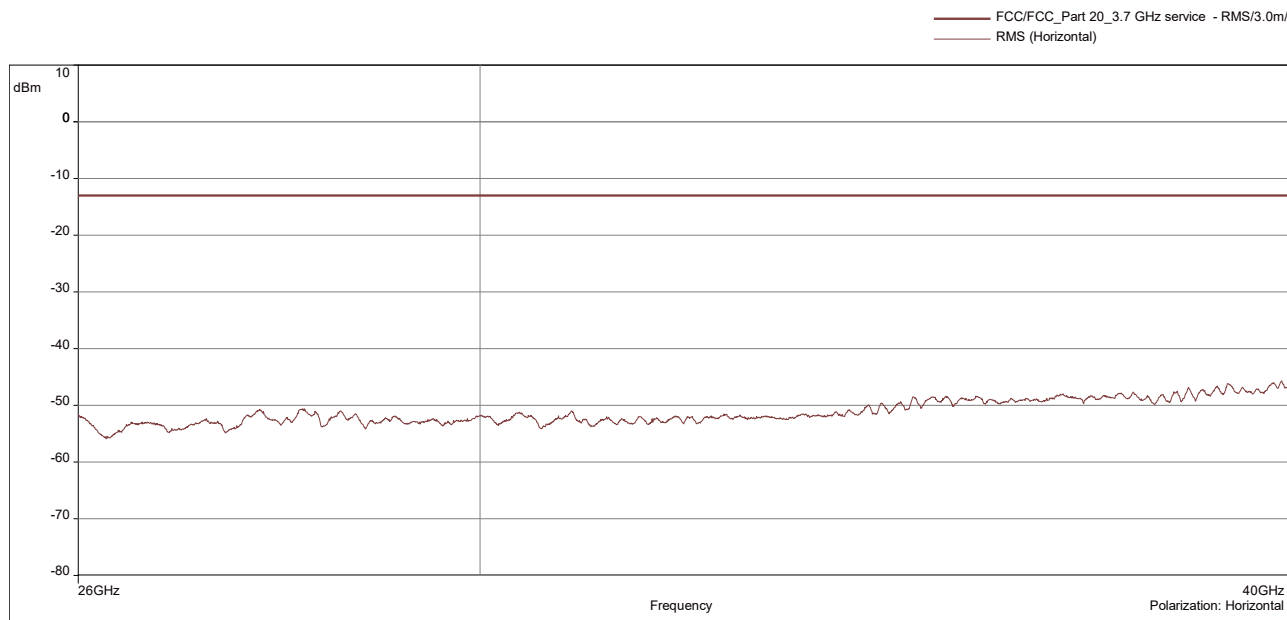


The test results relate only to the tested item. The sample has been provided by the client.
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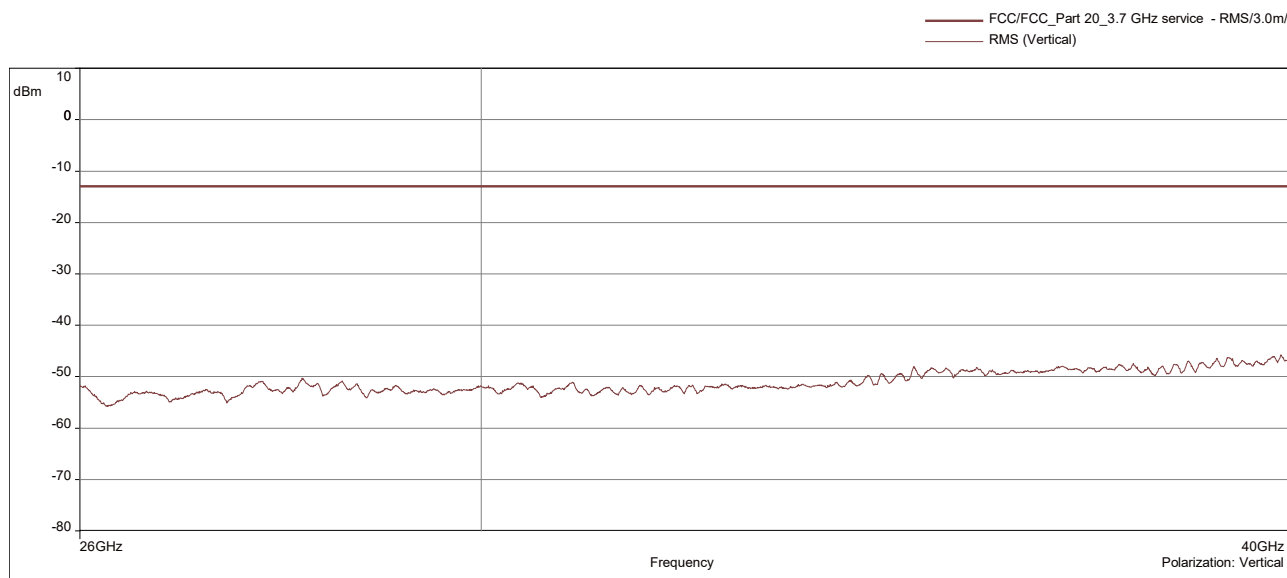
EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical



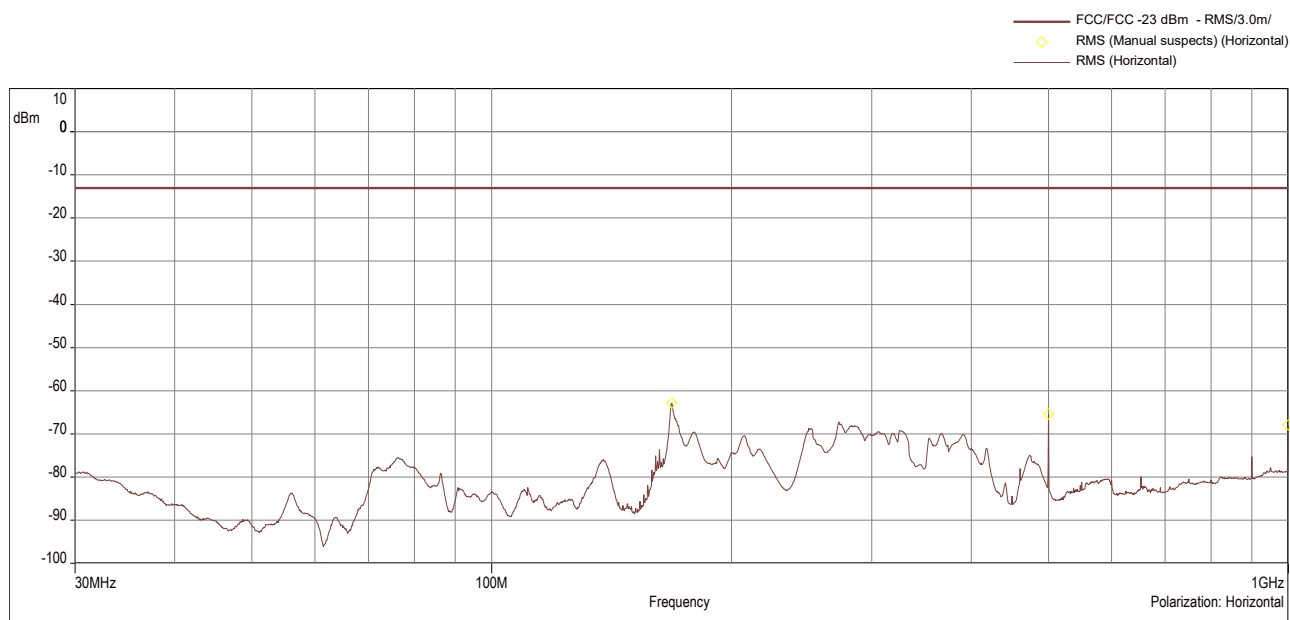
The test results relate only to the tested item. The sample has been provided by the client.
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EMC Test Report No.: 23-0199

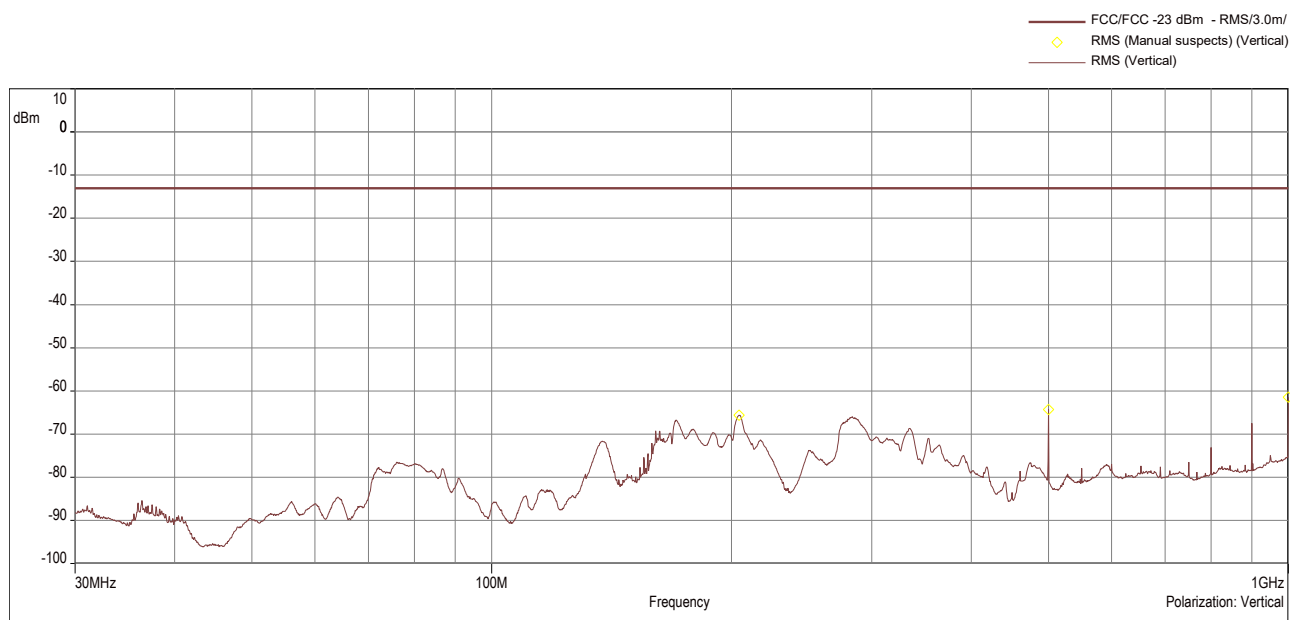
EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

4.8.6.4 Frequency Band = C-Band. Segment 3. ANT 1,2,3 and 4 (4x4 MIMO).
Direction = RF downlink

30 MHz - 1 GHz. horizontal



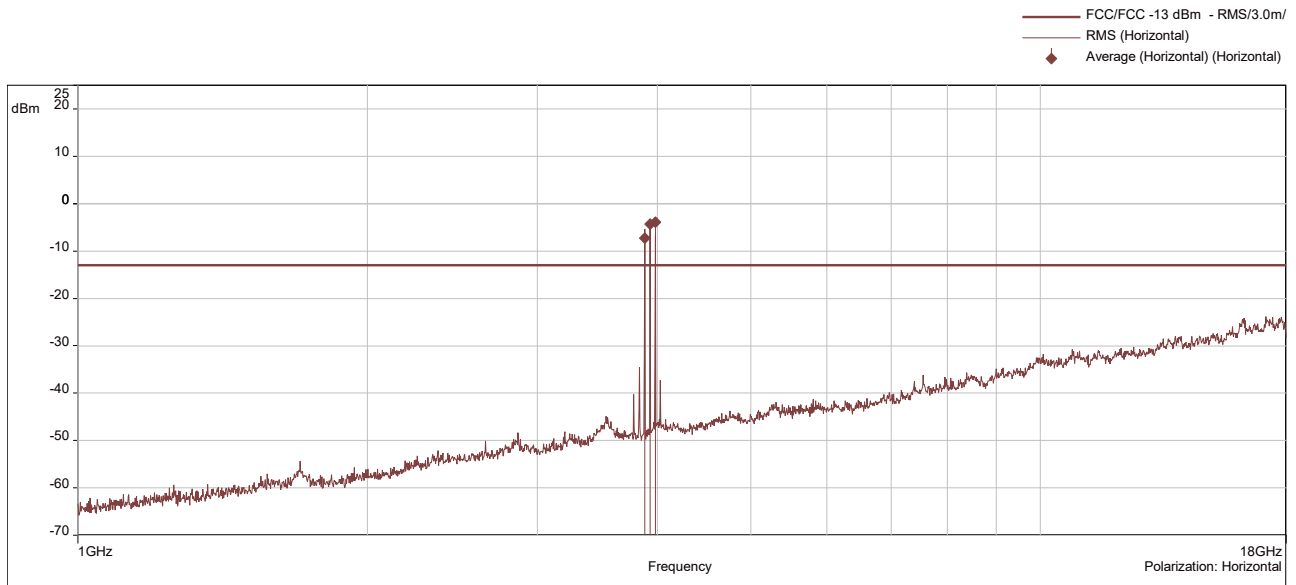
30 MHz - 1 GHz. vertical



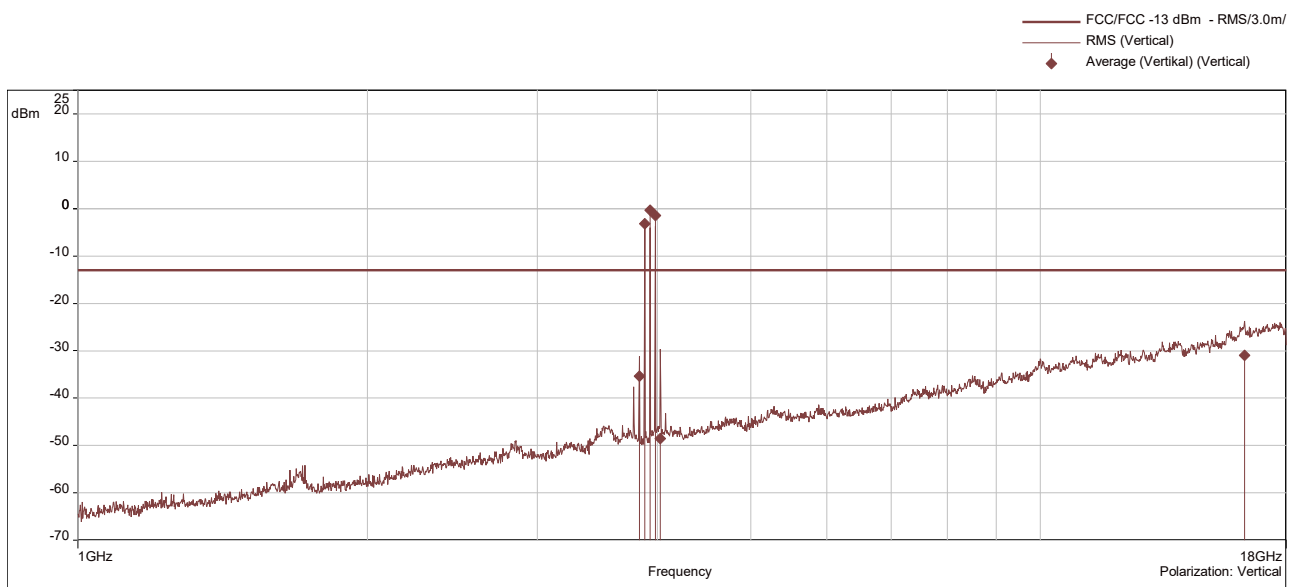
The test results relate only to the tested item. The sample has been provided by the client.
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1 GHz - 18 GHz. horizontal

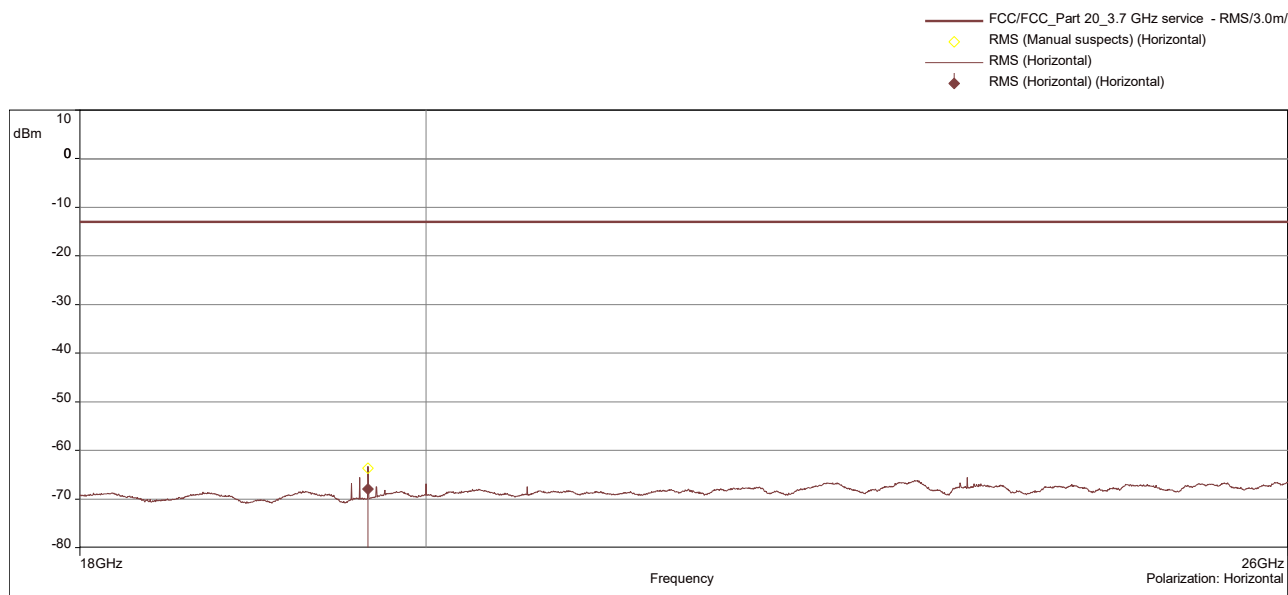


1 GHz - 18 GHz. vertical

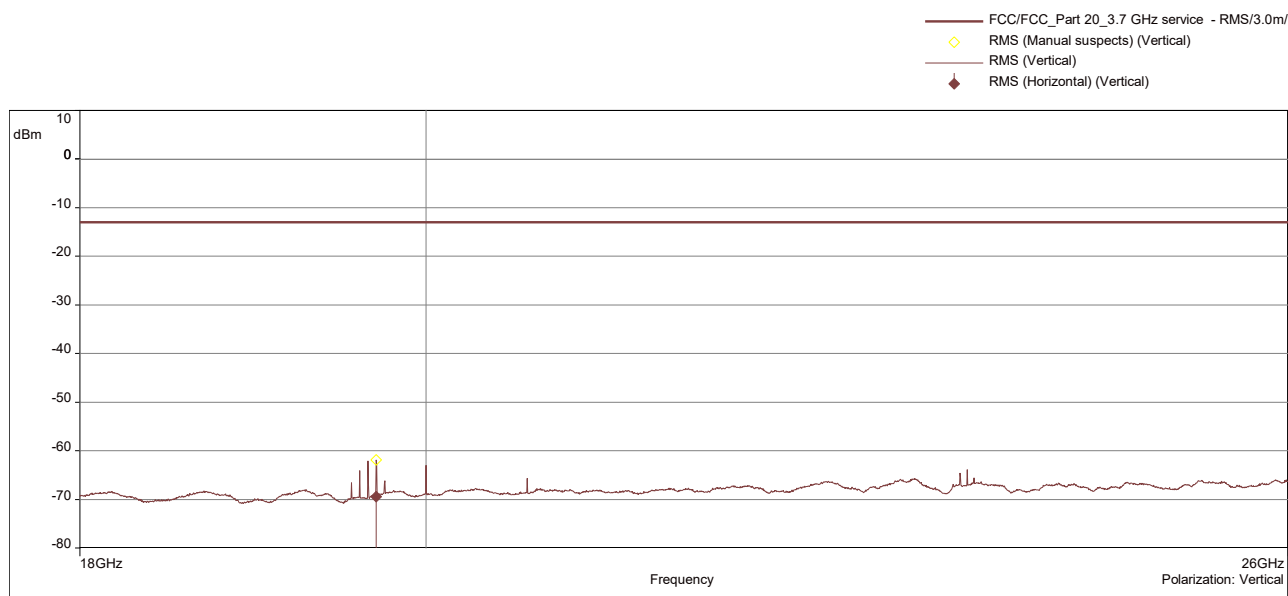


The test results relate only to the tested item. The sample has been provided by the client.
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18 GHz - 26 GHz. horizontal

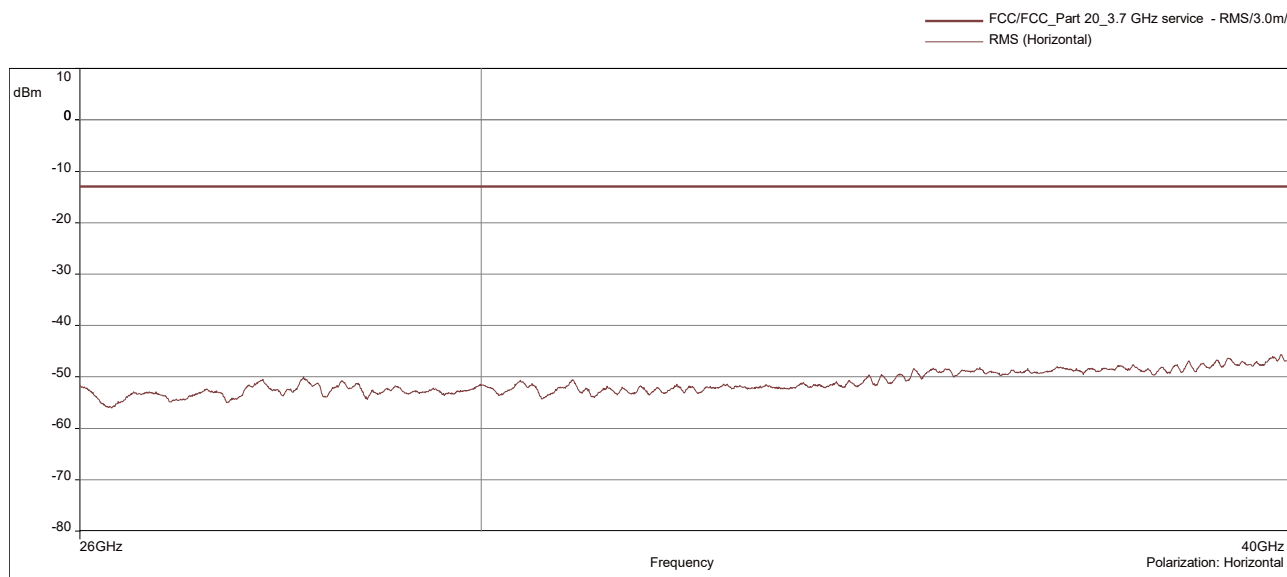


18 GHz - 26 GHz. vertical

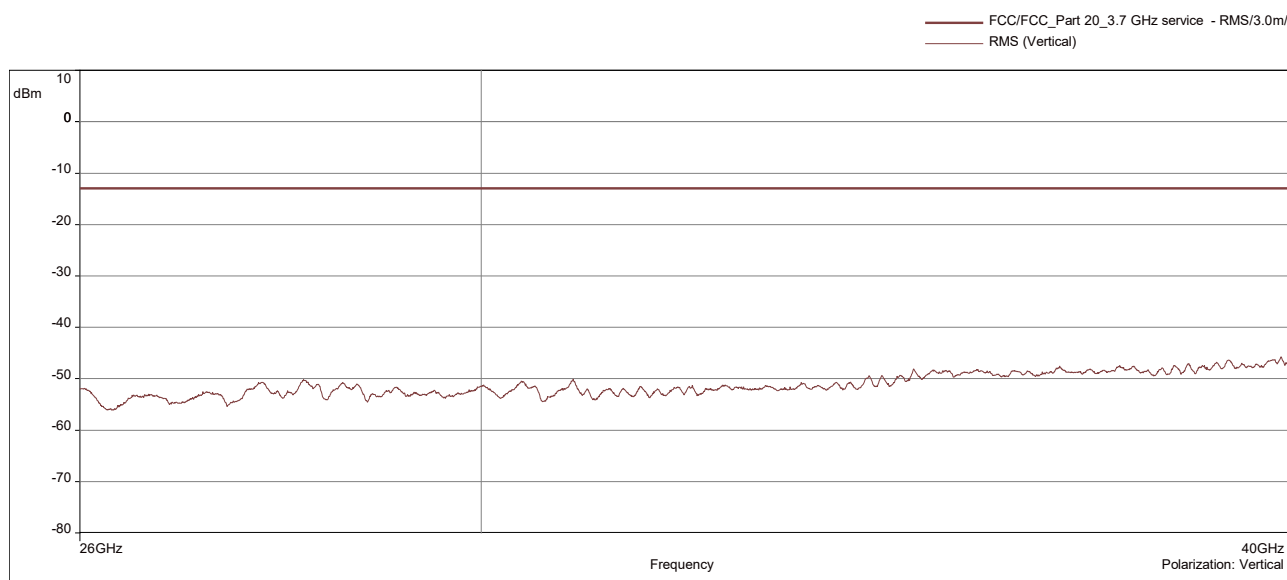


The test results relate only to the tested item. The sample has been provided by the client.
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26 GHz - 40 GHz. horizontal



26 GHz - 40 GHz. vertical



The test results relate only to the tested item. The sample has been provided by the client.
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EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

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4.8.7 FIELD STRENGTH CALCULATIONS

$$\mathbf{FS} = \mathbf{SA} + \mathbf{AF} + \mathbf{CL} + \mathbf{PA}$$

Where as:

- FS** = Field strength
- SA** = EMC test receiver reading
- AF** = Antenna factor
- CL** = Cable loss
- PA** = Preamplifier

4.8.8 TEST EQUIPMENT USED

- Radiated Emissions

The test results relate only to the tested item. The sample has been provided by the client.
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EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

5 TEST EQUIPMENT

5.1 CONDUCTED EMISSIONS

Ref.No.	Type	Description	Manufacturer	Inventory no.	Last Calibration	Calibration Due
1.1	FSV40 *	Signal Analyzer 10 Hz - 40 GHz	Rohde & Schwarz	E-003139	2022-10	2023-10
1.2	FSV40 *	Signal Analyzer 10 Hz - 40 GHz	Rohde & Schwarz	E-003139	2023-10	2024-10
1.3	SMBV100A	Vector Signal Generator 9 kHz - 6 GHz	Rohde & Schwarz	E-003206	2023-01	2025-01
1.4	BAT-EMC	Software	Nexio	V 2023.0.3.0	---	---

* Calibration took place during the period of the test specimen measurements, therefore both calibration data for the respective device were listed.

5.2 RADIATED EMISSIONS

Ref.No.	Type	Description	Manufacturer	Inventory no.	Last Calibration	Calibration Due
1.5	ESU40 *	EMI test receiver 10 Hz - 40 GHz	Rohde & Schwarz	E-003138	2022-10	2023-10
1.6	ESU40 *	EMI test receiver 10 Hz - 40 GHz	Rohde & Schwarz	E-003138	2023-10	2024-10
1.7	CBL 6111C	Antenna 30 MHz - 1 GHz	Chase	E-003226	2021-10	2024-10
1.8	HL 025	Antenna 1 GHz - 18 GHz	Rohde & Schwarz	E-003259	2022-10	2024-10
1.9	MWH-1826/B	Antenna 18 GHz - 26.5 GHz	ARA Inc.	E-003233	2022-11	2024-11
1.10	MWH-2640/B	Antenna 26 GHz - 40 GHz	ARA Inc.	E-003234	2022-11	2024-11
1.11	AM1431 *	Pre amplifier 10 kHz - 1 GHz	Miteq	E-003365	2022-10	2023-10
1.12	AM1431 *	Pre amplifier 10 kHz - 1 GHz	Miteq	E-003365	2023-10	2024-10
1.13	AFS4-00102000 *	Preamplifier 100 MHz - 20 GHz	Miteq	E-003633	2022-10	2023-10
1.14	AFS4-00102000 *	Preamplifier 100 MHz - 20 GHz	Miteq	E-003633	2023-10	2024-10
1.15	AMP-2000-43000-50-10-2.9-F *	Preamplifier 2 GHz - 43 GHz	Miteq	E-003999	2022-10	2023-10
1.16	AMP-2000-43000-50-10-2.9-F *	Preamplifier 2 GHz - 43 GHz	Miteq	E-003999	2023-10	2024-10
1.17	CO3000	Controller SAC	Innco systems GmbH	E-003052 with Software 1.02.62	---	---
1.18	BAT-EMC	Software	Nexio	V 2023.0.3.0	---	---

* Calibration took place during the period of the test specimen measurements, therefore both calibration data for the respective device were listed.

The calibration interval is the time interval between "Last Calibration" and "Calibration Due".

6 ANTENNA FACTORS. CABLE LOSS AND SAMPLE CALCULATIONS

This chapter contains the antenna factors with their corresponding path loss of the used measurement path for all antennas as well as the insertion loss of the LISN.

6.1 ANTENNA CHASE CBL 6111C (30 MHz – 1 GHz)

($d_{\text{Limit}} = 3 \text{ m}$)

Frequency	AF	Corr.	cable loss 1 (inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit)	cable loss 4 (to receiver)	distance corr. (-20 dB/decade)	d_{Limit} (meas. distance (limit))	d_{used} (meas. distance (used))
MHz	dB (1/m)	dB	dB	dB	dB	dB	dB	m	m
30	18.6	0.6	0.29	0.04	0.23	0.02	0.0	3	3
50	6.0	0.9	0.39	0.09	0.32	0.08	0.0	3	3
100	9.7	1.2	0.56	0.14	0.47	0.08	0.0	3	3
150	7.9	1.6	0.73	0.20	0.59	0.12	0.0	3	3
200	7.6	1.9	0.84	0.21	0.70	0.11	0.0	3	3
250	9.5	2.1	0.98	0.24	0.80	0.13	0.0	3	3
300	11.0	2.3	1.04	0.26	0.89	0.15	0.0	3	3
350	12.4	2.6	1.18	0.31	0.96	0.13	0.0	3	3
400	13.6	2.9	1.28	0.35	1.03	0.19	0.0	3	3
450	14.7	3.1	1.39	0.38	1.11	0.22	0.0	3	3
500	15.6	3.2	1.44	0.39	1.20	0.19	0.0	3	3
550	16.3	3.5	1.55	0.46	1.24	0.23	0.0	3	3
600	17.2	3.5	1.59	0.43	1.29	0.23	0.0	3	3
650	18.1	3.6	1.67	0.34	1.35	0.22	0.0	3	3
700	18.5	3.6	1.67	0.42	1.41	0.15	0.0	3	3
750	19.1	4.1	1.87	0.54	1.46	0.25	0.0	3	3
800	19.6	4.1	1.90	0.46	1.51	0.25	0.0	3	3
850	20.1	4.4	1.99	0.60	1.56	0.27	0.0	3	3
900	20.8	4.7	2.14	0.60	1.63	0.29	0.0	3	3
950	21.1	4.8	2.22	0.60	1.66	0.33	0.0	3	3
1000	21.6	4.9	2.23	0.61	1.71	0.30	0.0	3	3

Sample calculation

$$E \text{ (dB } \mu\text{V/m)} = U \text{ (dB } \mu\text{V)} + AF \text{ (dB 1/m)} + \text{Corr. (dB)}$$

U = Receiver reading

AF = Antenna factor

Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)

distance correction = $-20 * \text{LOG} (d_{\text{Limit}} / d_{\text{used}})$

Linear interpolation will be used for frequencies in between the values in the table.

Tables show an extract of values.

EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

6.2 ANTENNA ROHDE & SCHWARZ HL 025 (1 GHZ – 18 GHZ)

Frequency	AF	Corr.
MHz	dB (1/m)	dB
1000	24.4	-19.4
2000	28.5	-17.4
3000	31.0	-16.1
4000	33.1	-14.7
5000	34.4	-13.7
6000	34.7	-12.7
7000	35.6	-11.0

cable loss 1 (relay + cable inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit. attenuator & pre-amp)	cable loss 4 (to receiver)		
dB	dB	dB	dB		
0.99	0.31	-21.51	0.79		
1.44	0.44	-20.63	1.38		
1.87	0.53	-19.85	1.33		
2.41	0.67	-19.13	1.31		
2.78	0.86	-18.71	1.40		
2.74	0.90	-17.83	1.47		
2.82	0.86	-16.19	1.46		

Frequency	AF	Corr.
MHz	dB (1/m)	dB
3000	31.0	-23.4
4000	33.1	-23.3
5000	34.4	-21.7
6000	34.7	-21.2
7000	35.6	-19.8

cable loss 1 (relay inside chamber)	cable loss 2 (inside chamber)	cable loss 3 (outside chamber)	cable loss 4 (switch unit. attenuator & pre-amp)	cable loss 5 (to receiver)	used for FCC 15.247
dB	dB	dB	dB	dB	
0.47	1.87	0.53	-27.58	1.33	
0.56	2.41	0.67	-28.23	1.31	
0.61	2.78	0.86	-27.35	1.40	
0.58	2.74	0.90	-26.89	1.47	
0.66	2.82	0.86	-25.58	1.46	

Frequency	AF	Corr.
MHz	dB (1/m)	dB
7000	35.6	-57.3
8000	36.3	-56.3
9000	37.1	-55.3
10000	37.5	-56.2
11000	37.5	-55.3
12000	37.6	-53.7
13000	38.2	-53.5
14000	39.9	-56.3
15000	40.9	-54.1
16000	41.3	-54.1
17000	42.8	-54.4
18000	44.2	-54.7

cable loss 1 (relay inside chamber)	cable loss 2 (High Pass)	cable loss 3 (pre-amp)	cable loss 4 (inside chamber)	cable loss 5 (outside chamber)	cable loss 6 (to receiver)
dB	dB	dB	dB	dB	dB
0.56	1.28	-62.72	2.66	0.94	1.46
0.69	0.71	-61.49	2.84	1.00	1.53
0.68	0.65	-60.80	3.06	1.09	1.60
0.70	0.54	-61.91	3.28	1.20	1.67
0.80	0.61	-61.40	3.43	1.27	1.70
0.84	0.42	-59.70	3.53	1.26	1.73
0.83	0.44	-59.81	3.75	1.32	1.83
0.91	0.53	-63.03	3.91	1.40	1.77
0.98	0.54	-61.05	4.02	1.44	1.83
1.23	0.49	-61.51	4.17	1.51	1.85
1.36	0.76	-62.36	4.34	1.53	2.00
1.70	0.53	-62.88	4.41	1.55	1.91

Sample calculation

$$E \text{ (dB } \mu\text{V/m)} = U \text{ (dB } \mu\text{V)} + AF \text{ (dB 1/m)} + Corr. \text{ (dB)}$$

U = Receiver reading

AF = Antenna factor

Corr. = sum of single correction factors of used cables. switch unit. distance correction. amplifier (if applicable)

Linear interpolation will be used for frequencies in between the values in the table.

Tables show an extract of values.

The test results relate only to the tested item. The sample has been provided by the client.

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EMC Test Report No.: 23-0199

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

6.3 ANTENNA ARA INC. MWH-1826-B (18 GHZ – 26.5 GHZ) PARTIALLY IN CONJUNCTION WITH PRE-AMPLIFIER MITEQ JS43-1800-4000: THE USE OF THE PRE-AMPLIFIER IS DEPENDENT FROM THE FIELD STRENGTH

Frequency MHz	AF dB (1/m)	Corr. dB	cable loss 1 (inside chamber) dB	cable loss 2 (pre-amp) dB	cable loss 3 (inside chamber) dB	cable loss 4 (switch unit) dB	cable loss 5 (to receiver) dB
18000	40.2	-23.5	0.72	-35.85	6.20	2.81	2.65
18500	40.2	-23.2	0.69	-35.71	6.46	2.76	2.59
19000	40.2	-22.0	0.76	-35.44	6.69	3.15	2.79
19500	40.3	-21.3	0.74	-35.07	7.04	3.11	2.91
20000	40.3	-20.3	0.72	-34.49	7.30	3.07	3.05
20500	40.3	-19.9	0.78	-34.46	7.48	3.12	3.15
21000	40.3	-19.1	0.87	-34.07	7.61	3.20	3.33
21500	40.3	-19.1	0.90	-33.96	7.47	3.28	3.19
22000	40.3	-18.7	0.89	-33.57	7.34	3.35	3.28
22500	40.4	-19.0	0.87	-33.66	7.06	3.75	2.94
23000	40.4	-19.5	0.88	-33.75	6.92	3.77	2.70
23500	40.4	-19.3	0.90	-33.35	6.99	3.52	2.66
24000	40.4	-19.8	0.88	-33.99	6.88	3.88	2.58
24500	40.4	-19.5	0.91	-33.89	7.01	3.93	2.51
25000	40.4	-19.3	0.88	-33.00	6.72	3.96	2.14
25500	40.5	-20.4	0.89	-34.07	6.90	3.66	2.22
26000	40.5	-21.3	0.86	-35.11	7.02	3.69	2.28
26500	40.5	-21.1	0.90	-35.20	7.15	3.91	2.36

Sample calculation

$$E \text{ (dB } \mu\text{V/m)} = U \text{ (dB } \mu\text{V)} + AF \text{ (dB 1/m)} + Corr. \text{ (dB)}$$

U = Receiver reading

AF = Antenna factor

Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)

Linear interpolation will be used for frequencies in between the values in the table.

Table shows an extract of values.

6.4 ANTENNA ARA INC. MWH-2640-B (26 GHZ – 40 GHZ)) PARTIALLY IN CONJUNCTION WITH PRE-AMPLIFIER MITEQ JS43-1800-4000: THE USE OF THE PRE-AMPLIFIER IS DEPENDENT FROM THE FIELD STRENGTH

Frequen cy	AF	Corr.	cable loss 1 (inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit)	cable loss 4 (to receiver)	distance corr. (-20 dB/ decade)	d _{Limit} (meas. distance (limit))	d _{used} (meas. distance (used))
GHz	dB (1/m)	dB	dB	dB	dB	dB	dB	m	m
26.5	43.4	-11.2	4.4				-9.6	3	1.0
27.0	43.4	-11.2	4.4				-9.6	3	1.0
28.0	43.4	-11.1	4.5				-9.6	3	1.0
29.0	43.5	-11.0	4.6				-9.6	3	1.0
30.0	43.5	-10.9	4.7				-9.6	3	1.0
31.0	43.5	-10.8	4.7				-9.6	3	1.0
32.0	43.5	-10.7	4.8				-9.6	3	1.0
33.0	43.6	-10.7	4.9				-9.6	3	1.0
34.0	43.6	-10.6	5.0				-9.6	3	1.0
35.0	43.6	-10.5	5.1				-9.6	3	1.0
36.0	43.6	-10.4	5.1				-9.6	3	1.0
37.0	43.7	-10.3	5.2				-9.6	3	1.0
38.0	43.7	-10.2	5.3				-9.6	3	1.0
39.0	43.7	-10.2	5.4				-9.6	3	1.0
40.0	43.8	-10.1	5.5				-9.6	3	1.0

Sample calculation

$$E \text{ (dB } \mu\text{V/m)} = U \text{ (dB } \mu\text{V)} + AF \text{ (dB 1/m)} + Corr. \text{ (dB)}$$

U = Receiver reading

AF = Antenna factor

Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)

Linear interpolation will be used for frequencies in between the values in the table.

distance correction = $-20 * \text{LOG} (d_{\text{Limit}} / d_{\text{used}})$

Linear interpolation will be used for frequencies in between the values in the table.

Table shows an extract of values.



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EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

7 MEASUREMENT UNCERTAINTIES

KDB 935210 D05	ECL
Power measurement	0.68 dB
Measuring AGC threshold level	0.90 dB
Out of band rejection	0.90 dB
Input-versus-output signal comparison	0.91 dB
Mean power output	0.90 dB
Measuring out-of-band/out-of-block (including intermodulation) emissions and spurious emissions	0.90 dB
Out-of-band/out-of-block emissions conducted measurements	0.90 dB
Spurious emissions conducted	2.18 dB
Spurious emissions radiated measurements	5.38 dB
Total frequency uncertainty	2×10^{-7}

Reference :

ECL-MU5.4.6.3-EMC-14-001-V03.00 MU Wireless.xlsx

**EMC Test Report No.: 23-0199**

EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

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8 PHOTO REPORT

Please see separate photo report.

The test results relate only to the tested item. The sample has been provided by the client.
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EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]



Annex A: Accreditation certificate (for information)

The accreditation relates to competences stated on the accreditation certificate. The current certificate is available on the homepage of the DAkkS and can be downloaded under accredited bodies with the processing number:

<https://www.dakks.de/en>



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EMC tests on Andrew CAP M2 34T/37T/37T F-DC-F1 [37T]

Annex B: Additional information provided by client

None.

***** End of test report *****

The test results relate only to the tested item. The sample has been provided by the client.
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