



### Engineering Test Report No. 2402413-03

Report Date	July 1, 2025	
Manufacturer Name	The Chamberlain Group LLC	
Manufacturer Address	300 Windsor Dr Oak Brook, IL 60523	
Test Item Name Model No.	Doublemint 900-15607-5	
Date Received	May 30, 2025	
Test Dates	June 2, 2025 - June 30, 2025	
Specifications	FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B FCC "Code of Federal Regulations" Title 47 Part 15, Subpart C, Section 15.247 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	Edwin Casas	
Signature		
Approved by	Raymond J. Klouda, Registered Professional Engineer of Illinois – 44894	
PO Number	4900099025	
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## 1. Report Revision History

Revision	Date	Description
–	15 JUL 2025	Initial Release of Engineering Test Report No. 2402413-03

## 2. Introduction

### 2.1. Scope of Tests

This document presents the results of a series of RF emissions tests that were performed on The Chamberlain Group LLC Doublemint Garage Door Opener (GDO)(hereinafter referred to as the Equipment Under Test (EUT)). The EUT was 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 EUT meets the RF emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, §15.109 for Receivers and Subpart C, §15.247 for a Frequency Hopping Spread Spectrum intentional radiator operating within the 902 – 928MHz band.

The test series was also performed to determine if the EUT meets 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 Frequency Hopping Spread Spectrum 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	Doublemint
Model/Part No.	900-15607-5
Serial No.	S/N: 3C00 002 7D5 (Used for Radiated Emissions only) Circuit Board S/N: N/A (Used for Antenna Port Conducted Measurements)
Size of EUT	19" x 8" x 10.5"
Software/Firmware Version	GDO Radiated Test Sample: 126A0623_2_125PWR-72 (Circuit Board only used Antenna Port Conducted Tests Sample: 126A0623_2_125)
Device Type	Frequency Hopping Transmission Device
Band of Operation	902 – 928MHz
Conducted Output Power	14.57dBm
20dB Bandwidth	199.8kHz
Occupied Bandwidth (99% CBW)	188.8kHz
Antenna Type	Dipole Wire
FCC ID	FCC ID: HBW15607X5
ISED Certification Number	IC ID: 2666A-15607X5

The EUTs listed above were used throughout the test series.

## 3. Power Input

The EUTs obtained 120V 60Hz power via a 3-wire, 1-meter, unshielded power cord.

## 4. Grounding

The EUTs were connected to ground 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
Laptop	HP EliteBook 8470p	---

## 6. Interconnect Leads

The following interconnect cables were submitted with the test item:

Item	Description
USB	Connects laptop to EUT

## 7. Modifications Made to the EUT

No modifications were made to the EUTs during the testing.

## 8. Modes of Operation

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

### 8.1. Continuous Tx

This mode was achieved by applying 120V 60Hz to the EUTs with the support equipment attached. The support equipment software was used to configure the EUTs to transmit continuously at one of the following frequencies: 902.25MHz, 914.75MHz, 926.75MHz.

### 8.2. Hopping

This mode was achieved by applying 120V 60Hz to the EUTs with the support equipment attached. The support equipment software was used to configure the EUTs into a continuous hopping mode.

### 8.3. Receive Only

This mode was achieved by applying 120V 60Hz to the EUTs with the support equipment attached. The support equipment software was used to configure the EUTs to receive continuously at one of the following frequencies: 902.25MHz, 914.75MHz, 926.75MHz.

## 9. Test Specifications

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

- Federal Communications Commission "Code of Federal Regulations", Title 47, Chapter I, Subchapter A, Part 15, Subpart B
- Federal Communications Commission "Code of Federal Regulations", Title 47, Chapter I, Subchapter A, Part 15, Subpart C
- 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 9kHz to 40GHz"
- 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 2, February 2017, "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 C, Section 15.247, Innovation, Science, and Economic Development Canada, RSS-247, 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	24.4°C
Relative Humidity	23%
Atmospheric Pressure	1015mb

## 13. Summary

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

Test Description	Requirements	Test Method	S/N	Results
Receiver Radiated Emissions	FCC 15.109 ISED RSS-GEN	ANSI C63.4:2014	3C00 002 7D5	Conforms
20dB Bandwidth	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	Conforms
Occupied Bandwidth (99%)	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	Conforms
Carrier Frequency Separation	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	Conforms
Number of Carrier Channels	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	Conforms
Average Time of Occupancy	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	Conforms
Maximum Peak Conducted Output Power	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	Conforms
Effective Isotropic Radiated Power (EIRP)	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	3C00 002 7D5	Conforms
Duty Cycle Factor Measurements	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	—
Case Spurious Radiated Emissions	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	3C00 002 7D5	Conforms
Band-Edge Compliance	FCC 15.247 ISED RSS-247	ANSI C63.10:2013	Circuit Board N/A	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 Chamberlain Group LLC Doublemint Model No. 900-15607-5, Serial No. 3C00 002 7D5 and Circuit Board Serial Number N/A did fully conform to the selected requirements of FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, §15.107 and §15.109 for Receivers and Subpart C, §15.247 for a Frequency Hopping Spread Spectrum intentional radiator operating within the 902 – 928MHz band, and the 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 Frequency Hopping Spread Spectrum intentional radiator operating within the 902 – 928MHz band.

### 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 C, Section 15.247 and Innovation, Science, and Economic Development Canada, RSS-247 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 EUT



## 18. Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
APW3	Preamplifier	Planar	PE2-35-120-5R0-10-12	PL2924	1-18GHz	3/24/2025	3/24/2026
CDZ5	LAB WORKSTATION	ELITE	LWS-10		WINDOWS 10	N/A	
NTA3	BILOG ANTENNA	TESEQ	6112D	32853	25-2000MHz	10/3/2024	10/3/2026
NWQ2	DOUBLE RIDGED WAVEGUIDE ANTENNA	ETS LINDGREN	3117	66659	1GHZ-18GHZ	4/26/2024	4/26/2026
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
T2S2	20DB 25W ATTENUATOR	WEINSCHEL	46-20-34	BV3540	DC-18GHZ	12/19/2023	12/19/2025
VBV2	COMMERCIAL RADIATED EMISSIONS.EXE	ELITE		---	---	N/A	
XPQ3	HIGH PASS FILTER	K&L MICROWAVE	4IH30-1804/T10000-0	4	1.8GHZ-10GHZ	9/14/2023	9/14/2025

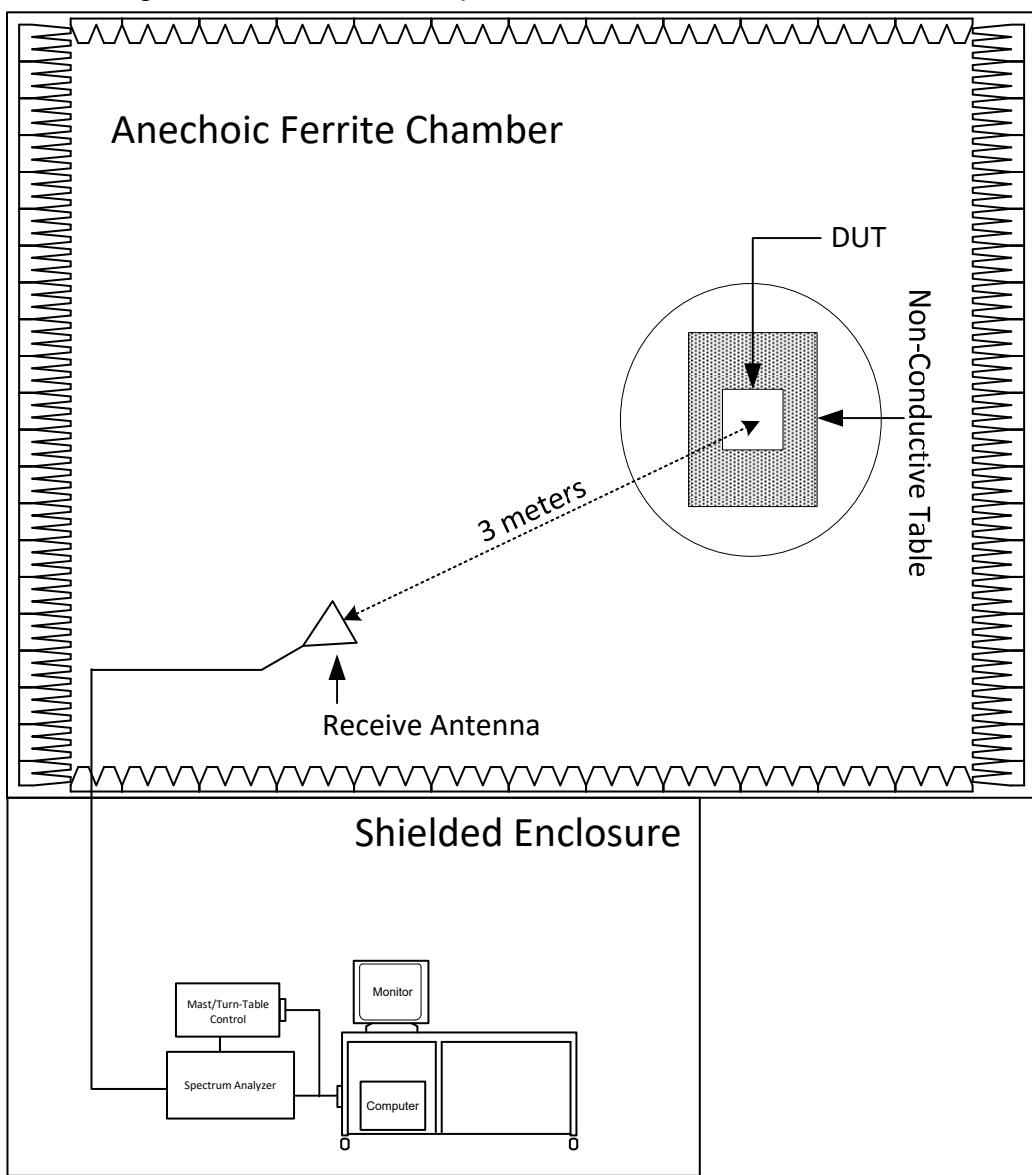
N/A: Not Applicable

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.

## 19. Block Diagram of Test Setup



## Radiated Measurements Test Setup

## 20. Receiver Radiated Emissions

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	3C00 002 7D5
Mode	Receive Only

Test Site Information	
Setup Format	Tabletop
Type of Test Site	Semi-Anechoic Chamber
Test Site Used	Room #21
Type of Antennas Used	Below 1GHz: Biog (or equivalent) Above 1GHz: Double-ridged waveguide (or equivalent)
Highest Internal Frequency	926MHz
Highest Measurement Frequency	5GHz
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

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

Radiated Emissions Limits (30MHz to 1GHz)		
Frequency of Emission (MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)
30 – 88	100	40
88 – 216	150	43.5
216 – 960	200	46
Above 960	500	54
Radiated Emissions Limits (Above 1GHz)		
Frequency of Emission (MHz)	Field Strength Peak Limit (dBµV/m)	Field Strength Average Limit (dBµV/m)
Above 1000	74	54

#### 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.

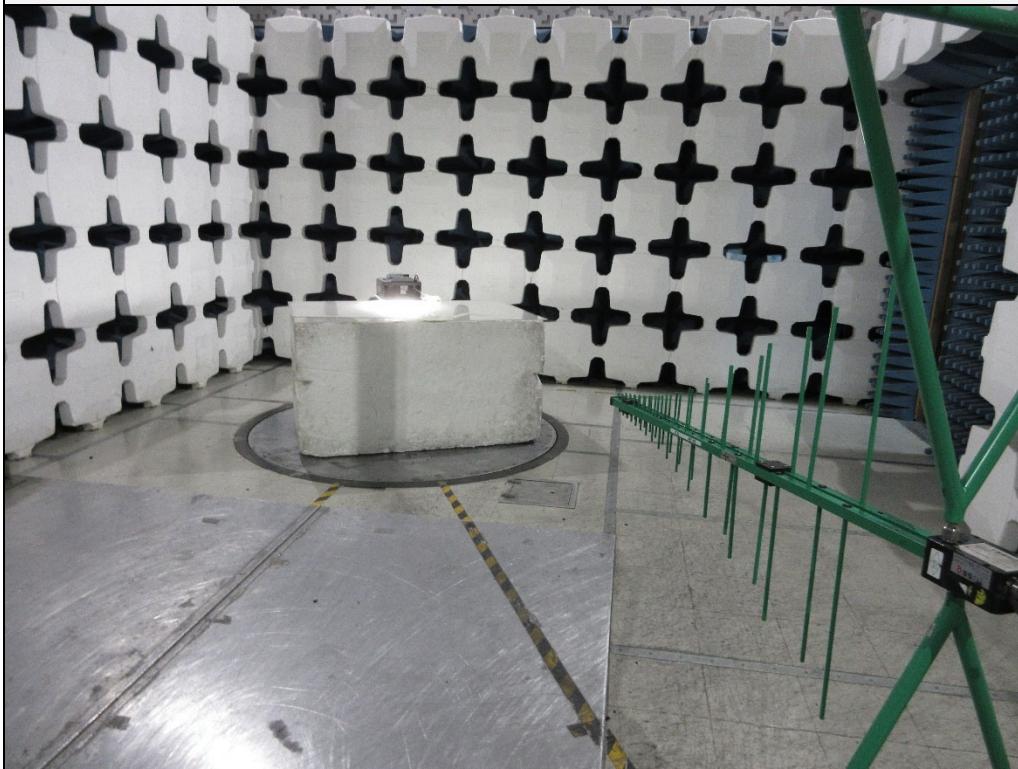
The EUT and all peripheral equipment were placed on an 80cm high non-conductive stand. The broadband measuring antenna was positioned at a 3 meter distance from the EUT. The frequency range from 30MHz to 1GHz was investigated using a peak detector function with the bilog antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The frequency range from 1GHz to 5GHz 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.



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 Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

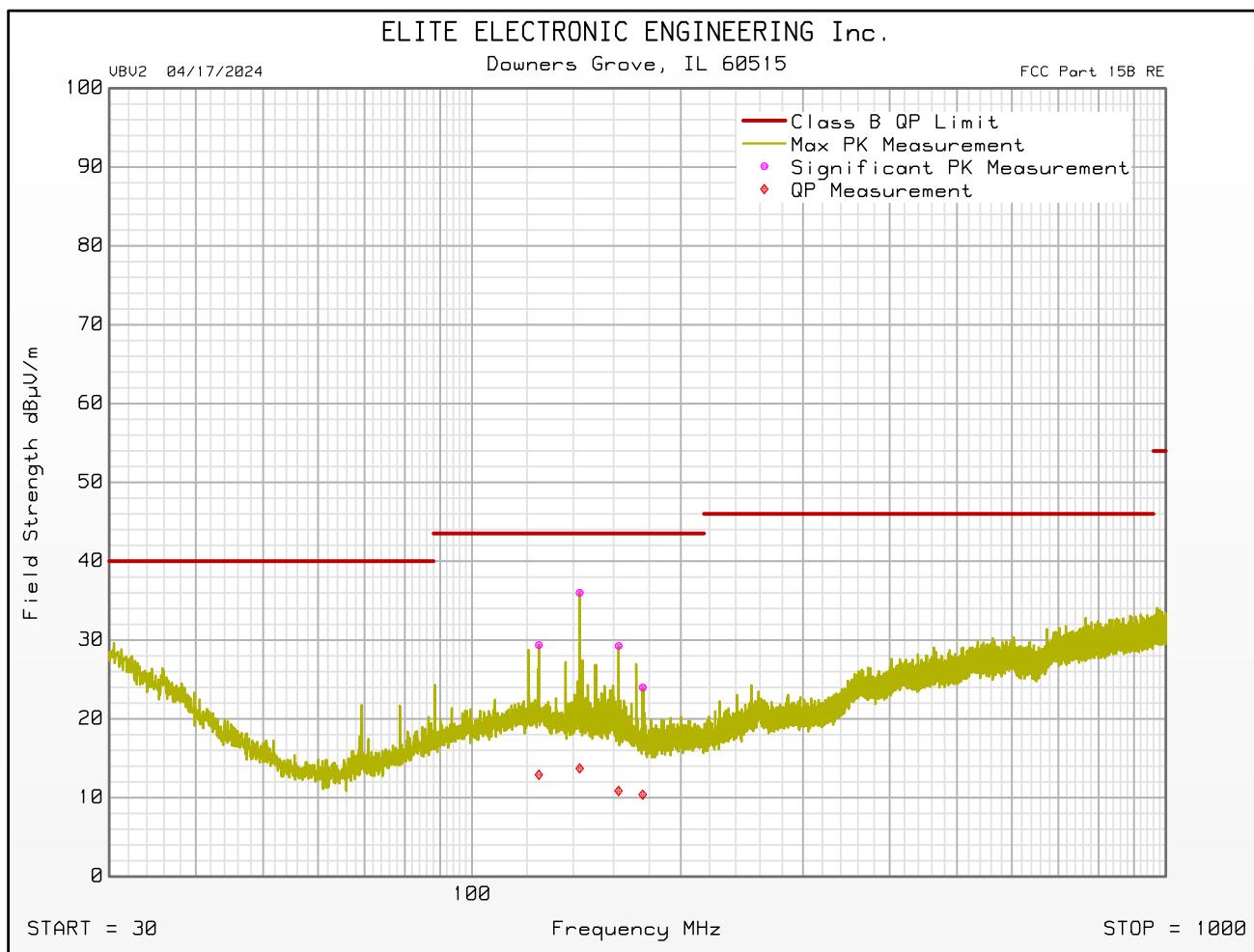
Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 DUT Mode : Rx (902.25MHz)  
 Turntable Step Angle (°) : 45  
 Scan Type : Stepped Scan  
 Test RBW : 120 kHz  
 Prelim Dwell Time (s) : 0.0001  
 Notes : None  
 Test Engineer : E. Casas  
 Test Date : Jun 04, 2025 09:58:21 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 $\mu$ V/m	QP Total dB $\mu$ V/m	QP Limit dB $\mu$ V/m	QP Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive QP Level
30.480	6.7	-2.3	24.9	0.0	0.4	0.0	32.0	22.9	40.0	-17.1	Vertical	120	0	
85.980	10.3	-1.7	16.0	0.0	0.7	0.0	27.0	15.0	40.0	-25.0	Vertical	120	135	
86.580	9.8	-3.0	16.1	0.0	0.7	0.0	26.5	13.7	40.0	-26.3	Vertical	120	270	
86.820	11.0	-3.6	16.1	0.0	0.7	0.0	27.8	13.2	40.0	-26.8	Vertical	120	0	
124.840	8.9	-7.5	19.6	0.0	0.8	0.0	29.4	12.9	43.5	-30.6	Horizontal	200	270	
142.960	16.9	-5.4	18.2	0.0	0.9	0.0	36.0	13.7	43.5	-29.8	Horizontal	340	180	
162.640	11.2	-7.2	17.1	0.0	0.9	0.0	29.3	10.9	43.5	-32.7	Horizontal	120	45	
176.200	6.8	-6.8	16.2	0.0	1.0	0.0	24.0	10.4	43.5	-33.1	Horizontal	200	180	
516.120	4.7	-6.8	24.1	0.0	1.7	0.0	30.5	19.0	46.0	-27.0	Vertical	340	135	
939.300	4.9	-6.9	27.3	0.0	2.4	0.0	34.5	22.8	46.0	-23.2	Vertical	340	45	

## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

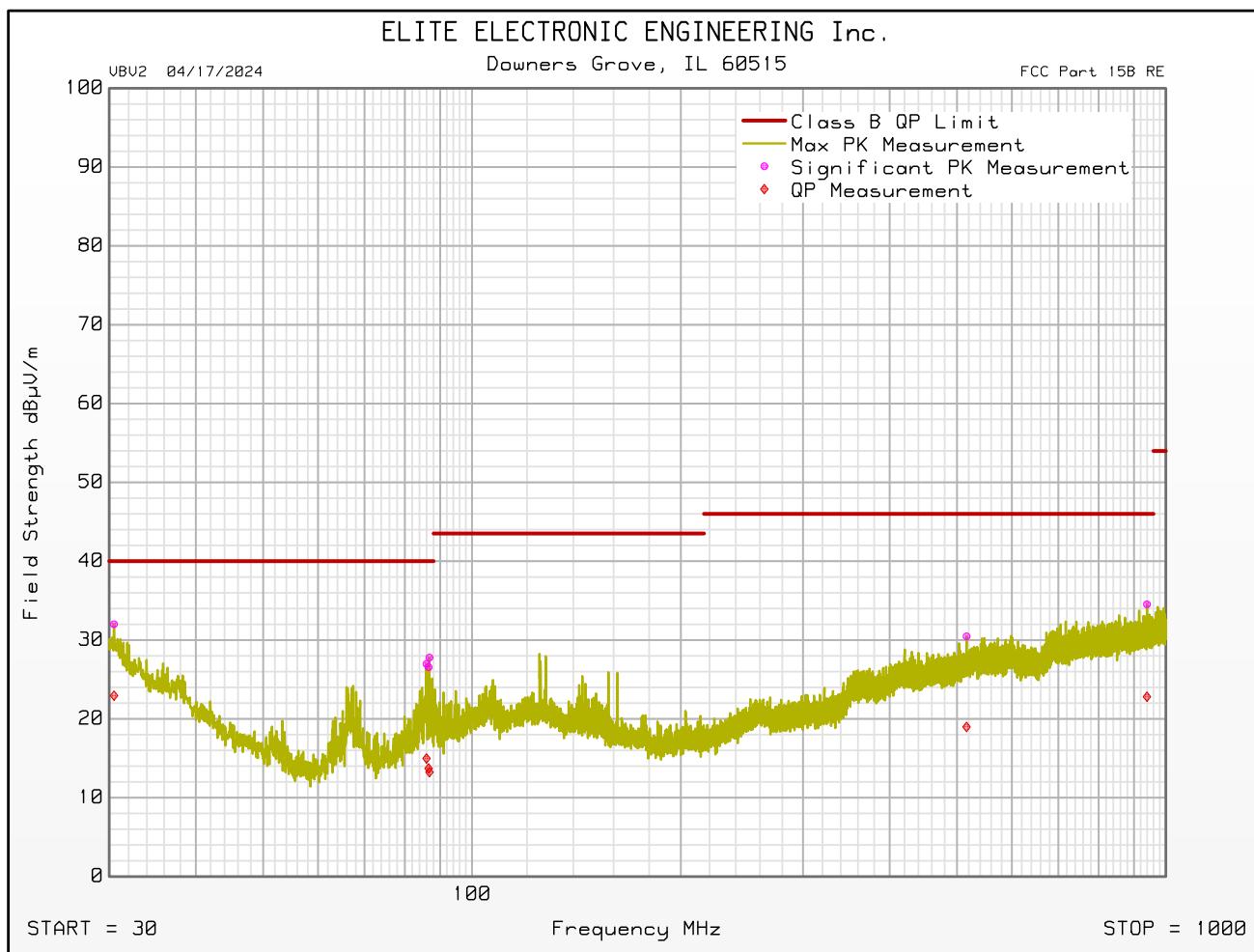
Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (902.25MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Horizontal  
Scan Type : Stepped Scan  
Test RBW : 120 kHz  
Prelim Dwell Time (s) : 0.0001  
Notes : None  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 09:58:21 AM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
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 : None  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 09:58:21 AM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

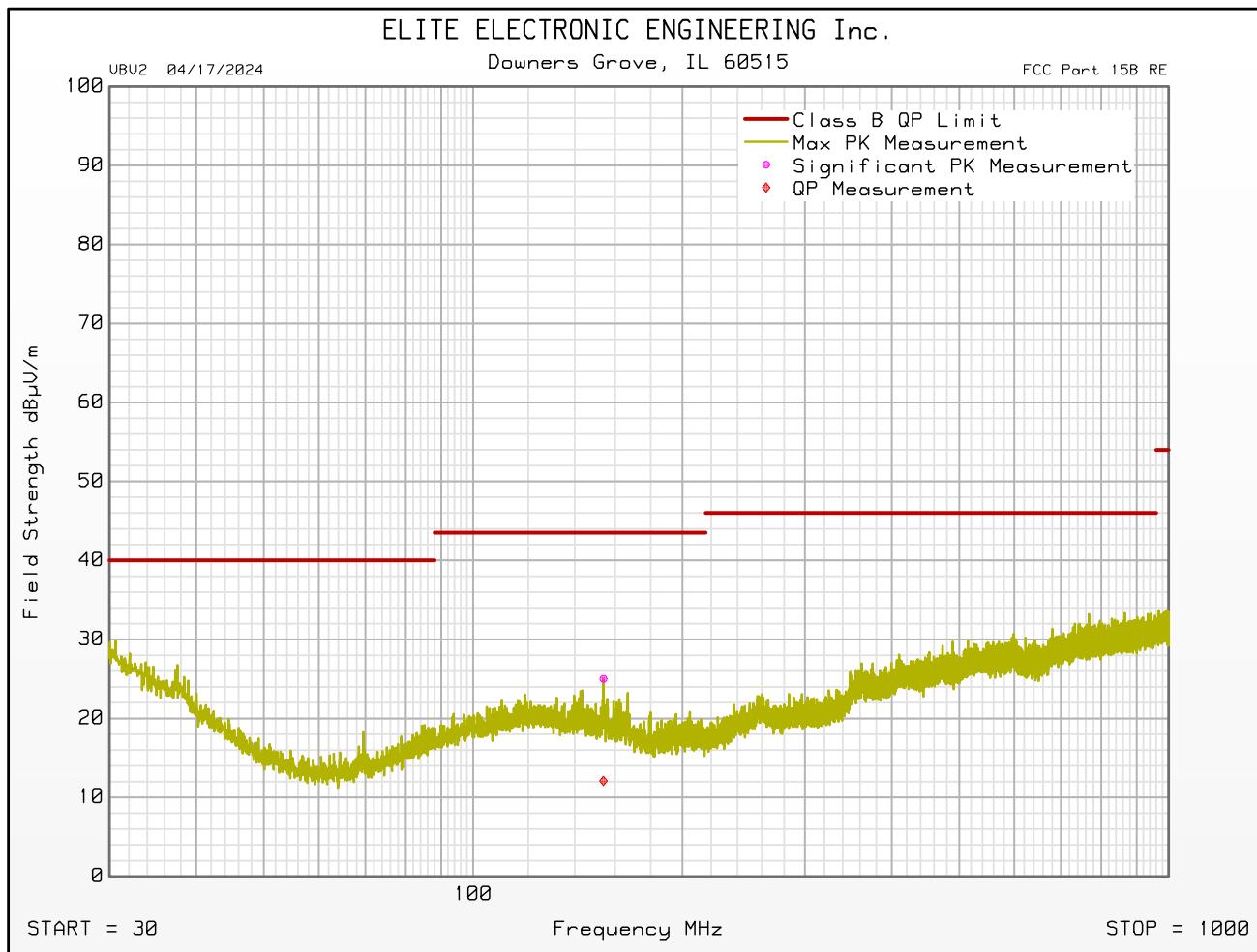
Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 DUT Mode : Rx (914.75MHz)  
 Turntable Step Angle (°) : 45  
 Scan Type : Stepped Scan  
 Test RBW : 120 kHz  
 Prelim Dwell Time (s) : 0.0001  
 Notes : None  
 Test Engineer : E. Casas  
 Test Date : Jun 04, 2025 10:23:18 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 $\mu$ V/m	QP Total dB $\mu$ V/m	QP Limit dB $\mu$ V/m	QP Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive QP Level
30.600	7.2	-1.9	24.8	0.0	0.4	0.0	32.4	23.4	40.0	-16.6	Vertical	120	270	
66.540	9.2	-2.3	12.5	0.0	0.6	0.0	22.2	10.7	40.0	-29.3	Vertical	200	225	
87.180	15.7	-5.0	16.2	0.0	0.7	0.0	32.6	11.9	40.0	-28.1	Vertical	200	135	
87.900	9.5	-3.9	16.3	0.0	0.7	0.0	26.5	13.1	40.0	-26.9	Vertical	120	270	
118.600	12.8	-5.4	19.4	0.0	0.8	0.0	33.0	14.8	43.5	-28.7	Vertical	120	90	
142.540	5.5	-4.4	18.2	0.0	0.9	0.0	24.7	14.7	43.5	-28.8	Vertical	120	135	
153.940	6.4	-6.5	17.7	0.0	0.9	0.0	25.0	12.1	43.5	-31.4	Horizontal	200	135	
271.860	4.2	-7.5	18.6	0.0	1.2	0.0	24.1	12.4	46.0	-33.6	Vertical	200	0	
522.600	4.2	-6.5	24.2	0.0	1.7	0.0	30.1	19.4	46.0	-26.6	Vertical	120	90	
955.860	4.4	-7.5	27.6	0.0	2.4	0.0	34.4	22.6	46.0	-23.4	Vertical	120	180	

## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

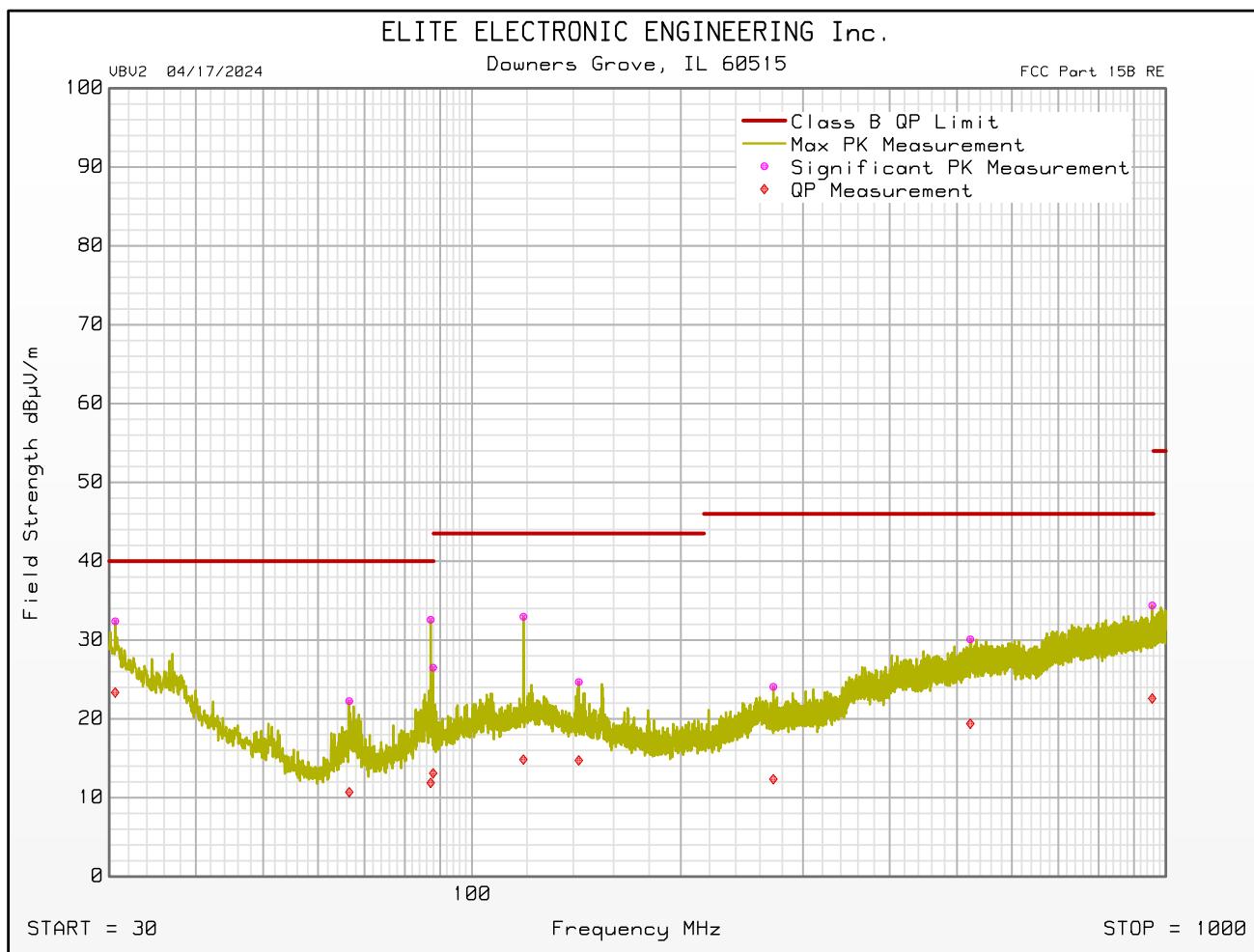
Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (914.75MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Horizontal  
Scan Type : Stepped Scan  
Test RBW : 120 kHz  
Prelim Dwell Time (s) : 0.0001  
Notes : None  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 10:23:18 AM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
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 : None  
Test Engineer : E. Casas  
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## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

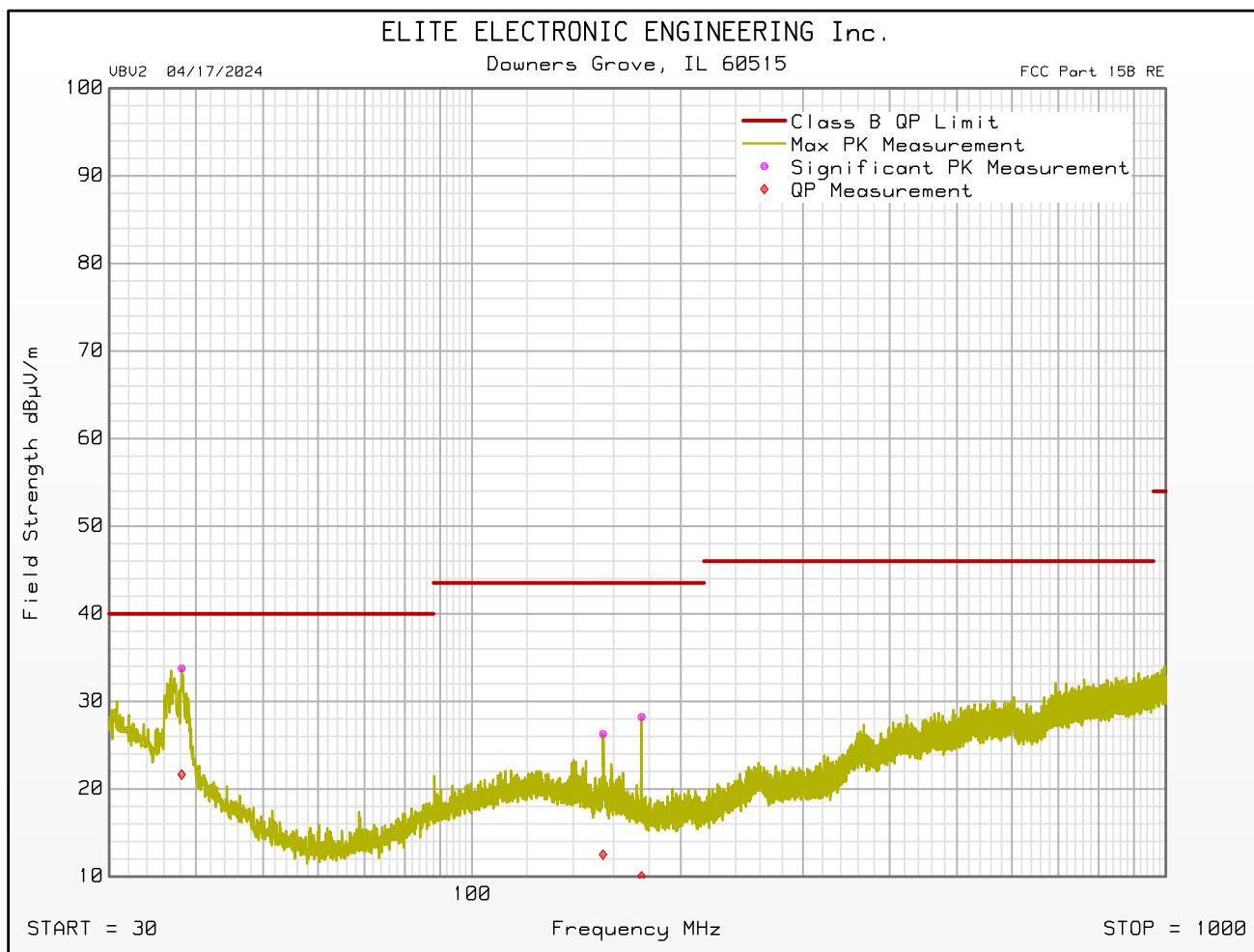
Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 DUT Mode : Rx (926.75MHz)  
 Turntable Step Angle (°) : 45  
 Scan Type : Stepped Scan  
 Test RBW : 120 kHz  
 Prelim Dwell Time (s) : 0.0001  
 Notes : None  
 Test Engineer : E. Casas  
 Test Date : Jun 04, 2025 10:48:34 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 $\mu$ V/m	QP Total dB $\mu$ V/m	QP Limit dB $\mu$ V/m	QP Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive QP Level
30.480	6.6	-3.3	24.9	0.0	0.4	0.0	31.9	22.0	40.0	-18.0	Vertical	120	45	
38.160	12.6	0.5	20.7	0.0	0.4	0.0	33.8	21.6	40.0	-18.4	Horizontal	200	180	
47.880	7.5	-5.7	15.4	0.0	0.5	0.0	23.4	10.2	40.0	-29.8	Vertical	120	0	
85.560	22.9	-2.3	15.9	0.0	0.7	0.0	39.4	14.3	40.0	-25.7	Vertical	120	225	
87.000	12.2	-2.4	16.2	0.0	0.7	0.0	29.1	14.4	40.0	-25.6	Vertical	120	315	
87.480	6.8	-5.2	16.2	0.0	0.7	0.0	23.7	11.7	40.0	-28.3	Vertical	200	0	
125.080	12.8	-7.5	19.6	0.0	0.8	0.0	33.3	13.0	43.5	-30.6	Vertical	120	315	
154.480	7.7	-6.0	17.6	0.0	0.9	0.0	26.3	12.5	43.5	-31.0	Horizontal	340	180	
175.540	11.0	-7.2	16.3	0.0	1.0	0.0	28.2	10.0	43.5	-33.5	Horizontal	200	270	
548.460	3.9	-7.3	24.6	0.0	1.8	0.0	30.3	19.1	46.0	-26.9	Vertical	340	45	
958.260	3.8	-7.3	27.7	0.0	2.4	0.0	33.9	22.8	46.0	-23.2	Vertical	120	315	

## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

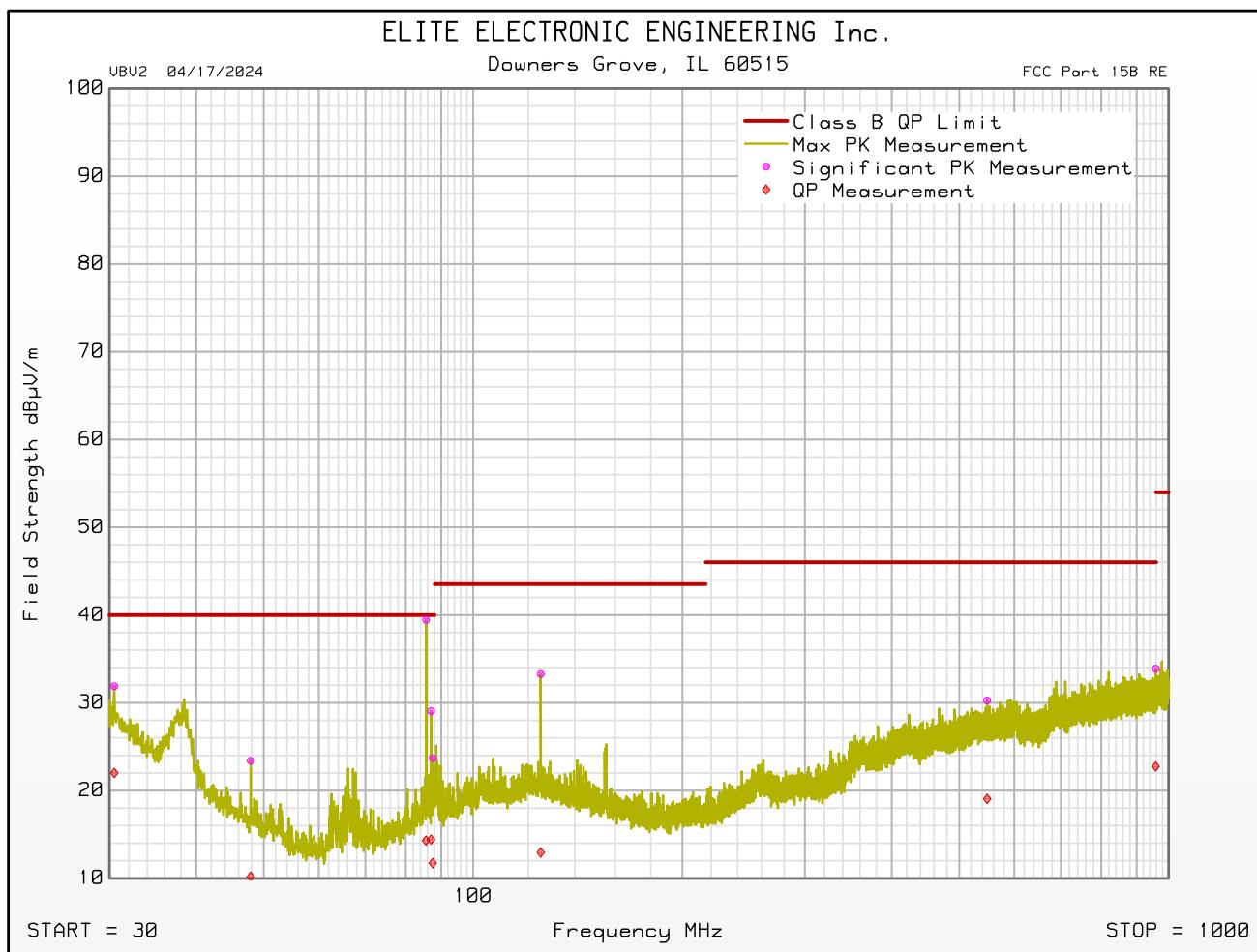
Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 DUT Mode : Rx (926.75MHz)  
 Turntable Step Angle (°) : 45  
 Antenna Polarization : Horizontal  
 Scan Type : Stepped Scan  
 Test RBW : 120 kHz  
 Prelim Dwell Time (s) : 0.0001  
 Notes : None  
 Test Engineer : E. Casas  
 Test Date : Jun 04, 2025 10:48:34 AM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (926.75MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Vertical  
Scan Type : Stepped Scan  
Test RBW : 120 kHz  
Prelim Dwell Time (s) : 0.0001  
Notes : None  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 10:48:34 AM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 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 : E. Casas  
 Test Date : Jun 04, 2025 01:45:11 PM

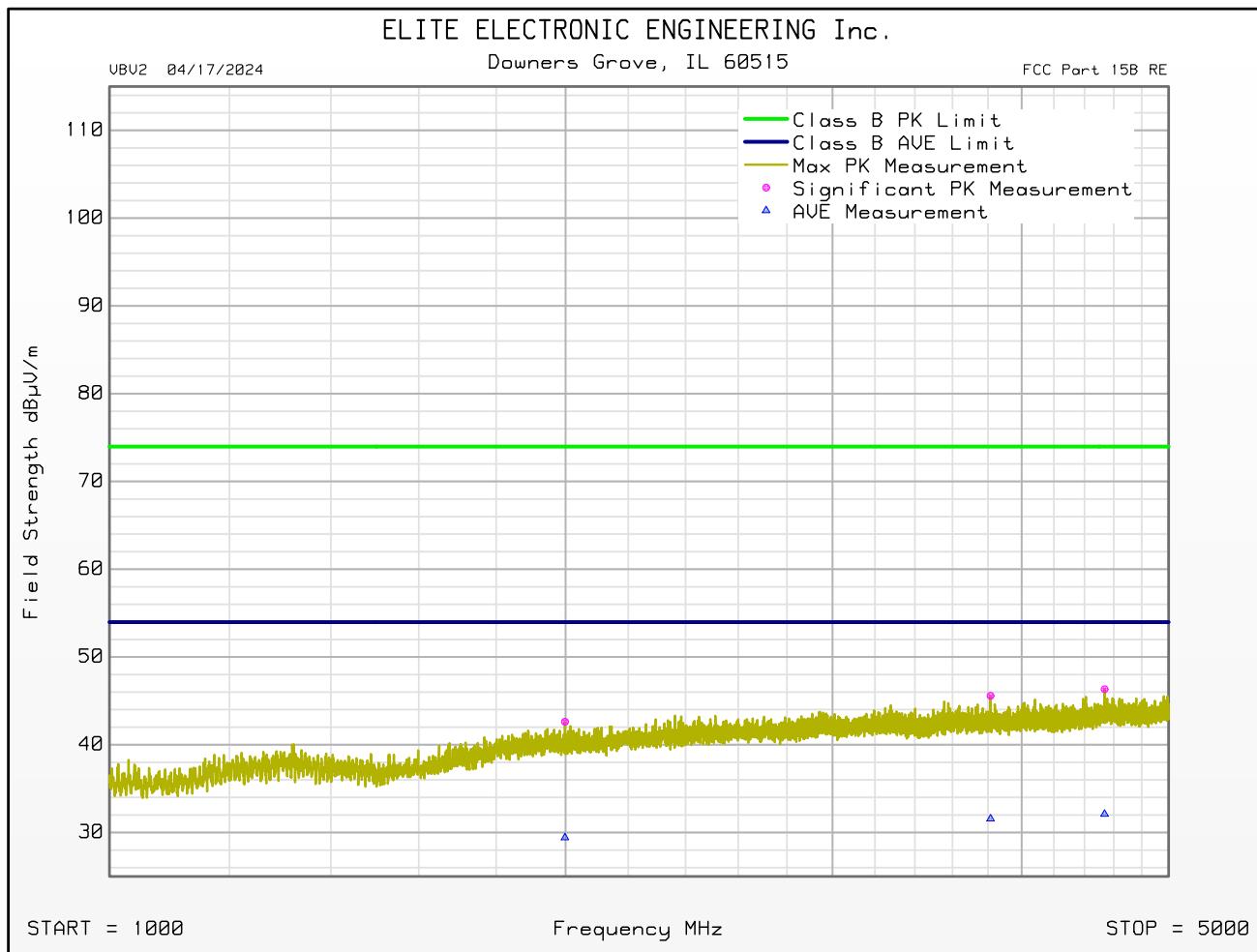
Freq MHz	Peak Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB $\mu$ V/m	Peak Limit dB $\mu$ V/m	Peak Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Peak Level
1299.000	49.9	29.1	-41.9	3.0	0.0	40.1	74.0	-33.9	Vertical	340	180	
1381.000	50.5	28.5	-41.6	3.1	0.0	40.4	74.0	-33.6	Vertical	340	225	
1998.000	48.6	31.5	-41.0	3.5	0.0	42.6	74.0	-31.4	Horizontal	120	315	
2451.500	49.5	32.3	-41.4	3.8	0.0	44.1	74.0	-29.8	Vertical	200	315	
3814.500	48.1	33.4	-40.6	4.7	0.0	45.6	74.0	-28.4	Horizontal	200	270	
4536.500	48.0	34.2	-40.8	5.0	0.0	46.3	74.0	-27.7	Horizontal	200	180	

Freq MHz	Average Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Average Total dB $\mu$ V/m	Average Limit dB $\mu$ V/m	Average Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Average Level
1299.000	36.5	29.1	-41.9	3.0	0.0	26.7	54.0	-27.2	Vertical	340	180	
1381.000	36.5	28.5	-41.6	3.1	0.0	26.5	54.0	-27.5	Vertical	340	225	
1998.000	35.4	31.5	-41.0	3.5	0.0	29.4	54.0	-24.6	Horizontal	120	315	
2451.500	35.7	32.3	-41.4	3.8	0.0	30.3	54.0	-23.7	Vertical	200	315	
3814.500	34.1	33.4	-40.6	4.7	0.0	31.6	54.0	-22.4	Horizontal	200	270	
4536.500	33.8	34.2	-40.8	5.0	0.0	32.1	54.0	-21.9	Horizontal	200	180	

## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

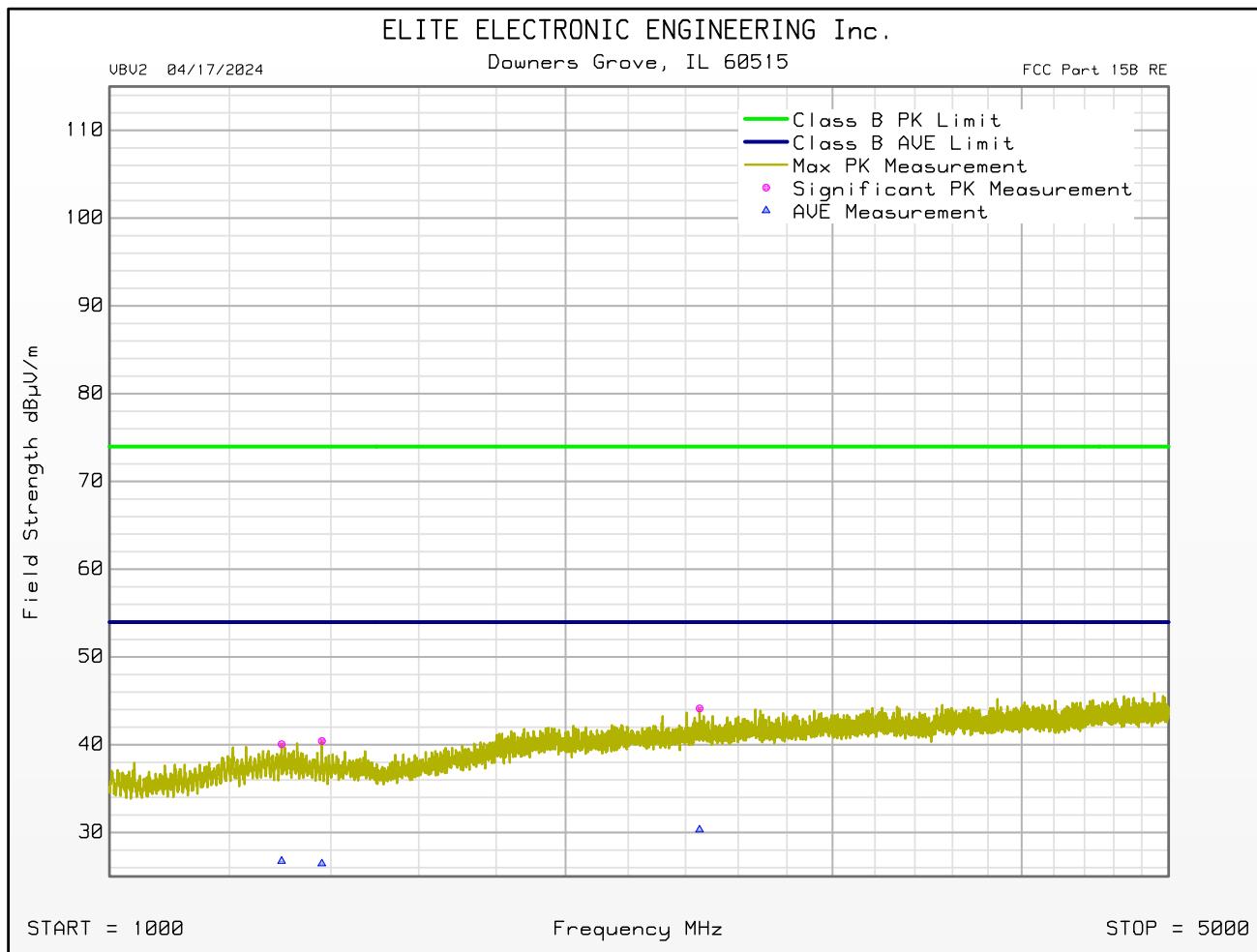
Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (902.25MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Horizontal  
Scan Type : Stepped Scan  
Test RBW : 1 MHz  
Prelim Dwell Time (s) : 0.0001  
Notes :  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 01:45:11 PM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
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 : E. Casas  
Test Date : Jun 04, 2025 01:45:11 PM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 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 : E. Casas  
 Test Date : Jun 04, 2025 02:13:37 PM

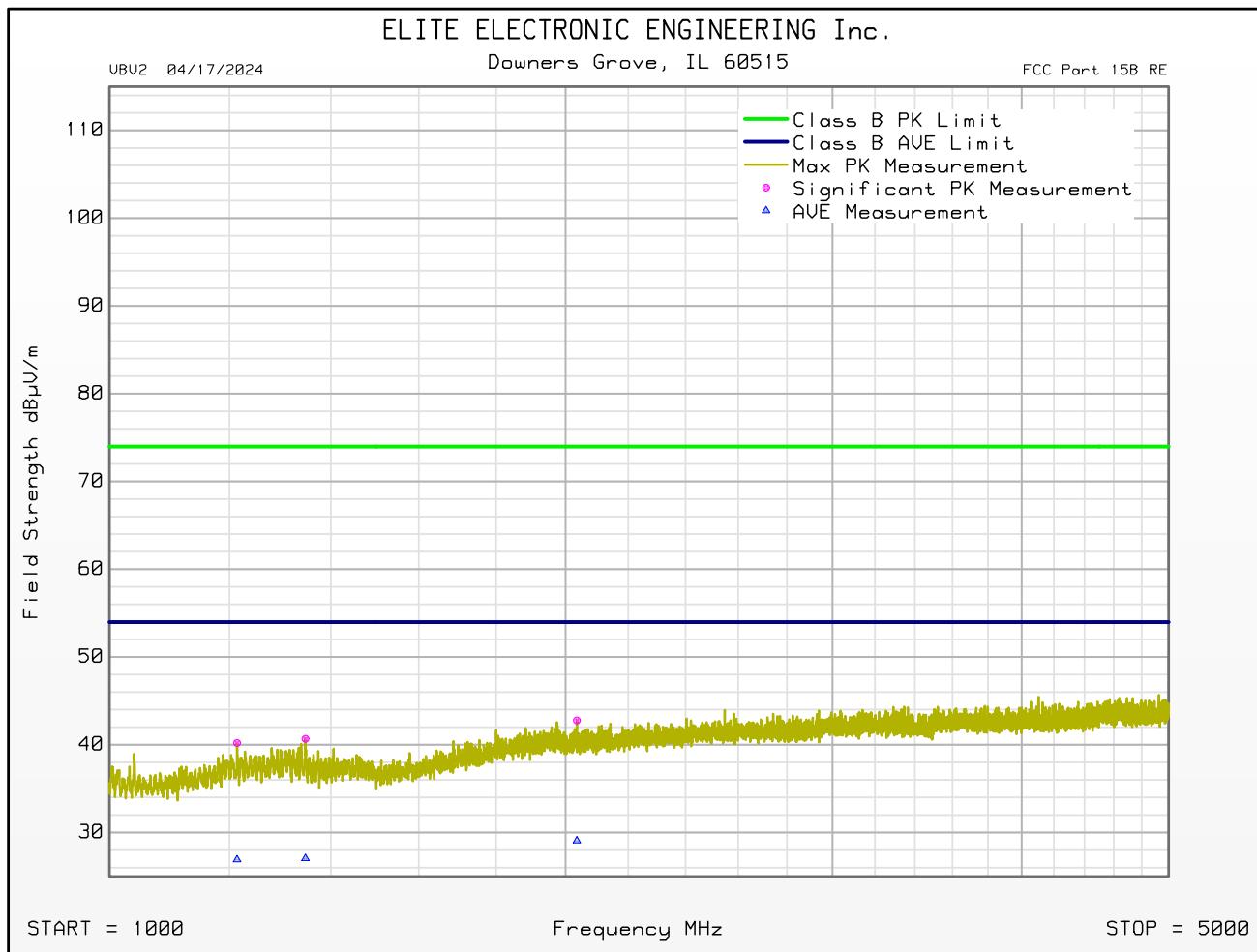
Freq MHz	Peak Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB $\mu$ V/m	Peak Limit dB $\mu$ V/m	Peak Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Peak Level
1214.000	50.7	28.8	-42.2	2.9	0.0	40.2	74.0	-33.8	Horizontal	340	315	
1347.000	50.6	28.8	-41.7	3.1	0.0	40.7	74.0	-33.3	Horizontal	340	180	
2034.500	48.6	31.7	-41.0	3.5	0.0	42.8	74.0	-31.2	Horizontal	340	225	
2741.000	50.0	32.4	-41.6	4.0	0.0	44.8	74.0	-29.1	Vertical	340	315	
3512.500	47.8	33.3	-40.8	4.5	0.0	44.8	74.0	-29.2	Vertical	200	315	
4963.500	47.3	34.1	-40.9	5.3	0.0	45.8	74.0	-28.2	Vertical	200	180	

Freq MHz	Average Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Average Total dB $\mu$ V/m	Average Limit dB $\mu$ V/m	Average Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Average Level
1214.000	37.5	28.8	-42.2	2.9	0.0	26.9	54.0	-27.1	Horizontal	340	315	
1347.000	37.0	28.8	-41.7	3.1	0.0	27.1	54.0	-26.9	Horizontal	340	180	
2034.500	34.9	31.7	-41.0	3.5	0.0	29.1	54.0	-24.9	Horizontal	340	225	
2741.000	35.7	32.4	-41.6	4.0	0.0	30.5	54.0	-23.5	Vertical	340	315	
3512.500	34.4	33.3	-40.8	4.5	0.0	31.3	54.0	-22.7	Vertical	200	315	
4963.500	34.0	34.1	-40.9	5.3	0.0	32.5	54.0	-21.5	Vertical	200	180	

## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

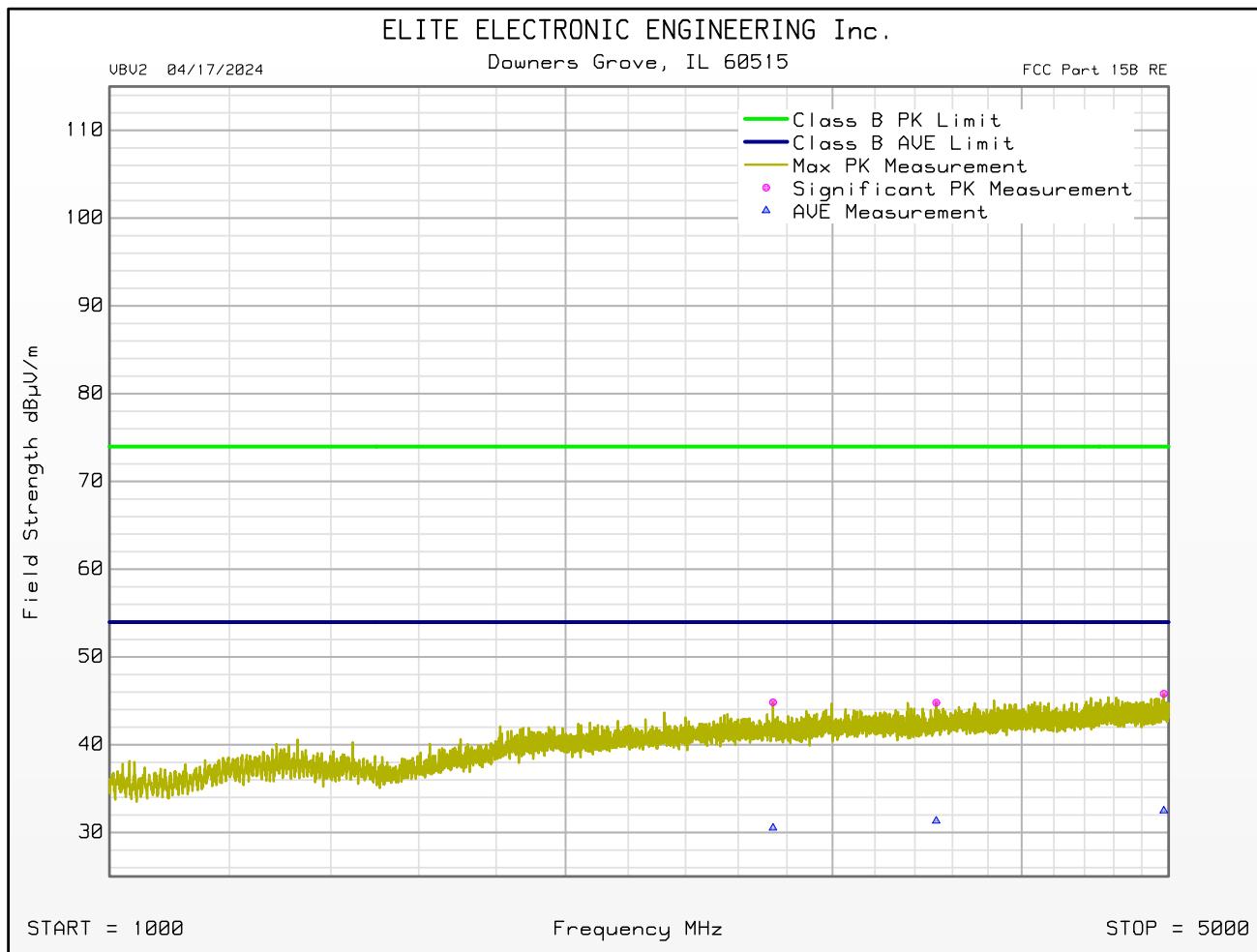
Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (914.75MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Horizontal  
Scan Type : Stepped Scan  
Test RBW : 1 MHz  
Prelim Dwell Time (s) : 0.0001  
Notes :  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 02:13:37 PM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
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 : E. Casas  
Test Date : Jun 04, 2025 02:13:37 PM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
 Model : 900-15607-5  
 Serial Number : 3C00 002 7D5  
 DUT Mode : Rx (926.75MHz)  
 Turntable Step Angle (°) : 45  
 Scan Type : Stepped Scan  
 Test RBW : 1 MHz  
 Prelim Dwell Time (s) : 0.0001  
 Notes :  
 Test Engineer : E. Casas  
 Test Date : Jun 04, 2025 02:40:21 PM

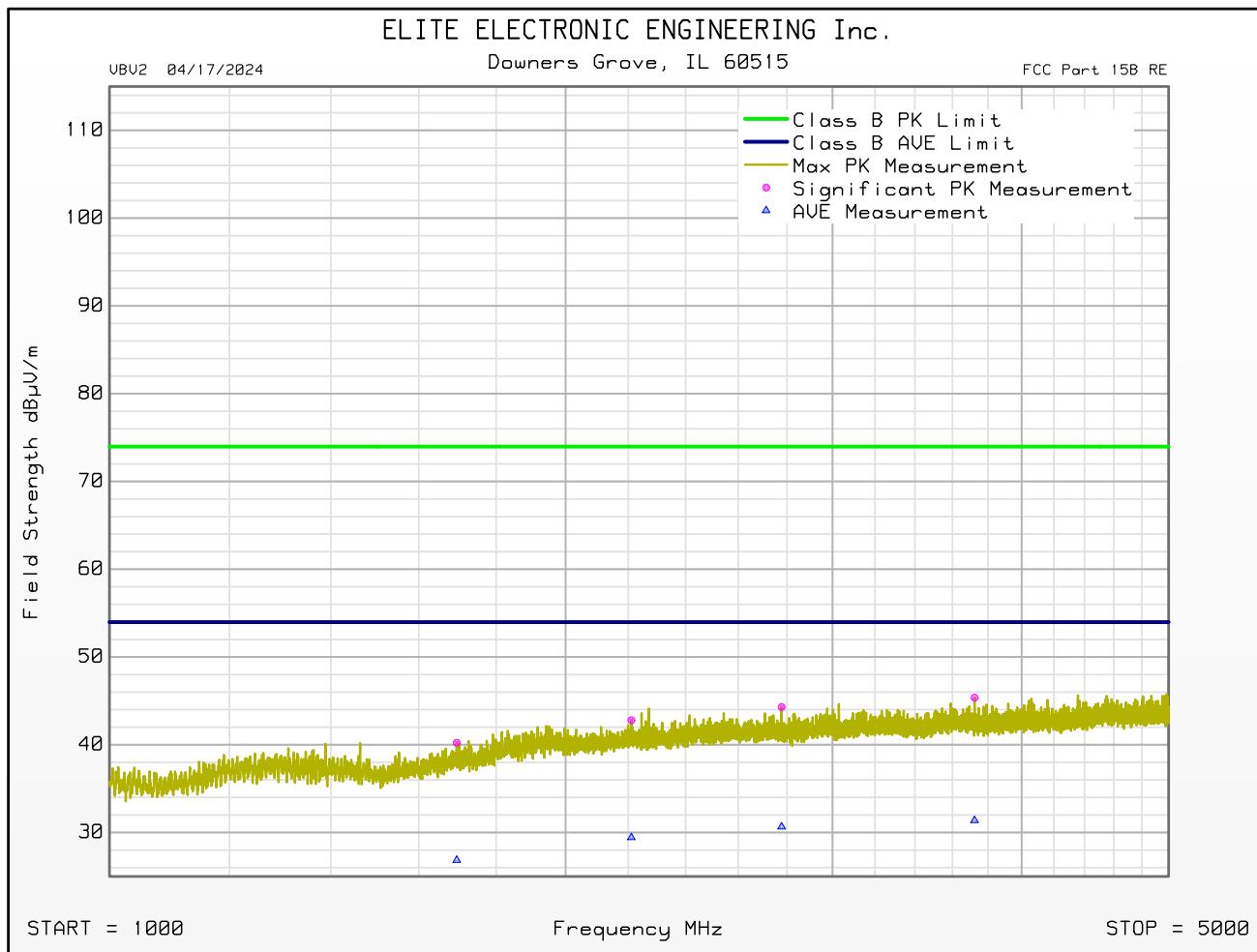
Freq MHz	Peak Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Peak Total dB $\mu$ V/m	Peak Limit dB $\mu$ V/m	Peak Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Peak Level
1199.000	51.0	28.8	-42.3	2.8	0.0	40.4	74.0	-33.6	Vertical	120	270	
1695.000	48.6	29.8	-41.3	3.2	0.0	40.2	74.0	-33.8	Horizontal	120	0	
2210.000	48.4	31.8	-41.0	3.6	0.0	42.8	74.0	-31.2	Horizontal	340	0	
2777.000	49.4	32.4	-41.5	4.0	0.0	44.3	74.0	-29.7	Horizontal	120	180	
3723.000	48.0	33.4	-40.7	4.6	0.0	45.4	74.0	-28.6	Horizontal	120	315	
4966.500	47.8	34.1	-40.9	5.3	0.0	46.3	74.0	-27.7	Vertical	340	180	

Freq MHz	Average Mtr Rdg dBuV	Ant Fac dB/m	Amp Fac dB	Cbl Fac dB	Dist Corr dB	Average Total dB $\mu$ V/m	Average Limit dB $\mu$ V/m	Average Lim Mrg dB	Ant Pol	Mast Ht cm	Azim °	Excessive Average Level
1199.000	37.0	28.8	-42.3	2.8	0.0	26.4	54.0	-27.6	Vertical	120	270	
1695.000	35.2	29.8	-41.3	3.2	0.0	26.9	54.0	-27.1	Horizontal	120	0	
2210.000	35.1	31.8	-41.0	3.6	0.0	29.4	54.0	-24.5	Horizontal	340	0	
2777.000	35.7	32.4	-41.5	4.0	0.0	30.7	54.0	-23.3	Horizontal	120	180	
3723.000	34.0	33.4	-40.7	4.6	0.0	31.4	54.0	-22.6	Horizontal	120	315	
4966.500	33.9	34.1	-40.9	5.3	0.0	32.4	54.0	-21.6	Vertical	340	180	

## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

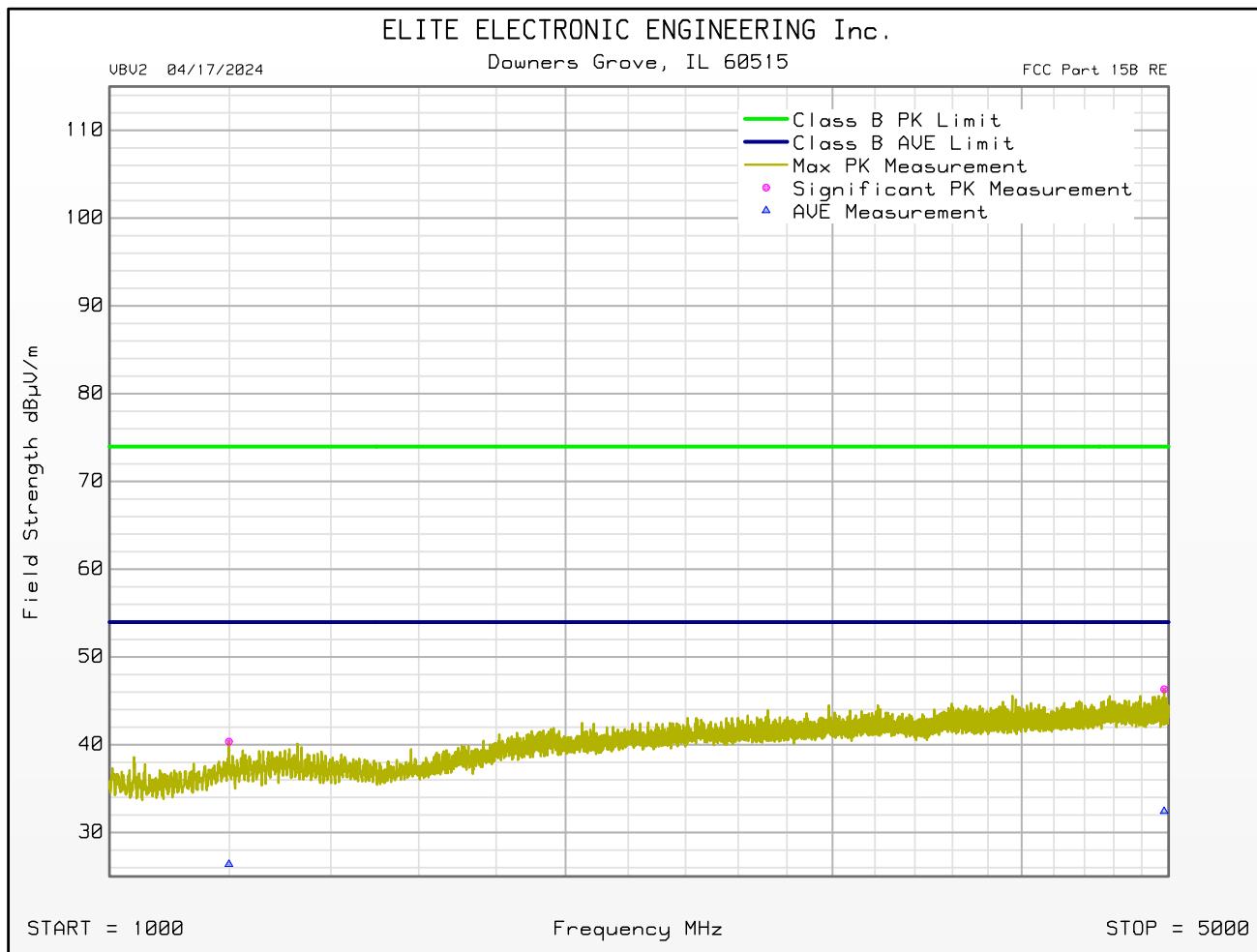
Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (926.75MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Horizontal  
Scan Type : Stepped Scan  
Test RBW : 1 MHz  
Prelim Dwell Time (s) : 0.0001  
Notes :  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 02:40:21 PM



## FCC Part 15B Receiver Emissions Test

SW ID/Rev: VBV2 04/17/2024

Manufacturer : Chamberlain  
Model : 900-15607-5  
Serial Number : 3C00 002 7D5  
DUT Mode : Rx (926.75MHz)  
Turntable Step Angle (°) : 45  
Antenna Polarization : Vertical  
Scan Type : Stepped Scan  
Test RBW : 1 MHz  
Prelim Dwell Time (s) : 0.0001  
Notes :  
Test Engineer : E. Casas  
Test Date : Jun 04, 2025 02:40:21 PM



## 21. 20dB Bandwidth

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx

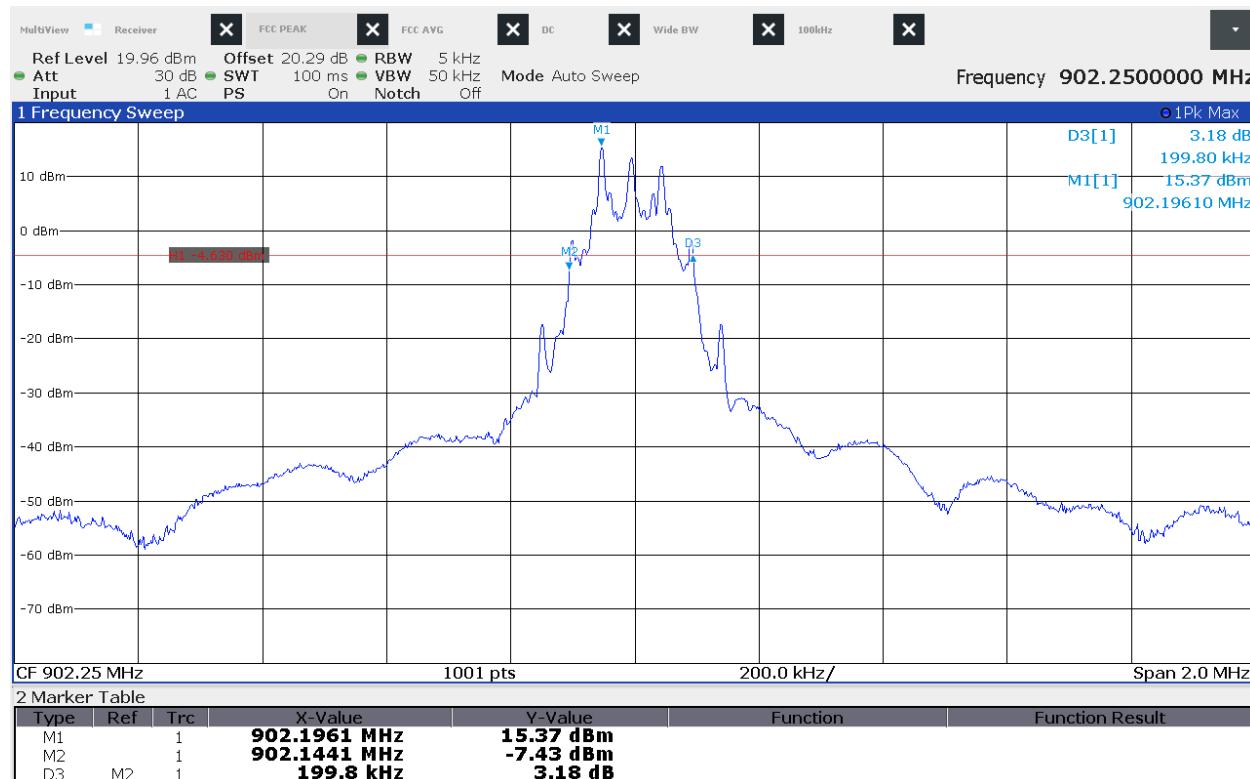
Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	N/A
Notes	None

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 operating in the 902 – 928MHz band are allowed a maximum 20dB bandwidth of 500kHz.	

Procedure	
The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation. With the hopping function disabled, the EUT was allowed to transmit continuously.	
The frequency hopping channel was set separately to low, middle, and high hopping channels. The resolution bandwidth (RBW) was set to $\geq 1\%$ of the 20dB BW. The span was set to approximately 2 to 3 times the 20dB bandwidth.	
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	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	902.25MHz
Result	20dB BW = 199.80kHz
Notes	None

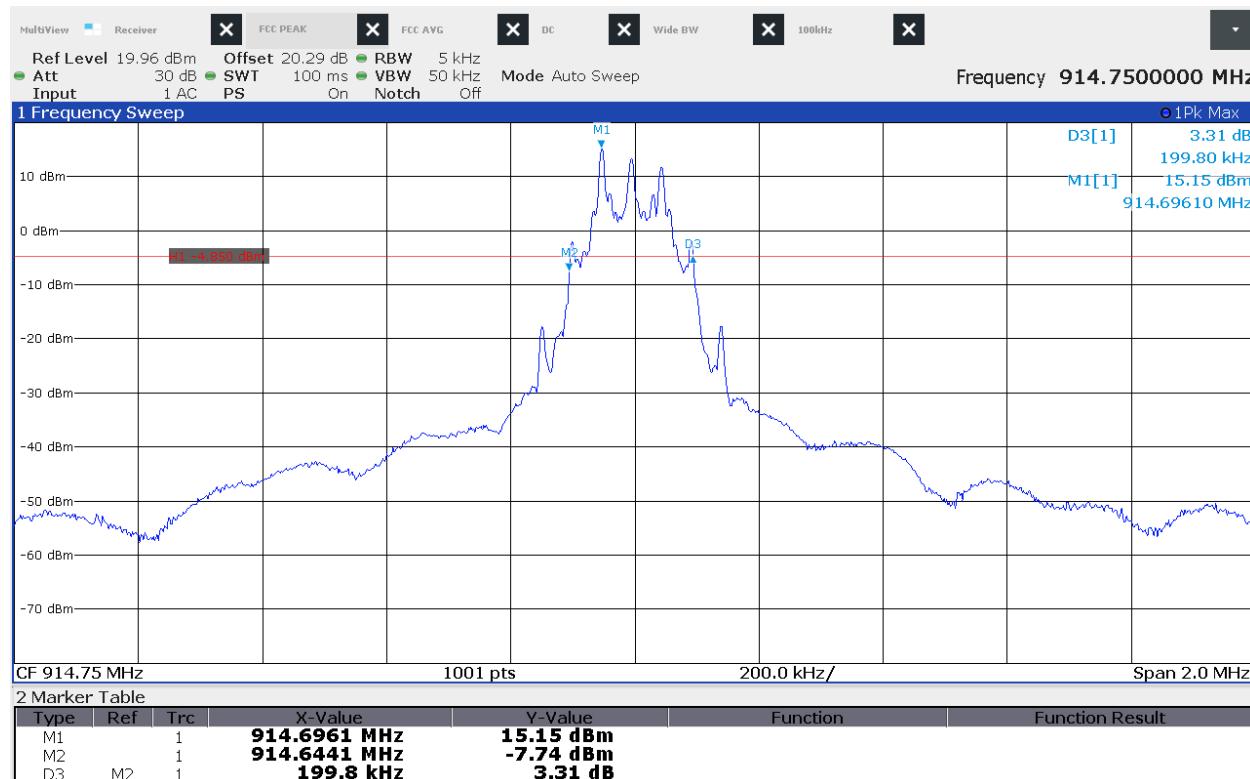


## 20dB BW

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 902.25MHz  
 Parameters :  
 Date : 6/3/2025 8:31:26 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	914.75MHz
Result	20dB BW = 199.80kHz
Notes	None

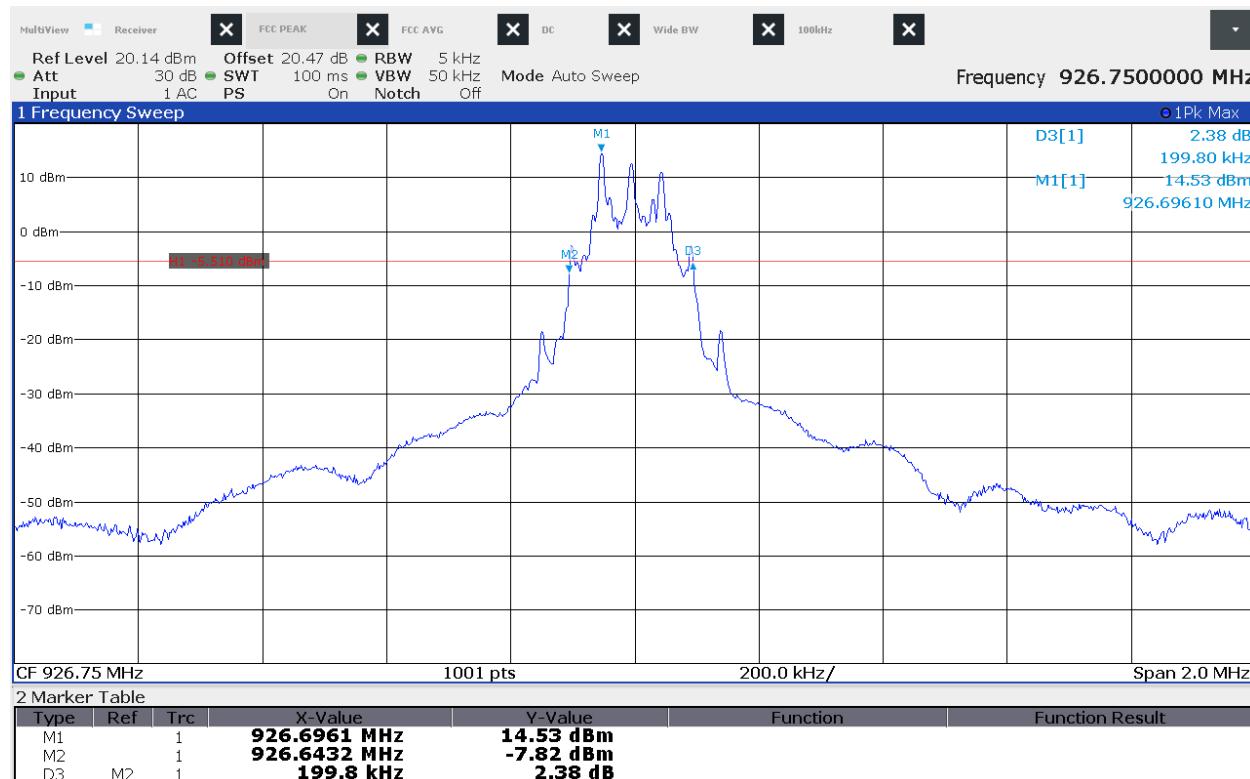


## 20dB BW

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 914.75MHz  
 Parameters :  
 Date : 6/3/2025 8:27:53 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	926.75MHz
Result	20dB BW = 199.8kHz
Notes	None



## 20dB BW

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 926.75MHz  
 Parameters :  
 Date : 6/3/2025 8:34:25 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 22. Occupied Bandwidth (99%)

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx

Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	N/A
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 20dB of attenuation.
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	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	902.25MHz
Result	OBW = 188.7kHz
Notes	None



**99% BW**

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 902.25MHz  
 Parameters :  
 Date : 6/3/2025 8:11:17 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	914.75MHz
Result	OBW = 188.3kHz
Notes	None

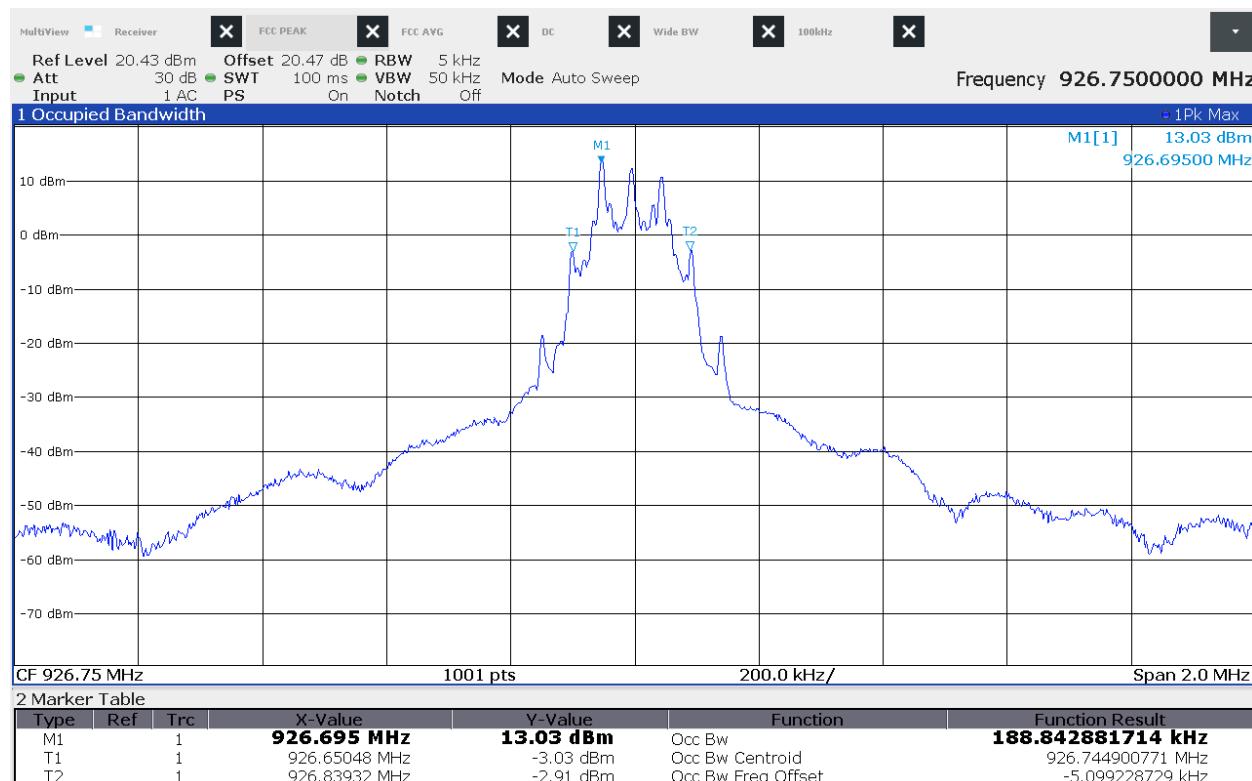


**99% BW**

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 914.75MHz  
 Parameters :  
 Date : 6/3/2025 8:09:42 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	926.75MHz
Result	OBW = 188.8kHz
Notes	None



**99% BW**

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 926.75MHz  
 Parameters :  
 Date : 6/2/2025 4:28:39 PM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 23. Carrier Frequency Separation

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping

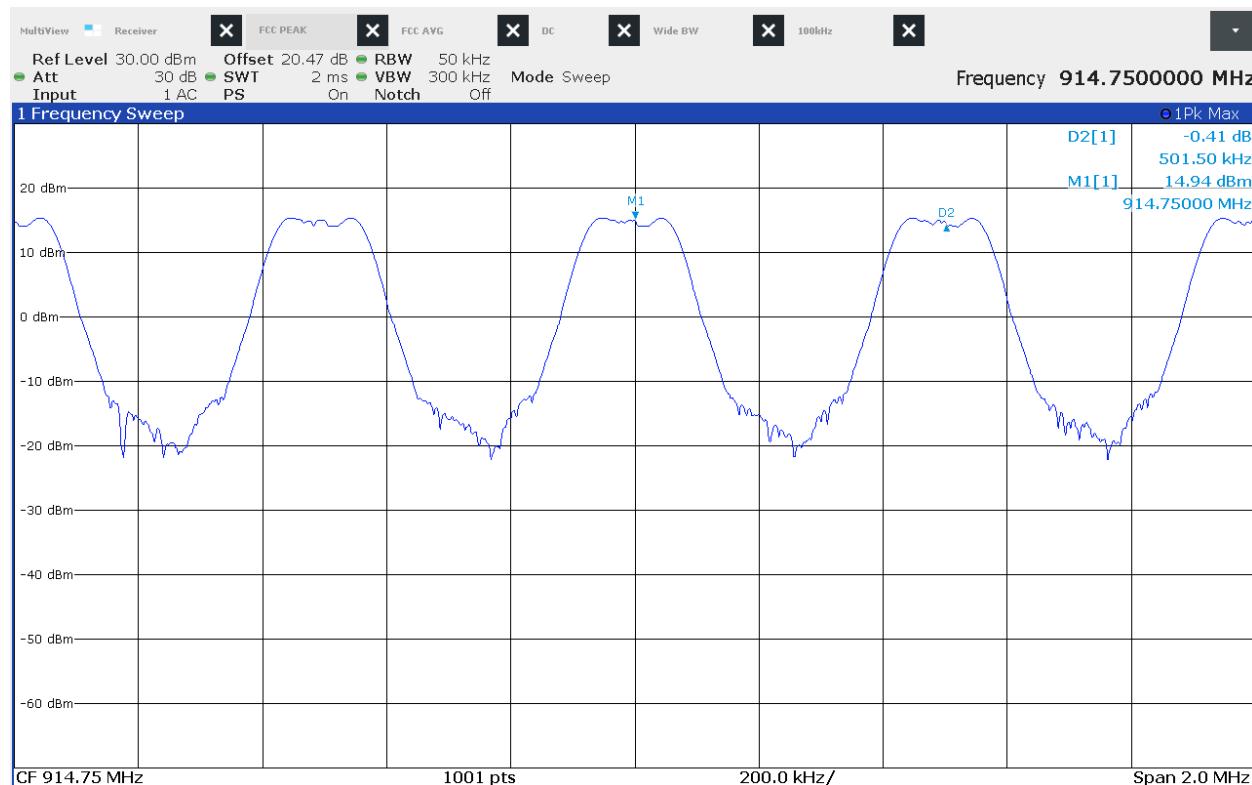
Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	N/A
Type of Antennas Used	N/A
Notes	None

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

Requirement
Channel carrier frequencies shall be separated by a minimum of 25kHz or the 20dB bandwidth, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

Procedure
The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation. With the hopping function enabled, the EUT was allowed to transmit continuously. Span was set wide enough to capture the peaks of two adjacent channels. The resolution bandwidth was set to approximately 30% of the channel spacing. The peak detector and 'Max-Hold' function were engaged. The span was set wide enough to capture the peaks of at least two adjacent channels. When the trace had stabilized after multiple scans, the marker-delta function was used to determine the separation between the peaks of the adjacent channels. The analyzer's display was plotted using a 'screen dump' utility.

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping
Frequency Tested	914.75MHz
Result	Separation = 501.5kHz
Notes	None



### Carrier Frequency Separation

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping, 914.75MHz  
 Parameters :  
 Date : 6/3/2025 9:13:27 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 24. Number of Carrier Channels

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping

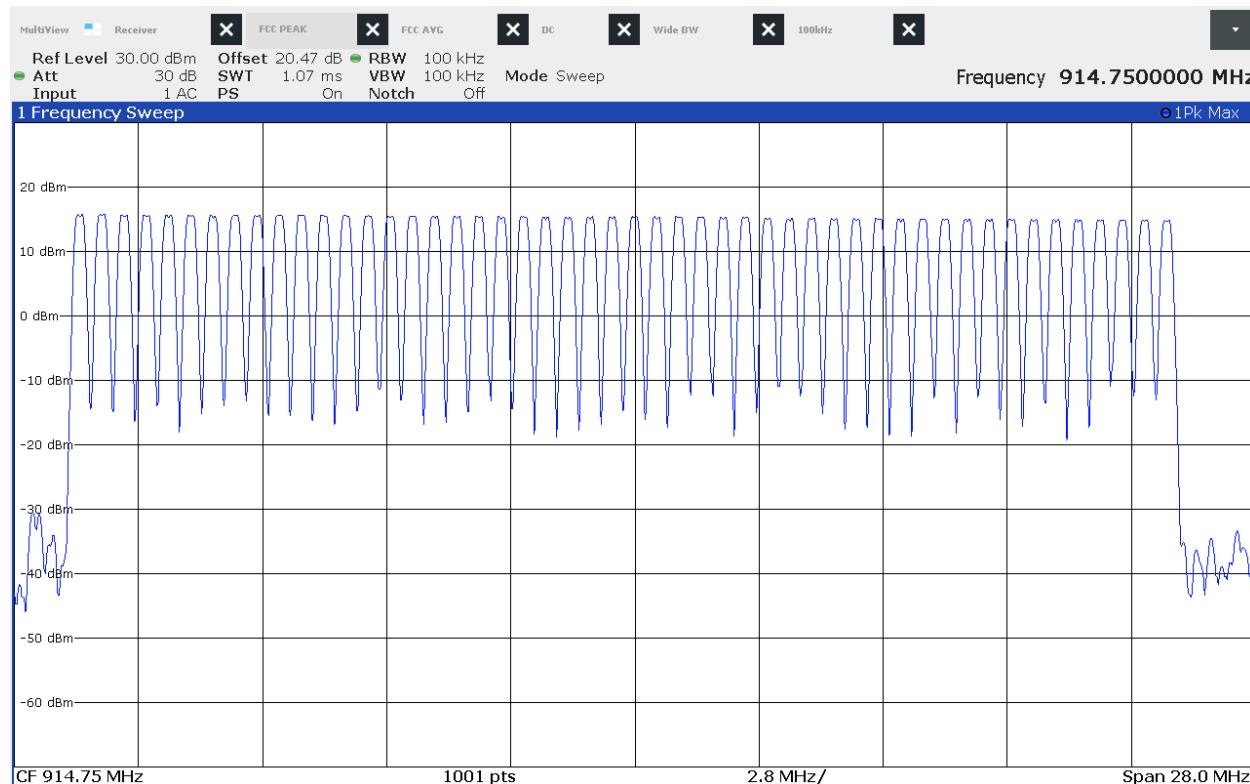
Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	N/A
Type of Antennas Used	N/A
Notes	None

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
The system shall use at least 50 hopping frequencies.

Procedure
The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation. With the hopping function enabled, the EUT was allowed to transmit continuously.
The resolution bandwidth (RBW) was set to less than 30% of the channel spacing or the 20dB bandwidth, whichever is smaller. The peak detector and 'Max-Hold' function were engaged. The span was set wide enough to capture the entire frequency band of operation.
The EUT's signal was allowed to stabilize after multiple scans. The number of hopping frequencies was counted. The analyzer's display was plotted using a 'screen dump' utility.

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping
Frequency Tested	914.75MHz
Result	50 hopping frequencies
Notes	None



### Hopping Channels

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping  
 Parameters :  
 Date : 6/3/2025 9:16:13 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 25. Average Time of Occupancy

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping

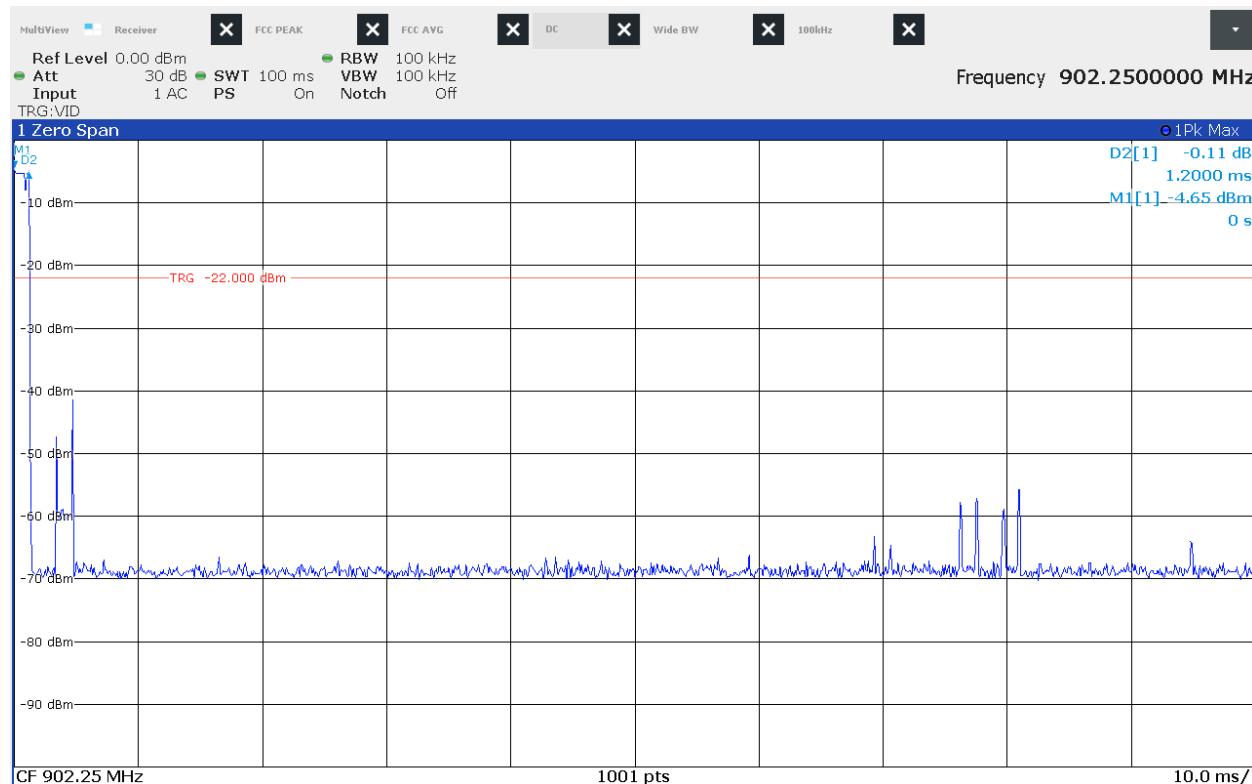
Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	N/A
Type of Antennas Used	N/A
Notes	None

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
The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period.

Procedure
The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation. With the hopping function enabled, the EUT was allowed to transmit continuously.
The spectrum analyzer was set to zero span centered on a hopping channel. The resolution bandwidth (RBW) was set $\geq$ to the channel spacing. The sweep was set to capture the entire dwell time per hopping channel. The peak detector and 'Max-Hold' function were engaged. The analyzer's display was plotted using a 'screen dump' utility.

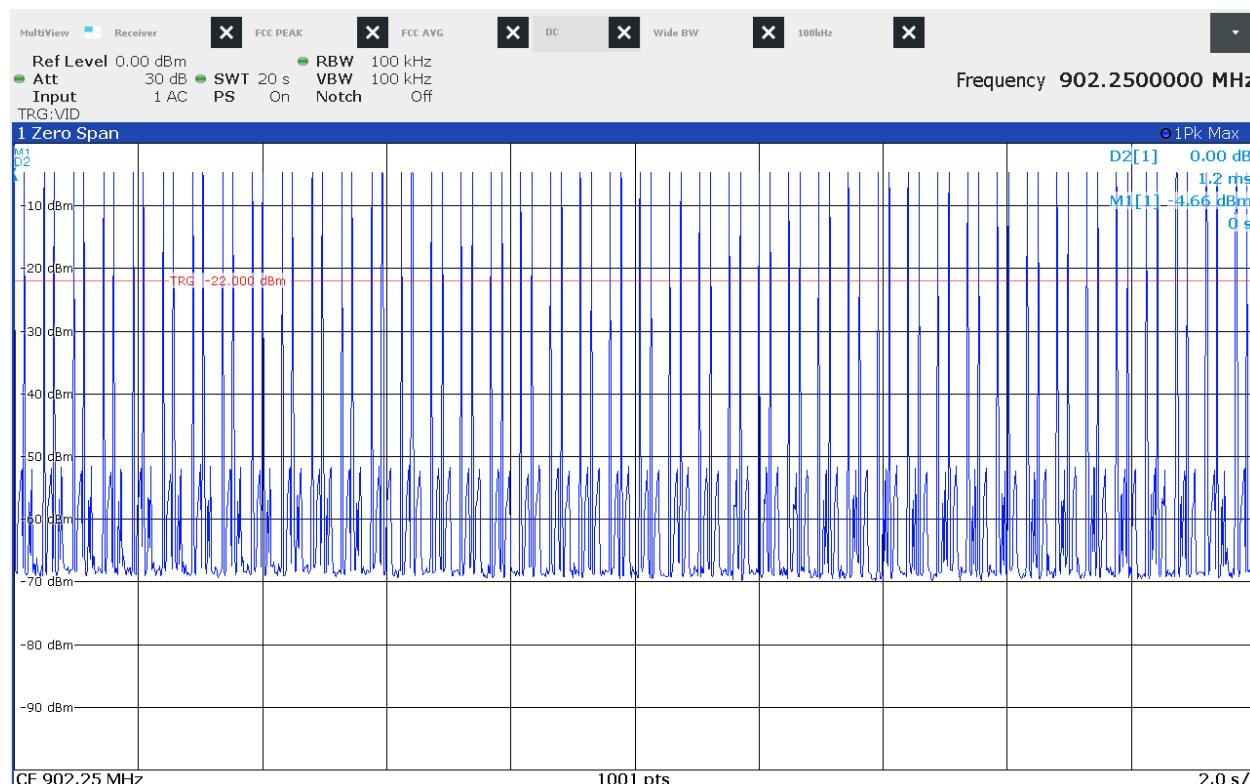
Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping
Frequency Tested	902.25MHz
Result	Ave. Time of Occupancy = 100.8ms
Notes	None



### Time of Occupancy 100ms

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping, 902.25MHz  
 Parameters :  
 Date : 6/3/2025 8:56:39 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak



### Time of Occupancy 20s

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping, 902.25MHz  
 Parameters :  
 Date : 6/3/2025 9:02:55 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 26. Maximum Peak Conducted Output Power

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx

Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Tabletop
Test Site Used	N/A
Notes	None

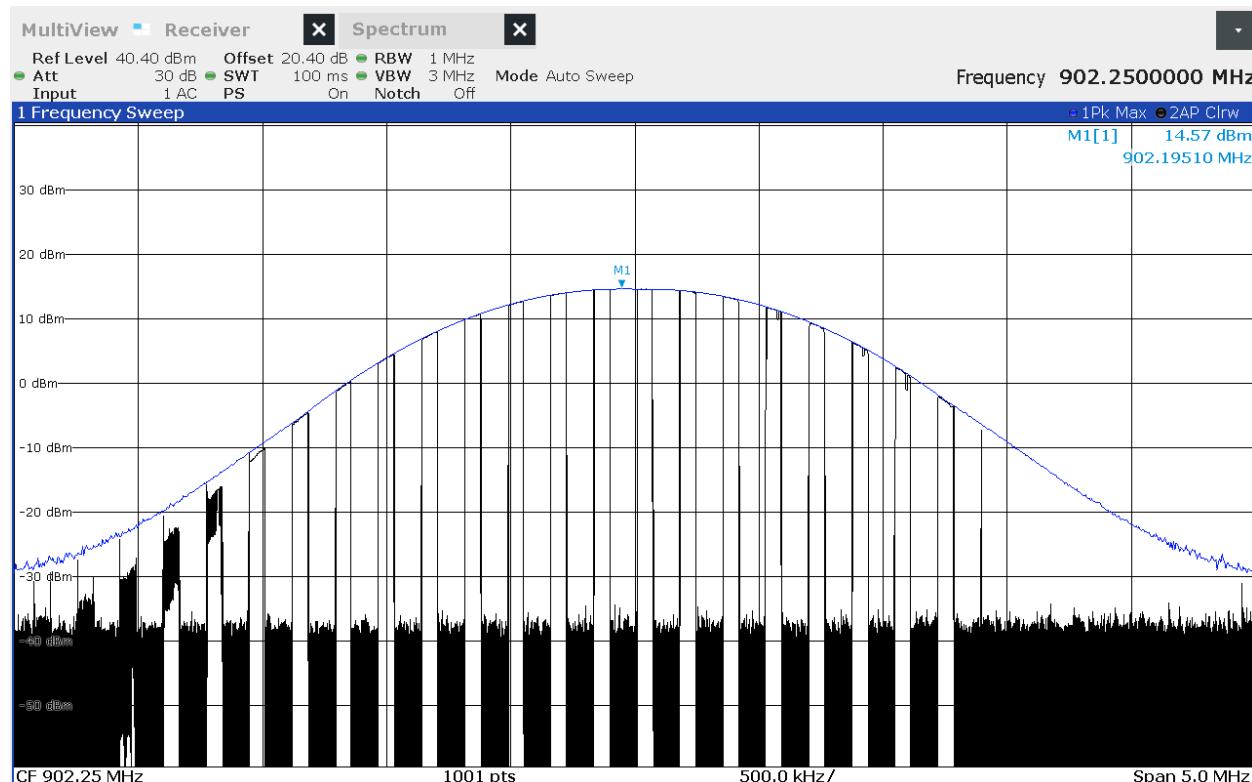
  

Requirements	
The output power shall not exceed 1W (30dBm).	

Procedure	
The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation. With the hopping function disabled, the EUT was allowed to transmit continuously. The frequency hopping channel was set separately to low, middle, and high hopping channels. The resolution bandwidth (RBW) was set to greater than the 20dB bandwidth. The span was set to approximately 5 times the 20dB bandwidth. The 'Max-Hold' function was engaged. The maximum meter reading was recorded. The peak power output was calculated for the low, middle, and high hopping frequencies.	

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	902.25MHz
Result	Output Power = 28.64mW (14.57dBm)
Notes	None

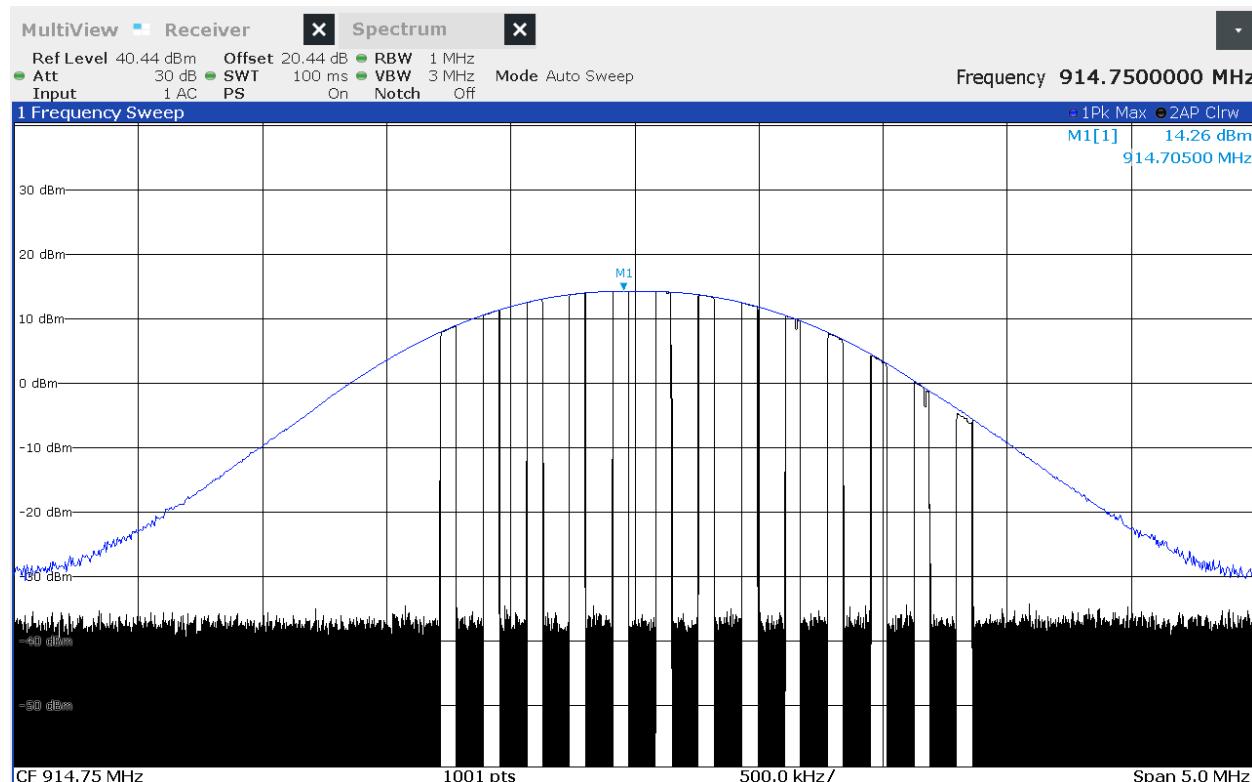


### Output Power

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 902.25MHz  
 Parameters :  
 Date : 7/1/2025 10:10:54 AM  
 Notes : None

TRACE1 : Function plot of Max Hold Peak  
 TRACE2 : Normal Peak (dBm) Trace

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	914.75MHz
Result	Output Power = 26.67mW (14.26dBm)
Notes	None

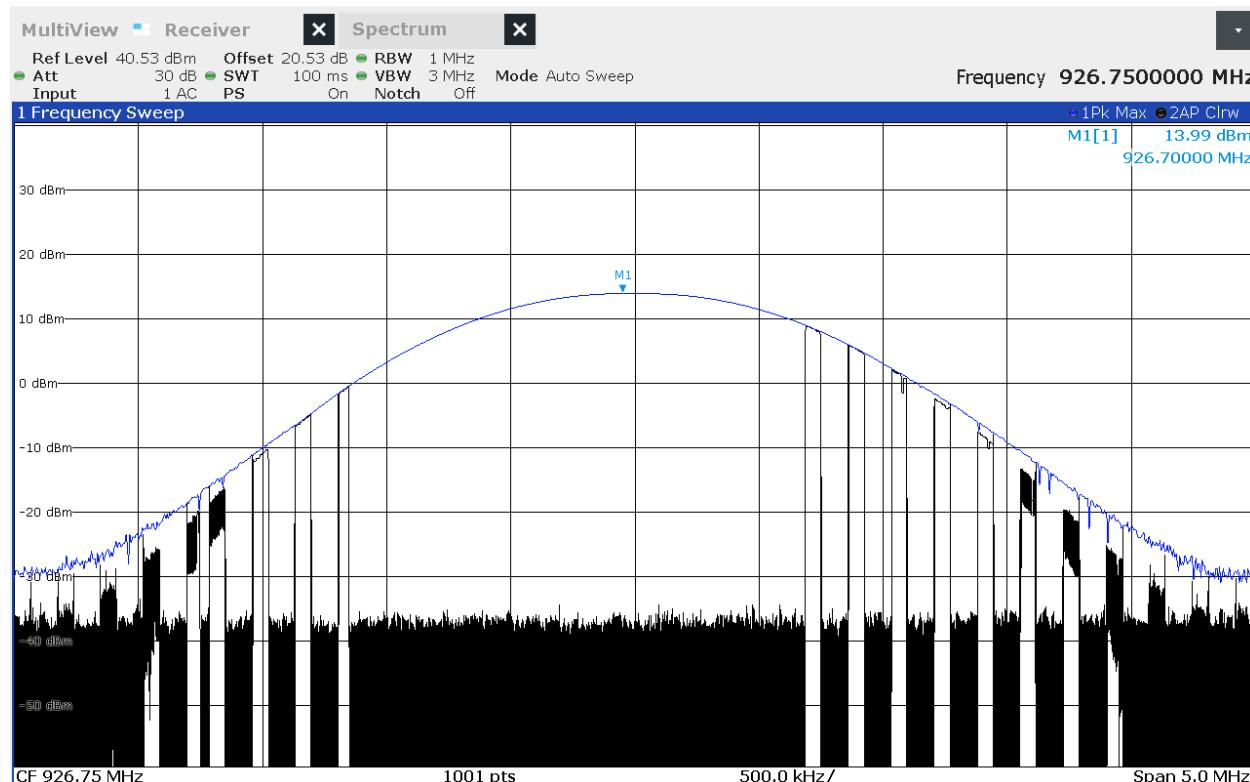


### Output Power

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 914.75MHz  
 Parameters :  
 Date : 7/1/2025 10:13:07 AM  
 Notes : None

TRACE1 : Function plot of Max Hold Peak  
 TRACE2 : Normal Peak (dBm) Trace

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	926.75MHz
Result	Output Power = 25.06mW (13.99dBm)
Notes	None



### Output Power

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 926.75MHz  
 Parameters :  
 Date : 7/1/2025 10:14:52 AM  
 Notes : None

TRACE1 : Function plot of Max Hold Peak  
 TRACE2 : Normal Peak (dBm) Trace

## 27. Effective Isotropic Radiated Power (EIRP)

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	3C00 002 7D5
Mode	Continuous Tx

Test Setup Details	
Setup Format	Tabletop
Measurement Method	Radiated
Type of Test Site	Semi-Anechoic Chamber
Test Site Used	Room #21
Type of Antennas Used	Below 1GHz: Bilog (or equivalent) Above 1GHz: Double-ridged waveguide (or equivalent)
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
The output power shall not exceed 4W (36dBm).

Procedure
<p>The EUT was placed on the non-conductive stand and set to transmit. A bilog antenna was placed at a test distance of 3 meters from the EUT. The resolution bandwidth (RBW) of the spectrum analyzer was set to greater than the 20dB bandwidth. The span was set to approximately 5 times the 20 dB bandwidth. The EUT was maximized for worst case emissions (or maximum output power) at the measuring antenna. The maximum meter reading was recorded. The peak power output was measured for the low, middle, and high hopping frequencies.</p> <p>The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power, a dipole antenna (double ridged waveguide antenna for all measurements above 1GHz) was then set in place of the EUT and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was then corrected to compensate for cable loss (and antenna gain for all measurements above 1GHz), as required. The peak power output was calculated for low, middle, and high hopping frequencies.</p>

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	3C00 002 7D5
Mode	Continuous Tx
Result	Max EIRP = 28.84mW (14.6dBm)
Notes	None

Freq (MHz)	Ant Pol	Wide BW Meter Reading (dB $\mu$ V)	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total (dB $\mu$ V/m)	EIRP (dBm)	Limit (dBm)	Margin (dB)
902.25	H	81.4	2.0	26.5	0.0	109.9	14.6	36.0	-21.4
	V	78.3	2.0	26.5	0.0	106.8	11.5	36.0	-24.5
914.75	H	78.4	2.1	26.3	0.0	106.8	11.5	36.0	-24.5
	V	72.3	2.1	26.3	0.0	100.6	5.3	36.0	-30.7
926.75	H	75.2	2.1	26.7	0.0	103.9	8.6	36.0	-27.4
	V	71.3	2.1	26.7	0.0	100.0	4.7	36.0	-31.3

## 28. Duty Cycle Factor Measurements

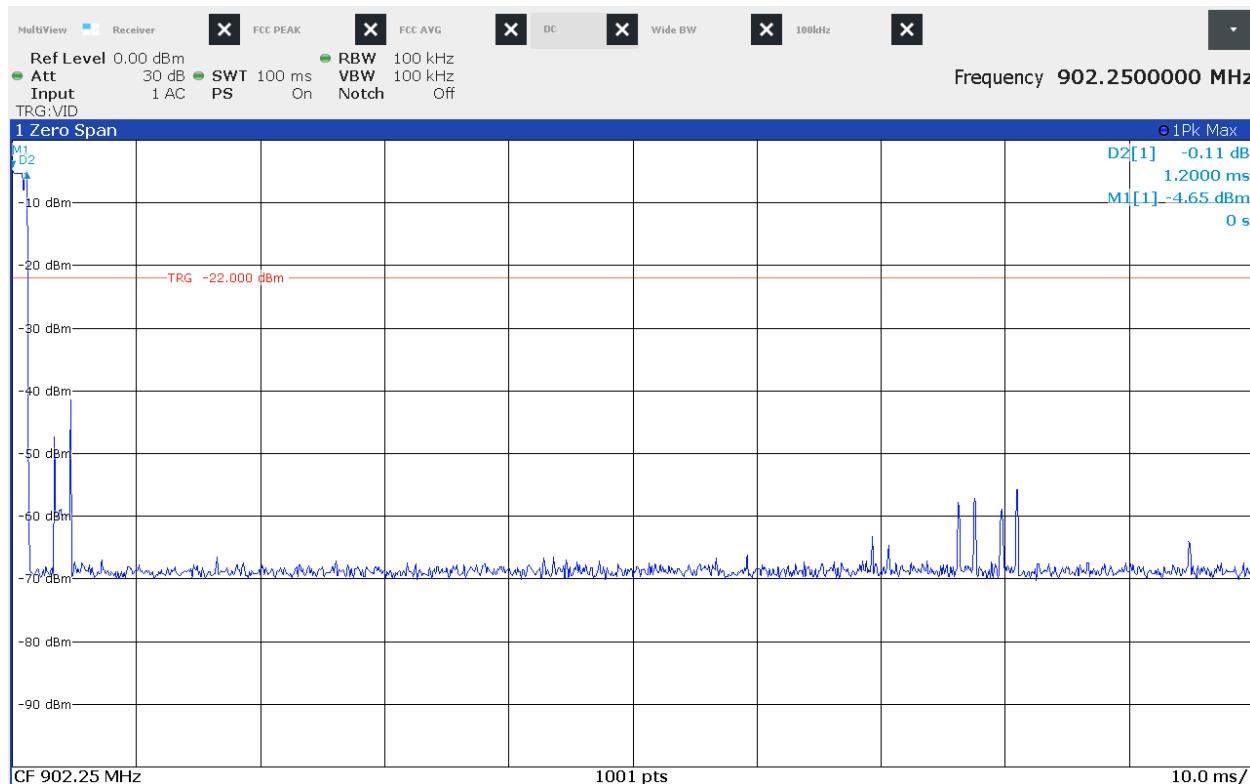
EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx

Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Elite Test Bench
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 duty cycle factor is used to convert peak detected readings to average readings when pulsed modulation is employed. This factor is computed from the time domain trace of the pulse modulation signal.	
With the transmitter set up to transmit for maximum pulse density, the time domain trace is displayed on the spectrum analyzer. This trace is obtained by tuning center frequency to the transmitter frequency and then setting a zero span width with 10msec/div. The amplitude settings are adjusted so that the on/off transitions clear the 4 <sup>th</sup> division from the bottom of the display. The markers are set at the beginning and end of the “on-time”. The trace is recorded.	
Next the spectrum analyzer center frequency is set to the transmitter frequency with a zero span width and 10msec/div. This shows if the word is longer than 100msec or shorter than 100msec. If the word period is less than 100msec, the display is set to show at least one word. The on-time and off-time are then measured. The on-time is total time signal level exceeds the 4th division. Off-time is time under for the word period.	
The duty cycle is then computed as $\frac{\text{On Time}}{\text{Word Period}}$ , where Word Period = (On Time + Off Time).	

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping
Frequency Tested	902.25MHz
Result	On Time = 1.2ms
Notes	<p>Duty Cycle Factor Calculation:</p> $\text{Duty Cycle Factor} = 20 \log\left(\frac{1.2\text{ms}}{100\text{ms}}\right) = -38.42dB$



Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping, 902.25MHz  
 Parameters :  
 Date : 6/3/2025 8:56:39 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 29. Case Spurious Radiated Emissions

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	3C00 002 7D5
Mode	Continuous Tx

Test Setup Details	
Setup Format	Tabletop
Type of Test Site	Semi-Anechoic Chamber
Test Site Used	Room #21
Type of Antennas Used	Below 1GHz: Bilog (or equivalent) Above 1GHz: Double-Ridged Waveguide (or equivalent)
Notes	N/A

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

**Procedure**

Radiated measurements were performed in a 32ft. x 20ft. x 14ft. high shielded enclosure. The shielded enclosure prevents emissions from other sources, such as radio and TV stations, from interfering with the measurements. All power lines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

Preliminary radiated emissions tests were performed to determine the emission characteristics of the EUT. For the preliminary test, a broadband measuring antenna was positioned at a 3 meter distance from the EUT. The entire frequency range from 30MHz to 12.5GHz was investigated using a peak detector function.

The final open field emission tests were then manually performed over the frequency range of 30MHz to 12.5GHz

1) For all harmonics not in the restricted bands, the following procedure was used:

- a) The field strength of the fundamental was measured using a bilog antenna. The bilog antenna was positioned at a 3 meter distance from the EUT. The EUT was placed on an 80cm high non-conductive stand. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
- b) The field strengths of all of the harmonics not in the restricted band were then measured using a double-ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the EUT. The EUT was placed on a 1.5 meter high non-conductive stand. A peak detector with a resolution bandwidth of 100kHz was used on the spectrum analyzer.
- c) To ensure that maximum or worst case emission levels at the fundamental and harmonics were measured, the following steps were taken when measuring the fundamental emissions and the spurious emissions:
  - i) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
  - ii) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
  - iii) The measuring antenna was raised and lowered for each antenna polarization to maximize the readings.
  - iv) In instances where it was necessary to use a shortened cable between the measuring antenna and the spectrum analyzer, the measuring antenna was not raised or lowered to ensure maximized readings. Instead, the EUT was rotated through all axis to ensure the maximum readings were recorded for the EUT.
- d) All harmonics not in the restricted bands must be at least 20dB below levels measured at the fundamental. However, attenuation below the general limits specified in §15.209(a) is not required.

2) For all emissions in the restricted bands, the following procedure was used:

- a) The field strengths of all emissions below 1GHz were measured using a bi-log antenna. The bi-log antenna was positioned at a 3 meter distance from the EUT. The EUT was placed on an 80cm high non-conductive stand. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
- b) The field strengths of all emissions above 1GHz were measured using a double-ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the EUT. The EUT was placed on a 1.5 meter high non-conductive stand. A peak detector with a resolution bandwidth of 1MHz was used on the spectrum analyzer.
- c) To ensure that maximum or worst case emission levels were measured, the following steps were taken when taking all measurements:
  - i) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
  - ii) Since the measuring antenna is linearly polarized, both horizontal and vertical field components

were measured.

- iii) The measuring antenna was raised and lowered for each antenna polarization to maximize the readings.
- iv) In instances where it was necessary to use a shortened cable between the measuring antenna and the spectrum analyzer, the measuring antenna was not raised or lowered to ensure maximized readings. Instead, the EUT was rotated through all axis to ensure the maximum readings were recorded for the EUT.
- d) For all radiated emissions measurements below 1GHz, if the peak reading is below the limits listed in §15.209(a), no further measurements are required. If, however, the peak readings exceed the limits listed in §15.209(a), then the emissions are remeasured using a quasi-peak detector.
- e) For all radiated emissions measurements above 1GHz, the peak readings must comply with the §15.35(b) limits. §15.35(b) states that when average radiated emissions measurements are specified, there also is a limit on the peak level of the radiated emissions. The limit on the peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. Therefore, all peak readings above 1GHz must be no greater than 20dB above the limits specified in §15.209(a).
- f) Next, for all radiated emissions measurements above 1GHz, the resolution bandwidth was set to 1MHz. The analyzer was set to linear mode with a 10Hz video bandwidth in order to simulate an average detector. An average reading was taken.

If the dwell time per channel of the hopping signal is less than 100msec, then the reading obtained with the 10Hz video bandwidth may be further adjusted by a duty cycle correction factor derived from  $20 * \log(\text{dwell time}/100\text{msec})$ . These readings must be no greater than the limits specified in §15.209(a).

Test Setup for Spurious Radiated Emissions, 30MHz – 1GHz – Antenna  
Polarization Horizontal

Test Setup for Spurious Radiated Emissions, 30MHz – 1GHz – Antenna  
Polarization Vertical

Test Setup for Spurious Radiated Emissions, Above 1GHz – Antenna Polarization  
Horizontal

Test Setup for Spurious Radiated Emissions, Above 1GHz– Antenna Polarization  
Vertical

Test Details										
Manufacturer	The Chamberlain Group LLC									
EUT	Doublemint									
Model No.	900-15607-5									
Serial No.	3C00 002 7D5									
Mode	Continuous Tx									
Frequency Tested	902.25MHz									
Notes	Peak Measurements in the Restricted Bands									

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total at 3m (dB $\mu$ V/m)	Peak Total at 3m ( $\mu$ V/m)	Peak Limit at 3m ( $\mu$ V/m)	Margin (dB)
2706.75	H	72.3	*	3.7	32.6	-39.5	69.0	2823.4	5000.0	-5.0
	V	72.0		3.7	32.6	-39.5	68.8	2749.7	5000.0	-5.2
3609.00	H	50.2	*	4.3	33.6	-38.9	49.2	287.9	5000.0	-24.8
	V	52.8		4.3	33.6	-38.9	51.8	389.2	5000.0	-22.2
4511.25	H	57.0	*	4.7	34.3	-38.9	57.0	711.2	5000.0	-16.9
	V	55.5		4.7	34.3	-38.9	55.6	601.1	5000.0	-18.4
5413.50	H	51.5	*	5.1	34.7	-39.0	52.3	413.2	5000.0	-21.7
	V	50.9		5.1	34.7	-39.0	51.7	384.7	5000.0	-22.3
8120.25	H	56.6	*	6.5	36.8	-39.0	60.9	1104.8	5000.0	-13.1
	V	56.8		6.5	36.8	-39.0	61.1	1139.7	5000.0	-12.8
9022.50	H	51.1	*	6.5	36.6	-38.9	55.3	584.7	5000.0	-18.6
	V	51.5		6.5	36.6	-38.9	55.8	616.5	5000.0	-18.2
10827.00	H	56.0	*	7.4	38.0	-38.7	62.8	1376.7	5000.0	-11.2
	V	57.5		7.4	38.0	-38.7	64.2	1628.8	5000.0	-9.7
11729.25	H	49.9	*	7.9	38.8	-38.6	58.0	792.0	5000.0	-16.0
	V	52.0		7.9	38.8	-38.6	60.1	1014.4	5000.0	-13.9

Test Details											
Manufacturer	The Chamberlain Group LLC										
EUT	Doublemint										
Model No.	900-15607-5										
Serial No.	3C00 002 7D5										
Mode	Continuous Tx										
Frequency Tested	902.25MHz										
Notes	Average Measurements in the Restricted Bands										

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	CBL Fac (dB)	Ant Fac (dB/m)	Pre Amp (dB)	Duty Cycle Factor (dB)	Average Total at 3m (dB $\mu$ V/m)	Average Total at 3m ( $\mu$ V/m)	Average Limit at 3m ( $\mu$ V/m)	Margin (dB)
2706.75	H	71.93	*	3.7	32.6	-39.5	-38.4	30.3	32.6	500.0	-23.7
	V	71.71		3.7	32.6	-39.5	-38.4	30.0	31.8	500.0	-23.9
3609.00	H	45.13	*	4.3	33.6	-38.9	-38.4	5.7	1.9	500.0	-48.2
	V	47.01		4.3	33.6	-38.9	-38.4	7.6	2.4	500.0	-46.4
4511.25	H	55.28	*	4.7	34.3	-38.9	-38.4	16.9	7.0	500.0	-37.0
	V	53.35		4.7	34.3	-38.9	-38.4	15.0	5.6	500.0	-39.0
5413.50	H	44.60	*	5.1	34.7	-39.0	-38.4	7.0	2.2	500.0	-47.0
	V	47.59		5.1	34.7	-39.0	-38.4	10.0	3.2	500.0	-44.0
8120.25	H	54.63	*	6.5	36.8	-39.0	-38.4	20.5	10.6	500.0	-33.5
	V	54.46		6.5	36.8	-39.0	-38.4	20.3	10.4	500.0	-33.6
9022.50	H	45.18	*	6.5	36.6	-38.9	-38.4	11.0	3.6	500.0	-42.9
	V	47.07		6.5	36.6	-38.9	-38.4	12.9	4.4	500.0	-41.1
10827.00	H	53.78	*	7.4	38.0	-38.7	-38.4	22.1	12.7	500.0	-31.9
	V	55.42		7.4	38.0	-38.7	-38.4	23.7	15.4	500.0	-30.2
11729.25	H	43.24	*	7.9	38.8	-38.6	-38.4	12.9	4.4	500.0	-41.1
	V	48.26		7.9	38.8	-38.6	-38.4	17.9	7.9	500.0	-36.1

Test Details										
Manufacturer	The Chamberlain Group LLC									
EUT	Doublemint									
Model No.	900-15607-5									
Serial No.	3C00 002 7D5									
Mode	Continuous Tx									
Frequency Tested	902.25MHz									
Notes	Peak Measurements in Non-Restricted Bands									

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total at 3m (dB $\mu$ V/m)	Peak Total at 3m ( $\mu$ V/m)	Peak Limit at 3m ( $\mu$ V/m)	Margin (dB)
902.25	H	80.83		2.0	26.5	0.0	109.3	293199.7	NA	NA
	V	78.12		2.0	26.5	0.0	106.6	214616.7	NA	NA
1804.50	H	47.46		2.9	30.4	-39.8	41.0	112.6	29320.0	-48.3
	V	48.35		2.9	30.4	-39.8	41.9	124.8	29320.0	-47.4
6315.75	H	54.61		5.6	35.8	-39.0	57.0	705.1	29320.0	-32.4
	V	55.36		5.6	35.8	-39.0	57.7	768.7	29320.0	-31.6
7218.00	H	41.46		6.1	36.3	-39.0	44.8	174.7	29320.0	-44.5
	V	40.18		6.1	36.3	-39.0	43.6	150.8	29320.0	-45.8
9924.75	H	50.93		7.0	37.2	-38.8	56.3	651.2	29320.0	-33.1
	V	50.97		7.0	37.2	-38.8	56.3	654.2	29320.0	-33.0

Test Details										
Manufacturer	The Chamberlain Group LLC									
EUT	Doublemint									
Model No.	900-15607-5									
Serial No.	3C00 002 7D5									
Mode	Continuous Tx									
Frequency Tested	914.75MHz									
Notes	Peak Measurements in the Restricted Bands									

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total at 3m (dB $\mu$ V/m)	Peak Total at 3m ( $\mu$ V/m)	Peak Limit at 3m ( $\mu$ V/m)	Margin (dB)
2744.25	H	74.7	*	3.7	32.6	-39.5	71.5	3757.0	5000.0	-2.5
	V	73.9		3.7	32.6	-39.5	70.7	3414.6	5000.0	-3.3
3659.00	H	50.2	*	4.3	33.6	-38.9	49.3	291.1	5000.0	-24.7
	V	51.9		4.3	33.6	-38.9	51.0	353.3	5000.0	-23.0
4573.75	H	56.6	*	4.7	34.3	-38.9	56.7	686.9	5000.0	-17.2
	V	55.9		4.7	34.3	-38.9	56.1	635.2	5000.0	-17.9
7318.00	H	49.7	*	6.2	36.3	-39.0	53.1	453.8	5000.0	-20.8
	V	50.2		6.2	36.3	-39.0	53.6	479.1	5000.0	-20.4
8232.75	H	57.9	*	6.5	36.8	-39.0	62.3	1298.3	5000.0	-11.7
	V	56.9		6.5	36.8	-39.0	61.3	1157.1	5000.0	-12.7
9147.50	H	51.1	*	6.6	36.7	-38.9	55.5	595.8	5000.0	-18.5
	V	51.9		6.6	36.7	-38.9	56.3	653.2	5000.0	-17.7
10977.00	H	52.7	*	7.5	38.2	-38.7	59.7	969.4	5000.0	-14.2
	V	56.1		7.5	38.2	-38.7	63.2	1443.8	5000.0	-10.8
11891.75	H	45.8	*	8.0	38.8	-38.6	54.0	499.6	5000.0	-20.0
	V	47.4		8.0	38.8	-38.6	55.6	604.8	5000.0	-18.3

Test Details											
Manufacturer	The Chamberlain Group LLC										
EUT	Doublemint										
Model No.	900-15607-5										
Serial No.	3C00 002 7D5										
Mode	Continuous Tx										
Frequency Tested	914.75MHz										
Notes	Average Measurements in the Restricted Bands										

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	CBL Fac (dB)	Ant Fac (dB/m)	Pre Amp (dB)	Duty Cycle Factor (dB)	Average Total at 3m (dB $\mu$ V/m)	Average Total at 3m ( $\mu$ V/m)	Average Limit at 3m ( $\mu$ V/m)	Margin (dB)
2744.25	H	74.44		3.7	32.6	-39.5	-38.4	32.8	43.8	500.0	-21.1
	V	73.61		3.7	32.6	-39.5	-38.4	32.0	39.8	500.0	-22.0
3659.00	H	44.23	*	4.3	33.6	-38.9	-38.4	4.9	1.8	500.0	-49.1
	V	45.32		4.3	33.6	-38.9	-38.4	6.0	2.0	500.0	-48.0
4573.75	H	54.46		4.7	34.3	-38.9	-38.4	16.2	6.4	500.0	-37.8
	V	53.64		4.7	34.3	-38.9	-38.4	15.4	5.9	500.0	-38.6
7318.00	H	44.15	*	6.2	36.3	-39.0	-38.4	9.2	2.9	500.0	-44.8
	V	43.38	*	6.2	36.3	-39.0	-38.4	8.4	2.6	500.0	-45.6
8232.75	H	55.80		6.5	36.8	-39.0	-38.4	21.7	12.2	500.0	-32.2
	V	53.15		6.5	36.8	-39.0	-38.4	19.1	9.0	500.0	-34.9
9147.50	H	46.65		6.6	36.7	-38.9	-38.4	12.6	4.3	500.0	-41.4
	V	46.58		6.6	36.7	-38.9	-38.4	12.6	4.2	500.0	-41.4
10977.00	H	52.51		7.5	38.2	-38.7	-38.4	21.1	11.4	500.0	-32.8
	V	56.20		7.5	38.2	-38.7	-38.4	24.8	17.4	500.0	-29.1
11891.75	H	45.25		8.0	38.8	-38.6	-38.4	15.0	5.6	500.0	-39.0
	V	47.03		8.0	38.8	-38.6	-38.4	16.8	6.9	500.0	-37.2

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	3C00 002 7D5
Mode	Continuous Tx
Frequency Tested	914.75MHz
Notes	Peak Measurements in Non-Restricted Bands

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total at 3m (dB $\mu$ V/m)	Peak Total at 3m ( $\mu$ V/m)	Peak Limit at 3m ( $\mu$ V/m)	Margin (dB)
914.75	H	77.52		2.1	26.3	0.0	105.9	196896.3	NA	NA
	V	71.44		2.1	26.3	0.0	99.8	97777.2	NA	NA
1829.50	H	45.57		2.9	30.5	-39.7	39.3	92.3	19689.6	-46.6
	V	45.94		2.9	30.5	-39.7	39.7	96.3	19689.6	-46.2
5488.50	H	43.61		5.2	34.8	-39.0	44.6	169.1	19689.6	-41.3
	V	44.22		5.2	34.8	-39.0	45.2	181.4	19689.6	-40.7
6403.25	H	57.06		5.7	35.7	-39.0	59.4	934.1	19689.6	-26.5
	V	52.70		5.7	35.7	-39.0	55.0	565.4	19689.6	-30.8
10062.25	H	46.70		7.0	37.3	-38.8	52.2	408.6	19689.6	-33.7
	V	50.56		7.0	37.3	-38.8	56.1	637.3	19689.6	-29.8

Test Details										
Manufacturer	The Chamberlain Group LLC									
EUT	Doublemint									
Model No.	900-15607-5									
Serial No.	3C00 002 7D5									
Mode	Continuous Tx									
Frequency Tested	926.75MHz									
Notes	Peak Measurements in the Restricted Bands									

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total at 3m (dB $\mu$ V/m)	Peak Total at 3m ( $\mu$ V/m)	Peak Limit at 3m ( $\mu$ V/m)	Margin (dB)
2780.25	H	74.6		3.7	32.6	-39.5	71.5	3749.6	5000.0	-2.5
	V	74.4		3.7	32.6	-39.5	71.2	3647.4	5000.0	-2.7
3707.00	H	41.9		4.3	33.4	-38.9	40.8	109.5	5000.0	-33.2
	V	40.0		4.3	33.4	-38.9	38.9	88.1	5000.0	-35.1
4633.75	H	52.8		4.8	34.3	-38.9	53.0	444.4	5000.0	-21.0
	V	52.6		4.8	34.3	-38.9	52.8	436.8	5000.0	-21.2
7414.00	H	49.7		6.2	36.3	-39.0	53.2	458.6	5000.0	-20.8
	V	49.9		6.2	36.3	-39.0	53.4	470.4	5000.0	-20.5
8340.75	H	59.7		6.5	36.7	-39.0	63.9	1568.4	5000.0	-10.1
	V	57.9		6.5	36.7	-39.0	62.2	1282.2	5000.0	-11.8
11121.00	H	54.1		7.6	38.5	-38.7	61.5	1190.5	5000.0	-12.5
	V	57.5		7.6	38.5	-38.7	64.9	1760.9	5000.0	-9.1
12047.75	H	51.3		8.0	38.8	-38.6	59.5	946.3	5000.0	-14.5
	V	52.3		8.0	38.8	-38.6	60.5	1063.0	5000.0	-13.4

Test Details											
Manufacturer	The Chamberlain Group LLC										
EUT	Doublemint										
Model No.	900-15607-5										
Serial No.	3C00 002 7D5										
Mode	Continuous Tx										
Frequency Tested	926.75MHz										
Notes	Average Measurements in the Restricted Bands										

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	CBL Fac (dB)	Ant Fac (dB/m)	Pre Amp (dB)	Duty Cycle Factor (dB)	Average Total at 3m (dB $\mu$ V/m)	Average Total at 3m ( $\mu$ V/m)	Average Limit at 3m ( $\mu$ V/m)	Margin (dB)
2780.25	H	74.52		3.7	32.6	-39.5	-38.4	33.0	44.5	500.0	-21.0
	V	73.77		3.7	32.6	-39.5	-38.4	32.2	40.8	500.0	-21.8
3707.00	H	41.04		4.3	33.4	-38.9	-38.4	1.5	1.2	500.0	-52.5
	V	39.18		4.3	33.4	-38.9	-38.4	-0.4	1.0	500.0	-54.3
4633.75	H	52.76		4.8	34.3	-38.9	-38.4	14.5	5.3	500.0	-39.5
	V	52.53		4.8	34.3	-38.9	-38.4	14.3	5.2	500.0	-39.7
7414.00	H	44.50		6.2	36.3	-39.0	-38.4	9.6	3.0	500.0	-44.4
	V	44.19		6.2	36.3	-39.0	-38.4	9.3	2.9	500.0	-44.7
8340.75	H	58.39		6.5	36.7	-39.0	-38.4	24.2	16.3	500.0	-29.8
	V	56.90		6.5	36.7	-39.0	-38.4	22.7	13.7	500.0	-31.3
11121.00	H	51.68		7.6	38.5	-38.7	-38.4	20.6	10.8	500.0	-33.3
	V	55.47		7.6	38.5	-38.7	-38.4	24.4	16.7	500.0	-29.5
12047.75	H	45.17		8.0	38.8	-38.6	-38.4	15.0	5.6	500.0	-39.0
	V	48.15		8.0	38.8	-38.6	-38.4	18.0	7.9	500.0	-36.0

Test Details										
Manufacturer	The Chamberlain Group LLC									
EUT	Doublemint									
Model No.	900-15607-5									
Serial No.	3C00 002 7D5									
Mode	Continuous Tx									
Frequency Tested	926.75MHz									
Notes	Peak Measurements in Non-Restricted Bands									

Freq (MHz)	Ant Pol	Meter Reading (dB $\mu$ V)	Ambient	Cable Factor (dB)	Antenna Factor (dB/m)	Pre Amp (dB)	Peak Total at 3m (dB $\mu$ V/m)	Peak Total at 3m ( $\mu$ V/m)	Peak Limit at 3m ( $\mu$ V/m)	Margin (dB)
926.75	H	74.29		2.1	26.7	0.0	103.0	141437.5	NA	NA
	V	70.80		2.1	26.7	0.0	99.5	94637.8	NA	NA
1853.50	H	43.00		3.0	30.6	-39.7	36.9	69.9	14143.7	-46.1
	V	44.19		3.0	30.6	-39.7	38.1	80.2	14143.7	-44.9
5560.50	H	45.13		5.2	34.9	-39.0	46.2	204.6	14143.7	-36.8
	V	44.89		5.2	34.9	-39.0	46.0	199.0	14143.7	-37.0
6487.25	H	56.03		5.7	35.7	-39.0	58.4	830.3	14143.7	-24.6
	V	48.61		5.7	35.7	-39.0	51.0	353.4	14143.7	-32.0
9267.50	H	45.87		6.6	36.7	-38.9	50.4	330.0	14143.7	-32.6
	V	43.58		6.6	36.7	-38.9	48.1	253.5	14143.7	-34.9
10194.25	H	52.27		7.1	37.4	-38.8	58.0	795.6	14143.7	-25.0
	V	53.48		7.1	37.4	-38.8	59.2	914.5	14143.7	-23.8

## 30. Band-Edge Compliance

EUT Information	
Manufacturer	The Chamberlain Group LLC
Product	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx Hopping

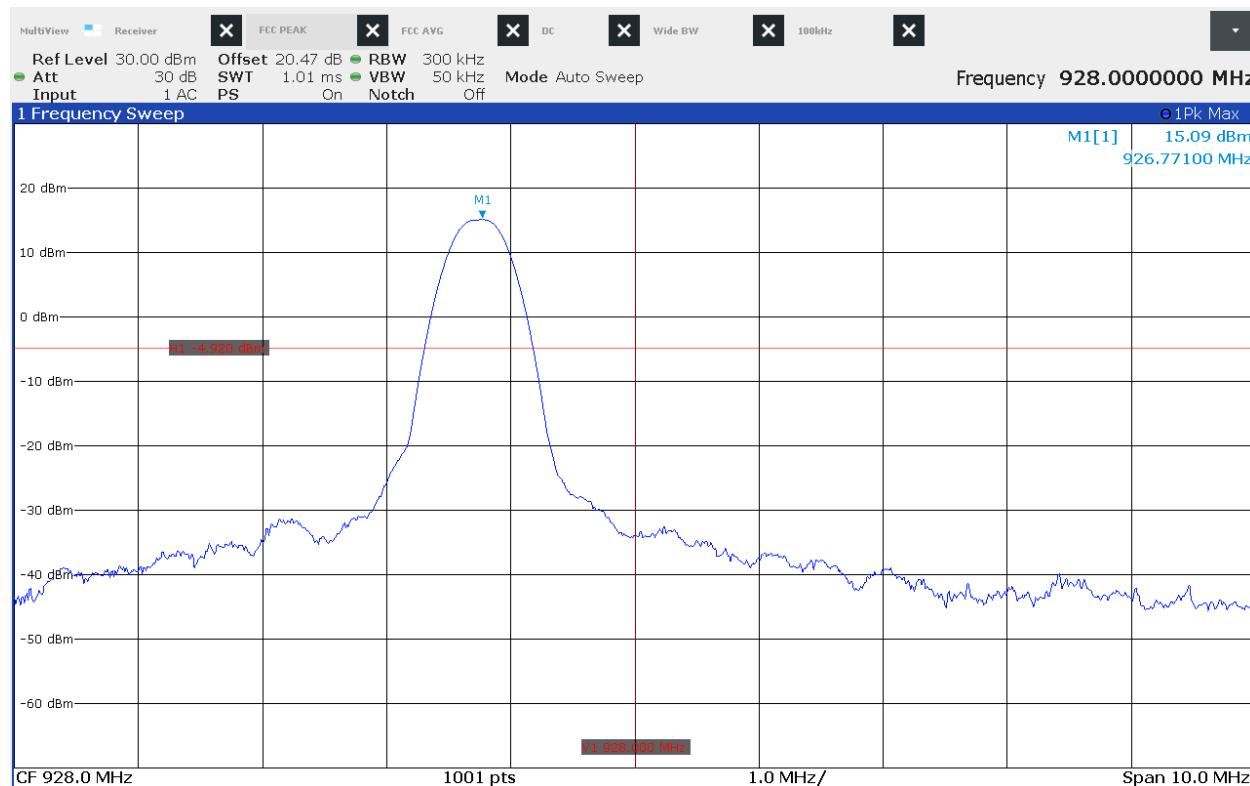
Test Setup Details	
Setup Format	Tabletop
Measurement Method	Antenna Conducted
Type of Test Site	Elite Test Bench
Type of Antennas Used	N/A
Notes	None

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	
1) Low Band Edge:	
a)	The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation.
b)	The EUT was set to transmit continuously at the channel closest to the low band-edge with the hopping function disabled.
c)	To determine the band edge compliance, the following spectrum analyzer settings were used: <ul style="list-style-type: none"> <li>o Center Frequency = 902MHz (low band-edge frequency).</li> <li>o Span = Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.</li> <li>o Resolution Bandwidth (RBW) = <math>\geq 1\%</math> of the span.</li> <li>o 'Max-Hold' function was engaged.</li> </ul>
d)	The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
e)	The marker was set on the peak of the in-band emissions. A display line was placed 20dB down from the peak of the in-band emissions. All emissions which fall outside of the authorized band of operation must be below the 20dB down display line. (All emissions to the left of the center frequency (band-edge) must be below the display line.)
f)	The analyzer's display was then screenshot and saved.
g)	Steps (d) through (f) were repeated with the frequency hopping function enabled.
2) High Band Edge:	
a)	The antenna port of the EUT was connected to the spectrum analyzer through 20dB of attenuation.

- b) The EUT was set to transmit continuously at the channel closest to the high band-edge hopping function disabled).
- c) To determine the band edge compliance, the following spectrum analyzer settings were used:
  - o Center Frequency = 928MHz (high band-edge frequency).
  - o Span = Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.
  - o Resolution Bandwidth (RBW) =  $\geq 1\%$  of the span.
  - o 'Max-Hold' function was engaged.
- d) The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
- e) The marker was set on the peak of the in-band emissions. A display line was placed 20dB down from the peak of the in-band emissions. All emissions which fall outside of the authorized band of operation must be below the 20dB down display line. (All emissions to the left of the center frequency (band-edge) must be below the display line.)
- f) The analyzer's display was then screenshot and saved.
- g) Steps (d) through (f) were repeated with the frequency hopping function enabled.

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	926.75MHz
Notes	High Band Edge

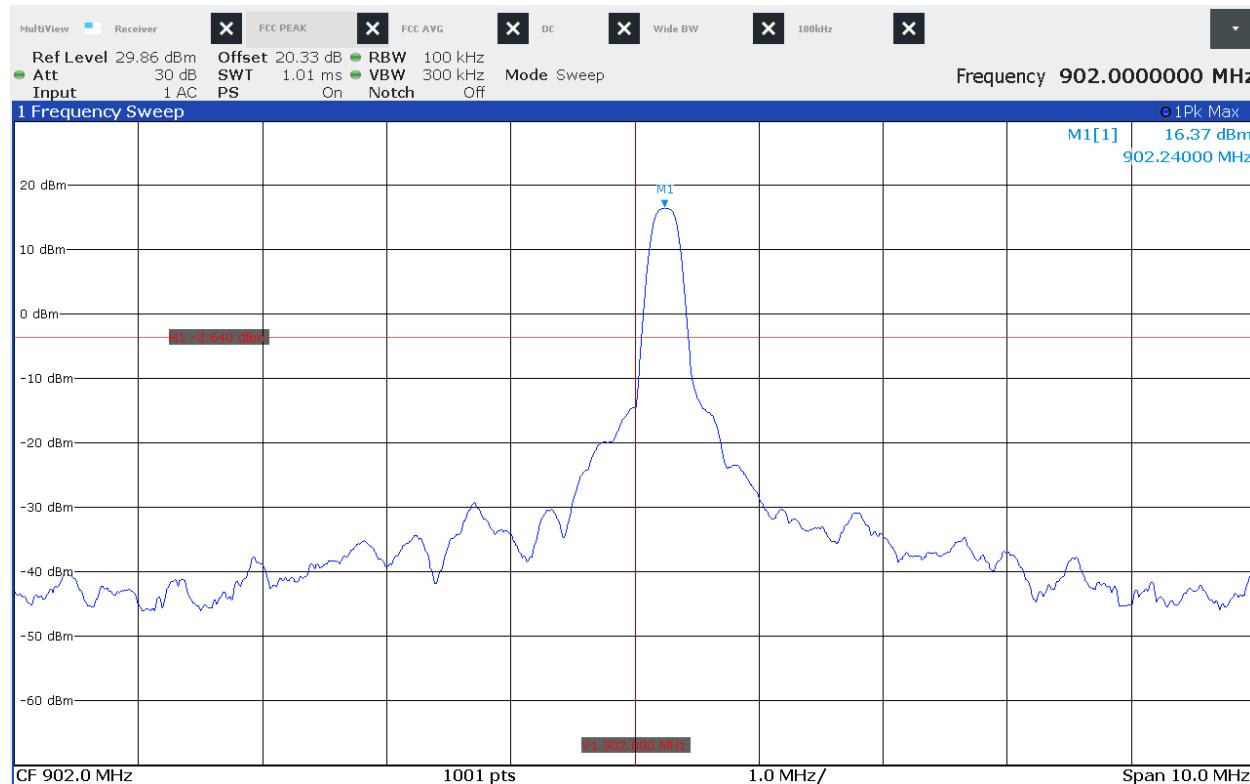


### Band Edge High

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 926.75MHz  
 Parameters :  
 Date : 6/3/2025 8:39:47 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	902.25MHz
Notes	Low Band Edge

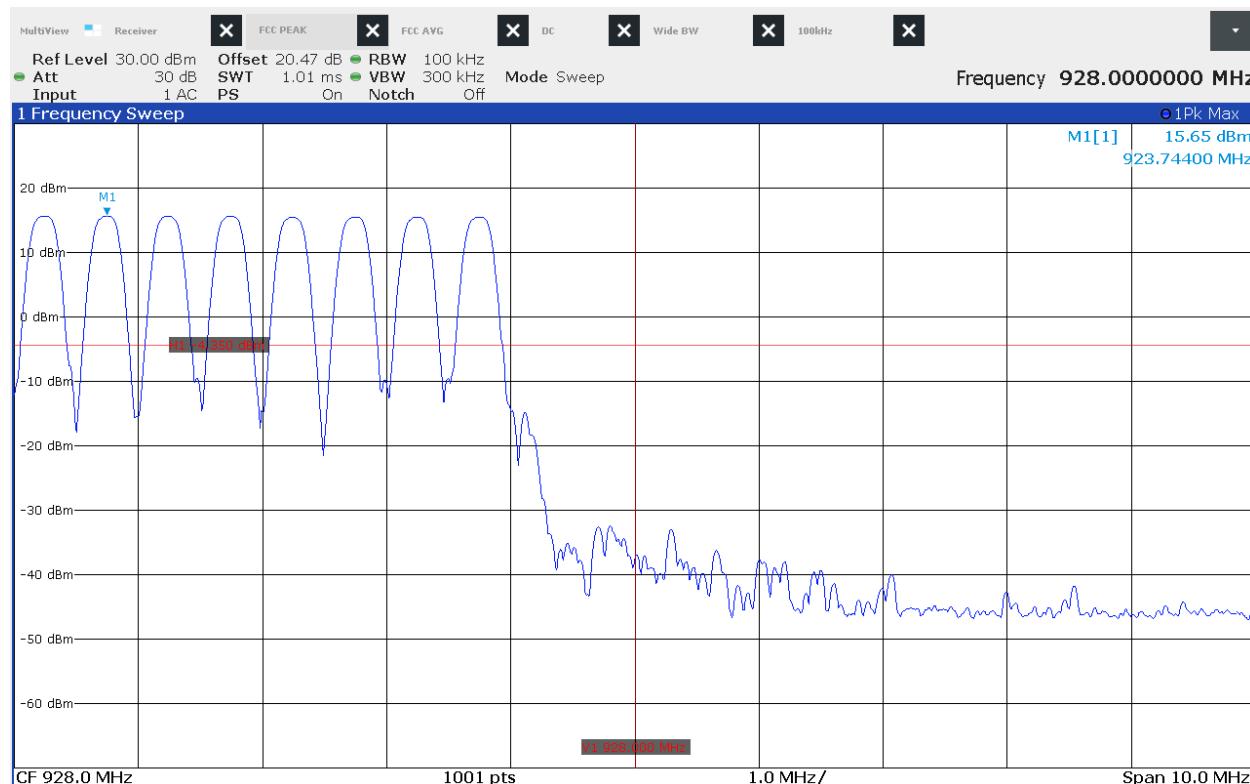


### Band Edge Low

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : 902.25MHz  
 Parameters :  
 Date : 6/3/2025 8:46:41 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Hopping
Frequency Tested	926.75MHz
Notes	High Band Edge – Hopping

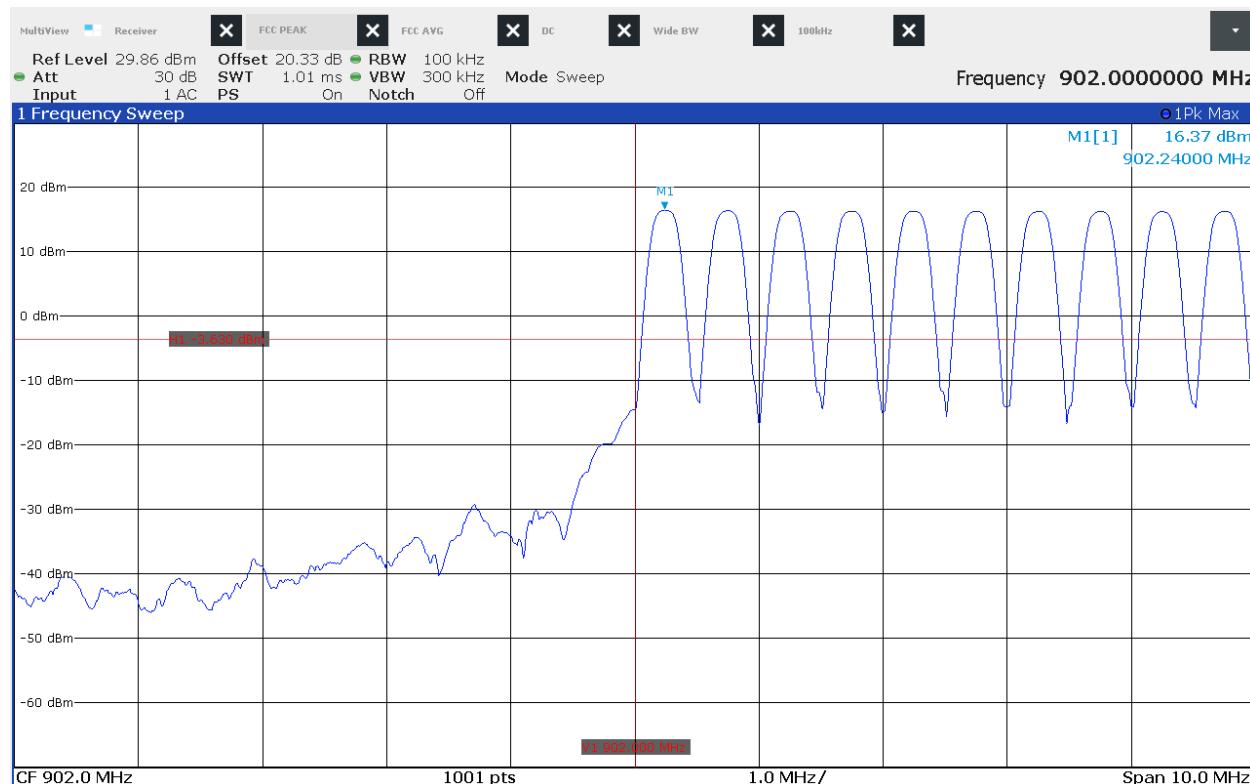


### Band Edge High Hopping

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping  
 Parameters :  
 Date : 6/3/2025 8:51:20 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

Test Details	
Manufacturer	The Chamberlain Group LLC
EUT	Doublemint
Model No.	900-15607-5
Serial No.	N/A
Mode	Continuous Tx
Frequency Tested	902.25MHz
Notes	Low Band Edge – Hopping



### Band Edge Low Hopping

Manufacturer : Chamberlain  
 Model Number : 900-15607-5  
 Serial Number : N/A  
 Mode : Hopping  
 Parameters :  
 Date : 6/3/2025 8:49:03 AM  
 Notes :

TRACE1 : Function plot of Max Hold Peak

## 31. Scope of Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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Website: [www.elitetest.com](http://www.elitetest.com)

## ELECTRICAL

Valid To: August 31, 2025

Certificate Number: 1786.01

In recognition of the successful completion of the A2LA Accreditation Program evaluation process, accreditation is granted to this laboratory to perform the following automotive electromagnetic compatibility and other electrical tests:

**Test Technology:****Test Method(s)<sup>1</sup>:*****Transient Immunity****(Max Voltage 60V/Max current 100A)*

ISO 7637-2 (including emissions); ISO 7637-3;  
ISO 16750-2:2012, Sections 4.6.3 and 4.6.4;  
CS-11979, Section 6.4; CS.00054, Section 5.9;  
EMC-CS-2009.1 (CI220); FMC1278 (CI220, CI221, CI222);  
GMW 3097, Section 3.5; SAE J1113-11; SAE J1113-12;  
ECE Regulation 10.06 Annex 10

***Electrostatic Discharge (ESD)****(Up to +/-25kV)*

ISO 10605 (2001, 2008);

CS-11979 Section 7.0; CS.00054, Section 5.10;  
EMC-CS-2009.1 (CI 280); FMC1278 (CI280); SAE J1113-13;  
GMW 3097 Section 3.6

***Conducted Emissions***

CISPR 25 (2002, 2008), Sections 6.2 and 6.3;  
CISPR 25 (2016), Sections 6.3 and 6.4;  
CS-11979, Section 5.1; CS.00054, Sections 5.6.1 and 5.6.2;  
GMW 3097, Section 3.3.2;  
EMC-CS-2009.1 (CE 420); FMC1278 (CE420, CE421,  
CE 430, CE440)

(A2LA Cert. No. 1786.01) Revised 05/08/2025



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5202 Presidents Court, Suite 220 | Frederick, MD 21703-8515 | Phone: 301 644 3248 | Fax: 240 454 9449 | [www.A2LA.org](http://www.A2LA.org)

**Test Technology:**

**Radiated Emissions Anechoic**  
(Up to 6GHz)

**Test Method(s)<sup>1</sup>:**

CISPR 25 (2002, 2008), Section 6.4;  
CISPR 25 (2016), Section 6.5;  
CS-11979, Section 5.3; CS.00054, Section 5.6.3;  
GMW 3097, Section 3.3.1;  
EMC-CS-2009.1 (RE 310); FMC1278 (RE310, RE320);

**Vehicle Radiated Emissions**

CISPR 12; CISPR 36; ICES-002;  
ECE Regulation 10.06 Annex 4;  
ECE Regulation 10.06 Annex 5

**Bulk Current Injection (BCI)**  
(1 to 400MHz 500mA)

ISO 11452-4; CS-11979, Section 6.1; CS.00054, Section 5.8.1;  
GMW 3097, Section 3.4.1; SAE J1113-4;  
EMC-CS-2009.1 (RI112); FMC1278 (RI112);  
ECE Regulation 10.06 Annex 9

**Radiated Immunity Anechoic**  
(Up to 6GHz and 200V/m)  
(Including Radar Pulse 600V/m)

ISO 11452-2;  
CS-11979, Section 6.2; CS.00054, Section 5.8.2;  
GMW 3097, Section 3.4.2;  
EMC-CS-2009.1 (RI114); FMC1278 (RI114); SAE J1113-21;  
ECE Regulation 10.06 Annex 9

**Radiated Immunity Magnetic Field**

ISO 11452-8; FMC 1278 (RI140)

**Radiated Immunity Reverb**  
(360MHz to 6GHz and 100V/m)

ISO/IEC 61000-4-21; GMW 3097, Section 3.4.3;  
EMC-CS-2009.1 (RI114); FMC1278 (RI114);  
ISO 11452-11

**Radiated Immunity**  
(Portable Transmitters)  
(Up to 6GHz and 20W)

ISO 11452-9;  
EMC-CS-2009.1 (RI115); FMC1278 (RI115);  
GMW 3097, Sec 3.4.4

**Vehicle Radiated Immunity (ALSE)**

ISO 11451-2; ECE Regulation 10.06 Annex 6

**Vehicle Product Specific EMC Standards**

EN 14982; EN ISO 13309; ISO 13766; EN 50498;  
EC Regulation No. 2015/208; EN 55012

**Electrical Loads**

ISO 16750-2

**Stripline**

ISO 11452-5

**Transverse Electromagnetic (TEM) Cell**

ISO 11452-3

**Test Technology:**

**Emissions**

Radiated and Conducted  
(3m Semi-anechoic chamber,  
up to 40 GHz)

**Test Method(s)<sup>1</sup>:**

47 CFR, FCC Part 15 B (using ANSI C63.4:2014);  
47 CFR, FCC Part 18 (using FCC MP-5:1986);  
ICES-001; ICES-003; ICES-005;  
IEC/CISPR 11, Ed. 4.1 (2004-06); AS/NZS CISPR 11 (2004);  
IEC/CISPR 11 Ed 5 (2009-05) + A1 (2010);  
KN 11 (2008-5) with RRL Notice No. 2008-3 (May 20, 2008);  
CISPR 11; EN 55011; KS C 9811; CNS 13803 (1997, 2003);  
CISPR 14-1; EN 55014-1; AS/NZS CISPR 14.1;  
CISPR 16-2-1 (2008); CISPR 16-2-1; KS C 9814-1; KN 14-1;  
IEC/CISPR 22 (1997);  
EN 55022 (1998) + A1(2000);  
EN 55022 (1998) + A1(2000) + A2(2003); EN 55022 (2006);  
IEC/CISPR 22 (2008-09); AS/NZS CISPR 22 (2004);  
AS/NZS CISPR 22, 3rd Edition (2006); KN 22 (up to 6 GHz);  
CNS 13438 (up to 6 GHz); VCCI V-3 (up to 6 GHz);  
CISPR 32; EN 55032; KS C 9832; KN 32;  
ECE Regulation 10.06 Annex 7 (Broadband);  
ECE Regulation 10.06 Annex 8 (Narrowband);  
ECE Regulation 10.06 Annex 13 (Conducted);  
ECE Regulation 10.06 Annex 14 (Conducted)

Cellular Radiated Spurious Emissions

ETSI TS 151 010-1 GSM; 3GPP TS 51.010-1, Sec 12;  
ETSI TS 134 124 UMTS; 3GPP TS 34.124;  
ETSI TS 136 124 LTE; E-UTRA; 3GPP TS 36.124

Current Harmonics

IEC 61000-3-2; IEC 61000-3-12;  
EN 61000-3-2; KN 61000-3-2;  
KS C 9610-3-2; ECE Regulation 10.06 Annex 11

Flicker and Fluctuations

IEC 61000-3-3; IEC 61000-3-11;  
EN 61000-3-3; KN 61000-3-3;  
KS C 9610-3-3; ECE Regulation 10.06 Annex 12

**Immunity**

Electrostatic Discharge

IEC 61000-4-2, Ed. 1.2 (2001);  
IEC 61000-4-2 (1995) + A1(1998) + A2(2000);  
EN 61000-4-2 (1995); EN 61000-4-2 (2009-05);  
KN 61000-4-2 (2008-5);  
RRL Notice No. 2008-4 (May 20, 2008);  
IEC 61000-4-2; EN 61000-4-2; KN 61000-4-2;  
KS C 9610-4-2; IEEE C37.90.3 2001

Radiated Immunity

IEC 61000-4-3 (1995) + A1(1998) + A2(2000);  
IEC 61000-4-3, Ed. 3.0 (2006-02);  
IEC 61000-4-3, Ed. 3.2 (2010);  
KN 61000-4-3 (2008-5);  
RRL Notice No. 2008-4 (May 20, 2008);  
IEC 61000-4-3; EN 61000-4-3; KN 61000-4-3;  
KS C 9610-4-3; IEEE C37.90.2 2004

Test Technology:Test Method(s)<sup>1</sup>:**Immunity (cont'd)**

Electrical Fast Transient/Burst

IEC 61000-4-4, Ed. 2.0 (2004-07);  
IEC 61000-4-4, Ed. 2.1 (2011);  
IEC 61000-4-4 (1995) + A1(2000) + A2(2001);  
KN 61000-4-4 (2008-5);  
RRL Notice No. 2008-5 (May 20, 2008);  
IEC 61000-4-4; EN 61000-4-4; KN 61000-4-4;  
KS C 9610-4-4; ECE Regulation 10.06 Annex 15

Surge

IEC 61000-4-5 (1995) + A1(2000);  
IEC 61000-4-5, Ed 1.1 (2005-11);  
EN 61000-4-5 (1995) + A1(2001);  
KN 61000-4-5 (2008-5);  
RRL Notice No. 2008-4 (May 20, 2008);  
IEC 61000-4-5; EN 61000-4-5; KN 61000-4-5;  
KS C 9610-4-5;  
IEEE C37.90.1 2012; IEEE STD C62.41.2 2002;  
ECE Regulation 10.06 Annex 16

Conducted Immunity

IEC 61000-4-6 (1996) + A1(2000);  
IEC 61000-4-6, Ed 2.0 (2006-05);  
IEC 61000-4-6 Ed. 3.0 (2008);  
KN 61000-4-6 (2008-5);  
RRL Notice No. 2008-4 (May 20, 2008);  
EN 61000-4-6 (1996) + A1(2001); IEC 61000-4-6;  
EN 61000-4-6; KN 61000-4-6; KS C 9610-4-6

Power Frequency Magnetic Field  
Immunity (*Down to 3 A/m*)

IEC 61000-4-8 (1993) + A1(2000); IEC 61000-4-8 (2009);  
EN 61000-4-8 (1994) + A1(2000);  
KN 61000-4-8 (2008-5);  
RRL Notice No. 2008-4 (May 20, 2008);  
IEC 61000-4-8; EN 61000-4-8; KN 61000-4-8; KS C 9610-4-8

Voltage Dips, Short Interrupts, and Line  
Voltage Variations

IEC 61000-4-11, Ed. 2 (2004-03);  
KN 61000-4-11 (2008-5);  
RRL Notice No. 2008-4 (May 20, 2008);  
IEC 61000-4-11; EN 61000-4-11; KN 61000-4-11;  
KS C 9610-4-11

Ring Wave

IEC 61000-4-12, Ed. 2 (2006-09);  
EN 61000-4-12:2006;  
IEC 61000-4-12; EN 61000-4-12; KN 61000-4-12;  
IEEE STD C62.41.2 2002