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Testing of

Electromagnetic Emissions

per

USA:	**CFR Title 47, Part 15.231**	(Emissions)
USA:	**CFR Title 47, Part 2.1091;2.1093**	(Exposure)
Canada:	**ISED RSS-210**	(Emissions)
Canada:	**ISED RSS-102**	(Exposure)

are herein reported for

Lear Corporation
KOBJTF18A

Test Report No.: 20170412-RPTWAC0100054B

Applicant/Provider:
Lear Corporation
21557 Telegraph Road Building 100, Southfield Michigan 48033 USA
Phone: +1 (248) 447-1357, Fax: +1 (248) 447-1683
Contact Person: Jason Summerford; jsummerford@lear.com

Data Recorded by: Dr. Joseph Brunett, EMC-002790-NE

Reviewed by: Dr. Joseph Brunett, EMC-002790-NE

Prepared by: Dr. Joseph Brunett, EMC-002790-NE

Date of Issue: April 12, 2017

Results of testing completed on (or before) April 10, 2017 are as follows.

Emissions: The transmitter intentional emissions **COMPLY** with the regulatory limit(s) by no less than 7.1 dB. Transmit chain spurious or harmonic emissions **COMPLY** by no less than 6.0 dB. Unintentional spurious emissions from digital circuitry **COMPLY** with radiated emission limit(s) by at least 20 dB.

Revision History

Rev. No.	Date	Details	Revised By
r0	April 12, 2017	Initial Release.	J. Brunett

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1 Test Report Scope and Limitations

1.1 Laboratory Authorization

Test Facility description and attenuation characteristics are on file with the FCC Laboratory, Columbia, Maryland (FCC Reg. No: 688478) and with ISED Canada, Ottawa, ON (File Ref. No: IC8719A-1 and IC22227-1).

1.2 Report Retention

For equipment verified to comply with the regulations herein, the manufacturer is obliged to retain this report with the product records for the life of the product, and no less than ten years. A copy of this Report will remain on file with this laboratory until April 2027.

1.3 Subcontracted Testing

This report does not contain data produced under subcontract.

1.4 Limitation of Results

The test results contained in this report relate only to the item(s) tested. Any electrical or mechanical modification made to the test item subsequent to the test date shall invalidate the data presented in this report. Any electrical or mechanical modification made to the test item subsequent to this test date shall require reevaluation.

1.5 Copyright

1.6 Endorsements

This report shall not be used to claim product endorsement by any accrediting, regulatory, or governmental agency.

1.7 Test Location

The EUT was fully tested by **Willow Run (WR) Test Labs, Inc.**, 7117 Fieldcrest Dr., Brighton, Michigan 48116 USA. Table 1 lists all sites employed herein. Specific test sites utilized are also listed in the test results sections of this report.

Table 1: Test Site List.

Description	Location	Quality Num.
OATS (3 meter)	8501 Beck Rd. Bldg 2227, Belleville MI 48111	OATSA

1.8 Traceability and Equipment Used

Pertinent test equipment used for measurements at this facility is listed in Table 2. The quality system employed at Willow Run (WR) Test Labs, Inc. has been established to ensure all equipment has a clearly identifiable classification, calibration expiry date, and that all calibrations are traceable to the SI through NIST, other recognized national laboratories, accepted fundamental or natural physical constants, ratio type of calibration, or by comparison to consensus standards.

Table 2: Equipment List.

Description	Manufacturer/Model	SN	Quality Num.	Last Cal By / Date Due
Spectrum Analyzer	Rohde & Schwarz / FSV30	101660	RSFSV30001	RS / May-2018
Spectrum Analyzer	Rohde & Schwarz / FSV4	101222	RSFSV4001	RS / Mar-2018
Biconical	EMCO / 93110B	9802-3039	BICEMCO01	Lib. Labs / Aug-2017
Log Periodic Antenna	EMCO / 3146	9305-3614	LOGEMCO01	Lib. Labs / Aug-2017
Quad Ridge Horn	ETS Lind. / 3164-04	00066988	HRNQR316401	Lib. Labs / Aug-2017

2 Test Specifications and Procedures

2.1 Test Specification and General Procedures

The ultimate goal of Lear Corporation is to demonstrate that the Equipment Under Test (EUT) complies with the Rules and/or Directives below. Detailed in this report are the results of testing the Lear Corporation KOB-JTF18A for compliance to:

Country/Region	**Rules or Directive**	**Referenced Section(s)**
United States	Code of Federal Regulations	CFR Title 47, Part 15.231
Canada	ISED Canada	ISED RSS-210

It has been determined that the equipment under test is subject to the rules and directives above at the date of this testing. In conjunction with these rules and directives, the following specifications and procedures are followed herein to demonstrate compliance (in whole or in part) with these regulations.

ANSI C63.4:2014	"Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
ANSI C63.10:2013 (USA)	"American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices"
CFR 47 2.1091/1093	"447498 D01 General RF Exposure Guidance v06: RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices"
ISED Canada	"The Measurement of Occupied Bandwidth"
ICES-003; Issue 6 (2016)	"Information Technology Equipment (ITE) Limits and methods of measurement"
ISED Canada RSS-102	"Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)"

3 Configuration and Identification of the Equipment Under Test

3.1 Description and Declarations

The equipment under test is an automotive UHF Transmitter. The EUT is approximately 5 x 3 x 1 cm in dimension, and is depicted in Figure 1. It is powered by 3 VDC Lithium coin-cell battery. In use, this device is hand held. Table 3 outlines provider declared EUT specifications.

Figure 1: Photos of EUT.

Table 3: EUT Declarations.

General Declarations			
Equipment Type:	UHF Transmitter	**Country of Origin:**	Spain
Nominal Supply:	3 VDC	**Oper. Temp Range:**	−40°C to +85°C
Frequency Range:	315 MHz	**Antenna Dimension:**	3 cm
Antenna Type:	Integral	**Antenna Gain:**	PCB Trace
Number of Channels:	1	**Channel Spacing:**	None
Alignment Range:	Not Declared	**Type of Modulation:**	ASK+FSK
United States			
FCC ID Number:	KOBJTF18A	**Classification:**	DSC
Canada			
IC Number:	3521A-JTF18A	**Classification:**	Remote Control Device

3.1.1 EUT Configuration

The EUT is configured for testing as depicted in Figure 2.

3.1.2 Modes of Operation

This device is a manually actuated 315 MHz UHF transmitter used for locking, unlocking, and panic transmissions to the vehicle from a large distance. After manual button press the EUT steps through three sequential transmission frequencies, 315.000 MHz, 314.682 MHz, and 315.318 MHz. This device can also be activated through detection of an encoded LF transmission from the vehicle (initiated by door handle lift or in-vehicle button press), and in that case the EUT only transmits a short two-frame ASK transmission on one of the frequencies above.

3.1.3 Variants

There is only a single variant of the EUT, as tested.

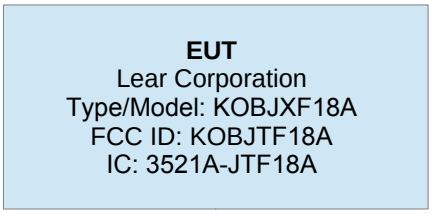


Figure 2: EUT Test Configuration Diagram.

3.1.4 Test Samples

Three samples of the EUT were provided for testing. One normal operating sample paired with an LF actuator, one software modified sample capable of transmitting CW and continuously modulated signals, and a third sample apart for photographs.

3.1.5 Functional Exerciser

EUT functionality was verified by observation of transmitted signal.

3.1.6 Modifications Made

There were no modifications made to the EUT by this laboratory.

3.1.7 Production Intent

The EUT appears to be a production ready sample.

3.1.8 Declared Exemptions and Additional Product Notes

None.

4 Emissions

4.1 General Test Procedures

4.1.1 Radiated Test Setup and Procedures

Radiated electromagnetic emissions from the EUT are first pre-scanned in our shielded anechoic chamber or GTEM test cell. Spectrum and modulation characteristics of all emissions are recorded. Instrumentation, including spectrum analyzers and other test equipment as detailed in Section 1.7 are employed. After pre-scan, emission measurements are made on the test site of record. If the EUT connects to auxiliary equipment and is table or floor standing, the configurations prescribed in relevant test standards are followed. Alternatively, a layout closest to normal use (as declared by the provider) is employed if the resulting emissions appear to be worst-case in such a configuration. See Figure 3. All intentionally radiating elements that are not fixed-mounted in use are placed on the test table lying flat, on their side, and on their end (3-axes) and the resulting worst case emissions are recorded. If the EUT is fixed-mounted in use, measurements are made with the device oriented in the manner consistent with installation and then emissions are recorded.

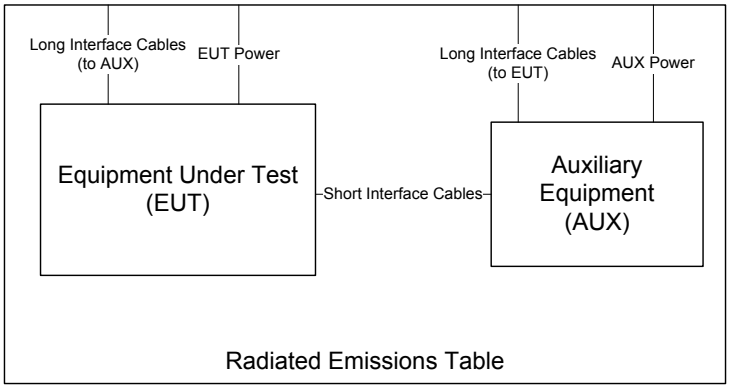


Figure 3: Radiated Emissions Diagram of the EUT.

If the EUT exhibits spurious emissions due to internal receiver circuitry, such emissions are measured with an appropriate carrier signal applied. For devices with intentional emissions below 30 MHz, a shielded loop antenna is used. It is placed at a 1 meter receive height. Emissions between 30 MHz and 1 GHz are measured using tuned dipoles and/or calibrated broadband antennas. For both horizontal and vertical polarizations, the test antenna is raised and lowered from 1 to 4 m in height until a maximum emission level is detected. The EUT is then rotated through 360^o in azimuth until the highest emission is detected. The test antenna is then raised and lowered one last time from 1 to 4 m and the worst case value is recorded. Emissions above 1 GHz are characterized using standard gain horn or broadband ridge-horn antennas on our OATS with a 4×5 m rectangle of H-4 absorber placed over the ground screen covering the OATS ground screen. Care is taken to ensure that test receiver resolution and video bandwidths meet the regulatory requirements, and that the emission bandwidth of the EUT is not reduced. Photographs of the test setup employed are depicted in Figure 4.

Where regulations allow for direct measurement of field strength, power values (dBm) measured on the test receiver / analyzer are converted to dBμV/m at the regulatory distance, using

$$E_{dist} = 107 + P_R + K_A - K_G + K_E - C_F$$

where P_R is the power recorded on spectrum analyzer, in dBm, K_A is the test antenna factor in dB/m, K_G is the combined pre-amplifier gain and cable loss in dB, K_E is duty correction factor (when applicable) in dB, and C_F is a distance conversion (employed only if limits are specified at alternate distance) in dB. This field strength value is then compared with the regulatory limit. If effective isotropic radiated power (EIRP) is computed, it is computed as

$$EIRP(dBm) = E_{3m}(dB\mu V/m) - 95.2.$$

When presenting data at each frequency, the highest measured emission under all possible EUT orientations (3-axes) is reported.

When microwave measurements are made at a range different than the regulatory distance or made at close-range to improve receiver sensitivity, the reading is corrected back to the regulatory distance. This is done using a 20 dB/decade field behavior as dictated by the test procedures. When measurements are made in the near-field, the near-field/far-field boundary (N/F) is reported. It is computed as

$$N/F = 2D^2/\lambda$$

where D is the maximum dimension of the transmitter or receive antenna, and λ is the wavelength at the measurement frequency. Typically for high frequency measurements the receive antenna is connected to test receiver / analyzer through an external mixer. In this case, cable loss, IF amplifier gain, and mixer conversion losses are corrected for in the data table, or directly in the spectrum analyzer.

Figure 4: Radiated Emissions Test Setup Photograph(s).

4.1.2 Conducted Emissions Test Setup and Procedures

Battery Power Conducted Spurious The EUT is not subject to measurement of power line conducted emissions as it is powered solely by its internal battery.

4.1.3 Power Supply Variation

Tests at extreme supply voltages are made if required by the the procedures specified in the test standard, and results of this testing are detailed in this report.

In the case the EUT is designed for operation from a battery power source, the extreme test voltages are evaluated over the range specified in the test standard; no less than $\pm 10\%$ of the nominal battery voltage declared by the manufacturer. For all battery operated equipment, worst case intentional and spurious emissions are re-checked employing a new (fully charged) battery.

4.1.4 Thermal Variation

Tests at extreme temperatures are made if required by the procedures specified in the test standard, and results of this testing are detailed in this report. The provider has declared that the EUT is designed for operation over the temperature range -40^oC to $+85^o$C. Before any temperature measurements are made, the equipment is allowed to reach a thermal balance in the test chamber, temperature and humidity are recorded, and thermal balance is verified via a thermocouple–based probe.

4.2 Intentional Emissions

4.2.1 Fundamental Emission Pulsed Operation

Test Setup & Procedure The test equipment and facilities were setup in accordance with the standards and procedures listed in Section 2.1. Environmental conditions were set at the appropriate temperature and thermal balance was checked with a thermocouple based probe. Duty cycle is measured using the maximum possible receiver IFBW for the purpose of computing RF exposure compliance and documenting the encoding employed by the EUT. The test equipment employed includes RSFSV30001, HRNQR316401.

Measurement Results The details and results of testing the EUT are summarized in Table 4. Plots showing the measurements made to obtain these values are provided in Figure 5.

Table 4: Fundamental Emission Pulsed Operation.

Frequency Range	**Det**	**IFBW**	**VBW**	**Test Date:**	23-Mar-17
F < 1 000 MHz	Pk	1 MHZ	3 MHZ	**Test Engineer:**	Joseph Brunett
				EUT	Lear PS Only UHF Fob
				Meas. Distance:	60 cm
				EUT Mode:	See Table

Pulsed Operation / Duty Cycle

Transmit Mode	Symbol Rate (Msym/s)	Data Rate* (Mbps)	Voltage (V)	Oper. Freq (MHz)	Min. Cycle Time (ms)	On-Time (ms)	Frame Encoding	Worst Case Duty Cycle (%)	Field Strength Duty Correction** (dB)	Exposure Duty Correction*** (dB)
Button Act ASK Frame subfigure (a)	-	-	3.0	315	100	25.2	Only a single ASK or FSK frame may occur within any given 100 ms window. Each ASK frame consists of 50.3 ms of OOK data with a 0.128/0.255 duty. Each FSK frame is 21.7 ms in duration.	25.2	12.0	6.0
Button Act FSK Frame subfigure (a)	-	-	3.0	315	100	21.7		21.7	13.3	6.6
LF Act ASK Frames subfigure (b)	-	-	3.0	315	100	2.9	When manually activated by encoded LF interrogation, two ASK frame on a single channel can occur in a 100 ms window. Each ASK frame consists of 2.86 ms of Manchester encoded data with a 0.025/0.050 duty.	2.9	30.9	15.4

** E-field duty cycle correction (due to burst-modulated carrier) computed as 20*Log(On-Time/ Min Cycle-Time). This Duty applied for UHF mode emissions only.
*** Worst-case Exposure duty cycle correction (due to burst-modulated carrier) computed as 10*Log(On-Time/ Min Cycle-Time). Overestimate due to finite transmission length of only a few frames in the actual system.

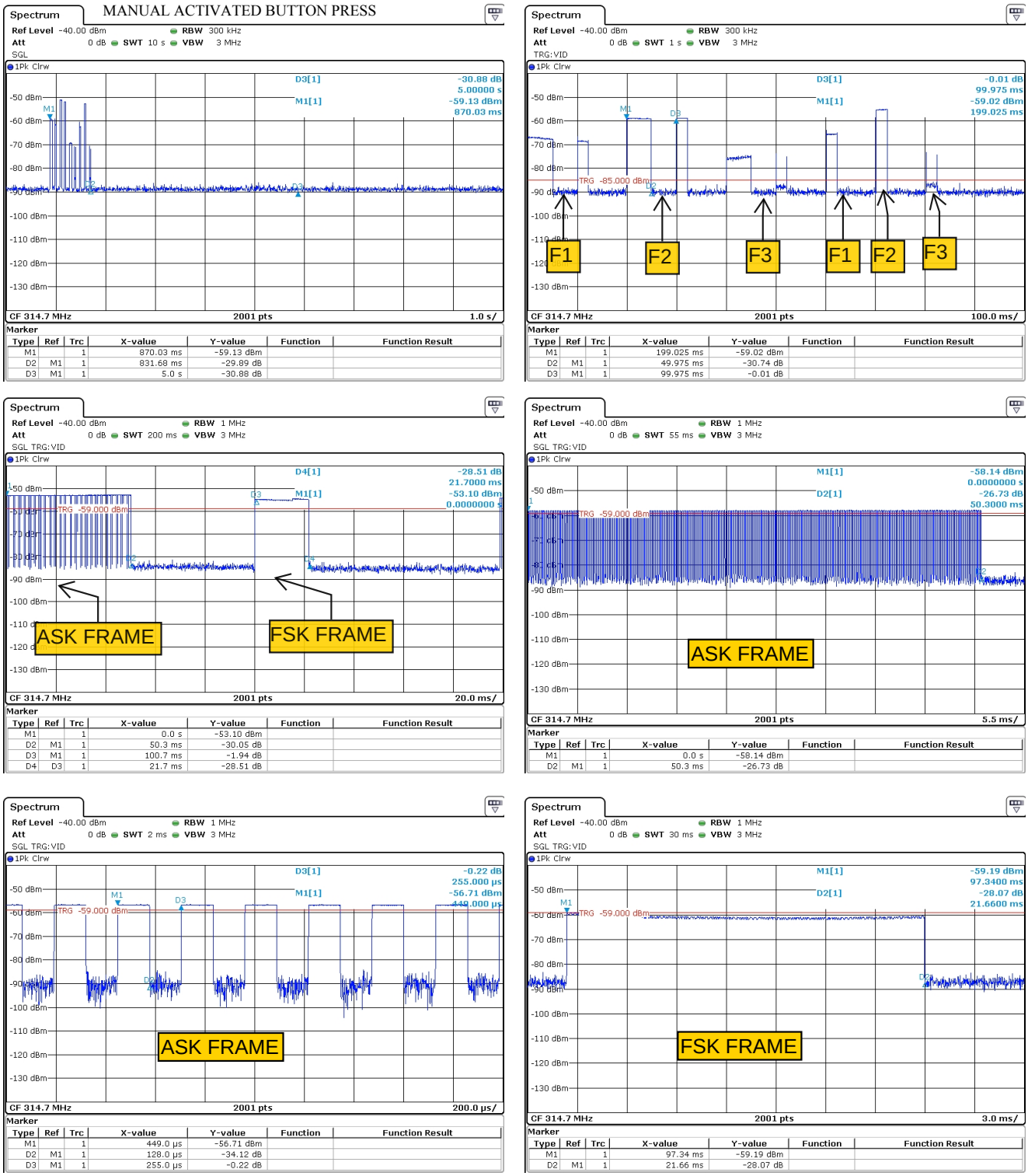


Figure 5(a): Fundamental Emission Pulsed Operation.

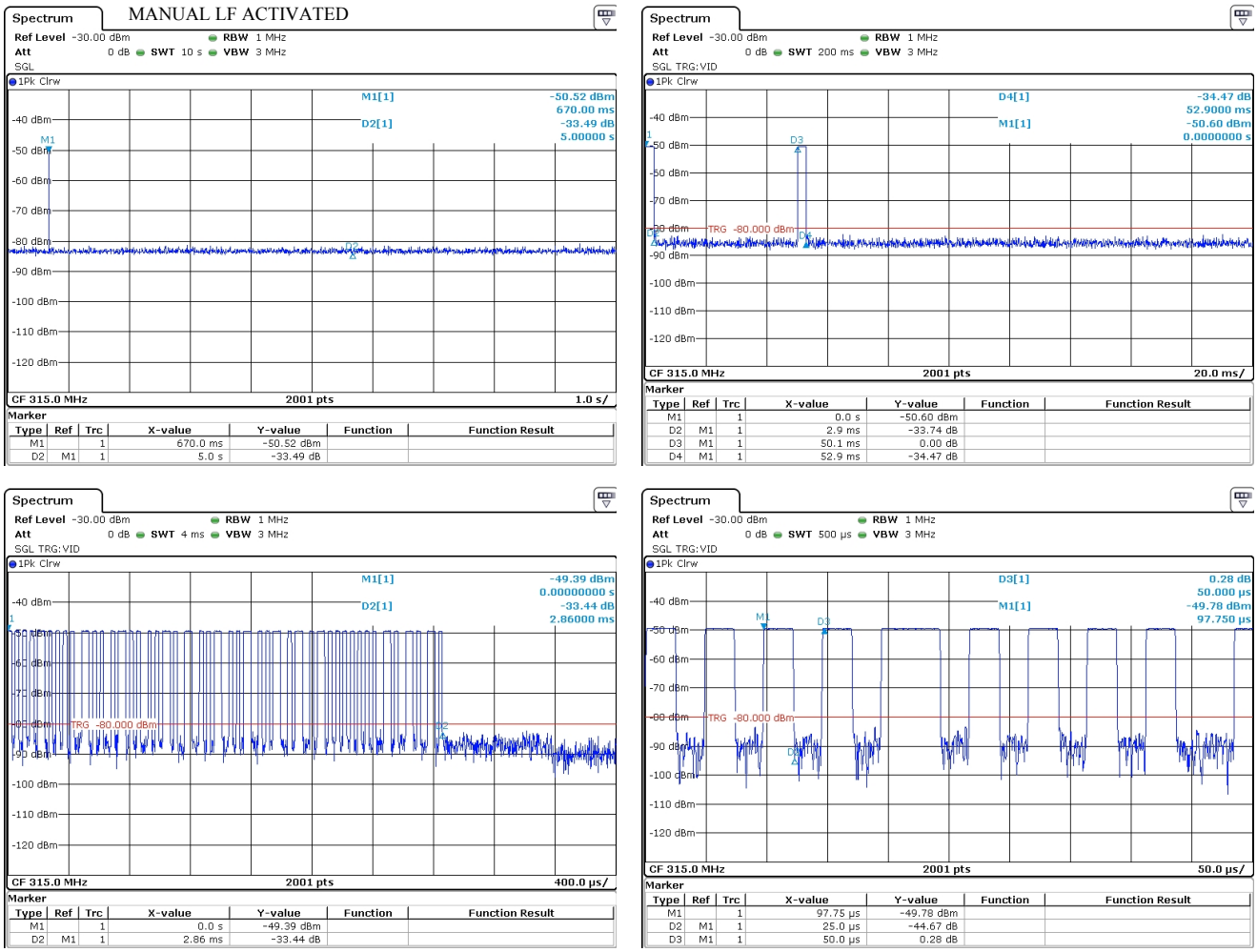


Figure 5(b): Fundamental Emission Pulsed Operation.

4.2.2 Fundamental Emission Bandwidth

Test Setup & Procedure The test equipment and facilities were setup in accordance with the standards and procedures listed in Section 2.1. Environmental conditions were set at the appropriate temperature and thermal balance was checked with a thermocouple based probe. Emission bandwidth (EBW) of the EUT is measured following the UWB measurement procedures in ANSI C63.10:2013/RSS-220. The test equipment employed includes RSFSV30001, HRNQR316401.

Measurement Results The details and results of testing the EUT are summarized in Table 5. Plots showing the measurements made to obtain these values are provided in Figure 6.

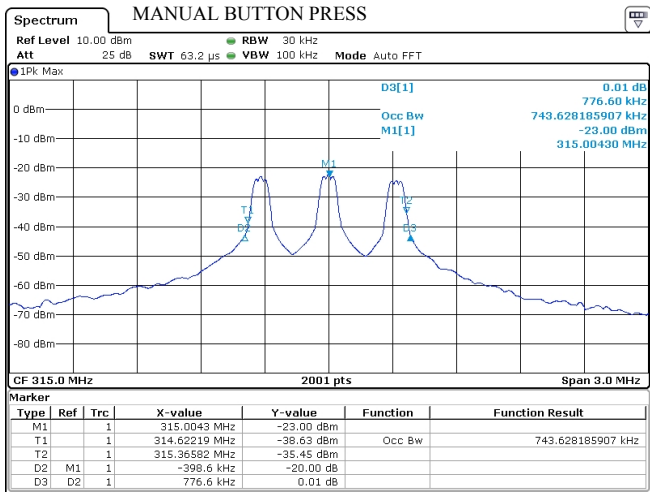
Table 5: Fundamental Emission Bandwidth.

Frequency Range	Det	IFBW	VBW	Span
F < 1 000 MHz	Pk	30 kHz	100 kHz	3 MHz
f > 1 000 MHz	Pk	1 MHz	3 MHz	1 GHz

Test Date:	23-Mar-17
Test Engineer:	Joseph Brunett
EUT	Lear PS Only UHF Fob
Meas. Distance:	60 cm

UHF Occupied Bandwidth

Transmit Mode	Symbol Rate (Msym/s)	Data Rate (Mbps)	Voltage (V)	Oper. Freq (MHz)	99% OBW (MHz)	20 dB EBW (MHz)	EBW Limit (MHz)		Pass/Fail
Button Activated (ASK+FSK)	-	-	3.0	315.0	0.7436	0.7766	0.7875	EUT employs three frequencies in sequential order.	Pass
LF Activated (ASK Only)	-	-	3.0	315.0	0.5068	0.1574	0.7875	EUT employs only a single frequency.	Pass



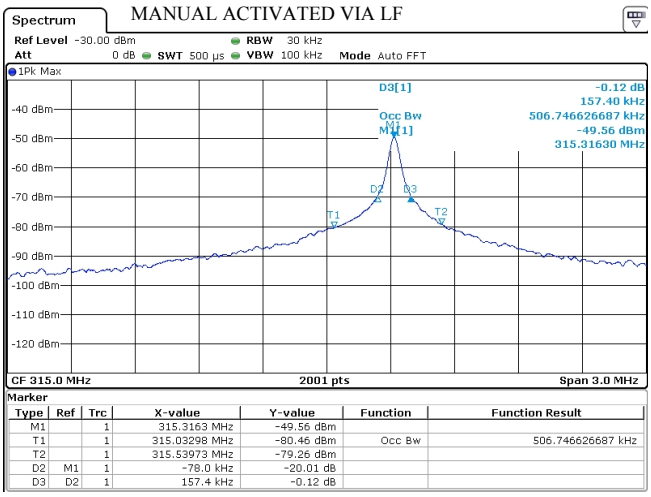


Figure 6: Fundamental Emission Bandwidth.

4.2.3 Fundamental Emission Field Strength

Test Setup & Procedure The test equipment and facilities were setup in accordance with the standards and procedures listed in Section 2.1. Environmental conditions were set at the appropriate temperature and thermal balance was checked with a thermocouple based probe. The fundamental emission is measured at the regulatory distance on our OATS following the UWB measurement procedures in ANSI C63.10:2013/RSS-220. The test equipment employed includes RSFSV30001, HRNQR316401.

Measurement Results The details and results of testing the EUT are summarized in Table 6.

Table 6: Fundamental Emission Field Strength.

EUT Modes: a1 UHF CW mode on Center Channel
a2 UHF Normal Operating Mode – Manual Activation by button press.
Test Date: 03/22/17 a3
Test Engineer: Joseph Brunett a4

	Frequency		Site					EUT			Test Antenna			Cable	Receiver				Field Strength @ DR						EUT EIRP						Details
	Start	Stop	Temp.	MR	DR	N/F	CF				Pol.	Dim.	Ka	Kg	Rx Power		Bandwidth		Pk			Avg			Pk			Avg			
R0								Mode see	Volt.	Dim					Pk	Avg	RBW	VBW	Meas.	Limit USA	Limit CAN	Meas.	Limit USA	Limit CAN	Meas.	Limit USA	Limit CAN	Meas.	Limit USA	Limit CAN	Pass Fail
	MHz	MHz	(C)	m			dB	above	(V)	cm	H/V	cm	dB/m	dB	dBuV/m		MHz		dBuV/m						dBm						dB
R1	SETUP:		OATSA					LEAR PS			LOGEMCO01				RSFSV30001				NOTES:												
R2	- METAL KEY INSERTED INTO CHASSIS																														
R3	315.0	315.0	-2.0	3.0	3.0		0.0	a1	3.0	4.0	H	100.0	14.1	33.0	-7.6		0.12	0.30	80.5	95.6	95.6	68.5	75.6	75.6							**7.1**
R4	315.0	315.0	-2.0	3.0	3.0		0.0	a1	3.0	4.0	V	100.0	14.1	33.0	-12.4		0.12	0.30	75.7	95.6	95.6	63.7	75.6	75.6							11.9
R5	- METAL KEY REMOVED FROM CHASSIS																														
R6	315.0	315.0	-2.0	3.0	3.0		0.0	a1	3.0	4.0	H	100.0	14.1	33.0	-8.5		0.12	0.30	79.6	95.6	95.6	67.6	75.6	75.6							8.0
R7	315.0	315.0	-2.0	3.0	3.0		0.0	a1	3.0	4.0	V	100.0	14.1	33.0	-12.5		0.12	0.30	75.6	95.6	95.6	63.6	75.6	75.6							12.0
R8	- WORST CASE EMISSION VS SUPPLY VOLTAGE																														
R9	315.0	315.0	21.0	3.0	3.0		0.0	a1	2.7	4.0	H	100.0	14.1	33.0	-7.6		0.12	0.30	80.5	95.6	95.6	68.5	75.6	75.6							7.1
R10	315.0	315.0	21.0	3.0	3.0		0.0	a1	3.0	4.0	H	100.0	14.1	33.0	-7.6		0.12	0.30	80.5	95.6	95.6	68.5	75.6	75.6							7.1
R11	315.0	315.0	21.0	3.0	3.0		0.0	a1	3.3	4.0	H	100.0	14.1	33.0	-7.6		0.12	0.30	80.5	95.6	95.6	68.5	75.6	75.6							7.1
R12																															
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31

(ROW)	(COLUMN)	NOTE:
R0	C4	MR is Measurement Range, which is reduced from DR to achieve necessary SNR.
R0	C5	DR is the regulatory Desired Range measurement distance.
R0	C6	N/F is Near-Field / Far-Field distance computed for max of EUT Antenna Dimension (C10) and Test Antenna dimension (C12), where applicable.
R0	C7	CF is computed using a 20 dB/decade Decay Rate.
R0	C15	When E-field or EIRP is reported directly from Spectrum Analyzer, Antenna Factors and Cable losses are included directly in SA settings and Pr is not reported.
R3-11	C22	Avg computed from Peak measured data via Field Strength Duty Cycle.

4.2.4 Exposure and Potential Health Hazard

To demonstrate compliance with with regulations that place limitations on human electromagnetic field exposure for both the general public and for workers, we compute EIRP from measured emission data. These levels are compared with limits placed by the directives and recommendations detailed in Section 2.1. Table 7 details the results of these computations.

Table 7: Electromagnetic Field Exposure.

USA REF: 1.1310, 2.1091/1093, 447498 D01 General RF Exposure Guidance v06
IC REF: RSS-102 Issue 5, Safety Code 6
Min. Sep. Distance: <5 mm (Portable)

Test Date: 22-Mar-17
Test Engineer: Joseph Brunett
EUT: LEAR PS
EUT Mode: Worst Case
Meas. Distance: See Fund. Power Table

	Frequency Band		E-Field	EIRP	H-Field	Canada ISED RSS-102 MPE			USA FCC 1.1310 MPE		
Mode	Start	Stop	@ 3m (Avg)	(Avg)	@ MSP (Avg)	SC6 Limit @ MSP	SC6 Limit @ MSP	MPE Ratio	SAR Threshold	SAR Threshold	Worst Case MPE Ratio
	MHz	MHz	dBuV/m	mW	dBuA/m	dBuV/m	dBuA/m			Limit	
Other											
	Frequency Band		Pk EIRP + Duty	E-Field	Pwr Density	EIRP + Duty	Minimum			Minimum	
Mode	Start	Stop	(Avg/RMS)	@20cm (RMS)	@20cm (RMS)*	(RMS)	1g / 10g SAR Threshold	MPE Ratio	SAR Threshold	1g / 10g SAR Threshold	MPE Ratio
	MHz	MHz	dBm	dBuV/m	mW/cm2	mW	Limit			Limit	
UHF	314.7	315.3	-26.7	92.0	0.00000	0.00215	69.1	0.00003	0.00009	3	0.000029
IF SUM OF ALL MPE RATIOS IS > 1, THEN THE EUT MUST UNDERGO SAR TESTING PER FCC AND ISED (IC)							MPE RATIO Total (<1):	**.000**		MPE RATIO Total (<1):	**.000**
REGULATIONS.							REQUIRES SAR TESTING	No		REQUIRES SAR TESTING	No

* EIRP (mW) = S (mW/cm^2) x 4 x PI x 20cm^2

4.3 Unintentional Emissions

4.3.1 Transmit Chain Spurious Emissions

Test Setup & Procedure The test equipment and facilities were setup in accordance with the standards and procedures listed in Section 2.1. Environmental conditions were set at the appropriate temperature and thermal balance was checked with a thermocouple based probe. Spurious radiated emissions measurements are made following the UWB measurement procedures in ANSI C63.10:2013/RSS-220 up to 40 GHz. The test equipment employed includes RSFSV30001, BICEMCO01, LOGEMCO01, HRNQR316401.

Measurement Results The details and results of testing the EUT are summarized in Table 8.

Table 8: Transmit Chain Spurious Emissions.

EUT Modes: a1 UHF CW mode on Center Channel
a2 UHF Normal Operating Mode – Manual Activation by button press.
Test Date: 04/05/17 a3
Test Engineer: Joseph Brunett a4

	Frequency		Site					EUT			Test Antenna			Cable	Receiver				Field Strength @ DR						EUT EIRP						Details
	Start	Stop	Temp.	MR	DR	N/F	CF				Pol.	Dim.	Ka	Kg	Rx Power		Bandwidth		Pk			Avg			Pk			Avg			
R0								Mode see	Volt.	Dim					Pk	Avg	RBW	VBW	Meas.	Limit USA	Limit CAN	Meas.	Limit USA	Limit CAN	Meas.	Limit USA	Limit CAN	Meas.	Limit USA	Limit CAN	Pass Fail
	MHz	MHz	(C)	m			dB	table	(V)	cm	H/V	cm	dB/m	dB	dBuV/m		MHz		dBuV/m						dBm						dB
R1	SETUP:		OATSA					LEAR PS			LOGEMCO01				SPAROHD101				NOTES: Max all orientations of EUT, w & w/o Key												
R2	630.0	630.0	14	3.0	3.0		0.0	a1	3.0	4.0	H	100.0	19.5	29.7	-60.1		0.12	0.30	57.1	75.6	75.6	45.1	55.6	55.6							10.5
R3	630.0	630.0	14	3.0	3.0		0.0	a1	3.0	4.0	V	100.0	19.5	29.7	-67.2		0.12	0.30	50.0	75.6	75.6	38.0	55.6	55.6							17.6
R4	945.0	945.0	14	3.0	3.0		0.0	a1	3.0	4.0	H	100.0	23.2	26.7	-80.5		0.12	0.30	30.0	75.6	75.6	18.1	55.6	55.6							37.6
R5	945.0	945.0	14	3.0	3.0		0.0	a1	3.0	4.0	V	100.0	23.2	26.7	-89.0		0.12	0.30	21.5	75.6	75.6	9.6	55.6	55.6							46.1
R6	SETUP:		OATSA					LEAR PS			HRNQR316401				RSFSV30001				NOTES: Max all orientations of EUT and both Test Antenna Polarizations, w & w/o Key												
R7	1260.0	1260.0	14	3.0	3.0	0.4	0.0	a1	3.0	4.0	H/V	22.0	25.0	-0.2	-80.2		1.00	3.00	52.0	75.6	74.0	40.1	55.6	54.0							13.9
R8	1575.0	1575.0	14	3.0	3.0	0.5	0.0	a1	3.0	4.0	H/V	22.0	27.7	-0.2	-86.6		1.00	3.00	48.3	75.6	74.0	36.3	55.6	54.0							17.7
R9	1890.0	1890.0	14	3.0	3.0	0.6	0.0	a1	3.0	4.0	H/V	22.0	29.4	-0.2	-80.2		1.00	3.00	56.4	75.6	75.6	44.5	55.6	55.6							11.2
R10	2205.0	2205.0	14	3.0	3.0	0.7	0.0	a1	3.0	4.0	H/V	22.0	30.9	-0.3	-86.6		1.00	3.00	51.5	75.6	74.0	39.6	55.6	54.0							14.4
R11	2520.0	2520.0	14	3.0	3.0	0.8	0.0	a1	3.0	4.0	H/V	22.0	33.1	-0.3	-85.0		1.00	3.00	55.5	75.6	75.6	43.5	55.6	55.6							12.1
R12	2835.0	2835.0	14	3.0	3.0	0.9	0.0	a1	3.0	4.0	H/V	22.0	35.6	-0.3	-84.4		1.00	3.00	58.5	75.6	74.0	46.5	55.6	54.0							7.5
R13	3150.0	3150.0	14	3.0	3.0	1.0	0.0	a1	3.0	4.0	H/V	22.0	36.7	-0.3	-82.5		1.00	3.00	61.5	75.6	75.6	49.6	55.6	55.6							**6.0**
R14																															
R15																															
R16																															
R17																															
R18																															
R19																															
R20																															
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31

(ROW)	(COLUMN)	NOTE:
R0	C4	MR is Measurement Range, which is reduced from DR to achieve necessary SNR.
R0	C5	DR is the regulatory Desired Range measurement distance.
R0	C6	N/F is Near-Field / Far-Field distance computed for max of EUT Antenna Dimension (C10) and Test Antenna dimension (C12), where applicable.
R0	C7	CF is computed using a 20 dB/decade Decay Rate.
R0	C15	When E-field or EIRP is reported directly from Spectrum Analyzer, Antenna Factors and Cable losses are included directly in SA settings and Pr is not reported.

4.3.2 Radiated Digital Spurious

The results for the measurement of digital spurious emissions are not reported herein as all digital emissions were greater than 20 dB below the regulatory limit. Radiation from digital components was measured to 4 GHz, or to five times the maximum digital component operating frequency, whichever is greater.

5 Measurement Uncertainty

The maximum values of measurement uncertainty for the laboratory test equipment and facilities associated with each test are given in the table below. This uncertainty is computed for a 95.45% confidence level based on a coverage factor of $k = 2$.

Table 9: Measurement Uncertainty.

Measured Parameter	**Measurement Uncertainty**[†]
Radio Frequency	$\pm(f_{Mkr}/10^7 + RBW/10 + (SPN/(PTS-1))/2 + 1\,\text{Hz})$
Conducted Emm. Amplitude	$\pm 1.8\,\text{dB}$
Radiated Emm. Amplitude $(30 - 200\,\text{MHz})$	$\pm 2.7\,\text{dB}$
Radiated Emm. Amplitude $(200 - 1000\,\text{MHz})$	$\pm 2.5\,\text{dB}$
Radiated Emm. Amplitude $(f > 1000\,\text{MHz})$	$\pm 3.7\,\text{dB}$
DC and Low Frequency Voltages	$\pm 2\%$
Temperature	$\pm 0.5°\text{C}$
Humidity	$\pm 5\%$

[†]Ref: CISPR 16-4-2:2011+A1:2014