



Engineering Test Report No. 2402438-04 Rev. A

Report Date	April 25, 2025			
Manufacturer Name	The Chamberlain Group LLC			
Manufacturer Address	300 Windsor Dr Oak Brook, IL 60523			
Test Item Name Model No.	Vulcan – 900-15607 Rev F Model No. – 900-15607-11, 2200SA, 2200M, C1000LA, 2310M			
Date Received	March 7, 2025			
Test Dates	March 10, 2025 – July 16, 2025			
Specifications	FCC "Code of Federal Regulations" Title 47 Part 15, Subpart B, Section 15.109 FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.247 Innovation, Science, and Economic Development Canada, ICES-003 Innovation, Science, and Economic Development Canada, RSS-GEN Innovation, Science, and Economic Development Canada, RSS-247			
Test Facility	Elite Electronic Engineering, Inc. 1516 Centre Circle, Downers Grove, IL 60515	FCC Reg. Number: 269750 IC Reg. Number: 2987A CAB Identifier: US0107		
Signature				
Tested by	Nathaniel Bouchie			
Signature				
Approved by	Raymond J. Klouda, Registered Professional Engineer of Illinois – 44894			
PO Number	4900099030			
This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.				
This report shall not be reproduced, except in full, without the written approval of Elite Electronic Engineering Inc.				
Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the FCC "Code of Federal Regulations" Title 47 Part 15, Subpart B, Section 15.109; FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.247; Innovation, Science, and Economic Development Canada, ICES-003; Innovation, Science, and Economic Development Canada, RSS-247; and Innovation, Science, and Economic Development Canada, RSS-GEN test specifications. The data presented in this test report pertains to the EUT on the test dates specified. Any electrical or mechanical modifications made to the EUT subsequent to the specified test date will serve to invalidate the data and void this certification. This report must not be used to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.				

Table of Contents

1.	Report Revision History	3
2.	Introduction	4
2.1.	Scope of Tests	4
2.2.	Purpose	4
2.3.	Identification of the EUT	4
3.	Power Input	4
4.	Grounding	4
5.	Support Equipment	5
6.	Interconnect Leads	5
7.	Modifications Made to the EUT	5
8.	Modes of Operation	5
9.	Test Specifications	6
10.	Test Plan	7
11.	Deviation, Additions to, or Exclusions from Test Specifications	7
12.	Laboratory Conditions	7
13.	Summary	7
14.	Sample Calculations	8
15.	Statement of Conformity	8
16.	Certification	8
17.	Photographs of EUTs	9
18.	Equipment List	13
19.	Block Diagram of Test Setup	14
20.	RF Radiated Emissions	15
21.	20dB Bandwidth	38
22.	Occupied Bandwidth (99%)	42
23.	Maximum Peak Conducted Output Power	46
24.	Effective Isotropic Radiated Power (EIRP)	50
25.	Duty Cycle Factor Measurements	54
26.	Antenna Conducted Spurious Emissions	65
27.	Spurious Radiated Emissions	72
28.	Band-Edge Compliance	91
29.	Scope of Accreditation	105

This report shall not be reproduced, except in full,
without the written approval of Elite Electronic Engineering Inc.

1. Report Revision History

Revision	Date	Description
-	25 APR 2025	Initial Release of Engineering Test Report No. 2404238-04
A	22 JUL 2025 By NDB	<ul style="list-style-type: none">- Throughout report: Report number changed to 2402438-04 Rev. A.- Cover Page and Section 2: Model No.'s 2200SA, 2200M, C1000LA, and 2310M were added.- Cover Page: Added date of most recent testing.- Section 15: Model No.'s 2200SA, 2200M, C1000LA, and 2310M were added to Statement of Conformity.- Section 17: Added photographs of the 2200SA, 2200M, C1000LA, and 2310M EUTs.- Section 18: Equipment List was updated with current calibration dates.- Section 24: Added data for 2200SA, 2200M, C1000LA, and 2310M EUTs.- Section 25: Added data for 2200SA, 2200M, C1000LA, and 2310M EUTs.- Section 27: Added data for 2200SA, 2200M, C1000LA, and 2310M EUTs.- Section 28: Added data for 2200SA, 2200M, C1000LA, and 2310M EUTs.- Section 29: Updated Scope of Accreditation.

2. Introduction

2.1. Scope of Tests

This document presents the results of a series of RF emissions tests that were performed on six (6) Vulcan – 900-15607 Rev Fs (hereinafter referred to as the Equipment Under Test (EUT)). The EUTs were manufactured and submitted for testing by The Chamberlain Group LLC located in Oak Brook, IL.

2.2. Purpose

The test series was performed to determine if the EUTs meet the RF emission requirements of the FCC “Code of Federal Regulations” Title 47, Part 15, Subpart C, §15.247 for a Digital Modulation intentional radiator operating within the 902 – 928MHz band.

The test series was also performed to determine if the EUTs meet the RF emission requirements of the Innovation, Science, and Economic Development Canada Radio Standards Specification RSS-Gen and Innovation, Science, and Economic Development Canada Radio Standards Specification RSS-247 for a Digital Modulation intentional radiator operating within the 902 – 928MHz band.

Testing was performed in accordance with ANSI C63.10-2013.

2.3. Identification of the EUT

The EUTs were identified as follows:

EUT Identification	
Product Description	Vulcan – 900-15607 Rev F
Model/Part No.	900-15607-11 2200SA 2200M C1000LA 2310M
Serial No.	Radiated Sample Conducted Sample
Size of EUT	13 in x 9 in x 8 in
Software/Firmware Version	FW Version 2.11
Device Type	Frequency Hopping System Device
Band of Operation	902 – 928MHz
Antenna Type	Dipole Wire
Conducted Output Power	16.46dBm
20dB Bandwidth	164.8kHz
Occupied Bandwidth (99% CBW)	189.3kHz

The EUTs listed above were used throughout the test series.

3. Power Input

The EUTs were powered by 120VAC 60Hz a 1 meter, unshielded power cable.

4. Grounding

The EUTs were grounded only through the third wire of its input power cord.

5. Support Equipment

The EUTs were submitted for testing along with the following support equipment:

Description	Model #	S/N
Support Laptop	---	---

6. Interconnect Leads

The following interconnect cables were submitted with the test items:

Item	Description
UART	Connects laptop to EUT

7. Modifications Made to the EUTs

No modifications were made to the EUTs during the testing.

8. Modes of Operation

The EUTs and all peripheral equipment were energized. The DUTs were programmed to transmit in one of the following modes:

Mode	Description
Tx @ 902.25MHz	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 6 0 0 0
Tx @ 914.75MHz	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 6 25 0 0
Tx @ 926.75MHz	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 6 49 0 0
Rx @ 902.25MHz	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 7 0 0 0

Rx @ 914.75MHz	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 7 25 0 0
Rx @ 926.275MHz	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 7 49 0 0
Hopping	<p>The Janus.exe software was used to input the following commands to get the EUT to transmit:</p> <ul style="list-style-type: none"> - connect com60 - system UpdateTestMode 1 - system UpdateTestMode 3 - radio test RadioTestEnable - radio test RadioTestStart 4 0 0 0

9. Test Specifications

The tests were performed to selected portions of, and in accordance with, the following test specifications.

- Federal Communications Commission "Code of Federal Regulations", Title 47, Chapter I, Subchapter A, Part 15, Subpart B
- ICES-003, Issue 7, October 15, 2020, "Information Technology Equipment (including Digital Apparatus)"
- ANSI C63.4-2014, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- 996369 D04 Module Integration Guide v02, October 13, 2020
- ANSI C63.10-2013, "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices"
- Federal Communications Commission Office of Engineering and Technology Laboratory Division, Guidance For Compliance Measurements On Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 April 2, 2019 KDB 558074 D01v05r02
- RSS-Gen Issue 5, February 2020, Amendment 2, Innovation, Science, and Economic Development Canada, "General Requirements for Compliance of Radio Apparatus"
- RSS-247 Issue 3, August 2023, "Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices"

10. Test Plan

No test plan was provided. Instructions were provided by personnel from The Chamberlain Group LLC and used in conjunction with the FCC "Code of Federal Regulations" Title 47 Part 15, Subpart B, Section 15.109; FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.247; Innovation, Science, and Economic Development Canada, ICES-003; Innovation, Science, and Economic Development Canada, RSS-247; Innovation, Science, and Economic Development Canada, RSS-GEN; and ANSI C63.4-2014 specifications.

11. Deviation, Additions to, or Exclusions from Test Specifications

There were no deviations, additions to, or exclusions from the test specifications during this test series.

12. Laboratory Conditions

The ambient parameters of the laboratory during testing were as follows:

Ambient Parameters	Value
Temperature	23.1°C
Relative Humidity	19%
Atmospheric Pressure	1009mb

13. Summary

The following EMC tests were performed and the results are shown below:

Test Description	Requirements	Test Method	S/N	Results
RF Radiated Emissions	FCC 15B 15.109 ISED ICES-003, Section 3.2.2	ANSI C63.4:2014	Radiated Sample	Conforms
20dB Bandwidth	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Conducted Sample	Conforms
Occupied Bandwidth (99%)	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Conducted Sample	Conforms
Maximum Peak Conducted Output Power	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Conducted Sample	Conforms
Effective Isotropic Radiated Power (EIRP)	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Radiated Sample	Conforms
Duty Cycle Factor Measurements	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Conducted Sample	—
Antenna Conducted Spurious Emissions	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Conducted Sample	Conforms
Spurious Radiated Emissions	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Radiated Sample	Conforms
Band-Edge Compliance	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Radiated Sample	Conforms

14. Sample Calculations

For Powerline Conducted Emissions:

The resultant voltage level (VL) is a summation in decibels (dB) of the receiver meter reading (MTR) and the cable loss factor (CF).

$$\text{Formula 1: } VL (\text{dB}\mu\text{V}) = MTR (\text{dB}\mu\text{V}) + CF (\text{dB}).$$

For Radiated Emissions:

The resultant field strength (FS) is a summation in decibels (dB) of the receiver meter reading (MTR), the antenna correction factor (AF), and the cable loss factor (CF). If an external preamplifier is used, the total is reduced by its gain (-PA). If a distance correction (DC) is required, it is added to the total.

$$\text{Formula 1: } FS (\text{dB}\mu\text{V}/\text{m}) = MTR (\text{dB}\mu\text{V}) + AF (\text{dB}/\text{m}) + CF (\text{dB}) + (-PA (\text{dB})) + DC (\text{dB})$$

To convert the Field Strength $\text{dB}\mu\text{V}/\text{m}$ term to $\mu\text{V}/\text{m}$, the $\text{dB}\mu\text{V}/\text{m}$ is first divided by 20. The Base 10 AntiLog is taken of this quotient. The result is the Field Strength value in $\mu\text{V}/\text{m}$ terms.

$$\text{Formula 2: } FS (\mu\text{V}/\text{m}) = \text{AntiLog} [(FS (\text{dB}\mu\text{V}/\text{m}))/20]$$

15. Statement of Conformity

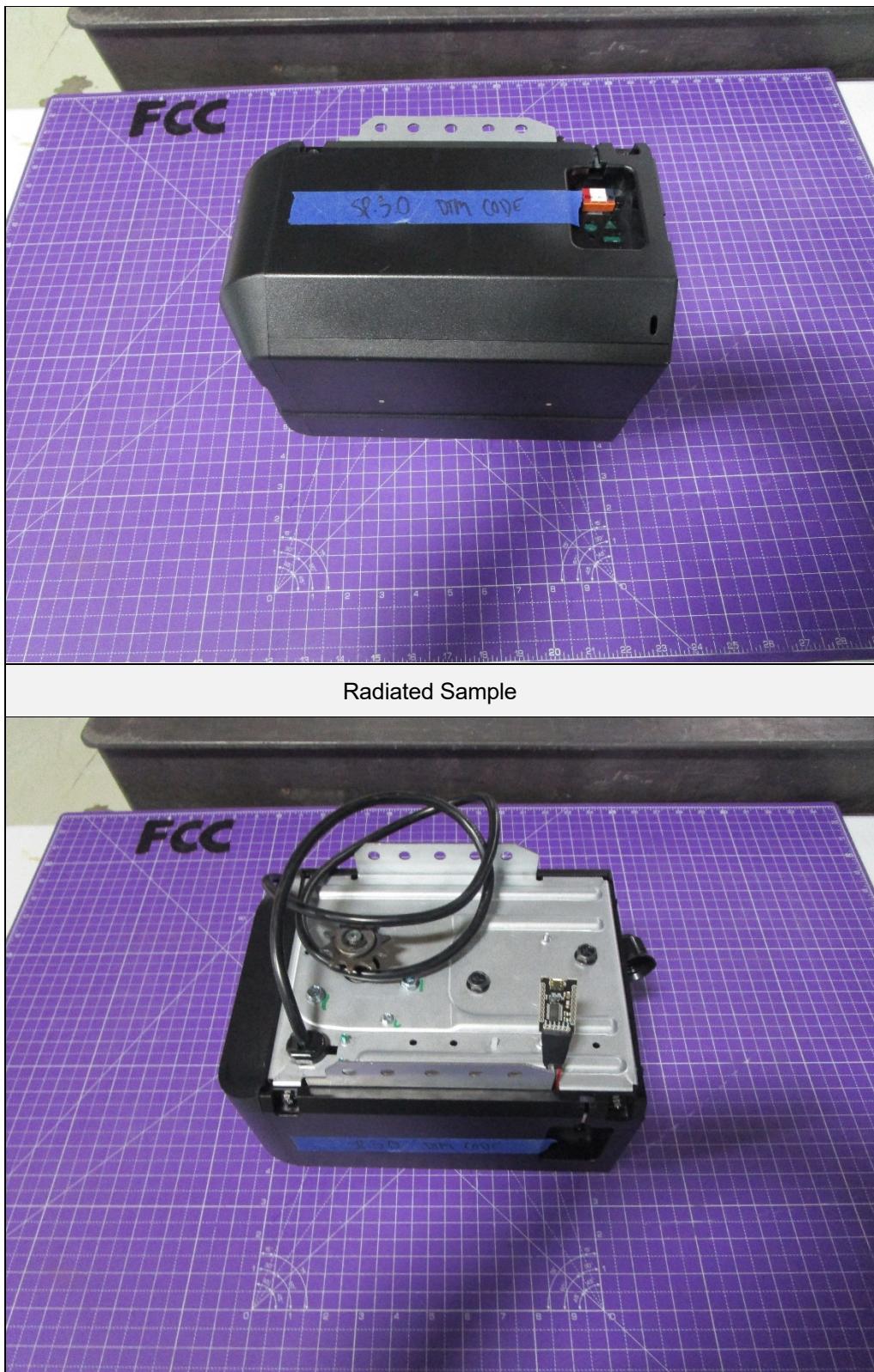
The following The Chamberlain Group LLC EUTs did fully conform to the selected requirements of the FCC "Code of Federal Regulations" Title 47 Part 15, Subpart B, Section 15.109; FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.247; Innovation, Science, and Economic Development Canada, ICES-003, Innovation, Science, and Economic Development Canada, RSS-247, and Innovation, Science, and Economic Development Canada, RSS-GEN test specifications:

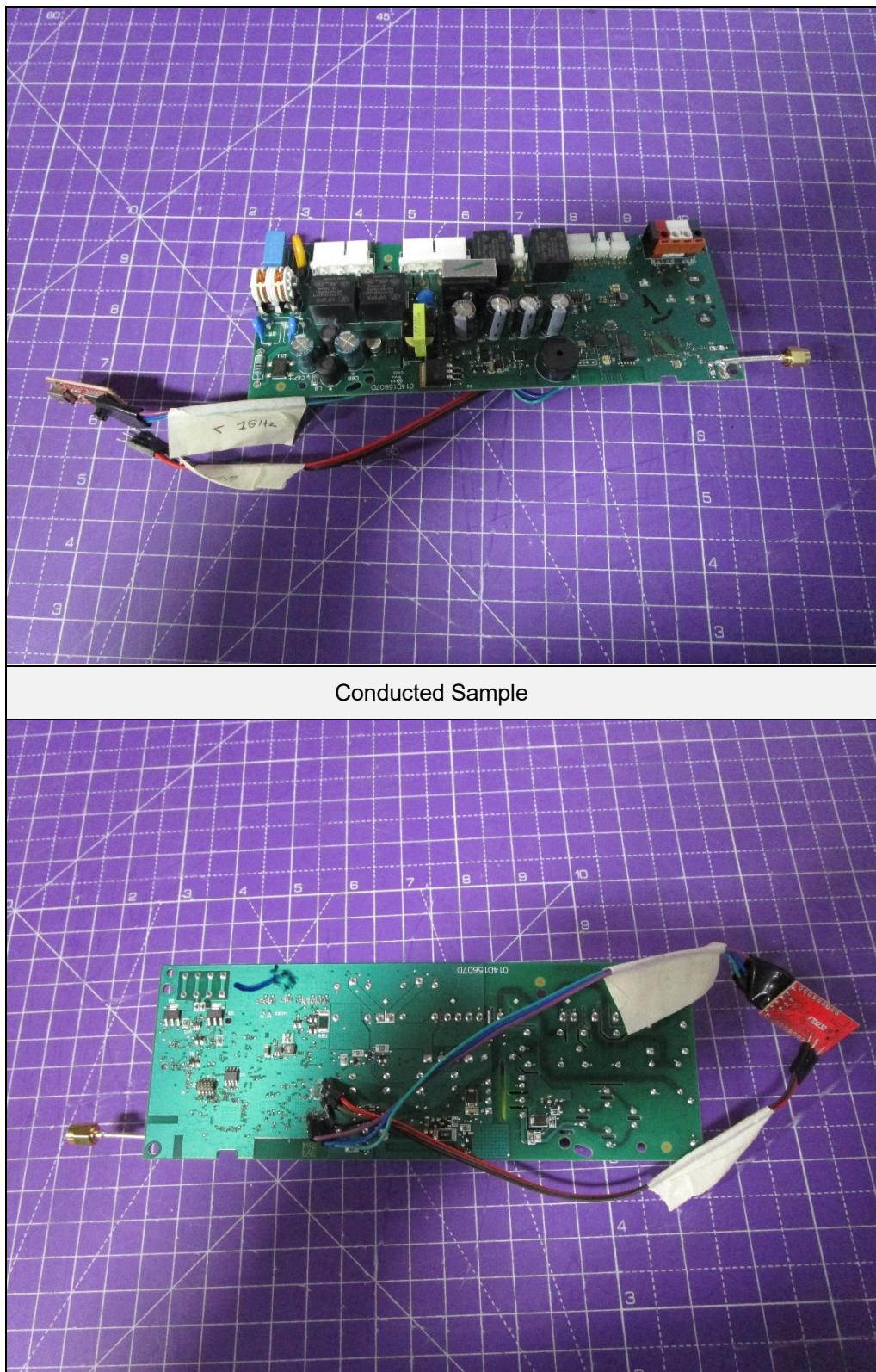
EUT	Model Number	Serial Number
Vulcan – 900-15607 Rev F	900-15607-11	Radiated Sample
Vulcan – 900-15607 Rev F	900-15607-11	Conducted Sample
Vulcan – 900-15607 Rev F	2200SA	Radiated Sample
Vulcan – 900-15607 Rev F	2200M	Radiated Sample
Vulcan – 900-15607 Rev F	C1000LA	Radiated Sample
Vulcan – 900-15607 Rev F	2310M	Radiated Sample

16. Certification

Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the FCC "Code of Federal Regulations" Title 47 Part 15, Subpart B, Section 15.109; FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.247; Innovation, Science, and Economic Development Canada, ICES-003; Innovation, Science, and Economic Development Canada, RSS-247; and Innovation, Science, and Economic Development Canada, RSS-GEN test specifications. The data presented in this test report pertains to the EUTs as received by the customer on the test date specified. Any electrical or mechanical modifications made to the EUTs subsequent to the specified test date will serve to invalidate the data and void this certification.

17. Photographs of EUTs







EUT 2200SA (above) and 2200M (below)





EUT C1000LA (above) and 2310M (below)



18. Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
APW18	PREAMPLIFER	PLANAR ELECTRONICS	PE2-30-20G20R6G-3R0-10-12-SFF	PL34312/2148	18-26.5GHz	2/11/2025	2/11/2026
APW3	PREAMPLIFIER	PLANAR ELECTRONICS	PE2-35-120-5R0-10-12	PL2924	1-20GHz	3/24/2025	3/24/2026
CDZ4	LAB WORKSTATION	ELITE	LWS-10		WINDOWS 10	CNR	
GSE3	SIGNAL GENERATOR (40GHZ)	ROHDE & SCHWARZ	SMB100A	183294	100KHZ-40GHZ	3/23/2025	3/23/2027
GSFB	OSP120 BASE UNIT	ROHDE & SCHWARZ	OSP120	101071	---	3/30/2023	4/30/2025*
GSFE	OSP120	ROHDE & SCHWARZ	OSP120	101288	.01-40GHZ	4/4/2023	4/30/2025*
NSDS1	UNIVERSAL SPHERICAL DIPOLE SOURCE	AET	USDS-H	AET-1116		NOTE 1	
NTA3	BILOG ANTENNA	TESEQ	6112D	32853	25-2000MHz	10/3/2024	10/3/2026
NWN1	DOUBLE RIDGED GUIDE ANTENNA	ETS LINDGREN	3116C	227802	10GHz-40GHz	9/16/2024	9/16/2026
NWQ2	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS LINDGREN	3117	66659	1GHz-18GHz	4/26/2024	4/26/2026
R21F	3M ANECHOIC CHAMBER NSA	EMC TEST SYSTEMS	3M ANECHOIC		30MHz-18GHz	3/1/2025	3/1/2026
RBG3	EMI ANALYZER	ROHDE & SCHWARZ	ESW44	101592	2Hz-44GHz	5/4/2025	5/4/2026
RBG4	EMI ANALYZER	ROHDE & SCHWARZ	ESW44	103007	2Hz-44GHz	4/5/2025	4/5/2026
SHC2	Power Supplies	HENG FU	HF60W-SL-24	A11372702	24V	NOTE 1	
T2S2	20DB 25W ATTENUATOR	WEINSCHEL	46-20-34	BV3540	DC-18GHz	12/19/2023	12/19/2025
T6A3	6DB, 2W ATTENUATOR	KEYSIGHT TECHNOLOGIES	8491B	MY39269623	DC-18GHz	3/6/2025	3/6/2027
WKA1	SOFTWARE, UNIVERSAL RCV EMI	ELITE	UNIV_RCV_EMI	1	---	I/O	

N/A: Not Applicable

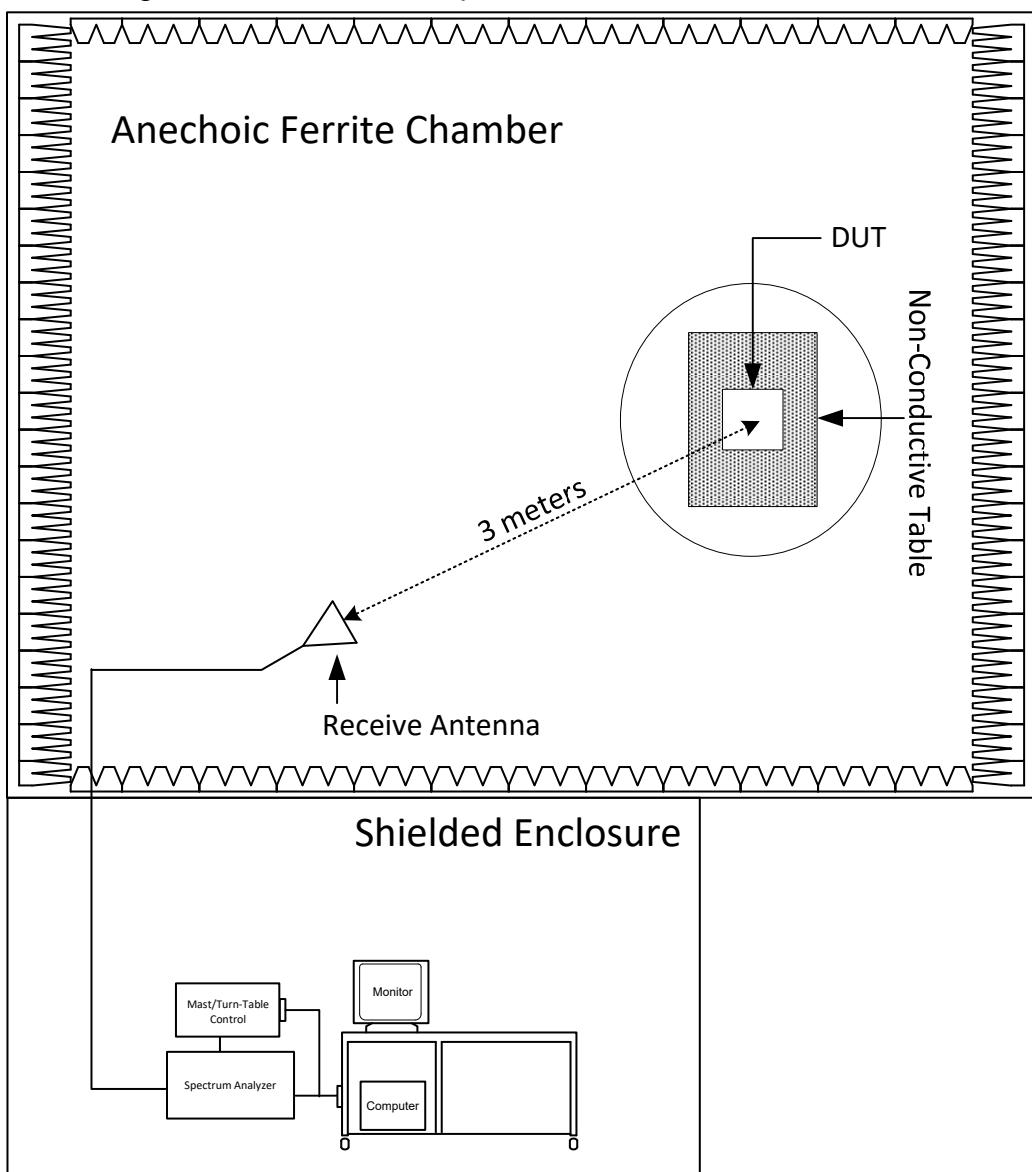
I/O: Initial Only

CNR: Calibration Not Required

NOTE 1: For the purpose of this test, the equipment was calibrated over the specified frequency range, pulse rate, or modulation prior to the test or monitored by a calibrated instrument.

Note*: The test including this equipment was run on 3/10/2025 before the calibration expired. This equipment is undergoing calibration and does not have an updated calibration date.

19. Block Diagram of Test Setup



Radiated Measurements Test Setup

20. RF Radiated Emissions

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Radiated Sample
Mode	Rx @ 902.25MHz Rx @ 914.75MHz Rx @ 926.275MHz

Test Site Information	
Setup Format	Tabletop
Type of Test Site	Semi-Anechoic Chamber
Test Site Used	R21F
Type of Antennas Used	Below 1GHz: Bilog (or equivalent) Above 1GHz: Double-ridged waveguide (or equivalent)
Highest Internal Frequency	2.4GHz
Highest Measurement Frequency	13GHz
Notes	The cables were manually maximized during the preliminary emissions sweeps. The cable arrangement which resulted in the worst-case emissions was utilized.

Measurement Uncertainty	
Measurement Type	Expanded Measurement Uncertainty
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1000 MHz)	4.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (1 GHz – 6 GHz)	3.1
Radiated disturbance (electric field strength on an open area test site or alternative test site) (6 GHz – 18 GHz)	3.2
Radiated disturbance (electric field strength on an open area test site or alternative test site) (18 GHz – 26.5 GHz)	3.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (26.5 GHz – 40 GHz)	3.4

Requirements
The field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the values in the following tables.

FCC Part 15 Class B Radiated Emissions Limits (30MHz to 1GHz)		
Frequency of Emission (MHz)	Field Strength (μ V/m)	Field Strength ($\text{dB}\mu$ V/m)
30 – 88	100	40
88 – 216	150	43.5
216 – 960	200	46
Above 960	500	54
FCC Part 15 Class B Radiated Emissions Limits (Above 1GHz)		
Frequency of Emission (MHz)	Peak Limit ($\text{dB}\mu$ V/m)	Average Limit ($\text{dB}\mu$ V/m)
Above 1000	74	54

ICES-003 Class B Radiated Emissions Limits (30MHz to 1GHz)		
Frequency Range (MHz)	Field Strength at 3 meters ($\text{dB}\mu$ V/m)	Field Strength at 10 meters ($\text{dB}\mu$ V/m)
30 – 88	40	30
88 – 216	43.5	33.1
216 – 230	46	35.6
230 – 960	47	37
960 – 1000	54	43.5
ICES-003 Class B Radiated Emissions Limits (At and Above 1GHz)		
Frequency Range (GHz)	Average ($\text{dB}\mu$ V/m)	Peak ($\text{dB}\mu$ V/m)
1 – F_M	54	74

F_M = highest measurement frequency

Procedure

Since a quasi-peak detector and an average detector require long integration times, it is not practical to automatically sweep through the quasi-peak and average levels. Therefore, radiated emissions from the EUT were first scanned using a peak detector and automatically plotted. The frequencies where significant emission levels were noted were then remeasured using the quasi-peak detector or average detector.

The EUT and all peripheral equipment were placed on an 80cm high non-conductive stand. The broadband measuring antenna was positioned at a 3 meter distance from the EUT. The frequency range from 30MHz to 1GHz was investigated using a peak detector function with the bilog antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The frequency range from 1GHz to 13GHz was investigated using a peak detector function with the double ridged waveguide antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The maximum levels for each antenna polarization were plotted.

Final radiated emissions were performed on all significant broadband and narrowband emissions found in the exploratory sweeps using the following methods:

- 1) Measurements from 30MHz to 1GHz were made using a quasi-peak detector and a broadband bilog antenna. Measurements above 1GHz were made using an average detector and a broadband double ridged waveguide antenna.
- 2) To ensure that maximum or worst case, emission levels were measured, the following steps were taken:
 - a) The EUT was rotated so that all sides were exposed to the receiving antenna.
 - b) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
 - c) The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.
 - d) For hand-held or body-worn devices, the EUT was rotated through three orthogonal axes to determine which orientation produces the highest emission relative to the limit.
- 3) Steps (b) through (d) were repeated with the EUT operated in the Rx @ 914.75MHz mode.
- 4) Steps (b) through (d) were repeated with the EUT operated in the Rx @ 926.275MHz mode.



Test Setup for Radiated Emissions: 30MHz to 1GHz, Horizontal Polarization



Test Setup for Radiated Emissions: 30MHz to 1GHz, Vertical Polarization



Test Setup for Radiated Emissions: Above 1GHz, Horizontal Polarization



Test Setup for Radiated Emissions: Above 1GHz, Vertical Polarization

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
 Model : 900-15607-11
 Serial Number : Radiated Sample
 DUT Mode : Rx @ 902.25MHz
 Turntable Step Angle (°) : 45
 Scan Type : Stepped Scan
 Test RBW : 120 kHz
 Prelim Dwell Time (s) : 0.0001
 Notes :
 Test Engineer : N. Bouchie
 Test Date : Mar 13, 2025 09:38:23 AM

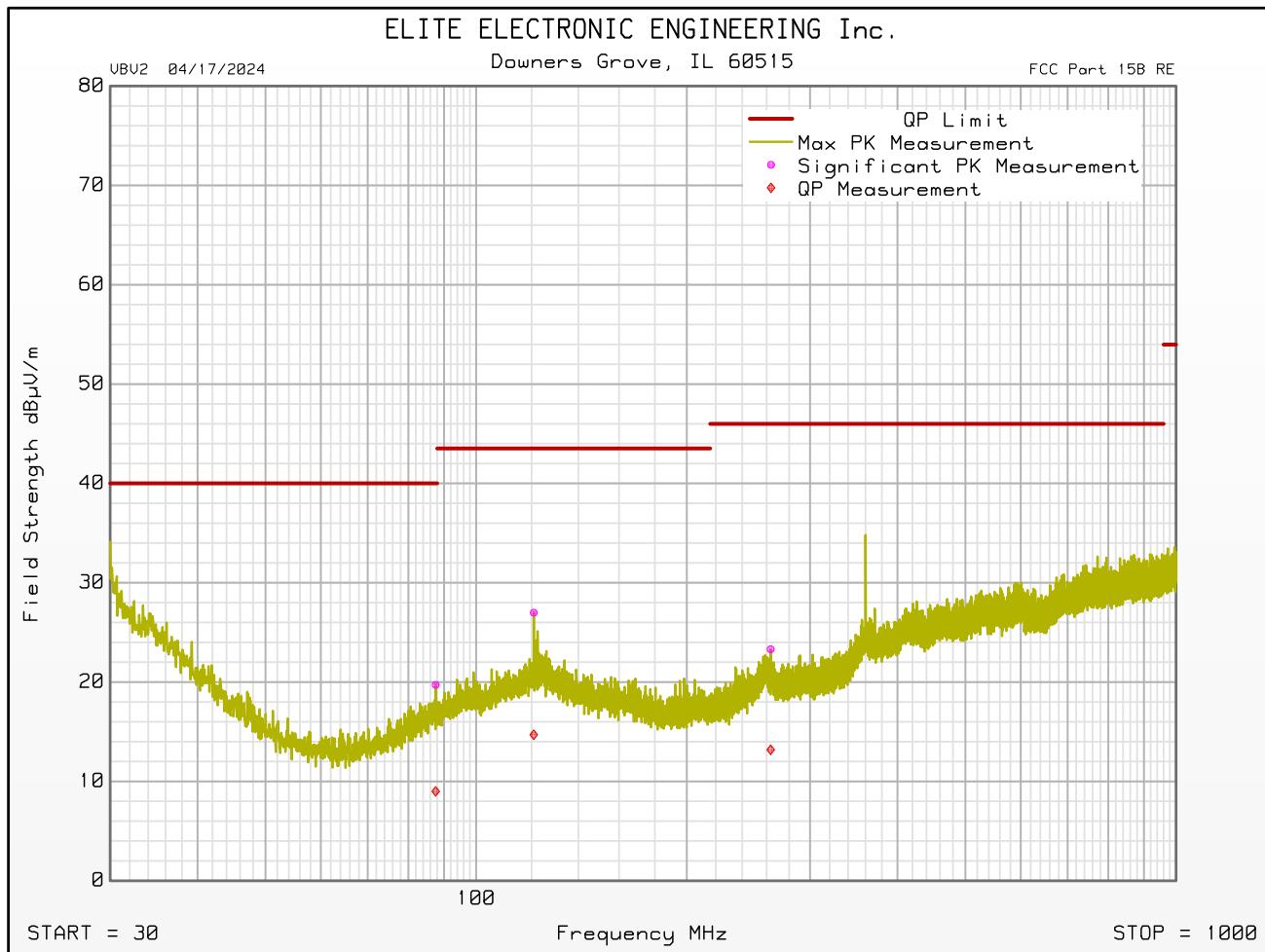
Freq MHz	Peak Mtr Rdg dBuV	QP Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB μ V/m	QP Total dB μ V/m	QP Limit dB μ V/m	QP Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive QP Level
30.060	16.8	8.0	25.1	0.0	0.5	0.0	42.4	33.6	40.0	-6.4	Vertical	120	225	
43.080	11.4	-0.5	17.9	0.0	0.5	0.0	29.8	17.9	40.0	-22.1	Vertical	120	270	
45.180	12.4	-1.4	16.8	0.0	0.5	0.0	29.7	15.9	40.0	-24.1	Vertical	200	135	
87.540	3.0	-7.8	16.3	0.0	0.5	0.0	19.7	9.0	40.0	-31.0	Horizontal	340	90	
120.880	6.8	-5.5	19.5	0.0	0.6	0.0	27.0	14.7	43.5	-28.8	Horizontal	340	180	
263.520	3.0	-7.1	19.3	0.0	1.0	0.0	23.3	13.2	46.0	-32.8	Horizontal	200	90	
360.000	11.9	-6.6	22.2	0.0	1.3	0.0	35.5	16.9	46.0	-29.1	Vertical	340	0	
862.800	4.8	-6.7	27.1	0.0	2.0	0.0	33.8	22.3	46.0	-23.7	Vertical	200	45	

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 902.25MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Horizontal
Scan Type : Stepped Scan
Test RBW : 120 kHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 13, 2025 09:38:23 AM

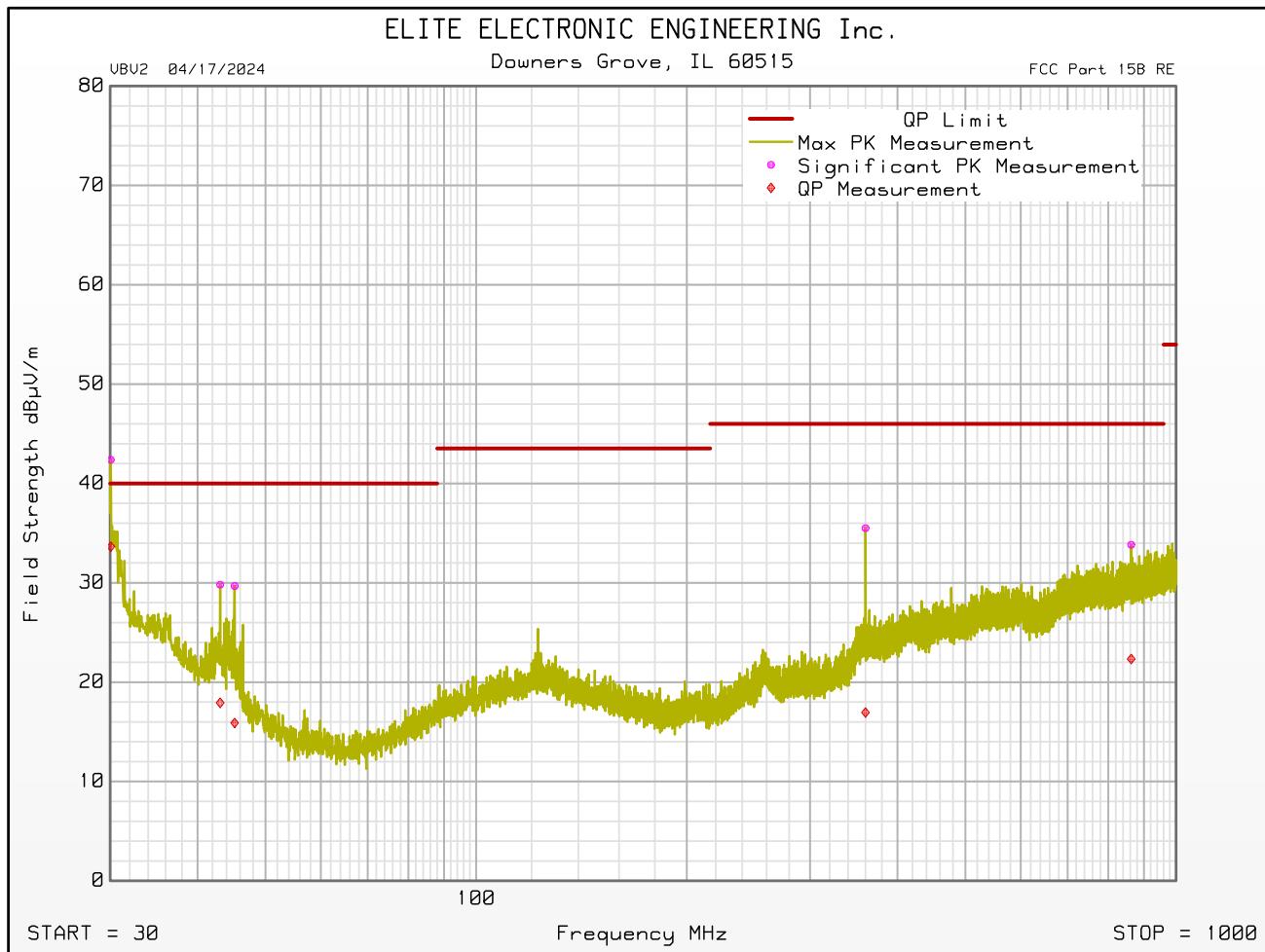


FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 902.25MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Vertical
Scan Type : Stepped Scan
Test RBW : 120 kHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 13, 2025 09:38:23 AM



FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
 Model : 900-15607-11
 Serial Number : Radiated Sample
 DUT Mode : Rx @ 902.25MHz
 Turntable Step Angle (°) : 45
 Scan Type : Stepped Scan
 Test RBW : 1 MHz
 Prelim Dwell Time (s) : 0.0001
 Notes :
 Test Engineer : N. Bouchie
 Test Date : Mar 21, 2025 08:23:04 AM

Freq MHz	Peak Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB μ V/m	Peak Limit dB μ V/m	Peak Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Peak Level
1272.000	51.2	28.9	-42.0	2.3	0.0	40.5	74.0	-33.5	Horizontal	340	0	
2257.500	49.7	31.7	-41.0	3.3	0.0	43.6	74.0	-30.4	Vertical	200	135	
3170.000	49.4	33.0	-41.2	4.0	0.0	45.3	74.0	-28.7	Vertical	120	0	
5323.500	47.5	34.6	-40.8	5.2	0.0	46.5	74.0	-27.5	Vertical	120	225	
7582.000	48.8	36.1	-41.0	6.3	0.0	50.2	74.0	-23.8	Vertical	340	225	
12805.500	48.3	38.9	-40.7	8.0	0.0	54.6	74.0	-19.4	Horizontal	340	270	

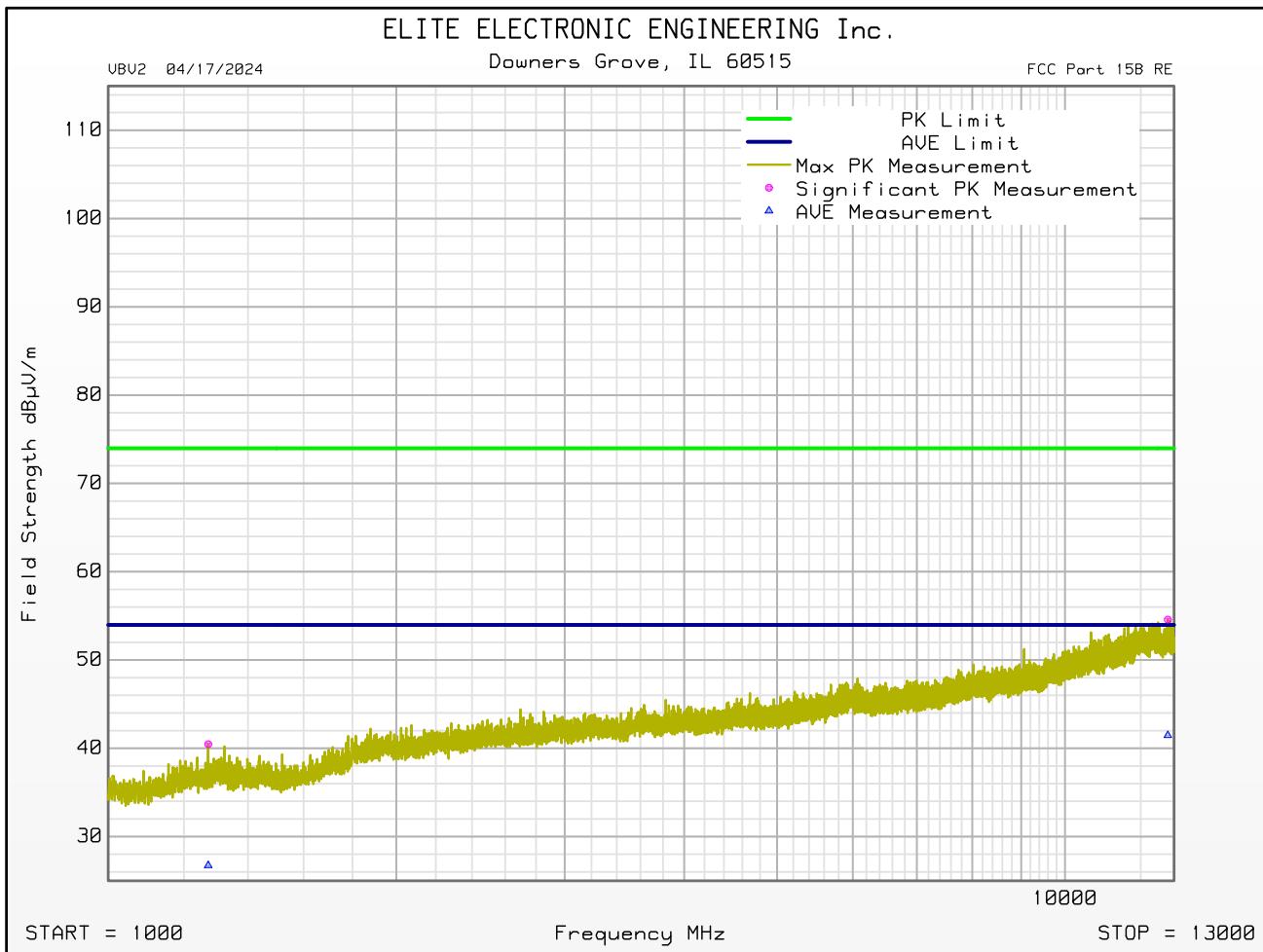
Freq MHz	Average Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Average Total dB μ V/m	Average Limit dB μ V/m	Average Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Average Level
1272.000	37.4	28.9	-42.0	2.3	0.0	26.7	54.0	-27.2	Horizontal	340	0	
2257.500	35.5	31.7	-41.0	3.3	0.0	29.4	54.0	-24.6	Vertical	200	135	
3170.000	35.4	33.0	-41.2	4.0	0.0	31.3	54.0	-22.7	Vertical	120	0	
5323.500	33.9	34.6	-40.8	5.2	0.0	33.0	54.0	-21.0	Vertical	120	225	
7582.000	34.0	36.1	-41.0	6.3	0.0	35.4	54.0	-18.6	Vertical	340	225	
12805.500	35.2	38.9	-40.7	8.0	0.0	41.5	54.0	-12.5	Horizontal	340	270	

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 902.25MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Horizontal
Scan Type : Stepped Scan
Test RBW : 1 MHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 21, 2025 08:23:04 AM

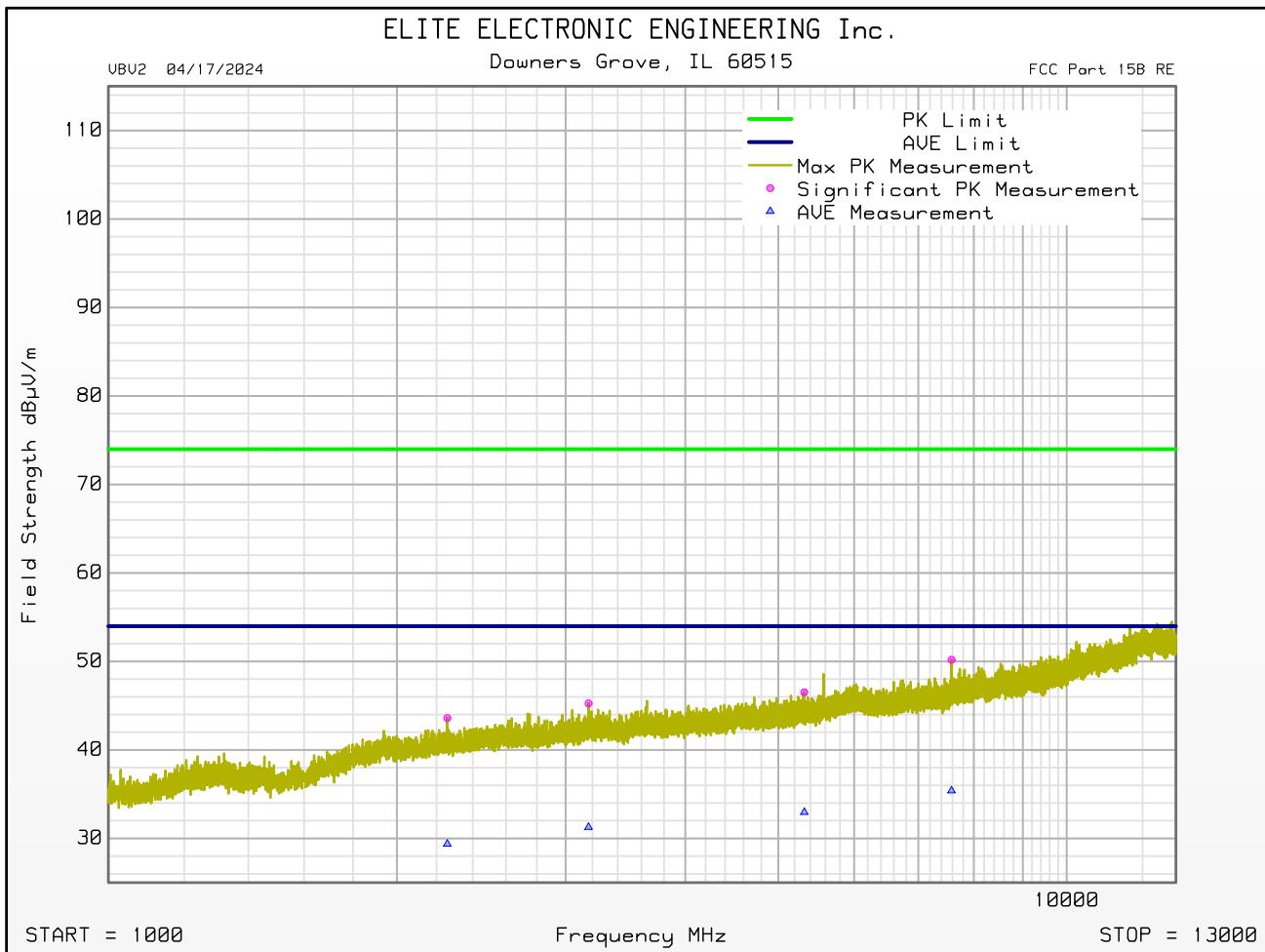


FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 902.25MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Vertical
Scan Type : Stepped Scan
Test RBW : 1 MHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 21, 2025 08:23:04 AM



FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
 Model : 900-15607-11
 Serial Number : Radiated Sample
 DUT Mode : Rx @ 914.75MHz
 Turntable Step Angle (°) : 45
 Scan Type : Stepped Scan
 Test RBW : 120 kHz
 Prelim Dwell Time (s) : 0.0001
 Notes :
 Test Engineer : N. Bouchie
 Test Date : Mar 13, 2025 10:03:33 AM

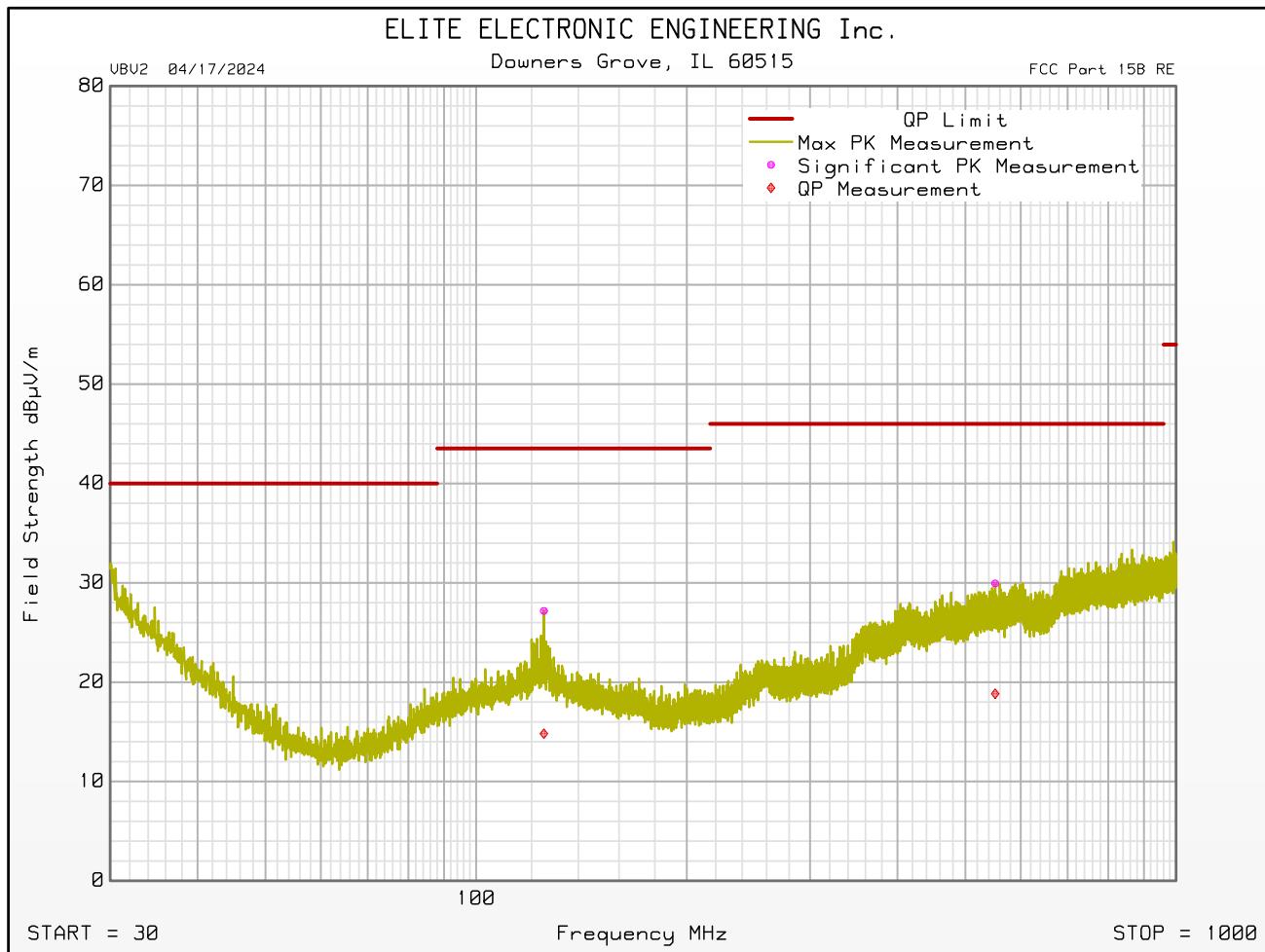
Freq MHz	Peak Mtr Rdg dBuV	QP Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB μ V/m	QP Total dB μ V/m	QP Limit dB μ V/m	QP Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive QP Level
30.120	16.4	7.1	25.1	0.0	0.5	0.0	42.0	32.6	40.0	-7.4	Vertical	120	225	
43.260	10.3	-2.3	17.8	0.0	0.5	0.0	28.6	16.0	40.0	-24.0	Vertical	120	45	
44.820	13.5	1.4	17.0	0.0	0.5	0.0	30.9	18.9	40.0	-21.1	Vertical	120	225	
87.960	4.4	-7.7	16.3	0.0	0.5	0.0	21.2	9.1	40.0	-30.9	Vertical	120	0	
124.960	6.9	-5.5	19.6	0.0	0.7	0.0	27.2	14.8	43.5	-28.7	Horizontal	200	135	
262.560	2.8	-7.3	19.4	0.0	1.0	0.0	23.2	13.1	46.0	-32.9	Vertical	120	135	
551.580	3.8	-7.3	24.6	0.0	1.5	0.0	29.9	18.8	46.0	-27.2	Horizontal	200	225	
949.920	3.8	-7.1	27.5	0.0	2.0	0.0	33.3	22.4	46.0	-23.6	Vertical	340	315	

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 914.75MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Horizontal
Scan Type : Stepped Scan
Test RBW : 120 kHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 13, 2025 10:03:33 AM

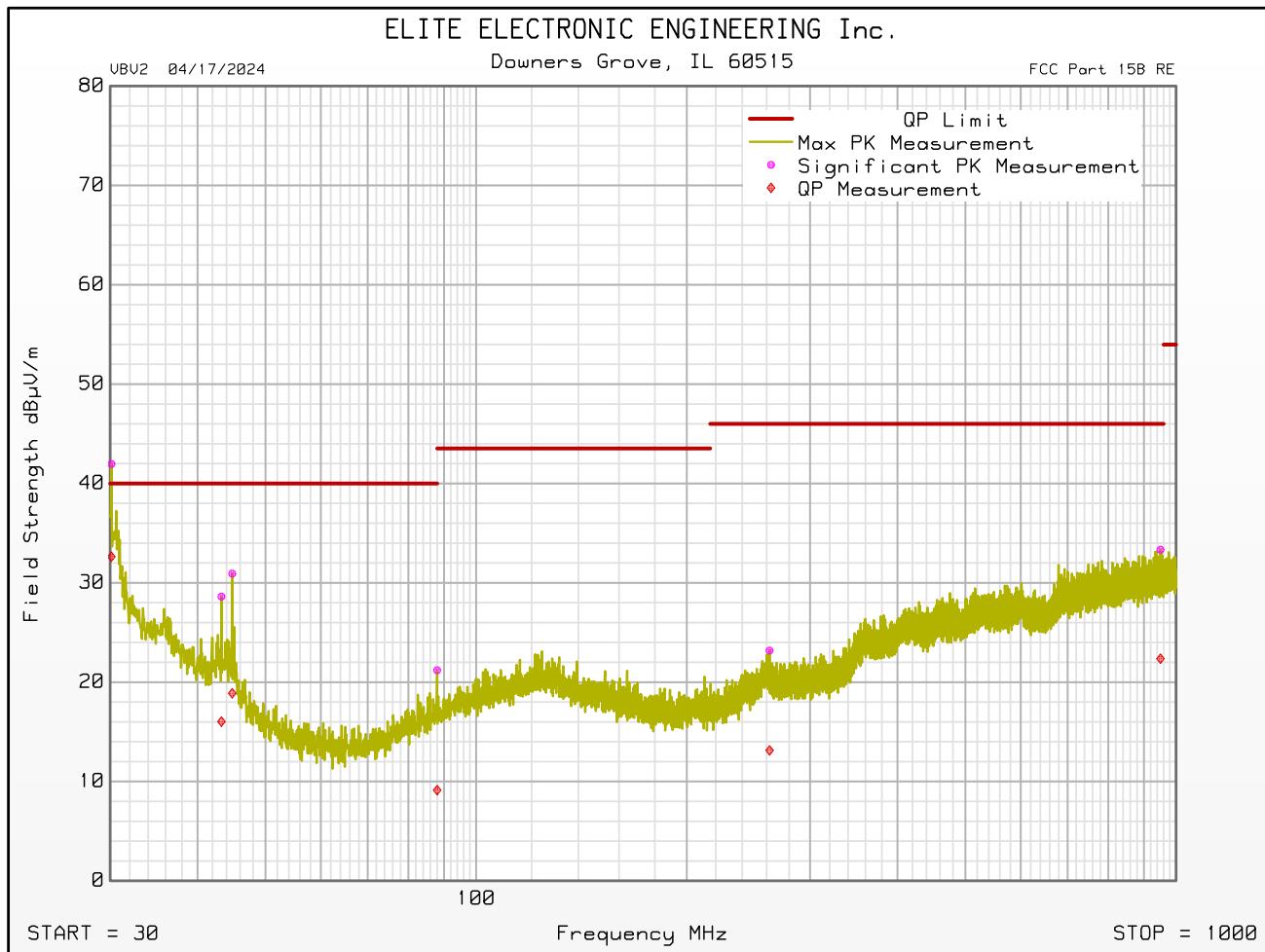


FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 914.75MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Vertical
Scan Type : Stepped Scan
Test RBW : 120 kHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 13, 2025 10:03:33 AM



FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
 Model : 900-15607-11
 Serial Number : Radiated Sample
 DUT Mode : Rx @ 914.75MHz
 Turntable Step Angle (°) : 45
 Scan Type : Stepped Scan
 Test RBW : 1 MHz
 Prelim Dwell Time (s) : 0.0001
 Notes :
 Test Engineer : N. Bouchie
 Test Date : Mar 21, 2025 09:02:34 AM

Freq MHz	Peak Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB μ V/m	Peak Limit dB μ V/m	Peak Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Peak Level
1322.500	50.3	29.0	-41.8	2.4	0.0	39.9	74.0	-34.1	Vertical	200	0	
2256.000	49.5	31.7	-41.0	3.3	0.0	43.4	74.0	-30.6	Vertical	120	270	
3571.500	48.1	33.4	-40.7	4.3	0.0	45.1	74.0	-28.9	Vertical	200	0	
5491.000	50.1	34.9	-40.8	5.3	0.0	49.5	74.0	-24.5	Horizontal	340	45	
8020.000	48.0	36.3	-41.0	6.5	0.0	49.8	74.0	-24.2	Vertical	340	45	
12145.000	49.0	38.9	-40.7	8.0	0.0	55.2	74.0	-18.8	Horizontal	200	225	

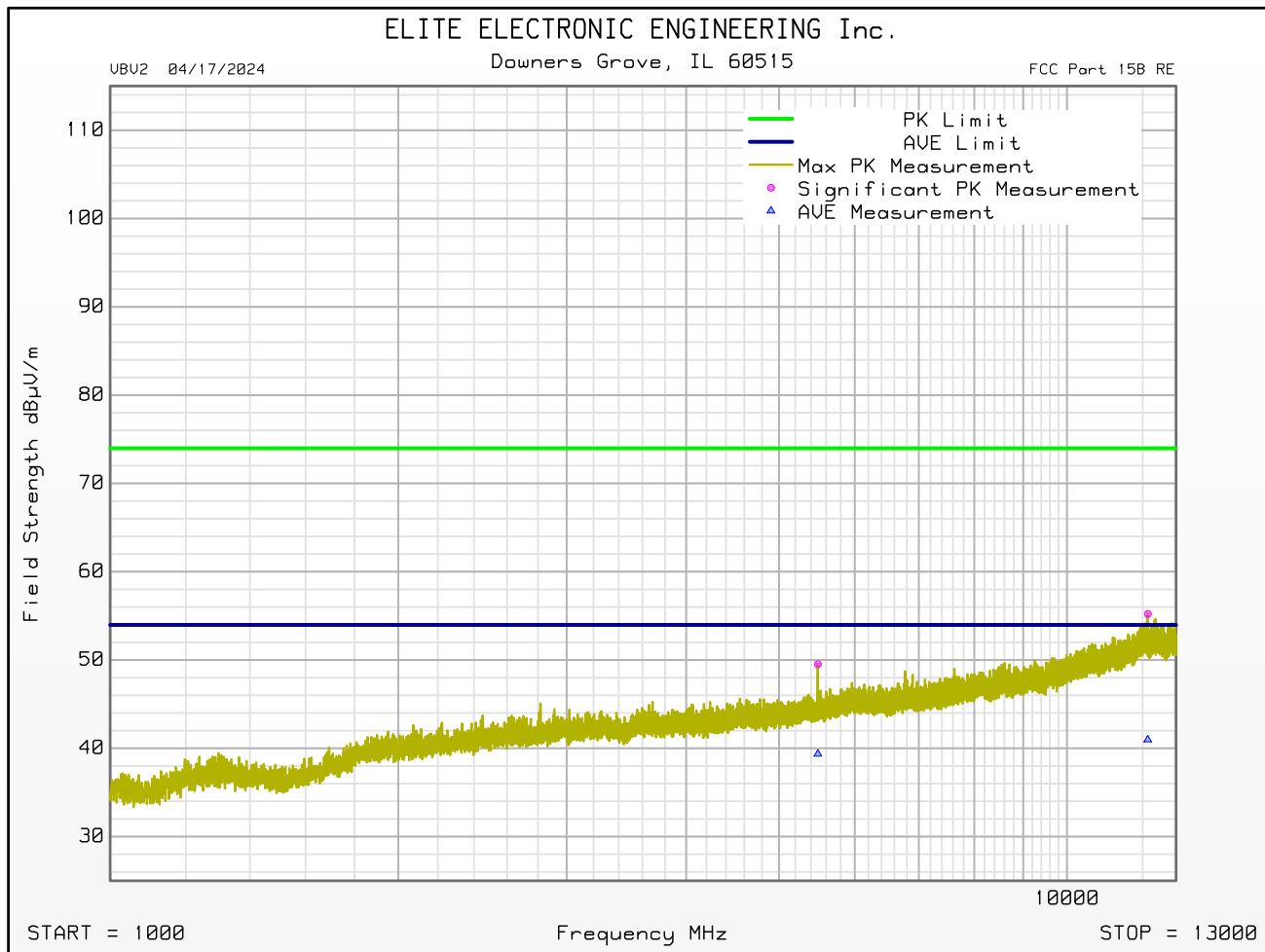
Freq MHz	Average Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Average Total dB μ V/m	Average Limit dB μ V/m	Average Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Average Level
1322.500	37.3	29.0	-41.8	2.4	0.0	26.9	54.0	-27.1	Vertical	200	0	
2256.000	35.5	31.7	-41.0	3.3	0.0	29.4	54.0	-24.6	Vertical	120	270	
3571.500	34.5	33.4	-40.7	4.3	0.0	31.6	54.0	-22.4	Vertical	200	0	
5491.000	40.0	34.9	-40.8	5.3	0.0	39.4	54.0	-14.6	Horizontal	340	45	
8020.000	34.4	36.3	-41.0	6.5	0.0	36.1	54.0	-17.8	Vertical	340	45	
12145.000	34.8	38.9	-40.7	8.0	0.0	41.0	54.0	-13.0	Horizontal	200	225	

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 914.75MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Horizontal
Scan Type : Stepped Scan
Test RBW : 1 MHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 21, 2025 09:02:34 AM

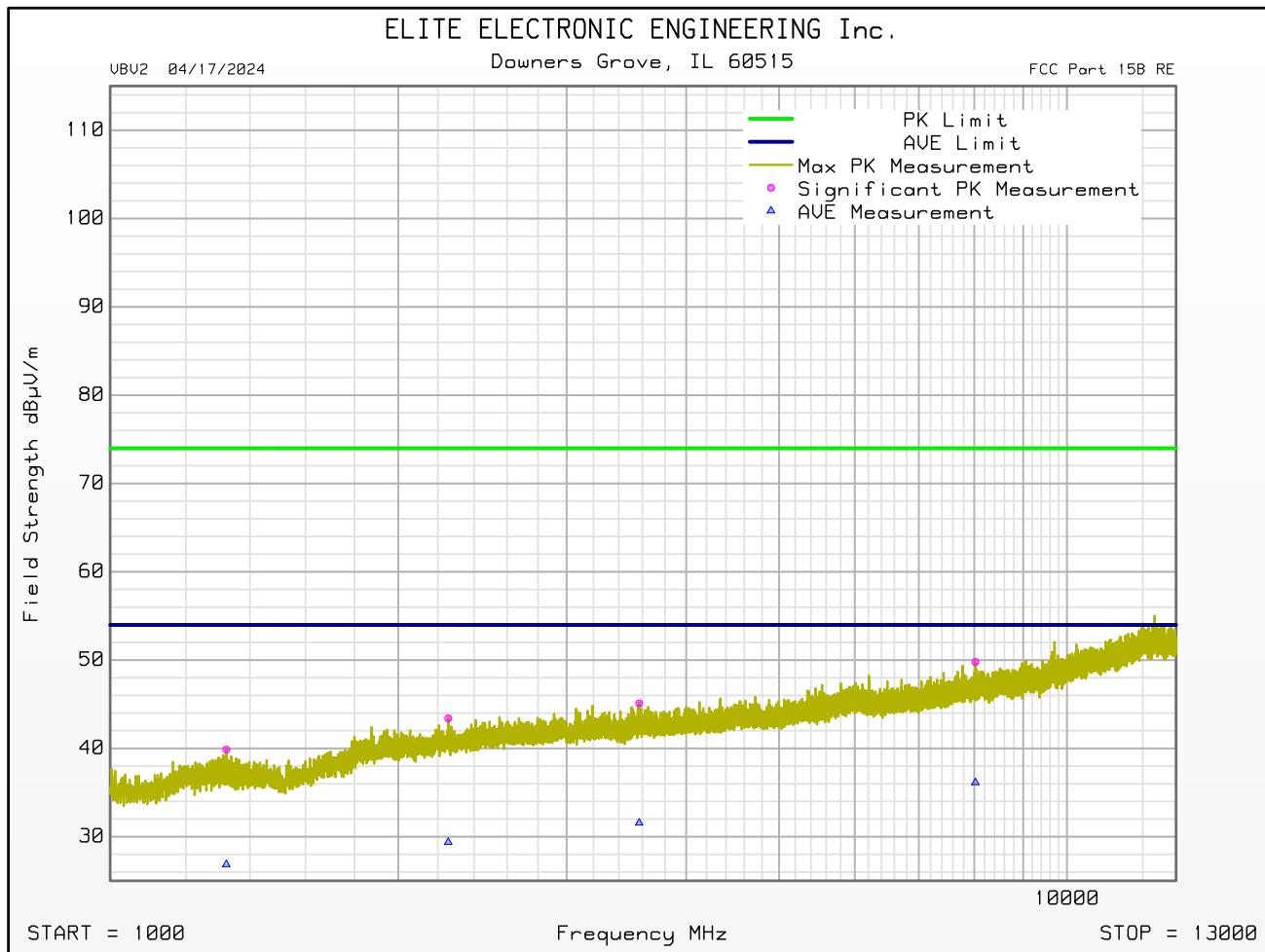


FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 914.75MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Vertical
Scan Type : Stepped Scan
Test RBW : 1 MHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 21, 2025 09:02:34 AM



FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
 Model : 900-15607-11
 Serial Number : Radiated Sample
 DUT Mode : Rx @ 926.275MHz
 Turntable Step Angle (°) : 45
 Scan Type : Stepped Scan
 Test RBW : 120 kHz
 Prelim Dwell Time (s) : 0.0001
 Notes :
 Test Engineer : N. Bouchie
 Test Date : Mar 13, 2025 10:29:03 AM

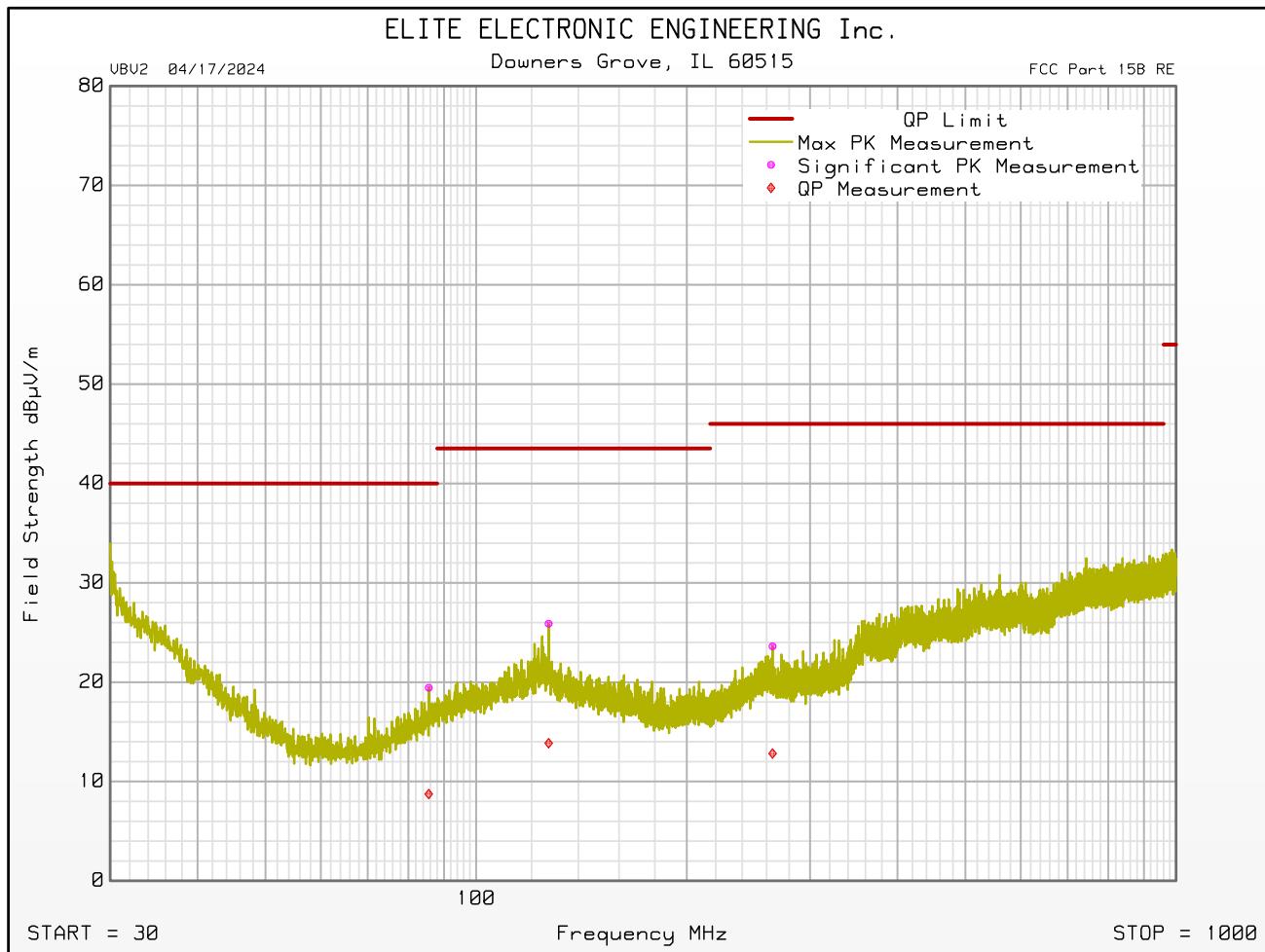
Freq MHz	Peak Mtr Rdg dBuV	QP Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB μ V/m	QP Total dB μ V/m	QP Limit dB μ V/m	QP Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive QP Level
30.120	16.0	6.8	25.1	0.0	0.5	0.0	41.6	32.4	40.0	-7.6	Vertical	120	270	
43.320	11.7	-0.8	17.8	0.0	0.5	0.0	30.0	17.5	40.0	-22.5	Vertical	120	225	
44.520	12.8	0.0	17.1	0.0	0.5	0.0	30.4	17.7	40.0	-22.3	Vertical	200	270	
85.560	3.1	-7.6	15.9	0.0	0.5	0.0	19.4	8.7	40.0	-31.3	Horizontal	340	225	
126.940	5.7	-6.4	19.6	0.0	0.7	0.0	25.9	13.9	43.5	-29.7	Horizontal	340	0	
167.980	5.9	-7.3	16.8	0.0	0.9	0.0	23.6	10.4	43.5	-33.1	Vertical	340	45	
265.140	3.5	-7.3	19.1	0.0	1.0	0.0	23.6	12.8	46.0	-33.2	Horizontal	120	90	
513.900	5.4	-6.7	24.0	0.0	1.5	0.0	30.9	18.8	46.0	-27.2	Vertical	340	135	
926.100	4.2	-6.5	27.2	0.0	2.0	0.0	33.3	22.7	46.0	-23.3	Vertical	120	225	

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 926.275MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Horizontal
Scan Type : Stepped Scan
Test RBW : 120 kHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 13, 2025 10:29:03 AM

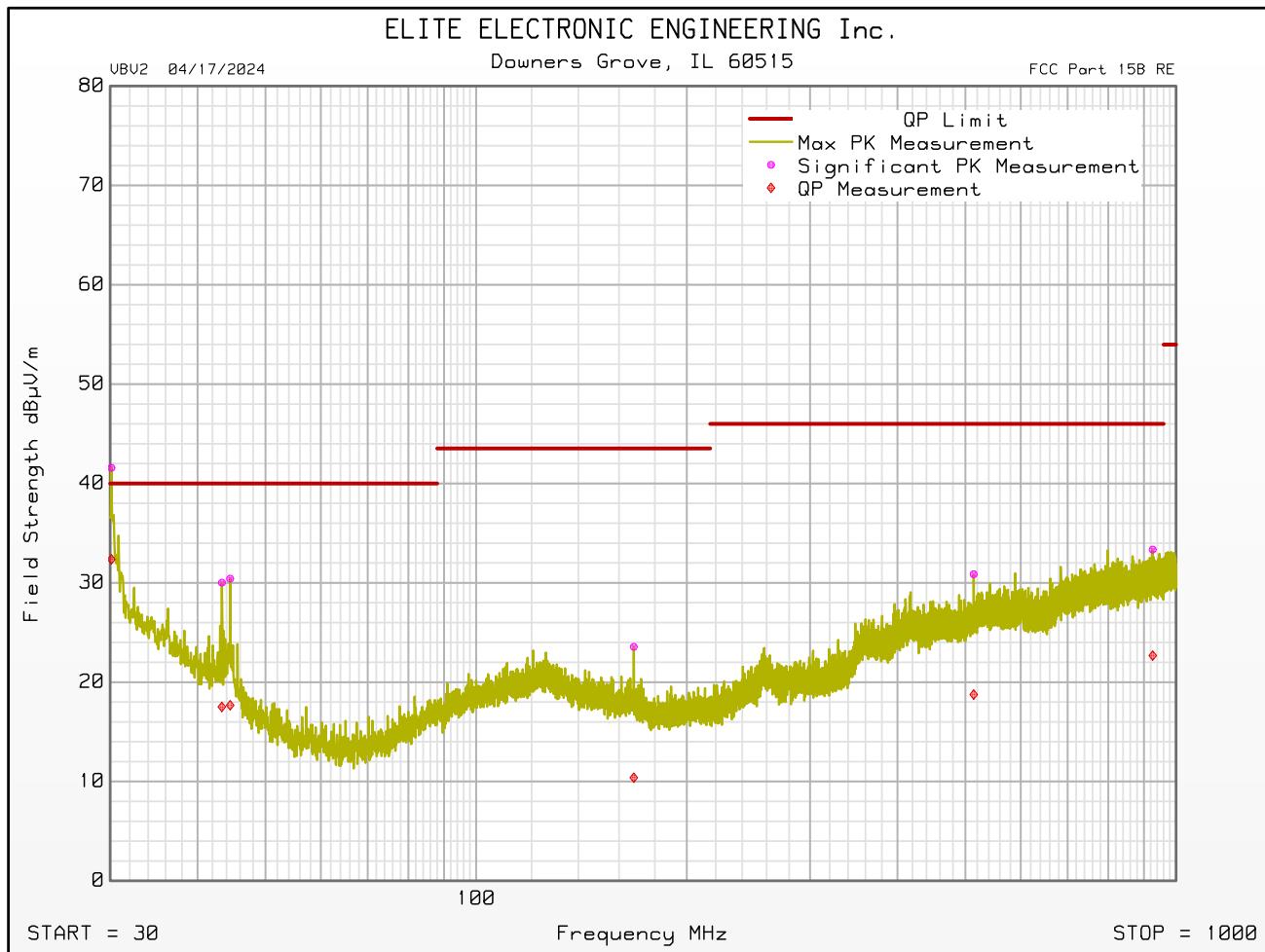


FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 926.275MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Vertical
Scan Type : Stepped Scan
Test RBW : 120 kHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 13, 2025 10:29:03 AM



FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
 Model : 900-15607-11
 Serial Number : Radiated Sample
 DUT Mode : Rx @ 926.275MHz
 Turntable Step Angle (°) : 45
 Scan Type : Stepped Scan
 Test RBW : 1 MHz
 Prelim Dwell Time (s) : 0.0001
 Notes :
 Test Engineer : N. Bouchie
 Test Date : Mar 21, 2025 09:45:52 AM

Freq MHz	Peak Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB μ V/m	Peak Limit dB μ V/m	Peak Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Peak Level
1313.500	51.0	29.0	-41.8	2.4	0.0	40.6	74.0	-33.4	Horizontal	340	180	
2336.500	49.3	31.9	-41.2	3.3	0.0	43.3	74.0	-30.7	Vertical	340	225	
3037.500	49.2	32.9	-41.3	3.9	0.0	44.8	74.0	-29.2	Vertical	340	225	
5027.000	48.3	34.2	-40.8	5.0	0.0	46.7	74.0	-27.3	Vertical	200	45	
8164.000	48.4	36.3	-41.0	6.5	0.0	50.1	74.0	-23.9	Horizontal	120	0	
12083.500	49.8	38.9	-40.7	8.0	0.0	55.9	74.0	-18.0	Horizontal	340	315	

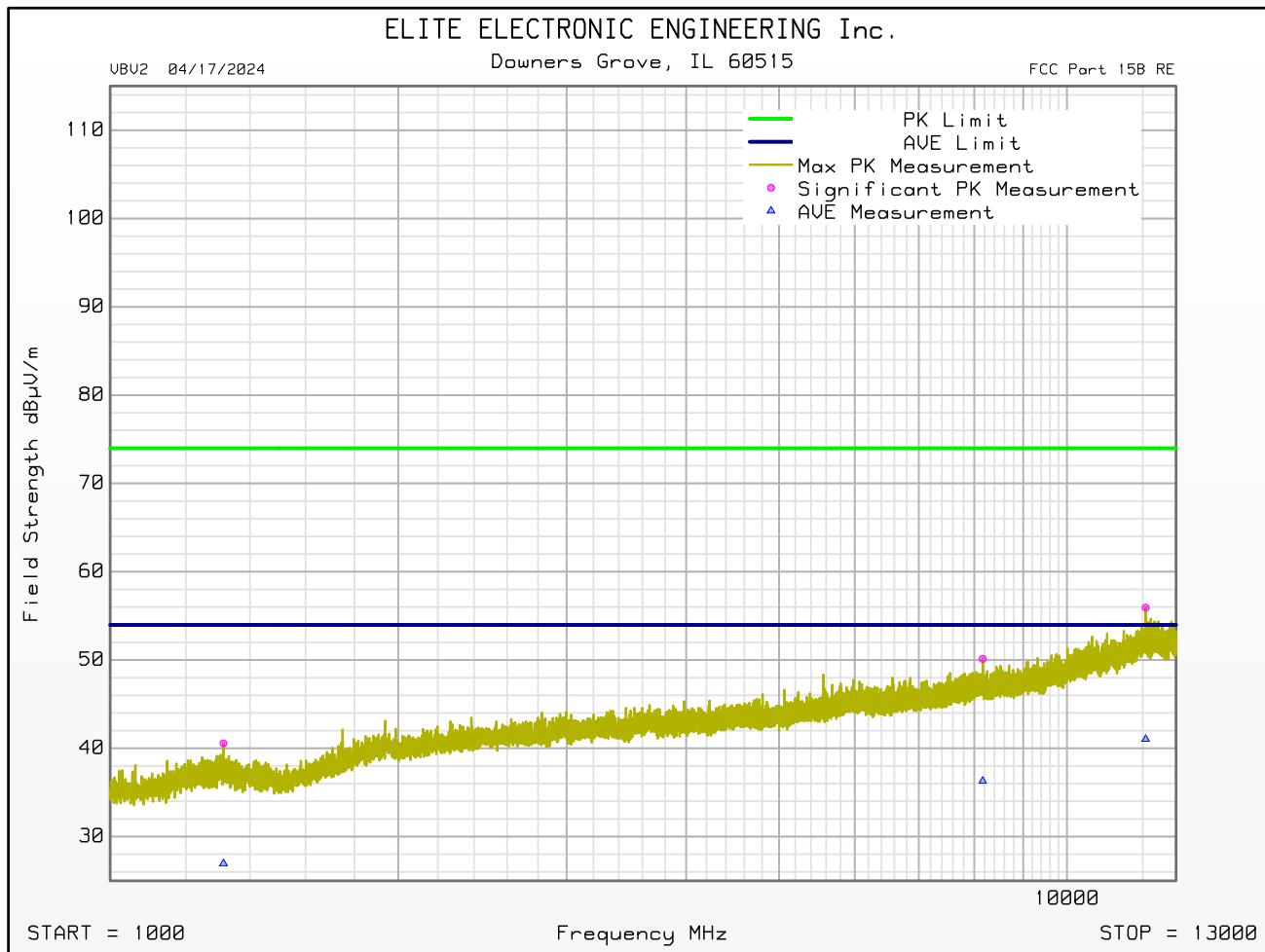
Freq MHz	Average Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Average Total dB μ V/m	Average Limit dB μ V/m	Average Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Average Level
1313.500	37.4	29.0	-41.8	2.4	0.0	26.9	54.0	-27.0	Horizontal	340	180	
2336.500	35.6	31.9	-41.2	3.3	0.0	29.6	54.0	-24.3	Vertical	340	225	
3037.500	35.5	32.9	-41.3	3.9	0.0	31.0	54.0	-23.0	Vertical	340	225	
5027.000	34.3	34.2	-40.8	5.0	0.0	32.7	54.0	-21.3	Vertical	200	45	
8164.000	34.5	36.3	-41.0	6.5	0.0	36.3	54.0	-17.7	Horizontal	120	0	
12083.500	34.9	38.9	-40.7	8.0	0.0	41.0	54.0	-12.9	Horizontal	340	315	

FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 926.275MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Horizontal
Scan Type : Stepped Scan
Test RBW : 1 MHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 21, 2025 09:45:52 AM

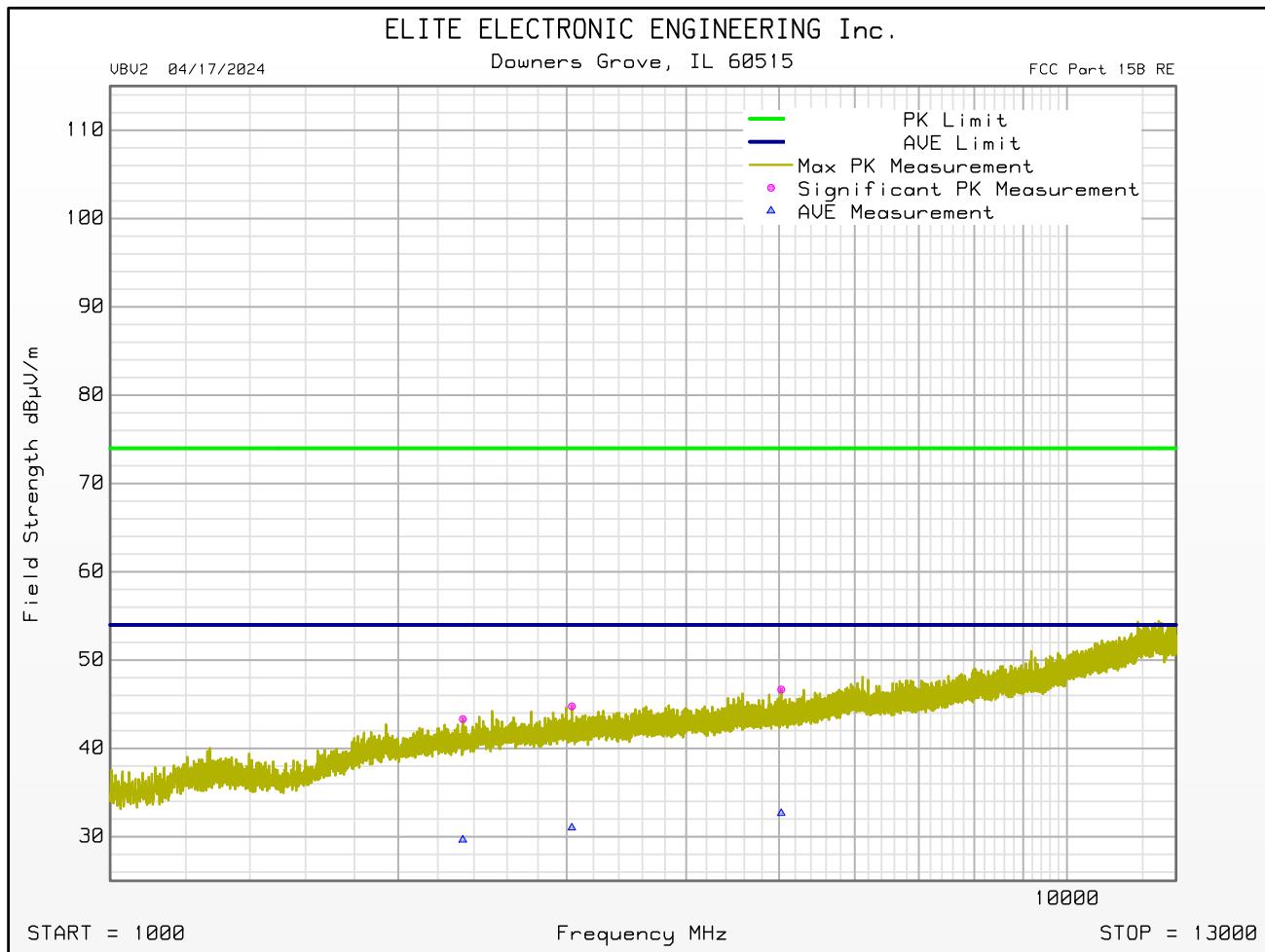


FCC Part 15B Section 15.109

Radiated RF Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain
Model : 900-15607-11
Serial Number : Radiated Sample
DUT Mode : Rx @ 926.275MHz
Turntable Step Angle (°) : 45
Antenna Polarization : Vertical
Scan Type : Stepped Scan
Test RBW : 1 MHz
Prelim Dwell Time (s) : 0.0001
Notes :
Test Engineer : N. Bouchie
Test Date : Mar 21, 2025 09:45:52 AM



21. 20dB Bandwidth

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 902.25MHz Tx @ 914.75MHz Tx @ 926.75MHz

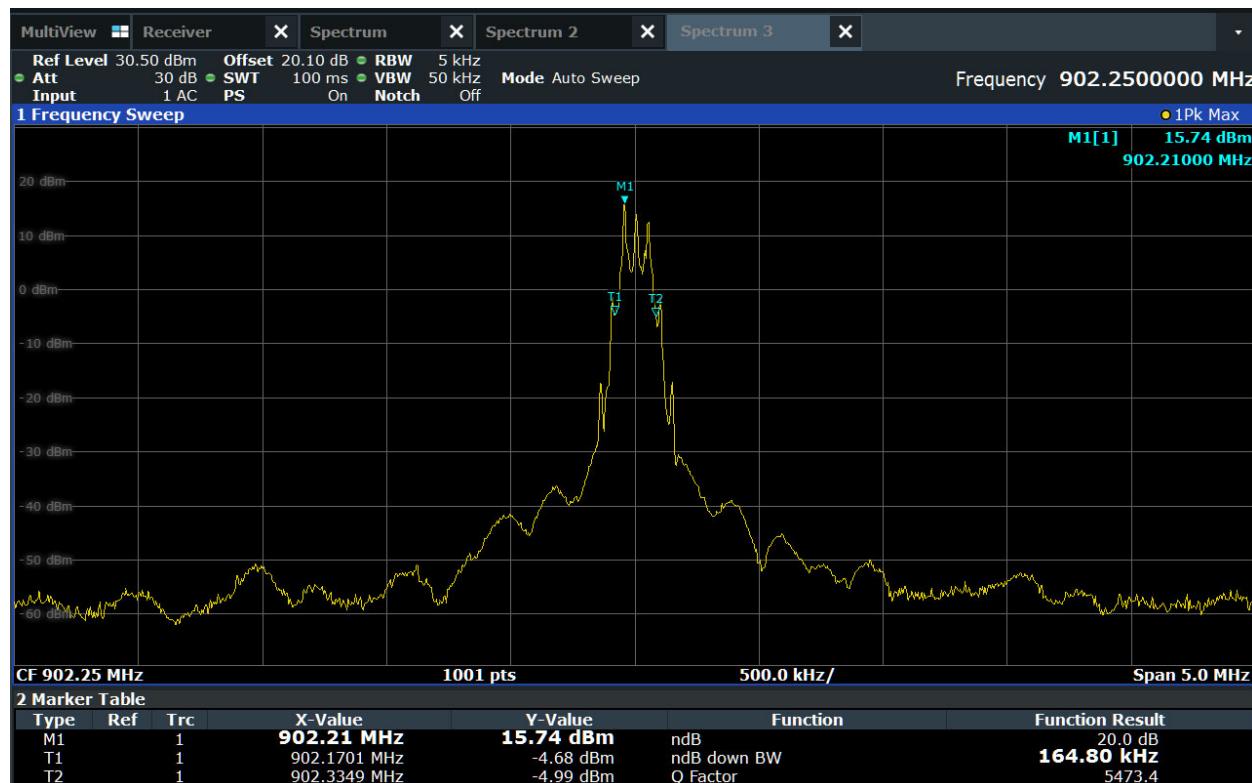
Test Setup Details	
Setup Format	Tabletop
Height of Support	N/A
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	Elite Workbench
Type of Antennas Used	N/a
Notes	None

Measurement Uncertainty	
Measurement Type	Expanded Measurement Uncertainty
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1000 MHz)	4.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (1 GHz – 6 GHz)	3.1

Requirements
Systems using frequency hopping techniques shall have a maximum 20dB bandwidth of 500kHz

Procedure
The antenna port of the EUT was connected to the spectrum analyzer through a 20dB attenuator. The EUT was allowed to transmit continuously.
The transmit channel was set separately to low, middle, and high channels. The resolution bandwidth (RBW) was set to 1% to 5% of the OBW, the video bandwidth (VBW) was set to the same as or 3 times greater than the RBW, and the span was set to 2 to 5 times the OBW.
The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined. The analyzer's display was then screenshot and saved.

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 902.25MHz
Frequency Tested	902.25MHz
Result	20dB BW = 164.8kHz
Notes	None

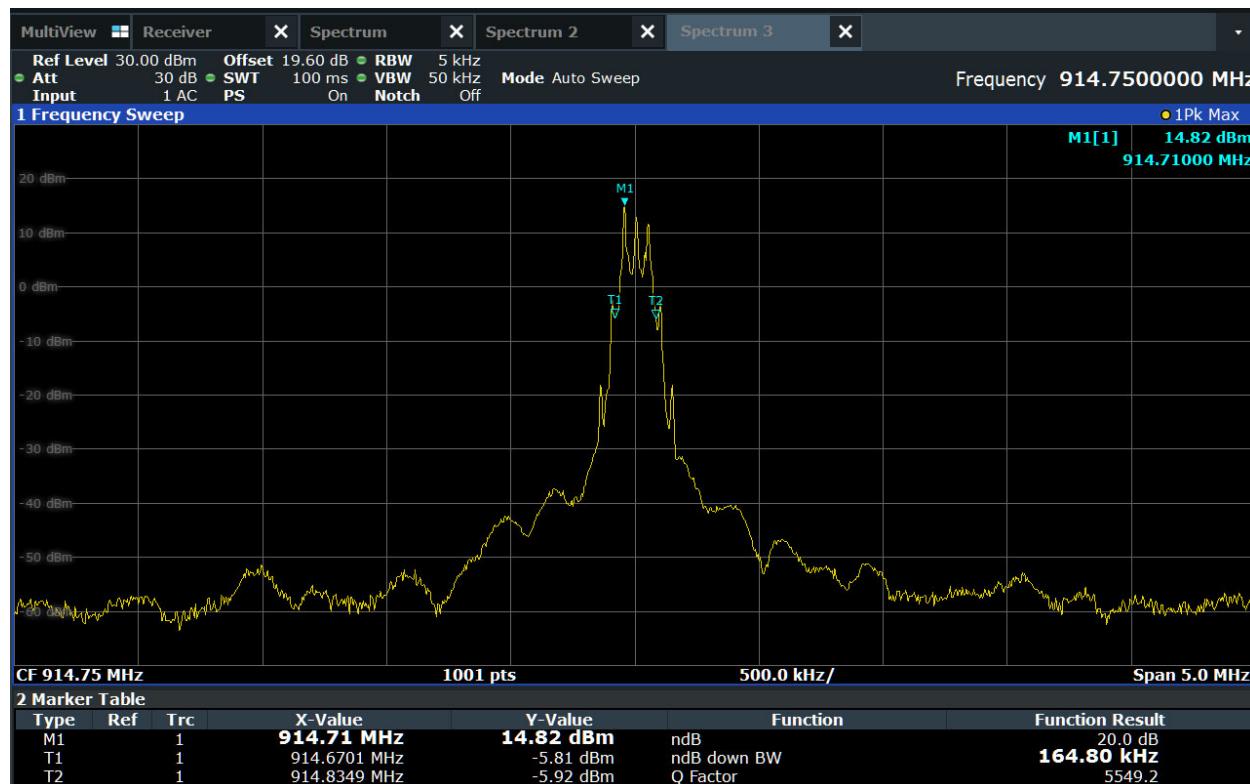


Occupied Bandwidth - 20dB BW

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 902.25MHz
 Line Tested : Antenna Port
 Parameters : 20dB BW
 Date : 3/21/2025 12:01:50 PM
 Notes : None

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 914.75MHz
Frequency Tested	914.75MHz
Result	20dB BW = 164.8kHz
Notes	None



Occupied Bandwidth - 20dB BW

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 914.75MHz
 Line Tested : Antenna Port
 Parameters : 20dB BW
 Date : 3/21/2025 11:59:58 AM
 Notes : None

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 926.75MHz
Frequency Tested	926.75MHz
Result	20dB BW = 154.8kHz
Notes	None



Occupied Bandwidth - 20dB BW

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 914.75MHz
 Line Tested : Antenna Port
 Parameters : 20dB BW
 Date : 3/21/2025 12:02:29 PM
 Notes : None

TRACE1 : Function plot of Max Hold Peak

22. Occupied Bandwidth (99%)

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 902.25MHz Tx @ 914.75MHz Tx @ 926.75MHz

Test Setup Details	
Setup Format	Tabletop
Height of Support	N/A
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	Elite Workbench
Type of Antennas Used	N/a
Notes	None

Measurement Uncertainty	
Measurement Type	Expanded Measurement Uncertainty
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1000 MHz)	4.3
Radiated disturbance (electric field strength on an open area test site or alternative test site) (1 GHz – 6 GHz)	3.1

Procedure
The antenna port of the EUT was connected to the spectrum analyzer through a 20db attenuator. The EUT was allowed to transmit continuously.
The EUT was allowed to transmit continuously. The transmit channel was set separately to low, middle, and high channels. The resolution bandwidth (RBW) was set to 1% to 5% of the actual occupied / x dB bandwidth, the video bandwidth (VBW) was set 3 times greater than the RBW, and the span was set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency.
The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined. The analyzer's display was plotted using a 'screen dump' utility.

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 902.25MHz
Frequency Tested	902.25MHz
Result	OBW = 188.2kHz
Notes	None



Occupied Bandwidth - 99% OBW

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 902.25MHz
 Line Tested : Antenna Port
 Parameters : 99% OBW
 Date : 3/21/2025 11:56:43 AM
 Notes : None

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 914.75MHz
Frequency Tested	914.75MHz
Result	OBW = 188.5kHz
Notes	None

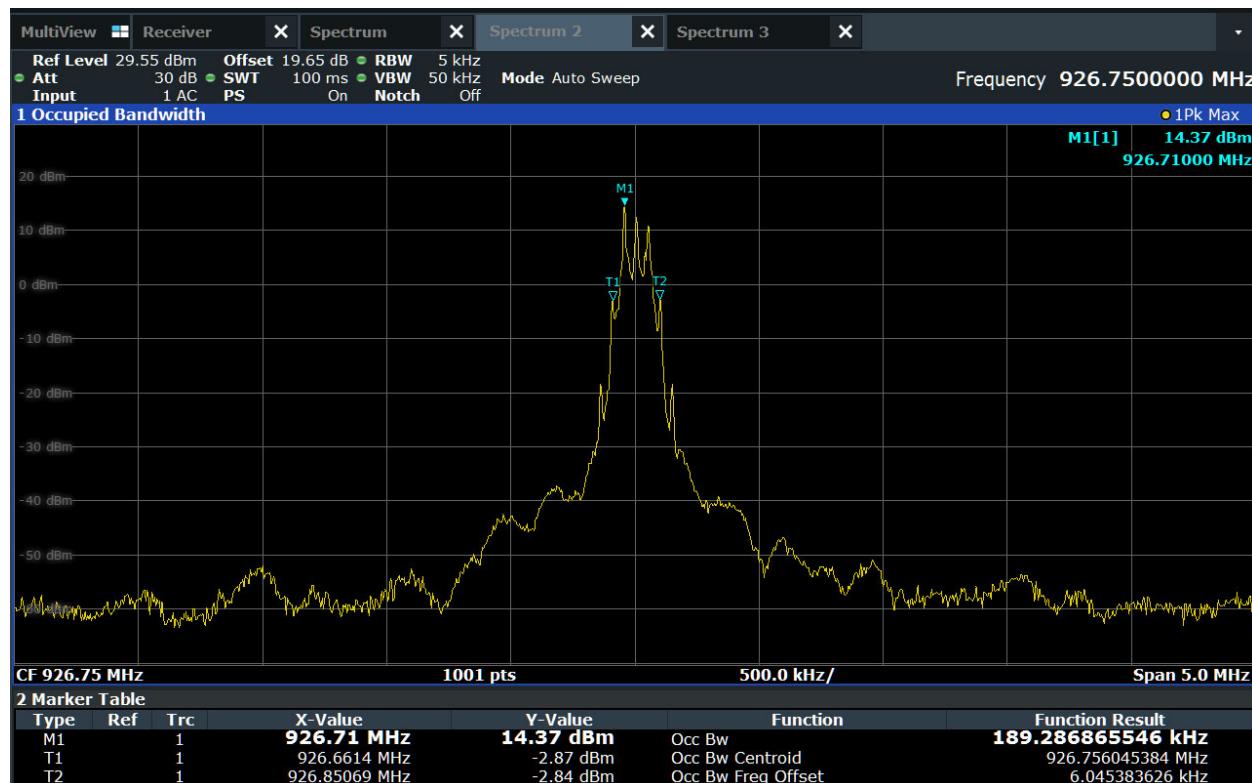


Occupied Bandwidth - 99% OBW

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 914.75MHz
 Line Tested : Antenna Port
 Parameters : 99% OBW
 Date : 3/21/2025 11:57:47 AM
 Notes : None

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 926.75MHz
Frequency Tested	926.75MHz
Result	OBW = 189.3kHz
Notes	None



Occupied Bandwidth - 99% OBW

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 926.75MHz
 Line Tested : Antenna Port
 Parameters : 99% OBW
 Date : 3/21/2025 11:56:04 AM
 Notes : None

TRACE1 : Function plot of Max Hold Peak

23. Maximum Peak Conducted Output Power

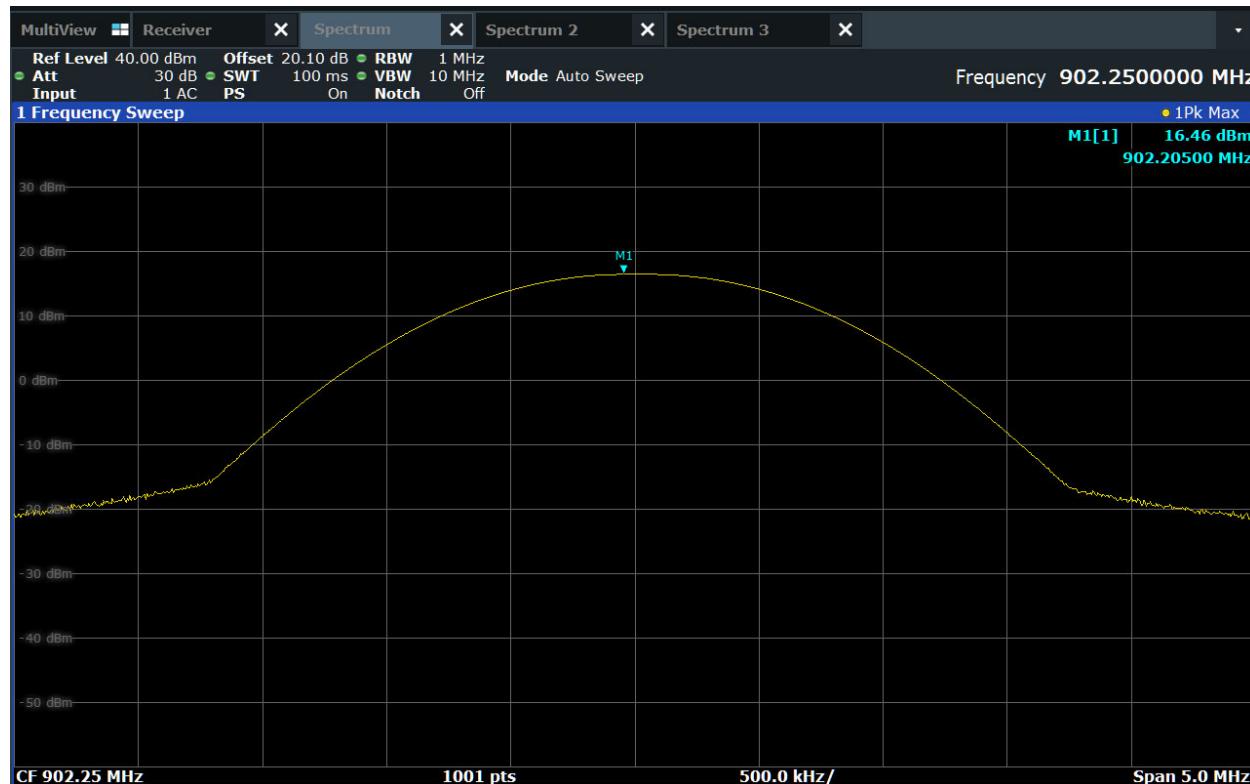
EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 902.25MHz Tx @ 914.75MHz Tx @ 926.75MHz

Test Setup Details	
Setup Format	Tabletop
Height of Support	N/A
Measurement Method	Antenna Conducted
Test Site Used	Elite Workbench
Type of Antennas Used	N/A
Notes	None

Requirements	
The output power shall not exceed 1W (30dBm).	

Procedure	
The antenna port of the EUT was connected to the spectrum analyzer through a 20db attenuator. The EUT was allowed to transmit continuously. The EUT was set to transmit separately at the low, middle, and high channels. The resolution bandwidth (RBW) was set to greater than the 6dB bandwidth. The span was set to greater than 3 times the RBW. The 'Max-Hold' function was engaged. The maximum meter reading was recorded. The peak power output was calculated for the low, middle, and high channels.	

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Vulcan – 900-15607 Rev F
Model No.	900-15607-11
Serial No.	Conducted Sample
Mode	Tx @ 902.25MHz
Frequency Tested	902.25MHz
Result	Output Power = 44.3mW (16.46dBm)
Notes	None



Maximum Peak Output Power

Manufacturer : The Chamberlain Group LLC
 Model Number : 900-15607-11
 Serial Number : Radiated Sample
 Mode : Tx @ 902.25MHz
 Line Tested : Antenna Port
 Parameters : Conducted Output Power
 Date : 3/21/2025 11:24:19 AM
 Notes : None

TRACE1 : Function plot of Max Hold Peak