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ENGINEERING TEST REPORT # 314278
LSR Job #: C-2060

Compliance Testing of:
TLCKMAJD

Test Date(s)
February 6th and 26th, March 31st, 2015

Prepared For:
Stanley Black and Decker
Attn: Kirwan Magdamo
701 E. Joppa Road
Towson, MD 21286

Stanley Black and Decker Canada
Attn: Mark Emmerson
6275 Millcreek Drive
Mississauga, Ontario L5N7K6

This Test Report is issued under the Authority of: Shane D. Rismeyer, EMC Engineer

Signature: Date: 4/16/15

Test Report Reviewed by:	**Report by:**
Peter Feilen, EMC Engineer	Shane D. Rismeyer, EMC Engineer
Signature: Date: 4/15/15	Signature: Date: 4/14/15

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LS Research, LLC in Review

As an EMC Testing Laboratory, our Accreditation and Assessments are recognized through the following:

TESTING CERT #1255.01

A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025: 2005 with Electrical (EMC) Scope of Accreditation
A2LA Certificate Number: 1255.01

Federal Communications Commission (FCC) – USA

Listing of 3 Meter Semi-Anechoic Chamber based on Title 47 CFR – Part 2.948
FCC Registration Number: 90756

Industrie Canada Industry Canada

Industry Canada

On file, 3 Meter Semi-Anechoic Chamber based on RSS-212 – Issue 1
File Number: IC 3088-A
On file, 3 and 10 Meter OATS based on RSS-212 – Issue 1
File Number: IC 3088

U. S. Conformity Assessment Body (CAB) Validation

Validated by the European Commission as a U. S. Competent Body operating under the U. S./EU, Mutual Recognition Agreement (MRA) operating under the European Union Electromagnetic Compatibility –Council Directive 2004/108/EC (formerly 89/336/EEC, Article 10.2).
Date of Validation: January 16, 2001

Validated by the European Commission as a U.S. Notified Body operating under the U.S. /EU, Mutual Recognition Agreement (MRA) operating under the European Union Telecommunication Equipment – Council Directive 99/5/EC, Annex V.
Date of Validation: November 20, 2002

Notified Body Identification Number: 1243

1.0 Summary of Test Report

In February- March 2015 the EUT, TLCKMAJD, was tested and MEETS the following requirements:

FCC and IC Paragraph	Test Requirements	Compliance (Yes/No)
FCC:15.247 (a)(2) IC: RSS 210 A8.2 (a)	6 dB Bandwidth of a Digital Modulation System	Yes
FCC : 15.247(b) & 1.1310 IC : RSS 210 A8.4	Maximum Output Power	Yes
FCC:15.247 (d) IC: RSS 210 A8.2 (b)	Power Spectral Density of a Digital Modulation System	Yes
FCC :15.247(d) IC : RSS 210 A8.5	RF Conducted Spurious Emissions at the Transmitter Antenna Terminal	Yes
FCC : 15.247(c), 15.209 & 15.205 IC : RSS 210 A8.2(b), section 2.2, 2.6 and 2.7	Transmitter Radiated Emissions	Yes
FCC : 15.109 IC : RSS GEN	Receive Mode (Digital Device) Radiated Emissions	Yes
FCC : 2.1055 (d)	Frequency Stability	Yes

2.0 Test Facilities

All testing was performed at:

LS Research, LLC
W66 N220 Commerce Court
Cedarburg, Wisconsin, 53012 USA

LS Research, LLC is accredited by A2LA (American Association for Laboratory Accreditation) to the requirements of ISO/IEC 17025, 2005 “General Requirements for the Competence of Calibration and Testing Laboratories”.
LS Research, LLC’s scope of accreditation includes all test methods listed herein, unless otherwise noted.

3.0 Client Information

Manufacturer Name:	Stanley Black and Decker
Address:	701 E. Joppa Road Towson, MD 21286
Contact Person:	Kirwan Magdamo

Manufacturer Name:	Stanley Black and Decker Canada
Address:	6275 Millcreek Drive
Contact Person:	Mark Emmerson

3.1 Equipment Under Test (EUT) Information

The following information has been supplied by the applicant.

Product Name:	TLCKMAJD
Model Number:	TLCKMAJD
Serial Number:	CL14A14502210
FCC ID	YJ7TLCKMAJD
IC Number	9082A-TLCKMAJD

3.2 Product Description

The TLCKMAJD is capable of connecting with mobile devices that support Bluetooth Smart technology.

3.3 Modifications Incorporated In the EUT for Compliance Purposes

None noted at time of test

3.4 Deviations & Exclusions from Test Specifications

None noted at time of test

3.5 Additional Information

Low Channel 37 (2402 MHz), Middle Channel 17 (2440 MHz), High Channel 39 (2480 MHz). EUT programmed for continuous transmit or receive on selectable channel using a programming board and TI Smart RF Studio.

4.0 Conditions of Test

Environmental:

Temperature: 20-25º C
Relative Humidity: 30-60%
Atmospheric Pressure: 86-106 kPa

Voltage: 24VAC 60Hz

5.0 Test Equipment

All test equipment is calibrated by a calibration laboratory accredited by A2LA to the requirements of ISO 17025. For a complete list of test equipment and calibration dates, see Appendix A. Unless otherwise noted, resolution bandwidth of measuring instrument used during testing for given frequency range, see below.

Frequency Range	Resolution Bandwidth
9 kHz – 150 kHz	200 Hz
150 kHz – 30 MHz	9 kHz
30 MHz – 1000 MHz	120 kHz
Above 1000 MHz	1 MHz

6.0 Conformance Summary

The EUT was found to MEET the requirements as described within the specification of FCC Title 47, CFR Part 15.247, 15.109, Industry Canada RSS-210, Issue 8 (2010), Annex 8, RSS-GEN Issue 4 (2014).

If some emissions are seen to be within 3 dB of their respective limits:
As these levels are within the tolerances of the test equipment and site employed, there is a possibility that this unit, or a similar unit selected out of production may not meet the required limit specification if tested by another agency.

LS Research, LLC certifies that the data contained herein was taken under conditions that meet or exceed the requirements of the test specifications. The results in this Test Report apply only to the item(s) tested on the above-specified dates. Any modifications made to the EUT subsequent to the indicated test date(s) will invalidate the data herein, and void this certification.

Appendix A – Test Equipment

LS RESEARCH LLC
Wireless Product Development
Equipment Calibration

Date: 6-Feb-2015 Type Test: Radiated Emissions (109) Job #: C-2060

Prepared By: Shane Rismeyer Customer: Stanley Black and Decker Quote #: 314278

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960073	Spectrum Analyzer	Agilent	E4446A	US45300564	10/19/2014	10/19/2015	Active Calibration
2	EE 960088	3GHz MXE Spectrum Analyzer	Agilent	N9038A	MY51210138	1/9/2015	1/9/2016	Active Calibration
3	AA 960078	Log Periodic Antenna	EMCO	93146	9701-4855	1/19/2015	1/19/2016	Active Calibration
4	AA 960150	Biconical Antenna	ETS	3110B	0003-3346	1/22/2015	1/22/2016	Active Calibration
5	EE 960146	Std. Gain Horn Ant. w/preamp	Adv. Micro'f EMC	WLA622-4 / 3160-09	123001	8/20/2014	8/20/2015	Active Calibration
6	AA 960137	Standard Gain Horn Ant.	EMCO	3160-10	69259	8/20/2014	8/20/2015	Active Calibration
7	AA 960158	Double Ridge Horn Antenna	ETS Lindgren	3117	109300	6/20/2014	6/20/2015	Active Calibration
8	EE 960159	0.8 - 21GHz LNA	Mini-Circuits	ZVA-213X-S+	740411007	6/20/2014	6/20/2015	Active Calibration
9	AA 960161	Highpass Filter	K&L Microwave	11SH10-8000	2	2/6/2015	2/6/2016	Active Calibration

Project Engineer: Quality Assurance: Peter Fiebe

Appendix B – Test Data

B.1 – RF Conducted Emissions

Manufacturer	Stanley Black and Decker
Test Location	LS Research, LLC
Rule Part	FCC Part 15.247 / RSS-210 Annex 8
General Measurement Procedure	FCC KDB 558074 D01 DTS Meas Guidance v03r02 ANSI C63.10-2009 Section 6.7
General Description of Measurement	A direct measurement of the transmitted signal was performed at the antenna port of the EUT via a cable connection to a spectrum analyzer. An attenuator was placed in series with the cable to protect the spectrum analyzer. The loss from the cable and the attenuator were added on the analyzer as gain offset settings there by allowing direct measurements, without the need for any further corrections. The EUT was configured to run in a continuous transmit mode, while being supplied with typical data as a modulation source.

B.1.1 – RF Conducted – Fundamental Bandwidth

Manufacturer	Stanley Black and Decker
Date	2/26/15
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25° C / 30 - 60% R.H.
Rule Part	FCC Part 15.247 / RSS-210 A8
Specific Measurement Procedure	FCC KDB 558074 Section 8.0 DTS bandwidth ANSI C63.10-2009 Section 6.9 RSS-GEN Section 4.6
Additional Description of Measurement	Peak detector used
Additional Notes	Continuous transmit modulated used for this test.

Table

Channel	Frequency (MHz)	99% BW (MHz)	6 dB DTS BW (MHz)
37	2402	1.106	0.696
17	2440	1.094	0.689
39	2480	1.063	0.691

Plots

Low Channel – 2402 MHz

	
6 dB DTS BW	99% BW

Mid Channel – 2440 MHz

	
6 dB DTS BW	99% BW

High Channel – 2480 MHz

	
6 dB DTS BW	99% BW

B.1.2 – RF Conducted – Fundamental Power and Spectral Density

Manufacturer	Stanley Black and Decker
Date	2/26/15
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25° C / 30-60% R.H.
Rule Part	15.247 / RSS-210 A8
Specific Measurement Procedure	FCC KDB 558074 Section 9.2.2.2 FCC KDB 558074 Section 10.3
Additional Description of Measurement	100 kHz resolution bandwidth used for Power Spectral Density measurement
Additional Notes	Continuous transmit modulated used for this test. Sample Calculation: Margin (dB) = Limit – Measured level **Average Output power = -1.4 dBm < 30 dBm (limit)**

Output Power Table

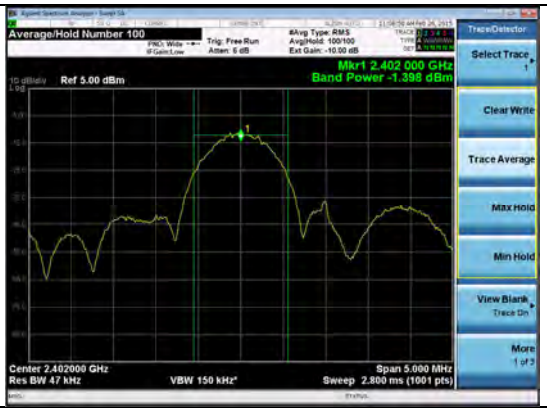
Channel	Frequency (MHz)	Power (dBm)	Limit (dBm)	Margin (dBm)
37	2402	-1.40	30	31.4
17	2440	-2.04		32.0
39	2480	-2.60		32.6

PSD Table

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm)	Margin (dBm)
37	2402	-8.366	8	16.37
17	2440	-8.667		16.67
39	2480	-9.693		17.69

Plots

Low Channel – 2402 MHz



Output Power

Power Spectral Density

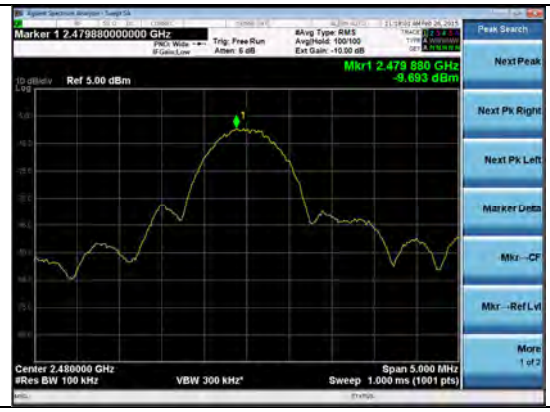
Mid Channel – 2440 MHz

Output Power

Power Spectral Density

High Channel – 2480 MHz

Output Power



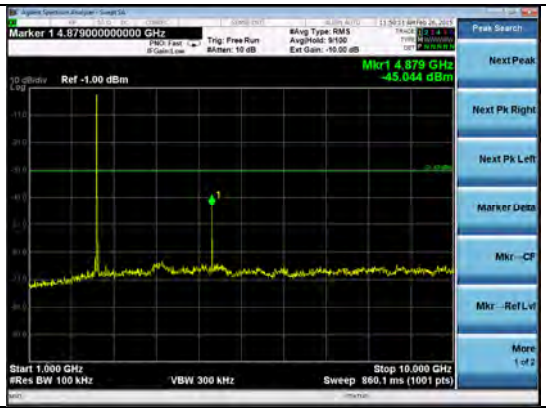
Power Spectral Density

B.1.3 – RF Conducted – Emissions in non-restricted frequency bands

Manufacturer	Stanley Black and Decker
Date	2/26/15
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247 / RSS-210 A8
Specific Measurement Procedure	FCC KDB 558074 Section 11.0 – Emissions in non-restricted frequency bands
Additional Description of Measurement	RF Conducted Measurement
Additional Notes	No Emissions found to be within 15 dB of limit Continuous transmit modulated used for this test.

Plots start next page

Mid Channel – 2440 MHz

	
1 - 10 GHz	10-25 GHz
	
30-1000 MHz	

B.2 – Radiated Emissions

Rule Part(s)	FCC: 15.247 / 15.205 / 15.209 IC: RSS-210 A8 / RSS-210 Section 2.2			
Measurement Procedure	ANSI C63.4 - 2009 ANSI C63.10 – 2009 FCC KDB 558074 D01 DTS Meas Guidance v03r02			
Test Location	LS Research, LLC - FCC Listed 3 meter Semi-Anechoic Chamber			
Test Distance	See data section			
EUT Placement	80 cm height non-conductive table above reference ground plane			
Frequency Range of Measurement	Biconical: 30-300 MHz	Log Periodic Dipole Array: 300-1000 MHz	Double-Ridged Waveguide Horn: 1-18 GHz	Standard Gain Horn: 18-26GHz
Measurement Detectors	30-1000MHz RBW: 120 kHz VBW: At least 300 kHz		1 - 40 GHz: RBW : 1MHz VBW: At least 3 (MHz) Peak 10 Hz Average	
Description of Measurement	1) The antenna, cable, pre-amp, and other necessary measurement system correction factors are loaded onto the EMI receiver / spectrum analyzer when the measurements are preformed. The data is gathered and reported as the corrected values. 2) The EUT is placed on a non-conductive pedestal centered on a turn-table in the test location with the antenna at the test distance from the EUT 3) Maximum radiated RF emissions are determined by rotation of azimuth and scanning the sense antenna between 1 and 4 meters in height using both horizontal and vertical antenna polarities. Maximized levels are manually noted at degree values of azimuth and at sense antenna height.			
Example Calculations	Reported Measurement data = Raw receiver measurement + Antenna Correction Factor + Cable factor (dB) - amplification factor (when applicable) + Additional factor (when applicable)			

FCC Part 15.209 / IC RSS-210 Section 2.7 Limits:

Frequency (MHz)	3 m Limit (µV/m)	3 m Limit (dBµV/m)	Type
30-88	100	40.0	Quasi-Peak
88-216	150	43.5	Quasi-Peak
216-960	200	46.0	Quasi-Peak
Above 960	500	54.0	Average (>1 GHz)

B.2.1 – Radiated Band-Edge Restricted Bands

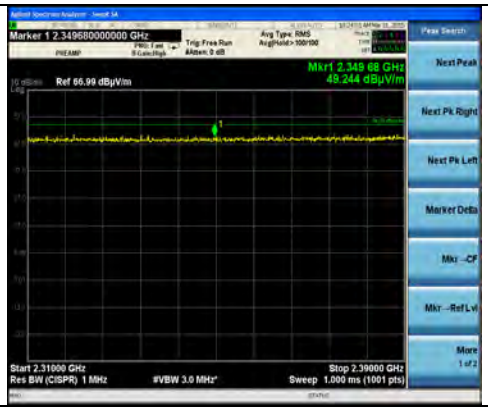
Manufacturer	Stanley Black and Decker
Date	2/6/15
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25° C / 30-60% R.H.
Rule Part	15.247/ 15.205 / 15.209
Measurement Procedure	ANSI C63.4 - 2009 ANSI C63.10 - 2009 FCC KDB 558074 v03r02 Section 12.2.7 Radiated spurious emission test
Test Distance	3 meter (1-4 GHz)
EUT Placement	80 cm height non-conductive table centered on turn-table
Detectors	Peak; RBW 1MHz VBW 3 MHz (10Hz VBW for average measurements)
Additional Notes	1) EUT maximized in azimuth and antenna height with maximum results reported.

Example Calculation:
FCC 15.209 Average Limit @ 3 meter (dBµV/m) – Peak Reading (dBµV/m) = Margin

Data Table

Channel	Frequency (MHz)	EUT orientation/ Antenna Polarity	Height (cm)	Azimuth (degree)	Peak Reading (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Avg Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)
37	2491	Flat Horizontal	102	278	63.5	74.0	10.5	52.0	54.0	2.0
39	2349	Side Horizontal	106	314	49.2	74.0	24.8	Peak Below Avg Limit		

Plots

	*Peak Below Average Limit*
Low Channel (2402 MHz) Lower Band-edge (2310-2390 MHz) **Peak**	Low Channel (2402 MHz) Lower Band-edge (2310-2390 MHz) **Average**

	
High Channel (2480MHz) Upper Band-edge (2483.5-2500 MHz) **Peak**	High Channel (2480MHz) Upper Band-edge (2483.5-2500 MHz) **Average**

B.2.2 – Radiated Harmonics in Restricted Bands

Manufacturer	Stanley Black and Decker
Date	2/6/15
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.247/ 15.205 / 15.209
Measurement Procedure	ANSI C63.4 - 2009 ANSI C63.10 - 2009
Test Distance	3 meters 4-26 GHz
EUT Placement	80 cm height non-conductive table centered on turn-table
Detectors	Peak; RBW 1 MHz Average VBW (10Hz)
Additional Notes	1) Tested in continuous transmit modulated mode with EUT in three orientations at maximum power. (Worst case 1 Mbps)

Example Calculation:
FCC 15.209 Average Limit @ 1 meter (dBµV/m) – Peak Reading (dBµV/m) = Margin

Data Table

Frequency (MHz)	Height (cm)	Azimuth (degree)	Peak Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)	Antenna Polarity	Channel/ Orientation	Note
4806	110	219	51.1	54.0	2.9	V	Low Ch – Flat Pos	1
4882	200	22	50.2	54.0	3.8	V	Mid Ch – Side Pos	1
4962	145	56	49.9	54.0	4.1	V	High Ch – Side Pos	1

Note 1: Peak measurements below Average limit.

Plots - Middle Channel

4-18 GHz (Reduced VBW)

18-26 GHz (reduced VBW)

B.2.3 – Radiated Emissions Transmit Mode

Manufacturer	Stanley Black and Decker
Date	12/4/14
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25° C / 30-60% R.H.
Rule Part	15.247/ 15.205 / 15.209
Measurement Procedure	ANSI C63.4 – 2009 ANSI C63.10 - 2009
Test Distance	3 meter 30-4000 MHz
EUT Placement	80 cm height non-conductive table centered on turn-table
Detectors	Quasi-Peak; 120 kHz and Peak; RBW 1 MHz
Additional Notes	1) Tested in continuous transmit modulated mode with EUT in three orientations at maximum power. 2) Emissions not effected by channel or transmit or receive mode.

Example Calculation:

Limit (dBµV/m) – Reading (dBµV/m) = Margin

Table

Frequency (MHz)	Height (cm)	Azimuth (degree)	Quasi Peak Reading (dBµV/m)	Quasi Peak Limit (dBµV/m)	Margin (dB)	Antenna Polarity	EUT orientation
299.7	1.00	0	30.9	46.0	15.1	H	Side
168.2	1.00	0	25.0	43.5	18.5	V	Side
949.2	1.00	0	35.0	46.0	11.0	H	Side
962.6	1.00	0	34.0	54.0	20.0	V	Side

Plots

30-300 MHz Vertical

30-300 MHz Horizontal

300-1000 MHz Vertical

300-1000 MHz Horizontal

1000 - 2310 MHz

2500 - 3600 MHz

3600-4000 MHz

B.2.4 – Radiated Emissions Receive Mode

Manufacturer	Stanley Black and Decker
Date	2/6/15
Operator	Shane Rismeyer
Temp. / R.H.	20 - 25º C / 30-60% R.H.
Rule Part	15.109 / RSS-GEN
Measurement Procedure	ANSI C63.4 – 2009 ANSI C63.10 - 2009
Test Distance	3 meter 30-25000MHz
EUT Placement	80 cm height non-conductive table centered on turn-table
Detectors	Quasi-Peak; RBW 120 kHz and Peak; RBW 1 MHz
Additional Notes	1) Tested in continuous transmit modulated mode with EUT in three orientations at maximum power. 2) Maximum results reported 3) Emissions not effected by channel or transmit or receive mode.

Example Calculation:

Limit (dBµV/m) – Reading (dBµV/m) = Margin

Table

Frequency (MHz)	Height (cm)	Azimuth (degree)	Quasi Peak Reading (dBµV/m)	Quasi Peak Limit (dBµV/m)	Margin (dB)	Antenna Polarity	EUT orientation
299.7	1.00	0	30.9	46.0	15.1	H	Side
168.2	1.00	0	25.0	43.5	18.5	V	Side
949.2	1.00	0	35.0	46.0	11.0	H	Side
962.6	1.00	0	34.0	54.0	20.0	V	Side

1000 – 3600 MHz (reduced VBW)

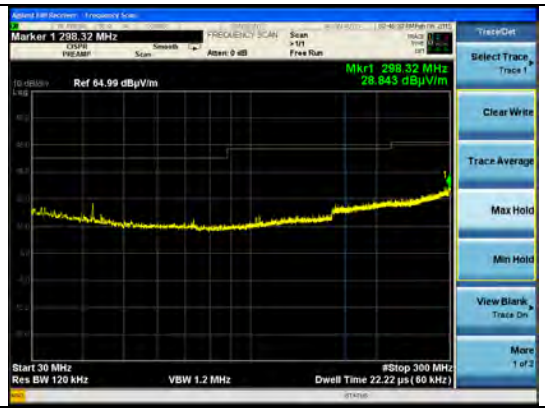
18-26 GHz (reduced VBW)

3600-4000 MHz (reduced VBW)

4-18 GHz (reduced VBW)

300-1000 MHz Vertical

300-1000 MHz Horizontal

	
30-300 MHz Vertical	30-300 MHz Horizontal

B.3 – Frequency Stability

Manufacturer	Stanley Black and Decker
Operator	Shane Rismeyer
Measurement Procedure	ANSI C63.10 - 2009
Additional Notes	The power and frequency stability of the device was examined as a function of the input voltage available to the EUT. A Spectrum Analyzer was used to measure the RF output power and frequency at the appropriate frequency markers. Power was supplied by an external bench-type DC power supply and was varied from the nominal. The power was then cycled On/Off to observe system response. No unusual response was observed, the emission characteristics were well behaved, and the system returned to the same state of operation as before the power cycle. Below is data showing stability of the fundamental frequency. Continuous transmit modulated used for this test.

Channel	Supply voltage (DC)		
	Nominal (20 VDC)	-15% (17 VDC)	Deviation (Hz)
Low (Hz)	2401997367	2401996717	650
Middle (Hz)	2439995494	2439995657	163
High (Hz)	2479995006	2479996238	1232

B.4 – AC Mains Conducted Emissions

Test Setup

The test area and setup are in accordance with ANSI C63.4-2009 and with Title 47 CFR, FCC Part 15, Industry Canada RSS-210 and RSS GEN. The EUT was placed on a non-conductive table, with a height of 80 cm above the reference ground plane. The EUT's power cable was plugged into a Line Impedance Stabilization Network (LISN). The AC power supply of 120VAC was provided via an appropriate broadband EMI Filter, and then to the LISN line input. Final readings were then taken and recorded. After the EUT was setup and connected to the LISN, the RF Sampling Port of the LISN was connected to a 10 dB Attenuator-Limiter, and then to the EMI Receiver. The LISN used has the ability to terminate the unused port with a 50Ω (ohm) load when switched to either L1 (line) or L2 (neutral).

Test Procedure

The EUT was investigated in continuous modulated transmit mode for this portion of the testing. The appropriate frequency range and bandwidths were selected on the EMI Receiver, and measurements were made. The bandwidth used for these measurements was as specified for Quasi-Peak and Average detectors in the frequency range of 150 kHz to 30 MHz. Final readings were then taken and recorded.

Limits of Conducted Emissions at the AC Mains Ports

Frequency Range (MHz)	**Class B Limits (dBµV)**		**Measuring Bandwidth**
	Quasi-Peak	Average	
0.150 -0.50 *	66-56	56-46	RBW = 9 kHz
0.5 – 5.0	56	46	
5.0 – 30	60	50	
* The limit decreases linearly with the logarithm of the frequency in this range.			

Test Data

Manufacturer:	Stanley Black and Decker					
Date(s) of Test:	5/28/15					
Test Engineer:	Shane Rismeyer					
Voltage:	120VAC					
Operation Mode:	Continuous transmit modulated used for this test. (No significant difference between transmit or receive or channel selection)					
Environmental Conditions in the Lab:	Temperature: 71˚F Relative Humidity: 40%					
Test Location:	X	AC Mains Test area				Chamber
EUT Placed On:	X	40cm from Vertical Ground Plane				10cm Spacers
	X	80cm above Ground Plane				Other:
Measurements:		Pre-Compliance		Preliminary	X	Final
Detectors Used:		Peak	X	Quasi-Peak	X	Average

Sample Calculation:
Margin (dB) = Limit (dBµV) – Reading (dBµV)

Frequency (MHz)	Line	QP Reading (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Average Reading (dBµV)	Average Limit (dBµV)	Average Margin (dB)
0.182	L1	57.500	64.417	6.917	39.800	54.417	14.617
0.276	L1	43.200	60.937	17.737	29.800	50.937	21.137
0.339	L1	38.900	59.229	20.329	26.200	49.229	23.029
0.168	L2	50.500	65.059	14.559	28.300	55.059	26.759
0.182	L2	56.600	64.394	7.794	37.300	54.394	17.094
0.262	L2	41.800	61.353	19.553	21.500	51.353	29.853
0.348	L2	34.300	59.012	24.712	15.100	49.012	33.912

These screen captures represent Peak Emissions. For conducted emission measurements, both a Quasi-Peak detector function and an Average detector function are utilized. The emissions must meet both the Quasi-peak limit and the Average limit as described in 47 CFR 15.207 and RSS GEN 7.2.2 (Table 2).

	
Line 1	Line 2

Appendix C - Uncertainty Summary

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of k=2.

Table of Expanded Uncertainty Values, (K=2) for Specified Measurements

Measurement Type	Particular Configuration	Uncertainty Values
Radiated Emissions	3 – Meter chamber, Biconical Antenna	4.82 dB
Radiated Emissions	3-Meter Chamber, Log Periodic Antenna	4.88 dB
Radiated Emissions	3-Meter Chamber, Horn Antenna	4.85 dB
Absolute Conducted Emissions	Agilent PSA/ESA Series	1.38 dB
AC Line Conducted Emissions	Shielded Room/EMCO LISN	3.20 dB
Radiated Immunity	3 Volts/Meter in 3-Meter Chamber	2.05 Volts/Meter
Conducted Immunity	3 Volts level	2.33 V
EFT Burst, Surge, VDI	230 VAC	54.4 V
ESD Immunity	Discharge at 15kV	3200 V
Temperature/Humidity	Thermo-hygrometer	0.64° / 2.88 %RH

Appendix D - References

Publication	Year	Title
FCC CFR Parts 0-15	2014	Code of Federal Regulations – Telecommunications
ANSI C63.4	2009	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
RSS-210 Annex 8	2010	Low-power License-exempt Radio communication Devices (All Frequency Bands): Category I Equipment
RSS-GEN Issue 4	2014	General Requirements and Information for the Certification of Radio Apparatus
ANSI C63.10	2009	American National Standard for Testing Unlicensed Wireless Devices
FCC KDB 558074 D01 DTS Meas Guidance v03r02	2014	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247