



TEST REPORT

According to

FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E

Applicant	: AIR S.R.L.
Address	: San Nicolas 1450 (S2002QYN – Rosario) Santa Fe Argentina
Manufacturer	: GREEN CONNECT INTERNATIONAL CORP.
Address	: 4F., NO.87, LN.87, SEC.1, SIHCHUAN RD., BANCIAO DIST., NEW TAIPEI CITY 22063, TAIWAN
Equipment	: CX Phone
Model No.	: CX402E
Trade Name	: CX
FCC ID	: 2AFEA-CX402E

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ORIGINAL

☐ Additional attachment as following record:

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according to

FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E

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Address	: San Nicolas 1450 (S2002QYN – Rosario) Santa Fe Argentina
Manufacturer	: GREEN CONNECT INTERNATIONAL CORP.
Address	: 4F., NO.87, LN.87, SEC.1, SIHCHUAN RD., BANCIAO DIST., NEW TAIPEI CITY 22063, TAIWAN
Equipment	: CX Phone
Model No.	: CX402E
Trade Name	: CX
FCC ID	: 2AFEA-CX402E

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 – 2009** and the energy emitted by this equipment was **passed** **FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E** in both radiated and conducted emission limits.

Testing was carried out on Jun 8, 2015 at **CerpPASS Technology Corp.**

Signature

Miro Chueh/ Technical director




1. Report of Measurements and Examinations

FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E ANSI C63.4: 2009		
Test Parameter	Test Performed	Remark
Conducted Emission	YES	PASS
Field Strength of Spurious Radiation Measurement	YES	PASS
Occupied Bandwidth	YES	PASS
Maximum Peak Output Power	YES	PASS
ERP & EIRP Measurement	YES	PASS
Out of Band Emission at Antenna Terminals	YES	PASS
Frequency Stability V.S. Temperature Measurement	YES	PASS
Requency Stability V.S. Voltage Measurement	YES	PASS



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

CX Phone	Model No:	CX402E
Operation Frequency Range	WCDMA/HSUPA/HSDPA BAND5: 826.4 – 846.6 MHz WCDMA/HSUPA/HSDPA BAND2: 1852.4 – 1907.6 MHz	
Release version	HSDPA: Rel 6 HSUPA: Rel 7	
EUT Power Rating:	DC 3.7V supplied by battery and DC5V supplied by adapter	
Adapter Spec.	Manufacturer:	SHENZHEN FUJIA APPLIANCE CO., LTD.
	Model No.:	FJ-SW1160501000UA
	Input Rating:	100-240Vac 50/60Hz 0.3A Max
	Output Rating:	5V  1000mA



2.2. Test Manner

Test Manner	
a	During testing, the interface cables and equipment positions were varied according to 47 CFR, Part 2, PART 22 Subpart H and PART 24 Subpart E.
b	Adjust the EUT at the test mode and the test channel. Then test.
The test modes:	
<p>The EUT had been tested under operating condition.</p> <p>After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.</p> <p>EUT staying in continuous transmitting mode was programmed.</p> <p>WCDMA 850: Channel Low (CH4132), Channel Mid (CH4183) and Channel High (CH4233) were chosen for full testing.</p> <p>WCDMA1900: Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.</p> <p>HSUPA 850: Channel Low (CH4132), Channel Mid (CH4183) and Channel High (CH4233) were chosen for full testing.</p> <p>HSUPA 1900: Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.</p> <p>HSDPA 850: Channel Low (CH4132), Channel Mid (CH4183) and Channel High (CH4233) were chosen for full testing.</p> <p>HSDPA 1900: Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.</p>	

Note:

1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. For the ERP/EIRP and radiated emission test, every axis (X, Y, Z) was verified, and show the worst result on this report.

2.3. Description of Test System

No.	Device	Manufacturer	Model No.	Description
1	N/A	N/A	N/A	N/A



2.4. General Information of Test

<input type="checkbox"/>	Test Site	CerpPASS Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582
	FCC	TW1079, TW1061, 390316, 228391, 641184
	IC	4934B-1, 4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-3428, R-4218 for Radiated emission test G-812, G-813 for radiated disturbance above 1GHz
<input checked="" type="checkbox"/>	Test Site	CerpPASS Technology (Suzhou) Co.,Ltd Address: No.66,Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China Tel: +86-512-6917-5888 Fax: +86-512-6917-5666
	FCC	916572, 331395
	IC	7290A-1, 7290A-2
	VCCI	T-343 for Telecommunication Test C-2919 for Conducted emission test R-2670 for Radiated emission test G-227 for radiated disturbance above 1GHz

2.5. Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE/NEUTRAL	±2.71 dB
Radiated Emission	30 MHz ~ 25GHz	Vertical	±4.11 dB
		Horizontal	±4.10 dB
Occupied Bandwidth	---	---	±7500 Hz
Maximum Peak Output Power	---	---	±1.4 dB
Band Edges	---	---	±2.2 dB
Power Spectral Density	---	---	±2.2 dB



Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

*Decreases with the logarithm of the frequency.

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.



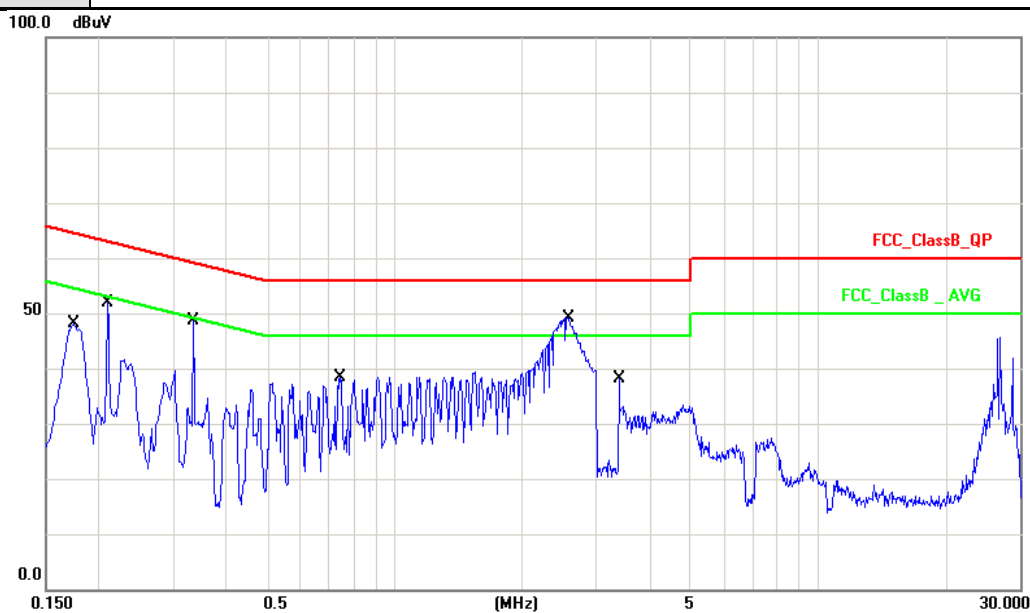
3.4. Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100565	2015.03.24	2016.03.23
AMN	R&S	ESH2-Z5	100182	2014.09.04	2015.09.03
Two-Line V-Network	R&S	ENV216	100325	2014.12.04	2015.12.05
ISN	FCC	FCC-TLISN-T2-02	20379	2015.03.24	2016.03.23
ISN	FCC	FCC-TLISN-T4-02	20380	2015.03.24	2016.03.23
ISN	FCC	FCC-TLISN-T8-02	20381	2015.03.24	2016.03.23
ISN	TESEQ	ISN ST08	30175	2015.03.24	2016.03.23
Current Probe	R&S	EZ-17	100303	2015.04.04	2016.04.03
Passive Voltage Probe	R&S	ESH2-Z3	100026	2015.03.24	2016.03.23
Pulse Limiter	R&S	ESH3-Z2	100529	2015.03.24	2016.03.23
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-004	2015.03.31	2016.03.30



3.5. Test Result and Data

Test Item	Conduction Emission
Product	CX402E
Test Mode	Normal Link
Phase	Line
Test Date	2015/06/07

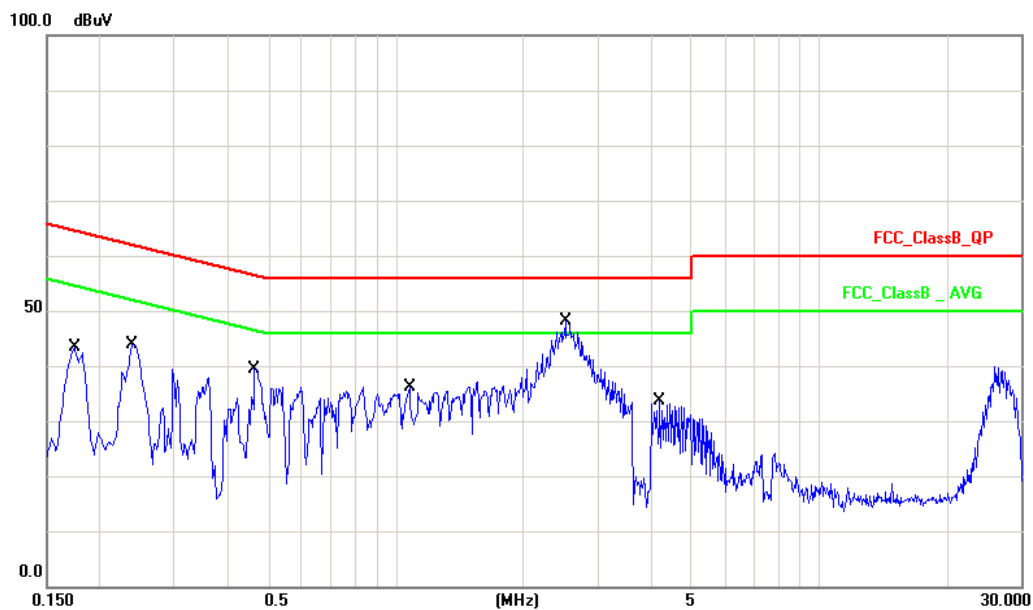


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	10.13	37.96	48.09	64.76	-16.67	QP
2	0.1740	10.13	19.64	29.77	54.76	-24.99	AVG
3	0.2100	10.12	48.10	58.22	63.20	-4.98	QP
4	0.2100	10.12	22.57	32.69	53.20	-20.51	AVG
5	0.3339	10.14	31.96	42.10	59.35	-17.25	QP
6	0.3339	10.14	1.98	12.12	49.35	-37.23	AVG
7	0.7460	10.14	26.13	36.27	56.00	-19.73	QP
8	0.7460	10.14	10.85	20.99	46.00	-25.01	AVG
9	2.5820	10.18	37.94	48.12	56.00	-7.88	QP
10	2.5820	10.18	21.19	31.37	46.00	-14.63	AVG
11	3.3900	10.19	32.58	42.77	56.00	-13.23	QP
12	3.3900	10.19	5.32	15.51	46.00	-30.49	AVG

Note: Measurement Level = Reading Level + Correct Factor



Test Item	Conduction Emission
Product	CX402E
Test Mode	Normal Link
Phase	Neutral
Test Date	2015/06/07



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	10.13	30.53	40.66	64.76	-24.10	QP
2	0.1740	10.13	15.15	25.28	54.76	-29.48	AVG
3	0.2380	10.13	26.11	36.24	62.16	-25.92	QP
4	0.2380	10.13	10.51	20.64	52.16	-31.52	AVG
5	0.4660	10.15	23.32	33.47	56.58	-23.11	QP
6	0.4660	10.15	3.67	13.82	46.58	-32.76	AVG
7	1.0820	10.18	23.73	33.91	56.00	-22.09	QP
8	1.0820	10.18	9.53	19.71	46.00	-26.29	AVG
9	2.5220	10.19	33.88	44.07	56.00	-11.93	QP
10	2.5220	10.19	17.14	27.33	46.00	-18.67	AVG
11	4.2020	10.22	13.60	23.82	56.00	-32.18	QP
12	4.2020	10.22	1.29	11.51	46.00	-34.49	AVG

Note: Measurement Level = Reading Level + Correct Factor



4. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

4.1. Test Limit

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 $43 + 10\log(P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

4.2. Test Procedures

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated. For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements. A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid

overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test. The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m). The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

$$(1) \text{ Amplitude (dBuV/m) = FI (dBuV) + AF (dBuV) + CL (dBuV) - Gain (dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.



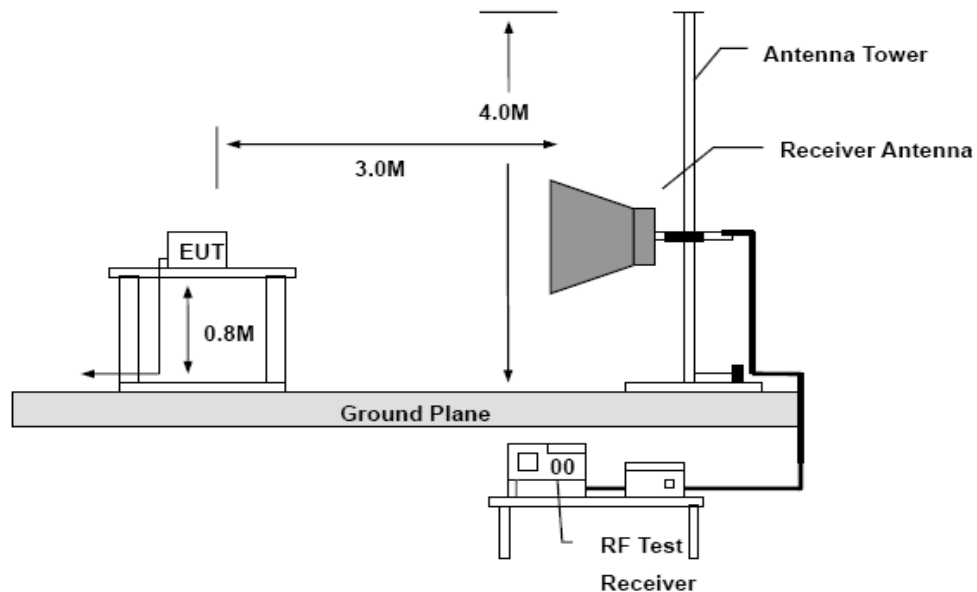
(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

4.3. Typical Test Setup



**4.4. Measurement Equipment**

Instrument	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	100563	2015.03.24	2016.03.23
H64 Preamplifier	HP	8447F	3113A05582	2015.03.24	2016.03.23
Preamplifier	Agilent	8449B	3008A02342	2015.03.24	2016.03.23
Ultra Broadband Antenna	R&S	HL562	100362	2015.05.24	2016.05.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2015.05.24	2016.05.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	9170-348	2015.05.24	2016.05.23
Spectrum Analyzer	R&S	FSP40	100324	2015.03.23	2016.03.24
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30

**4.5. Test Result and Data****Radiated Spurious Emission Measurement Result/Below 1G:**

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : WCDMA 850

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	37.25	-13.36	-11.29	-24.65	-13.00	-11.65	H
	109.36	-12.53	-13.44	-25.97	-13.00	-12.97	H
	75.33	-12.82	-16.63	-29.45	-13.00	-16.45	V
	85.06	-12.53	-15.27	-27.80	-13.00	-14.80	V
4183	111.18	-13.47	-13.78	-27.25	-13.00	-14.25	H
	127.82	-14.69	-14.15	-28.84	-13.00	-15.84	H
	109.47	-12.71	-14.25	-26.96	-13.00	-13.96	V
	125.49	-12.38	-14.15	-26.53	-13.00	-13.53	V
4233	136.63	-14.19	-14.47	-28.66	-13.00	-15.66	H
	825.19	-28.30	1.87	-26.43	-13.00	-13.43	H
	312.20	-16.94	-10.74	-27.68	-13.00	-14.68	V
	896.35	-24.15	-2.44	-26.59	-13.00	-13.59	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSUPA 850

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	38.82	-13.53	-11.29	-24.82	-13.00	-11.82	H
	109.49	-13.15	-13.44	-26.59	-13.00	-13.59	H
	74.72	-11.97	-16.63	-28.60	-13.00	-15.60	V
	87.67	-11.69	-15.27	-26.96	-13.00	-13.96	V
4183	110.37	-13.54	-13.78	-27.32	-13.00	-14.32	H
	128.52	-14.38	-14.15	-28.53	-13.00	-15.53	H
	109.53	-11.21	-14.25	-25.46	-13.00	-12.46	V
	127.47	-12.30	-14.15	-26.45	-13.00	-13.45	V
4233	137.43	-13.29	-14.47	-27.76	-13.00	-14.76	H
	830.78	-28.49	1.87	-26.62	-13.00	-13.62	H
	312.85	-16.16	-9.74	-25.90	-13.00	-12.90	V
	898.24	-23.43	-2.18	-25.61	-13.00	-12.61	V



Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSDPA 850

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	39.26	-13.12	-11.29	-24.41	-13.00	-11.41	H
	108.13	-13.37	-13.44	-26.81	-13.00	-13.81	H
	72.31	-11.20	-16.63	-27.83	-13.00	-14.83	V
	84.49	-10.31	-15.27	-25.58	-13.00	-12.58	V
4183	112.35	-12.28	-13.78	-26.06	-13.00	-13.06	H
	127.82	-12.46	-14.15	-26.61	-13.00	-13.61	H
	109.75	-10.27	-14.25	-24.52	-13.00	-11.52	V
	128.06	-11.19	-14.15	-25.34	-13.00	-12.34	V
4233	137.19	-13.79	-14.47	-28.26	-13.00	-15.26	H
	831.37	-28.45	1.87	-26.58	-13.00	-13.58	H
	315.28	-14.82	-9.74	-24.56	-13.00	-11.56	V
	895.47	-25.65	-2.44	-28.09	-13.00	-15.09	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : WCDMA 1900

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
9262	35.36	-14.23	-11.01	-25.24	-13.00	-12.24	H
	105.19	-11.77	-13.44	-25.21	-13.00	-12.21	H
	78.06	-10.43	-16.63	-27.06	-13.00	-14.06	V
	85.11	-10.16	-15.27	-25.43	-13.00	-12.43	V
9400	110.35	-10.46	-13.65	-24.11	-13.00	-11.11	H
	128.47	-12.17	-14.15	-26.32	-13.00	-13.32	H
	104.32	-13.28	-14.25	-27.53	-13.00	-14.53	V
	130.59	-12.54	-14.15	-26.69	-13.00	-13.69	V
9538	134.93	-12.32	-14.47	-26.79	-13.00	-13.79	H
	826.51	-25.19	1.87	-23.32	-13.00	-10.32	H
	315.78	-12.36	-9.74	-22.10	-13.00	-9.10	V
	892.33	-23.13	-2.44	-25.57	-13.00	-12.57	V



Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSUPA 1900

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
9262	35.15	-14.39	-11.29	-25.68	-13.00	-12.68	H
	100.89	-13.11	-11.47	-24.58	-13.00	-11.58	H
	76.31	-11.30	-16.63	-27.93	-13.00	-14.93	V
	85.52	-11.49	-15.27	-26.76	-13.00	-13.76	V
9400	113.63	-12.35	-13.78	-26.13	-13.00	-13.13	H
	128.58	-12.59	-14.15	-26.74	-13.00	-13.74	H
	108.75	-10.14	-14.25	-24.39	-13.00	-11.39	V
	126.59	-10.14	-14.25	-24.39	-13.00	-11.39	V
9538	140.16	-13.11	-14.47	-27.58	-13.00	-14.58	H
	816.14	-25.82	1.87	-23.95	-13.00	-10.95	H
	315.36	-13.85	-9.74	-23.59	-13.00	-10.59	V
	895.31	-22.15	-2.44	-24.59	-13.00	-11.59	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSDPA1900

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
9262	39.32	-13.93	-11.29	-25.22	-13.00	-12.22	H
	107.05	-12.36	-13.44	-25.80	-13.00	-12.80	H
	74.19	-11.21	-16.63	-27.84	-13.00	-14.84	V
	85.57	-12.30	-15.27	-27.57	-13.00	-14.57	V
9400	110.29	-13.74	-13.78	-27.52	-13.00	-14.52	H
	127.43	-13.49	-14.15	-27.64	-13.00	-14.64	H
	108.35	-12.79	-14.25	-27.04	-13.00	-14.04	V
	127.18	-11.05	-14.15	-25.20	-13.00	-12.20	V
9538	135.21	-14.32	-14.47	-28.79	-13.00	-15.79	H
	827.28	-27.18	1.87	-25.31	-13.00	-12.31	H
	311.44	-17.25	-9.74	-26.99	-13.00	-13.99	V
	895.93	-24.11	-2.44	-26.55	-13.00	-13.55	V

**Radiated Spurious Emission Measurement Result/Above 1G:**

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : WCDMA 850

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	3198.63	-48.32	1.31	-47.01	-13.00	-34.01	H
	3190.09	-47.16	1.29	-45.87	-13.00	-32.87	V
4183	3203.38	-51.63	1.31	-50.32	-13.00	-37.32	H
	3199.11	-47.52	1.29	-46.23	-13.00	-33.23	V
4233	3199.29	-44.63	1.31	-43.32	-13.00	-30.32	H
	3202.16	-43.31	1.29	-42.02	-13.00	-29.02	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSUPA850

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	3201.49	-49.83	1.31	-48.52	-13.00	-35.52	H
	3199.35	-48.26	1.29	-46.97	-13.00	-33.97	V
4183	3201.71	-50.31	1.31	-49.00	-13.00	-36.00	H
	3199.59	-47.58	1.29	-46.29	-13.00	-33.29	V
4233	3201.59	-49.34	1.31	-48.03	-13.00	-35.03	H
	3199.35	-48.25	1.29	-46.96	-13.00	-33.96	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSDPA850

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	3200.86	-49.53	1.31	-48.22	-13.00	-35.22	H
	3199.16	-47.16	1.29	-45.87	-13.00	-32.87	V
4183	3200.86	-48.16	1.31	-46.85	-13.00	-33.85	H
	3190.30	-47.29	1.29	-46.00	-13.00	-33.00	V
4233	3201.59	-49.29	1.31	-47.98	-13.00	-34.98	H
	3201.31	-46.53	1.29	-45.24	-13.00	-32.24	V



Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : WCDMA 1900

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	3200.63	-49.19	1.31	-47.88	-13.00	-34.88	H
	3204.53	-45.48	1.29	-44.19	-13.00	-31.19	V
4183	3198.58	-49.47	1.31	-48.16	-13.00	-35.16	H
	3196.31	-46.53	1.29	-45.24	-13.00	-32.24	V
4233	3202.89	-48.93	1.31	-47.62	-13.00	-34.62	H
	3194.79	-45.72	1.29	-44.43	-13.00	-31.43	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSPA 1900

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	3201.16	-49.37	1.31	-48.06	-13.00	-35.06	H
	3200.39	-48.28	1.29	-46.99	-13.00	-33.99	V
4183	3201.13	-50.82	1.31	-49.51	-13.00	-36.51	H
	3196.59	-49.15	1.29	-47.86	-13.00	-34.86	V
4233	3203.43	-51.28	1.31	-49.97	-13.00	-36.97	H
	3189.75	-48.39	1.29	-47.10	-13.00	-34.10	V

Engineer : Wind	Time : 2015-06-08
Site : EMC Lab AC 102	Margin : 6
Limit : FCC_Part22&24 and RSS 133 Clause 6.5&6.6	Probe : VERTICAL/ HORIZONTAL
EUT :CX402E	Note : HSDPA 1900

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	3202.16	-48.32	1.31	-47.01	-13.00	-34.01	H
	3197.63	-47.16	1.29	-45.87	-13.00	-32.87	V
4183	3202.59	-49.31	1.31	-48.00	-13.00	-35.00	H
	3197.26	-48.16	1.29	-46.87	-13.00	-33.87	V
4233	3202.72	-49.53	1.31	-48.22	-13.00	-35.22	H
	3198.53	-48.85	1.29	-47.56	-13.00	-34.56	V



5. Occupied Bandwidth

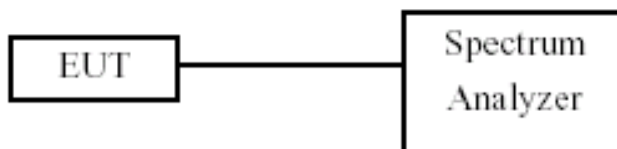
5.1. Test Limit

According to §FCC 2.1049.

5.2. Test Procedures

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW is set to 3 times the RBW, -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

5.3. Test Setup Layout



5.4. Measurement Equipment

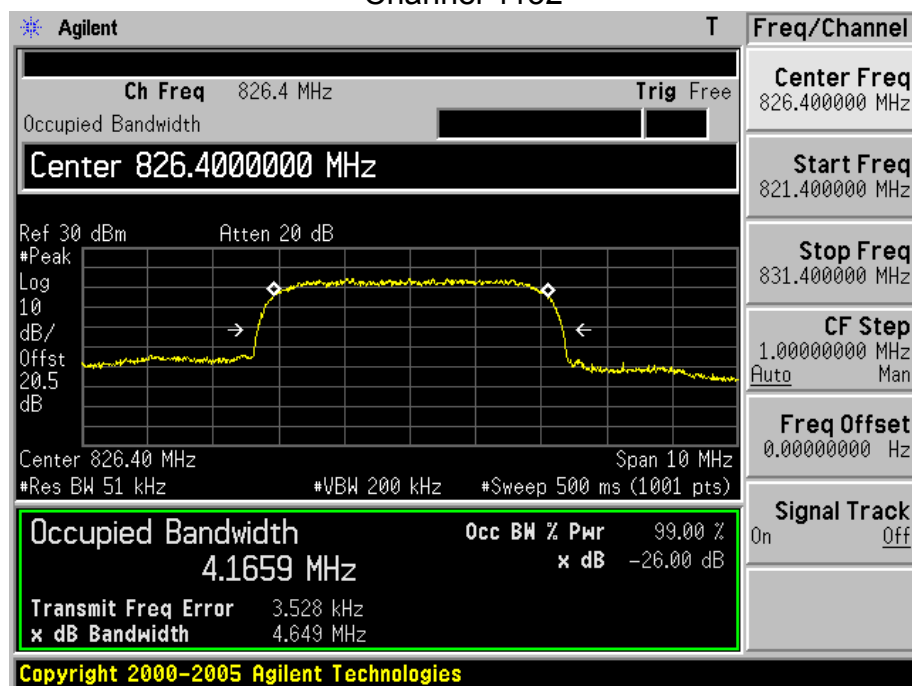
Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2014.09.12	2015.09.11
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30

**5.5. Test Result and Data**

Test Item	Occupied Channel Bandwidth
Test Mode	WCDMA 850
Test Date	2015-06-05

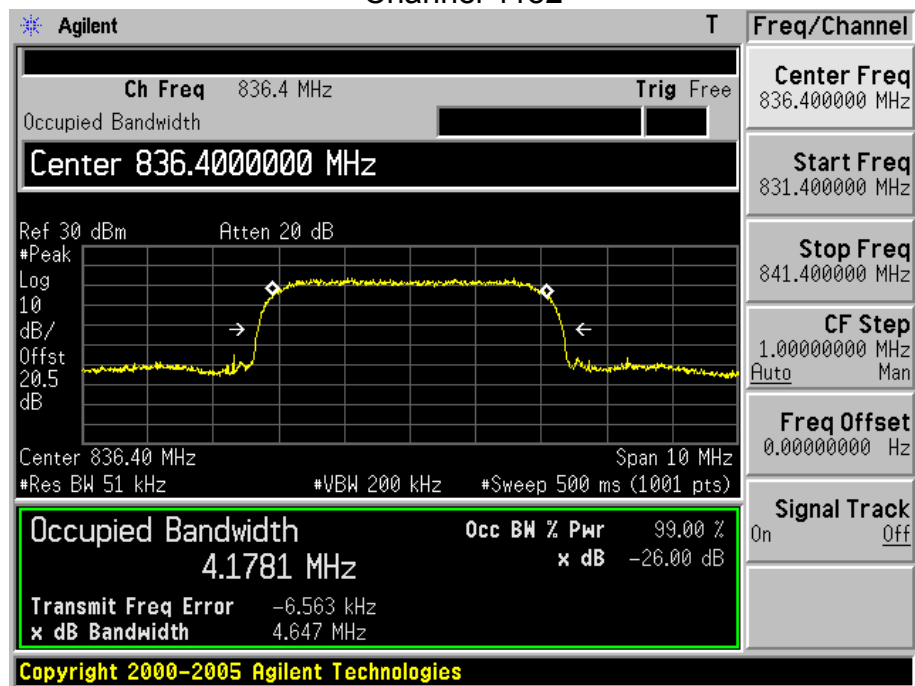
Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
4132	826.4	4649.0	4165.9
4182	836.4	4647.0	4178.1
4233	846.6	4636.0	4182.7

Channel 4132

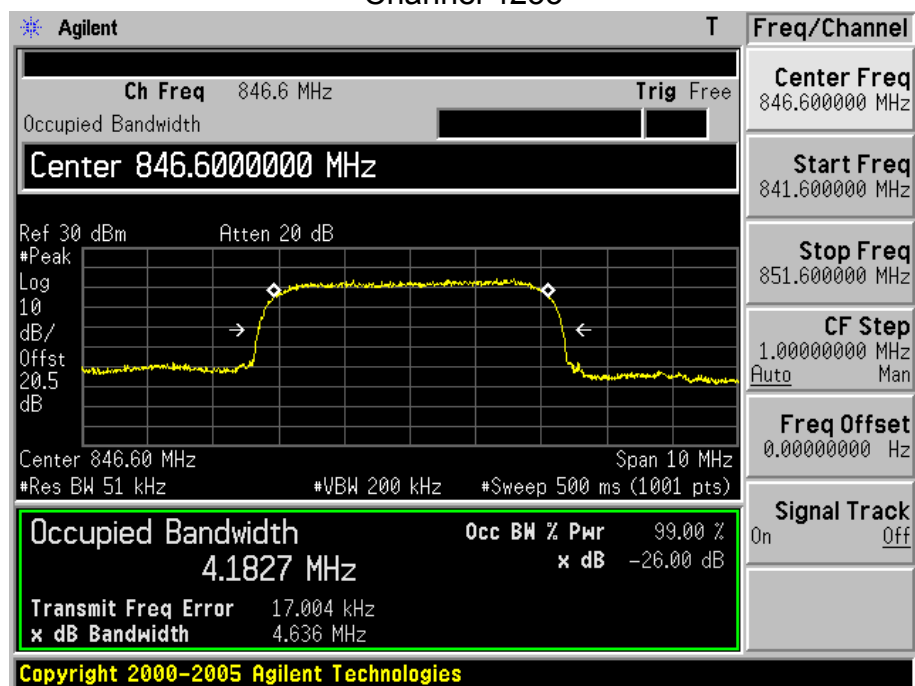




Channel 4182



Channel 4233

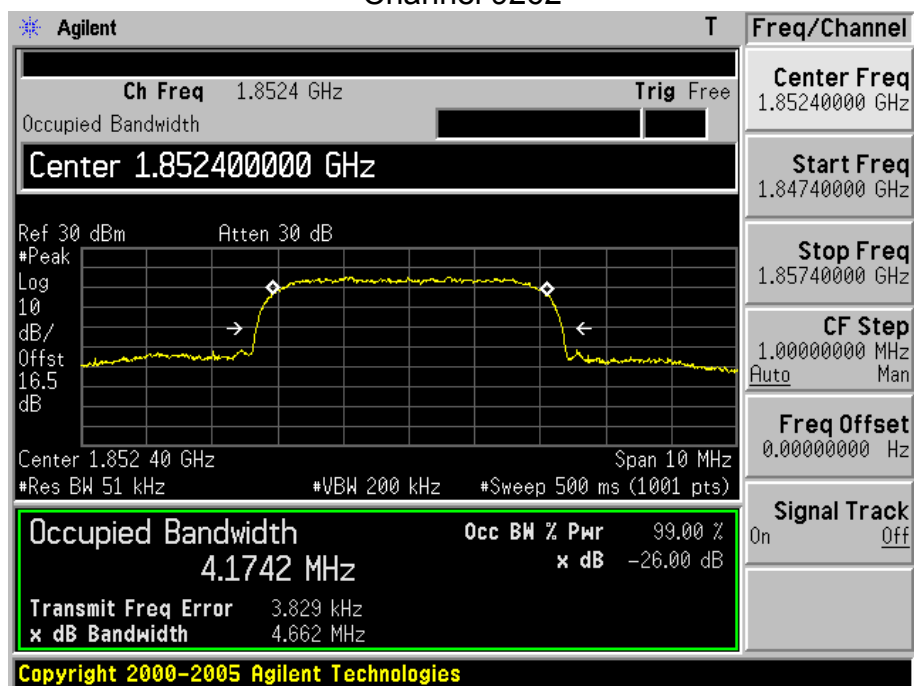




Test Item	Occupied Channel Bandwidth
Test Mode	WCDMA 1900
Test Date	2015-06-05

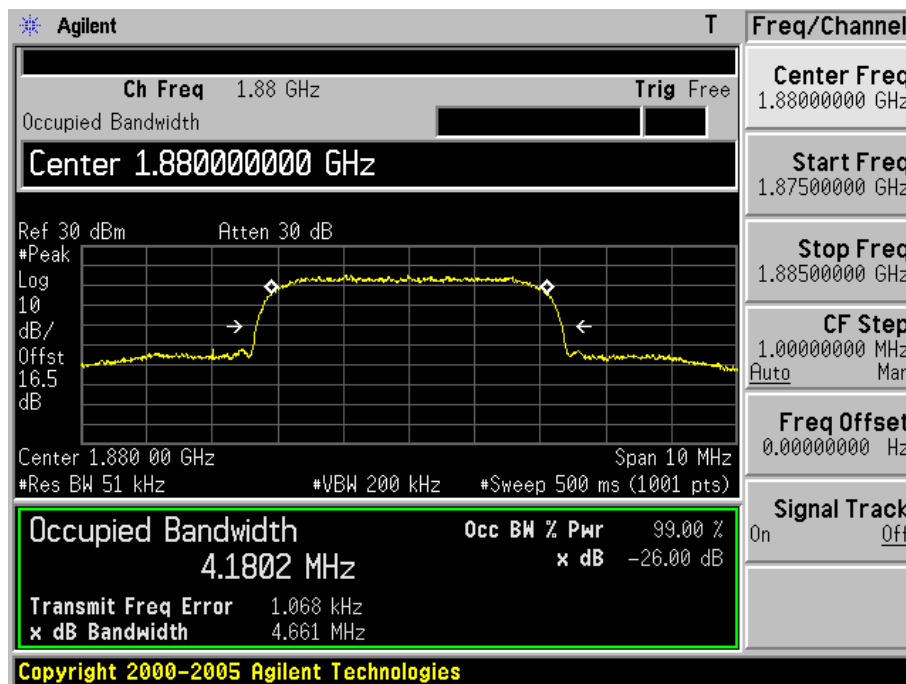
Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
9262	1852.4	4662.0	4174.2
9400	1880.0	4661.0	4180.2
9538	1907.6	4653.0	4169.2

Channel 9262

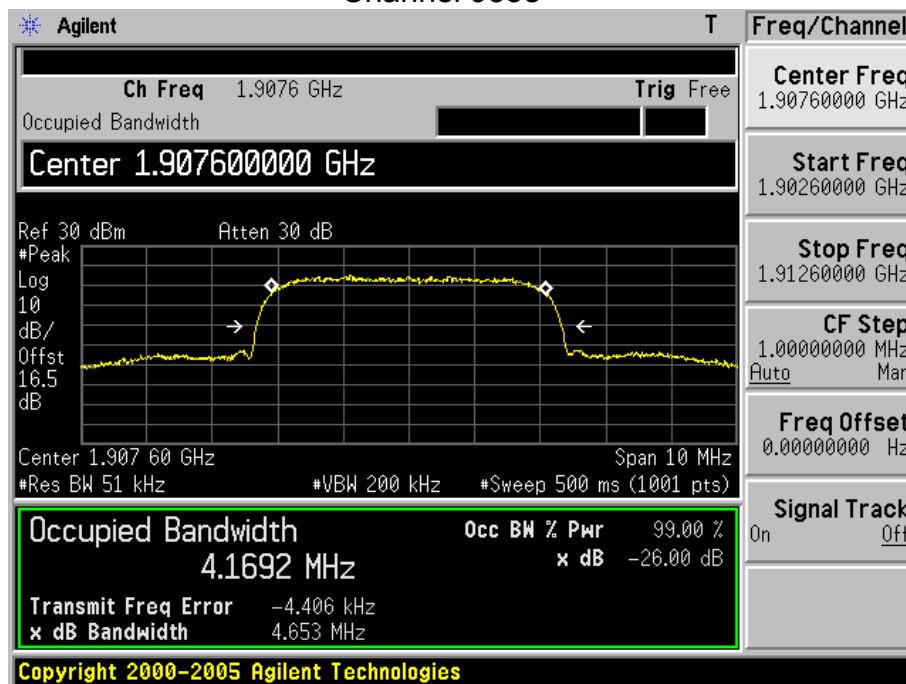




Channel 9400



Channel 9538

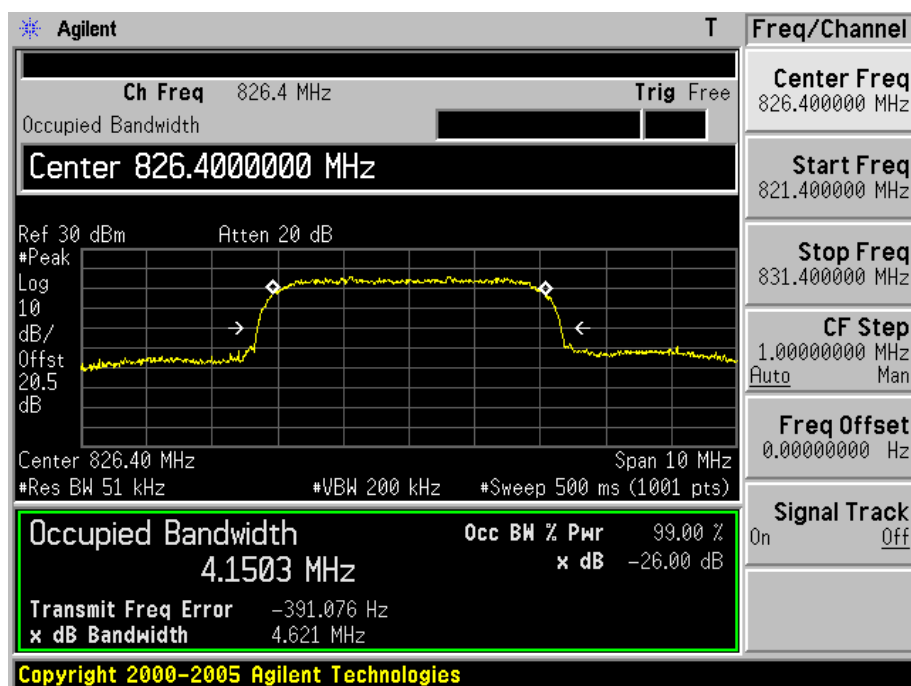




Test Item	Occupied Bandwidth
Test Mode	HSUPA 850
Test Date	2015-06-05

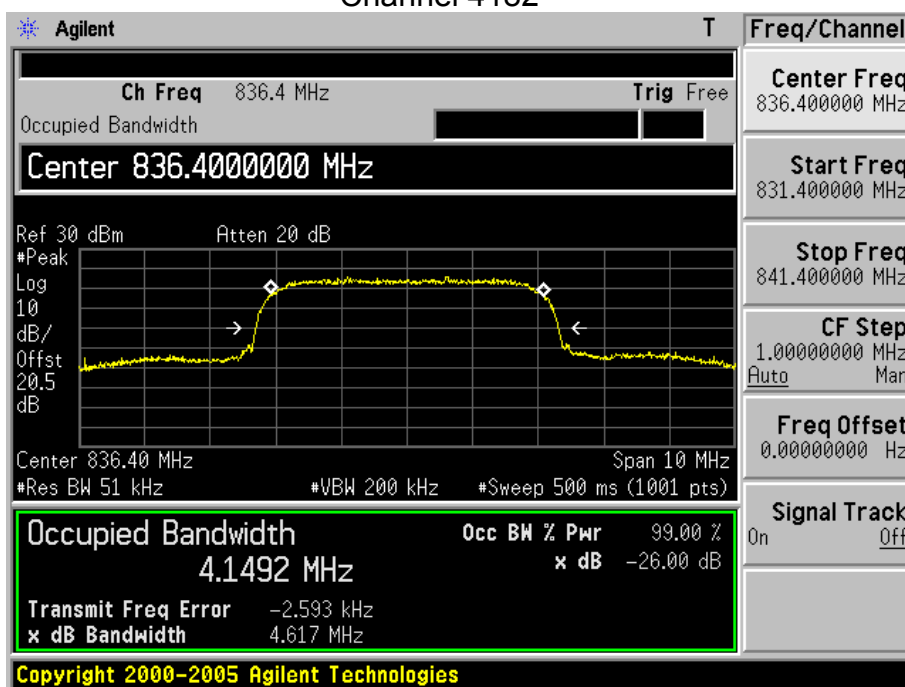
Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
4132	826.4	4621.0	4150.3
4182	836.4	4617.0	4149.2
4233	846.6	4618.0	4148.0

Channel 4132

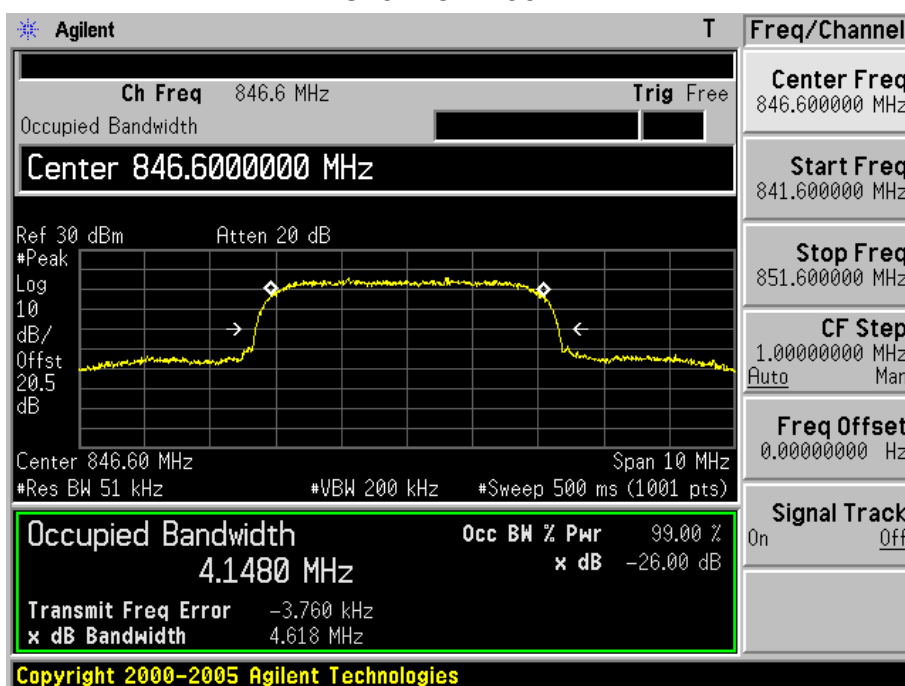




Channel 4182



Channel 4233

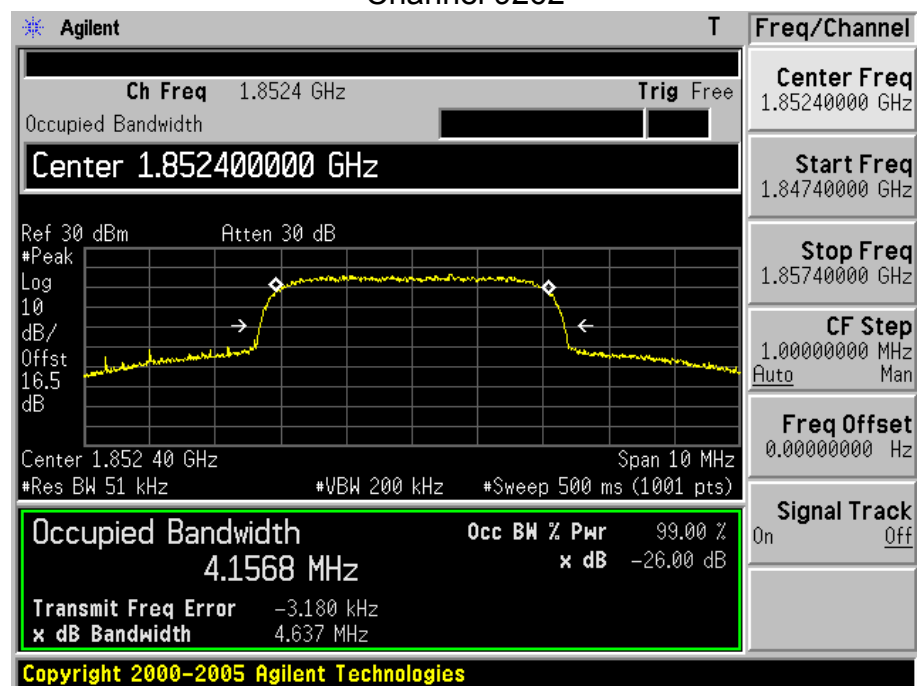




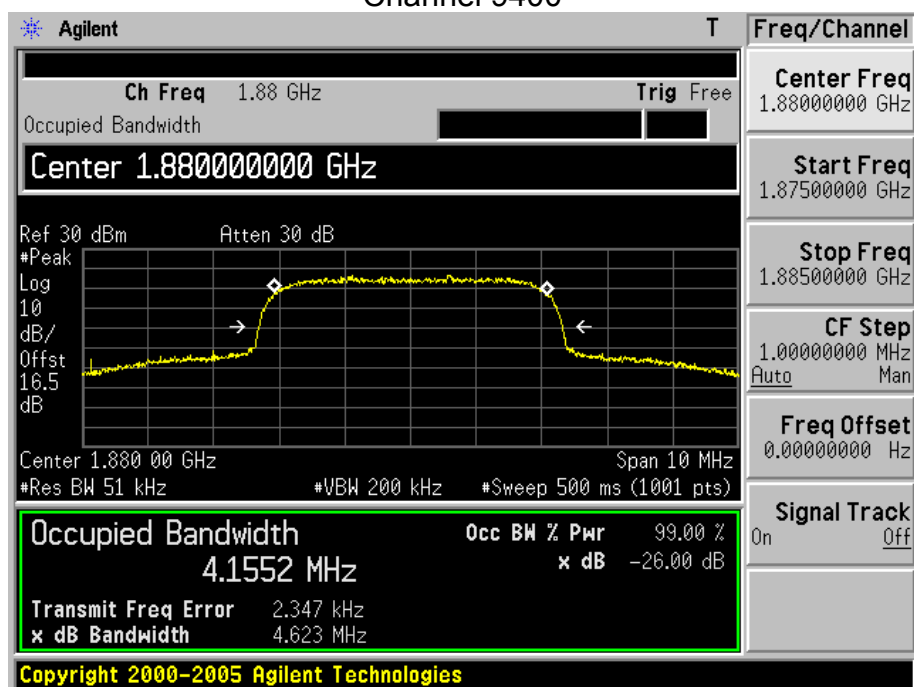
Test Item	Occupied Bandwidth
Test Mode	HSUPA 1900
Test Date	2015-06-05

Channel No.	Frequency (MHz)	Measurement Level (kHz)	99% Occupied Bandwidth (kHz)
9262	1852.4	4637.0	4156.8
9400	1880.0	4623.0	4155.2
9538	1907.6	4626.0	4145.2

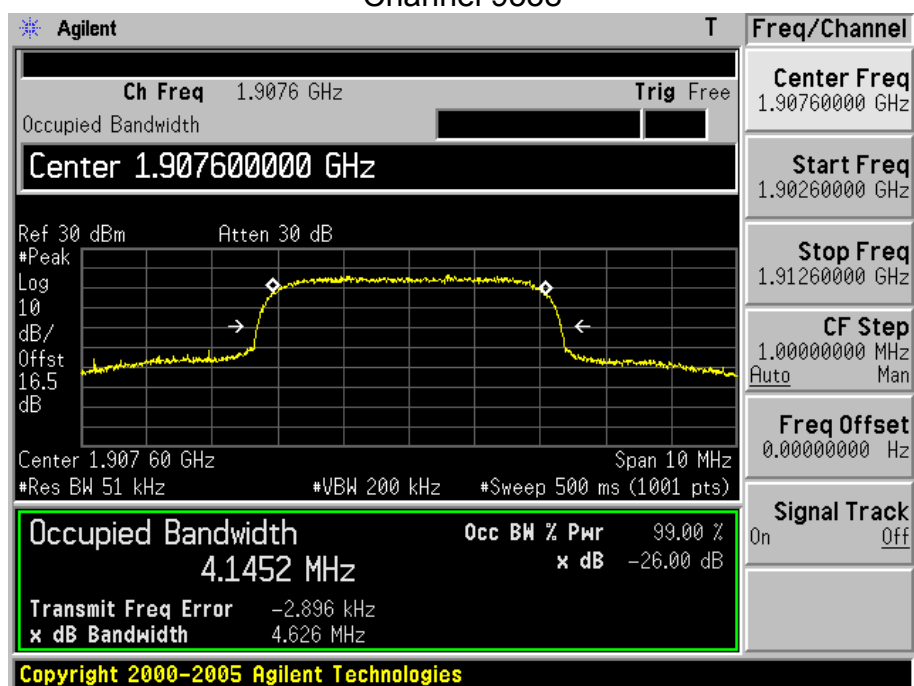
Channel 9262



Channel 9400



Channel 9538

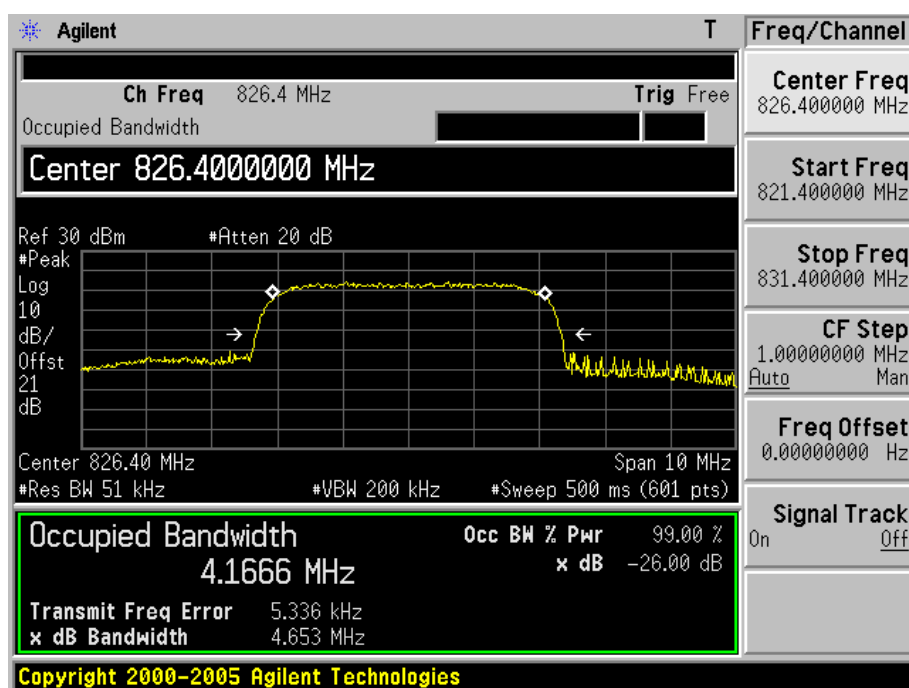




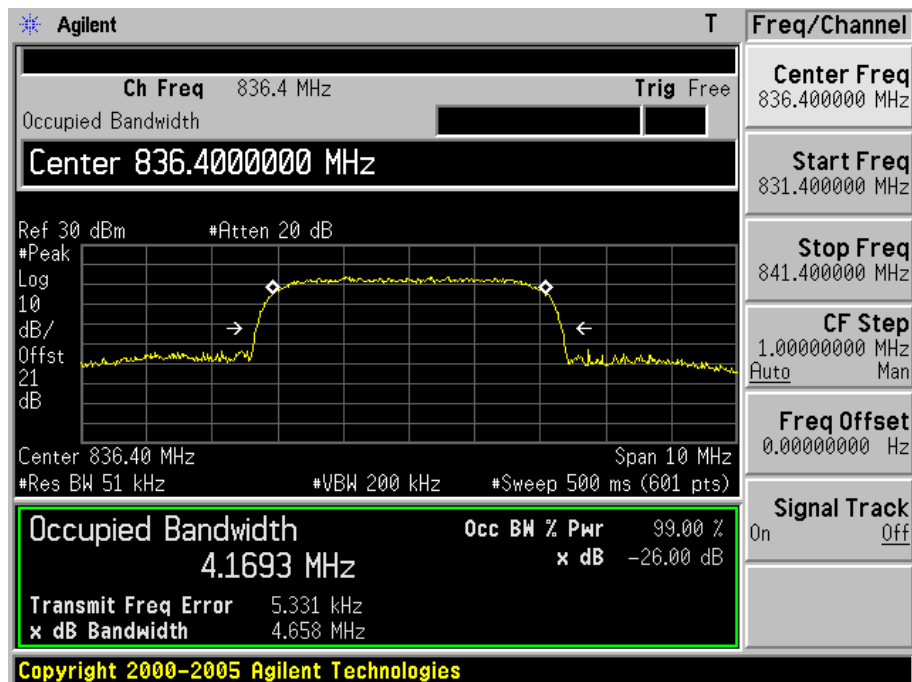
Test Item	Occupied Bandwidth
Test Mode	HSDPA 850
Test Date	2015-06-05

Channel No.	Frequency (MHz)	Measurement Level (kHz)	99% Occupied Bandwidth (kHz)
4132	826.4	4653	4166.6
4182	836.4	4658	4169.3
4233	846.6	4650	4165.5

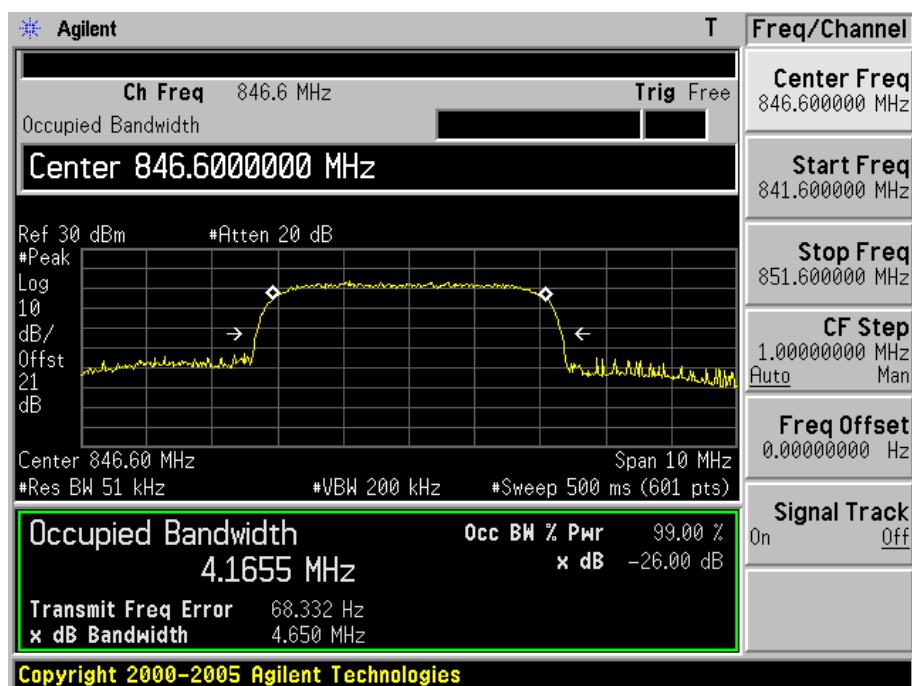
Channel 4132



Channel 4183



Channel 4233

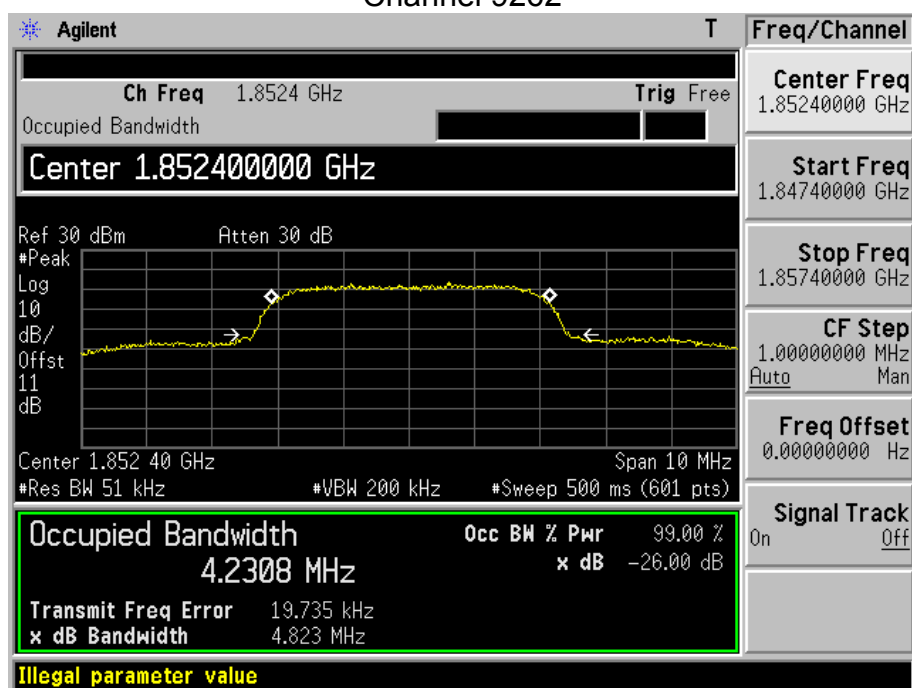




Test Item	Occupied Bandwidth
Test Mode	HSDPA 1900
Test Date	2015-02-23

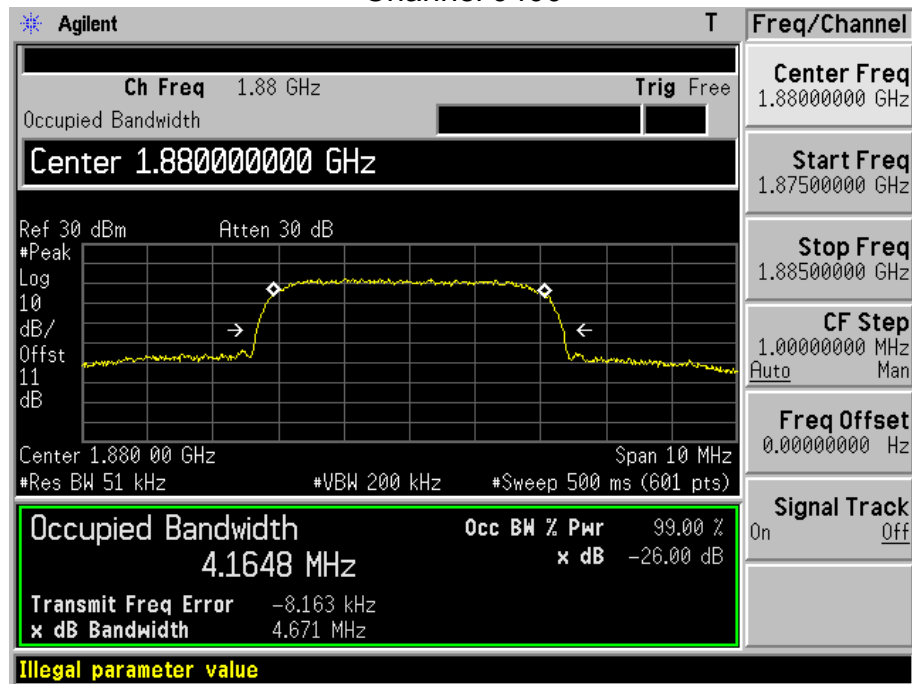
Channel No.	Frequency (MHz)	Measurement Level (kHz)	99% Occupied Bandwidth (kHz)
9262	1852.4	4823	4230.8
9400	1880.0	4671	4164.8
9538	1907.6	4659	4158.1

Channel 9262

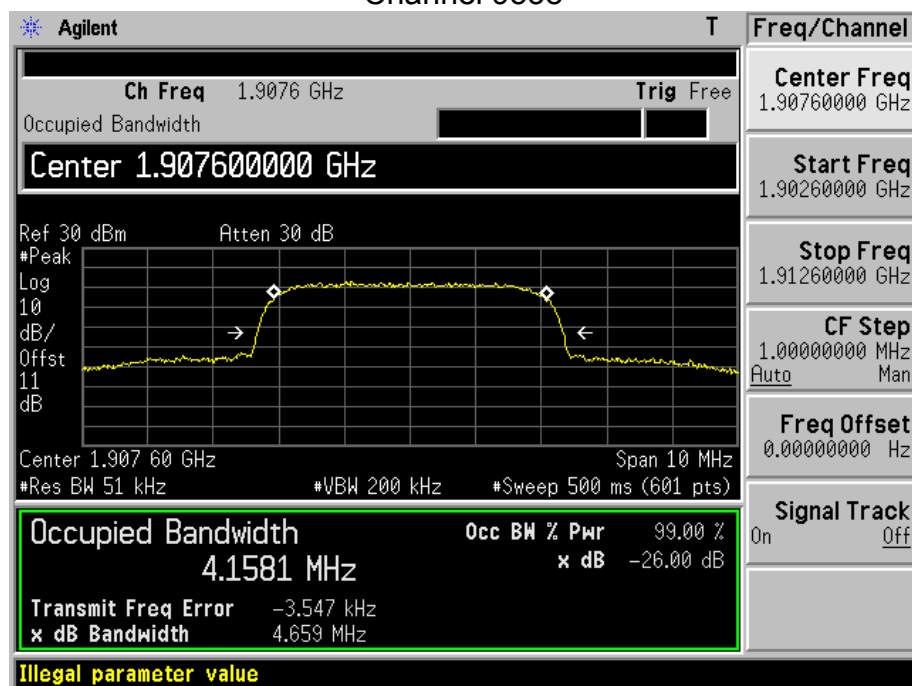




Channel 9400



Channel 9538





6. Maximum Peak Output Power

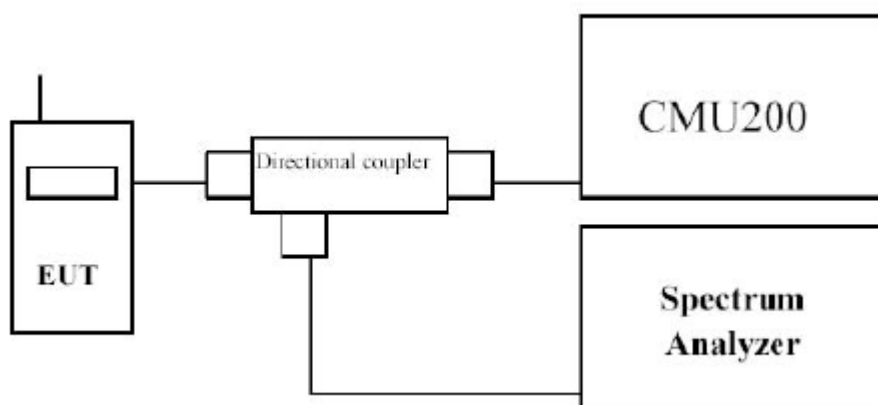
6.1. Test Limit

According to FCC §2.1046.

6.2. Test Procedure

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMU200 by a Directional Coupler.
- EUT Communicate with CMU200, then selects a channel for testing.
- Add a correction factor to the display of spectrum, and then test.

6.3. Test Setup Layout



6.4. Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2014.09.12	2015.09.11
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30
Universal Radio Communication Tester	R&S	CMU200	108823	2015.03.24	2016.03.23



6.5. Test Result and Data WCDMA/HSDPA/HSUPA

Mode	3GPP Subtest	Band II (1900MHz) Channel			MPR
		Conducted Power (dBm)			
		9262	9400	9538	
WCDMA R99	1	22.70	22.78	22.46	N/A
Rel5 HSDPA	1	22.65	22.74	22.40	0
	2	22.64	22.72	22.38	0
	3	21.59	22.69	22.35	0.5
	4	21.57	22.68	22.30	0.5
Rel6 HSUPA	1	22.67	22.72	22.66	0.0
	2	20.45	20.11	20.79	2.0
	3	21.21	21.07	21.27	1.0
	4	21.64	20.72	20.85	2.0
	5	22.70	22.79	22.83	0.0

Note: The maximum PAR for WCDMA Band II is 8.4dB less than 13 dB.

Mode	3GPP Subtest	Band V (850MHz) Channel			MPR
		Conducted Power (dBm)			
		4132	4183	4233	
WCDMA R99	1	23.29	22.78	22.46	N/A
Rel5 HSDPA	1	23.27	22.75	22.41	0
	2	23.20	22.76	22.37	0
	3	23.21	22.29	22.39	0.5
	4	23.11	22.25	22.33	0.5
Rel6 HSUPA	1	23.46	22.65	22.36	0.0
	2	21.86	20.32	20.51	2.0
	3	22.49	21.73	21.51	1.0
	4	21.68	20.48	20.47	2.0
	5	23.36	22.59	22.54	0.0

Note: All conducted measurements are based on a RMS detector.



7. ERP & EIRP MEASUREMENT

7.1. Test Limit

According to FCC §2.1046

FCC 22.913(a): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.

FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

7.2. 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 of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824-849MHz, and EIRP in frequency band 1850 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1850-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

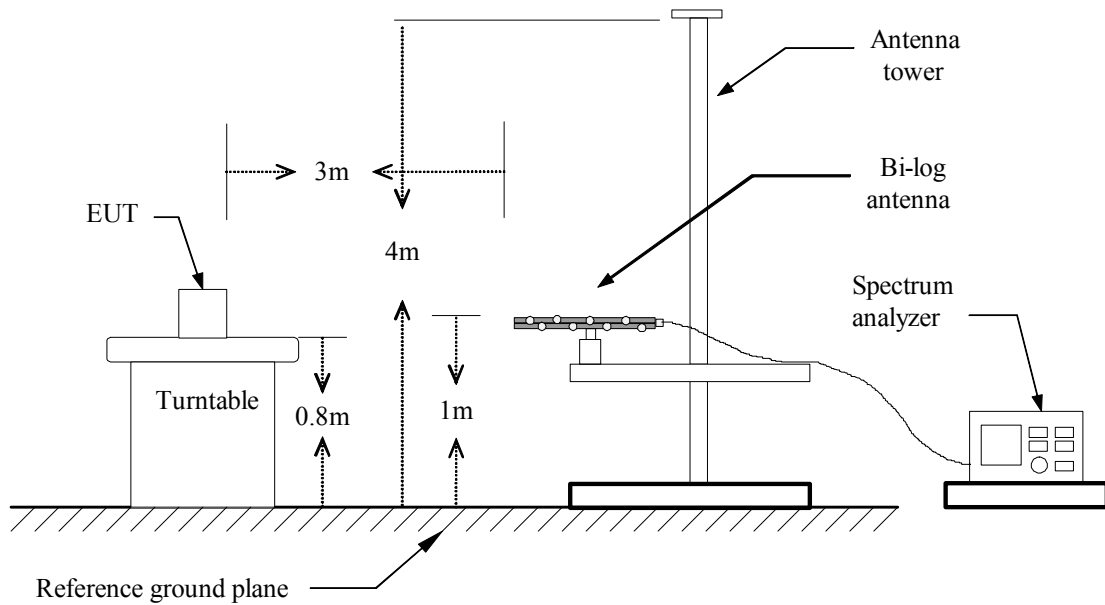
ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

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

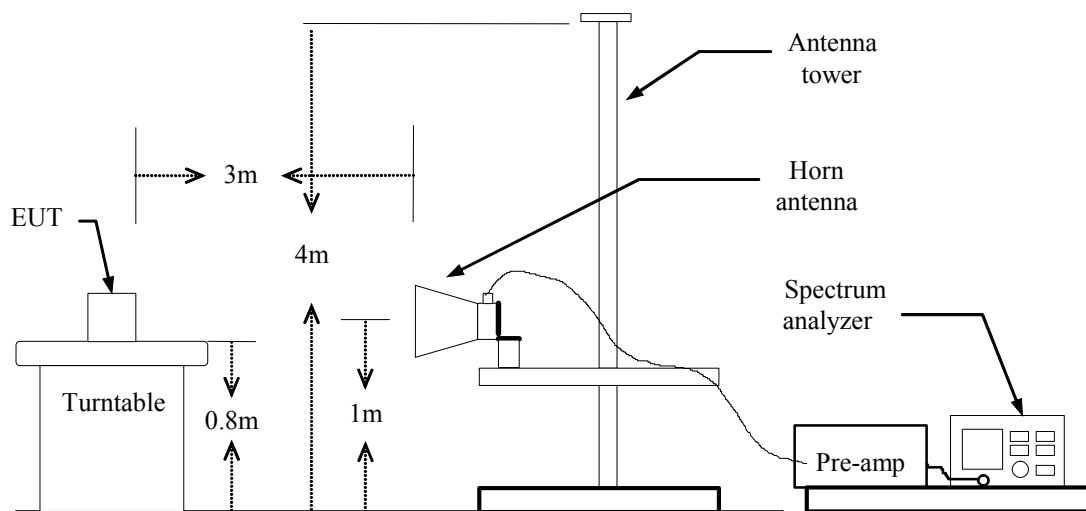


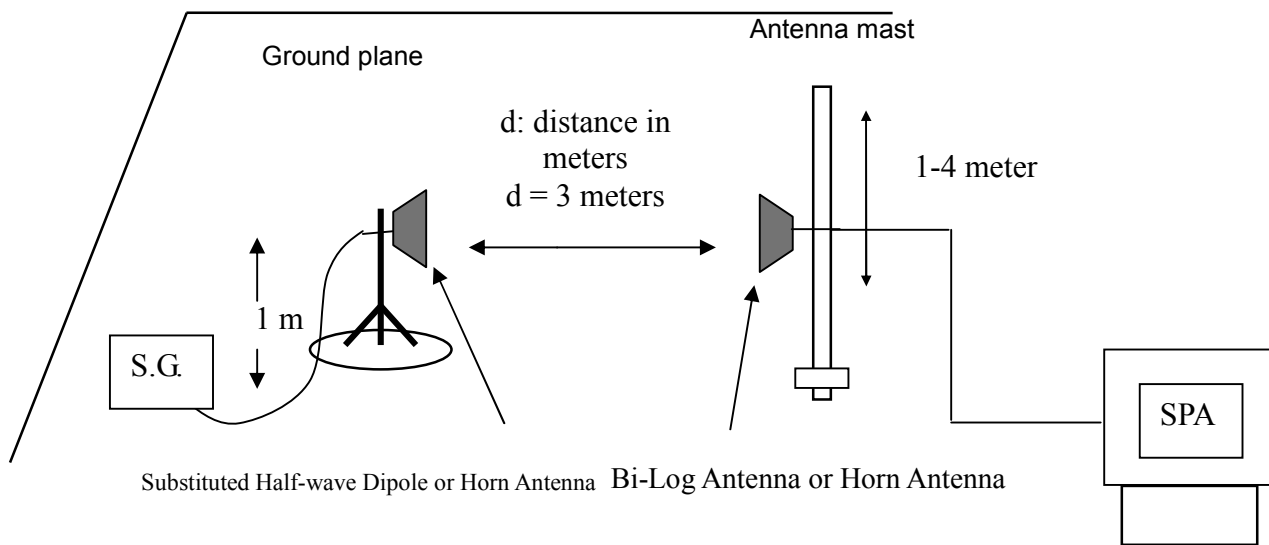
7.3. Test Setup Layout

Below 1 GHz



Above 1 GHz



**For Substituted Method Test Set-UP****7.4. Measurement Equipment**

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2014.09.25	2015.09.25
H64 Amplifier	HP	8447F	3113A05582	2015.03.24	2016.03.23
Preamplifier	Agilent	8449B	ED-HE-EMI-077	2015.03.24	2016.03.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2015.05.24	2016.05.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-618	2015.05.24	2016.05.23
Temperature/Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30

**7.5. Test Result and Data****WCDMA 850 TEST DATA**

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	826.4	20.73	1.01	21.74	38.5	-16.76	V
	826.4	19.76	0.96	20.72	38.5	-17.78	H
4183	836.6	20.55	1.77	22.32	38.5	-16.18	V
	836.6	18.75	1.46	20.21	38.5	-18.29	H
4233	846.6	19.09	1.85	20.94	38.5	-17.56	V
	846.6	19.17	1.54	20.71	38.5	-17.79	H

WCDMA1900 TEST DATA

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	1852.4	20.49	2.34	22.83	33	-10.17	V
	1852.4	19.37	1.88	21.25	33	-11.75	H
4183	1880	20.13	2.12	22.25	33	-10.75	V
	1880	19.54	2.41	21.95	33	-11.05	H
4233	1907.6	20.27	2.34	22.61	33	-10.39	V
	1907.6	19.56	1.98	21.54	33	-11.46	H

**HSUPA 850 TEST DATA**

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	826.4	19.76	1.01	20.77	38.5	-17.73	V
	826.4	19.21	0.96	20.17	38.5	-18.33	H
4183	836.6	20.63	1.77	22.4	38.5	-16.1	V
	836.6	20.05	1.46	21.51	38.5	-16.99	H
4233	846.6	20.66	1.85	22.51	38.5	-15.99	V
	846.6	19.54	1.54	21.08	38.5	-17.42	H

HSUPA 1900 TEST DATA

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	1852.4	20.2	2.34	22.54	33	-10.46	V
	1852.4	20.03	1.88	21.91	33	-11.09	H
4183	1880	18.33	2.12	20.45	33	-12.55	V
	1880	17.29	2.41	19.7	33	-13.3	H
4233	1907.6	20.18	2.34	22.52	33	-10.48	V
	1907.6	18.42	1.98	20.4	33	-12.6	H

**HSDPA 850 TEST DATA**

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	826.4	19.65	1.01	20.66	38.5	-17.84	V
	826.4	19.56	0.96	20.52	38.5	-17.98	H
4183	836.6	20.32	1.77	22.09	38.5	-16.41	V
	836.6	18.06	1.46	19.52	38.5	-18.98	H
4233	846.6	20.63	1.85	22.48	38.5	-16.02	V
	846.6	18.32	1.54	19.86	38.5	-18.64	H

HADPA 1900 TEST DATA

Channel	Frequency (MHz)	Reading level (Peak) (dB)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Pol.
4132	1852.4	20.38	2.34	22.72	33	-10.28	V
	1852.4	20.24	1.88	22.12	33	-10.88	H
4183	1880	20.77	2.12	22.89	33	-10.11	V
	1880	19.39	2.41	21.8	33	-11.2	H
4233	1907.6	20.43	2.34	22.77	33	-10.23	V
	1907.6	20.76	1.98	22.74	33	-10.26	H



8. Peak-Average Ratio

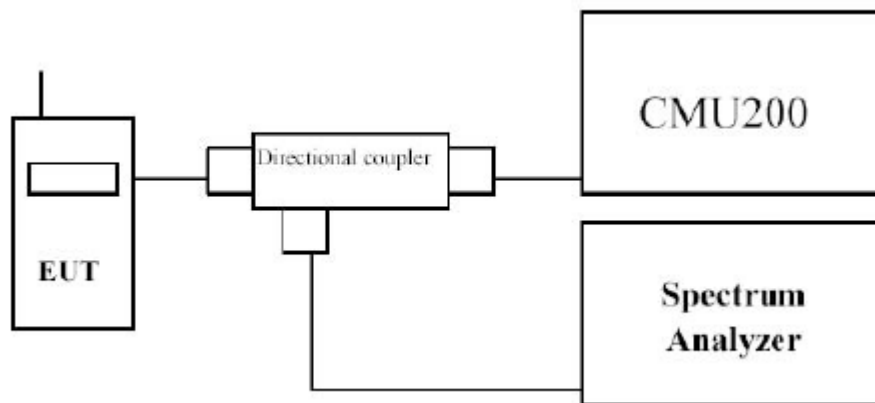
8.1. Test Limit

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.

8.2. Test Procedure

KDB 971168 D01v02r01 - Section 5.7 & ANSI/TIA-603-C-2004

8.3. Test Setup



8.4. Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	N9010A	MY53400169	2014.11.12	2015.11.11
H64 Amplifier	HP	8447F	3113A05582	2015.03.24	2016.03.23
Universal Radio Communication Tester	CMU200	R&S	108823	2015.03.29	2016.03.28
Preamplifier	Agilent	8449B	ED-HE-EMI-077	2015.03.24	2016.03.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2015.05.24	2016.05.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-618	2015.05.24	2016.05.23
Temperature/Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30



8.5. Test Result





9. OUT OF BAND EMISSION AT ANTENNA TERMINALS

9.1. Test Limit

According to FCC §2.1051, FCC §22.917, FCC §24.238(a).

Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

Mobile Emissions in Base Frequency Range: The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not exceed -80 dBm at the transmit antenna connector.

Band Edge Requirements: In the 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the Out of band Emission.

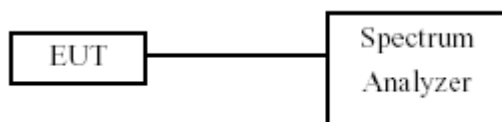
9.2. Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10 th harmonic. Limit = -13dBm

Band Edge Requirements (824 MHz and 849 MHz /1850MHz and 1910MHz): In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

9.3. Test Setup Layout



9.4. Measurement Equipment

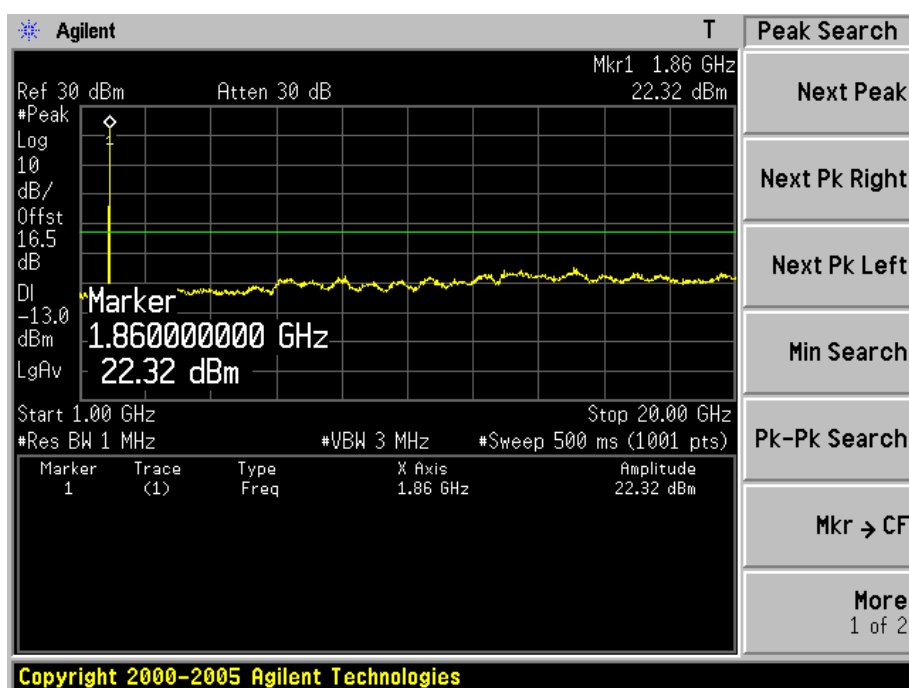
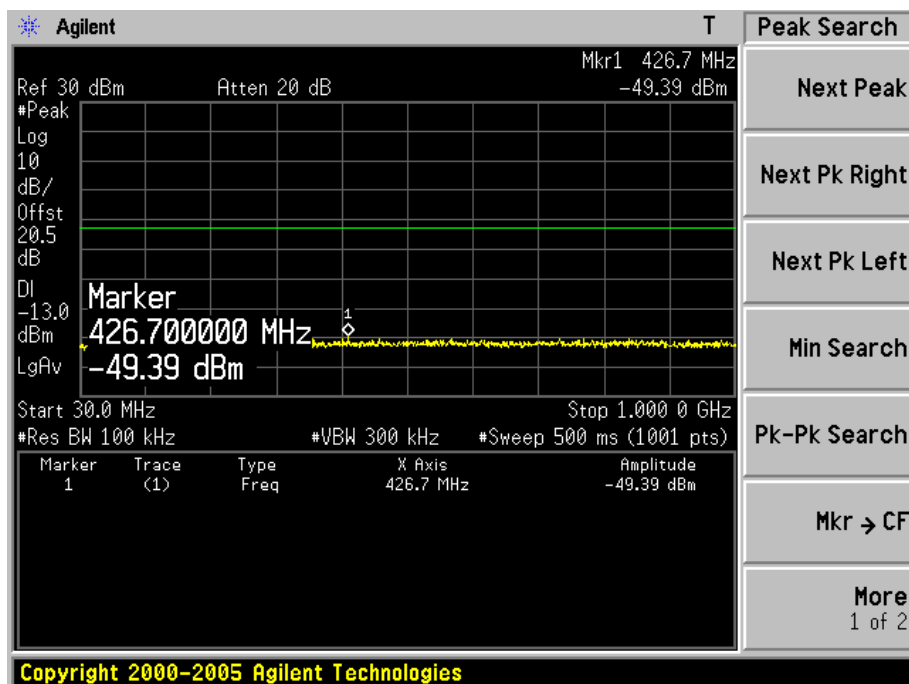
Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2014.09.12	2015.09.11
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30



9.5. Test Result and Data

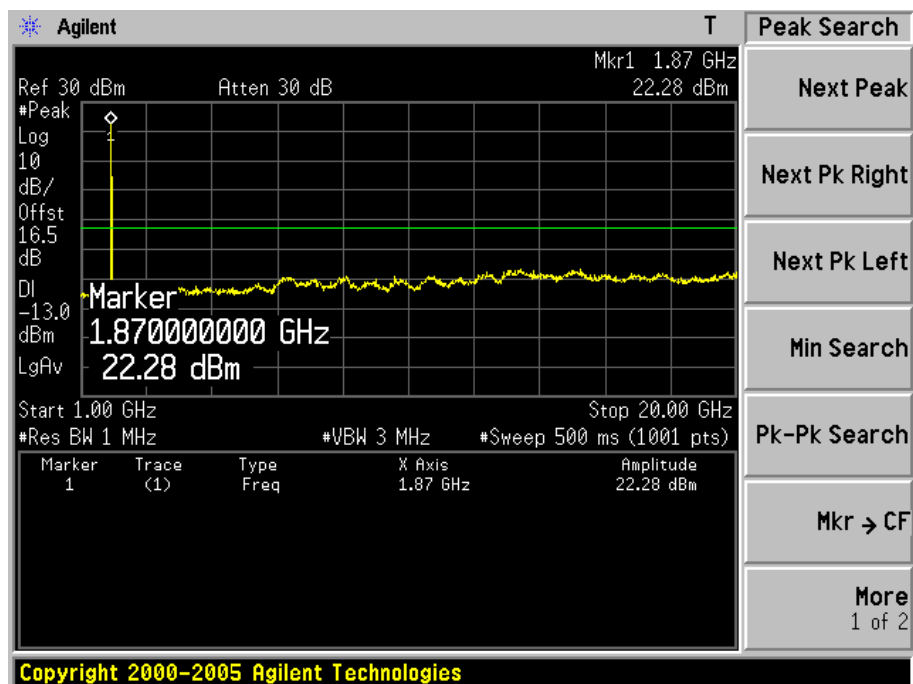
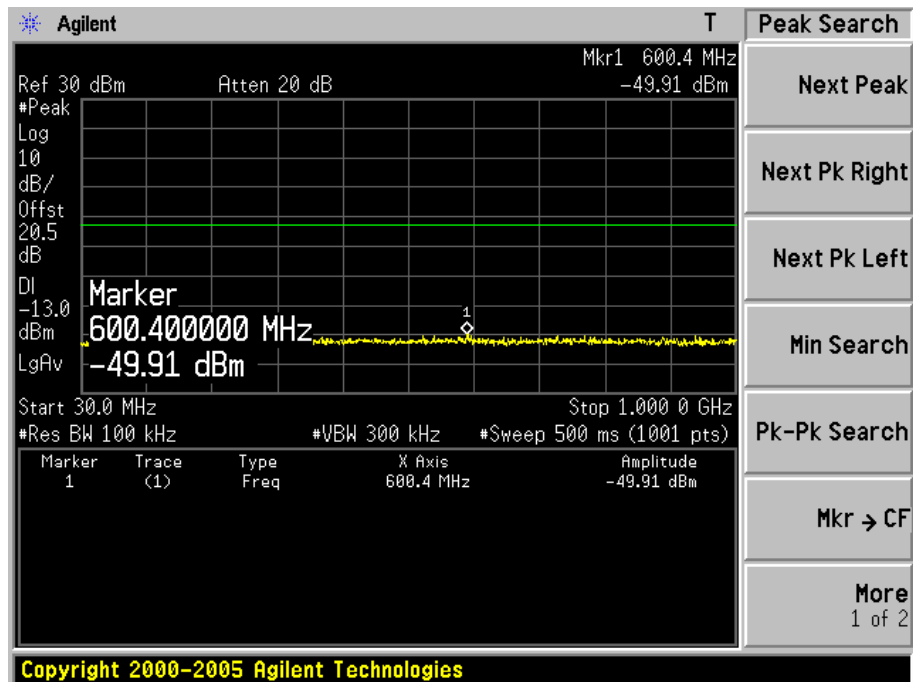
Test Item	Conducted spurious emissions, 30MHz - 20GHz
Test Mode	WCDMA Band II Link
Test Date	2015-06-06

Channel 9262



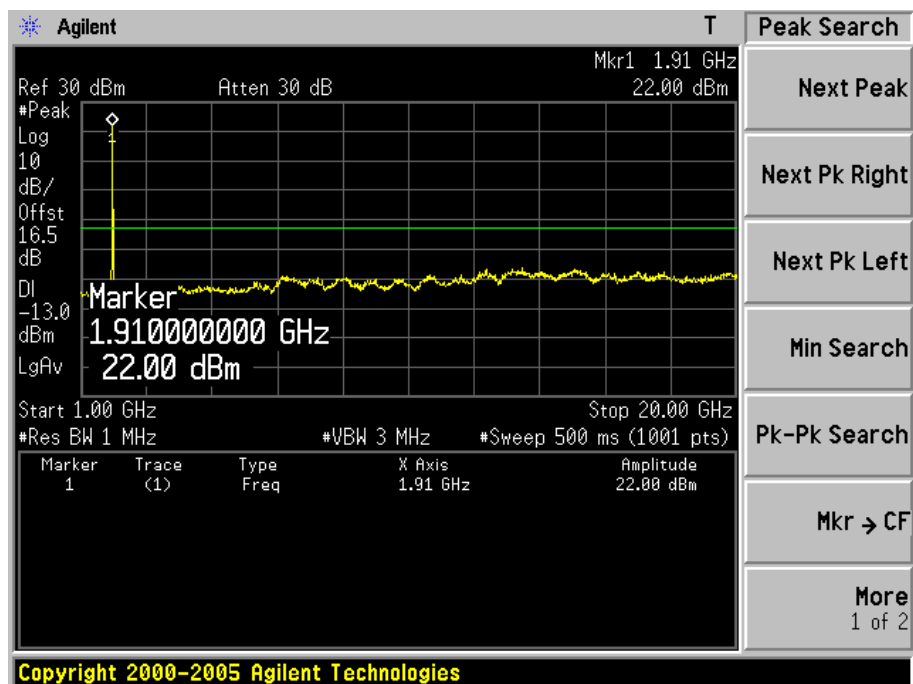
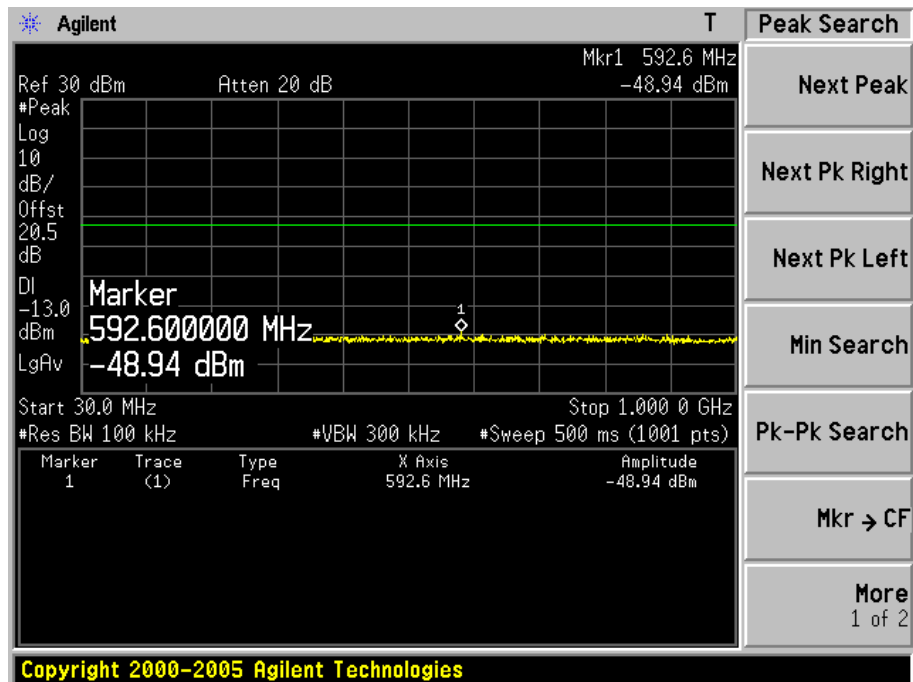


Channel 9400





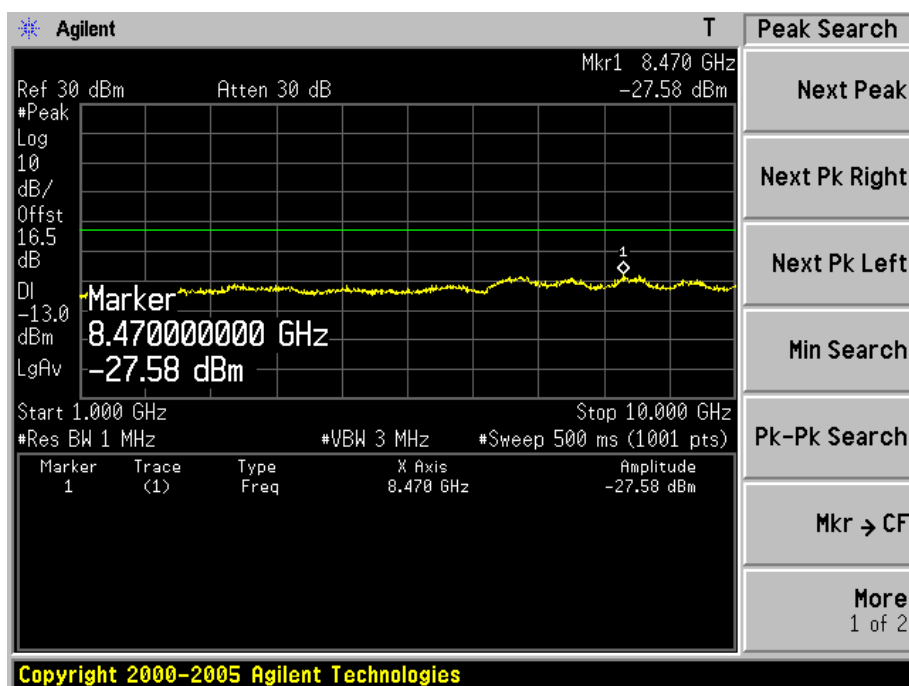
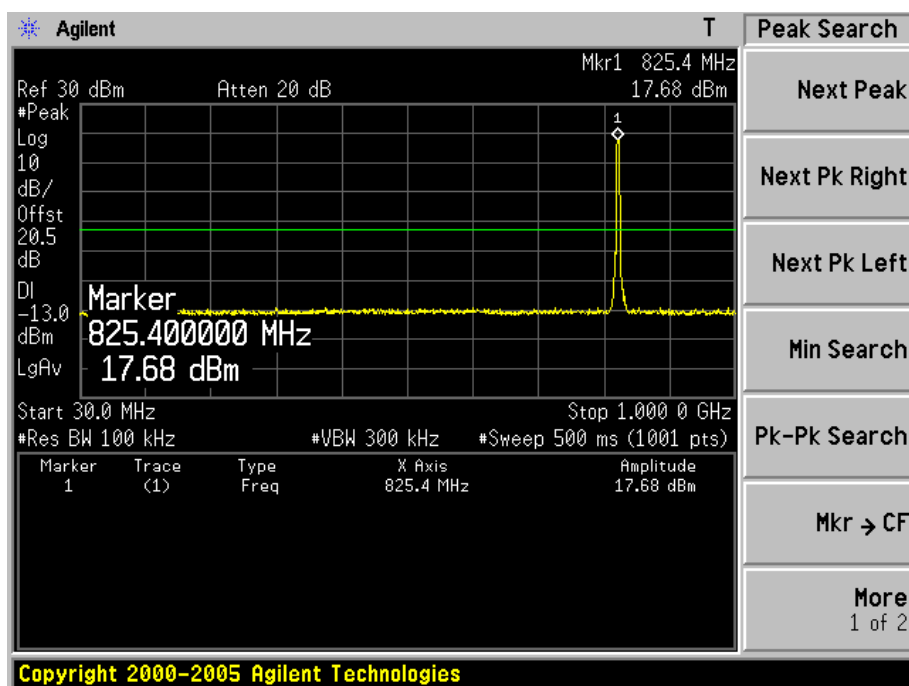
Channel 9538





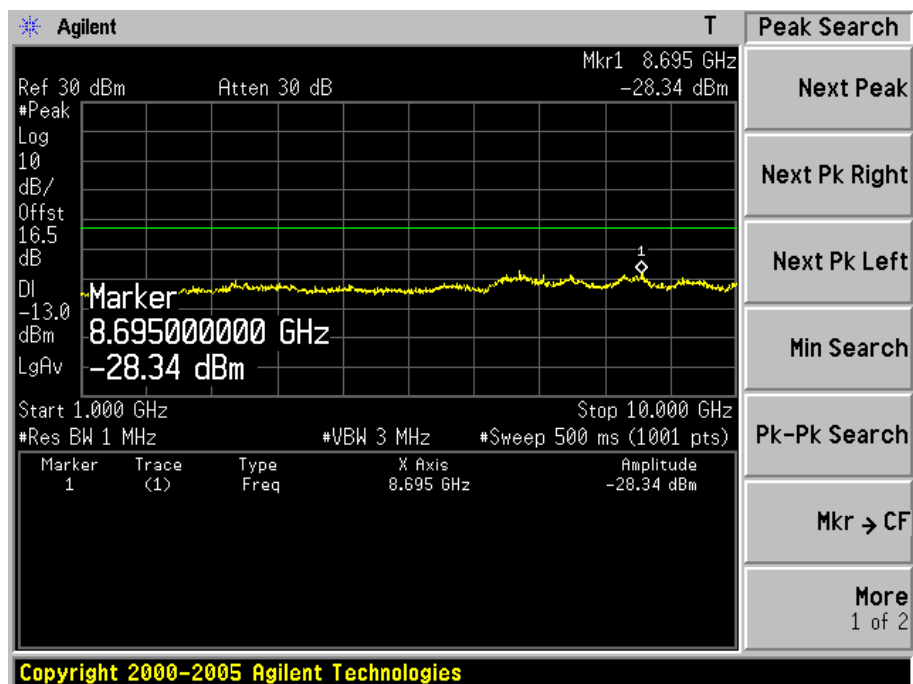
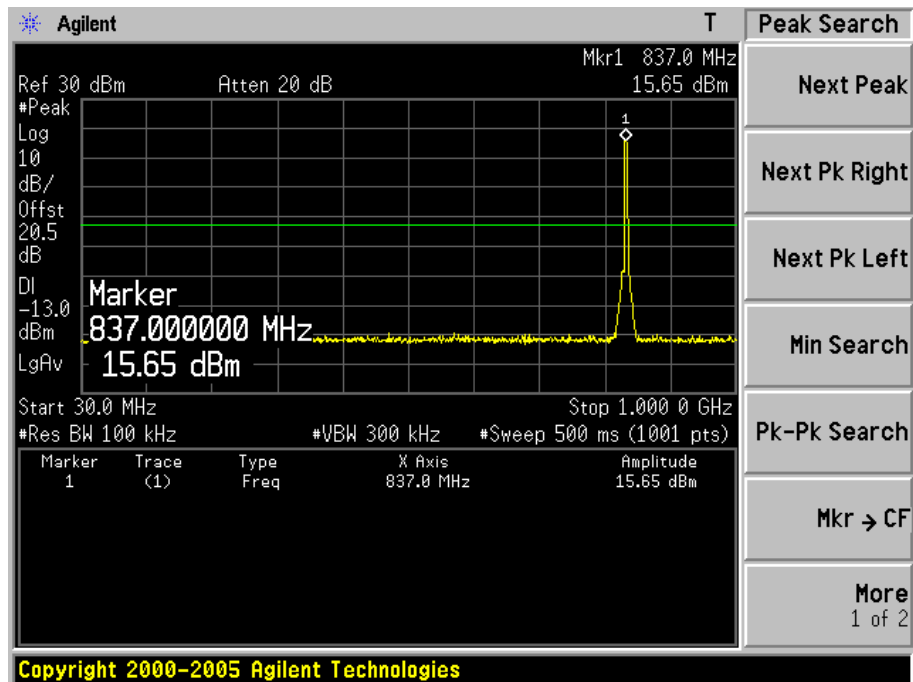
Test Item	Conducted spurious emissions, 30MHz - 20GHz
Test Mode	WCDMA Band V Link
Test Date	2015-06-06

Channel 4132



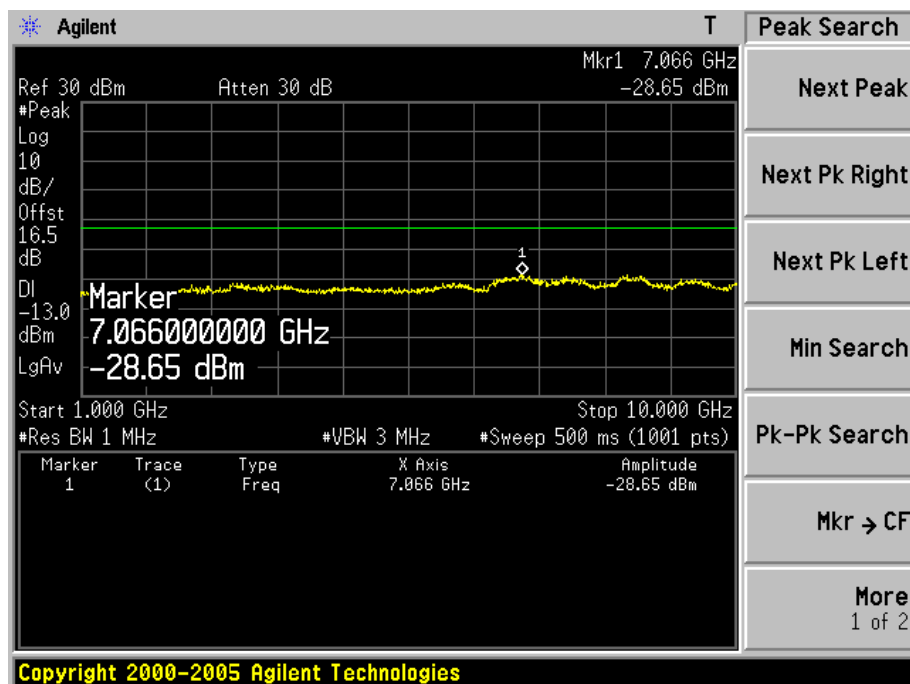
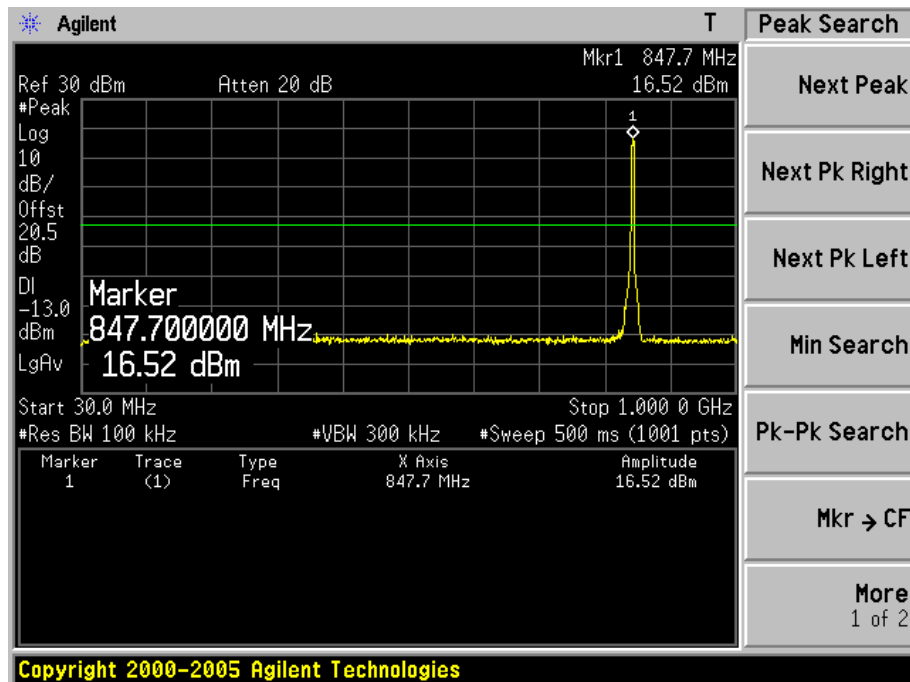


Channel 4183





Channel 4233





Test Item	Band Edge emissions
Test Mode	WCDMA Band II Link
Test Date	2015-06-06

Figure Channel 9262

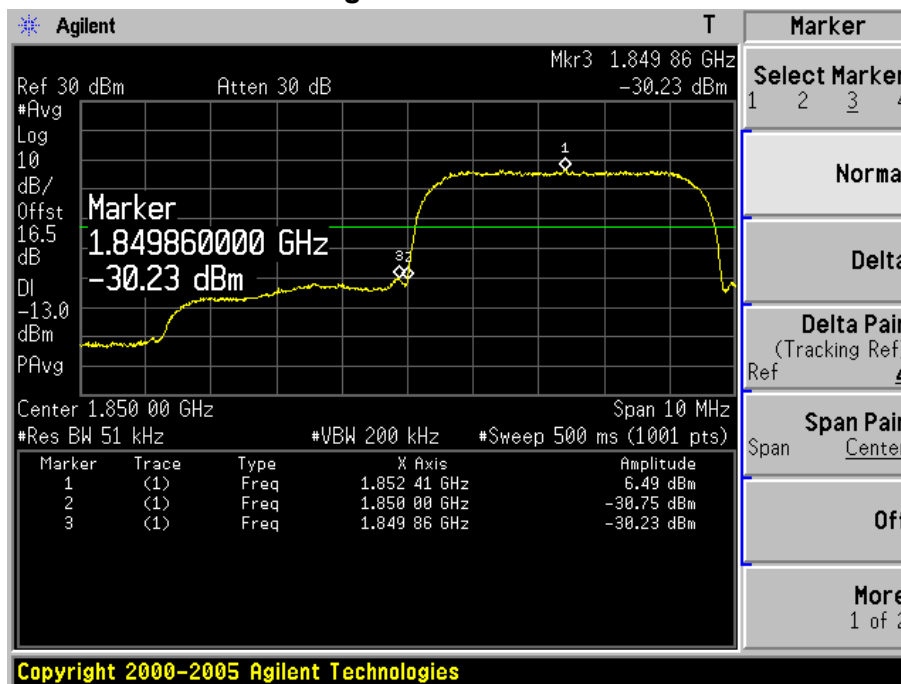
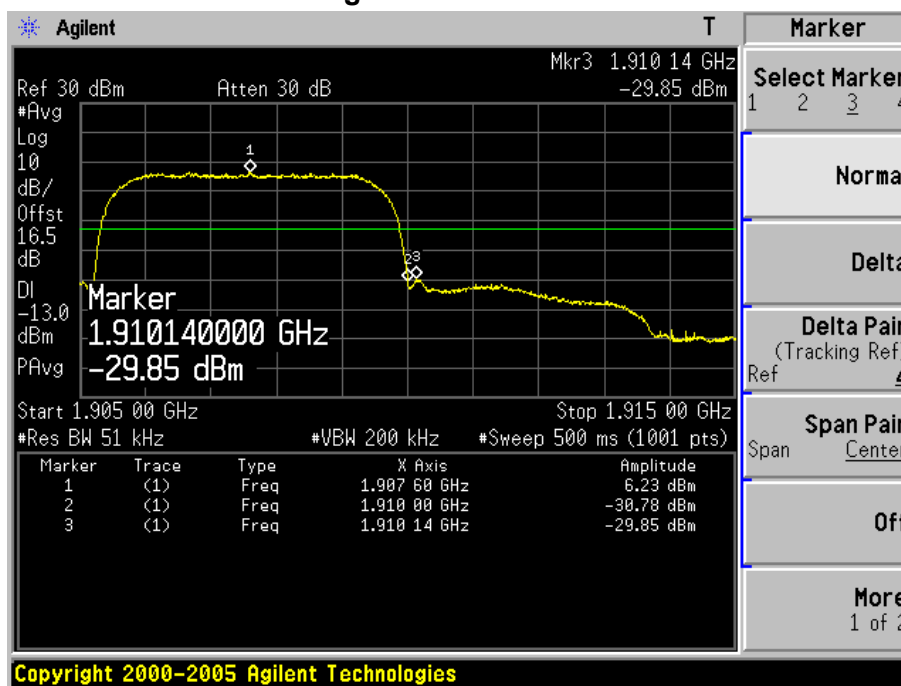


Figure Channel 9538





Test Item	Band Edge emissions
Test Mode	WCDMA Band V Link
Test Date	2015-06-06

Figure Channel 4132

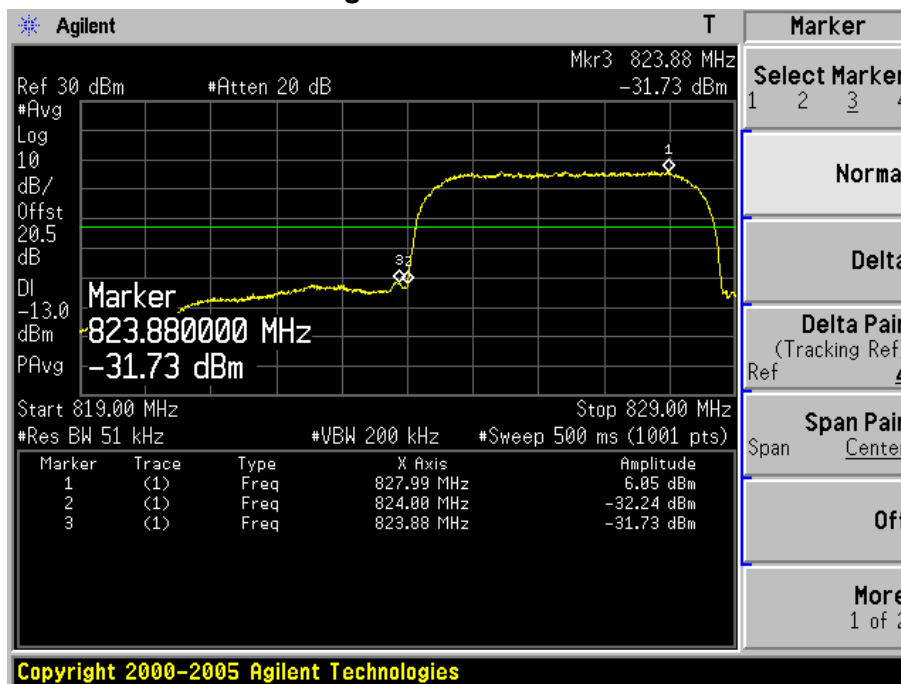
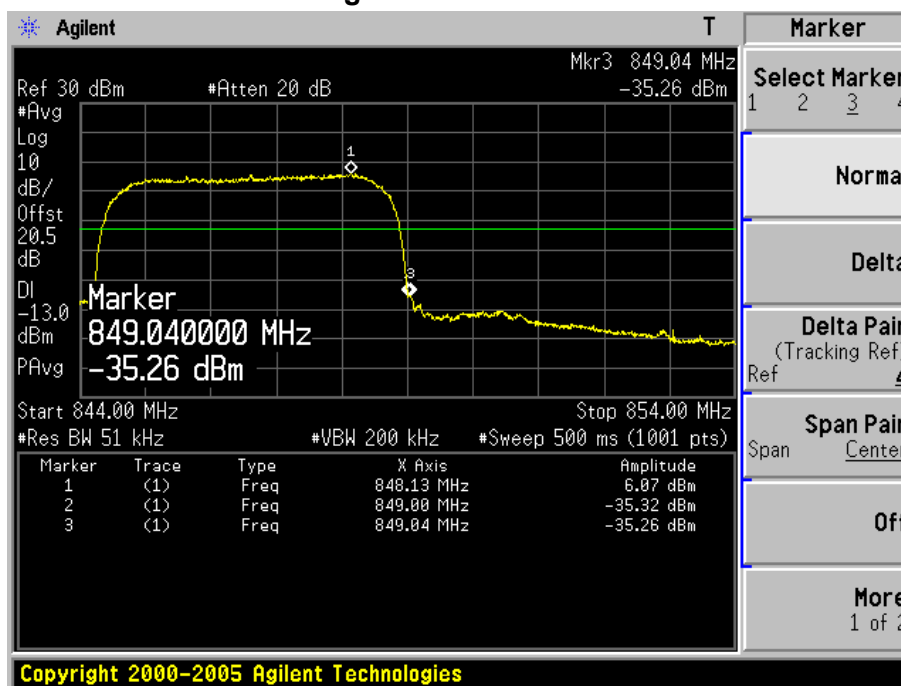


Figure Channel 4233





10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

10.1.Test Limit

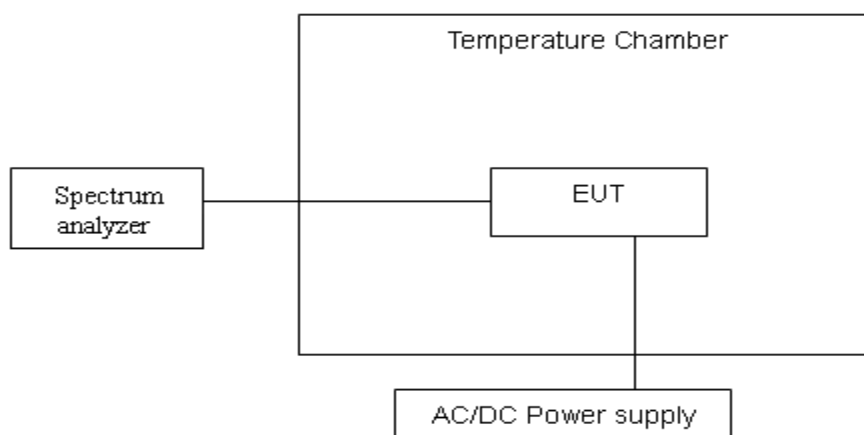
According to FCC §2.1055, FCC §22.355, .FCC §24.235.

Frequency Tolerance: 2.5 ppm

10.2.Test Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. 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 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

10.3.Test Setup Layout



10.4.Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2014.09.12	2015.09.11
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30

**10.5.Test Result and Data**

Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	WCDMA 850 Channel 4183
Test Date	2015-06-07

Reference Frequency: HSUPA Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	836600021	21	2090
	40	836600038	38	
	30	836600029	29	
	20	836600000	0	
	10	836600016	16	
	0	836600010	10	
	-30	836600026	26	

Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	WCDMA 1900 Channel 9440
Test Date	2015-06-07

Reference Frequency: HSUPA Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000020	20	4700
	40	1880000031	31	
	30	1880000016	16	
	20	1880000000	0	
	10	1880000043	43	
	0	1880000031	31	
	-30	1880000050	50	



Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	HSUPA 850 Channel 4183
Test Date	2015-06-07

Reference Frequency: HSUPA Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	836600034	34	2090
	40	836600047	47	
	30	836600039	39	
	20	836600000	0	
	10	836600053	53	
	0	836600024	24	
	-30	836600019	19	

Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	HSUPA 1900 Channel 9400
Test Date	2015-06-07

Reference Frequency: HSUPA Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000032	32	4700
	40	1880000046	46	
	30	1880000018	18	
	20	1880000000	0	
	10	1880000049	49	
	0	1880000037	37	
	-30	1880000014	14	



Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	HSDPA 850 Channel 4183
Test Date	2015-06-07

Reference Frequency: HSDPA Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	836600023	23	2090
	40	836600042	42	
	30	836600028	28	
	20	836600000	0	
	10	836600019	19	
	0	836600048	48	
	-30	836600062	62	

Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	HSDPA 1900 Channel 9400
Test Date	2015-06-07

Reference Frequency: HSDPA Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000022	22	4700
	40	1880000015	15	
	30	1880000047	47	
	20	1880000000	0	
	10	1880000016	16	
	0	1880000025	25	
	-30	1880000027	27	



11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

11.1. Test Limit

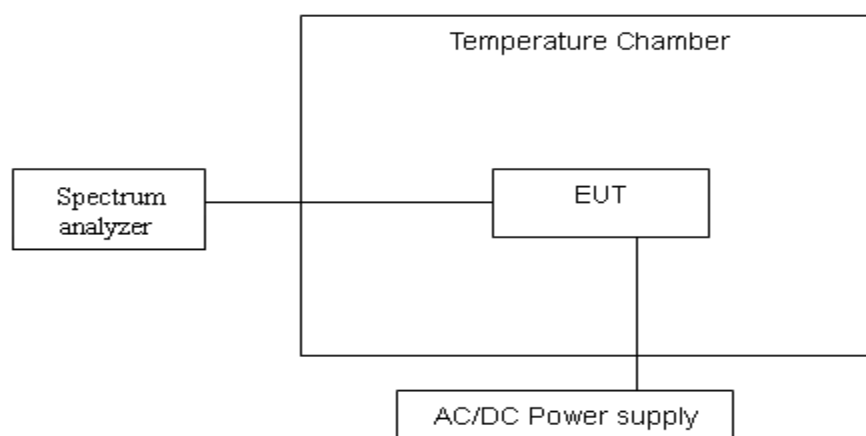
According to FCC §2.1055, FCC §22.355, .FCC §24.235.

11.2. Test Procedure

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 10\%$) and endpoint, record the maximum frequency change.

11.3. Test Setup Layout



11.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2014.09.12	2015.09.11
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2015.03.31	2016.03.30

**11.5.Test Result and Data**

Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	WCDMA 850 Channel 4183
Test Date	2015-06-07

Reference Frequency: WCDMA Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.1	20	836599970	30	2090
3.7		836600000	0	
3.3		836599982	18	

Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	WCDMA 1900 Channel 9400
Test Date	2015-06-07

Reference Frequency: WCDMA Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.1	20	1879999983	17	4700
3.7		1880000000	0	
3.3		1879999991	09	



Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	HSUPA 850 Channel 4183
Test Date	2015-06-07

Reference Frequency: HSUPA Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.1	20	836599971	29	2090
3.7		836600000	0	
3.3		836599982	18	

Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	HSUPA 1900 Channel 9400
Test Date	2015-06-07

Reference Frequency: HSUPA Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.1	20	1879999962	38	4700
3.7		1880000000	0	
3.3		1879999941	59	



Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	HSDPA 850 Channel 4183
Test Date	2015-06-07

Reference Frequency: HSDPA Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.1	20	836599959	41	2090
3.7		836600000	0	
3.3		836599928	72	

Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	HSDPA 1900 Channel 9400
Test Date	2015-06-07

Reference Frequency: HSDPA Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.1	20	1879999953	47	4700
3.7		1880000000	0	
3.3		1879999942	58	