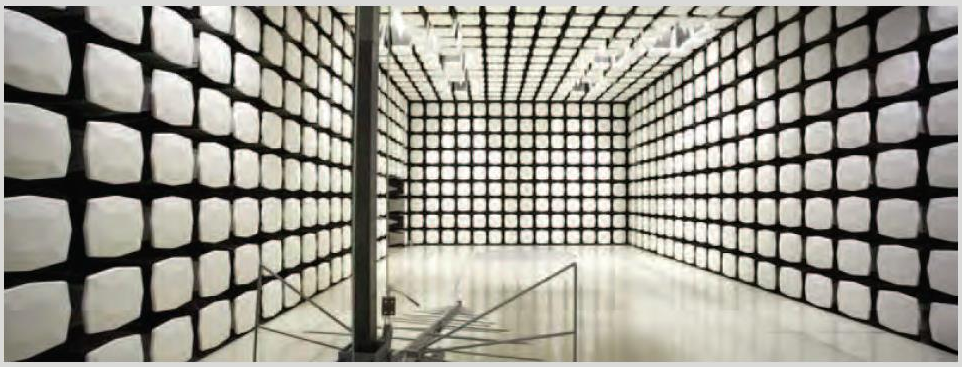
SMC Corporation

EX600-WDYA1 with EX600-WDYE1

FCC 15.247:2020

2400 - 2483.5 MHz FHSS Transceiver

Report: PCTE0001.1, Issue Date: July 31, 2020



NVLAP LAB CODE: 200676-0

CERTIFICATE OF TEST

Last Date of Test: June 18, 2020
SMC Corporation
EUT: EX600-WDYA1 with EX600-WDYE1

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2020	ANSI C63.10:2013, KDB 558074

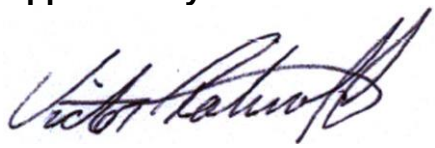
Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions (Transmitter)	No	N/A	Not requested for this system level approval.
6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
7.5	Duty Cycle	No	N/A	Not requested for this system level approval.
7.8.2	Carrier Frequency Separation	No	N/A	Not requested for this system level approval.
7.8.3	Number of Hopping Frequencies	No	N/A	Not requested for this system level approval.
7.8.4	Dwell Time	No	N/A	Not requested for this system level approval.
7.8.5	Output Power	No	N/A	Not requested for this system level approval.
7.8.5	Equivalent Isotropic Radiated Power	No	N/A	Not requested for this system level approval.
7.8.6	Band Edge Compliance	No	N/A	Not requested for this system level approval.
7.8.6	Band Edge Compliance - Hopping Mode	No	N/A	Not requested for this system level approval.
7.8.7	Occupied Bandwidth	No	N/A	Not requested for this system level approval.
7.8.8	Spurious Conducted Emissions	No	N/A	Not requested for this system level approval.
11.10.2	Power Spectral Density	No	N/A	Not required for FHSS devices.

Deviations From Test Standards

None

Approved By:



Victor Ratinoff, Operations 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. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	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 Element 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) and as a CAB for the acceptance of test data.

European Union

European Commission – Within Element, we have a EU Notified Body validated for the EMCD and RED Directives.

Australia/New Zealand

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

Korea

MSIT / 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

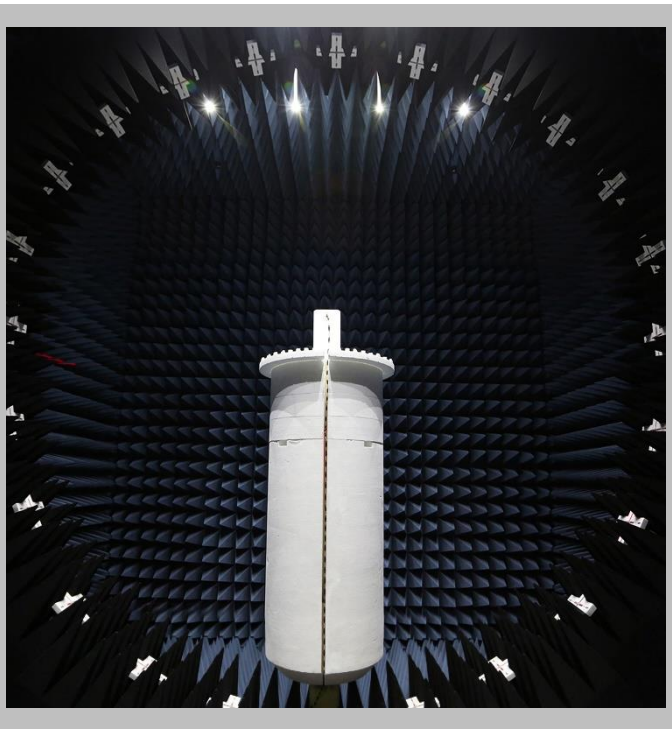
MIC – Recognized by MIC as a CAB for the acceptance of test data.

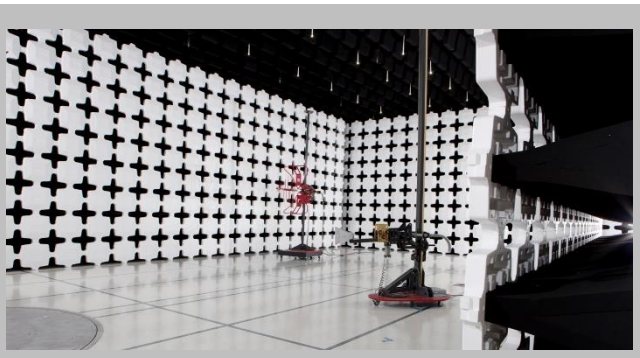
SCOPE

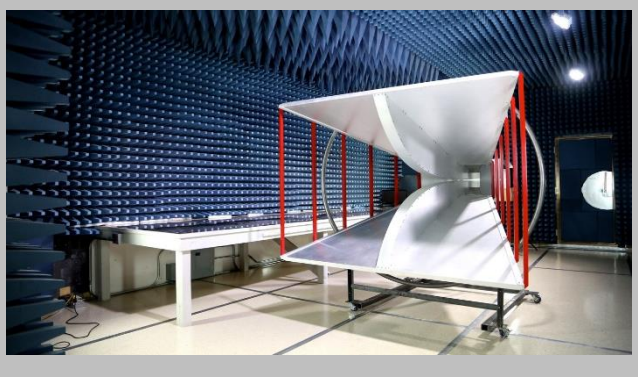
For details on the Scopes of our Accreditations, please visit:
https://www.nwemc.com/emc-testing-accreditations

FACILITIES

California	Minnesota	Oregon	Texas	Washington
Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP				
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	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, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

element
TMU.2015.07.10

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.

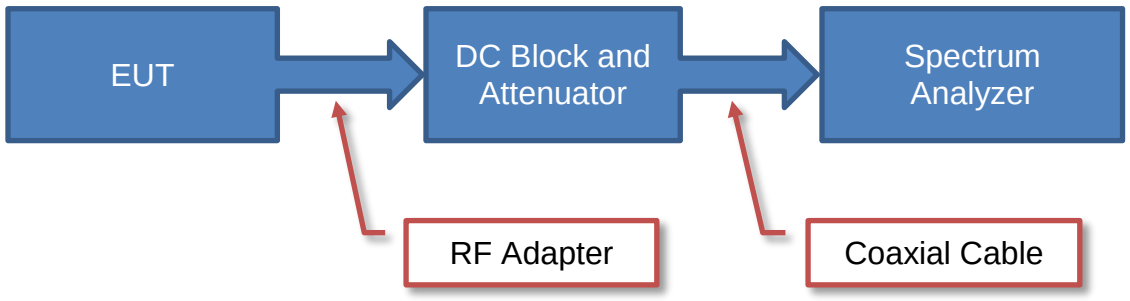
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable 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.

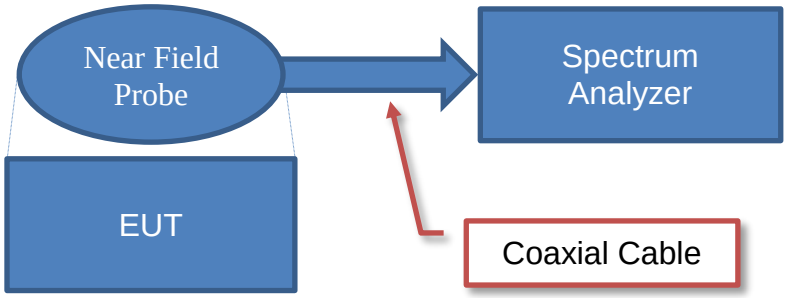
Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.1 dB	-5.1 dB
AC Powerline Conducted Emissions (dB)	2.6 dB	-2.6 dB

Test Setup Block Diagrams

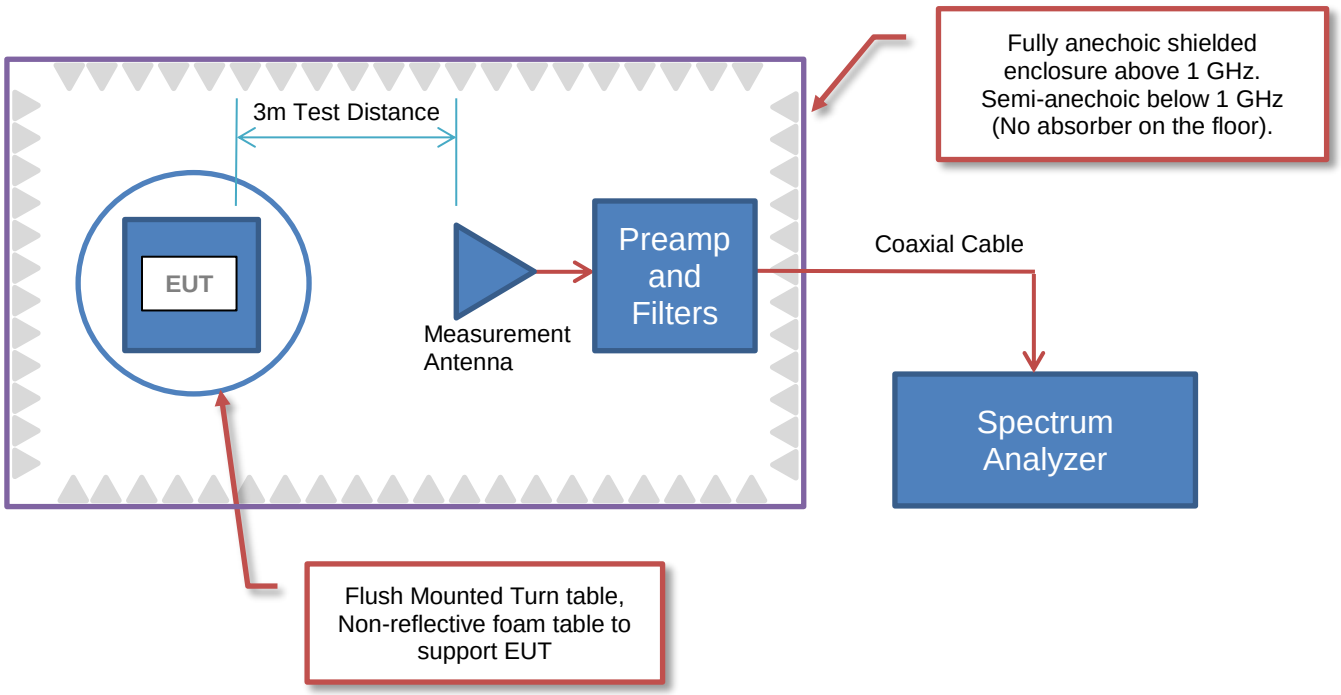
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	SMC Corporation
Address:	4-2-2, Kinunodai, Tsukubamirai-shi,
	Ibaraki-ken, 300-2493, Japan
Test Requested By:	PCTEST Engineering Lab, LLC
EUT:	EX600-WDYA1 with EX600-WDYE1, EX600-WDXE1, and EX600-WDXA1
First Date of Test:	June 18, 2020
Last Date of Test:	June 18, 2020
Receipt Date of Samples:	June 18, 2020
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Wireless Remote

Testing Objective:
Seeking to demonstrate compliance under FCC 15.247:2020 for operation in the 2400 - 2483.5 MHz Band.

CONFIGURATIONS

Configuration PCTE0001- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Serial Interface Device	SMC	EX600-WDXA1	0E-91-C0-56
Remote Digital Output	SMC	EX600-WDXE1	0E-51-C0-89

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Power Cable	Yes	2.5m	No	Serial Interface Device	DC Power Supply
Power Cable	Yes	2.5m	No	Remote Digital Output	DC Power Supply

Configuration PCTE0001- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Serial Interface Device	SMC	EX600-WDYA1	0F-12-00-63
Remote Digital Output	SMC	EX600-WDYE1	0E-52-00-45

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Power Cable	Yes	2.5m	No	Serial Interface Device	DC Power Supply
Power Cable	Yes	2.5m	No	Remote Digital Output	DC Power Supply

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2020-06-18	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2020.04.03.0

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

NFC Continuous Burst Transmission

CHANNELS INVESTIGATED

Low Channel 0 (2403 MHz)
Mid Channel 39 (2442 MHz)
High Channel 78 (2481 MHz)

WORST CASE CHANNELS INVESTIGATED

Low Channel 0 (2403 MHz)

POWER SETTINGS INVESTIGATED

+24VDC

CONFIGURATIONS INVESTIGATED

PCTE0001

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26000 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
Filter - High Pass	Micro-Tronics	HPM50111	HHX	2019-07-02	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFT	NCR	0 mo
Attenuator	Fairview Microwave	SA18H-20	TKQ	2019-07-02	12 mo
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	2019-07-02	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1402	AOZ	2019-07-02	12 mo
Cable	Northwest EMC	10kHz-1GHz RE Cables	OCH	2019-09-09	12 mo
Antenna - Biconilog	EMCO	3142B	AXK	2019-10-30	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	2019-12-13	12 mo
Cable	Northwest EMC	18-26GHz RE Cables	OCK	2019-12-13	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHN	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AOF	2020-02-27	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AHT	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	2020-02-27	12 mo
Cable	Northwest EMC	8-18GHz RE Cables	OCO	2020-02-27	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHR	NCR	0 mo
Amplifier - Pre-Amplifier	Cernex	CBL01084020-xx	PAX	2020-02-28	12 mo
Cable	Northwest EMC	1-8GHz RE Cables	OCJ	2020-02-28	12 mo
Antenna - Double Ridge	EMCO	3115	AHB	2020-04-08	24 mo

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 (and notch 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 within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3. This procedure uses the channel power feature of the spectrum analyzer to integrate the power of the emission within a 1 MHz bandwidth.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of 10*log(1/dc).

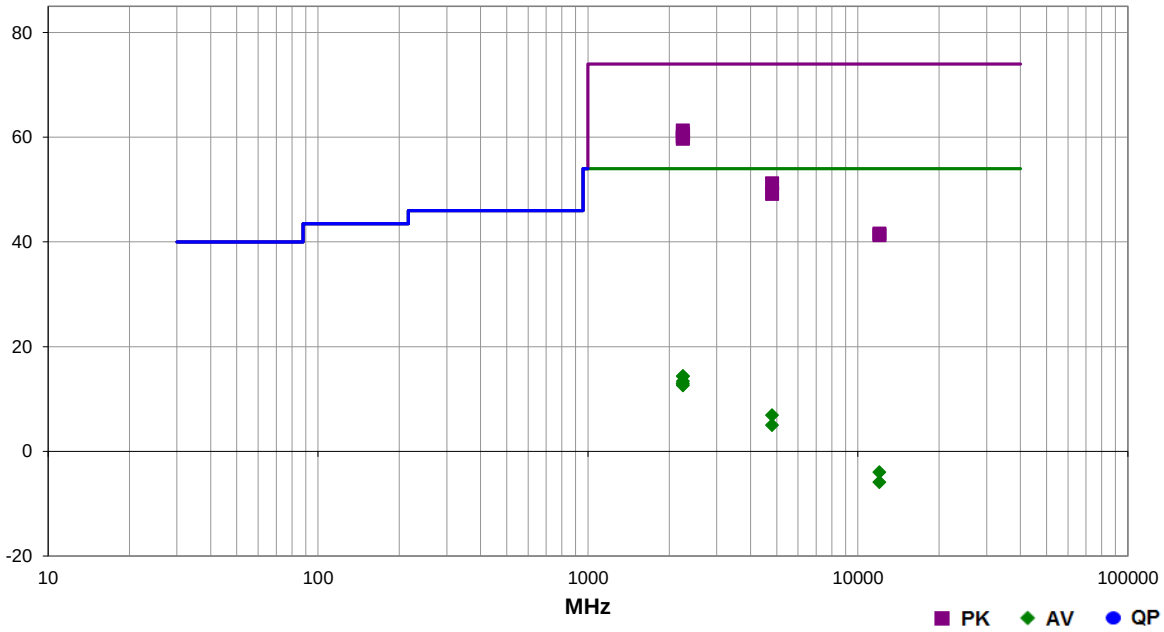
SPURIOUS RADIATED EMISSIONS

EmiR5 2019.08.15.1 PSA-ESCI 2020.04.03.0

Work Order:	PCTE0001	**Date:**	2020-06-18		
Project:	None	**Temperature:**	21.3 °C		
Job Site:	OC10	**Humidity:**	52.2% RH		
Serial Number:	See Configurations	**Barometric Pres.:**	1011.6 mbar	**Tested by:**	Mark Baytan
EUT:	EX600-WDYA1 with EX600-WDYE1				
Configuration:	2				
Customer:	SMC Corporation				
Attendees:	None				
EUT Power:	+24VDC				
Operating Mode:	NFC Continuous Burst Transmission: Low Channel 0 (2403 MHz)				
Deviations:	None				
Comments:	Data taken on worst case channel based on preliminary peak scan measurements. Duty cycle correction factor (DCCF) calculation: Number of times transmitter hits on channel = 1 time(s) / 100 ms, worst case dwell time = 1.2 ms, DCCF = 20 Log_{10}(1.2ms/100ms) = -38.42 dB.				

Test Specifications	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

Run #	30	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2246.883	54.1	-12.8	1.1	4.0	0.0	20.0	Vert	PK	0.0	61.3	74.0	-12.7	Low Ch 0, EUT Horz
2247.025	53.5	-12.8	1.2	320.0	0.0	20.0	Vert	PK	0.0	60.7	74.0	-13.3	Low Ch 0, EUT Vert
2247.167	53.4	-12.8	1.2	183.0	0.0	20.0	Vert	PK	0.0	60.6	74.0	-13.4	Low Ch 0, EUT on Side
2246.675	53.0	-12.8	2.0	268.0	0.0	20.0	Horz	PK	0.0	60.2	74.0	-13.8	Low Ch 0, EUT Horz
2247.058	52.7	-12.8	1.2	12.0	0.0	20.0	Horz	PK	0.0	59.9	74.0	-14.1	Low Ch 0, EUT on Side
2245.900	52.5	-12.8	2.8	169.0	0.0	20.0	Horz	PK	0.0	59.7	74.0	-14.3	Low Ch 0, EUT Vert
4806.450	55.6	-4.4	1.1	334.0	0.0	0.0	Vert	PK	0.0	51.2	74.0	-22.8	Low Ch 0, EUT on Side
4805.858	53.6	-4.4	1.0	192.0	0.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	Low Ch 0, EUT Horz
12017.100	45.7	-4.1	1.5	160.0	0.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	Low Ch 0, EUT on Side
12015.070	45.4	-4.1	1.5	184.0	0.0	0.0	Horz	PK	0.0	41.3	74.0	-32.7	Low Ch 0, EUT Horz
2247.058	45.6	-12.8	1.2	183.0	-38.4	20.0	Vert	AV	0.0	14.4	54.0	-39.6	Low Ch 0, EUT on Side
2246.992	45.5	-12.8	1.1	4.0	-38.4	20.0	Vert	AV	0.0	14.3	54.0	-39.7	Low Ch 0, EUT Horz
2247.033	44.6	-12.8	1.2	320.0	-38.4	20.0	Vert	AV	0.0	13.4	54.0	-40.6	Low Ch 0, EUT Vert
2246.933	44.2	-12.8	2.0	268.0	-38.4	20.0	Horz	AV	0.0	13.0	54.0	-41.0	Low Ch 0, EUT Horz
2246.900	44.1	-12.8	1.2	12.0	-38.4	20.0	Horz	AV	0.0	12.9	54.0	-41.1	Low Ch 0, EUT on Side
2247.033	43.8	-12.8	2.8	169.0	-38.4	20.0	Horz	AV	0.0	12.6	54.0	-41.4	Low Ch 0, EUT Vert
4805.983	49.7	-4.4	1.1	334.0	-38.4	0.0	Vert	AV	0.0	6.9	54.0	-47.1	Low Ch 0, EUT on Side
4805.958	47.8	-4.4	1.0	192.0	-38.4	0.0	Horz	AV	0.0	5.0	54.0	-49.0	Low Ch 0, EUT Horz

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
12014.730	38.5	-4.1	1.5	184.0	-38.4	0.0	Horz	AV	0.0	-4.0	54.0	-58.0	Low Ch 0, EUT Horz
12015.960	36.6	-4.1	1.5	160.0	-38.4	0.0	Vert	AV	0.0	-5.9	54.0	-59.9	Low Ch 0, EUT on Side

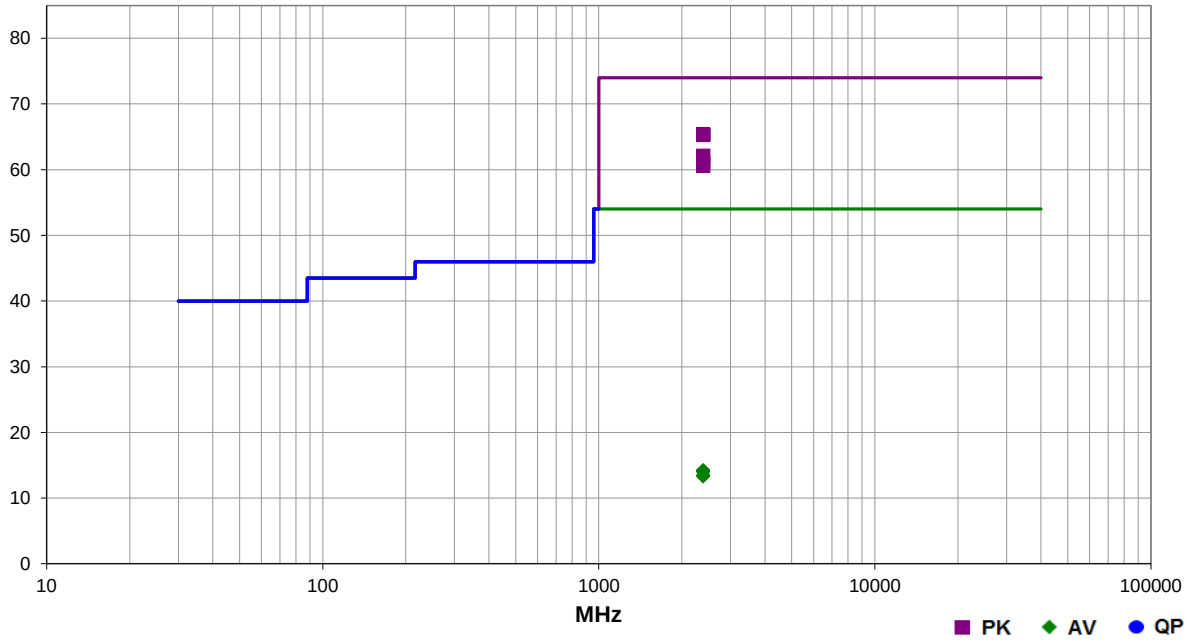
SPURIOUS RADIATED EMISSIONS

EmiR5 2019.08.15.1 PSA-ESCI 2020.04.03.0

Work Order:	PCTE0001	**Date:**	2020-06-18		
Project:	None	**Temperature:**	21.3 °C		
Job Site:	OC10	**Humidity:**	52.2% RH		
Serial Number:	See Configurations	**Barometric Pres.:**	1011.6 mbar	**Tested by:**	Mark Baytan
EUT:	EX600-WDYA1 with EX600-WDYE1				
Configuration:	2				
Customer:	SMC Corporation				
Attendees:	None				
EUT Power:	+24VDC				
Operating Mode:	NFC Continuous Burst Transmission: Low Channel 0 (2403 MHz)				
Deviations:	None				
Comments:	Data taken on worst case channel based on preliminary peak scan measurements. Duty cycle correction factor (DCCF) calculation: Number of times transmitter hits on channel = 1 time(s) / 100 ms, worst case dwell time = 1.2 ms, DCCF = 20 Log_{10}(1.2ms/100ms) = -38.42 dB.				

Test Specifications	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

Run #	33	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2388.837	57.1	-11.7	1.5	317.0	0.0	20.0	Horz	PK	0.0	65.4	74.0	-8.6	Low Ch 0, EUT on Side
2388.583	57.0	-11.7	2.2	350.0	0.0	20.0	Vert	PK	0.0	65.3	74.0	-8.7	Low Ch 0, EUT Vert
2389.583	57.0	-11.7	1.5	14.0	0.0	20.0	Vert	PK	0.0	65.3	74.0	-8.7	Low Ch 0, EUT on Side
2389.950	53.8	-11.7	1.5	78.0	0.0	20.0	Vert	PK	0.0	62.1	74.0	-11.9	Low Ch 0, EUT Horz
2389.903	52.8	-11.7	1.5	259.0	0.0	20.0	Horz	PK	0.0	61.1	74.0	-12.9	Low Ch 0, EUT Vert
2388.307	52.3	-11.7	1.6	239.0	0.0	20.0	Horz	PK	0.0	60.6	74.0	-13.4	Low Ch 0, EUT Horz
2389.523	44.3	-11.7	1.5	78.0	-38.4	20.0	Vert	AV	0.0	14.2	54.0	-39.8	Low Ch 0, EUT Horz
2389.830	44.3	-11.7	2.2	350.0	-38.4	20.0	Vert	AV	0.0	14.2	54.0	-39.8	Low Ch 0, EUT Vert
2388.880	44.2	-11.7	1.5	14.0	-38.4	20.0	Vert	AV	0.0	14.1	54.0	-39.9	Low Ch 0, EUT on Side
2389.000	44.1	-11.7	1.6	239.0	-38.4	20.0	Horz	AV	0.0	14.0	54.0	-40.0	Low Ch 0, EUT Horz
2388.853	43.6	-11.7	1.5	259.0	-38.4	20.0	Horz	AV	0.0	13.5	54.0	-40.5	Low Ch 0, EUT Vert
2389.937	43.4	-11.7	1.5	317.0	-38.4	20.0	Horz	AV	0.0	13.3	54.0	-40.7	Low Ch 0, EUT on Side

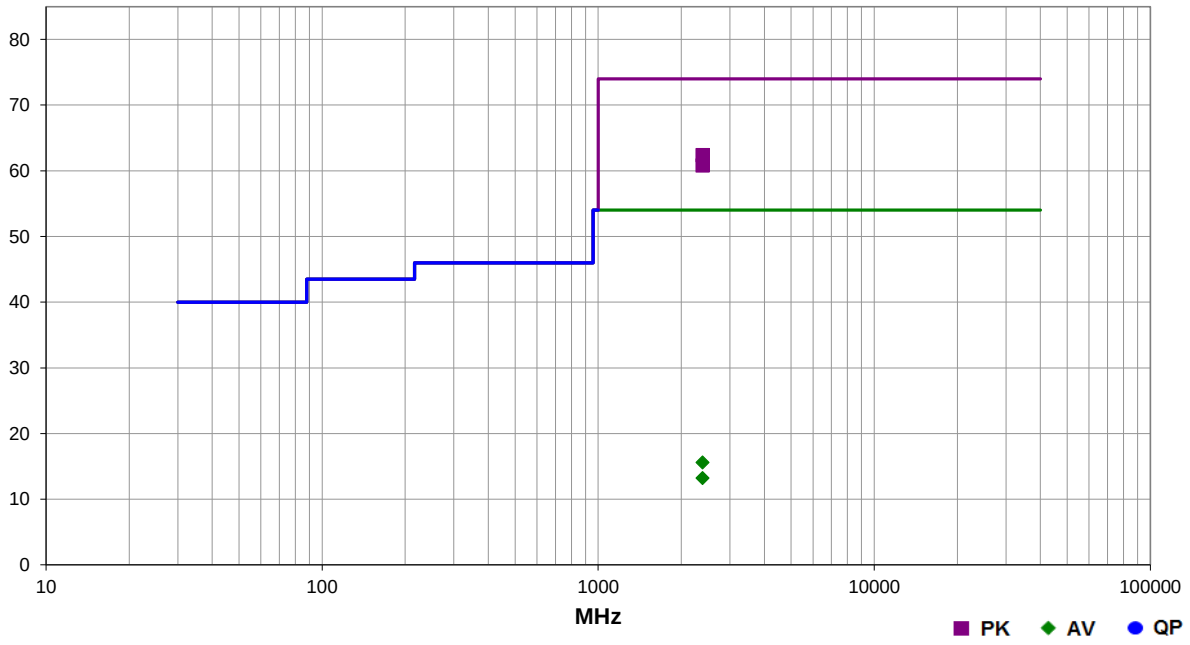
SPURIOUS RADIATED EMISSIONS

EmiR5 2019.08.15.1 PSA-ESCI 2020.04.03.0

Work Order:	PCTE0001	**Date:**	2020-06-18		
Project:	None	**Temperature:**	21.3 °C		
Job Site:	OC10	**Humidity:**	52.2% RH		
Serial Number:	See Configurations	**Barometric Pres.:**	1011.6 mbar	**Tested by:**	Mark Baytan
EUT:	EX600-WDZA1 with EX600-WDXE1				
Configuration:	1				
Customer:	SMC Corporation				
Attendees:	None				
EUT Power:	+24VDC				
Operating Mode:	NFC Continuous Burst Transmission: Low Channel 0 (2403 MHz)				
Deviations:	None				
Comments:	Data taken on worst case emission and EUT orientation from Config 2. Duty cycle correction factor (DCCF) calculation: Number of times transmitter hits on channel = 1 time(s) / 100 ms, worst case dwell time = 1.2 ms, DCCF = 20 Log_{10}(1.2ms/100ms) = -38.42 dB.				

Test Specifications	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

Run #	35	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2388.837	54.1	-11.7	1.5	213.0	0.0	20.0	Horz	PK	0.0	62.4	74.0	-11.6	Low Ch 0, EUT Horz
2388.063	52.5	-11.7	1.5	4.0	0.0	20.0	Vert	PK	0.0	60.8	74.0	-13.2	Low Ch 0, EUT Horz
2389.917	45.7	-11.7	1.5	4.0	-38.4	20.0	Vert	AV	0.0	15.6	54.0	-38.4	Low Ch 0, EUT Horz
2389.847	43.3	-11.7	1.5	213.0	-38.4	20.0	Horz	AV	0.0	13.2	54.0	-40.8	Low Ch 0, EUT Horz

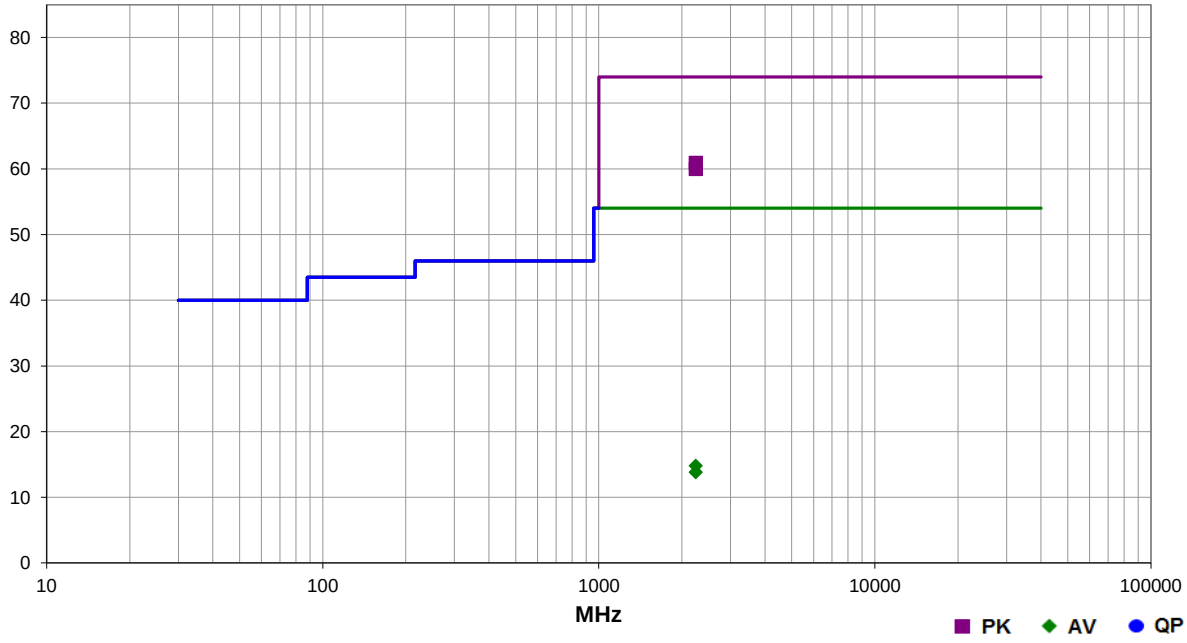
SPURIOUS RADIATED EMISSIONS

EmiR5 2019.08.15.1 PSA-ESCI 2020.04.03.0

Work Order:	PCTE0001	**Date:**	2020-06-18		
Project:	None	**Temperature:**	21.3 °C		
Job Site:	OC10	**Humidity:**	52.2% RH		
Serial Number:	See Configurations	**Barometric Pres.:**	1011.6 mbar	**Tested by:**	Mark Baytan
EUT:	EX600-WDZA1 with EX600-WDXE1				
Configuration:	1				
Customer:	SMC Corporation				
Attendees:	None				
EUT Power:	+24VDC				
Operating Mode:	NFC Continuous Burst Transmission: Low Channel 0 (2403 MHz)				
Deviations:	None				
Comments:	Data taken on worst case emission and EUT orientation from Config 2. Duty cycle correction factor (DCCF) calculation: Number of times transmitter hits on channel = 1 time(s) / 100 ms, worst case dwell time = 1.2 ms, DCCF = 20 Log_{10}(1.2ms/100ms) = -38.42 dB.				

Test Specifications	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

Run #	36	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2247.097	53.7	-12.8	1.5	157.0	0.0	20.0	Horz	PK	0.0	60.9	74.0	-13.1	Low Ch 0, EUT Horz
2246.957	52.8	-12.8	1.5	294.0	0.0	20.0	Vert	PK	0.0	60.0	74.0	-14.0	Low Ch 0, EUT on Side
2246.940	46.0	-12.8	1.5	294.0	-38.4	20.0	Vert	AV	0.0	14.8	54.0	-39.2	Low Ch 0, EUT on Side
2246.930	45.0	-12.8	1.5	157.0	-38.4	20.0	Horz	AV	0.0	13.8	54.0	-40.2	Low Ch 0, EUT Horz