

**FCC - TEST REPORT**

Report Number : **60.790.19.014.01R02** Date of Issue : June 28, 2019

Model : **CX FLEX SINGLE-POWER+**

Product Type : **Merchandise Theft Deterrent System**

Applicant : Mobile Technologies Inc.

Address : 1050 NE 67th Ave, Hillsboro, OR 97124

Production Facility : HONG KONG ANDROIDS TECHNOLOGY CO.LTD

Address : Yitao Technology Industrial Park, Baihua Yuan Rd., The Second  
Industrial Area, Guangming Sub-district Office, Guangming New  
District, Shenzhen, China

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including Appendices : 37

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## 2 Description of Equipment Under Test

### Description of the Equipment Under Test

Product:	Merchandise Theft Deterrent System
Model no.:	CX FLEX SINGLE-POWER+
FCC ID:	2AA2X-15000204
Rating:	EUT rating: DC 5V,3A or 9V,3A or 12V,3A or 15V,3A or 20V,2.25A Assist AC/DC adapter:100-240V ~50/60Hz, 1.2A Max. Input DC 5V,3A or 9V,3A or 12V,3A or 15V,3A or 20V,2.25A output
Frequency:	2405MHz-2480MHz (Tx and Rx)
Antenna gain:	-1dBi
Number of operated channel:	16
Modulation:	O-QPSK

### 3 Summary of Test Standards

Test Standards
FCC Part 15 Subpart C 10-1-18 Edition Federal Communications Commission, PART 15 — Radio Frequency Devices, Subpart C — Unintentional Radiators

All the tests were performed using the procedures from ANSI C63.4(2014) and ANSI C63.10 (2013).

## 4 Details about the Test Laboratory

### Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
Building 12&13 Zhiheng Wisdomland Business Park,  
Nantou Checkpoint Road 2,  
Shenzhen 518052, P.R.China  
FCC Registration Number: 502708

Emission Tests	
Test Item	Test Site
<b>FCC Part 15 Subpart C</b>	
FCC Title 47 Part 15.205, 15.209 & 15.247(d) Spurious Radiated Emission	Site 1
FCC Title 47 Part 15.207 Conduct Emission	Site 1
FCC Title 47 Part 15.247(a)(1) 6dB & 99% Bandwidth	Site 1
FCC Title 47 Part 15.247(b) Peak Output Power	Site 1
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	Site 1
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	Site 1
FCC Title 47 Part 15.247(e) Power Spectral Density	Site 1
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	Site 1

## 4.1 Test Equipment Site List

### Radiated emission Test – Site 1

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	2019-7-6
Signal Analyzer	Rohde & Schwarz	FSV40	101031	2019-7-6
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100398	2019-7-6
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	2019-6-28
Horn Antenna	Rohde & Schwarz	HF907	102294	2019-6-28
Wideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	12827	2019-7-12
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2019-7-6
Pre-amplifier	Rohde & Schwarz	SCU 40A	100432	2019-7-6
Attenuator	Agilent	8491A	MY39264334	2019-7-6
3m Semi-anechoic chamber	TDK	9X6X6	----	2020-7-7
Test software	Rohde & Schwarz	EMC32	Version 9.15.00	N/A

### Conducted Emission Test – Site 1

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	2019-7-6
LISN	Rohde & Schwarz	ENV4200	100249	2019-7-6
LISN	Rohde & Schwarz	ENV432	101318	2019-7-6
LISN	Rohde & Schwarz	ENV216	100326	2019-7-6
ISN	Rohde & Schwarz	ENY81	100177	2019-7-6
ISN	Rohde & Schwarz	ENY81-CA6	101664	2019-7-6
High Voltage Probe	Rohde & Schwarz	TK9420(VT9420)	9420-584	2019-6-30
RF Current Probe	Rohde & Schwarz	EZ-17	100816	2019-6-30
Attenuator	Shanghai Huaxiang	TS2-26-3	080928189	2019-7-6
Test software	Rohde & Schwarz	EMC32	Version9.15.00	N/A

### 20dB & 99% Bandwidth, Peak Output Power, Spurious Emissions at Antenna Terminals, 100kHz Bandwidth of band edges, Power Spectral Density – Site 1

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	101030	2019-7-6
Vector Signal Generator	Rohde & Schwarz	SMU 200A	105324	2019-7-6
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157	101226/100851	2019-7-6

## 4.2 Measurement System Uncertainty

### Measurement System Uncertainty Emissions

System Measurement Uncertainty	
Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.46dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.91dB; Vertical: 4.89dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.80dB; Vertical: 4.79dB;
Uncertainty for Conducted Emission at AC Power Line 150kHz-30MHz	3.21dB
Uncertainty for Conducted RF Power	2.13dB
Uncertainty for frequency test	$0.6 \times 10^{-7}$

## 5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart C				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
FCC Title 47 Part 15.205, 15.209 & 15.247(d) Spurious Radiated Emission	12-15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.207 Conduct Emission	16-17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(a)(2) 6dB & 99% Bandwidth	18-20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(b) Peak Output Power	21-23	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	24-29	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	30-32	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(e) Power Spectral Density	33-35	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	36	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 6 General Remarks

### Remarks

This submittal(s) (test report) is intended for **FCC ID: 2AA2X-15000204**, complies with Section 15.203, 15.205, 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C rules for the DTS grant

The TX and RX range is 2405MHz-2480MHz.

### SUMMARY:

- All tests according to the regulations cited on page 8 were

☒ - Performed

☐ - **Not** Performed

- The Equipment Under Test

☒ - **Fulfills** the general approval requirements.

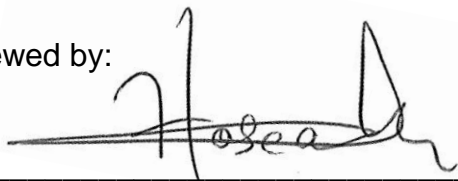
☐ - **Does not** fulfill the general approval requirements.

Sample Received Date: May 20, 2019

Testing Start Date: June 3, 2019

Testing End Date: June 26, 2019

Reviewed by:



Hosea CHAN  
EMC Project Engineer

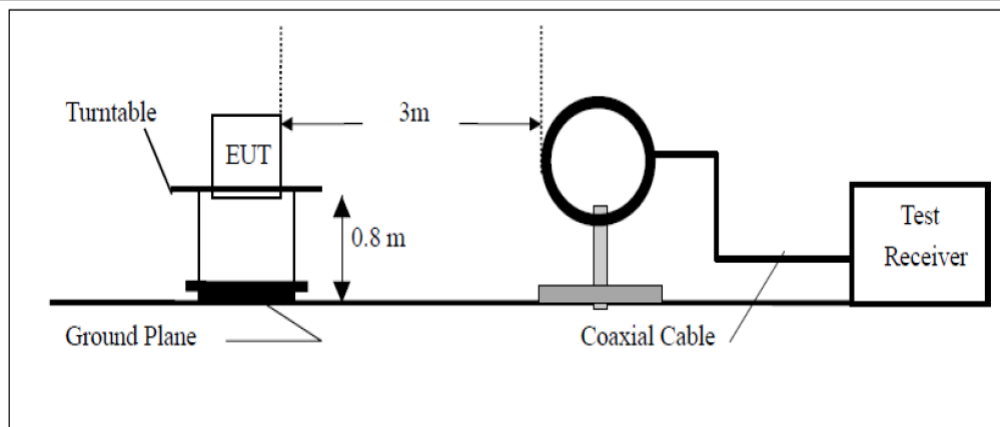
Prepared by:



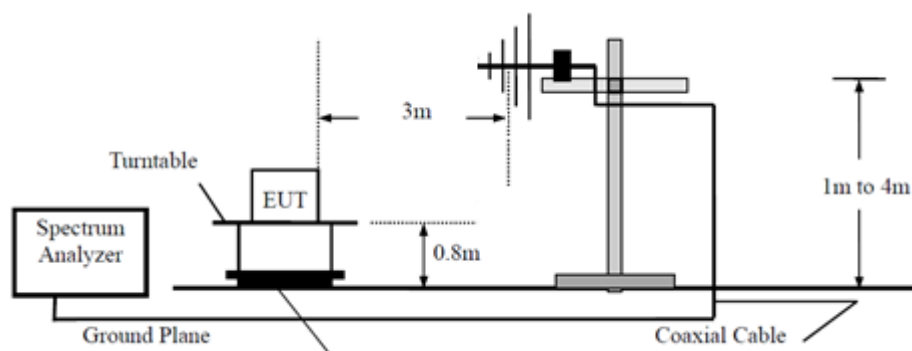
Eric LI  
EMC Senior Project Engineer

## 7 Test Setups

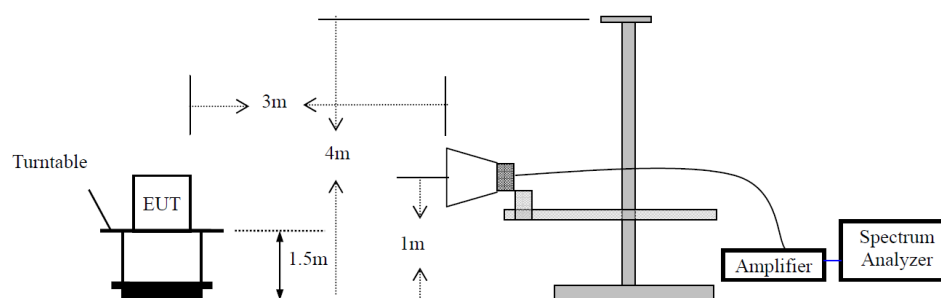
### 7.1 Radiated test setups 9kHz-30MHz



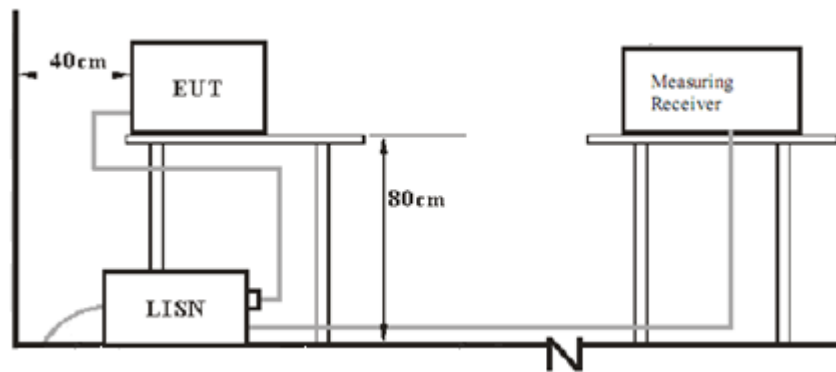
### 7.2 Radiated test setups Below 1GHz



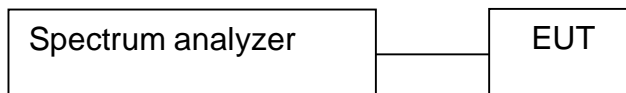
### 7.3 Radiated test setups Above 1GHz



## 7.4 AC Power Line Conducted Emission test setups



## 7.5 Conducted RF test setups



## 8 Emission Test Results

### 8.1 Spurious Radiated Emission

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode  
 (Worst case lies on 2480MHz channel)  
 Test Specification: FCC15.205, 15.209 & 15.247(d)  
 Comment: 120V AC  
 Remark: 9kHz to 1GHz

Test Result

☒ Passed☐ Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
122.742778	26.70	43.50	-16.80	Peak	H	-30.0
136.268889	26.45	43.50	-17.05	Peak	H	-31.0
263.985556	27.94	46.00	-18.06	Peak	H	-25.2
264.039444	29.69	46.00	-16.31	Peak	V	-25.2
312.000556	28.72	46.00	-17.28	Peak	V	-25.4
943.255000	35.76	46.00	-10.24	Peak	V	-15.3

Remark:

- As the measured peak value not exceeded the Quasi peak limit, Quasi peak value no need to be measured.

## Spurious Radiated Emission

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d)  
 Comment: 120V AC  
 Remark: 1GHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
1994.125000	31.46	54.00	-22.54	Peak	H	-9.3
2240.937500	30.99	54.00	-23.01	Peak	H	-7.2
4808.906250	38.00	54.00	-16.00	Peak	H	2.8
7599.843750	37.92	54.00	-16.08	Peak	H	5.8
15501.093750	46.12	54.00	-7.88	Peak	H	18.1
1992.812500	31.44	54.00	-22.56	Peak	V	-9.3
2136.687500	33.44	54.00	-20.56	Peak	V	-8.0
4810.781250	39.09	54.00	-14.91	Peak	V	2.8
9618.281250	41.56	54.00	-12.44	Peak	V	8.5
15247.031250	46.41	54.00	-7.59	Peak	V	18.0

Remark:

1.As the measured peak value not exceeded the average limit, average value no need to be measured.

## Spurious Radiated Emission

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2445MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d)  
 Comment: 120V AC  
 Remark: 1GHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
1771.562500	29.63	54.00	-24.37	Peak	H	-10.1
2052.750000	27.71	54.00	-26.29	Peak	H	-8.8
4889.062500	40.27	54.00	-13.73	Peak	H	2.9
9782.343750	40.69	54.00	-13.31	Peak	H	7.7
15810.000000	48.13	54.00	-5.87	Peak	H	18.2
1930.312500	32.26	54.00	-21.74	Peak	V	-9.4
1994.750000	32.84	54.00	-21.16	Peak	V	-9.3
4889.062500	40.51	54.00	-13.49	Peak	V	2.9
9782.343750	42.96	54.00	-11.04	Peak	V	7.7
15360.468750	47.83	54.00	-6.17	Peak	V	18.5

Remark:

1.As the measured peak value not exceeded the average limit, average value no need to be measured.

## Spurious Radiated Emission

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d)  
 Comment: 120V AC  
 Remark: 1GHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
1765.062500	27.14	54.00	-26.86	Peak	H	-10.1
2052.625000	27.56	54.00	-26.44	Peak	H	-8.8
4958.906250	37.64	54.00	-16.36	Peak	H	3.3
6345.000000	35.87	54.00	-18.13	Peak	H	4.0
9351.562500	40.36	54.00	-13.64	Peak	H	8.5
1854.812500	33.04	54.00	-20.96	Peak	V	-9.8
2071.812500	29.42	54.00	-24.58	Peak	V	-8.7
4960.781250	39.14	54.00	-14.86	Peak	V	3.3
7645.781250	38.42	54.00	-15.58	Peak	V	5.6
9922.031250	42.26	54.00	-11.74	Peak	V	8.2

Remark:

- 1.As the measured peak value not exceeded the average limit, average value no need to be measured.

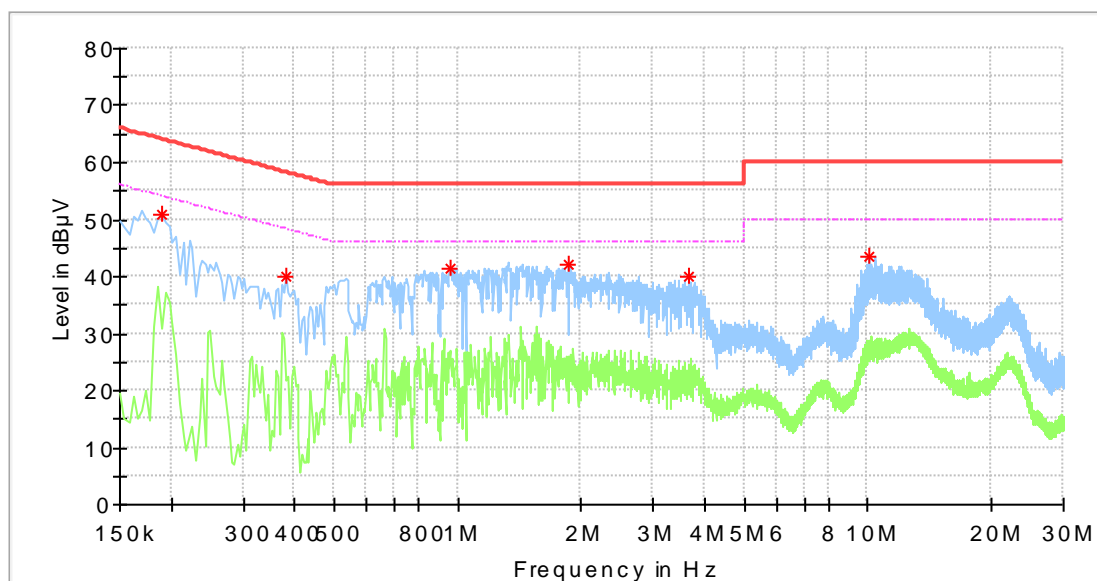
## 8.2 Conducted Emission at AC Power line

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode  
 Test Specification: FCC15.207  
 Comment: 120V AC  
 Remark: L Line

Test Result

☒ Passed

☐ Not Passed



Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Corr. (dB)
0.190000	50.72	---	64.04	-13.32	10.2
0.382000	39.97	---	58.24	-18.27	10.3
0.962000	41.30	---	56.00	-14.70	10.3
1.870000	41.94	---	56.00	-14.06	10.3
3.674000	40.17	---	56.00	-15.83	10.4
10.098000	43.39	---	60.00	-16.61	10.6



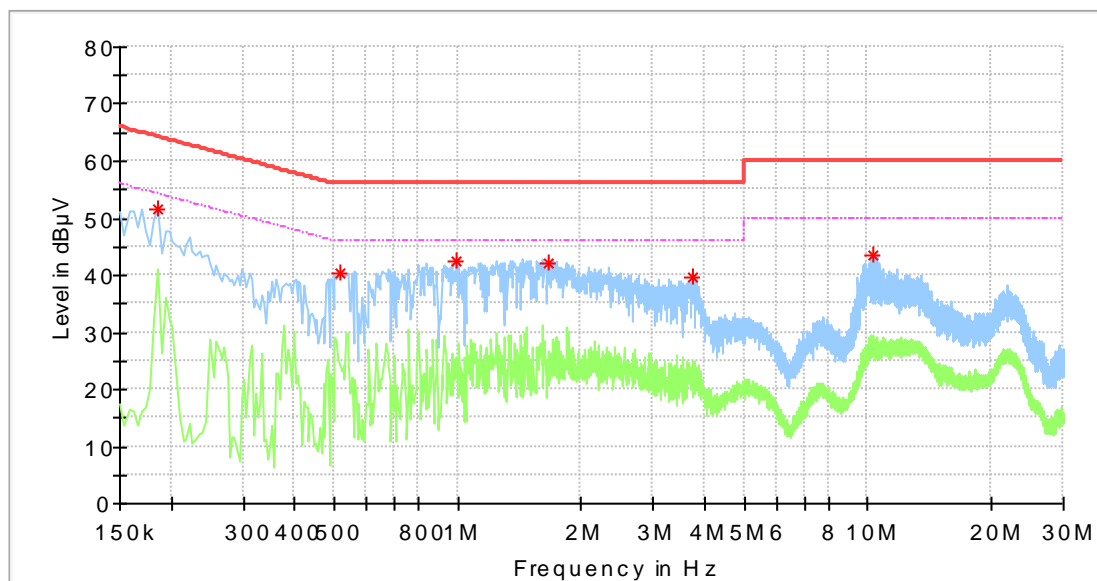
## Conducted Emission at AC Power line

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode  
 Test Specification: FCC15.207  
 Comment: 120V AC  
 Remark: N Line

Test Result

☒ Passed

☐ Not Passed

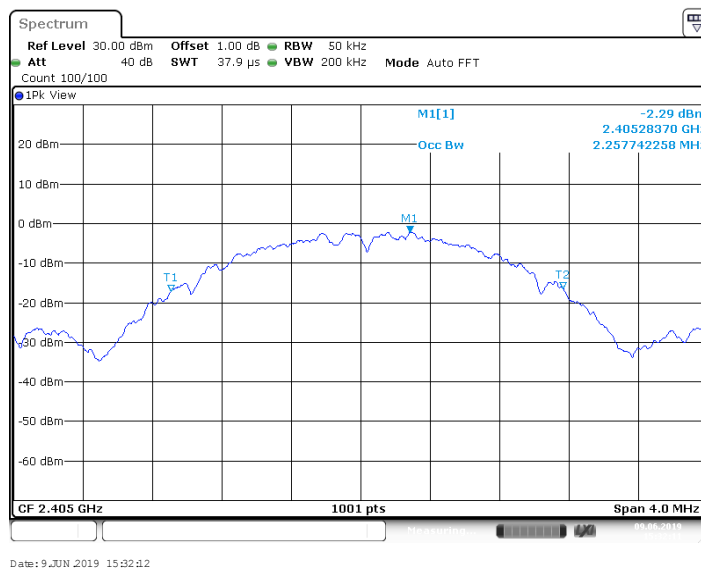
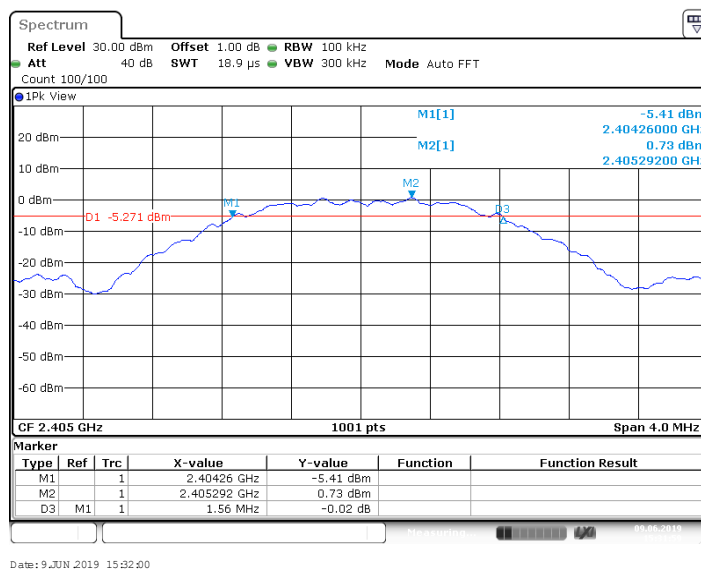


Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Corr. (dB)
0.186000	51.75	---	64.21	-12.47	10.2
0.518000	40.36	---	56.00	-15.64	10.3
0.994000	42.48	---	56.00	-13.52	10.3
1.662000	42.11	---	56.00	-13.89	10.3
3.746000	39.82	---	56.00	-16.18	10.4
10.254000	43.40	---	60.00	-16.60	10.7

### 8.3 6dB & 99% Bandwidth

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz)  
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth & 99% Bandwidth  
 Comment: 120V AC

Test Result

☒ Passed☐ Not Passed

Bandwidth	Measured Value	Limit
6dB bandwidth	1.560MHz	> 0.5MHz
99% OCB	2.258MHz	NA

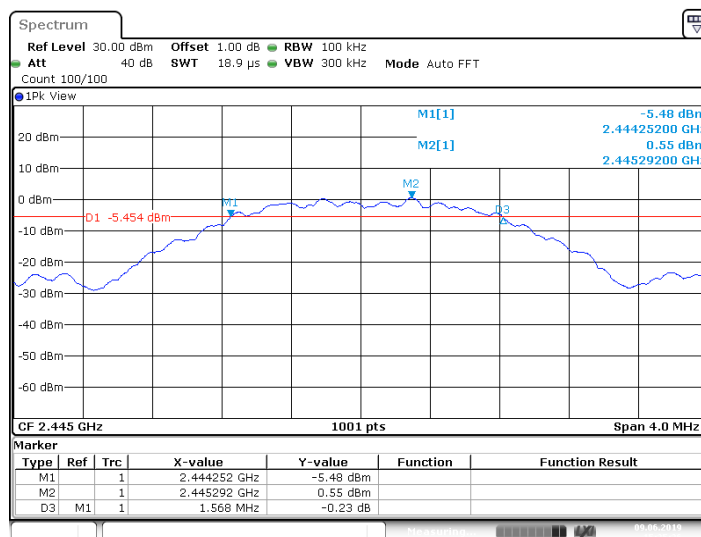
## 6dB & 99% Bandwidth

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2445MHz)  
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth & 99% Bandwidth  
 Comment: 120V AC

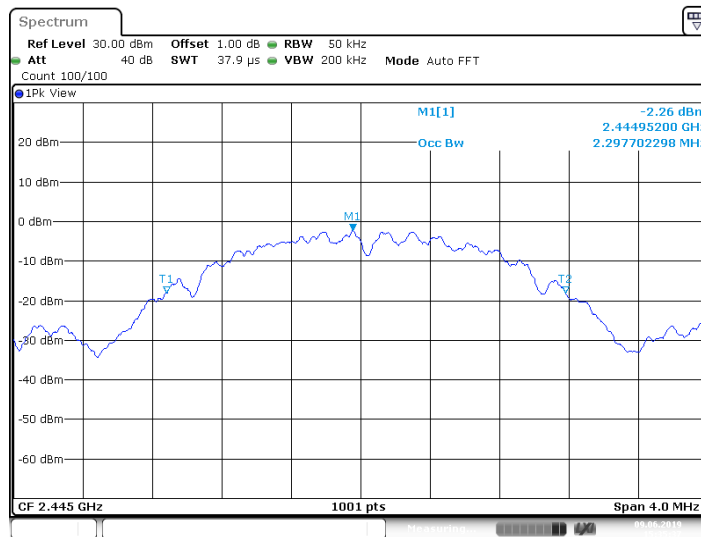
Test Result

☒ Passed

☐ Not Passed



Date: 9 JUN 2019 15:35:27



Date: 9 JUN 2019 15:35:38

Bandwidth	Measured Value	Limit
6dB bandwidth	1.568 MHz	> 0.5 MHz
99% OCB	2.298 MHz	NA

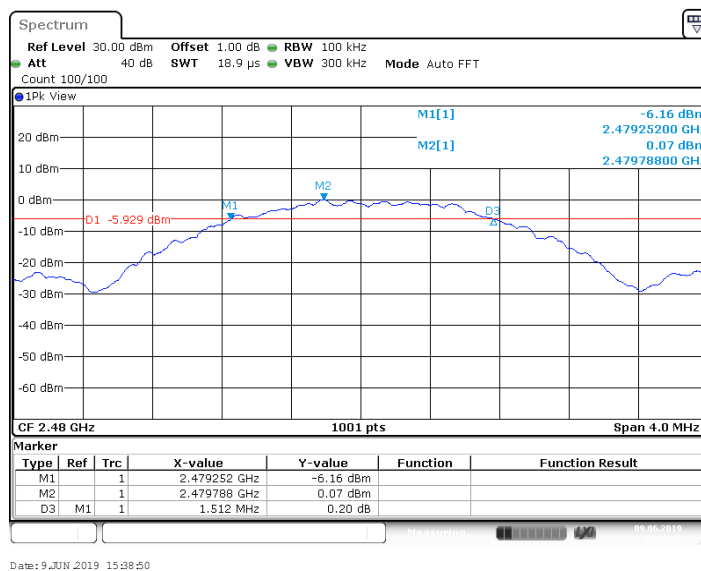
## 6dB & 99% Bandwidth

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth & 99% Bandwidth  
 Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed



Bandwidth	Measured Value	Limit
6dB bandwidth	1.512 MHz	> 0.5 MHz
99% OCB	2.330 MHz	NA

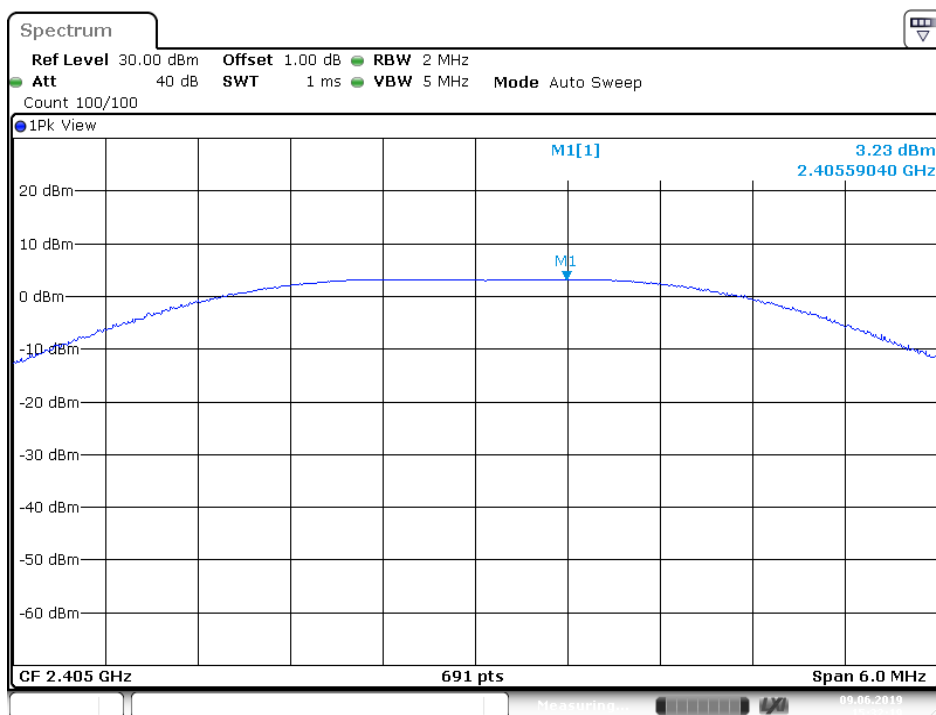
## 8.4 Peak Output Power

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz)  
 Test Specification: FCC15.247(b)  
 Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed

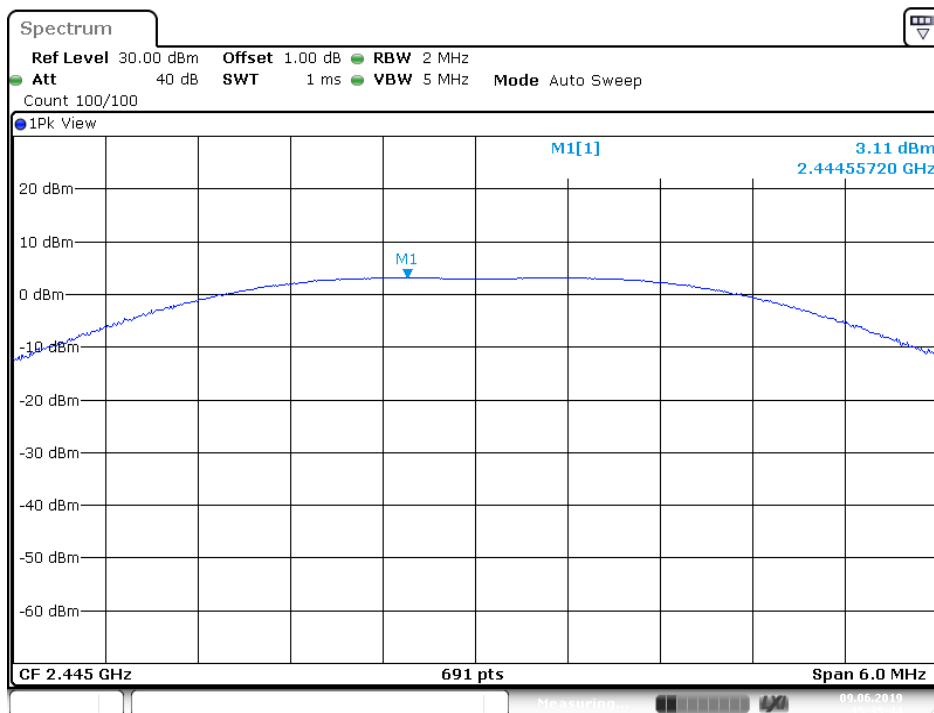


Conducted Output Power	Limit
3.23 dBm	< 30dBm

## Peak Output Power

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2445MHz)  
 Test Specification: FCC15.247(b)  
 Comment: 120V AC

Test Result  
☒ Passed  
☐ Not Passed



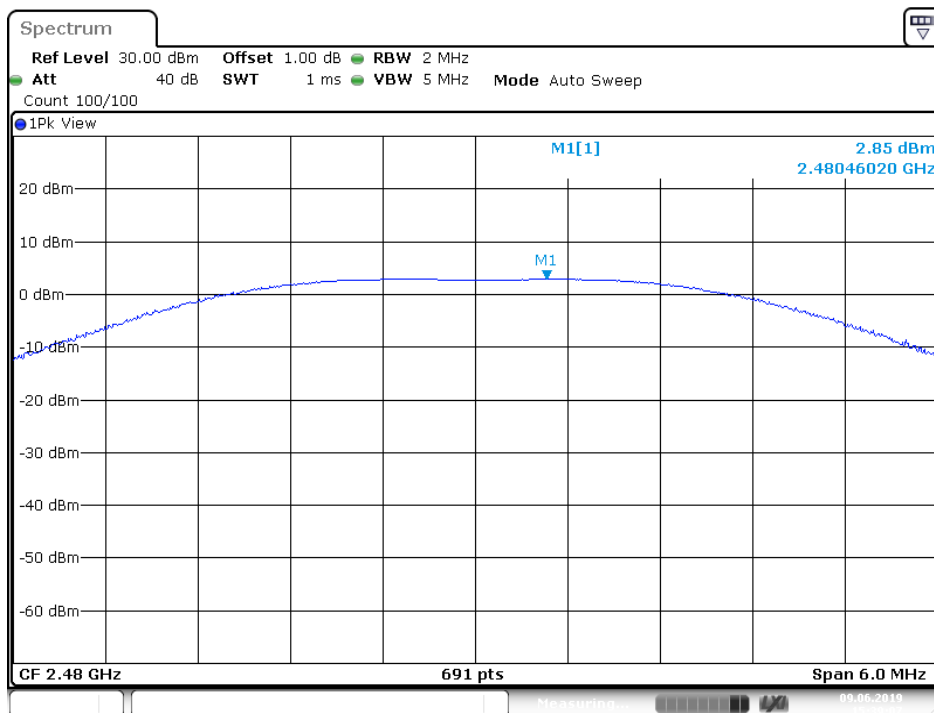
Date: 9 JUN 2019 15:35:45

Conducted Output Power	Limit
3.11 dBm	< 30dBm

**Peak Output Power**

EUT: CX FLEX SINGLE-POWER+  
Op Condition: Operated, TX Mode (2480MHz)  
Test Specification: FCC15.247(b)  
Comment: 120V AC

Test Result  
☒ Passed  
☐ Not Passed



Date: 9 JUN 2019 15:39:08

Conducted Output Power	Limit
2.85 dBm	< 30dBm

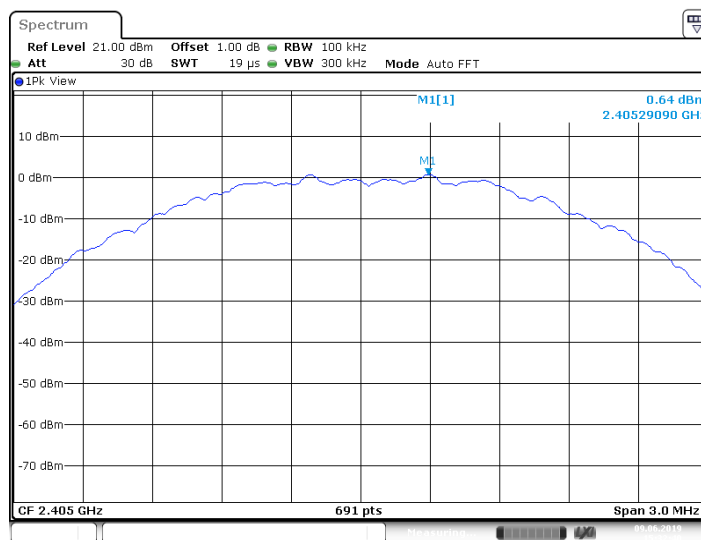
## 8.5 Spurious Emissions at Antenna Terminals

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz)  
 Test Specification: FCC2.1051 & 15.247(d)  
 Comment: 120V AC

Test Result

☒ Passed☐ Not Passed

Channel	FreqRange	RefLevel	Result	Limit	Verdict
2405	Reference	0.64	0.64	---	PASS
2405	30~1000	0.64	-64.33	$\leq -19.36$	PASS
2405	1000~26500	0.64	-52.66	$\leq -19.36$	PASS



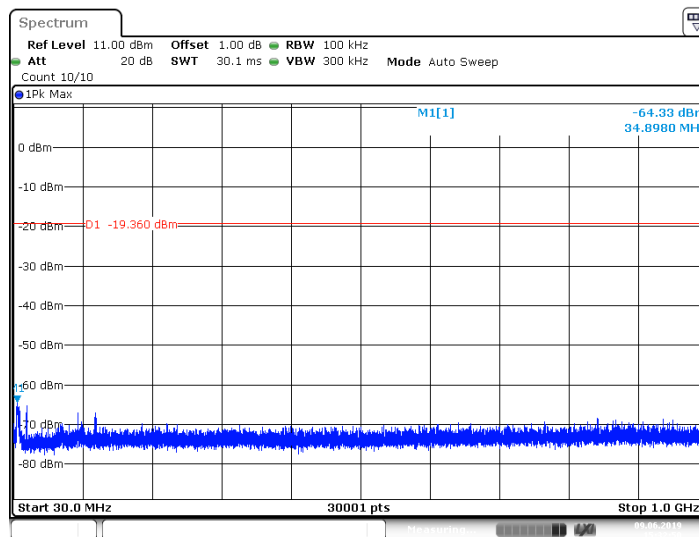
Date: 9 JUN 2019 15:32:41



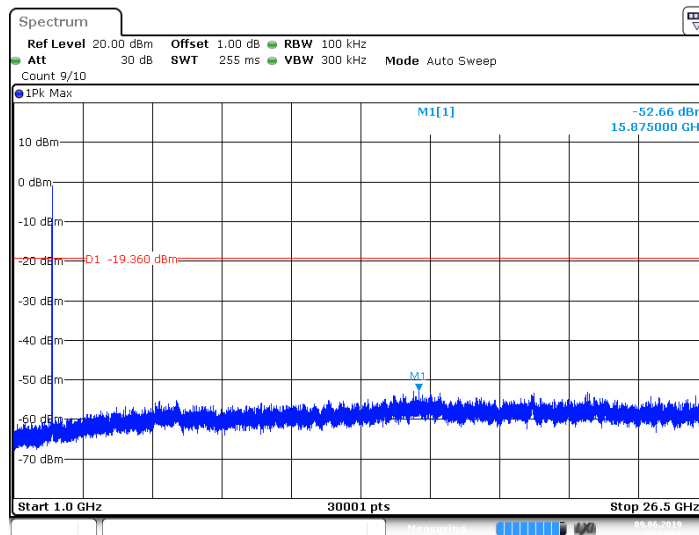
**Spurious Emissions at Antenna Terminals**

EUT: CX FLEX SINGLE-POWER+  
Op Condition: Operated, TX Mode (2405MHz)  
Test Specification: FCC2.1051 & 15.247(d)  
Comment: 120V AC

Test Result

☒ Passed☐ Not Passed

Date: 9 JUN 2019 15:32:50



Date: 9 JUN 2019 15:33:02

## Spurious Emissions at Antenna Terminals

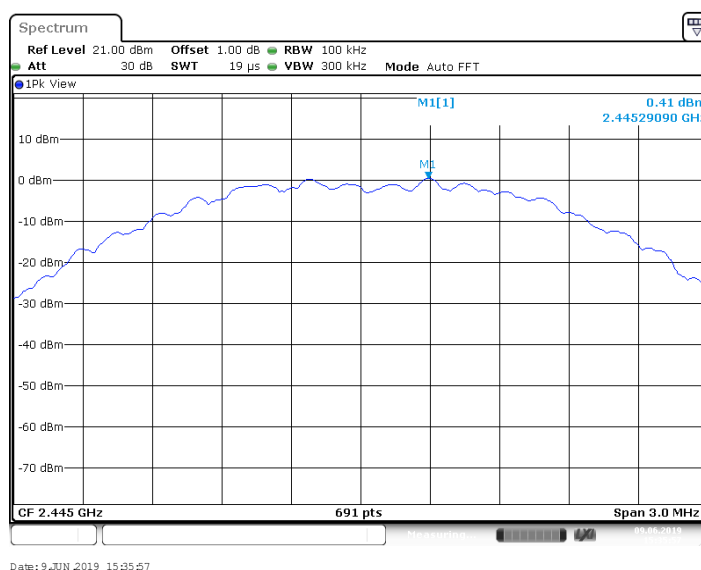
EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2445MHz)  
 Test Specification: FCC2.1051 & 15.247(d)  
 Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed

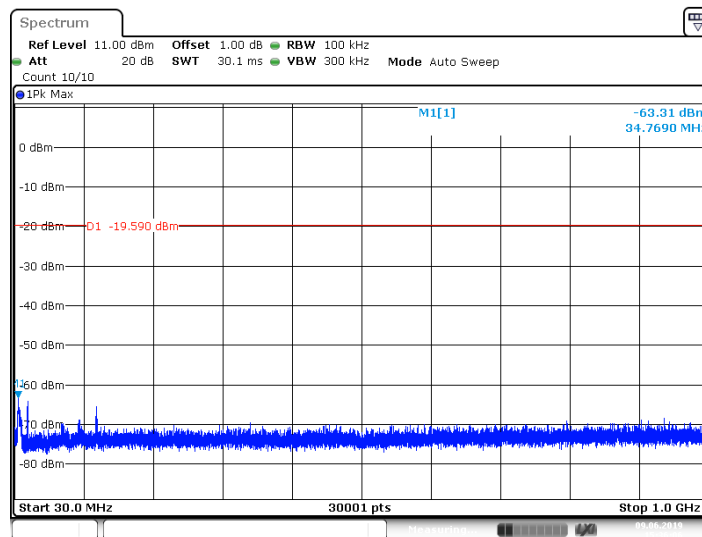
Channel	FreqRange	RefLevel	Result	Limit	Verdict
2445	Reference	0.41	0.41	---	PASS
2445	30~1000	0.41	-63.31	<=-19.59	PASS
2445	1000~26500	0.41	-52.85	<=-19.59	PASS



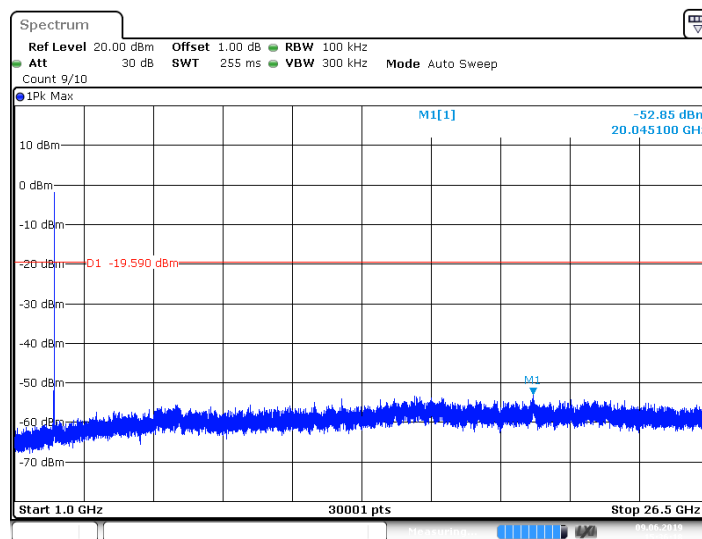
## Spurious Emissions at Antenna Terminals

EUT: CX FLEX SINGLE-POWER+  
Op Condition: Operated, TX Mode (2445MHz)  
Test Specification: FCC2.1051 & 15.247(d)  
Comment: 120V AC

Test Result

☒ Passed☐ Not Passed

Date: 9 JUN 2019 15:36:07



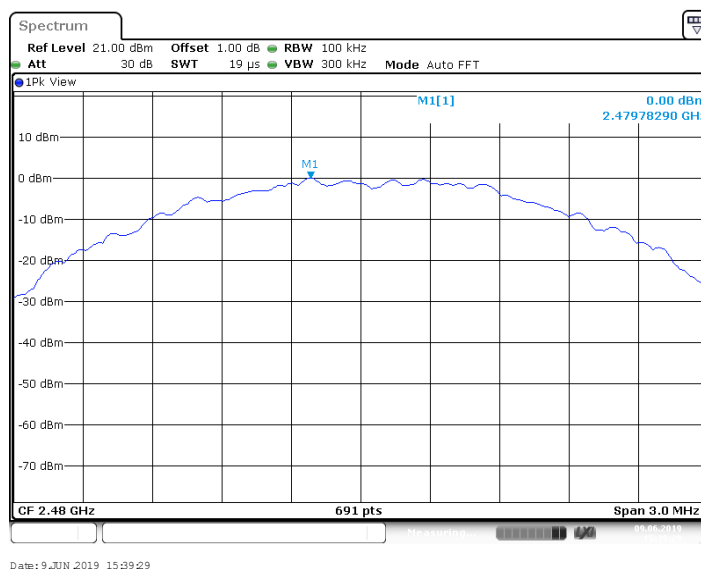
Date: 9 JUN 2019 15:36:18

## Spurious Emissions at Antenna Terminals

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC2.1051 & 15.247(d)  
 Comment: 120V AC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

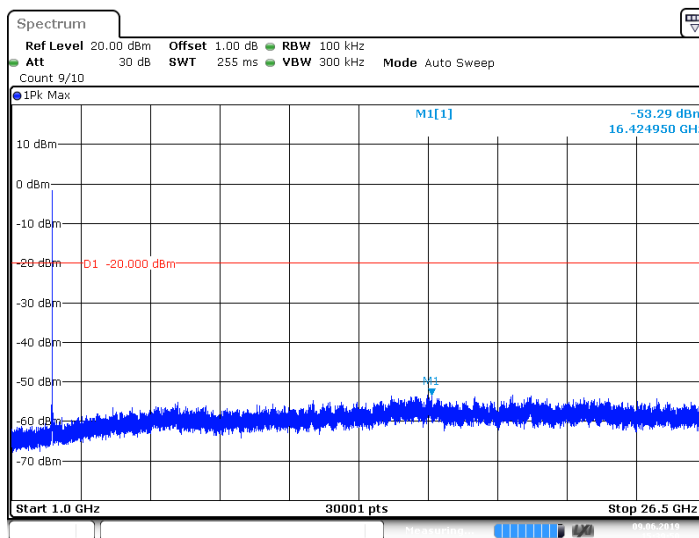
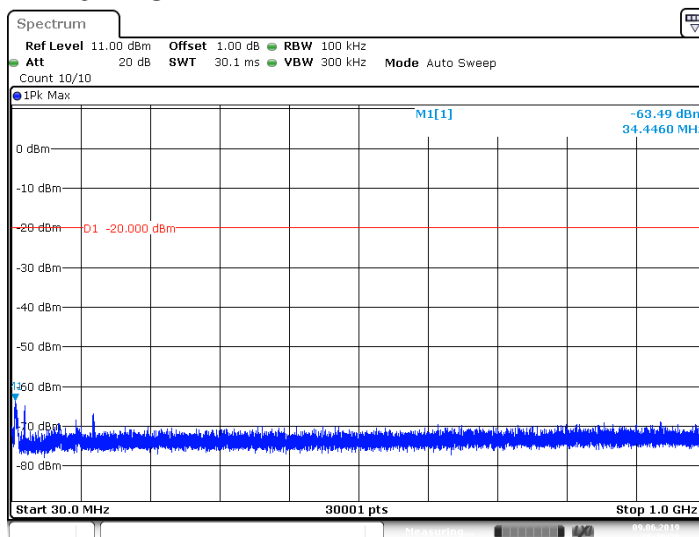
Channel	FreqRange	RefLevel	Result	Limit	Verdict
2480	Reference	0.00	0.00	---	PASS
2480	30~1000	0.00	-63.49	<=-20	PASS
2480	1000~26500	0.00	-53.29	<=-20	PASS



**Spurious Emissions at Antenna Terminals**

EUT: CX FLEX SINGLE-POWER+  
Op Condition: Operated, TX Mode (2480MHz)  
Test Specification: FCC2.1051 & 15.247(d)  
Comment: 120V AC

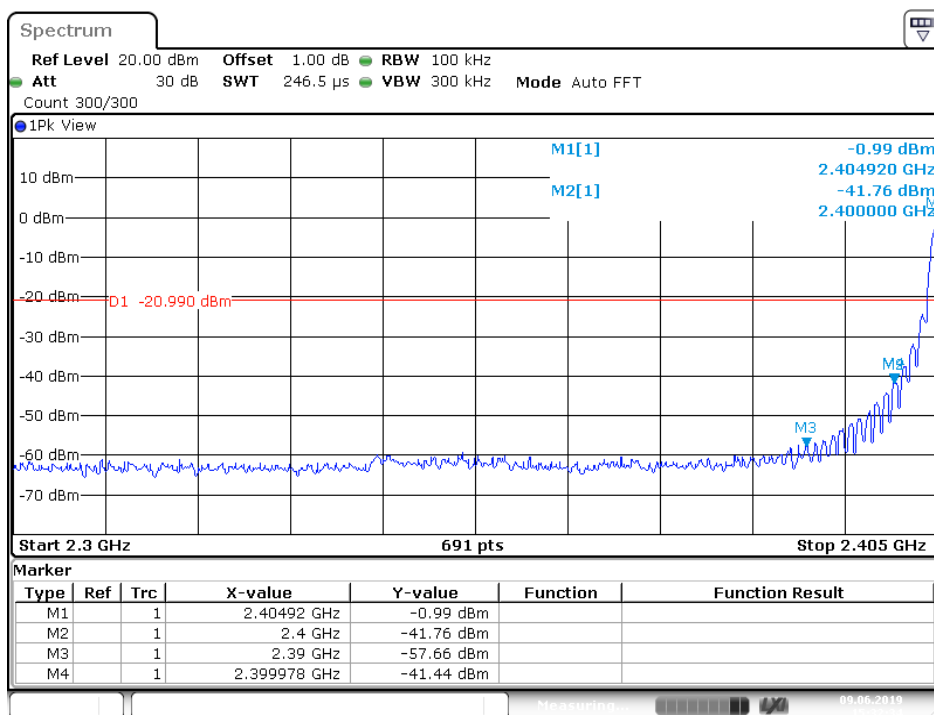
Test Result

☒ Passed☐ Not Passed

## 8.6 100kHz Bandwidth of band edges

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz)  
 Test Specification: FCC15.247(d), Conducted method  
 Comment: 120V AC

Test Result

☒ Passed☐ Not Passed

Date: 9 JUN 2019 15:32:34

Band edges	Limit
40.77 dB	> 20dB

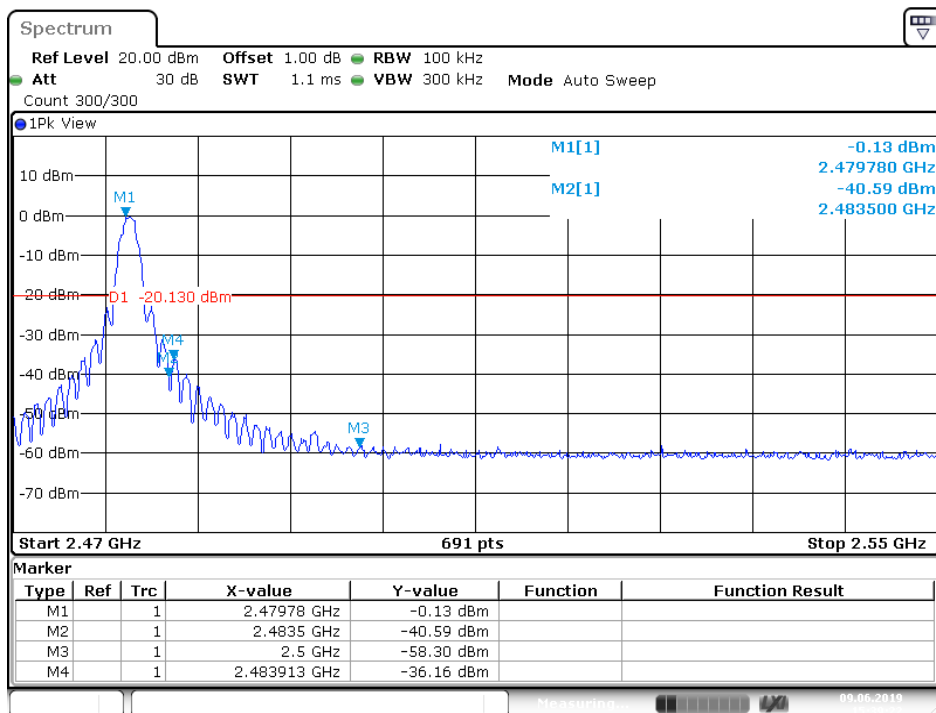
## 100kHz Bandwidth of band edges

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(d), Conducted method  
 Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed



Date: 9 JUN 2019 15:39:23

Band edges	Limit
40.46 dB	> 20dB

**100kHz Bandwidth of band edges**

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz & 2480MHz)  
 Test Specification: FCC15.247(d), Radiated method  
 Comment: 120V AC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Channel	Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector PK /AV	Ant. Polarity H/V	Corr. (dB)
2405	2400.00	44.14	74.00	-29.86	Peak	H	-5.5
2405	2400.00	37.25	54.00	-16.75	Average	H	-5.5
2405	2400.00	45.58	74.00	-28.42	Peak	V	-5.5
2405	2400.00	35.63	54.00	-18.37	Average	V	-5.5
2480	2483.50	45.98	74.00	-28.02	Peak	H	-4.8
2480	2483.50	34.15	54.00	-19.85	Average	H	-4.8
2480	2483.50	47.23	74.00	-26.77	Peak	V	-4.8
2480	2483.50	34.13	54.00	-19.87	Average	V	-4.8



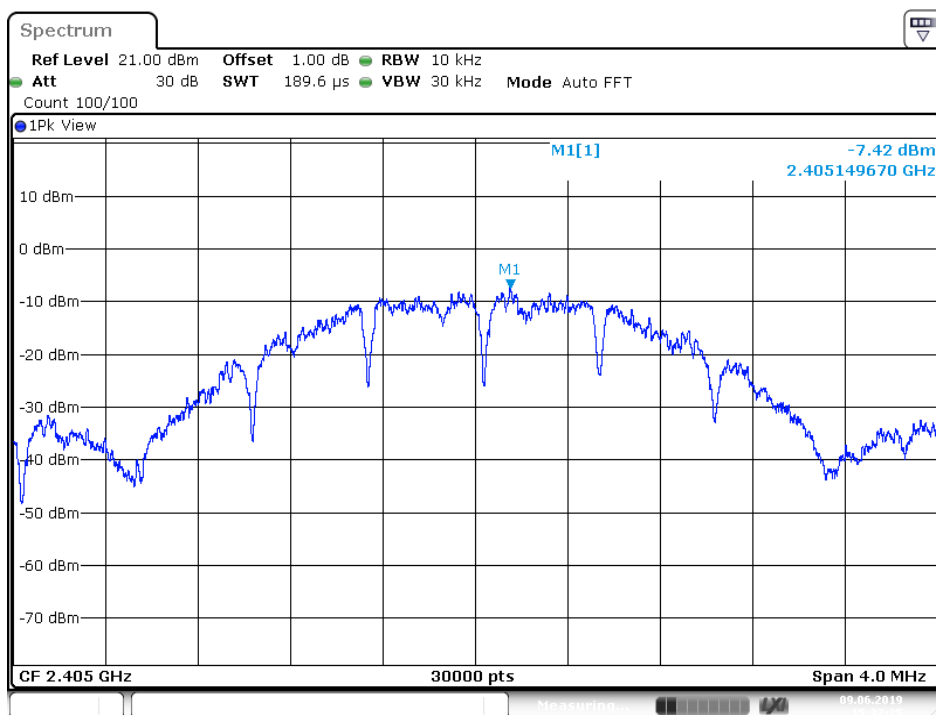
## 8.7 Power Spectral Density

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2405MHz)  
 Test Specification: FCC15.247(e)  
 Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed



Date: 9 JUN 2019 15:32:25

PSD	Limit
-7.42 dBm	< 8 dBm

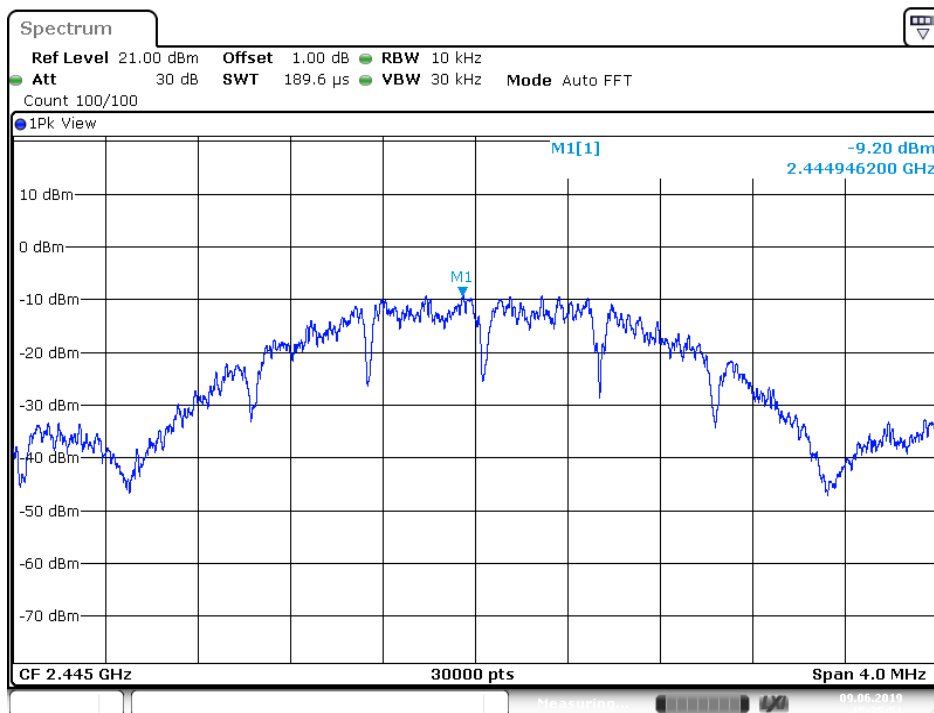
## Power Spectral Density

EUT: CX FLEX SINGLE-POWER+  
 Op Condition: Operated, TX Mode (2445MHz)  
 Test Specification: FCC15.247(e)  
 Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed



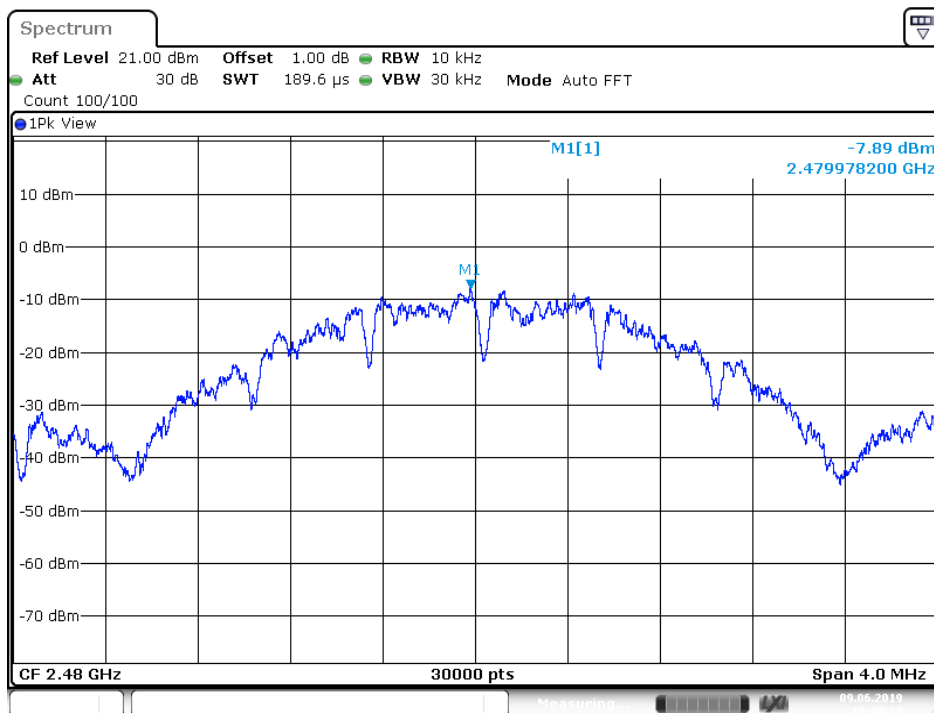
Date: 9 JUN 2019 15:35:51

PSD	Limit
-9.20 dBm	< 8 dBm

**Power Spectral Density**

EUT: CX FLEX SINGLE-POWER+  
Op Condition: Operated, TX Mode (2480MHz)  
Test Specification: FCC15.247(e)  
Comment: 120V AC

Test Result

☒ Passed☐ Not Passed

Date: 9 JUN 2019 15:39:14

PSD	Limit
-7.89 dBm	< 8 dBm

## 8.8 Antenna Requirement

EUT: CX FLEX SINGLE-POWER+  
Op Condition: Operated, TX Mode  
Test Specification: FCC15.203 & 15.247(b)  
Comment: 120V AC

Test Result

☒ Passed

☐ Not Passed

### Limit

For intentional device, according to FCC Title 47 Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC Title 47 Part 15.247(b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Antenna Connector Construction

The antenna used in this product is integrated antenna on PCB, and the maximum gain of this antenna is -1.0 dBi.

## 9 Appendix A - General Product Information

### Radiofrequency radiation exposure evaluation

This exposure evaluation is intended for **FCC ID: 2AA2X-15000204**.

According to KDB 447498 D01v06 section 4.3.1, For frequencies between 100 MHz to 6GHz and test separation distances  $\leq 50$  mm, the Numeric threshold is determined as:

Step a)

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR

>> The fundamental frequency of the EUT is 2405-2480MHz,  
the test separation distance is  $\leq 50$ mm.  
(Manufacturer specified the separation distance is: 20mm)

Step a)

>> Numeric threshold (2405MHz),  $\text{mW} / 20\text{mm} \cdot \sqrt{2.402\text{GHz}} \leq 3.0$   
Numeric threshold (2405MHz)  $\leq 38.713\text{mW}$

>> Numeric threshold (2445MHz),  $\text{mW} / 20\text{mm} \cdot \sqrt{2.440\text{GHz}} \leq 3.0$   
Numeric threshold (2445MHz)  $\leq 38.411\text{mW}$

>> Numeric threshold (2480MHz),  $\text{mW} / 20\text{mm} \cdot \sqrt{2.480\text{GHz}} \leq 3.0$   
Numeric threshold (2480MHz)  $\leq 38.100\text{mW}$

>> The power of EUT measured (2405MHz) is:  $3.23\text{dBm} = 2.104\text{mW}$   
The power of EUT measured (2445MHz) is:  $3.11\text{dBm} = 2.046\text{mW}$   
The power of EUT measured (2480MHz) is:  $2.85\text{dBm} = 1.928\text{mW}$

Which is smaller than the Numeric threshold.

Therefore, the device is exempt from stand-alone SAR test requirements.