



## EMC Test Data

Client:	Juniper Networks	Job Number:	J66705
Model:	SSG5 and SSG20	Test-Log Number:	T68622
		Project Manager:	Susan Pelzl
Contact:	ChengWee Lai		
Emissions Spec:	FCC 15.E	Class:	-
Immunity Spec:	-	Environment:	-

# EMC Test Data

For The

## Juniper Networks

Model

**SSG5 and SSG20**

Date of Last Test: 7/23/2007



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### EUT INFORMATION

#### General Description

The EUT is a 802.11abg wireless bridge that is designed to provide ISDN, Ethernet and wireless ethernet connectivity. Since the EUT would be placed on a table top during operation, the EUT was treated as table-top equipment during testing to simulate the end-user environment.

#### Equipment Under Test

Manufacturer	Model	Description	Serial Number	FCC ID
Juniper Networks	SSG5	802.11abg wireless bridge	169062006000001	OXVSSG5

#### Other EUT Details

The objective of this testing is to provide data sufficient to delist the 5250 to 5350 MHz band from the Juniper grants. The SSG5 (FCC ID: OXVSSG5) and SSG20 (FCC ID: OXVSSG20) use the same radio board, therefore the testing on one sample can be considered applicable for the other.

#### EUT Enclosure

The EUT (SSG5) enclosure is primarily constructed of sheet steel. It measures approximately 22.4 cm wide by 14 cm deep by 4 cm high.

#### Modification History

Mod. #	Test	Date	Modification
1			
2			
3			

Modifications applied are assumed to be used on subsequent tests unless otherwise stated as a further modification.



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Immunity Spec:	-	Environment:	-

### Test Configuration #1

*The following information was collected during the test sessions(s).*

#### Local Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
Dell	-	Laptop	CN-08U077-48643-33A-0389	N/A

#### Remote Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
-	-	-	-	-

#### Cabling and Ports

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Ethernet Port 0/0	Laptop Ethernet	Cat 5	Unshielded	2.0
Ethernet Ports 0/1 - 0/7	Not connected			
ISDN	Not connected	-	-	-
Console	Laptop (USB to Serial Adaptor)	Cat 5	Unshielded	2.0
DC Power In	External AC/DC Adapter	Multiconductor	Unshielded	2.0
External AC/DC Adapter	AC Power	2-Wire	Unshielded	2.0
Antenna Port B	50ohm Load	Coax	Shielded	0.3
Antenna Port A	Antenna	Coax	Shielded	5.0

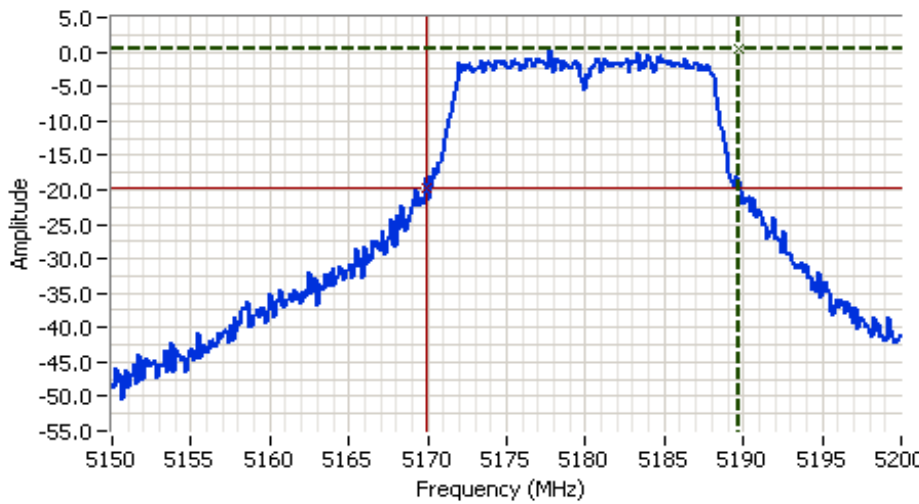
#### EUT Operation During Emissions Tests

During emissions testing the EUT was configured to continuously transmit on the desired channel.



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Standard: FCC 15.E	Class: N/A

**Run #1: 20dB Bandwidth in band per 15.215(c)  
Low Channel - 5180 MHz**



**Analyzer Settings**

HP8595EM  
 CF: 5175.00 MHz  
 SPAN:50.00 MHz  
 RB 300 kHz  
 VB 1.000 MHz  
 Detector POS  
 Att 20  
 RL Offset 0.80  
 Sweep Time 20.0ms  
 Ref Lvl:11.00DBM

**Comments**

Power setting = 12

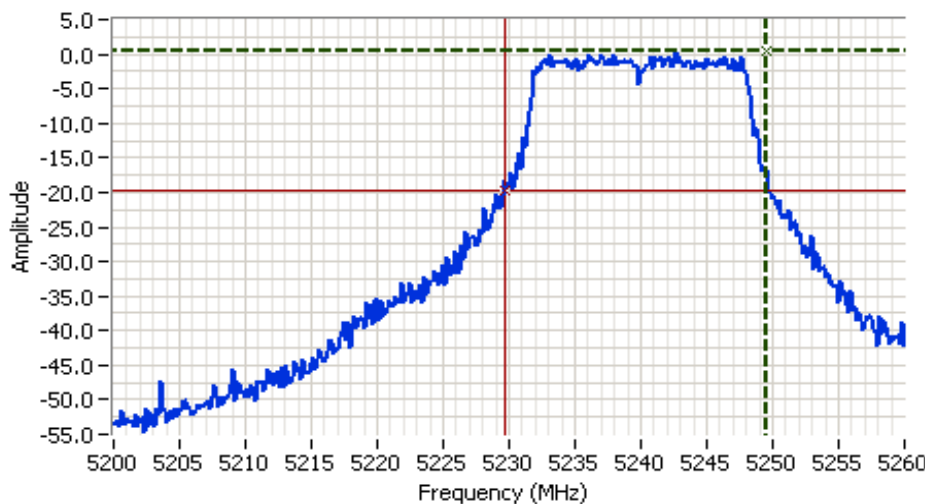
Cursor 1	5189.750	0.32	
Cursor 2	5169.875	-19.68	

Delta Freq. 19.87

Delta Amplitude 20.00



**High Channel - 5240 MHz**



**Analyzer Settings**

HP8595EM  
 CF: 5230.00 MHz  
 SPAN:60.00 MHz  
 RB 300 kHz  
 VB 1.000 MHz  
 Detector POS  
 Att 20  
 RL Offset 0.80  
 Sweep Time 20.0ms  
 Ref Lvl:11.00DBM

**Comments**

Cursor 1	5249.500	0.32	
Cursor 2	5229.700	-19.68	

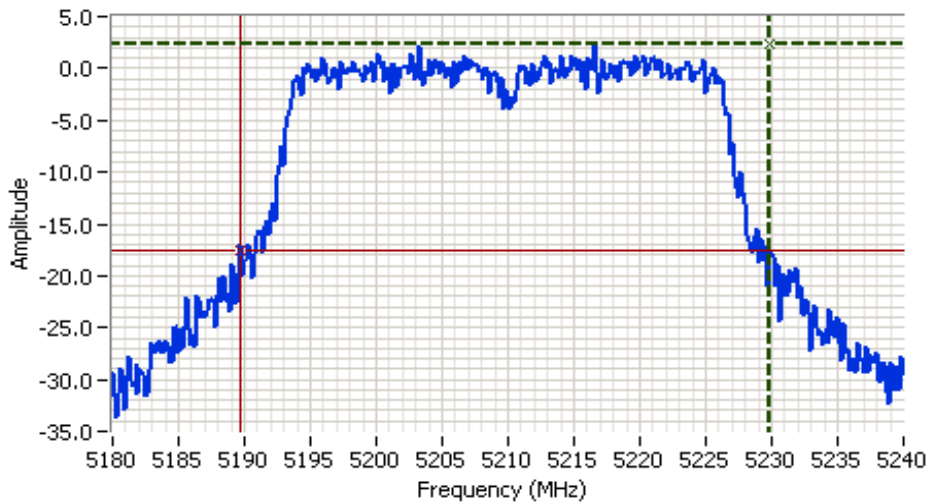
Delta Freq. 19.80

Delta Amplitude 20.00



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Standard: FCC 15.E	Class: N/A

### Turbo Mode - 5210 MHz



#### Analyzer Settings

HP8595EM  
 CF: 5210.00 MHz  
 SPAN:60.00 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 20  
 RL Offset 0.00  
 Sweep Time 20.0ms  
 Ref Lvl:5.00DBM

#### Comments

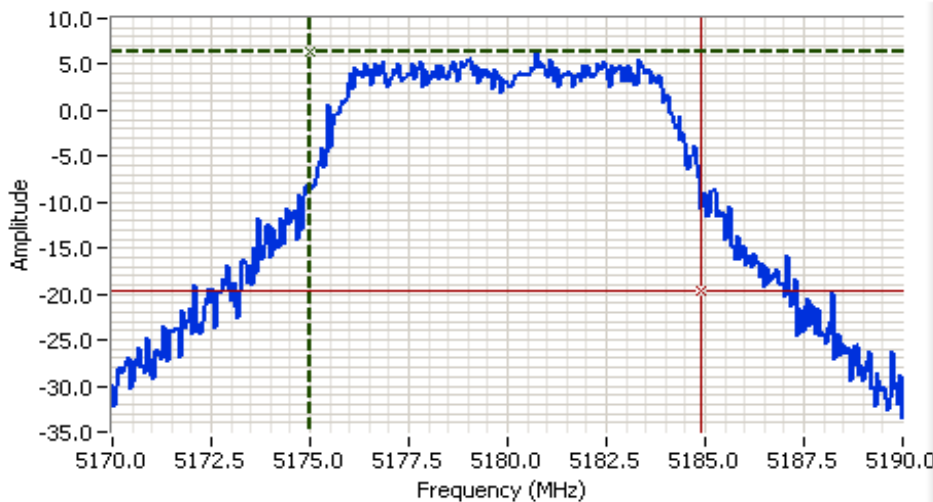
Cursor 1	5229.80	2.40	
Cursor 2	5189.75	-17.60	

Delta Freq. 40.05  
 Delta Amplitude 20.00



### Run #2: Output Power - Verification against original filing using peak power

#### Low Channel - 5180 MHz (12.4 dBm in original filing)



#### Analyzer Settings

HP8595EM  
 CF: 5180.00 MHz  
 SPAN:20.00 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector Sample  
 Att 20  
 RL Offset 0.00  
 Sweep Time 20.0ms  
 Ref Lvl:5.00DBM

#### Comments

99% power bandwidth  
 9.925 MHz  
 Power over span:  
 12.83dBm

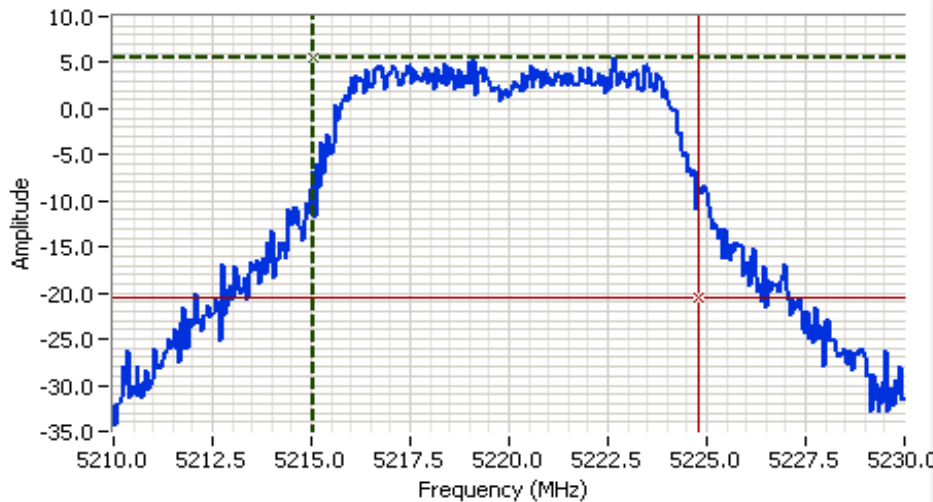
Cursor 1	5174.98	6.40	
Cursor 2	5184.91	-19.60	

Delta Freq. 9.925  
 Delta Amplitude 26.00



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Standard: FCC 15.E	Class: N/A

### Middle Channel - 5220 MHz (11.7 dBm in original filing)



#### Analyzer Settings

HP8595EM  
 CF: 5220.00 MHz  
 SPAN: 20.00 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector Sample  
 Att 20  
 RL Offset 0.60  
 Sweep Time 20.0ms  
 Ref Lvl: 6.00DBM

#### Comments

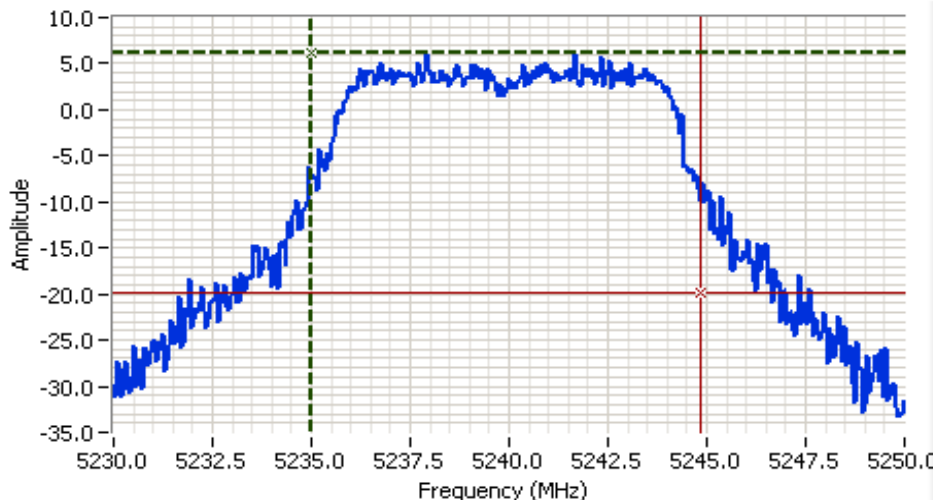
99% power bandwidth  
 9.776 MHz  
 Power over span:  
 12.08dBm

Cursor 1	5215.03	5.45	
Cursor 2	5224.81	-20.55	

Delta Freq. 9.776  
 Delta Amplitude 26.00



### High Channel - 5240 MHz (12.3 dBm in original filing)



#### Analyzer Settings

HP8595EM  
 CF: 5240.00 MHz  
 SPAN: 20.00 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector Sample  
 Att 20  
 RL Offset 0.60  
 Sweep Time 20.0ms  
 Ref Lvl: 6.00DBM

#### Comments

99% power bandwidth  
 9.875 MHz  
 Power over span:  
 12.46dBm

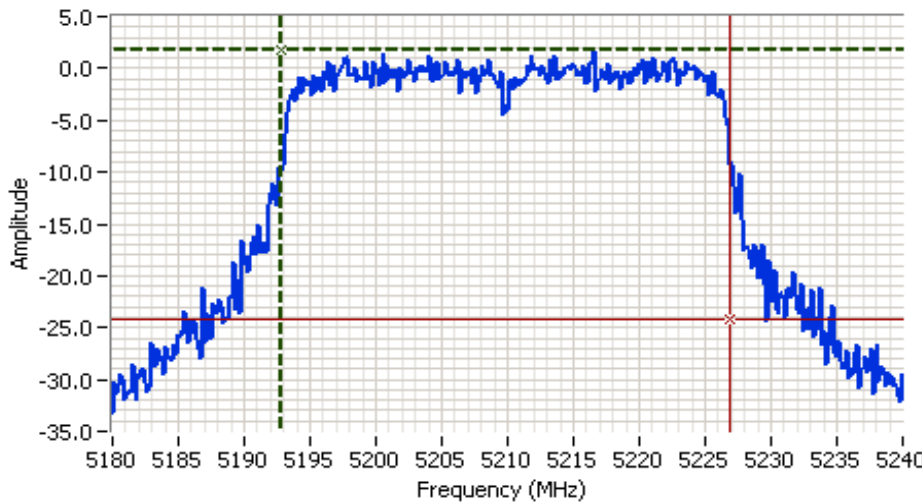
Cursor 1	5234.98	6.23	
Cursor 2	5244.86	-19.77	

Delta Freq. 9.875  
 Delta Amplitude 26.00



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Contact: ChengWee Lai	
Standard: FCC 15.E	Class: N/A

### Turbo Channel - 5210 MHz (14.1 dBm in original filing)



**Analyzer Settings**  
 HP8595EM  
 CF: 5210.00 MHz  
 SPAN: 60.00 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector Sample  
 Att 20  
 RL Offset 0.00  
 Sweep Time 20.0ms  
 Ref Lvl: 5.00DBM

**Comments**  
 99% power bandwidth  
 33.97 MHz  
 Power over span:  
 14.18dBm

Cursor 1	5192.86	1.72	
Cursor 2	5226.83	-24.28	

Delta Freq. 33.97  
 Delta Amplitude 26.00





**Radio Antenna Port (Bandwidth), 16-Jul-07**

**Engineer: Mark Hill**

<u>Manufacturer</u>	<u>Description</u>	<u>Model #</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	EMC Spectrum Analyzer, 9 kHz - 6.5 GHz	8595EM	780	05-Sep-07