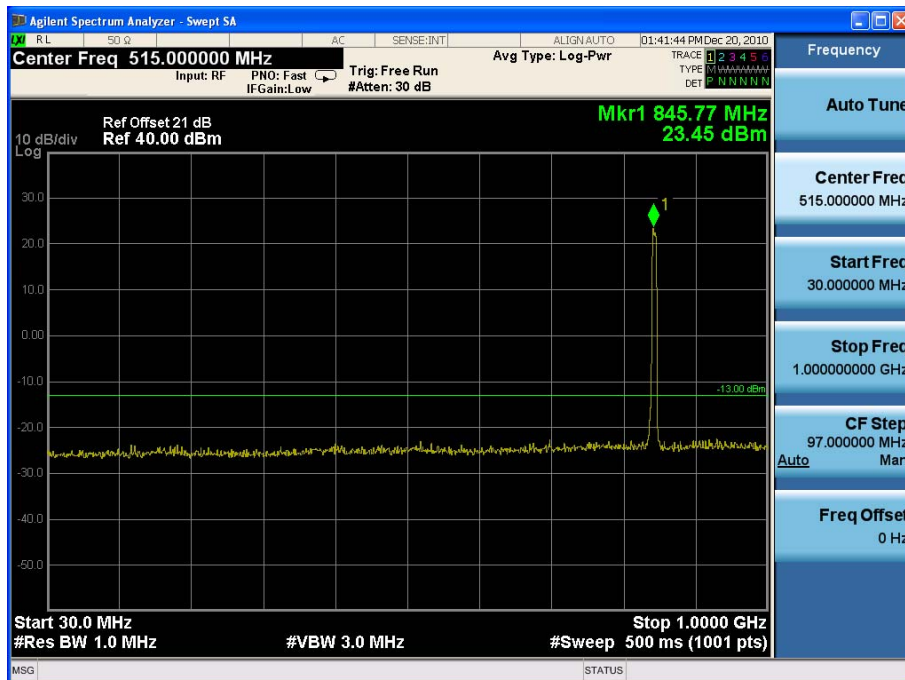


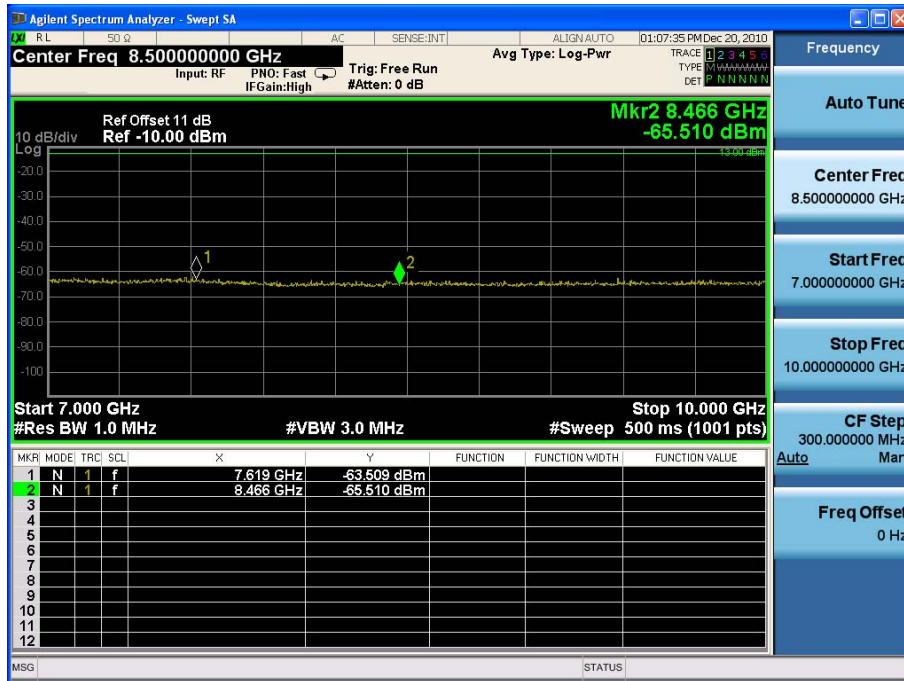
Product	HE863-NAD		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND V RMC	Test Range	30MHz~10GHz

**WCDMA BAND V RMC High-Channel 4233**

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
1693.2	-44.555	0.58	-43.975	-13
2539.8	-51.738	0.7	-51.038	-13
3386.4	-53.869	1.01	-52.859	-13
4233	-64.908	1.18	-63.728	-13
5079.6	-61.389	1.23	-60.159	-13
5926.2	-60.371	1.45	-58.921	-13
6772.8	-61.406	1.56	-59.846	-13
7619.4	-63.509	1.59	-61.919	-13
8466	-65.510	1.82	-63.690	-13



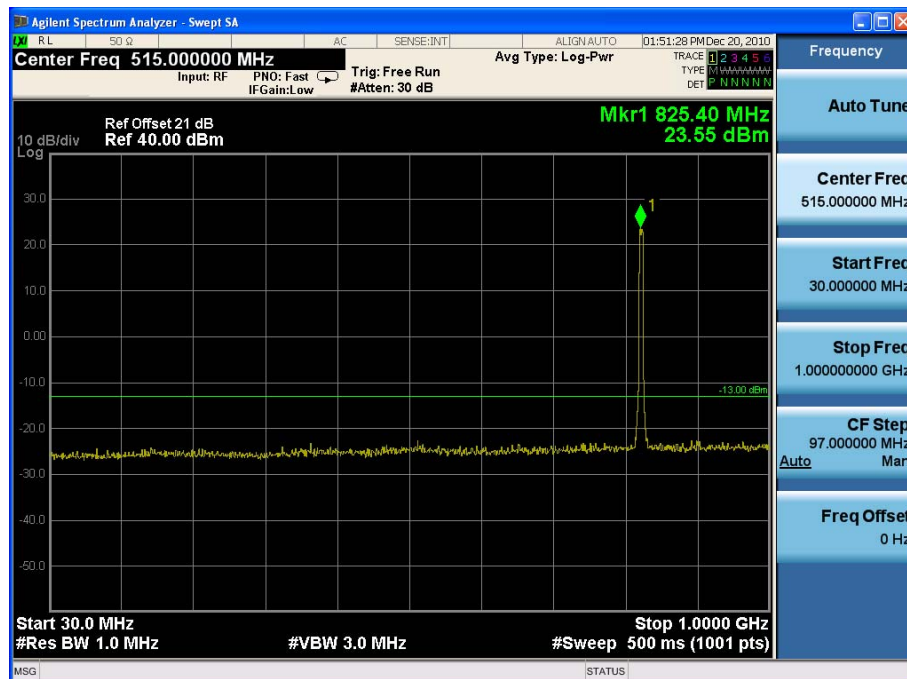


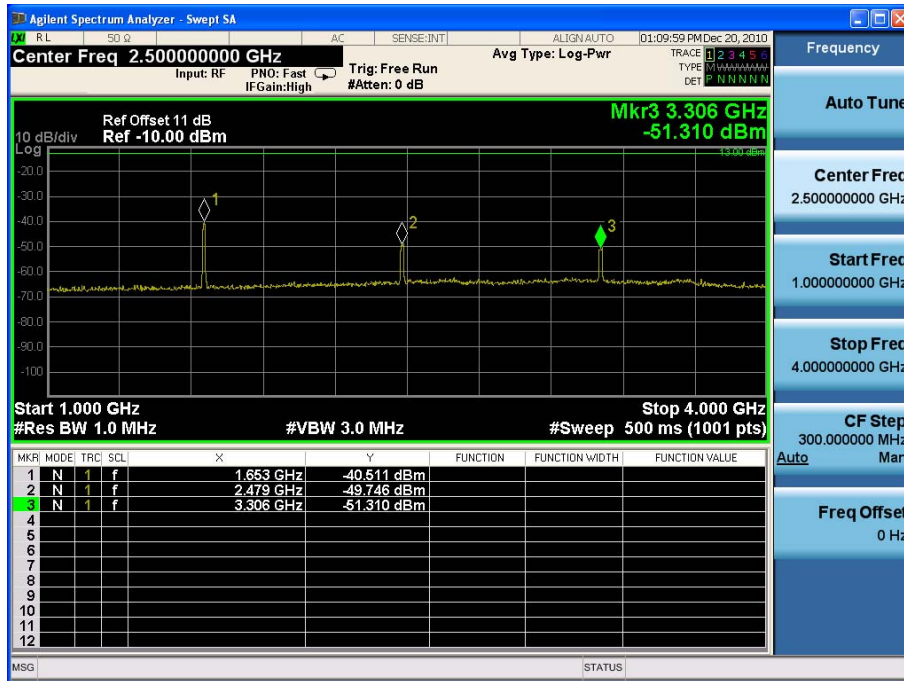


Product	HE863-NAD		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND V HSDPA	Test Range	30MHz~10GHz

**WCDMA BAND V HSDPA Low-Channel 4132**

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
1652.8	-40.511	0.58	-39.931	-13
2479.2	-49.746	0.7	-49.046	-13
3305.6	-51.310	1.01	-50.300	-13
4132	-65.097	1.18	-63.917	-13
4958.4	-62.462	1.23	-61.232	-13
5784.8	-59.364	1.45	-57.914	-13
6611.2	-59.662	1.56	-58.102	-13
7437.6	-64.302	1.59	-62.712	-13
8264	-65.177	1.82	-63.357	-13





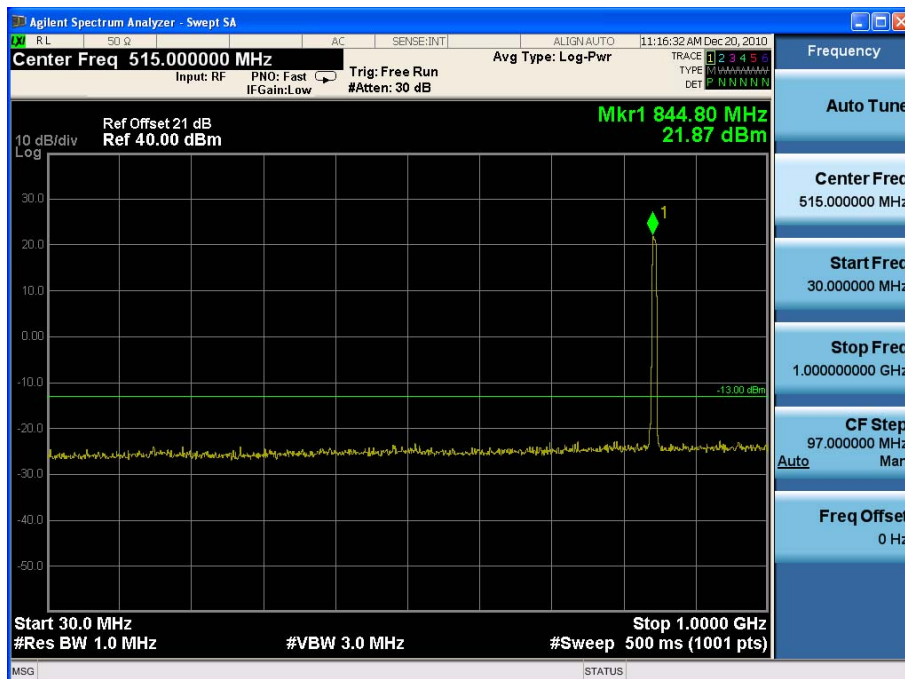




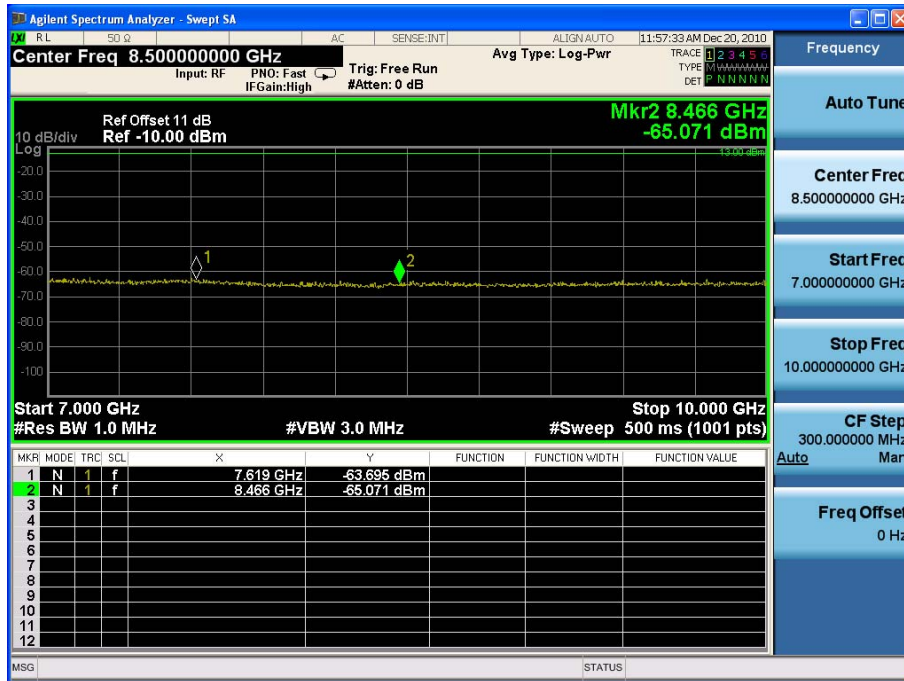
Product	HE863-NAD		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND V HSUPA	Test Range	30MHz~10GHz

**WCDMA BAND V HSUPA High-Channel 4233**

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
1693.2	-52.049	0.58	-51.469	-13
2539.8	-59.568	0.7	-58.868	-13
3386.4	-60.689	1.01	-59.679	-13
4233	-64.042	1.18	-62.862	-13
5079.6	-62.004	1.23	-60.774	-13
5926.2	-60.420	1.45	-58.970	-13
6772.8	-62.279	1.56	-60.719	-13
7619.4	-63.695	1.59	-62.105	-13
8466	-65.071	1.82	-63.251	-13



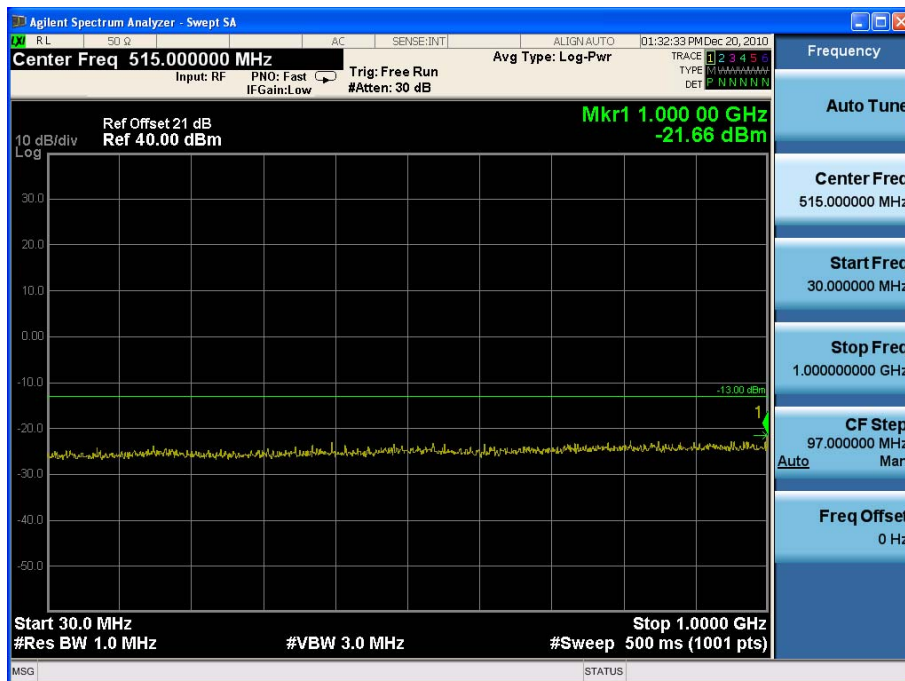


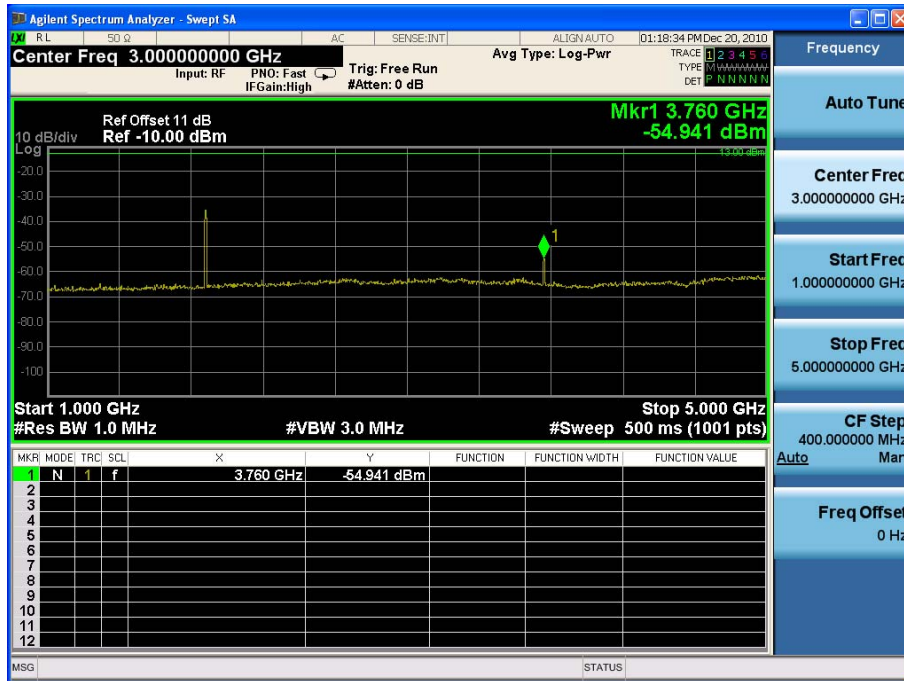


Product	HE863-NAD		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND II RMC	Test Range	30MHz~20GHz

**WCDMA BAND II RMC Mid-Channel 9400**

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
3760	-54.941	1.1	-53.841	-13
5640	-59.187	1.23	-57.957	-13
7520	-56.099	1.59	-54.509	-13
9400	-63.394	1.89	-61.504	-13
11280	-64.942	2.07	-62.872	-13
13160	-64.522	2.26	-62.262	-13
15040	-61.145	2.64	-58.505	-13
16920	-59.685	3.5	-56.185	-13
18800	-59.605	3.7	-55.905	-13



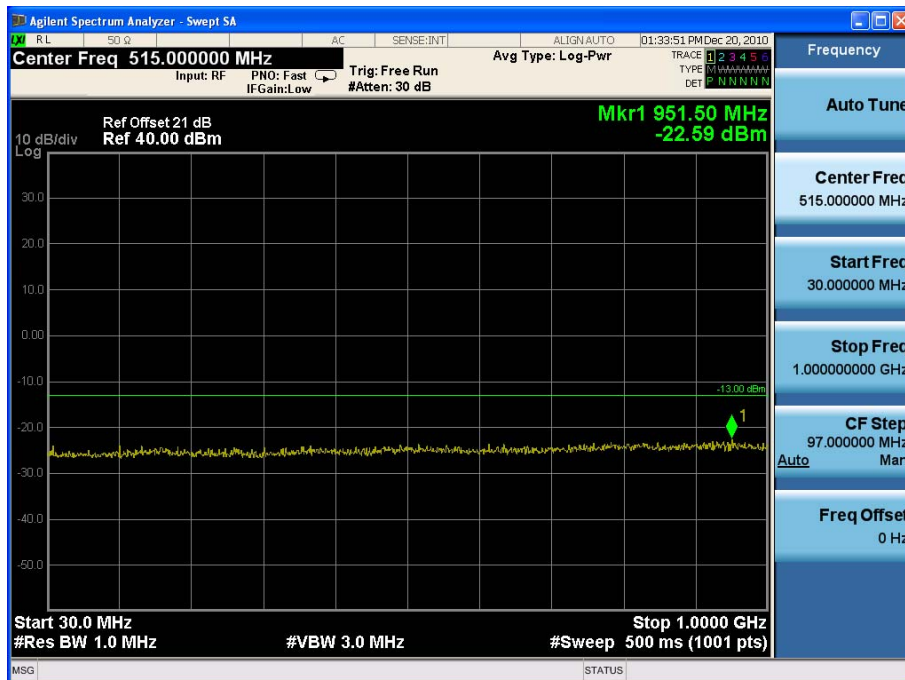


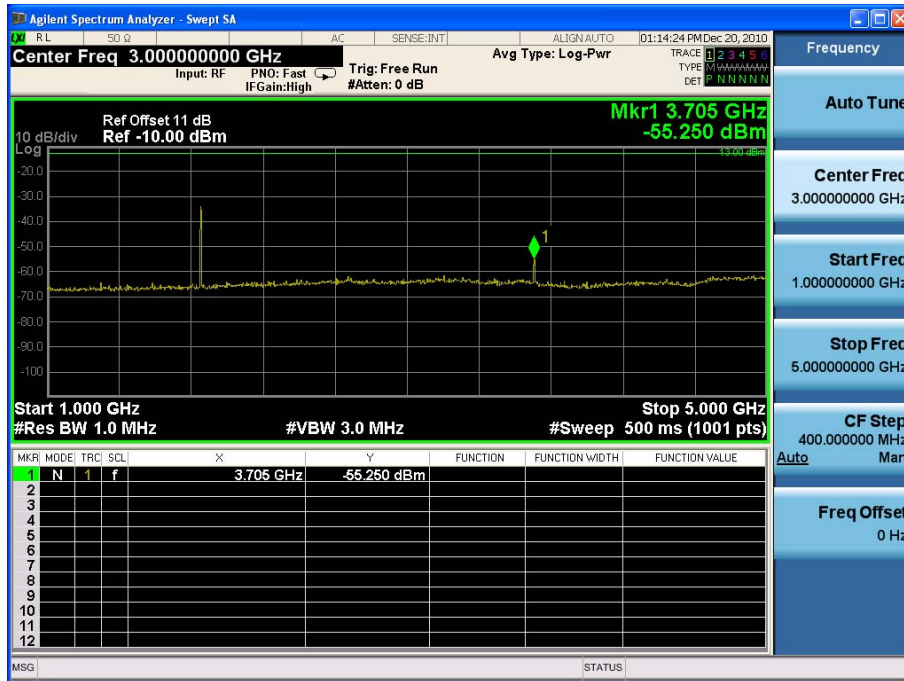


Product	HE863-NAD		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND II HSDPA	Test Range	30MHz~20GHz

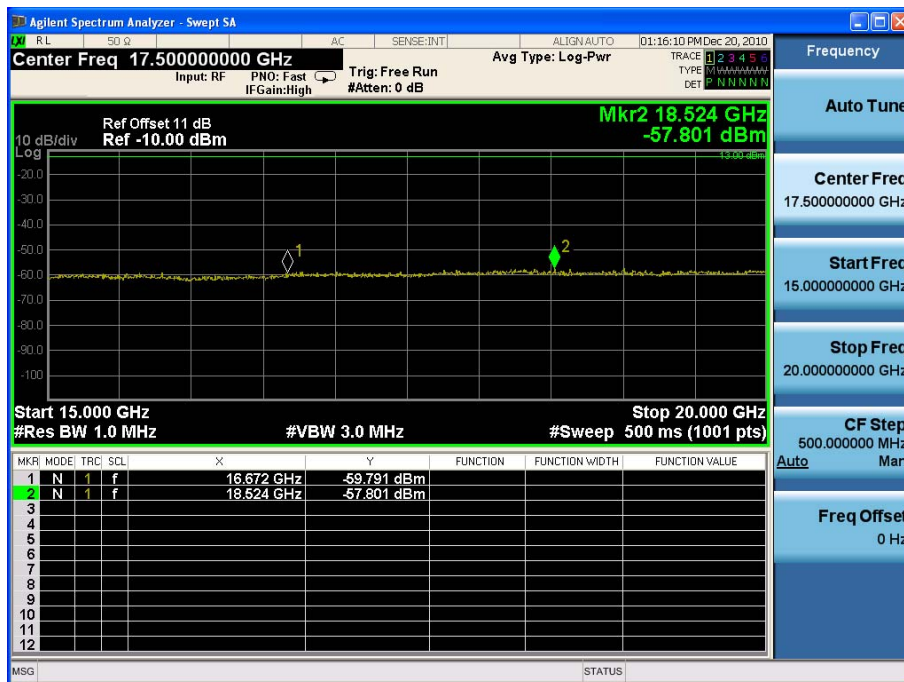
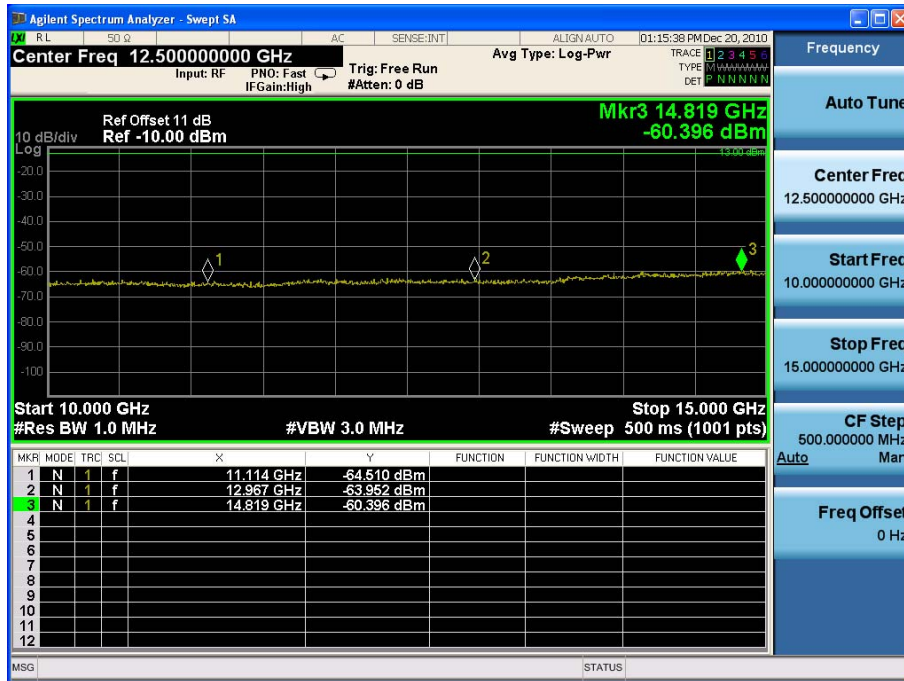
**WCDMA BAND II HSDPA Low-Channel 9262**

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
3704.8	-55.250	1.1	-54.150	-13
5557.2	-61.108	1.23	-59.878	-13
7409.6	-52.971	1.59	-51.381	-13
9262	-61.641	1.89	-59.751	-13
11114.4	-64.510	2.07	-62.440	-13
12966.8	-63.952	2.26	-61.692	-13
14819.2	-60.396	2.64	-57.756	-13
16671.6	-59.791	3.5	-56.291	-13
18524	-57.801	3.7	-54.101	-13





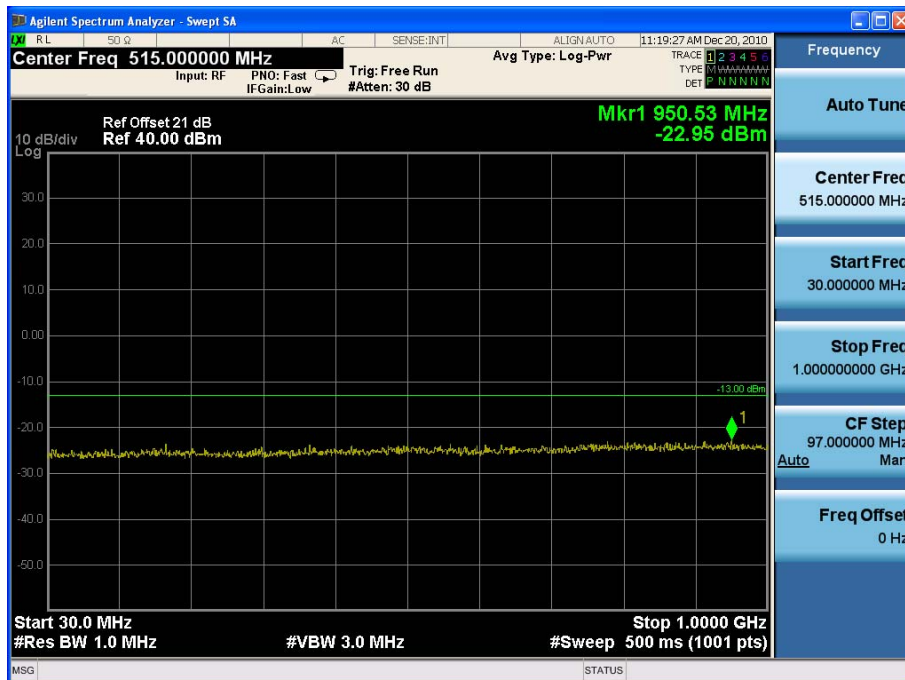


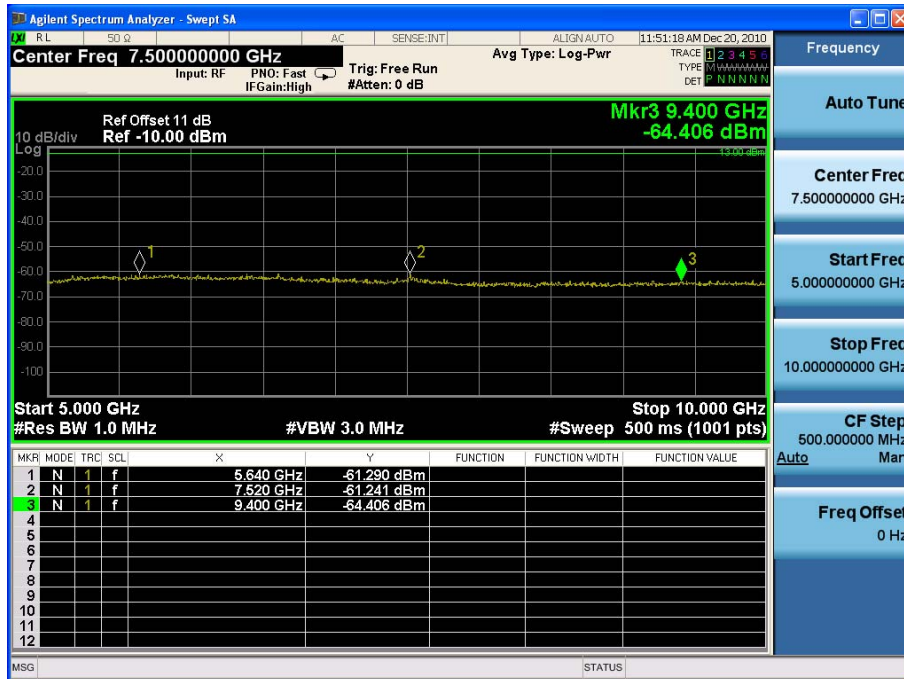
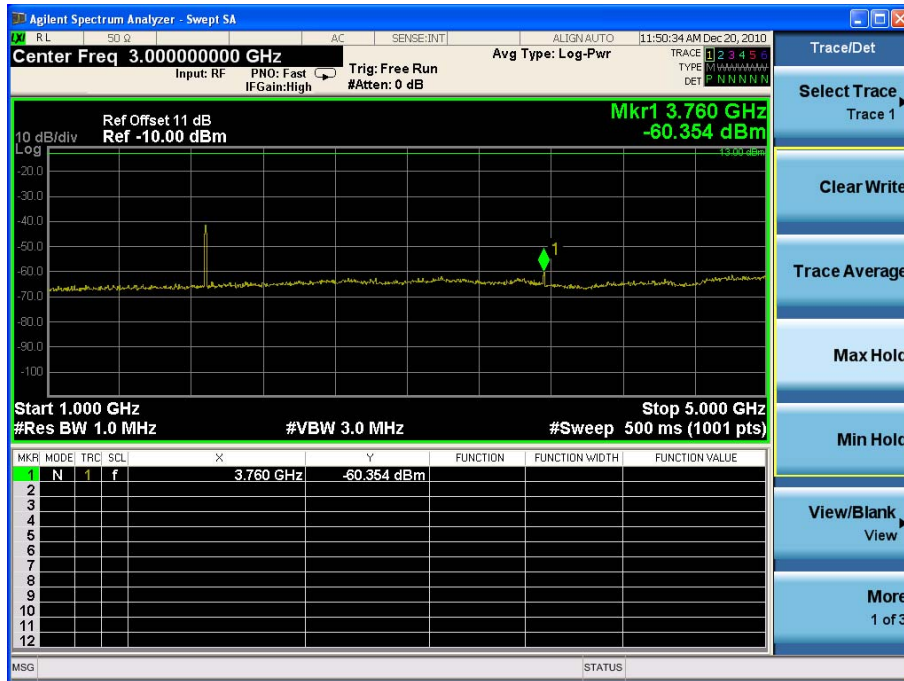


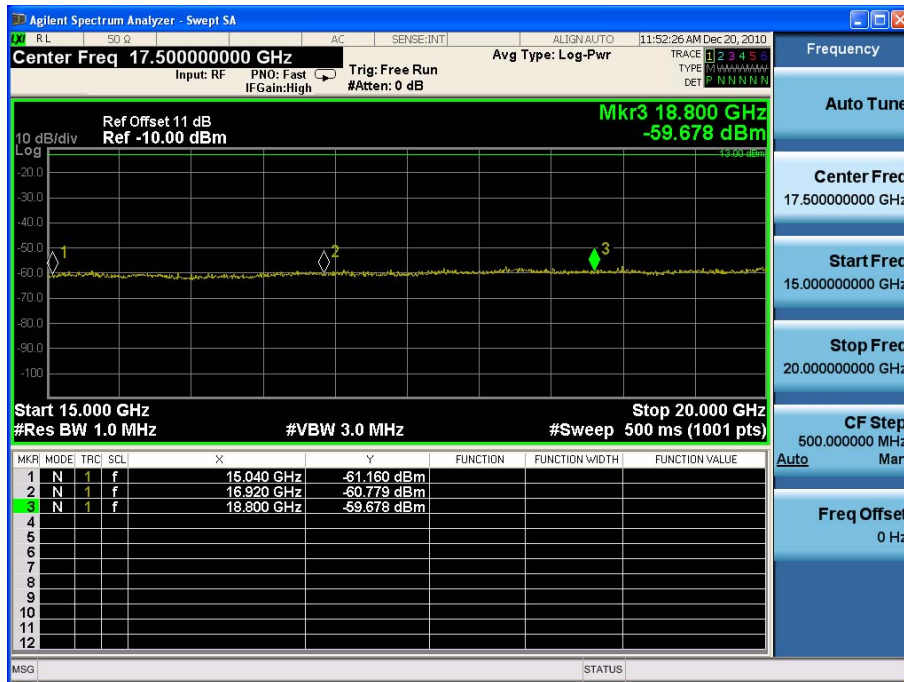
Product	HE863-NAD		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND II HSUPA	Test Range	30MHz~20GHz

**WCDMA BAND II HSUPA Mid-Channel 9400**

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
3760	-60.354	1.1	-59.254	-13
5640	-61.290	1.23	-60.060	-13
7520	-61.241	1.59	-59.651	-13
9400	-64.406	1.89	-62.516	-13
11280	-65.277	2.07	-63.207	-13
13160	-64.016	2.26	-61.756	-13
15040	-61.160	2.64	-58.520	-13
16920	-60.779	3.5	-57.279	-13
18800	-59.678	3.7	-55.978	-13







Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/11/23	Test Site	OATS 1
Test Condition	Channel 128 (GSM 850 GPRS)	Test Range	30MHz~10GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

1648.400	-44.050	-47.439	1.630	9.800	-39.269	-13
2472.600	-53.490	-53.846	2.100	10.600	-45.346	-13
3296.800	-57.770	-59.452	2.350	12.300	-49.502	-13
4127.000	-58.260	-57.277	2.700	12.600	-47.377	-13
4945.200	-60.290	-56.193	2.830	12.700	-46.323	-13
5757.400	-59.490	-57.359	3.200	13.000	-47.559	-13

### Vertical Emissions

1648.400	-45.050	-48.130	1.630	9.800	-39.960	-13
2472.600	-49.710	-49.790	2.100	10.600	-41.290	-13
3296.800	-57.960	-58.588	2.350	12.300	-48.638	-13
4115.000	-58.230	-55.495	2.700	12.600	-45.595	-13
4945.200	-60.570	-55.930	2.830	12.700	-46.060	-13
5769.400	-60.440	-58.259	3.200	13.000	-48.459	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 6 GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/11/23	Test Site	OATS 1
Test Condition	Channel 128 (GSM 850 EGPRS)	Test Range	30MHz~10GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

1648.400	-53.550	-56.939	1.630	9.800	-48.769	-13
2478.600	-59.010	-59.345	2.100	10.600	-50.845	-13
3290.800	-57.280	-58.955	2.350	12.300	-49.005	-13
4121.000	-58.610	-57.604	2.700	12.600	-47.704	-13
4945.200	-60.250	-56.153	2.830	12.700	-46.283	-13
5769.400	-60.150	-58.094	3.200	13.000	-48.294	-13

### Vertical Emissions

1648.400	-55.830	-58.910	1.630	9.800	-50.740	-13
2472.600	-58.120	-58.200	2.100	10.600	-49.700	-13
3296.800	-57.720	-58.348	2.350	12.300	-48.398	-13
4121.000	-58.460	-55.755	2.700	12.600	-45.855	-13
4957.200	-58.280	-53.553	2.830	12.700	-43.683	-13
5757.400	-59.310	-57.059	3.200	13.000	-47.259	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 6 GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/11/23	Test Site	OATS 1
Test Condition	Channel 512 (PCS1900 GPRS)	Test Range	30MHz~20GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

3704.000	-48.280	-48.891	2.530	12.600	-38.821	-13
5550.600	-57.070	-53.691	3.050	13.100	-43.641	-13
7400.800	-60.580	-45.900	3.650	11.500	-38.050	-13
9251.000	-58.690	-43.855	3.850	12.000	-35.705	-13
11101.200	-60.400	-42.805	4.580	12.000	-35.385	-13

### Vertical Emissions

3704.000	-52.990	-51.355	2.530	12.600	-41.285	-13
5550.600	-56.300	-52.318	3.050	13.100	-42.268	-13
7400.800	-60.180	-45.108	3.650	11.500	-37.258	-13
9251.000	-58.680	-43.417	3.850	12.000	-35.267	-13
11101.200	-60.880	-43.140	4.580	12.000	-35.720	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 12GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/11/23	Test Site	OATS 1
Test Condition	Channel 512 (PCS1900 EGPRS)	Test Range	30MHz~20GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

3704.000	-52.900	-53.511	2.530	12.600	-43.441	-13
5550.600	-59.690	-56.311	3.050	13.100	-46.261	-13
7400.800	-60.620	-45.919	3.650	11.500	-38.069	-13
9251.000	-58.320	-43.527	3.850	12.000	-35.377	-13
11101.200	-61.290	-43.748	4.580	12.000	-36.328	-13

### Vertical Emissions

3704.000	-56.270	-54.647	2.530	12.600	-44.577	-13
5550.600	-59.640	-55.658	3.050	13.100	-45.608	-13
7400.800	-60.090	-45.009	3.650	11.500	-37.159	-13
9251.000	-59.880	-44.455	3.850	12.000	-36.305	-13
11101.200	-60.270	-42.517	4.580	12.000	-35.097	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 12GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.



Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/12/20	Test Site	OATS 1
Test Condition	Channel 4233 (WCDMA BAND V RMC)	Test Range	30MHz~10GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

1693.200	-43.222	-46.008	1.630	9.800	-37.838	-13
2539.800	-54.602	-55.388	2.100	10.600	-46.888	-13
3386.400	-56.648	-58.217	2.350	12.300	-48.267	-13
4233.000	-57.597	-56.052	2.700	12.600	-46.152	-13
5079.600	-56.003	-51.407	2.830	12.700	-41.537	-13
5926.200	-54.791	-50.756	3.200	13.000	-40.956	-13

### Vertical Emissions

1693.200	-44.225	-46.602	1.630	9.800	-38.432	-13
2539.800	-54.136	-54.137	2.100	10.600	-45.637	-13
3386.400	-54.877	-55.287	2.350	12.300	-45.337	-13
4233.000	-57.284	-54.558	2.700	12.600	-44.658	-13
5079.600	-55.490	-50.617	2.830	12.700	-40.747	-13
5926.200	-54.534	-50.390	3.200	13.000	-40.590	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 6 GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/12/20	Test Site	OATS 1
Test Condition	Channel 4233 (WCDMA BAND V HSDPA)	Test Range	30MHz~10GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

1693.200	-43.049	-45.835	1.630	9.800	-37.665	-13
2539.800	-54.917	-55.703	2.100	10.600	-47.203	-13
3386.400	-57.000	-58.569	2.350	12.300	-48.619	-13
4233.000	-57.269	-55.724	2.700	12.600	-45.824	-13
5079.600	-55.465	-50.869	2.830	12.700	-40.999	-13
5926.200	-54.437	-50.402	3.200	13.000	-40.602	-13

### Vertical Emissions

1693.200	-44.736	-47.113	1.630	9.800	-38.943	-13
2539.800	-54.278	-54.279	2.100	10.600	-45.779	-13
3386.400	-54.743	-55.153	2.350	12.300	-45.203	-13
4233.000	-56.626	-53.900	2.700	12.600	-44.000	-13
5079.600	-54.978	-50.105	2.830	12.700	-40.235	-13
5926.200	-55.001	-50.857	3.200	13.000	-41.057	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 6 GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/12/20	Test Site	OATS 1
Test Condition	Channel 4233 (WCDMA BAND V HSUPA)	Test Range	30MHz~10GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

1693.200	-42.502	-45.288	1.630	9.800	-37.118	-13
2539.800	-54.593	-55.379	2.100	10.600	-46.879	-13
3386.400	-55.695	-57.264	2.350	12.300	-47.314	-13
4233.000	-57.421	-55.876	2.700	12.600	-45.976	-13
5079.600	-56.267	-51.671	2.830	12.700	-41.801	-13
5926.200	-54.631	-50.596	3.200	13.000	-40.796	-13

### Vertical Emissions

1696.000	-44.664	-46.997	1.630	9.800	-38.827	-13
2539.800	-53.496	-53.497	2.100	10.600	-44.997	-13
3386.400	-55.406	-55.816	2.350	12.300	-45.866	-13
4233.000	-57.529	-54.803	2.700	12.600	-44.903	-13
5079.600	-55.792	-50.919	2.830	12.700	-41.049	-13
5926.200	-54.621	-50.477	3.200	13.000	-40.677	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 6 GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/12/20	Test Site	OATS 1
Test Condition	Channel 9538 (WCDMA BAND II RMC)	Test Range	30MHz~20GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

3815.200	-57.145	-57.529	2.530	12.600	-47.459	-13
5722.800	-55.622	-53.523	3.050	13.100	-43.473	-13
7630.400	-57.505	-43.649	3.650	11.500	-35.799	-13
9538.000	-57.790	-43.268	3.850	12.000	-35.118	-13
11445.600	-58.539	-40.085	4.580	12.000	-32.665	-13

### Vertical Emissions

3815.200	-56.509	-44.292	2.530	12.600	-44.292	-13
5722.800	-55.348	-43.092	3.050	13.100	-43.092	-13
7630.400	-56.130	-33.832	3.650	11.500	-33.832	-13
9538.000	-55.880	-32.619	3.850	12.000	-32.619	-13
11445.600	-57.782	-32.021	4.580	12.000	-32.021	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 12GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/12/20	Test Site	OATS 1
Test Condition	Channel 9400 (WCDMA BAND II HSDPA)	Test Range	30MHz~20GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

3760.000	-56.271	-56.619	2.530	12.600	-46.549	-13
5640.000	-56.103	-53.422	3.050	13.100	-43.372	-13
7520.000	-57.601	-43.233	3.650	11.500	-35.383	-13
9400.000	-57.564	-42.246	3.850	12.000	-34.096	-13
11280.000	-57.453	-40.992	4.580	12.000	-33.572	-13

### Vertical Emissions

3760.000	-57.341	-55.359	2.530	12.600	-45.289	-13
5640.000	-55.565	-52.415	3.050	13.100	-42.365	-13
7520.000	-56.509	-41.527	3.650	11.500	-33.677	-13
9400.000	-57.610	-41.779	3.850	12.000	-33.629	-13
11280.000	-57.993	-41.339	4.580	12.000	-33.919	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 12GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

Product	HE863-NAD		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2010/12/20	Test Site	OATS 1
Test Condition	Channel 9538 (WCDMA BAND II HSUPA)	Test Range	30MHz~20GHz

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	EIRP Value	Limit
(GHz)	(dBm)	(dBm)	(dB)	(dBi)	(dBm)	(dBm)

### Horizontal Emissions

3815.200	-57.299	-57.684	2.530	12.600	-47.614	-13
5722.800	-56.290	-54.191	3.050	13.100	-44.141	-13
7630.400	-57.584	-43.728	3.650	11.500	-35.878	-13
9538.000	-58.709	-44.187	3.850	12.000	-36.037	-13
11445.600	-58.843	-40.389	4.580	12.000	-32.969	-13

### Vertical Emissions

3815.200	-56.712	-66.782	2.530	12.600	-44.495	-13
5722.800	-55.746	-65.796	3.050	13.100	-43.490	-13
7630.400	-56.742	-64.592	3.650	11.500	-34.444	-13
9538.000	-57.842	-65.992	3.850	12.000	-34.581	-13
11445.600	-58.789	-66.209	4.580	12.000	-33.028	-13

#### Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. EIRP Value = Signal Generator Level + Antenna Gain - Cable Loss
3. Spurious emissions past 12GHz are not shown, due to the magnitude of spurious emissions attenuated more than 20 dB below the limit.

## 6. Frequency Stability Under Temperature & Voltage Variations

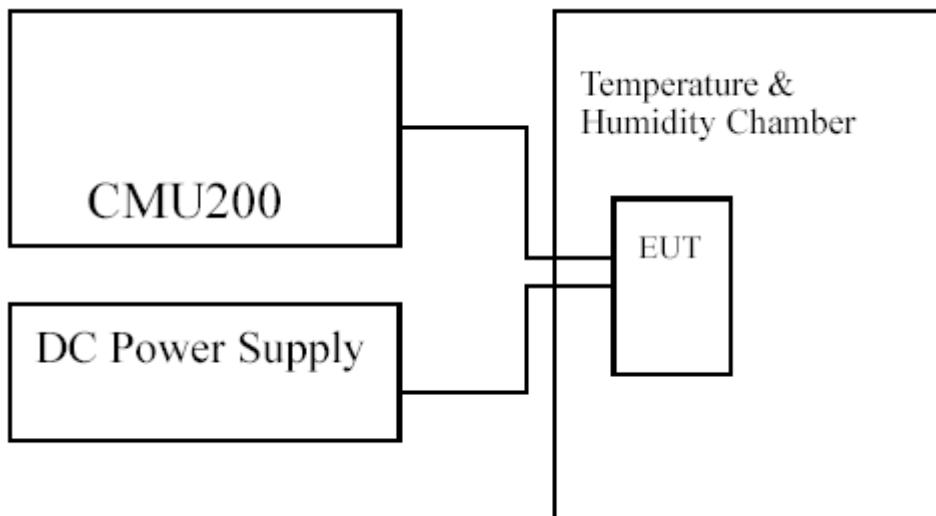
### 6.1. Test Equipment

The following test equipments are used during the frequency stability test:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Universal Radio Communication Tester	R & S	CMU200 / 104846	May., 2010
Standard Temperature & Humidity Chamber	WIT	TH-1S-B / 108210	Sep., 2010
DC Power Supply	Agilent	87421A / MY44350304	Apr., 2010

Note: All equipments upon which need to be calibrated are with calibration period of 1 year

### 6.2. Test Setup



### 6.3. Limits

Limit	<math>\pm 2.5\text{ppm}</math>
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#### 6.4. Test Procedure

The frequency stability of transmitter is measured by:

- (a) Temperature: The temperature is varied from  $-30^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  in  $10^{\circ}\text{C}$  increment using a standard temperature & Humidity chamber.
- (b) Primary Supply Voltage: The primary supply voltage is varied 85% to 115% of the nominal value for non hand-carried equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating endpoint which shall be specified by the manufacturer.

The EUT was connected via the base station simulator. Universal Radio Communication Tester, (CMU200), was used to measure The Frequency Error. The maximum result of measurements was recorded.

#### 6.5. Test Specification

According to Part 2.1055,22.355,24.235



## 6.6. Test Result of Frequency Stability Under Temperature Variations

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/11/25	Test Site	CTR
Test Condition	GSM 850 GPRS / Channel 189	Test Range	-30°C~+50°C

### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.836	-29	±2.09
-20	0.836	-25	±2.09
-10	0.836	-16	±2.09
0	0.836	-18	±2.09
10	0.836	-21	±2.09
20	0.836	-17	±2.09
30	0.836	-19	±2.09
40	0.836	-43	±2.09
50	0.836	-51	±2.09

### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	0.836	-23	±2.09
3.8	0.836	-17	±2.09
3.4	0.836	-18	±2.09

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/11/25	Test Site	CTR
Test Condition	GSM 850 EGPRS / Channel 189	Test Range	-30°C~+50°C

### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.836	-48	±2.09
-20	0.836	-54	±2.09
-10	0.836	-44	±2.09
0	0.836	-46	±2.09
10	0.836	-43	±2.09
20	0.836	-45	±2.09
30	0.836	-42	±2.09
40	0.836	-50	±2.09
50	0.836	-43	±2.09

### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	0.836	-39	±2.09
3.8	0.836	-45	±2.09
3.4	0.836	-47	±2.09

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/11/25	Test Site	CTR
Test Condition	PCS 1900 GPRS / Channel 698	Test Range	-30°C ~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	1.88	-16	±4.7
-20	1.88	29	±4.7
-10	1.88	-38	±4.7
0	1.88	46	±4.7
10	1.88	-34	±4.7
20	1.88	-26	±4.7
30	1.88	-39	±4.7
40	1.88	-48	±4.7
50	1.88	-41	±4.7

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	1.88	-36	±4.7
3.8	1.88	-26	±4.7
3.4	1.88	-29	±4.7

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/11/25	Test Site	CTR
Test Condition	PCS 1900 EGPRS / Channel 698	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	1.88	-38	±4.7
-20	1.88	41	±4.7
-10	1.88	-47	±4.7
0	1.88	-59	±4.7
10	1.88	-51	±4.7
20	1.88	-56	±4.7
30	1.88	-55	±4.7
40	1.88	-67	±4.7
50	1.88	-58	±4.7

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	1.88	-54	±4.7
3.8	1.88	-56	±4.7
3.4	1.88	-58	±4.7

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND V RMC / Channel 4183	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.837	29	±2.09
-20	0.837	20	±2.09
-10	0.837	23	±2.09
0	0.837	25	±2.09
10	0.837	-24	±2.09
20	0.837	-28	±2.09
30	0.837	-21	±2.09
40	0.837	-16	±2.09
50	0.837	14	±2.09

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	0.837	19	±2.09
3.8	0.837	-28	±2.09
3.4	0.837	27	±2.09

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND V HSDPA / Channel 4183	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.837	25	±2.09
-20	0.837	22	±2.09
-10	0.837	19	±2.09
0	0.837	23	±2.09
10	0.837	-15	±2.09
20	0.837	-13	±2.09
30	0.837	21	±2.09
40	0.837	17	±2.09
50	0.837	-13	±2.09

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	0.837	18	±2.09
3.8	0.837	-13	±2.09
3.4	0.837	25	±2.09

Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND V HSUPA / Channel 4183	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.837	-26	±2.09
-20	0.837	27	±2.09
-10	0.837	-28	±2.09
0	0.837	29	±2.09
10	0.837	35	±2.09
20	0.837	24	±2.09
30	0.837	21	±2.09
40	0.837	20	±2.09
50	0.837	-18	±2.09

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	0.837	14	±2.09
3.8	0.837	24	±2.09
3.4	0.837	-16	±2.09

.Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND II RMC / Channel 9400	Test Range	-30°C ~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	1.88	-18	±4.7
-20	1.88	-17	±4.7
-10	1.88	13	±4.7
0	1.88	19	±4.7
10	1.88	14	±4.7
20	1.88	14	±4.7
30	1.88	17	±4.7
40	1.88	-20	±4.7
50	1.88	18	±4.7

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	1.88	20	±4.7
3.8	1.88	14	±4.7
3.4	1.88	15	±4.7



.Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND II HSDPA / Channel 9400	Test Range	-30°C ~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	1.88	-22	±4.7
-20	1.88	-13	±4.7
-10	1.88	-18	±4.7
0	1.88	-34	±4.7
10	1.88	-27	±4.7
20	1.88	-29	±4.7
30	1.88	20	±4.7
40	1.88	24	±4.7
50	1.88	19	±4.7

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.2	1.88	-17	±4.7
3.8	1.88	-29	±4.7
3.4	1.88	15	±4.7

.Product	HE863-NAD		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2010/12/20	Test Site	CTR
Test Condition	WCDMA BAND II HSUPA / Channel 9400	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	1.88	15	±4.7
-20	1.88	-18	±4.7
-10	1.88	-14	±4.7
0	1.88	-23	±4.7
10	1.88	-26	±4.7
20	1.88	-19	±4.7
30	1.88	-24	±4.7
40	1.88	-16	±4.7
50	1.88	-15	±4.7

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	-14	±4.7
3.8	1.88	-19	±4.7
3.2	1.88	20	±4.7

## 7. EMI Reduction Method During Compliance Testing

No modification was made during testing.

## Attachment 1: EUT Test Photographs

## Attachment 2: EUT Detailed Photographs