

March 16, 2026

HID Global Corporation (US)
611 Center Ridge Drive
Austin, TX 78753
USA

Dear Erik Ray,

Enclosed is the EMC test report for compliance testing of HID Global Corporation (US), Color Card Printer, DTC1250e, tested to the requirements of:

- Title 47 of the CFR, Part 15.225, Subpart C for Certification as an Intentional Radiator.
- RSS-210: Issue 11, License-Exempt Radio Apparatus: Category 1 Equipment

Thank you for using the services of Eurofins E&E North America. If you have any questions regarding these results or if we can be of further service to you, please feel free to contact me.

Sincerely,



Nancy LaBrecque
Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: WIRA139163-FCC-IC-HF Rev 2

Certificates and reports shall not be reproduced except in full, without the written permission of Eurofins E&E North America. While use of the A2LA logo in this report reflects Eurofins accreditation under these programs, the report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the Federal Government. This letter of transmittal is not a part of the attached report.

Eurofins MET Laboratories Inc. (Eurofins E&E North America) is part of the Eurofins Electrical & Electronics (E&E) global compliance network.



**13.56MHz RFID
Test Report**

for the

**HID Global Corporation (US)
Color Card Printer, DTC1250e (Model: DTC1250e)**

Tested under
the FCC Certification Rules
contained in
15.225 Subpart C and
RSS-210: Issue 11
for Intentional Radiators



Bryan Taylor, Wireless Team Lead
Electromagnetic Compatibility Lab



Nancy LaBrecque
Documentation Department

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.



Matthew Hinojosa
EMC Manager, Austin Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	November 12, 2025	Initial Issue.
1	January 30, 2026	Customer Requested Changes.
2	March 16, 2026	TCB Reviewer Comments

Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the HID Global Corporation (US) Color Card Printer, DTC1250e, with the requirements of Part 15, §15.225 and RSS-210 Issue 11, Annex B, B.6. All references are to the most current version of Title 47 of the Code of Federal Regulations and RSS-210 in effect. The following data is presented in support of the Certification of the Color Card Printer, DTC1250e. HID Global Corporation (US) should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the Color Card Printer, DTC1250e, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, §15.225 and RSS-210, in accordance with HID Global Corporation (US), under purchase order number HID028121. All tests were conducted using measurement procedures ANSI C63.4-2014 and C63.10-2013.

FCC Reference	ISED Reference	Description	Compliance
Part 15 §15.203	---	Antenna Requirement	Compliant
Part 15 §15.207(a)	RSS-Gen (8.8)	Conducted Emission Limits	Compliant
Part 15 §15.215	---	20dB Occupied Bandwidth	Compliant
---	RSS-Gen (6.7)	99% Occupied Bandwidth	Compliant
Part 15 §15.225(a)	RSS-210 (B.6.a.i)	Field Strength emissions within the band 13.553 – 13.567 MHz	Compliant
Part 15 §15.225(b)	RSS-210 (B.6.a.ii)	Field Strength emissions within the band 13.410 – 13.553 MHz and 13.567 – 13.710 MHz	Compliant
Part 15 §15.225(c)	RSS-210 (B.6.a.iii)	Field Strength emissions within the band 13.110 – 13.410 MHz and 13.710 – 14.010 MHz	Compliant
Part 15 §15.225(d)	RSS-210 (B.6.a.iv)	Outside-Band Field Strength emissions per 15.209 - 13.110 – 14.010 MHz	Compliant
Part 15 §15.225(e)	RSS-210 (B.6.b)	Frequency Tolerance of the Carrier	Compliant

Table 1. Executive Summary

Equipment Configuration

A. Overview

Eurofins E&E North America was contracted by HID Global Corporation (US) to perform testing on the Color Card Printer, DTC1250e.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the HID Global Corporation (US) Color Card Printer, DTC1250e.

The results obtained relate only to the item(s) tested.

Product Name:	Color Card Printer, DTC1250e	
Model(s) Tested:	DTC1250e	
Model(s) Covered:	DTC1250e	
Test Sample Number:	25940-30, 25940-31, 25940-32	
EUT Specifications:	Primary Power: 24VDC via AC / DC Power Adapter	
	Type of Modulation(s):	ASK
	Equipment Code:	DXX
	Maximum Fundamental Field Strength:	65.37dBuV/m
	Antenna Type:	loop
	EUT Frequency Ranges:	13.56MHz
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35° C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Bryan Taylor	
Sample Receive Date:	10/09/2025	
Test Start Date:	10/20/2025	
Report Date:	March 16, 2026	

Table 2. EUT Summary Table

B. References

CFR 47, Part 15, Subpart C	Federal Communication Commission, Code of Federal Regulations, Title 47, Part 15: General Rules and Regulations, Allocation, Assignment, and Use of Radio Frequencies
RSS-210 Issue 11	Licence-Exempt Radio Apparatus: Category I Equipment
ANSI C63.4:2017	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2017	General Requirements for the Competence of Testing and Calibration Laboratories
ANSI C63.10-2020	American National Standard for Testing Unlicensed Wireless Devices

Table 3. References

C. Test Site

Eurofins MET Laboratories Inc. (Eurofins E&E North America) is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

All testing was performed at Eurofins E&E North America, 13501 McCallen Pass, Austin, TX 78753. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

ISED Lab Info:

CAB Identifier: US0004

Company Number: 2043D

FCC Lab Info:

Designation Number: US1127

Radiated Emissions measurements were performed in a 10 meter semi-anechoic chamber (equivalent to an Open Area Test Site). In accordance with §2.948(a)(3), a complete site description is contained at MET Laboratories.

Correlation between semi-anechoic chamber and OATS:

Two calibrated Loop antennas were used on an OATS. One antenna was driven by a signal generator with a known power. The receive antenna was initially placed 1m away from the transmit antenna. The two antennas were placed parallel to each other. The receive antenna was in turn connected to a calibrated spectrum analyzer. The emissions were swept from 9 kHz to 30 MHz. The receive antenna was then rotated 90 degrees and measurements re-taken. Additional measurements were taken when the receive antenna was placed at 3meters.

This same setup was taken to inside the semi-anechoic chamber and the measurements repeated.

The data was used to correlate the semi-anechoic chamber and OATS.

D. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.97 dB	2	95%
RF Power Radiated Emissions	±2.95 dB	2	95%
Radiated Emissions, (30 MHz – 1 GHz)	±2.95	2	95%
Radiated Emissions, (1 GHz – 18 GHz)	±3.54	2	95%
Conducted Emission Voltage	±2.97	2	95%

Table 4. Uncertainty Calculations Summary

E. Description of Test Sample

The Color Card Printer, DTC1250e is a modular, direct-to-card printer system designed to print and encode ID cards. Three systems were tested to cover all optional modules as follows:

Configuration 0 (base model without OMNIKEY):

Input Hopper, Printer, Flipper, Mag Encoder, Contact Encoder, Ribbon RFID

Configuration 1 (SN C5110609):

Input Hopper, Printer, Flipper, Mag Encoder, Contact Encoder, Ribbon RFID, OMNIKEY 5122

Configuration 2 (SN C5110630):

Input Hopper, Printer, Flipper, Mag Encoder, Contact Encoder, Ribbon RFID, OMNIKEY 5127SI

Configuration 3 (SN C5110623):

Input Hopper, Printer, Flipper, Mag Encoder, Contact Encoder, Ribbon RFID, OMNIKEY 5127CK MINI

Each of the three configurations above are identical with the exception of the OMNIKEY encoder installed into each. Each version includes an identical “ribbon” radio operating at 13.56MHz. The table below indicates the radios onboard each OMNIKEY encoder option.

Test Configuration	Model Number	OMNIKEY Encoder Installed	Transmitters Onboard
Configuration 0	DTC1250e	None	Ribbon (13.56MHz)
Configuration 1	DTC1250e-1	OMNIKEY 5122	Ribbon (13.56MHz) OMNIKEY 5122 (13.56MHz)
Configuration 2	DTC1250e-2	OMNIKEY 5127SI	Ribbon (13.56MHz) OMNIKEY 5127SI (125kHz, 13.56MHz)
Configuration 3	DTC1250e-3	OMNIKEY 5127CK MINI	Ribbon (13.56MHz) OMNIKEY 5127CK MINI (125kHz, 13.56MHz) BLE (See Note)

Note that the BLE radio onboard the OMNIKEY 5127 CK MINI encoder is not used and is disabled within the DTC1250e.

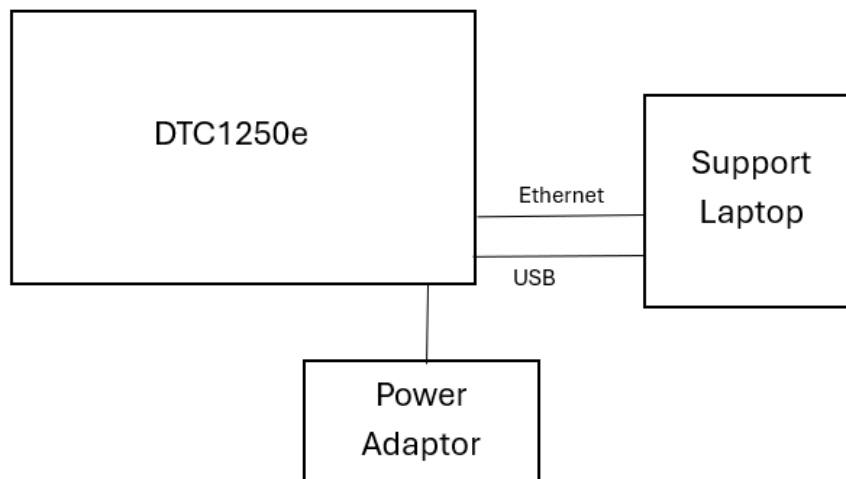


Figure 1. Block Diagram of Test Configuration

F. Equipment Configuration

The individual radios onboard were controlled by software on the support laptop. The software did not allow for adjusting of output power since that is at a fixed non-adjustable level.

G. Support Equipment

Support equipment necessary for the operation and testing of the EUT is included in the following list.

Ref. ID	Name/Description	Manufacturer	Model Number	Customer Supplied Calibration Data
	Laptop Computer	Dell	Latitude	N/A

Table 5. Support Equipment

Ports and Cabling Information

Ref. Id	Port Name on EUT	Cable Description or reason for no cable	Qty	Length as tested (m)	Max Length (m)	Shielded? (Y/N)	Termination Box ID & Port Name
	USB	USB-A to USB- C Cable	1	2	2	Yes	Laptop
	Ethernet	Unshielded Network Cable	1	3	>3m	No	Laptop
	Power	DC Power Cable	1	2	2	No	AC outlet

Table 6. Ports and Cabling Information

H. Mode of Operation

The individual radios onboard were controlled by software on the support laptop. The software tools used were proprietary and provided by HID Global Corporation (US) for the sole purpose of controlling the radios during testing. The software did not allow for adjusting of output power since that is at a fixed non-adjustable level. The test tools used are as follows:

- Utility Commander – hdpX Agency edition v2.3
- SC Reader Radio Control Tool v4

I. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

J. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to HID Global Corporation (US) upon completion of testing.

Antenna Requirements

§ 15.203 Antenna Requirement

Test Requirement:

§ 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

The structure and application of the EUT were analyzed to determine compliance with Section 15.203 of the Rules. Section 15.203 states that the subject device must meet at least one of the following criteria:

- a.) Antenna must be permanently attached to the unit.
- b.) Antenna must use a unique type of connector to attach to the EUT.
- c.) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

Results:

The Color Card Printer, DTC1250e as evaluated, was compliant as the antennas were permanently attached.

Test Engineer(s):

Bryan Taylor

Test Date(s):

10/20/2025

Conducted Emissions

§ 15.207(a) Conducted Emissions Limits

Test Requirement(s): § 15.207 (a): For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency range (MHz)	§ 15.207(a), Conducted Limit (dB μ V)	
	Quasi-Peak	Average
* 0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

Table 7. Conducted Limits for Intentional Radiators from FCC Part 15 § 15.207(a)

Note: *Decreases with the logarithm of the frequency.

RSS-GEN (8.8) AC Power-Line Conducted Emissions Limits

Test Requirement(s): **RSS-GEN (8.8):** Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in the below figure, as measured using a 50 μ H / 50 Ω line impedance stabilization network (LISN). This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.

For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in the below figure shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

Frequency (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
* 0.15-0.5	66 to 56	56 to 46 ¹
0.5-5	56	46
5-30	60	50

Table 8. AC Power Line Conducted Emissions Limits

Note: *Decreases with the logarithm of the frequency.

Test Procedure: The EUT was placed on a 0.8 m-high non-conducting table above a ground plane. The EUT was situated such that the back of the EUT was 0.4 m from one wall of the vertical ground plane, and the remaining sides of the EUT were no closer than 0.8 m from any other conductive surface. The EUT was powered from a 50 Ω /50 μ H Line Impedance Stabilization Network (LISN). The EMC receiver scanned the frequency range from 150 kHz to 30 MHz. Conducted Emissions measurements were made in accordance with *ANSI C63.10-2013 "Procedures for Compliance Testing of Unlicensed Wireless Devices"*. The measurements were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 Ω /50 μ H LISN as the input transducer to an EMI receiver.

Test Results: The Color Card Printer, DTC1250e was compliant with this requirement. Testing was performed on the AC input to an AC to DC power supply that was feeding the 12VDC to the Color Card Printer, DTC1250e.

Test Engineer(s): An Dang

Test Date(s): 10/20/2025

Conducted Emissions Voltage Test Setup

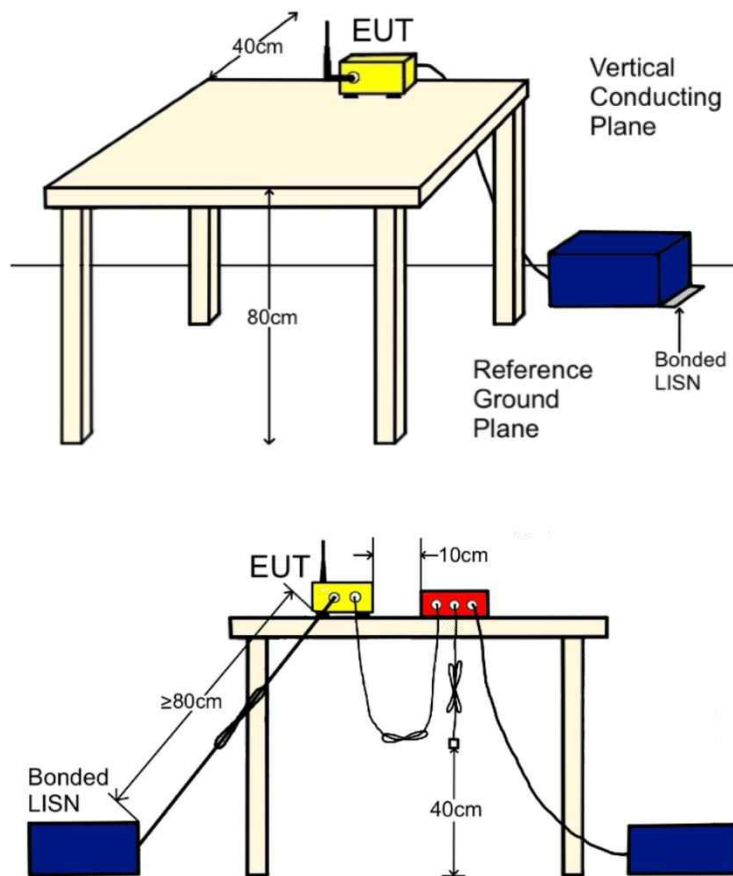
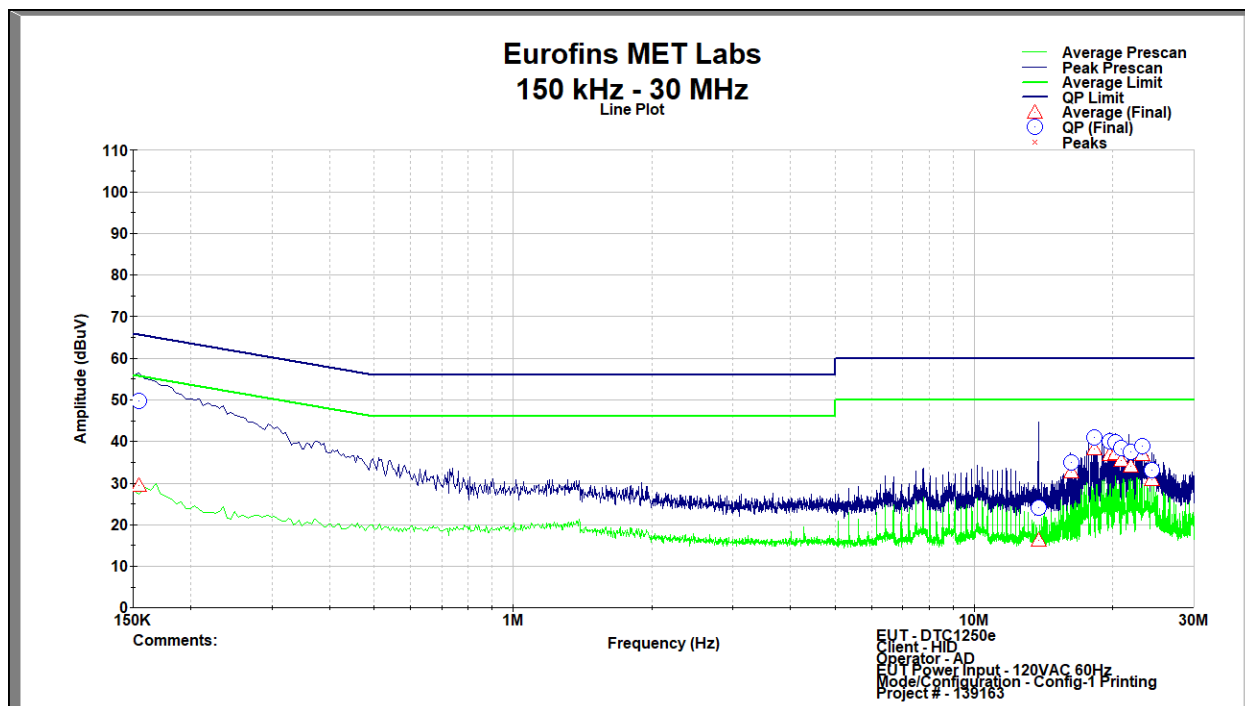


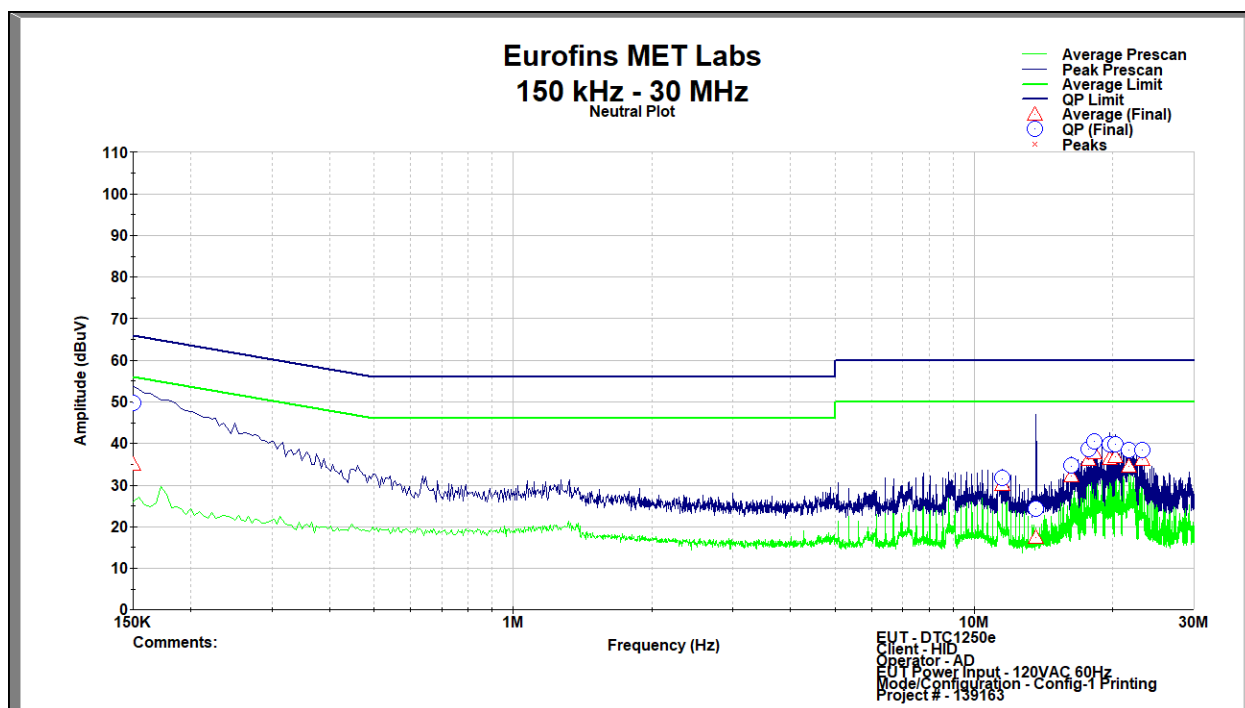
Figure 2. CEV Test Setup



Conducted Emissions, 15.207(a), Phase (Configuration 1)

Frequency (MHz)	Quasi-Peak (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Margin (dB)	Average (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)
0.154	49.743	65.871	16.128	29.35	55.871	26.521
13.777	24.071	60	35.929	16.259	50	33.741
16.227	34.986	60	25.014	32.604	50	17.396
18.244	40.937	60	19.063	38.26	50	11.74
19.712	40.013	60	19.987	36.863	50	13.137
20.261	39.774	60	20.226	36.924	50	13.076
20.809	38.314	60	21.686	35.326	50	14.674
21.909	37.594	60	22.406	34.094	50	15.906
23.128	38.906	60	21.094	36.753	50	13.247
24.349	33.009	60	26.991	30.754	50	19.246

Table 9. Conducted Emissions, 15.207(a), Phase, Test Results (Configuration 1)

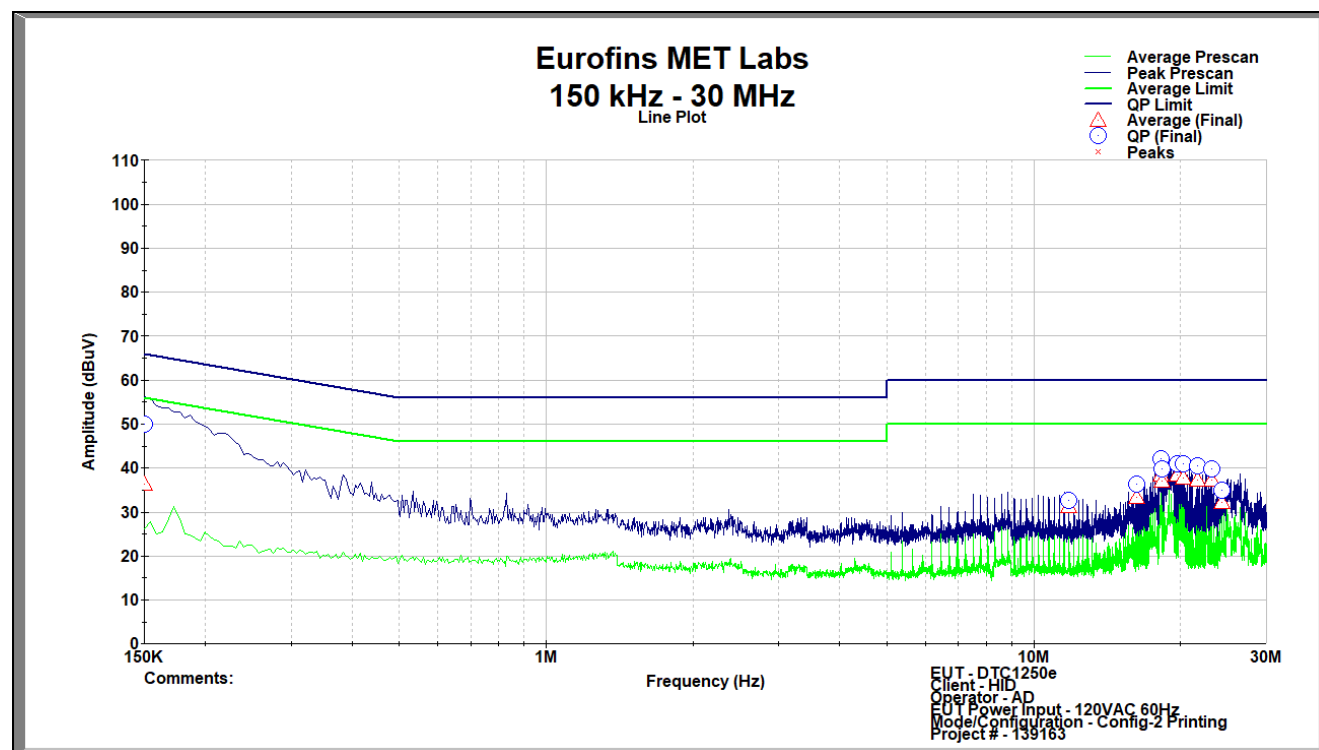


Conducted Emissions, 15.207(a), Neutral (Configuration 1)

Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Margin (dB)	Average (dBμV)	Average Limit (dBμV)	Average Margin (dB)
0.15	49.677	66	16.323	34.896	56	21.104
11.495	31.588	60	28.412	30.162	50	19.838
13.643	24.425	60	35.575	17.303	50	32.697
16.227	34.598	60	25.402	32.09	50	17.91
17.694	38.673	60	21.327	36.059	50	13.941
18.244	40.483	60	19.517	37.733	50	12.267
19.712	39.696	60	20.304	36.379	50	13.621
20.261	39.812	60	20.188	36.744	50	13.256
21.666	38.374	60	21.626	34.516	50	15.484
23.128	38.391	60	21.609	36.132	50	13.868

Table 10. Conducted Emissions, 15.207(a), Neutral, Test Results (Configuration 1)

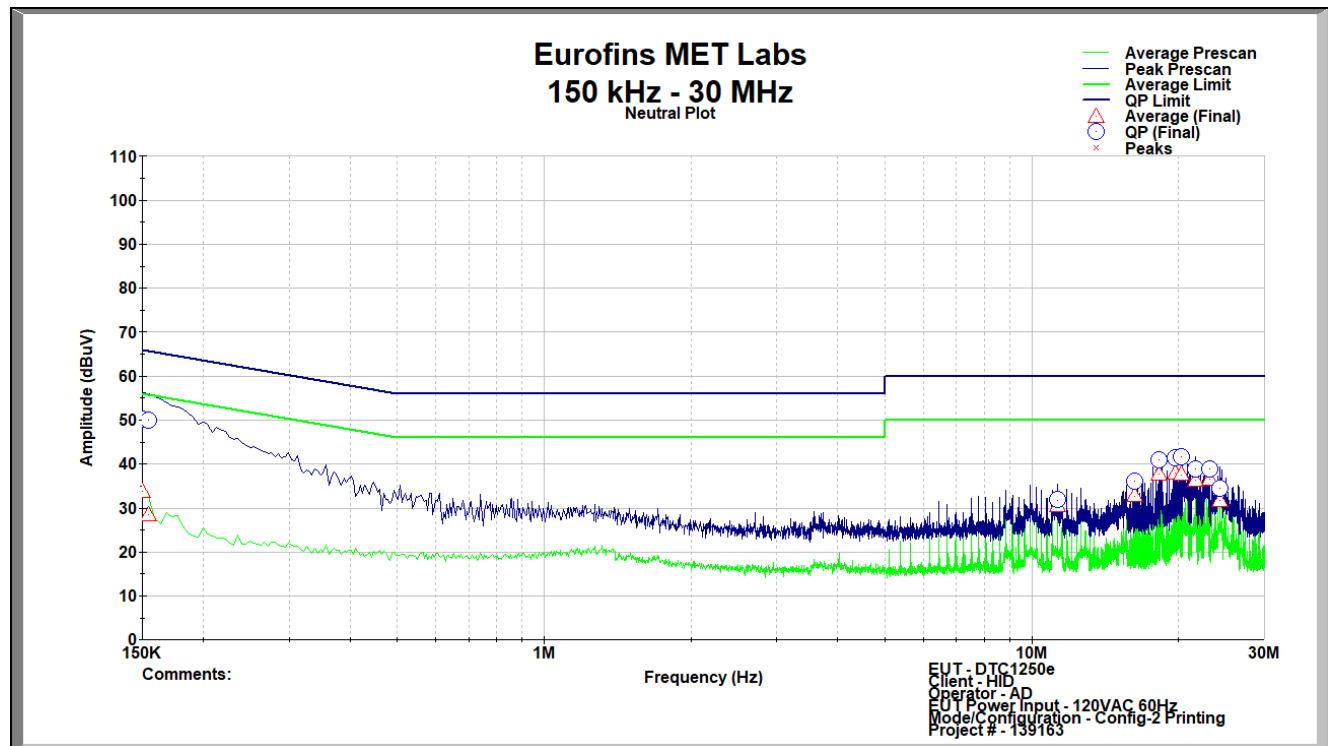
15.207(a) Conducted Emissions Test Results



Conducted Emissions, 15.207(a), Phase (Configuration 2)

Frequency (MHz)	Quasi-Peak (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Margin (dB)	Average (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)
0.15	50.224	66	15.776	33.857	56	22.143
0.154	49.984	65.871	15.888	28.48	55.871	27.392
11.274	31.817	60	28.183	30.652	50	19.348
16.232	36.2	60	23.8	32.748	50	17.252
18.244	40.969	60	19.031	37.629	50	12.371
19.712	41.331	60	18.669	38.013	50	11.987
20.261	41.594	60	18.406	37.6	50	12.4
21.666	38.795	60	21.205	36.391	50	13.609
23.133	38.953	60	21.047	36.646	50	13.354
24.354	34.493	60	25.507	31.624	50	18.376

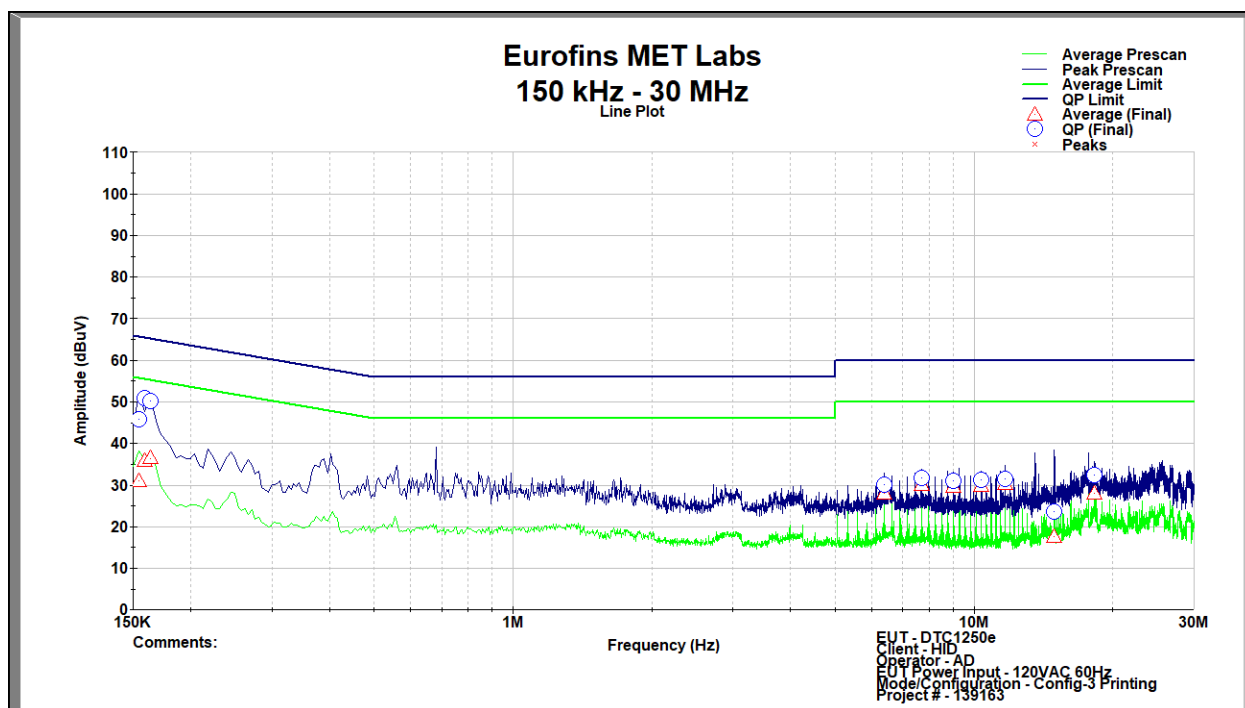
Table 11. Conducted Emissions, 15.207(a), Phase, Test Results (Configuration 2)



Conducted Emissions, 15.207(a), Neutral (Configuration 2)

Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Margin (dB)	Average (dBμV)	Average Limit (dBμV)	Average Margin (dB)
0.15	49.913	66	16.087	36.239	56	19.761
11.809	32.581	60	27.419	31.161	50	18.839
16.232	36.315	60	23.685	33.29	50	16.71
18.244	42.012	60	17.988	38.408	50	11.592
18.308	39.867	60	20.133	37.066	50	12.934
19.712	40.956	60	19.044	38.345	50	11.655
20.261	40.999	60	19.001	37.719	50	12.281
21.666	40.442	60	19.558	37.306	50	12.694
23.133	39.852	60	20.148	37.266	50	12.734
24.354	34.963	60	25.037	32.086	50	17.914

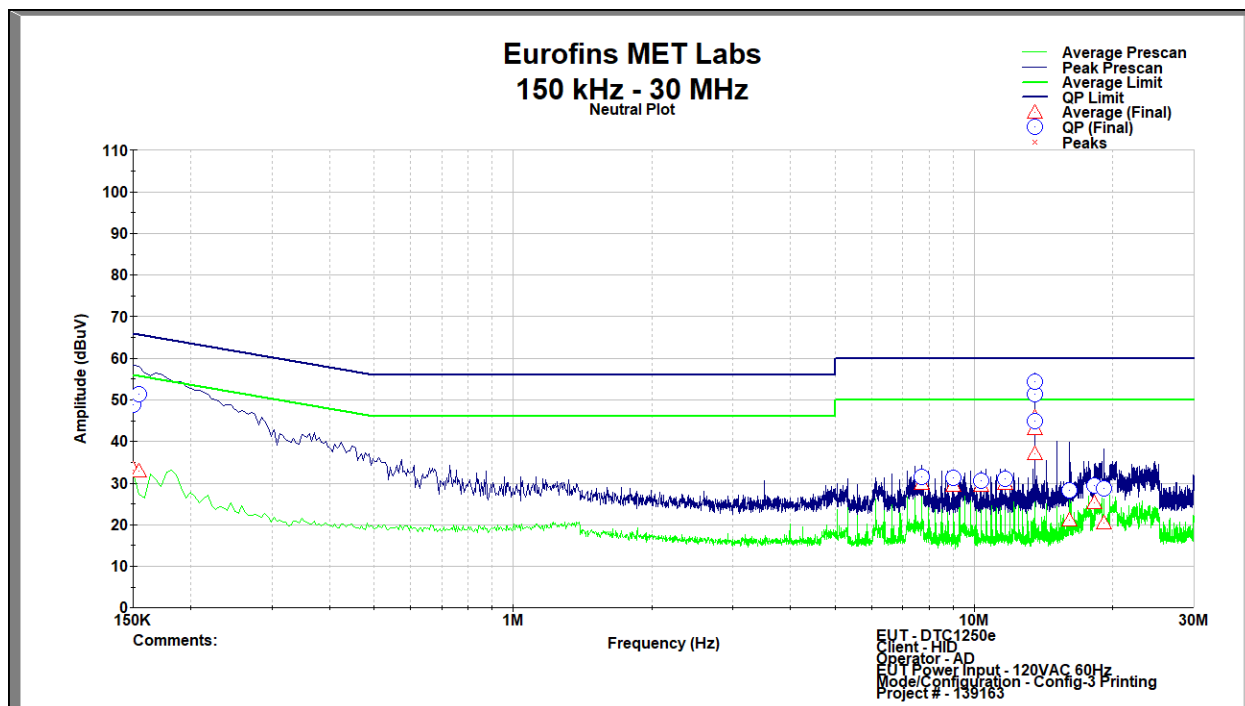
Table 12. Conducted Emissions, 15.207(a), Neutral, Test Results (Configuration 2)



Conducted Emissions, 15.207(a), Phase (Configuration 3)

Frequency (MHz)	Quasi-Peak (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Margin (dB)	Average (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)
0.154	45.9	65.871	19.971	31.101	55.871	24.77
0.159	50.928	65.743	14.815	35.905	55.743	19.838
0.164	50.17	65.614	15.444	36.443	55.614	19.171
6.377	30.033	60	29.967	27.975	50	22.025
7.704	31.671	60	28.329	30.013	50	19.987
9.031	31.055	60	28.945	29.756	50	20.244
10.361	31.304	60	28.696	29.781	50	20.219
11.688	31.495	60	28.505	30.387	50	19.613
14.938	23.66	60	36.34	17.58	50	32.42
18.244	32.386	60	27.614	28.059	50	21.941

Table 13. Conducted Emissions, 15.207(a), Phase, Test Results (Configuration 3)



Conducted Emissions, 15.207(a), Neutral (Configuration 3)

Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Margin (dB)	Average (dBμV)	Average Limit (dBμV)	Average Margin (dB)
0.15	48.708	66	17.292	33.223	56	22.777
0.154	51.332	65.871	14.539	32.838	55.871	23.033
7.704	31.409	60	28.591	29.849	50	20.151
9.031	31.262	60	28.738	29.512	50	20.488
10.361	30.646	60	29.354	29.516	50	20.484
11.688	31.117	60	28.883	29.936	50	20.064
13.557	51.361	60	8.639	43.012	50	6.988
13.562	54.28	60	5.72	45.829	50	4.171
13.566	44.977	60	15.023	37.002	50	12.998
16.119	28.184	60	31.816	21.06	50	28.94
18.24	29.364	60	30.636	25.211	50	24.789
19.14	28.756	60	31.244	20.318	50	29.682

Table 14. Conducted Emissions, 15.207(a), Neutral, Test Results (Configuration 3)

Occupied Bandwidth Measurements

§ 15.215(c) 20 dB Occupied Bandwidth

Test Requirement(s):	§ 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Procedure:	The transmitter was on and transmitting at the highest output power. The bandwidth of the fundamental frequency was measured with the spectrum analyzer. Per ANSI C63.10: 2020 the RBW should be between 1% and 5% of the occupied bandwidth.
Test Results:	The Color Card Printer, DTC1250e was compliant with this requirement. The 20dB Bandwidth is shown on the plots on the following pages.
Test Engineer(s):	Bryan Taylor
Test Date(s):	10/23/2025 – 10/24/2025

RSS-GEN (6.7) 99% Occupied Bandwidth

Test Requirements: The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

Test Procedure: The EUT was on and transmitting at the highest output power. The bandwidth of the fundamental frequency was measured with the spectrum analyzer. Per ANSI C63.10: 2020 the RBW should be between 1% and 5% of the occupied bandwidth.

Test Results The Color Card Printer, DTC1250e was compliant with this requirement. The 99% Bandwidth is shown on the plots on the following pages.

Test Engineer(s): Bryan Taylor

Test Date(s): 10/23/2025 – 10/24/2025

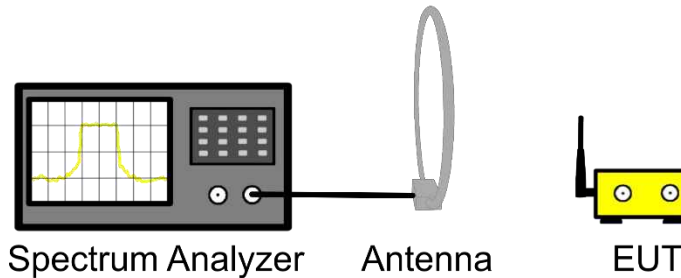


Figure 3. 20 dB Bandwidth and 99% Bandwidth Test Setup

Configuration Tested	Radio	Center Frequency (MHz)	20 dB Bandwidth	99% Bandwidth
Configuration 1	Ribbon	13.56MHz	52.96Hz	262.73Hz
Configuration 1	OMNIKEY 5122	13.56MHz	392.9Hz	859.62Hz
Configuration 2	OMNIKEY 5127SI	13.56MHz	29.37Hz	52.53Hz
Configuration 3	OMNIKEY 5127 CK MINI	13.56MHz	43.42Hz	63.53Hz

Table 15. Occupied Bandwidth Test Results (With Credential In Place)

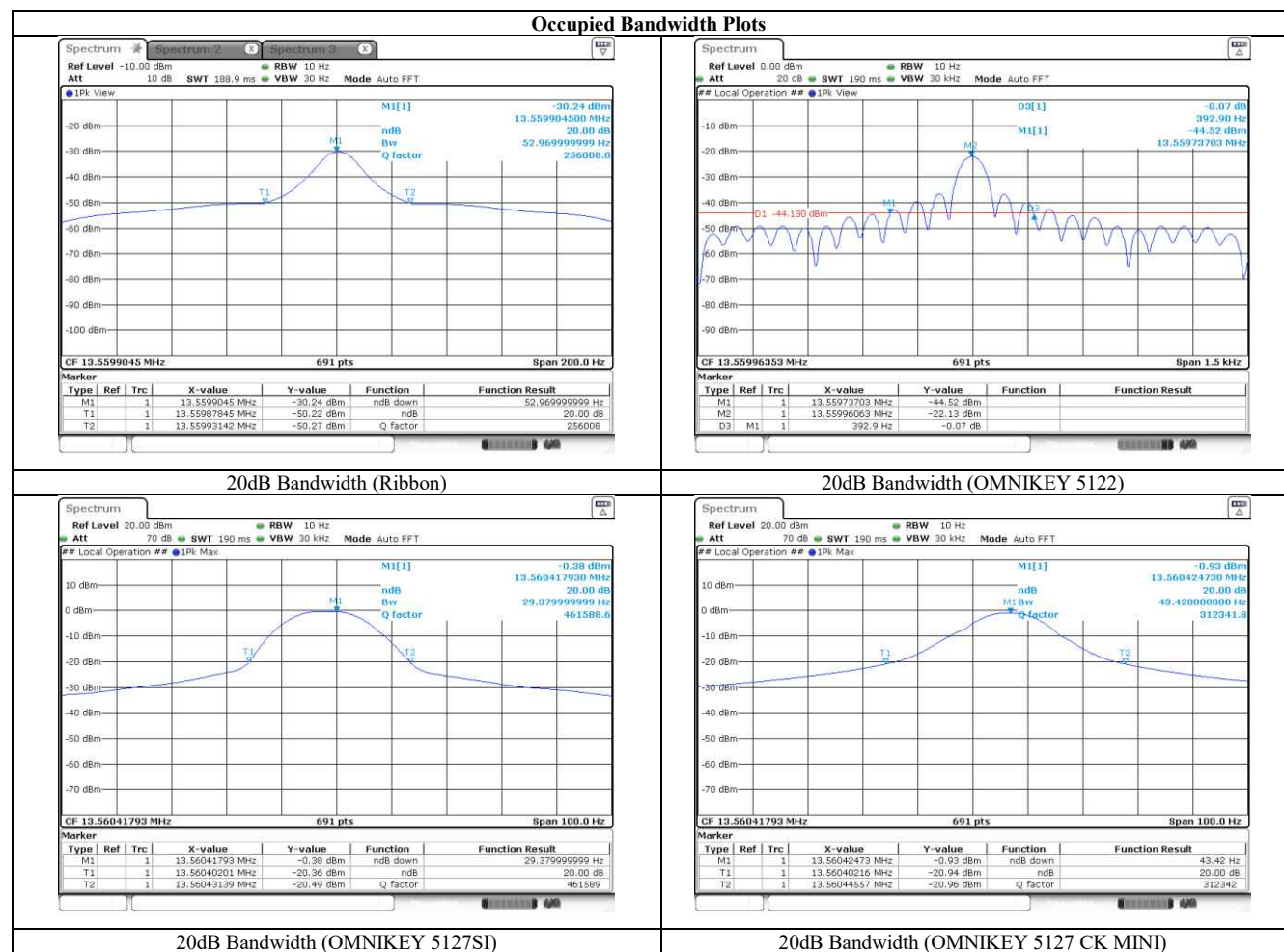


Table 16. 20dB Occupied Bandwidth Test Results (With Credential In Place)

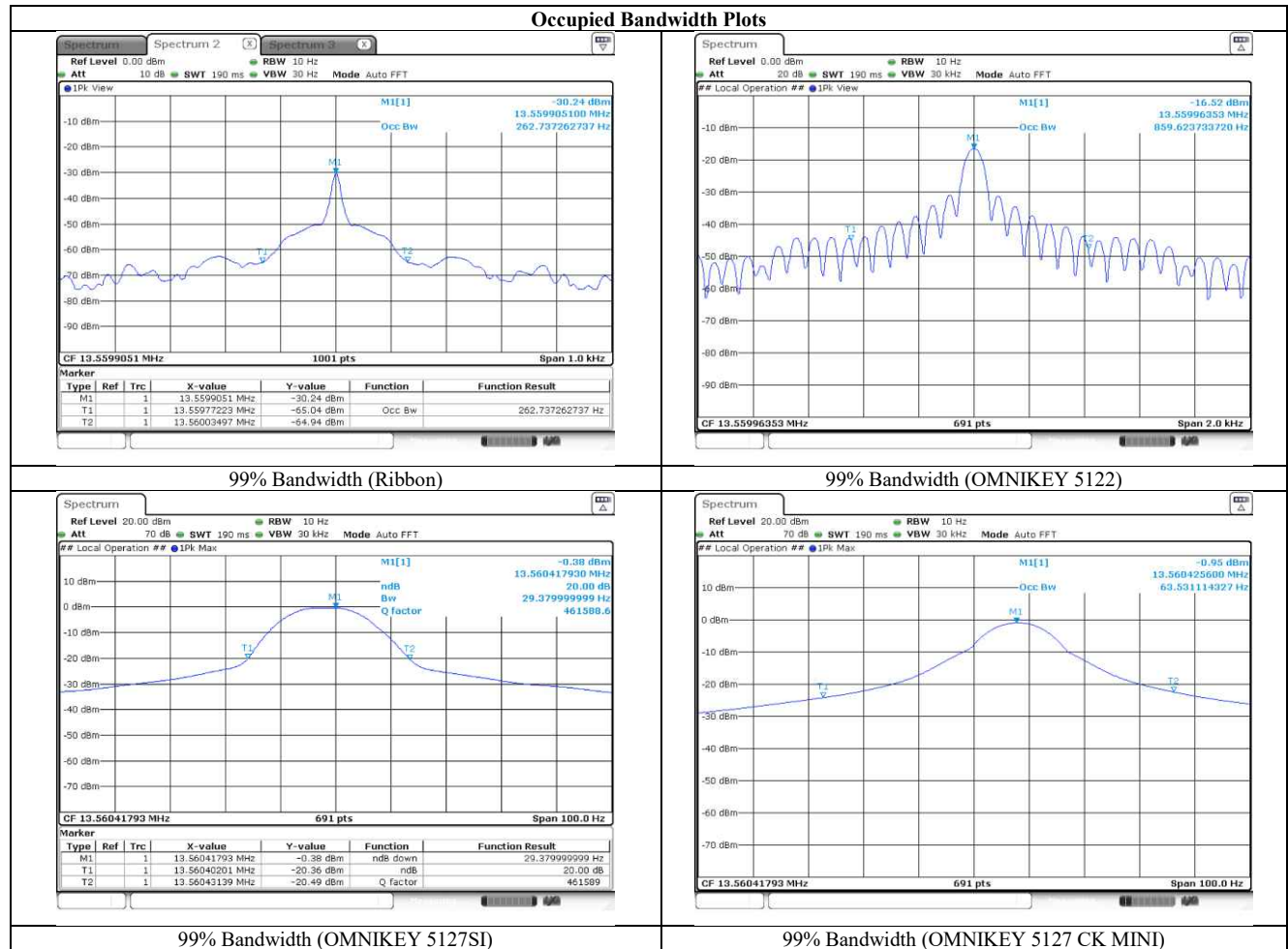


Table 17. 99% Occupied Bandwidth Test Results (With Credential In Place)

Configuration Tested	Radio	Center Frequency (MHz)	20 dB Bandwidth	99% Bandwidth
Configuration 1	Ribbon	13.56MHz	45.15Hz	272.72Hz
Configuration 1	OMNIKEY 5122	13.56MHz	330.00Hz	810.41Hz
Configuration 2	OMNIKEY 5127SI	13.56MHz	32.27Hz	49.19Hz
Configuration 3	OMNIKEY 5127 CK MINI	13.56MHz	44.85Hz	61.07Hz

Table 18. Occupied Bandwidth Test Results (Without Credential)

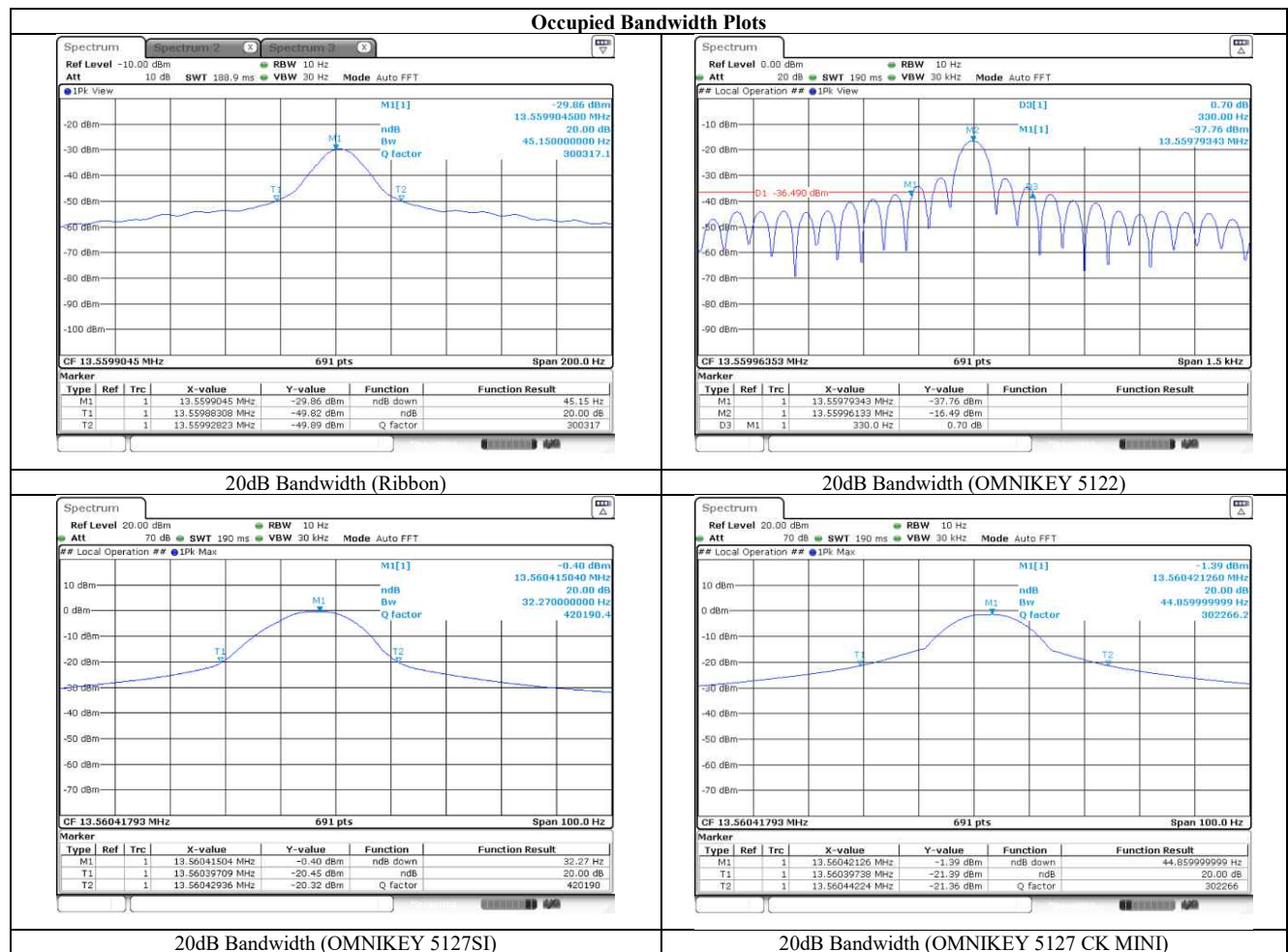


Table 19. 20dB Occupied Bandwidth Test Results (Without Credential)

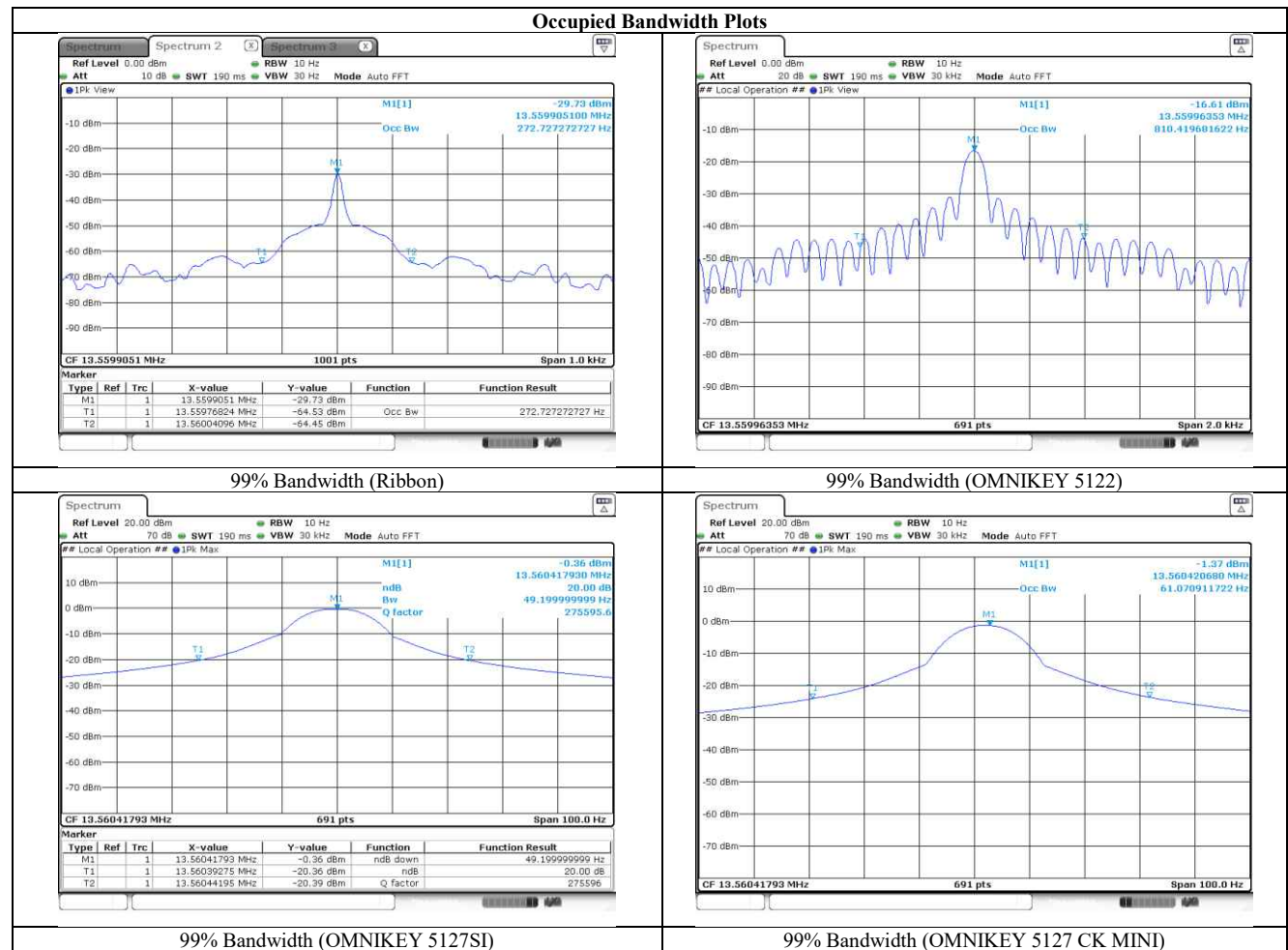


Table 20. 99% Occupied Bandwidth Test Results (Without Credential)

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.225(a-d) Field Strength of Radiated Emissions

- Test Requirement(s):** **15.225 (a)** The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- 15.225 (b)** Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- 15.225 (c)** Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- 15.225 (d)** The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

RSS-210 (B.6.a(ii - iv)) Field Strength of Radiated Emissions

- Test Requirement(s):** **RSS-210 (B.6.a(i))** The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15.848 mV/m (84 dBμV/m) at 30 meters.
- RSS-210 (B.6.a(ii))** Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 μV/m (50.5 dBμV/m) at 30 meters.
- RSS-210 (B.6.a(iii))** Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 μV/m (40.5 dBμV/m) at 30 meters.
- RSS-210 (B.6.a(iv))** The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in RSS-GEN Section 8.9.

Test Procedure:

The EUT was set to transmit and placed on a 0.8 m-high wooden stand inside a semi-anechoic chamber. The method of testing and test conditions of ANSI C63.10: 2013 were used. For measurements below 30 MHz a loop antenna placed 3m away from the unit was used. For measurements above 30 MHz a biconalog antenna placed 10 m away from the unit was used. Measurements below 30 MHz were conducted with the loop antenna at coaxial (parallel) and planar (perpendicular) orientations. Note that the measurement software flags the parallel loop as horizontal and the perpendicular loop as vertical.

Measurements above 30 MHz were conducted with the biconalog antenna in the vertical and horizontal polarizations. A peak detector was used to perform a pre-scan from 9 kHz to 10 times the fundamental frequency. Spurious emissions within 20 dB of the applicable limit were measured using a quasi-peak detector and recorded in the subsequent section. Peak emissions that were observed over the applicable limit were determined to be digital emissions subject to the requirements of FCC Part 15 Subpart B and ICES-003 subsection 6.2 for Class A devices.

The measurements were made at 3 m with the loop antenna (below 30MHz). They were then extrapolated to 30m or 300 m using the following correction factors which were applied to the limit.

$$40\log(30/3) = 40 \text{ dB}$$
$$40\log(300/3) = 80 \text{ dB}$$

The measurements made at 10 m with the biconilog antenna (above 30MHz) were then extrapolated to the 3m using the following correction factor.

$$20\log(10/3) = +10.46 \text{ dB}$$

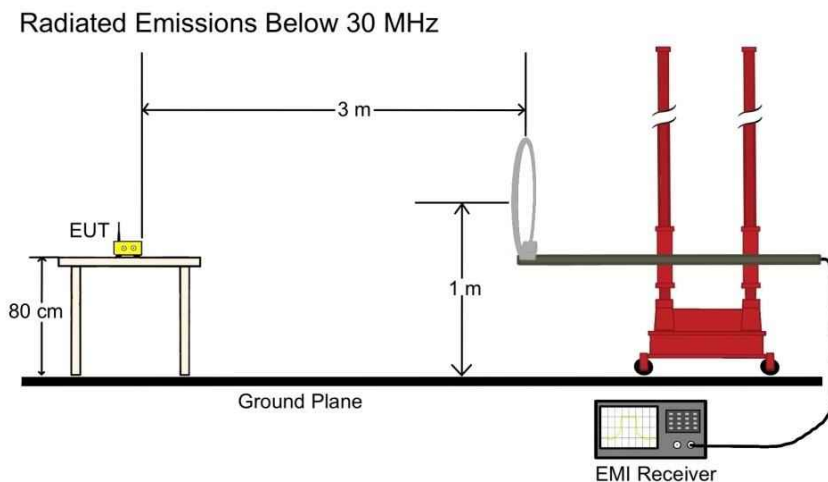


Figure 4: Radiated Emissions (Below 30MHz), Test Setup

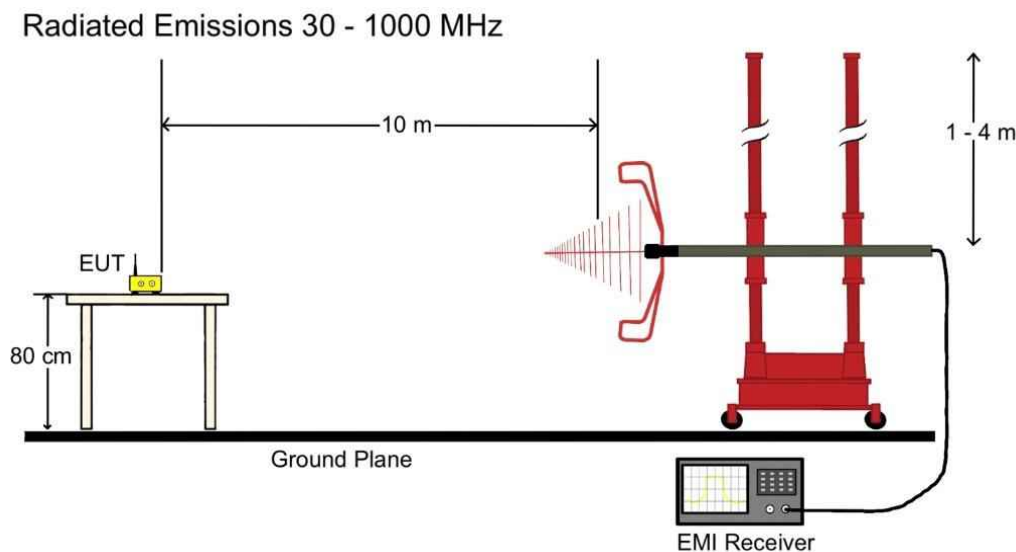


Figure 5. Radiated Emissions (Above 30MHz), Test Setup

Test Results: The Color Card Printer, DTC1250e was compliant with the requirements of §15.225(a - d) and RSS-210 RSS-210 (B.6.a(i, ii, iii, and iv)).

Test Engineer(s): Bryan Taylor

Test Date(s): 10/21/2025 – 10/24/2025

Radiated Field Strength Test Results

Frequency [MHz]	QP Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.268	12.38	80.50	68.12	10.62	V	348.3	1.00	9.000	Pass
13.461	11.58	90.50	78.92	10.61	H	-0.2	1.00	9.000	Pass
13.475	11.39	90.50	79.11	10.61	V	165	1.00	9.000	Pass
13.560	55.05	124.00	68.95	10.61	H	275.9	1.00	9.000	Pass
13.560	55.01	124.00	68.99	10.61	V	269.4	1.00	9.000	Pass
13.655	12.81	90.50	77.69	10.60	V	164.1	1.00	9.000	Pass
13.700	11.81	90.50	78.69	10.60	H	131.9	1.00	9.000	Pass
13.740	11.59	80.50	68.91	10.60	V	24.8	1.00	9.000	Pass

Figure 6. Worst Case In-Band Field Strength, Ribbon

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.794	41.59	69.61	28.02	11.50	V	153.5	1.00	9.000	Pass
1.370	38.68	64.86	26.19	11.70	H	272.6	1.00	9.000	Pass
13.560	60.26	69.50	9.24	10.61	H	0.5	1.00	9.000	Pass
13.560	55.10	69.50	14.40	10.61	V	266.6	1.00	9.000	Pass
23.658	22.00	69.50	47.50	9.67	H	62.3	1.00	9.000	Pass
23.739	22.51	69.50	46.99	9.64	V	192.4	1.00	9.000	Pass

Figure 7. Worst Case Field Strength Below 30MHz, Ribbon

¹ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

² This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
60.000	22.89	29.55	6.66	-14.11	V	100.8	2.33	120.000	Pass
96.030	18.16	33.07	14.91	-9.77	V	89.2	1.50	120.000	Pass
106.710	22.79	33.07	10.28	-8.02	V	84	1.01	120.000	Pass
125.010	31.73	33.07	1.34	-7.45	V	234.5	0.99	120.000	Pass
180.000	32.21	33.07	0.86	-9.87	V	187.8	1.16	120.000	Pass
300.000	33.25	35.57	2.32	-5.64	H	272.6	2.47	120.000	Pass
360.000	33.61	35.57	1.96	-3.53	H	83.2	2.20	120.000	Pass
780.000	32.24	35.57	3.33	3.43	H	104.8	1.00	120.000	Pass
924.000	29.23	35.57	6.34	6.20	V	112.3	1.60	120.000	Pass

Figure 8. Worst Case Field Strength Above 30MHz, Ribbon

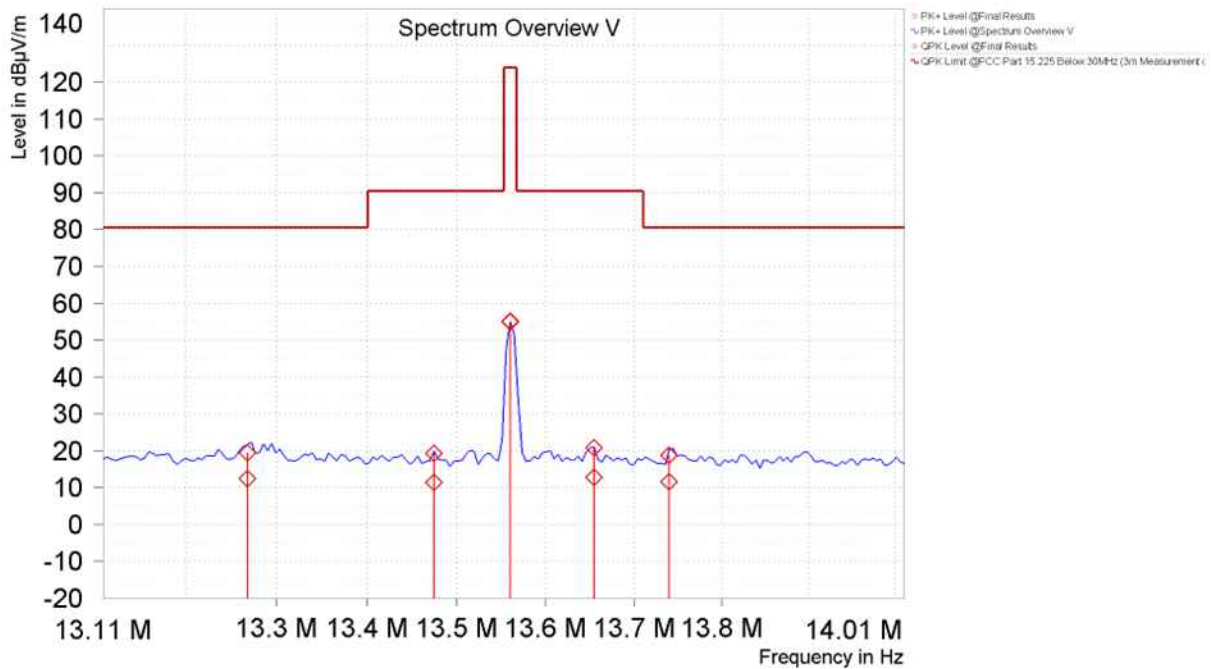


Figure 9. In-Band Emission Mask, Coplanar Loop, Ribbon

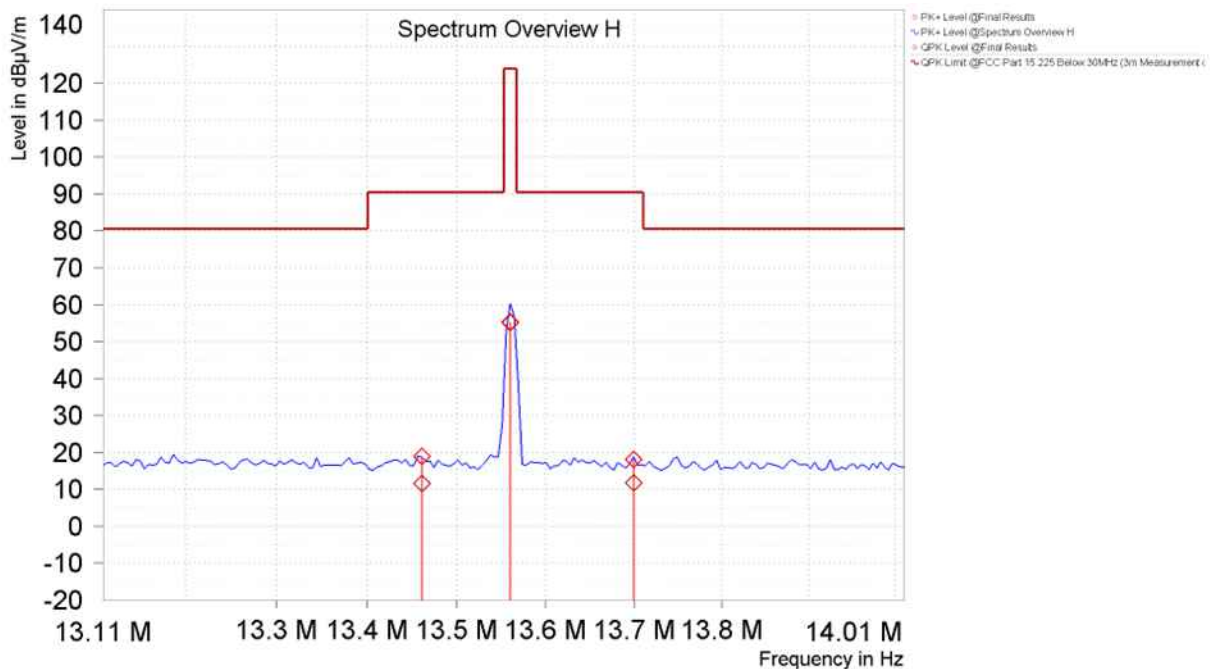


Figure 10. In-Band Emission Mask, Coaxial Loop, Ribbon

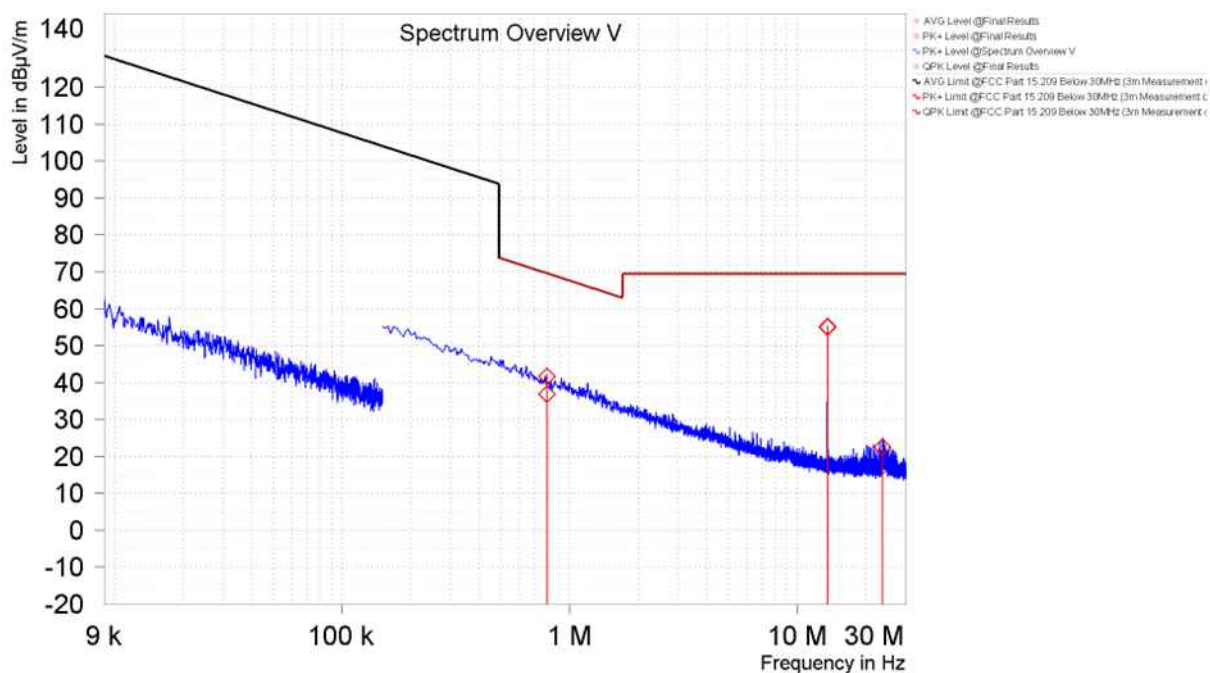


Figure 11. Out of Band Emissions Below 30MHz, Coplanar Loop, Ribbon

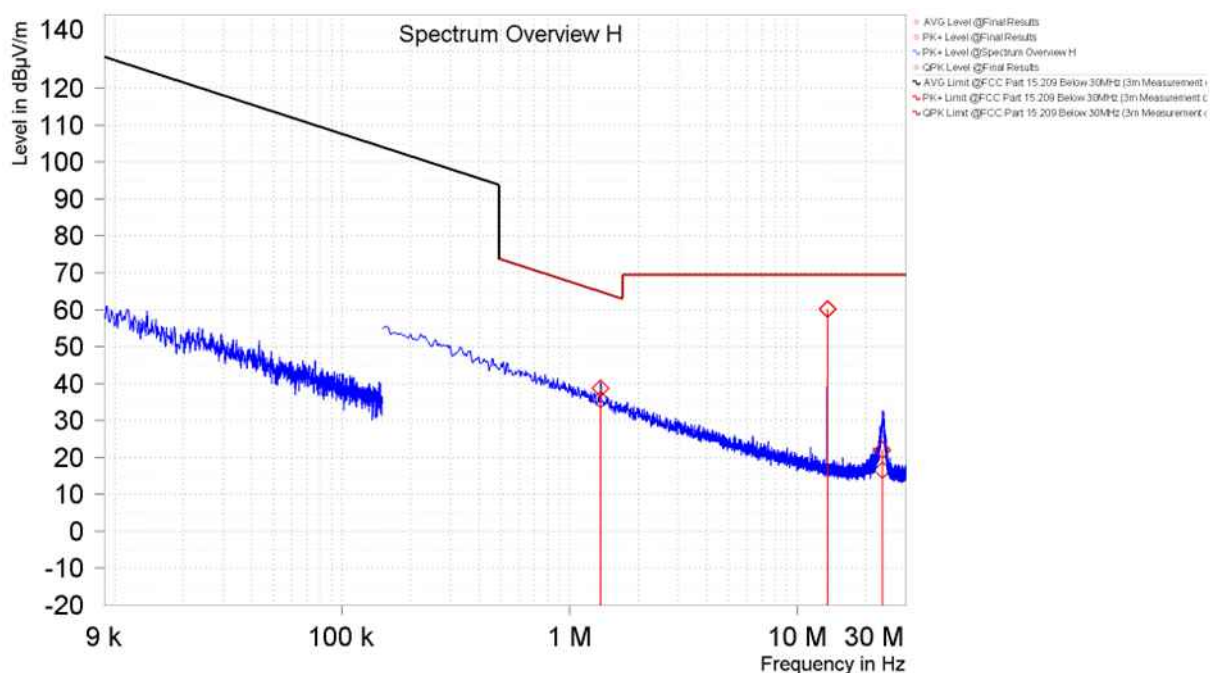


Figure 12. Out of Band Emissions Below 30MHz, Coaxial Loop, Ribbon

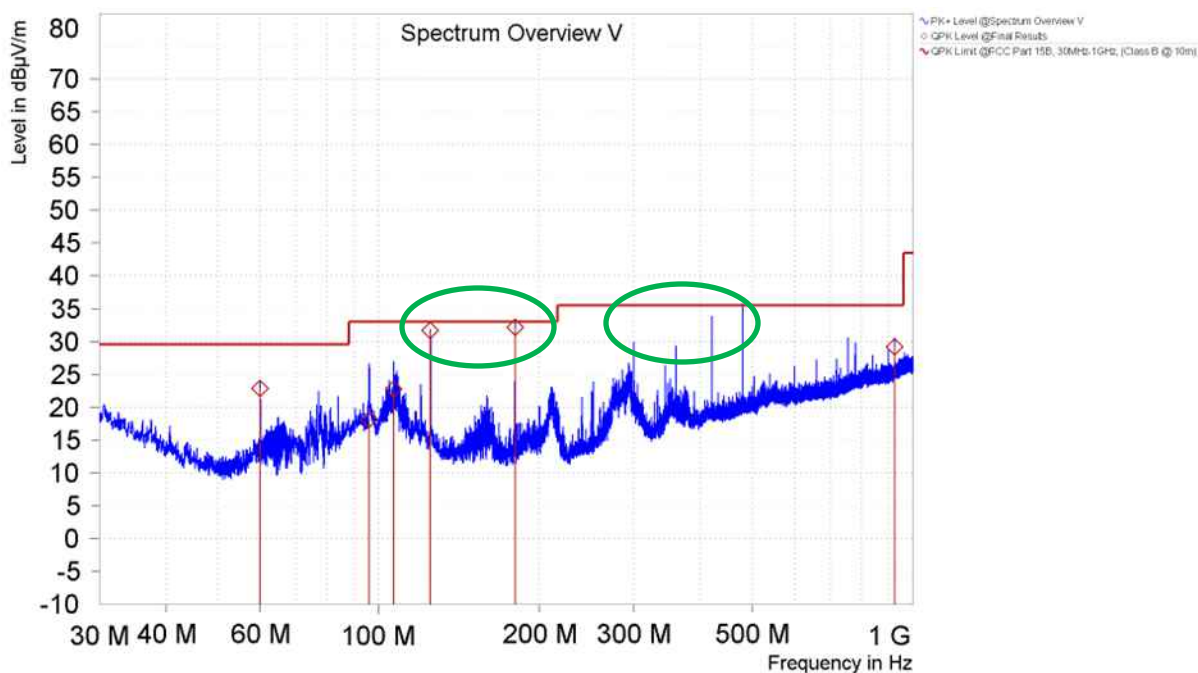


Figure 13. Out of Band Emissions Above 30MHz, Vertical Polarity, Ribbon³

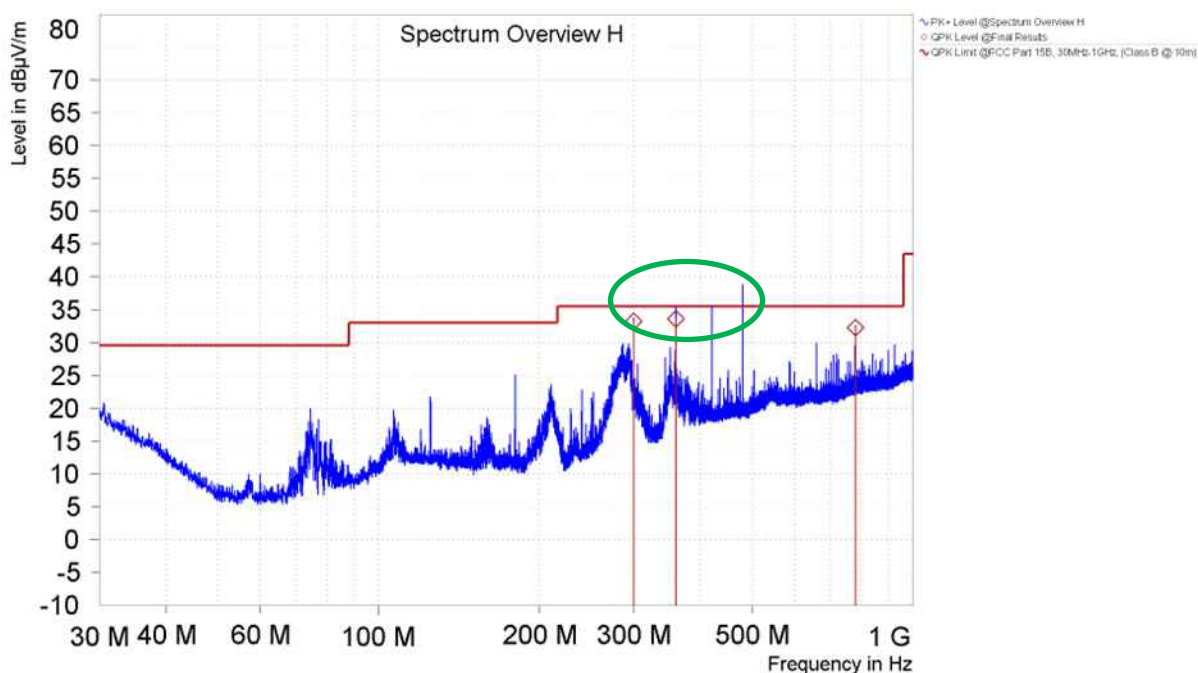


Figure 14. Out of Band Emissions Above 30MHz, Vertical Polarity, Ribbon³

³ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ⁴	Limit [dBμV/m]	Margin [dB]	Correction [dB] ⁵	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.335	-2.27	80.50	82.77	10.62	V	290.9	1.00	9.000	Pass
13.461	-1.47	90.50	91.97	10.61	H	178.7	1.00	9.000	Pass
13.560	48.82	124.00	75.18	10.61	H	349.8	1.00	9.000	Pass
13.560	48.93	124.00	75.07	10.61	V	353.2	1.00	9.000	Pass
13.646	-1.15	90.50	91.65	10.60	H	221.7	1.00	9.000	Pass
13.817	0.16	80.50	80.34	10.60	V	198.6	1.00	9.000	Pass

Figure 15. Worst Case In-Band Field Strength, Ribbon (No Credential)

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.672	43.49	71.05	27.57	11.43	V	17.7	1.00	9.000	Pass
0.686	42.81	70.88	28.07	11.46	H	351.6	1.00	9.000	Pass
13.560	60.29	69.50	9.21	10.61	H	11.7	1.00	9.000	Pass
13.560	54.62	69.50	14.88	10.61	V	285	1.00	9.000	Pass
23.127	24.33	69.50	45.17	9.86	V	280.3	1.00	9.000	Pass
23.676	23.37	69.50	46.13	9.66	H	277.3	1.00	9.000	Pass

Figure 16. Worst Case Field Strength Below 30MHz, Ribbon (No Credential)

⁴ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

⁵ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
60.000	23.14	29.55	6.41	-14.11	V	92.3	2.40	120.000	Pass
95.970	19.64	33.07	13.43	-9.78	V	12.7	1.28	120.000	Pass
125.010	33.06	33.07	0.01	-7.45	V	228.3	1.26	120.000	Pass
300.000	33.22	35.57	2.35	-5.64	H	270.2	1.91	120.000	Pass
360.000	33.87	35.57	1.70	-3.53	H	88.6	2.01	120.000	Pass
780.000	32.18	35.57	3.39	3.43	H	115	1.14	120.000	Pass
923.970	30.44	35.57	5.13	6.20	V	194.5	1.69	120.000	Pass

Figure 17. Worst Case Field Strength Above 30MHz, Ribbon (No Credential)

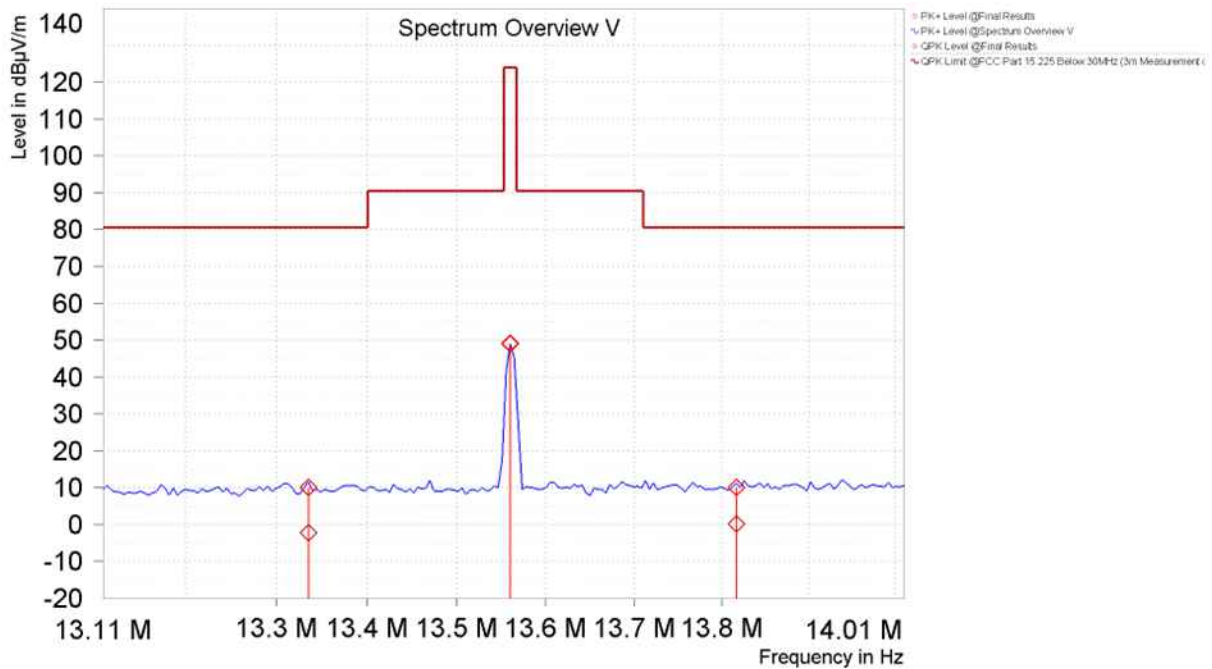


Figure 18. In-Band Emission Mask, Coplanar Loop, Ribbon (No Credential)

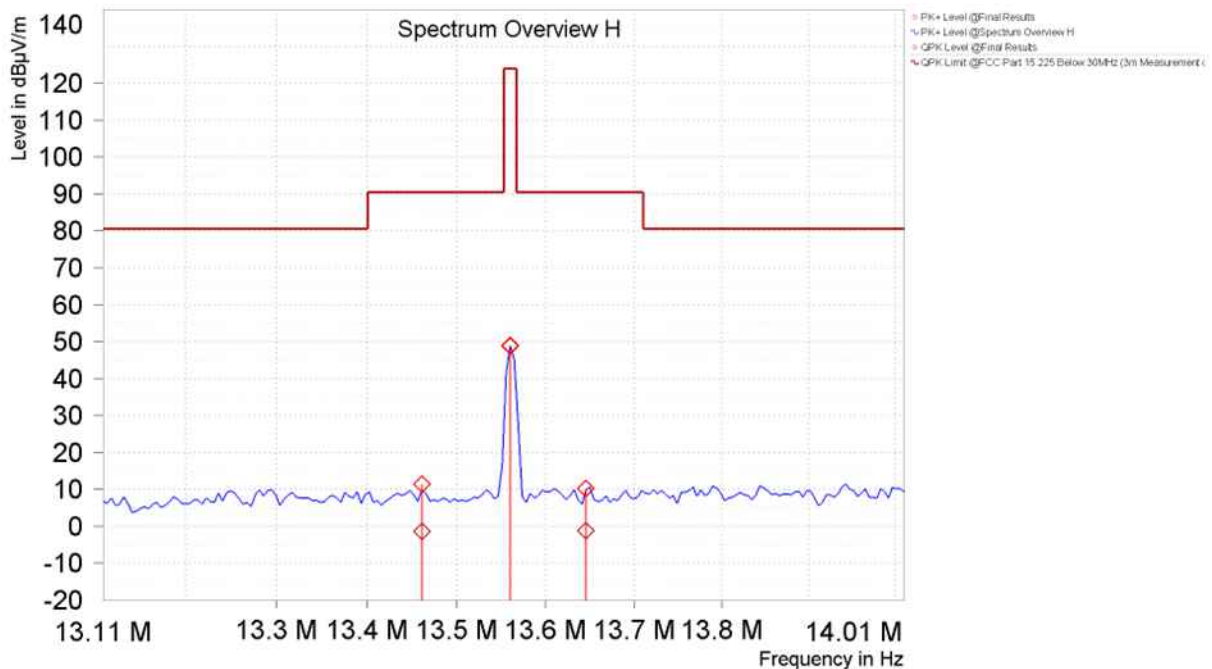


Figure 19. In-Band Emission Mask, Coaxial Loop, Ribbon (No Credential)

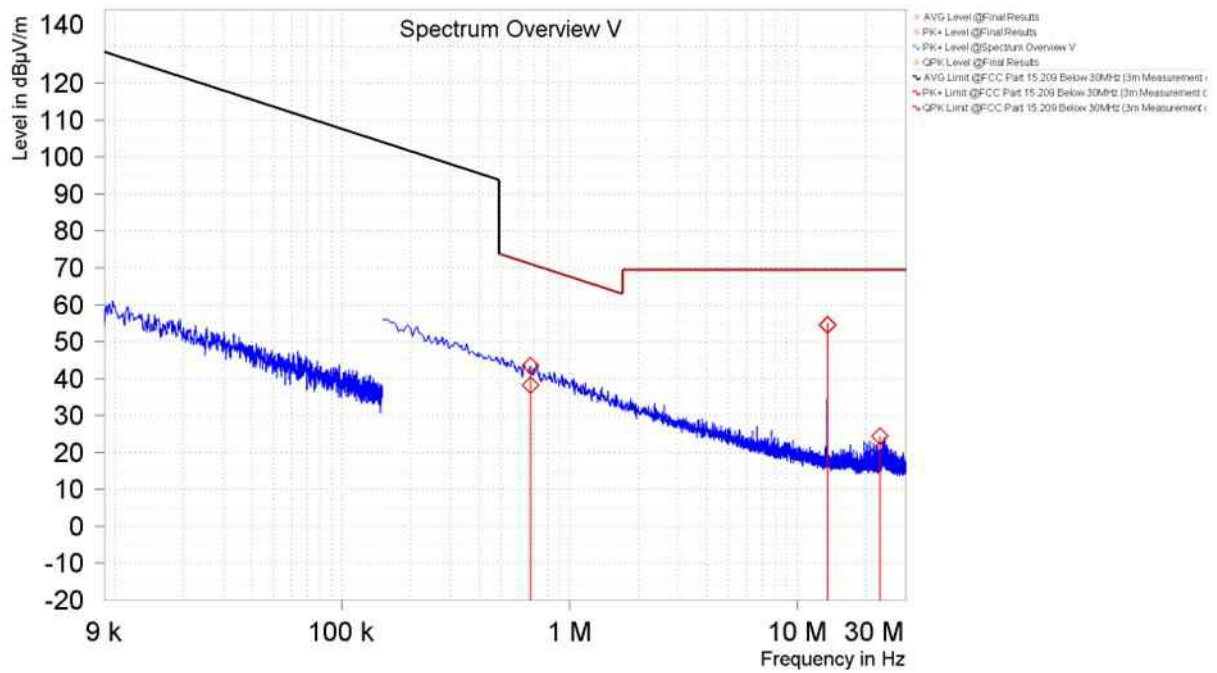


Figure 20. Out of Band Emissions Below 30MHz, Coplanar Loop, Ribbon (No Credential)

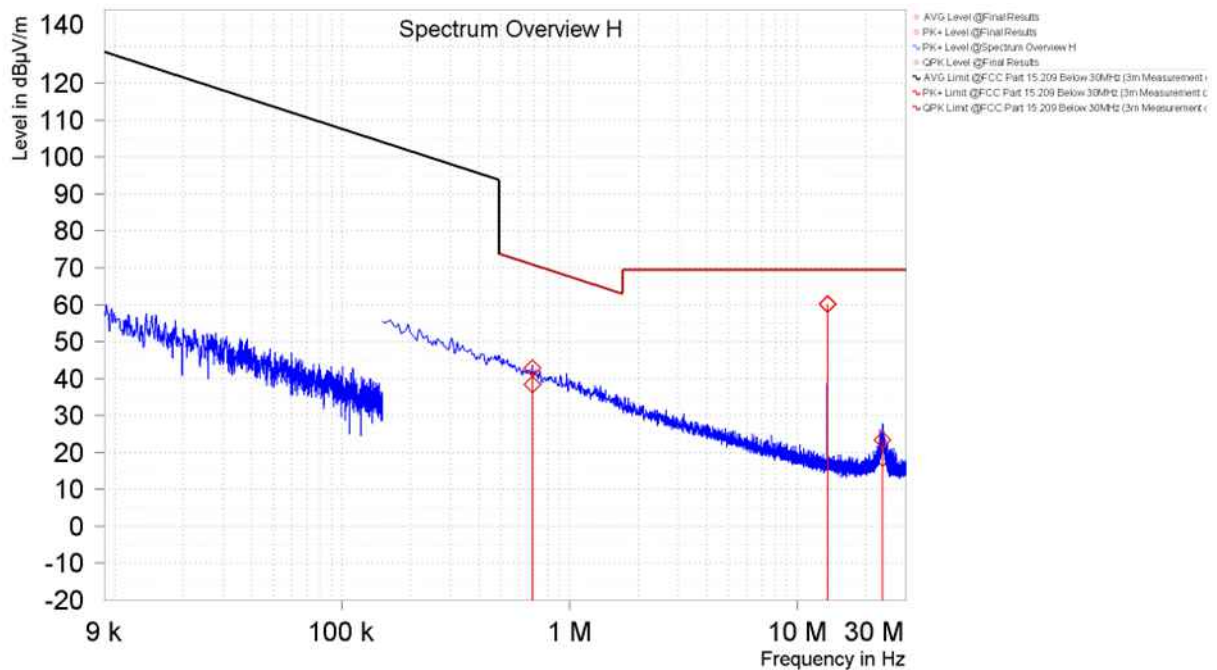


Figure 21. Out of Band Emissions Below 30MHz, Coaxial Loop, Ribbon (No Credential)

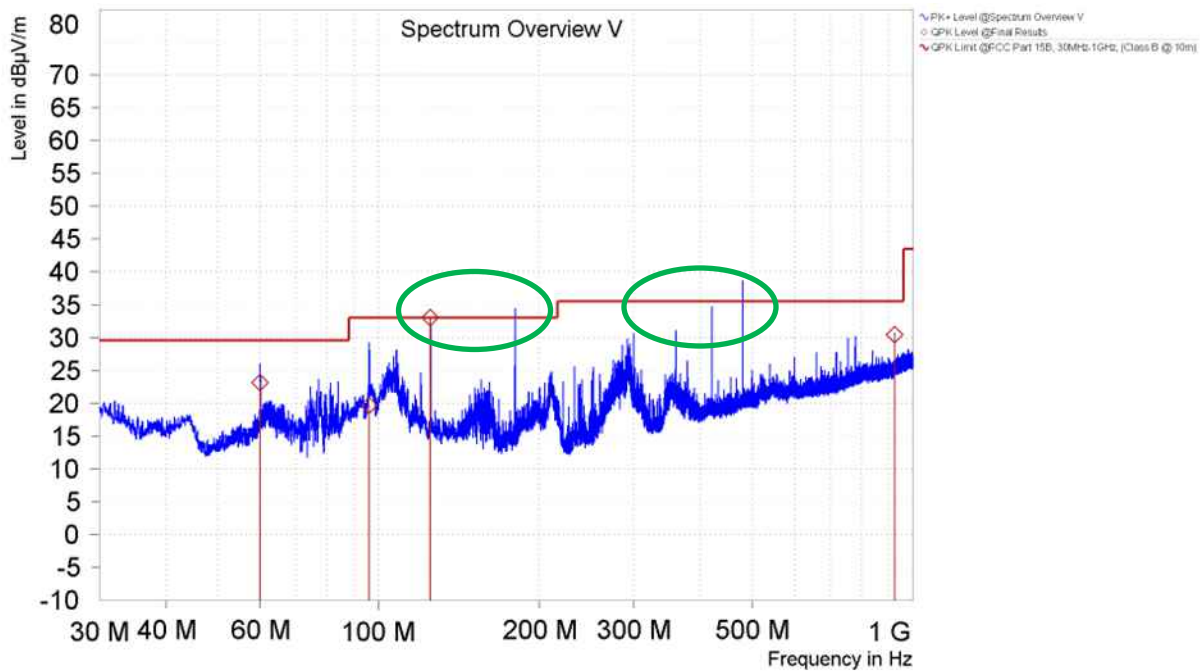


Figure 22. Out of Band Emissions Above 30MHz, Vertical Polarity, Ribbon (No Credential)⁶

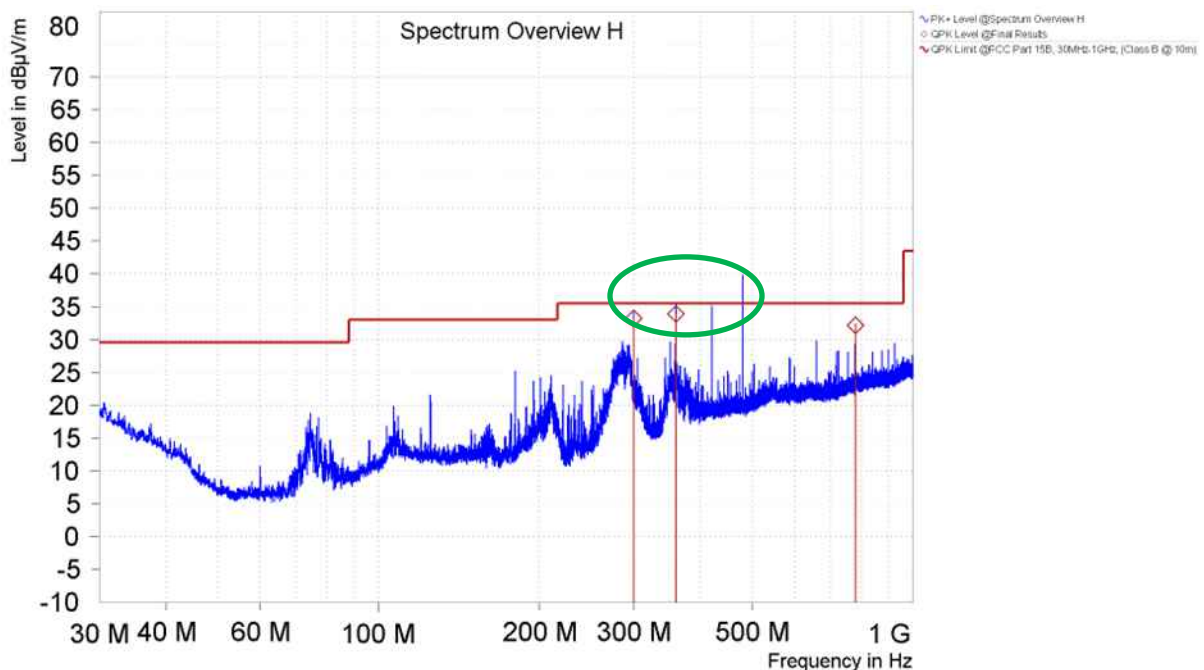


Figure 23. Out of Band Emissions Above 30MHz, Horizontal Polarity, Ribbon (No Credential)⁶

⁶ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ⁷	Limit [dBμV/m]	Margin [dB]	Correction [dB] ⁸	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.394	12.04	80.50	68.46	10.61	H	265.2	1.00	9.000	Pass
13.439	10.90	90.50	79.60	10.61	V	131	1.00	9.000	Pass
13.515	12.75	90.50	77.75	10.61	H	269.8	1.00	9.000	Pass
13.560	59.36	124.00	64.64	10.61	H	178.6	1.00	9.000	Pass
13.560	65.37	124.00	58.63	10.61	V	296.9	1.00	9.000	Pass
13.655	12.37	90.50	78.13	10.60	H	306.5	1.00	9.000	Pass
13.745	10.82	80.50	69.68	10.60	V	268.7	1.00	9.000	Pass

Figure 24. Worst Case In-Band Field Strength, 5122

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.384	47.10	95.92	48.81	11.13	H	157	1.00	9.000	Pass
0.744	43.08	70.17	27.09	11.46	V	-0.1	1.00	9.000	Pass
5.082	26.33	69.50	43.17	11.51	H	52.1	1.00	9.000	Pass
6.419	27.39	69.50	42.11	11.01	V	202.4	1.00	9.000	Pass
13.560	63.42	69.50	6.08	10.61	H	255	1.00	9.000	Pass
13.560	65.28	69.50	4.22	10.61	V	299.1	1.00	9.000	Pass
20.261	21.54	69.50	47.96	10.17	H	249.9	1.00	9.000	Pass
24.045	26.86	69.50	42.64	9.56	V	346.5	1.00	9.000	Pass

Figure 25. Worst Case Field Strength Below 30MHz, 5122

⁷ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

⁸ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
40.650	18.72	29.55	10.83	-8.19	H	6.9	1.39	120.000	Pass
40.650	22.64	29.55	6.91	-8.15	V	14.4	1.45	120.000	Pass
125.010	29.97	33.07	3.10	-7.45	V	6.9	1.36	120.000	Pass
180.000	28.66	33.07	4.41	-10.07	H	215	2.50	120.000	Pass
252.000	24.37	35.57	11.20	-6.28	H	272.2	2.34	120.000	Pass
923.970	28.43	35.57	7.14	5.11	H	82.1	2.10	120.000	Pass
923.970	30.96	35.57	4.61	6.20	V	343.5	1.32	120.000	Pass

Figure 26. Worst Case Field Strength Above 30MHz, 5122

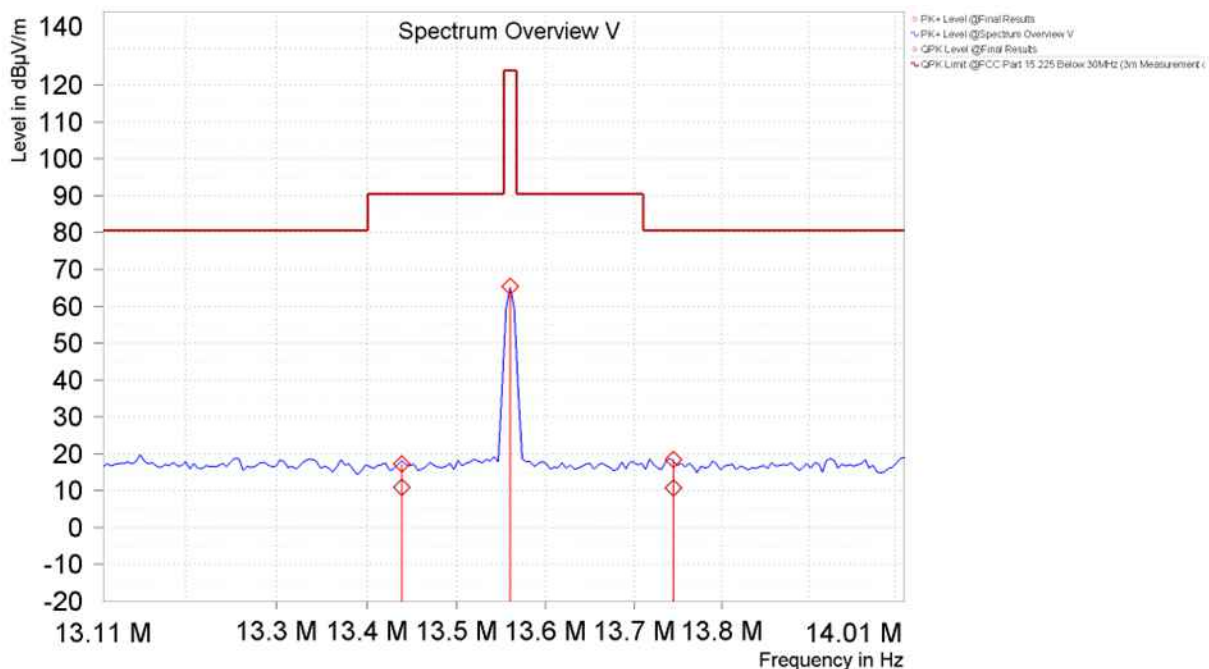


Figure 27. In-Band Emission Mask, Coplanar Loop, 5122

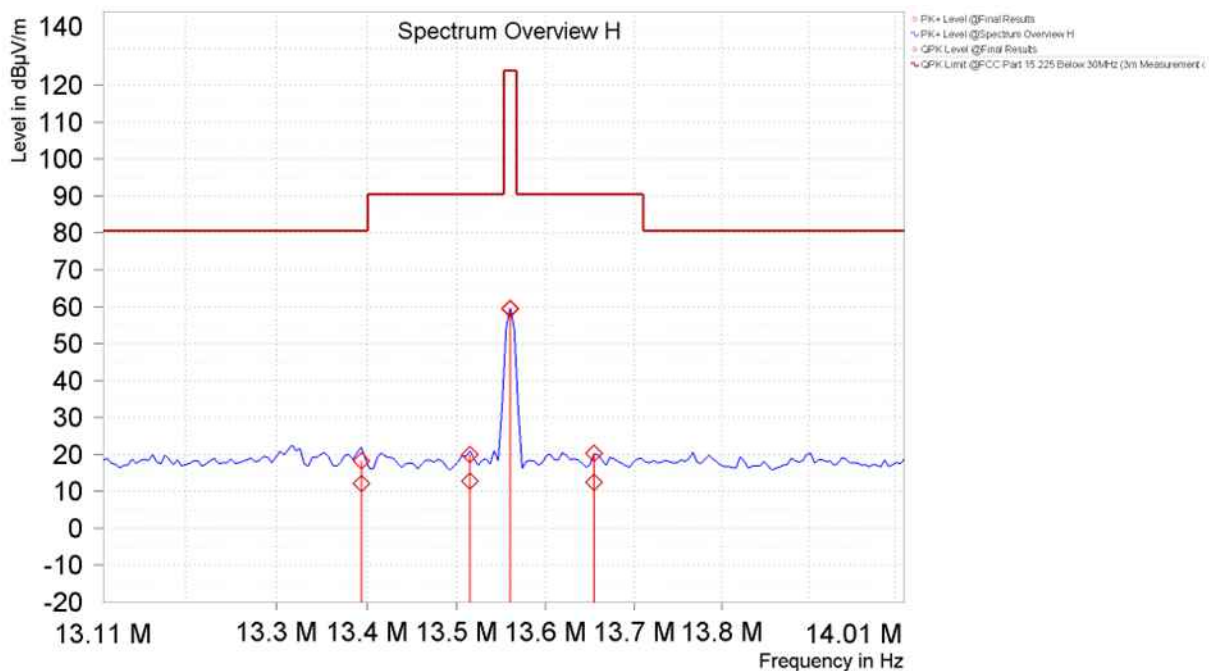


Figure 28. In-Band Emission Mask, Coaxial Loop, 5122

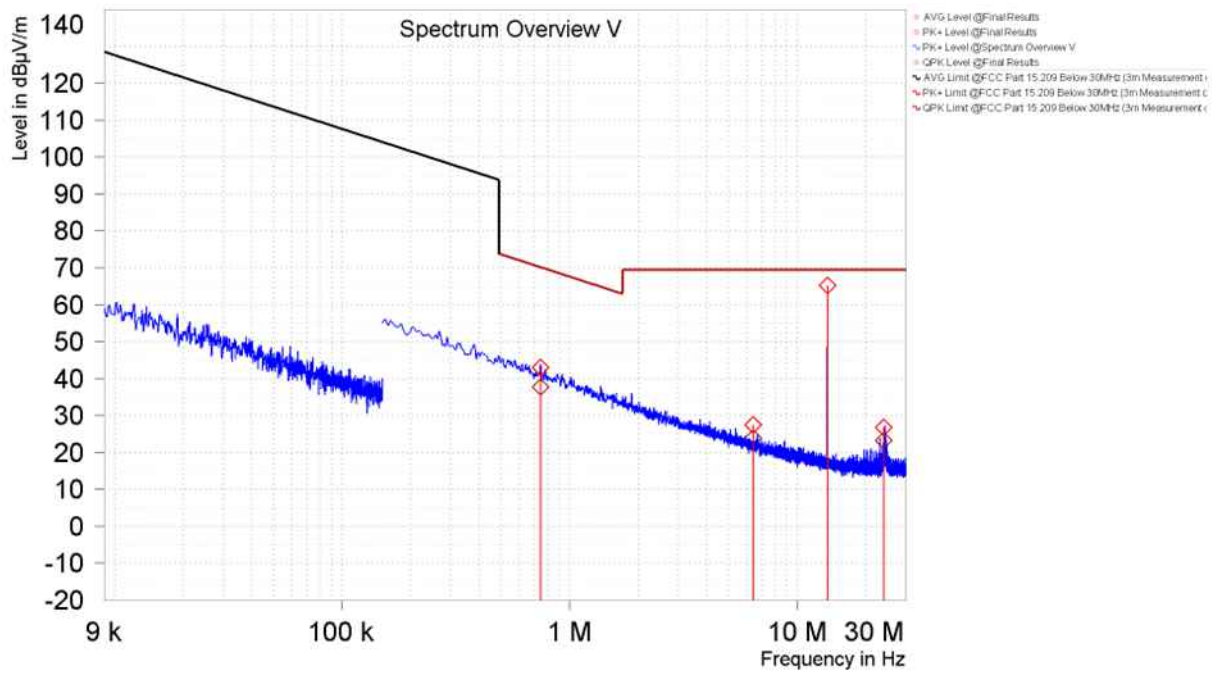


Figure 29. Out of Band Emissions Below 30MHz, Coplanar Loop, 5122

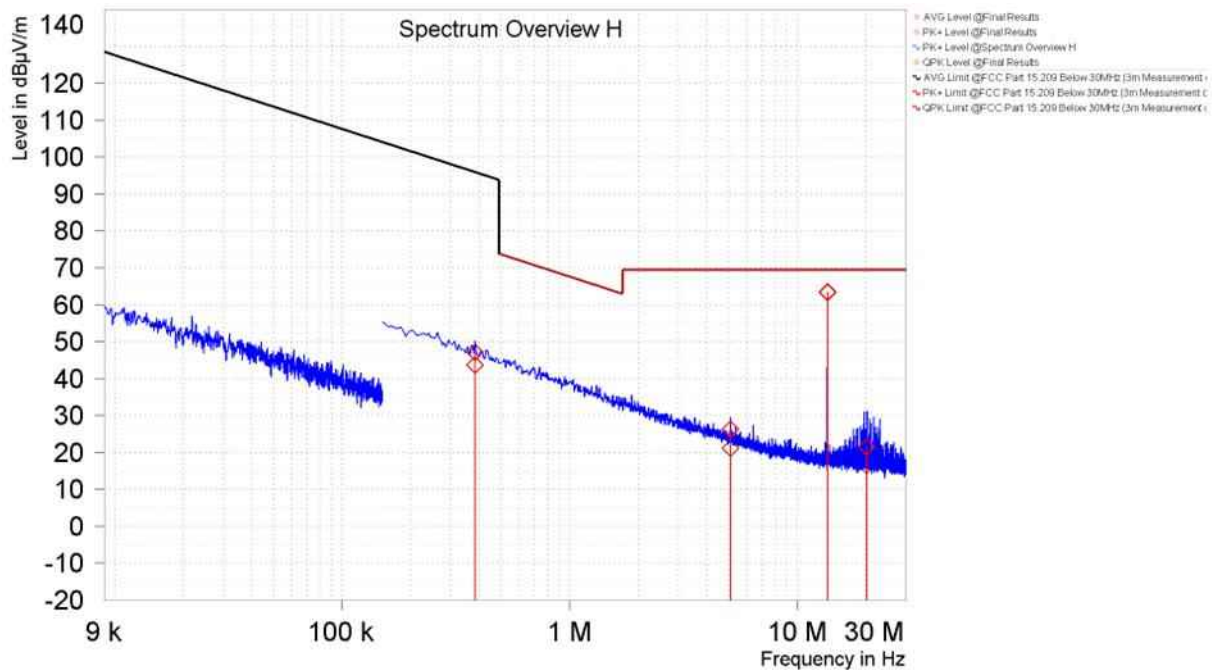


Figure 30. Out of Band Emissions Below 30MHz, Coaxial Loop, 5122

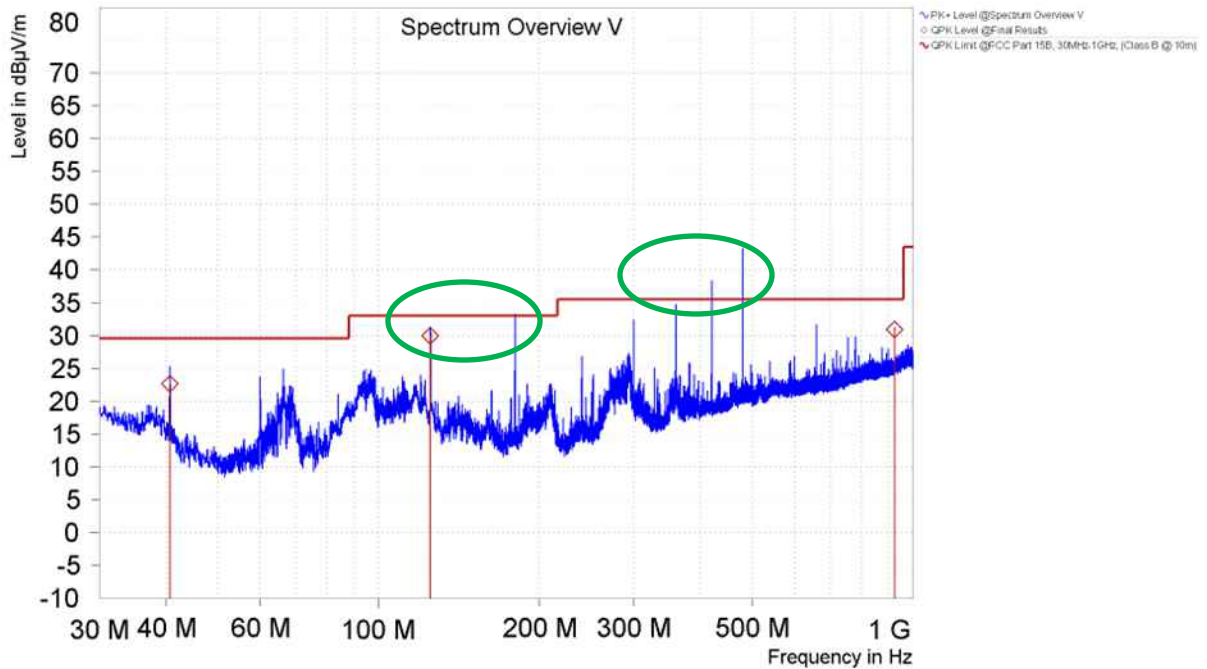


Figure 31. Out of Band Emissions Above 30MHz, Vertical Polarity, 5122⁹

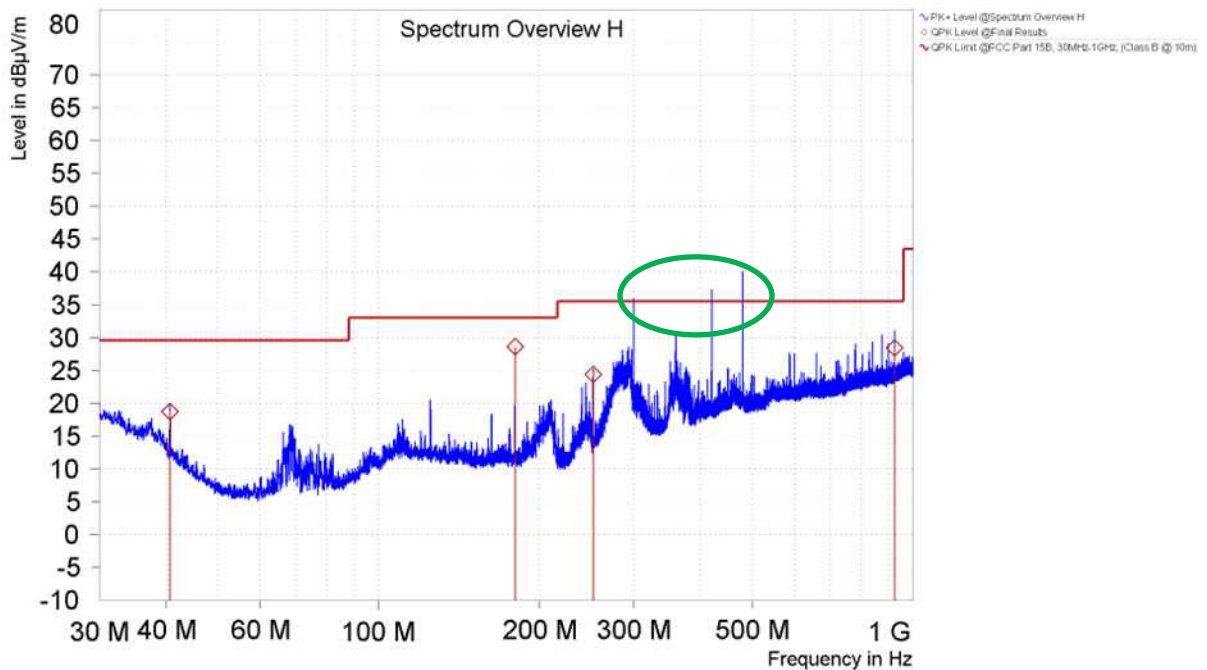


Figure 32. Out of Band Emissions Above 30MHz, Vertical Polarity, 5122⁹

⁹ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ¹⁰	Limit [dBμV/m]	Margin [dB]	Correction [dB] ¹¹	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.331	10.85	80.50	69.65	10.62	V	99.1	1.00	9.000	Pass
13.448	12.32	90.50	78.18	10.61	H	209.2	1.00	9.000	Pass
13.560	59.45	124.00	64.55	10.61	H	174.9	1.00	9.000	Pass
13.560	65.10	124.00	58.90	10.61	V	303.5	1.00	9.000	Pass
13.677	12.21	90.50	78.29	10.60	H	67.2	1.00	9.000	Pass
13.884	10.80	80.50	69.70	10.59	V	307.7	1.00	9.000	Pass

Figure 33. Worst Case In-Band Field Strength, 5122 (No Credential)

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.267	52.33	99.07	46.74	11.36	H	225	1.00	9.000	Pass
0.330	49.73	97.23	47.50	11.20	V	190.1	1.00	9.000	Pass
13.560	60.75	69.50	8.75	10.61	H	255.1	1.00	9.000	Pass
13.560	60.98	69.50	8.52	10.61	V	236.7	1.00	9.000	Pass
20.261	31.98	69.50	37.52	10.17	V	261.5	1.00	9.000	Pass
24.045	17.87	69.50	51.63	9.56	H	198	1.00	9.000	Pass

Figure 34. Worst Case Field Strength Below 30MHz, 5122 (No Credential)

¹⁰ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

¹¹ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
40.650	17.06	29.55	12.49	-8.19	H	256.2	1.38	120.000	Pass
40.680	24.28	29.55	5.27	-8.17	V	33.4	1.29	120.000	Pass
60.000	22.98	29.55	6.57	-14.11	V	108.9	2.48	120.000	Pass
125.010	29.99	33.07	3.08	-7.45	V	17.3	1.47	120.000	Pass
180.000	28.76	33.07	4.31	-10.07	H	225	2.49	120.000	Pass
923.970	28.67	35.57	6.90	5.11	H	206.4	1.02	120.000	Pass

Figure 35. Worst Case Field Strength Above 30MHz, 5122 (No Credential)

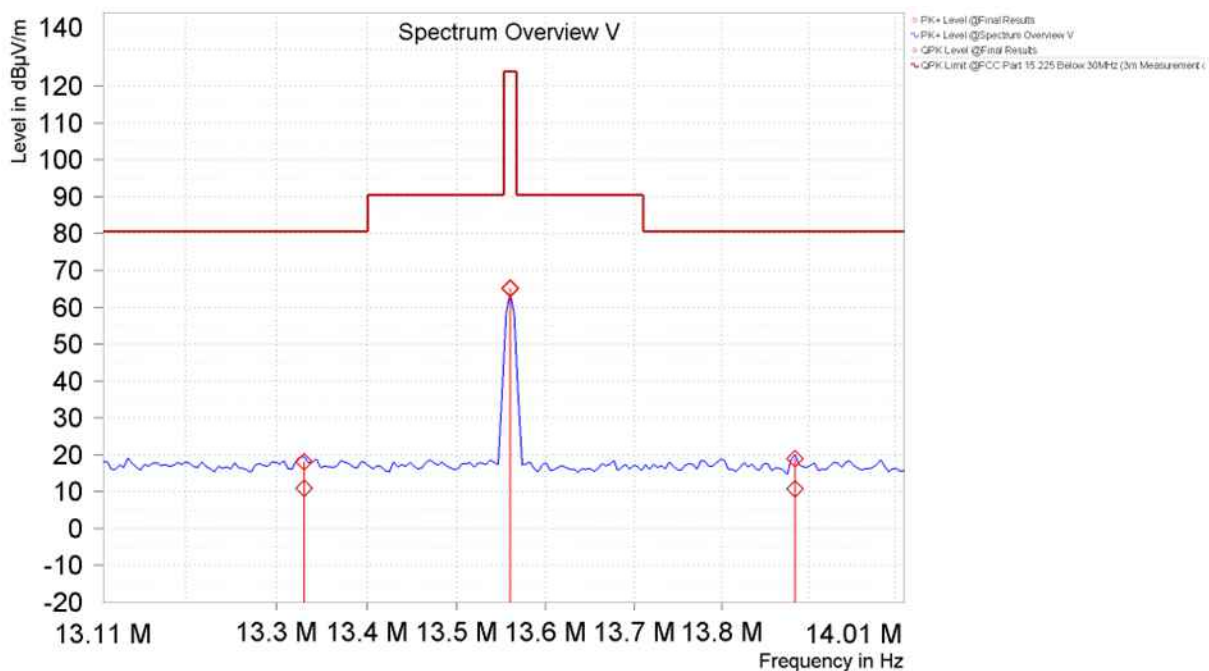


Figure 36. In-Band Emission Mask, Coplanar Loop, 5122 (No Credential)

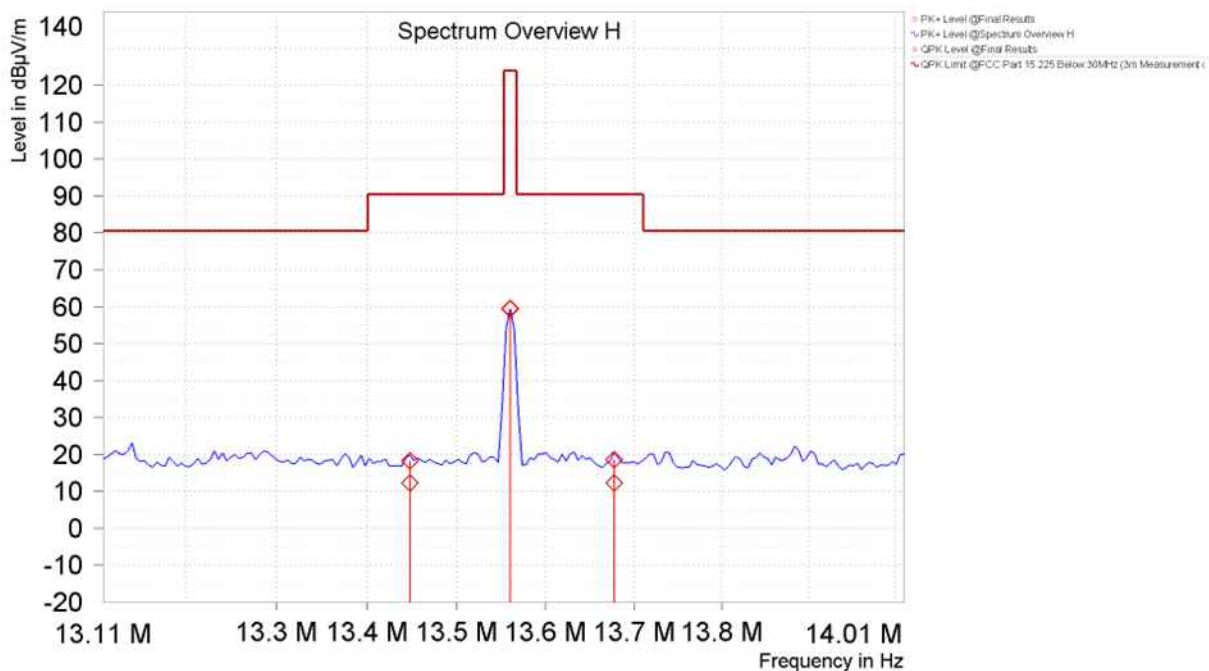


Figure 37. In-Band Emission Mask, Coaxial Loop, 5122 (No Credential)

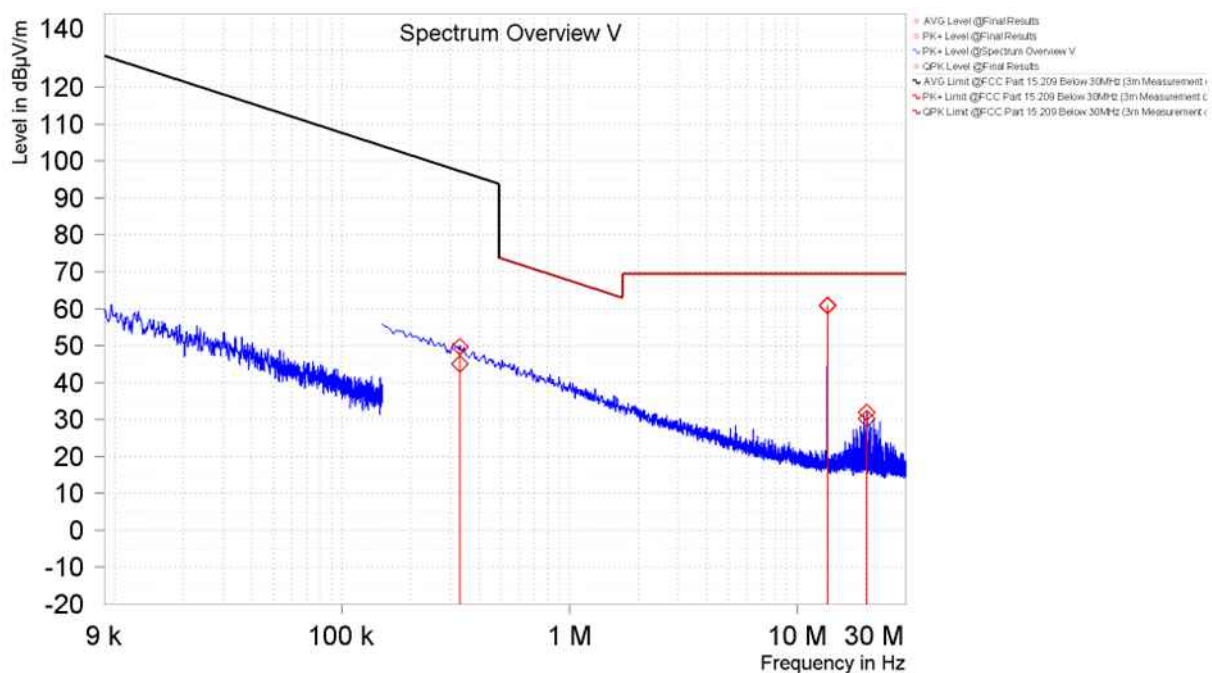


Figure 38. Out of Band Emissions Below 30MHz, Coplanar Loop, 5122 (No Credential)

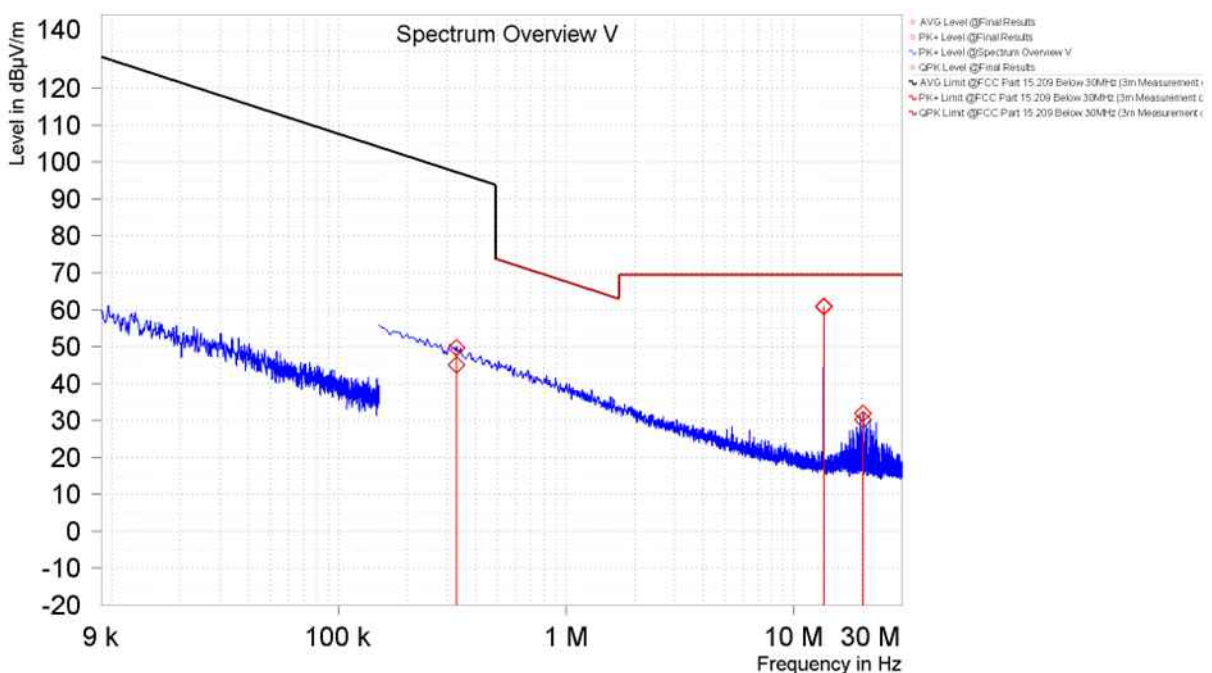


Figure 39. Out of Band Emissions Below 30MHz, Coaxial Loop, 5122 (No Credential)

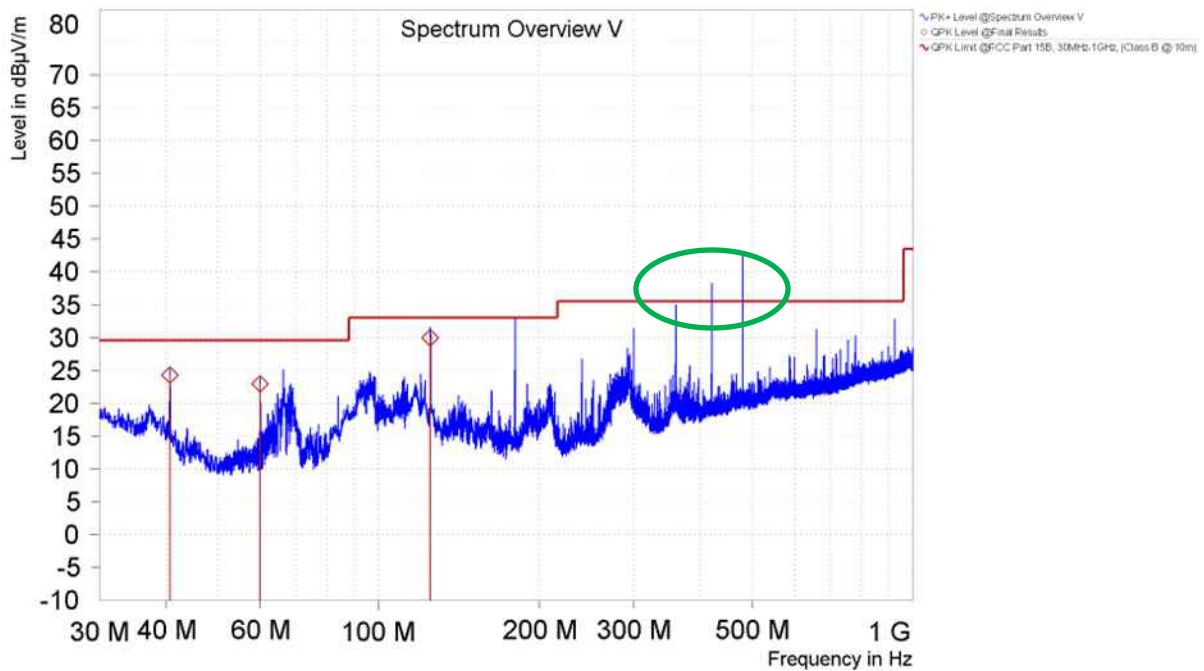


Figure 40. Out of Band Emissions Above 30MHz, Vertical Polarity, 5122 (No Credential)¹²

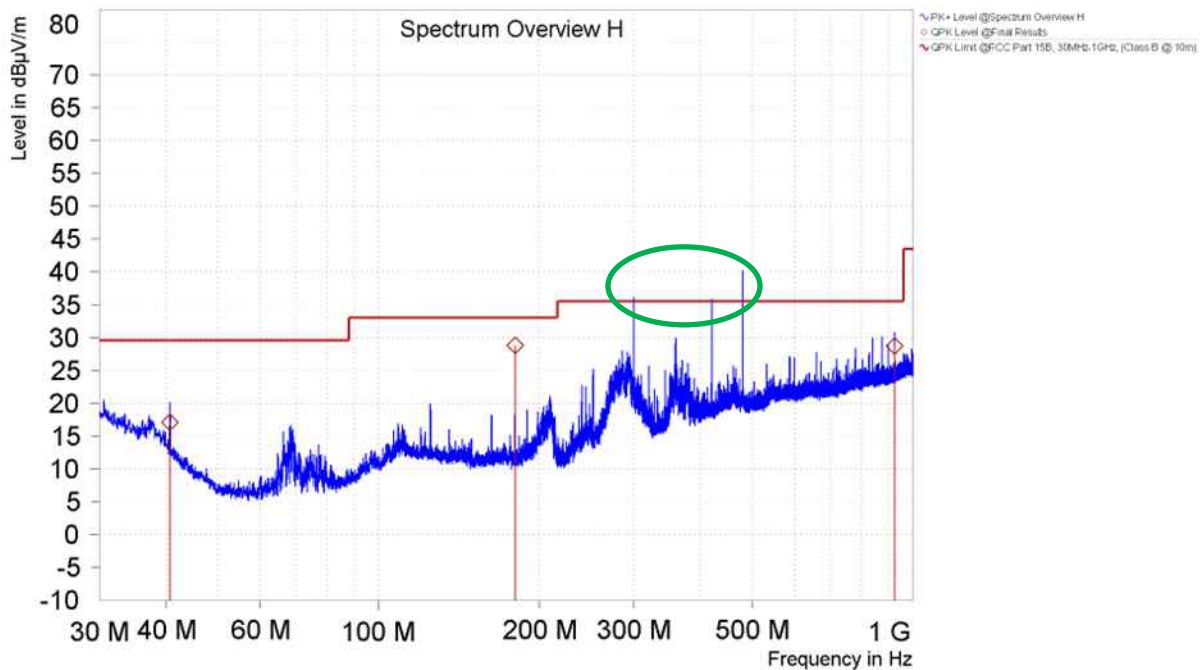


Figure 41. Out of Band Emissions Above 30MHz, Vertical Polarity, 5122 (No Credential)¹²

¹² The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ¹³	Limit [dBμV/m]	Margin [dB]	Correction [dB] ¹⁴	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.317	11.06	80.50	69.44	10.62	H	236.9	1.00	9.000	Pass
13.443	0.90	90.50	89.60	10.61	V	100.5	1.00	9.000	Pass
13.560	46.31	124.00	77.69	10.61	H	5	1.00	9.000	Pass
13.560	51.40	124.00	72.60	10.61	V	257.8	1.00	9.000	Pass
13.637	-1.06	90.50	91.56	10.60	V	304.4	1.00	9.000	Pass
13.889	9.14	80.50	71.36	10.59	H	195.2	1.00	9.000	Pass

Figure 42. Worst Case In-Band Field Strength, 5127SI

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.023	55.58	120.51	64.93	14.25	V	58.1	1.00	0.200	Pass
0.048	44.77	114.02	69.25	11.86	H	106.4	1.00	0.200	Pass
0.231	53.32	100.33	47.01	11.39	V	172.3	1.00	9.000	Pass
1.878	34.47	69.50	35.03	11.70	H	255	1.00	9.000	Pass
13.560	50.43	69.50	19.07	10.61	H	315.1	1.00	9.000	Pass
13.560	53.15	69.50	16.35	10.61	V	16.1	1.00	9.000	Pass

Figure 43. Worst Case Field Strength Below 30MHz, 5127SI

¹³ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

¹⁴ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
30.330	13.87	29.55	15.68	-2.43	H	99.9	1.99	120.000	Pass
30.630	15.71	29.55	13.84	-2.65	V	231.3	2.11	120.000	Pass
37.530	16.56	29.55	12.99	-6.53	V	148.6	2.41	120.000	Pass
45.720	11.47	29.55	18.08	-11.06	V	337.7	1.00	120.000	Pass
74.550	24.09	29.55	5.46	-13.26	V	286.1	1.55	120.000	Pass
75.150	18.83	29.55	10.72	-13.62	H	7.9	2.30	120.000	Pass
101.880	31.42	33.07	1.65	-8.78	V	119	1.90	120.000	Pass
756.000	30.13	35.57	5.44	3.71	V	352.1	1.69	120.000	Pass

Figure 44. Worst Case Field Strength Above 30MHz, 5127SI

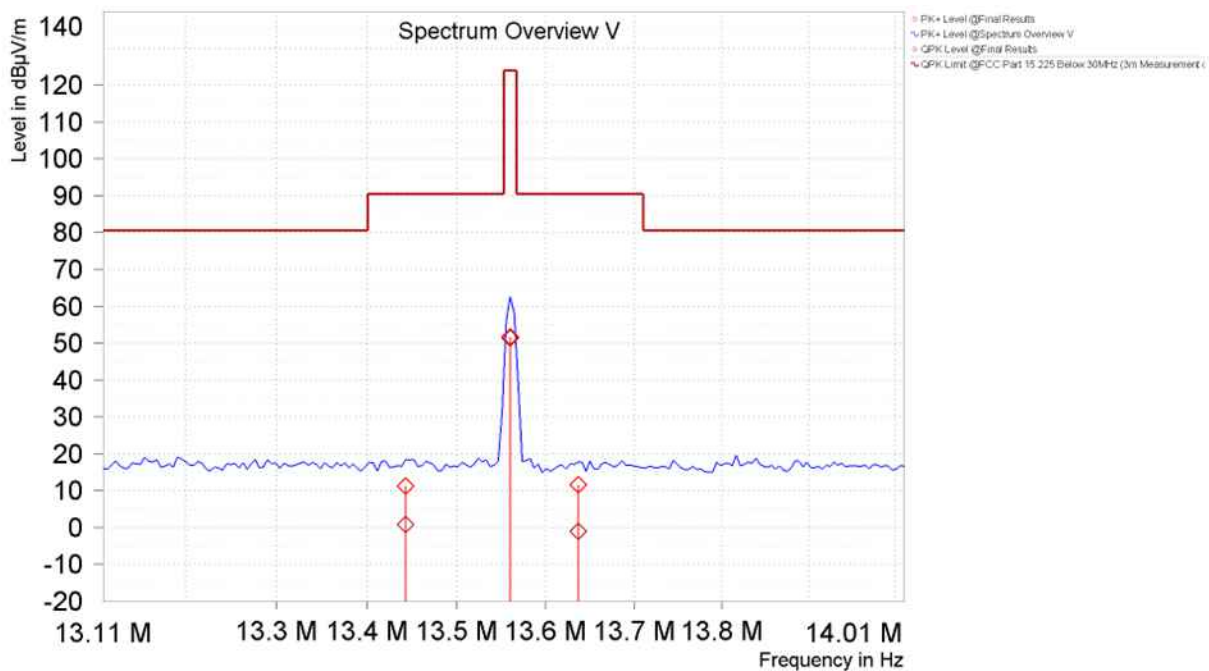


Figure 45. In-Band Emission Mask, Coplanar Loop, 5127SI

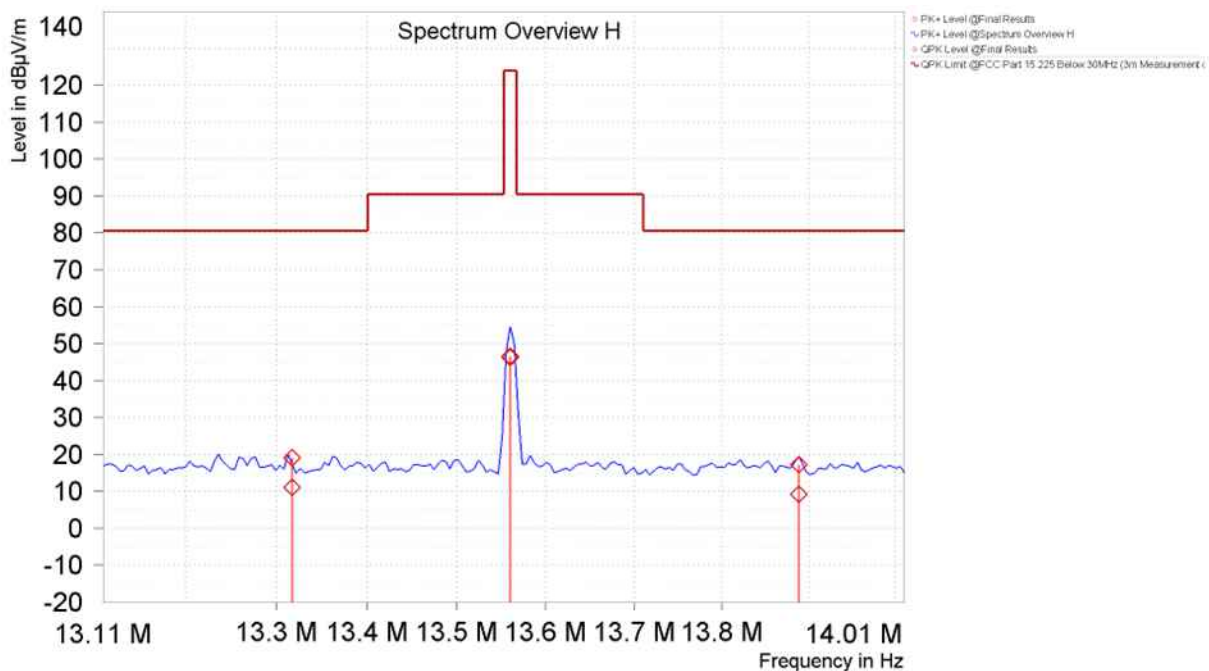


Figure 46. In-Band Emission Mask, Coaxial Loop, 5127SI

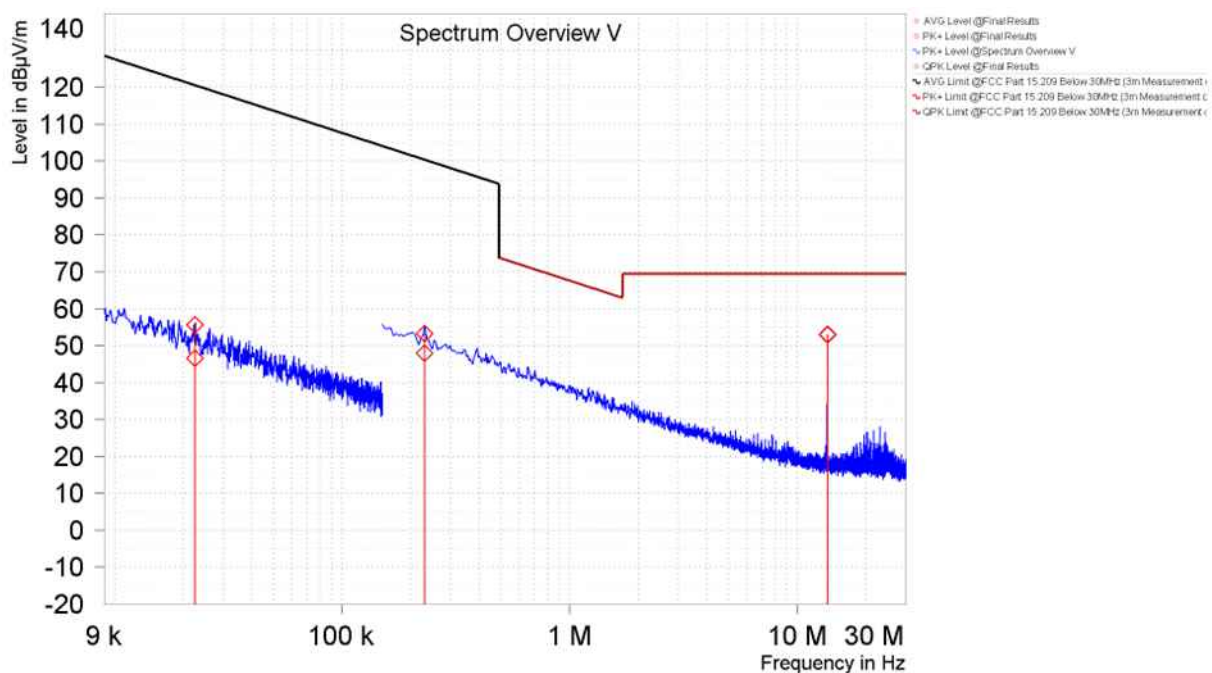


Figure 47. Out of Band Emissions Below 30MHz, Coplanar Loop, 5127SI

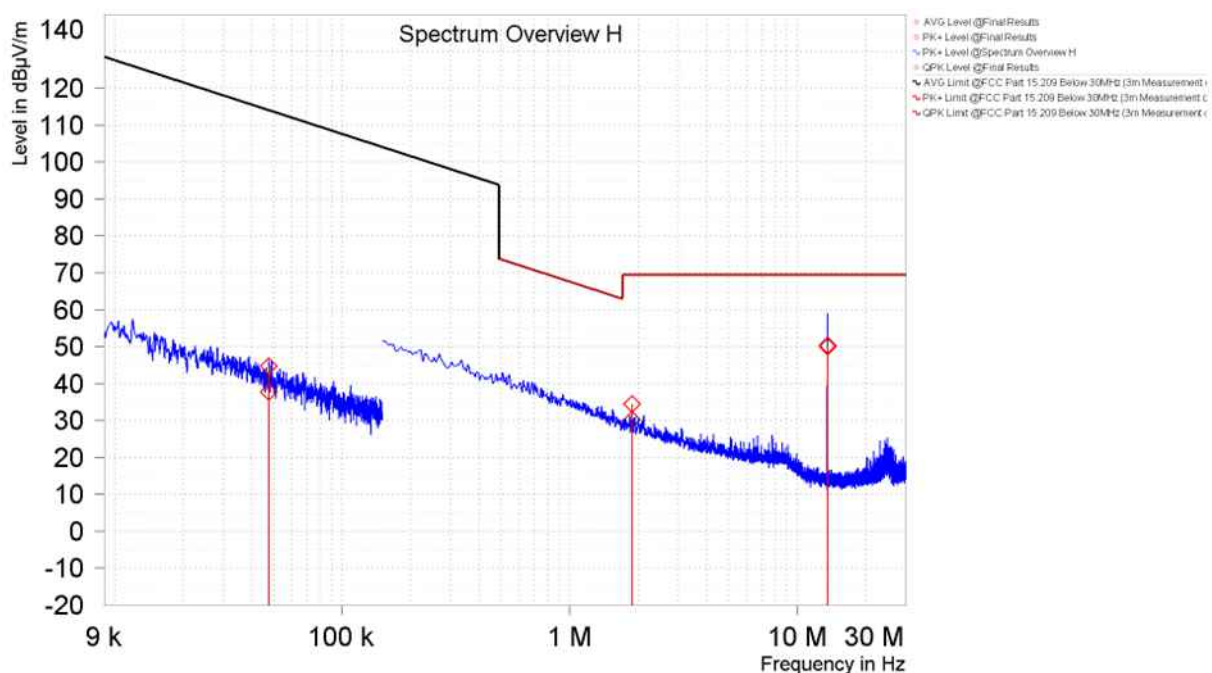


Figure 48. Out of Band Emissions Below 30MHz, Coaxial Loop, 5127SI

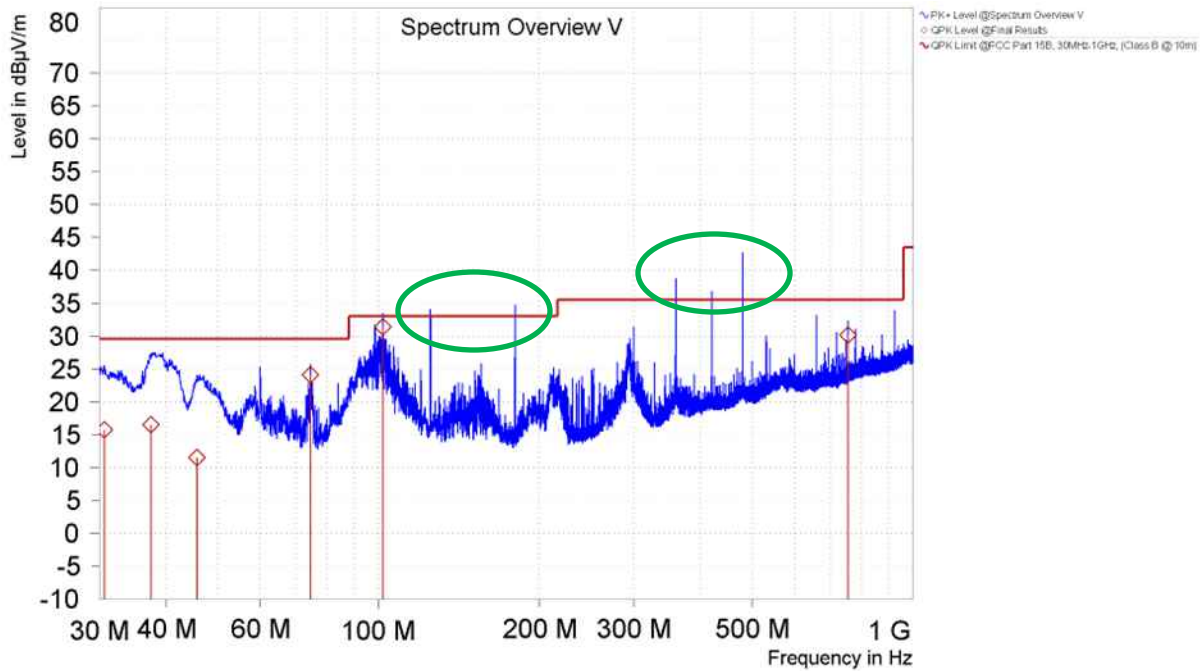


Figure 49. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127SI¹⁵

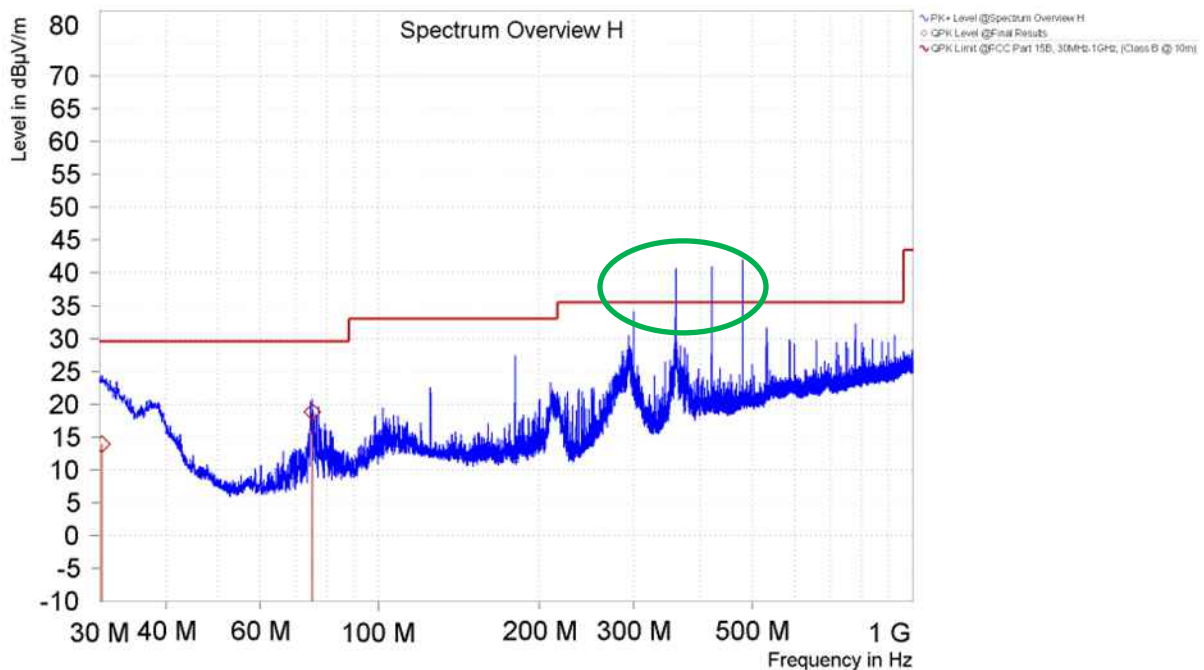


Figure 50. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127SI¹⁵

¹⁵ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ¹⁶	Limit [dBμV/m]	Margin [dB]	Correction [dB] ¹⁷	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.313	0.43	80.50	80.07	10.62	H	233.6	1.00	9.000	Pass
13.448	0.62	90.50	89.88	10.61	H	75.6	1.00	9.000	Pass
13.560	54.51	124.00	69.49	10.61	H	272.4	1.00	9.000	Pass
13.560	55.22	124.00	68.78	10.61	V	-0.1	1.00	9.000	Pass
13.668	2.16	90.50	88.34	10.60	H	307.3	1.00	9.000	Pass
13.961	2.60	80.50	77.90	10.59	H	309.6	1.00	9.000	Pass

Figure 51. Worst Case In-Band Field Strength, 5127SI (No Credential)

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.026	50.71	119.46	68.75	14.08	V	195.1	1.00	0.200	Pass
0.045	4.81	114.47	109.66	12.11	H	255	1.00	0.200	Pass
13.560	45.33	69.50	24.17	10.61	H	360.2	1.00	9.000	Pass
13.560	62.60	69.50	6.90	10.61	V	271.3	1.00	9.000	Pass
19.712	27.16	69.50	42.34	10.25	H	293.1	1.00	9.000	Pass
23.132	25.71	69.50	43.79	9.86	V	294.9	1.00	9.000	Pass

Figure 52. Worst Case Field Strength Below 30MHz, 5127SI (No Credential)

¹⁶ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

¹⁷ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
30.630	16.06	29.55	13.49	-2.56	H	333.3	2.47	120.000	Pass
60.000	22.76	29.55	6.79	-14.11	V	276.5	2.35	120.000	Pass
74.550	19.39	29.55	10.16	-13.66	H	350.8	2.43	120.000	Pass
74.550	23.92	29.55	5.63	-13.26	V	102.1	1.52	120.000	Pass
98.430	29.69	33.07	3.38	-9.24	V	144.4	1.26	120.000	Pass
101.880	16.79	33.07	16.28	-8.78	H	256.5	1.80	120.000	Pass
294.270	21.26	35.57	14.31	-5.14	V	187.4	1.08	120.000	Pass

Figure 53. Worst Case Field Strength Above 30MHz, 5127SI (No Credential)

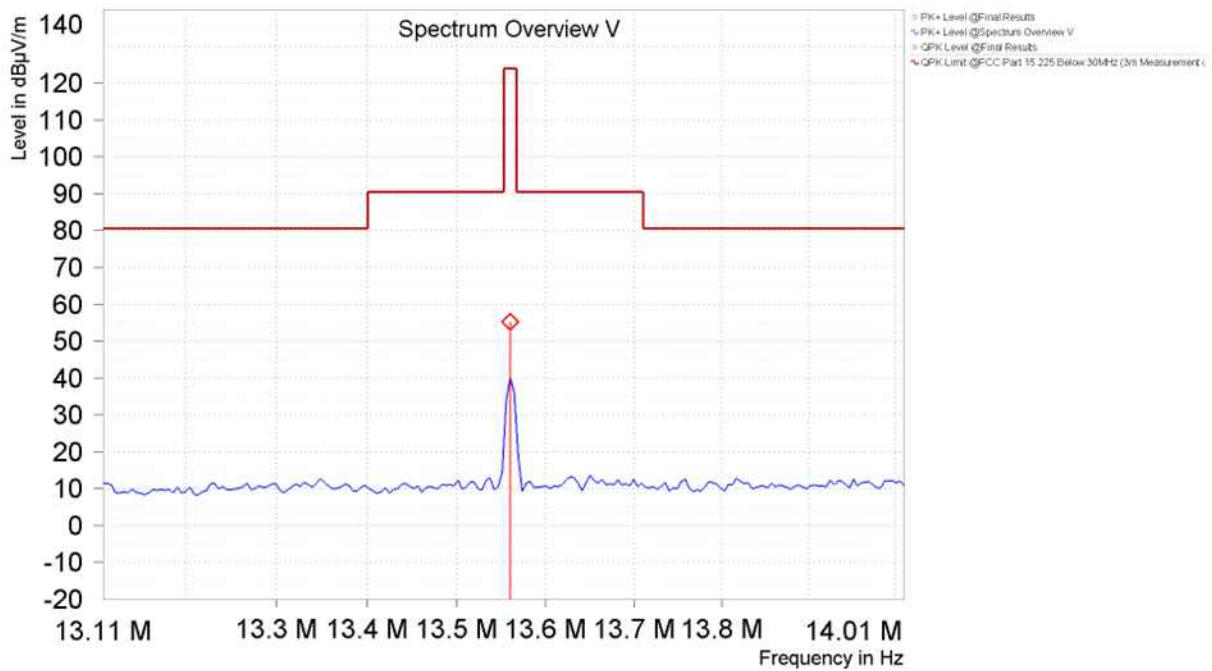


Figure 54. In-Band Emission Mask, Coplanar Loop, 5127SI (No Credential)

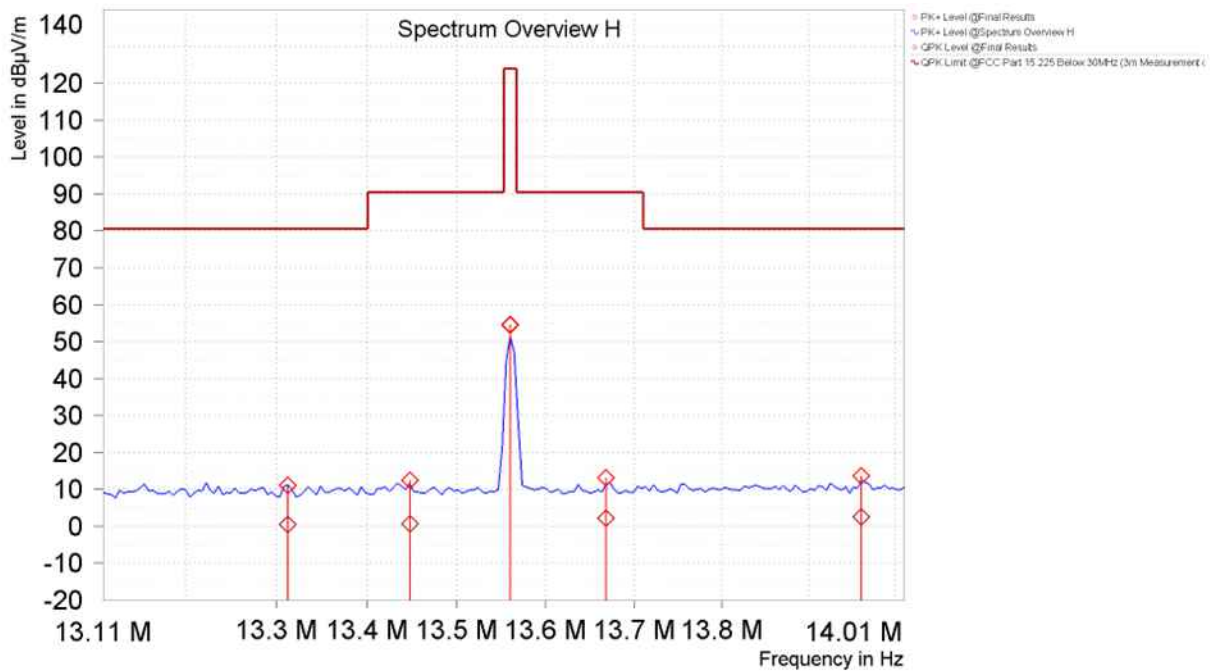


Figure 55. In-Band Emission Mask, Coaxial Loop, 5127SI (No Credential)

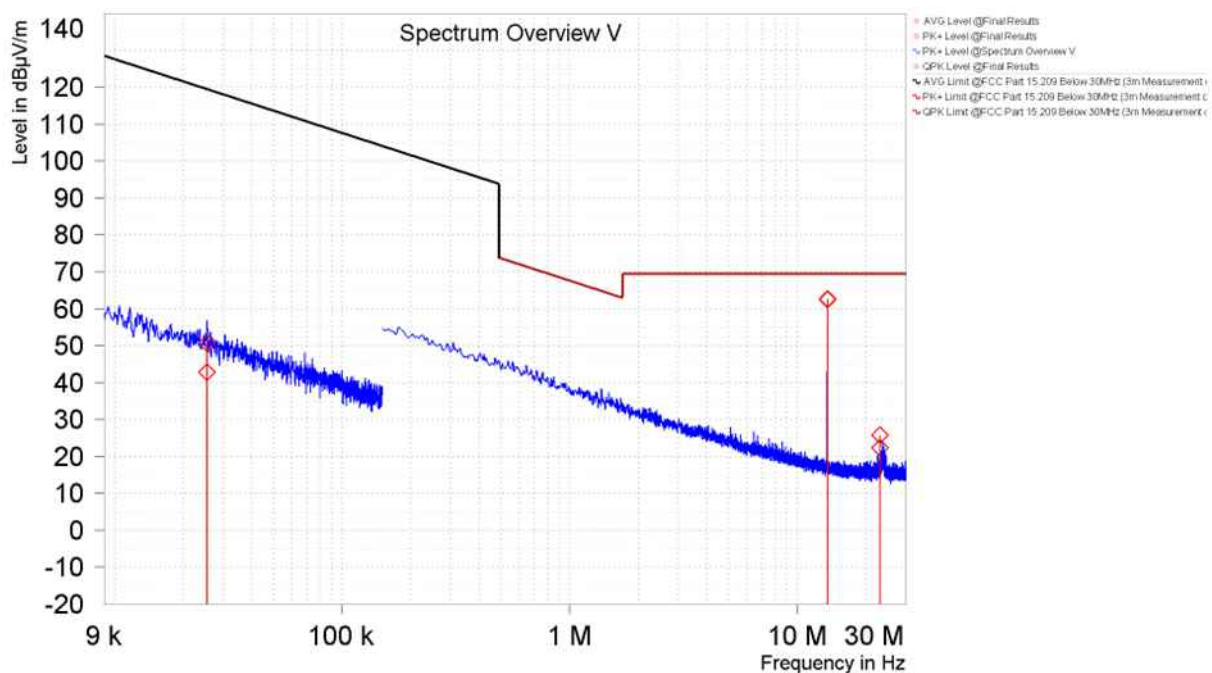


Figure 56. Out of Band Emissions Below 30MHz, Coplanar Loop, 5127SI (No Credential)

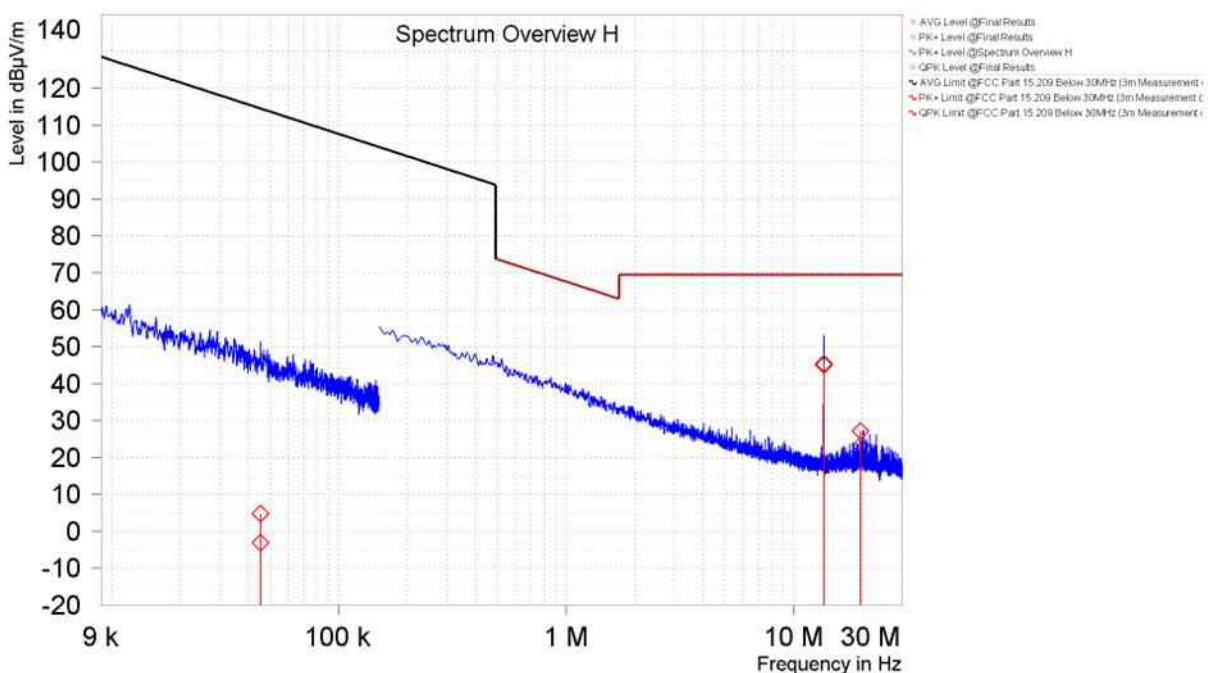


Figure 57. Out of Band Emissions Below 30MHz, Coaxial Loop, 5127SI (No Credential)

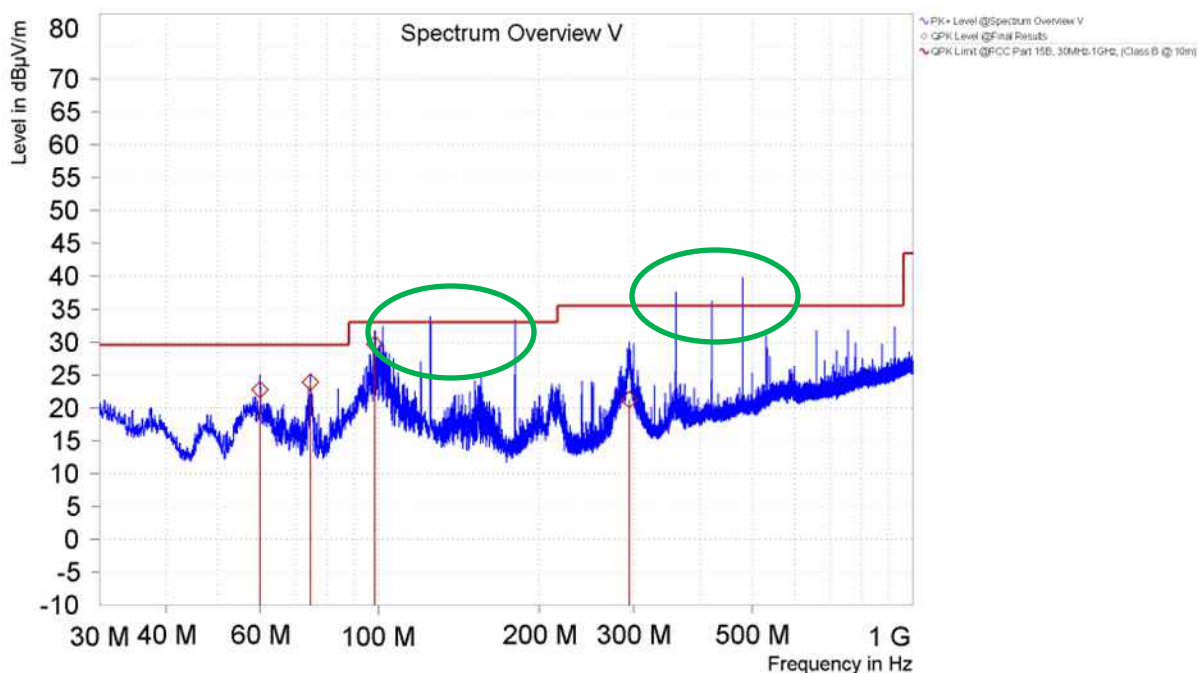


Figure 58. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127SI (No Credential)¹⁸

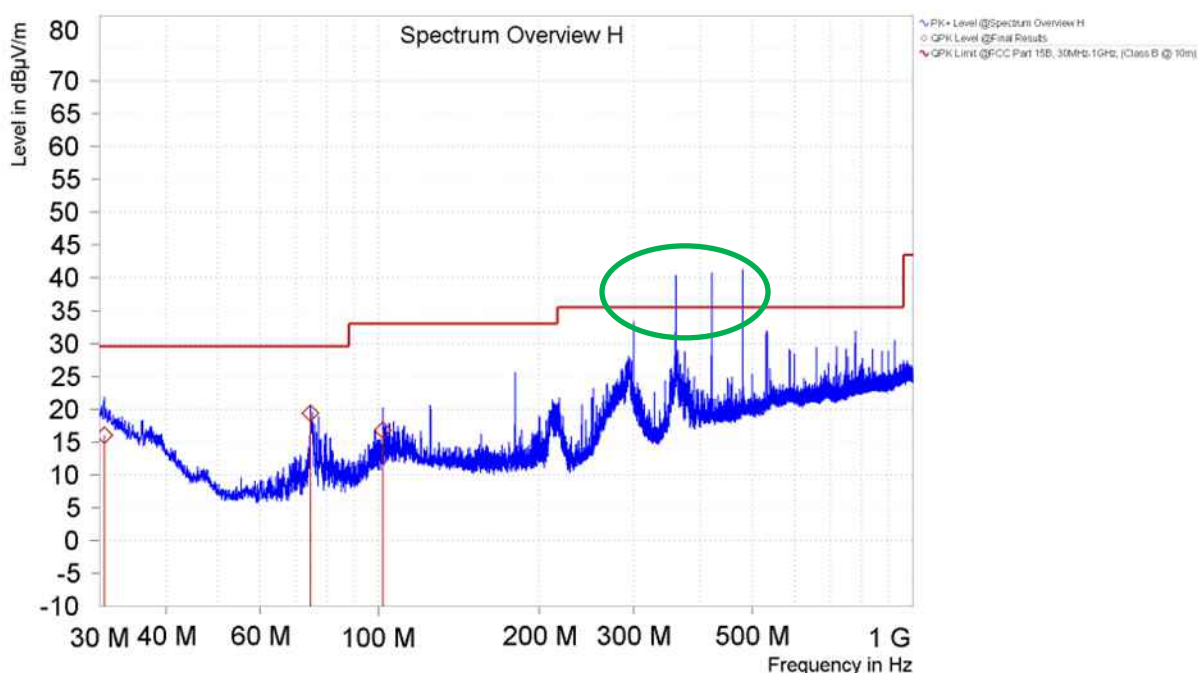


Figure 59. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127SI (No Credential)¹⁸

¹⁸ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ¹⁹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²⁰	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.344	-2.57	80.50	83.07	10.62	H	248.6	1.00	9.000	Pass
13.385	-2.33	80.50	82.83	10.61	V	61.8	1.00	9.000	Pass
13.439	-2.27	90.50	92.77	10.61	V	96.9	1.00	9.000	Pass
13.524	-1.67	90.50	92.17	10.61	H	225.2	1.00	9.000	Pass
13.560	47.16	124.00	76.84	10.61	H	271.9	1.00	9.000	Pass
13.560	47.08	124.00	76.92	10.61	V	267.8	1.00	9.000	Pass
13.682	-1.18	90.50	91.68	10.60	H	164.9	1.00	9.000	Pass
13.682	-0.78	90.50	91.28	10.60	V	152.5	1.00	9.000	Pass
13.875	-0.21	80.50	80.71	10.59	H	345.1	1.00	9.000	Pass
13.907	-0.03	80.50	80.53	10.59	V	30.8	1.00	9.000	Pass

Figure 60. Worst Case In-Band Field Strength, 5127 CK MINI

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.013	57.02	125.18	68.16	17.26	H	353.9	1.00	0.200	Pass
0.125	72.60	105.65	33.05	11.31	H	249.1	1.00	0.200	Pass
0.125	64.01	105.65	41.64	11.31	V	337.7	1.00	0.200	Pass
0.582	45.49	72.30	26.82	11.39	H	288.1	1.00	9.000	Pass
0.654	42.77	71.29	28.52	11.39	V	165	1.00	9.000	Pass
1.365	37.29	64.89	27.60	11.70	V	242.7	1.00	9.000	Pass
1.370	40.03	64.86	24.84	11.70	H	259.6	1.00	9.000	Pass
23.658	23.00	69.50	46.50	9.67	H	92.1	1.00	9.000	Pass

Figure 61. Worst Case Field Strength Below 30MHz, 5127 CK MINI

¹⁹ This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

²⁰ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
60.000	22.89	29.55	6.66	-14.11	V	100.8	2.33	120.000	Pass
96.030	18.16	33.07	14.91	-9.77	V	89.2	1.50	120.000	Pass
106.710	22.79	33.07	10.28	-8.02	V	84	1.01	120.000	Pass
125.010	31.73	33.07	1.34	-7.45	V	234.5	0.99	120.000	Pass
180.000	32.21	33.07	0.86	-9.87	V	187.8	1.16	120.000	Pass
300.000	33.25	35.57	2.32	-5.64	H	272.6	2.47	120.000	Pass
360.000	33.61	35.57	1.96	-3.53	H	83.2	2.20	120.000	Pass
780.000	32.24	35.57	3.33	3.43	H	104.8	1.00	120.000	Pass
924.000	29.23	35.57	6.34	6.20	V	112.3	1.60	120.000	Pass

Figure 62. Worst Case Field Strength Above 30MHz, 5127 CK MINI

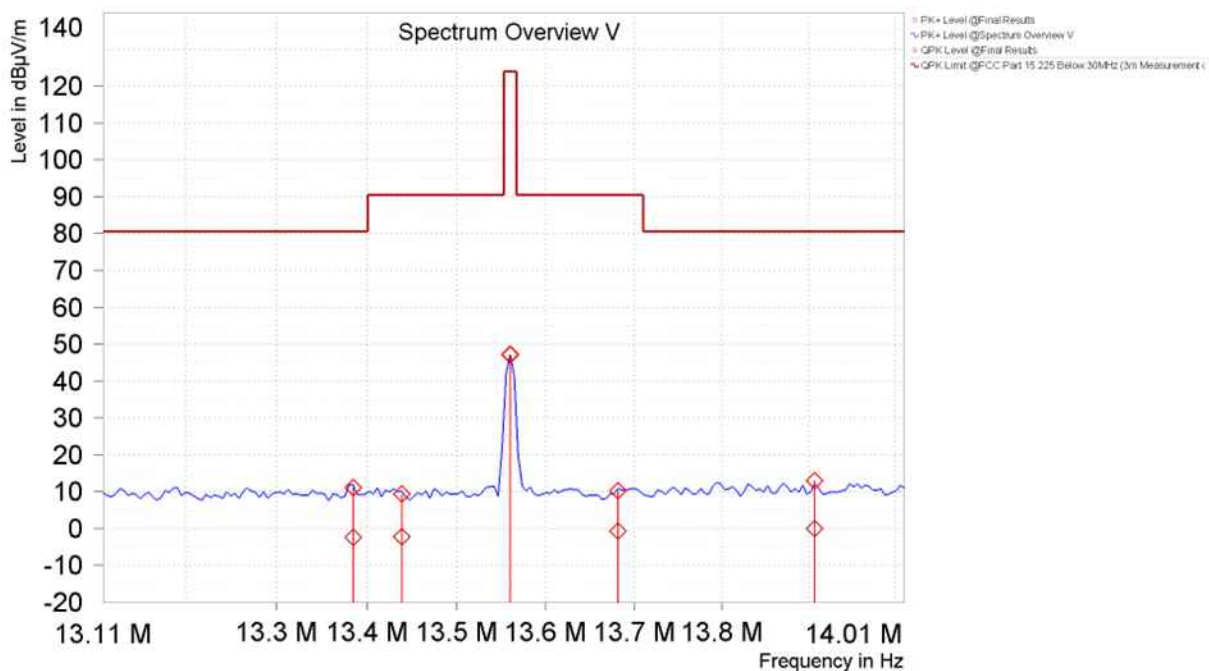


Figure 63. In-Band Emission Mask, Coplanar Loop, 5127 CK MINI

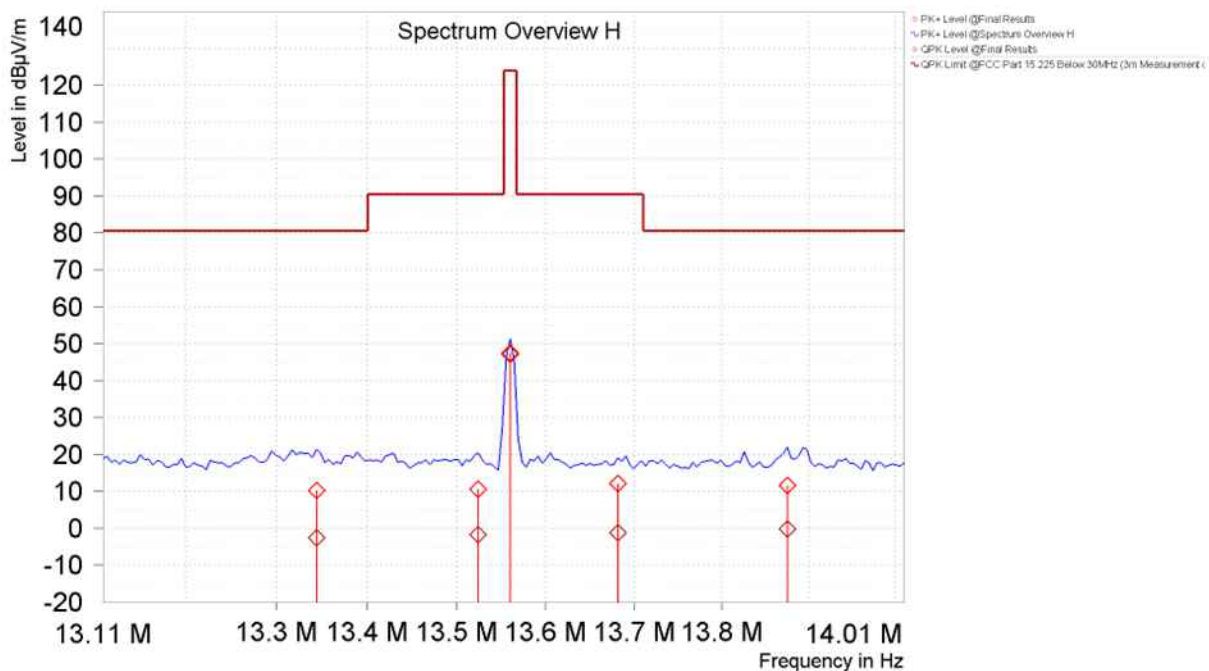


Figure 64. In-Band Emission Mask, Coaxial Loop, 5127 CK MINI

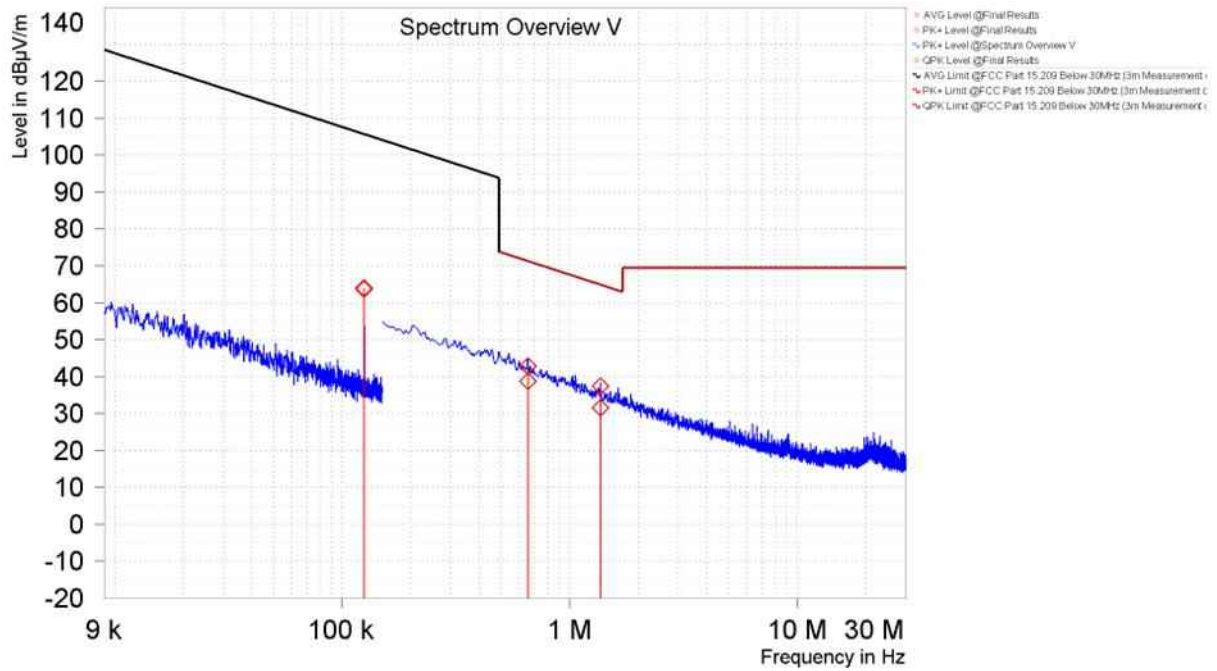


Figure 65. Out of Band Emissions Below 30MHz, Coplanar Loop, 5127 CK MINI

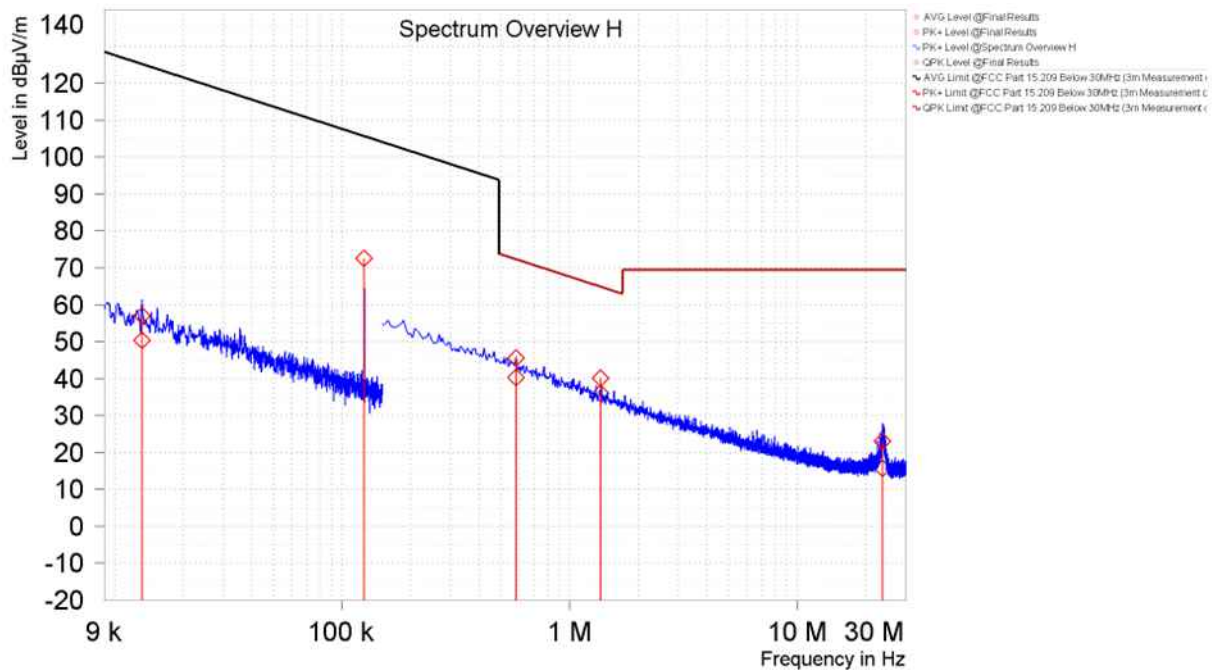


Figure 66. Out of Band Emissions Below 30MHz, Coaxial Loop, 5127 CK MINI

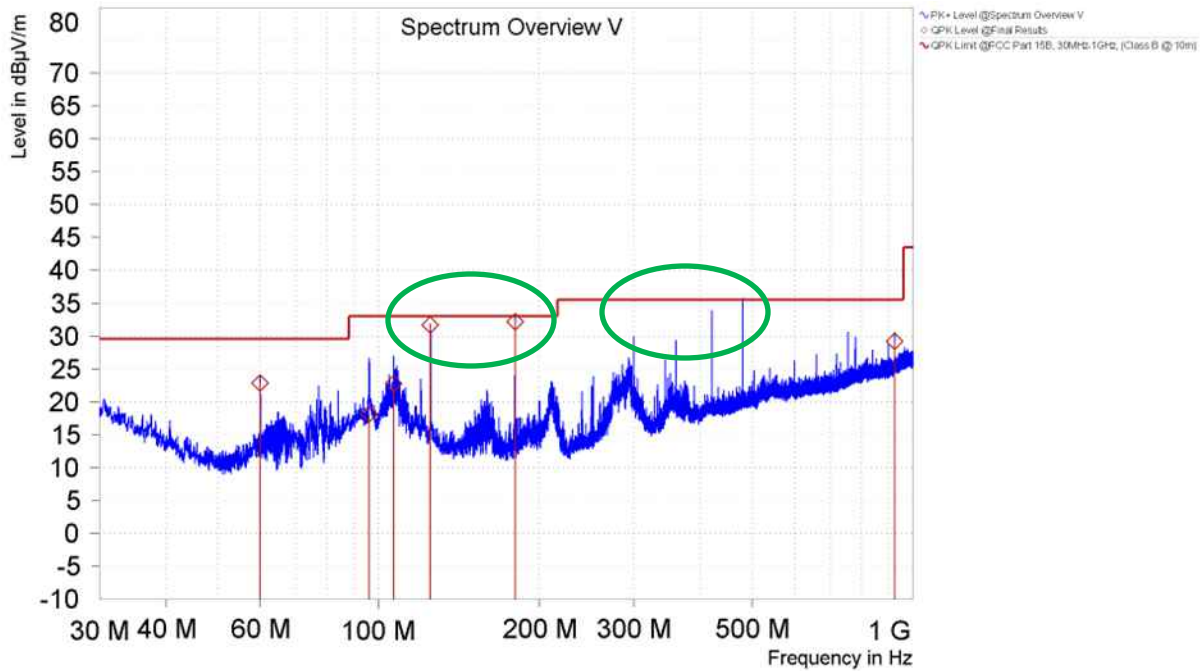


Figure 67. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127 CK MINI²¹

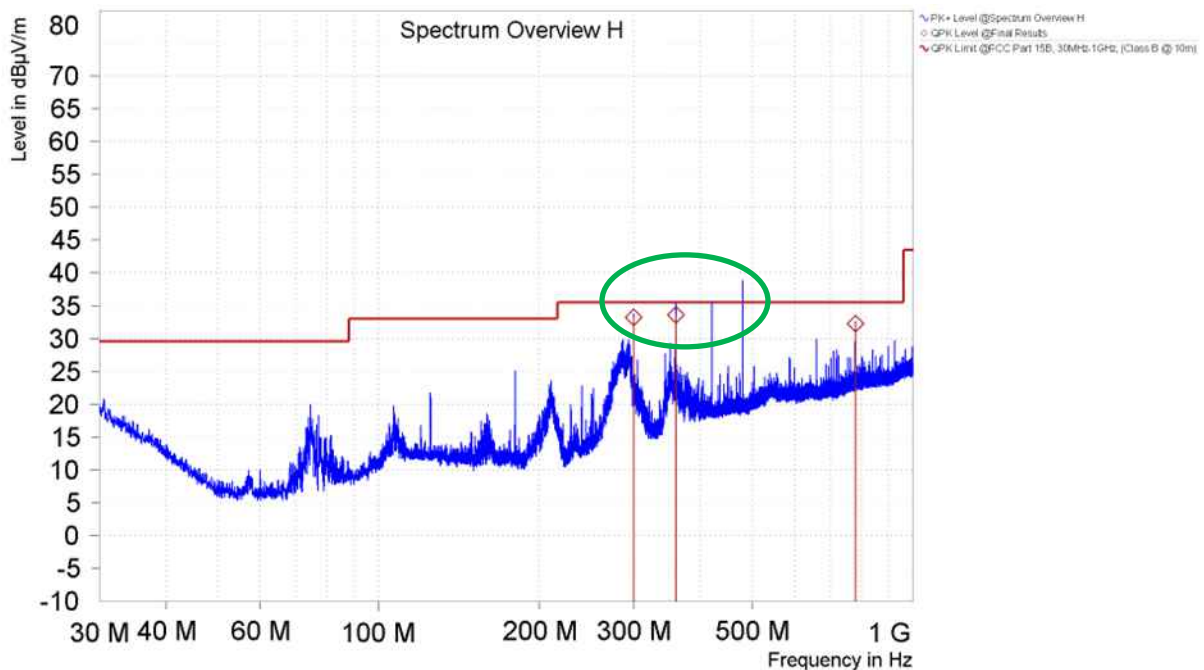


Figure 68. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127 CK MINI²¹

²¹ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Frequency [MHz]	Peak Level [dBμV/m] ²²	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²³	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.376	-2.39	80.50	82.89	10.61	H	260.2	1.00	9.000	Pass
13.376	12.10	80.50	68.40	10.61	V	224.1	1.00	9.000	Pass
13.457	-1.97	90.50	92.47	10.61	H	223.9	1.00	9.000	Pass
13.560	45.60	124.00	78.40	10.61	H	267.3	1.00	9.000	Pass
13.560	47.67	124.00	76.33	10.61	V	17.2	1.00	9.000	Pass
13.632	-1.58	90.50	92.08	10.60	H	107.3	1.00	9.000	Pass
13.794	-0.94	80.50	81.44	10.60	H	186.8	1.00	9.000	Pass
13.830	11.53	80.50	68.97	10.60	V	181.3	1.00	9.000	Pass

Figure 69. Worst Case In-Band Field Strength, 5127 CK MINI (No Credential)

Frequency [MHz]	Peak Level [dBμV/m] ¹	Limit [dBμV/m]	Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.018	54.68	122.48	67.80	15.13	V	44.8	1.00	0.200	Pass
0.031	51.28	117.74	66.45	13.71	H	125.8	1.00	0.200	Pass
0.125	72.45	105.65	33.21	11.31	H	246	1.00	0.200	Pass
0.125	58.98	105.65	46.67	11.31	V	132.5	1.00	0.200	Pass
0.533	46.93	73.08	26.15	11.37	V	79.8	1.00	9.000	Pass
0.573	44.68	72.44	27.76	11.41	H	136.5	1.00	9.000	Pass
1.050	39.69	67.17	27.49	11.77	H	293.3	1.00	9.000	Pass

Figure 70. Worst Case Field Strength Below 30MHz, 5127 CK MINI (No Credential)

²² This corrected level includes the factor shown in the “correction” column. The corrected level = Raw Reading + Correction Factor. The raw reading is not shown in the table above.

²³ This correction factor includes cable loss in dB, preamplifier gain in dB, and an electric field antenna factor in (dB/m).

Frequency [MHz]	QPK Level [dBμV/m] ¹	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB] ²	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
60.000	23.14	29.55	6.41	-14.11	V	92.3	2.40	120.000	Pass
95.970	19.64	33.07	13.43	-9.78	V	12.7	1.28	120.000	Pass
125.010	33.06	33.07	0.01	-7.45	V	228.3	1.26	120.000	Pass
300.000	33.22	35.57	2.35	-5.64	H	270.2	1.91	120.000	Pass
360.000	33.87	35.57	1.70	-3.53	H	88.6	2.01	120.000	Pass
780.000	32.18	35.57	3.39	3.43	H	115	1.14	120.000	Pass
923.970	30.44	35.57	5.13	6.20	V	194.5	1.69	120.000	Pass

Figure 71. Worst Case Field Strength Above 30MHz, 5127 CK MINI (No Credential)

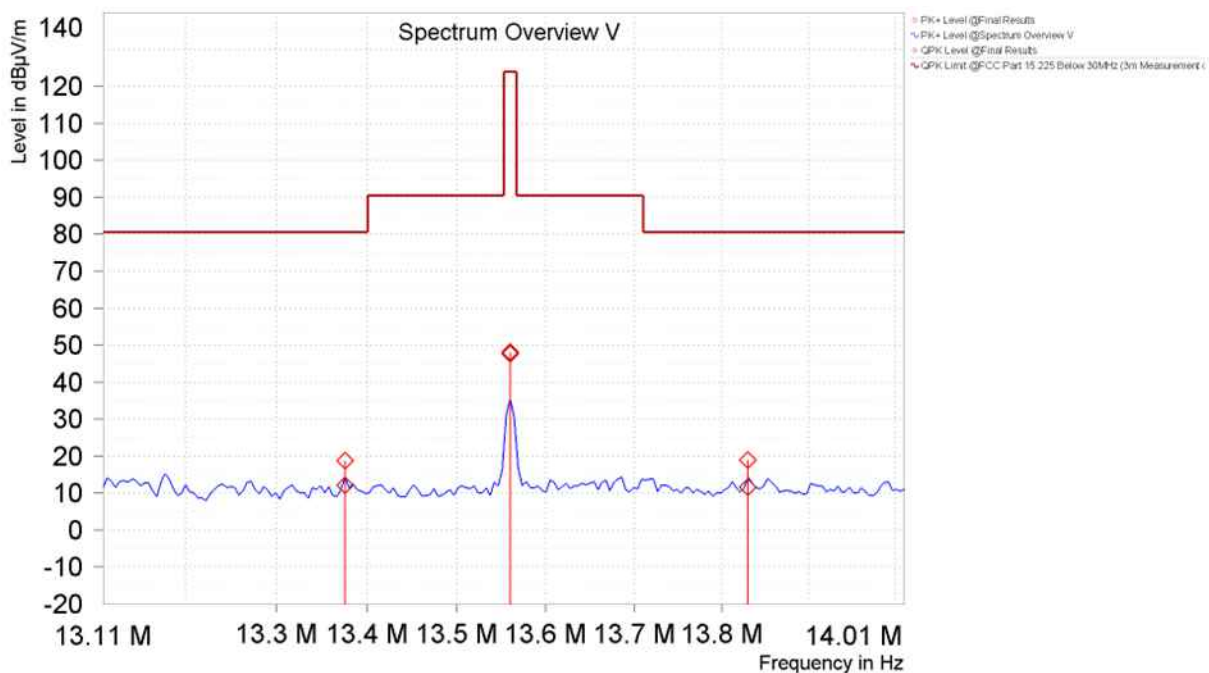


Figure 72. In-Band Emission Mask, Coplanar Loop, 5127 CK MINI (No Credential)

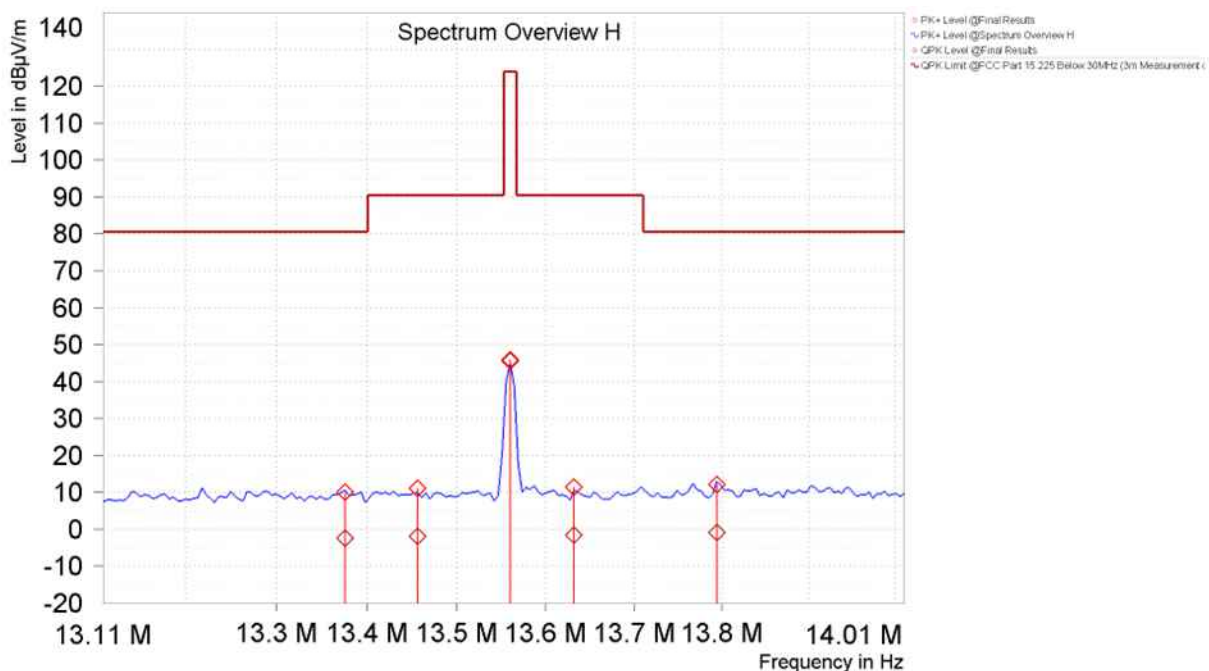


Figure 73. In-Band Emission Mask, Coaxial Loop, 5127 CK MINI (No Credential)

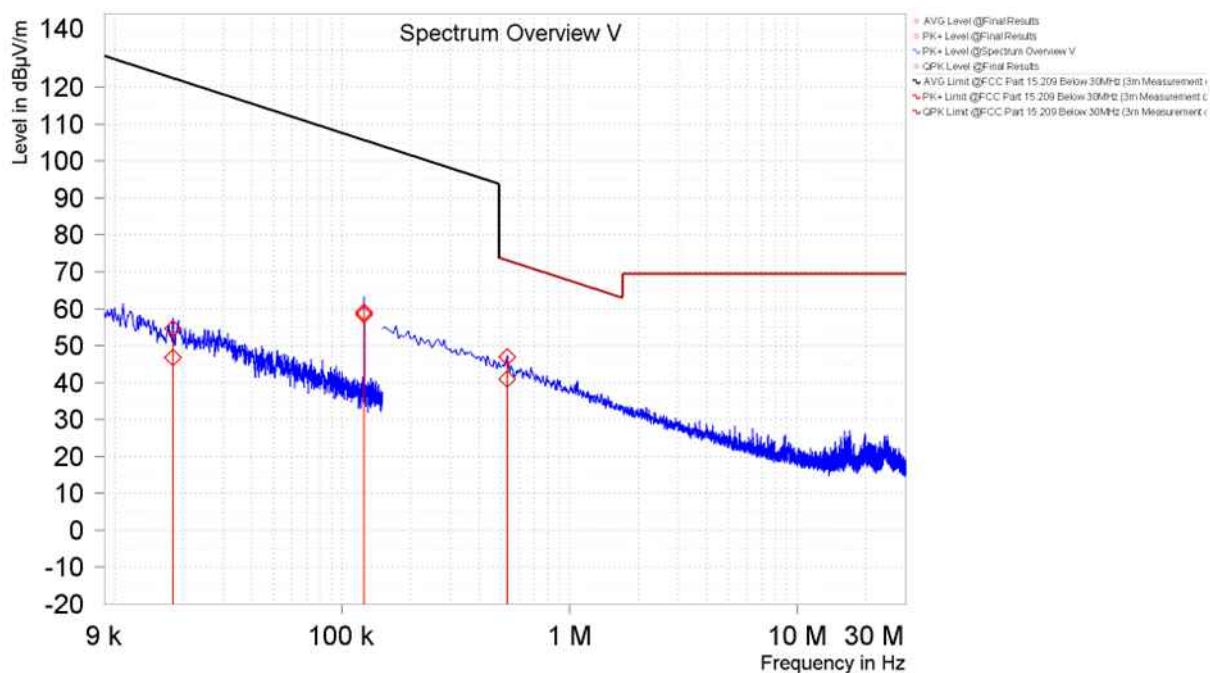


Figure 74. Out of Band Emissions Below 30MHz, Coplanar Loop, 5127 CK MINI (No Credential)

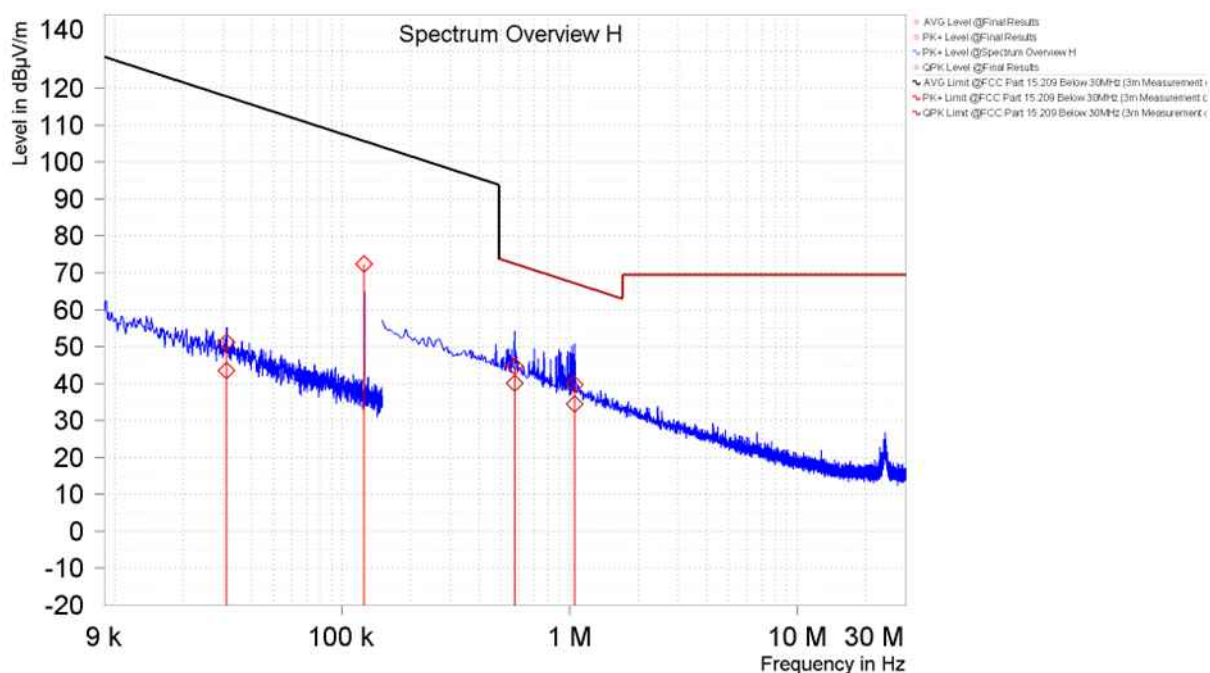


Figure 75. Out of Band Emissions Below 30MHz, Coaxial Loop, 5127 CK MINI (No Credential)

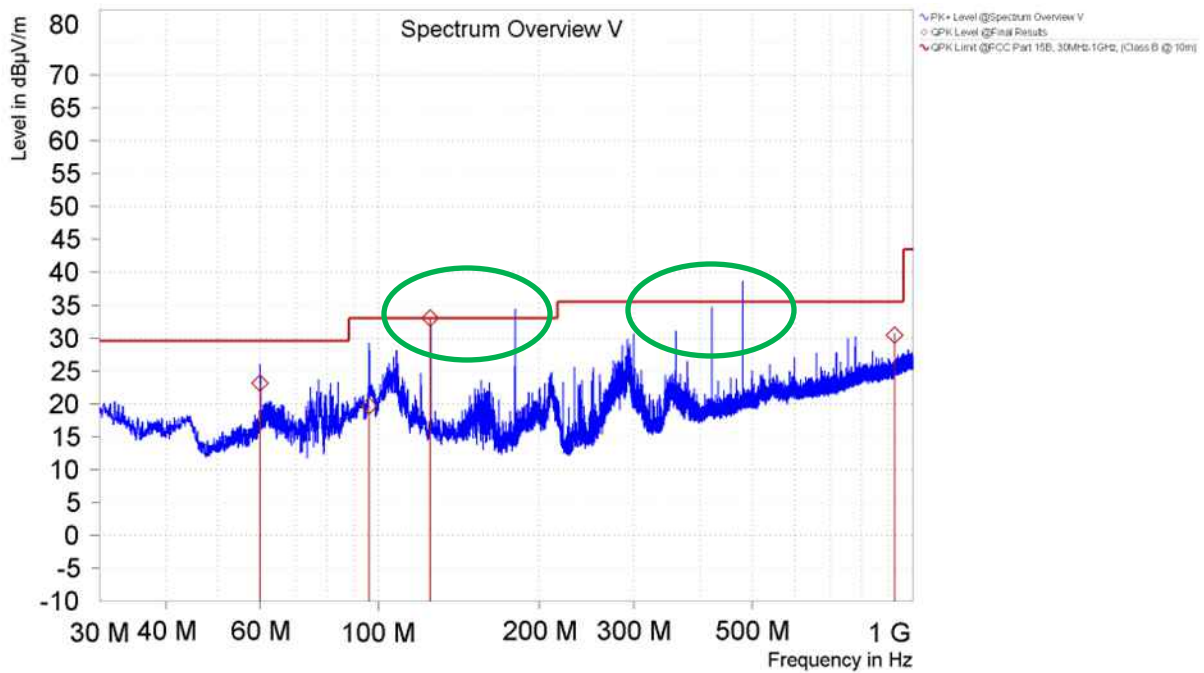


Figure 76. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127 CK MINI (No Credential)²⁴

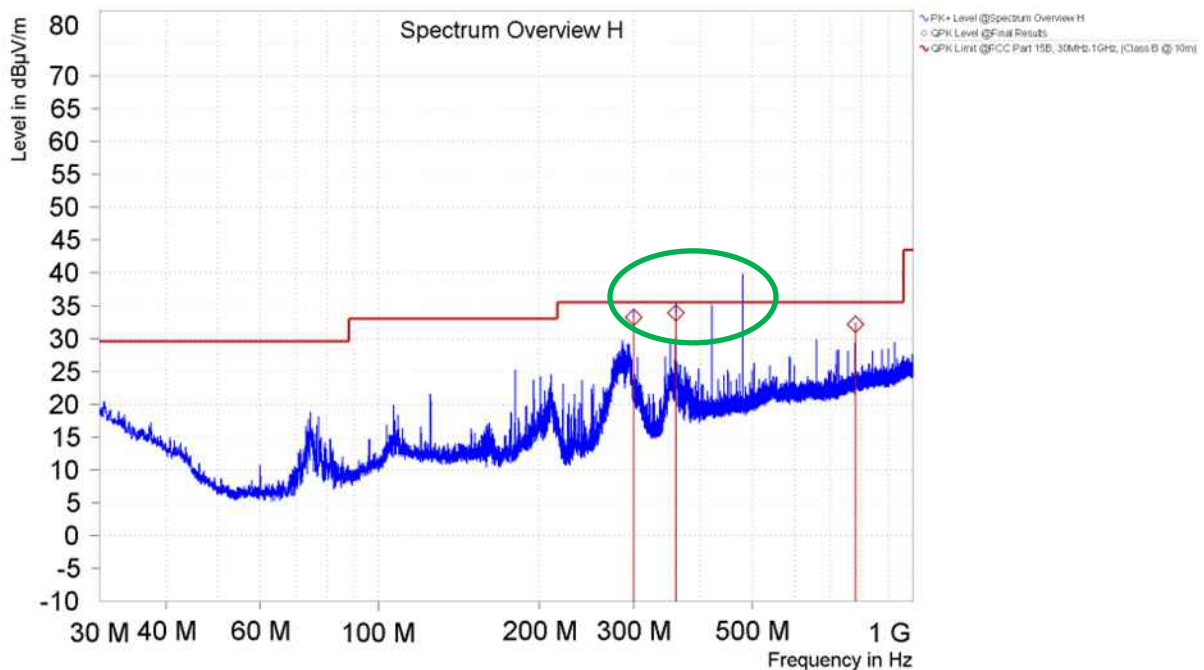


Figure 77. Out of Band Emissions Above 30MHz, Vertical Polarity, 5127 CK MINI (No Credential)²⁴

²⁴ The emissions circled in green were determined to originate from digital functions onboard the Color Card Printer, DTC1250e which is a class A device. These emissions were assessed under a separate FCC part 15B test report.

Electromagnetic Compatibility Criteria for Intentional Radiators

Frequency Stability

Test Requirement(s): **15.225(e)** The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

RSS-210 (B.6.b) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ (± 100 ppm) of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Procedure: Measurements are in accordance with section 6.8 of ANSI C63.10. The EUT was placed in the Environmental Chamber and allowed to reach desired temperature. A spectrum analyzer was connected to a magnetic field loop antenna and used to measure the frequency drift via a radiated path measurement. The EUT was set to transmit in the operating frequency range. Frequency drift was investigated for the extreme temperatures and nominal temperature, until the unit is stabilized then recorded the reading in tabular format with the temperature range of -20° to 50°C .

Test Results: The Color Card Printer, DTC1250e was compliant with Part 15.225 (e) and RSS-210 (B.6.b) requirement(s) of this section.

Test Engineer(s): Bryan Taylor

Test Date(s): 10/23/2025 – 10/24/2025

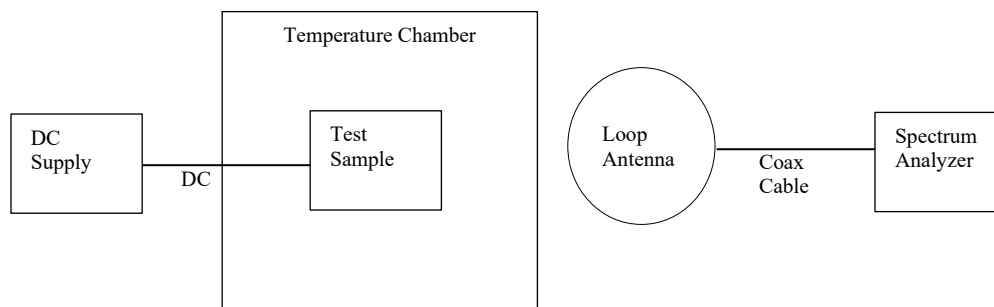


Figure 78. Temperature Stability Test Setup

Operating Frequency:		13,560,000	Hz			
Reference Voltage:		120	VAC			
Deviation Limit:		0.01	%			
Voltage %	Voltage (VAC)	Temp (°C)	Measured Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	Limit (%)
100%	120	-30	13,560,775	775	0.0057	0.01
100%	120	-20	13,560,816	816	0.0060	0.01
100%	120	-10	13,560,809	809	0.0060	0.01
100%	120	0	13,560,752	752	0.0055	0.01
100%	120	10	13,560,748	748	0.0055	0.01
100%	120	20	13,560,749	749	0.0055	0.01
100%	120	30	13,560,750	750	0.0055	0.01
100%	120	40	13,560,748	748	0.0055	0.01
100%	120	50	13,560,780	780	0.0058	0.01
115%	138	20	13,560,752	752	0.0055	0.01
85%	102	20	13,560,751	751	0.0055	0.01

Figure 79. Frequency Stability Test Results (Ribbon)

Operating Frequency:		13,560,000	Hz			
Reference Voltage:		120	VAC			
Deviation Limit:		0.01	%			
Voltage %	Voltage (VAC)	Temp (°C)	Measured Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	Limit (%)
100%	120	-30	13,560,787	787	0.0058	0.01
100%	120	-20	13,560,803	803	0.0059	0.01
100%	120	-10	13,560,789	789	0.0058	0.01
100%	120	0	13,560,882	882	0.0065	0.01
100%	120	10	13,559,889	-111	-0.0008	0.01
100%	120	20	13,559,889	-111	-0.0008	0.01
100%	120	30	13,559,890	-110	-0.0008	0.01
100%	120	40	13,559,892	-108	-0.0008	0.01
100%	120	50	13,559,890	-110	-0.0008	0.01
115%	138	20	13,559,891	-109	-0.0008	0.01
85%	102	20	13,559,889	-111	-0.0008	0.01

Figure 80. Frequency Stability Test Results (5122)

Operating Frequency:		13,560,000	Hz			
Reference Voltage:		120	VAC			
Deviation Limit:		0.01	%			
Voltage %	Voltage (VAC)	Temp (°C)	Measured Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	Limit (%)
100%	120	-30	13,560,436	436	0.0032	0.01
100%	120	-20	13,560,441	441	0.0033	0.01
100%	120	-10	13,560,439	439	0.0032	0.01
100%	120	0	13,560,433	433	0.0032	0.01
100%	120	10	13,560,425	425	0.0031	0.01
100%	120	20	13,560,419	419	0.0031	0.01
100%	120	30	13,560,413	413	0.0030	0.01
100%	120	40	13,560,429	429	0.0032	0.01
100%	120	50	13,560,429	429	0.0032	0.01
115%	138	20	13,560,422	422	0.0031	0.01
85%	102	20	13,560,426	426	0.0031	0.01

Figure 81. Frequency Stability Test Results (5127SI)

Operating Frequency:		13,560,000	Hz			
Reference Voltage:		120	VAC			
Deviation Limit:		0.01	%			
Voltage %	Voltage (VAC)	Temp (°C)	Measured Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	Limit (%)
100%	120	-30	13,560,479	479	0.0035	0.01
100%	120	-20	13,560,468	468	0.0035	0.01
100%	120	-10	13,560,712	712	0.0053	0.01
100%	120	0	13,560,426	426	0.0031	0.01
100%	120	10	13,560,423	423	0.0031	0.01
100%	120	20	13,560,421	421	0.0031	0.01
100%	120	30	13,560,422	422	0.0031	0.01
100%	120	40	13,560,428	428	0.0032	0.01
100%	120	50	13,560,432	432	0.0032	0.01
115%	138	20	13,560,427	427	0.0031	0.01
85%	102	20	13,560,425	425	0.0031	0.01

Figure 82. Frequency Stability Test Results (5127 CK MINI)

Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

MET Asset #	Description	Manufacturer	Model	Last Cal Date	Cal Due Date
1A1234	FSV Signal Analyzer	Rohde & Schwarz	FSV 40	03/13/2025	03/13/2026
1A1250	EMI Test Receiver	Rohde & Schwarz	ESW44	03/28/2025	03/28/2026
1A1176	Active Loop Antenna (9KHz-30MHz)	ETS-Lindgren	6502	08/22/2024	08/22/2026
1A1050	Bi-Log Antenna	Schaffner	CBL-6112D	03/05/2024	03/05/2026
1A1065	EMI Test Receiver	Rohde & Schwarz	ESCI	08/28/2025	08/28/2026
1A1177	Pulse Limiter	Rohde & Schwarz	ESH3Z2	12/11/2024	12/11/2025
3A3215	DC Milli-Ohm Meter	Valhalla	4150ATC	05/28/2025	05/28/2026
3A3377	Thermohygrometer with barometer	Omega	Q68706	03/31/2025	03/31/2026
1A1257	True-RMS Multimeter	Fluke	179	02/07/2025	02/07/2026
1A1123	LISN	TESEQ	NNB 51	12/11/2024	12/11/2025
1A1225	Environmental Chamber	Espec	EXP-2H/New	05/16/2025	05/16/2026
1A1099	Generator	Com-Power	CGO-51000	See Note	
1A1044	Generator	Com-Power	CG-520	See Note	
1A1073	Multi Device Controller	ETS	2090	See Note	
1A1074	System Controller	Panasonic	WV-CU101	See Note	
1A1080	Multi-Device	ETS	2090	See Note	
1A1180	Preamplifier	Miteq	AMF-7D-01001800-22-10P	See Note	

Table 21. Test Equipment List

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

End of Report