

5. 99% & 26dB Occupied Bandwidth Test

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.27,17	1 Year
3.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.15,17	1 Year

5.2. Test Procedure

The EUT output RF connector was connected with a short a cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW>=3 times RBW, 99% bandwidth were measured, the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

5.3. Test Result

99% Bandwidth

EUT: Gemini		
M/N: Gemini 4G		
Test date: 2018-01-02~03	Pressure: 102.7±1.0 kpa	Humidity: 52.8±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.2±0.6 °C

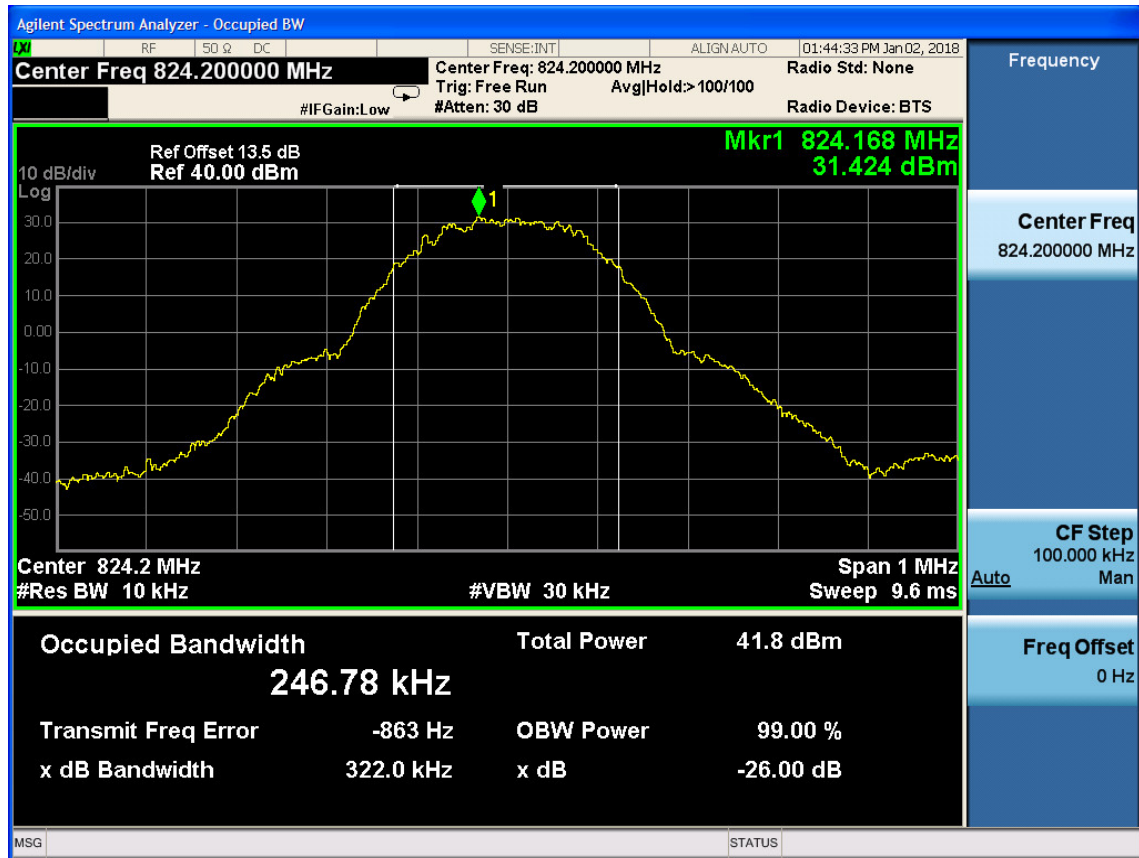
Test Mode	CH	Frequency (MHz)	99% bandwidth (kHz)		Limit (KHz)
			TM 1	TM 2	
GSM 850	CH128	824.2	246.78	240.02	N/A
	CH190	836.6	249.08	245.92	N/A
	CH251	848.8	246.36	239.23	N/A
PCS 1900	CH512	1850.2	246.17	250.63	N/A
	CH661	1880	244.43	246.10	N/A
	CH810	1909.8	241.80	249.76	N/A
Conclusion : PASS					

EUT: Gemini		
M/N: Gemini 4G		
Test date: 2018-01-02~03	Pressure: 102.7±1.0 kpa	Humidity: 52.8±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.2±0.6 °C

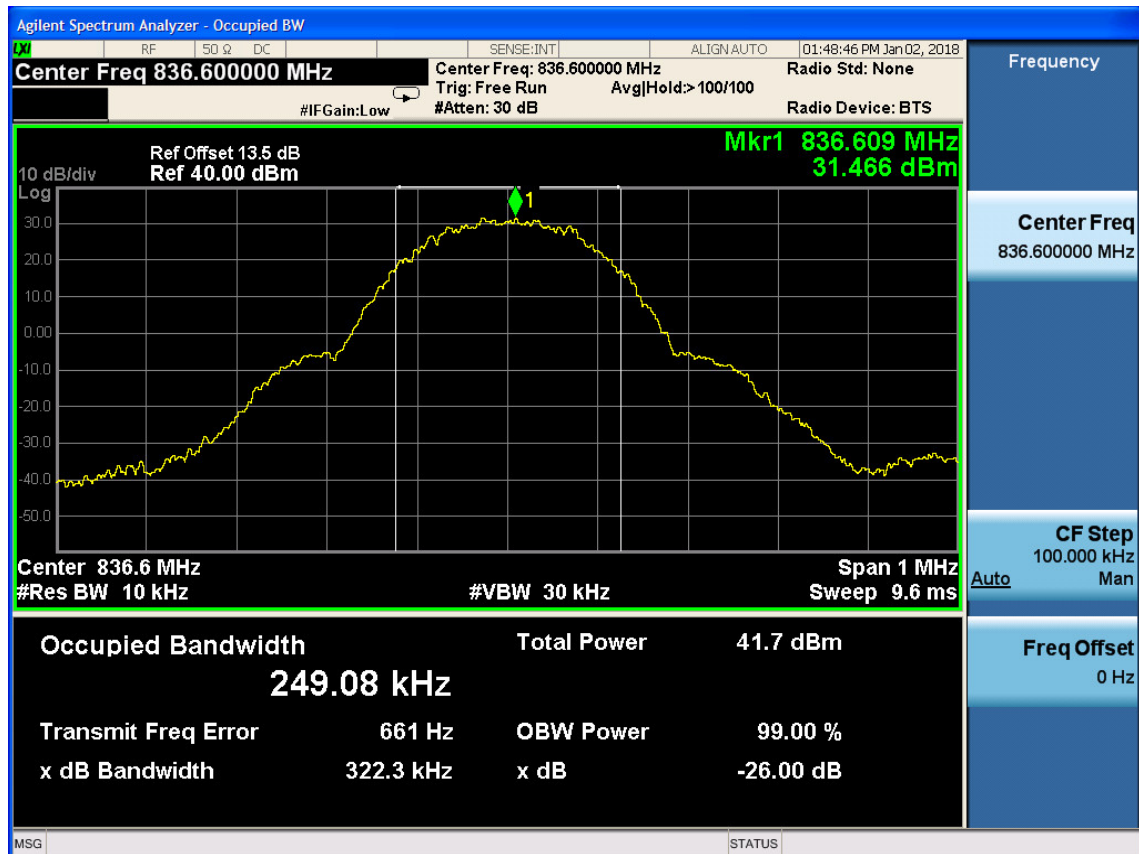
Test Mode	CH	Frequency (MHz)	26dB bandwidth (kHz)		Limit (KHz)
			TM 1	TM 2	
GSM 850	CH128	824.2	322.0	307.6	N/A
	CH190	836.6	322.3	324.6	N/A
	CH251	848.8	320.2	294.4	N/A
GSM 1900	CH512	1850.2	324.5	318.7	N/A
	CH661	1880	324.2	311.8	N/A
	CH810	1909.8	318.5	320.3	N/A

Conclusion : PASS

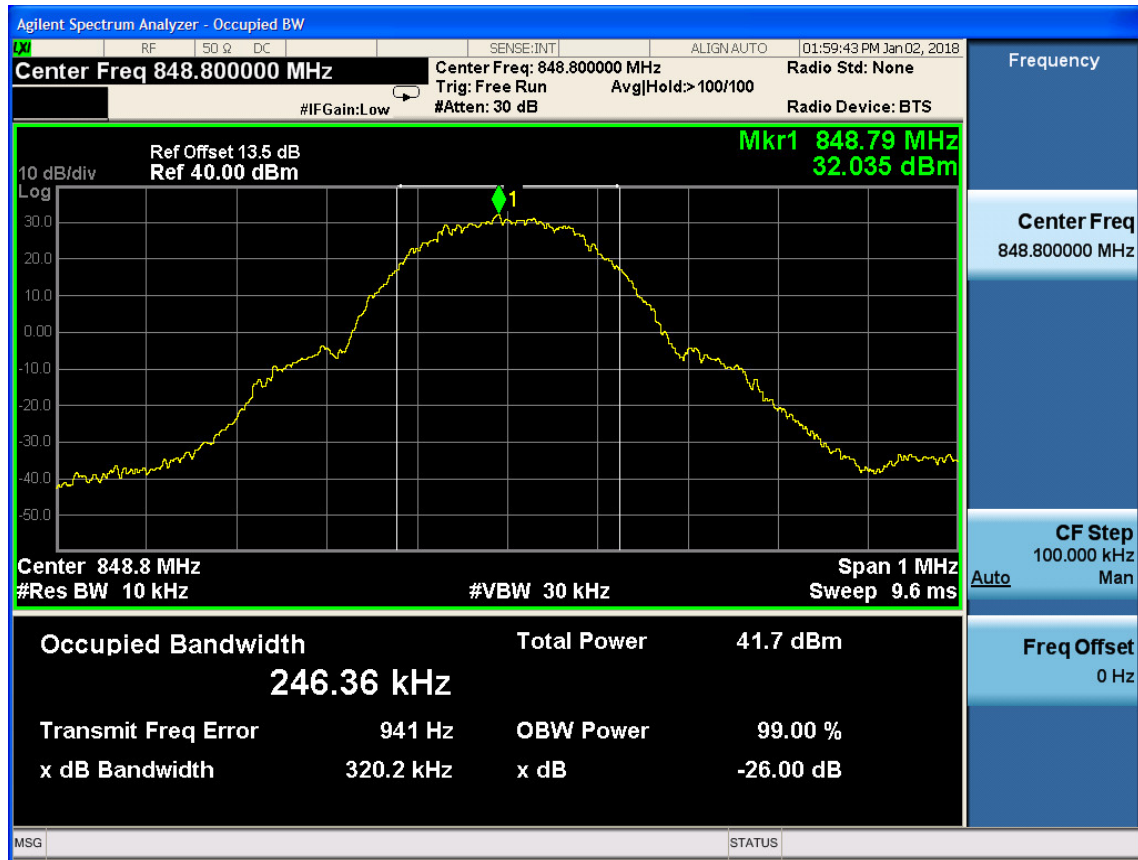
GSM 850
TM 1
CH128



CH190

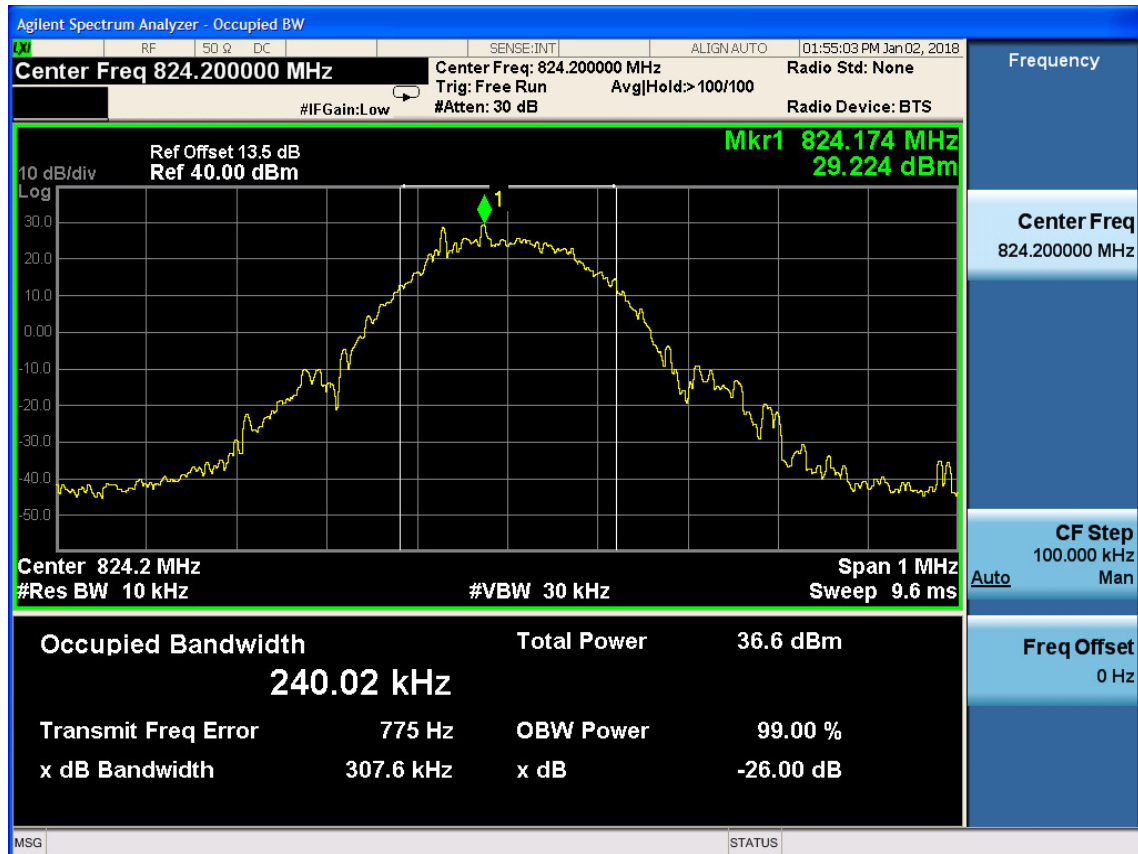


CH251

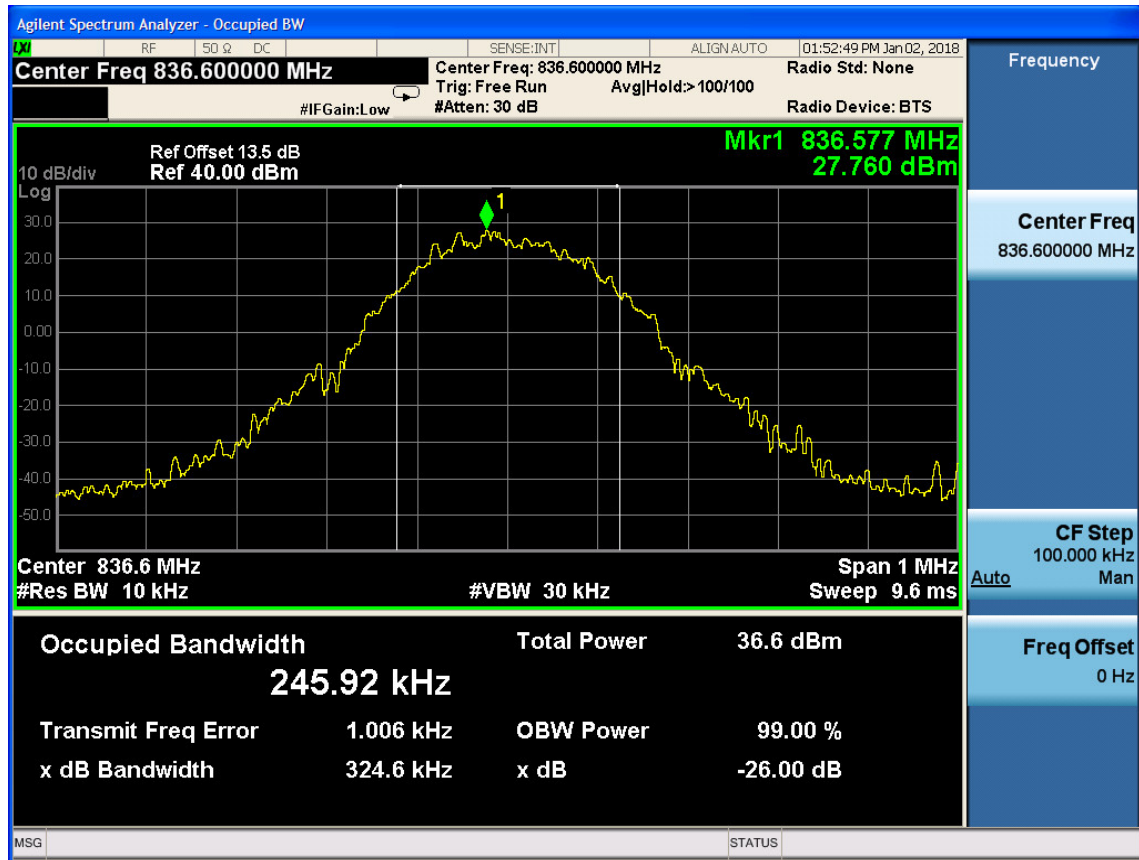


TM 2

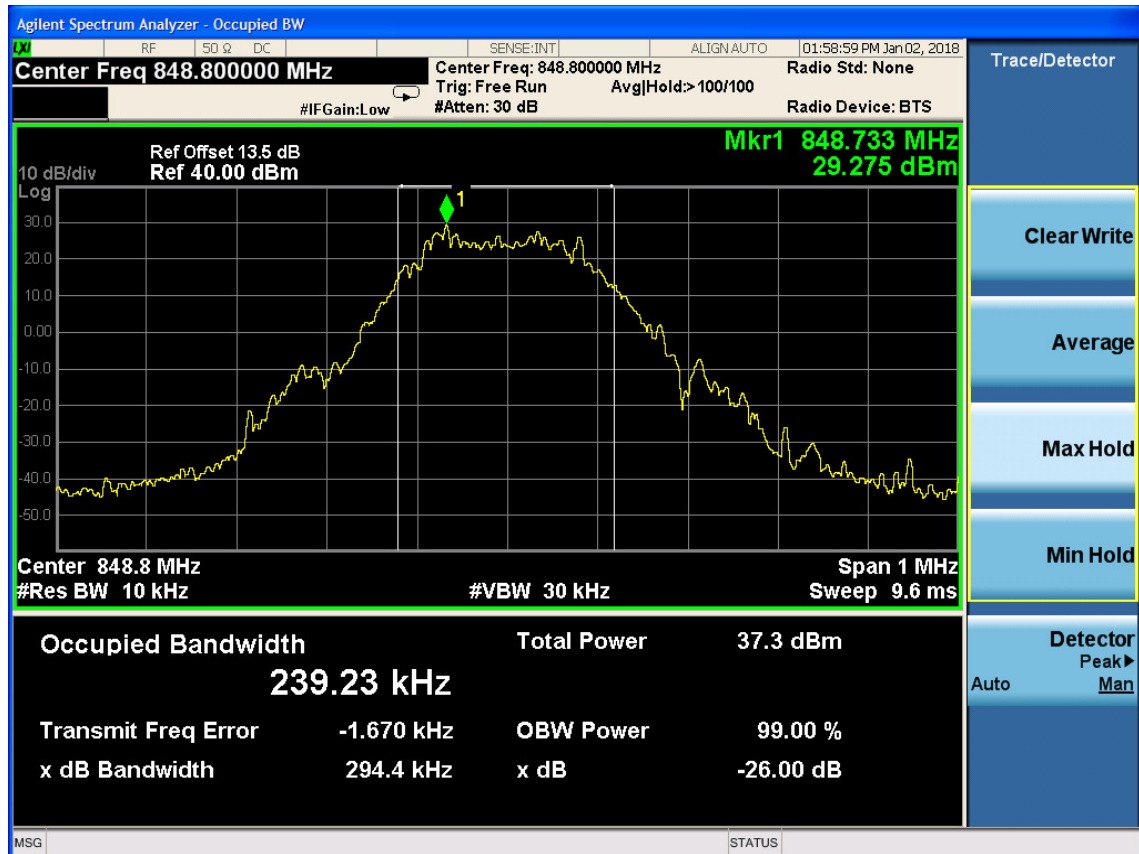
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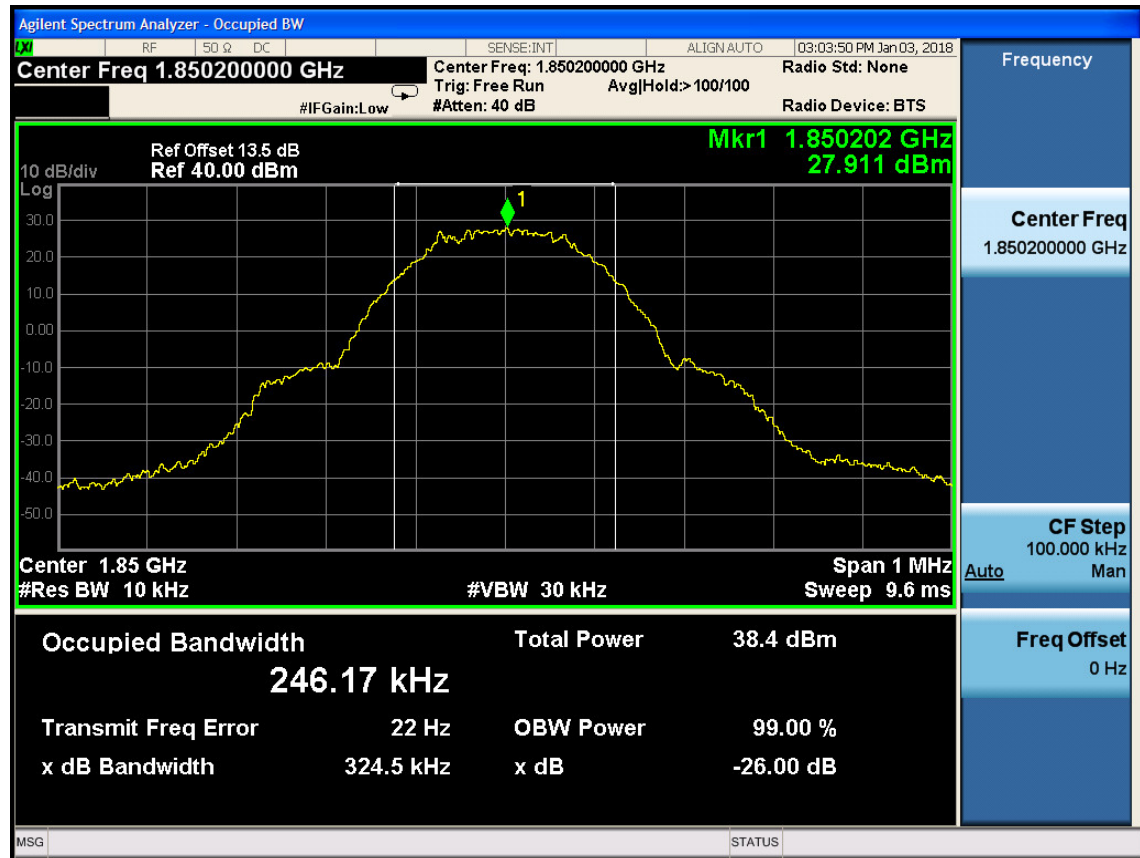
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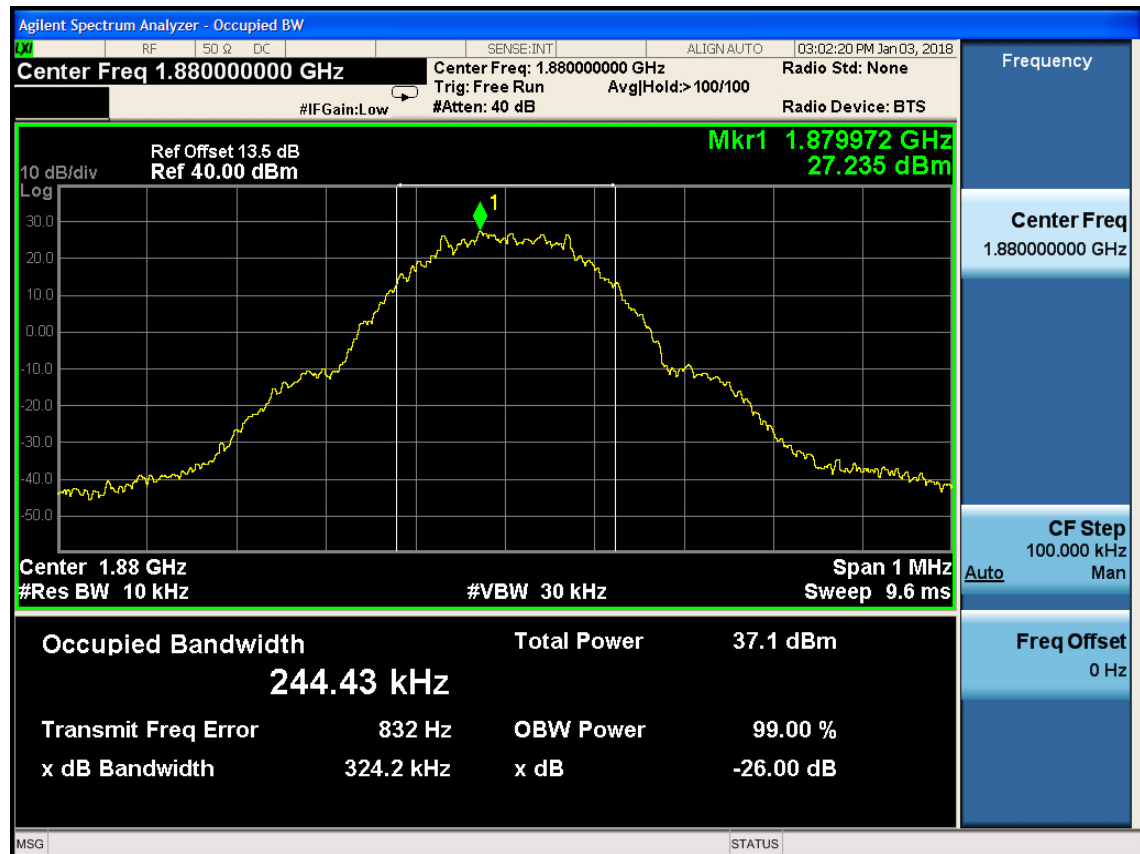
CH251



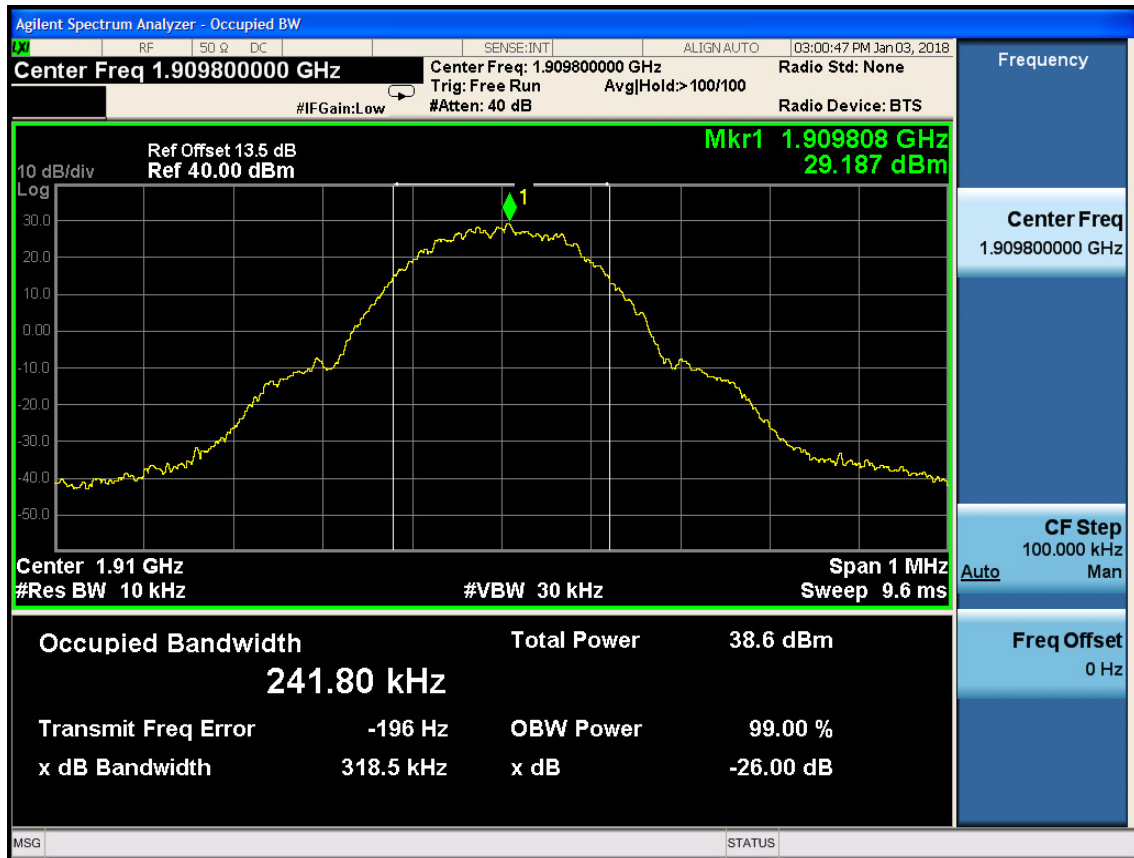
PCS 1900
TM 1
CH512



CH661

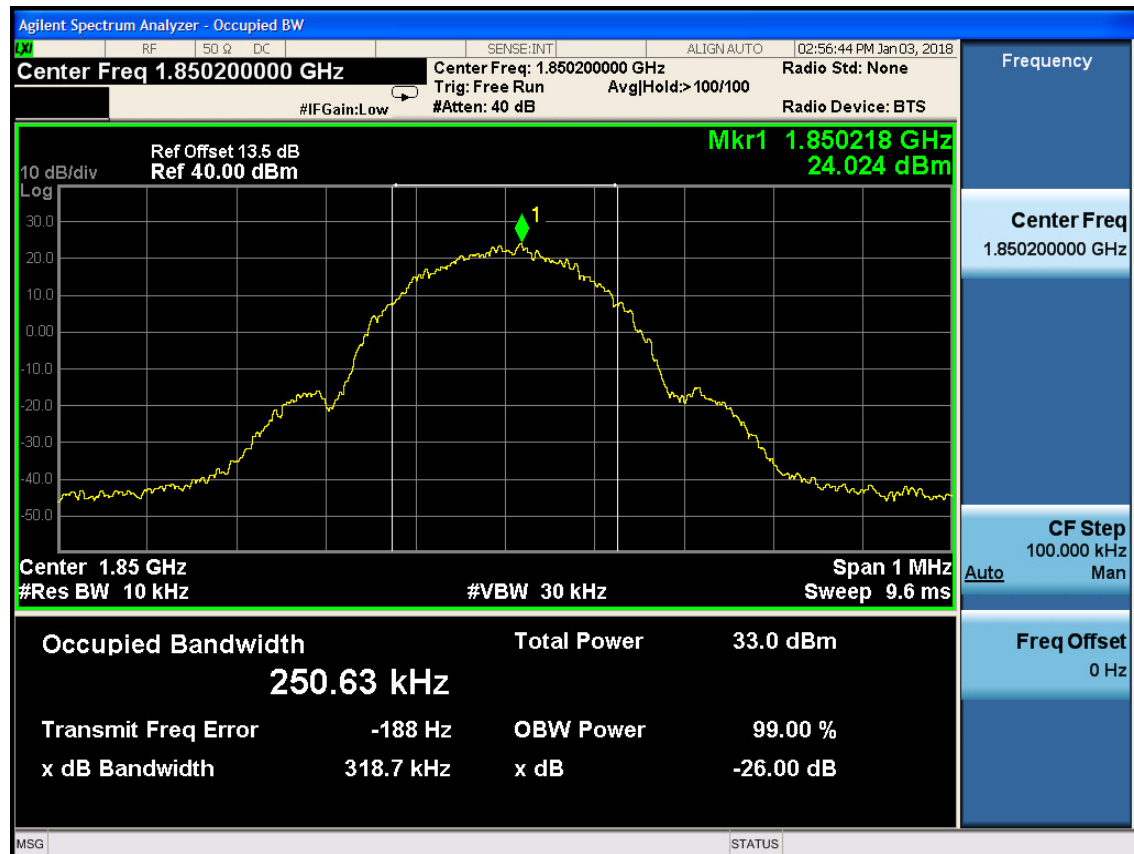


CH810

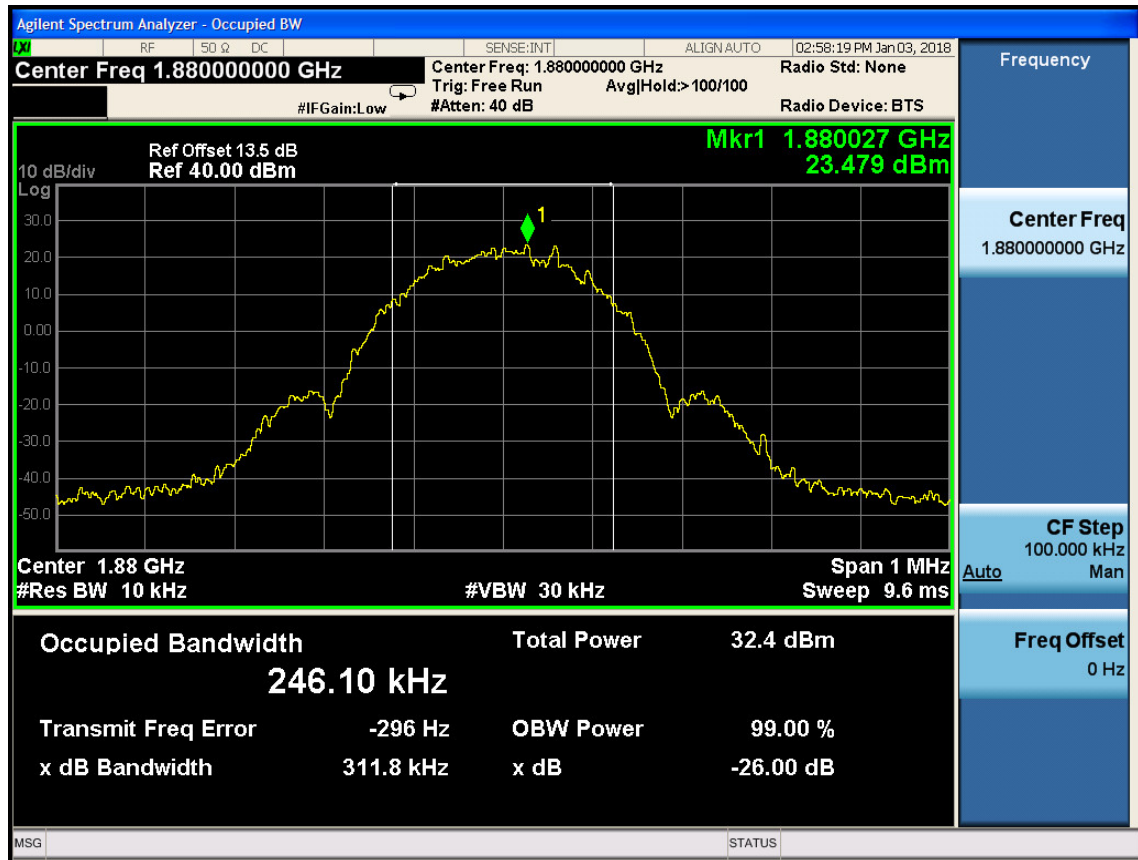


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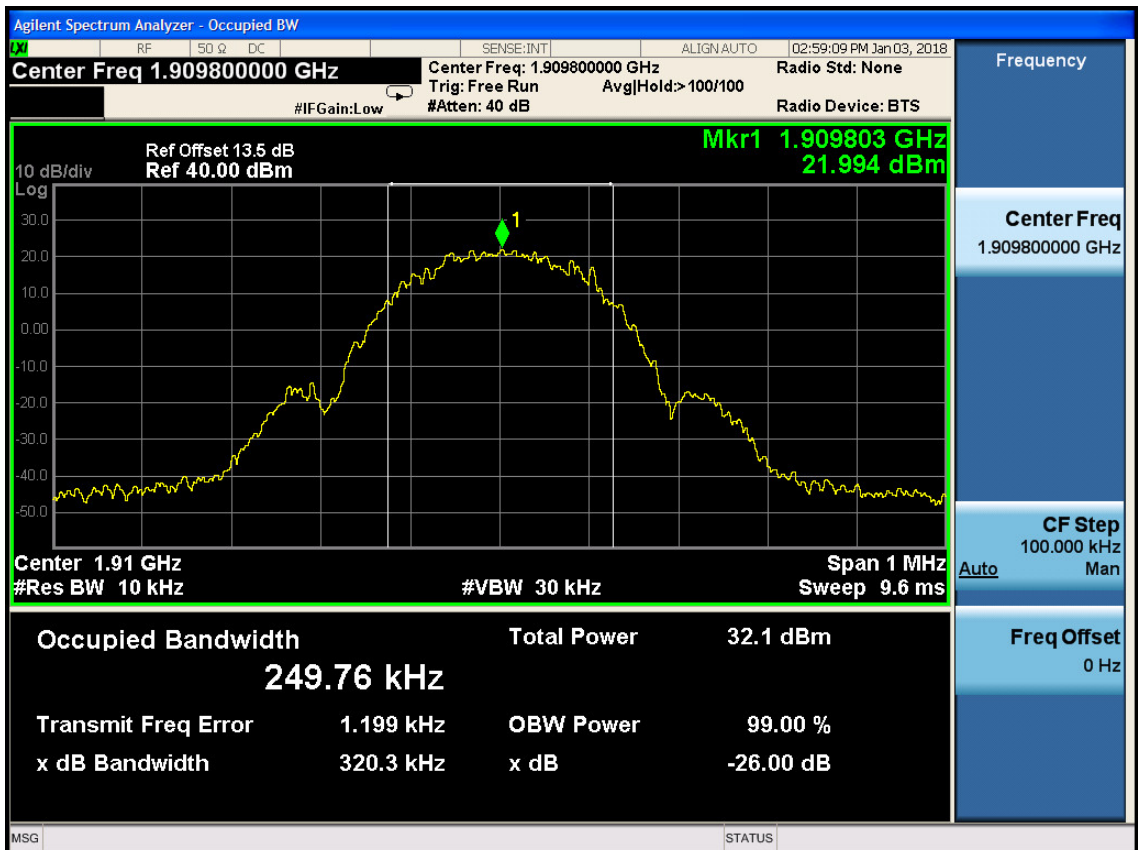
CH512



CH661



CH810



6. RF POWER OUTPUT TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Apr.22,17	1Year
3.	Power sensor	Anritsu	MA2491A	0033005	Apr.22,17	1Year
4.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.22,17	1 Year
5.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.15,17	1 Year

6.2. Limit

1. Part 22.913(a) Mobile station are limited to 7W and for Conducted Power we can use antenna Gain to calculate the limit, so the Conducted Power:

$$\begin{aligned}P_{\text{cod. (dBm)}} &= \text{EIRP(dBm)} - \text{Gain(dBi)} \\&= 7\text{W}(38.5\text{dBm}) - (3.15\text{dBi} - 2.15\text{dBi}) \\&= 37.5\text{dBm}\end{aligned}$$

2. Part 24.232(b) Peak power measurement, Mobile station are limited to 2W and for conducted Power we can use antenna Gain to calculate the limit, so the Conducted Power:

$$\begin{aligned}P_{\text{cod. (dBm)}} &= \text{EIRP(dBm)} - \text{Gain(dBi)} \\&= 2\text{W}(33\text{dBm}) - 3.15(\text{dBi}) \\&= 29.85\text{dBm}\end{aligned}$$

6.3. Test Procedure

The transmitter output was connected to calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power in dBm. The power output at the transmitter antenna port was determined by adding the value of attenuator to the power meter reading.

6.4. Test Result

EUT: Gemini		
M/N: Gemini 4G		
Test date: 2017-12-28	Pressure: 102.1±1.0 kpa	Humidity: 53.2±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 22.4±0.6 °C

Mode	Channel	TM1	TM2	Limit
GSM 850	128	33.5	30.4	37.5
	190	33.3	30.3	37.5
	251	33.3	30.3	37.5
PCS 1900	512	29.6	27.6	29.85
	661	29.5	27.6	29.85
	810	29.5	27.5	29.85

7. PEAK-TO-AVERAGE POWER RATIO TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Apr.22,17	1Year
3.	Power sensor	Anritsu	MA2491A	0033005	Apr.22,17	1Year
4.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.22,17	1 Year
5.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.15,17	1 Year

7.2. Limit

FCC Part 24.232:

- Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
- Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

7.3. Test Procedure

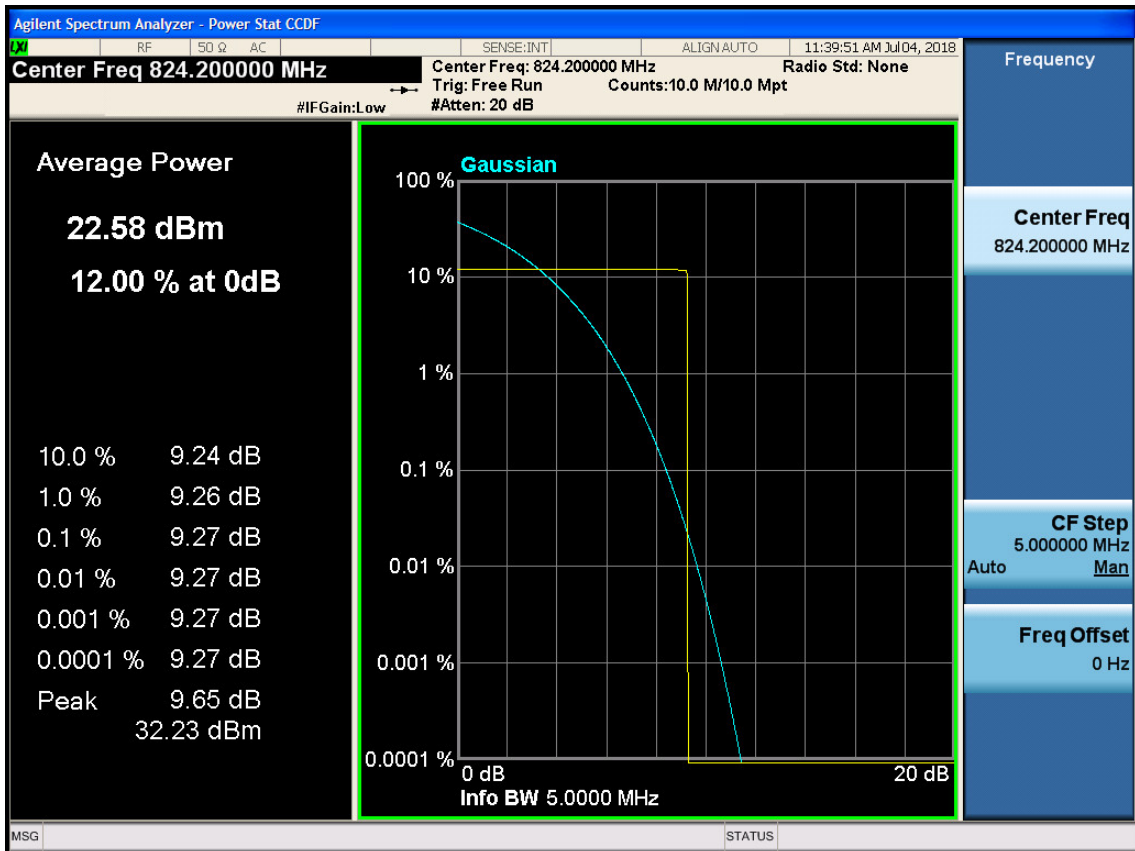
According to KDB 971168:

- Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Set the measurement interval to 1 ms
- Record the maximum PAPR level associated with a probability of 0.1%

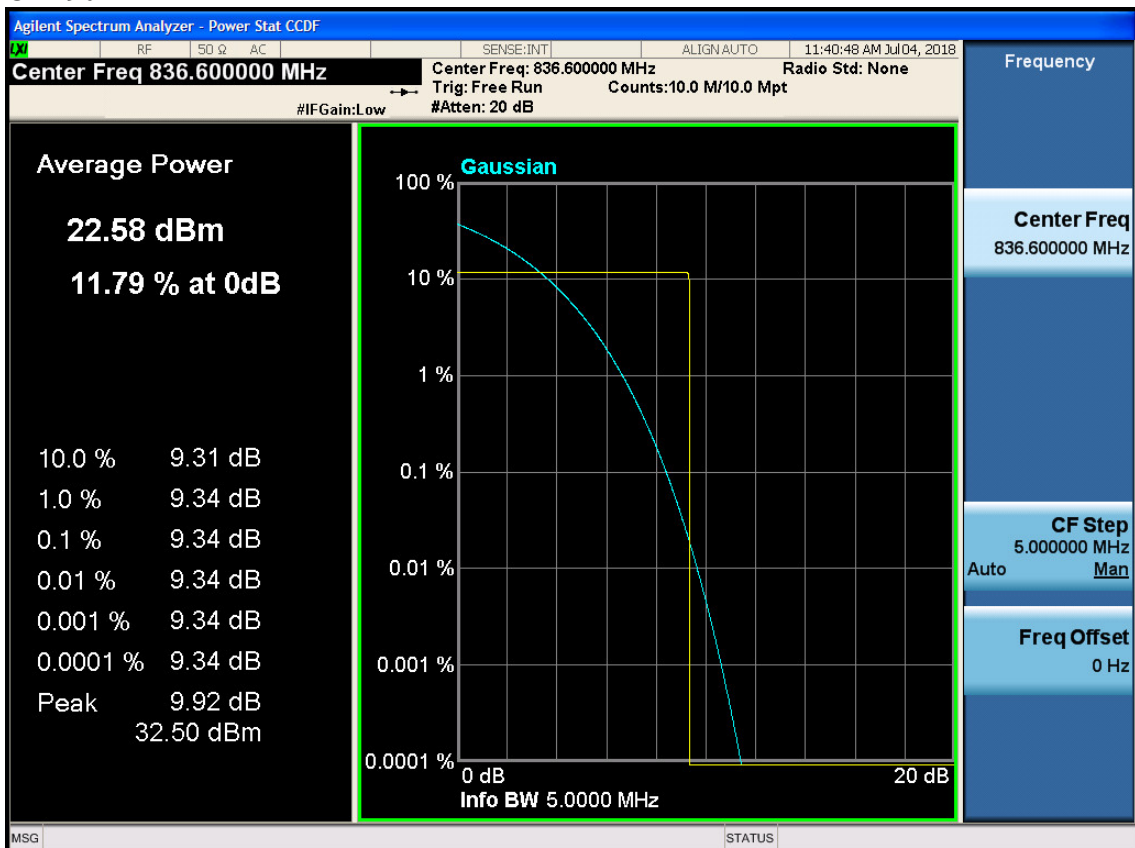
7.4. Test Result

Mode	Modulation	Channel	Peak to Average Ratio (PAR)	Limit (dB)
GSM 850	GSM/GPRS	128	9.27	≤ 13
		190	9.34	≤ 13
		251	9.25	≤ 13
	EGPRS	128	9.23	≤ 13
		190	9.28	≤ 13
		251	9.54	≤ 13
PCS 1900	GSM/GPRS	512	9.11	≤ 13
		661	9.26	≤ 13
		810	9.24	≤ 13
	EGPRS	512	9.62	≤ 13
		661	9.14	≤ 13
		810	9.25	≤ 13
Conclusion : PASS				

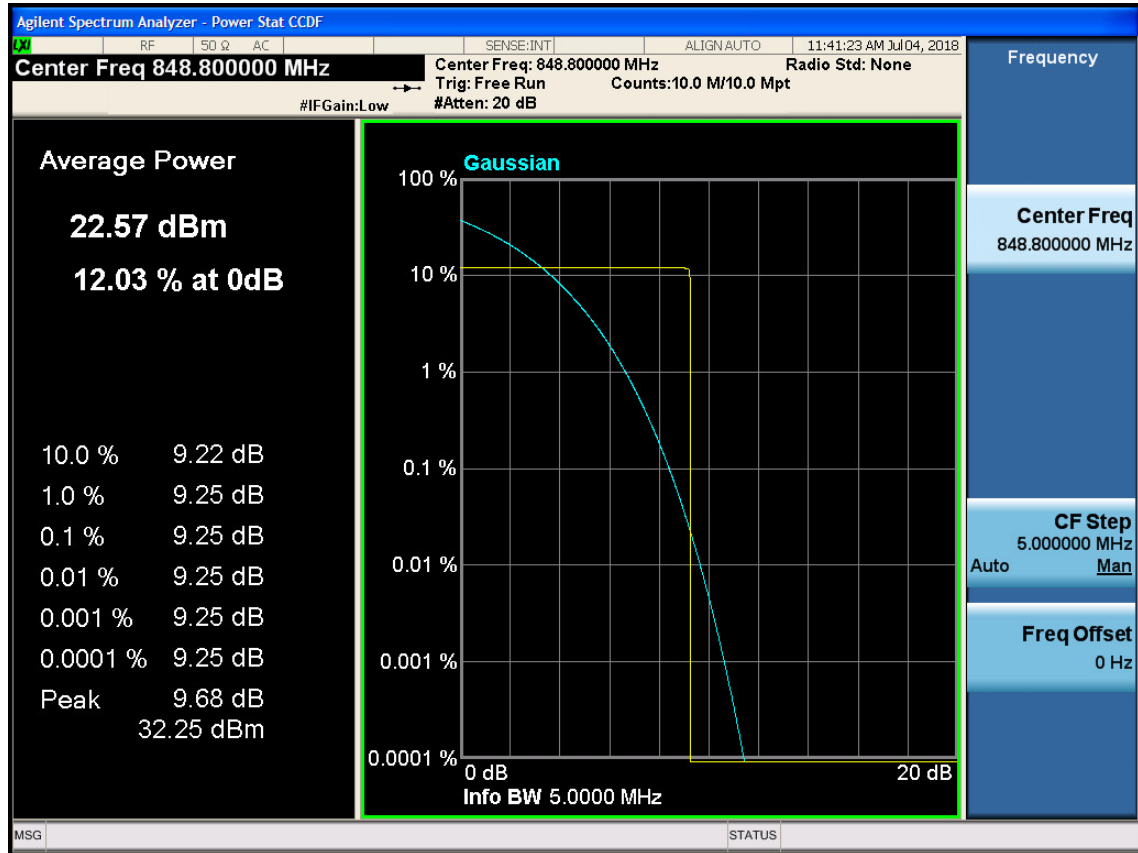
GSM 850
GPRS
CH128



CH190

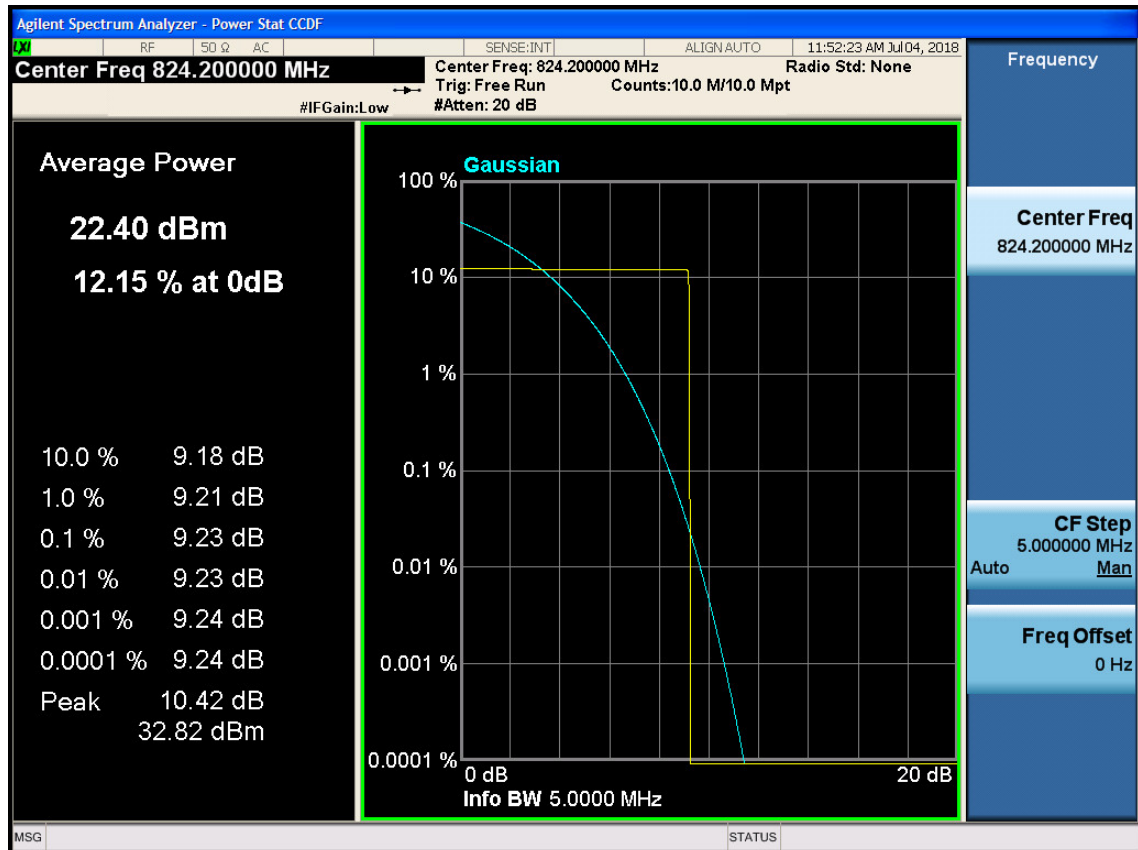


CH251

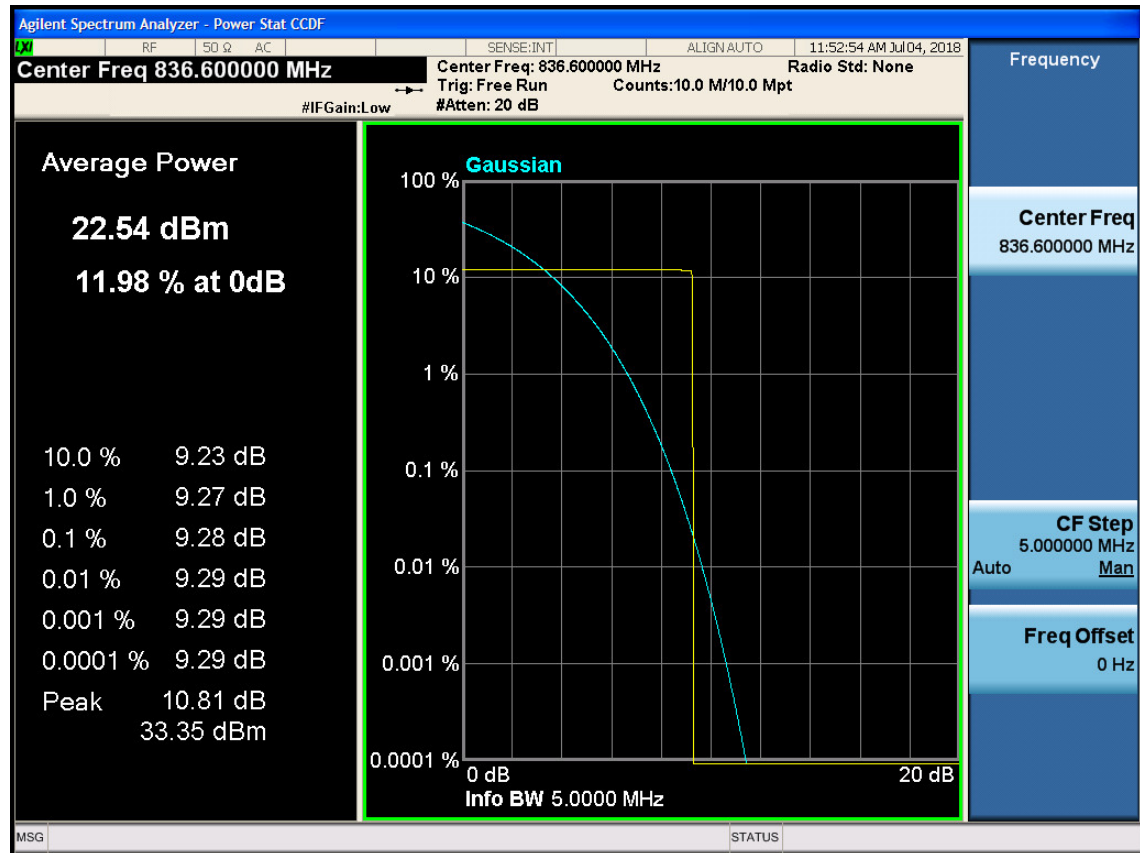


EGPRS

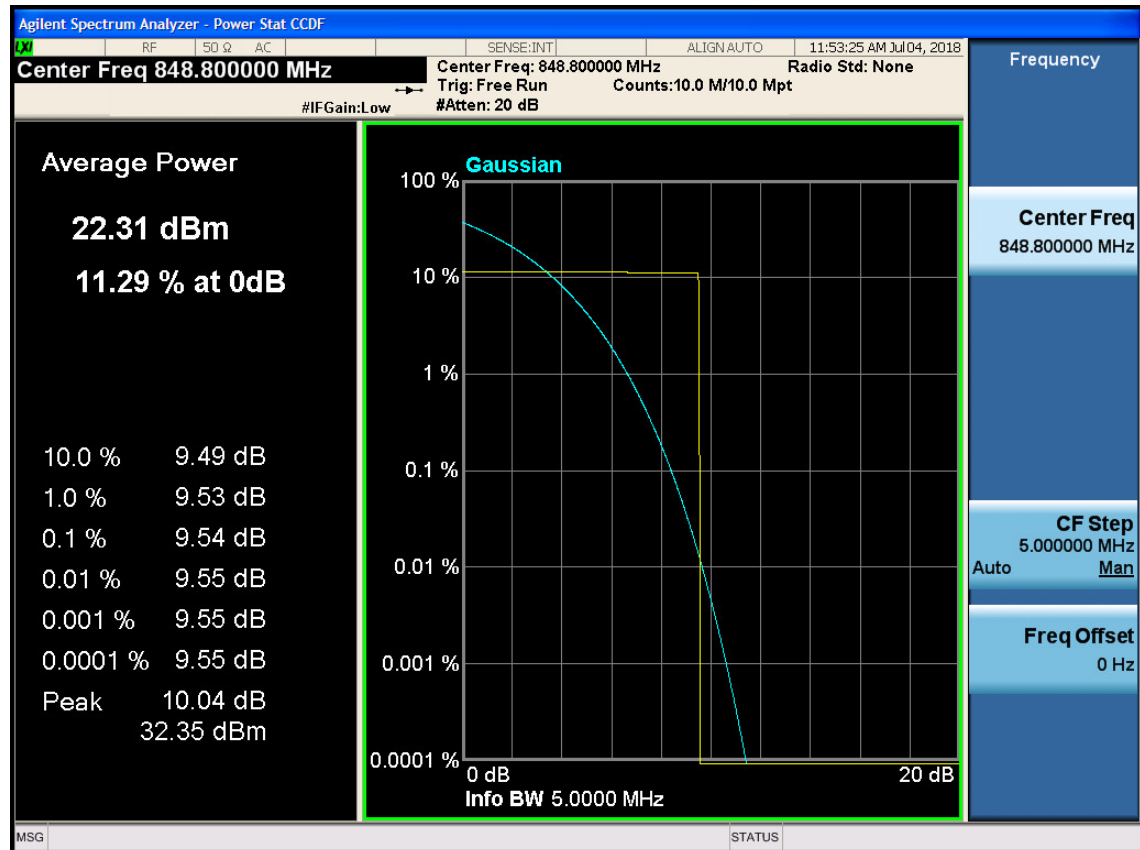
CH128



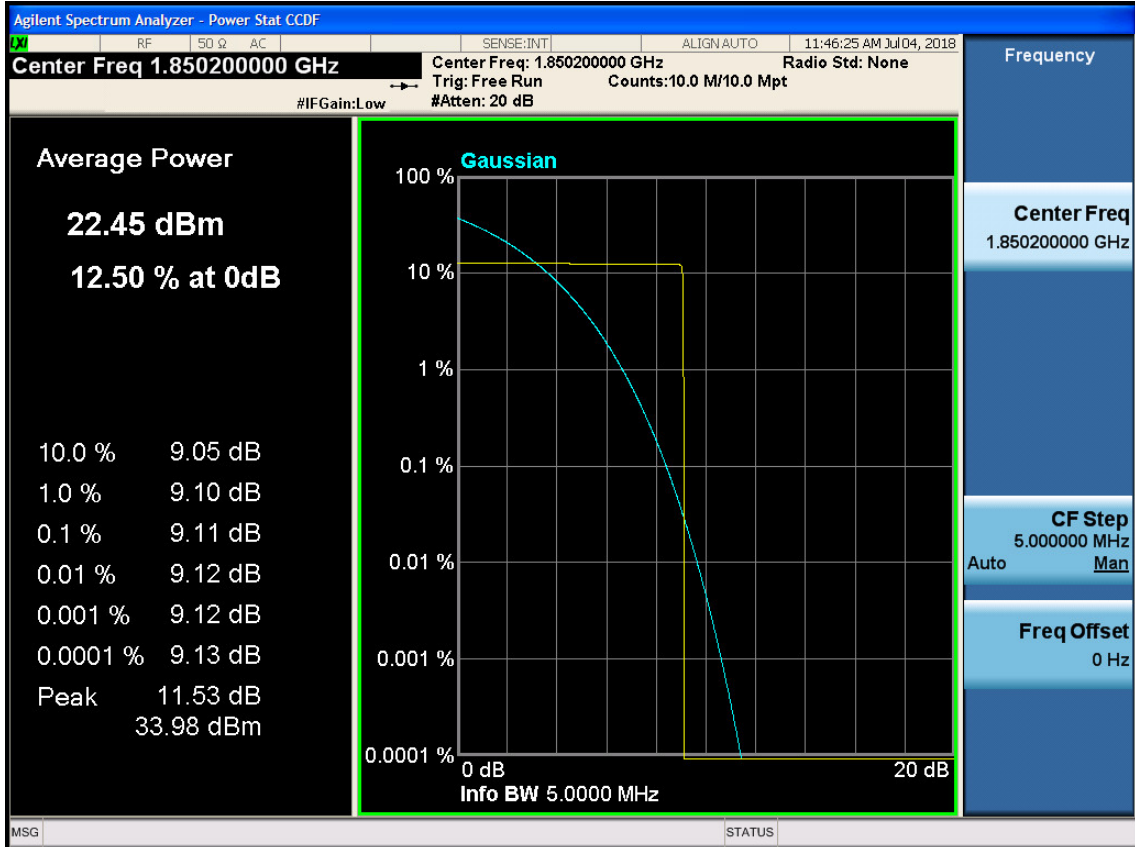
CH190



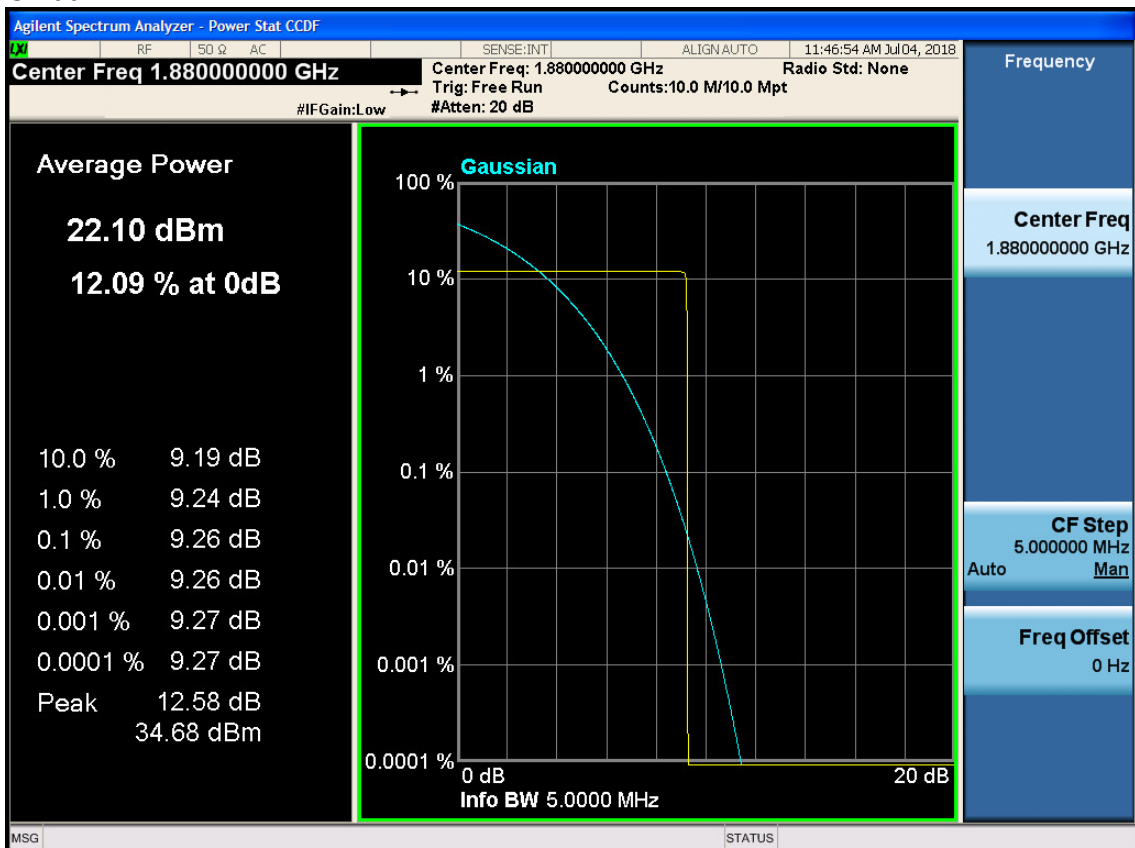
CH251



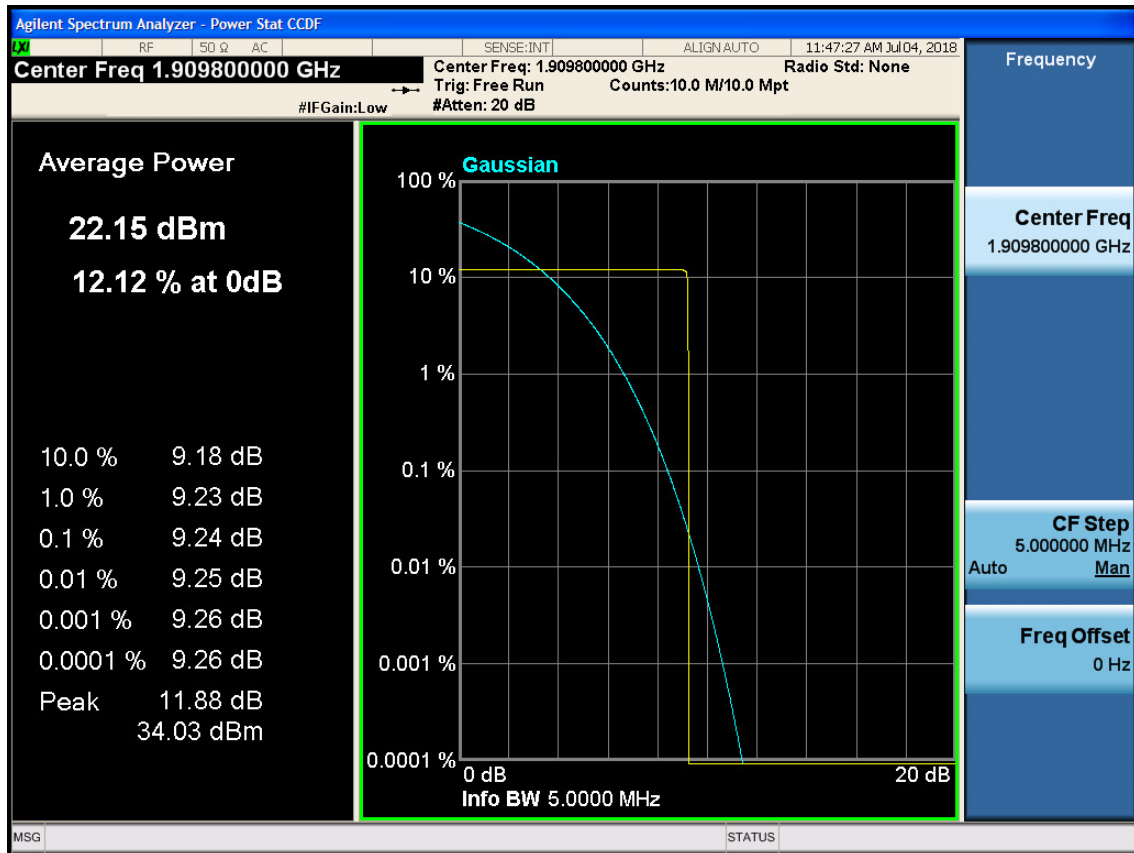
PCS 1900
GPRS
CH512



CH661

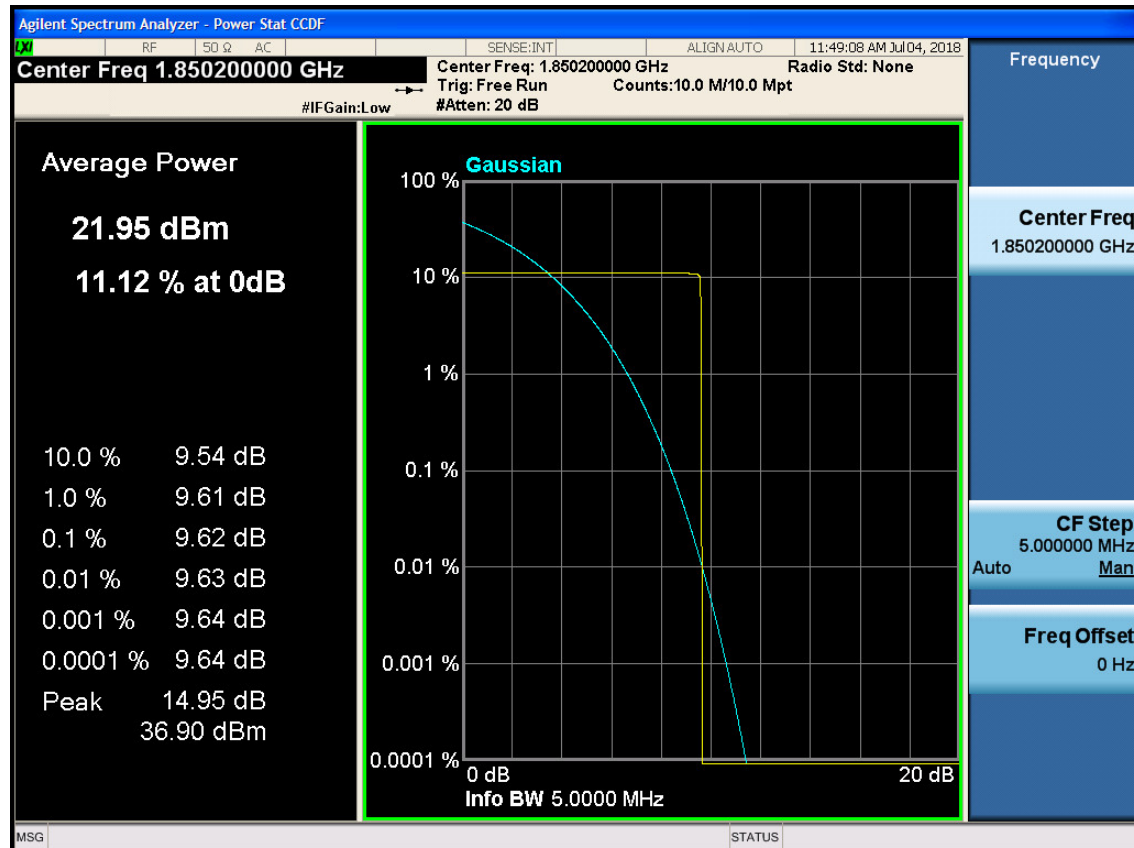


CH810

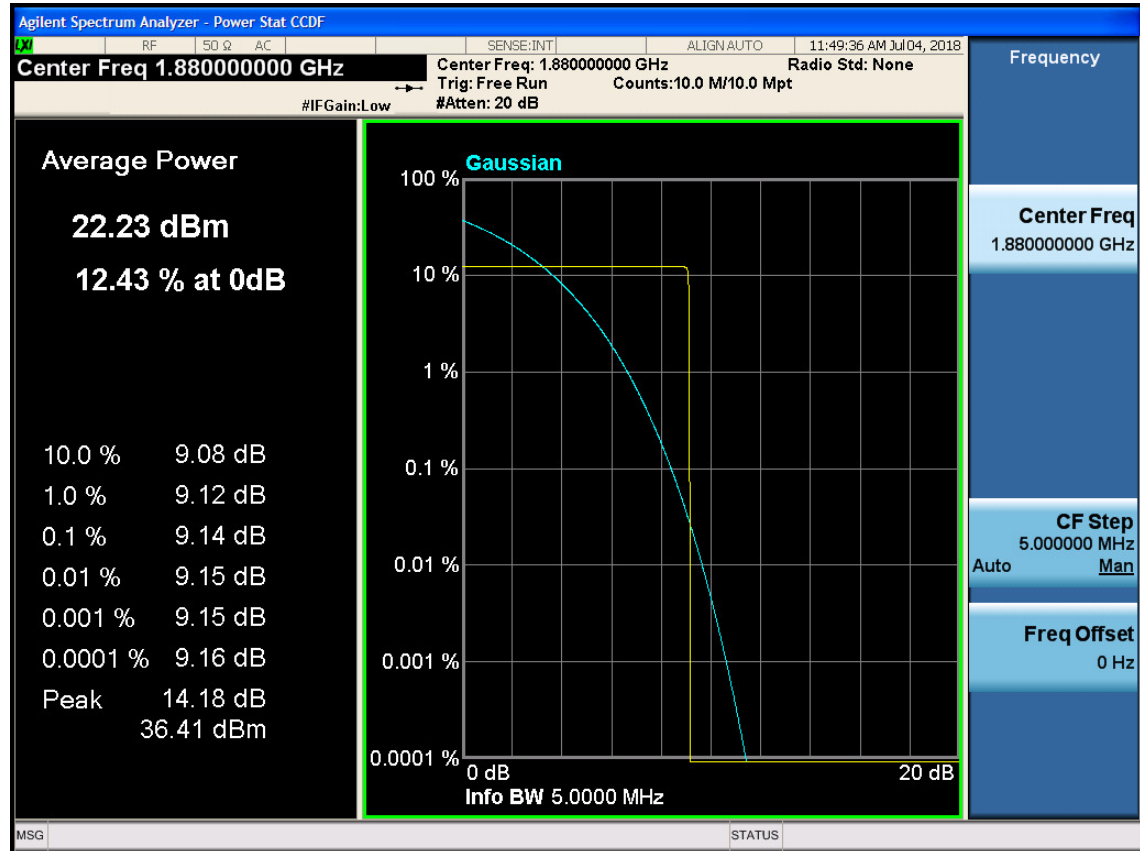


EGPRS

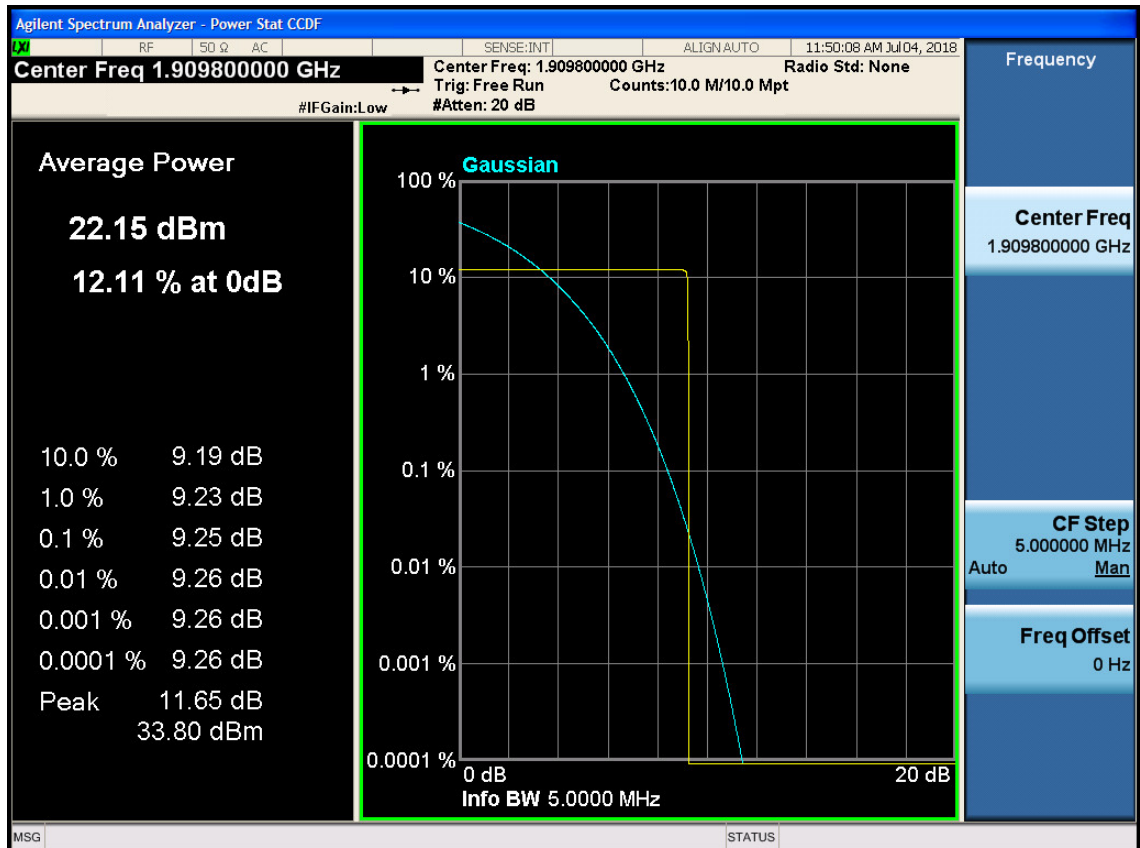
CH512



CH661



CH810



8. FIELD STRENGTH OF RADIATED SPURIOUS EMISSIONS

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	Preamplifier	HP	8449B	3008A02495	Apr.22.17	1 Year
3.	Preamplifier	Agilent	8447D	2944A11159	Apr.22,17	1Year
4.	Trilog-Broadband Antenna	SCHWARZB ECK	VULB 9168	493	Jun.27.17	1 Year
5.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	May.15,17	1 Year
6.	Horn Antenna	EMCO	3116	0062643	Oct.10,17	1 Year
7.	Antenna and turn table controller	CT	SC100	CT-0091	N/A	N/A
8.	RF Cable	Hubersuhner	SUCOFLEX104	274094/4	Apr.22,17	1 Year
9.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A

Note: N/A means Not applicable.

8.2. Limit

FCC part 22.917(a), 24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specification in the instruction manual and/or alignment procedure, shall not be less than $43+10\log(\text{Mean power in watts})$ dBc below the mean power output outside a license's frequency block(-13dBm).

8.3. Test Procedure

The EUT was placed on a non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and lowering of the test antenna from 4m to 1m.

ERP in frequency band 824.2-848.8MHz were measured using substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follow: EIRP in frequency band 1850.5-1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

ERP=S.G. output (dBm) + Antenna Gain (dBd)-Cable Loss (dB)

EIRP=S.G. output (dBm) + Antenna Gain (dBi)-Cable Loss (dB)

8.4. Test Result

GSM 850

Spurious emissions								
EUT: Gemini								
M/N: Gemini 4G								
Test Date: 2018-02-23			Test site: RF Chamber			Tested by: Alice_yang		
Temperature: 22.4±0.6℃			Humidity: 52.1±3.0%			Pressure: 101.6±1.0kpa		
Test result								
Test Mode : GSM 850 TX CH Low Mode 824.2MHz								
Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
221.32	H	-61.55	2.9	1.42	-60.07	-13	47.07	PASS
631.77	H	-58.51	5.2	3.14	-56.45	-13	43.45	PASS
721.18	H	-50.64	5.4	3.22	-48.46	-13	35.46	PASS
869.13	H	-20.92	5.7	3.86	-19.08	-13	6.08	PASS
1648.40	H	-32.60	7.9	5.68	-30.38	-13	17.38	PASS
2472.60	H	-37.63	7.5	7.47	-37.6	-13	24.6	PASS
3296.80	H	-41.73	9.6	8.74	-40.87	-13	27.87	PASS
191.21	V	-63.87	2.7	1.41	-62.58	-13	49.58	PASS
632.32	V	-61.33	5.2	3.10	-59.23	-13	46.23	PASS
745.20	V	-57.65	5.5	3.42	-55.57	-13	42.57	PASS
860.66	V	-30.21	5.7	3.71	-28.22	-13	15.22	PASS
1648.40	V	-33.00	7.9	5.68	-30.78	-13	17.78	PASS
2472.60	V	-40.31	7.5	7.47	-40.28	-13	27.28	PASS
3296.80	V	-42.87	9.6	8.74	-42.01	-13	29.01	PASS

Test Mode : GSM 850 TX CH Mid Mode 836.6MHz

202.11	H	-58.46	2.7	1.40	-57.16	-13	44.16	PASS
642.31	H	-57.02	5.2	3.10	-54.92	-13	41.92	PASS
747.05	H	-50.62	5.5	3.45	-48.57	-13	35.57	PASS
889.03	H	-21.16	5.7	3.86	-19.32	-13	6.32	PASS
1673.20	H	-28.11	7.9	5.72	-25.93	-13	12.93	PASS
2509.80	H	-42.02	9.6	7.55	-39.97	-13	26.97	PASS
3346.40	H	-44.08	9.6	8.77	-43.25	-13	30.25	PASS
192.10	V	-60.89	2.7	1.35	-59.54	-13	46.54	PASS
648.98	V	-60.66	5.2	3.10	-58.56	-13	45.56	PASS
768.68	V	-55.19	5.4	3.48	-53.27	-13	40.27	PASS
882.56	V	-30.22	5.7	3.86	-28.38	-13	15.38	PASS
1673.20	V	-32.15	7.9	5.72	-29.97	-13	16.97	PASS
2509.80	V	-43.11	9.6	7.55	-41.06	-13	28.06	PASS
3346.40	V	-45.91	9.6	8.77	-45.08	-13	32.08	PASS

Test Mode : GSM 850 TX CH High Mode 848.8MHz

195.81	H	-54.59	2.8	1.32	-53.11	-13	40.11	PASS
659.11	H	-55.06	5.2	3.26	-53.12	-13	40.12	PASS
766.29	H	-50.51	5.4	3.53	-48.64	-13	35.64	PASS
891.06	H	-23.81	5.7	3.90	-22.01	-13	9.01	PASS
1697.60	H	-27.18	7.9	5.80	-25.08	-13	12.08	PASS
2546.40	H	-39.55	9.6	7.63	-37.58	-13	24.58	PASS
3395.20	H	-42.09	9.6	8.79	-41.28	-13	28.28	PASS
189.08	V	-62.82	2.6	1.34	-61.56	-13	48.56	PASS
652.16	V	-60.21	5.2	3.15	-58.16	-13	45.16	PASS
758.51	V	-55.22	5.4	3.51	-53.33	-13	40.33	PASS
896.03	V	-27.54	5.7	3.96	-25.8	-13	12.8	PASS
1697.60	V	-29.61	7.9	5.80	-27.51	-13	14.51	PASS
2546.40	V	-39.16	9.6	7.63	-37.19	-13	24.19	PASS
3395.20	V	-46.19	9.6	8.79	-45.38	-13	32.38	PASS

Remark: All the emission were detected belong to narrowband spurious emission

PCS 1900
Spurious emissions

EUT: Gemini

M/N: Gemini 4G

Test Date: 2018-02-23

Test site: RF Chamber

Tested by: Alice_yang

Temperature: 23.5±0.6℃

Humidity: 52.9±3.0%

Pressure: 102.4±1.0kpa

Test result

Test Mode : PCS 1900 TX CH Low Mode 1850.2MHz

Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
196.88	H	-56.07	2.7	1.38	-54.75	-13	41.75	PASS
626.52	H	-60.16	5.2	3.04	-58	-13	45	PASS
877.24	H	-62.01	5.7	3.90	-60.21	-13	47.21	PASS
959.25	H	-63.76	5.9	4.17	-62.03	-13	49.03	PASS
2108.00	H	-54.11	8.4	6.69	-52.4	-13	39.4	PASS
3264.00	H	-49.15	9.6	8.73	-48.28	-13	35.28	PASS
3700.40	H	-44.67	9.6	8.93	-44	-13	31	PASS
186.09	V	-61.61	2.6	1.30	-60.31	-13	47.31	PASS
633.19	V	-62.72	5.2	3.14	-60.66	-13	47.66	PASS
878.94	V	-68.89	5.7	3.87	-67.06	-13	54.06	PASS
956.15	V	-65.08	5.9	4.11	-63.29	-13	50.29	PASS
2108.00	V	-51.73	8.4	6.69	-50.02	-13	37.02	PASS
3264.00	V	-45.45	9.6	8.73	-44.58	-13	31.58	PASS
3700.40	V	-44.18	9.6	8.93	-43.51	-13	30.51	PASS

Test Mode : PCS 1900 TX CH Mid Mode 1880.0MHz								
192.94	H	-56.05	2.6	1.33	-54.78	-13	41.78	PASS
627.79	H	-60.37	5.2	3.10	-58.27	-13	45.27	PASS
878.09	H	-62.27	5.7	3.87	-60.44	-13	47.44	PASS
966.03	H	-62.32	5.9	4.19	-60.61	-13	47.61	PASS
2452.00	H	-51.94	9.5	7.43	-49.87	-13	36.87	PASS
2985.00	H	-49.81	9.6	8.56	-48.77	-13	35.77	PASS
3760.00	H	-44.02	9.6	8.96	-43.38	-13	30.38	PASS
190.99	V	-60.14	2.6	1.32	-58.86	-13	45.86	PASS
622.07	V	-62.59	5.2	3.01	-60.4	-13	47.4	PASS
878.34	V	-67.02	5.7	3.87	-65.19	-13	52.19	PASS
952.25	V	-65.91	5.9	4.10	-64.11	-13	51.11	PASS
2452.00	V	-52.16	9.5	7.43	-50.09	-13	37.09	PASS
2985.00	V	-51.14	9.6	8.56	-50.1	-13	37.1	PASS
3760.00	V	-47.27	9.6	8.96	-46.63	-13	33.63	PASS
Test Mode : PCS 1900 TX CH High Mode 1909.8MHz								
194.72	H	-55.18	2.7	1.32	-53.8	-13	40.8	PASS
627.58	H	-61.92	5.2	3.09	-59.81	-13	46.81	PASS
879.13	H	-60.79	5.7	3.88	-58.97	-13	45.97	PASS
962.08.	H	-62.12	5.9	4.19	-60.41	-13	47.41	PASS
2394.00	H	-50.13	8.6	7.32	-48.85	-13	35.85	PASS
3108.00	H	-44.08	9.6	8.65	-43.13	-13	30.13	PASS
3819.60	H	-45.92	9.6	8.99	-45.31	-13	32.31	PASS
198.02	V	-58.65	2.6	1.39	-57.44	-13	44.44	PASS
623.18	V	-64.30	5.2	3.04	-62.14	-13	49.14	PASS
879.16	V	-67.66	5.7	3.87	-65.83	-13	52.83	PASS
962.73	V	-65.84	5.9	4.17	-64.11	-13	51.11	PASS
2394.00	V	-52.17	8.6	7.32	-50.89	-13	37.89	PASS
3108.00	V	-45.36	9.6	8.65	-44.41	-13	31.41	PASS
3819.60	V	-47.05	9.6	8.99	-46.44	-13	33.44	PASS
Remark: All the emission were detected belong to narrowband spurious emission								

9. FREQUENCY STABILITY V.S. TEMPERATURE AND VOLTAGE

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.22,17	1 Year
3.	Attenuator (10dB)	Mini-Circuits	VAT-10+	NO.1	NCR	NCR
4.	Temperature controller	Terchy	MHQ-120cluB	A60223	Apr.23,17	1 Year

Note: NCR means no calibration required(calibrated with system).

9.1. Limit

Frequency Tolerance:

+/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

9.2. Test procedure

The equipment under test was connected to an external DC power supply and input rated voltage. Reference power supply voltage for these tests is DC 12V. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the Spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25 degree operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20 degree. After the temperature stabilized for approximately 30 minutes record the frequency. Repeat step measure with 10 degree per stage until the highest temperature of 50 degree reached.

9.3. Test Result

EUT: Gemini		
M/N: Gemini 4G		
Test date: 2017-12-29	Pressure: 102.5±1.0 kpa	Humidity: 52.2±3.0%
Tested by: Alice_Yang	Test site: RF site	Temperature: 23.1±0.6 °C

Frequency Error vs , Voltage

Test Band	Test Mode	Test Channel	Test Temp	Test Volt	Freq Error (Hz)	Freq .vs.rated (ppm)	Verdict
GSM 850	GSM/TM1	LCH	TN	VL	15	0.018	Pass
				VN	19	0.023	Pass
				VH	25	0.030	Pass
		MCH	TN	VL	10	0.012	Pass
				VN	11	0.013	Pass
				VH	17	0.020	Pass
		HCH	TN	VL	13	0.015	Pass
				VN	12	0.014	Pass
				VH	17	0.020	Pass
	GSM/TM2	LCH	TN	VL	-23	-0.028	Pass
				VN	-29	-0.035	Pass
				VH	-31	-0.038	Pass
		MCH	TN	VL	-15	-0.018	Pass
				VN	-18	-0.022	Pass
				VH	-22	-0.026	Pass
		HCH	TN	VL	-16	-0.019	Pass
				VN	-20	-0.024	Pass
				VH	-23	-0.027	Pass

Frequency Error vs ,Temperature							
Test Band	Test Mode	Test Channel	Test Volt	Test Temp	Freq Error (Hz)	Freq .vs.rated (ppm)	Verdict
GSM 850	GSM/TM1	LCH	VN	-30	12	0.015	Pass
				-20	11	0.013	Pass
				-10	8	0.010	Pass
				0	6	0.007	Pass
				10	7	0.008	Pass
				20	6	0.007	Pass
				30	8	0.010	Pass
				40	9	0.011	Pass
				50	7	0.008	Pass
		MCH	VN	-30	14	0.017	Pass
				-20	13	0.016	Pass
				-10	14	0.017	Pass
				0	8	0.010	Pass
				10	6	0.007	Pass
				20	11	0.013	Pass
				30	13	0.016	Pass
				40	9	0.011	Pass
				50	12	0.014	Pass
		HCH	VN	-30	11	0.013	Pass
				-20	9	0.011	Pass
				-10	10	0.012	Pass
				0	6	0.007	Pass
				10	5	0.006	Pass
				20	8	0.009	Pass
				30	10	0.012	Pass
				40	9	0.011	Pass
				50	7	0.008	Pass

GSM 850	GSM/TM2	LCH	VN	-30	-23	-0.028	Pass
				-20	-18	-0.022	Pass
				-10	-11	-0.013	Pass
				0	-9	-0.011	Pass
				10	-8	-0.010	Pass
				20	-12	-0.015	Pass
				30	-14	-0.017	Pass
				40	-15	-0.018	Pass
				50	-14	-0.017	Pass
		MCH	VN	-30	-19	-0.023	Pass
				-20	-18	-0.022	Pass
				-10	-20	-0.024	Pass
				0	-17	-0.020	Pass
				10	-22	-0.026	Pass
				20	-15	-0.018	Pass
				30	-19	-0.023	Pass
				40	-17	-0.020	Pass
				50	-20	-0.024	Pass
		HCH	VN	-30	-16	-0.019	Pass
				-20	-11	-0.013	Pass
				-10	-5	-0.006	Pass
				0	-14	-0.016	Pass
				10	-7	-0.008	Pass
				20	-9	-0.011	Pass
				30	-14	-0.016	Pass
				40	-12	-0.014	Pass
				50	-16	-0.019	Pass

Frequency Error vs ,Voltage

Test Band	Test Mode	Test Channel	Test Temp	Test Volt	Freq Error (Hz)	Freq .vs.rated (ppm)	Verdict
GSM 1900	GSM/TM1	LCH	TN	VL	9	0.005	Pass
				VN	12	0.006	Pass
				VH	19	0.010	Pass
		MCH	TN	VL	7	0.004	Pass
				VN	10	0.005	Pass
				VH	11	0.006	Pass
		HCH	TN	VL	9	0.005	Pass
				VN	16	0.008	Pass
				VH	19	0.010	Pass
	GSM/TM2	LCH	TN	VL	-5	-0.003	Pass
				VN	-12	-0.006	Pass
				VH	-18	-0.010	Pass
		MCH	TN	VL	-6	-0.003	Pass
				VN	-10	-0.005	Pass
				VH	-20	-0.011	Pass
		HCH	TN	VL	-2	-0.001	Pass
				VN	-8	-0.004	Pass
				VH	-19	-0.010	Pass

Frequency Error vs ,Temperature

Test Band	Test Mode	Test Channel	Test Volt	Test Temp	Freq Error (Hz)	Freq .vs.rated (ppm)	Verdict
GSM 1900	GSM/TM1	LCH	VN	-30	-15	-0.008	Pass
				-20	-18	-0.010	Pass
				-10	-9	-0.005	Pass
				0	-8	-0.004	Pass
				10	-10	-0.005	Pass
				20	-7	-0.004	Pass
				30	-11	-0.006	Pass
				40	-13	-0.007	Pass
				50	-8	-0.004	Pass
		MCH	VN	-30	-9	-0.005	Pass
				-20	-15	-0.008	Pass
				-10	-6	-0.003	Pass
				0	-5	-0.003	Pass
				10	-12	-0.006	Pass
				20	-18	-0.010	Pass
				30	-6	-0.003	Pass
				40	-9	-0.005	Pass
				50	-5	-0.003	Pass
		HCH	VN	-30	-19	-0.010	Pass
				-20	-8	-0.004	Pass
				-10	-12	-0.006	Pass
				0	-16	-0.008	Pass
				10	-9	-0.005	Pass
				20	-10	-0.005	Pass
				30	-12	-0.006	Pass
				40	-15	-0.008	Pass
				50	-8	-0.004	Pass

GSM 1900	GSM/TM2	LCH	VN	-30	-8	-0.004	Pass
				-20	-18	-0.010	Pass
				-10	-7	-0.004	Pass
				0	-12	-0.006	Pass
				10	-10	-0.005	Pass
				20	-6	-0.003	Pass
				30	-5	-0.003	Pass
				40	-11	-0.006	Pass
				50	-19	-0.010	Pass
		MCH	VN	-30	-11	-0.006	Pass
				-20	-6	-0.003	Pass
				-10	-9	-0.005	Pass
				0	-5	-0.003	Pass
				10	-12	-0.006	Pass
				20	-7	-0.004	Pass
				30	-11	-0.006	Pass
				40	-18	-0.010	Pass
				50	-8	-0.004	Pass
		HCH	VN	-30	-12	-0.006	Pass
				-20	-10	-0.005	Pass
				-10	-9	-0.005	Pass
				0	-2	-0.001	Pass
				10	-3	-0.002	Pass
				20	-2	-0.001	Pass
				30	-5	-0.003	Pass
				40	-11	-0.006	Pass
				50	-21	-0.011	Pass

10.DEVIATION TO TEST SPECIFICATIONS

[NONE]