

REGULATORY COMPLIANCE REPORT

TITLE: HHSR3 45ms message FCC & IC Test Report for FHSS

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REV	CCO	DESCRIPTION OF CHANGE	DATE	APPROVALS	
001		INITIAL RELEASE		Engineering	
				Regulatory	

REVISION HISTORY

				Engineering	
				Regulatory	
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				Engineering	
				Regulatory	

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Test Data Summary

FCC 15.247 / IC RSS-210 A8
Frequency Hopping Transmitter (HHSR3), 908-923.8MHz

FCC:EO9HHSR3

IC ID: 864D-HHSR3

Device Models (for IC): HHSR3

Serial Numbers: 7510800

Updated measurements:

Rule	Description	Previous reading	updated reading	Pass/Fail
Part 15.247(a)(1)(i) / RSS-210 A8.1(c)	Time of Occupancy	108.12 mS	270 mS	Pass

Validation measurements:

Rule	Description	Previous reading	Validation/updated reading	Max Variance
Part 15.247(b) (2) / RSS-210 A8.4(1)	Power Output – Conducted	21.4dBm	20.8dBm	0.6dBm

Rule versions: FCC Part 1 (01-2006), FCC Part 2 (01-2006), FCC Part 15 (02-01-2006), RSS-102 Issue 2 (11-2005), RSS-210 Issue 7 (June 2007), RSS-Gen Issue 2 (06-2007).

Reference docs: ANSI C63.4-2003, DA 00-705 (03-30-2000), OET65 (08-1997), OET65C (06-2001), IEEE C95.3-2002.

Cognizant Personnel	
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CONDITIONS DURING TESTING

No Modifications to the EUT were necessary during the testing.

EUT Operating Frequency

The EUT was operating at 908 MHz – 923.8 MHz

Temperature and Humidity During Testing

The temperature during testing was within +15° C and +35° C.

The Relative humidity was between 20% and 75%.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

Itron declares that the EUT tested was representative of a production unit.

EQUIPMENT UNDER TEST

Transmitter Module

Manuf: Itron, Inc.
Itron Model: HHSR3
Serial: FC30009297027 (handheld)

Peripheral Devices

The EUT was tested with the following peripheral devices:

FC300 Handheld

Manuf: Itron, Inc
Model: FC300
Serial: FC30009297027

15.247(a) (1) (i) / RSS-210 A8.1 (c)

Time of Occupancy

Verify that the transmitted signal does not occupy a single frequency for more than 400 mS in a 20 second period.

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = zero span, centered on a hopping channel

RBW = 1 MHz

VBW \geq RBW

Sweep = as necessary to capture the entire dwell time per hopping channel

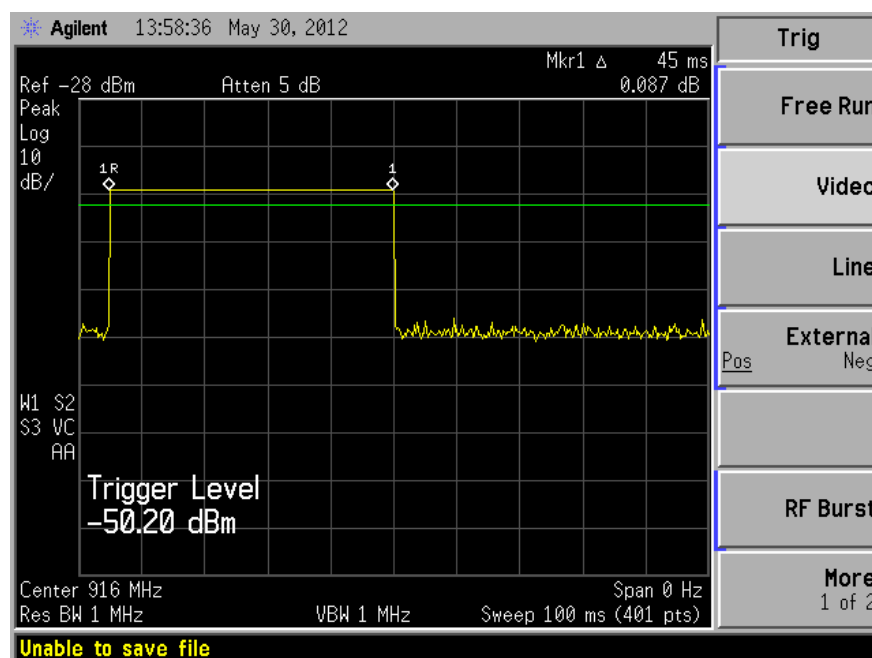
Detector function = peak

Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. Submit this plot(s).

Each transmission is now a maximum of 45 ms long (as opposed to the 18.02ms from the original filing). Each transmission takes place on one of 80 different channels in a pseudo-random sequence. All 80 channels are used equally on the average. The algorithm that determines the pseudo-random hop sequence does not allow the device to transmit on the same channel more than 6 times in a 20 second period. The maximum possible occupancy time on any one frequency is now 270 mS or 6 times within a 20 second period.

Equipment Used	Serial Number	Cal Date	Due
HP4407B	MY45107856	3/11	3/13
Date	Tested by		
5/30/2012	Drew Rosenberg		



Validation Section

This product was originally filed for approval in February of 2009. Although no hardware changes have been made to this product since then, the data is over a year old,

The output power of the device was retested in an effort to demonstrate that the report from 2009 is still valid for this device.

15.247(b) (2) / RSS-210 A8.4 (1)

Power Output

The maximum peak conducted output power of the intentional radiator shall not exceed the following: For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel.

RBW > the 20 dB bandwidth of the emission being measured.

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Set RF level offset=cable loss

Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power. The limit is specified in one of the subparagraphs of this Section. Submit this plot. A peak responding power meter may be used instead of a spectrum analyzer.

Note: The purpose of this test is to validate the report from 2009, since over a year has passed. No changes are being made to this product except for the new maximum message length.

Equipment Used	Serial Number	Cal Date	Due
HP4407B	MY45107856	3/11	3/13
Date	Tested by		
5/24/2012	Will Mellick		

Frequency (MHz)	Power out (dB)		Variance dB
	taken 2/6/2009	taken 5/31/2012	
908	21.4	21.47	-0.07
916	21.4	20.81	0.59
923.8	20.2	20.13	0.07

