



ELEMENT MATERIALS TECHNOLOGY,

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MEASUREMENT REPORT

FCC PART 15.247 / ISSED RSS-247 Low Range (LoRa)

Applicant Name:

Alarm.com Incorporated
8281 Greensboro Drive Suite 100
Tysons, VA 22102
USA

Date of Testing:

8/20/2025 - 10/1/2025

Test Report Issue Date:

10/10/2025

Test Site/Location:

Element lab., Columbia, MD, USA

Test Report Serial No.:

1M2508200076-01.YL6

FCC ID:

YL6-143VDB775

IC:

9111A-143VDB775

APPLICANT:

Alarm.com Incorporated

Application Type:

Certification

Model/HVIN:

ADC-VDB775

EUT Type:

Video Doorbell

Max. RF Output Power:

100.138 mW (20.01 dBm) Peak Conducted

Frequency Range:

902.3 – 927.5MHz

FCC Classification:

FCC Part 15 Spread Spectrum Transmitter (DSS)

ISED Specification:

RSS-247 Issue 4

Test Procedure(s):

ANSI C63.10-2020

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2020. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez
Executive Vice President



FCC ID: YL6-143VDB775 IC: 9111A-143VDB775		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell		Page 1 of 66

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TEST REPORT REVISION HISTORY

Rev. No.	Report S/N	Description	Issue Date
-	1M2508200076-01.YL6	Initial Release	10/10/2025

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1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 Element Test Location

These measurement tests were conducted at the Element laboratory located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Washington DC LLC facility is a registered (2451B) test laboratory with the site description on file with ISED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Alarm.com Video Doorbell FCC ID: YL6-143VDB775**. The test data contained in this report pertains only to the emissions due to the EUT's LoRa transmitter.

The LoRa transmitter in this device employs hybrid operation as defined in FCC Part 15C. There are three operating modes:

1. FHSS Mode The LoRa radio will utilize 125 kHz bandwidth channels hopping over 64 channels.
2. DTS Mode The LoRa radio will utilize 500 kHz bandwidth channels
3. Hybrid Mode The LoRa radio will utilize 125 kHz bandwidth channels and hop over at least 8 channels.

Test Device Serial No.: 5040741108DC, 5040741108E6, 5040741108E2, 504074110923#REF!

2.2 Device Capabilities

This device contains the following capabilities:

900MHz LoRa (hybrid operation), Bluetooth LE, 2.4GHz WiFi, 5GHz UNII

The 915 MHz ISM band SHALL be divided into the following channel plans:

- Upstream – 64 channels, numbered 0 to 63, utilizing LoRa 125 kHz BW, varying from DR0 to DR3, using coding rate 4/5, starting at 902.3 MHz and incrementing linearly by 200 kHz to 914.9 MHz
- Upstream – 8 channels, numbered 64 to 71, utilizing LoRa 500 kHz BW at DR4 or LR-FHSS 1.523 MHz BW at DR5-DR6, starting at 903.0 MHz and incrementing linearly by 1.6 MHz to 914.2 MHz
- Downstream – 8 channels, numbered 0 to 7, utilizing LoRa 500 kHz BW at DR8 to DR13, starting at 923.3 MHz and incrementing linearly by 600 kHz to 927.5 MHz

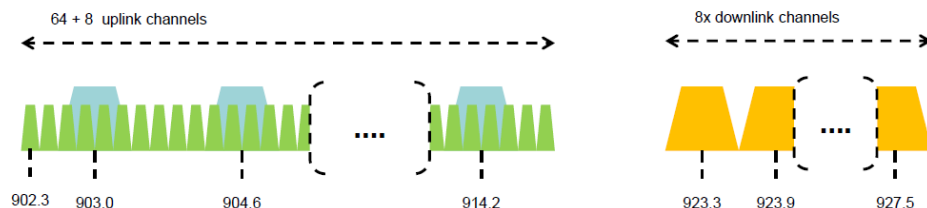


Figure 2-1. Frequency/ Channel Operations

2.3 Antenna Description

This device uses a LYNwave internal antenna (P/N: ALX24F-020AA2-00) with the following properties:

Frequency [MHz]	Antenna 1 Gain (dBi)
900	0.3

Table 2-1. Antenna Peak Gain

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2.4 Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2020. ANSI C63.10-2020 was also used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2 for AC line conducted emissions test setups, 3.3 for radiated emissions test setups, and 7.2, 7.3, 7.5, 7.6, 7.7, 7.8, and 7.9 for antenna port conducted emissions test setups.

Note: This device was tested using the various spreading factors and the worst-case data is included in this report.

2.5 Software and Firmware

The test was conducted with software/firmware version 3cfa1d93 installed on the EUT.

2.6 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

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3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedure described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2020) was used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 10'x16'x9' shielded enclosure. The shielded enclosure is manufactured by ETS Lindgren RF Enclosures. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-5. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50μH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is an ETS Lindgren Model LPRX-4X30 (100dB Attenuation, 14kHz-18GHz) and the two EMI/RFI filters are ETS Lindgren Model LRW-2030-S1 (100dB Minimum Insertion Loss, 14kHz – 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply; it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1-meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference groundplane. Power cables for support equipment were routed down to the second LISN while ensuring that the cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst-case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 7.12. The EMI Receiver mode of the Agilent MXE was used to perform AC line conducted emissions testing.

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3.3 Radiated Emissions

The radiated test facilities consisted of an indoor 3-meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst-case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 414788 D01 v01r01.

3.4 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

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4.0 ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antennas of the EUT are **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT complies with the requirement of §15.203.

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5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ($\pm$ dB)
Conducted Bench Top Measurements	1.13
Conducted Disturbance	3.09
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurement antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	WL25-1	Conducted Cable Set (25GHz)	2/25/2025	Annual	2/25/2026	WL25-1
-	MD 1M 18 40	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	MD 1M 18 40
-	ETS	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS
Agilent	N9030A	PXA Signal Analyzer (44GHz)	10/16/2024	Annual	10/16/2025	MY49430494
EMCO	3115	Horn Antenna (1-18GHz)	9/6/2024	Biennial	9/6/2026	9704-5182
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	10/16/2024	Annual	10/16/2025	100342
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107

Table 6-1. Annual Test Equipment Calibration Schedule

Notes:

- For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.
- Equipment with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

Component	Serial Number
MegaPhase Cable TM26-S1S1-36	18160103 003
Pasternack 6dB Attenuator PE7005-6	N/A

Table 6-2. WL25-1 Conducted Cable Set Components

Component	Serial Number
Pasternak Cable RG214/U	111815
Sucoflex Cable 106A	246420-001
Rohde & Schwarz SF Unit	102134

Table 6-3. ETS-001 EMC Cable and Switch System Components

Component	Serial Number
MegaPhase Cable TM40-K1K1-30	20233002-004
UTIPLEX Cable	64639 232063-001
Rohde & Schwarz Pre-amp RS-PR1840 18G-40G	9037.7670.02

Table 6-4. MD 1M 18-40 EMC Cable and Switch System Components

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7.0 TEST RESULTS

7.1 Summary

Company Name: Alarm.com Incorporated
 FCC ID: YL6-143VDB775
 Method/System: FHSS/DTS/Hybrid Mode
 Number of Channels: 64

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(1)(iii)	RSS-247 [6.2.2.1(a)]	20dB Bandwidth	20dB BW < 500KHz	CONDUCTED	PASS	Section 7.2
15.247(a)(2)	RSS-247 [6.3.1(a)]	6dB Bandwidth	The minimum 6 dB bandwidth shall be at least 500 kHz.		PASS	Section 7.2
15.247(b)(1)	RSS-247 [6.2.2.2]	Peak Transmitter Output Power	< 1W if more than 50 hopping channels are used <0.125W if less than 50 hopping channels are used e.i.r.p < 4W if more than 50 hopping channels are used e.i.r.p < 1W if less than 50 hopping channels are used		PASS	Section 7.3
15.247(e)	RSS-247 [6.3.1(b)] RSS-247 [6.4(a)]	Transmitter Power Spectral Density	shall not be greater than 8 dBm in any 3 kHz band		PASS	Section 7.4
15.247(a)(1)	RSS-247 [6.2.1(b)]	Channel Separation	> 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater		PASS	Section 7.6
15.247(a)(1)(iii)	RSS-247 [6.2.2.1(b)] RSS-247[6.2.2.1(c)]	Number of Channels	>50 channels when OBW <250kHz and >25 channels when OBW >250kHz		PASS	Section 7.8
15.247(a)(1)(iii)	RSS-247 [6.2.3.1] RSS-247[6.4(b)]	Time of Occupancy	< 0.4s in 20s window when OBW < 250kHz OR < 0.4s in 10s window when OBW > 250kHz <0.4s in (number of hopping channels * 0.4)s window when hybrid		PASS	Section 7.7
15.247(d)	RSS-247 [6.6]	Band Edge / Out-of-Band Emissions	Conducted > 20dBc		PASS	Section 7.5, Section 7.9
15.205 15.209	RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-247 limits)	RADIATED	PASS	Section 7.10, Section 7.11
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits (RSS-Gen [8.8] limits)	LINE CONDUCTED	PASS	Section 7.12

Table 7-1. Summary of Test Results

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Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is "BT Auto," Version 3.5.
- 5) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is "Chamber Automation," Version 1.3.1.

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7.2 Bandwidth Measurements

§15.247 (a.1.iii); RSS-247 [6.2.2.1(a)]; RSS-247[6.2.1(a)]

Test Overview and Limit

The bandwidth at 6dB down for DTS mode and 20dB down from the highest in-band spectral density in FHSS and Hybrid modes is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequencies.

Test Procedure Used

ANSI C63.10-2020 – Section 6.9.2

Test Settings

1. The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 20dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 20$. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% OBW
3. VBW $\geq 3 \times$ RBW
4. Reference level set to keep signal from exceeding maximum input mixer level for linear operation.
5. Detector = Peak
6. Trace mode = max hold
7. Sweep = auto couple
8. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-1. Test Instrument & Measurement Setup

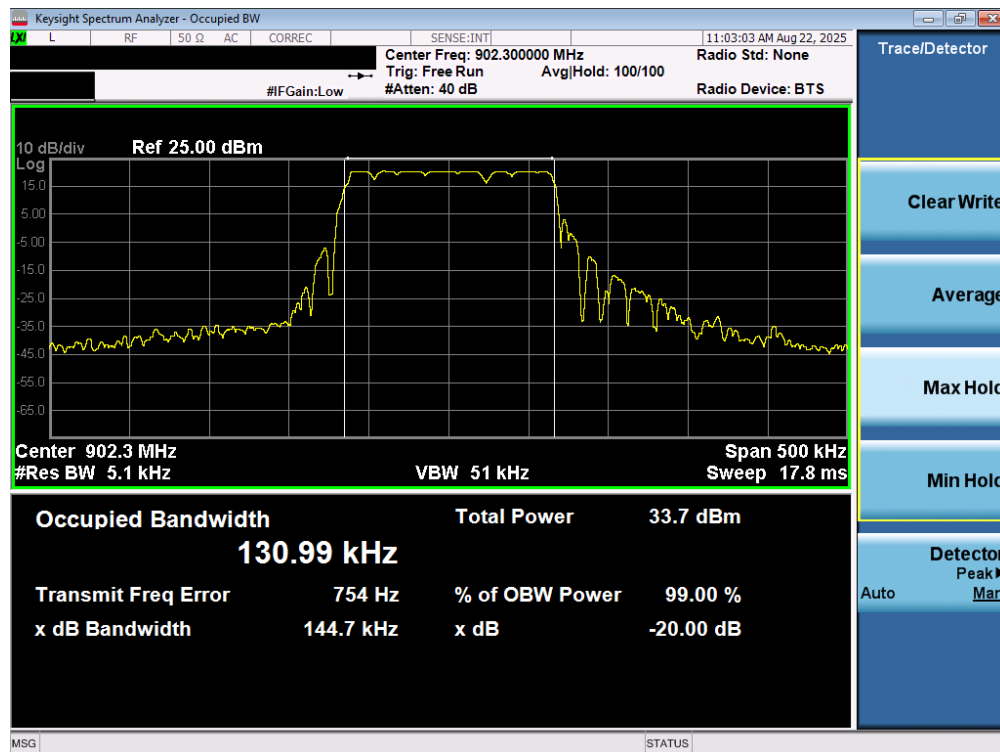
Test Notes

Per the guidance of KDB 558074, 20dB BW testing is performed in FHSS and hybrid modes while the 6dB BW is measured for DTS mode.

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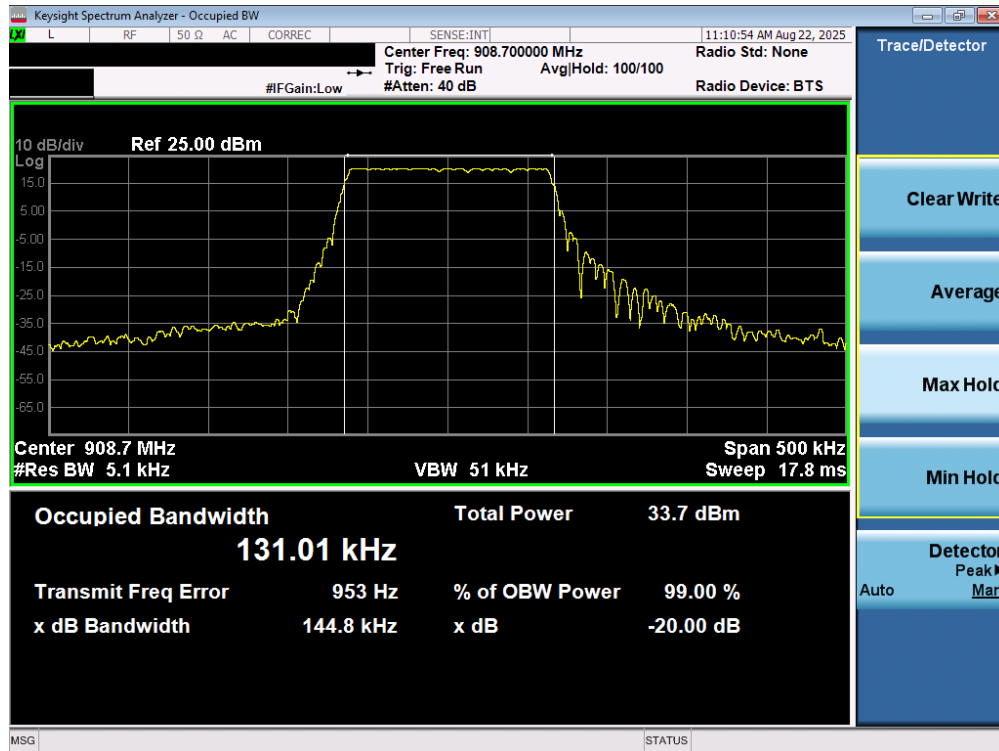
Frequency [MHz]	Bandwidth [kHz]	Operation Mode	Channel No.	6dB Bandwidth Test Results [kHz]	20dB Bandwidth Test Results [kHz]	Occupied Bandwidth Test Results [kHz]
902.3	125.0	FHSS/Hybrid	0	-	144.70	130.99
908.7	125.0	FHSS/Hybrid	32	-	144.80	131.01
914.9	125.0	FHSS/Hybrid	63	-	147.40	127.43
903.0	500.0	DTS	64	644.30	-	680.70
914.2	500.0	DTS	71	641.40	-	676.22
927.5	500.0	DTS	7	643.30	-	678.13

Table 7-2. Conducted 20dB and 6dB Bandwidth Measurements



Plot 7-1. 20dB Bandwidth Plot (LoRa, 125kHz FHSS/Hybrid Mode – Ch. 0)

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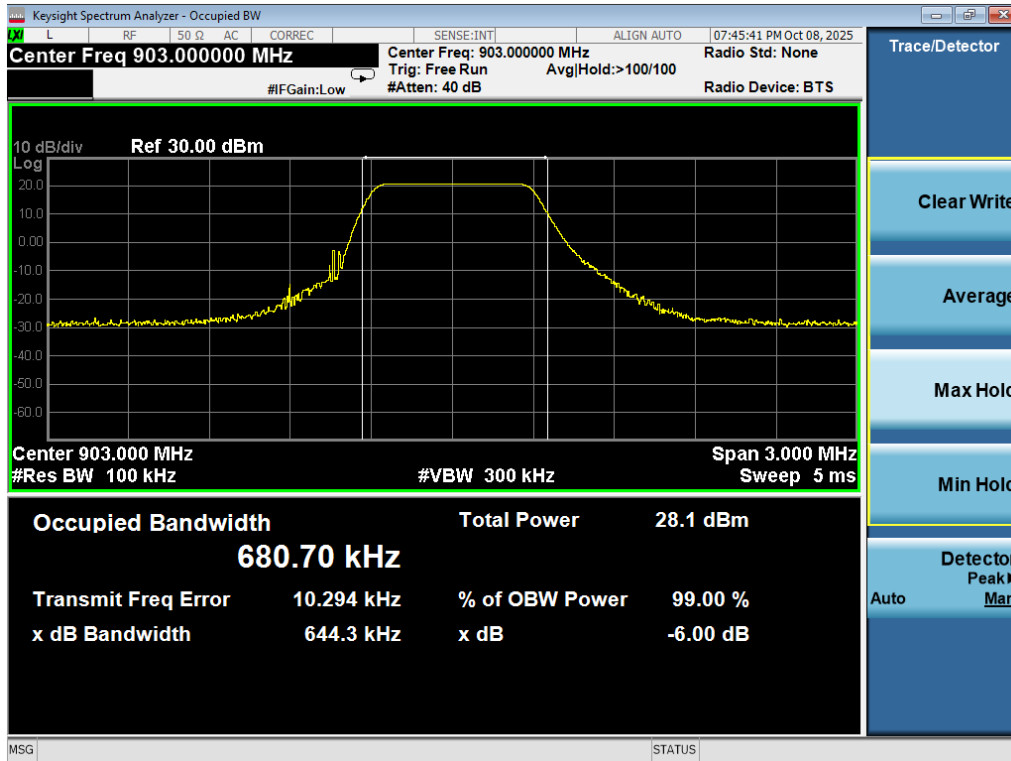


Plot 7-2. 20dB Bandwidth Plot (LoRa, 125kHz FHSS/Hybrid Mode – Ch. 32)

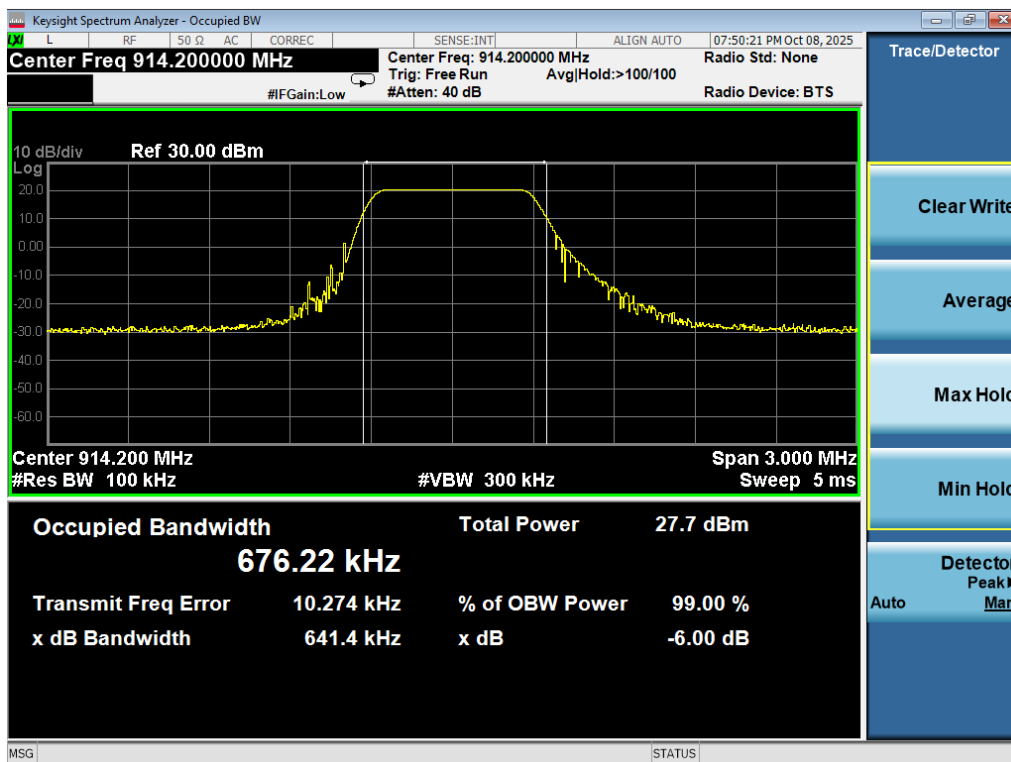


Plot 7-3. 20dB Bandwidth Plot (LoRa, 125kHz FHSS/Hybrid Mode – Ch. 63)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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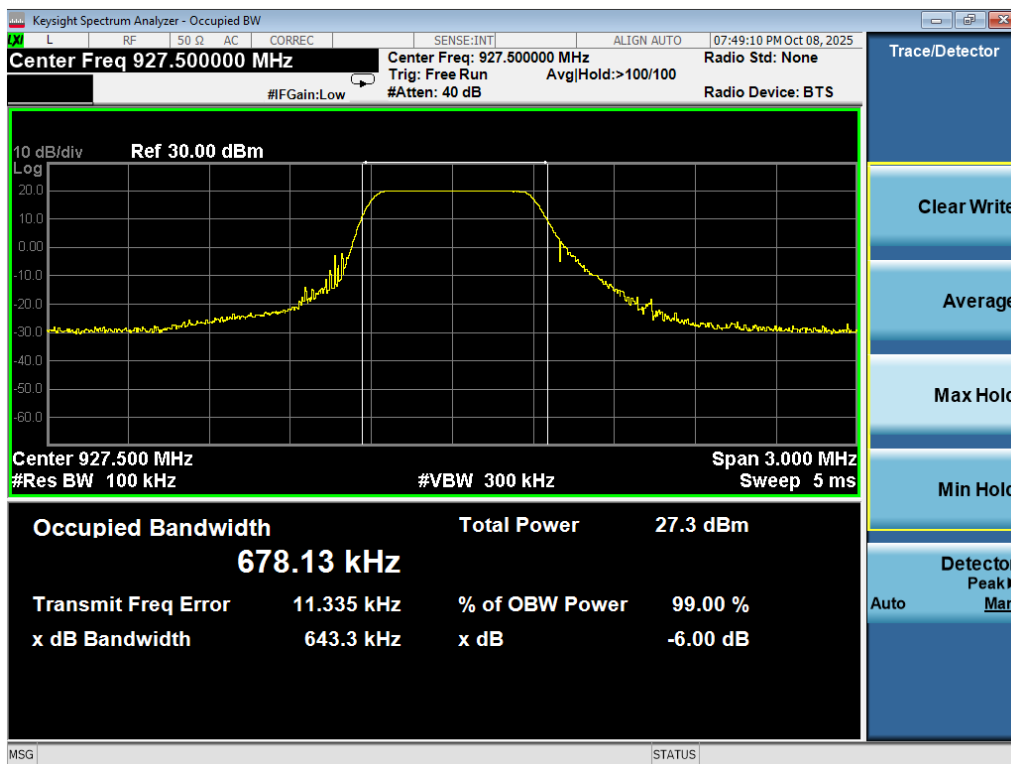


Plot 7-4. 20dB Bandwidth Plot (LoRa, 500kHz DTS Mode – Ch. 64)



Plot 7-5. 20dB Bandwidth Plot (LoRa, 500kHz DTS Mode – Ch. 71)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 17 of 66



Plot 7-6. 20dB Bandwidth Plot (LoRa, 500kHz DTS Mode – Ch. 7)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 18 of 66

7.3 Output Power Measurement

§15.247 (b.1); RSS-247 [6.2.2.2]

Test Overview and Limits

Measurement is made while the EUT is operating in non-hopping transmission mode. The powers shown below were measured using a spectrum analyzer with a LoRa signaling test set (Agilent Model: N4010A) used only to maintain a LoRa link with the EUT. Average power measurements are performed using the analyzer's "burst power" function with RBW = 3MHz. The burst power function triggers on a single set burst set to maximum power and measures the maximum average power on the on-time.

The maximum permissible output power is 1 Watt.

Test Procedure Used

ANSI C63.10-2020 – Section 7.8.5

ANSI C63.10-2020 – Section 11.9.2.3.2 method AVGPM-G

Test Settings

Peak Power Measurement

1. Span = approximately 5x 20dB bandwidth, centered on hopping channel
2. RBW > 20dB bandwidth of emission being measured
3. VBW ≥ RBW
4. Sweep = auto
5. Detector = peak
6. Trace mode = max hold
7. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-2. Test Instrument & Measurement Setup

Note:

Output power testing is performed for all operation modes.

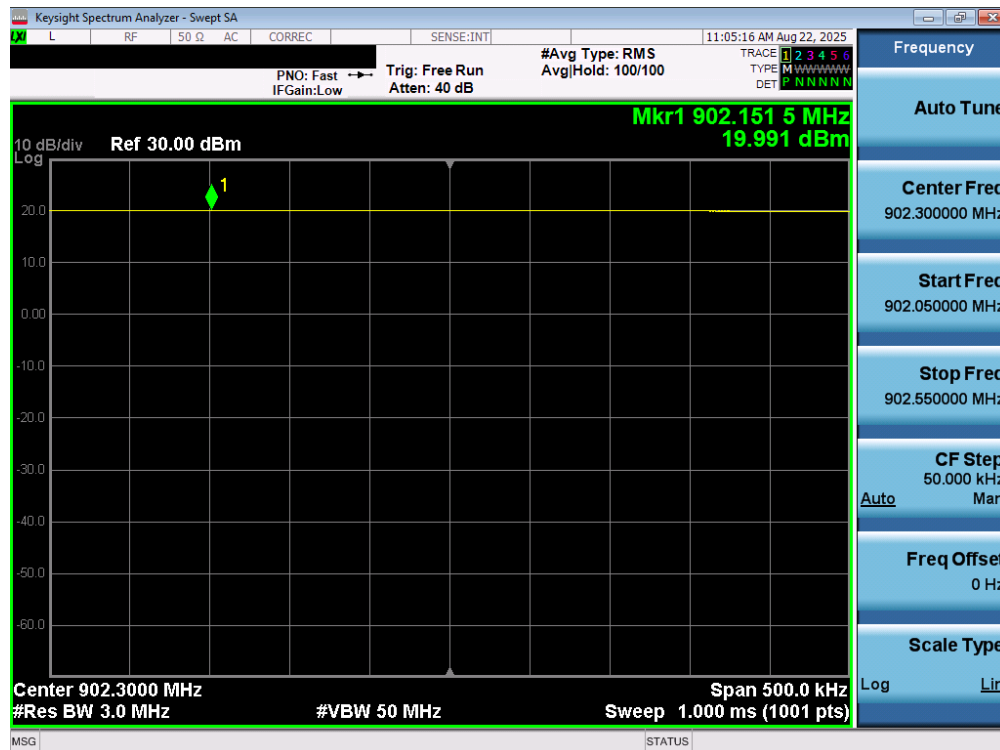
Final results were obtained using calibrated couplers, attenuators and cables. The following formula was used:

$$\text{Output Power (dBm)} = \text{Raw Analyzer Level (dBm)} + \text{Cable Loss (dB)} + \text{Loss in Directional Coupler/Insertion Loss (dB)}$$

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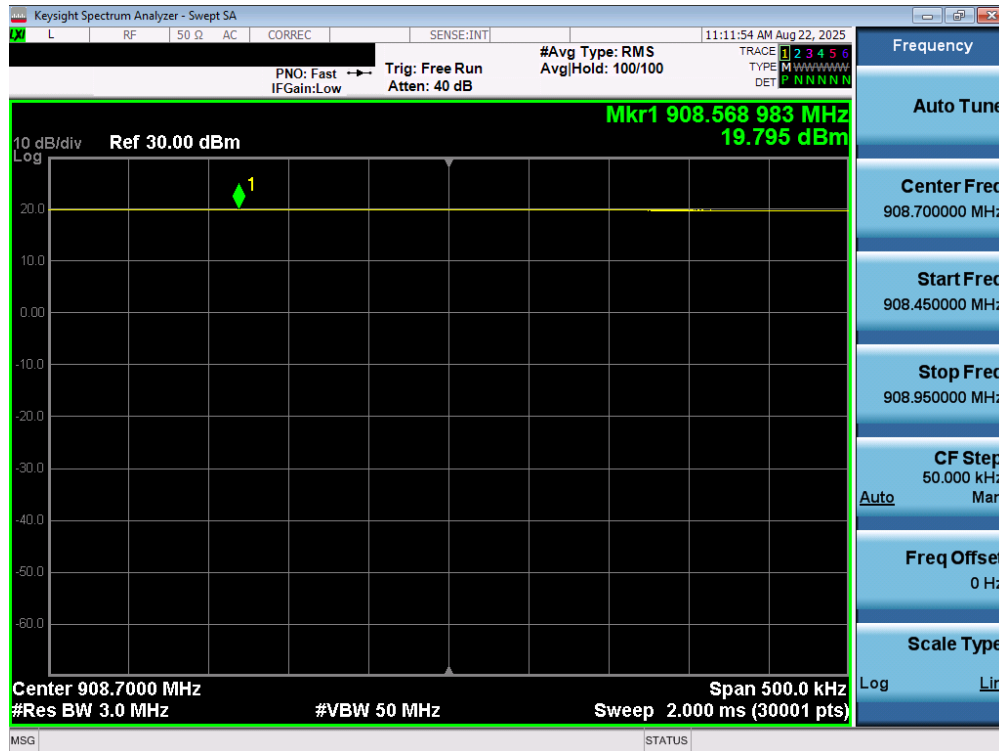
Frequency [MHz]	Bandwidth [kHz]	Operation Mode	Peak Conducted Power		Ant. Gain [dBi]	EIRP	Limit	Margin
			[dBm]	[mW]				
902.3	125.0	FHSS	19.99	99.793	0.30	20.29	36.02	-15.73
908.7	125.0	FHSS	19.80	95.389	0.30	20.10	36.02	-15.93
914.9	125.0	FHSS	19.60	91.222	0.30	19.90	36.02	-16.12
903	500.0	DTS	20.00	100.023	0.30	20.30	36.02	-15.72
914.2	500.0	DTS	19.63	91.876	0.30	19.93	36.02	-16.09
927.5	500.0	DTS	19.17	82.623	0.30	19.47	36.02	-16.55

Table 7-3. Conducted Output Power Measurements



Plot 7-7. Peak Conducted Power (125kHz FHSS Mode – Ch. 0)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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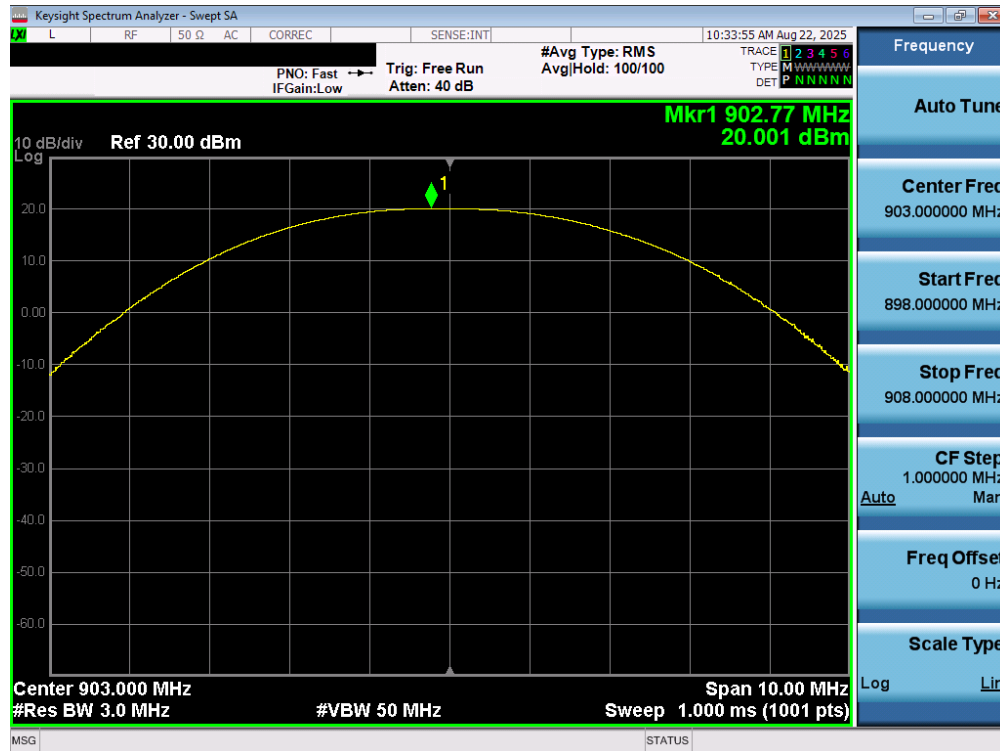


Plot 7-8. Peak Conducted Power (125kHz FHSS Mode – Ch. 32)

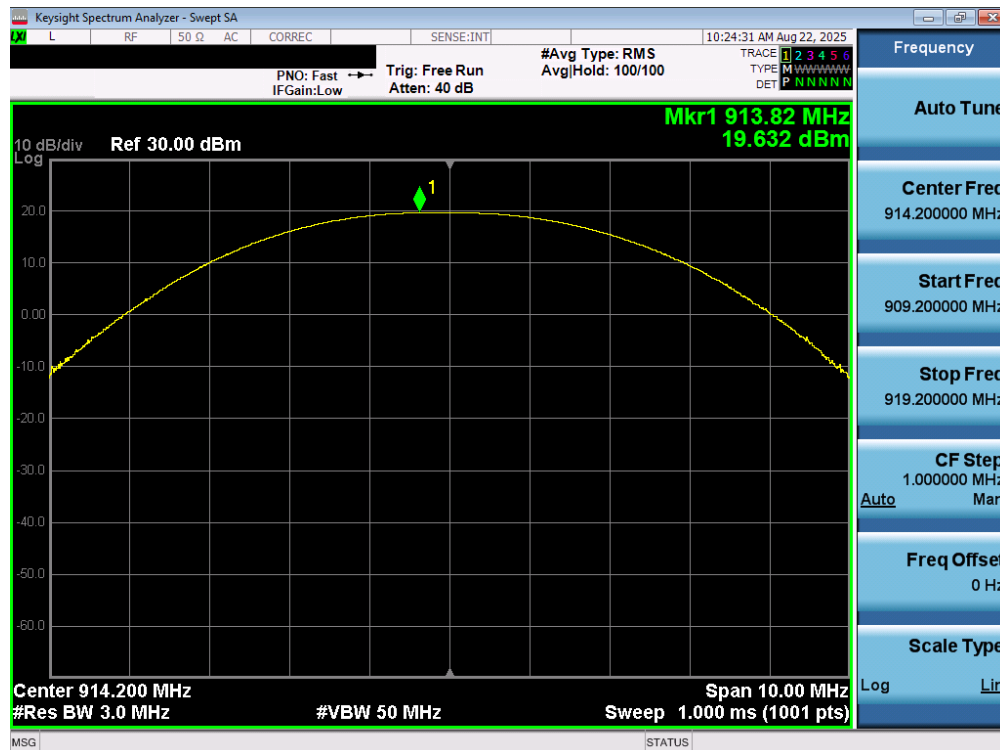


Plot 7-9. Peak Conducted Power (125kHz FHSS Mode – Ch. 63)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 21 of 66

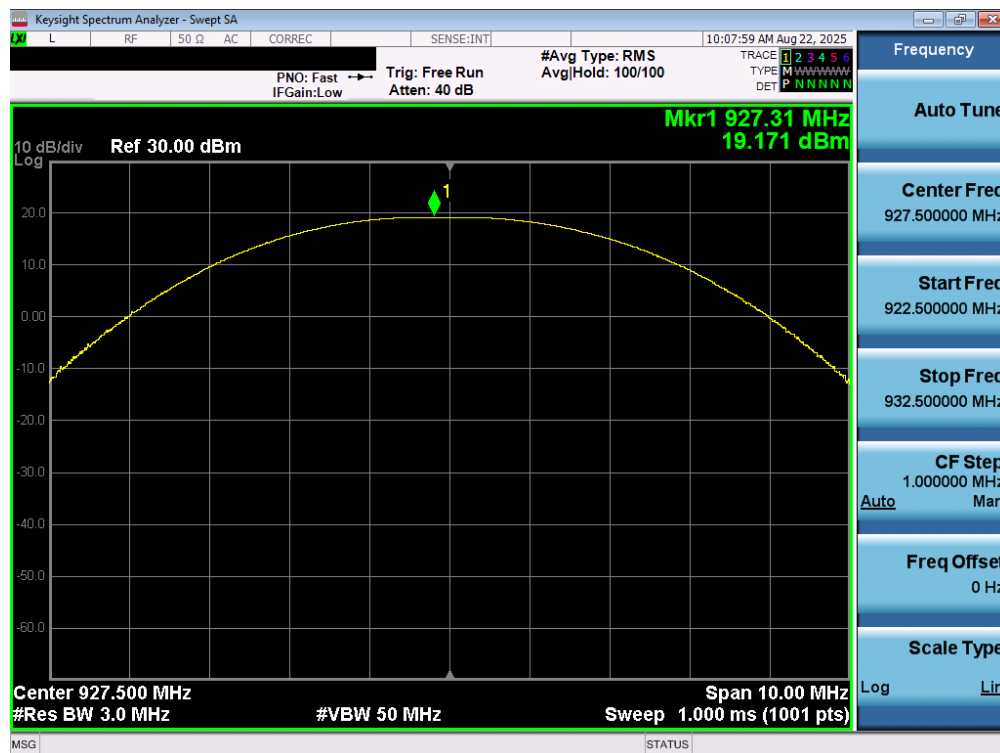


Plot 7-10. Peak Conducted Power (500kHz DTS Mode – Ch. 64)



Plot 7-11. Peak Conducted Power (500kHz DTS Mode – Ch. 71)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 22 of 66



Plot 7-12. Peak Conducted Power (500kHz DTS Mode – Ch. 7)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 23 of 66

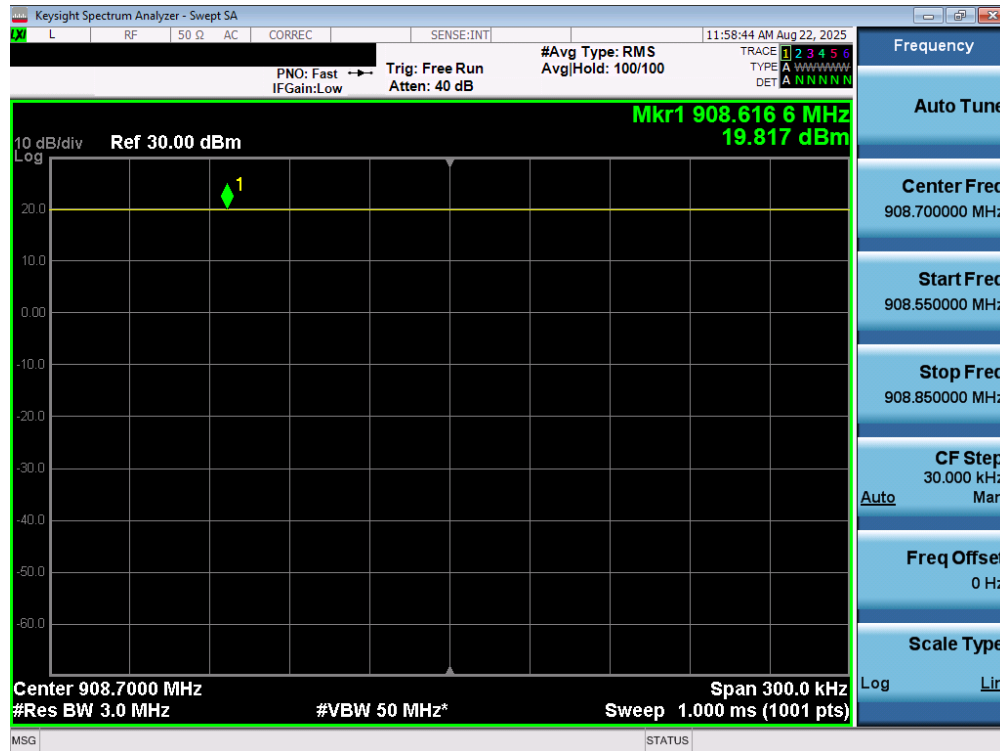
Frequency [MHz]	Bandwidth [kHz]	Operation Mode	Maximum Conducted Power		Ant. Gain [dBi]	EIRP	Limit	Margin
			[dBm]	[mW]				
902.3	125.0	Hybrid	20.01	100.138	0.30	20.31	36.02	-15.71
908.7	125.0	Hybrid	19.82	95.874	0.30	20.12	36.02	-15.90
914.9	125.0	Hybrid	19.61	91.411	0.30	19.91	36.02	-16.11

Table 7-4. Conducted Output Power Measurements



Plot 7-13. Peak Conducted Power (125kHz Hybrid Mode – Ch. 0)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-14. Peak Conducted Power (125kHz Hybrid Mode – Ch. 32)



Plot 7-15. Peak Conducted Power (125kHz Hybrid Mode – Ch. 63)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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7.4 Power Spectral Density

§15.247 (e); RSS-247 [6.3.1(b)]; RSS-247[6.4(a)]

Test Overview and Limit

The peak power density is measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates are investigated and the worst-case configuration results are reported in this section.

The maximum permissible power spectral density shall not be greater than 8 dBm in any 3 kHz band.

Test Procedure Used

ANSI C63.10:2020 – Section 11.10.2 Method PKPSD

ANSI C63.10:2020 – Section 14.5.2.3 Measure-and-Sum Technique

Test Settings

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the DTS channel bandwidth
3. RBW = 3kHz
4. VBW = 1MHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-3. Test Instrument & Measurement Setup

Test Notes

Per the guidance of KDB 558074, Power Spectral Density testing is performed in DTS and hybrid modes.

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Power Spectral Density Measurements

Frequency [MHz]	Bandwidth [kHz]	Operation Mode	Measured Power Spectral Density [dBm]	Maximum Permissible Power Density [dBm / 3kHz]	Margin [dB]
902.3	125.0	FHSS/Hybrid	7.21	8.0	-0.79
908.7	125.0	FHSS/Hybrid	7.09	8.0	-0.92
914.9	125.0	FHSS/Hybrid	7.23	8.0	-0.77
903	500.0	DTS	6.06	8.0	-1.94
914.2	500.0	DTS	6.41	8.0	-1.59
927.5	500.0	DTS	6.42	8.0	-1.59

Table 7-5. Power Spectral Density Measurements



Plot 7-16. Power Spectral Density Measurements (125kHz FHSS/Hybrid Mode – Ch. 0)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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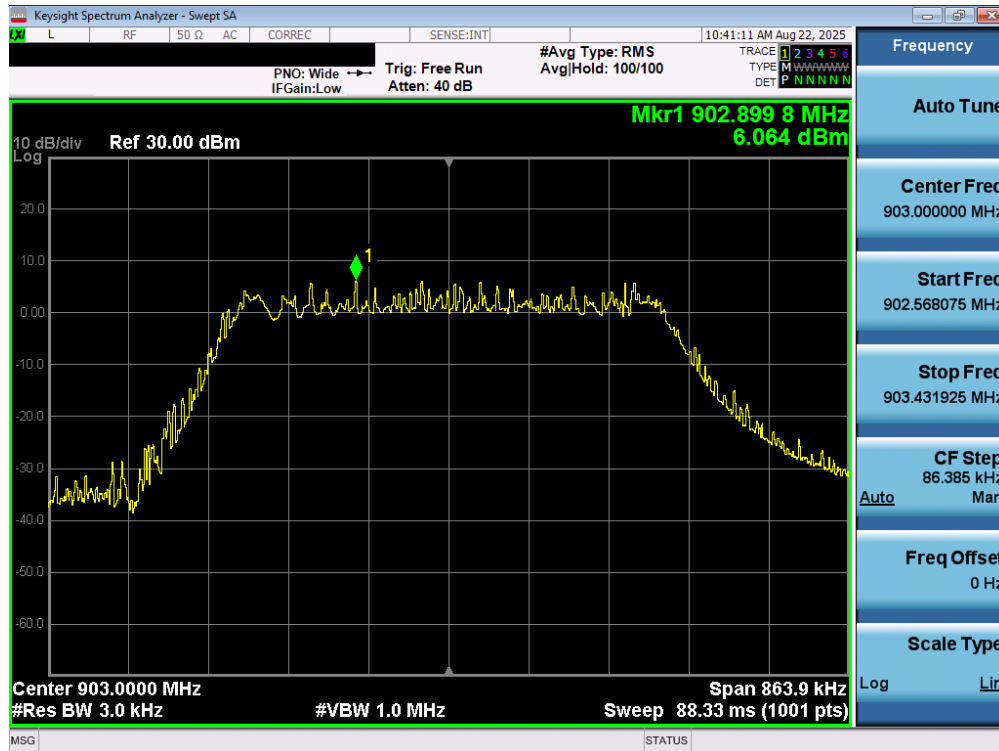


Plot 7-17. Power Spectral Density Measurements (125kHz FHSS/Hybrid Mode – Ch.32)



Plot 7-18. Power Spectral Density Measurements (125kHz FHSS/Hybrid Mode – Ch.63)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-19. Power Spectral Density Measurements (500kHz DTS Mode – Ch.64)



Plot 7-20. Power Spectral Density Measurements (500kHz DTS Mode – Ch.71)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-21. Power Spectral Density Measurements (500kHz DTS Mode – Ch. 7)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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7.5 Band Edge Compliance

§15.247 (d); RSS-247 [6.6]

Test Overview and Limits

EUT operates in hopping and non-hopping transmission mode. Measurement is taken at the highest point located outside of the emission bandwidth. ***The maximum permissible out-of-band emission level is 20 dBc.***

Test Procedure Used

ANSI C63.10-2020 – Section 6.10.4

Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW = 100kHz
4. VBW = 300kHz
5. Detector = Peak
6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
7. Trace mode = max hold
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

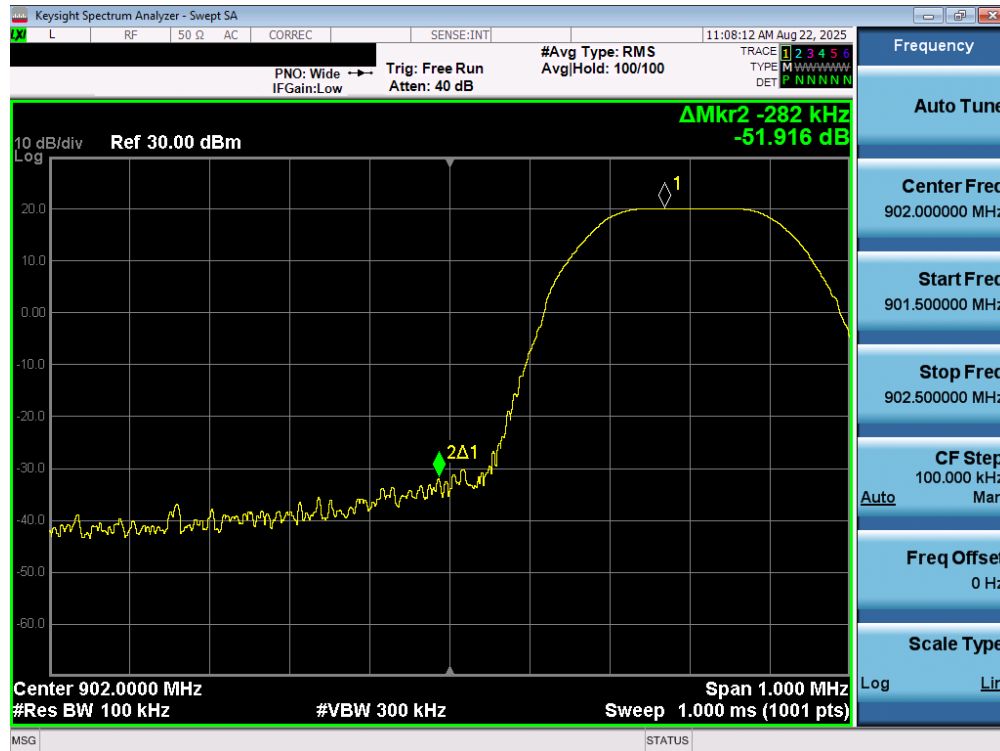


Figure 7-4. Test Instrument & Measurement Setup

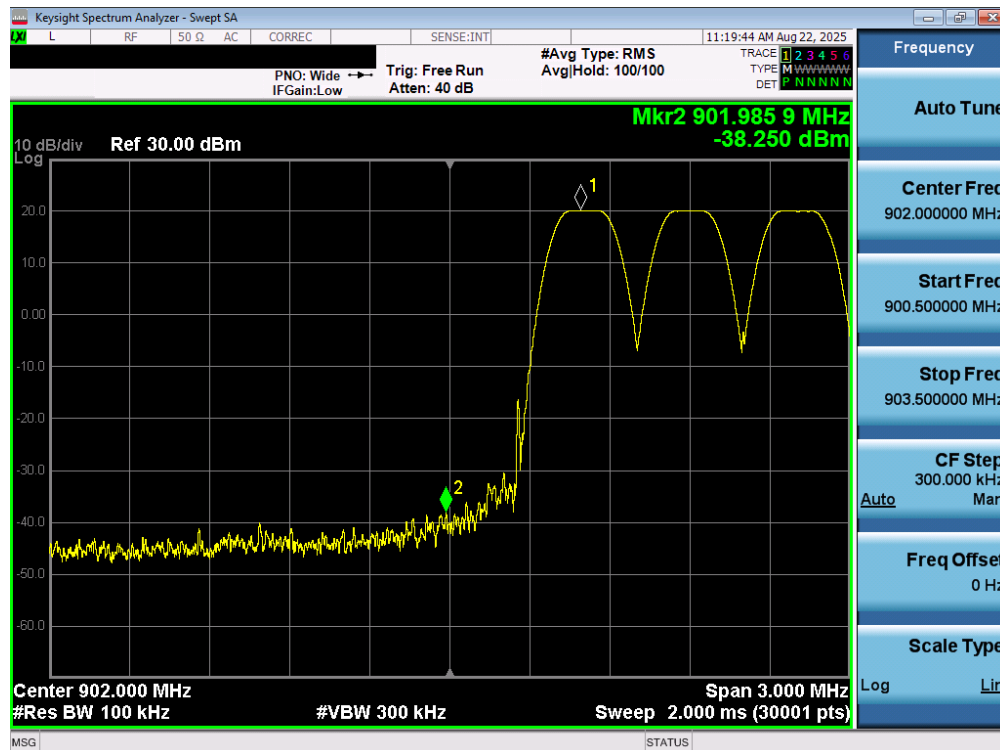
Test Notes

Band edge emissions were also investigated with the EUT transmitting in all data rates. Plots of the worst case emissions are shown below.

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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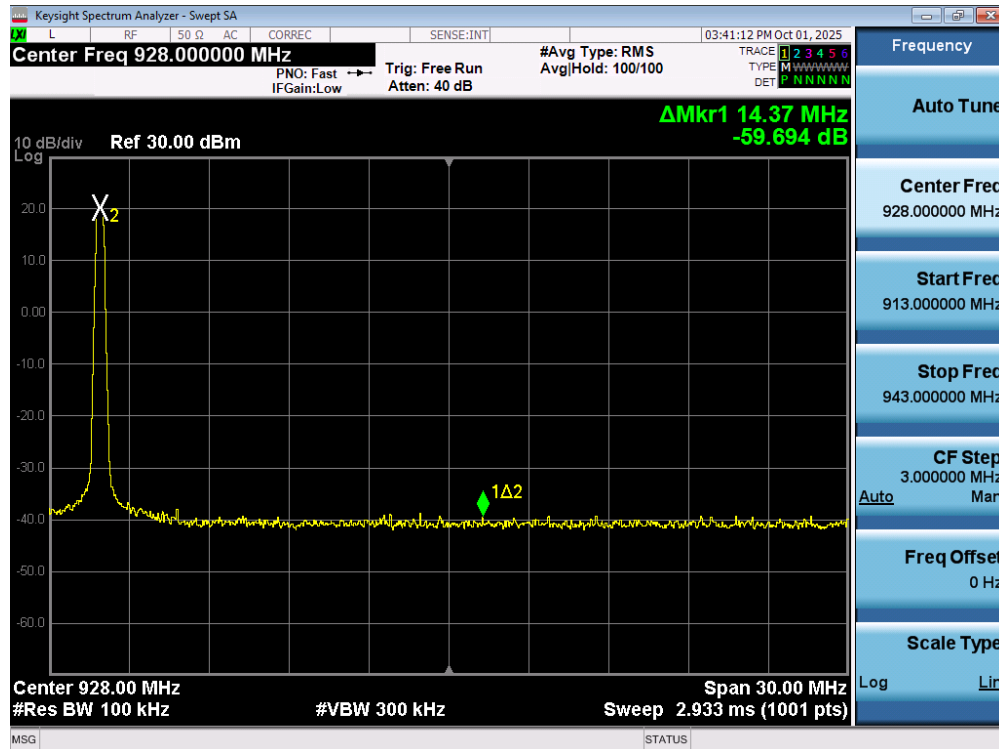


Plot 7-22. Band Edge Plot (LoRa, 125kHz FHSS/Hybrid Mode – Ch. 0)

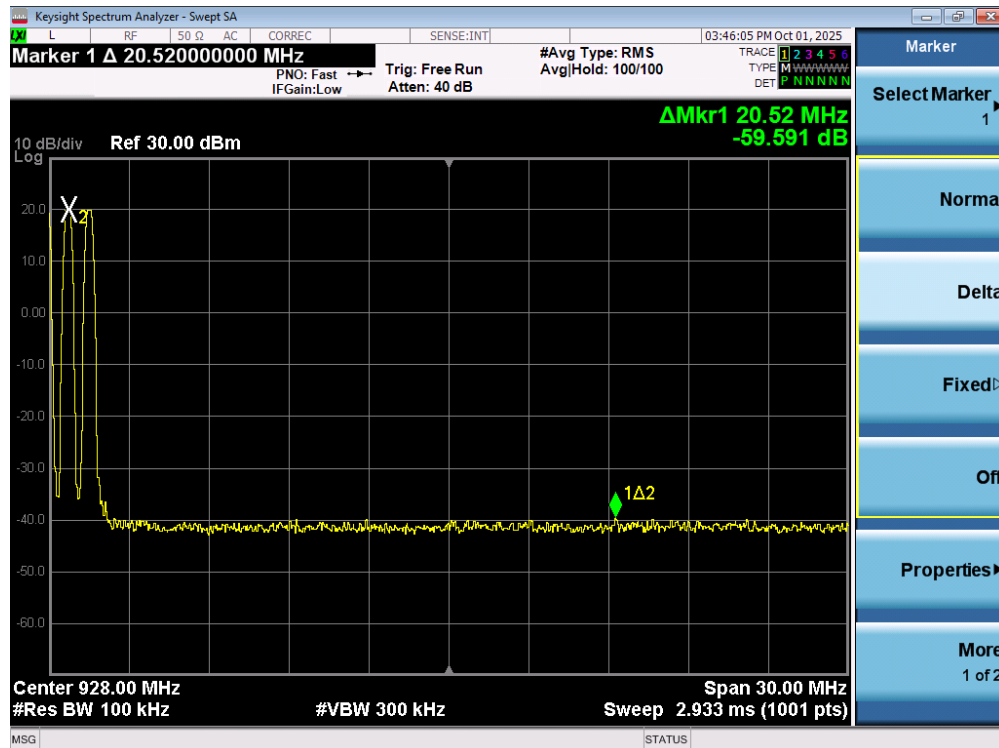


Plot 7-23. Band Edge Plot (LoRa, 125kHz FHSS/Hybrid Mode Hopping - Ch. 0)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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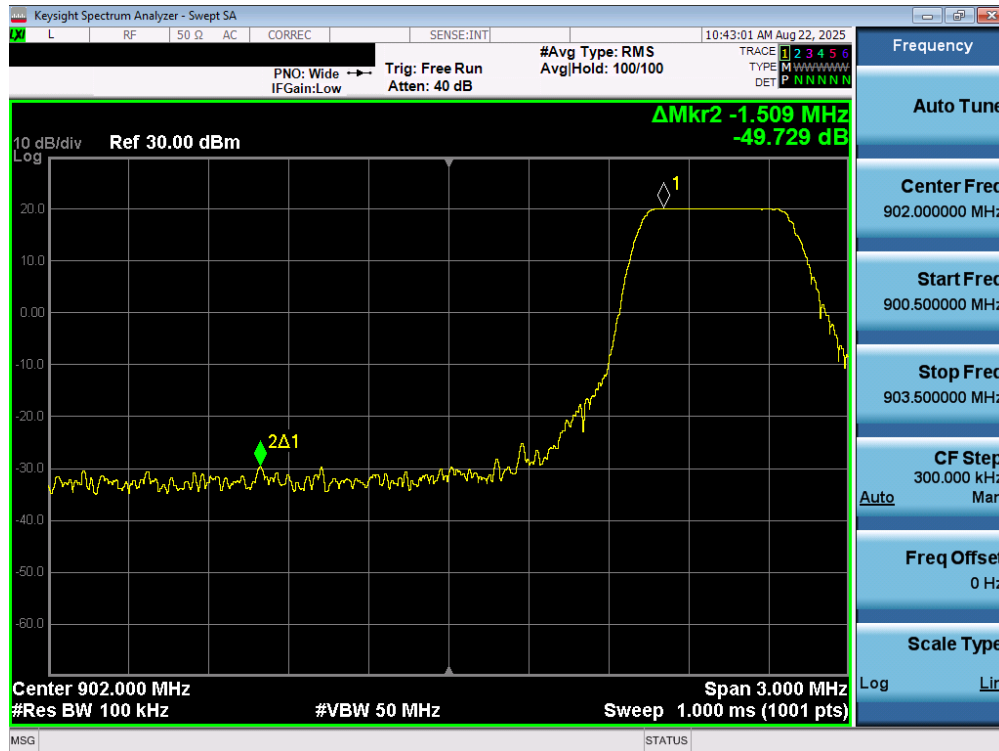


Plot 7-24. Band Edge Plot (LoRa, 125kHz FHSS/Hybrid Mode – Ch. 63)



Plot 7-25. Band Edge Plot (LoRa, 125kHz FHSS Mode Hopping– Ch. 63)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-26. Band Edge Plot (LoRa, 500kHz DTS Mode – Ch. 64)



Plot 7-27. Band Edge Plot (LoRa, 500kHz DTS Mode – Ch. 7)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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7.6 Carrier Frequency Separation

§15.247 (a.1); RSS-247 [6.2.1(b)]

Test Overview and Limit

Measurement is made with EUT operating in hopping mode. ***The minimum permissible channel separation for this system is 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.***

Test Procedure Used

ANSI C63.10-2020 – Section 7.8.2

Test Settings

1. Span = Wide enough to capture peaks of two adjacent channels
2. RBW = 30% of channel spacing. Adjust as necessary to best identify center of each individual channel
3. VBW $\geq$ RBW
4. Sweep = Auto
5. Detector = Peak
6. Trace mode = max hold
7. The trace was allowed to stabilize.
8. Marker-delta function used to determine separation between peaks of the adjacent channels

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

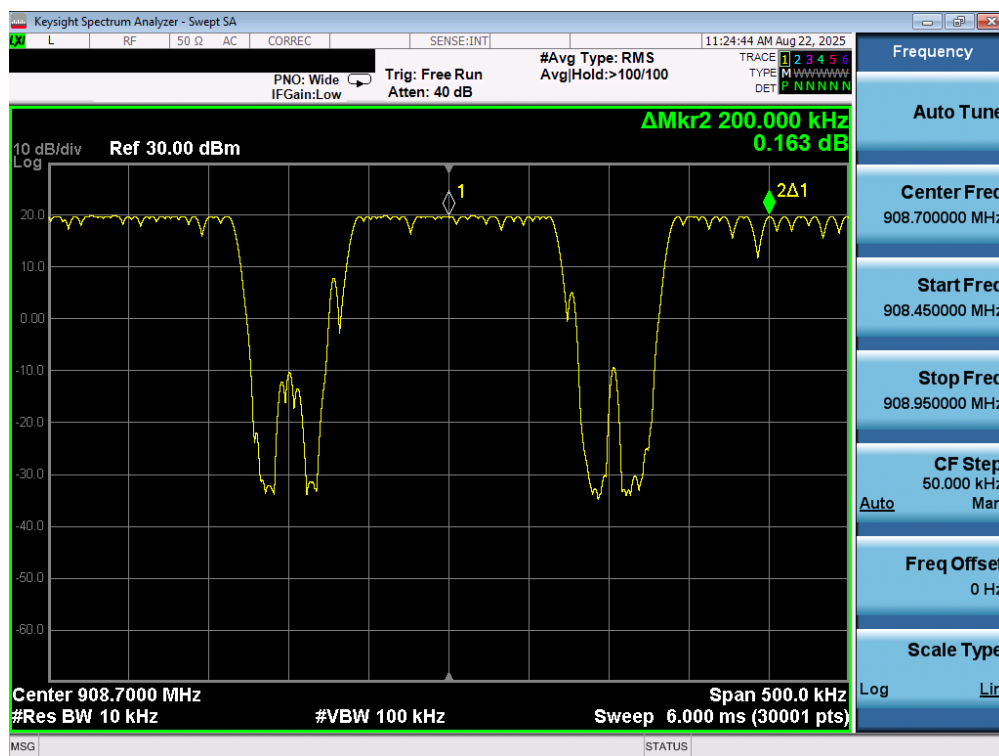


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Frequency [MHz]	Bandwidth [kHz]	Operation Mode	Data Rate [bps]	Min. Channel Separation [kHz]
908.7	125.0	FHSS	980	200

Table 7-6. Minimum Channel Separation



Plot 7-28. Channel Spacing Plot (LoRa – 125kHz FHSS Mode)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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7.7 Time of Occupancy

§15.247 (a.1.i) §15.247 (f); RSS-247 [6.2.3.1] RSS-247[6.4(b)]

Test Overview and Limit

Measurement is made while EUT is operating in hopping mode with the spectrum analyzer set to zero span.

The maximum permissible time of occupancy is 0.4s in 20s window when OBW is less than 250kHz OR 0.4s in 10s window when OBW is greater than 250kHz.

The frequency hopping operation of the hybrid system, with the direct sequence or digital modulation operation turned-off, shall have an average time of occupancy on any frequency not to exceed 0.4 seconds within a time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4.

Test Procedure Used

ANSI C63.10-2020 – Section 7.8.4

Test Settings

1. Span = zero span, centered on a hopping channel
2. RBW $\leq$ channel spacing and $\gg 1/T$, where T is expected dwell time per channel
3. Sweep = as necessary to capture entire dwell time. Second plot may be required to demonstrate two successive hops on a channel
4. Trigger is set with appropriate trigger delay to place pulse near the center of the plot
5. Detector = peak
6. Trace mode = max hold
7. Marker-delta function used to determine transmit time per hop

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-6. Test Instrument & Measurement Setup

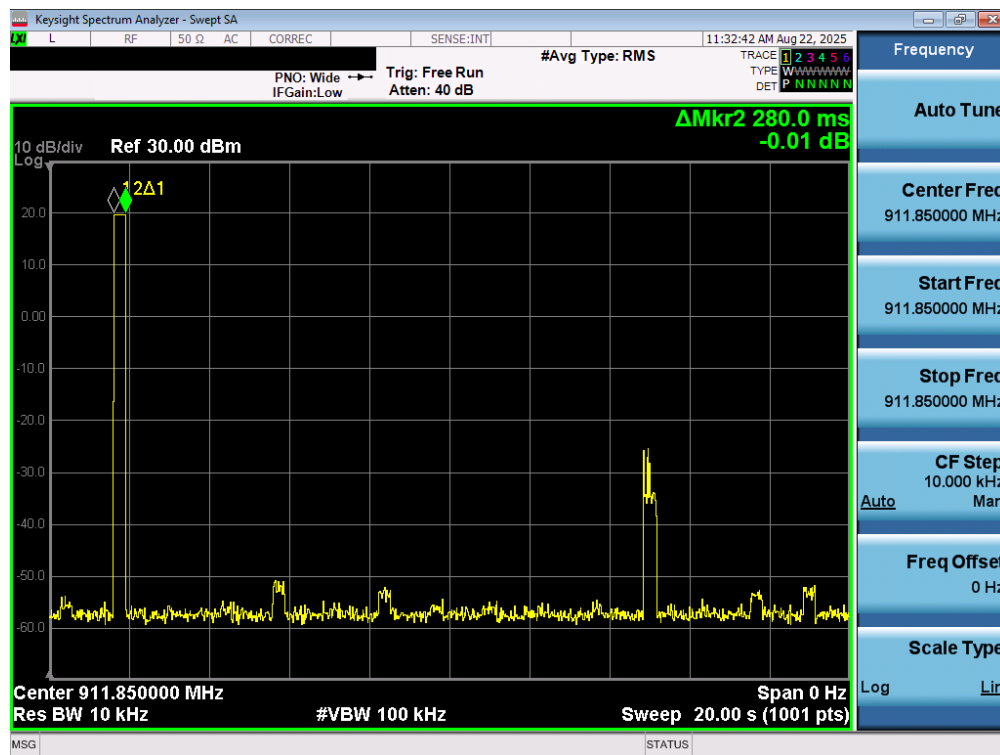
Test Notes

None

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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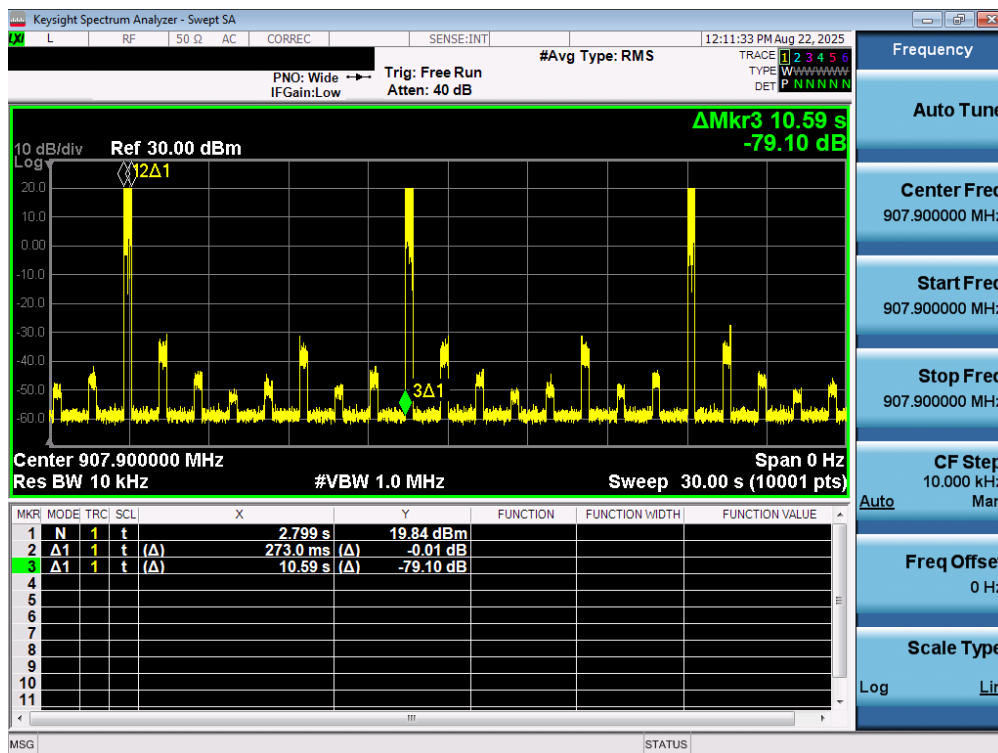
Mode	Limit	Results
FHSS	0.4s in 20s	0.28s
Hybrid	0.4s in 3.2s	0.27s

Table 7-7. Time Of Occupancy Results



Plot 7-29. Time of Occupancy Plot (LoRa – 125kHz FHSS Mode)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-30. Time of Occupancy Plot (LoRa - 125kHz Hybrid Mode)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 39 of 66

7.8 Number of Hopping Channels

§15.247 (a.1.i); RSS-247 [6.2.2.1(b)] RSS-247[6.2.2.1(c)]

Test Overview and Limit

Measurement is made while EUT is operating in hopping mode. ***This frequency hopping system must employ a minimum of 50 hopping channels.***

Test Procedure Used

ANSI C63.10-2020 – Section 7.8.3

Test Settings

1. Span = frequency of band of operation (divided into two plots)
2. RBW < 30% of channel spacing or 20dB bandwidth, whichever is smaller
3. VBW ≥ RBW
4. Sweep = auto
5. Detector = peak
6. Trace mode = max hold
7. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

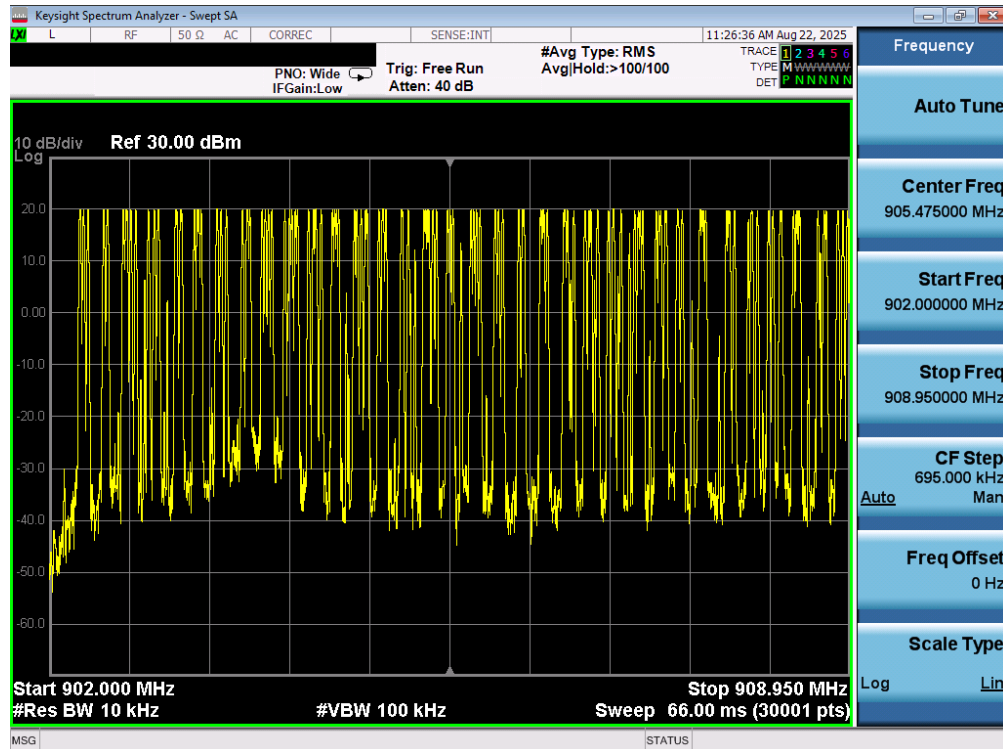


Figure 7-7. Test Instrument & Measurement Setup

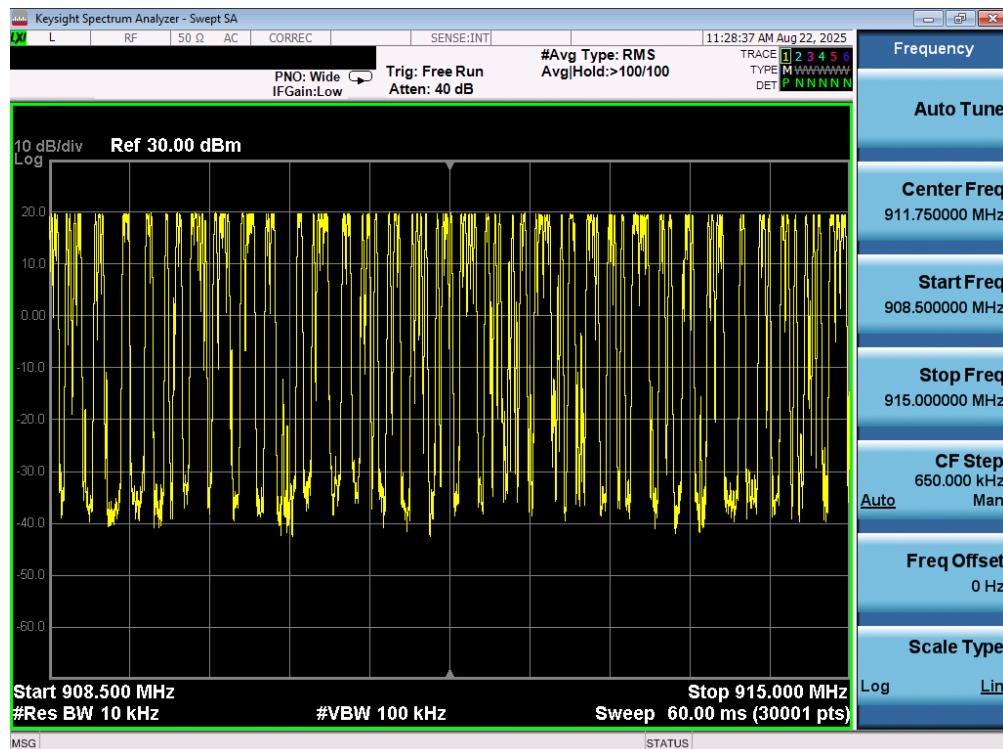
Test Notes

The frequency spectrum was broken up into two sub-ranges to clearly show all the hopping frequencies.

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-31. Low End Spectrum Channel Hopping Plot (LoRa – 125kHz FHSS Mode)



Plot 7-32. High End Spectrum Channel Hopping Plot (LoRa – 125kHz FHSS Mode)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 41 of 66

7.9 Conducted Spurious Emissions

§15.247 (d); RSS-247 [6.6]

Test Overview and Limit

Conducted out-of-band spurious emissions were investigated from 30MHz up to 25GHz to include the 10th harmonic of the fundamental transmit frequency. **The maximum permissible out-of-band emission level is 20 dBc.**

Test Procedure Used

ANSI C63.10-2020 – Section 7.8.8

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 25GHz (separated into two plots per channel)
2. RBW = 1MHz* (See note below)
3. VBW = 3MHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

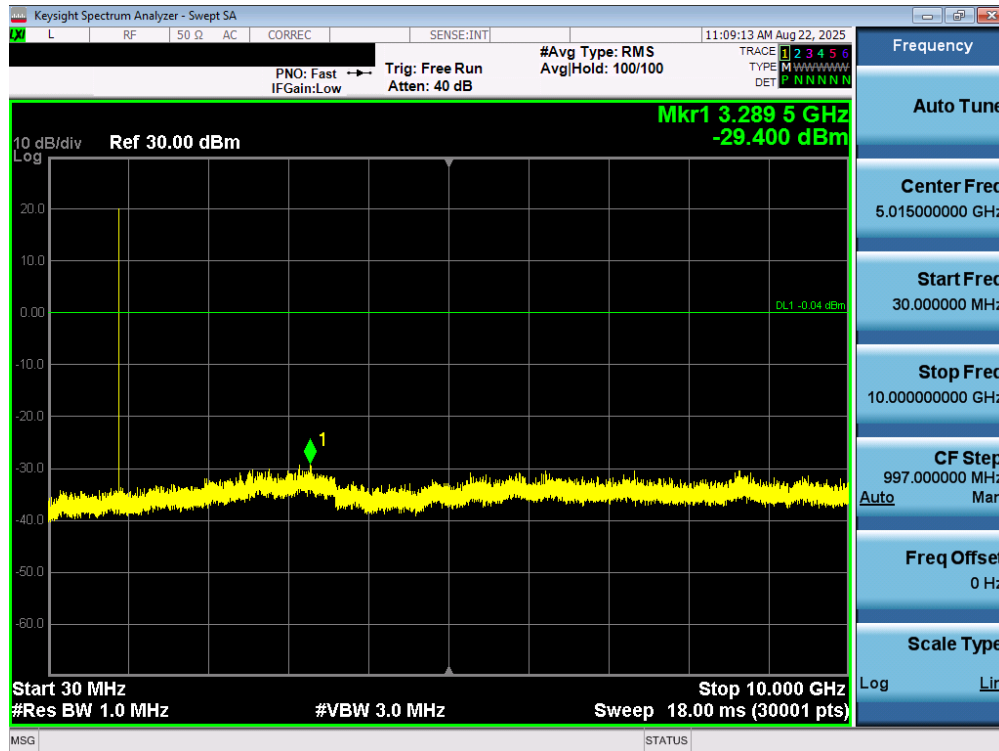


Figure 7-8. Test Instrument & Measurement Setup

Test Notes

Out-of-band conducted spurious emissions were investigated for all data rates and the worst-case emissions were found with the EUT transmitting at 500kHz DTS mode. The display line shown in the following plots is the limit at 20dB below the fundamental emission level measured in a 100kHz bandwidth. However, the traces in the following plots are measured with a 1MHz RBW to reduce test time, so the display line may not necessarily appear to be 20dB below the level of the fundamental in a 1MHz bandwidth.

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 42 of 66

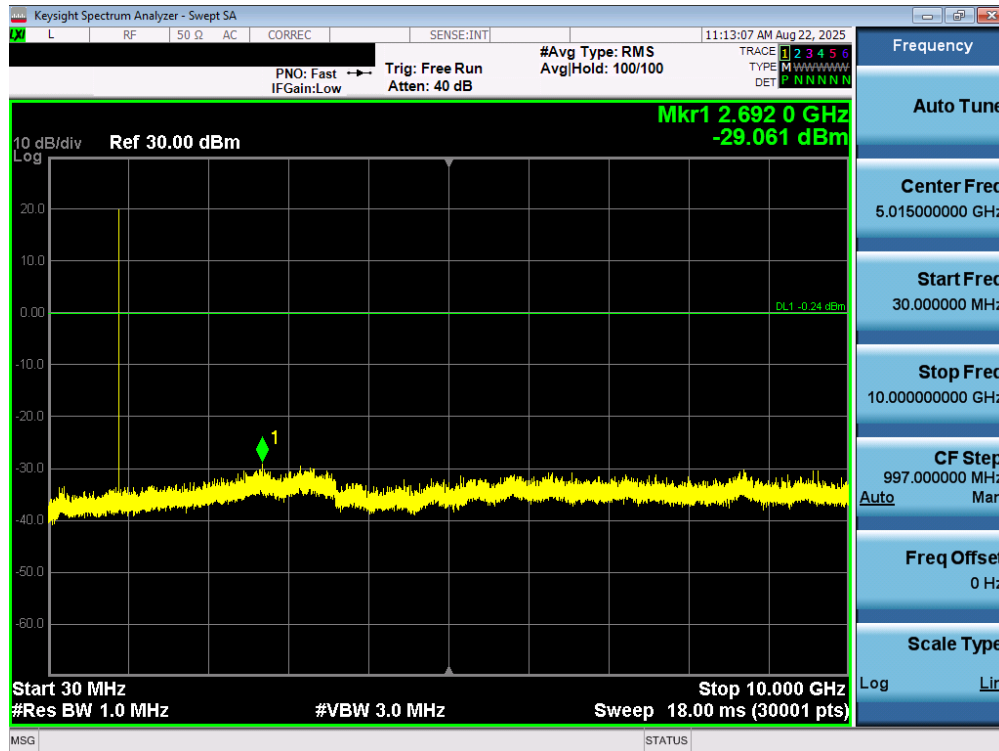


Plot 7-33. Conducted Spurious Plot (LoRa, 125kHz FHSS Mode – Ch. 0)

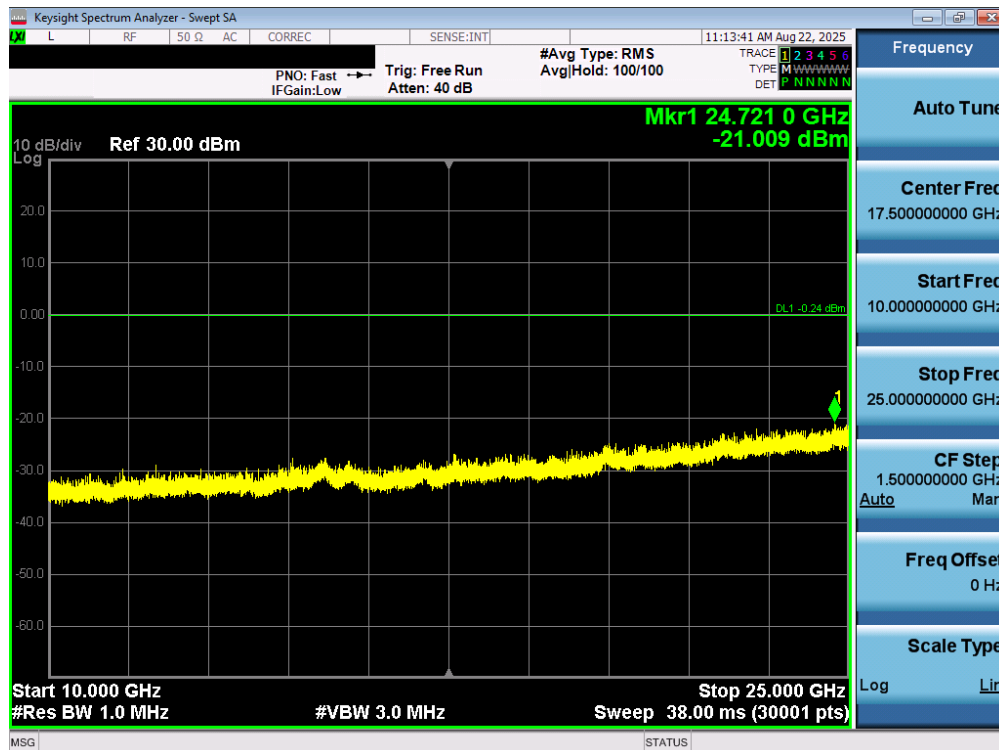


Plot 7-34. Conducted Spurious Plot (LoRa, 125kHz FHSS Mode – Ch. 0)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 43 of 66

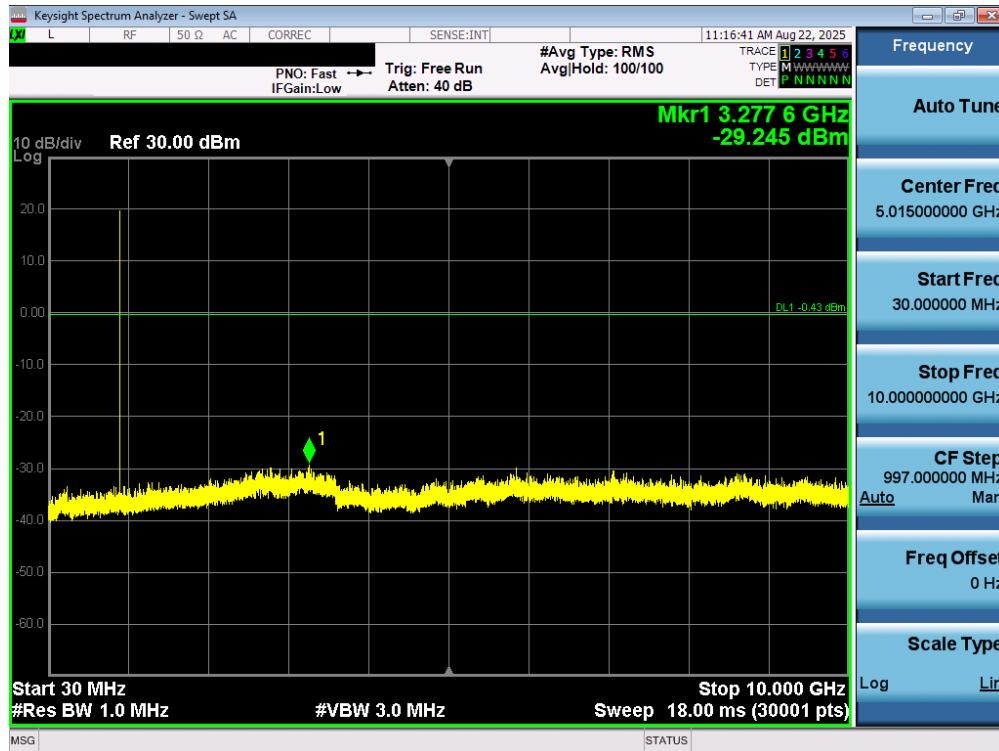


Plot 7-35. Conducted Spurious Plot (LoRa, 125kHz FHSS Mode – Ch. 32)

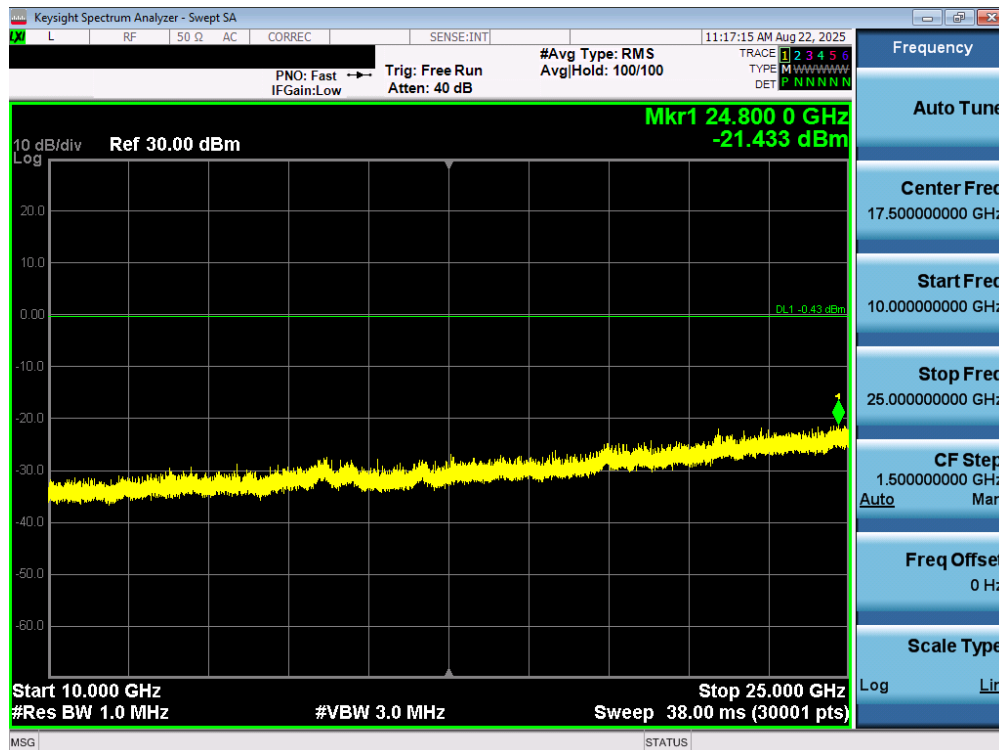


Plot 7-36. Conducted Spurious Plot (LoRa, 125kHz FHSS Mode – Ch. 32)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 44 of 66

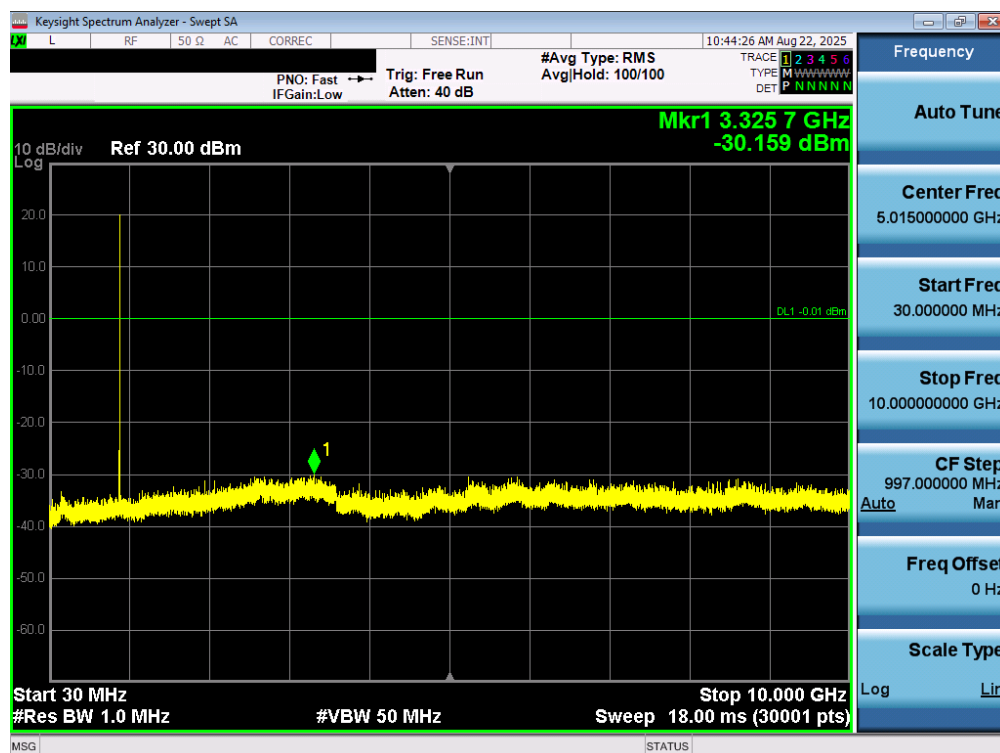


Plot 7-37. Conducted Spurious Plot (LoRa, 125kHz FHSS Mode – Ch. 63)



Plot 7-38. Conducted Spurious Plot (LoRa, 125kHz FHSS Mode – Ch. 63)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 45 of 66

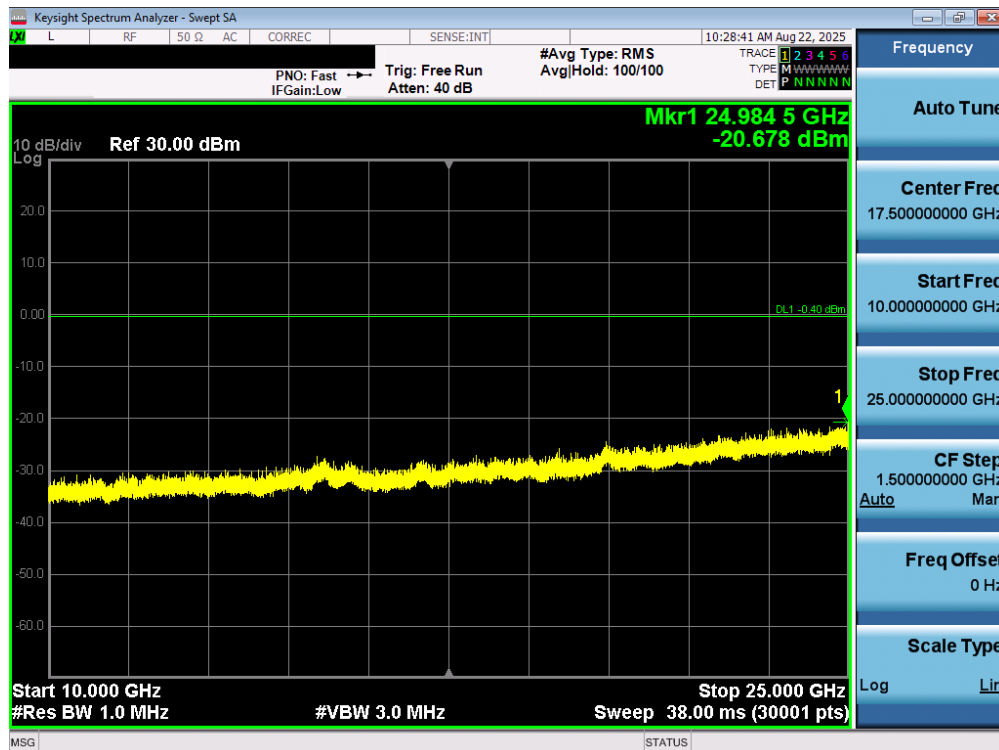
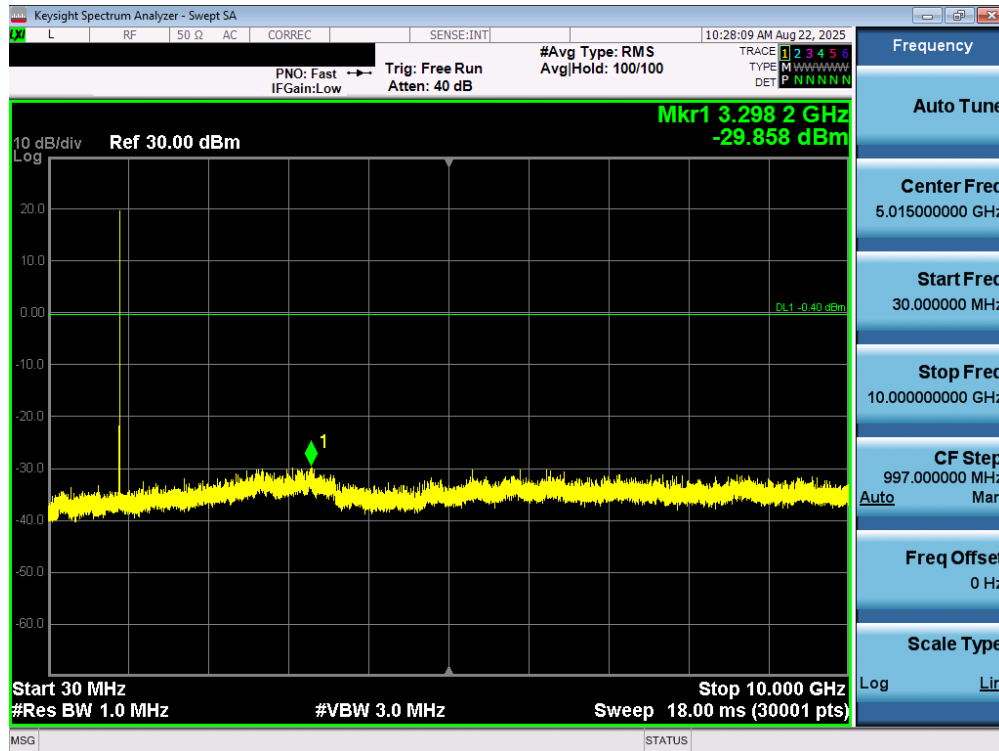


Plot 7-39. Conducted Spurious Plot (LoRa, 500kHz DTS Mode – Ch. 64)

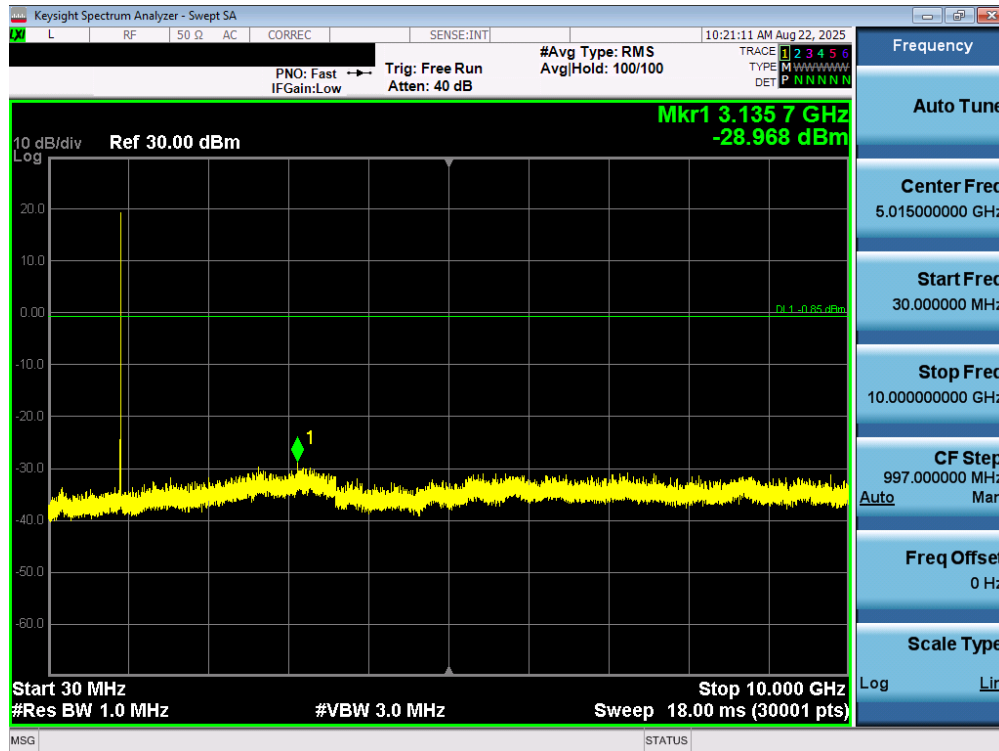


Plot 7-40. Conducted Spurious Plot (LoRa, 500kHz DTS Mode – Ch. 64)

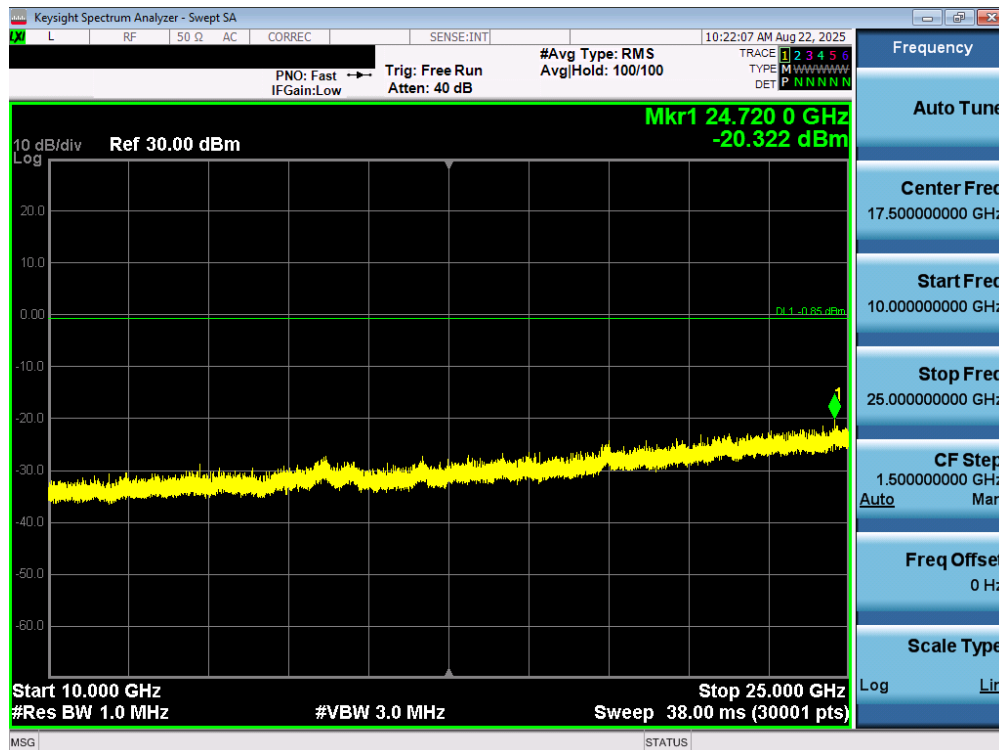
FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 46 of 66



FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 47 of 66



Plot 7-43. Conducted Spurious Plot (LoRa, 500kHz DTS Mode – Ch. 7)



Plot 7-44. Conducted Spurious Plot (LoRa, 500kHz DTS Mode – Ch. 7)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 48 of 66

7.10 Radiated Spurious Emission Measurements – Above 1GHz

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst-case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown below per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-8. Radiated Limits

Test Procedure Used

ANSI C63.10-2020 – Section 6.6.4.3

Test Settings

Average Field Strength Measurements per Section 4.1.4.2.3 of ANSI C63.10-2020

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 1kHz $\geq 1/\tau$ Hz, where τ = pulse width in seconds
4. Averaging type was set to RMS to ensure that video filtering was applied in the power domain
5. Detector = peak
6. Sweep time = auto
7. Trace mode = max hold
8. Trace was allowed to stabilize

Peak Field Strength Measurements per Section 4.1.4.2.2 of ANSI C63.10-2020

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW is set depending on measurement frequency, as specified in Table 7-9 below
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Frequency	RBW
9 – 150kHz	200 – 300Hz
0.15 – 30MHz	9 – 10kHz
30 – 1000MHz	100 – 120kHz
> 1000MHz	1MHz

Table 7-9. RBW as a Function of Frequency

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

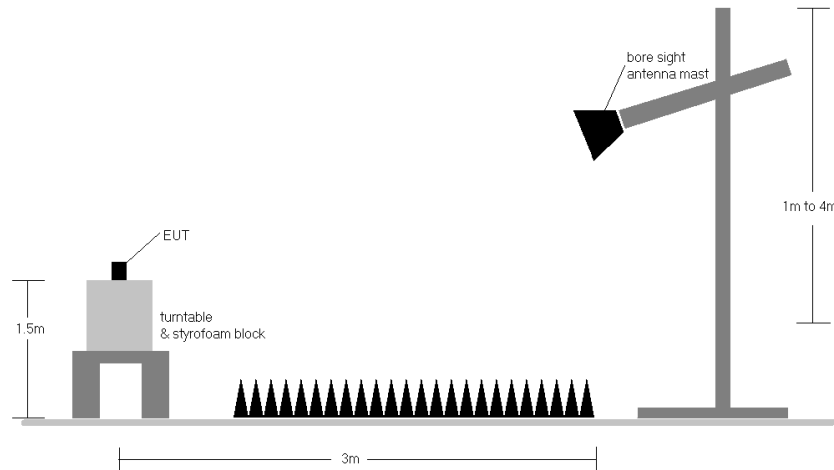


Figure 7-9. Radiated Test Setup >1GHz

Test Notes

1. All emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in §15.209.
2. No significant radiated emissions were found in the 2310 - 2390MHz restricted band.
3. The antenna is manipulated through typical positions, polarity, and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported.
6. The duty cycle correction factor was not applied to noise floor measurements.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. The "-" shown in the following RSE tables is used to denote a noise floor measurement.

Sample Calculation

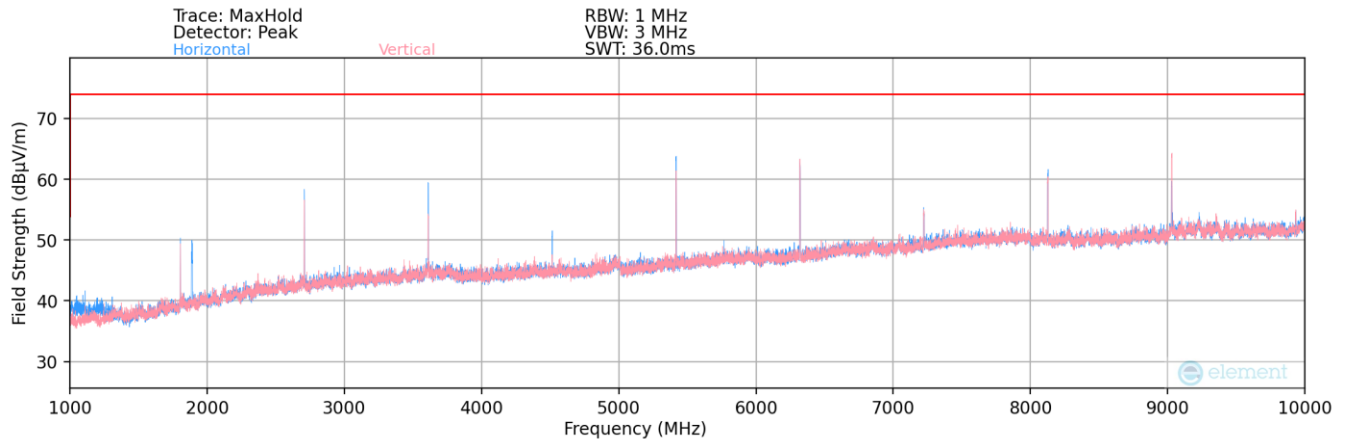
- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m] + Duty Cycle Correction [dB]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 50 of 66

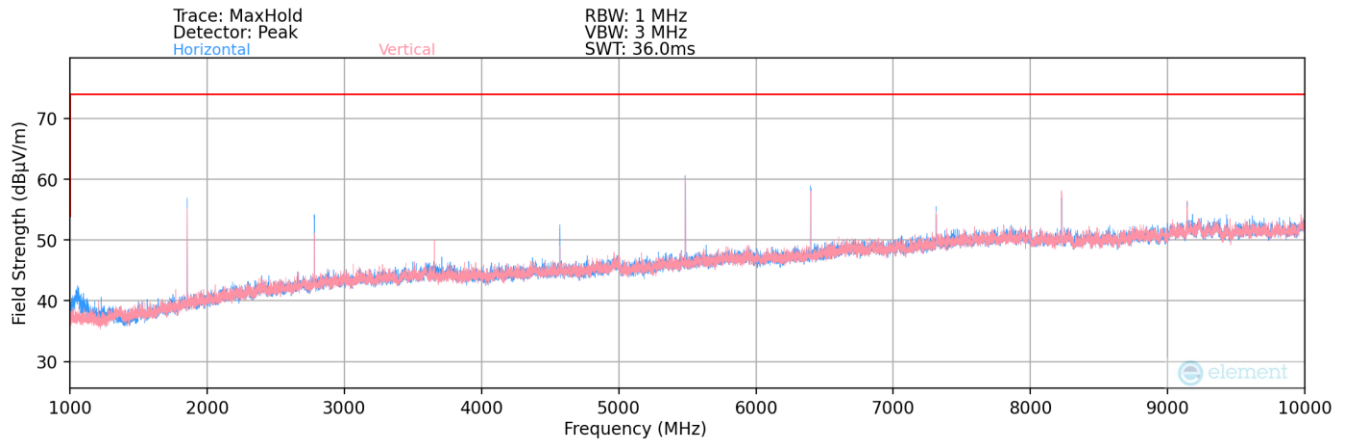


Radiated Spurious Emission Measurements

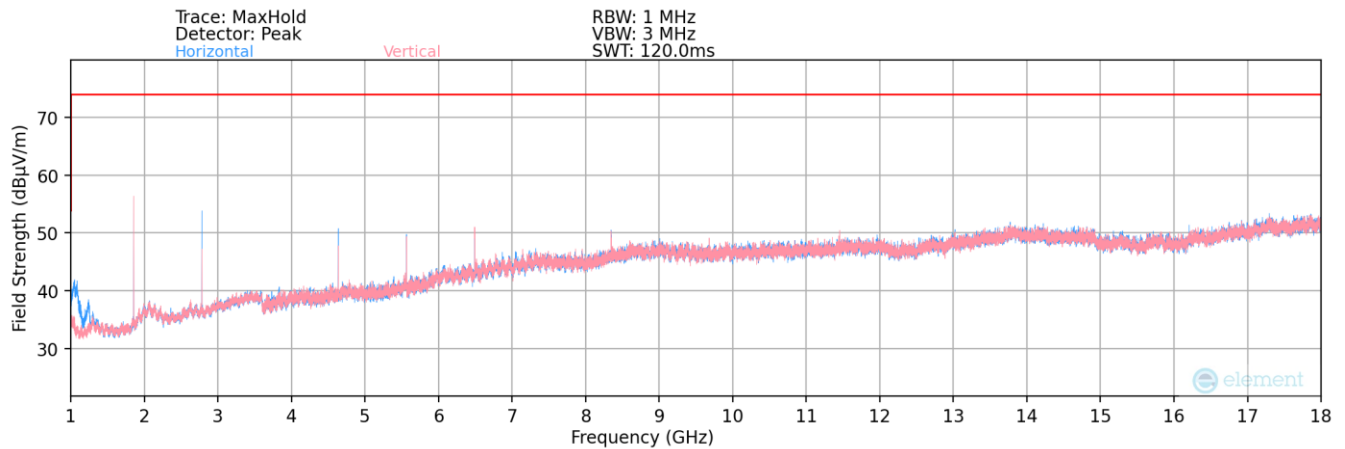
§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]



Plot 7-45. Radiated Spurious Plot above 1GHz (Ch. 64)



Plot 7-46. Radiated Spurious Plot above 1GHz (Ch. 71)



Plot 7-47. Radiated Spurious Plot above 1GHz (Ch. 7)

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell		Page 51 of 66

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V 11.3 5/14/2025

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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: LoRa
Worst Case Configuration: DTS (500kHz)
Measurement Distance: 3 Meters
Operating Frequency: 903MHz
Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
2709.00	Avg	H	313	312	-60.49	5.48	51.99	53.98	-1.98
2709.00	Peak	H	313	312	-53.89	5.48	58.59	73.98	-15.38
3612.00	Avg	H	113	104	-68.09	8.45	47.36	53.98	-6.62
3612.00	Peak	H	113	104	-61.71	8.45	53.74	73.98	-20.24
4515.00	Avg	H	126	145	-78.24	9.59	38.35	53.98	-15.63
4515.00	Peak	H	126	145	-67.47	9.59	49.12	73.98	-24.86
5418.00	Avg	H	299	319	-58.93	3.79	51.86	53.98	-2.12
5418.00	Peak	H	299	319	-49.68	3.79	61.11	73.98	-12.87
8127.00	Avg	H	301	83	-81.47	19.38	44.91	53.98	-9.06
8127.00	Peak	H	301	83	-68.58	19.38	57.80	73.98	-16.17
9030.00	Avg	H	307	185	-75.74	21.03	52.29	53.98	-1.69
9030.00	Peak	H	307	185	-57.66	21.03	70.37	73.98	-3.61

Table 7-10. Radiated Measurements

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell		Page 52 of 66

Worst Case Mode: LoRa
 Worst Case Configuration: DTS (500kHz)
 Measurement Distance: 3 Meters
 Operating Frequency: 914.2MHz
 Channel: 71

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
2742.60	Avg	H	370	147	-63.77	4.97	48.20	53.98	-5.78
2742.60	Peak	H	370	147	-60.86	4.97	51.11	73.98	-22.87
3656.80	Avg	H	120	302	-70.54	8.01	44.47	53.98	-9.51
3656.80	Peak	H	120	302	-64.95	8.01	50.06	73.98	-23.92
4571.00	Avg	H	105	328	-76.14	9.97	40.83	53.98	-13.15
4571.00	Peak	H	105	328	-66.96	9.97	50.01	73.98	-23.97
5485.20	Avg	H	184	314	-68.57	4.18	42.61	53.98	-11.37
5485.20	Peak	H	184	314	-51.23	4.18	59.95	73.98	-14.03
7313.60	Avg	H	153	142	-65.42	9.34	50.92	53.98	-3.06
7313.60	Peak	H	153	142	-53.42	9.34	62.92	73.98	-11.06
8227.80	Avg	H	217	57	-78.77	10.08	38.31	53.98	-15.66
8227.80	Peak	H	217	57	-55.54	10.08	61.54	73.98	-12.43
9142.00	Avg	H	271	301	-72.81	11.27	45.46	53.98	-8.52
9142.00	Peak	H	271	301	-57.49	11.27	60.78	73.98	-13.20

Table 7-11. Radiated Measurements

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell		Page 53 of 66

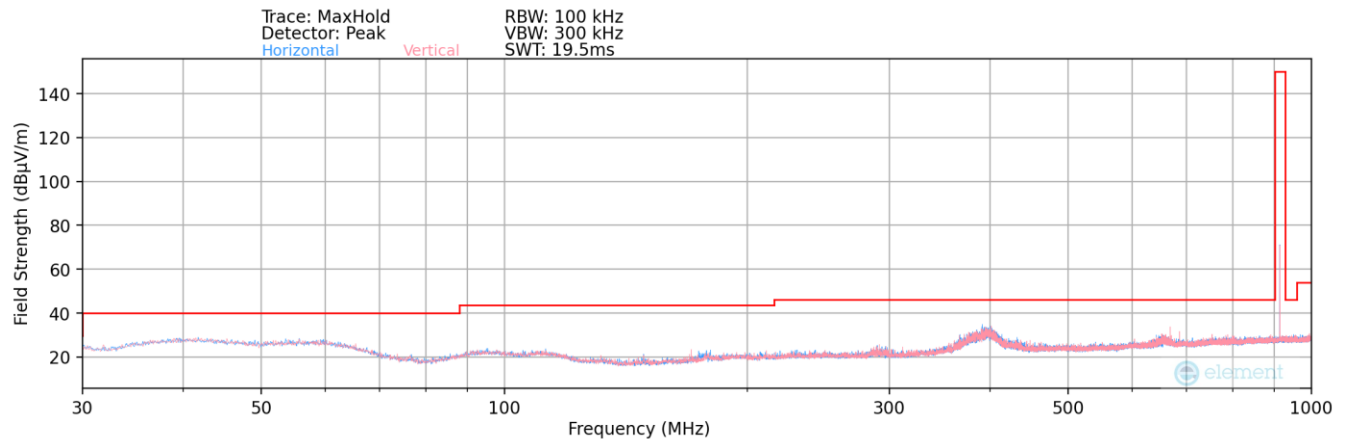
Worst Case Mode: LoRa
 Worst Case Configuration: DTS (500kHz)
 Measurement Distance: 3 Meters
 Operating Frequency: 927.5MHz
 Channel: 7

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
2782.50	Avg	H	188	319	-67.08	5.38	45.30	53.98	-8.68
2782.50	Peak	H	188	319	-61.59	5.38	50.79	73.98	-23.19
3710.00	Avg	H	105	185	-79.17	8.14	35.97	53.98	-18.01
3710.00	Peak	H	105	185	-68.53	8.14	46.61	73.98	-27.37
4637.50	Avg	H	106	134	-74.70	9.66	41.96	53.98	-12.02
4637.50	Peak	H	106	134	-65.97	9.66	50.69	73.98	-23.29
7420.00	Avg	H	281	334	-79.26	9.30	37.04	53.98	-16.94
7420.00	Peak	H	281	334	-67.06	9.30	49.24	73.98	-24.74
8347.50	Avg	H	284	170	-77.30	10.30	40.00	53.98	-13.98
8347.50	Peak	H	284	170	-64.81	10.30	52.49	73.98	-21.49

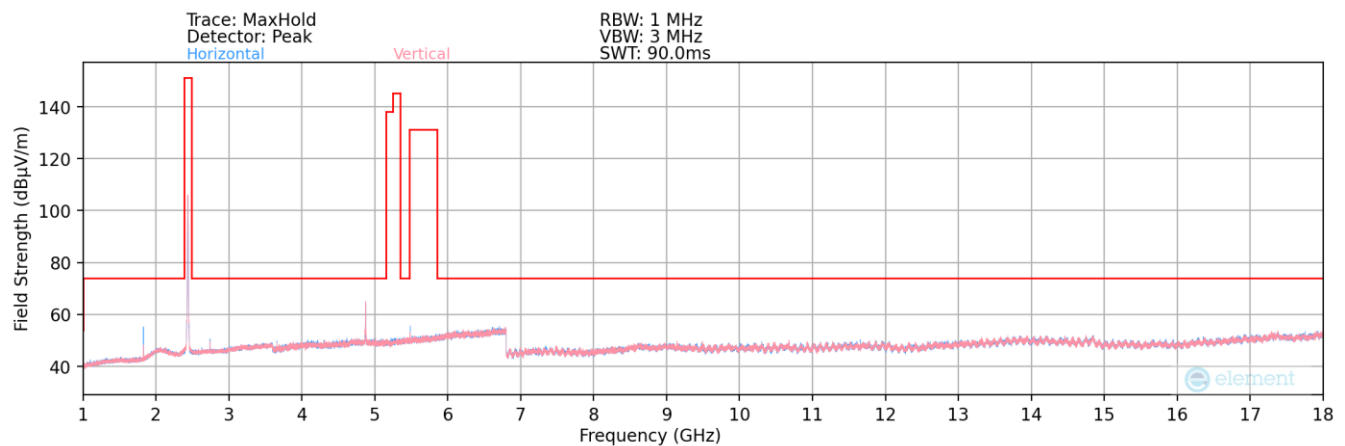
Table 7-12. Radiated Measurements

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Simultaneous Transmission – 900MHz LoRa + 2.4GHz Wifi



Plot 7-48. Radiated Spurious Plot below 1GHz 900MHz LoRa + 2.4GHz Wifi



Plot 7-49. Radiated Spurious Plot below 1-18GHz 900MHz LoRa + 2.4GHz Wifi

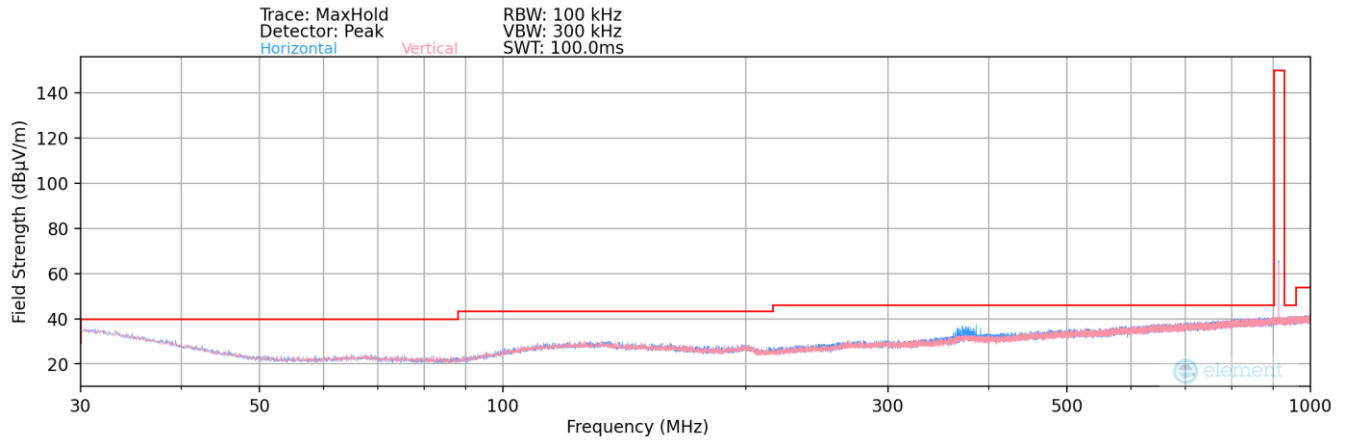
FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 55 of 66

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
608.60	quasi-peak	H	-	-	-90.53	26.88	43.35	46.02	-2.67
3351.20	peak	H	-	-	-68.07	7.21	46.14	73.98	-27.83
3351.20	average	H	-	-	-80.02	7.21	34.19	53.98	-19.78
4265.40	peak	H	-	-	-68.40	8.21	46.81	73.98	-27.17
4265.40	average	H	-	-	-79.95	8.21	35.26	53.98	-18.72
5179.00	peak	H	-	-	-69.59	10.49	47.90	73.98	-26.08

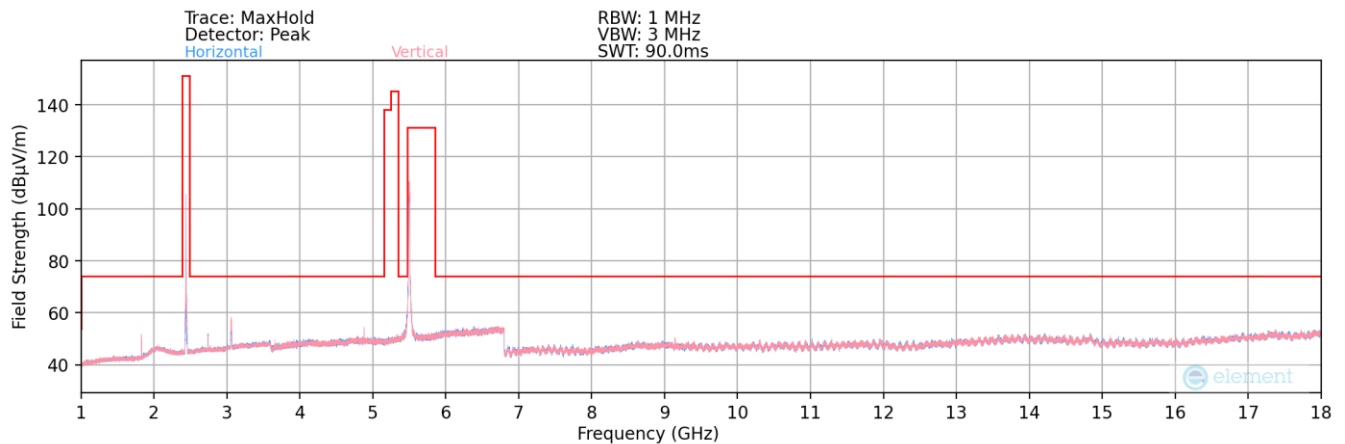
Table 7-13. Radiated Measurements 900MHz LoRa + 2.4GHz Wifi

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Simultaneous Transmission – 900MHz LoRa + 2.4GHz BTLE + 5GHz UNII



Plot 7-50. Radiated Spurious Plot below 1GHz 900MHz LoRa + 2.4GHz BTLE + 5GHz UNII



Plot 7-51. Radiated Spurious Plot below 1-18GHz 900MHz LoRa + 2.4GHz BTLE + 5GHz UNII

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 57 of 66

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
611.60	quasi-peak	V	-	-	-90.48	26.89	43.41	46.02	-2.61
3060.00	peak	V	-	-	-69.82	-2.89	34.29	73.98	-39.69
5205.80	peak	V	-	-	-63.49	0.52	44.03	73.98	-29.94
3354.20	average	V	233	83	-74.67	-2.10	30.23	53.98	-23.74
3354.20	peak	V	233	83	-62.66	-2.10	42.24	73.98	-31.73
6875.00	peak	V	119	204	-53.11	4.31	58.20	73.98	-15.78

Table 7-14. Radiated Measurements 900MHz LoRa + 2.4GHz BTLE + 5GHz UNII

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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7.11 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions must not exceed the limits shown below per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-15. Radiated Limits

Test Procedures Used

ANSI C63.10-2020

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2508200076-01.YL6	Test Dates: 8/20/2025 - 10/1/2025	EUT Type: Video Doorbell	Page 59 of 66

Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.

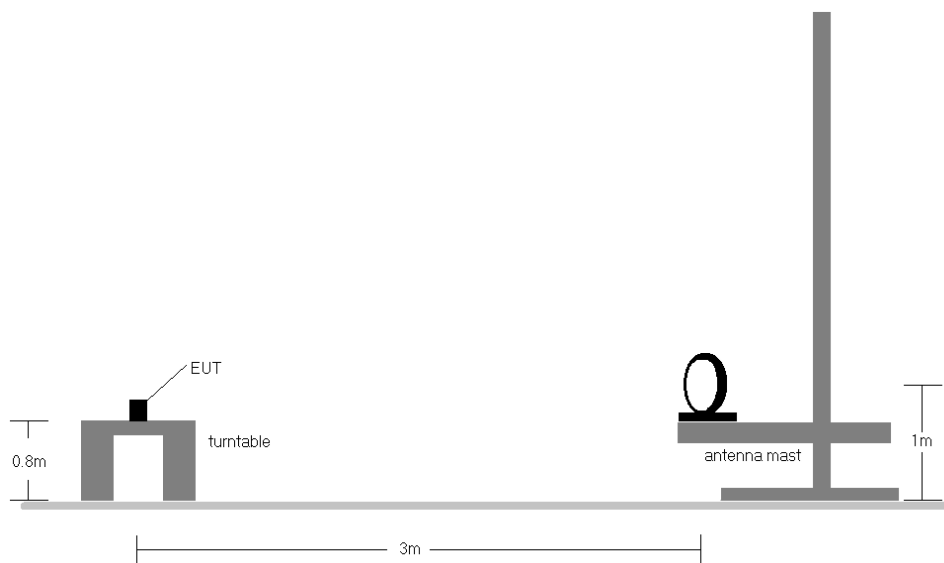


Figure 7-10. Radiated Test Setup < 30Mhz

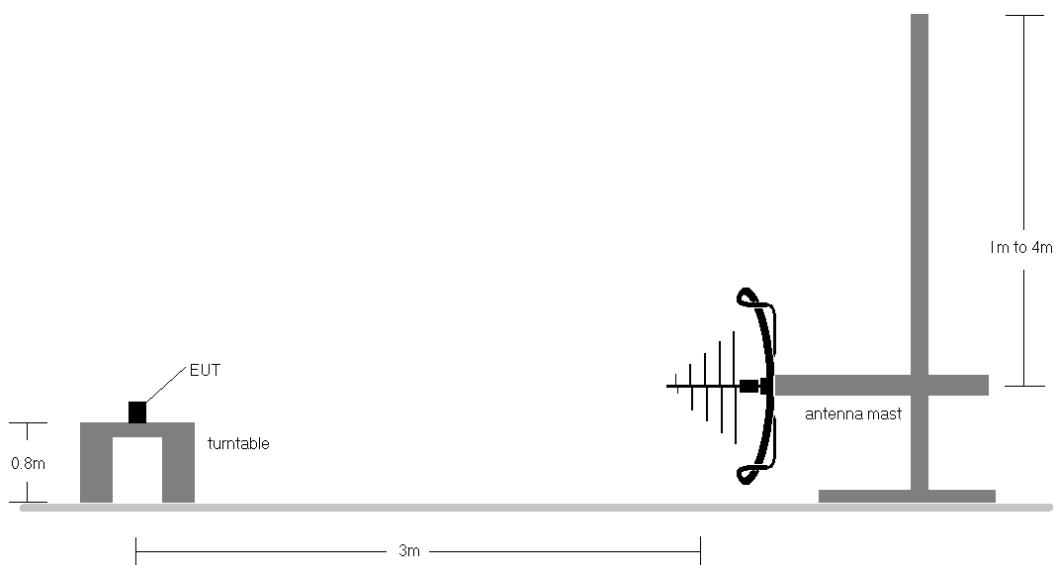


Figure 7-11. Radiated Test Setup < 1GHz

FCC ID: YL6-143VDB775 IC: 9111A-143VDB775	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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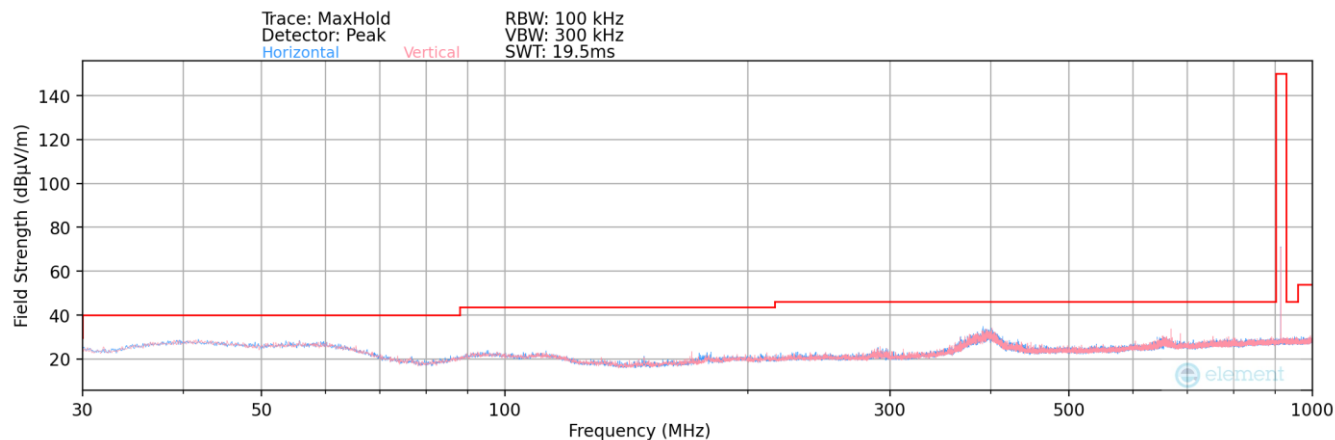
Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limits shown in §15.209.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

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Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-52. Radiated Spurious Plot below 1GHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
170.00	Quasi-Peak	H	-	-	-96.86	19.40	29.54	43.52	-13.98
290.00	Quasi-Peak	H	-	-	-97.61	20.98	30.37	46.02	-15.65
390.00	Quasi-Peak	H	-	-	-97.44	23.21	32.77	46.02	-13.25
650.00	Quasi-Peak	H	-	-	-96.31	28.08	38.77	46.02	-7.25

Table 7-16. Radiated Spurious Emissions Below 1GHz

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7.12 Line Conducted Measurement Data

§15.207; RSS-Gen [8.8]

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst-case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-17. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2020, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

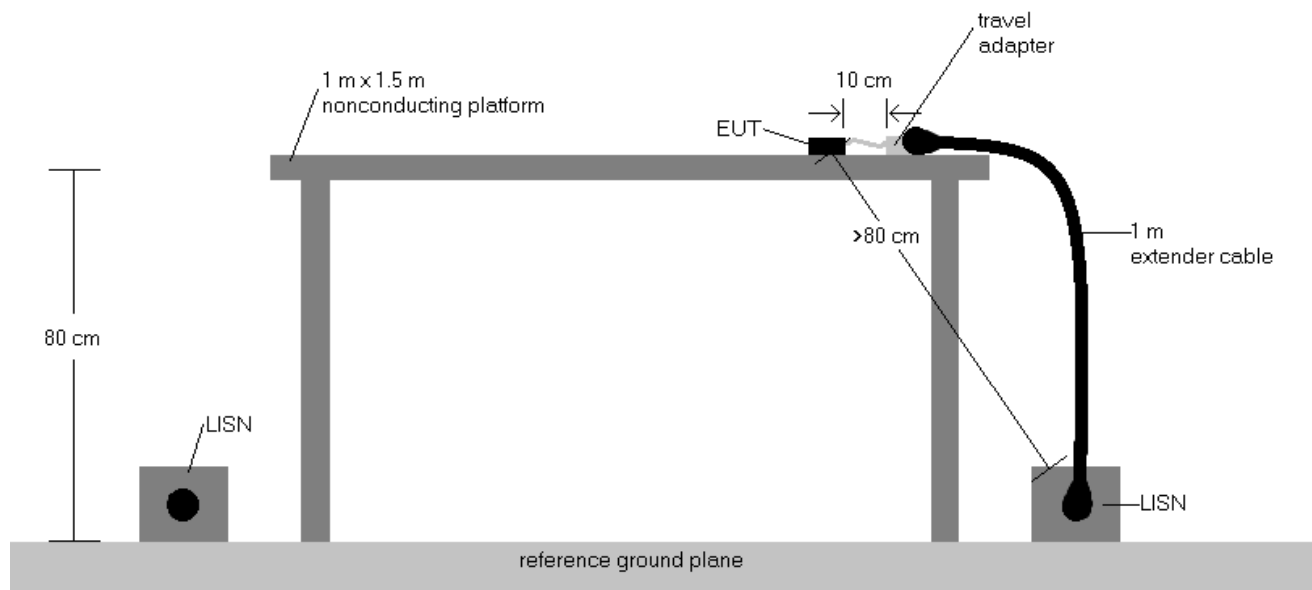
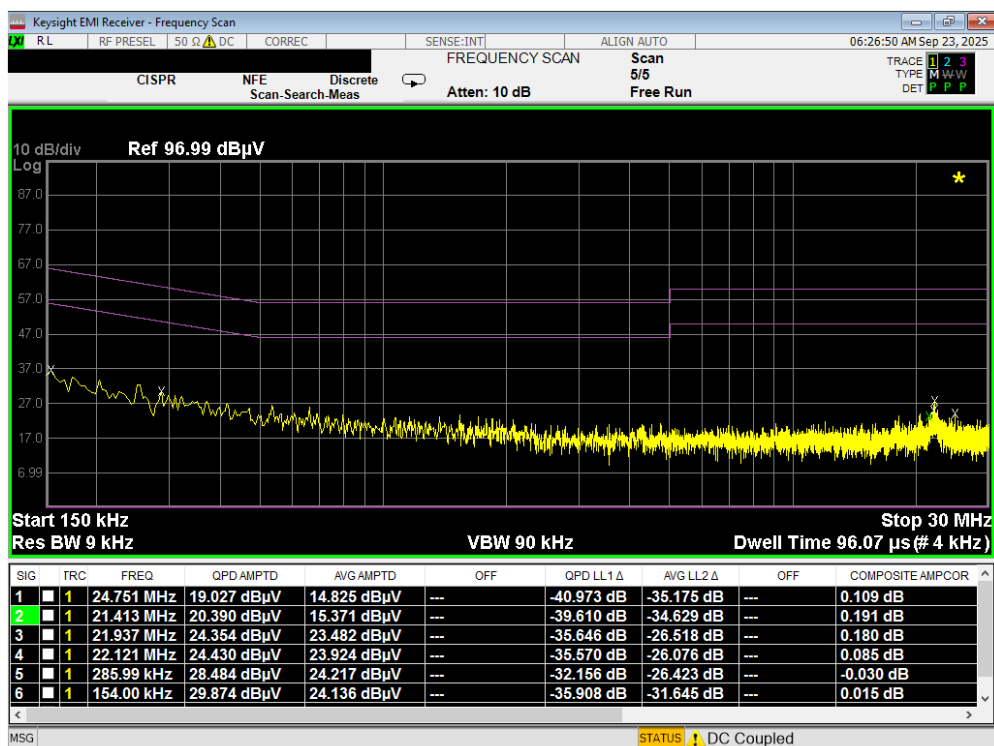


Figure 7-12. Test Instrument & Measurement Setup

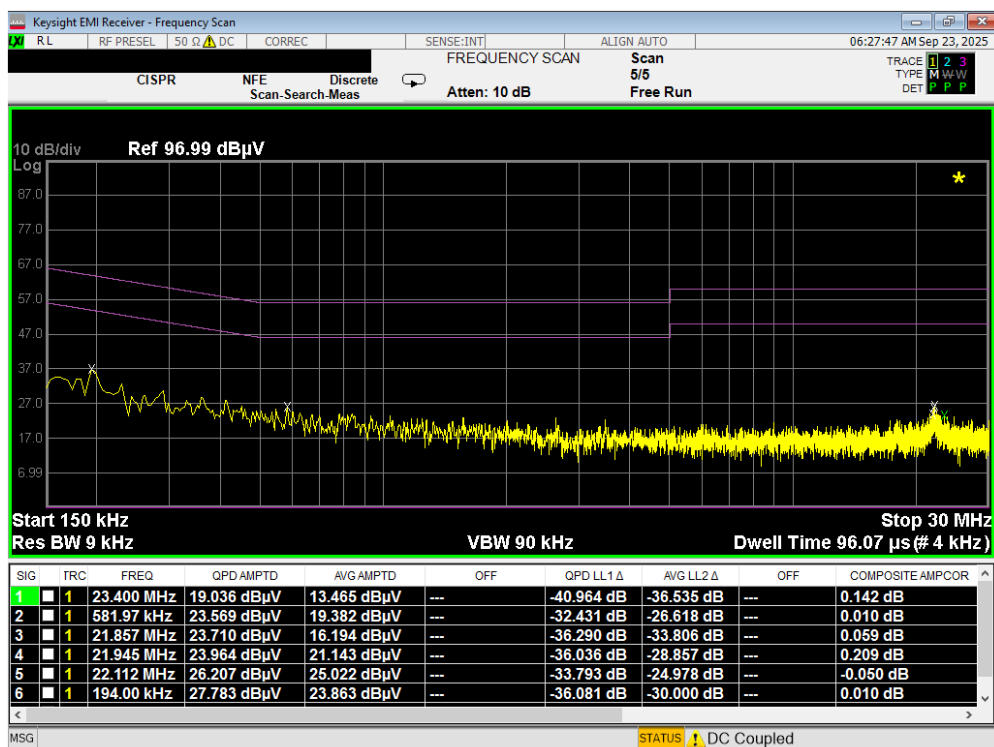
Test Notes

1. All modes of operation were investigated, and the worst-case emissions (FHSS) are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207 and RSS-Gen (8.8).
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

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Plot 7-53. Line-Conducted Test Plot (L1) - FHSS



Plot 7-54. Line-Conducted Test Plot (N) - FHSS

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Alarm.com Video Doorbell FCC ID: YL6-143VDB775, IC: 9111A-143VDB775** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules and RSS-247 of the ISED Canada Rules.

- END OF TEST REPORT -

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