COMPLIANCE WORLDWIDE INC.
TEST REPORT 176-12

In Accordance with the Requirements of

FCC PART 15.407, Subpart E
INDUSTRY CANADA RSS 210, ISSUE 8, ANNEX 9
Dynamic Frequency Selection (DFS) Client Only without Radar Detection Capability

Issued to

Philips Medical Systems
3000 Minuteman Drive
Andover, MA 01810
978-659-2800

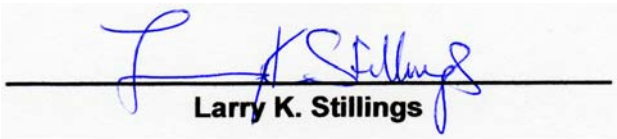
for the

Philips Telemetry System
MX40 Patient Worn Monitor
WLAN Radio

FCC ID: PQC-MX40SH2B4
IC: 3549B-MX40SH2B4

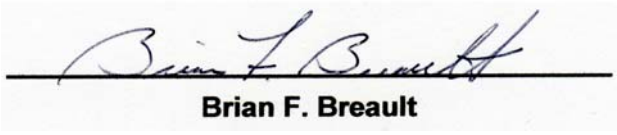
Report Issued on March 8, 2012

Tested by



Larry K. Stillings

Reviewed By



Brian F. Breault

1. Scope

This test report certifies that the Philips Medical Telemetry System MX40 5 GHz Patient Worn Monitor (PWM) WLAN Radio, as tested, meets the FCC Part 15.407, Subpart E and Industry Canada RSS 210, Issue 7, Annex 9 DFS requirements. The scope of this test report is limited to the test sample provided by the client, only in as much as that sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

2. Product Details

2.1. Manufacturer: Philips Medical Systems

2.2. Model Number: IntelliVue MX40 5 GHz

2.3. Serial Number: US11400397

2.4. Description: The Patient Worn Monitor is a body worn patient monitor for ECG and SpO2 measurements. The device has a touch screen display which can display patient waveforms and/or numeric values locally or transmitted via several possible radio links to the hospital wireless network, a wireless bedside monitor, or to a CTS network for display on the IntelliVue Information Center. The device is capable of transmitting in the 2.4 GHz (ISM bands), 5 GHz (UNI & ISM bands) and/or the WMTS bands, 1395 MHz to 1400 MHz and 1427 MHz to 1432 MHz. The PWM contains an 802.11 a/b/g WLAN radio to communicate with a WLAN, an 802.15.4 SRR radio to communicate with a SRR equipped bedside monitor, or an optional 1.4 GHz or 2.4 CTS radio to communicate with a Philips CTS network. Performance evaluation during immunity testing shall be done on the PWM display, the WLAN display, the IntelliVue Information Center display and the MP5 bedside monitor. The PWM will be configured with a 5 GHz 802.11a radio for this test plan.

2.5. Power Source: DC 3 volts – Three 1.5 VDC Alkaline AA Batteries (Voltage is regulated)

2.6. EMC Modifications: None

3. Product Configuration

3.1. Operational Characteristics & Software

Operating Instructions for Test

Insert the batteries into the PWM battery compartment and allow the device to boot up to display ESC and SpO2 measurement parameters on the local display as well as the ROW and Wi-Fi PIC systems.

The PWM will need to be put into “TELEMETRY” mode during all testing to allow onboard display to be viewed. To do this, with the PWM running, press the middle “SMART KEY” button on the PWM front panel. When the “SMART KEY” menu comes up, press the “Mode: Telemetry” button. The state should change to “Mode: Monitor”.

Next, the WLAN radio needs to be enabled. While in the “SMART KEY” menu screen, press the double down arrow in the lower right of the Touch screen display to display the next menu screen. Now press the “Op Mode” button which will bring up the “Op Mode” selection screen. Now press the “Service” button which will bring up an “Op Mode” window where the password

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3. Product Configuration

3.1. Operational Characteristics & Software (continued)

needs to be entered to change mode. The password, 4 6 3 0, shall be entered and then press the "Enter" button which will put the device into "Service" mode. Now press the "Wireless Setup" button, then press the "WLAN" button, then press the "WLAN Off" button, which will then change to read "WLAN On".

Now, the device is ready to be placed back into monitoring mode. To accomplish this, press the "X" in the "Service" screen, then press "X" in the Service screen again, then press "X" in the Service screen again. Now the "SMART KEY" window should be displayed. Press the "Op Mode" button which will bring up the "Op Mode" menu screen. Press the "Monitoring" button and the Patient Window should be displayed.

If it is not possible to enact change via the smart keys, press the middle "SMART KEY" button and then using the arrow on the right side of the "SMART KEY" screen scroll down and read the buttons to make sure the device is unlocked. If "Unlock" is displayed next to the "Op Mode" button, the device is locked. Press the "Unlock" button and it should now read "Lock". The menu keys should now work.

Simulator Setup:

Connect the MX40 PWM leadset to the Lionheart 2 according to color coding. Power on the Lionheart 2 simulator and press the "**Execute**" button. The Lionheart 2 comes up in ECG simulation at 80 bpm by default- it is also menu item "**34**". Connect the CTS network infrastructure and Philips Information Center hardware together as shown:

Central Station Setup:

Power on the CTS network infrastructure components. The Central station & Infrastructure will be pre-configured by R&D, such that on Power-up of the system the desired operation mode will be active displaying 3 ECG waveforms and an SpO2 waveform. Power on the M3150A PIC components. The Philips Information Center Central station software should load automatically within about 5 minutes. 3 patient windows should now have an ECG trace with a cardiotach reading of 80 bpm. SpO2 should also be displayed at 93% ±2%.

3.2. EUT Hardware

Blk Diag #	Manufacturer	Model/Part # / Options	Serial Number	Input Voltage	Freq (Hz)	Description/Function
1	Philips	865351/MX40	US11400397	3 V	DC	Patient Worn Monitor w/WLAN radio, PP3 build units

3.3. EUT Hardware/Software/Firmware Revision Level

EUT Model#	PCA#	Description	HW	SW	FW
MX40		PWM Main board	**Rev. 02**		A.00.33

3.4. EUT Cables/Transducers

Blk Diag Ltr	Manufacturer	Model/Part #	Length (m)	Shield Y/N	Description/Function
A	Philips	989803171871	0.8	Y	SpO2 connector/ECG leadset- 6 leads
B	Philips	M1191A	2	N	SpO2 patient transducer

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3. Product Configuration (continued)

3.5. Support Equipment

Diag Blk #	Manufacturer	Model/Part # Options	Serial Number	Input Voltage	Input Frq.	Description/Function
2	Cisco	AIR AP1242AG-A-K9	FTX1050B5RU	48	DC	WLAN Access Point
		EADP-18FB B	DTH1213VF5E	100-240	50-60	AC Adapter for Access Point
3	Philips	M3154B	2UA610JXJK	100-240	50-60	InbteilliVue Information Center
4	Philips	LE1708	14AP1727A00	100-240	50-60	Display
5	Philips	865024/M8105A	DE74808392	100-240	50-60	MP5 Patient Bedside Monitor

3.6. Support Equipment Cables/Transducers

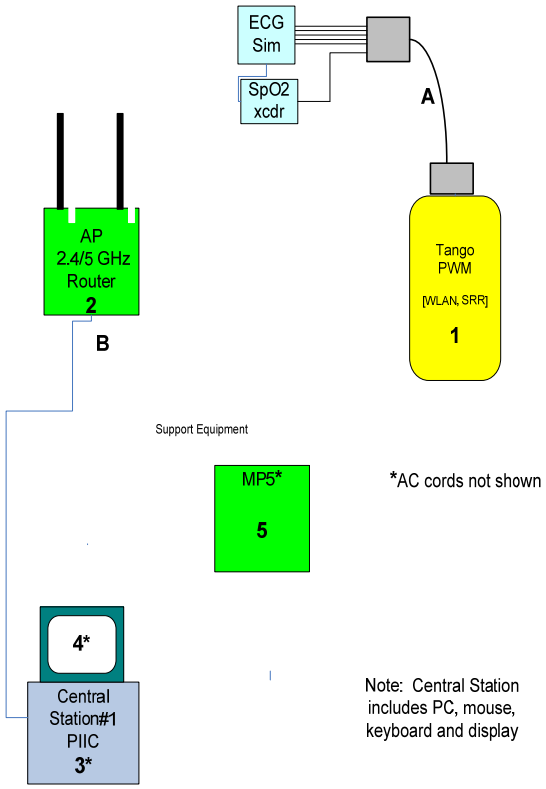
Blk Diag Ltr	Manufacturer	Model/Part #	Length (m)	Shield Y/N	Description/Function
C	NA	**NA**	Various	N	Cat 5 LAN cable

3.7. Miscellaneous

Manufacturer	Model/Part #	Description/Function
Duracell	NA	AA batteries

3.8. Block Diagram

Fig.1 Tango EMC Testing



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4. Measurements Parameters

4.1. Measurement Equipment Used to Perform Tests

Device	Manufacturer	Model No.	Serial No.	Cal Due
Spectrum Analyzer	Rohde & Schwarz	FSV40	100899	5/26/2013
Signal Generator	Rohde & Schwarz	SMBV100A	257046	12/14/2013
Power Splitter 2 Way	Mini-Circuits	ZAPD-50W-N	N774800804	CBU
Power Splitter 4 Way	Mini-Circuits	ZB4PD1-5.8-N+	N5938-1151	CBU
30 dB Pads (3)	Narda Microwave	AF-N-6-5-30	DC0639	CBU
Horn Antenna	Electro-Metrics	EM-6961	6337	10/19/2012
Horn Antenna	Com-Power	AH-826	081051	6/30/2012
Directional Coupler	Narda Microwave	3004-10	70902	CBU
Digital Barometer	Extech	SD700	Q590483	11/21/2012

4.2. Measurement & Equipment Setup

Test Dates: Feb. 16, 2012 to Feb. 17, 2012

Test Engineer: Larry Stillings

Normal Site Temperature (15 - 35°C): 21.7

Relative Humidity (20 -75%RH): 33%

4.3. Measurement Procedures

Test measurements were made in accordance FCC Part 15.407, IC RSS-210, Issue 8 Annex 9: Operation of license-exempt local area network (LE-LAN) devices in the bands 5150-5250 MHz, 5250-5350 MHz, 5470-5600 MHz, 5650-5725 MHz and 5725-5825 MHz.

The test procedures detailed in the Federal Communications Commission, Office of Engineering and Technology DA-06-96A1 - Compliance Measurement Procedures for Unlicensed-National Information Infrastructure (U-NII) Devices Operating in the 5250-5350 MHz and 5470-5725 MHz Bands Incorporating Dynamic Frequency Selection, were used to generate the data in this test report.

FCC KDB 848637 U-NII Client Devices without Radar Detection dated May 20, 2011; What additional Form 731 filing information, not specified in Section 8 (DFS Test Report Guidelines) in MO&O FCC 06-96 (DFS Order), is required in order for a DFS device to be approved as a UNII client device without radar detection capability operating in the 5.25 - 5.35 GHz and 5.45 - 5.725 GHz bands?

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4. Measurements Parameters

4.4. Measurement Uncertainty

The following uncertainties are expressed for an expansion/coverage factor of K=2.

RF Frequency	$\pm$ 1x10^{-8}
Radiated Emission of Transmitter	$\pm$ 4.55 dB
Radiated Emission of Receiver	$\pm$ 4.55 dB
Temperature	$\pm$ 0.91^{o} C
Humidity	$\pm$ 5%

5. Choice of Equipment for Test Suits

5.1 Choice of Model

This test report is based on the test samples supplied by the manufacturer and are reported by the manufacturer to be equivalent to the production units.

5.2 Presentation

This test sample was tested complete with all required ancillary equipment. Refer to Section 3 of this report for product equipment configuration.

5.3 Choice of Operating Frequencies

The MX40 Patient Worn Monitor 802.11a transmitter, as tested, operates on 20 channels, from channel 36 to channel 161. Channels that require DFS are 52 to 64 and 100 to 140, excluding channels 120 to 128.

802.11a

Frequency Band	Channel	Frequency (MHz)	Status
U-NII 2	52	5260	Tested
	56	5280	Tested
	60	5300	Tested
	64	5320	Tested

U-NII 2 Extended	100	5500	Tested
	104	5520	Tested
	108	5540	Tested
	112	5560	Tested
	116	5580	Tested
	120	5600	Disabled
	124	5620	Disabled
	128	5640	Disabled
	132	5660	Tested
	136	5680	Tested
	140	5700	Tested

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5. Choice of Equipment for Test Suits (continued)

5.4 Operating Specifications

Data Modulation	BPSK, QPSK, 16-QAM, 64-QAM (OFDM)
Data Rate (Mbps)	OFDM (6/9/12/18/24/36/48/54)
DFS Function	5250 to 5320 MHz; 5500 to 5700 MHz (excluding 5600 to 5650 MHz)
Operating Mode	Client without radar detection function
Power-on cycle	NA (No channel availability check function)
MAC Address	00:09:FB:66:10:12

5.5 Test Setup Operation

System testing was performed with the designated MPEG test file “6 ½ Magic Hours” that streams full motion video from the Access Point to the Client in full motion video mode using the media player with the V2.61 Codec package. This file is used by IP based systems for loading the test channel during the In-service compliance testing of the U-NII device.

The waveform parameters from with the bounds of the signal type are selected randomly using uniform distribution.

A spectrum analyzer is used as a monitor to verify that the EUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel Move).

5.6 Support Equipment and Software

Rohde & Schwarz DFS Analysis Tool Dynamic Frequency Selection in the 5 GHz Band, Application Note 1EF59_1E.

Rohde & Schwarz Pulse Sequencer Software, DFS Signal Generation, V3.5

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6. Measurement Summary

Test Requirement	FCC Part 15.407 Reference	IC RSS 210 Reference	Test Report Section	Result	Comment
Operational Modes and Required Tests	FCC 06-96A1 5.1	See FCC	7.1	Compliant	
DFS Detection Thresholds and Radar Test Waveforms	FCC 06-96A1 5.2 & 5.3	See FCC	7.2	Compliant	
Short Pulse Radar Waveforms	FCC 06-96A1 6.1	See FCC	7.3	Compliant	
Long Pulse Radar Waveforms	FCC 06-96A1 6.2	See FCC	7.4	Compliant	
Frequency Hopping Radar Test Waveform	FCC 06-96A1 6.3	See FCC	7.5	Compliant	
Conducted Calibration Setup	FCC 06-96A1 7.2	See FCC	7.6	Compliant	
Radiated Calibration Setup	FCC 06-96A1 7.3	See FCC	7.7	Compliant	
Test Results, Radar Waveform Calibrations	FCC 06-96A1 7.4	A9.3 (a)	7.8	Compliant	
Test Results, In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement	FCC 06-96A1 7.8	A9.3 (b)	7.9	Compliant	

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7. Measurement Data

7.1. Operational Modes and Required Tests

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

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7. Measurement Data (continued)

7.2. DFS Detection Thresholds and Radar Test Waveforms

7.2.1 DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value (See Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	

A Cisco 1242A AP (FCC: LDK102056, IC: 2461B-102055, SN: FTX1011B1FR, MAC Address 00:17:59:22:EA:20) is used as a master for the DFS testing.

The AP supports a 20 MHz bandwidth mode.

The Radar Detection Threshold is determined by the lowest antenna gain.

The original FCC test report used an antenna gain of 0 dBi and therefore a detection threshold of -63 dBm (-64 dBm + 1 dB) was used for this testing, as the client has no ability to detect radar.

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7. Measurement Data (continued)

7.2. DFS Detection Thresholds and Radar Test Waveforms

7.2.2 DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 80% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the *Burst*.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar *Burst* generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the *Radar Waveform*.

Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.2.3 Radar Test Waveforms Minimum Step

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

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7. Measurement Data (continued)

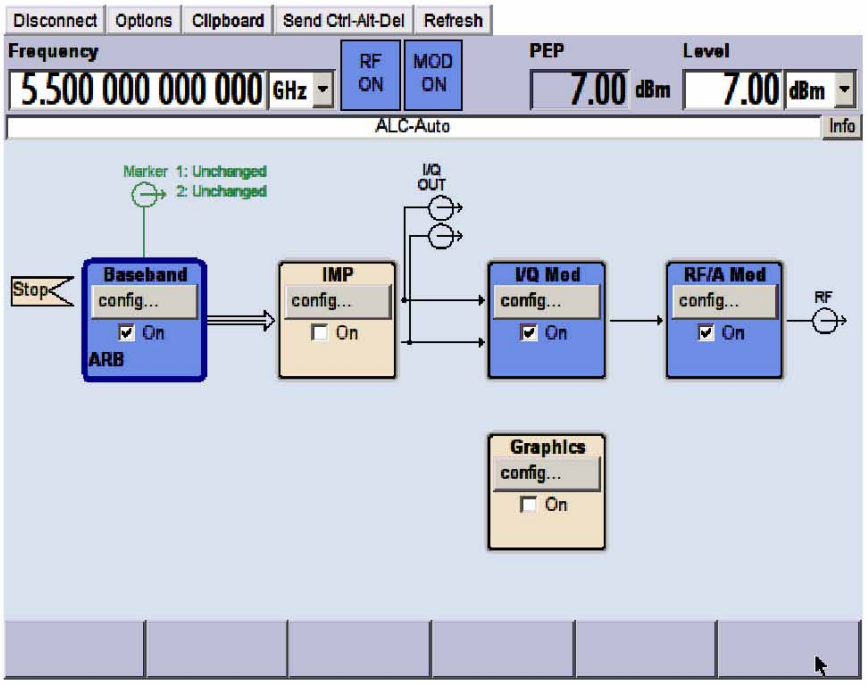
7.3. Short Pulse Radar Test Waveforms

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. For Short Pulse Radar Type 1, the same waveform is used a minimum of 30 times. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.

The aggregate is the average of the percentage of successful detections of Short Pulse Radar Types 1-4.



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7. Measurement Data (continued)

7.4. Long Pulse Radar Waveforms

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per *Burst*	Number of *Bursts*	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Each waveform is defined as follows:

1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
2) There are a total of 8 to 20 *Bursts* in the 12 second period, with the number of *Bursts* being randomly chosen. This number is *Burst_Count*.
3) Each *Burst* consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each *Burst* within the 12 second sequence may have a different number of pulses.
4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a *Burst* will have the same pulse width. Pulses in different *Bursts* may have different pulse widths.
5) Each pulse has a linear frequency modulated chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a *Burst* will have the same chirp width. Pulses in different *Bursts* may have different chirp widths. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.
6) If more than one pulse is present in a *Burst*, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a *Burst*, the random time interval between the first and second pulses is chosen independently of the random time interval between the second and third pulses.
7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to *Burst_Count*. Each interval is of length (12,000,000 / *Burst_Count*) microseconds. Each interval contains one *Burst*. The start time for the *Burst*, relative to the beginning of the interval, is between 1 and [(12,000,000 / *Burst_Count*) – (Total *Burst* Length) + (One Random PRI Interval)] microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each *Burst* is chosen randomly.

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7. Measurement Data (continued)

7.4. Long Pulse Radar Waveform (continued)

A representative example of a Long Pulse Radar Type waveform:

1) The total test waveform length is 12 seconds.
2) Eight (8) *Bursts* are randomly generated for the *Burst_Count*.
3) *Burst* 1 has 2 randomly generated pulses.
4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
5) The PRI is randomly selected to be at 1213 microseconds.
6) *Bursts* 2 through 8 are generated using steps 3 – 5.
7) Each *Burst* is contained in even intervals of 1,500,000 microseconds. The starting location for Pulse 1, *Burst* 1 is randomly generated (1 to 1,500,000 minus the total *Burst* 1 length + 1 random PRI interval) at the 325,001 microsecond step. *Bursts* 2 through 8 randomly fall in successive 1,500,000 microsecond intervals (i.e. *Burst* 2 falls in the 1,500,001 – 3,000,000 microsecond range).

Figure 1 provides a graphical representation of the Long Pulse Radar Test Waveform.

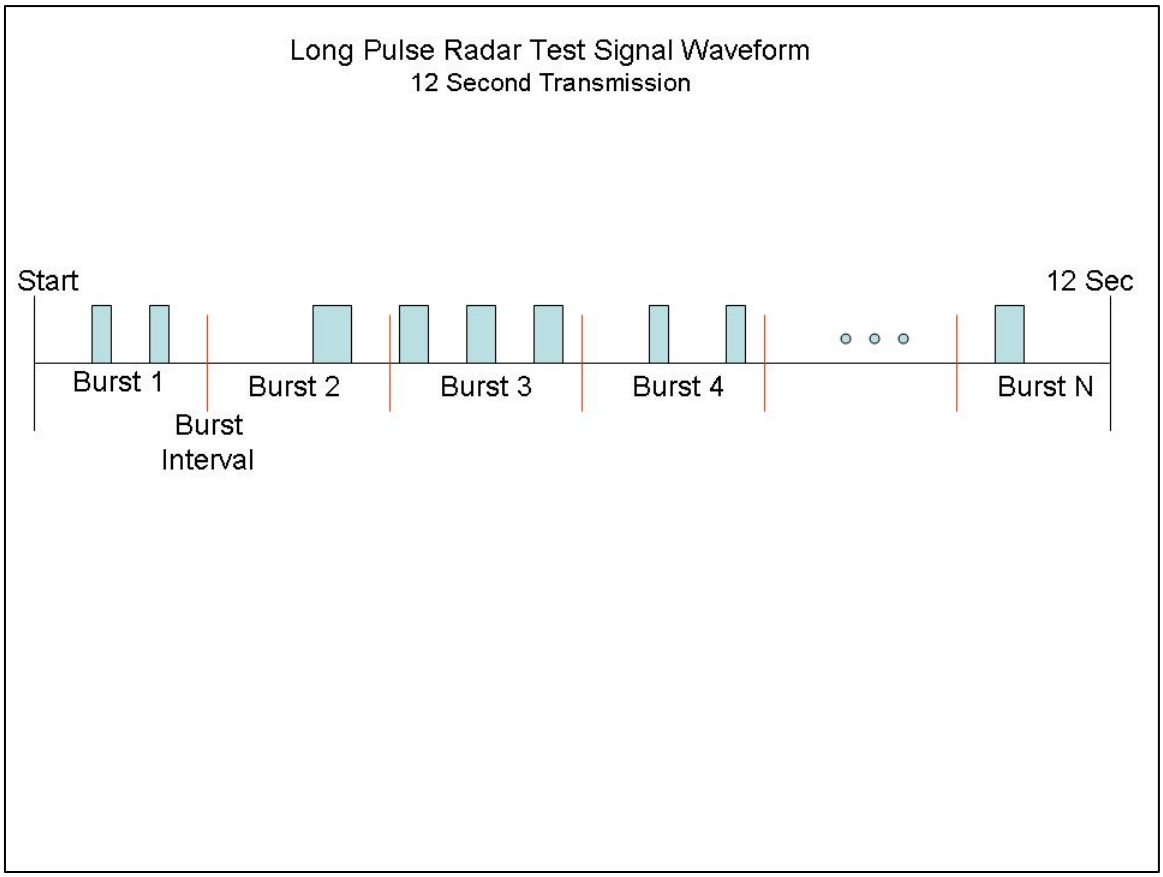

Figure 1: Graphical Representation of a Long Pulse Radar Type Waveform

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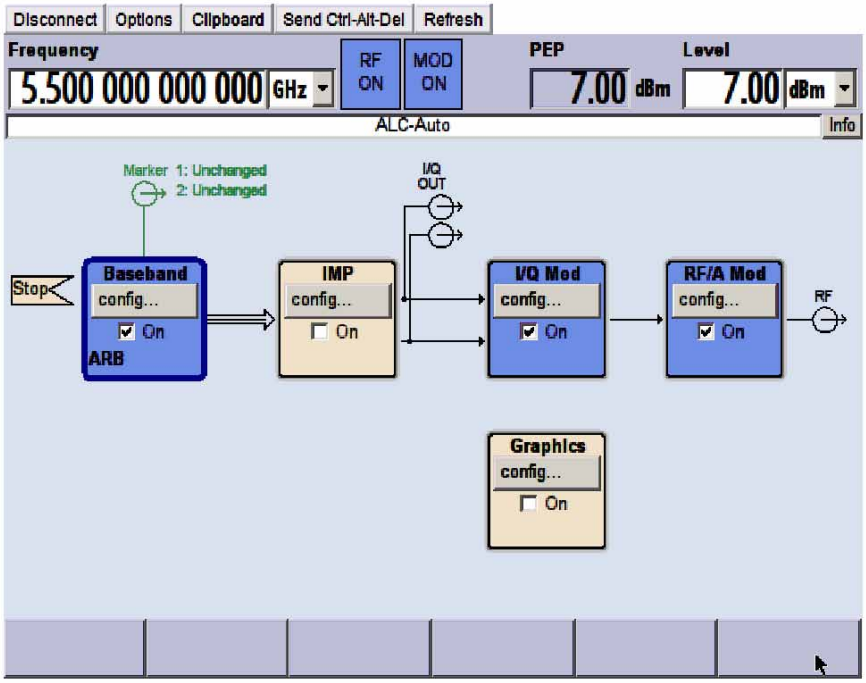
7. Measurement Data (continued)

7.4. Long Pulse Radar Waveform (continued)



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7. Measurement Data (continued)

7.5. Frequency Hopping Radar Test Waveform

Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same *Burst* parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm: [1]

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

[1] If a segment does not contain at least 1 frequency within the *U-NII Detection Bandwidth* of the UUT, then that segment is not used.

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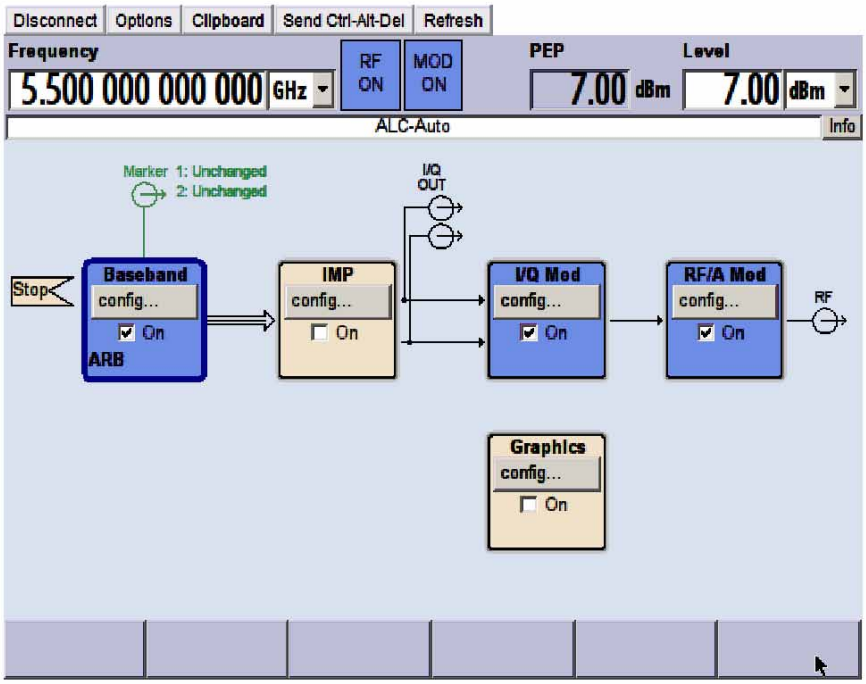
7. Measurement Data (continued)

7.5. Frequency Hopping Radar Test Waveform (cont)



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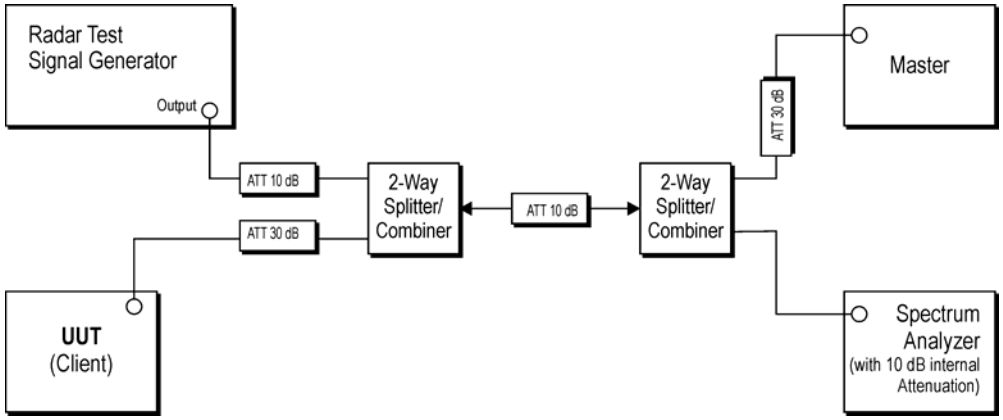
7. Measurement Data (continued)

7.6. Conducted Calibration Setup

7.6.1 Test Setup Diagram



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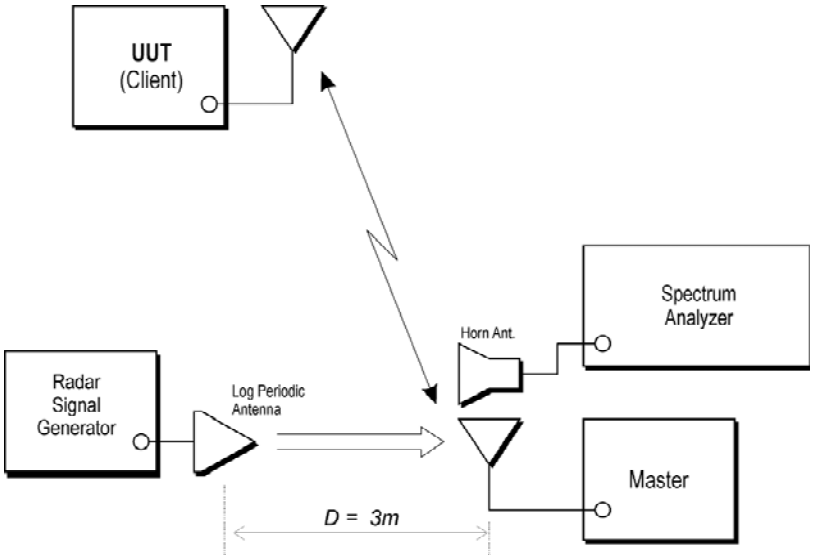
7. Measurement Data (continued)

7.7. Radiated Calibration Setup

7.7.1 Client with injection at the Master



Example Radiated Setup where UUT is a Client and Radar Test Waveforms are injected into the Master

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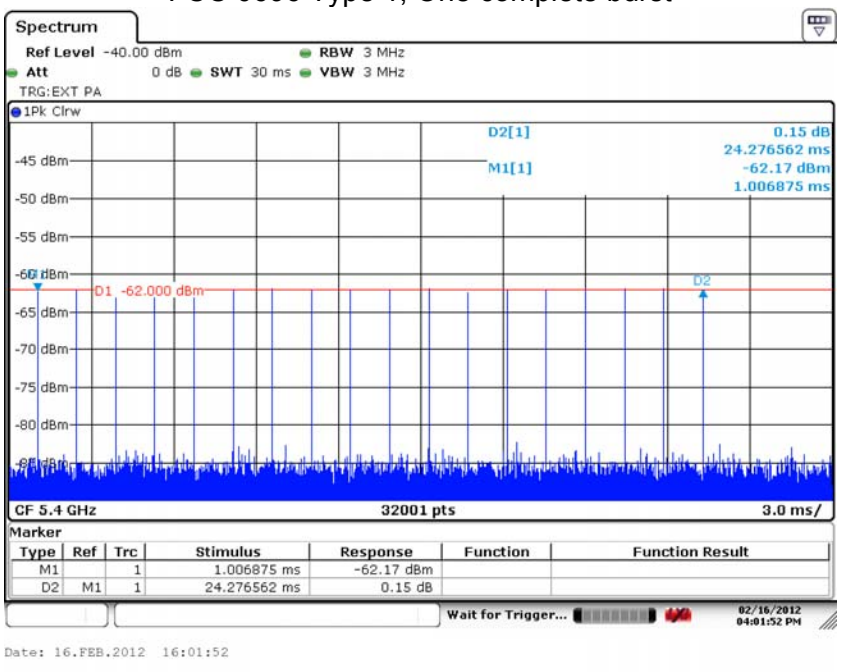
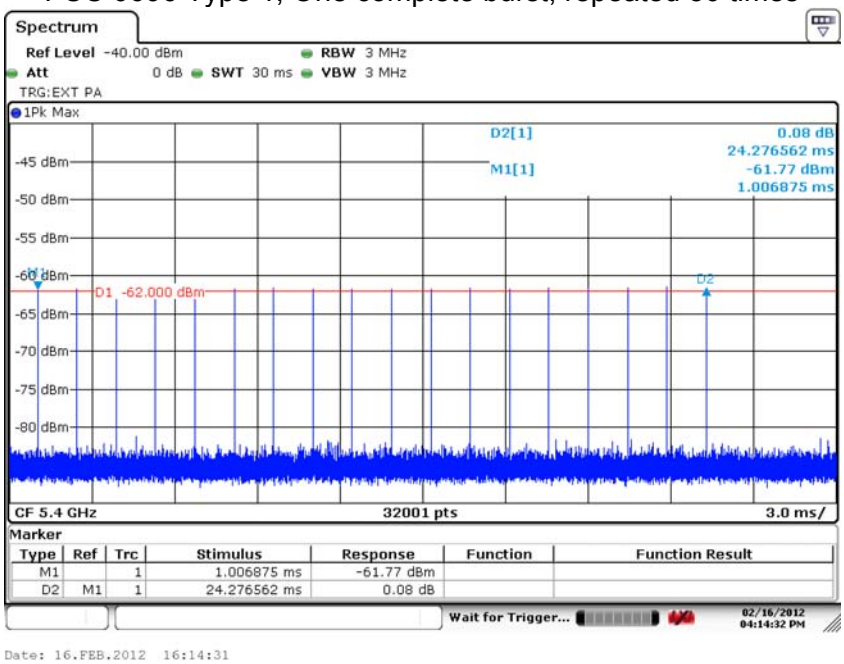
7. Measurement Data (continued)

7.8. Test Results – Radar Waveform Calibrations

FCC 0696 Type 1, One complete burst



FCC 0696 Type 1, One complete burst, repeated 50 times



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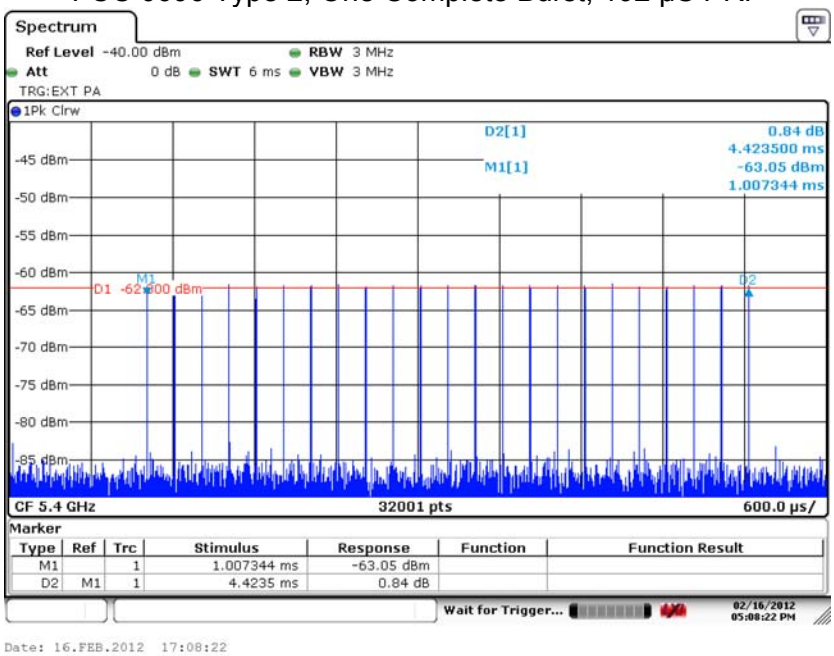
7. Measurement Data (continued)

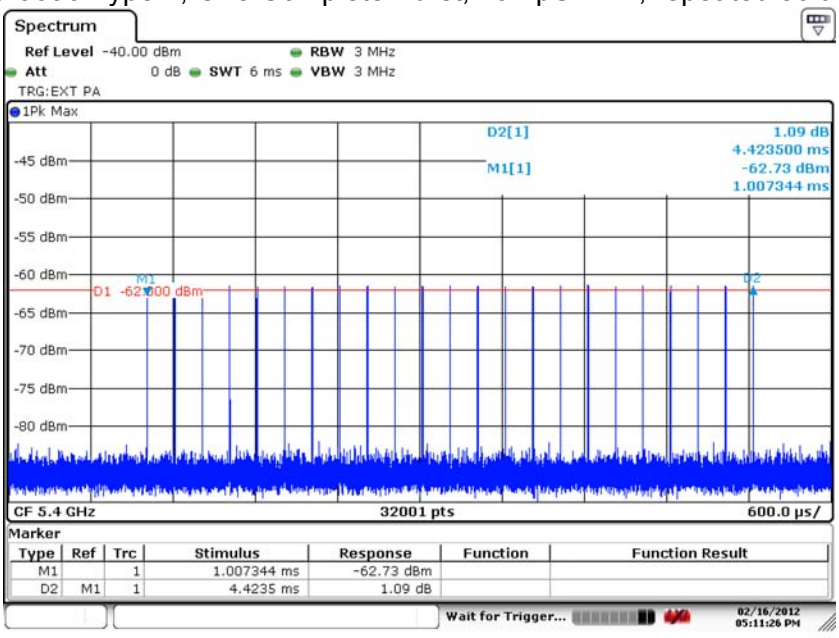
7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 2, One Complete Burst, 192 µS PRF



Date: 16.FEB.2012 17:08:22

FCC 0696 Type 2, One Complete Burst, 192 µS PRF, repeated 50 times



Date: 16.FEB.2012 17:11:25

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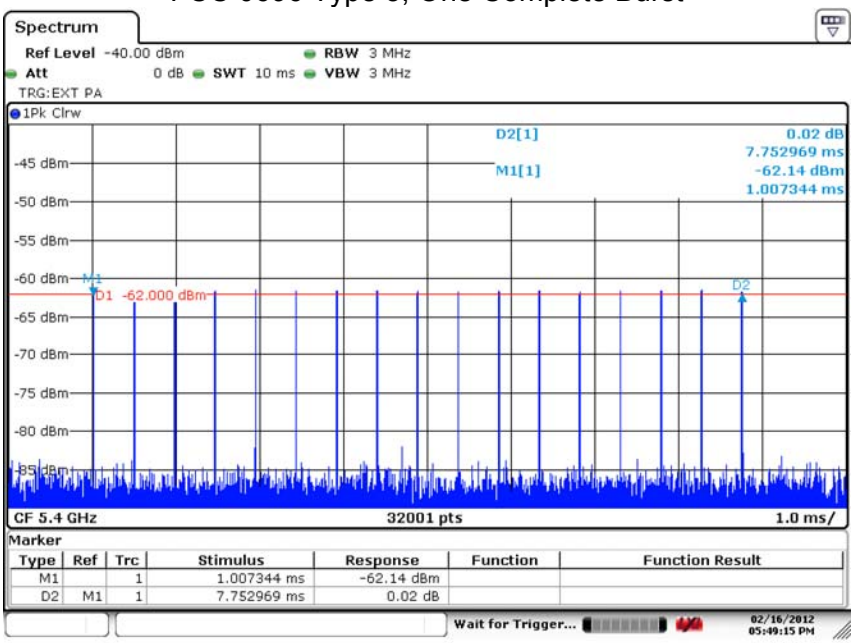
7. Measurement Data (continued)

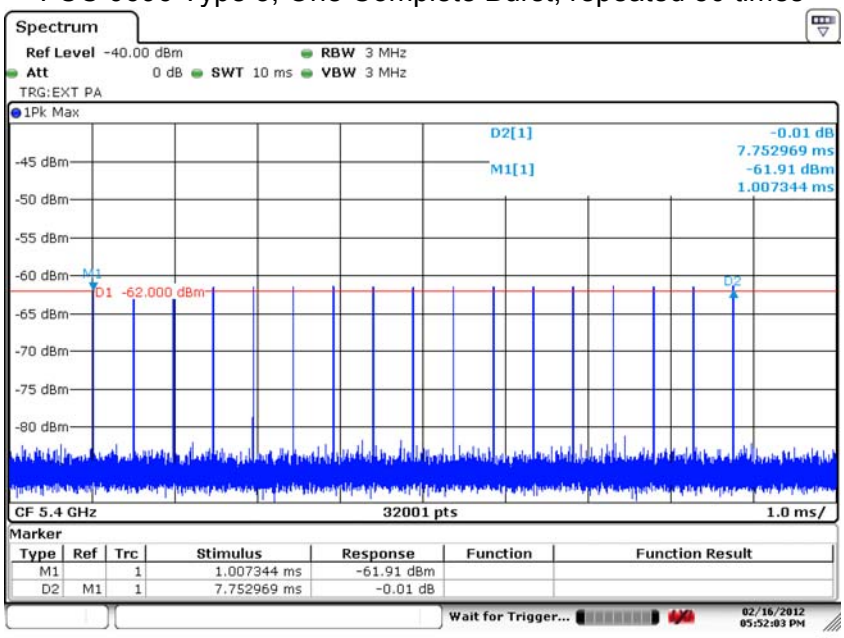
7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 3, One Complete Burst



Date: 16.FEB.2012 17:49:14

FCC 0696 Type 3, One Complete Burst, repeated 50 times



Date: 16.FEB.2012 17:52:02

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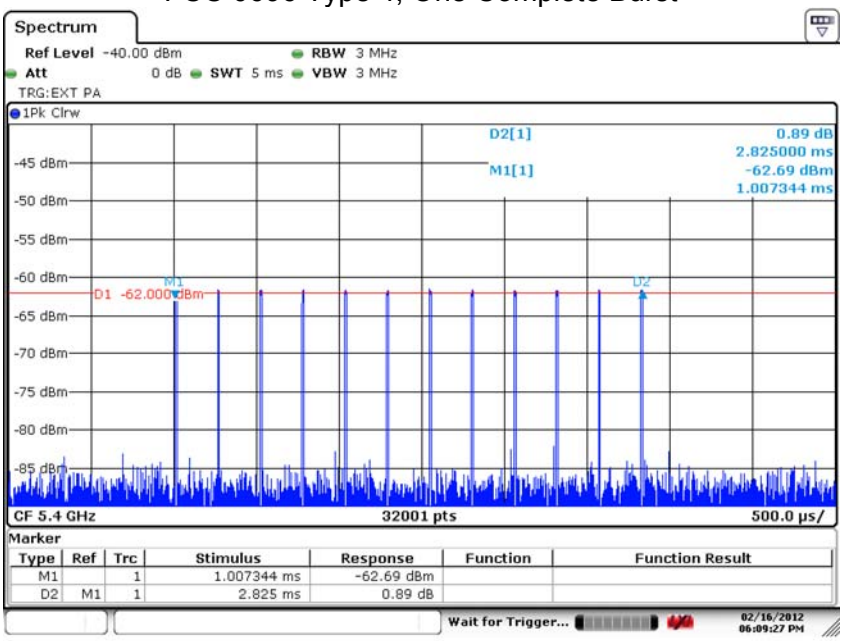
7. Measurement Data (continued)

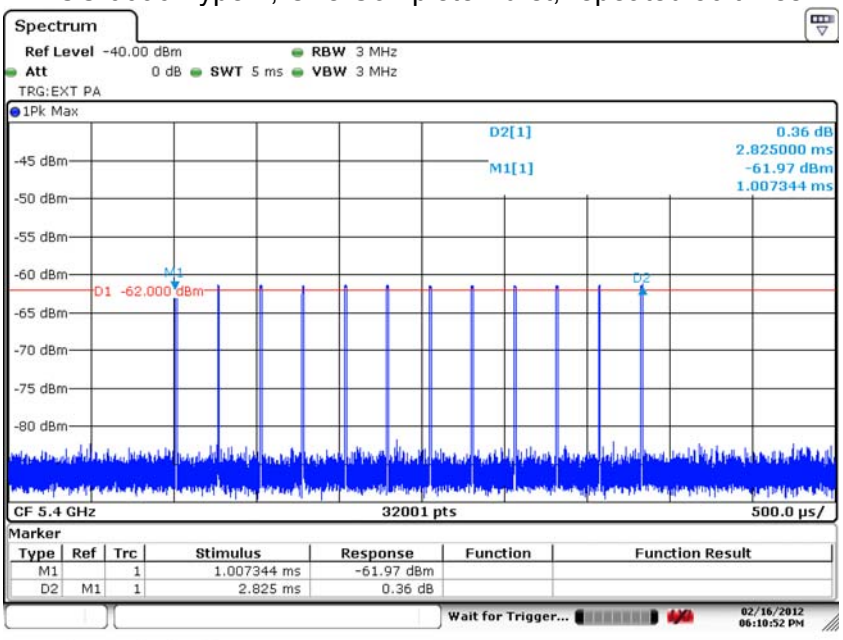
7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 4, One Complete Burst



Date: 16.FEB.2012 18:09:26

FCC 0696 Type 4, One Complete Burst, repeated 50 times



Date: 16.FEB.2012 18:10:51

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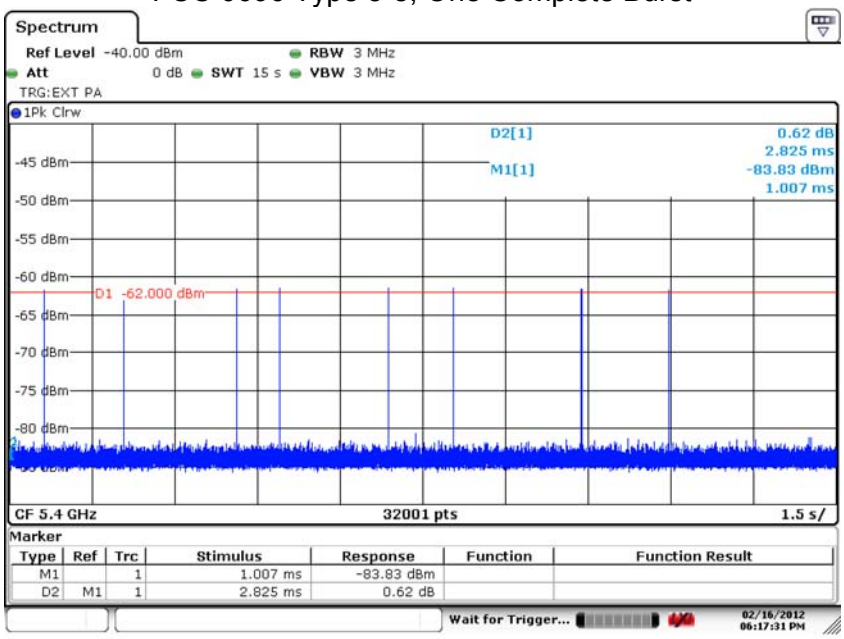
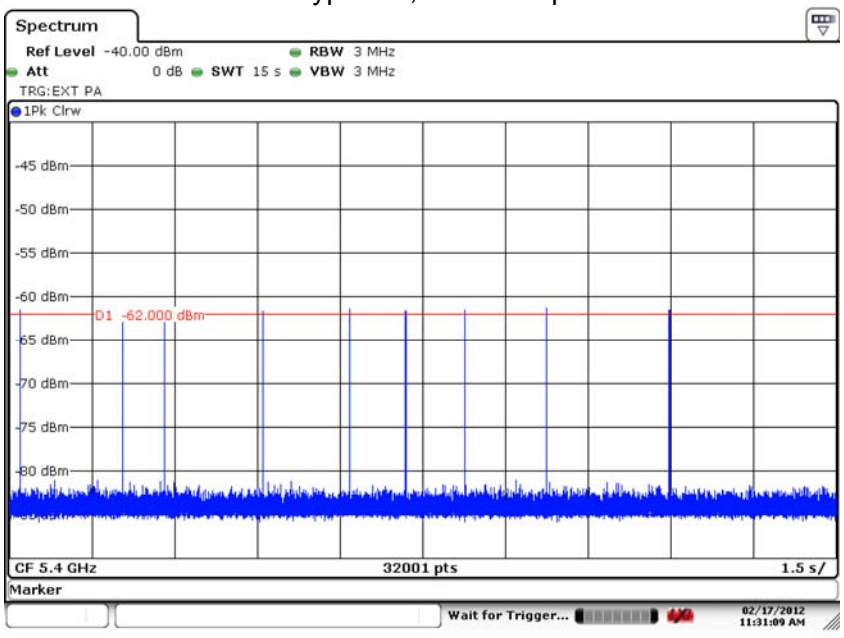
7. Measurement Data (continued)

7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 5-8, One Complete Burst



FCC 0696 Type 5-9, One Complete Burst



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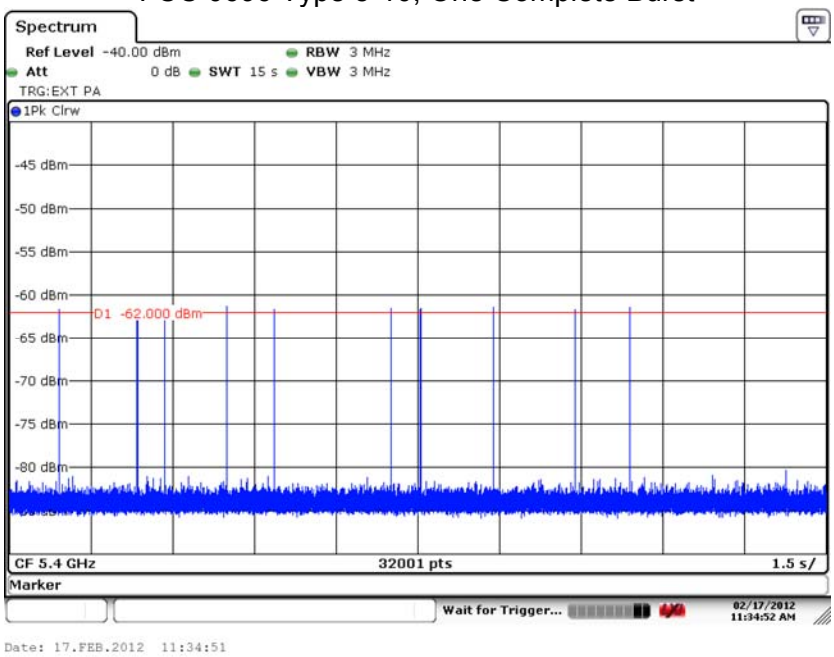
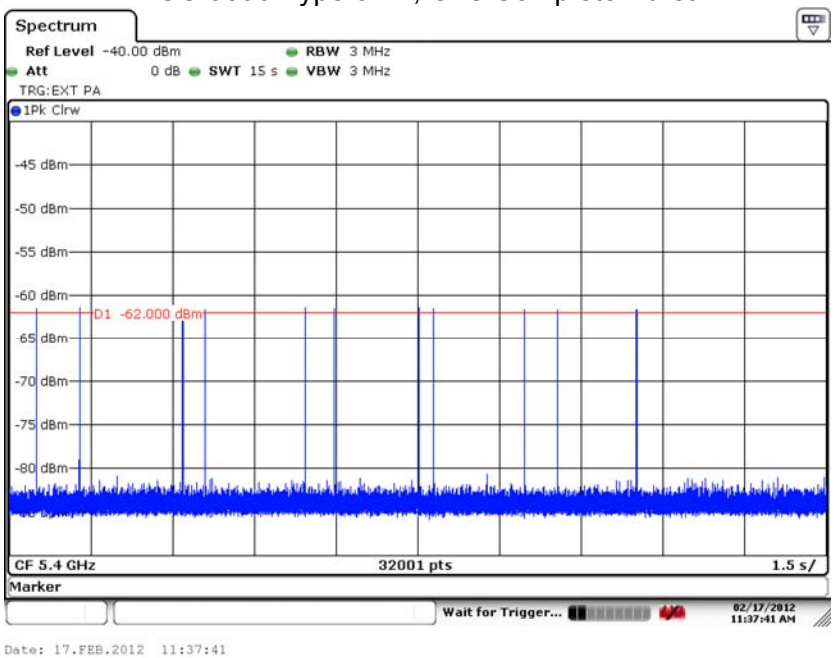
7. Measurement Data (continued)

7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 5-10, One Complete Burst



FCC 0696 Type 5-11, One Complete Burst



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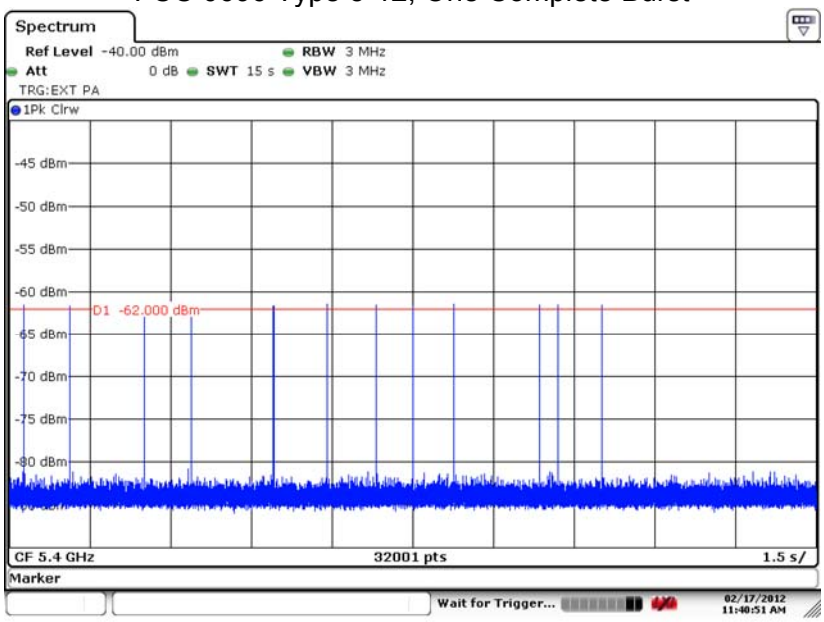
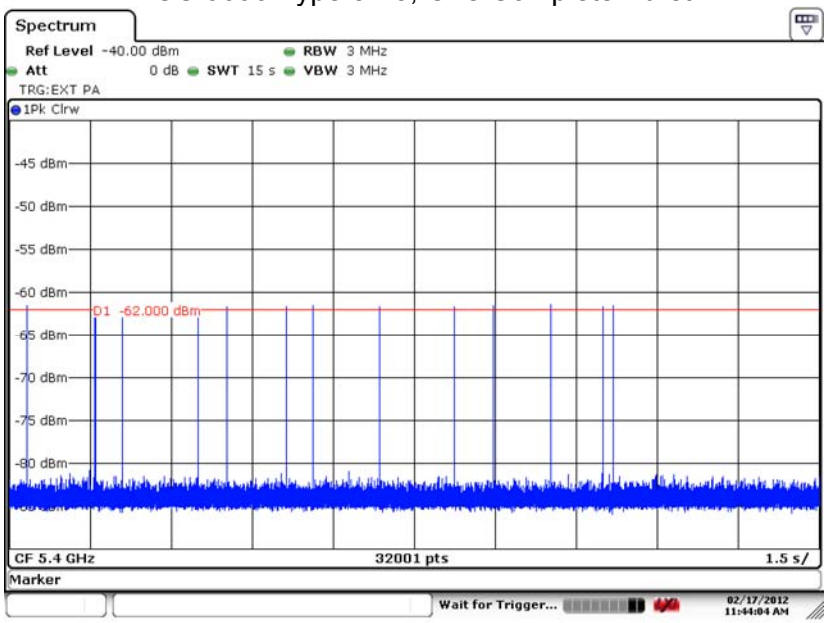
7. Measurement Data (continued)

7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 5-12, One Complete Burst



FCC 0696 Type 5-13, One Complete Burst



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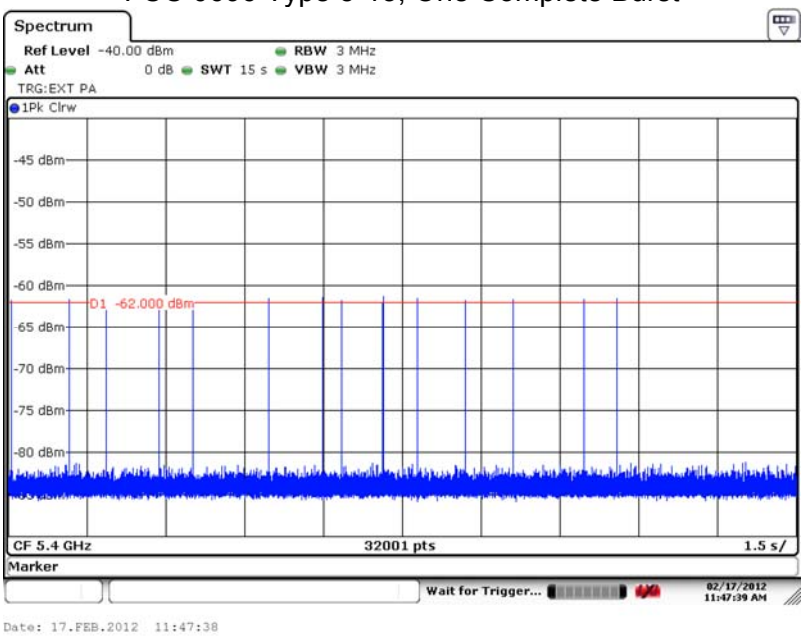
7. Measurement Data (continued)

7.8. Test Results – Radar Waveform Calibrations (continued)

FCC 0696 Type 5-13, One Complete Burst



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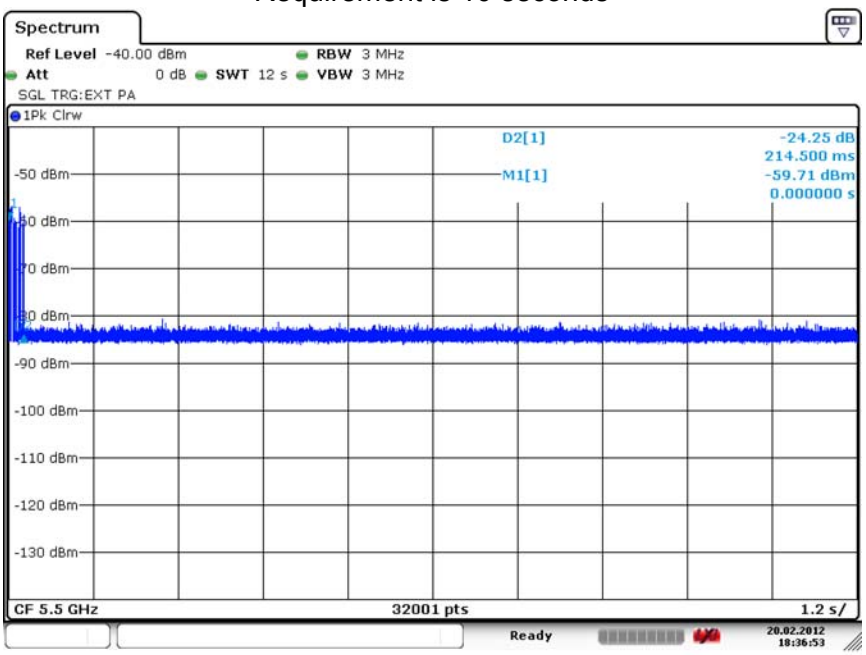
7. Measurement Data (continued)

7.9. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement

Philips MX40 – Channel Move Time – 5500 MHz – 214.5 mS
Requirement is 10 seconds



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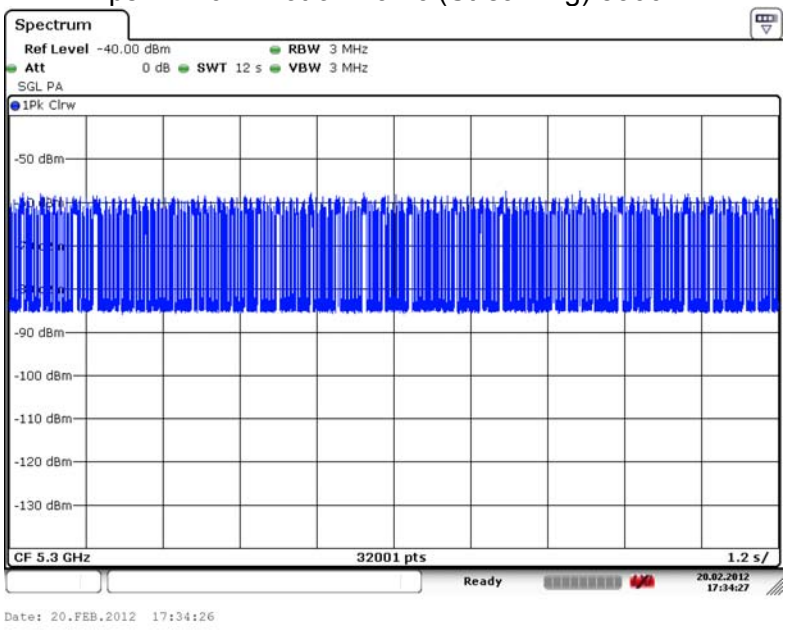
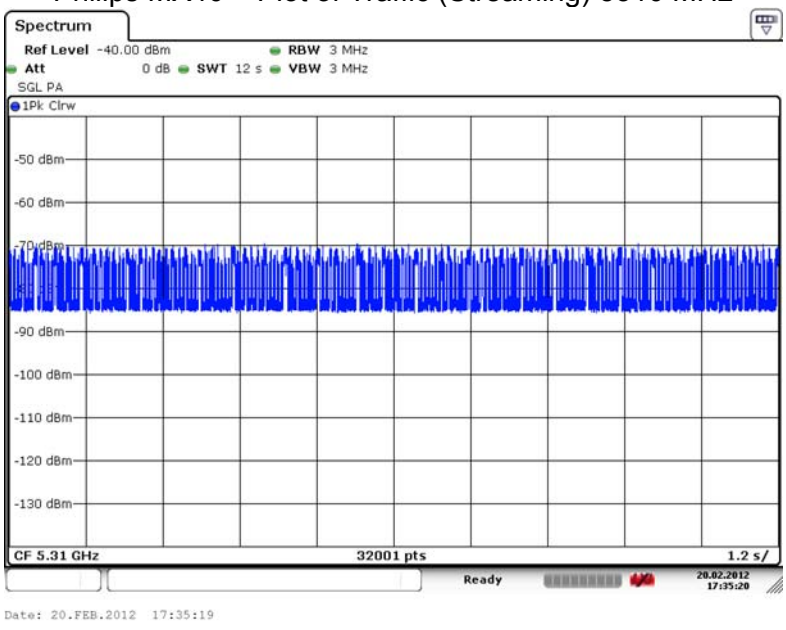
7. Measurement Data (continued)

7.9. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement (continued)

Philips MX40 – Plot of Traffic (Streaming) 5300 MHz



Philips MX40 – Plot of Traffic (Streaming) 5310 MHz



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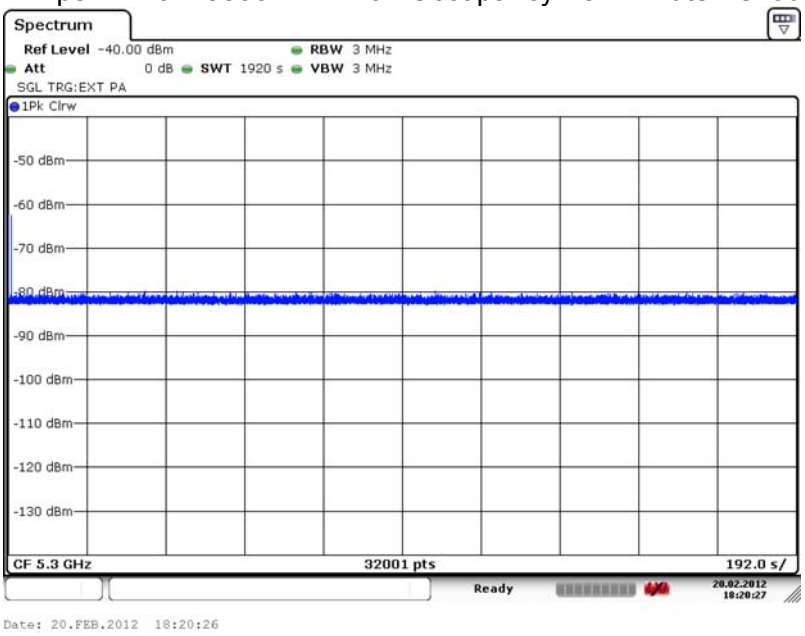
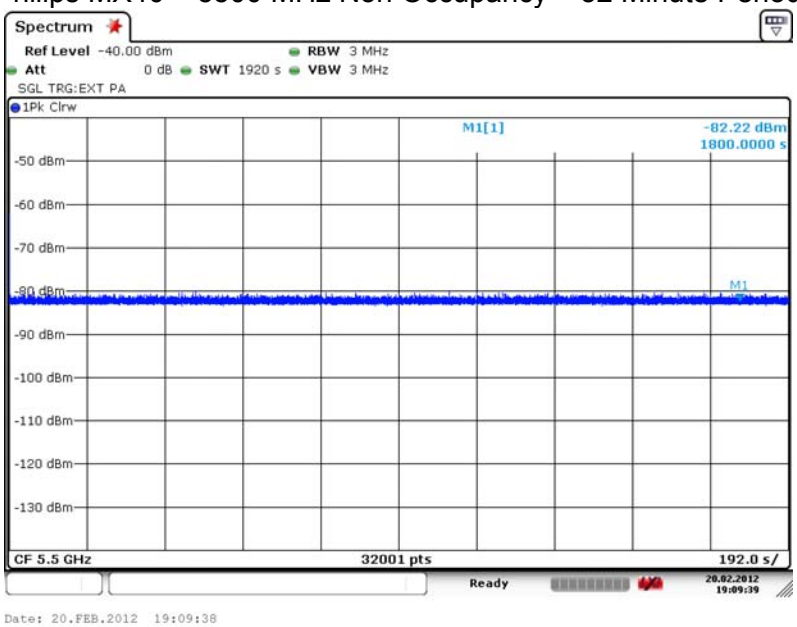
7. Measurement Data (continued)

7.9. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement (continued)

Philips MX40 – 5300 MHz Non Occupancy - 32 Minute Period



Philips MX40 – 5500 MHz Non Occupancy – 32 Minute Period



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8. Test Setup Photographs

8.1 Conducted Measurement Setup

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9. Test Site Description

Compliance Worldwide is located at 357 Main Street in Sandown, New Hampshire. The test sites at Compliance Worldwide are used for conducted and radiated emissions testing in accordance with Federal Communications Commission (FCC) and Industry Canada standards. A description of the test sites is on file with the FCC (registration number **96392**) and Industry Canada (file number **IC 3023)**.

The radiated emissions test site is a 3 and 10 meter enclosed open area test site (OATS). Personnel, support equipment and test equipment are located in the basement beneath the OATS ground plane.

The conducted emissions site is part of a 16' x 20' x 12' ferrite tile chamber and uses one of the walls for the vertical ground plane required by EN 55022.

Both sites are designed to test products or systems 1.5 meter W x 1.5 meter L x 2.0 meter H, floor standing or table top.

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