

Select Comfort Corporation

Model 360 - Base Controller FCC 15.247:2017 2.4 GHz DTS Radio

Report # SECF0066



(R) TESTING ÞXŠŒÚÁŠæàÁÔ[å^kÁG€€ÌÌFË€Á Á

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America. This Report shall not be reproduced, except in full without written approval of the laboratory.

CERTIFICATE OF TEST



Last Date of Test: January 11, 2017 Select Comfort Corporation Model 360 - Base Controller

Á Radio Equipment Testing Á Standards

Specification	Method
ØÔÔÁFÍ ÈÐI Ï KGEFÏ Á	OE∋ÙOLÔÎHÈE€IG€FHÉESÖÓÁÍÌ€ÏIÁ

Results

Method Clause	Test Description	Applied	Results	Comments
ÎÈEÁ	Ú[,^¦ āj^ÁÔ[}å`&c^åÁÔ{ã•ã[}•Á	Ÿ^∙Á	Úæ∙Á	Á
FFÈFGÈFÉÁ FFÈFHÈGÉÂIĚÉÁ	Ù] 覹į̃`∙ÁÜæåãæe∿åÁÔ{ã∙ąį}∙ÁÄ	Ÿ^∙Á	Úæ∙Á	Á
FFĒÁ	ÖčćÂÔ^& ^Á	Ϋ́^∙Á	Úæ∙Á	Á
FFÈÈÈGÁ	U&&`]ā\àÁÓæ);å,ãåc@Á	Ϋ́^∙Á	Úæ∙Á	Á
FFÈÈÈÈÁ	Učo]čóÁÚ[、^¦Á	Ϋ́^∙Á	Úæ∙Á	Á
FFÈF€ÈEÁ	Ú[,^¦ÂÙ]^&clæ4ÁÖ^}∙ãĉÁ	Ϋ́^∙Á	Úæ∙Á	Á
FFÈFFÁ	Óæ}åÁÒå*^ÁÔ[{] ãæ}&^Á	Ϋ́^∙Á	Úæ∙Á	Á
FFÈFÁ	Ù] ĭ¦ā[ĭ•ÁÔ[}åĭ&c^åÁÔ{{ãe•ã[}}•Á	Ÿ^∙Á	Úæ∙Á	Á

Deviations From Test Standards

Þ[}^Á Á А Α A

Approved By:

Dean Ghizzone, General Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

Á

REVISION HISTORY



Revision Number	Description	Date	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS



United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Validated by the European Commission as a Notified Body under the R&TTE Directive.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit: <u>http://www.nwemc.com/accreditations/</u> http://gsi.nist.gov/global/docs/cabs/designations.html

MEASUREMENT UNCERTAINTY



Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES





California	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13	Labs MN01-08, MN10	Labs NY01-04	Labs EV01-12	Labs TX01-09	Labs NC01-05
41 Tesla	9349 W Broadway Ave.	4939 Jordan Rd.	22975 NW Evergreen Pkwy	3801 E Plano Pkwy	19201 120 th Ave NE
Irvine, CA 92618	Brooklyn Park, MN 55445	Elbridge, NY 13060	Hillsboro, OR 97124	Plano, TX 75074	Bothell, WA 98011
(949) 861-8918	(612)-638-5136	(315) 554-8214	(503) 844-4066	(469) 304-5255	(425)984-6600
	_		_		_
		NV	LAP		
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Innovation, Science and Economic Development Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
		BS	МІ		
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
	Recognized Phase	e I CAB for ACMA, BSM	I, IDA, KCC/RRA, MIC, M	OC, NCC, OFCA	
US0158	US0175	N/A	US0017	US0191	US0157



Test Setup Block Diagrams





PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	Select Comfort Corporation
Address:	PO Box 41580
City, State, Zip:	Plymouth, MN 55441
Test Requested By:	Nick Reynolds
Model:	Model 360 - Base Controller
First Date of Test:	January 10, 2017
Last Date of Test:	January 11, 2017
Receipt Date of Samples:	January 9, 2017
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Base controller for adjustable bed which utilizes a DTS radio operating in the 2400 - 2483.5 MHz band.

Testing Objective:

To demonstrate compliance of the DTS radio to FCC 15.247 requirements.

CONFIGURATIONS



Configuration SECF0066-2

Software/Firmware Running during test	
Description	Version
Controller Firmware	D6

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Base Controller	Select Comfort Corporation	Model 360	N/A

Peripherals in test setup boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
Laptop	Dell	Latitude E6440	4DTFWZ1	

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Cable	No	2.0m	No	Bed	AC Mains
USB to 6-pin Serial	Yes	1.8m	No	Controller	Laptop

CONFIGURATIONS



Configuration SECF0066-3

Software/Firmware Running during test	
Description	Version
Controller Firmware	D6

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
360 Adjustable Foundation Controller	Select Comfort Corporation	360	FCC 1		

Peripherals in te	est setup boundary		
Description	Manufacturer	Model/Part Number	Serial Number
Linear Actuator	Linak	204X00A211524838101X	2dW035718 - 0115
Linear Actuator	Linak	204X00A211524838101X	2dW040162 - 0066
Linear Actuator	Linak	204X00A211524838101X	2dW035718 - 0438
Linear Actuator	Linak	204X00A211524838101X	1dW041813 - 0835
Underbed Light	Unknown	Unknown	Unknown
360 Pump	Select Comfort Corporation	360 Pump	Pump FCC 1
Favorite Button	Select Comfort Corporation	132580002 Rev 3	None
Favorite Button	Select Comfort Corporation	132580002 Rev 3	None
Strip Switch	Futai	None	None
Strip Switch	Futai	None	None
Strip Switch	Futai	None	None
Strip Switch	Futai	None	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
360 Pump AC Cable	No	1.8m	No	AC Mains	360 Pump
360 Board AC Cable	No	1.8m	No	AC Mains	360 Adjustable Foundation Controller
Linear Actuator Cable	No	0.5m	No	Linear Actuator	360 Adjustable Foundation Controller
Linear Actuator Cable	No	0.5m	No	Linear Actuator	360 Adjustable Foundation Controller
Linear Actuator Cable	No	0.5m	No	Linear Actuator	360 Adjustable Foundation Controller
Linear Actuator Cable	No	0.5m	No	Linear Actuator	360 Adjustable Foundation Controller
Under Bed Harness Cable Bundle	No	1.2m	No	Underbed Light and Favorite Button	360 Adjustable Foundation Controller
360 King Harness Cable Bundle	No	1.8m	No	Favorite Button and 260 Pump	360 Adjustable Foundation Controller

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
			Tested as	No EMI suppression	EUT remained at
1	1/10/2017	Duty Cycle	delivered to	devices were added or	Northwest EMC
			Test Station.	modified during this test.	following the test.
		Occupied	Tested as	No EMI suppression	EUT remained at
2	1/10/2017	Bandwidth	delivered to	devices were added or	Northwest EMC
		Danuwiutin	Test Station.	modified during this test.	following the test.
		Output	Tested as	No EMI suppression	EUT remained at
3	1/10/2017	Dower	delivered to	devices were added or	Northwest EMC
		FOWEI	Test Station.	modified during this test.	following the test.
		Power	Tested as	No EMI suppression	EUT remained at
4	1/10/2017	Spectral	delivered to	devices were added or	Northwest EMC
		Density	Test Station.	modified during this test.	following the test.
		Band Edge	Tested as	No EMI suppression	EUT remained at
5	1/10/2017	Compliance	delivered to	devices were added or	Northwest EMC
		Compliance	Test Station.	modified during this test.	following the test.
		Spurious	Tested as	No EMI suppression	EUT remained at
6	1/10/2017	Conducted	delivered to	devices were added or	Northwest EMC
		Emissions	Test Station.	modified during this test.	following the test.
		Spurious	Tested as	No EMI suppression	Scheduled testing
7	1/11/2017	Radiated	delivered to	devices were added or	was completed
		Emissions	Test Station.	modified during this test.	mas completed.

SPURIOUS RADIATED EMISSIONS



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Tx Modulated signal on Low (2405MHz), Mid (2440MHz), or High Channel (2480MHz)

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

SECF0066 - 3

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz

Stop Frequency 25000 MHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator	Fairview Microwave	SA18E-20	TWZ	9/23/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	LFN	9/23/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	9/22/2016	12 mo
Cable	Northwest EMC	18-26GHz Standard Gain Horn Cable	MNP	9/15/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	9/15/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	3/1/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	3/1/2016	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	7/29/2016	12 mo
Antenna - Biconilog	EMCO	3142	AXB	11/6/2015	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	3/1/2016	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	12/1/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	6/23/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	12/1/2016	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	12/1/2016	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	1/6/2016	24 mo
Analyzer - Spectrum Analyzer	Keysight	N9010A (EXA)	AFQ	12/22/2016	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range	Peak Data	Quasi-Peak Data	Average Data
(MHz)	(kHz)	(kHz)	(kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector PK = Peak Detector AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements at the edges of the allowable band may be presented in an alternative method as provided for in the ANSI C63.10 Marker-Delta method. This method involves performing an in-band fundamental measurement followed by a screen capture of the fundamental and out-of-band emission using reduced measurement instrumentation bandwidths. The amplitude delta measured on this screen capture is applied to the fundamental emission value to show the out-of-band emission level as applied to the limit.

SPURIOUS RADIATED EMISSIONS



	k Order	SECE006	6	Date:	01/11/1	7		0
	Project:	None	ř –	Temperature:	22.1 °C		~ 1	3 11 1
J	ob Site:	MN05		Humidity:	19.8% R	H IN	evol	mas
Serial N	lumber:	FCC 1	Baro	ometric Pres.:	969.5 mb	ar Tes	ted by: Trevor Buls, I	Kyle McMullan
	EUT:	Model 360 - Ba	se Controller	•				
Config	uration:	3						
Cu	stomer:	Select Comfort	Corporation					
Att	endees:	Eric Kallevig, J	ason Ortbirg.	Paul Groslosche	n. Drew Vonh	evo		
EUT	Power:	110VAC/60Hz			,	-)-		
Operatin	g Mode:	Tx Modulated s	ignal on Low	(2405MHz), Mid	(2440MHz), c	or High Channel (2480)	MHz)	
Dev	viations:	None						
Cor	nments:	None						
st Specifi	cations				Te	st Method		
C 15.247:	2016				AN	SI C63.10:2013		
80	2	Test Distance	ce (m) 3	Antenna I	Height(s)	1 to 4(m)	Results	Pass
70 —								
60								
50						• •		
¥ 40 ⊥				•		•		
ភ្ន	1							
30 —				•			▲	
30 20							•	
30				•				

Freq	Amplitude	Factor	Antenna Height	Azimuth	Test Distance	External Attenuation	Polarity/ Transducer Type	Detector	Distance Adjustment	Adjusted	Spec. Limit	Compared to Spec.	
(MHZ)	(UBUV)	(UB)	(meters)	(degrees)	(meters)	(UB)			(UB)	(ubuv/iii)	(ubuv/iii)	(UD)	Comments
2483.557	33.6	-2.6	1.0	310.0	3.0	20.0	Horz	AV	0.0	51.0	54.0	-3.0	High Ch, EUT Horz
2483.533	33.4	-2.6	1.0	224.1	3.0	20.0	Horz	AV	0.0	50.8	54.0	-3.2	High Ch, EUT On Side
2483.533	33.2	-2.6	1.0	252.0	3.0	20.0	Vert	AV	0.0	50.6	54.0	-3.4	High Ch, EUT On Side
2483.858	32.9	-2.6	1.0	14.0	3.0	20.0	Horz	AV	0.0	50.3	54.0	-3.7	High Ch, EUT Vert
2389.593	32.7	-2.4	1.8	264.0	3.0	20.0	Vert	AV	0.0	50.3	54.0	-3.7	Low Ch, EUT On Side
2389.797	32.7	-2.4	1.0	99.0	3.0	20.0	Horz	AV	0.0	50.3	54.0	-3.7	Low Ch, EUT Horz
2483.597	32.8	-2.6	2.4	229.9	3.0	20.0	Vert	AV	0.0	50.2	54.0	-3.8	High Ch, EUT Horz
2483.915	32.7	-2.6	1.0	102.1	3.0	20.0	Vert	AV	0.0	50.1	54.0	-3.9	High Ch, EUT Vert
7440.800	31.8	15.3	1.0	150.0	3.0	0.0	Vert	AV	0.0	47.1	54.0	-6.9	High Ch, EUT Vert
7441.250	31.8	15.3	1.0	250.9	3.0	0.0	Horz	AV	0.0	47.1	54.0	-6.9	High Ch, EUT Horz
7321.180	31.4	15.2	3.3	41.1	3.0	0.0	Horz	AV	0.0	46.6	54.0	-7.4	Mid Ch, EUT Horz
7319.305	31.2	15.2	3.7	135.0	3.0	0.0	Vert	AV	0.0	46.4	54.0	-7.6	Mid Ch, EUT Vert
2483.725	46.1	-2.6	1.0	224.1	3.0	20.0	Horz	PK	0.0	63.5	74.0	-10.5	High Ch, EUT On Side
2483.692	46.1	-2.6	1.0	252.0	3.0	20.0	Vert	PK	0.0	63.5	74.0	-10.5	High Ch, EUT On Side
2484.128	45.4	-2.6	1.0	310.0	3.0	20.0	Horz	PK	0.0	62.8	74.0	-11.2	High Ch, EUT Horz
2389.552	44.2	-2.4	1.8	264.0	3.0	20.0	Vert	PK	0.0	61.8	74.0	-12.2	Low Ch, EUT On Side
2484.100	44.4	-2.6	2.4	229.9	3.0	20.0	Vert	PK	0.0	61.8	74.0	-12.2	High Ch, EUT Horz

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.798	44.4	-2.6	1.0	102.1	3.0	20.0	Vert	PK	0.0	61.8	74.0	-12.2	High Ch, EUT Vert
2483.627	44.3	-2.6	1.0	14.0	3.0	20.0	Horz	PK	0.0	61.7	74.0	-12.3	High Ch, EUT Vert
2389.563	43.9	-2.4	1.0	99.0	3.0	20.0	Horz	PK	0.0	61.5	74.0	-12.5	Low Ch, EUT Horz
7439.210	43.7	15.3	1.0	150.0	3.0	0.0	Vert	PK	0.0	59.0	74.0	-15.0	High Ch, EUT Vert
4878.930	32.1	6.7	1.0	306.0	3.0	0.0	Horz	AV	0.0	38.8	54.0	-15.2	Mid Ch, EUT Horz
4881.240	32.0	6.7	1.0	112.1	3.0	0.0	Vert	AV	0.0	38.7	54.0	-15.3	Mid Ch, EUT Vert
4961.240	31.9	6.7	1.5	268.9	3.0	0.0	Vert	AV	0.0	38.6	54.0	-15.4	High Ch, EUT Vert
7439.905	43.3	15.3	1.0	250.9	3.0	0.0	Horz	PK	0.0	58.6	74.0	-15.4	High Ch, EUT Horz
7320.290	43.2	15.2	3.3	41.1	3.0	0.0	Horz	PK	0.0	58.4	74.0	-15.6	Mid Ch, EUT Horz
7318.785	43.2	15.2	3.7	135.0	3.0	0.0	Vert	PK	0.0	58.4	74.0	-15.6	Mid Ch, EUT Vert
4808.925	31.6	6.7	1.0	340.9	3.0	0.0	Vert	AV	0.0	38.3	54.0	-15.7	Low Ch, EUT Vert
4808.575	31.5	6.7	1.0	350.0	3.0	0.0	Horz	AV	0.0	38.2	54.0	-15.8	Low Ch, EUT Horz
4962.492	31.3	6.7	1.0	54.0	3.0	0.0	Horz	AV	0.0	38.0	54.0	-16.0	High Ch, EUT Horz
4961.070	31.3	6.7	2.0	55.1	3.0	0.0	Horz	AV	0.0	38.0	54.0	-16.0	High Ch, EUT On Side
4961.767	31.2	6.7	1.0	304.9	3.0	0.0	Vert	AV	0.0	37.9	54.0	-16.1	High Ch, EUT Horz
4959.220	31.2	6.7	1.0	55.1	3.0	0.0	Horz	AV	0.0	37.9	54.0	-16.1	High Ch, EUT Vert
4959.035	31.2	6.7	1.0	335.1	3.0	0.0	Vert	AV	0.0	37.9	54.0	-16.1	High Ch, EUT On Side
332.412	30.5	-1.4	1.0	130.1	3.0	0.0	Horz	QP	0.0	29.1	46.0	-16.9	Low Ch, EUT Horz
12400.550	29.3	6.2	3.2	218.0	3.0	0.0	Vert	AV	0.0	35.5	54.0	-18.5	High Ch, EUT Vert
12400.240	29.3	6.2	1.0	207.0	3.0	0.0	Horz	AV	0.0	35.5	54.0	-18.5	High Ch, EUT Horz
4880.085	43.9	6.7	1.0	306.0	3.0	0.0	Horz	PK	0.0	50.6	74.0	-23.4	Mid Ch, EUT Horz
12199.430	30.8	-0.5	3.2	279.0	3.0	0.0	Vert	AV	0.0	30.3	54.0	-23.7	Mid Ch, EUT Vert
4880.270	43.6	6.7	1.0	112.1	3.0	0.0	Vert	PK	0.0	50.3	74.0	-23.7	Mid Ch, EUT Vert
4957.633	43.4	6.7	1.0	304.9	3.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	High Ch, EUT Horz
12200.940	30.6	-0.5	1.0	267.0	3.0	0.0	Horz	AV	0.0	30.1	54.0	-23.9	Mid Ch, EUT Horz
12026.450	31.1	-1.0	1.0	134.1	3.0	0.0	Vert	AV	0.0	30.1	54.0	-23.9	Low Ch, EUT Vert
12398.880	29.3	0.7	2.8	125.0	3.0	0.0	Horz	AV	0.0	30.0	54.0	-24.0	High Ch, EUT Horz
12399.390	29.3	0.7	2.5	264.9	3.0	0.0	Vert	AV	0.0	30.0	54.0	-24.0	High Ch, EUT Vert
4961.265	43.2	6.7	1.5	268.9	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	High Ch, EUT Vert
4961.195	43.2	6.7	1.0	335.1	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	High Ch, EUT On Side
12024.900	30.9	-1.0	1.0	348.9	3.0	0.0	Horz	AV	0.0	29.9	54.0	-24.1	Low Ch, EUT Horz
4960.345	43.1	6.7	1.0	55.1	3.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	High Ch, EUT Vert
4809.700	43.0	6.7	1.0	350.0	3.0	0.0	Horz	PK	0.0	49.7	74.0	-24.3	Low Ch, EUT Horz
4809.215	43.0	6.7	1.0	340.9	3.0	0.0	Vert	PK	0.0	49.7	74.0	-24.3	Low Ch, EUT Vert
4957.500	42.9	6.7	1.0	54.0	3.0	0.0	Horz	PK	0.0	49.6	74.0	-24.4	High Ch, EUT Horz
4959.940	42.7	6.7	2.0	55.1	3.0	0.0	Horz	PK	0.0	49.4	74.0	-24.6	High Ch, EUT On Side
12401.110	41.0	6.2	3.2	218.0	3.0	0.0	Vert	PK	0.0	47.2	74.0	-26.8	High Ch, EUT Vert
12400.230	41.0	6.2	1.0	207.0	3.0	0.0	Horz	PK	0.0	47.2	74.0	-26.8	High Ch, EUT Horz
329.452	19.7	-1.5	1.0	130.1	3.0	0.0	Vert	QP	0.0	18.2	46.0	-27.8	Low Ch, EUT Horz
12398.730	41.6	0.7	2.8	125.0	3.0	0.0	Horz	PK	0.0	42.3	74.0	-31.7	High Ch, EUT Horz
12026.450	43.0	-1.0	1.0	348.9	3.0	0.0	Horz	PK	0.0	42.0	74.0	-32.0	Low Ch, EUT Horz
12199.530	42.3	-0.5	1.0	267.0	3.0	0.0	Horz	PK	0.0	41.8	74.0	-32.2	Mid Ch, EUT Horz
12399.190	41.0	0.7	2.5	264.9	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	High Ch, EUT Vert
12198.860	42.2	-0.5	3.2	279.0	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	Mid Ch, EUT Vert
12023.900	42.6	-1.0	1.0	134.1	3.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	Low Ch, EUT Vert



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/15/2016	9/15/2017
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.



									NWe1 x 2016.09.14.2
EUT: Model 3	360 - Base Contro	ller					Work Order:	SECF0066	
Serial Number: N/A							Date:	01/10/17	
Customer: Select (Comfort Corporat	ion					Temperature:	22.7 °C	
Attendees: Eric Ka	llevig, Jason Ortb	irg, Pual Grosloschen, Drew Vo	onheyo				Humidity:	20.2% RH	
Project: None							Barometric Pres.:	997 mbar	
Tested by: Trevor	Buls		Power:	110VAC/60Hz			Job Site:	MN08	
TEST SPECIFICATIONS				Test Method					
FCC 15.247:2017				ANSI C63.10:2013					
COMMENTS									
None									
DEVIATIONS FROM TEST S	STANDARD								
None									
Configuration #	2		T	BUD					
configuration #	2	Signature	Inevor	ous					
						Number of	Value	Limit	
				Pulse Width	Period	Pulses	(%)	(%)	Results
Low Channel, 2405 MHz				916.5 us	10.002 ms	1	9.2	N/A	N/A
Low Channel, 2405 MHz				N/A	N/A	5	N/A	N/A	N/A
Mid Channel, 2440 MHz				918.4 us	10.002 ms	1	9.2	N/A	N/A
Mid Channel, 2440 MHz				N/A	N/A	5	N/A	N/A	N/A
High Channel, 2480 MHz				916.5 us	10.002 ms	1	9.2	N/A	N/A
High Channel, 2480 MHz				N/A	N/A	5	N/A	N/A	N/A



			Lov	w Channel 240	5 MHz							
			201	Number of	5 1011 12	Value		Limit				
	Ρι	Ise Width	Period	Pulses		(%)		(%)		Resu	ılts	
		916.5 us	10.002 ms	1		9.2		N/A		N//	4	
🔆 Agilent	10:28:57	7 Jan 10, 2	2017				R	Т				
Northwest El	MC, Inc									Mkr3	11.01	. ms
Ref -4 dBm		#	Atten 10 d	łВ						-16	6.89 d	Bm
#Peak 🛛 🚽												
Log									\vdash			
5 📃	1						\$					
dB/	•						4	•				
Offst												
22.2												
dB									\vdash			
#LgAv 🔤	•			+					\vdash			
W1 S2												
Start 2.405	000 GHz								Stop	2.405	000 (GHz
Res BW 3 MH	lz			#VBW 30 kH	z		Swe	ep 1	5.29	ms (8	192 p	ts)
Marker	Trace	Type	Х	Axis		Ĥmp	olitude	2				
1	(1)	Time Time	1	.004 ms		-16.2	25 dBr	n				
	(1)	Time Time	1	.921 ms 1.01 ms		-45.9	10 abi 39 dBi	n n				
	~		-	T .OT WD								

		Low	v Channel, 2405 I	MHz			
			Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	N/A	N/A	5	N/A	N/A	N/A	

🔆 Agilent 10:	:29:02 Jan	10,201	17					RT		
Northwest EMC, Ref —4 dBm	Inc	#At	ten 10 df	3						
#Peak Log										
5 dB/										
dB										
#LgAv										
W1 S2										
S3 VS										
£ (f): FTun										
Start 2.405 000 Res BW 3 MHz	0 GHz		#	VBW	30 k	Hz	S	St weep 45.	op 2 . 405 32 ms (8:	000 GHz 192 pts)



		Mic	Channel 2440	/Hz		
		Wite	Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	918.4 us	10.002 ms	1	9.2	N/Á	N/A
🔆 Agilent 10	0:34:11 Jan 10), 2017			RT	
Northwest EMC	, Inc					Mkr3 11 ms
Ref -4 dBm		#Atten 10 d	В			-19.01 dBm
#Peak						
Log						
5						
dB/ 👗					1 🕺 📘	
Offst						
22.2						
dB						
#L aQu						
"L'gillo	•					
W1 S2						
Center 2.440	000 GHz					Span 0 Hz
Res BW 3 MHz			⊭VBW 30 kHz		Sweep 15.2	29 ms (8192 pts)
Marker Tr	ace Type	X	Axis	Ĥmp	litude	
1	(1) Time (1) Time	1.	002 ms 021 ma	-18.3	/dBm 2.dPm	
2	(1) Time	1.	921 MS 11 ms	-47.3 _19.0	з ubiii 1 dBm	
1 3 0						

Mid Channel, 2440 MHz							
			Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	N/A	N/A	5	N/A	N/A	N/A	

₩ A	gilent 10:	34:16 Ja	n 1	0,201	17						R	Т			
Northw∘ Ref —4	est EMC, dBm	Inc		#Ĥt	ten 10 di	3									
#Peak															
Log 5								_			_				
dB/															
Uffst 22.2 dB															
#LgAv															
W1 S2															
S3 VS															
£ (f): FTun															
Center	2.440 0	00 GHz												Sp	an 0 Hz
Res BW	3 MHz_				#	٧BW	- 30	kН	Z		Swe	ep 45.	32 ms (81	92 pts)_



			Lia	h Channel 2490					
			ΠIΥ	Number of	Value	1	mit		
	Puls	e Width	Period	Pulses	(%)		'%)	Results	
	91	6.5 us	10.002 ms	1	9.2	N	I/A	N/A	
				•	-				·
🔆 🔆 Agilen	t 10:11:45	Jan 10, 2	017			R	Т		
Northwest B	EMC, Inc							Mkr3 11.0	01 ms
Ref -5 dBr	n	# F	Atten 10 c	IB				-17.24	dBm
#Peak									
Log									
5	4					\$_			
dB/	Ŷ]					🔶			
Offst									
22.2									
dB									
				+					
	2								
#LgHv	•								
				+					
W1 S2									
Center 2.4	30 000 GHz							Span (0 Hz
Res BW 3 M	1Hz			⊭VBW 30 kHz		Swee	p 15.29	ms (8192	pts)
Marker	Trace	Type	X	Axis	f	Amplitude			
1	(1)	Time Time	1.	.004 ms	-1	6.92 dBm			
	(1)	lime Timo	1	.921 MS 1 01 me	-4	6.62 dBm 7 24 dBm			
, in the second s	12/		-	1.01	-				

High Channel, 2480 MHz								
				Number of	Value	Limit		
		Pulse Width	Period	Pulses	(%)	(%)	Results	
		N/A	N/A	5	N/A	N/A	N/A	

₩ А	★ Agilent 10:11:52 Jan 10, 2017								RT					
Northw∘ R≏f —5	est EMC, dBm	Inc		#A+1	ten 10 di	R								
#Peak						_							Τ	
Log	L		-							_		ļ		
dB/														
Offst 22.2 dB														
							Ļ							
#LgAv														
W1 S2														
S3 VS														
£ (f): FTun														
Center	2.480 00	00 GHz											òpar	ı0Hz
Res BW	3 MHz_				#	٨BM	-30	kHz			Sweep 45	.32 ms (8	3192	2 pts)_



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/15/2016	9/15/2017
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was set to the channels and modes listed in the datasheet.

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.0% occupied bandwidth was also measured at the same time which can be needed during Output Power depending on the applicable method.



EUT: Model 360 - Base Controller		Work Order:	SECF0066				
Serial Number: N/A		Date:	01/10/17				
Customer: Select Comfort Corporation		Temperature:	22.7 °C				
Attendees: Eric Kallevig, Jason Ortbirg, Pual Grosloschen, Drew Vonhey	/0	Humidity: 20.2% RH					
Project: None		Barometric Pres.: 997 mbar					
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site:	MN08				
TEST SPECIFICATIONS	Test Method						
FCC 15.247:2017	ANSI C63.10:2013						
COMMENTS							
None							
DEVIATIONS FROM TEST STANDARD							
None							
Configuration # 2	Jun July J						
Signature 🕗	Mero C a suite						
			Limit				
		Value	(>)	Result			
Low Channel, 2405 MHz		1.582 MHz	500 kHz	Pass			
Mid Channel, 2440 MHz		1.543 MHz	500 kHz	Pass			
High Channel, 2480 MHz		1.588 MHz	500 kHz	Pass			





Transmit Freq Error Occupied Bandwidth

44.808 kHz 1.543 MHz







Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/15/2016	9/15/2017
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

De Facto EIRP Limit: The EUT meets the de facto EIRP limit of +36 dBm.



					INWEIX 2016.09.14.2
EUT:	Model 360 - Base Controller		Work Order:	SECF0066	
Serial Number:	N/A		Date:	01/10/17	
Customer:	Select Comfort Corporation		Temperature:	22.7 °C	
Attendees:	Eric Kallevig, Jason Ortbirg, Pual Grosloschen, Drew Vonhey	0	Humidity:	20.1% RH	
Project:	None		Barometric Pres.:	997 mbar	
Tested by:	Trevor Buls	Power: 110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATI	ONS	Test Method			
FCC 15.247:2017		ANSI C63.10:2013			
COMMENTS					
None					
DEVIATIONS FROM	TEST STANDARD				
None					
		20			
Configuration #	2	Jacob B IND			
	Signature	serve c a suite			
				Limit	
			Value	(<)	Result
Low Channel, 2405	ЛНz		151.496 uW	1 W	Pass
Mid Channel, 2440 M	IHz		133.444 uW	1 W	Pass
High Channel, 2480	MHz		119.234 uW	1 W	Pass
-					



#VBW 8 MHz

#Sweep 3.263 ms (1000 pts)

#Res BW 4 MHz

NORTHWEST







Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/15/2016	9/15/2017
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.



					INWEIX 2010.09.14.2				
EUT:	Model 360 - Base Controller		Work Order:	SECF0066					
Serial Number:	N/A		Date:	01/10/17					
Customer:	Select Comfort Corporation		Temperature:	22.7 °C					
Attendees:	Eric Kallevig, Jason Ortbirg, Pual Grosloschen, Drew Vonheyo	0	Humidity:	20.1% RH					
Project:	None		Barometric Pres.:	997 mbar					
Tested by:	Trevor Buls	Power: 110VAC/60Hz	Job Site:	MN08					
TEST SPECIFICATI	DNS	Test Method							
FCC 15.247:2017		ANSI C63.10:2013							
COMMENTS									
None	None								
DEVIATIONS FROM	TEST STANDARD								
None									
Configuration #	2 Signature	Frevor Buls							
			Value dBm/3kHz	Limit < dBm/3kHz	Results				
Low Channel, 2405 I	ЛНz		-23.962	8	Pass				
Mid Channel, 2440 M	IHz		-22.892	8	Pass				
High Channel, 2480	MHz		-25.207	8	Pass				









NORTHWEST

BAND EDGE COMPLIANCE



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/15/2016	9/15/2017
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE



							NWEIX 2010.09.14.2
EUT:	Model 360 - Base Controller	r			Work Orde	r: SECF0066	
Serial Number:	N/A				Date	e: 01/10/17	
Customer:	Select Comfort Corporation	1			Temperatur	e: 22.7 °C	
Attendees:	Eric Kallevig, Jason Ortbirg	, Pual Grosloschen, Drew Vonheyo	1		Humidit	/: 20.2% RH	
Project:	None				Barometric Pres	.: 997 mbar	
Tested by:	Trevor Buls		Power:	110VAC/60Hz	Job Site	e: MN08	
TEST SPECIFICAT	IONS			Test Method			
FCC 15.247:2017				ANSI C63.10:2013			
COMMENTS							
None							
DEVIATIONS FROM	M TEST STANDARD						
None							
Configuration #	2	Signature	revor	Buls			
					Value (dBc)	Limit ≤ (dBc)	Result
Low Channel, 2405	MHz				-40.21	-20	Pass
High Channel, 2480	MHz				-37.88	-20	Pass
0							

Report No. SECF0066

BAND EDGE COMPLIANCE









Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/15/2016	9/15/2017
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.



							NweTx 2016.09.14.2
EUT:	Model 360 - Base Contro	ller			Work Or	der: SECF0066	
Serial Number:	r: N/A			C	Date: 01/10/17		
Customer:	Select Comfort Corporat	ion			Temperat	ure: 22.7 °C	
Attendees:	Eric Kallevig, Jason Orth	irg, Pual Grosloschen, Drew Vonhe	yo		Humi	dity: 20.1% RH	
Project:	None				Barometric P	es.: 997 mbar	
Tested by:	Trevor Buls		Power: 11	0VAC/60Hz	Job	Site: MN08	
TEST SPECIFICAT	IONS		Te	st Method			
FCC 15.247:2017			A	ISI C63.10:2013			
COMMENTS							
None							
DEVIATIONS FROM	M TEST STANDARD						
None							
Configuration #	2	1	T	Bulb			
comgutation #	2	Signature <	Juron	ous			
				Frequency	Max Value	e Limit	
				Range	(dBc)	≤ (dBc)	Result
Low Channel, 2405	MHz			Fundamental	N/A	N/A	N/A
Low Channel, 2405	MHz		30	MHz - 12.5 GHz	-43.99	-20	Pass
Low Channel, 2405	MHz		12	.5 GHz - 25 GHz	-39.63	-20	Pass
Mid Channel, 2440 M	MHz			Fundamental	N/A	N/A	N/A
Mid Channel, 2440 MHz 30 MHz - 12.5 GHz				-43.09	-20	Pass	
Mid Channel, 2440 M	Mid Channel, 2440 MHz 12.5 GHz - 25 GHz				-39.38	-20	Pass
High Channel, 2480	MHz			Fundamental	N/A	N/A	N/A
High Channel, 2480	MHz		30	MHz - 12.5 GHz	-40.94	-20	Pass
High Channel, 2480	MHz		12	.5 GHz - 25 GHz	-38.14	-20	Pass



NORTHWEST





#VBW 300 kHz

Start 2.438 500 0 GHz

#Res BW 100 kHz

Stop 2.441 500 0 GHz

Sweep 1.092 ms (8192 pts)





NORTHWEST



NORTHWEST



High Channel, 2480 MHz	
Frequency Max Value Limit	
Range (dBc) ≤ (dBc) Result	-
12.5 GHz - 25 GHz - 38.14 - 20 Pass	
	_
# Agilent 10:15:18 Jan 10, 2017 R I	
Northwest EMC, Inc Mkr1 24.867 2	? GHz
Ref 10 dBm #Atten 10 dB -51.54	dBm
#Peak	
#L dBy	
V1 \$2	1
S3 FC	
£ (f):	
FTun	
Swp	
Start 12 500 0 GHz Stop 25 000 0	GHZ
#Res RW 100 kHz #VRW 300 kHz Sween 1 195 s (8192)	nts)



TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 500hm measuring port is terminated by a 500hm EMI meter or a 500hm resistive load. All 500hm measuring ports of the LISN are terminated by 500hm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESR7	ARI	6/14/2016	6/14/2017
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	3/21/2016	3/21/2017
Cable - Conducted Cable Assembly	Northwest EMC	MNC, HGN, TYK	MNCA	1/27/2017	1/27/2018

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

SECF0066-1

MODES INVESTIGATED

Transmitting modulated



EUT:	Model 360 - Base of	controller		Work Order:	SECF0066			
Serial Number:	N/A			Date:	01/10/2017			
Customer:	Select Comfort Cor	poration		Temperature:	21.9°C			
Attendees:	Eric Kallevig, Jasor Vonheyo	n Ortbirg, Pual Groslos	chen, Drew	Relative Humidity:	19.8%			
Customer Project:	None			Bar. Pressure:	998 mb			
Tested By:	Cole Ghizzone, Ch	ris Patterson		Job Site:	MN03			
Power:	110VAC/60Hz			Configuration:	SECF0066-1			
TEST SPECIFI	CATIONS							
Specification:			Method:					
FCC 15.207:2017			ANSI C63.	10:2013				
TEST PARAME	TERS							
Run #: 3	Line:	High Line		Add. Ext. Attenuation (dB): 0			
COMMENTS None								
DEVIATIONS F	ROM TEST STA	NDARD						
None								



Average Data - vs - Average Limit





RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit								
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)			
0.155	27.6	20.4	48.0	65.7	-17.7			
0.625	13.6	20.1	33.7	56.0	-22.3			
0.259	18.3	20.2	38.5	61.5	-23.0			
28.261	6.9	22.4	29.3	60.0	-30.7			
12.368	3.6	20.8	24.4	60.0	-35.6			
2.001	-0.7	20.2	19.5	56.0	-36.5			

Average Data - vs - Average Limit								
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)			
0.155	23.0	20.4	43.4	55.7	-12.3			
0.259	17.1	20.2	37.3	51.5	-14.2			
0.625	10.9	20.1	31.0	46.0	-15.0			
28.261	1.3	22.4	23.7	50.0	-26.3			
12.368	-0.3	20.8	20.5	50.0	-29.5			
2.001	-5.7	20.2	14.5	46.0	-31.5			

CONCLUSION

Pass

Cak , 40

Tested By



EUT:	Model 360 -	Base contr	oller		Work Order:	SECF0066	
Serial Number:	N/A				Date:	01/10/2017	
Customer:	Select Comf	ort Corpora	ation		Temperature:	21.9°C	
Attendees:	Eric Kallevig Vonheyo	, Jason Ort	birg, Pual Grosloscher	, Drew	Relative Humidity:	19.8%	
Customer Project:	None				Bar. Pressure:	998 mb	
Tested By:	Cole Ghizzo	ne, Chris P	atterson		Job Site:	MN03	
Power:	110VAC/60H	lz			Configuration:	SECF0066-1	
TEST SPECIFI	CATIONS						
Specification:				Method:			
FCC 15.207:2017				ANSI C63.1	10:2013		
TEST PARAM	ETERS						
Run #: 4		Line:	Neutral		Add. Ext. Attenuation (dB): 0	
COMMENTS None							
EUT OPERATING MODES							
Transmitting mouu							
DEVIATIONS F	ROM TEST	STAND/	ARD				
None							



Average Data - vs - Average Limit





RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit								
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)			
0.155	27.8	20.4	48.2	65.7	-17.5			
0.619	15.8	20.1	35.9	56.0	-20.1			
0.258	18.6	20.2	38.8	61.5	-22.7			
28.788	7.9	22.4	30.3	60.0	-29.7			
3.392	1.4	20.2	21.6	56.0	-34.4			
11.909	3.7	20.8	24.5	60.0	-35.5			

Average Data - vs - Average Limit								
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)			
0.155	23.9	20.4	44.3	55.7	-11.4			
0.619	14.1	20.1	34.2	46.0	-11.8			
0.258	17.7	20.2	37.9	51.5	-13.6			
28.788	1.4	22.4	23.8	50.0	-26.2			
3.392	-3.0	20.2	17.2	46.0	-28.8			
11.909	-1.4	20.8	19.4	50.0	-30.6			

CONCLUSION

Pass

Cuk, d/U

Tested By