

Test Report

Product	UPCS Handset			
Name and address of the applicant	Ascom (Sweden) AB Grimbodalen 2, SE-417 49 Gothenburg Sweden			
Name and address of the manufacturer	Same as above			
Model	DH7			
Rating	3.7V DC (Secondary battery, Li-Ion)			
Trademark	ASCOM			
Serial number	/			
Additional information	DECT 6.0			
Tested according to	FCC Part 15, subpart D Isochronous UPCS Device, 1920 – 1930 MHz Industry Canada RSS 213, Issue 3 2 GHz License-Exempt Personal Communications Services (LE-PCS) Devices			
Order number	296394			
Tested in period	2015.12.01 to 2015.12.03 and 2016.01.25 to 2016.02.18			
Issue date	2016.03.16			
Name and address of the testing laboratory	Nemko FCC No: 994405 IC OATS: 2040D-1 Instituttveien 6 Kjeller, Norway FAX: ±47,22,96,05,50			
	Kjeller, Norway FAX: +47 22 96 05 50			
	France Svoir Junhanthalum. Prepared by [Frode Sveinsen] Approved by [G.Suhanthakumar]			
	except in full without the written approval of Nemko. Opinions and interpretations expressed within t accreditation. This report was originally distributed electronically with digital signatures. For more			

Template version: C

nemko.com/no



CONTENTS

1		3
1.1	Tested Item	3
1.2	Description of Tested Device	
1.3	Test Environment	
1.4	Test Engineer(s)	
1.5	Test Equipment	
1.6	Other Comments	
-		_
2	TEST REPORT SUMMARY	
2.1	General	
2.2	Test Summary	6
3	TEST RESULTS	7
3.1	Power Line Conducted Emissions	
3.2	Digital Modulation Techniques	
3.3	Labeling Requirements	
3.4	Channel Frequencies	
3.5	Antenna Requirement	
3.6	Automatic Discontinuation of Transmission	
3.7	Peak Power Output	
3.8	Emission Bandwidth B	
3.9	Power Spectral Density	
3.10	In-Band Unwanted Emissions, Conducted	
3.11	Out-of-band Emissions, Conducted	
3.12	Carrier Frequency Stability	28
3.13	Frame Repetition Stability	29
3.14	Frame Period and Jitter	
3.15	Monitoring Threshold, Least Interfered Channel	
3.16	Threshold Monitoring Bandwidth	
3.17	Reaction Time and Monitoring Interval	
3.18	Time and Spectrum Window Access Procedure	
3.19	Acknowledgements and Transmission Duration	37
3.20	Dual Access Criteria Check	
3.21	Alternative Monitoring Interval	42
4	MEASUREMENT UNCERTAINTY	43
-		
5	TEST SETUPS	
5.1	Frequency Measurements	
5.2	Timing Measurements	
5.3	Conducted Emission Test	
5.4	Power Line Conducted Emissions Test	
5.5	Monitoring Tests	45
6	TEST EQUIPMENT USED	46



1 INFORMATION

1.1 Tested Item

Name :	Ascom
Model name :	DH7
FCC ID :	BXZDH7
Industry Canada ID :	3724B-DH7
Serial number :	/
Hardware identity and/or version:	PCB Rev C
Software identity and/or version :	/
Tested to IC Radio Standard (RSS) :	RSS-213 Issue 3, RSS-GEN Issue 4
Test Site IC Reg. Number :	IC 2040D-1
Frequency Range :	1921.536 – 1928.448 MHz
Number of Channels :	5 RF Channels, 5x12 = 60 TDMA Duplex Channels
Type of Modulation :	Digital (Gaussian Frequency Shift Keying)
Conducted Output Power :	105 mW (Peak)
Antenna Connector :	None
Number of Antennas :	2
Antenna Diversity Supported :	Yes
Desktop Charger :	DC3-DAAA with Power Adaptor
Power Supply :	Secondary Battery (3.7V Li-Ion)

1.2 Description of Tested Device

The EUT is a DECT Handset and is an initiating device as described in ANSI C63.17 and is designed to operate together with a DECT Base Station, which is the responding device.



1.3 Test Environment

Temperature:	20.0 – 23.3 °C
Relative humidity:	29 – 42 %
Normal test voltage:	3.7 V DC (Nominal voltage)

The EUT was powered form a fully charged battery during all tests.

The values are the limit registered during the test period.

1.4 Test Engineer(s)

Frode Sveinsen / Thanh Tran

1.5 Test Equipment

See list of test equipment in clause 6.

1.6 Other Comments

The Monitoring and Time and Spectrum Window Access tests were performed with Test Set-Up 6 (Ref. clause 5). A clock signal from the companion device was used to synchronize the Pulse Pattern Generator and the Spectrum Analyzer to the start of the DECT time window. The EUT was limited by administrative commands to operate on only two frequency carriers. For the tests where the EUT was required to operate on only one frequency carrier, one carrier was blocked by applying a CW interfering signal from RF Generator 3. The Pulse Pattern Generator was used to apply time synchronized interference to time windows where this was required.

Since the EUT was programmed to operate on only two RF carriers, it was only necessary with two RF generators for the monitoring tests, however a third generator was applied for the tests that required specific time slots to be blocked.

This EUT supports Least Interfered Channel procedure (LIC), the Monitoring and Time and Spectrum Window Access tests were conducted as specified for EUTs that support LIC procedure.

All tests except Power-Line Conducted Emissions were performed in conducted mode with a temporary antenna connector.



2 TEST REPORT SUMMARY

2.1 General

All measurements are traceable to national standards.

The tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC CFR47 Part 15D for Isochronous UPCS Devices and Industry Canada RSS-213 Issue 3 / RSS-GEN Issue 4 / RSP-100 Issue 10.

All tests were conducted is accordance with ANSI C63.4-2014 and ANSI C63.17-2013. Antenna Gain tests were made in a 3m fully-anechoic chamber.

A description of the test facility is on file with the FCC and Industry Canada.

New Submission

Production Unit

Pre-production Unit

Class II Permissive Change

PUE Equipment Code

Family Listing



THIS TEST REPORT APPLIES ONLY TO THE ITEM(S) AND CONFIGURATIONS TESTED.

Deviations from, additions to, or exclusions from the test specifications are described in "Summary of Test Data".

Nemko Group authorizes the above named company to reproduce this report provided it is reproduced in its entirety and for use by the company's employees only. Any reproduction of parts of this report requires approval in writing from Nemko Group.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Nemko Group accepts no responsibility for damages suffered by any third party as a result of decisions made or actions based on this report.



2.2 Test Summary

Name of test	FCC CFR 47 Paragraph #	IC RSS-213 Paragraph #	Verdict
Power Line Conducted Emission	15.107(a) 15.207(a)	5.4 RSS-GEN 8.8	Complies
Digital Modulation Techniques	15.319(b)	5.1	Complies
Labeling requirements	15.19(a)(3)	RSP-100 3.1	Complies
Antenna Requirement	15.317, 15.203	RSS-GEN 8.3	Complies
Channel Frequencies	15.303	5.1	Complies
Automatic discontinuation of transmission	15.319(f)	5.2 (4)	Complies
Emission Bandwidth	15.323(a)	5.5 RSS-GEN 6.6	Complies
In-band emissions	15.323(d)	5.8.2	Complies
Out-of-band emissions	15.323(d)	5.8.1	Complies
Output Power and Antenna Gain	15.319(c)(e), 15.31(e)	5.6 RSS-GEN 8.3	Complies
Power Spectral Density	15.319(d)	5.7	Complies
Carrier frequency stability	15.323(f)	5.3	Complies
Frame repetition stability	15.323(e)	5.2 (13)	Complies
Frame period and jitter	15.323(e)	5.2 (13)	Complies
Monitoring threshold, Least interfered channel	15.323(c)(2);(5); (9)	5.2 (5)(9)	Complies
Monitoring of intended transmit window and maximum reaction time	15.323(c)(1)	5.2 (5)	Complies
Threshold monitoring bandwidth	15.323(c)(7)	5.2 (2)	Complies
Reaction time and monitoring interval	15.323(c)(1);(5); (7)	5.2 (7)	Complies
Access criteria test interval	15.323(c)(4);(6)	5.2 (11)	N/A ¹
Access Criteria functional test	15.323(c)(4);(6)	5.2 (6)	N/A ¹
Acknowledgements	15.323(c)(4)	5.2	Complies
Transmission duration	15.323(c)(3)	5.2	Complies
Dual access criteria	15.323(c)(10)	5.2	Complies
Alterative monitoring interval	15.323(c)(10);(11)	5.2 (11)(12)	N/A ²
Spurious Emissions (Radiated)	15.319(g) 15.109(a) 15.209(a)	RSS-GEN 8.9	N/A ³

¹ Only applies for equipment that transmits unacknowledged control and signaling information

¹ Only applies for EUT that can be initiating device

² The client declares that the tested equipment does not implement this provision

³ Not required if the Conducted Out-of-Band Emissions test is Passed



3 TEST RESULTS

3.1 **Power Line Conducted Emissions**

FCC Part 15.207(a)

RSS-213 Clause 6.3, RSS-GEN Clause 8.8

Test Performed By: Thanh Tran

Date of Test: 3-Dec-2015

Measurement procedure:	ANSI C63.4-2014 using 50 $\mu\text{H}/\text{50}$ ohms LISN.
Test Results:	Complies
Measurement Data:	See attached graph, (Peak detector).

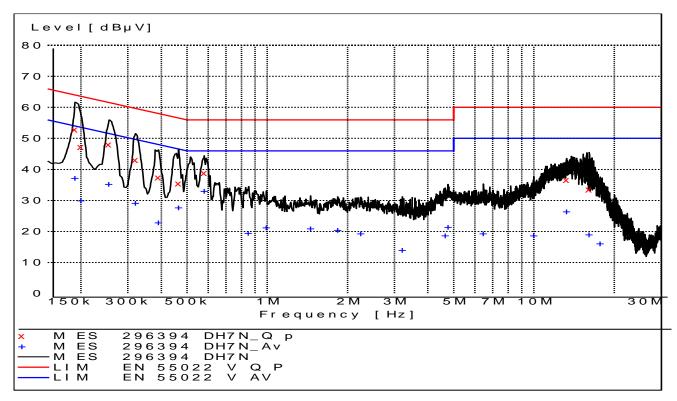
Highest measured value (L1 and N):



Charging, 120V 60Hz:

Frequency	Level	Af	Limit	Margin	Det	Position	Verdict
[MHz]	[dBuV]	[dB]	[dBuV]	[dB]			[Pass/Fail]
0.190000	53.00	10.70	64.00	11.00	QP	Ν	Pass
0.200000	47.30	10.70	63.60	16.30	QP	Ν	Pass
0.255000	48.10	10.60	61.60	13.50	QP	Ν	Pass
0.320000	43.20	10.50	59.70	16.50	QP	Ν	Pass
0.390000	37.50	10.40	58.10	20.60	QP	Ν	Pass
0.465000	35.50	10.30	56.60	21.10	QP	Ν	Pass
0.580000	38.90	10.20	56.00	17.10	QP	Ν	Pass
13.255000	36.60	10.80	60.00	23.40	QP	L1	Pass
16.125000	33.60	10.80	60.00	26.40	QP	L1	Pass
0.190000	37.30	10.70	54.00	16.70	AV	Ν	Pass
0.200000	30.00	10.70	53.60	23.60	AV	Ν	Pass
0.255000	35.40	10.60	51.60	16.20	AV	Ν	Pass
0.320000	29.30	10.50	49.70	20.40	AV	Ν	Pass
0.390000	23.00	10.40	48.10	25.10	AV	Ν	Pass
0.465000	27.80	10.30	46.60	18.80	AV	Ν	Pass
0.580000	33.20	10.20	46.00	12.80	AV	Ν	Pass
0.850000	19.60	10.30	46.00	26.40	AV	Ν	Pass
0.990000	21.30	10.40	46.00	24.70	AV	Ν	Pass
1.455000	21.00	10.40	46.00	25.00	AV	Ν	Pass
1.835000	20.60	10.40	46.00	25.40	AV	Ν	Pass
2.240000	19.40	10.40	46.00	26.60	AV	Ν	Pass
3.210000	14.10	10.40	46.00	31.90	AV	L1	Pass
4.645000	18.80	10.50	46.00	27.20	AV	L1	Pass
4.765000	21.40	10.50	46.00	24.60	AV	Ν	Pass
6.465000	19.40	10.60	50.00	30.60	AV	Ν	Pass
10.005000	18.80	10.60	50.00	31.20	AV	L1	Pass
13.255000	26.50	10.80	50.00	23.50	AV	L1	Pass
16.125000	19.00	10.80	50.00	31.00	AV	L1	Pass
17.705000	16.20	10.80	50.00	33.80	AV	L1	Pass





Charging, 120V 60 Hz



3.2 Digital Modulation Techniques

The EUT uses Multi Carrier / Time Division Multiple Access / Time Division Duplex and Digital GFSK modulation. For further details see the operational description provided by the applicant.

Requirement, FCC 15.319(b):

All transmissions must use only digital modulation techniques.

3.3 Labeling Requirements

See separate documents showing the label design and the placement of the label on the EUT.

Requirements FCC 15.19

The FCC Identifier shall be displayed on the label, and the device(s) shall bear the following statement in a conspicuous location on the device or in the user manual if the device is too small:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label itself shall be of a permanent type, not a paper label, and shall last the lifetime of the equipment.

3.4 Channel Frequencies

UPCS CHANNEL	FREQUENCY (MHz)
Upper Band Edge	1930.000
0 (Highest)	1928.448
1	1926.720
2	1924.992
3	1923.264
4 (Lowest)	1921.536
Lower Band Edge	1920.000

Requirement: FCC 15.303

Within 1920 -1930 MHz band for isochronous devices.



3.5 Antenna Requirement

Does the EUT have detachable antenna(s)?		NO
If detachable, is the antenna connector(s) non-standard?	YES	
The tested equipment has only integral antennas. The conducted tests with a temporary antenna connector.	s were perfe	ormed on a sample

Requirement: FCC 15.203, 15.204, 15.317.

3.6 Automatic Discontinuation of Transmission

Does the EUT transmit Control and Signaling Information?		YES	⊠ NO
TYPE OF EUT :			NDING DEVICE

The following tests simulate the reaction of the EUT in case of either absence of information to transmit or operational failure after a connection with the companion device is established.

Number	Test	EUT Reaction	Verdict
1	Power removed from EUT	С	Pass
2	Switch Off EUT	С	Pass
3	Hook-On by EUT	С	Pass
4	Power Removed from Companion Device	А	Pass
5	Switch Off Companion Device	N/A	Pass
6	Hook-On by Companion Device	N/A	Pass

A - Connection breakdown, Cease of all transmissions

B - Connection breakdown, EUT transmits control and signaling information

C - Connection breakdown, Companion Device transmits control and signaling information

N/A - Not Applicable (Companion Device does not have On/Off switch and cannot perform Hook-On)

Requirements, FCC 15.319(f)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude transmission of control and signaling information or use of repetitive codes used by certain digital technologies to complete frame or burst intervals.



3.7 Peak Power Output

Test Method:

ANSI C63.17, clause 6.1.2.

Test Results: Complies

Measurement Data:

Maximum Conducted Output Power

Channel No.	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Maximum Antenna Gain (dBi)	Maximum Radiated Output Power (dBm)
4	1921.536	20.0	1.0*	21.0
2	1924.992	20.1	1.0*	21.1
0	1928.448	20.2	1.0*	21.2

*Antenna Gain is value declared by manufacturer

Limit:

Conducted: 100 μ W x SQRT(*B*) where *B* is the measured Emission Bandwidth in Hz

FCC 15.319(c)(e) and RSS-213, Issue 3: 20.8 dBm (121 mW)

The antenna gain is below 3 dBi, no reduction in transmit power is necessary.

Requirements, FCC 15.319(c)(e); RSS-213, Issue 3; RSS-GEN, Issue 4

Peak transmit power shall not exceed 100 microwatts multiplied by the square root of the emission bandwidth in Hertz.

The peak transmit power shall be reduced by the amount in decibels that the maximum directional gain of the antenna exceeds 3 dBi.



Conducted Peak Output Power

MultiView 😁	Spectrum	×s	pectrum 2	x				
Ref Level 29.80 Att 2 TRG:RFP(8GHz)	dBm Offse 20 dB • SWT		NBW 3 MHz NBW 10 MHz					
1 Zero Span							M1[● 1Pk Max 1] 19.98 dBm 1.500 µs
20 dBm 7								
10 dBm								
0 dBm								
-10 dBm								
-20 dBm								
-30 dBm							alut	when the her wind
W48 38 mulu land							- Winhadd	Marine Ling and Ling a
-50 dBm								
-60 dBm								
CF 1.921536 GHz			I	1001	pts	I		50.0 μs/
						Measuring 【		01.12.2015 13:42:08

Lower Channel

	Spectrum		Spectrum 2	×				
Ref Level 29 Att TRG:RFP(8GHz	20 dB 🖷 SWT	et 16.40 dB ● 500 µs	RBW 3 MHz VBW 10 MHz					
1 Zero Span	,							●1Pk Max
	M1						M1	[1] 20.24 dBm 2.500 μs
20 dBm	×							
10 dBm								
0 dBm								
-10 dBm								
-20 dBm								
-20 0611								
-30 dBm								
							A	Hernyestudialandy
1-40 dem with w							" WW	an marther and and a second
-50 dBm								
-60 dBm								
	RG							
CF 1.928448 0	GHz			100	l pts	·		50.0 µs/
						Measuring	••••	01.12.2015 13:41:30

Upper Channel



MultiView 😁 Spec		pectrum 2	X				
Ref Level 29.80 dBm Att 20 dB TRG:RFP(8GHz)	Offset 16.40 dB ● F ● SWT 500 µs \	RBW 3 MHz /BW 10 MHz					
1 Zero Span							●1Pk Max
NI1						M1[
20 dBm			· · · · ·		 		
10 dBm							
0 dBm							
-10 dBm							
-20 dBm							
-30 dBm							
440BBANNIN Marsh						Warm	renderlydhyselder
-50 dBm							
-60 dBm							
TRG							
CF 1.924992 GHz			1001	pts			50.0 µs/
					Measuring 🔳		01.12.2015 13:40:46

Middle Channel



3.8 Emission Bandwidth *B*

Test Method:

ANSI C63.17, clause 6.1.3.

Test Results: Complies

Measurement Data:

Channel No.	Frequency (MHz)	Emission Bandwidth <i>B</i> (MHz)
4	1921.536	1.47
2	1924.992	1.49
0	1928.448	1.46

Channel No.	Frequency (MHz)	Occupied Bandwidth (MHz)
2	1924.992	1.18

Requirements, FCC 15.323(a), RSS-213 Issue 3, clause 5.5

The Emission Bandwidth *B* shall be larger than 50 kHz and less than 2.5 MHz.

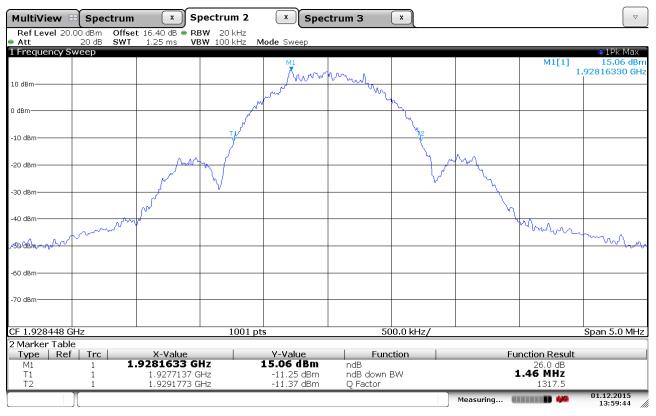
No requirements for 6 and 12 dB Bandwidth, these values are only used for testing Monitoring Bandwidth if the Simple Compliance test fails (ANSI C63.17, clause 7.4).

Occupied Bandwidth (99%) is measured according to RSS-GEN Issue 4, clause 6.6. This value is reported for information only.







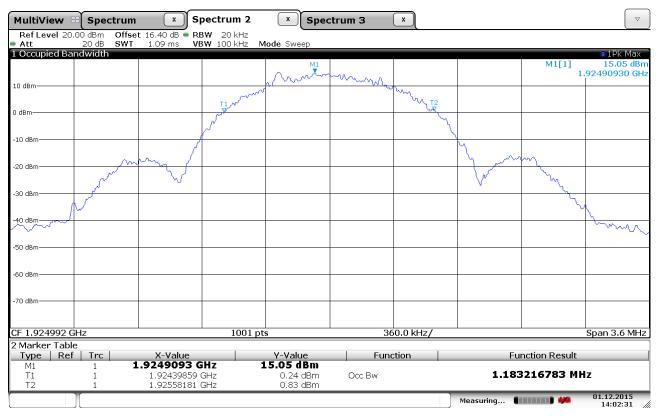


Emission Bandwidth B, Upper Channel



MultiView 8	Spectru	m 🗴 Sp	ectrum 2	× Spec	trum 3	×			
Ref Level 20. Att	00 dBm Offs 20 dB SW	set 16.40 dB • RB T 1.25 ms VB	W 20 kHz W 100 kHz	Mode Sween					
1 Frequency Sy		1.20113 VE	100 KHZ	indde oweep					●1Pk Max
				M1				M1[1]	14.99 dBm .92470730 GHz
10 dBm				phint	mmy				
				June	l www	и			
0 dBm			<i>f</i>).		- C			
			کر			2			
-10 dBm			T1/			<u><u>v</u></u>			
		m	. (nn		
-20 dBm		- m	\sim						
		سمر ا	W				<u> </u>		
-30 dBm							$\overline{\boldsymbol{\lambda}}$		
		Contract of the second s					भू		
-40 dBm	man	w p						mar -	
mmm								v. ~~	mon man
-50 dBm									
co do-									
-60 dBm									
-70 dBm									
, o dbiii									
CF 1.924992 G			1001 p	ots	50	10.0 kHz/			Span 5.0 MHz
2 Marker Table Type Ref		X-Value		Y-Value	Fund	tion	Fu	nction Result	
M1		1.9247073 GI		14.99 dBm	ndB			26.0 dB	
T1 T2	1	1.9242427 G 1.9257363 G		-11.15 dBm -11.39 dBm	ndB down I Q Factor	ЗW	1	1288.7	
	<u>,</u>	1.1207000 0		11.05 0011			Measuring	1200.17	01.12.2015 13:58:45

Emission Bandwidth B, Middle Channel



Occupied Bandwidth 99%, Middle Channel



3.9 **Power Spectral Density**

Test Method:

ANSI C63.17, clause 6.1.5.

Test Results: Complies

Measurement Data:

Channel No.	Frequency (MHz)	Power Spectral Density (dBm)
4	1921.536	-2.0
0	1928.448	-1.5

Averaged over 1000 sweeps.

Requirements, FCC 15.319(d)

The Power Spectral Density shall be less than 3 mW (4.77 dBm) when averaged over at least 100 sweeps.



Power Spectral Density

Lower Channel:

ItiView 🔠 Spectrun		Spectrum 2	Spec	ctrum 3	×			
t 10.00 dBm Offs t 20 dB SWT	et 16.40 dB 🖷 P 17.8 ms 🛛 V		ode Sweep					
equency Sween							M1[1]	●1Pk Ma
			1 Marsh	ather a ch			M1[1] 1	6.65 dt 92144650 G
n		for former h	Jume o Shou	have Ander (pour plan	the store		
n Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm	mar William and	vr ·				Mar	Ln. A	
Bm http://www.	000						VWW/WWW	
und win .							1 artes	WY.
Brite								My
N/ *								- N
Bm								
Bm								
Bm								
Bm								
Bm								
5								
Bm								
.921536 GHz		1001 pt	.5		60.0 kHz/			Span 1.6 M
erview	ı × s	Spectrum 2	× Spec	ctrum 3	×	Measuring 📲	·····	14:09:18
ltiView 🗄 Spectrun	n × S set 16.40 dB • I	Spectrum 2 RBW 3 kHz	× Spec	ctrum 3	×	Measuring 🕊		14:09:18
ltiView 🗄 Spectrun	et 16.40 dB • I	-	×Spec	ctrum 3	×	Measuring ¶		14:09:18
ItiView B Spectrun if Level 10.00 dBm Offe t 20 dB • SW ::VID	et 16.40 dB • I	RBW 3 kHz	x Spec	ctrum 3	×	Measuring	Cou	INT 1000/100
ItiView ↔ Spectrun f Level 10.00 dBm Offe t 20 dB ● SW	et 16.40 dB • I	RBW 3 kHz	× Spec	ctrum 3	×	Measuring		14:09:18 Int 1000/100 • 1Sa Av -2.04 d
ItiView 🕀 Spectrun of Level 10.00 dBm Offe t 20 dB • SW S:VID	et 16.40 dB • I	RBW 3 kHz	× Spec	ctrum 3	×	Measuring	Cou	14:09:18 Int 1000/100 • 1Sa Av -2.04 d
ItiView CSpectrun If Level 10.00 dBm Offe t 20 dB SW VID ro Span	set 16.40 dB • I T 1 ms	RBW 3 kHz	x Spec	ctrum 3		Measuring	Cou	14:09:18 Int 1000/100 • 1Sa Av -2.04 d
ItiView CSpectrun of Level 10.00 dBm Offe t 20 dB SW SVID ro Span	set 16.40 dB • I T 1 ms	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Aw -2.04 d
ItiView (Spectrun if Level 10.00 dBm Offs t 20 dB SW WD ro Span	set 16.40 dB • I T 1 ms	RBW 3 kHz	x Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Aw -2.04 d
ItiView (Spectrun If Level 10.00 dBm Offe t 20 dB SW SVID ro Span Bm	set 16.40 dB • I T 1 ms	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrun If Level 10.00 dBm Offs t 20 dB SW VID ro Span	set 16.40 dB • I T 1 ms	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum If Level 10.00 dBm Offe t 20 dB SW VID ro Span Bm TRG -30.000 dBm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Aw -2.04 d
ItiView B Spectrum of Level 10.00 dBm Offe t 20 dB SW i:VID ro Span Bm Bm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum of Level 10.00 dBm Offe t 20 dB SW s:VID ro Span Bm TRG -30.000 dBm	M1	RBW 3 kHz	x Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum of Level 10.00 dBm Offs t 20 dB SW SVID ro Span Bm TRG -30.000 dBm Bm	M1	RBW 3 kHz	x Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum of Level 10.00 dBm Offs t 20 dB SW SVID ro Span Bm TRG -30.000 dBm Bm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum of Level 10.00 dBm Offe t 20 dB SW SVID ro Span Bm Bm TRG -30.000 dBm Bm Bm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	
ItiView B Spectrum of Level 10.00 dBm Offe t 20 dB SW SVID ro Span Bm Bm TRG -30.000 dBm Bm Bm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 Int 1000/100 • 1Sa Av -2.04 dl
ItiView B Spectrum of Level 10.00 dBm Offe t 20 dB SW SVID FO Span Bm Bm TRG -30.000 dBm Bm Bm Bm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 Int 1000/100 • 1Sa Av -2.04 dl
ItiView B Spectrum of Level 10.00 dBm Offe t 20 dB SW SVID FO Span Bm Bm TRG -30.000 dBm Bm Bm Bm	M1	RBW 3 kHz	× Spec	ctrum 3		Measuring	Cou	14:09:18 int 1000/100 • 1Sa Av -2.04 d
ItiView B Spectrum ItiView C Spectrum ItiView Offer t 20 dB SW SW ItiView SW SW ItiView Offer SW ItiView Offer SW It	M1	RBW 3 kHz	x Spec	ctrum 3		Measuring	Cou	14:09:18 Int 1000/100 • 1Sa Av -2.04 dl
ItiView B Spectrum ItiView C Spectrum ItiView Offer t 20 dB SW SW ItiView SW SW ItiView Offer SW ItiView Offer SW It	M1	RBW 3 kHz		ctrum 3		Measuring	Cou	14:09:18 Int 1000/100 • 1Sa Av -2.04 dl

Averaged, 1000 Sweeps



Upper Channel:

MultiView	Spectrum	x	Spectrum 2	X Spe	ctrum 3	x			
Ref Level 10 Att	20 dB SWT	t 16.40 dB • 16.7 ms	RBW 3 kHz VBW 10 kHz M	ode Sweep					
1 Frequency S	weep			X M1				M1[1]	●1Pk Max 7.12 dBm
0 dBm		, a very	www.w	Muninitally	- Mhourson	Marshary	man .	1.	92835660 GHz
o ubili	. approved and an	www.					moundail	Mugamman	
-10 dBm	NW VV							www.	Wing
NW									www.
<mark>, 4</mark> 20 dBm									N
-30 dBm									
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
-80 dBm									
CF 1.928448 (GHz			ts	1:	50.0 kHz/			Span 1.5 MHz
][]						Measuring	••••	01.12.2015 14:21:24
Overview									
	Spectrum	x	Spectrum 2	× Spe	trum 3	×			
MultiView Ref Level 10	.00 dBm Offse	et 16.40 dB		x) Spec	ctrum 3	×		Cou	▼
MultiView Ref Level 10 Att TRG:VID	(.	et 16.40 dB		×Spec	ctrum 3	×		Cou	nt 1000/1000
MultiView Ref Level 10 Att	.00 dBm Offse	et 16.40 dB	RBW 3 kHz	× Spec	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID	.00 dBm Offse	et 16.40 dB	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg
MultiView Ref Level 10 Att TRG:VID 1 Zero Span	.00 dBm Offse	et 16.40 dB 1 ms	RBW 3 kHz	× Spec	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID 1 Zero Span	.00 dBm Offse	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID 1 Zero Span	.00 dBm Offse	et 16.40 dB 1 ms	RBW 3 kHz	× Spec	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID I Zero Span	.00 dBm Offse	et 16.40 dB 1 ms	RBW 3 kHz	× Spec	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID 1 Zero Span	.00 dBm Offse	et 16.40 dB 1 ms	RBW 3 kHz	× Spec	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView C Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -38 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView C Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView C Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -38 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID 1 Zero Span 0 dBm -10 dBm -20 dBm -20 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3				nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3				nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee	ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	.00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz	× Spee		×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm
MultiView Ref Level 10 Att TRG:VID I Zero Span 0 dBm -10 dBm -20 dBm -38 dBm -40 dBm -50 dBm -60 dBm	-00 dBm Offs 20 dB = SWT	et 16.40 dB 1 ms	RBW 3 kHz		ctrum 3	×			nt 1000/1000 • 1Sa Avg 1] -1.55 dBm

Averaged, 1000 Sweeps



3.10 In-Band Unwanted Emissions, Conducted

Test Method:

ANSI C63.17, clause 6.1.6.1.

Test Results: Complies

Measurement Data:

See plots.

Requirements, FCC 15.323(d):

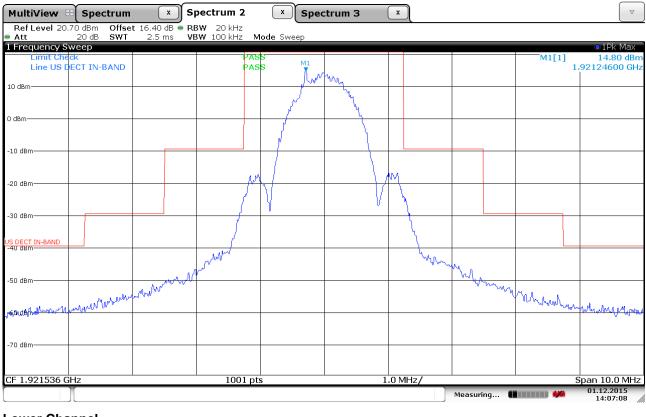
 $B < f \le 2B$:at least 30 dB below max. permitted peak power $2B < f \le 3B$:at least 50 dB below max. permitted peak power $3B < f \le$ UPCS Band Edge : at least 60 dB below max. permitted peak power

MultiView	B Spectrum	×S	pectrum 2	×	Spectrum 3	×			
Ref Level 20.		t 16.40 dB 🖷 RI							
Att 1 Frequency S	20 dB SWT	2.5 ms VE	BW 100 kHz	Mode Sweep)				●1Pk Max
Limit Che				ASS ASS	11			M1[1]	14.95 dBm .92470200 GHz
10 dBm					Annang				
				NV4	N.				
0 dBm				(*					
				, d					
-10 dBm									
-20 dBm			ļ,	What /		Inn			
20 00.0			لم	V					
-30 dBm						+			
						L.			
US DECT IN-BAND						- h			
			mm			ann	my .		
-50 dBm		Ward	,				- barred		
-50 dBm	powershipphan	www.					hubana	Mr. Morring Ma	han so hold of
UMMON									
-70 dBm									
CF 1.924992 G	l GHz	1	1001	pts		1.0 MHz/	1	1	Span 10.0 MHz
) (()	Measuring		01.12.2015

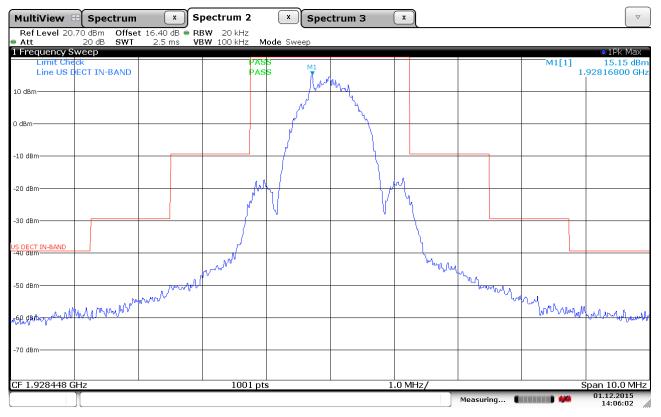
Middle Channel



In-Band Unwanted Emissions, Conducted



Lower Channel



Upper Channel



Test Method:

ANSI C63.17, clause 6.1.6.2.

Test Results: Complies

Measurement Data:

See plots.

Requirements, FCC 15.323(d):

$f \le 1.25$ MHz outside UPCS band :	≤ -9.5dBm
1.25 MHz $\leq f \leq 2.5$ MHz outside UPCS band :	≤ -29.5 dBm
$f \ge 2.5$ MHz outside UPCS band :	≤ -39.5 dBm

Out-of-Band Emissions, Conducted

Lower Channel:

MultiView 😁	Spectrum	×s	pectrum 2	x					
Ref Level 10.0		t 16.40 dB 🖷 P							
Att 1 Frequency Sw	20 dB SWT	12.5 ms V	' BW 100 kHz N	lode Sweep					●1Pk Max
Limit Ched			PAS	S				M1[1]	-52.60 dBm
Line US DE	CT OUT-OF-B	AND	PAS						1.9111340 GHz
0 dBm								M2[1]	-52.70 dBm 1.8800150 GHz
									1.8800150 GHZ
-10 dBm									
-20 dBm									
-30 dBm									
US DECT OUT-OF-BANK)								
									ſ
-50 dBm		2						MI	, M
	Ň	4						Mr.	while way in
-60 dBm			ar My Mary			M. dam	han i	1 Cartering	~ upin llo
munulaparticipation	monotonet	within	Mar	y Marange Ruter Atom	he was a second and the second	no. mananan	had a second of the second of the second	ųγ ψv	
-70 dBm									
-80 dBm									
			1001						
1.87 GHz			1001 pt	S	5	.0 MHz/			1.92 GHz 01.12.2015
							Measuring 🔳		14:25:43



Lower Channel:

Ref Level 10.00 dBm Offset 16.40 dB RBW 20 kHz • Att 20 dB SWT 218 ms VBW 100 kHz Mode Sweep	
1 Frequency Sweep	⊙1Pk Max
Limit Check PASS Line US DECT OUT-OF-BAND PASS	M1[1] -60.86 dBm 1.347220 GHz
0 dBm	
-10 dBm	
-20 dBm	
-30 dBm	
US DECT OUT-OF-BAND	
-50 dBm	
-60 dBm	
was and a way and a share a sha	huberhuberhuberhuberhuberh
-70 dBm	
-80 dBm-	
1.0 GHz 1001 pts 87.0 MHz/	1.87 GHz
Measuring	01.12.2015 14:26:30
	14:26:30
	\frown
MultiView 🗄 Spectrum 🛛 Spectrum 2 🔍	\bigtriangledown
Ref Level 10.00 dBm Offset 16.40 dB • RBW 20 kHz	
Att 20 dB SWT 250 ms VBW 100 kHz Mode Sweep I Frequency Sweep	●1Pk Max
Limit Check PASS PASS	M1[1] -56.88 dBm
Line US DECT OUT-OF-BAND PASS	10.480 MHz
0 dBm	
-10 dBm	
-10 08/11	
-10.08!!	
-10 UBIN -20 dBm	
-20 dBm-	
-20 dBm-	
-20 dBm-	
-20 dBm	
-20 dBm	
-20 dBm	
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -50 dBm -50 dBm	
-20 dBm	Lydermen with the many hard
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -40 dBm -50	under meder the first of the fi
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -50	Under werden with a first starter and the star
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -40 dBm -50	Unger and a state of the second states
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -40 dBm -50	Under mit of standard where
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -50	Urgenwegent)-Witterscophiset
-20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -50	Ling de començant de la comença



Upper Channel:

MultiView 🕄 Spect	trum 🗙 S	pectrum 2	×					
	Offset 16.40 dB • R SWT 17.5 ms V	BW 20 kHz BW 100 kHz M	ode Sweep					
1 Frequency Sweep								●1Pk Max
Limit Check Line US DECT OUT-	OF-BAND	PAS PAS					M1[1]	-49.47 dBm 1.9387760 GHz
0 dBm							M2[1]	-54.57 dBm 1.9698950 GHz
US DECT OUT-OF-BAND								
-20 dBm								
-30 dBm								
-40 dBm								
M1								
-\$0 dBm				M2				
N. III				The second se				
-60 dBHutter Murthy hu work	u a attal		1	h h				
an collection where	More problem or too	Munipperson	mbywhwwwwww	wanter her	nuluulanulahulanun	and the advertision	when the weather we	non-monorality
-70 dBm								
-80 dBm								
1.93 GHz		1001 pts	6	7	.0 MHz/			2.0 GHz
						Measuring 📲		01.12.2015 14:28:30
		nectrum 2						
MultiView 🕀 Spect		pectrum 2	×					
Ref Level 10.00 dBm Att 20 dB	Offset 16.40 dB • R	-						
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -51.04 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT-	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M	ode Sweep					●1Pk Max -51.04 dBm 3.85610 GHz
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1] M2[1]	●1Pk Max -51.04 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT-	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm US DECT OUT-OF-BAND	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	Offset 16.40 dB • R SWT 1s V	BW 20 kHz BW 100 kHz M PAS	ode Sweep S S					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz BW 100 kHz M PAS	ode Sweep S S					● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz BW 100 kHz M PAS	ode Sweep S S				M2[1]	● 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm
Ref Level 10.00 dBm Att 20 dB 1. Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz M BW 100 kHz M PAS	S S	an side more and a free free			M2[1]	• 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm 2.43360 GHz
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz M BW 100 kHz M PAS	S S	musunymine			M2[1]	• 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm 2.43360 GHz
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm -70 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz M BW 100 kHz M PAS	S S	an the month of the			M2[1]	• 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm 2.43360 GHz
Ref Level 10.00 dBm Att 20 dB 1. Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz M BW 100 kHz M PAS	S S				M2[1]	• 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm 2.43360 GHz
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm -70 dBm -80 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz M BW 100 kHz M PAS PAS	M1				M2[1]	• 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm 2.43360 GHz
Ref Level 10.00 dBm Att 20 dB 1 Frequency Sweep Limit Check Line US DECT OUT- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm -70 dBm	Offset 16.40 dB • R SWT 1 s V OF-BAND	BW 20 kHz M BW 100 kHz M PAS	M1		0.0 MHz/	loudout	M2[1]	• 1Pk Max -51.04 dBm 3.85610 GHz -56.84 dBm 2.43360 GHz

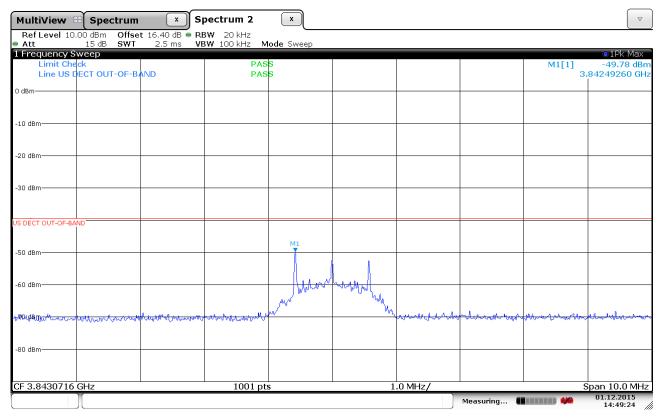


Upper Channel:

Mult	iView 8	B Spectrum	×S	pectrum 2	×					
Ref Att	Level 10	.00 dBm Offse 15 dB SWT	t 16.40 dB • RE 1.5 s VE	BW 20 kHz BW 100 kHz M	ode Sweep					
1 Fre	quency S	weep								●1Pk Max
	Limit Che Line US E	ck ECT OUT-OF-B	AND	PAS PAS					M1[1]	-64.76 dBm 11.19980 GHz
0 dBm										
-10 dB	~									
-10 45										
-20 dB	m									
-30 dB	m									
US DEC	T OUT-OF-BA	ND								
-50 dB	n									
-60 dB	n								M1	
_J 70 dB	n- muniprime	the week with your but	Montalicythere	work have here have		artholy ar this day the share	and the well with provident and	ursulline Myre	M1 www.ullordi.du.w.windy	Mundurburderlauge
	in Contrain		a com fra colo -							
-80 dB	n									
6.0 (Hz			1001 pts		60	0.0 MHz/			12.0 GHz
	JI 12	Y		1001 pt.	3			Measuring		01.12.2015 14:44:12
Ref	Level 10		t 16.40 dB • RI		×					
Ref • Att	Level 10	.00 dBm Offse 15 dB SWT	t 16.40 dB • RI	-						
Ref • Att	Level 10 quency S Limit Che	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	B W 20 kHz	ode Sweep				M1[1]	 ▼ ● 1Pk Max −62.17 dBm 19.46050 GHz
Ref • Att	Level 10 quency S Limit Che Line US E	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att 1 Fre	Level 10 quency S Limit Che Line US E	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref • Att 1 Fre	Level 10 quency S Limit Che Line US E	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att 1 Fre	Level 10 quency S Limit Che Line US E	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att 1 Fre 0 dBm ² -10 dB	Level 10 quency S Limit Che Line US I	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att 1 Fre 0 dBm- -10 dB -20 dB	Level 10 quency S Limit Che Line US I	.00 dBm Offse 15 dB SWT weep	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att 1 Fre -10 dB -20 dB -30 dB	Level 10 quency S Limit Che Line US I	OO dBm Offse 15 dB SWT weep (ck ECT OUT-OF-B)	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att 1 Fre -10 dB -20 dB -30 dB	Level 10 quency S Limit Che Line US D n n n	OO dBm Offse 15 dB SWT weep (ck ECT OUT-OF-B)	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att I Fre 0 dBm -10 dB -20 dB -30 dB US DEC -50 dB	Level 10 quency S Limit Che Line US I n n TOUT-OF-BA	OO dBm Offse 15 dB SWT weep (ck ECT OUT-OF-B)	t 16.40 dB • RE 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep				M1[1]	●1Pk Max -62.17 dBm
Ref Att I Fre 0 dBm -10 dB -20 dB -30 dB US DEC -50 dB -60 dB	Level 10 quency S Limit Che Line US I n n n n n n n n n n n n n n n n n n n	ND	AND	BW 20 kHz M BW 100 kHz M PAS PAS	s s			Physical area in the	M1[1]	• 1Pk Max -62.17 dBm 19.46050 GHz
Ref Att I Fre 0 dBm -10 dB -20 dB -30 dB US DEC -50 dB -60 dB	Level 10 quency S Limit Che Line US I n n n n n n n n n n n n n n n n n n n	OO dBm Offse 15 dB SWT weep (ck ECT OUT-OF-B)	t 16.40 dB • Rt 2 s VE	BW 20 kHz BW 100 kHz M PAS	ode Sweep	hillourol Muddale	Numeround			• 1Pk Max -62.17 dBm 19.46050 GHz
Ref Att I Fre 0 dBm -10 dB -20 dB -30 dB US DEC -50 dB -60 dB	Level 10 quency S Limit Che Line US I n n n TOUT-OF-BA n n 	ND	AND	BW 20 kHz M BW 100 kHz M PAS PAS	s s	hillmered Maride dard				• 1Pk Max -62.17 dBm 19.46050 GHz
Ref Att I Fre 0 dBm -10 dB -20 dB -30 dB US DEC -50 dB -60 dB	Level 10 quency S Limit Che Line US I n n n T OUT-OF-BA n n 	ND	AND	BW 20 kHz M BW 100 kHz M PAS PAS	s s	humandersandersander				• 1Pk Max -62.17 dBm 19.46050 GHz
Ref Att I Fre 0 dBm -10 dB -20 dB -30 dB US DEC -50 dB -60 dB	Level 10 quency S Limit Che Limit Che Line US I n n n f OUT-OF-8A n n 	ND	AND	BW 20 kHz M BW 100 kHz M PAS PAS	s s	hullmuster Mandedord				• 1Pk Max -62.17 dBm 19.46050 GHz



Lower Channel:



Upper Channel:

MultiView 🗄 Spectrum 🛛 🗴	Spectrum 2 🛛 🔍		
RefLevel 10.00 dBm Offset 16.40 dB Att 15 dB SWT 2.5 ms	RBW 20 kHz VBW 100 kHz Mode Sweep		
1 Frequency Sweep Limit Check Line US DECT OUT-OF-BAND	PASS PASS		• 1Pk Max M1[1] -48.95 dBm 3.85531860 GHz
0 dBm			
-10 dBm			
-20 dBm			
-30 dBm			
US DECT OUT-OF-BAND	M1		
-50 dBm			
-60 dBm	North Carlos	W www.	
azaden har marken and and a second	white the second with the second seco	Mudrowbow who	Marcold and A
-80 dBm			
CF 3.8568976 GHz	1001 pts	1.0 MHz/	Span 10.0 MHz
	·		Measuring



3.12 Carrier Frequency Stability

Test Method:

ANSI C63.17, clause 6.2.1.

Test Results: Complies

Measurement Data:

Long Term Frequency Stability is measured with the CMD60. The CMD60 was logged by a computer programmed to get new readings as fast as possible (about 3 readings per second) over the noted time period or number of readings. The peak-to-peak difference was recorded and the mean value and deviation in ppm was calculated.

Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode.

Carrier Frequency Stability over Time at Nominal Temperature

Average Mean Carrier	Max. Diff.	Min. Diff.	Max. Dev.	Limit
Frequency (MHz)	(kHz)	(kHz)	(ppm)	
1924.992830	2.733	-0.870	1.0	±10 ppm

Deviation ppm = ((Diff. - Mean Diff) / Mean Carrier Freq.) $x \ 10^{6}$

Deviation (ppm) is calculated from 3000 readings.

Frequency Stability over Power Supply Voltage at Nominal Temperature

Voltage	Measured Carrier Frequency (MHz)	Difference (kHz)	Deviation (ppm)	Limit
V _{nom}	/	0	0	
85% of V _{nom}	/	/	/	±10 ppm
115% of V _{nom}	/	/	/	

Deviation ppm = ((Mean – Measured Frequency) / Mean) x 10⁶

This test does not apply for EUT that is powered from batteries.

Frequency Stability over Temperature

Temperature	Measured Carrier Frequency (MHz)	Difference (kHz)	Deviation (ppm)	Limit
T = +20 °C	1924.9931	0	0	
T = -20 °C	1924.9931	0.0	0.0	±10 ppm
T = +50 °C	1924.9932	0.1	0.1	

Deviation ppm = ((Mean – Measured Frequency) / Mean) x 10^{6}



3.13 Frame Repetition Stability

Test Method:

ANSI C63.17, clause 6.2.2.

Test Results: Complies

Measurement Data:

The envelope of the RF signal from the EUT is detected with a Crystal Detector and the mean and standard deviation of the frame repetition frequency is then gated over 100 frames and measured with a Frequency Domain Analyzer. The frame repetition stability is 3 times the standard deviation.

Carrier Frequency	Mean	Standard Deviation	Frame Repetition
(MHz)	(Hz)	(µHz)	Stability (ppm)
1924.992	100.000	6.146	0.184

Limit:

Frame Repetition Stability	±10 ppm (TDMA)
----------------------------	----------------

Ref. FCC 15.323(e), ANSI C63.17, clause 6.2.2

3.14 Frame Period and Jitter

Test Method:

ANSI C63.17, clause 6.2.3.

Test Results: Complies

Measurement Data:

Carrier Frequency	Frame Period	Max Jitter	3xStandard Deviation
(MHz)	(ms)	(μs)	of Jitter (μs)
1924.992	10.000	-0.022	-0.015

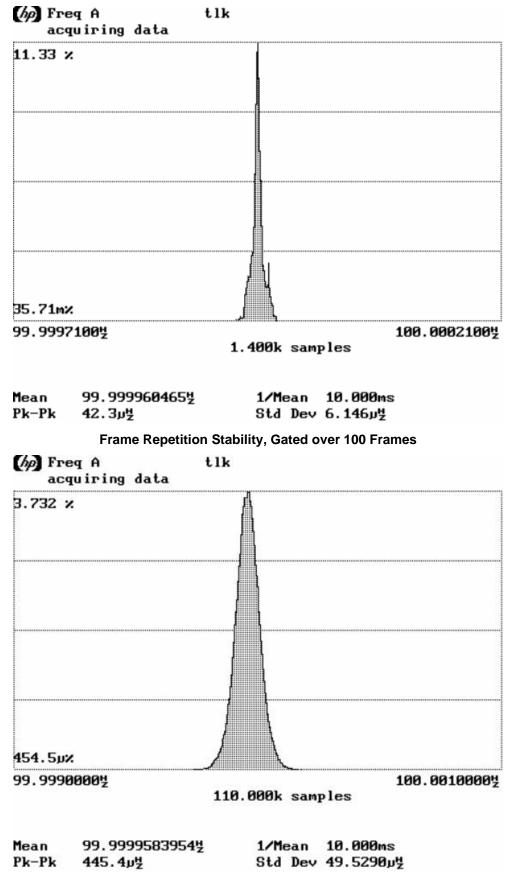
Max Jitter = (1/(Frame period + Pk-Pk/2)) - (1/Frame Period), when Pk-Pk and Frame Period are in Hz 3xSt.Dev.Jitter = $3x (1/(Frame Period + St.Dev) - 1/St.Dev) \times 10^{6}$

Limit:

Frame Period	20 or 10 ms	
Max Jitter	25 µs	
3 times St.Dev of Jitter	12.5 µs	

Ref. FCC 15.323(e), ANSI C63.17, clause 6.2.3





Frame Period and Jitter



3.15 Monitoring Threshold, Least Interfered Channel

Monitoring Threshold Limits:

Lower Threshold:

 $T_L = 15 \log B - 184 + 30 - P_{EUT}$ (dBm)

Upper Threshold:

T∪ = T∟ + 20

(dBm)

B is measured Emission Bandwidth in Hz P_{EUT} is measured Transmitter Power in dBm

Calculated values:

	FCC 15.323, RSS-213, Issue 3
Lower Threshold	-81.8 dBm

Least Interfered Channel Procedure (LIC) may only be used by systems with more than 20 duplex system access channels. Systems with less than 20 duplex system access channels are not allowed to transmit when interferer level is above Lower Threshold.

Measurement Procedure:

Least Interfered Channel Procedure NOT used:		
Lower Threshold	N/A	The EUT uses LIC procedure

Least Interfered Channel (LIC) Procedure Test, FCC 15.323(b), (c)(2) and (c)(5)

ANSI C63.17 clause 7.3.2 ref.	Observation	Verdict
b) f_1 at T _L + U _M + 7 dB, f_2 at T _L + U _M	Transmission always on f_2	Pass
c) f_1 at T _L + U _M , f_2 at T _L + U _M +7 dB	Transmission always on f_l	Pass
d) f_1 at T _L + U _M + 1 dB, f_2 at T _L + U _M - 6 dB	Transmission always on f2	Pass
e) f_1 at T _L + U _M - 6 dB, f_2 at T _L + U _M + 1 dB	Transmission always on f_l	Pass

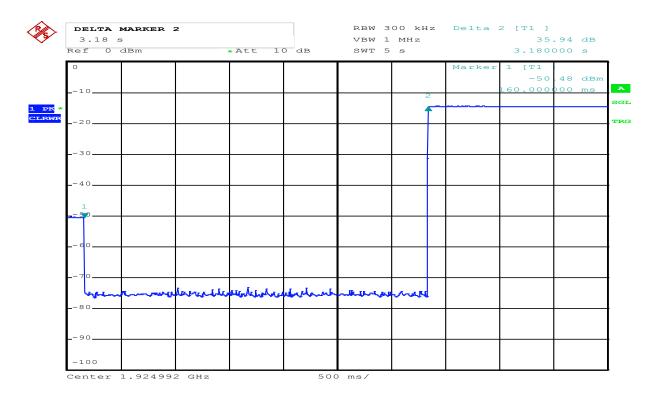


Selected Channel Confirmation, FCC 15.323(c)(1) and (5)

ANSI C63.17 clause 7.3.3	Observation	Verdict
b) Shall not transmit on f_I	EUT transmits on f2	Pass
d) Shall not transmit on f_2	EUT transmits on fi	Pass

Limits:

	FCC 15.323, RSS-213, Issue 3
Lower Threshold + 6 dB margin	-75.8 dBm



Date: 3.DEC.2015 12:28:23

7.3.4 Selected Channel Confirmation, Connection 3.2s After Interferer Removed



3.16 Threshold Monitoring Bandwidth

This test is only required if a dedicated monitoring receiver is used. However, if the test is not carried out the manufacturer shall declare and provide proper evidence that the monitoring is made through the radio receiver used for communication.

Measurement Procedure:

Simple Compliance Test, ANSI C63.17, clause 7.4.1

More Detailed Test, ANSI C63.17, clause 7.4.2

The test is passed if **either** the Simple Compliance Test or the More Detailed test is passed.

During this test the spectrum analyzer is observed visually to see if the EUT transmits or not.

Test Results:

Test performed	Observation	Verdict
Simple Compliance test, at $\pm 30\%$ of B	N/A	N/A
More Detailed Test, at -6 dB points	N/A	N/A
More Detailed Test, at -12 dB points	N/A	N/A

The more detailed test must be pass at both the -6 and -12 dB points if the Simple Compliance test fails.

Comment: The manufacturer declares that the tested EUT uses the same receiver for monitoring and communication, this test is therefore not required.

Limits, FCC 15.323(c)(7):

The monitoring system bandwidth must be equal to or greater than the emission bandwidth of the intended transmission.



3.17 Reaction Time and Monitoring Interval

Measurement Procedure

ANSI C63.17, clause 7.5

Test results:

By administrative commands and out-of-operating region interference, the EUT is restricted to operate on two RF carrier frequencies.

A CW interferer signal at a level T_L is applied on f_1 and time-synchronized pulsed interference at a level $T_L + U_M$ dB is applied on f_2 . The level on f_2 was raised 6 dB for part d) with 35 µs pulses.

The pulses are synchronized with the EUT timeslots and applied centered within all timeslots.

For both tests the test is passed if the EUT transmits on f_1 .

Pulse Width, ref. to ANSI C63.17 clause 7.5	Observation	Verdict
c) > largest of 50 μs and 50*SQRT(1.25/ <i>B</i>)	EUT transmits on f_l	Pass
d) > largest of 35 μs and 35*SQRT(1.25/ <i>B</i>), and with interference level raised 6 dB	EUT transmits on f_I	Pass

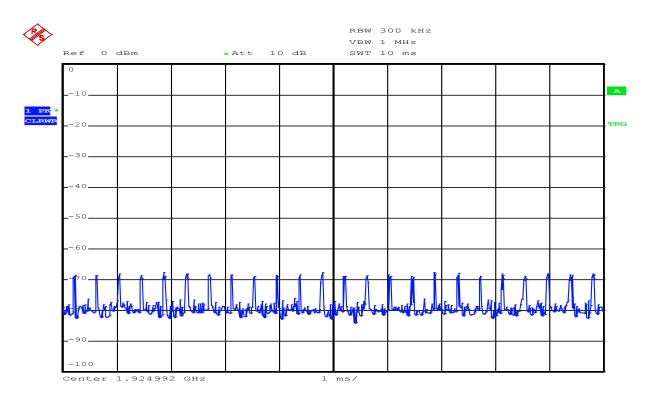
Comment: Since *B* is larger than 1.25 MHz the test was performed with pulse lengths of 50 µs and 35 µs.

Limits, FCC 15.323(c)(1), (5) and (7)

The maximum reaction time must be less than 50xSQRT (1.25/emission bandwidth in MHz) microseconds for signals at the applicable threshold level but shall not be required to be less than 50 μ s.

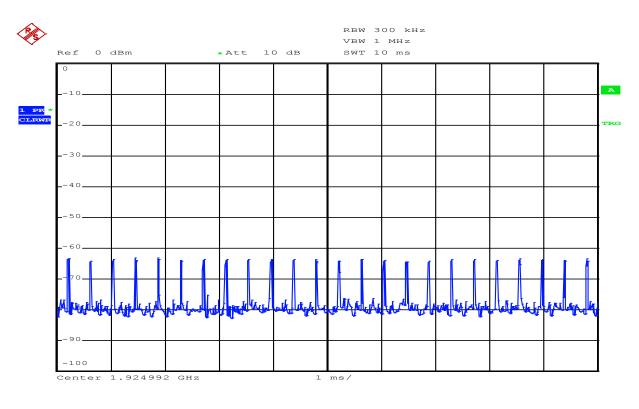
If a signal is detected that is 6 dB or more above the applicable threshold level, the maximum reaction time shall be 35xSQRT (1.25/emission bandwidth in MHz) microseconds but shall not be required to be less than $35 \ \mu$ s.





Date: 3.DEC.2015 12:26:20





Date: 3.DEC.2015 12:23:24

35 µs Pulses



3.18 Time and Spectrum Window Access Procedure

This requirement is only for EUTs which transmit unacknowledged control and signaling information.

Measurement Procedure:

Timing for EUTs using control and signaling channel type transmissions: ANSI C63.17, clause 8.1

Test results:

Access Criteria, ref. to ANSI C63.17 clause 8.1.1	Observation	Verdict
b) Check that the EUT transmits on the interference free time-slot	N/A	N/A
b) The EUT must terminate or pause in its repetitive transmission of the control and signalling channel on the open channel to repeat the access criteria not less frequently than every 30 s	N/A	N/A

If FCC 15.323(c)(6) option, If Random Waiting Interval is NOT implemented

Access Criteria, ref. to ANSI C63.17 clause 8.1.2	Observation	Verdict
b) Check that the EUT changes to an interference-free slot when interference is introduced on the time slot in use	N/A	N/A

If FCC 15.323(c)(6) option, Only if Random Waiting Interval is implemented

Access Criteria, ref. to ANSI C63.17 clause 8.1.3	Observation	Verdict
b-d) Check that the EUT uses random waiting interval before continuing transmission on an interfered time slot	N/A	N/A

Comment: The tested EUT does not transmit unacknowledged control and signaling information.

Limits:

FCC 15.323(c)(4):

Once access to specific combined time and spectrum windows is obtained an acknowledgement from a system participant must be received by the initiating transmitter within one second or transmission must cease. Periodic acknowledgements must be received at least every 30 seconds or transmission must cease. Channels used exclusively for control and signaling information may transmit continuously for 30 seconds without receiving an acknowledgement, at which time the access criteria must be repeated.

FCC 15.323(c)(6):

If the selected combined time and spectrum windows are unavailable, the device may either monitor and select different windows or seek to use the same windows after waiting an amount of time, randomly chosen from a uniform random distribution between 10 and 150 milliseconds, commencing when the channel becomes available.



3.19 Acknowledgements and Transmission Duration

Measurement Procedure:

Acknowledgements: ANSI C63.17, clause 8.2.1

Transmission Duration: ANSI C63.17, clause 8.2.2

During the test **Initial transmission without acknowledgements** the signal from the EUT to the companion device is blocked by circulators in addition to the tunable attenuator.

The test **Transmission time after loss of acknowledgements** is performed by cutting-off the signal from the companion device by a RF switch and measuring the time until the EUT stops transmitting.

The **Transmission Duration** test is performed by monitoring the slot in use and measuring the time until the EUT changes to a different slot.

Test Results:

Acknowledgements

Test ref. to ANSI C63.17 clause 8.2.1	Observation	Verdict
a) Initial transmission without acknowledgements	0.001 sec	Pass
c) Transmission time after loss of acknowledgements	5.0 sec	Pass

Transmission Duration

Test ref. to ANSI C63.17 clause 8.2.2	Observation	Verdict
b) Transmission duration on same time and frequency window	7:00 hours	Pass

Comment: /

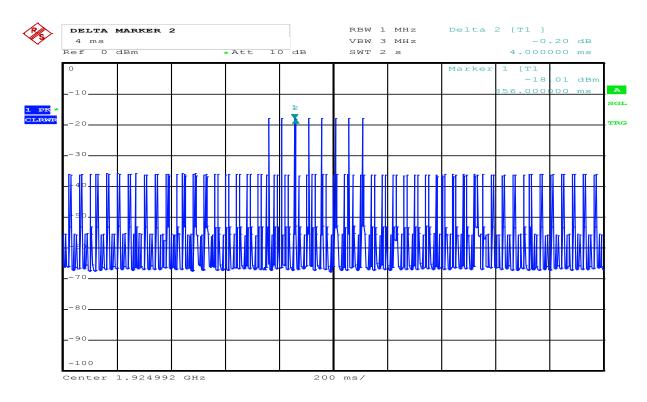
Limits, FCC 15.323(c)(3) and (4)

Occupation of the same combined time and spectrum windows by a device or group of cooperating devices continuously over a period of time longer than 8 hours is not permitted without repeating the access criteria.

Once access to specific combined time and spectrum windows is obtained an acknowledgement from a system participant must be received by the initiating transmitter within one second or transmission must cease.

Periodic acknowledgements must be received at least every 30 seconds or transmission must cease. Channels used exclusively for control and signaling information may transmit continuously for 30 seconds without receiving an acknowledgement, at which time the access criteria must be repeated.

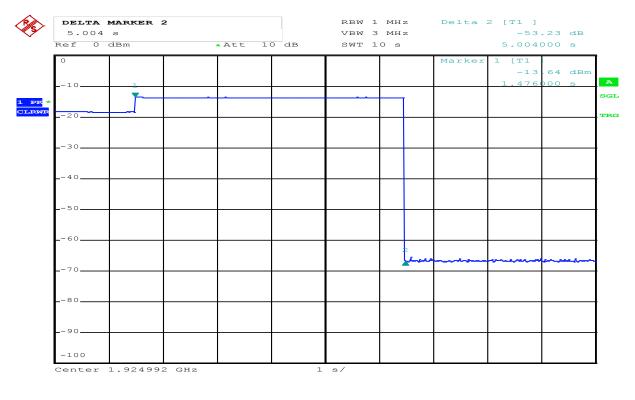




Date:

3.DEC.2015 12:48:06





Date: 3.DEC.2015 12:52:54

8.2.1c) Transmission Time After Loss of Acknowledgements



3.20 Dual Access Criteria Check

Measurement Procedure:

EUTs that does not implement the LIC procedure: ANSI C63.17, clause 8.3.1

EUTs that implement the LIC procedure: ANSI C63.17, clause 8.3.2

This test is required for equipment that uses the access criteria in FCC 15.323(c)(10).

Test Results:

EUTs that do NOT implements the LIC procedure:

Test ref. to ANSI C63.17 clause 8.3.1	Observation	Verdict
b) EUT is restricted to a single carrier f_1 for TDMA systems. The Test is Pass if EUT can transmit	N/A	N/A
c) d) Interference at level $T_L + U_M$ on all timeslots except one receive slot where interference is at least 10 dB below T_L	N/A	N/A
e) f) Interference at level T_L + U_M on all timeslots except one transmit slot where interference is at least 10 dB below T_L	N/A	N/A

EUTs that implements the LIC procedure:

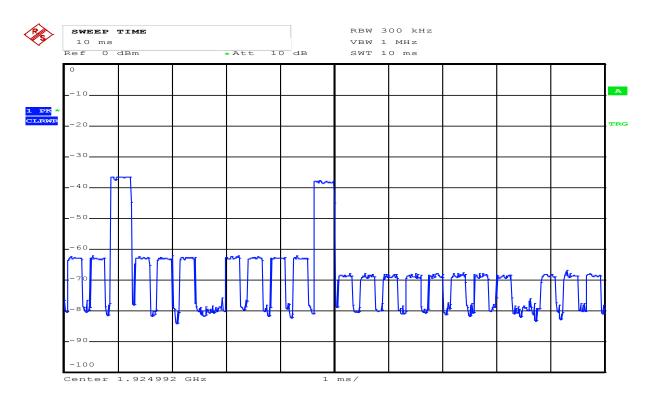
Test ref. to ANSI C63.17 clause 8.3.2	Observation	Verdict
b) EUT is restricted to a single carrier f_l for TDMA systems. The Test is Pass if EUT can transmit	EUT can transmit	Pass
c) d) Transmission on interference-free receive time/spectrum window	EUT transmits on interference free receive slot	Pass
e) f) Transmission on interference-free transmit time/spectrum window	EUT transmits on interference free transmit slot	Pass

Comment: See plots.

Limits, FCC 15.323(c)(10)

An initiating device may attempt to establish a duplex connection by monitoring both its intended transmit and receive time and spectrum windows. If both the intended transmit and receive time and spectrum windows meet the access criteria, then the initiating device can initiate a transmission in the intended transmit time and spectrum window. If the power detected by the responding device can be decoded as a duplex connection signal from the initiating device, then the responding device may immediately begin transmitting on the receive time and spectrum window monitored by the initiating device.

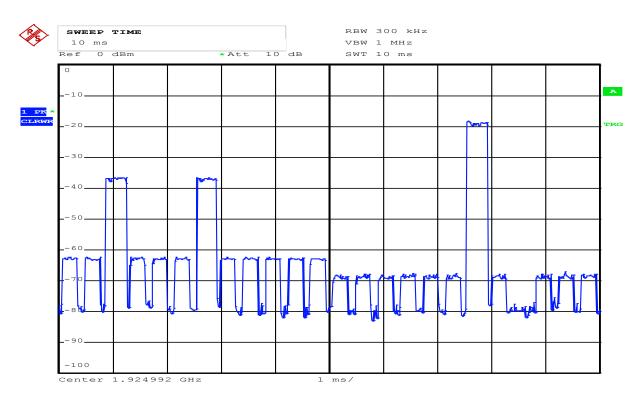




Date:

3.DEC.2015 12:36:40

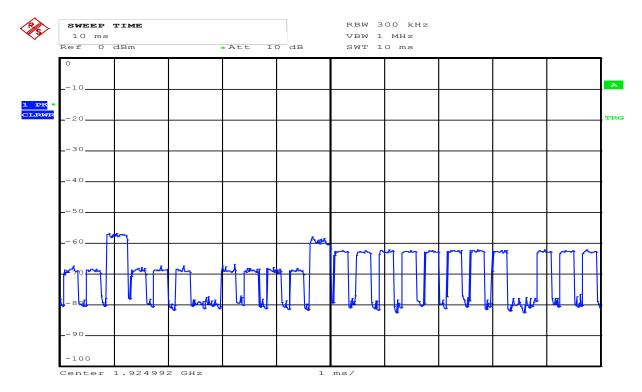




Date: 3.DEC.2015 12:37:29

8.3.2c) EUT Transmits on Interference Free RECEIVE Slot, AFTER

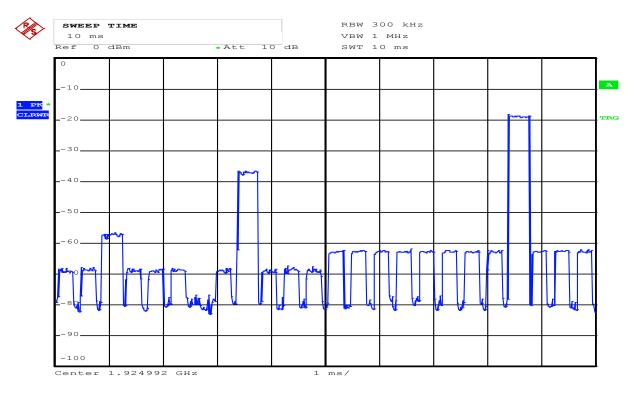




Date:

3.DEC.2015 12:40:00





3.DEC.2015 12:40:16 Date:

8.3.2e) EUT Transmits on Interference Free TRANSMIT Slot, AFTER



3.21 Alternative Monitoring Interval

Test procedure described in ANSI C63.17 clause 8.4.

This test is required if the EUT implements the provisions of FCC 15.323(c)(11).

Test result:

Not Tested. The tested EUT does not implement this provision. See manufacturers' declaration.



4 Measurement Uncertainty

Measurement Uncertainty Values		
Test Item		Uncertainty
Output Power	±0.5 dB	
Power Spectral Density	±0.5 dB	
Out of Band Emissions, Conducted (RBW < 100 kHz) < 3.6 GHz		±0.6 dB
	> 3.6 GHz	±0.9 dB
Spurious Emissions, Radiated	< 1 GHz	±2.5 dB
	> 1 GHz	±2.2 dB
Emission Bandwidth	±4 %	
Power Line Conducted Emissions	+2.9 / -4.1 dB	
Spectrum Mask Measurements Frequency		±5 %
	Amplitude	±1.0 dB
Frequency Error	±0.6 ppm	
Timing and Jitter Measurements	±2.0 ns	
Frame Timing Measurements	±1.4 ppm	
Receiver Blocking Levels	±1.0 dB	
Temperature Uncertainty	±1 °C	

All uncertainty values are expanded standard uncertainty to give a confidence level of 95%, based on coverage factor k=2



5 Test Setups

5.1 Frequency Measurements



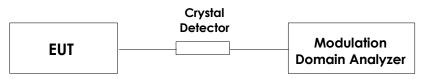
Test equipment included: 5, 9, 25

Test Set-up 1

This setup is used for measuring Carrier frequency stability at normal and extreme temperatures.

The EUT was in loopback-mode and was controlled with the CMD60 for this test. The modulation pattern was set to 01010101...

5.2 Timing Measurements



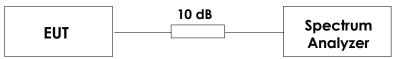
Test equipment included: 5, 7, 9, 25

Test Set-up 2

This setup is used for measuring Frame repetition stability, Frame period and Jitter.

The EUT was in loopback-mode and was controlled with the CMD60 for this test. The modulation pattern was set to 01010101...

5.3 Conducted Emission Test



Test equipment included: 1, 2, 9, 13, 25

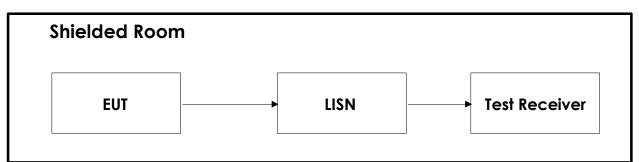
Test Set-up 3

This setup is used for all conducted emission tests.

The EUT was in loopback-mode and was controlled with the CMD60 for this test. The modulation pattern was set to Pseudo-Random bit sequence to simulate normal speech.



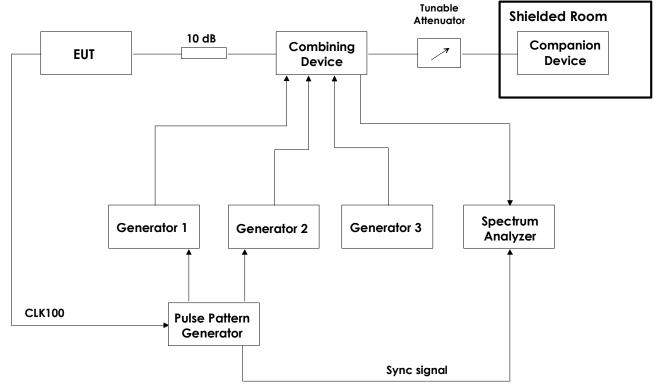
5.4 Power Line Conducted Emissions Test



Test equipment: 8, 16, 17, 18, 19

Test Set-Up 5

5.5 Monitoring Tests



Test equipment: 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 23, 24

Test Set-Up 6

This test setup is used for all Monitoring and Time and Spectrum Access Procedure tests. The path loss from the signal generators to the EUT is measured with a power meter before the testing is started.

The CLK100 is used to synchronize the Pulse-/ Pattern generator to the start of the DECT frame, this signal always comes from the base station. If the EUT is a DECT Portable Part (i.e. a handset) the CLK100 signal will come from the Companion Device.

The sync signal to the Spectrum Analyzer is the CLK100 signal that is regenerated in the Pulse-/ Pattern Generator, this is used to synchronize the Spectrum Analyzer to the DECT frame when in zero span. The Pulse-/ Pattern Generator is used for tests that require time synchronized pulses or blocking of specific time slots.



6 Test Equipment Used

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Testhouse.

No.	Model number	Description	Manufacturer	Ref. no.	Cal. date	Cal. Due
1	FSW26	Spectrum Analyzer	Rohde & Schwarz	LR 1640	2014.09	2016.09
2	SME03	Signal generator	Rohde & Schwarz	LR 1238	2015.05	2017.05
3	SMIQ03B	Signal generator	Rohde & Schwarz	LR 1516	2015.05	2017.05
4	SMHU52	Signal generator	Rohde & Schwarz	LR 1240	Cal b4 use	
5	53310A	Modulation Domain Analyzer	Hewlett Packard	LR 1483	Cal b4 use	
6	81104A	Pulse-/ Pattern Generator	Agilent	LR 1502	2015.05	2016.05
7	8470B	Crystal Detector	Hewlett Packard	LR 1207	N/A	
8	ESHS10	Measuring Receiver	Rohde & Schwarz	N-3528	2015.08.13	2016.08.13
9	6810.17B	Attenuator	Suhner	LR 1669	Cal b4 use	
10	745-69	Step Attenuator	Narda	LR 1442	N/A	
11	WE 1506A	Power Splitter	Weinchel	LR 244	Cal b4 use	
12	WE 1506A	Power Splitter	Weinchel	LR 245	Cal b4 use	
13	H-9	Hybrid	Anzac	LR 86	Cal b4 use	
14	H-9	Hybrid	Anzac	LR 257	Cal b4 use	
15	S212DS	RF Switch	Narda	LR 1244	N/A	
16	ESH3-Z5	Two Line V-Network	Rohde & Schwarz	LR 1076	Cal b4 use	
17	ESH3-Z2	Pulse Limiter	Rohde & Schwarz	LR 1074	Cal b4 use	
18	6812B	AC Power Source	Agilent	LR 1515	2015.12	2016.12
19	Model 87 V	Multimeter	Fluke	N-4672	2015.10	2016.10
20	87H35-1	Circulator	Racal-MESL	s.no.: 140	N/A	
21	87H35-1	Circulator	Racal-MESL	s.no.: 141	N/A	
22	87H35-1	Circulator	Racal-MESL	s.no.: 142	N/A	
23	NRP-Z81	Wideband Power Sensor	Rohde & Schwarz	LR 1644	2015.11.03	2016.11.03
24	FSP30	Spectrum Analyzer	Rohde & Schwarz	LR 1551	2015.04.27	2017.04.27
25	CMD60	DECT Tester	Rohde & Schwarz	LR 1335	2015.11	2018.11



Revision history

Version	Date	Comment	Sign
1.0	2016.03.16	First Edition	FS
2.0	2016.09.16	Corrected antenna gain value	FS