

5. Peak Excursion

5.1. Test Equipment

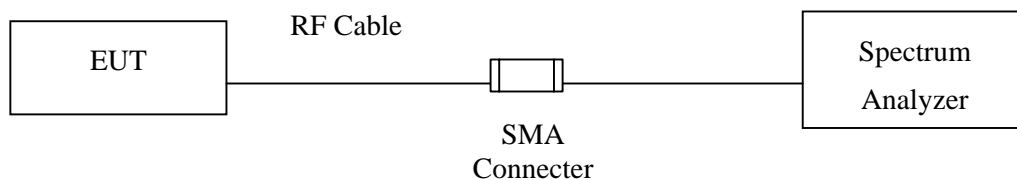
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2009

Note: 1. All equipments are calibrated every one year.
2. The test instruments marked by “X” are used to measure the final test results.

5.2. Test Setup

Conduction Power Measurement



5.3. Limits

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

5.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

5.5. Uncertainty

± 1.27 dB

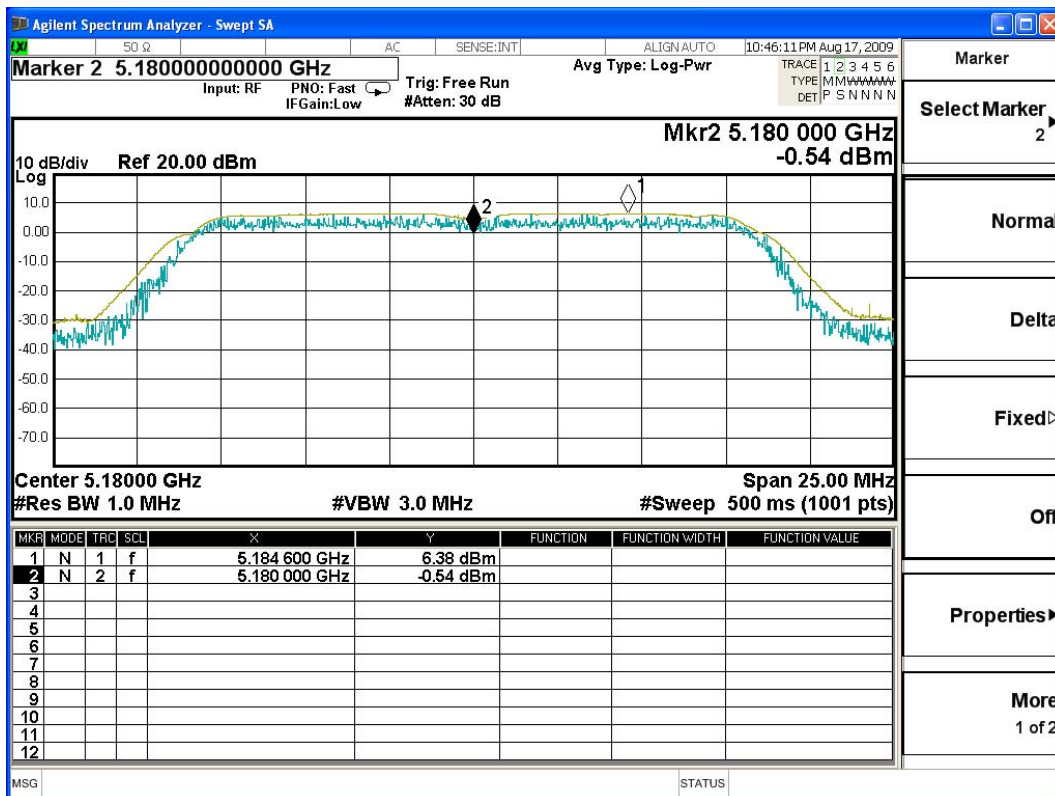
5.6. Test Result of Peak Excursion

Product : Portable Data Collection Terminal
 Test Item : Peak Excursion
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (802.11a-6Mbps)

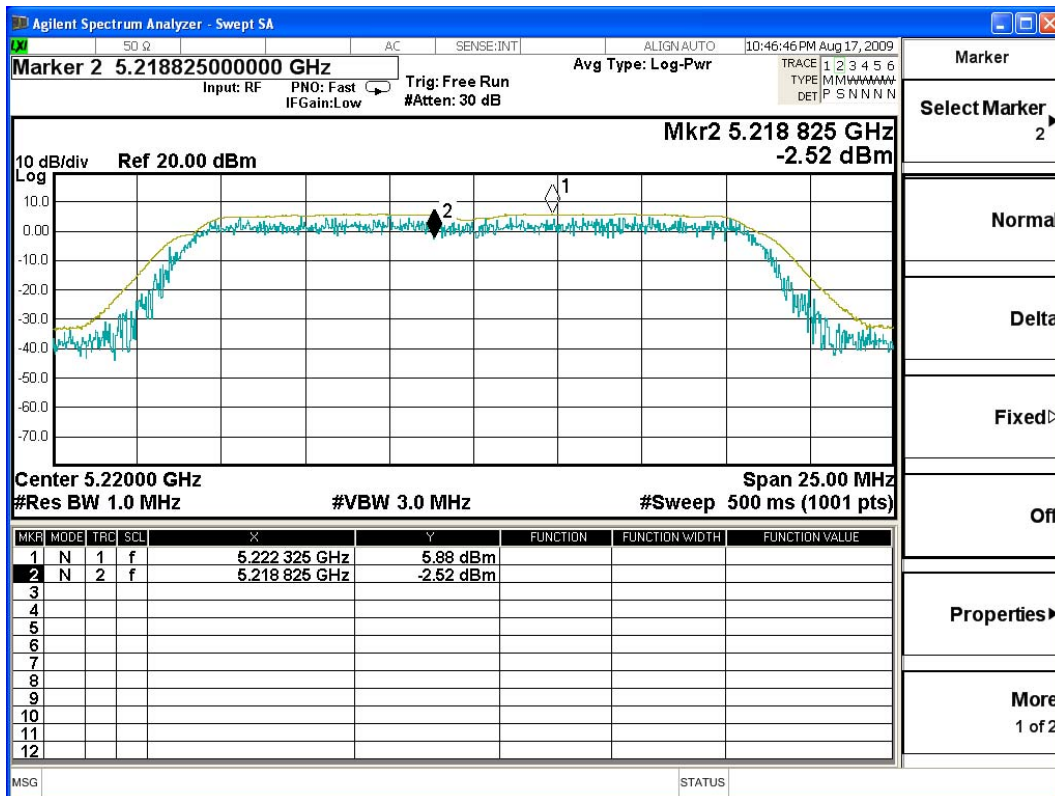
Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
36	5180	6.92	<13	Pass
44	5220	8.40	<13	Pass
48	5240	8.54	<13	Pass
52	5260	10.10	<13	Pass
60	5300	9.37	<13	Pass
64	5320	11.15	<13	Pass

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
100	5500	9.27	<13	Pass
120	5600	9.76	<13	Pass
140	5700	6.59	<13	Pass

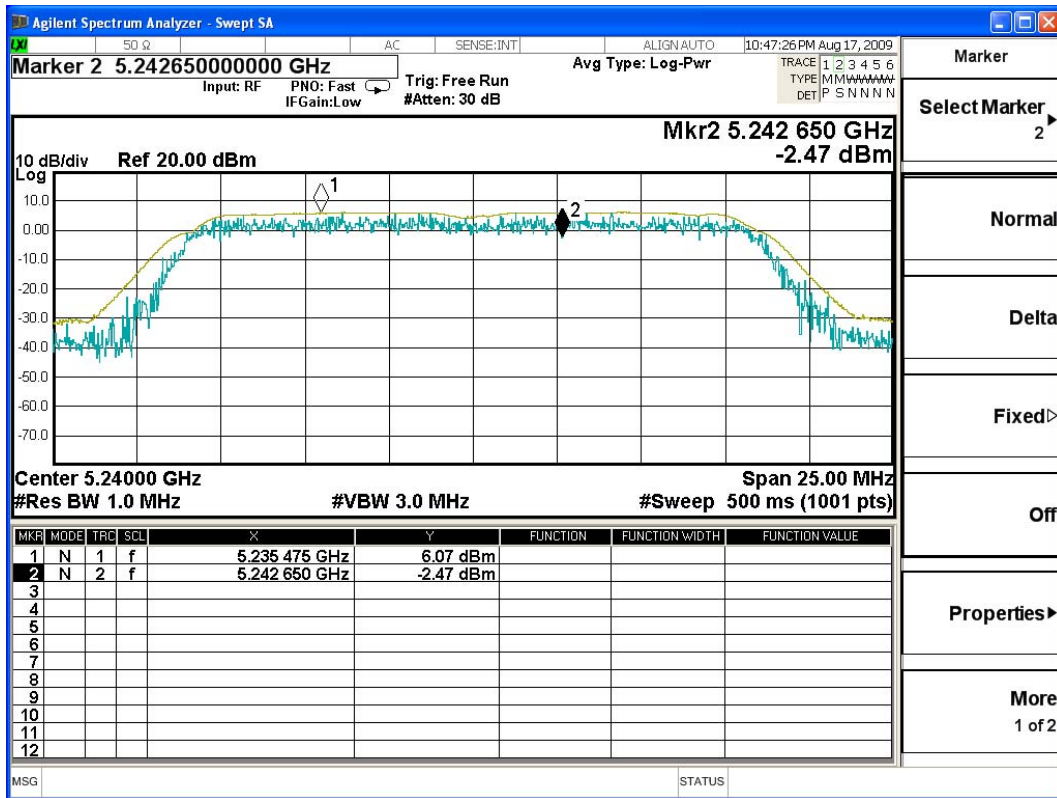
Channel 36:



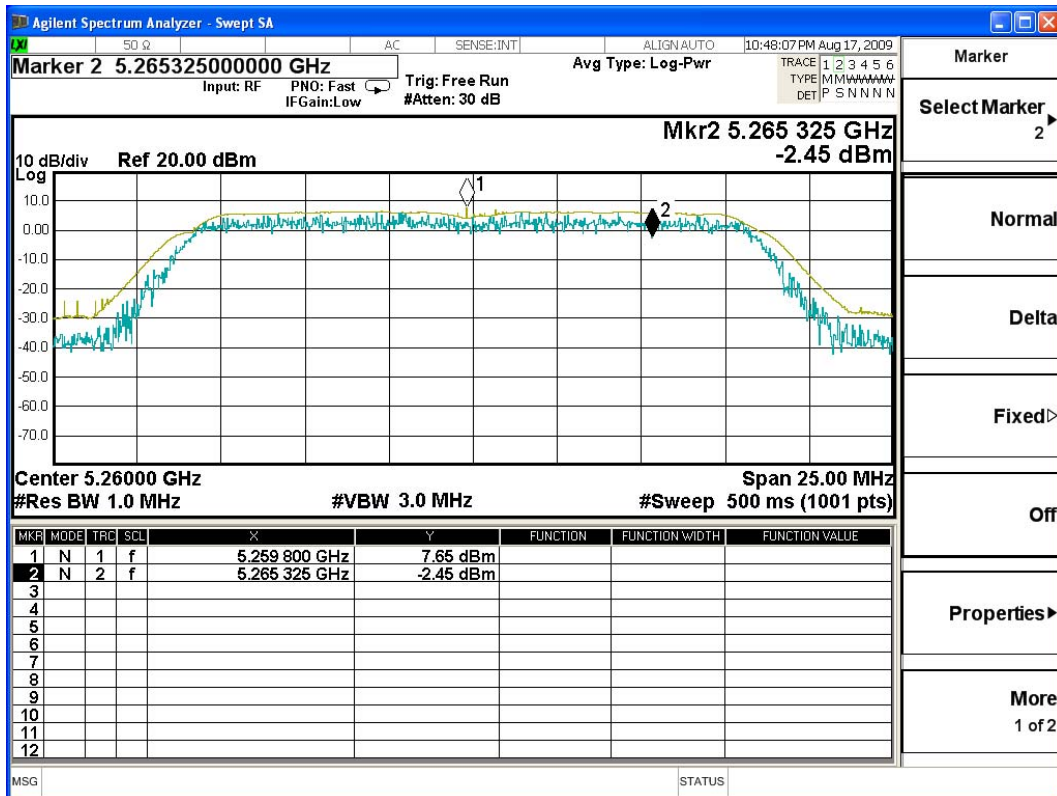
Channel 44:



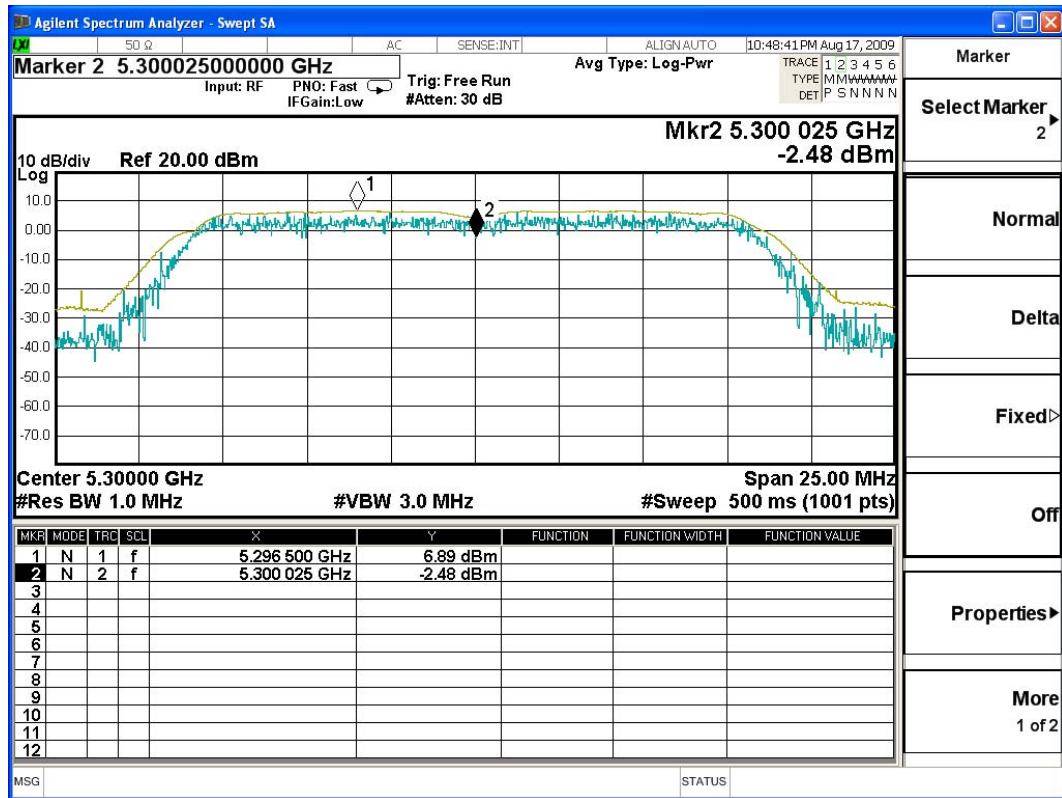
Channel 48:



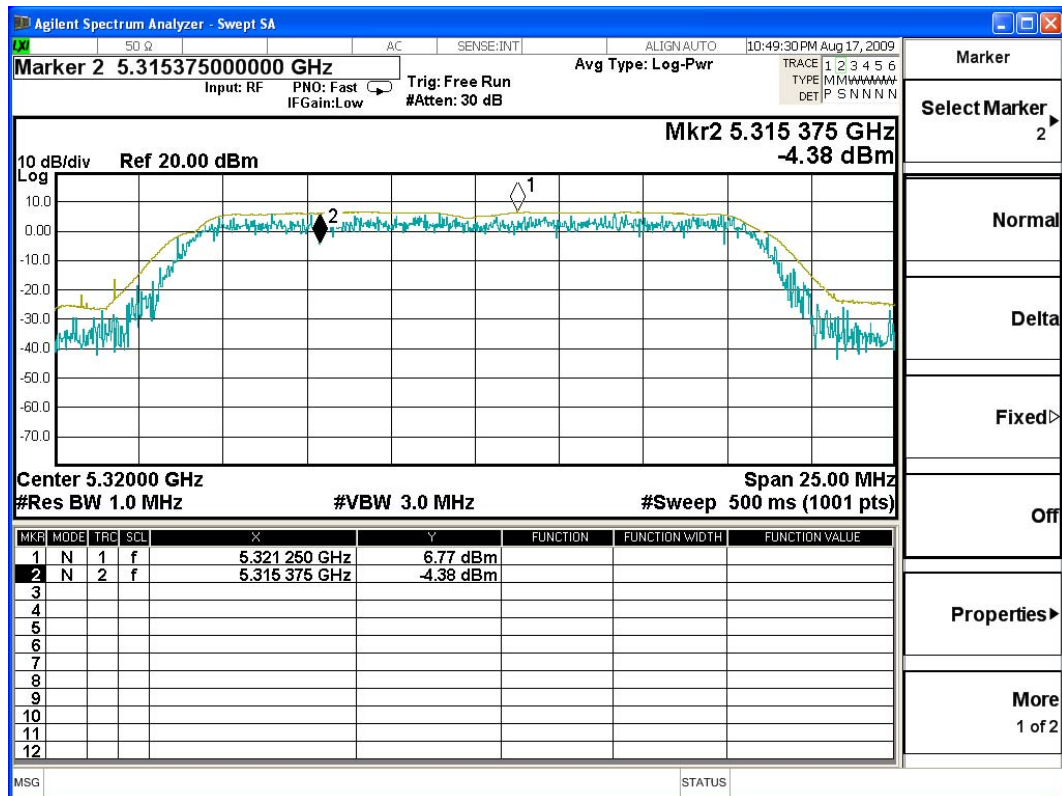
Channel 52:



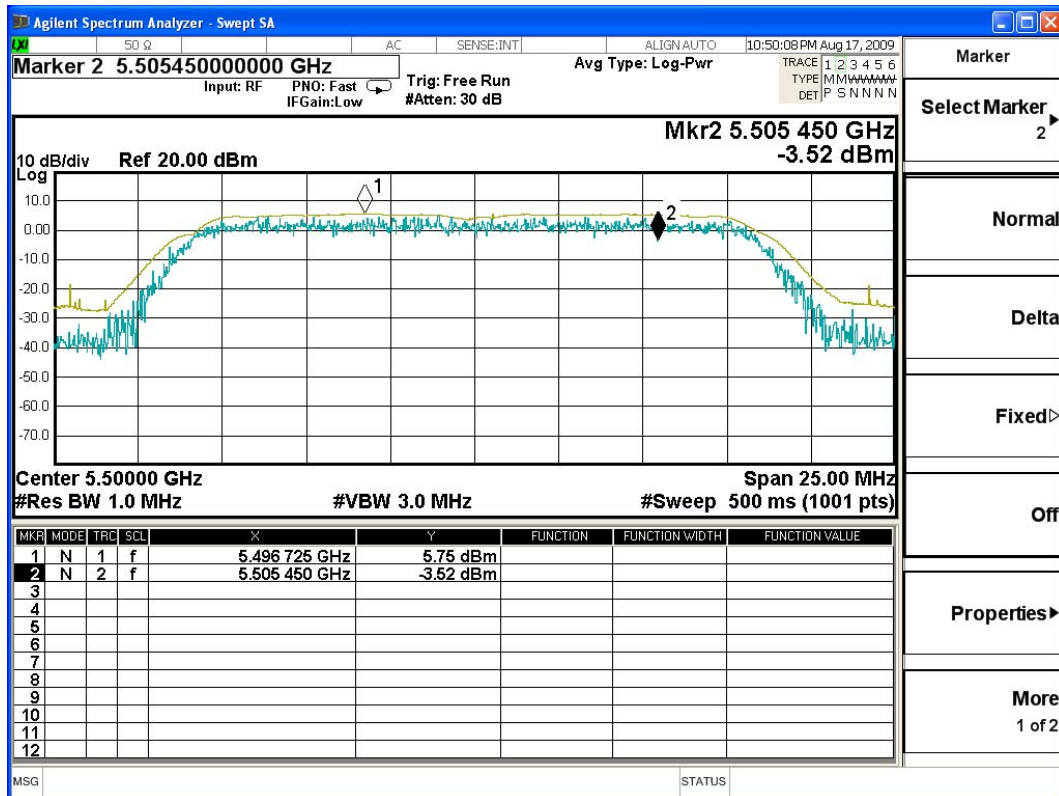
Channel 60:



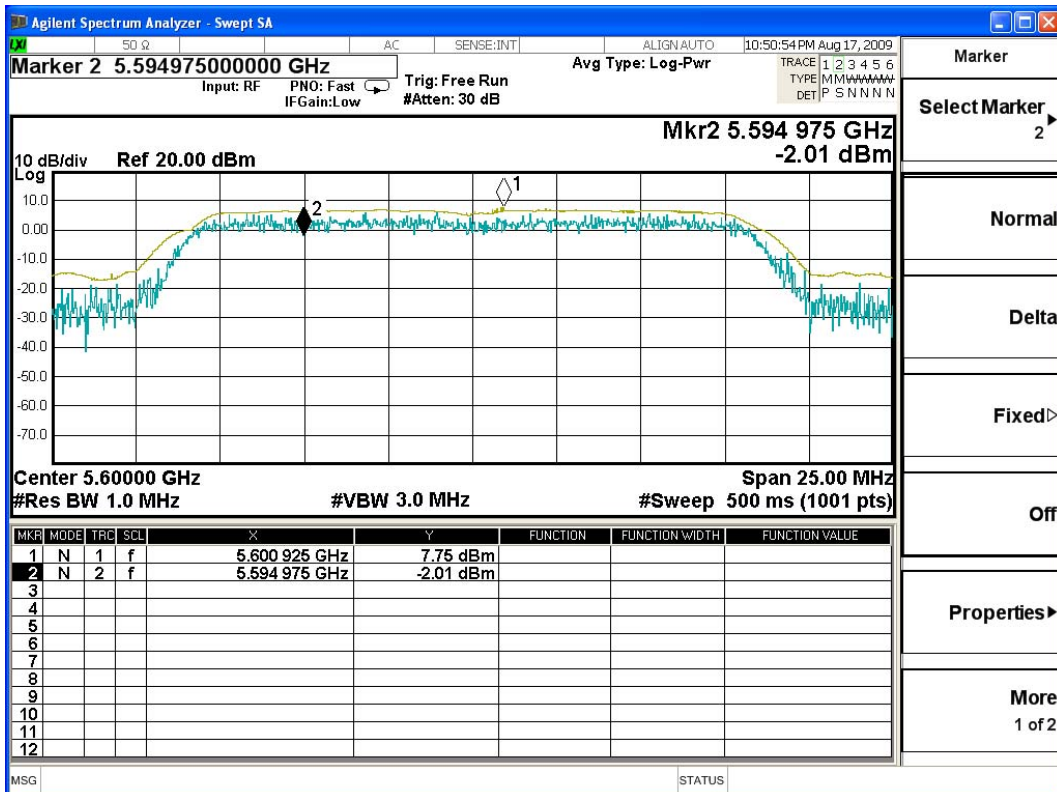
Channel 64:



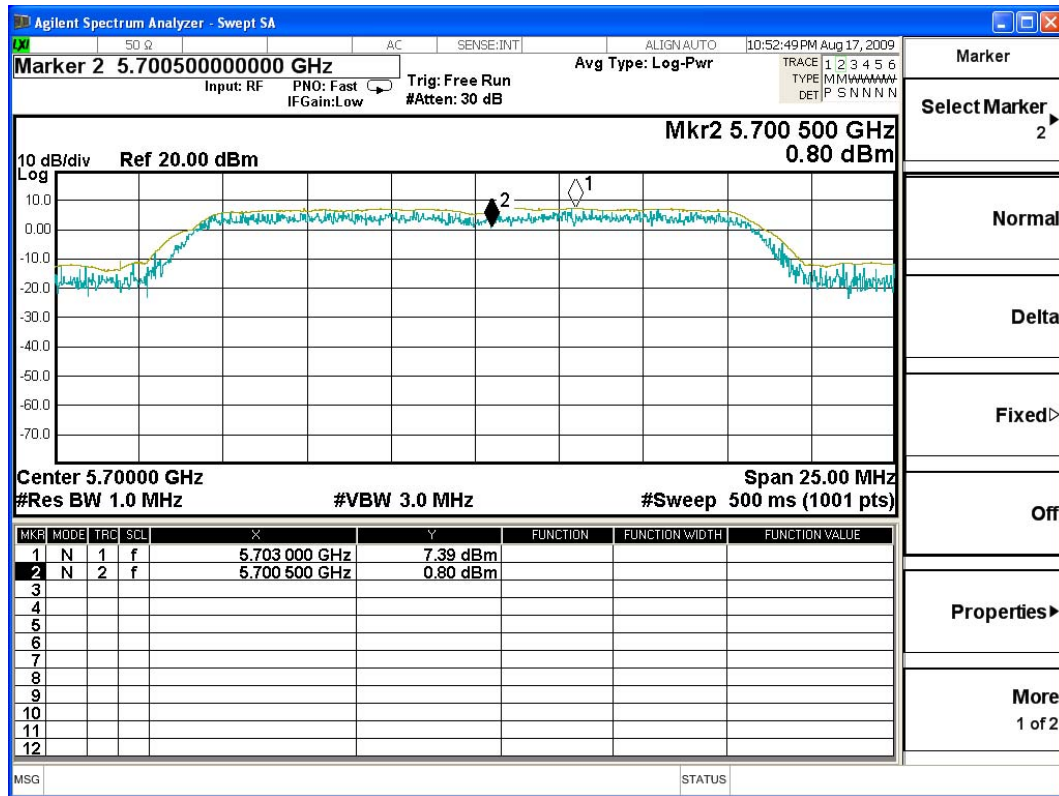
Channel 100:



Channel 120:



Channel 140:



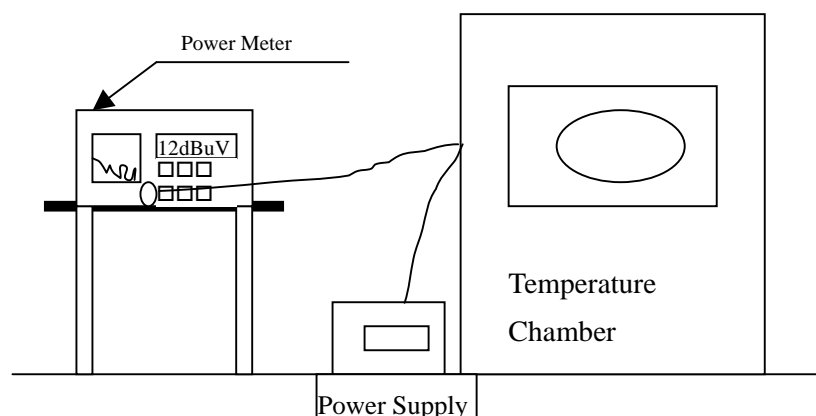
6. Frequency Stability

6.1. Test Equipment

Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Remark
Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009	
Temperature Chamber	WIT GROUP	TH-1S-B / WIT-02121901	June, 2009	

Note: All equipments are calibrated every one year.

6.2. Test Setup



6.3. Limits

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

6.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

6.5. Uncertainty

± 150 Hz

6.6. Test Result of Frequency Stability

Product : Portable Data Collection Terminal
 Test Item : Frequency Stability
 Test Site : Temperature Chamber
 Test Mode : Mode 1: Transmitter (802.11a-6Mbps) (Startup)

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (23) oC	Vnom (3.7)V	36	5180.00	5179.9800	0.02
		44	5220.00	5220.0000	0.00
		48	5240.00	5240.0000	0.00
		52	5260.00	5260.0000	0.00
		60	5300.00	5300.0000	0.00
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0000	0.00
		120	5600.00	5600.0000	0.00
		140	5700.00	5700.0100	-0.01
Tnom (35) oC	Vnom (4.25)V	36	5180.00	5179.9900	0.01
		44	5220.00	5220.0000	0.00
		48	5240.00	5240.0100	-0.01
		52	5260.00	5260.0100	-0.01
		60	5300.00	5300.0100	-0.01
		64	5320.00	5320.0000	0.00
		100	5500.00	5500.0000	0.00
		120	5600.00	5600.0000	0.00
		140	5700.00	5700.0100	-0.01
Tnom (35) oC	Vnom (3.145)V	36	5180.00	5179.9900	0.01
		44	5220.00	5220.0100	-0.01
		48	5240.00	5240.0100	-0.01
		52	5260.00	5260.0100	-0.01
		60	5300.00	5300.0100	-0.01
		64	5320.00	5320.0000	0.00
		100	5500.00	5500.0000	0.00
		120	5600.00	5600.0000	0.00
		140	5700.00	5700.0100	-0.01
Tnom (0) oC	Vnom (4.25)V	36	5180.00	5180.0500	-0.05
		44	5220.00	5220.0400	-0.04
		48	5240.00	5240.0500	-0.05
		52	5260.00	5260.0100	-0.01
		60	5300.00	5300.0100	-0.01
		64	5320.00	5320.0600	-0.06
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0400	-0.04
		140	5700.00	5700.0300	-0.03

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (0) oC	Vnom (3.145)V	36	5180.00	5180.0200	-0.02
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0600	-0.06
		52	5260.00	5260.0600	-0.06
		60	5300.00	5300.0400	-0.04
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0400	-0.04
		140	5700.00	5700.0300	-0.03

Product : Portable Data Collection Terminal
 Test Item : Frequency Stability
 Test Site : Temperature Chamber
 Test Mode : Mode 1: Transmitter (802.11a-6Mbps) (after 2mins)

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (23) oC	Vnom (3.7)V	36	5180.00	5180.0200	-0.02
		44	5220.00	5220.3000	-0.30
		48	5240.00	5240.0000	0.00
		52	5260.00	5260.0000	0.00
		60	5300.00	5300.0000	0.00
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0000	0.00
		120	5600.00	5600.0000	0.00
		140	5700.00	5700.0100	-0.01
Tnom (35) oC	Vnom (4.25)V	36	5180.00	5179.9700	0.03
		44	5220.00	5220.0100	-0.01
		48	5240.00	5240.0300	-0.03
		52	5260.00	5260.0600	-0.06
		60	5300.00	5300.0700	-0.07
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0700	-0.07
		140	5700.00	5700.0100	-0.01
Tnom (35) oC	Vnom (3.145)V	36	5180.00	5179.9900	0.01
		44	5220.00	5220.0100	-0.01
		48	5240.00	5240.0300	-0.03
		52	5260.00	5260.0600	-0.06
		60	5300.00	5300.0100	-0.01
		64	5320.00	5320.0300	-0.03
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0700	-0.07
		140	5700.00	5700.0200	-0.02
Tnom (0) oC	Vnom (4.25)V	36	5180.00	5180.0200	-0.02
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0600	-0.06
		52	5260.00	5260.0600	-0.06
		60	5300.00	5300.0400	-0.04
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0700	-0.07
		140	5700.00	5700.0100	-0.01

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (0) oC	Vnom (3.145)V	36	5180.00	5180.0200	-0.02
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0600	-0.06
		52	5260.00	5260.0600	-0.06
		60	5300.00	5300.0500	-0.05
		64	5320.00	5320.0400	-0.04
		100	5500.00	5500.0600	-0.06
		120	5600.00	5600.7000	-0.70
		140	5700.00	5700.0600	-0.06

Product : Portable Data Collection Terminal
 Test Item : Frequency Stability
 Test Site : Temperature Chamber
 Test Mode : Mode 1: Transmitter (802.11a-6Mbps) (after 5mins)

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (23) °C	Vnom (3.7)V	36	5180.00	5179.9700	0.03
		44	5220.00	5220.0600	-0.06
		48	5240.00	5240.0100	-0.01
		52	5260.00	5260.0000	0.00
		60	5300.00	5300.0000	0.00
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0000	0.00
		120	5600.00	5600.0100	-0.01
		140	5700.00	5700.0200	-0.02
Tnom (35) °C	Vnom (4.25)V	36	5180.00	5179.9600	0.04
		44	5220.00	5220.0100	-0.01
		48	5240.00	5240.0300	-0.03
		52	5260.00	5260.0300	-0.03
		60	5300.00	5300.0400	-0.04
		64	5320.00	5320.0300	-0.03
		100	5500.00	5500.0100	-0.01
		120	5600.00	5600.0700	-0.07
		140	5700.00	5700.0600	-0.06
Tnom (35) °C	Vnom (3.145)V	36	5180.00	5179.9900	0.01
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0200	-0.02
		52	5260.00	5260.0300	-0.03
		60	5300.00	5300.0300	-0.03
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0600	-0.06
		120	5600.00	5600.0600	-0.06
		140	5700.00	5700.0300	-0.03
Tnom (0) °C	Vnom (4.25)V	36	5180.00	5180.0200	-0.02
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0600	-0.06
		52	5260.00	5260.0600	-0.06
		60	5300.00	5300.0400	-0.04
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0700	-0.07
		140	5700.00	5700.0100	-0.01

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (0) °C	Vnom (3.145)V	36	5180.00	5180.0400	-0.04
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0700	-0.07
		52	5260.00	5260.0300	-0.03
		60	5300.00	5300.0700	-0.07
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0400	-0.04
		120	5600.00	5600.0500	-0.05
		140	5700.00	5700.0400	-0.04

Product : Portable Data Collection Terminal
 Test Item : Frequency Stability
 Test Site : Temperature Chamber
 Test Mode : Mode 1: Transmitter (802.11a-6Mbps) (after 10mins)

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (23) °C	Vnom (3.7)V	36	5180.00	5179.9700	0.03
		44	5220.00	5220.0400	-0.04
		48	5240.00	5240.0300	-0.03
		52	5260.00	5260.0100	-0.01
		60	5300.00	5300.0000	0.00
		64	5320.00	5320.0100	-0.01
		100	5500.00	5500.0000	0.00
		120	5600.00	5600.0100	-0.01
		140	5700.00	5700.0200	-0.02
Tnom (35) °C	Vnom (4.25)V	36	5180.00	5179.9600	0.04
		44	5220.00	5220.0300	-0.03
		48	5240.00	5240.0200	-0.02
		52	5260.00	5260.0400	-0.04
		60	5300.00	5300.0500	-0.05
		64	5320.00	5320.0600	-0.06
		100	5500.00	5500.0300	-0.03
		120	5600.00	5600.0700	-0.07
		140	5700.00	5700.0300	-0.03
Tnom (35) °C	Vnom (3.145)V	36	5180.00	5179.9900	0.01
		44	5220.00	5220.0200	-0.02
		48	5240.00	5240.0300	-0.03
		52	5260.00	5260.0400	-0.04
		60	5300.00	5300.0300	-0.03
		64	5320.00	5320.0400	-0.04
		100	5500.00	5500.0500	-0.05
		120	5600.00	5600.0400	-0.04
		140	5700.00	5700.0200	-0.02
Tnom (0) °C	Vnom (4.25)V	36	5180.00	5180.0600	-0.06
		44	5220.00	5220.0400	-0.04
		48	5240.00	5240.0800	-0.08
		52	5260.00	5260.0700	-0.07
		60	5300.00	5300.0600	-0.06
		64	5320.00	5320.0600	-0.06
		100	5500.00	5500.0400	-0.04
		120	5600.00	5600.0300	-0.03
		140	5700.00	5700.0600	-0.06

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (0) °C	Vnom (3.145)V	36	5180.00	5180.0400	-0.04
		44	5220.00	5220.0600	-0.06
		48	5240.00	5240.0600	-0.06
		52	5260.00	5260.0700	-0.07
		60	5300.00	5300.0400	-0.04
		64	5320.00	5320.0500	-0.05
		100	5500.00	5500.0400	-0.04
		120	5600.00	5600.0500	-0.05
		140	5700.00	5700.0400	-0.04

7. EUT Test Setup Photographs

Description : Front View of Radiated Test (Horn)



Description : Back View of Radiated Test (Horn)



Description : Front View of Radiated Test (Horn)



Description : Back View of Radiated Test (Horn)

