

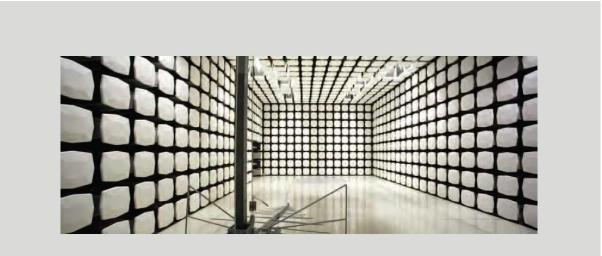
Medtronic, Inc.

MyCareLink Relay Home Communicator 24960

FCC 22H:2018 FCC 24E:2018 FCC 27L:2018

Cellular Radio

Report # MDTR0649







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Last Date of Test: July 11, 2018 Medtronic, Inc. Model: MyCareLink Relay Home Communicator 24960

Radio Equipment Testing

Standards	
Specification	Method
FCC 22H:2018	
FCC 24E:2018	ANSI C63.26:2015
FCC 27L:2018	

Results

Method Clause	Test Description	Applied	Results	Comments
5.2.4.2	Conducted Output Power	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.6	Frequency Stability	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.4	Occupied Bandwidth Emission Mask	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.5	Out of Band Emissions - UMTS - CLR850	Yes	Pass	
5.5	Out of Band Emissions - UMTS - PCS1900	Yes	Pass	
5.5	Out of Band Emissions - UMTS - AWS1700	Yes	Pass	
5.7	Spurious Emissions at the Antenna Terminals	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.2.7	ERP of Fundamental - UMTS - CLR850	Yes	Pass	
5.2.7	EIRP of Fundamental - UMTS - PCS1900	Yes	Pass	
5.2.7	EIRP of Fundamental - UMTS - AWS1700	Yes	Pass	
5.2.4.2	Conducted Output Power	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.6	Frequency Stability	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.4	Occupied Bandwidth Emission Mask	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.5	Out of Band Emissions - LTE Band 2	Yes	Pass	Ť
5.5	Out of Band Emissions - LTE Band 4	Yes	Pass	
5.5	Out of Band Emissions - LTE Band 5	Yes	Pass	
5.5	Out of Band Emissions - LTE Band 12	Yes	Pass	
5.7	Spurious Emissions at the Antenna Terminals	No	N/A	Testing covered under FCC ID: QIPELS61-US original Grant
5.2.7	ERP of Fundamental - LTE Band 2	Yes	Pass	
5.2.7	ERP of Fundamental - LTE Band 4	Yes	Pass	
5.2.7	ERP of Fundamental - LTE Band 5	Yes	Pass	
5.2.7	ERP of Fundamental - LTE Band 12	Yes	Pass	

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.

CERTIFICATE OF TEST



Deviations From Test Standards

None

Approved By:

W

Matt Nuernberg, 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.

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). Certification chambers and Open Area Test Sites are filed with ISED.

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

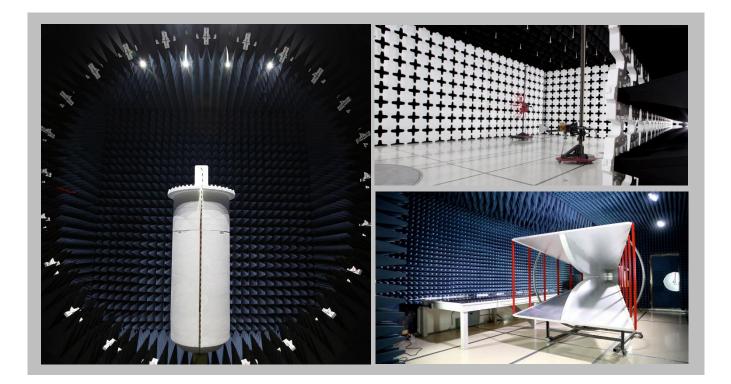
For details on the Scopes of our Accreditations, please visit: <u>http://portlandcustomer.element.com/ts/scope/scope.htm</u> <u>http://gsi.nist.gov/global/docs/cabs/designations.html</u>

FACILITIES



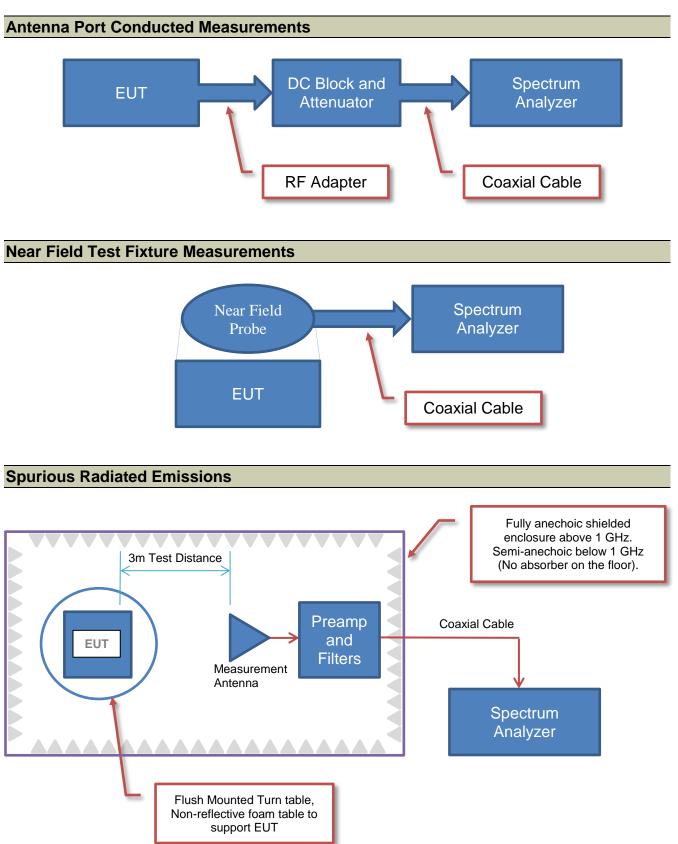


California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (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
	Innov	ation, Science and Eco	nomic Development Can	ada	
2834B-1, 2834B-3	2834E-1, 2834E-3	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
		VC	CI		
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:	Medtronic, Inc.
Address:	710 Medtronic Parkway
City, State, Zip:	Minneapolis, MN 55432
Test Requested By:	Taylor Dowden
Model:	MyCareLink Relay Home Communicator 24960
First Date of Test:	July 2, 2018
Last Date of Test:	July 11, 2018
Receipt Date of Samples:	June 25, 2018
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

The MyCareLink Relay home communicator wirelessly transfers information between an implanted medical device and the Medtronic CareLink network. The wireless communication between the MyCareLink Relay and the Medtronic CareLink network is accomplished by means of a cellular radio. The four variations of the cellular radio support different combinations of 2G, 3G and 4G technologies.

Testing Objective:

To demonstrate compliance of the Cellular radio to FCC Part 22H, FCC Part 24E, and FCC Part 27L requirements. 3G and 4G band 5 data will also be used to support Australia and New Zealand radio compliance since AS/CA S042.4:2018 states that band 5 shall comply with the requirements of FCC Part 22H.

CONFIGURATIONS



Configuration MDTR0649-2

Software/Firmware Running during	ng test
Description	Version
blulite_test-eng AOSP	1.10.588

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
MyCareLink Relay Home	Medtronic, Inc.	24960	MEA9963DEM
Communicator 24960	Weattonie, me.	24500	MEASSOSDEM
Atech OEM Power Supply	Atech OEM	ADS012T-W050200	S1811003694

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Atech OEM Power Supply Cable	No	1.9 m	Yes	MyCareLink Relay Home Communicator 24960	Atech OEM Power Supply

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
nom	Dato	ERP of			
1	7/2/2018	Fundamental – UMTS – CLR850	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	7/2/2018	EIRP of Fundamental – UMTS – PCS1900	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	7/2/2018	EIRP of Fundamental – UMTS – AWS1700	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	7/3/2018	Out of Band Emissions – UMTS- CLR850	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	7/5/2018	Out of Band Emissions – UMTS – AWS1700	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	7/5/2018	Out of Band Emissions – UMTS – PCS1900	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	7/6/2018	Out of Band Emissions – LTE Band 2	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	7/9/2018	Out of Band Emissions – LTE Band 4	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
9	7/9/2018	Out of Band Emissions – LTE Band 5	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
10	7/10/2018	Out of Band Emissions – LTE Band 12	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
11	7/10/2018	ERP of Fundamental – LTE Band 5	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
12	7/10/2018	ERP of Fundamental – LTE Band 12	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
13	7/11/2018	ERP of Fundamental – LTE Band 2	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
14	7/11/2018	ERP of Fundamental – LTE Band 4	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

OUT OF BAND EMISSIONS - UMTS -CLR850



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 WCDMA R99 CLR-850 (3G Band 5) on Low, Mid, or High channel at 826.4, 836.4, or 846.6 MHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz

Stop Frequency 9 GHz

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 - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HGS	7-Aug-2017	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Generator - Signal	Rohde & Schwarz	SML03	TII	3-Apr-2018	36 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	13-Feb-2018	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Filter - High Pass	Micro-Tronics	HPM50108	LFM	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Attenuator	Fairview Microwave	SA18E-10	TYA	20-Sep-2017	12 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions was noted.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.

OUT OF BAND EMISSIONS - UMTS - CLR850



	ork Order:		FR0649)		Date:	3-Jul-			-	mak	1 00	
	Project:		lone			nperature:	22.2	°C	K	zyli	man	neca	-
	Job Site:	N	1N05			Humidity:	55.8%	5 RH					
Serial	Number:	MEA9	963DE		Barome	tric Pres.:	1020	mbar		Tested by	: Kyle McMullan	ו	
	EUT:	MyCareL	ink Rela	ay Hom	e Commu	inicator 249	60						
Confi	iguration:	2											
C	ustomer:	Medtronio	c, Inc.										
A	ttendees:	Taylor Do	owden										
	T Power:												
	ng Mode:			CLR-8	50 (3G B	and 5) on Lo	ow, Mid, or	High chan	nel at 826	.4, 836.4, c	or 846.6 MHz.		
De	eviations:	None											
Co	omments:	-US											
st Speci	fications						1	Test Meth	od				
C 22.91		•						ANSI C63.					
Run #	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m))	Results	Pass	;
Run #	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m))	Results	Pass	;
 	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	;]
Run #	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	;
 	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	;
-5 -	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
 	29	Test D		e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	5
-5 -	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 -	29	Test D	istance	e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 -	29	Test D		e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	5
-5 -15 -25	29	Test D		e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 -	29	Test D		e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 -	29	Test D	istance	€ (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 -	29	Test D		€ (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 -	29	Test D		€ (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 -15 -25	29	Test D		e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 - Egg -45 -	29	Test D		e (m) e	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 -	29	Test D		≥ (m) 	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 - Egg -45 - -55 -	29			e (m)	3	Antenna	Height(s)		1 to 4(m)		Results	Pass	
-5 - -15 - -25 - -35 - Eno -45 -	29			e (m)	3	Antenna		8	1 to 4(m)		Results Image: state	Pass	
-5 - -15 - -25 - -35 - Egg -45 - -55 -	29			e (m)	3	Antenna		8 8	1 to 4(m)		Results Image: state	Pass	5
-5 - -15 - -25 - -35 - -35 - -35 - -55 - -65 -	29				3	Antenna		8	1 to 4(m)		Results Image: state	Pass	5
-5 - -15 - -25 - -35 - Egg -45 - -55 -	29				3			8 8 8	1 to 4(m)			Pass	
-5 - -15 - -25 - -35 - -35 - -35 - -55 - -65 -	29				3	Antenna			1 to 4(m)		Results Image: state	Pass	
-5 - -15 - -25 - -35 - -35 - -35 - -55 - -65 - -75 -	29				3			8	1 to 4(m)		Results Image: state	Pass	
-5 - -15 - -25 - -35 - -35 - -55 - -65 -				2 (m)	3	Antenna			1 to 4(m)		Results Image: state		

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
2479.433	1.0	70.1	Horz	PK	2.20E-07	-36.6	-13.0	-23.6	EUT Horz, Low Ch
2478.617	1.0	153.0	Vert	PK	1.59E-07	-38.0	-13.0	-25.0	EUT On Side, Low Ch
2479.017	1.0	346.0	Horz	PK	1.59E-07	-38.0	-13.0	-25.0	EUT Vert, Low Ch
2479.983	1.0	166.1	Vert	PK	1.00E-07	-40.0	-13.0	-27.0	EUT Horz, Low Ch
2478.233	1.0	32.0	Vert	PK	9.82E-08	-40.1	-13.0	-27.1	EUT Vert, Low Ch
2479.550	1.0	249.0	Horz	PK	7.11E-08	-41.5	-13.0	-28.5	EUT On Side, Low Ch
1654.433	1.0	84.1	Horz	PK	2.70E-08	-45.7	-13.0	-32.7	EUT Horz, Low Ch
3301.600	2.1	288.0	Vert	PK	2.52E-08	-46.0	-13.0	-33.0	EUT On Side, Low Ch
3384.067	1.0	181.1	Horz	PK	2.52E-08	-46.0	-13.0	-33.0	EUT Horz, High Ch
3349.967	2.6	188.1	Horz	PK	2.47E-08	-46.1	-13.0	-33.1	EUT Horz, Mid Ch
2509.533	1.0	67.0	Horz	PK	2.36E-08	-46.3	-13.0	-33.3	EUT Horz, Mid Ch
3343.567	1.0	307.9	Vert	PK	2.25E-08	-46.5	-13.0	-33.5	EUT On Side, Mid Ch
1654.267	1.0	96.0	Vert	PK	2.20E-08	-46.6	-13.0	-33.6	EUT On Side, Low Ch
2534.800	1.0	317.0	Horz	PK	2.20E-08	-46.6	-13.0	-33.6	EUT Horz, High Ch
3382.467	1.0	184.1	Vert	PK	2.20E-08	-46.6	-13.0	-33.6	EUT On Side, High Ch
3300.733	1.0	299.0	Horz	PK	2.15E-08	-46.7	-13.0	-33.7	EUT Horz, Low Ch
2504.483	1.0	238.0	Vert	PK	1.75E-08	-47.6	-13.0	-34.6	EUT On Side, Mid Ch
2542.550	1.0	118.0	Vert	PK	1.59E-08	-48.0	-13.0	-35.0	EUT On Side, High Ch
1671.700	2.8	328.0	Vert	PK	1.45E-08	-48.4	-13.0	-35.4	EUT On Side, Mid Ch
1692.650	1.0	350.0	Vert	PK	1.36E-08	-48.7	-13.0	-35.7	EUT On Side, High Ch
1692.783	1.0	1.1	Horz	PK	1.29E-08	-48.9	-13.0	-35.9	EUT Horz, High Ch
1671.417	1.0	281.0	Horz	PK	1.26E-08	-49.0	-13.0	-36.0	EUT Horz, Mid Ch

OUT OF BAND EMISSIONS - UMTS - PCS1900



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 WCDMA R99 PCS-1900 (3G Band 2) on Low, Mid, or High channel at 1852.4, 1880.0, or 1907.6 MHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz

Stop Frequency 20 GHz

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.	Interva
Filter - High Pass	Micro-Tronics	HPM50111	LFN	20-Sep-2017	12 mo
Filter - Band Reject	Wainwright Instruments	VTRCT10-1780-2200-22-40-40EEI	HHP	15-Feb-2018	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	12-Sep-2017	12 mo
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	12-Sep-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	13-Feb-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Attenuator	Fairview Microwave	SA18E-10	TYA	20-Sep-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	13-Feb-2018	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	20-Sep-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the heights of the measurement.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.

OUT OF BAND EMISSIONS - UMTS - PCS1900



Wa	rk Order:	МГ	TR06	10			D,	ate:	5- Iu	-2018								
WO	Project:		None	49		Tor	nperati			4 °C	-	2	rh	-7	man	the	ec	m
	Job Site:		MN05			Ter	Humid			4 C % RH	1	b	200					
	Number:		9963E			Barome				mbar		Τo	sted hy	: Kyle M	lcMulls	an		
Jenai		MyCare								mbai		10	Sieu Dy	. Ityle w	Civiuiic			
Confi	guration:			ciay	TIOIII	c oomin	unicato	1 2400	0									
	ustomer:	Medtron	ic Inc															
	tendees:																	
	T Power:																	
	ng Mode:				PCS-1	900 (3G	Band 2) on Lo	ow, Mid,	or High ch	annel at	1852	4, 1880	.0, or 19	07.6 N	1Hz.		
De	viations:	None																
Co	mments:	-US																
est Specif	fications									Test Met	hod							
CC 24.238										ANSI C63		5						
Run #	54	Test	Distan	nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Res	ults		Pa	SS
Run #	54	Test	Distar	nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Res	ults		Pa	ss
-5	54	Test	Distar	nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Resi	ults		Pa	ss
	54	Test	Distar	nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Resi	ults		Pa	ss
-5	54	Test	Distar	nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Resi	ults		Pa	SS
	54	Test	Distar	nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Resi		,	Pa	SS
-5	54	Test		nce (m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Resi		,	Pa	<u>as</u>
-5 -	54		Distar		m)	3		nna H	eight(s)		1 to 4	(m)		Resi		,	Pa	SS
-5	54				m)	3		nna H	eight(s)		1 to 4	(m)		Resi			Pa	SS
-5 -15	54				m)	3	Ante	nna H	eight(s)		1 to 4	(m)		Resi		,	Pa	
-5 -	54				m)	3	Ante		eight(s)		1 to 4	(m)		Resi			Pa	
-5 -15 -25 -35	54				m)	3	Ante		eight(s)		1 to 4	(m)		Resi			Pa	
-5 -15 -25 -35	54				m)	3	Ante		eight(s)		1 to 4	(m)		Resi			Pa	
-5 -15 -25 -35	54				m)	3	Ante		eight(s)		1 to 4			Resi		,	Pa	
-5 -15 -25 -35 Eg	54				m)	3	Ante		eight(s)		1 to 4	(m)		Resi			Pa	
-5 - -15 - -25 - -35 - Egg -45 -	54				m)	3	Ante		eight(s)		1 to 4							
-5 -15 -25 -35	54				m)	3	Ante		eight(s)		1 to 4	(m)						
-5 - -15 - -25 - -35 - Egg -45 -	54				m) 	3	Ante				1 to 4							
-5 -15 -25 -35 -35 - Egg -45	54				m)	3	Ante		eight(s)		1 to 4							
-5 - -15 - -25 - -35 - E B -45 - -55 -	54				m)	3	Ante				1 to 4							
-5 - -15 - -25 - -35 - Egy -45 - -55 - -65 -	54				m)	3	Ante				1 to 4							
-5 -15 -25 -35 -35 -35 -35 -35 -35 -55	54				m)	3					1 to 4							
-5 -15 -25 -35 -35 -35 -35 -35 -35 -55 -65	54					3	Ante				1 to 4							
-5 -15 -25 -35 -35 -35 -35 -45 -55 -65 -75	54					3	Ante				1 to 4							
-5 -15 -25 -35 -35 -35 -35 -35 -35 -55 -65 -65 -75 -85						3	Ante				1 to 4							
-5 -15 -25 -35 -35 -35 -35 -45 -55 -65 -75					m)	3	Ante											

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
-	7414.417	1.0	125.0	Horz	PK	6.56E-07	-31.8	-13.0	-18.8	EUT On Side, Low Ch
	7523.350	1.0	289.9	Horz	PK	5.99E-07	-32.2	-13.0	-19.2	EUT On Side, Mid Ch
	7632.133	1.0	37.1	Horz	PK	5.46E-07	-32.6	-13.0	-19.6	EUT On Side, High Ch
	7517.550	1.4	250.0	Vert	PK	5.46E-07	-32.6	-13.0	-19.6	EUT Horz, Mid Ch
	7626.200	1.0	151.0	Vert	PK	5.09E-07	-32.9	-13.0	-19.9	EUT Horz, High Ch
	7409.917	1.0	91.1	Vert	PK	4.75E-07	-33.2	-13.0	-20.2	EUT Horz, Low Ch
	5725.850	1.2	55.1	Vert	PK	2.74E-07	-35.6	-13.0	-22.6	EUT Horz, High Ch
	5643.683	1.0	310.0	Horz	PK	2.55E-07	-35.9	-13.0	-22.9	EUT On Side, Mid Ch
	5553.033	1.0	0.0	Horz	PK	2.44E-07	-36.1	-13.0	-23.1	EUT On Side, Low Ch
	5720.017	1.0	99.0	Horz	PK	2.33E-07	-36.3	-13.0	-23.3	EUT On Side, High Ch
	5637.467	1.8	163.1	Vert	PK	2.28E-07	-36.4	-13.0	-23.4	EUT Horz, Mid Ch
	5552.517	1.0	159.1	Vert	PK	2.22E-07	-36.5	-13.0	-23.5	EUT Horz, Low Ch
	3814.450	1.9	312.9	Horz	PK	1.37E-07	-38.6	-13.0	-25.6	EUT On Side, High Ch
	3817.867	1.0	222.0	Horz	PK	9.49E-08	-40.2	-13.0	-27.2	EUT Vert, High Ch
	3700.367	2.1	235.0	Horz	PK	8.85E-08	-40.5	-13.0	-27.5	EUT On Side, Low Ch
	3704.467	2.7	0.0	Vert	PK	8.85E-08	-40.5	-13.0	-27.5	EUT Horz, Low Ch
	3818.983	1.0	274.0	Vert	PK	8.46E-08	-40.7	-13.0	-27.7	EUT Horz, High Ch
	3818.200	1.0	337.9	Horz	PK	8.26E-08	-40.8	-13.0	-27.8	EUT Horz, High Ch
	3817.983	1.0	28.0	Vert	PK	8.26E-08	-40.8	-13.0	-27.8	EUT Vert, High Ch
	3813.217	1.0	268.9	Vert	PK	7.03E-08	-41.5	-13.0	-28.5	EUT On Side, High Ch
	3761.350	1.0	31.0	Vert	PK	7.03E-08	-41.5	-13.0	-28.5	EUT Horz, Mid Ch
	3762.950	1.0	11.1	Horz	PK	6.27E-08	-42.0	-13.0	-29.0	EUT On Side, Mid Ch

OUT OF BAND EMISSIONS - UMTS -AWS1700



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 WCDMA R99 AWS-1700 (3G Band 4) on Low, Mid, or High channel at 1712.4, 1735.4, or 1752.6 MHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Stop Frequency 18 GHz

SAMPLE CALCULATIONS

Start Frequency 30 MHz

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 - Band Reject	K&L Microwave	3TNF-1000/2000-N/N	HGT	7-Aug-2017	12 mo
Attenuator	Fairview Microwave	SA18E-10	TYA	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	LFN	20-Sep-2017	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	20-Sep-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions was noted.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.

OUT OF BAND EMISSIONS - UMTS - AWS1700



	rk Order:	MD	FR0649		Date:	5-Jul-	2019			
110	Project:		lone	Tom	perature:	21.5	2010	2 1	math	Ella
	Job Site:		1N05	Ten	Humidity:	57.8%		Kyli		
	Number:		963DEM		ric Pres.:	1029		Tested by	Kyle McMullan	
Senai				ome Commu			mbai	Tested by:	Kyle wiciviulian	
Confi	guration:		пк кејау по	Sine Commu	nicator 2490	U				
Connig	guration:	2 Medtronio								
		Taylor Do								
EU	I Power:	110VAC/								
Operatir	ng Mode:		VA R99 AW	S-1700 (3G	Band 4) on L	_ow, Mid,	or High channel at	t 1712.4, 1735	.4, or 1752.6 MF	IZ.
De	viations									
Co	mments	-US								
est Specif	fications						Test Method			
CC 27.53:2							ANSI C63.26:201	5		
Run #						L-1	1 to 4	(m)	Results	Pass
Run #	41	Test D	istance (m)	3	Antenna H	leight(s)	1 10 4	(11)	Results	1 433
rtun #	41	Test D	istance (m)	3	Antenna F	leight(s)	1 10 4	(11)	Results	1 455
	41	Test D	istance (m)	3	Antenna F	leight(s)	1104		Results	
-5 -	41	Test D	istance (m)		Antenna F	ieignt(s)				
	41	Test D	istance (m)		Antenna F	leight(s)				
-5	41	Test D			Antenna F					
	41	Test D			Antenna F					
-5	41	Test D			Antenna F					
-5	41	Test D			Antenna F					
-5 -15 -	41				Antenna F					
-5 -15 -25	41									
-5 -15 -25	41									
-5 -15 -25	41									
-5 -15 -25	41									
-5 -15 -25	41									
-5 -15 -25 -25 -35	41									
-5 -15 -25 -25 -25 -25 -25 -25 -25 -25 -25 -2	41									
-5 -15 -25	41									
-5 -15 -25 -25 -25 -25 -25 -25 -25 -25 -25 -2										
-5 -15 -25 -25 -25 -25 -25 -25 -25 -25 -25 -2										
-5 -15 -25 -25 -25 -25 -25 -25 -25	41									
-5 -15 -25 -25 -25 -25 -25 -25 -25										
-5 -15 -25 -25 -25 -25 -25 -25 -25										
-5 -15 -25 -25 -25 -25 -25 -25 -55 -65										
-5 - -15 - -25 - 25 - 27HW/₩8P -55 - -65 - -75 -										
-5 -15 -25 -25 -25 -25 -35 -45 -55 -65 -65 -75 -85										
-5 -15 -25 -25 -25 -25 -35 -35 -55 -65 -65 -75										

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
-	6942.400	1.0	339.0	Horz	PK	4.75E-07	-33.2	-13.0	-20.2	EUT Vert, Mid Ch
	7009.867	1.9	307.0	Horz	PK	4.54E-07	-33.4	-13.0	-20.4	EUT Vert, High Ch
	7007.233	1.6	53.0	Vert	PK	4.14E-07	-33.8	-13.0	-20.8	EUT Horz, High Ch
	6942.850	2.6	84.1	Vert	PK	4.14E-07	-33.8	-13.0	-20.8	EUT Horz, Mid Ch
	6848.583	2.7	4.1	Vert	PK	3.86E-07	-34.1	-13.0	-21.1	EUT Horz, Low Ch
	6846.350	2.0	216.0	Horz	PK	3.86E-07	-34.1	-13.0	-21.1	EUT Vert, Low Ch
	5256.467	2.1	150.0	Horz	PK	2.28E-07	-36.4	-13.0	-23.4	EUT Vert, High Ch
	5260.217	1.0	31.0	Vert	PK	2.12E-07	-36.7	-13.0	-23.7	EUT Horz, High Ch
	5132.233	1.8	293.0	Horz	PK	1.89E-07	-37.2	-13.0	-24.2	EUT Vert, Low Ch
	3507.900	2.9	271.9	Vert	PK	1.85E-07	-37.3	-13.0	-24.3	EUT Horz, High Ch
	3472.067	1.9	234.0	Horz	PK	1.81E-07	-37.4	-13.0	-24.4	EUT Vert, Mid Ch
	5204.833	2.7	7.0	Horz	PK	1.81E-07	-37.4	-13.0	-24.4	EUT Vert, Mid Ch
	5134.117	1.0	178.1	Vert	PK	1.57E-07	-38.0	-13.0	-25.0	EUT Horz, Low Ch
	5203.950	1.7	14.0	Vert	PK	1.54E-07	-38.1	-13.0	-25.1	EUT Horz, Mid Ch
	3509.450	1.7	329.9	Horz	PK	1.14E-07	-39.4	-13.0	-26.4	EUT Vert, High Ch
	3507.300	1.0	342.0	Horz	PK	1.09E-07	-39.6	-13.0	-26.6	EUT On Side, High Ch
	3425.917	2.0	324.0	Horz	PK	9.71E-08	-40.1	-13.0	-27.1	EUT Vert, Low Ch
	3470.933	1.0	128.0	Vert	PK	9.71E-08	-40.1	-13.0	-27.1	EUT Horz, Mid Ch
	3503.450	2.3	318.0	Vert	PK	8.07E-08	-40.9	-13.0	-27.9	EUT On Side, High Ch
	3502.917	1.0	89.0	Vert	PK	7.71E-08	-41.1	-13.0	-28.1	EUT Vert, High Ch
	3507.383	1.0	279.9	Horz	PK	7.03E-08	-41.5	-13.0	-28.5	EUT Horz, High Ch
	3426.717	1.0	148.1	Vert	PK	4.75E-08	-43.2	-13.0	-30.2	EUT Horz, Low Ch

ERP OF FUNDAMENTAL - UMTS - CLR850



PSA-ESCI 2018.05.04

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 WCDMA R99 CLR-850 (3G Band 5) on Low, Mid, or High channel at 826.4, 836.4, or 846.6 MHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 824 MHz

Stop Frequency 849 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
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Antenna - Dipole	EMCO	3121C-DB4	ADI	10-Feb-2016	36 mo
Generator - Signal	Rohde & Schwarz	SML03	TII	3-Apr-2018	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a $\frac{1}{2}$ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined. The ERP value was obtained from taking the value in EIRP – 2.15.

ERP OF FUNDAMENTAL - UMTS - CLR850



										EmiR5 2018.05.07	PSA-ESCI 2018.05.0
W	ork Order:	MDTR064	9			2-Jul-		-	0.5	1	1 00
	Project:			Temperat		21.6		K	yla	math	nella
	Job Site:			Humi		57.9%					
Seria	I Number:	MEA9963DE	EM Ba	arometric P	res.:	1017	mbar	•	Tested by:	Kyle McMullar	1
	EUT:	MyCareLink Re	lay Home C	ommunicato	or 24960						
Conf	figuration:	2									
(Customer:	Medtronic, Inc.									
A	Attendees:	Taylor Dowden									
E	UT Power:	110VAC/60Hz									
Operat	ing Mode:	Tx WCDMA R9	9 CLR-850	(3G Band 5)	on Low, N	/lid, or	High chanr	nel at 826.4	l, 836.4, or	846.6 MHz.	
D	eviations:	None									
		-US									
C	omments:										
Test Spec	ifications						Test Methe	od			
FCC 22.91							ANSI C63.2				
Run #	9	Test Distance	(m)	3 Ant	enna Heig	ht/a)		1 to 4(m)		Results	Pass
Kun #	9	Test Distant	e (m)		enna neig	111(5)		1 (0 4(11)		Results	Fass
40 _T											
F											
35 -											
30 +											
25 -											
- I					_						
E 20 -											
8 -											
						I					
15 -											
-											
10 -											
5 -											
0 +											
824	4	829		83		MHz	839			844	849 AV QP
		· · · · · ·									
	Freq (MHz)	Ŭ	Trans	arity/ sducer /pe Dete		RP atts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Co	omments

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Transducer Type	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
 845.558	1.0	40.1	Horz	PK	2.21E-01	23.4	38.5	-15.1	EUT Vert, High Ch
825.700	1.0	40.1	Horz	PK	2.20E-01	23.4	38.5	-15.1	EUT Vert, Low Ch
835.792	1.0	42.0	Horz	PK	1.30E-01	21.1	38.5	-17.4	EUT Vert, Mid Ch
835.842	1.0	342.0	Horz	PK	1.16E-01	20.6	38.5	-17.9	EUT Horz, Mid Ch
835.192	1.0	43.0	Horz	PK	1.16E-01	20.6	38.5	-17.9	EUT On Side, Mid Ch
835.683	1.4	147.0	Vert	PK	8.41E-02	19.3	38.5	-19.2	EUT On Side, Mid Ch
835.192	1.5	301.9	Vert	PK	6.37E-02	18.0	38.5	-20.5	EUT Vert, Mid Ch
845.333	1.3	147.0	Vert	PK	5.45E-02	17.4	38.5	-21.1	EUT On Side, High Ch
825.783	1.0	167.1	Vert	PK	5.32E-02	17.3	38.5	-21.2	EUT On Side, Low Ch
835.908	1.1	263.0	Vert	PK	4.95E-02	17.0	38.5	-21.6	EUT Horz, Mid Ch

EIRP OF FUNDAMENTAL - UMTS -PCS1900



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 WCDMA R99 PCS-1900 (3G Band 2) on Low, Mid, or High channel at 1852.4, 1880.0, or 1907.6 MHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 1850 MHz

Stop Frequency 1910 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
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Antenna - Double Ridge	ETS-Lindgren	3115	AJQ	14-Nov-2016	24 mo
Generator - Signal	Rohde & Schwarz	SML03	TII	3-Apr-2018	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	13-Feb-2018	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization and manipulating the EUT antenna in 3 orthogonal planes. The antennas to be used with the EUT were tested. The EUT was transmitting while set at the lowest channel, a middle channel, and the highest channel available. The amplitude and frequency were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the gain (dBi) of the horn antenna the effective radiated power for each emission was determined.

EIRP OF FUNDAMENTAL - UMTS - PCS1900



					_				EmiR5 2018.05.07	PSA-ESCI 2018.05.04
W	ork Order:		R0649	T	Date:	2-Jul-20		~ ~	ma	the all
	Project:		ne		nperature:	21.5 °C		Mya	man	neen
Soria	Job Site:				Humidity:	55.7% F		Tootod	by: Kyle McMulla	2
Seria	al Number:	MyCarol in	63DEM	Barome	tric Pres.: Inicator 2496	1017 mb	Dar	Tested	by: Kyle wiciviulia	(1)
Con	figuration:		к кејау по		11102101 2490	0				
	Customer:		Inc							
	Attendees:									
	UT Power:									
				1000 (20 1	Band 2) on L	ow Mid or h	ligh channel	at 1952 / 199	0.0, or 1907.6 M	U ₇
Operat	ting Mode:		A 1(391 00	-1900 (301	Danu 2) on L		light channel	at 1002.4, 100	0.0, 01 1907.0 10	112.
C	Deviations:	None								
		-US								
С	comments:									
Test Spec	cifications					Те	st Method			
FCC 24.23	32:2018					AN	ISI C63.26:2	015		
D #	0	Test Di			A		4.44	4(Desults	Deee
Run #	8	l est Dis	stance (m)	3	Antenna H	leight(s)	1 to	o 4(m)	Results	Pass
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25 - Eg 20 - 15 - 10 - 5 -										
25 - Eg 20 - 15 - 10 - 5 - 0 -	30 1	840		1860	1870		1800			
25 - Eg 20 - 15 - 10 - 5 -	30 1	840		1860	1870	1880	1890	1900		220 1930
25 - Eg 20 - 15 - 10 - 5 - 0 -	30 1	840		1860	1870		1890		1910	→ AV • QP
25 - Eg 20 - 15 - 10 - 5 - 0 -	30 1	840		1860	1870	1880	1890		1910	

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments	
	1851.808	1.0	49.0	Horz	PK	3.94E-01	26.0	33.0	-7.0	EUT On Side, Low Ch	
	1906.967	1.0	332.0	Vert	PK	3.05E-01	24.8	33.0	-8.2	EUT Horz, High Ch	
	1851.575	1.0	337.9	Vert	PK	2.57E-01	24.1	33.0	-8.9	EUT Horz, Low Ch	
	1906.242	1.0	40.1	Horz	PK	2.22E-01	23.5	33.0	-9.5	EUT On Side, High Ch	
	1879.183	1.0	336.0	Vert	PK	2.11E-01	23.3	33.0	-9.8	EUT Horz, Mid Ch	
	1879.625	1.0	54.0	Horz	PK	2.11E-01	23.2	33.0	-9.8	EUT On Side, Mid Ch	
	1879.350	1.0	76.1	Vert	PK	1.79E-01	22.5	33.0	-10.5	EUT On Side, Mid Ch	
	1879.892	1.0	184.1	Horz	PK	1.33E-01	21.2	33.0	-11.8	EUT Vert, Mid Ch	
	1879.108	1.0	279.9	Horz	PK	1.01E-01	20.1	33.0	-13.0	EUT Horz, Mid Ch	
	1880.008	1.0	76.1	Vert	PK	5.81E-02	17.6	33.0	-15.4	EUT Vert, Mid Ch	

EIRP OF FUNDAMENTAL - UMTS -AWS1700



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 WCDMA R99 AWS-1700 (3G Band 4) on Low, Mid, or High channel at 1712.4, 1735.4 or 1756.6 MHz.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 1710 MHz

Stop Frequency 1759 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
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Antenna - Double Ridge	ETS-Lindgren	3115	AJQ	14-Nov-2016	24 mo
Generator - Signal	Rohde & Schwarz	SML03	TII	3-Apr-2018	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization and manipulating the EUT antenna in 3 orthogonal planes The antennas to be used with the EUT were tested. The EUT was transmitting while set at the lowest channel, a middle channel, and the highest channel available. The amplitude and frequency were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the gain (dBi) of the horn antenna the effective radiated power for each emission was determined.

EIRP OF FUNDAMENTAL - UMTS -AWS1700



M/ e al			20040		Data	0.1.1	0040			EmiR5 2018.05.07		PSA-ESCI 201
	Corder: Project:		R0649 one	Ter	Date: nperature:		-2018 4 °C	~	2	ma	the l	Ca
	ob Site:			Ter	Humidity:		% RH		ya	at at		cm
Serial N			105 63DEM	Barama	etric Pres.:	20.3	mbar				امم	
Serial N							mbar		Tested by:	Kyle McMul	lan	
Carfin		MyCareLin	к кејау по	ome Commu	unicator 249	000						
Configu												
		Medtronic,										
		Taylor Dov										
EUT	Power:	110VAC/6										
Operating	g Mode:		A R99 AWS	S-1700 (3G	Band 4) on	Low, Mid,	or High cha	annel at 17	12.4, 1735. [,]	4 or 1756.6 l	MHz.	
Dev	iations	None										
Com	nments:	-US										
st Specific	rations						Test Meth	od				
C 27.50:20		1					ANSI C63.					
Run #	7	Test Die	stance (m)	3	Antenna	Height(s)		1 to 4(m)		Results	F	Pass
	/	Test Dia		5	Antenna	Tieigin(5)		1 10 4(11)		Results		ass
40												
35												
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o 📙												
1710	1	715	1720	1725	1730	1735 MHz	17	40	1745	1750	1755	
										PK	◆ AV	o QP
				Polarity/ Transducer					Compared to			

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
 1734.692	1.0	46.0	Horz	PK	4.62E-01	26.7	30.0	-3.4	EUT On Side, Mid Ch
1734.175	1.0	130.1	Vert	PK	3.22E-01	25.1	30.0	-4.9	EUT Horz, Mid Ch
1751.517	1.0	34.1	Horz	PK	2.99E-01	24.8	30.0	-5.2	EUT On Side, High Ch
1751.883	1.0	350.0	Vert	PK	2.99E-01	24.8	30.0	-5.2	EUT Horz, High Ch
1711.483	1.0	63.0	Horz	PK	2.85E-01	24.6	30.0	-5.5	EUT On Side, Low Ch
1711.917	1.0	48.1	Vert	PK	2.44E-01	23.9	30.0	-6.1	EUT Horz, Low Ch
1734.725	1.0	175.0	Horz	PK	2.32E-01	23.7	30.0	-6.4	EUT Horz, Mid Ch
1734.900	1.0	137.1	Horz	PK	1.93E-01	22.9	30.0	-7.1	EUT Vert, Mid Ch
1735.300	1.0	76.1	Vert	PK	1.90E-01	22.8	30.0	-7.2	EUT On Side, Mid Ch
1734.917	1.0	353.0	Vert	PK	8.87E-02	19.5	30.0	-10.5	EUT Vert, Mid Ch



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 LTE Band 2 (PCS-1900) on Low, Mid, or High channel at 1850.7, 1880.0, or 1909.3 MHz using the modulations, bandwidths, and resource block configurations noted below.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz Stop Frequency 20 GHz

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	LFN	20-Sep-2017	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	20-Sep-2017	12 mo
Filter - Band Reject	Wainwright Instruments	WTRCT10-1780-2200-22-40-40EEk	HHP	15-Feb-2018	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	13-Feb-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	13-Feb-2018	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions was noted.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.



	k Order:	N.4	DTR0	640				Do	te:		6- Iu	-2018						2018.05.0			- 11-
	Project:	IVI	None		_		Temp					- <u>2018</u> 3 °C		2	-	1	-	m	the	er	-
	ob Site:		MN05		_			imidi				% RH		1	y	la				-	
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Config	uration:			Reid	y 1101		minam	cator	245	00											
	stomer:		nic In	с																	
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	Power:																				
Operatin	g Mode:	Tx LTE bandwi										nel at 185 elow.	50.7, 18	80.0,	or 1	909.3	MHz u	ising t	he mo	dulatio	ons,
Dev	viations:	None																			
Con	nments:									2FC	C/IC	42-2 leve	eraged	for de	etern	nining	worst-	case	modula	ation,	
st Specifi	cations											Test Me	thod								
C 24.238:												ANSI C		015							
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Run #	85	Test	Dista	nce	(m)	3		Anter	nna	Heig	jht(s)		1 to	4(m)		R	esults	5	Pa	SS
-5	85	Test	Dista	ince	(m)	3		Anter	nna	Heig	iht(s)		1 to	4(m)			R	esuits	s	Pa	<u>ss</u>
-5	85	Test	Dista	ince	(m)	3		Antei	nna	Heig	iht(s)		1 to	4(m)			R	esuits	5		
	85	Test	Dista	ince	(m)	3				Heig	iht(s)		1 to	<u>4(m</u>					<u>.</u>	Pa	
-5	85		Dista		(m)	3				Heig			1 to	<u>4(m</u>						Pa	
-5 -15 -25	85		Dista		(m)	3							1 to	4(m)							
-5 -15 -25	85	Test	Dista		(m)	3								4(m)						Pa	
-5 -15 -25						3								4(m)						Pa	
-5 -15 -25 -25 -25 -25 -25 -25 -25 -25 -25 -2	85		Dista			3								4(m)							
-5 -15 -25														4(m)	•						
-5 -15 -25 -25 -25 -25 -25 -25 -25 -25 -25 -2						3								4(m)							
-5 - -15 - -25 - -25 - -35 - -45 - -55 -						3								4(m)							
-5 -15 -25 -25 -35 -35 -45 -55 -65														4(m)							

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
	7672.800	1.0	193.0	Horz	AV	2.55E-07	-35.9	-13.0	-22.9	EUT On Side, High Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	7672.950	1.0	288.0	Vert	AV	2.50E-07	-36.0	-13.0	-23.0	EUT Vert, High Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	3836.430	1.0	67.0	Horz	AV	1.98E-07	-37.0	-13.0	-24.0	EUT On Side, High Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	3836.450	1.0	67.0	Horz	AV	1.28E-07	-38.9	-13.0	-25.9	EUT On Side, High Ch, 16-QAM, 20 MHz BW, 1 RB, Max RB Offset
	7536.250	1.0	2.0	Vert	AV	1.28E-07	-38.9	-13.0	-25.9	EUT Vert, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	7545.725	1.0	88.1	Horz	AV	1.25E-07	-39.0	-13.0	-26.0	EUT On Side, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	3831.896	1.0	67.0	Horz	AV	1.09E-07	-39.6	-13.0	-26.6	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
	5754.450	2.9	223.0	Horz	AV	1.09E-07	-39.6	-13.0	-26.6	EUT On Side, High Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	5754.750	1.0	318.0	Vert	AV	1.09E-07	-39.6	-13.0	-26.6	EUT Vert, High Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	7465.650	1.0	101.1	Horz	AV	1.04E-07	-39.8	-13.0	-26.8	EUT On Side, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	7453.800	3.0	6.0	Vert	AV	1.02E-07	-39.9	-13.0	-26.9	EUT Vert, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	3831.940	1.0	208.0	Vert	AV	7.71E-08	-41.1	-13.0	-28.1	EUT Vert, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
	3836.400	1.0	219.0	Vert	AV	7.36E-08	-41.3	-13.0	-28.3	EUT Vert, High Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	3831.920	1.0	286.9	Horz	AV	6.87E-08	-41.6	-13.0	-28.6	EUT Horz, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
	3831.900	1.0	27.0	Vert	AV	5.99E-08	-42.2	-13.0	-29.2	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
	3831.900	1.0	270.0	Vert	AV	5.85E-08	-42.3	-13.0	-29.3	EUT Horz, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
	5657.550	1.5	347.9	Vert	AV	5.72E-08	-42.4	-13.0	-29.4	EUT Vert, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	5654.250	1.0	186.0	Horz	AV	5.72E-08	-42.4	-13.0	-29.4	EUT On Side, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
	3821.050	1.0	67.0	Horz	AV	5.09E-08	-42.9	-13.0	-29.9	EUT On Side, High Ch, QPSK, 3 MHz BW, 1 RB, Max RB Offset
	5606.700	1.0	351.0	Horz	AV	5.09E-08	-42.9	-13.0	-29.9	EUT On Side, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
5626.800	1.0	209.1	Vert	AV	5.09E-08	-42.9	-13.0	-29.9	EUT Vert, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
3822.850	1.0	67.0	Horz	AV	4.87E-08	-43.1	-13.0	-30.1	EUT On Side, High Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
3827.400	1.0	67.0	Horz	AV	4.65E-08	-43.3	-13.0	-30.3	EUT On Side, High Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
3819.550	1.0	67.0	Horz	AV	4.05E-08	-43.9	-13.0	-30.9	EUT On Side, High Ch, QPSK, 1.4 MHz BW, 1 RB, Max RB Offset
3821.300	1.0	67.0	Horz	AV	3.86E-08	-44.1	-13.0	-31.1	EUT On Side, High Ch, QPSK, 15 MHz BW, 75 RB
3805.250	1.0	67.0	Horz	AV	3.52E-08	-44.5	-13.0	-31.5	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, No RB Offset
3777.775	1.0	69.1	Horz	AV	2.33E-08	-46.3	-13.0	-33.3	EUT On Side, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
3777.875	1.0	212.0	Vert	AV	1.85E-08	-47.3	-13.0	-34.3	EUT Vert, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
3737.850	1.0	76.1	Horz	AV	1.57E-08	-48.0	-13.0	-35.0	EUT On Side, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
3737.775	1.0	128.0	Vert	AV	1.44E-08	-48.4	-13.0	-35.4	EUT Vert, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
3832.705	1.8	84.1	Horz	AV	1.04E-09	-59.8	-13.0	-46.8	EUT Vert, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset



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 LTE Band 4 (AWS-1700) on Low, Mid, or High channel at 1710.7, 1732.5, or 1754.3 MHz using the modulations, bandwidths, and resource block configuarations noted below.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz Stop Frequency 18 GHz

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 - Band Reject	K&L Microwave	3TNF-1000/2000-N/N	HGT	7-Aug-2017	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	LFN	20-Sep-2017	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	20-Sep-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions was noted.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.



	ork Order:	[\/I	DTR0	649				D.	ate:		9-Jul-	2018										
	Project:		None				Tem	perati			21.7			7	n	h	-	m	2h	hl	Ca	-
	Job Site:		MNO					lumic	lity:		54.99	RH	-	-	1							
Seria	I Number:		49963		N	Ba	omet				1022				Te	sted	by: Ky	le McM	Mullar	1		
		MyCare																				
Conf	iguration:																					
	Customer:		nic In	IC.																		
	ttendees:																					
	JT Power:																					
	ing Mode:		Band	14 (/								el at 171	0.7, 17	732.5	i, or	1754	.3 MHz	using	the n	nodula	tions	i,
D	eviations:	None	<u>, , , , , , , , , , , , , , , , , , , </u>		10300			mgu														
C	omments:							54201	5110	2FCC	C/IC04	2-2 leve	raged	for de	etern	ninin	g worst	-case	modu	llation,	band	dwid
st Speci	ifications											Test Met	hod									
C 27.53												ANSI C6		015	-							
																	-		_			
Run #	108	Test	Dista	ance	e (m)	3		Ante	enna	Heig	ht(s)		1 to	o 4(m)			Result	ts	F	Pass	
-5	108	Test	Dista	ance	e (m)	3		Ante	enna	Heig	ht(s)		1 to	o 4(m				Result	ts	F	ass]
-5 -	108	Test	Dista	ance	• (m)	3		Ante	enna	Heig	ht(s)		1 to	<u>o 4(m</u>				Result	ts	F		
]	108	Test	Dista	ance	• (m)	3		Ante		Heig	ht(s)		1 to	o 4(m				Result		F		-
-5 -	108	Test			• (m)	3		Ante	enna	Heig	ht(s)		<u>1 tc</u>	o 4(m				Result		F		-
-5 - -15 - -25 -	108	Test	Dista		• (m)	3		Ante	enna	Heig				<u>0 4(m</u>						F		
-5 - -15 - -25 -	108		Dista		• (m)	3		Ante						<u>0 4(m</u>						F		-
-5 - -15 - -25 -	108			ance	• (m)	3							1 to	● 4(m	•)					F		-
-5 - -15 - -25 - 25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 22 -25 - -25 -25 - -25	108			ance	• (m)	3							1 to	•						F		-
-5 - -15 - -25 -	108				• (m)	3							1 to	•								-
-5 - -15 - -25 - 25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 21 -25 - 22 -25 - -25 -25 - -25					• (m)	3								• • • • • • • • • • • • • • • • • • •	•							
-5 - -15 - -25 - 2¥₩//₩₩2 -45 - -55 -					• (m)	3							1 tc	•								
-5 - -15 - -25 - -35 - HW/W8p -55 - -65 - -75 -						3					ht(s)		1 tc	•								-
-5 - -15 - -25 - -35 - NW/Wgp -55 - -65 - -75 - -85 -						3								•								
-5 - -15 - -25 - -35 - HW/W8p -55 - -65 - -75 -					• (m)					1	ht(s)			•								

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
6956.900	1.0	211.0	Vert	AV	1.89E-07	-37.2	-13.0	-24.2	EUT Horz, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
6999.350	1.0	354.0	Horz	AV	1.89E-07	-37.2	-13.0	-24.2	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
6999.500	1.0	329.9	Vert	AV	1.89E-07	-37.2	-13.0	-24.2	EUT Horz, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
6930.800	1.9	27.0	Horz	AV	1.81E-07	-37.4	-13.0	-24.4	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
6896.750	3.1	307.9	Vert	AV	1.73E-07	-37.6	-13.0	-24.6	EUT Horz, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
6896.750	1.0	360.0	Horz	AV	1.73E-07	-37.6	-13.0	-24.6	EUT On Side, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
5262.450	2.1	246.9	Horz	AV	9.06E-08	-40.4	-13.0	-27.4	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
5262.300	1.0	264.9	Vert	AV	9.06E-08	-40.4	-13.0	-27.4	EUT Horz, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
5238.450	3.1	321.0	Vert	AV	8.26E-08	-40.8	-13.0	-27.8	EUT Horz, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
5217.600	1.0	53.0	Horz	AV	8.07E-08	-40.9	-13.0	-27.9	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
5172.450	2.2	243.9	Horz	AV	6.87E-08	-41.6	-13.0	-28.6	EUT On Side, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
5172.600	1.0	253.9	Vert	AV	6.72E-08	-41.7	-13.0	-28.7	EUT Horz, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
3478.300	3.5	333.9	Vert	AV	3.61E-08	-44.4	-13.0	-31.4	EUT Horz, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
3478.150	1.6	31.0	Horz	AV	3.52E-08	-44.5	-13.0	-31.5	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
3473.850	1.6	31.0	Horz	AV	3.44E-08	-44.6	-13.0	-31.6	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
3482.850	1.6	31.0	Horz	AV	3.14E-08	-45.0	-13.0	-32.0	EUT On Side, Mid Ch, QPSK, 20 MHz BW, 1 RB, Max RB Offset
3469.250	1.6	31.0	Horz	AV	3.07E-08	-45.1	-13.0	-32.1	EUT On Side, Mid Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
3508.300	1.0	50.0	Horz	AV	3.07E-08	-45.1	-13.0	-32.1	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
3465.900	1.6	31.0	Horz	AV	2.93E-08	-45.3	-13.0	-32.3	EUT On Side, Mid Ch, QPSK, 1.4 MHz BW, 1 RB, Max RB Offset
3467.450	1.6	31.0	Horz	AV	2.93E-08	-45.3	-13.0	-32.3	EUT On Side, Mid Ch, QPSK, 3 MHz BW, 1 RB, Max RB Offset
3456.150	1.6	31.0	Horz	AV	2.86E-08	-45.4	-13.0	-32.4	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3478.300	1.6	31.0	Horz	AV	2.86E-08	-45.4	-13.0	-32.4	EUT On Side, Mid Ch, 16-QAM, 15 MHz BW, 1 RB, Max RB Offset

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts/MHz)	EIRP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
3465.750	1.6	31.0	Horz	AV	2.80E-08	-45.5	-13.0	-32.5	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 50 RB
3448.300	1.0	47.1	Horz	AV	2.74E-08	-45.6	-13.0	-32.6	EUT On Side, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
3508.450	1.0	220.1	Vert	AV	2.50E-08	-46.0	-13.0	-33.0	EUT Horz, High Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset
3456.150	1.0	78.0	Vert	AV	2.17E-08	-46.6	-13.0	-33.6	EUT Horz, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3456.150	1.0	272.9	Vert	AV	2.17E-08	-46.6	-13.0	-33.6	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3456.150	1.0	25.0	Horz	AV	2.17E-08	-46.6	-13.0	-33.6	EUT Vert, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3456.300	1.5	279.0	Horz	AV	2.03E-08	-46.9	-13.0	-33.9	EUT Horz, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3456.300	3.2	99.0	Vert	AV	2.03E-08	-46.9	-13.0	-33.9	EUT Vert, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3448.300	1.0	180.0	Vert	AV	1.89E-08	-47.2	-13.0	-34.2	EUT Horz, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB Offset



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 LTE Band 5 (CLR-850) on Low, Mid, or High channel at 824.7, 836.5, or 848.3 MHz using the modulations, bandwidths, and resouce block conifgurations noted below.

Stop Frequency 9 GHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 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	HPM50108	LFM	20-Sep-2017	12 mo
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HGS	7-Aug-2017	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Filter - High Pass	Micro-Tronics	HPM50108	LFM	20-Sep-2017	12 mo
Attenuator	Fairview Microwave	SA18E-10	TYA	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Antenna - Dipole	EMCO	3121C-DB4	ADI	10-Feb-2016	36 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions was noted.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.



Wo	ork Order:	MD	TR064	49				Dat	te:		9-Jul	2018										
	Project:		None	.0		т	empe					2010 '℃		K	2	, l	2	10	an	the	ec	m
	Job Site:		/N05			<u> </u>	Hu	midi	tv:		59.29			-	0							
Serial	Number:		9963D	DEM		Baro					1023				Te	ster	bv: K	yle Mc	Mulla	n		
		MyCareL										- index								••		
Confi	iguration:			<u></u>						-												
	Sustomer:		c. Inc.																			
	ttendees:																					
	JT Power:																					
	ing Mode:		Band	5 (Cl								l at 824.7	, 836.5	, or	848.	3 M	Hz usi	ng the	modu	lation	s,	
De	eviations:	None				0.000		guru		note												
Co	omments:							2015	51102	2FC0	C/IC0	12-2 lever	aged fo	or de	tern	ninir	ng wors	st-case	mod	ulatio	n, ba	Indwi
st Speci	fications											Test Met	hod									
C 22.917		!										ANSI C63		15								
Run #	117	Test	Distan	nce (I	n)	3		Anter	nna I	Heig	ht(s)		1 to	4(m)			Resu	lts		Pas	s
Run #	117	Test I	Distan	nce (I	n)	3		Anter	nna I	Heig	ht(s)		1 to	4(m))			Resu	lts		Pas	is
-5 -	117	Test I	Distan	nce (r	n)	3		Anter	nna I	Heig	ht(s)		1 to	4(m)				Resu	lts		Pas	S
Γ	117	Test I	Distan	nce (r	n)	3		Anter		Heig	ht(s)		1 to	4(m))			Resu	lts		Pas	iS
-5 -	117		Distan		n)	3		Anter		Heig	ht(s)		1 to	4(m)				Resu			Pas	is
-5 - -15 - -25 -			Distan		n)	3		Anter		Heig	ht(s)		1 to	4(m)				Resu			Pas	S
-5 - -15 - -25 -			Distan		n)	3		Anter			ht(s)		1 to					Resu			Pas	S
-5 - -15 - -25 - ×HW/₩8₽			Distan		n)	3					ht(s)		1 to	4(m)				Resu			Pas	
-5 - -15 - -25 -					n)	3					ht(s)		1 to	4(m)				Resu			Pas	
-5 - -15 - -25 - ×HW/₩8₽					n)	3					ht(s)		1 to	4(m)							Pas	
-5 - -15 - -25 - 24 -25 - -25 - -25 - -25 -					n)	3							1 to								Pas	
-5 - -15 - -25 - ×HW/wgp -55 - -65 -					n)	3					ht(s)	**************************************	1 to								Pas	
-5 - -15 - -25 - -35 - HW/WBD -55 - -65 - -75 -					n)	3					ht(s)		1 to									

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts/MHz)	ERP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
2473.762	1.0	135.0	Horz	AV	2.36E-08	-46.3	-13.0	-33.3	EUT Vert, Low Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
2496.219	1.0	137.1	Horz	AV	2.30E-08	-46.4	-13.0	-33.4	EUT Vert, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
2473.820	1.0	48.1	Vert	AV	1.67E-08	-47.8	-13.0	-34.8	EUT On Side, Low Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
2496.300	1.0	258.9	Vert	AV	1.39E-08	-48.6	-13.0	-35.6	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
2518.800	1.0	144.0	Horz	AV	1.32E-08	-48.8	-13.0	-35.8	EUT Vert, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
2518.800	1.0	1.1	Vert	AV	1.18E-08	-49.3	-13.0	-36.3	EUT On Side, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1649.180	1.0	69.3	Vert	AV	1.13E-08	-49.5	-13.0	-36.5	EUT On Side, Low Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3276.150	1.0	67.0	Vert	AV	1.10E-08	-49.6	-13.0	-36.6	EUT On Side, Low Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3298.350	1.1	33.1	Horz	AV	1.10E-08	-49.6	-13.0	-36.6	EUT Vert, Low Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1648.730	1.0	69.2	Vert	AV	1.03E-08	-49.9	-13.0	-36.9	EUT On Side, Low Ch, QPSK, 5 MHz BW, 1 RB, No RB Offset
3376.000	2.8	318.9	Vert	AV	1.00E-08	-50.0	-13.0	-37.0	EUT On Side, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3374.500	1.0	13.0	Horz	AV	1.00E-08	-50.0	-13.0	-37.0	EUT Vert, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3294.300	1.0	286.0	Horz	AV	9.59E-09	-50.2	-13.0	-37.2	EUT Vert, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
3292.050	1.1	184.1	Vert	AV	9.59E-09	-50.2	-13.0	-37.2	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1649.200	1.0	69.3	Vert	AV	9.16E-09	-50.4	-13.0	-37.4	EUT On Side, Low Ch, 16-QAM, 10 MHz BW, 1 RB, No RB Offset
1648.510	1.0	69.1	Vert	AV	8.95E-09	-50.5	-13.0	-37.5	EUT On Side, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
1646.850	1.0	69.1	Vert	AV	7.98E-09	-51.0	-13.0	-38.0	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1646.850	1.0	127.1	Horz	AV	6.34E-09	-52.0	-13.0	-39.0	EUT Vert, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1651.950	1.0	69.1	Vert	AV	6.05E-09	-52.2	-13.0	-39.2	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, Max RB Offset
1649.100	1.0	69.1	Vert	AV	5.92E-09	-52.3	-13.0	-39.3	EUT On Side, Low Ch, QPSK, 3 MHz BW, 15 RB
1649.100	1.0	116.1	Horz	AV	5.92E-09	-52.3	-13.0	-39.3	EUT Vert, Low Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1646.850	1.0	176.0	Horz	AV	4.59E-09	-53.4	-13.0	-40.4	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts/MHz)	ERP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
1664.250	1.0	114.0	Horz	AV	4.49E-09	-53.5	-13.0	-40.5	EUT Vert, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1679.150	1.0	32.0	Vert	AV	4.29E-09	-53.7	-13.0	-40.7	EUT On Side, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1646.850	1.0	161.0	Vert	AV	4.19E-09	-53.8	-13.0	-40.8	EUT Vert, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1664.100	1.0	204.0	Vert	AV	4.19E-09	-53.8	-13.0	-40.8	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1646.850	1.0	43.0	Horz	AV	4.09E-09	-53.9	-13.0	-40.9	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1679.150	1.0	186.0	Horz	AV	4.00E-09	-54.0	-13.0	-41.0	EUT Vert, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1646.850	1.0	274.0	Vert	AV	3.48E-09	-54.6	-13.0	-41.6	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset



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 LTE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, and resource block configurations noted below.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz

Stop Frequency 8 GHz

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	HPM50108	LFM	20-Sep-2017	12 mo
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HGS	7-Aug-2017	12 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	LFM	20-Sep-2017	12 mo
Attenuator	Fairview Microwave	SA18E-10	TYA	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

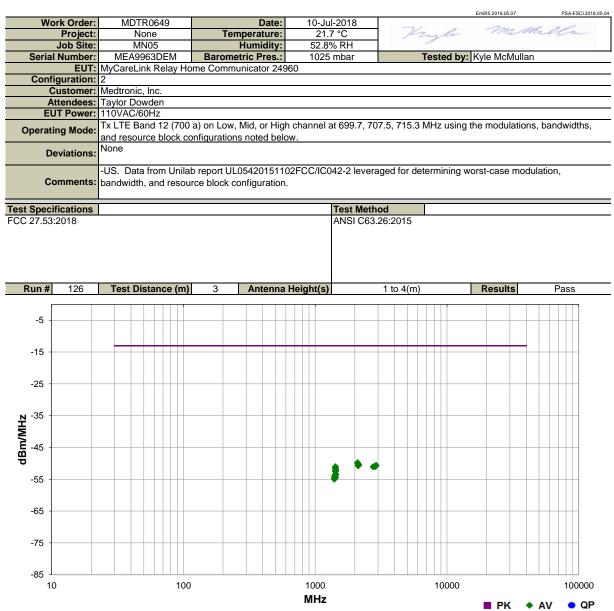
Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

At an approved test site, the transmitter was place on a remotely controlled turntable, and the measurement antenna was placed 3 meters from the transmitter. While scanning, 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. The turntable azimuth was varied to maximize the level of spurious emissions. The height of the measurement antenna was also varied from 1 to 4 meters. A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions was noted.

The transmitter was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator was connected to the dipole (horn antenna for frequencies above 1 GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the antenna and its gain, the power (dBm) was determined for each radiated spurious emission.





Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts/MHz)	ERP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
2097.750	1.0	347.0	Vert	AV	1.05E-08	-49.8	-13.0	-36.8	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2097.750	1.0	23.1	Horz	AV	1.00E-08	-50.0	-13.0	-37.0	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2139.750	1.0	19.1	Horz	AV	9.16E-09	-50.4	-13.0	-37.4	EUT Horz, High Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2139.750	1.0	344.9	Vert	AV	8.75E-09	-50.6	-13.0	-37.6	EUT On Side, High Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2897.700	1.0	195.1	Horz	AV	8.75E-09	-50.6	-13.0	-37.6	EUT Horz, High Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2895.600	1.0	325.0	Vert	AV	8.55E-09	-50.7	-13.0	-37.7	EUT On Side, High Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2118.750	1.2	27.0	Horz	AV	8.55E-09	-50.7	-13.0	-37.7	EUT Horz, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2118.750	1.0	314.0	Vert	AV	8.36E-09	-50.8	-13.0	-37.8	EUT On Side, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2866.550	1.0	154.0	Horz	AV	7.98E-09	-51.0	-13.0	-38.0	EUT Horz, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2865.650	2.0	322.0	Vert	AV	7.98E-09	-51.0	-13.0	-38.0	EUT On Side, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1426.580	1.0	33.2	Vert	AV	7.80E-09	-51.1	-13.0	-38.1	EUT On Side, High Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1428.060	1.0	33.2	Vert	AV	7.80E-09	-51.1	-13.0	-38.1	EUT On Side, High Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
2759.050	1.1	303.0	Vert	AV	7.80E-09	-51.1	-13.0	-38.1	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
2759.350	1.0	168.0	Horz	AV	7.80E-09	-51.1	-13.0	-38.1	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1422.690	1.0	33.1	Vert	AV	7.11E-09	-51.5	-13.0	-38.5	EUT On Side, High Ch, QPSK, 5 MHz BW, 1 RB, No RB Offset
1431.300	1.0	33.1	Vert	AV	6.79E-09	-51.7	-13.0	-38.7	EUT On Side, High Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
1428.500	1.0	33.1	Vert	AV	6.19E-09	-52.1	-13.0	-39.1	EUT On Side, High Ch, QPSK, 5 MHz BW, Max RB
1430.050	1.0	355.9	Vert	AV	5.92E-09	-52.3	-13.0	-39.3	EUT On Side, High Ch, QPSK, 5 MHz BW, 8 RB, Max RB Offset
1426.500	1.0	67.0	Horz	AV	5.65E-09	-52.5	-13.0	-39.5	EUT Horz, High Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1426.500	1.0	44.1	Vert	AV	5.52E-09	-52.6	-13.0	-39.6	EUT On Side, Mid Ch, 16-QAM, 3 MHz BW, 1 RB, No RB Offset

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts/MHz)	ERP (dBm/MHz)	Spec. Limit (dBm/MHz)	Compared to Spec. (dB)	Comments
1430.200	1.0	274.0	Horz	AV	4.59E-09	-53.4	-13.0	-40.4	EUT Horz, High Ch, QPSK, 5 MHz BW, 8 RB, Max RB Offset
1430.050	1.0	293.0	Vert	AV	4.49E-09	-53.5	-13.0	-40.5	EUT Vert, High Ch, QPSK, 5 MHz BW, 8 RB, Max RB Offset
1430.050	1.0	23.1	Horz	AV	4.39E-09	-53.6	-13.0	-40.6	EUT On Side, High Ch, QPSK, 5 MHz BW, 8 RB, Max RB Offset
1430.050	1.0	53.0	Horz	AV	4.39E-09	-53.6	-13.0	-40.6	EUT Vert, High Ch, QPSK, 5 MHz BW, 8 RB, Max RB Offset
1413.050	1.0	33.1	Vert	AV	4.19E-09	-53.8	-13.0	-40.8	EUT On Side, High Ch, QPSK, 10 MHz BW, 1 RB, No RB Offset
1412.500	1.0	342.0	Vert	AV	3.91E-09	-54.1	-13.0	-41.1	EUT On Side, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1430.200	1.0	33.1	Vert	AV	3.56E-09	-54.5	-13.0	-41.5	EUT Horz, High Ch, QPSK, 5 MHz BW, 8 RB, Max RB Offset
1398.350	1.0	6.0	Vert	AV	3.56E-09	-54.5	-13.0	-41.5	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1412.500	1.0	6.0	Horz	AV	3.48E-09	-54.6	-13.0	-41.6	EUT Horz, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset
1398.500	1.0	52.1	Horz	AV	3.18E-09	-55.0	-13.0	-42.0	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, No RB Offset



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 LTE Band 2 (PCS-1900) on Low, Mid, or High channel at 1860.0, 1880.0, 1900.0 MHz using the modulations, bandwidths, and resource block configurations noted below.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 1840 MHz

Stop Frequency 1920 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
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization and manipulating the EUT antenna in 3 orthogonal planes. The antennas to be used with the EUT were tested. The EUT was transmitting while set at the lowest channel, a middle channel, and the highest channel available. The amplitude and frequency were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the gain (dBi) of the horn antenna the effective radiated power for each emission was determined.



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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1850.195	1.0	246.9	Vert	AV	2.38E-01	23.8	33.0	-9.2	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, No offset RB
1850.263	1.0	246.9	Vert	AV	2.33E-01	23.7	33.0	-9.3	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No offset RB
1850.590	1.0	246.9	Vert	AV	2.17E-01	23.4	33.0	-9.6	EUT Horz, Low Ch, QPSK, 10 MHz BW, 1 RB, No offset RB
1850.818	1.0	246.9	Vert	AV	2.12E-01	23.3	33.0	-9.7	EUT Horz, Low Ch, QPSK, 15 MHz BW, 1 RB, No offset RB
1850.315	1.0	246.9	Vert	AV	2.12E-01	23.3	33.0	-9.7	EUT Horz, Low Ch, QPSK, 5 MHz BW, 1 RB, No offset RB
1850.240	1.0	246.9	Vert	AV	2.12E-01	23.3	33.0	-9.7	EUT Horz, Low Ch, 16-QAM, 3 MHz BW, 1 RB, No offset RB
1851.085	1.0	103.0	Vert	AV	1.76E-01	22.5	33.0	-10.5	EUT Horz, Low Ch, QPSK, 20 MHz BW, 1 RB, No offset RB
1878.690	1.0	246.9	Vert	AV	1.62E-01	22.1	33.0	-10.9	EUT Horz, Mid Ch, QPSK, 3 MHz BW, 1 RB, No offset RB
1858.360	1.0	246.9	Vert	AV	1.43E-01	21.6	33.0	-11.4	EUT Horz, Low Ch, QPSK, 15 MHz BW, 75 RB
1858.680	1.0	246.9	Vert	AV	1.31E-01	21.2	33.0	-11.8	EUT Horz, Low Ch, QPSK, 20 MHz BW, 100 RB
1878.727	1.2	52.1	Horz	AV	1.26E-01	21.0	33.0	-12.0	EUT On Side, Mid Ch, QPSK, 3 MHz BW, 1 RB, No offset RB
1907.250	1.0	250.9	Vert	AV	1.02E-01	20.1	33.0	-12.9	EUT Horz, High Ch, QPSK, 3 MHz BW, 1 RB, No offset RB
1851.085	1.0	257.0	Horz	AV	9.20E-02	19.6	33.0	-13.4	EUT On Side, Low Ch, QPSK, 20 MHz BW, 1 RB, No offset RB
1864.168	1.0	246.9	Vert	AV	9.14E-02	19.6	33.0	-13.4	EUT Horz, Low Ch, QPSK, 15 MHz BW, 1 RB, Max RB offset
1907.250	1.0	33.1	Horz	AV	9.04E-02	19.6	33.0	-13.4	EUT On Side, High Ch, QPSK, 3 MHz BW, 1 RB, No offset RB
1851.123	1.8	260.0	Vert	AV	7.18E-02	18.6	33.0	-14.4	EUT On Side, Low Ch, QPSK, 20 MHz BW, 1 RB, No offset RB
1868.893	1.0	246.9	Vert	AV	6.87E-02	18.4	33.0	-14.6	EUT Horz, Low Ch, QPSK, 20 MHz BW, 1 RB, Max RB offset
1850.227	1.0	60.0	Horz	AV	5.96E-02	17.8	33.0	-15.3	EUT On Side, Low Ch, QPSK, 3 MHz BW, 1 RB, No offset RB
1851.010	1.0	257.0	Horz	AV	5.19E-02	17.2	33.0	-15.9	EUT Vert, Low Ch, QPSK, 20 MHz BW, 1 RB, No offset RB
1851.055	1.0	134.1	Vert	AV	4.23E-02	16.3	33.0	-16.7	EUT Vert, Low Ch, QPSK, 20 MHz BW, 1 RB, No offset RB
1851.054	1.0	276.9	Horz	AV	3.27E-02	15.1	33.0	-17.9	EUT Horz, Low Ch, QPSK, 20 MHz BW, 1 RB, No offset RB



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 LTE Band 4 (AWS-1700) on Low, Mid, or High channel at 1717.5, 1732.5, 1747.5 MHz using the modulations, bandwidths, and resource block configurations noted below.

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 1710 MHz

Stop Frequency 1755 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
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	27-Jun-2018	24 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization and manipulating the EUT antenna in 3 orthogonal planes. The antennas to be used with the EUT were tested. The EUT was transmitting while set at the lowest channel, a middle channel, and the highest channel available. The amplitude and frequency were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the gain (dBi) of the horn antenna the effective radiated power for each emission was determined.



		1705	1730							
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		Medtronic Taylor Do								
	guration:		1							
			nk Relay Ho		unicator 24960)				,
	Job Site: Number:		963DEM	Barome	etric Pres.:	1019 m		Tested b	y: Kyle McMulla	n. Chris Patters
			one N05	Ter	nperature: Humidity:	21.9 ° 58.4%		Kyli	man	nerm
	Project:	N 1			Date: 11-Jul-20 emperature: 21.9 °C					

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	1725.855	1.0	25.0	Vert	AV	1.95E-01	22.9	30.0	-7.1	EUT Horz, Mid Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1725.855	1.0	56.0	Horz	AV	1.55E-01	21.9	30.0	-8.1	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1725.855	1.0	312.9	Horz	AV	1.48E-01	21.7	30.0	-8.3	EUT Horz, Mid Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1740.855	1.0	137.1	Vert	AV	1.42E-01	21.5	30.0	-8.5	EUT Horz, High Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1732.058	1.0	63.0	Horz	AV	1.37E-01	21.4	30.0	-8.6	EUT On Side, Mid Ch, QPSK, 1.4 MHz BW, 1 RB, No RB offset
	1731.258	1.0	63.0	Horz	AV	1.34E-01	21.3	30.0	-8.7	EUT On Side, Mid Ch, QPSK, 3 MHz BW, 1 RB, No RB offset
	1710.855	1.0	100.0	Vert	AV	1.29E-01	21.1	30.0	-8.9	EUT Horz, Low Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1725.803	1.0	73.1	Vert	AV	1.29E-01	21.1	30.0	-8.9	EUT Vert, Mid Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1730.353	1.0	63.0	Horz	AV	1.25E-01	21.0	30.0	-9.0	EUT On Side, Mid Ch, QPSK, 5 MHz BW, 1 RB, No RB offset
	1725.780	1.0	63.0	Horz	AV	1.23E-01	20.9	30.0	-9.1	EUT On Side, Mid Ch, 16-QAM, 15 MHz BW, 1 RB, No RB offset
	1725.855	1.0	57.0	Vert	AV	1.23E-01	20.9	30.0	-9.1	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1728.113	1.0	63.0	Horz	AV	1.19E-01	20.8	30.0	-9.2	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, No RB offset
	1710.855	1.0	84.1	Horz	AV	1.17E-01	20.7	30.0	-9.3	EUT On Side, Low Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1723.548	1.0	63.0	Horz	AV	1.12E-01	20.5	30.0	-9.5	EUT On Side, Mid Ch, QPSK, 20 MHz BW, 1 RB, No RB offset
	1739.123	1.0	63.0	Horz	AV	1.01E-01	20.0	30.0	-10.0	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 1 RB, Max RB offset
	1737.980	1.0	63.0	Horz	AV	9.84E-02	19.9	30.0	-10.1	EUT On Side, Mid Ch, QPSK, 15 MHz BW, 75 RB
	1740.855	1.0	67.0	Horz	AV	9.42E-02	19.7	30.0	-10.3	EUT On Side, High Ch, QPSK, 15 MHz BW, 1 RB, No RB offset
	1725.855	1.0	106.1	Horz	AV	7.10E-02	18.5	30.0	-11.5	EUT Vert, Mid Ch, QPSK, 15 MHz BW, 1 RB, No RB offset



SA-E3012018.03.

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 LTE Band 5 (CLR-850) on Low, Mid, or High channel at 824.7, 836.5, 848.3 MHz using the modulations, bandwidths, and resou

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 823 MHz

Stop Frequency 850 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
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Antenna - Dipole	EMCO	3121C-DB4	ADI	10-Feb-2016	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined. The ERP value was obtained from taking the value in EIRP – 2.15.



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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
 828.615	1.0	351.9	Horz	AV	1.45E-01	21.6	38.5	-16.9	EUT Horz, Low Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
826.773	1.0	351.9	Horz	AV	1.42E-01	21.5	38.5	-17.0	EUT Horz, Low Ch, QPSK, 3 MHz BW, 1 RB, Max RB Offset
825.113	1.0	351.9	Horz	AV	1.42E-01	21.5	38.5	-17.0	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 1 RB, Max RB Offset
824.273	1.0	352.0	Horz	AV	1.41E-01	21.5	38.5	-17.0	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
833.427	1.0	351.9	Horz	AV	1.39E-01	21.4	38.5	-17.1	EUT Horz, Low Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
824.265	1.0	358.9	Horz	AV	1.35E-01	21.3	38.5	-17.2	EUT On Side, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
838.620	1.0	358.0	Horz	AV	1.24E-01	21.0	38.5	-17.6	EUT Horz, Mid Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
828.655	1.0	351.9	Horz	AV	1.24E-01	20.9	38.5	-17.6	EUT Horz, Low Ch, 16-QAM, 5 MHz BW, 1 RB, Max RB Offset
824.790	1.0	351.9	Horz	AV	1.12E-01	20.5	38.5	-18.0	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 6 RB
848.629	1.0	348.9	Horz	AV	1.04E-01	20.2	38.5	-18.3	EUT Horz, High Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
848.642	1.1	100.0	Vert	AV	1.04E-01	20.2	38.5	-18.3	EUT On Side, High Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
838.658	1.1	100.0	Vert	AV	8.20E-02	19.1	38.5	-19.4	EUT On Side, Mid Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
828.615	1.1	103.0	Vert	AV	7.89E-02	19.0	38.5	-19.5	EUT On Side, Low Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
824.265	1.2	110.0	Vert	AV	7.85E-02	19.0	38.5	-19.6	EUT On Side, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
824.273	1.0	215.0	Horz	AV	7.08E-02	18.5	38.5	-20.0	EUT Vert, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
824.220	1.2	56.0	Vert	AV	6.68E-02	18.3	38.5	-20.2	EUT Vert, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
824.265	1.8	270.0	Vert	AV	6.24E-02	18.0	38.5	-20.6	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset



PSA-ESCI 2018.05.04

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 LTE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, and resource

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

MDTR0649 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency 698 MHz

Stop Frequency 717 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
Cellular Base Station Simulator	Anritsu	MT8820C	AFK	NCR	0 mo
Generator - Signal	Agilent	N5183A	TIK	29-Sep-2017	36 mo
Antenna - Dipole	EMCO	3121C-DB4	ADI	10-Feb-2016	36 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	2-Aug-2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined. The ERP value was obtained from taking the value in EIRP – 2.15.



Work Order: MDTRO649 Date: 10-Jul-2018 Job Site: NN05 Humidity: 53.3% RH Job Site: NN05 Humidity: 53.3% RH Sorial Number: MEA9802EM Barometriz Press: 1026 mbar Tested by: Kyle McMullan EUT: MyCareLink Relay Home Communicator 24960 Configuration: Comment: Comment: Nore Nore Nore Comment: Nore Nore Comment: Nore Comment: Nore Comment: Nore Nore ANSI C63.26:2015 Comment: Comment: Comment: Comment: Comment: Comment: Comment: ANSI C63.26:2015 Comment: Commen								EmiR5 2018.05.07	PSA-ESCI 2018.0
Job Site: MN06 Barometric Pres: 1026 mbar Serial Number: McA9363DEM Barometric Pres: 1026 mbar Configuration: 2 Customer: McCarcelink Relay Home Communicator 24860 Configuration: 2 Customer: McCarcelink Relay Home Communicator 24860 Customer: McCarcelink Relay Home Communicator 24860 Operating Mode: Tratendees: FUT Owner: 1002 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, resource block configurations noted below. Deviations: None Comments: and resource block configuration. Sepecifications Configuration. Col 2, 50-2018 Test Method ANSI C63.26:2015 ANSI C63.26:2015 Generations Configuration. Sepecifications Configuration. Generations Configuration. Generations Configuration. Generations Configuration. Sepecifications Configuration. Generating Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pase Pase Pase Generations Configuration. Generations Configuration. <th></th> <th></th> <th></th> <th>.</th> <th>Date:</th> <th></th> <th>~</th> <th>, m</th> <th>the ela</th>				.	Date:		~	, m	the ela
Serial Number: MEA9963DELM Barometric Pres: 1026 mbar Tested by: Kyte McMullan Configuration: 2							Mye	a man	aun
EUT: MyCareLink Relay Home Communicator 24960 Configurations: 2 Customer: Meditronic, Inc. Attendees: Tajor Dowden EUT Over 110VACOHz Operating Mode: TVTC/OOHZ Operating Mode: TVTC/OOHZ Operating Mode: TVTC TOO a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, resource block configurations noted below. Deviations: Operating Mode: TVTC/OOHZ VICT MyCareLink Relay Home Communicator 24960 Operating Mode: TVTC/OOHZ Operating Mode: TVTC/OOHZ Operating Mode: TVTC/OOHZ VICT MyCareLink Relay Home Communicator 24960 Operating Mode: TVTC/OOHZ VICT MyCareLink Relay Home Communicator 24960 Operating Mode: TVTC/OHZ VICT MyCareLink Relay Home Communicator 24960 Operating Mode: TVTC/OHZ VICT MyCareLink Relay Home Communicator 24961/2015 VICT MyCareLink Relay Home Communicator 24961/2015 Stype: Transmittee Communicator 24961/2015 VICT MyCareLink Relay Home Communicator 24961/2015							Tester	Leve Kide MeMull	
Configuration: 2 Custome: Meditoric, Inc. Attendes: Taylor Dowden EUT Power: 10VAC/60Hz Operating Mode: Tx LTE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, include the second balance of the second	Serial					1026 mbar	lested	by: Kyle Miciviulia	an
Customer: Meditonic, Inc. EUT Power: 110VAC/60Hz TV TE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, resource block configurations noted below. None VS. Data from Unilab report UL05420151102FCC/IC042-2 leveraged for determining worst-case modulation, bandwidths, and resource block configuration. Set Specifications Set Specifications Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass	0			me Communi	cator 24960				
Attendes: Taylor Dowden EUT Power: 110VAC60H2 Tx LTE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, resource block configurations noted below. Deviations: None US: Deviations: None									
EUT Power: 110VAC/60Hz Operating Mode: Tr LTE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, resource block configurations noted below. Deviations: None									
Operating Mode: Tx LTE Band 12 (700 a) on Low, Mid, or High channel at 699.7, 707.5, 715.3 MHz using the modulations, bandwidths, resource block configurations noted below. None Operating Mode: None Comments: Comments: Test from Unilab report UL05420151102FCC/IC042-2 leveraged for determining worst-case modulation, bandwide and resource block configuration. Secifications Test Method Ansi C63.26-2015 Mode: Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass Operations Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass Operations Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass Operations Operations Operations Comments: Test Distance (m) 3 Antenna Height(
Operating wode: Beviations: None US: Data from Unilab report UL05420151102FCC/IC042-2 leveraged for determining worst-case modulation, bandwide and resource block configuration. Sectifications: Test Method None Ansi C63.26.2015 Run # 132 Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass 60 Go of the second	EUT	Power:							
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Deviations: IUS. Data from Unilab report UL05420151102FCC/IC042-2 leveraged for determining worst-case modulation, bandwid set Specifications Test Method CC 27.50.2018 ANSI C63.26:2015 Run # 132 Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass 60 90 90 90 90 90 90 90 90 60 90 90 90 90 90 90 90 90 60 90 700 702 704 706 708 710 712 714 716		J	u	urations noted	below.				
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ANSI C63.26:2015	Cor	mments:	and resource block co	onfiguration.					
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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
 708.395	1.0	219.0	Horz	AV	7.01E-02	18.5	44.8	-26.3	EUT Vert, Low Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
708.432	1.0	322.9	Vert	AV	7.01E-02	18.5	44.8	-26.3	EUT On Side, Low Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
700.108	1.0	219.0	Horz	AV	6.95E-02	18.4	44.8	-26.4	EUT Vert, Low Ch, QPSK, 1.4 MHz BW, 1 RB, Max RB Offset
700.975	1.0	219.0	Horz	AV	6.93E-02	18.4	44.8	-26.4	EUT Vert, Low Ch, QPSK, 3 MHz BW, 1 RB, Max RB Offset
699.273	1.0	219.0	Horz	AV	6.79E-02	18.3	44.8	-26.5	EUT Vert, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
699.265	1.0	249.0	Vert	AV	6.79E-02	18.3	44.8	-26.5	EUT On Side, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
699.273	1.3	82.0	Vert	AV	6.79E-02	18.3	44.8	-26.5	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
703.622	1.0	219.0	Horz	AV	6.59E-02	18.2	44.8	-26.6	EUT Vert, Low Ch, QPSK, 5 MHz BW, 1 RB, Max RB Offset
715.425	1.0	308.9	Vert	AV	6.61E-02	18.2	44.8	-26.6	EUT On Side, Low Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
711.895	1.7	328.0	Vert	AV	6.50E-02	18.1	44.8	-26.6	EUT On Side, Mid Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
711.925	1.0	210.1	Horz	AV	6.07E-02	17.8	44.8	-26.9	EUT Vert, Mid Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
715.425	1.0	103.0	Horz	AV	6.03E-02	17.8	44.8	-27.0	EUT Vert, High Ch, QPSK, 10 MHz BW, 1 RB, Max RB Offset
708.365	1.0	219.0	Horz	AV	5.83E-02	17.7	44.8	-27.1	EUT Vert, Low Ch, 16-QAM, 10 MHz BW, 1 RB, Max RB Offset
699.760	1.0	219.0	Horz	AV	5.65E-02	17.5	44.8	-27.3	EUT Vert, Low Ch, QPSK, 1.4 MHz BW, Max RB
699.273	1.0	150.0	Horz	AV	4.92E-02	16.9	44.8	-27.9	EUT Horz, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
699.265	1.0	347.9	Vert	AV	4.09E-02	16.1	44.8	-28.7	EUT Vert, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset
699.273	1.2	343.0	Horz	AV	3.91E-02	15.9	44.8	-28.9	EUT On Side, Low Ch, QPSK, 1.4 MHz BW, 1 RB, No RB Offset