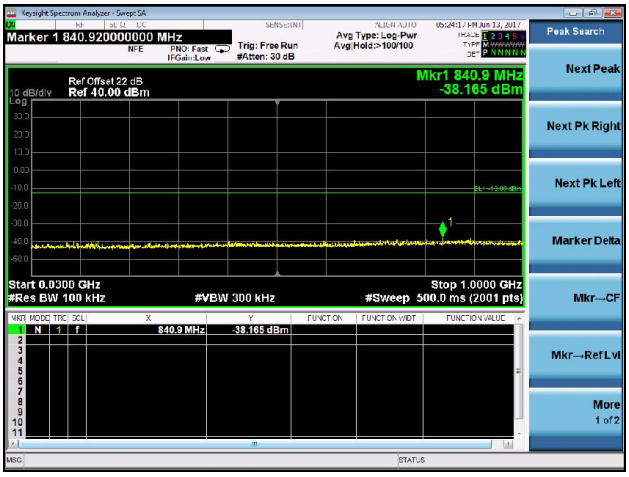
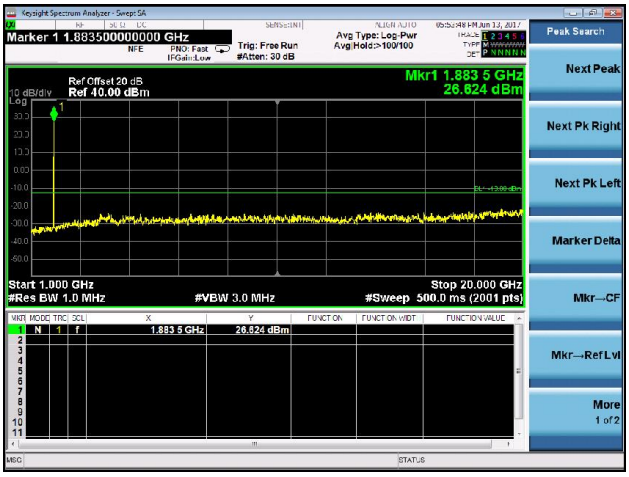
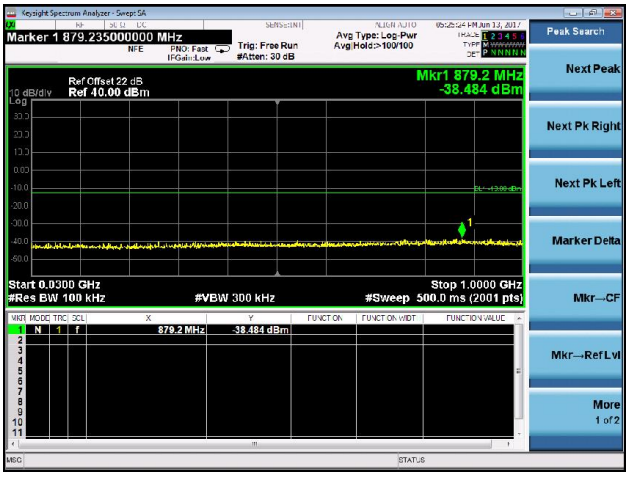
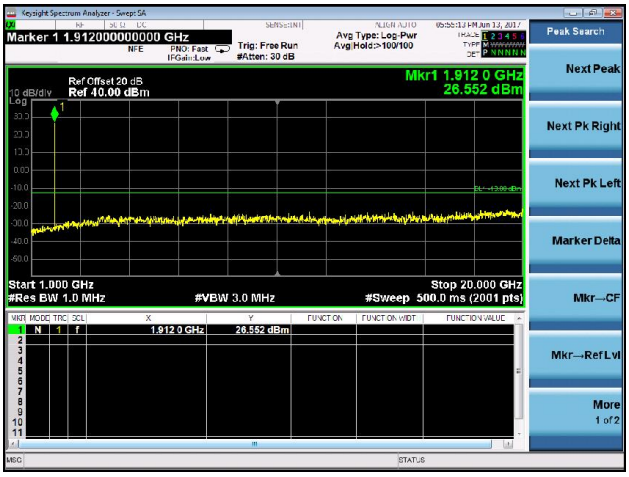
Channel 661 (1880.00MHz)





Channel 810 (1909.80MHz)

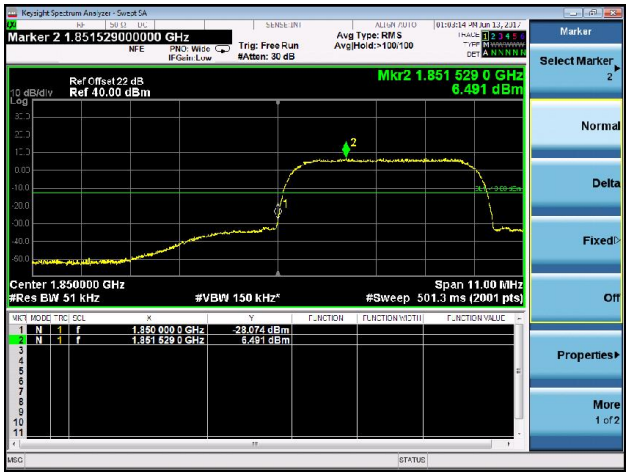




Mode	Channel No.	Frequency (MHz)	Modulation	Test Result
WCDMA Band II	9262	1852.4	QPSK	Pass
WCDMA Band II	9400	1880.0	QPSK	Pass
WCDMA Band II	9538	1907.6	QPSK	Pass

Band Edge

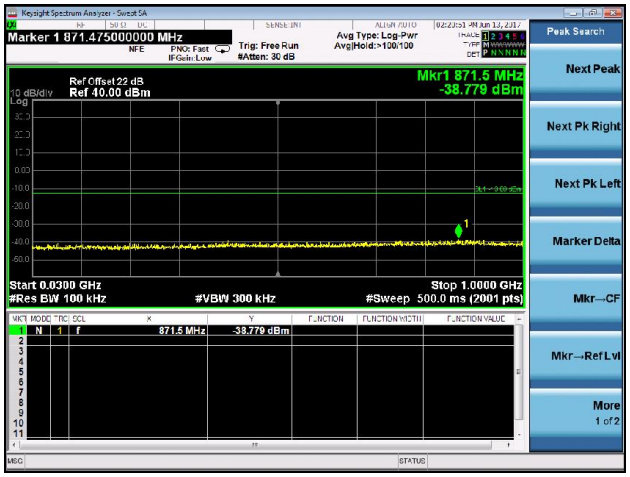
Channel 9262 (1852.4MHz)

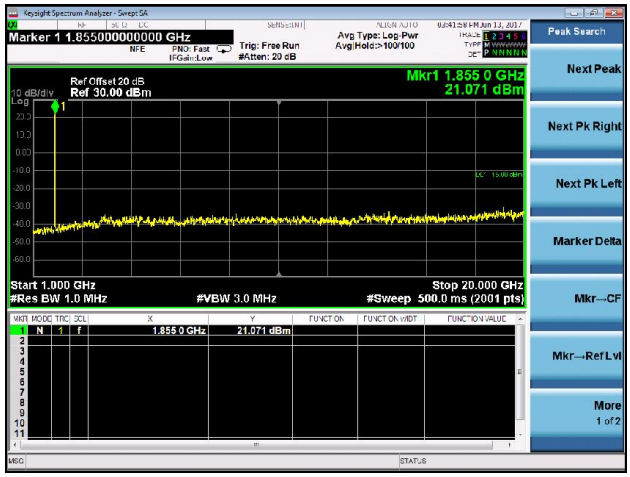


Channel 9538 (1907.6MHz)

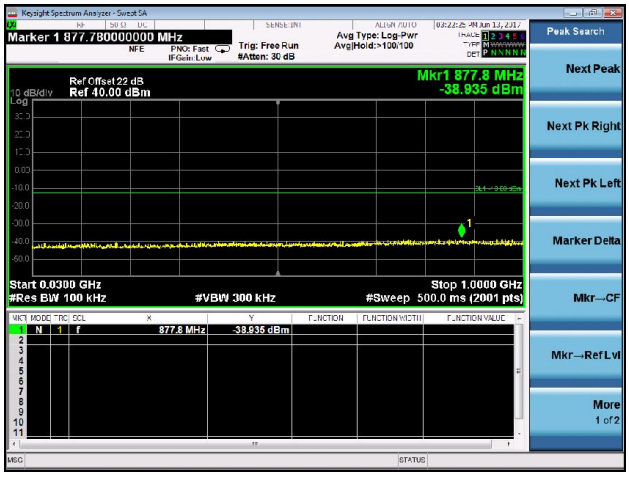
Conducted Spurious Emission

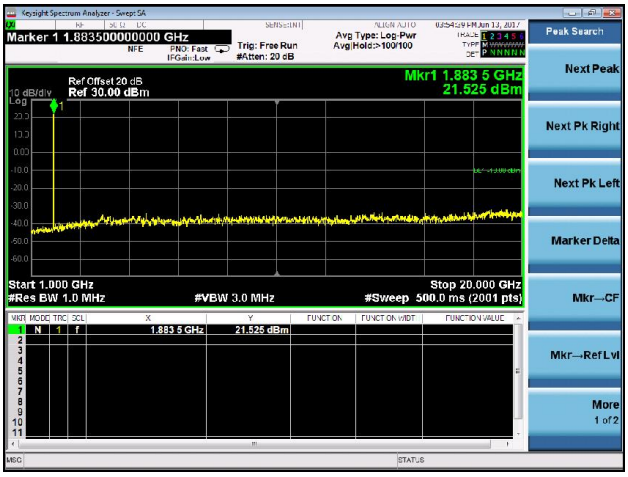
Channel 9262 (1852.4MHz)



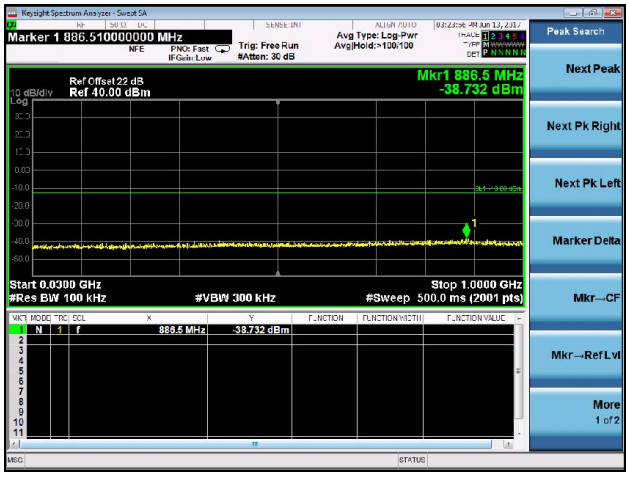


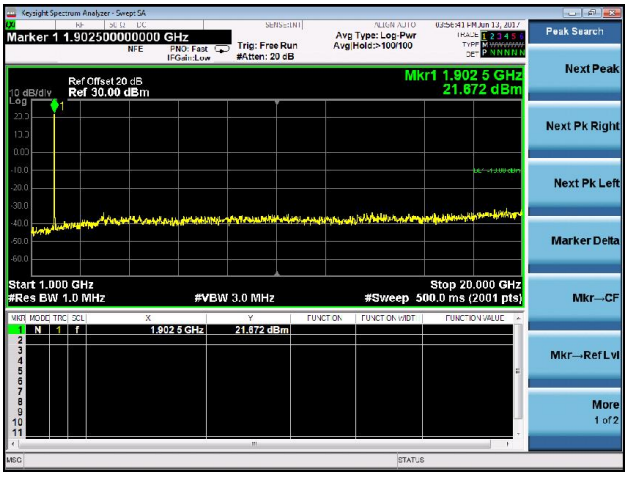
Channel 9400 (1880.0MHz)





Channel 9538 (1907.6MHz)





Mode	Channel No.	Frequency (MHz)	Modulation	Test Result
WCDMA Band V	4132	826.4	QPSK	Pass
WCDMA Band V	4182	836.4	QPSK	Pass
WCDMA Band V	4233	846.6	QPSK	Pass

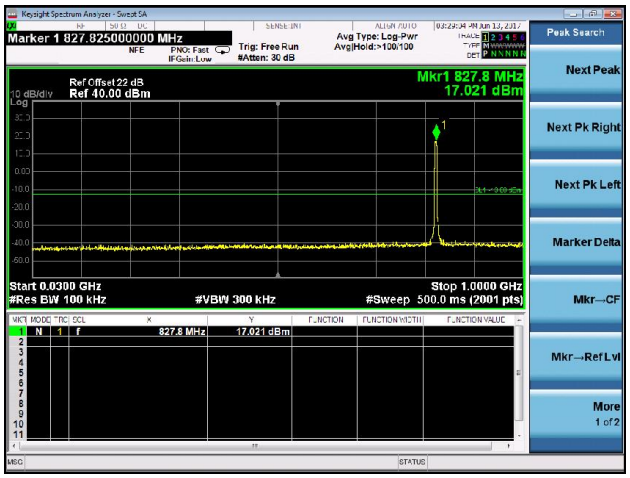
Band Edge

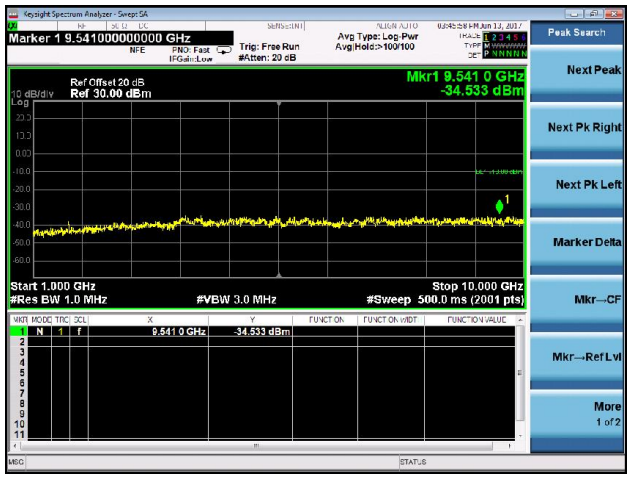
Channel 4132 (826.4MHz)

Channel 4233 (846.6MHz)

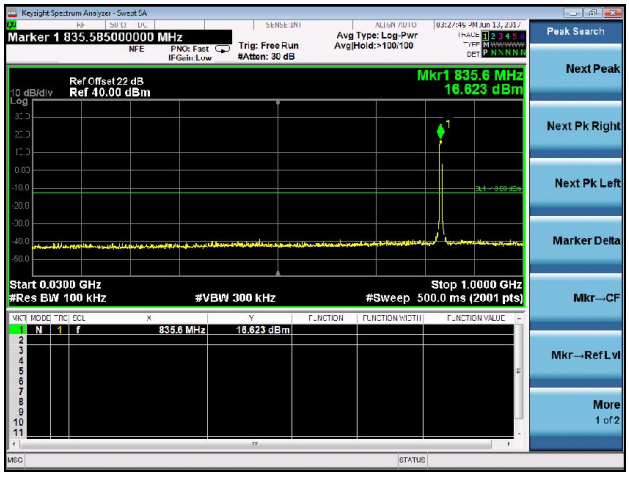
Conducted Spurious Emission

Channel 4132 (826.4MHz)

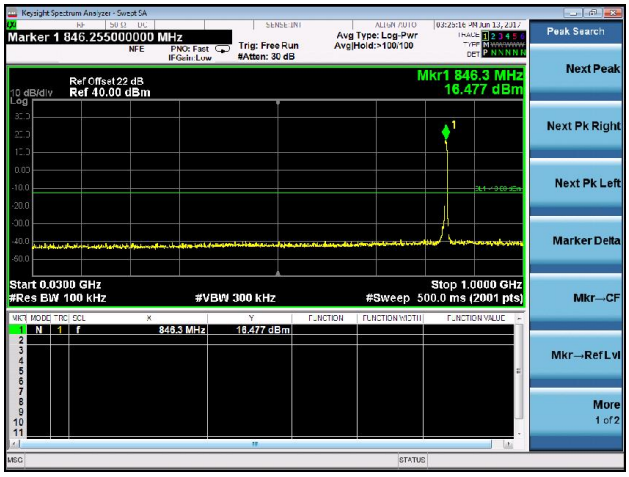


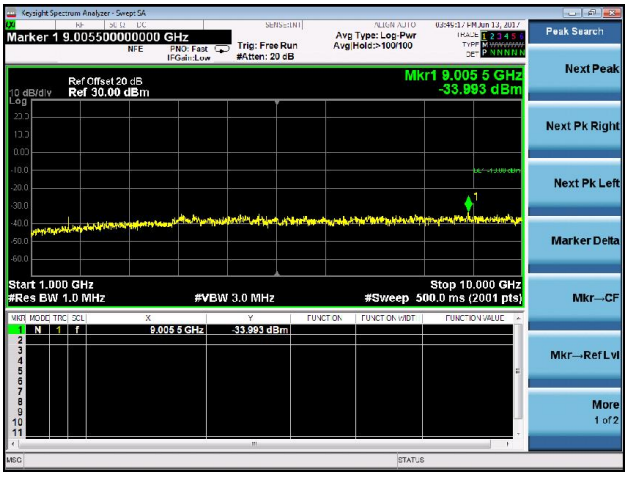


Channel 4182 (836.4MHz)



Channel 4233 (846.6MHz)





7.4. Conducted & Radiated Power and Radiated Spurious Emissions

7.4.1. Test Limit

Radiated Power

For FCC Part 22.913(a)(2):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(b):

The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

Radiated Spurious Emissions

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

7.4.2. Test Procedure Used

KDB 971168 D01v02r02 - Section 7.0 & ANSI/TIA-603-D-2010

7.4.3. Test Setting

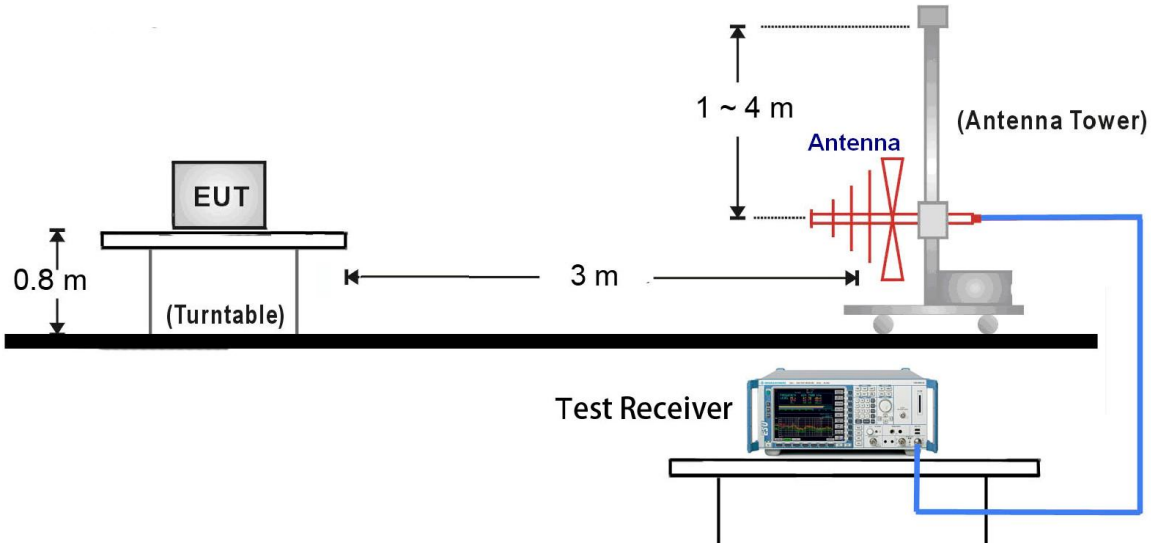
1. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
3. The output of the test antenna shall be connected to the measuring receiver.
4. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height

until a maximum signal level is detected by the measuring receiver.

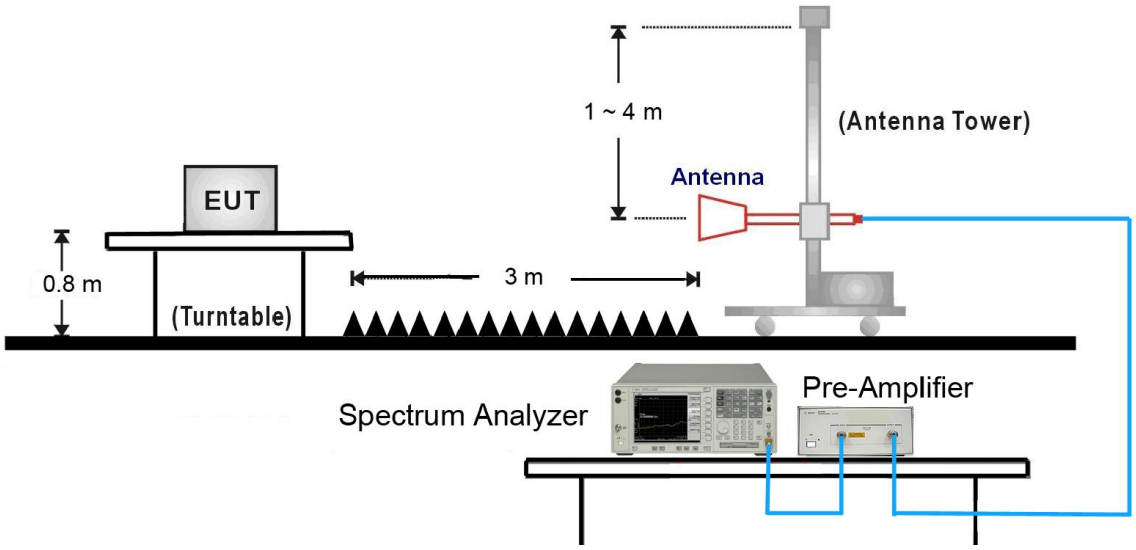
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The transmitter shall be replaced by a substitution antenna.
10. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
11. The substitution antenna shall be connected to a calibrated signal generator.
12. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
16. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
17. Test site anechoic chamber refer to ANSI C63.4: 2014.

7.4.4. Test Setup

30MHz ~ 1GHz Test Setup:



1GHz ~ 20GHz Test Setup:



7.4.5. Test Result

Conducted Power

Mode	Frequency (MHz)	Avg. Burst Power (dBm)	Duty Cycle Factor (dB)	Frame Power (dBm)
GPRS850(1 Slot)	824.2	31.93	-9	22.93
	836.4	31.75	-9	22.75
	848.8	31.61	-9	22.61
GPRS850(2 Slot)	824.2	31.05	-6	25.05
	836.4	30.86	-6	24.86
	848.8	30.71	-6	24.71
GPRS850(3 Slot)	824.2	29.45	-4.25	25.20
	836.4	29.36	-4.25	25.11
	848.8	29.18	-4.25	24.93
GPRS850(4 Slot)	824.2	28.63	-3	25.63
	836.4	28.54	-3	25.54
	848.8	28.39	-3	25.39
EDGE850(1 Slot)	824.2	26.56	-9	17.56
	836.4	26.40	-9	17.40
	848.8	26.27	-9	17.27
EDGE850(2 Slot)	824.2	26.54	-6	20.54
	836.4	26.35	-6	20.35
	848.8	26.21	-6	20.21
EDGE850(3 Slot)	824.2	23.25	-4.25	19.00
	836.4	22.95	-4.25	18.70
	848.8	22.72	-4.25	18.47
EDGE850(4 Slot)	824.2	22.15	-3	19.15
	836.4	21.83	-3	18.83
	848.8	21.44	-3	18.44

GPRS1900(1 Slot)	1850.2	28.73	-9	19.73
	1880.0	28.74	-9	19.74
	1909.8	28.61	-9	19.61
GPRS1900(2 Slot)	1850.2	27.88	-6	21.88
	1880.0	27.72	-6	21.72
	1909.8	27.65	-6	21.65
GPRS1900(3 Slot)	1850.2	26.26	-4.25	22.01
	1880.0	26.35	-4.25	22.10
	1909.8	26.31	-4.25	22.06
GPRS1900(4 Slot)	1850.2	25.48	-3	22.48
	1880.0	25.55	-3	22.55
	1909.8	25.52	-3	22.52
EDGE1900(1 Slot)	1850.2	25.58	-9	16.58
	1880.0	25.51	-9	16.51
	1909.8	25.50	-9	16.50
EDGE1900(2 Slot)	1850.2	25.59	-6	19.59
	1880.0	25.57	-6	19.57
	1909.8	25.53	-6	19.53
EDGE1900(3 Slot)	1850.2	22.58	-4.25	18.33
	1880.0	22.49	-4.25	18.24
	1909.8	22.27	-4.25	18.02
EDGE1900(4 Slot)	1850.2	21.23	-3	18.23
	1880.0	21.07	-3	18.07
	1909.8	20.84	-3	17.84

Note: Frame Power (dBm) = Avg. Burst Power (dBm) + Duty Cycle Factor (dB)

Mode	3GPP Subtest	Conducted Power (dBm)			MPR
		Band II Channel			
		9262	9400	9538	
WCDMA R99	1	24.13	24.01	23.53	N/A
Rel5 HSDPA	1	23.35	23.35	23.21	0
	2	23.32	23.31	23.29	0
	3	23.32	23.30	23.28	0.5
	4	23.31	23.29	23.28	0.5
Rel6 HSUPA	1	23.30	23.22	22.89	0.0
	2	23.27	23.20	22.86	2.0
	3	23.25	23.16	22.84	1.0
	4	23.21	23.14	22.81	2.0
	5	23.19	23.07	22.78	0.0
Mode	**3GPP Subtest**	**Conducted Power (dBm)**			**MPR**
		Band V Channel			
		4132	**4182**	**4233**	
WCDMA R99	1	25.24	25.28	25.23	N/A
Rel5 HSDPA	1	24.76	24.50	24.62	0
	2	24.72	24.48	24.57	0
	3	24.70	24.46	24.54	0.5
	4	24.67	24.43	24.51	0.5
Rel6 HSUPA	1	24.65	24.52	24.58	0.0
	2	24.61	24.49	24.56	2.0
	3	24.57	24.43	24.53	1.0
	4	24.53	24.39	24.48	2.0
	5	24.47	24.33	24.35	0.0

Radiated Power

GPRS850

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)							
824.2	H	29.48	1.78	6.38	34.08	38.5	-4.42
824.2	V	20.26	1.78	6.52	25.00	38.5	-13.50
Middle Channel 189 (836.40MHz)							
836.4	H	29.55	1.80	6.15	33.90	38.5	-4.60
836.4	V	19.80	1.80	6.63	24.63	38.5	-13.87
High Channel 251 (848.80MHz)							
848.8	H	29.04	1.82	6.54	33.76	38.5	-4.74
848.8	V	19.44	1.82	6.8	24.42	38.5	-14.08

GPRS1900

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)							
1850.2	H	23.18	2.70	10.40	30.88	33.0	-2.12
1850.2	V	15.14	2.70	10.40	22.84	33.0	-10.16
Middle Channel 661 (1880.00MHz)							
1880.0	H	23.18	2.72	10.43	30.89	33.0	-2.11
1880.0	V	14.91	2.72	10.43	22.62	33.0	-10.38
High Channel 810 (1909.80MHz)							
1909.8	H	23.07	2.75	10.44	30.76	33.0	-2.24
1909.8	V	14.93	2.75	10.44	22.62	33.0	-10.38

EDGE850

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)							
824.2	H	24.11	1.78	6.38	28.71	38.5	-9.79
824.2	V	17.28	1.78	6.52	22.02	38.5	-16.48
Middle Channel 189 (836.40MHz)							
836.4	H	24.20	1.80	6.15	28.55	38.5	-9.95
836.4	V	16.76	1.80	6.63	21.59	38.5	-16.91
High Channel 251 (848.80MHz)							
848.8	H	23.70	1.82	6.54	28.42	38.5	-10.08
848.8	V	16.45	1.82	6.80	21.43	38.5	-17.07

EDGE1900

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)							
1850.2	H	20.03	2.70	10.40	27.73	33.0	-5.27
1850.2	V	12.31	2.70	10.40	20.01	33.0	-12.99
Middle Channel 661 (1880.00MHz)							
1880.0	H	19.95	2.72	10.43	27.66	33.0	-5.34
1880.0	V	12.08	2.72	10.43	19.79	33.0	-13.21
High Channel 810 (1909.80MHz)							
1909.8	H	19.96	2.75	10.44	27.65	33.0	-5.35
1909.8	V	11.85	2.75	10.44	19.54	33.0	-13.46

WCDMA Band II

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 9262 (1852.40MHz)							
1852.4	H	18.58	2.70	10.40	26.28	33.0	-6.72
1852.4	V	12.23	2.70	10.40	19.93	33.0	-13.07
Middle Channel 9400 (1880.00MHz)							
1880.0	H	18.45	2.72	10.43	26.16	33.0	-6.84
1880.0	V	11.98	2.72	10.43	19.69	33.0	-13.31
High Channel 9538 (1907.60MHz)							
1907.6	H	17.99	2.75	10.44	25.68	33.0	-7.32
1907.6	V	11.79	2.75	10.44	19.48	33.0	-13.52

WCDMA Band V

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 4132 (826.40MHz)							
826.4	H	22.68	1.79	6.50	27.39	38.5	-11.11
826.4	V	14.59	1.79	6.30	19.10	38.5	-19.40
Middle Channel 4182 (836.40MHz)							
836.4	H	22.60	1.80	6.63	27.43	38.5	-11.07
836.4	V	14.48	1.80	6.15	18.83	38.5	-19.67
High Channel 4233 (846.60MHz)							
846.6	H	22.40	1.82	6.80	27.38	38.5	-11.12
846.6	V	13.85	1.82	6.51	18.54	38.5	-19.96

NOTES:

1. ERP (dBm) / EIRP (dBm)= SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)
2. This device was tested under all configurations and the highest power is reported in GSM mode. This device employs UMTS technology with WCDMA (AMR/RMC), HSDPA, HSUPA and GPRS/EDGE capabilities. For WCDMA and HSPA transmission, all configurations were investigated and the worst case UMTS emissions were found in RMC WCDMA mode at

12.2kbps rate.

3. This unit was tested with its standard adapter.
4. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The “H” positioning is defined with the EUT lying flat on the test surface, the “H2” positioning is defined with the EUT standing up on its side, and the “V” positioning is defined with the EUT standing upright. The worst case test configuration was found in the EUT in the H positioning. The data reported in the table above was measured in this test setup.

Radiated Spurious Emission

GPRS850

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)							
3295.0	V	-51.57	0.69	12.75	-39.51	-13	-26.51
8242.0	V	-45.55	1.18	11.86	-34.87	-13	-21.87
3295.0	H	-48.03	0.69	12.75	-35.97	-13	-22.97
8242.0	H	-46.21	1.18	11.86	-35.53	-13	-22.53
Middle Channel 189 (836.40MHz)							
3346.0	V	-53.73	0.67	12.86	-41.54	-13	-28.54
9202.5	V	-46.68	1.22	11.74	-36.16	-13	-23.16
3346.0	H	-49.35	0.67	12.86	-37.16	-13	-24.16
4179.0	H	-50.68	0.79	12.69	-38.78	-13	-25.78
High Channel 251 (848.80MHz)							
7638.5	V	-47.36	1.13	11.46	-37.03	-13	-24.03
12730.0	V	-48.40	1.51	13.74	-36.17	-13	-23.17
3397.0	H	-48.15	0.69	12.96	-35.88	-13	-22.88
4247.0	H	-49.86	0.79	12.71	-37.94	-13	-24.94

Note:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

GPRS1900

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)							
7400.5	V	-38.71	1.03	11.02	-28.72	-13	-15.72
9253.5	V	-25.00	1.24	11.70	-14.54	-13	-1.54
9253.5	H	-28.78	1.24	11.70	-18.32	-13	-5.32
11098.0	H	-46.33	1.37	11.66	-36.04	-13	-23.04
Middle Channel 661 (1880.00MHz)							
7519.5	V	-37.03	1.06	11.28	-26.81	-13	-13.81
9398.0	V	-35.62	1.21	11.59	-25.24	-13	-12.24
7519.5	H	-43.21	1.06	11.28	-32.99	-13	-19.99
9398.0	H	-37.11	1.21	11.59	-26.73	-13	-13.73
High Channel 810 (1909.80MHz)							
7638.5	V	-36.75	1.13	11.46	-26.42	-13	-13.42
9551.0	V	-34.27	1.26	11.85	-23.68	-13	-10.68
7638.5	H	-40.01	1.13	11.46	-29.68	-13	-16.68
9551.0	H	-33.62	1.26	11.85	-23.03	-13	-10.03

Note:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. EIRP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

EDGE850

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)							
3295.0	V	-53.71	0.68	12.75	-41.64	-13	-28.64
8242.0	V	-56.28	1.18	11.86	-45.60	-13	-32.60
5768.5	H	-60.89	0.93	13.10	-48.72	-13	-35.72
8242.0	H	-58.07	1.18	11.86	-47.39	-13	-34.39
Middle Channel 189 (836.40MHz)							
2513.0	V	-62.73	0.60	10.62	-52.71	-13	-39.71
6695.0	V	-59.71	1.00	12.23	-48.48	-13	-35.48
3320.5	H	-67.79	0.69	12.82	-55.66	-13	-42.66
8364.0	H	-57.88	1.15	11.98	-47.05	-13	-34.05
High Channel 251 (848.80MHz)							
4247.0	V	-62.45	0.79	12.71	-50.53	-13	-37.53
12730.0	V	-49.41	1.51	13.74	-37.18	-13	-24.18
2547.0	H	-61.51	0.61	10.68	-51.44	-13	-38.44
5088.5	H	-64.4	0.88	12.74	-52.54	-13	-39.54

Note:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

EDGE1900

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)							
4748.5	V	-64.51	0.84	12.57	-52.78	-13	-39.78
7440.8	V	-57.48	1.05	11.10	-47.43	-13	-34.43
5550.6	H	-66.17	0.90	13.15	-53.92	-13	-40.92
9251.0	H	-54.78	1.24	11.70	-44.32	-13	-31.32
Middle Channel 661 (1880.00MHz)							
5581.5	V	-65.06	0.92	13.15	-52.83	-13	-39.83
11280.0	V	-54.74	1.39	11.92	-44.21	-13	-31.21
5640.0	H	-65.61	0.91	13.14	-53.38	-13	-40.38
9400.0	H	-53.93	1.21	11.59	-43.55	-13	-30.55
High Channel 810 (1909.80MHz)							
5729.4	V	-65.09	0.93	13.11	-52.91	-13	-39.91
9549.0	V	-54.15	1.25	11.85	-43.55	-13	-30.55
7366.5	H	-58.63	1.06	10.98	-48.71	-13	-35.71
11458.8	H	-52.32	1.38	12.17	-41.53	-13	-28.53

Note:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. EIRP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

WCDMA Band II

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 9262 (1852.40MHz)							
3703.0	V	-59.19	0.74	12.69	-47.24	-13	-34.24
10885.5	V	-50.05	1.39	11.55	-39.89	-13	-26.89
3703.0	H	-57.25	0.74	12.69	-45.30	-13	-32.30
9262.0	H	-51.76	1.24	11.69	-41.31	-13	-28.31
Middle Channel 9400 (1880.00MHz)							
3762.5	V	-57.53	0.74	12.73	-45.54	-13	-32.54
7528.0	V	-54.7	1.06	11.30	-44.46	-13	-31.46
3762.5	H	-56.95	0.74	12.73	-44.96	-13	-31.96
7528.0	H	-55.63	1.06	11.30	-45.39	-13	-32.39
High Channel 9538 (1907.60MHz)							
3813.5	V	-57.88	0.74	12.74	-45.88	-13	-32.88
7630.0	V	-54.66	1.14	11.46	-44.34	-13	-31.34
3813.5	H	-56.89	0.74	12.74	-44.89	-13	-31.89
7630.0	H	-53.64	1.14	11.46	-43.32	-13	-30.32

Note:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

WCDMA Band V

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Substitute Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 4132 (826.40MHz)							
1654.5	V	-60.69	0.48	9.82	-51.35	-13	-38.35
3303.5	V	-62.55	0.69	12.77	-50.47	-13	-37.47
1654.5	H	-62.58	0.48	9.82	-53.24	-13	-40.24
3303.5	H	-57.17	0.69	12.77	-45.09	-13	-32.09
Middle Channel 4182 (836.40MHz)							
3346.0	V	-64.97	0.67	12.86	-52.78	-13	-39.78
5020.5	V	-63.44	0.88	12.67	-51.65	-13	-38.65
1671.5	H	-62.66	0.49	9.93	-53.22	-13	-40.22
3346.0	H	-59.67	0.67	12.86	-47.48	-13	-34.48
High Channel 4233 (846.60MHz)							
1688.5	V	-60.41	0.49	10.05	-50.85	-13	-37.85
3380.0	V	-62.4	0.69	12.92	-50.17	-13	-37.17
3380.0	H	-59.44	0.69	12.92	-47.21	-13	-34.21
4230.0	H	-61.1	0.78	12.71	-49.17	-13	-36.17

Note:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

7.5. Peak-Average Ratio

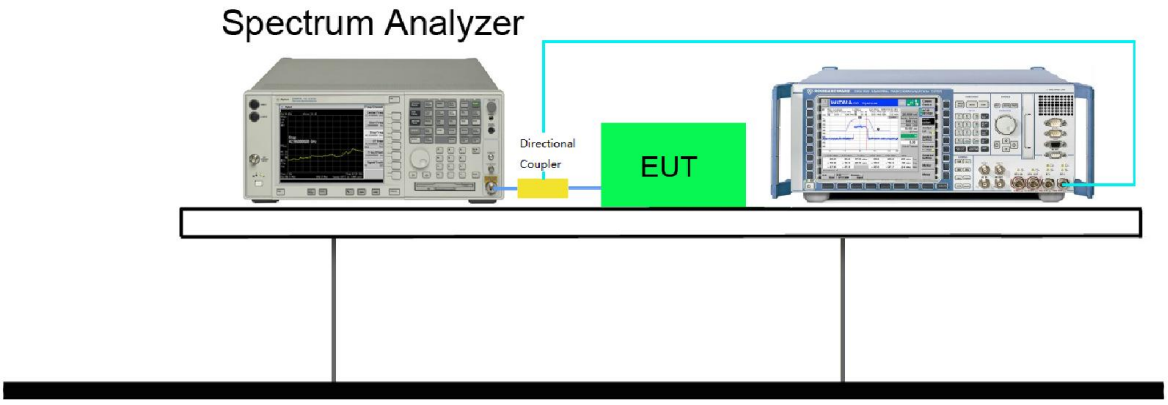
7.5.1. Test Limit

The transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

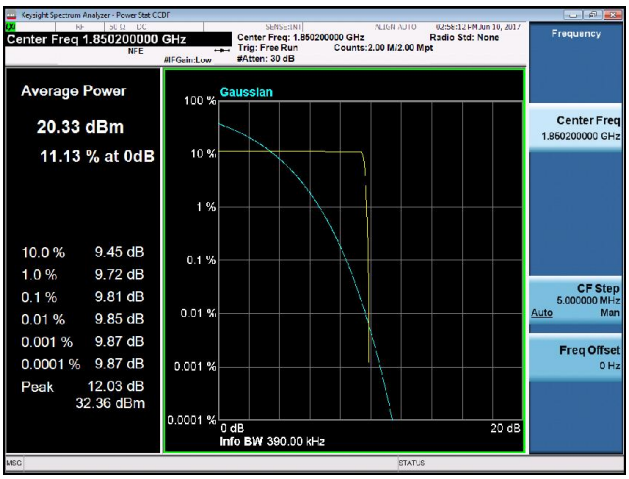
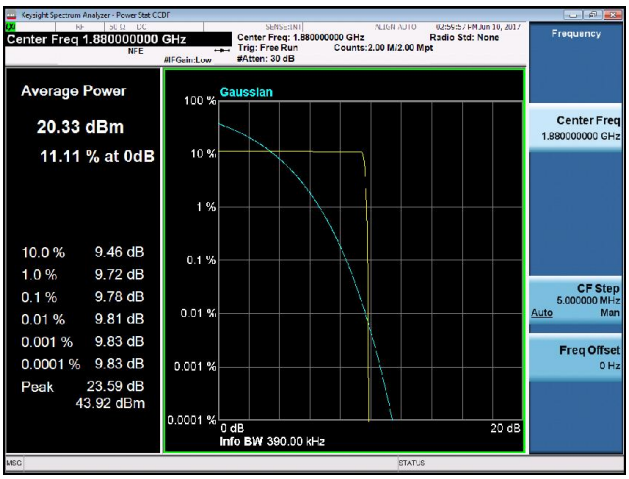
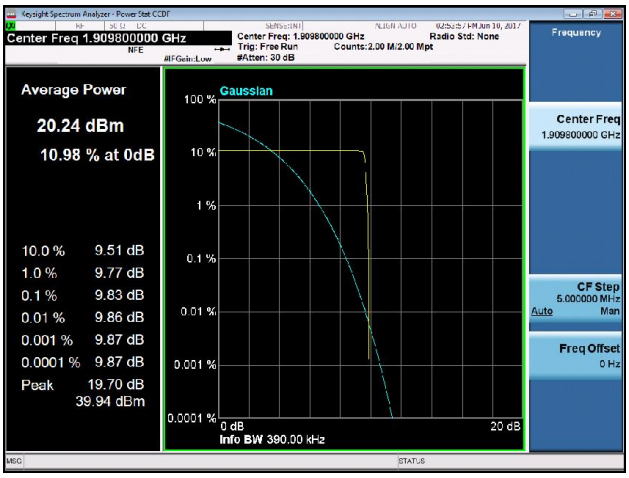
7.5.2. Test Procedure

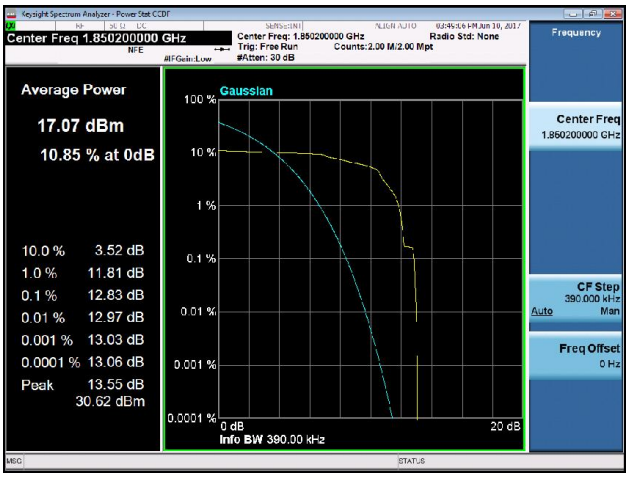
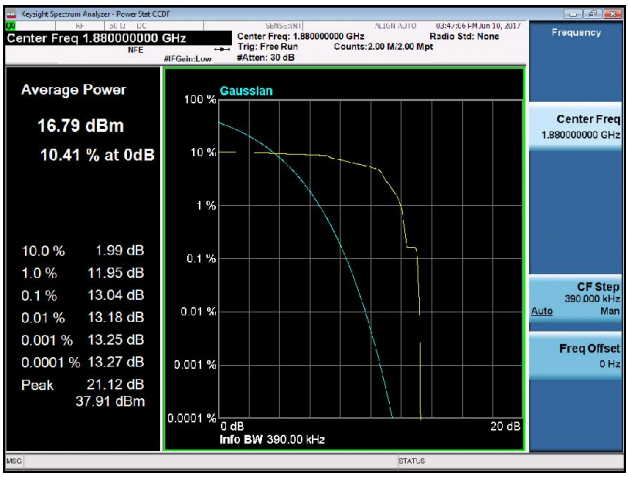
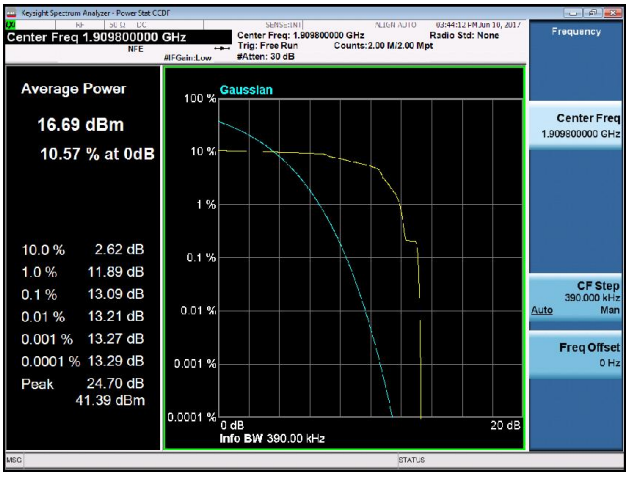
KDB 971168 D01v02r02 - Section 5.7 & ANSI/TIA-603-D-2010

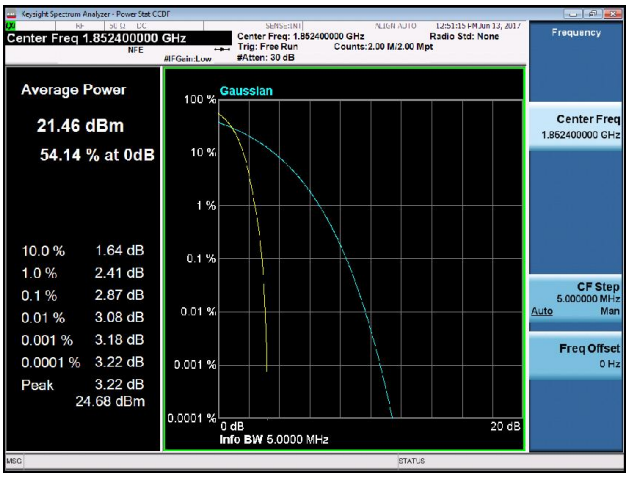
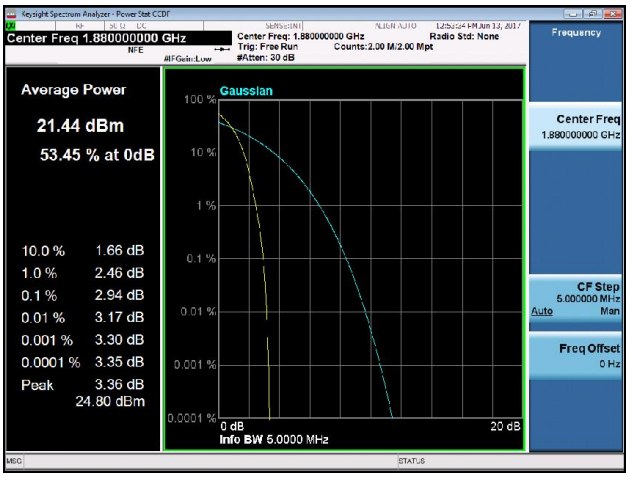
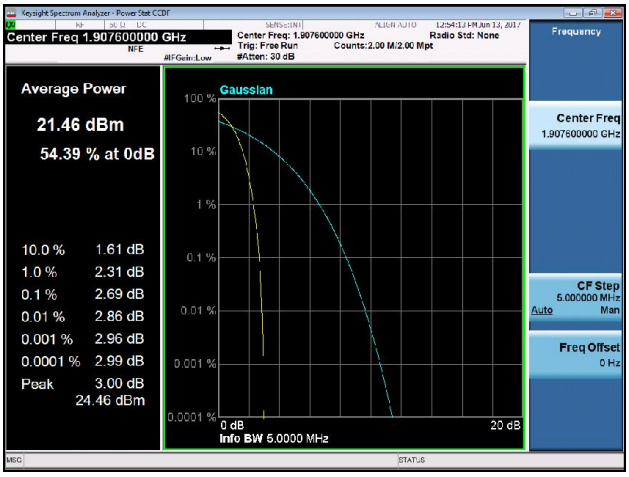
7.5.3. Test Setup



7.5.4. Test Result

Peak-Average Ratio	
PCS1900 Channel 512 (1850.2MHz)	PCS1900 Channel 661 (1880.0MHz)
	
PCS1900 Channel 810 (1909.8MHz)	
	

Peak-Average Ratio	
EDGE1900 Channel 512 (1850.2MHz)	**EDGE1900 Channel 661 (1880.0MHz)**
	
EDGE1900 Channel 810 (1909.8MHz)	
	

Peak-Average Ratio	
WCDMA Band II Channel 9262 (1852.4MHz)	**WCDMA Band II Channel 9400 (1880.0MHz)**
	
WCDMA Band II Channel 9538 (1907.6MHz)	
	

7.6. Frequency Stability Under Temperature & Voltage Variations

7.6.1. Test Limit

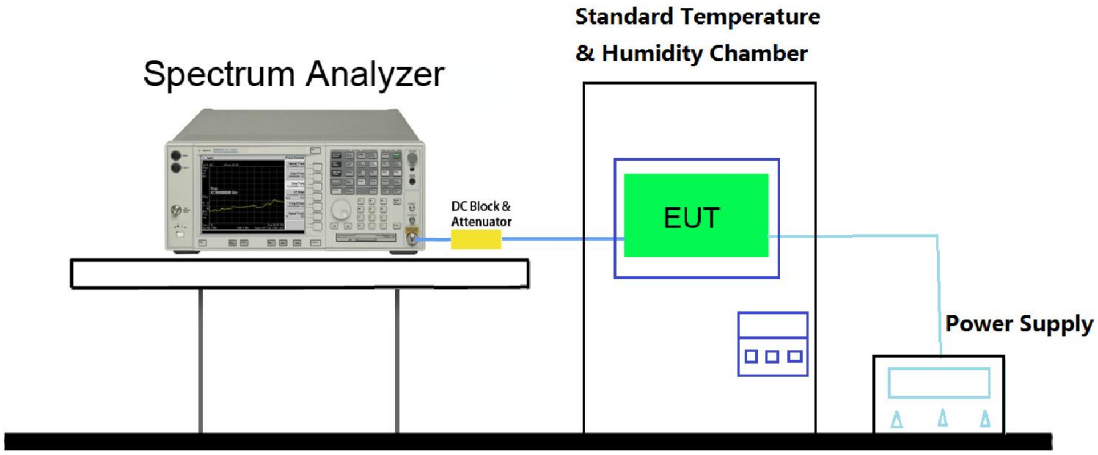
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Limit	< ± 2.5 ppm

7.6.2. Test Procedure

KDB 971168 D01v02r02 - Section 9.0 & ANSI/TIA-603-D-2010

7.6.3. Test Setup



7.6.4. Test Result

Operating Frequency	836,400,000 Hz
Channel	189
Test Mode	GPRS850
Reference Voltage	3.7 VDC
Deviation Limit	±0.00025% or 2.5ppm

Voltage (%)	Power (VDC)	TEMP (%)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	3.7	+20(Ref)	836,400,000	58	0.00000693
100%		-30	836,400,000	63	0.00000753
100%		-20	836,400,000	-53	-0.00000637
100%		-10	836,400,000	64	0.00000765
100%		0	836,400,000	59	0.00000705
100%		+10	836,400,000	-48	-0.00000574
100%		+20	836,400,000	59	0.00000705
100%		+30	836,400,000	46	0.00000550
100%		+40	836,400,000	-52	-0.00000621
100%		+50	836,400,000	-57	-0.00000681
115%	4.2	+20	836,400,000	63	0.00000753
BAT.ENDPOINT	3.6	+20	836,400,000	59	0.00000705

Operating Frequency	1,880,000,000 Hz
Channel	661
Test Mode	GPRS1900
Reference Voltage	3.7 VDC
Deviation Limit	±0.00025% or 2.5ppm

Voltage (%)	Power (VDC)	TEMP (%)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	3.7	+20(Ref)	1,880,000,000	46	0.00000245
100%		-30	1,880,000,000	61	0.00000324
100%		-20	1,880,000,000	58	0.00000309
100%		-10	1,880,000,000	-52	-0.00000277
100%		0	1,880,000,000	-63	-0.00000335
100%		+10	1,880,000,000	57	0.00000303
100%		+20	1,880,000,000	54	0.00000287
100%		+30	1,880,000,000	-49	-0.00000261
100%		+40	1,880,000,000	59	0.00000314
100%		+50	1,880,000,000	61	0.00000324
115%	4.2	+20	1,880,000,000	63	0.00000335
BAT.ENDPOINT	3.6	+20	1,880,000,000	53	0.00000282

Operating Frequency	836,400,000 Hz
Channel	189
Test Mode	EDGE850
Reference Voltage	3.7 VDC
Deviation Limit	±0.00025% or 2.5ppm

Voltage (%)	Power (VDC)	TEMP (%)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	3.7	+20(Ref)	836,400,000	57	0.00000681
100%		-30	836,400,000	61	0.00000729
100%		-20	836,400,000	58	0.00000693
100%		-10	836,400,000	54	0.00000646
100%		0	836,400,000	61	0.00000729
100%		+10	836,400,000	-54	-0.00000646
100%		+20	836,400,000	64	0.00000765
100%		+30	836,400,000	48	0.00000574
100%		+40	836,400,000	-52	-0.00000622
100%		+50	836,400,000	63	0.00000753
115%	4.2	+20	836,400,000	59	0.00000705
BAT.ENDPOINT	3.6	+20	836,400,000	-52	-0.00000622

Operating Frequency	1,880,000,000 Hz
Channel	661
Test Mode	EDGE1900
Reference Voltage	3.7 VDC
Deviation Limit	±0.00025% or 2.5ppm

Voltage (%)	Power (VDC)	TEMP (%)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	3.7	+20(Ref)	1,880,000,000	-56	-0.00000298
100%		-30	1,880,000,000	63	0.00000335
100%		-20	1,880,000,000	62	0.00000330
100%		-10	1,880,000,000	73	0.00000388
100%		0	1,880,000,000	-69	-0.00000367
100%		+10	1,880,000,000	64	0.00000340
100%		+20	1,880,000,000	-73	-0.00000388
100%		+30	1,880,000,000	58	0.00000309
100%		+40	1,880,000,000	68	0.00000362
100%		+50	1,880,000,000	75	0.00000399
115%	4.2	+20	1,880,000,000	69	0.00000367
BAT.ENDPOINT	3.6	+20	1,880,000,000	62	0.00000330

Operating Frequency	1,880,000,000 Hz
Channel	9400
Test Mode	WCDMA Band II
Reference Voltage	3.7 VDC
Deviation Limit	±0.00025% or 2.5ppm

Voltage (%)	Power (VDC)	TEMP (%)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	3.7	+20(Ref)	1,880,000,000	76	0.00000404
100%		-30	1,880,000,000	63	0.00000335
100%		-20	1,880,000,000	-74	-0.00000394
100%		-10	1,880,000,000	69	0.00000367
100%		0	1,880,000,000	71	0.00000378
100%		+10	1,880,000,000	-75	-0.00000399
100%		+20	1,880,000,000	69	0.00000367
100%		+30	1,880,000,000	62	0.00000330
100%		+40	1,880,000,000	78	0.00000415
100%		+50	1,880,000,000	-68	-0.00000362
115%	4.2	+20	1,880,000,000	75	0.00000399
BAT.ENDPOINT	3.6	+20	1,880,000,000	67	0.00000356

Operating Frequency	836,400,000 Hz
Channel	4182
Test Mode	WCDMA Band V
Reference Voltage	3.7 VDC
Deviation Limit	±0.00025% or 2.5ppm

Voltage (%)	Power (VDC)	TEMP (%)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100%	3.7	+20(Ref)	836,400,000	75	0.00000897
100%		-30	836,400,000	-69	-0.00000825
100%		-20	836,400,000	65	0.00000777
100%		-10	836,400,000	73	0.00000873
100%		0	836,400,000	69	0.00000825
100%		+10	836,400,000	65	0.00000777
100%		+20	836,400,000	74	0.00000885
100%		+30	836,400,000	-65	-0.00000777
100%		+40	836,400,000	63	0.00000753
100%		+50	836,400,000	68	0.00000813
115%	4.2	+20	836,400,000	-68	-0.00000813
BAT.ENDPOINT	3.6	+20	836,400,000	-73	-0.00000873

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **Smart Phone** compliance with all the requirements of Part2, Part22 Subpart H, Part24 Subpart E of the FCC Rules.

The End