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TEST REPORT

Report No.: 17062193HKG-001

Lidl US, LLC

Application For Certification
(Original Grant)

FCC ID: 2AJ9OSFG8000B2

Weather band Receiver

PREPARED AND CHECKED BY:	APPROVED BY:
Signed On File Josie Yao Engineer	Digitally signed by Koo Wai Ip Location: Intertek Testing Services Hong Kong Ltd. Koo Wai Ip Technical Supervisor Date: September 15, 2017

TEST REPORT

GENERAL INFORMATION

Grantee:	Lidl US, LLC
Grantee Address:	3500 S. Clark Street, Arlington, VA 22202.
Contact Person:	David Matter
Tel:	+1 (703) 539-9331
Fax:	+1 (703) 539-9331
e-mail:	david.matter@lidl.us
Manufacturer:	XIN XING GREAT SUCCESS PLASTIC PRODUCTS LIMITED
Manufacturer Address:	Building A, District 1, B2-02, Xincheng, Industrial Park, Xinxing, Yunfu, Guangdong, P.R.C
Brand Name:	Silvercrest
Model:	SFG 8000 B2
Type of EUT:	Weather band Receiver
Description of EUT:	462MHz FRS/GMRS Walkie-Talkie
Serial Number:	N/A
FCC ID:	2AJ9OSFG8000B2
Date of Sample Submitted:	June 30, 2017
Date of Test:	June 30, 2017 to September 14, 2017
Report No.:	17062193HKG-001
Report Date:	September 15, 2017
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%

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SUMMARY OF TEST RESULT

TEST SPECIFICATION	REFERENCE	RESULTS
Receiver / Digital Device Radiated Emissions	15.109	Pass
Receiver / Digital Device Conducted Emissions	15.107	Pass

The equipment under test is found to be complying with the following standards:
FCC Part 15, October 1, 2015 Edition

Note: 1. The EUT uses a permanently attached antenna which, in accordance to section 15.203, is considered sufficient to comply with the pervisions of this section.

TEST REPORT

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1.0 GENERAL DESCRIPTION

1.1 Product Description

The Equipment Under Test (EUT) is a Two Ways Radio of GMRS, FRS, Weather Band receiver. Weather band receiver operates between 162.400MHz and 162.550MHz.

Channel	Frequency
1	162.550 MHz
2	162.400 MHz
3	162.475 MHz
4	162.425 MHz
5	162.450 MHz
6	162.500 MHz
7	162.525 MHz

Antenna Type: Internal, Integral

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

1.2 Related Submittal(s) Grants

The Part 95 transmitter, associated with this receiver, has FCC ID: 2AJ9OSFG8000B2 are filed same time.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2014). All radiated measurements were performed in an 3m Chamber. Preliminary scans were performed in the 3m Chamber only to determine worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Justification Section"** of this Application.

1.4 Test Facility

The 3m Chamber and conducted measurement facility used to collect the radiated data is located at Workshop No. 3, G/F., World-Wide Industrial Centre, 43-47 Shan Mei Street, Fo Tan, Sha Tin, N.T., Hong Kong. This test facility and site measurement data have been placed on file with the FCC and IC No. 2042V-1.

TEST REPORT

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2014).

The device was powered by:

1. DC 4.5V for AAA-sized alkaline batteries
2. DC 3.6V for AAA-sized Ni-MH rechargeable batteries.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered up, it receives the RF signal continuously.

2.3 Special Accessories

There are no special accessories for compliance of this product.

2.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

2.5 Support Equipment List and Description

1. headset with 1.2m long (Provided by Applicant)
2. Charging pad (Provided by Applicant)
3. AC adaptor (Provided by Applicant)
   Model: TGL050p055
   Input: 100-240VAC 50/60Hz 100mA
   Output: 5.0VDC 550mA 2.75VA

TEST REPORT

3.0 EMISSION RESULTS

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any), Average Factor (optional) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG - AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
AV = Average Factor in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:

FS = RR + LF

where FS = Field Strength in dBµV/m
RR = RA - AG - AV in dBµV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
AV = 5.0 dB
FS = RR + LF
FS = 18 + 9 = 27 dBµV/m

RR = 18.0 dBµV
LF = 9.0 dB

Level in µV/m = Common Antilogarithm [(27 dBµV/m)/20] = 22.4 µV/m

TEST REPORT

3.2 Radiated Emission Configuration Photograph

The worst case in radiated emission was found at 940.769 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgment: Passed by 9.4 dB

3.4 Conducted Emission Configuration Photograph

The worst case in line-conducted emission was found at 2.1075 MHz

For electronic filing, the worst case line-conducted configuration photographs are saved with filename: conducted photo.pdf.

3.5 Conducted Emission Data

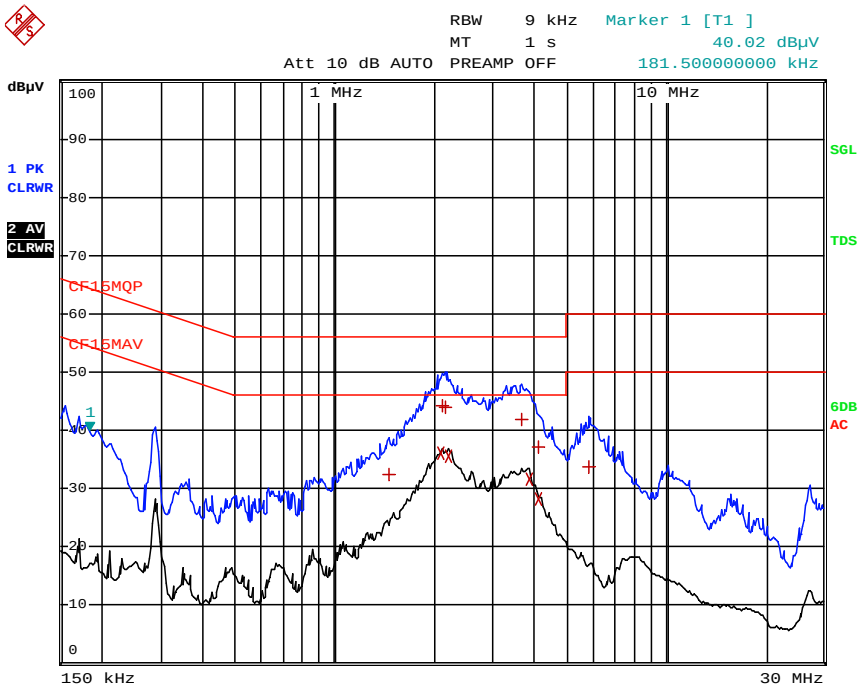
For electronic filing, the graph and data table of conducted emission is saved with filename: conducted.pdf.

Judgment: Pass by 9.93 dB

TEST REPORT

CONDUCTED EMISSION

Model: SFG 8000 B2
Date of Test: September 14, 2017
Worst-Case Operating Mode: Weather band receiving and charging mode



EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	1.455 MHz	32.47	L1	-23.52
1	Quasi Peak	2.1075 MHz	44.32	N	-11.67
2	CISPR Average	2.1075 MHz	36.06	N	-9.93
1	Quasi Peak	2.166 MHz	43.90	N	-12.10
2	CISPR Average	2.2155 MHz	35.58	N	-10.41
1	Quasi Peak	3.678 MHz	41.92	L1	-14.07
2	CISPR Average	3.885 MHz	31.65	N	-14.34
2	CISPR Average	4.1235 MHz	28.19	N	-17.80
1	Quasi Peak	4.137 MHz	37.04	N	-18.95
1	Quasi Peak	5.8875 MHz	33.63	L1	-26.36

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

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RADIATED EMISSIONS

Model: SFG 8000 B2
Date of Test: September 14, 2017
Worst-Case Operating Mode: Weather band receiving mode

Table 1
Pursuant to FCC Part 15 Section 15.109 Requirement

Polarization	Frequency (MHz)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	112.872	27.6	43.5	-15.9
V	125.425	19.1	43.5	-24.4
V	131.641	19.6	43.5	-23.9
V	144.438	21.6	43.5	-21.9
V	150.409	20.6	43.5	-23.0
V	329.566	21.9	46.0	-24.1
V	476.913	25.8	46.0	-20.3
H	684.466	33.8	46.0	-12.2
H	940.769	36.6	46.0	-9.4

NOTES:
1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

4.0 EQUIPMENT PHOTOGRAPHS

For electronic filing, the photographs are saved with filename: external photos.pdf and internal photos.pdf.

5.0 PRODUCT LABELLING

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

6.0 TECHNICAL SPECIFICATIONS

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

7.0 INSTRUCTION MANUAL

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

TEST REPORT

8.0 MISCELLANEOUS INFORMATION

8.1 Stabilization Waveform

This device is a Weather band Receiver. No plots are required.

8.2 Discussion of Pulse Desensitization

This device is a Weather band Receiver. No desensitization of the measurement equipment is required as the received signals are continuously.

8.3 Calculation of Average Factor

This device is a Weather band Receiver. It is not necessary to apply average factor to the measurement result.

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8.4 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of Weather band Receiver operating under the Part 15, Subpart B rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 (2014). A typical or an unmodulated CW signal at the operating frequency of the EUT has been supplied to the EUT for all measurements. Such a signal is supplied by a signal generator and an antenna in close proximity to the EUT. The signal level is sufficient to stabilize the local oscillator of the EUT.

The equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the groundplane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The antenna height and polarization are also varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings.

The frequency range scanned is from 30 MHz to 1000 MHz.

TEST REPORT

8.4 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements were made as described in ANSI C63.4 (2014).

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 1000 MHz. Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Measurements are normally conducted at a measurement distance of three meters. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.

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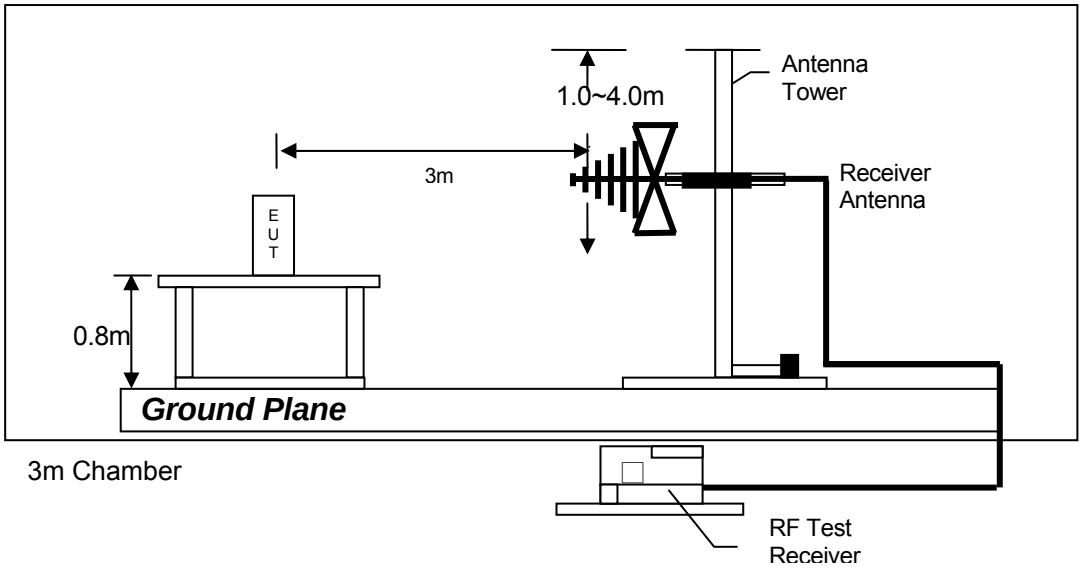
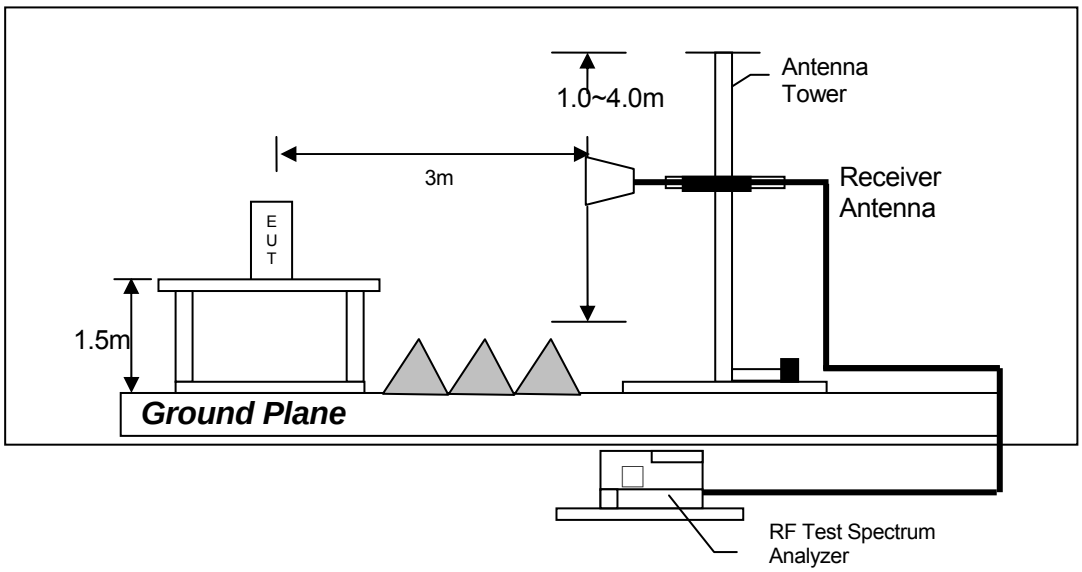
8.4.1 Radiated Emission Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



Test setup of radiated emissions up to 1GHz



Test setup of radiated emissions above 1GHz

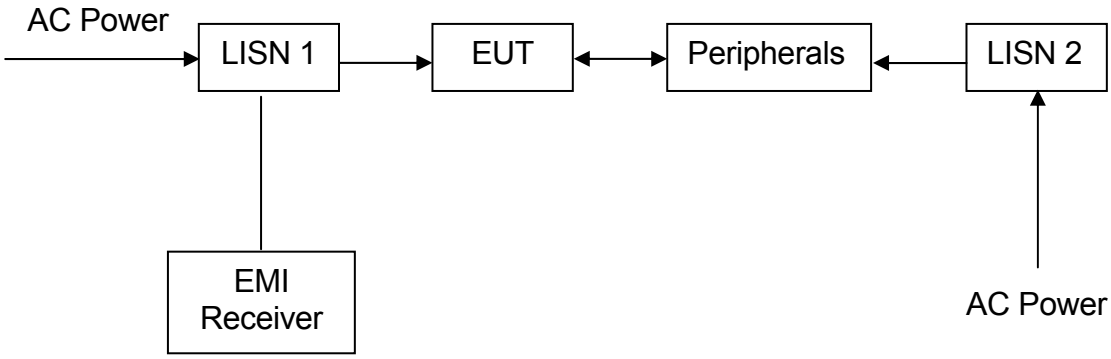
TEST REPORT

8.4.2 Conducted Emission Test Procedures

For tabletop equipment, the EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table. For floor-standing equipment, the EUT and all cables were insulated, if required, from the ground plane by up to 12 mm of insulating material. The EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were moved to find the maximum emission.

8.4.3 Conducted Emission Test Setup



TEST REPORT

9.0 CONFIDENTIALITY REQUEST

For electronic filing, a preliminary copy of the confidentiality request is saved with filename: request.pdf.

10.0 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	Biconical Antenna	EMI Test Receiver	Double Ridged Guide Antenna
Registration No.	EW-0571	EW-3156	EW-0194
Manufacturer	EMCO	ROHDESCHWARZ	EMCO
Model No.	3104C	ESR26	3115
Calibration Date	May. 18, 2016	Dec. 06. 2016	Aug. 10, 2016
Calibration Due Date	Nov. 18, 2017	Dec. 06, 2017	Feb. 10, 2018

Equipment	Log Periodic Antenna	BiConiLog Antenna	Spectrum Analyzer
Registration No.	EW-0447	EW-3061	EW-3110
Manufacturer	EMCO	EMCO	R&S
Model No.	3146	3142E	FSP30
Calibration Date	May. 18, 2016	Sep. 23, 2016	Feb. 06, 2017
Calibration Due Date	Nov. 18, 2017	Sep. 23, 2017	Feb. 06, 2018

Equipment	RF Cable 9kHz to 1000MHz	RF Pre-amplifier 3 pcs (9kHz to 40GHz)	12m Double Shield RF Cable
Registration No.	EW-3170	EW-3006	EW-1852
Manufacturer	N/A	SCHWARZBECK	RADIALL
Model No.	9kHz to 1000MHz	BBV 9744	N(m)-RG142 - N(m)
Calibration Date	Mar. 20, 2017	Mar. 23, 2017	Nov. 21, 2016
Calibration Due Date	Mar. 20, 2018	Mar. 23, 2018	Oct. 13, 2017

Equipment	12 metre RF Cable 40GHz
Registration No.	EW-2774
Manufacturer	GREATBILLION
Model No.	SMA m-m ra 12m 40G outdoor
Calibration Date	Nov. 24, 2016
Calibration Due Date	Nov. 24, 2017

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2) Conducted Emissions Test

Equipment	EMI Test Receiver	RF Cable 9kHz to 1000MHz	LISN
Registration No.	EW-3156	EW-3170	EW-2874
Manufacturer	ROHDESCHWARZ	N/A	R&S
Model No.	ESR26	9kHz to 1000MHz	ENV-216
Calibration Date	Dec. 06. 2016	Mar. 20, 2017	Mar. 16, 2017
Calibration Due Date	Dec. 06, 2017	Mar. 20, 2018	Mar. 16, 2018

END OF TEST REPORT