

TEST REPORT

Applicant Name & Address Sample Description	:	Masterbuilt Manufacturing Inc. 1 Masterbuilt Court Columbus, Georgia, 31907, USA
Product ID Model No.	: :	Remote controller for 30 inch Electric Smoker and 40 inch Electric Smoker YHXESQ-3040R7 RE4
Electrical Rating	:	2*1.5V/AAA batteries.
Date Received Date Test Conducted		27 May 2017 27 May 2017 to 30 June 2017
	•	-
Test standards	•	47 CFR PART 15 Subpart C: 2015 section 15.249
Test Result	:	Pass
Conclusion	:	The submitted samples complied with the above rules/standards.
Remark	:	TRF No.: FCC Part 15.249-b
******	***	Effective date: 14 December 2016 ****************End of Page************************************

Prepared and Checked By:

Approved By:

Paul Pang

Project Engineer Intertek Guangzhou

SKJ2 Signature Sky Zhu **Project Engineer** Intertek Guangzhou 26 July 2017 Date

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1.0 Summary of Test

TEST	TEST REQUIREMENT	TEST METHOD	RESULT	
Antenna Requirement	FCC PART 15 C	FCC PART 15 C	PASS	
Antenna Requirement	Section 15.203	Section 15.203		
Occupied Bandwidth	FCC PART 15 C	ANSI C63.10: Clause 6.9	PASS	
	section 15.215(c)	ANSI COS. 10. Clause 0.9	IASS	
	FCC PART 15 C		PASS	
Radiated Emission	section 15.249 (a), (d)	ANSI C63.10: Clause 6.4, 6.5 & 6.6		
Band Edges Measurement	FCC PART 15 C	ANSI C63.10: Clause 6.10	PASS	
Dund Edges Wedstrement	section 15.249 (d)	ANSI C05.10. Clause 0.10		
Conducted Emissions at	FCC PART 15 C	ANSI C63.10: Clause 6.2	N/A	
Mains Terminals	section 15.207	ANSI C03.10. Clause 0.2		
Remark:				
N/A: not applicable. Refer to EUT: In this whole report E	the relative section for the UT means Equipment Und	e details. er Test.		
Tx: In this whole report Tx (
Rx: In this whole report Rx				
RF: In this whole report RF means Radio Frequency.				
ANSI C63.10: the detail version is ANSI C63.10:2013 in the whole report.				



2.1

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2.0 General Description

Product Description	
Operating Frequency	2440 MHz
Type of Modulation:	GFSK
Number of Channels	1 Channels
Channel Separation:	N/A
Antenna Type	Integral
Antenna gain:	1.0 dBi
Speciality:	2.4GHz Transceiver
Function:	Remote Controller with 2.4GHz Transceiver which can transmit control signal to the Electric Smoker and receive the respond temperature information from the Electric Smoker.
Power Supply:	DC 3.0V for Remote Controller
Power cord:	N/A
EUT modulation and data p	backet during test:

The EUT has been tested on the Modulation of GFSK with 250 bps data rate.



All tests were conducted on the remote controller RE4.

2.2 Related Submittal(s) Grants

This is an application for certification of: DXT: Part 15 Low Power Transceiver, RX Verified.

Remaining portions are subject to the following procedures:

1. Receiver portion of 2.4GHz transceiver: exempt from the technical requirement of this Part.

2.3 Test Methodology

Only radiated emission measurements were performed according to the procedures in ANSI C63.10:2013. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans and final tests were performed in the semi-anechoic chamber to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise.

2.4 Test Facility

All of the tests are performed at:

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China.

This test facility and site measurement data have been fully placed on file with the IC, test firm registration number is 549654.



3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, AC power line was manipulated to produce worst case emissions. It was powered by 2 X 1.5Vdc/ AAA battery.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. The spurious emissions more than 20 dB below the permissible value are not reported.

For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in the following table:

Lowest frequency generated in the device	Upper frequency range of measurement
9 kHz to below 10 GHz	10th harmonic of highest fundamental frequency or to 40 GHz, whichever is lower
At or above 10 GHz to below 30	5th harmonic of highest fundamental frequency or to 100
GHz	GHz, whichever is lower
At or above 30 GHz	5th harmonic of highest fundamental frequency or to 200 GHz, whichever is lower, unless otherwise specified

Frequency range of radiated emission measurements

Number of fundamental frequencies to be tested in EUT transmit band

Frequency range in which	Number of	Location in frequency
device operates	frequencies	range of operation
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom



3.2 EUT Exercising Software N/A

3.3 Special Accessories

No special accessories used.

3.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	20 dB Bandwidth	2.3%
2	Carrier Frequencies Separated	2.3%
3	Maximum Peak Conducted Output Power	1.5
4	Out of Band Conducted Emissions	1.5
5	Radiated Emissions	4.7 dB (25 MHz-1 GHz) 4.8 dB (1 GHz-18 GHz)
6	Conducted Emissions at Mains Terminals	2.58
7	Temperature	0.5 °C
8	Humidity	0.4 %
9	Time	1.2%

The measurement uncertainty describes the overall uncertainty of the given measured value during the operation of the EUT.

Measurement uncertainty is calculated in accordance with ETSI TR 100 028-2001. The measurement uncertainty is given with a confidence of 95%, k=2.

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

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Masterbuilt Manufacturing Inc. will be incorporated in each production model sold / leased in the United States.



No modifications were installed by Intertek Testing Services Shenzhen Ltd. Guangzhou Branch.

3.6 Support Equipment List and Description

The tests were conducted with the special engineering sample which is prepared by the applicant.



4.0 Measurement Results

4.1 Antenna Requirement:

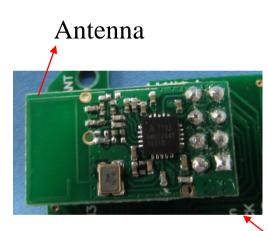
Standard requirement

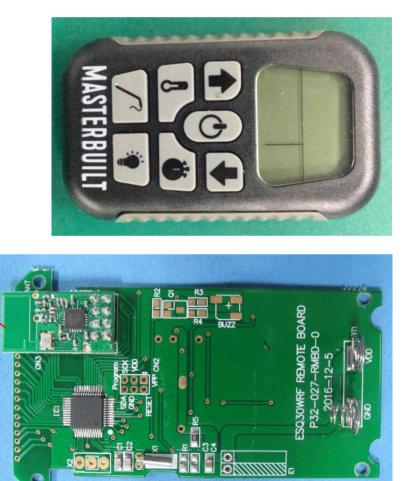
15.203 requirement:

For intentional device. According to 15.203. an intentional radiator shall be designed to Ensure that no antenna other than that furnished by the responsible party shall be used with the device.

EUT Antenna

The antenna is an integral antenna and no consideration of replacement. The best case gain of the antenna is 1.0 dBi.





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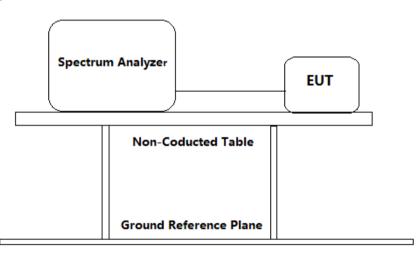
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4.2 Occupied Bandwidth:

Test Requirement:	FCC PART 15 C section 15.215(c)
	(c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure
	that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is
	operated
Test Method:	ANSI C63.10: Clause 6.9
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). The highest, middle and the lowest channels were selected for the final test as listed below.

Test Configuration:



Test Procedure:

The transmitter was operated at its maximum carrier power measured under normal test conditions.

- a) The instrument center frequency was set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer was between 1.5 times and 5.0 times the OBW(20 dB Bandwidth).
- b) The nominal IF filter bandwidth (3 dB RBW) was in the range of 1% to 5% of the OBW,



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and VBW was approximately three times the RBW.

- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope was more than [10 log (OBW/RBW)] below the reference level.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) The dynamic range of the instrument at the selected RBW was more than 10 dB below the target "-20 dB down" requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW was at least 30 dB below the reference value.
- f) Peak detection and max hold mode (until the trace stabilizes) was used.
- g) Used the 20dB bandwidth function of the instrument and reported the measured bandwidth.
- h) The occupied bandwidth was reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division was clearly labeled. Tabular data was reported in addition to the plot(s).

Used Test Equipment List

Spectrum Analyzer. Refer to Clause 5 Test Equipment List for details.

20 dB bandwidth:

Remote Controller

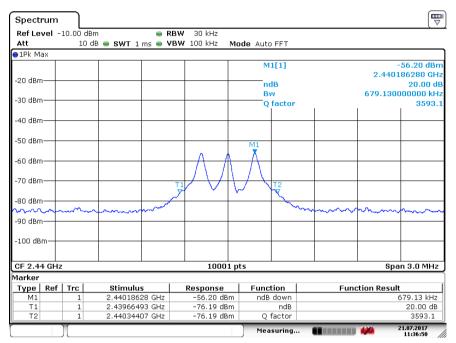
Channel	Frequency	Measured 20 Db	Limit	Result
No.	(MHz)	bandwidth (kHz)	(kHz)	Result
/	2440	679.13	/	Pass



20dB bandwidth:

Result plot as follows:

Remote Controller (2.440 GHz):



4.3 Radiated Emission

Test Requirement:

FCC PART 15 C section 15.249 (a), (d)

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field Strength of Fundamental	Field Strength of Harmonics
(MHz)	(dBµV/m @ 3m)	(dBµV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0

Note: The limits shown in the above table are based on measurements using an average detector, except for the fundamental emission in the frequency band 902-928 MHz, which is based on measurements using a CISPR quasi-peak detector.

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below



Test Method:

Test Status:

Test site:

Limit:

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the level of the fundamental or to the general radiated emission

limits in§ 15.209, whichever is the lesser attenuation.

ANSI C63.10: Clause 6.4, 6.5 and 6.6

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). The lowest, middle and the lowest channels were selected for the final test as listed below.

Measurement Distance: 3m (Semi-Anechoic Chamber)

The field strength of radiated emission outside of the specified frequency bands, except for harmonics at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Field Strength (dBµV/m @ 3m)
30-88	40.0
88-216	43.5
216-960	46.0
Above 960	54.0

Detector:

For Peak and Quasi-Peak value: 200 Hz for 9 kHz to 150 kHz 9 kHz for 150 kHz to 30 MHz 120 kHz for 30 MHz to 1GHz RBW = 1 MHz for $f \ge 1$ GHz VBW \ge RBW Sweep = auto Detector function = peak for $f \ge 1$ GHz, QP for f < 1 GHz Trace = max hold

According 15.35(c), when the field strength (or envelope power) is not constant or it is in pulses, and an average detector is specified to be used, the value of field strength or power shall be determined by averaging over one complete pulse train, including blanking intervals within the pulse train, as long as the pulse train does not exceed 0.1 seconds. In cases where the pulse train exceeds 0.1 second, the average value of field strength or output power shall be determined during a 0.1 second interval during which the field strength or power is at its maximum value.

The average correction factor was computed by analyzing the on time in 100ms over one complete pulse train. Analysis of the remote transmitter on time in one complete pulse train,



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therefore the average value of fundamental frequency was: Average = Peak value + 20log (Duty cycle), where the duty factor is calculated from following formula:

Remote Controller

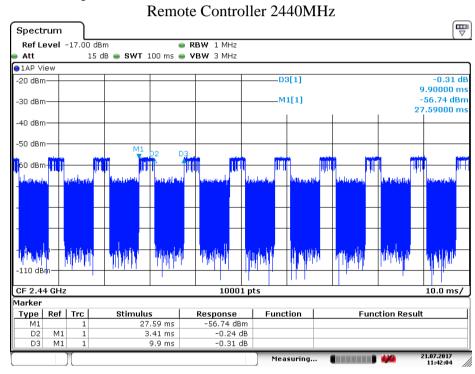
2440MHz

The duration of one cycle =9.90 ms

Effective period of the cycle =3.41 ms

DC =3.41/9.90=0.3444 or 34.44%

Therefore, the averaging factor is found by 20lg0.3444=-9.25



Please refer to below plots for more details.

Remark: The worst case was the key "TIME+".

Field Strength Calculation:

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below:

$$FS = RA + AF + CF - AG + PD + AV$$

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Where:

Report No.: 170527172GZU-002 Issued: 2017-07-26 FS = RA + Correct Factor + AV $FS = Field Strength in dB\mu V/m$ $RA = Receiver Amplitude (including preamplifier) in dB\mu V$ AF = Antenna Factor in dBCF = Cable Attenuation Factor in dB AG = Amplifier Gain in dBPD = Pulse Desensitization in dB AV = Average Factor in - dBCorrect Factor = AF + CF - AG + PDIn the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows: FS = RA + AF + CF - AG + PD + AVAssume a receiver reading of 62.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is $32 \text{ dB}\mu \text{V/m}$. $RA = 62.0 dB\mu V$ AF = 7.4 dBCF = 1.6 dB $AG = 29.0 \, dB$ PD = 0 dBAV = -10 dBCorrect Factor = 7.4 + 1.6 - 29.0 + 0 = -20 dB

 $FS = 62 + (-20) + (-10) = 32 dB\mu V/m$

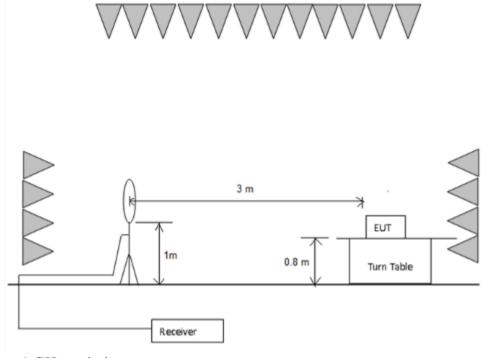


MHz	MHz	MHz	GHz
$\begin{array}{c} 0.090 - 0.110 \\ {}^{1}0.495 - 0.505 \\ 2.1735 - 2.1905 \\ 4.125 - 4.128 \\ 4.17725 - 4.17775 \\ 4.20725 - 4.20775 \\ 6.215 - 6.218 \\ 6.26775 - 6.26825 \\ 6.31175 - 6.31225 \\ 8.291 - 8.294 \\ 8.362 - 8.366 \\ 8.37625 - 8.38675 \\ 8.41425 - 8.41475 \\ 12.29 - 12.293 \\ 12.51975 - \\ 12.52025 \\ 12.57675 - \\ 12.57725 \\ 13.36 - 13.41 \\ \end{array}$	$\begin{array}{c} 16.42 - 16.423 \\ 16.69475 - \\ 16.69525 \\ 16.80425 - \\ 16.80475 \\ 25.5 - 25.67 \\ 37.5 - 38.25 \\ 73 - 74.6 \\ 74.8 - 75.2 \\ 108 - 121.94 \\ 123 - 138 \\ 149.9 - 150.05 \\ 156.52475 - \\ 156.52525 \\ 156.7 - 156.9 \\ 162.0125 - 167.17 \\ 167.72 - 173.2 \\ 240 - 285 \\ 322 - 335.4 \end{array}$	$\begin{array}{r} 399.9 - 410 \\ 608 - 614 \\ 960 - 1240 \\ 1300 - 1427 \\ 1435 - 1626.5 \\ 1645.5 - 1646.5 \\ 1660 - 1710 \\ 1718.8 - 1722.2 \\ 2200 - 2300 \\ 2310 - 2390 \\ 2483.5 - 2500 \\ 2655 - 2900 \\ 3260 - 3267 \\ 3332 - 3339 \\ 3345.8 - 3358 \\ 3600 - 4400 \end{array}$	$\begin{array}{c} 4.5 - 5.15 \\ 5.35 - 5.46 \\ 7.25 - 7.75 \\ 8.025 - 8.5 \\ 9.0 - 9.2 \\ 9.3 - 9.5 \\ 10.6 - 12.7 \\ 13.25 - 13.4 \\ 14.47 - 14.5 \\ 15.35 - 16.2 \\ 17.7 - 21.4 \\ 22.01 - 23.12 \\ 23.6 - 24.0 \\ 31.2 - 31.8 \\ 36.43 - 36.5 \end{array}$

Section 15.205 Restricted bands of operation.

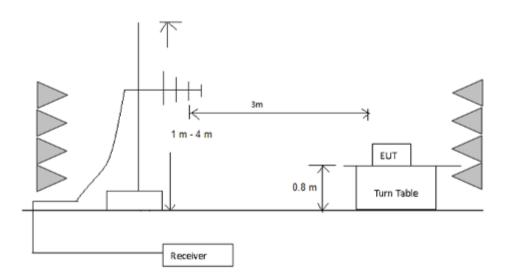


Test Configuration: 1) 9 kHz to 30 MHz emissions:



2) 30 MHz to 1 GHz emissions:



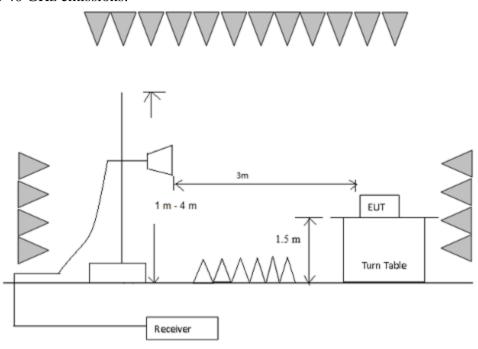


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3) 1 GHz to 40 GHz emissions:





Test Procedure:

1) 9 kHz to 30 MHz emissions:

For testing performed with the loop antenna. The centre of the loop was positioned 1 m above the ground and positioned with its plane vertical at the special distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

2) 30 MHz to 1 GHz emissions:

For testing performed with the bi-log type antenna. The measurement is performed with the EUT rotated 360°, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

3) 1 GHz to 25 GHz emissions:

Test site with RF absorbing material covering the ground plane that met the site validation criterion called out in CISPR 16-1-4:2010 was used to perform radiated emission test above 1 GHz.

For testing performed with the horn antenna. The measurement is performed with the EUT rotated 360°, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

4) The receiver was scanned from 9 kHz to 25 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.

Used Test Equipment List:

3m Semi-Anechoic Chamber, EMI Test Receiver (9 kHz~7 GHz), Signal and Spectrum Analyzer (10 Hz~40 GHz), Loop antenna (9 kHz-30 MHz). TRILOG Super Broadband test Antenna(30 MHz-3 GHz) (RX), Bouble-Ridged Waveguide Horn Antenna (800 MHz-18 GHz)(RX) and High Frequency Antenna & preamplifier(18 GHz~26.5 GHz) (RX). Refer to Clause 5 Test Equipment List for details.

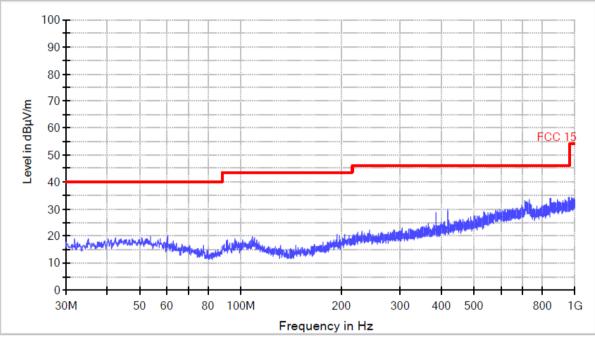


9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Antenna	Frequency	Measured Net at 3m	Limit at 3m [dB(µV/m)]	
Polarization	[MHz]	[dB(µV/m)]		
Horizontal	200.0	< 30	40.0	
Horizontal	400.0	< 30	47.0	
Horizontal	800.0	< 35	47.0	
Vertical	200.0	< 30	40.0	
Vertical	400.0	< 30	47.0	
Vertical	800.0	< 35	47.0	

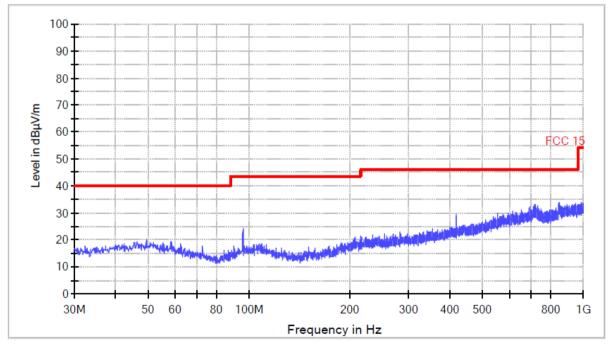
Radiated Emissions (Below 1GHz) Remote Controller Operation Frequency: 2440MHz





Test Curve: Remote Controller Operation Frequency: 2440MHz Horizontal:

Vertical:



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Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	PK Reading (dBµV)	Correction Factor (dB)	PK Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2439.90	74.60	-8.80	65.80	114.00	-48.20
Horizontal	4879.40	43.40	-2.70	40.70	74.00	-33.31
Horizontal	7330.80	41.95	6.20	48.15	74.00	-25.85
Horizontal	9756.70	40.26	7.30	47.56	74.00	-26.44
Vertical	2440.00	76.24	-8.80	67.44	114.00	-46.56
Vertical	4894.70	41.78	-2.70	39.08	74.00	-34.93
Vertical	7762.60	42.38	7.10	49.48	74.00	-24.52
Vertical	9846.80	41.62	7.60	49.22	74.00	-24.78

Remote Controller Operation Frequency: 2440MHz:

Polarization	Frequency	PK	Correction	AV Net	Average Limit	Margin
	(MHz)	Reading	Factor	at 3m	at 3m	(dB)
		(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	
Horizontal	2439.90	65.80	-9.25	56.55	94.00	-37.45
Horizontal	4879.40	40.70	-9.25	31.45	54.00	-22.56
Horizontal	7330.80	48.15	-9.25	38.90	54.00	-15.10
Horizontal	9756.70	47.56	-9.25	38.31	54.00	-15.69
Vertical	2440.00	67.44	-9.25	58.19	94.00	-35.81
Vertical	4894.70	39.08	-9.25	29.83	54.00	-24.18
Vertical	7762.60	49.48	-9.25	40.23	54.00	-13.77
Vertical	9846.80	49.22	-9.25	39.97	54.00	-14.03



Notes:

- 1. AT frequencies equal to or less than 1000MHz, quasi-peak detector was used, above 1000MHz, Peak detector was used.
- 2. All measurements were made at 3 meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna is used for the emission over 1000MHz.
- 5. When Peak emission level was below AV limit, the AV emission level did not be recorded.

4.4 Band Edges Requirement

Test Requirement: FC

FCC PART 15 C section 15.249 (d)

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in§ 15.209, whichever is the lesser attenuation.

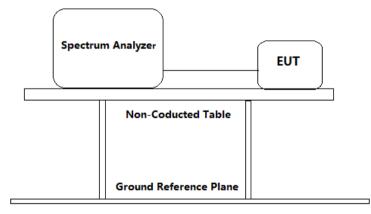
Frequency Band: 2400 MHz to 2483.5 MHz

Test Method: ANSI C63.10: Clause 6.10

Test Status:

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). The lowest, middle and the highest channels were selected for the final test as listed below.

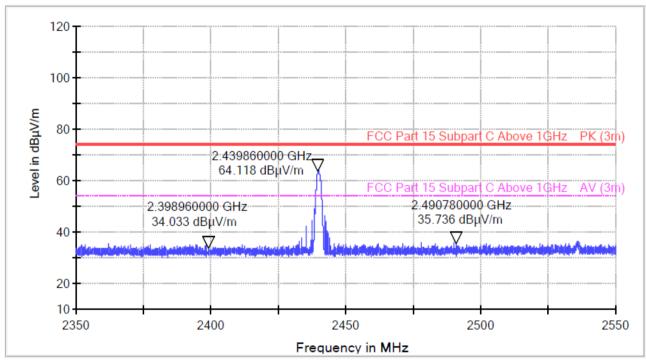
Test Configuration:





Test result with plots as follows: Result plot as follows:

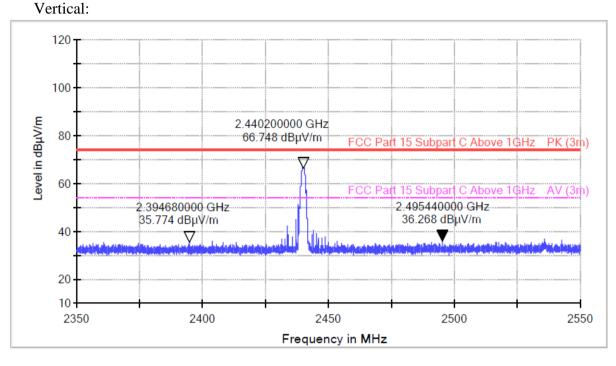
Operation Frequency: 2.440 GHz Horizontal:



ΡK

Polarization	Frequency (MHz)	PK Reading (dBµV)	Correction Factor (dB)	PK Net at 3m (dBµV/m)	AV Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2398.96	42.93	-8.90	34.03	54.00	-19.97
Horizontal	2490.78	44.24	-8.50	35.74	54.00	-18.26





ΡK

Polarization	Frequency (MHz)	PK Reading (dBµV)	Correction Factor (dB)	PK Net at 3m (dBµV/m)	AV Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2394.68	44.67	-8.90	35.77	54.00	-18.23
Vertical	2495.44	44.77	-8.50	36.27	54.00	-17.73



5.0 Test Equipment List

Radiated Emission/Radio

Equipment No.	Equipment	Model	Manufacturer	Cal. Due date (MM-DD-YYYY)	Calibration Interval
EM030-04	3m Semi-Anechoic Chamber	9×6×6 m ³	ETS•LINDGRE N	2018/5/1	1Y
EM031-02	EMI Test Receiver (9 kHz~7 GHz)	R&S ESR7	R&S	2018/3/27	1Y
EM031-03	Signal and Spectrum Analyzer (10 Hz~40 GHz)	R&S FSV40	R&S	2018/5/18	1Y
EM011-04	Loop antenna (9 kHz-30 MHz)	HFH2-Z2	R&S	2018/6/14	1Y
EM061-03	TRILOG Super Broadband test Antenna (30 MHz-1.5 GHz) (TX)	VULB 9161	SCHWARZBECK	2018/6/7	1 Y
EM033-01	TRILOG Super Broadband test Antenna(30 MHz-3 GHz) (RX)	VULB 9163	SCHWARZBECK	2017/9/8	1Y
EM033-02	Bouble-Ridged Waveguide Horn Antenna (800 MHz-18 GHz)(RX)	R&S HF907	R&S	2018/6/7	1 Y
EM033-03	High Frequency Antenna & preamplifier(18 GHz~26.5 GHz) (RX)	R&S SCU-26	R&S	2018/5/4	1Y
EM033-04	High Frequency Antenna & preamplifier (26 GHz-40 GHz)	R&S SCU-40	R&S	2018/5/4	1Y
EM031-02-01	Coaxial cable(9 kHz-1 GHz)	N/A	R&S	2018/5/18	1Y
EM033-02-02	Coaxial cable(1 GHz-18 GHz)	N/A	R&S	2018/5/18	1Y
EM033-04-02	Coaxial cable(18 GHz~40 GHz)	N/A	R&S	2018/5/25	1Y
EM031-01	Signal Generator (9 kHz~6 GHz)	SMB100A	R&S	2017/7/30	1Y
EM085-02	Signal Generator (10MHz-40GHz)	68369B	Wiltron	2018/5/31	1Y
EM040-01	Band Reject/Notch Filter	WRHFV	Wainwright	N/A	1Y
EM040-02	Band Reject/Notch Filter	WRCGV	Wainwright	N/A	1Y
EM040-03	Band Reject/Notch Filter	WRCGV	Wainwright	N/A	1Y
EM022-03	2.45 GHz Filter	BRM50702	Micro-Tronics	2018/5/9	1Y
SA016-16	Programmable Temperature & Humidity Test Chamber	MHU-800LJ	TERCHY	2017/10/21	1Y
SA016-22	Climatic Test Chamber	C7-1500	Vötsch	2017/10/21	1Y
SA012-74	Digital Multimeter	FLUKE175	FLUKE	2017/10/13	1Y
EM010-01	Regulated DC Power supply	PAB-3003A	GUANHUA	N/A	1Y
SA040-22	Regulated DC Power supply	IT6721	ITECH	2017/9/18	1Y
EM084-06	Audio Analyzer	8903B	HP	2018/4/3	1Y
EM084-07	Modulation Analyzer	8901B	HP	2018/6/15	1Y
EM045-01-01	EMC32 software (RE/RS)	V10.01.00	R&S	N/A	N/A
EM045-01-09	EMC32 software (328/893)	V9.26.01	R&S	N/A	N/A

Equipment No.	Equipment	Model	Manufacturer	Cal. Due date (YYYY-MM-DD)	
EM080-05	EMI receiver	ESCI	R&S	2018/7/24	1Y
EM006-05	LISN	ENV216	R&S	2018/6/4	1Y
EM006-06	LISN	ENV216	R&S	2017/9/18	1Y
EM006-06-01	Coaxial cable	/	R&S	2018/4/6	1Y
EM004-04	EMC shield Room	8m×3m×3m	Zhongyu	2018/1/23	1Y