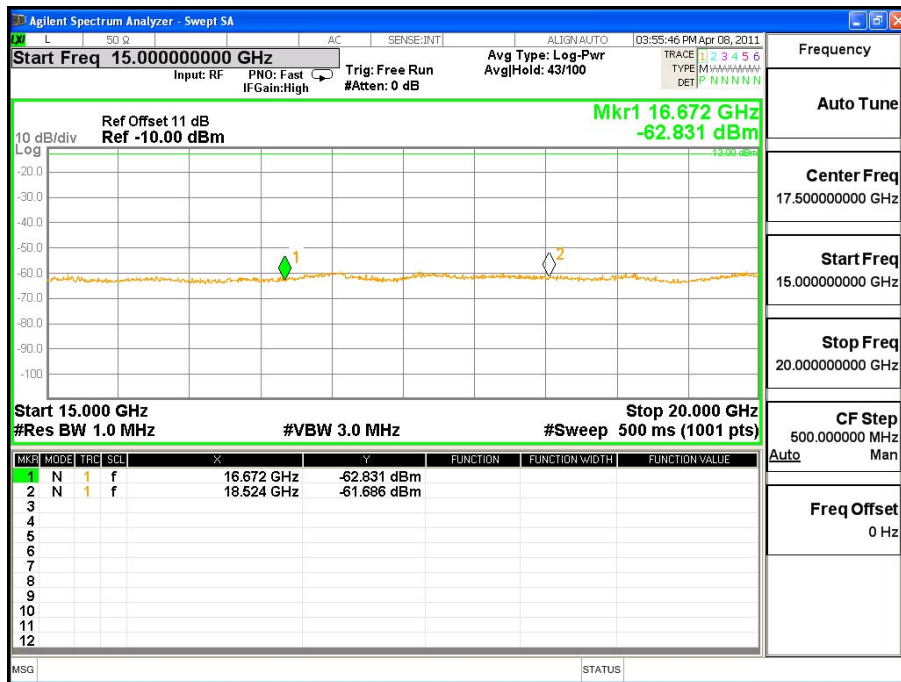


Frequency	
Auto Tune	
Center Freq	12.500000000 GHz
Start Freq	10.000000000 GHz
Stop Freq	15.000000000 GHz
CF Step	500.0000000 MHz
Auto	Man
Freq Offset	0 Hz

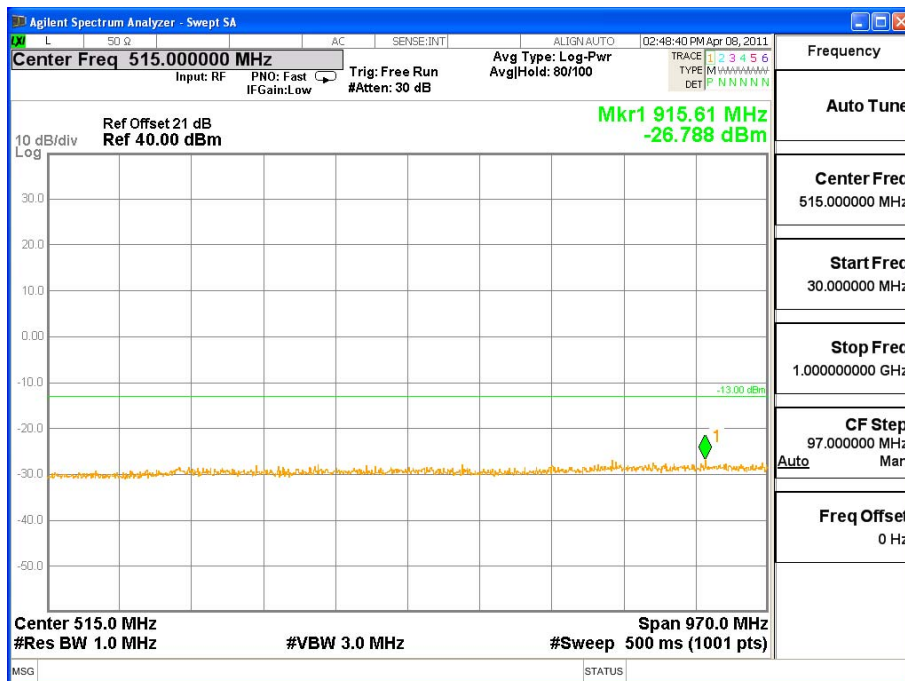


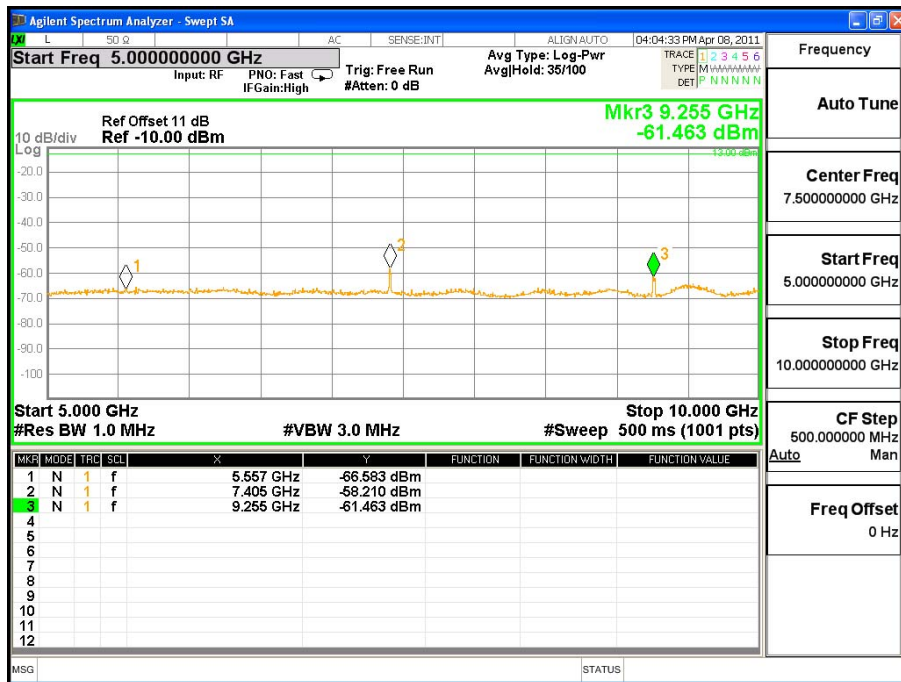
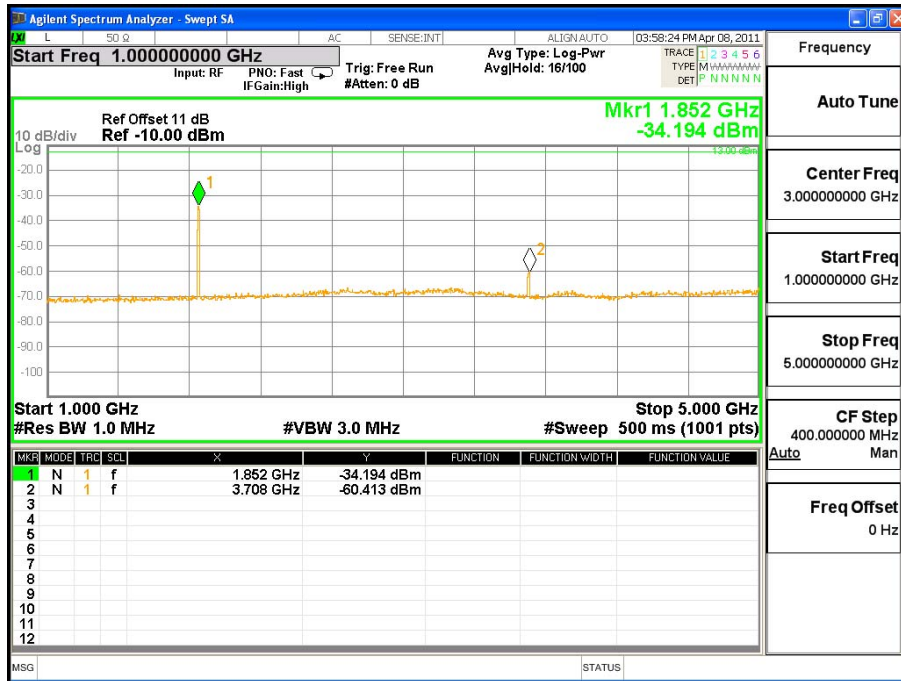
Frequency	
Auto Tune	
Center Freq	17.500000000 GHz
Start Freq	15.000000000 GHz
Stop Freq	20.000000000 GHz
CF Step	500.0000000 MHz
Auto	Man
Freq Offset	0 Hz

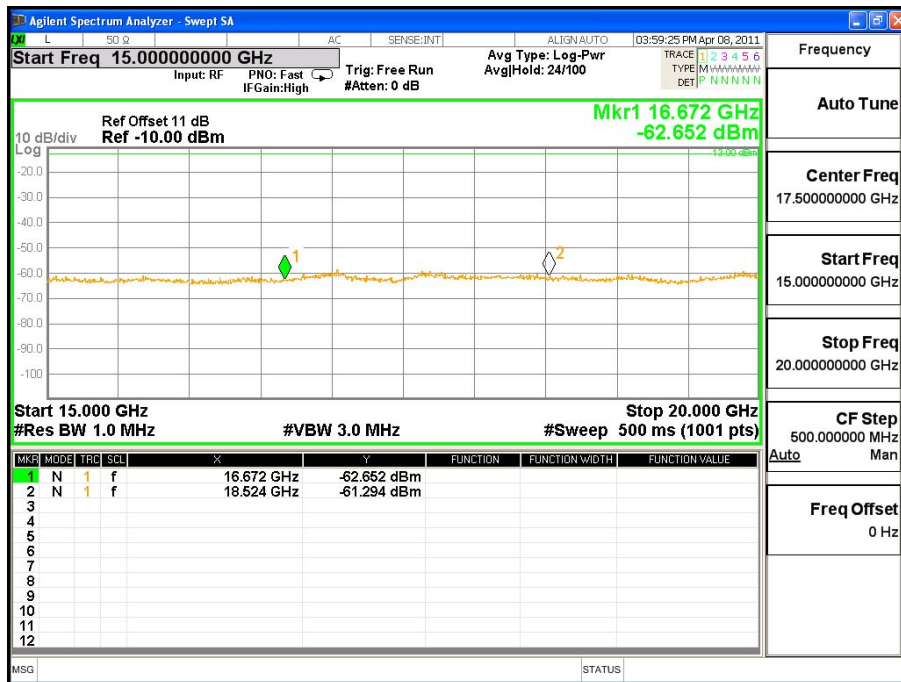
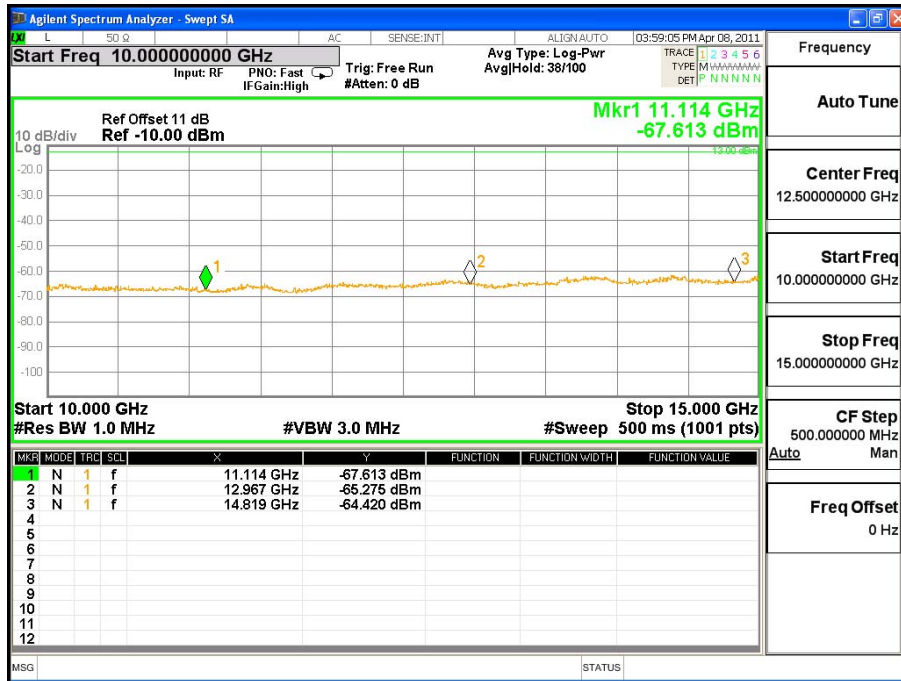
Product	HE863-NAG		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2011/04/07	Test Site	CTR
Test Condition	WCDMA BAND II HSDPA	Test Range	30MHz~20GHz

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

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
3708	-60.413	1.1	-59.313	-13
5557	-66.583	1.23	-65.353	-13
7405	-58.210	1.59	-56.620	-13
9255	-61.463	1.89	-59.573	-13
11114	-67.613	2.07	-65.543	-13
12967	-65.275	2.26	-63.015	-13
14819	-64.420	2.64	-61.780	-13
16672	-62.652	3.5	-59.152	-13
18524	-61.294	3.7	-57.594	-13



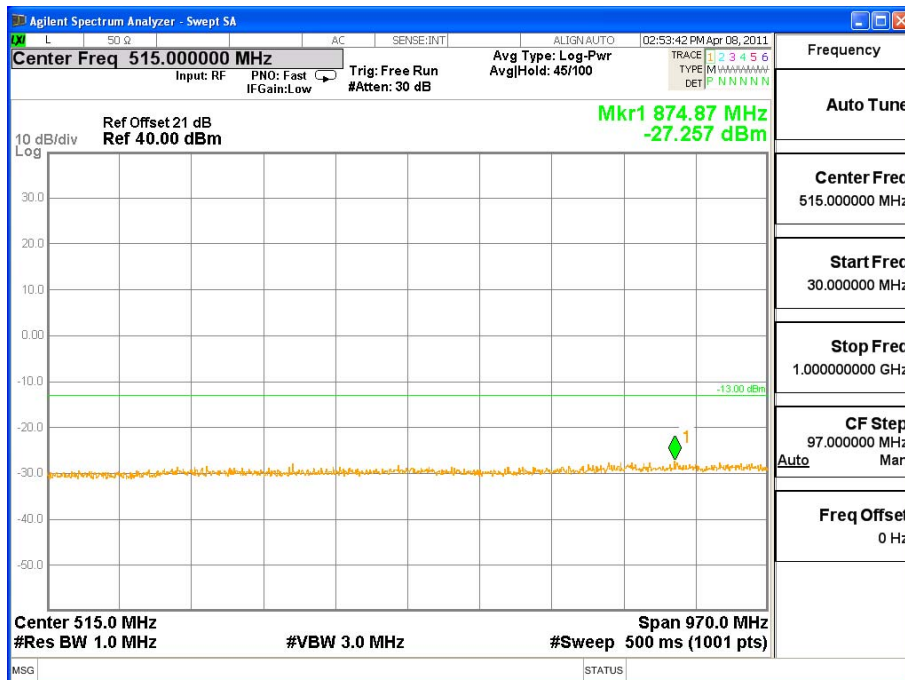


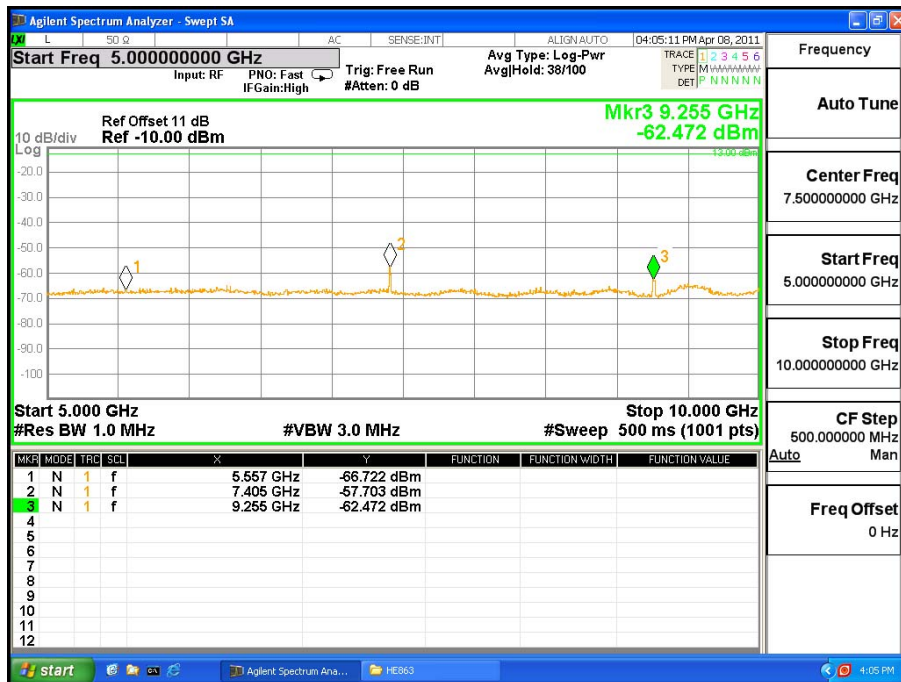
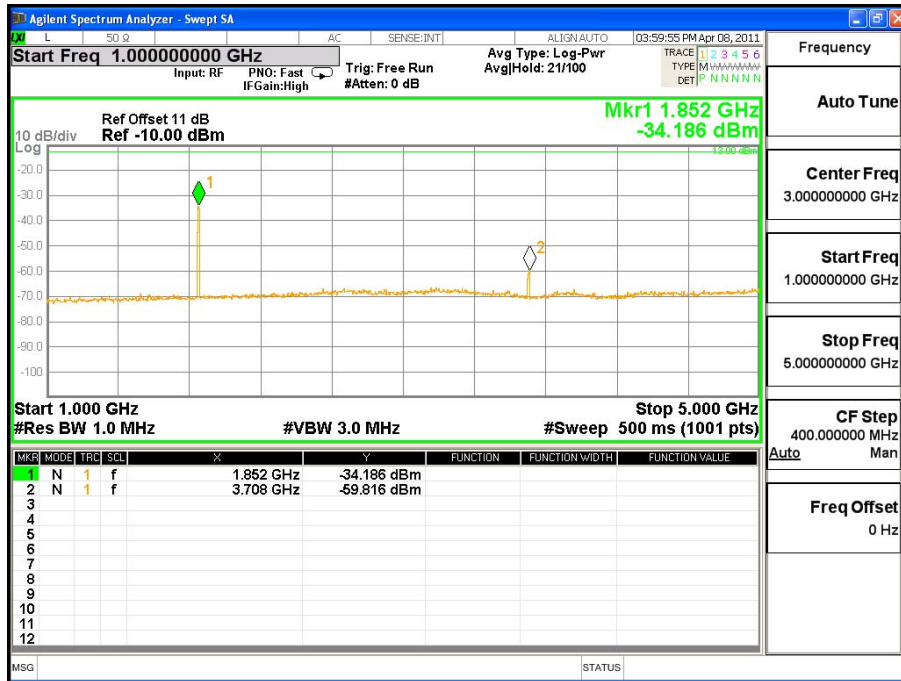


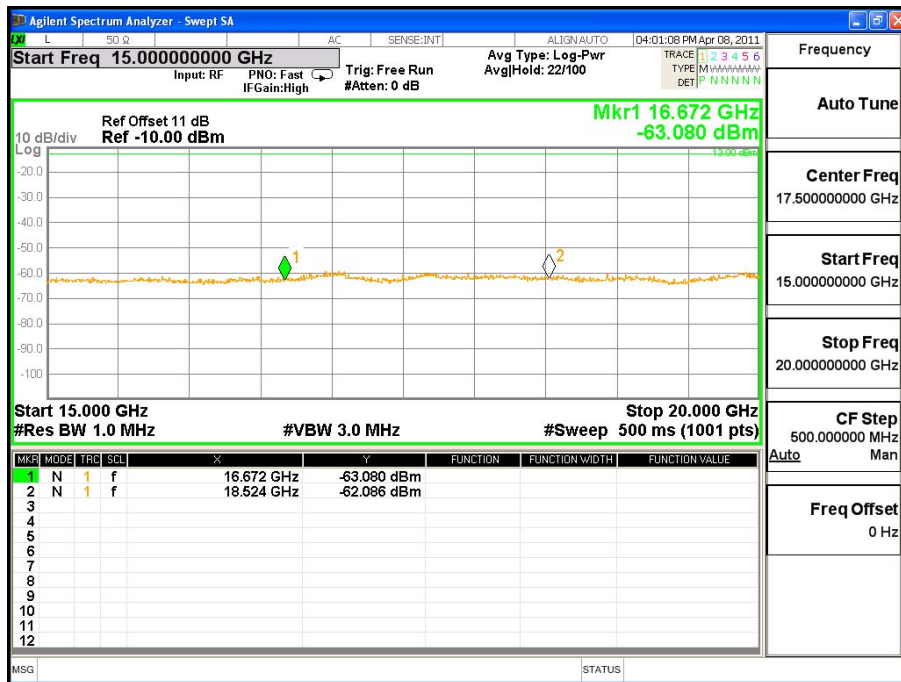
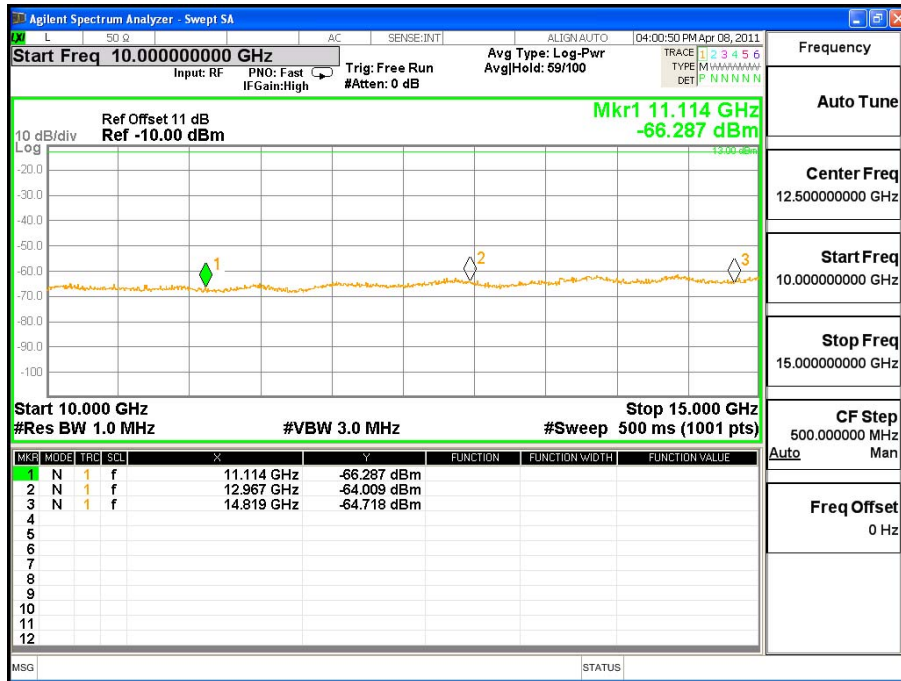
Product	HE863-NAG		
Test Mode	Spurious Emission (Conducted)		
Date of Test	2011/04/07	Test Site	CTR
Test Condition	WCDMA BAND II HSUPA	Test Range	30MHz~20GHz

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

Frequency (MHz)	Reading Level (dBm)	Path Loss (dB)	Emission Level (dBm)	Limit (dBm)
3708	-59.816	1.1	-58.716	-13
5557	-66.722	1.23	-65.492	-13
7405	-57.703	1.59	-56.113	-13
9255	-62.472	1.89	-60.582	-13
11114	-66.287	2.07	-64.217	-13
12967	-64.009	2.26	-61.749	-13
14819	-64.718	2.64	-62.078	-13
16672	-63.080	3.5	-59.580	-13
18524	-62.086	3.7	-58.386	-13









Product	HE863-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 128 (GSM 850 VOICE)	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

1648.4	-44.287	-47.682	1.630	9.800	-39.512	-13
2472.6	-50.712	-51.067	2.100	10.600	-42.567	-13
3296.8	-58.236	-59.918	2.350	12.300	-49.968	-13
4121	-59.132	-58.149	2.700	12.600	-48.249	-13
4945.2	-59.183	-55.086	2.830	12.700	-45.216	-13
5769.4	-59.976	-57.845	3.200	13.000	-48.045	-13

### Vertical Emissions

1648.4	-42.883	-45.970	1.630	9.800	-37.800	-13
2472.6	-47.226	-47.305	2.100	10.600	-38.805	-13
3296.8	-57.718	-58.346	2.350	12.300	-48.396	-13
4121	-58.853	-56.178	2.700	12.600	-46.278	-13
4945.2	-60.110	-55.470	2.830	12.700	-45.600	-13
5769.4	-58.762	-56.511	3.200	13.000	-46.711	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	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

1648.4	-44.572	-47.967	1.630	9.800	-39.797	-13
2472.6	-51.359	-51.714	2.100	10.600	-43.214	-13
3296.8	-56.087	-57.769	2.350	12.300	-47.819	-13
4121	-58.464	-57.481	2.700	12.600	-47.581	-13
4945.2	-59.927	-55.830	2.830	12.700	-45.96	-13
5769.4	-59.731	-57.600	3.200	13.000	-47.8	-13

### Vertical Emissions

1648.4	-42.461	-45.548	1.630	9.800	-37.378	-13
2472.6	-47.537	-47.616	2.100	10.600	-39.116	-13
3296.8	-57.270	-57.898	2.350	12.300	-47.948	-13
4121	-58.237	-55.587	2.700	12.600	-45.687	-13
4945.2	-60.381	-55.737	2.830	12.700	-45.867	-13
5769.4	-60.013	-57.832	3.200	13.000	-48.032	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	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

1648.4	-55.908	-59.303	1.630	9.800	-51.133	-13
2472.6	-58.062	-58.399	2.100	10.600	-49.899	-13
3296.8	-57.288	-58.963	2.350	12.300	-49.013	-13
4121	-59.011	-58.005	2.700	12.600	-48.105	-13
4945.2	-60.247	-56.150	2.830	12.700	-46.280	-13
5769.4	-60.273	-58.217	3.200	13.000	-48.417	-13

### Vertical Emissions

1648.4	-49.327	-52.414	1.630	9.800	-44.244	-13
2472.6	-58.231	-58.311	2.100	10.600	-49.811	-13
3296.8	-57.276	-57.904	2.350	12.300	-47.954	-13
4121	-58.069	-55.364	2.700	12.600	-45.464	-13
4945.2	-57.862	-53.135	2.830	12.700	-43.265	-13
5769.4	-59.167	-56.916	3.200	13.000	-47.116	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 810 (PCS1900 VOICE)	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

3819.6	-58.321	-58.725	2.530	12.600	-48.655	-13
5729.4	-58.190	-56.130	3.050	13.100	-46.080	-13
7639.2	-60.823	-47.035	3.650	11.500	-39.185	-13
9549	-59.159	-44.765	3.850	12.000	-36.615	-13
11458.8	-59.180	-40.490	4.580	12.000	-33.070	-13

### Vertical Emissions

3819.6	-53.050	-50.930	2.530	12.600	-40.860	-13
5729.4	-56.603	-54.434	3.050	13.100	-44.384	-13
7639.2	-61.238	-46.853	3.650	11.500	-39.003	-13
9549	-58.717	-43.713	3.850	12.000	-35.563	-13
11458.8	-60.270	-41.692	4.580	12.000	-34.272	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 810 (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

3819.6	-59.565	-59.971	2.530	12.600	-49.901	-13
5729.4	-59.316	-57.256	3.050	13.100	-47.206	-13
7639.2	-60.536	-46.748	3.650	11.500	-38.898	-13
9549	-58.033	-43.639	3.850	12.000	-35.489	-13
11458.8	-57.840	-39.150	4.580	12.000	-31.730	-13

### Vertical Emissions

3819.6	-53.185	-51.065	2.530	12.600	-40.995	-13
5729.4	-57.793	-55.624	3.050	13.100	-45.574	-13
7639.2	-61.411	-47.026	3.650	11.500	-39.176	-13
9549	-58.877	-43.873	3.850	12.000	-35.723	-13
11458.8	-60.230	-41.652	4.580	12.000	-34.232	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 810 (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

3819.6	-59.714	-60.120	2.530	12.600	-50.050	-13
5729.4	-59.449	-57.389	3.050	13.100	-47.339	-13
7639.2	-61.042	-47.254	3.650	11.500	-39.404	-13
9549	-58.649	-44.255	3.850	12.000	-36.105	-13
11458.8	-60.280	-41.590	4.580	12.000	-34.170	-13

### Vertical Emissions

3819.6	-56.293	-54.173	2.530	12.600	-44.103	-13
5729.4	-59.281	-57.112	3.050	13.100	-47.062	-13
7639.2	-60.437	-46.052	3.650	11.500	-38.202	-13
9549	-58.321	-43.317	3.850	12.000	-35.167	-13
11458.8	-58.164	-39.586	4.580	12.000	-32.166	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 4132 (WCDMA BAND V )	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

1652.8	-46.802	-50.123	1.630	9.800	-41.953	-13
2479.2	-51.407	-51.741	2.100	10.600	-43.241	-13
3305.6	-57.531	-59.208	2.350	12.300	-49.258	-13
4132	-57.933	-56.927	2.700	12.600	-47.027	-13
4958.4	-56.380	-52.283	2.830	12.700	-42.413	-13
5784.8	-55.280	-53.224	3.200	13.000	-43.424	-13

### Vertical Emissions

1652.8	-43.743	-46.751	1.630	9.800	-38.581	-13
2479.2	-46.905	-46.980	2.100	10.600	-38.480	-13
3305.6	-55.588	-56.214	2.350	12.300	-46.264	-13
4132	-57.689	-54.984	2.700	12.600	-45.084	-13
4958.4	-55.978	-51.338	2.830	12.700	-41.468	-13
5784.8	-55.013	-52.832	3.200	13.000	-43.032	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 4132 (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

1652.8	-46.824	-50.145	1.630	9.800	-41.975	-13
2479.2	-51.421	-51.755	2.100	10.600	-43.255	-13
3305.6	-57.239	-58.916	2.350	12.300	-48.966	-13
4132	-58.164	-57.200	2.700	12.600	-47.300	-13
4958.4	-55.974	-51.838	2.830	12.700	-41.968	-13
5784.8	-55.035	-52.964	3.200	13.000	-43.164	-13

### Vertical Emissions

1652.8	-43.351	-46.359	1.630	9.800	-38.189	-13
2479.2	-46.829	-46.904	2.100	10.600	-38.404	-13
3305.6	-55.549	-56.175	2.350	12.300	-46.225	-13
4132	-57.189	-54.539	2.700	12.600	-44.639	-13
4958.4	-55.281	-50.545	2.830	12.700	-40.675	-13
5784.8	-56.770	-54.680	3.200	13.000	-44.880	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 4132 (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

1652.8	-47.515	-50.836	1.630	9.800	-42.666	-13
2479.2	-52.064	-52.398	2.100	10.600	-43.898	-13
3305.6	-57.588	-59.265	2.350	12.300	-49.315	-13
4132	-57.941	-56.977	2.700	12.600	-47.077	-13
4958.4	-56.723	-52.587	2.830	12.700	-42.717	-13
5784.8	-55.118	-53.047	3.200	13.000	-43.247	-13

### Vertical Emissions

1652.8	-47.127	-50.135	1.630	9.800	-41.965	-13
2479.2	-51.911	-51.986	2.100	10.600	-43.486	-13
3305.6	-57.088	-57.714	2.350	12.300	-47.764	-13
4132	-58.021	-55.371	2.700	12.600	-45.471	-13
4958.4	-56.218	-51.482	2.830	12.700	-41.612	-13
5784.8	-54.268	-52.178	3.200	13.000	-42.378	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 9538 (WCDMA BAND II )	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

3815.2	-58.953	-59.337	2.530	12.600	-49.267	-13
5722.8	-59.151	-57.053	3.050	13.100	-47.003	-13
7630.4	-61.145	-47.286	3.650	11.500	-39.436	-13
9538	-59.140	-44.618	3.850	12.000	-36.468	-13
11445.6	-58.966	-40.512	4.580	12.000	-33.092	-13

### Vertical Emissions

3815.2	-57.344	-55.196	2.530	12.600	-45.126	-13
5722.8	-58.413	-56.207	3.050	13.100	-46.157	-13
7630.4	-55.180	-40.732	3.650	11.500	-32.882	-13
9538	-57.160	-42.049	3.850	12.000	-33.899	-13
11445.6	-58.002	-39.661	4.580	12.000	-32.241	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	Test Site	OATS 1
Test Condition	Channel 9538 (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

3815.2	-58.114	-58.498	2.530	12.600	-48.428	-13
5722.8	-56.978	-54.880	3.050	13.100	-44.830	-13
7630.4	-56.184	-42.325	3.650	11.500	-34.475	-13
9538	-58.008	-43.486	3.850	12.000	-35.336	-13
11445.6	-58.064	-39.610	4.580	12.000	-32.190	-13

### Vertical Emissions

3815.2	-58.227	-56.079	2.530	12.600	-46.009	-13
5722.8	-57.234	-55.028	3.050	13.100	-44.978	-13
7630.4	-56.011	-41.563	3.650	11.500	-33.713	-13
9538	-57.160	-42.049	3.850	12.000	-33.899	-13
11445.6	-58.164	-39.823	4.580	12.000	-32.403	-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-NAG		
Test Mode	Spurious Emission (Radiated)		
Date of Test	2011/04/09	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

3815.2	-56.249	-56.633	2.530	12.600	-46.563	-13
5722.8	-56.900	-54.801	3.050	13.100	-44.751	-13
7630.4	-58.167	-44.308	3.650	11.500	-36.458	-13
9538	-58.741	-44.219	3.850	12.000	-36.069	-13
11445.6	-59.736	-41.274	4.580	12.000	-33.854	-13

### Vertical Emissions

3815.2	-57.292	-55.144	2.530	12.600	-45.074	-13
5722.8	-56.140	-53.935	3.050	13.100	-43.885	-13
7630.4	-57.219	-42.768	3.650	11.500	-34.918	-13
9538	-58.263	-43.152	3.850	12.000	-35.002	-13
11445.6	-58.020	-39.672	4.580	12.000	-32.252	-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

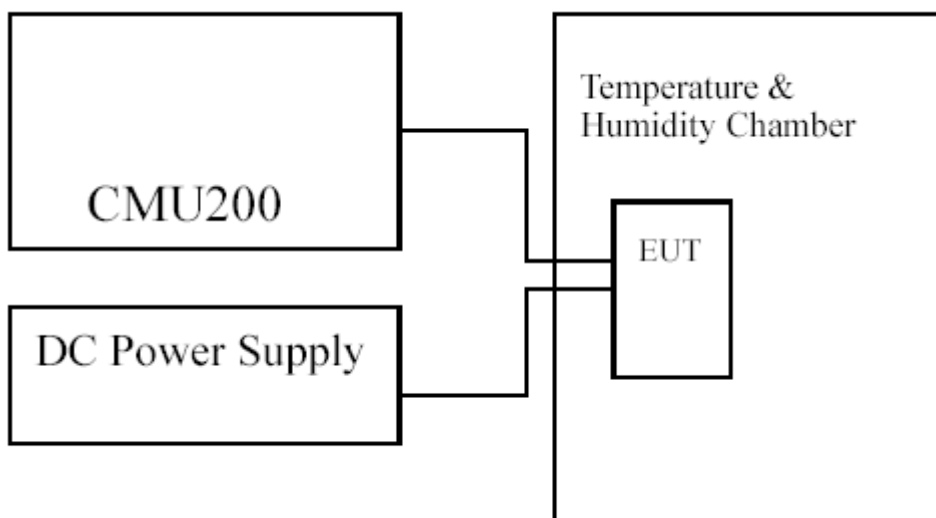
### 6.1. Test Equipment

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., 2011

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>\leq \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-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/08	Test Site	CTR
Test Condition	GSM 850 VOICE / 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	-30	±2.0913
-20	0.836	29	±2.0913
-10	0.836	-10	±2.0913
0	0.836	-15	±2.0913
10	0.836	-29	±2.0913
20	0.836	-31	±2.0913
30	0.836	-17	±2.0913
40	0.836	-41	±2.0913
50	0.836	-28	±2.0913

### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	0.836	-23	±2.0913
3.8	0.836	-41	±2.0913
3.2	0.836	-15	±2.0913

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/08	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	-10	±2.0913
-20	0.836	-15	±2.0913
-10	0.836	-17	±2.0913
0	0.836	-20	±2.0913
10	0.836	-25	±2.0913
20	0.836	30	±2.0913
30	0.836	21	±2.0913
40	0.836	-17	±2.0913
50	0.836	35	±2.0913

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	0.836	19	±2.0913
3.8	0.836	16	±2.0913
3.2	0.836	-11	±2.0913



Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/08	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	-17	±2.0913
-20	0.836	21	±2.0913
-10	0.836	32	±2.0913
0	0.836	-21	±2.0913
10	0.836	19	±2.0913
20	0.836	25	±2.0913
30	0.836	-16	±2.0913
40	0.836	-18	±2.0913
50	0.836	-21	±2.0913

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	0.836	37	±2.0913
3.8	0.836	29	±2.0913
3.2	0.836	-21	±2.0913

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/08	Test Site	CTR
Test Condition	PCS 1900 VOICE / 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	-20	±4.7
-20	1.88	21	±4.7
-10	1.88	32	±4.7
0	1.88	-41	±4.7
10	1.88	-29	±4.7
20	1.88	-31	±4.7
30	1.88	-40	±4.7
40	1.88	-21	±4.7
50	1.88	21	±4.7

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	15	±4.7
3.8	1.88	27	±4.7
3.2	1.88	-16	±4.7

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/08	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	-17	±4.7
-10	1.88	-21	±4.7
0	1.88	-30	±4.7
10	1.88	-51	±4.7
20	1.88	36	±4.7
30	1.88	47	±4.7
40	1.88	-18	±4.7
50	1.88	39	±4.7

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	-12	±4.7
3.8	1.88	16	±4.7
3.2	1.88	-29	±4.7

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/08	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	16	±4.7
-20	1.88	-11	±4.7
-10	1.88	-21	±4.7
0	1.88	-40	±4.7
10	1.88	21	±4.7
20	1.88	42	±4.7
30	1.88	31	±4.7
40	1.88	49	±4.7
50	1.88	21	±4.7

#### Voltage Variations

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	-11	±4.7
3.8	1.88	-18	±4.7
3.2	1.88	24	±4.7

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/07	Test Site	CTR
Test Condition	WCDMA BAND V / Channel 4183	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.836	21	±2.0913
-20	0.836	39	±2.0913
-10	0.836	-61	±2.0913
0	0.836	-43	±2.0913
10	0.836	-32	±2.0913
20	0.836	21	±2.0913
30	0.836	24	±2.0913
40	0.836	29	±2.0913
50	0.836	31	±2.0913

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	0.836	36	±2.0913
3.8	0.836	-11	±2.0913
3.2	0.836	-27	±2.0913

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/07	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	0.836	21	±2.0913
-20	0.836	32	±2.0913
-10	0.836	36	±2.0913
0	0.836	51	±2.0913
10	0.836	-16	±2.0913
20	0.836	23	±2.0913
30	0.836	-18	±2.0913
40	0.836	19	±2.0913
50	0.836	13	±2.0913

### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	0.836	-20	±2.0913
3.8	0.836	19	±2.0913
3.2	0.836	31	±2.0913

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/07	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	0.836	31	±2.0913
-20	0.836	-26	±2.0913
-10	0.836	-38	±2.0913
0	0.836	17	±2.0913
10	0.836	-21	±2.0913
20	0.836	-36	±2.0913
30	0.836	32	±2.0913
40	0.836	-10	±2.0913
50	0.836	19	±2.0913

### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	0.836	-10	±2.0913
3.8	0.836	-26	±2.0913
3.2	0.836	27	±2.0913

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/07	Test Site	CTR
Test Condition	WCDMA BAND II / 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	-16	±4.7
-20	1.88	-18	±4.7
-10	1.88	-11	±4.7
0	1.88	-18	±4.7
10	1.88	21	±4.7
20	1.88	-6	±4.7
30	1.88	32	±4.7
40	1.88	41	±4.7
50	1.88	56	±4.7

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	-51	±4.7
3.8	1.88	-46	±4.7
3.2	1.88	-70	±4.7



Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/07	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	-16	±4.7
-20	1.88	-45	±4.7
-10	1.88	-37	±4.7
0	1.88	31	±4.7
10	1.88	21	±4.7
20	1.88	19	±4.7
30	1.88	-27	±4.7
40	1.88	-16	±4.7
50	1.88	-13	±4.7

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	-13	±4.7
3.8	1.88	-16	±4.7
3.2	1.88	28	±4.7

Product	HE863-NAG		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2011/04/07	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	-16	±4.7
-20	1.88	-11	±4.7
-10	1.88	-18	±4.7
0	1.88	31	±4.7
10	1.88	-26	±4.7
20	1.88	-19	±4.7
30	1.88	38	±4.7
40	1.88	17	±4.7
50	1.88	26	±4.7

#### Voltage Variations

AC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
4.3	1.88	-11	±4.7
3.8	1.88	-28	±4.7
3.2	1.88	31	±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**