

8.4.2. CDMA

ID:	38602	Date:	4/20/18
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CDMA 1xRTT BC10

Limit		816.35	823.65	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	816.564	823.433		
Extreme (50C)		816.564	823.433	-10.0	-0.01
Extreme (40C)		816.564	823.433	-8.5	-0.01
Extreme (30C)		816.564	823.433	-8.3	-0.01
Extreme (10C)		816.564	823.433	-7.5	-0.01
Extreme (0C)		816.564	823.433	-8.5	-0.01
Extreme (-10C)		816.564	823.433	-9.6	-0.01
Extreme (-20C)		816.564	823.433	-10.4	-0.01
Extreme (-30C)		816.564	823.433	-9.3	-0.01
20C	15%	816.564	823.433	-7.8	-0.01
	-15%	816.564	823.433	-6.9	-0.01
	End Point	816.564	823.433	-8.4	-0.01

CDMA 1xRTT BC0

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.016	848.990		
Extreme (50C)		824.016	848.990	-7.9	-0.01
Extreme (40C)		824.016	848.990	-9.5	-0.01
Extreme (30C)		824.016	848.990	-10.3	-0.01
Extreme (10C)		824.016	848.990	-7.5	-0.01
Extreme (0C)		824.016	848.990	-5.6	-0.01
Extreme (-10C)		824.016	848.990	-6.7	-0.01
Extreme (-20C)		824.016	848.990	-8.9	-0.01
Extreme (-30C)		824.016	848.990	-7.1	-0.01
20C	15%	824.016	848.990	-6.5	-0.01
	-15%	824.016	848.990	-7.0	-0.01
	End Point	824.016	848.990	-6.2	-0.01

CDMA 1xRTT BC1

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.570	1909.428		
Extreme (50C)		1850.570	1909.428	42.6	0.02
Extreme (40C)		1850.570	1909.428	34.1	0.02
Extreme (30C)		1850.570	1909.428	31.8	0.02
Extreme (10C)		1850.570	1909.428	40.9	0.02
Extreme (0C)		1850.570	1909.428	32.6	0.02
Extreme (-10C)		1850.570	1909.428	-26.9	-0.01
Extreme (-20C)		1850.570	1909.428	-23.9	-0.01
Extreme (-30C)		1850.570	1909.428	-32.5	-0.02
20C	15%	1850.570	1909.428	34.6	0.02
	-15%	1850.570	1909.428	32.8	0.02
	End Point	1850.570	1909.428	33.1	0.02

8.4.3. WCDMA

ID:	38602	Date:	3/21/18
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WCDMA REL 99 BAND 5

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.146	848.875		
Extreme (50C)		824.146	848.875	3.1	0.00
Extreme (40C)		824.146	848.875	4.3	0.01
Extreme (30C)		824.146	848.875	3.6	0.00
Extreme (10C)		824.146	848.875	3.7	0.00
Extreme (0C)		824.146	848.875	4.2	0.00
Extreme (-10C)		824.146	848.875	4.0	0.00
Extreme (-20C)		824.146	848.875	4.5	0.01
Extreme (-30C)		824.146	848.875	14.9	0.02
20C	15%	824.146	848.875	4.0	0.00
	-15%	824.146	848.875	3.4	0.00
	End Point	824.146	848.875	4.8	0.01

WCDMA REL 99 BAND 2

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.155	1909.871		
Extreme (50C)		1850.155	1909.871	-33.2	-0.02
Extreme (40C)		1850.155	1909.871	-31.0	-0.02
Extreme (30C)		1850.155	1909.871	-30.6	-0.02
Extreme (10C)		1850.155	1909.871	-23.8	-0.01
Extreme (0C)		1850.155	1909.871	-20.0	-0.01
Extreme (-10C)		1850.155	1909.871	35.8	0.02
Extreme (-20C)		1850.155	1909.871	30.8	0.02
Extreme (-30C)		1850.155	1909.871	30.1	0.02
20C	15%	1850.155	1909.871	-23.3	-0.01
	-15%	1850.155	1909.871	-26.2	-0.01
	End Point	1850.155	1909.871	42.3	0.02

WCDMA REL 99 BAND 4

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.147	1754.872		
Extreme (50C)		1710.147	1754.872	15.7	0.01
Extreme (40C)		1710.147	1754.872	17.8	0.01
Extreme (30C)		1710.147	1754.872	19.0	0.01
Extreme (10C)		1710.147	1754.872	-43.6	-0.03
Extreme (0C)		1710.147	1754.872	-35.2	-0.02
Extreme (-10C)		1710.147	1754.872	30.5	0.02
Extreme (-20C)		1710.147	1754.872	-36.1	-0.02
Extreme (-30C)		1710.147	1754.872	-63.5	-0.04
20C	15%	1710.147	1754.872	-30.6	-0.02
	-15%	1710.147	1754.872	-28.4	-0.02
	End Point	1710.147	1754.872	-42.7	-0.02

8.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

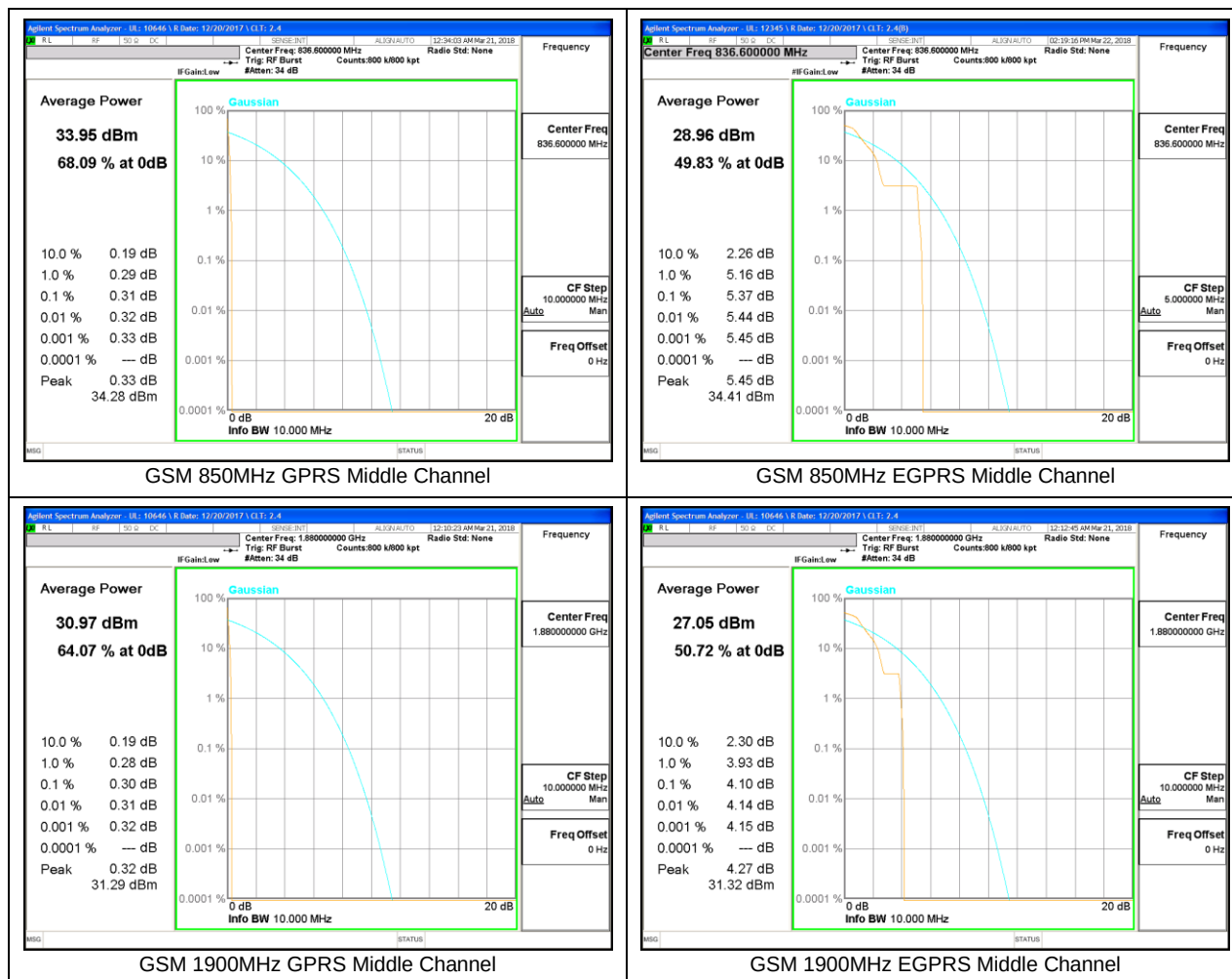
In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

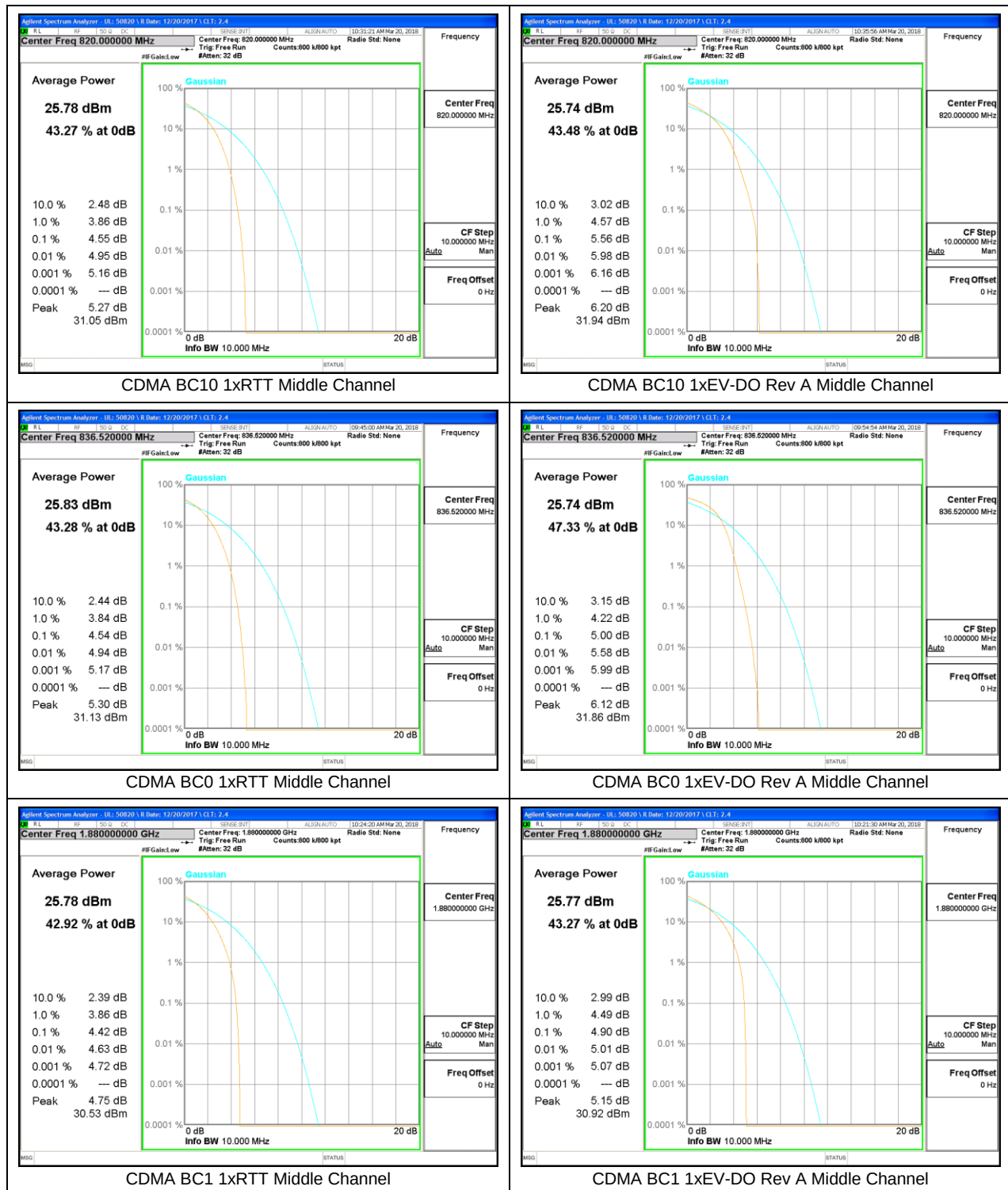
ANT 1 antenna was used to measure as the worst case. The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

ID:	50820	Date:	3/20/18
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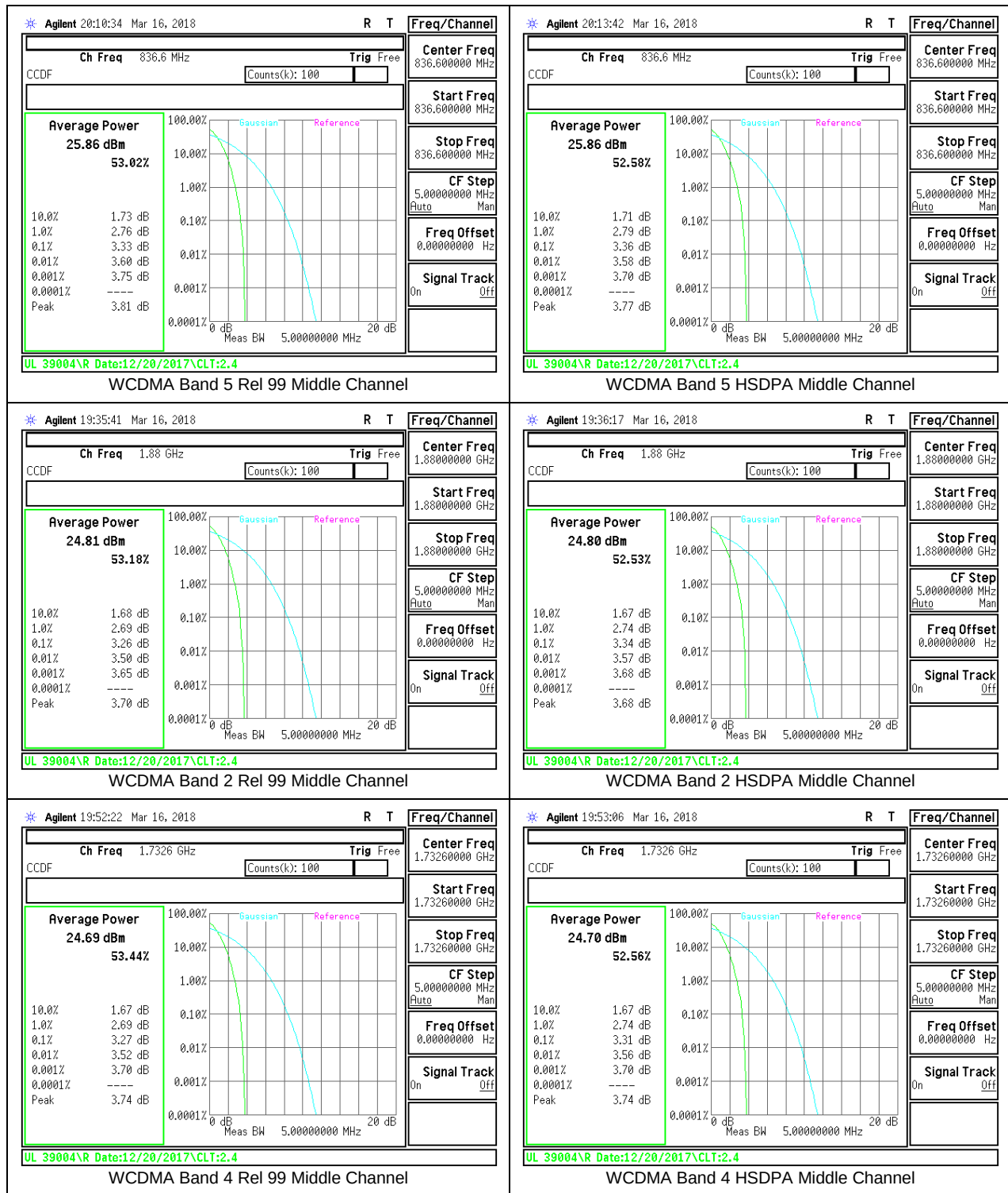
8.5.1. GSM



8.5.2. CDMA



8.5.3. WCDMA



9. RADIATED TEST RESULTS

9.1. FIELD STRENGTH OF SPURIOUS RADIATION (Ant 1)

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691.

IC: RSS132§5.5; RSS133§6.5 and RSS139§6.6

LIMIT

FCC: §22.917(a), §24.238(a), §27.53 (h), §90.691

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.

RSS132§5.5

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

- (i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).
- (ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS133§6.5

Equipment shall comply with the limits in (i) and (ii) below.

- (i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).
- (ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS139§6.6

- (i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, Footnote 2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.
- (ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

TEST PROCEDURE

KDB 971168 D01 Section 7

RESULTS

9.1.1. GSM

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/27/18

36648

EUT only

GPRS 850MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.2MHz)										
1.65	-70.0	H	3.0	-29.2	36.5	1.0	-62.7	-13.0	-50.7	
2.47	-68.6	H	3.0	-29.8	36.2	1.0	-68.9	-13.0	-43.9	
3.30	-66.6	H	3.0	-17.8	34.6	1.0	-51.4	-13.0	-38.4	
1.65	-69.7	V	3.0	-27.1	36.5	1.0	-62.8	-13.0	-49.6	
2.47	-68.4	V	3.0	-29.7	36.2	1.0	-68.9	-13.0	-43.8	
3.30	-68.0	V	3.0	-18.5	34.6	1.0	-52.2	-13.0	-39.2	
Mid Channel (836.6MHz)										
1.67	-69.4	H	3.0	-27.5	36.5	1.0	-62.9	-13.0	-49.9	
2.51	-68.5	H	3.0	-29.6	36.1	1.0	-68.8	-13.0	-43.8	
3.35	-68.7	H	3.0	-19.7	34.6	1.0	-53.2	-13.0	-40.2	
1.67	-68.9	V	3.0	-27.1	36.5	1.0	-62.8	-13.0	-49.6	
2.51	-68.5	V	3.0	-29.6	36.1	1.0	-68.7	-13.0	-43.7	
3.35	-68.0	V	3.0	-18.4	34.6	1.0	-52.0	-13.0	-39.0	
High Channel (848.8MHz)										
1.70	-70.4	H	3.0	-29.2	36.4	1.0	-63.6	-13.0	-50.6	
2.55	-68.2	H	3.0	-22.1	35.1	1.0	-66.3	-13.0	-43.3	
3.40	-68.4	H	3.0	-19.3	34.5	1.0	-52.8	-13.0	-39.8	
1.70	-70.8	V	3.0	-27.8	36.4	1.0	-63.2	-13.0	-50.2	
2.55	-68.6	V	3.0	-22.4	35.1	1.0	-66.5	-13.0	-43.5	
3.40	-68.5	V	3.0	-18.8	34.5	1.0	-52.3	-13.0	-39.3	

Rev. 03.19.15

GSM 850MHz GPRS

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/27/18

36648

EUT only

GPRS 1900MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.2MHz)										
3.70	-66.0	H	3.0	-16.1	34.1	1.0	-49.2	-13.0	-36.2	
5.55	-66.6	H	3.0	-12.6	33.3	1.0	-44.9	-13.0	-31.9	
7.40	-66.8	H	3.0	-9.4	33.1	1.0	-41.4	-13.0	-28.4	
3.70	-65.4	V	3.0	-15.1	34.1	1.0	-48.2	-13.0	-35.2	
5.55	-65.6	V	3.0	-11.7	33.3	1.0	-44.0	-13.0	-31.0	
7.40	-66.8	V	3.0	-9.3	33.1	1.0	-41.4	-13.0	-28.4	
Mid Channel (1880.0)										
3.76	-65.1	H	3.0	-15.9	34.1	1.0	-49.0	-13.0	-36.0	
5.64	-65.4	H	3.0	-11.2	33.3	1.0	-43.5	-13.0	-30.5	
7.52	-65.1	H	3.0	-7.5	33.0	1.0	-39.6	-13.0	-26.6	
3.76	-66.1	V	3.0	-15.8	34.1	1.0	-48.7	-13.0	-35.7	
5.64	-66.0	V	3.0	-12.5	33.3	1.0	-44.8	-13.0	-31.8	
7.52	-65.6	V	3.0	-8.0	33.0	1.0	-40.0	-13.0	-27.0	
High Channel (1909.8MHz)										
3.82	-64.4	H	3.0	-13.9	34.0	1.0	-46.9	-13.0	-33.9	
5.73	-65.6	H	3.0	-11.2	33.3	1.0	-43.5	-13.0	-30.5	
7.54	-66.9	H	3.0	-9.3	33.0	1.0	-41.3	-13.0	-28.3	
3.82	-60.2	V	3.0	-9.7	34.0	1.0	-42.7	-13.0	-29.7	
5.73	-66.0	V	3.0	-11.8	33.3	1.0	-44.1	-13.0	-31.1	
7.54	-65.3	V	3.0	-7.7	33.0	1.0	-39.7	-13.0	-26.7	

Rev. 03.19.15

GSM 1900MHz GPRS

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/27/18

36648

EUT only

EGPRS 850MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber G

3m Chamber G

Filter

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.2MHz)										
1.65	-70.7	H	3.0	-29.2	37.8	1.0	-66.0	-13.0	-53.0	
2.47	-68.6	H	3.0	-25.5	36.6	1.0	-61.0	-13.0	-48.0	
3.30	-67.0	H	3.0	-21.0	36.5	1.0	-56.5	-13.0	-43.5	
1.65	-70.0	V	3.0	-28.2	37.8	1.0	-65.1	-13.0	-52.1	
2.47	-66.1	V	3.0	-24.1	36.6	1.0	-59.7	-13.0	-46.7	
3.30	-67.7	V	3.0	-21.8	36.5	1.0	-57.3	-13.0	-44.3	
Mid Channel (836.6MHz)										
1.67	-70.8	H	3.0	-29.4	37.8	1.0	-66.2	-13.0	-53.2	
2.51	-68.8	H	3.0	-25.7	36.4	1.0	-61.1	-13.0	-48.1	
3.35	-66.1	H	3.0	-20.1	36.5	1.0	-55.5	-13.0	-42.5	
1.67	-70.1	V	3.0	-28.3	37.8	1.0	-65.2	-13.0	-52.2	
2.51	-68.2	V	3.0	-24.0	36.4	1.0	-59.3	-13.0	-46.3	
3.35	-68.2	V	3.0	-22.2	36.5	1.0	-57.6	-13.0	-44.6	
High Channel (848.8MHz)										
1.70	-70.0	H	3.0	-28.4	37.8	1.0	-65.3	-13.0	-52.3	
2.55	-68.0	H	3.0	-23.4	36.4	1.0	-58.8	-13.0	-45.8	
3.40	-68.7	H	3.0	-22.5	36.4	1.0	-58.0	-13.0	-45.0	
1.70	-69.6	V	3.0	-27.8	37.8	1.0	-64.8	-13.0	-51.8	
2.55	-68.4	V	3.0	-24.1	36.4	1.0	-59.5	-13.0	-46.5	
3.40	-68.9	V	3.0	-22.7	36.4	1.0	-58.2	-13.0	-45.2	

Rev. 03.19.15

GSM 850MHz EGPRS

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/27/18

36648

EUT only

EGPRS 1900MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.2MHz)										
3.70	-64.8	H	3.0	-14.9	34.1	1.0	-48.0	-13.0	-35.0	
5.55	-65.8	H	3.0	-11.9	33.3	1.0	-44.2	-13.0	-31.2	
7.40	-65.7	H	3.0	-8.3	33.1	1.0	-40.3	-13.0	-27.3	
3.70	-64.1	V	3.0	-13.8	34.1	1.0	-46.9	-13.0	-33.9	
5.55	-65.3	V	3.0	-11.4	33.3	1.0	-43.7	-13.0	-30.7	
7.40	-65.0	V	3.0	-7.5	33.1	1.0	-39.6	-13.0	-26.6	
Mid Channel (1880.0)										
3.76	-63.6	H	3.0	-13.5	34.1	1.0	-46.6	-13.0	-33.6	
5.64	-64.6	H	3.0	-10.5	33.3	1.0	-42.8	-13.0	-29.8	
7.52	-66.1	H	3.0	-8.5	33.0	1.0	-40.5	-13.0	-27.5	
3.76	-63.5	V	3.0	-13.0	34.1	1.0	-46.1	-13.0	-33.1	
5.64	-65.7	V	3.0	-11.6	33.3	1.0	-43.9	-13.0	-30.9	
7.52	-65.6	V	3.0	-8.0	33.0	1.0	-40.0	-13.0	-27.0	
High Channel (1909.8MHz)										
3.82	-64.4	H	3.0	-14.1	34.0	1.0	-47.1	-13.0	-34.1	
5.73	-65.0	H	3.0	-10.7	33.3	1.0	-43.0	-13.0	-30.0	
7.54	-65.8	H	3.0	-8.1	33.0	1.0	-40.2	-13.0	-27.2	
3.82	-64.5	V	3.0	-13.9	34.0	1.0	-46.0	-13.0	-33.0	
5.73	-65.2	V	3.0	-10.8	33.3	1.0	-43.2	-13.0	-30.2	
7.54	-65.8	V	3.0	-8.1	33.0	1.0	-40.2	-13.0	-27.2	

Rev. 03.19.15

GSM 1900MHz EGPRS

9.1.2. CDMA

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/16/18 Test Engineer: 10649 Configuration: EUT only Mode: 1xRTT 800MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		ERP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (817.25MHz)										
1.63	-59.3	H	3.0	-16.9	37.8	1.0	-53.7	-13.0	-40.7	
2.46	-59.7	H	3.0	-14.8	38.4	1.0	-52.2	-13.0	-39.2	
3.27	-59.8	H	3.0	-11.1	38.5	1.0	-48.5	-13.0	-35.5	
1.63	-59.5	V	3.0	-17.5	37.8	1.0	-54.3	-13.0	-41.3	
2.46	-59.9	V	3.0	-13.8	38.4	1.0	-51.2	-13.0	-38.2	
3.27	-59.9	V	3.0	-11.3	38.5	1.0	-48.8	-13.0	-35.8	
Mid Channel (820MHz)										
1.64	-57.7	H	3.0	-15.3	37.8	1.0	-52.2	-13.0	-39.2	
2.46	-59.2	H	3.0	-14.3	38.4	1.0	-51.7	-13.0	-38.7	
3.28	-59.8	H	3.0	-11.0	38.5	1.0	-48.5	-13.0	-35.5	
1.64	-61.6	V	3.0	-19.5	37.8	1.0	-56.4	-13.0	-43.4	
2.46	-58.1	V	3.0	-13.0	38.4	1.0	-50.5	-13.0	-37.5	
3.28	-59.6	V	3.0	-11.0	38.5	1.0	-48.5	-13.0	-35.5	
1.73	-48.7		3.0							
High Channel (823.75MHz)										
1.65	-58.7	H	3.0	-16.3	37.8	1.0	-53.1	-13.0	-40.1	
2.47	-59.6	H	3.0	-14.6	38.5	1.0	-52.1	-13.0	-39.1	
3.29	-59.6	H	3.0	-10.7	38.5	1.0	-48.2	-13.0	-35.2	
1.65	-58.6	V	3.0	-16.5	37.8	1.0	-53.3	-13.0	-40.3	
2.47	-58.1	V	3.0	-12.8	38.5	1.0	-50.4	-13.0	-37.4	
3.29	-59.6	V	3.0	-10.8	38.5	1.0	-48.4	-13.0	-35.4	
Rev. 03.19.15										

CDMA BC10 1xRTT

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/16/18 Test Engineer: 10649 Configuration: EUT only Mode: 1xRTT 800MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		ERP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.75MHz)										
1.65	-58.3	H	3.0	-15.9	37.8	1.0	-52.7	-13.0	-39.7	
2.47	-58.3	H	3.0	-13.3	38.5	1.0	-50.8	-13.0	-37.8	
3.30	-58.7	H	3.0	-10.7	38.5	1.0	-48.2	-13.0	-35.2	
1.65	-58.8	V	3.0	-14.7	37.8	1.0	-51.5	-13.0	-38.5	
2.47	-58.8	V	3.0	-11.6	38.5	1.0	-48.1	-13.0	-35.1	
3.30	-60.1	V	3.0	-11.4	38.5	1.0	-48.9	-13.0	-35.9	
Mid Channel (836.52MHz)										
1.67	-58.8	H	3.0	-16.3	37.8	1.0	-53.1	-13.0	-40.1	
2.51	-59.3	H	3.0	-24.1	38.6	1.0	-61.7	-13.0	-48.7	
3.35	-60.4	H	3.0	-11.3	38.5	1.0	-48.8	-13.0	-35.8	
1.67	-58.0	V	3.0	-15.8	37.8	1.0	-52.6	-13.0	-39.6	
2.51	-58.3	V	3.0	-9.8	38.6	1.0	-42.5	-13.0	-29.5	
3.35	-60.4	V	3.0	-10.5	38.5	1.0	-48.0	-13.0	-35.0	
High Channel (848.31MHz)										
1.70	-59.8	H	3.0	-26.5	37.9	1.0	-63.3	-13.0	-50.3	
2.54	-55.3	H	3.0	-9.9	38.6	1.0	-47.5	-13.0	-34.5	
3.39	-59.8	H	3.0	-10.6	38.5	1.0	-48.1	-13.0	-35.1	
1.70	-58.3	V	3.0	-15.9	37.9	1.0	-52.8	-13.0	-39.8	
2.54	-53.0	V	3.0	-7.4	38.6	1.0	-45.0	-13.0	-32.0	
3.39	-59.5	V	3.0	-10.5	38.5	1.0	-48.0	-13.0	-35.0	
Rev. 03.19.15										

CDMA BC0 1xRTT

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/16/18 Test Engineer: 10649 Configuration: EUT only Mode: 1xRTT 1900MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		ERP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.25MHz)										
3.70	-56.7	H	3.0	-6.8	38.6	1.0	-44.4	-13.0	-31.4	
5.55	-58.5	H	3.0	-4.4	38.6	1.0	-42.0	-13.0	-29.0	
7.41	-58.2	H	3.0	-1.5	37.8	1.0	-39.3	-13.0	-26.3	
3.70	-55.6	V	3.0	-5.7	38.6	1.0	-43.3	-13.0	-30.3	
5.55	-58.9	V	3.0	-5.2	38.6	1.0	-42.7	-13.0	-29.7	
7.41	-60.1	V	3.0	-2.6	37.8	1.0	-39.5	-13.0	-26.5	
Mid Channel (1880MHz)										
3.76	-55.9	H	3.0	-4.9	38.6	1.0	-42.6	-13.0	-29.6	
5.64	-57.5	H	3.0	-2.3	38.5	1.0	-40.8	-13.0	-27.8	
7.52	-60.7	H	3.0	-2.0	37.7	1.0	-39.8	-13.0	-26.8	
3.76	-54.8	V	3.0	-4.7	38.6	1.0	-42.3	-13.0	-29.3	
5.64	-56.4	V	3.0	-2.5	38.5	1.0	-40.0	-13.0	-27.0	
7.52	-60.1	V	3.0	-2.5	37.7	1.0	-39.3	-13.0	-26.3	
High Channel (1908.75MHz)										
3.82	-56.3	H	3.0	-6.0	38.7	1.0	-43.7	-13.0	-30.7	
5.73	-58.1	H	3.0	-3.7	38.5	1.0	-41.2	-13.0	-28.2	
7.64	-60.0	H	3.0	-2.0	37.7	1.0	-38.7	-13.0	-25.7	
3.82	-56.3	V	3.0	-6.1	38.7	1.0	-43.7	-13.0	-30.7	
5.73	-57.4	V	3.0	-3.2	38.5	1.0	-40.7	-13.0	-27.7	
7.64	-60.5	V	3.0	-2.7	37.7	1.0	-39.4	-13.0	-26.4	
Rev. 03.19.15										

CDMA BC1 1xRTT

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/16/18 Test Engineer: 10649 Configuration: EUT only Mode: Rev D/A 800MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		ERP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (817.25MHz)										
1.63	-58.5	H	3.0	-16.1	37.8	1.0	-53.0	-13.0	-40.0	
2.46	-57.8	H	3.0	-12.3	38.4	1.0	-48.7	-13.0	-38.7	
3.27	-59.8	H	3.0	-10.8	38.5	1.0	-48.4	-13.0	-35.4	
1.63	-58.8	V	3.0	-16.8	37.8	1.0	-53.6	-13.0	-40.6	
2.46	-60.5	V	3.0	-15.3	38.4	1.0	-52.7	-13.0	-39.7	
3.27	-57.3	V	3.0	-8.7	38.5	1.0	-46.2	-13.0	-33.2	
Mid Channel (820MHz)										
1.64	-56.8	H	3.0	-14.4	37.8	1.0	-51.2	-13.0	-38.2	
2.46	-58.7	H	3.0	-13.8	38.4	1.0	-51.2	-13.0	-38.2	
3.28	-58.5	H	3.0	-10.8	38.5	1.0	-48.1	-13.0	-35.1	
1.64	-63.8	V	3.0	-17.7	37.8	1.0	-58.5	-13.0	-45.5	
2.46	-58.3	V	3.0	-13.1	38.4	1.0	-50.6	-13.0	-37.6	
3.28	-60.1	V	3.0	-11.5	38.5	1.0	-48.0	-13.0	-35.0	
High Channel (823.75MHz)										
1.65	-58.7	H	3.0	-16.2	37.8	1.0	-53.1	-13.0	-40.1	
2.47	-59.4	H	3.0	-13.5	38.5	1.0	-50.9	-13.0	-37.9	
3.29	-59.6	H	3.0	-11.7	38.5	1.0	-48.1	-13.0	-35.1	
1.65	-58.0	V	3.0	-15.9	37.8	1.0	-53.7	-13.0	-40.7	
2.47	-58.1	V	3.0	-13.9	38.5	1.0	-51.4	-13.0	-38.4	
3.29	-59.6	V	3.0	-10.9	38.5	1.0	-48.4	-13.0	-35.4	
Rev. 03.19.15										

CDMA BC10 1xEV-DO Rev A

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/16/18 Test Engineer: 10649 Configuration: EUT only Mode: Rev D/A 800MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		ERP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.75MHz)										
1.65	-58.0	H	3.0	-15.5	37.8	1.0	-52.4	-13.0	-39.4	
2.47	-55.5	H	3.0	-10.5	38.5	1.0	-48.0	-13.0	-35.0	
3.30	-60.3	H	3.0	-11.4	38.5	1.0	-48.9	-13.0	-35.9	
1.65	-59.7	V	3.0	-15.8	37.8	1.0	-50.4	-13.0	-37.4	
2.47	-59.5	V	3.0	-14.3	38.5	1.0	-51.8	-13.0	-38.8	
3.30	-59.7	V	3.0	-11.1	38.5	1.0	-48.5	-13.0	-35.5	
Mid Channel (836.52MHz)										
1.67	-58.7	H	3.0	-16.2	37.8	1.0	-53.0	-13.0	-40.0	
2.51	-58.3	H	3.0	-13.1	38.6	1.0	-50.7	-13.0	-37.7	
3.35	-59.5	H	3.0	-10.4	38.5	1.0	-47.9	-13.0	-34.9	
1.67	-56.1	V	3.0	-13.8	37.8	1.0	-50.7	-13.0	-37.7	
2.51	-58.3	V	3.0	-1.3	38.6	1.0	-38.8	-13.0	-25.8	
3.35	-59.0	V	3.0	-10.1	38.5	1.0	-47.6	-13.0	-34.6	
High Channel (848.31MHz)										
1.70	-58.4	H	3.0	-15.8	37.9	1.0	-52.7	-13.0	-39.7	
2.54	-56.3	H	3.0	-10.9	38.6	1.0	-48.4	-13.0	-35.4	
3.39	-59.6	H	3.0	-10.4	38.5	1.0	-47.9	-13.0	-34.9	
1.70	-57.9	V	3.0	-15.5	37.9	1.0	-52.4	-13.0	-39.4	
2.54	-50.6	V	3.0	6.0	38.6	1.0	-37.6	-13.0	-24.6	
3.39	-60.0	V	3.0	-11.1	38.5	1.0	-48.6	-13.0	-35.6	
Rev. 03.19.15										

CDMA BC0 1xEV-DO Rev A

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/16/18 Test Engineer: 10649 Configuration: EUT only Mode: Rev D/A 1900MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		ERP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.25MHz)										
3.70	-56.5	H	3.0	-6.5	38.6	1.0	-44.1	-13.0	-31.1	
5.55	-57.7	H	3.0	-3.7	38.6	1.0	-41.2	-13.0	-28.2	
7.41	-60.0	H	3.0	-2.3	37.8	1.0	-39.1	-13.0	-26.1	
3.70	-55.4	V	3.0	-5.5	38.6	1.0	-43.1	-13.0	-30.1	
5.55	-58.1	V	3.0	-4.3	38.6	1.0	-41.9	-13.0	-28.9	
7.41	-60.3	V	3.0	-2.9	37.8	1.0	-39.7	-13.0	-26.7	
Mid Channel (1880MHz)										
3.76	-55.7	H	3.0	-5.6	38.6	1.0	-43.2	-13.0	-30.2	
5.64	-56.4	H	3.0	-2.2	38.5	1.0	-39.7	-13.0	-26.7	
7.52	-60.6	H	3.0	-1.7	37.7	1.0	-38.5	-13.0	-25.5	
3.76	-55.9	V	3.0	-5.8</						

9.1.3. WCDMA

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: REL 99, 650MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		EIRP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825.48MHz)										
1.65	-62.8	H	3.0	-20.3	37.8	1.0	-57.2	-13.0	-44.2	
2.48	-64.0	H	3.0	-19.0	38.5	1.0	-56.5	-13.0	-43.5	
3.31	-64.8	H	3.0	-15.9	38.5	1.0	-53.4	-13.0	-40.4	
1.85	-64.2	V	3.0	-22.0	37.8	1.0	-58.9	-13.0	-45.9	
2.48	-65.2	V	3.0	-19.9	38.5	1.0	-57.4	-13.0	-44.4	
3.31	-65.5	V	3.0	-16.9	38.5	1.0	-54.3	-13.0	-41.3	
Mid Channel (836.88MHz)										
1.67	-65.2	H	3.0	-22.7	37.8	1.0	-59.6	-13.0	-46.6	
2.81	-65.7	H	3.0	-20.5	38.6	1.0	-58.1	-13.0	-45.1	
3.35	-65.1	H	3.0	-19.1	38.5	1.0	-53.5	-13.0	-40.5	
1.67	-64.8	V	3.0	-21.8	37.8	1.0	-58.6	-13.0	-45.6	
2.81	-62.9	V	3.0	-7.6	38.6	1.0	-45.1	-13.0	-32.1	
3.35	-65.5	V	3.0	-18.2	38.5	1.0	-53.7	-13.0	-40.7	
High Channel (848.88MHz)										
1.69	-64.8	H	3.0	-22.1	37.9	1.0	-58.9	-13.0	-45.9	
2.84	-64.8	H	3.0	-19.4	38.6	1.0	-57.0	-13.0	-44.0	
3.39	-64.9	H	3.0	-15.7	38.5	1.0	-53.3	-13.0	-40.3	
1.69	-64.1	V	3.0	-22.2	37.9	1.0	-59.0	-13.0	-46.0	
2.84	-64.9	V	3.0	-19.4	38.6	1.0	-57.0	-13.0	-44.0	
3.39	-64.7	V	3.0	-15.8	38.5	1.0	-53.3	-13.0	-40.3	

Rev: 03.19.15

WCDMA Band 5 Rel 99

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: REL 99, 1900MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		EIRP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (882.48MHz)										
3.70	-65.9	H	3.0	-13.9	38.5	1.0	-51.4	-13.0	-38.4	
5.56	-65.2	H	3.0	-11.2	38.6	1.0	-48.7	-13.0	-35.7	
7.41	-67.0	H	3.0	-9.3	37.8	1.0	-46.2	-13.0	-33.2	
3.70	-62.4	V	3.0	-12.5	38.6	1.0	-50.1	-13.0	-37.1	
5.55	-63.3	V	3.0	-8.6	38.6	1.0	-47.2	-13.0	-34.2	
7.42	-65.6	V	3.0	-8.2	37.8	1.0	-45.0	-13.0	-32.0	
Mid Channel (890.88MHz)										
3.76	-61.3	H	3.0	-11.2	38.6	1.0	-48.8	-13.0	-35.8	
5.64	-64.0	H	3.0	-9.6	38.5	1.0	-47.3	-13.0	-34.3	
7.52	-65.6	H	3.0	-7.6	37.7	1.0	-44.5	-13.0	-31.5	
3.76	-62.3	V	3.0	-12.3	38.6	1.0	-49.9	-13.0	-36.9	
5.64	-64.2	V	3.0	-10.0	38.7	1.0	-47.0	-13.0	-34.0	
7.52	-66.0	V	3.0	-8.4	37.7	1.0	-45.1	-13.0	-32.1	
High Channel (897.88MHz)										
3.81	-62.2	H	3.0	-12.0	38.7	1.0	-49.6	-13.0	-36.6	
5.72	-63.9	H	3.0	-9.5	38.5	1.0	-47.0	-13.0	-34.0	
7.66	-65.0	H	3.0	-8.0	37.7	1.0	-44.6	-13.0	-31.6	
3.82	-63.3	V	3.0	-13.0	38.7	1.0	-50.7	-13.0	-37.7	
5.72	-65.1	V	3.0	-11.0	38.5	1.0	-48.5	-13.0	-35.5	
7.63	-65.7	V	3.0	-8.9	37.7	1.0	-45.6	-13.0	-32.6	

Rev: 03.19.15

WCDMA Band 2 Rel 99

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: REL 99, 1700MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber F		3m Chamber F		Filter		EIRP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1712.48MHz)										
3.42	-66.5	H	3.0	-16.3	34.6	1.0	-49.9	-13.0	-36.9	
5.14	-63.7	H	3.0	-10.9	34.2	1.0	-44.1	-13.0	-31.1	
6.85	-65.7	H	3.0	-10.2	33.9	1.0	-43.1	-13.0	-30.1	
3.42	-64.6	V	3.0	-15.7	34.6	1.0	-49.3	-13.0	-36.3	
5.14	-63.8	V	3.0	-10.8	34.2	1.0	-44.0	-13.0	-31.0	
6.85	-66.2	V	3.0	-10.9	33.9	1.0	-43.8	-13.0	-30.8	
Mid Channel (1720.88MHz)										
3.47	-66.5	H	3.0	-17.7	34.6	1.0	-51.2	-13.0	-38.2	
5.20	-64.0	H	3.0	-11.2	34.2	1.0	-44.4	-13.0	-31.4	
6.93	-66.6	H	3.0	-10.0	33.9	1.0	-42.9	-13.0	-29.9	
3.47	-65.4	V	3.0	-16.4	34.6	1.0	-49.9	-13.0	-36.9	
5.20	-64.5	V	3.0	-11.7	34.2	1.0	-44.9	-13.0	-31.9	
6.93	-65.9	V	3.0	-10.5	33.9	1.0	-43.4	-13.0	-30.4	
High Channel (1728.88MHz)										
3.51	-65.5	H	3.0	-17.6	34.5	1.0	-51.0	-13.0	-38.0	
5.26	-65.0	H	3.0	-12.0	34.2	1.0	-45.2	-13.0	-32.2	
7.01	-65.5	H	3.0	-9.7	33.9	1.0	-42.6	-13.0	-29.6	
3.51	-67.4	V	3.0	-18.1	34.5	1.0	-51.7	-13.0	-38.7	
5.26	-64.8	V	3.0	-11.6	34.2	1.0	-44.7	-13.0	-31.7	
7.01	-65.6	V	3.0	-10.0	33.9	1.0	-42.9	-13.0	-29.9	

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WCDMA Band 4 Rel 99

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: HSDPA 650MHz										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber E		3m Chamber E		Filter		EIRP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825.48MHz)										
1.65	-65.2	H	3.0	-22.7	37.8	1.0	-59.6	-13.0	-46.6	
2.48	-65.6	H	3.0	-20.5	38.5	1.0	-58.0	-13.0	-45.0	
3.31	-65.5	H	3.0	-17.5	38.5	1.0	-55.0	-13.0	-42.0	
1.85	-64.5	V	3.0	-22.4	37.8	1.0	-59.2	-13.0	-46.2	
2.48	-64.5	V	3.0	-19.3	38.5	1.0	-56.8	-13.0	-43.8	
3.31	-65.0	V	3.0	-17.3	38.5	1.0	-54.8	-13.0	-41.8	
Mid Channel (836.88MHz)										
1.67	-64.4	H	3.0	-21.9	37.8	1.0	-58.8	-13.0	-45.8	
2.81	-65.6	H	3.0	-20.4	38.6	1.0	-58.0	-13.0	-45.0	
3.35	-65.4	H	3.0	-18.3	38.5	1.0	-53.8	-13.0	-40.8	
1.67	-64.4	V	3.0	-22.2	37.8	1.0	-58.9	-13.0	-45.9	
2.81	-64.8	V	3.0	-18.4	38.6	1.0	-57.0	-13.0	-44.0	
3.35	-65.0	V	3.0	-18.2	38.5	1.0	-53.6	-13.0	-40.6	
High Channel (848.88MHz)										
1.69	-65.5	H	3.0	-22.9	37.9	1.0	-59.8	-13.0	-46.8	
2.84	-65.0	H	3.0	-19.6	38.6	1.0	-57.2	-13.0	-44.2	
3.39	-65.5	H	3.0	-16.3	38.5	1.0	-53.8	-13.0	-40.8	
1.69	-65.0	V	3.0	-22.7	37.9	1.0	-59.5	-13.0	-46.5	
2.84	-65.3	V	3.0	-19.9	38.6	1.0	-57.4	-13.0	-44.4	
3.39	-64.6	V	3.0	-16.7	38.5	1.0	-53.2	-13.0	-40.2	

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WCDMA Band 5 HSDPA

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: HSDPA 1900MHz										

9.2. FIELD STRENGTH OF SPURIOUS RADIATION (Ant 2)

9.2.1. GSM

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company: _____
Project #: _____
Date: 02/27/18
Test Engineer: 36648
Configuration: EUT only
Mode: GPRS 850MHz
Test Equipment: _____
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (824.2MHz)										
1.65	-66.4	H	3.0	-24.6	36.5	1.0	-60.1	-13.0	-47.1	
2.47	-69.0	H	3.0	-12.2	36.2	1.0	-47.4	-13.0	-34.4	
3.30	-68.1	H	3.0	-19.2	34.6	1.0	-52.9	-13.0	-39.9	
1.65	-69.3	V	3.0	-26.7	36.5	1.0	-62.2	-13.0	-49.2	
2.47	-69.6	V	3.0	-14.8	36.2	1.0	-49.0	-13.0	-36.0	
3.30	-68.1	V	3.0	-18.7	34.6	1.0	-52.3	-13.0	-39.3	
Mid Channel (836.8MHz)										
1.67	-70.9	H	3.0	-29.0	36.5	1.0	-64.5	-13.0	-51.5	
2.51	-69.1	H	3.0	-19.0	36.1	1.0	-44.1	-13.0	-31.1	
3.35	-68.5	H	3.0	-19.6	34.6	1.0	-53.1	-13.0	-40.1	
1.67	-69.6	V	3.0	-29.9	36.5	1.0	-62.3	-13.0	-49.3	
2.51	-69.9	V	3.0	-14.0	36.1	1.0	-48.1	-13.0	-35.1	
3.35	-67.7	V	3.0	-18.1	34.6	1.0	-51.7	-13.0	-38.7	
High Channel (848.8MHz)										
1.70	-70.0	H	3.0	-27.8	36.4	1.0	-63.2	-13.0	-50.2	
2.55	-69.4	H	3.0	-13.3	36.1	1.0	-47.6	-13.0	-34.6	
3.40	-68.4	H	3.0	-19.3	34.5	1.0	-52.9	-13.0	-39.9	
1.70	-70.3	V	3.0	-27.3	36.4	1.0	-62.7	-13.0	-49.7	
2.55	-63.5	V	3.0	-17.3	36.1	1.0	-51.5	-13.0	-38.5	
3.40	-67.8	V	3.0	-18.1	34.5	1.0	-51.6	-13.0	-38.6	

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GSM 850MHz GPRS

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/27/18

36648

EUT only

EGPRS 850MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber G

3m Chamber G

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (824.2MHz)										
1.65	-70.0	H	3.0	-28.5	37.8	1.0	-65.4	-13.0	-52.4	
2.47	-68.5	H	3.0	-15.4	36.5	1.0	-51.0	-13.0	-38.0	
3.30	-67.9	H	3.0	-21.9	36.5	1.0	-58.6	-13.0	-45.6	
1.65	-70.9	V	3.0	-29.2	37.8	1.0	-66.0	-13.0	-53.0	
2.47	-69.7	V	3.0	-16.7	36.6	1.0	-52.3	-13.0	-39.3	
3.30	-68.1	V	3.0	-22.2	36.5	1.0	-57.7	-13.0	-44.7	
Mid Channel (836.8MHz)										
1.67	-70.7	H	3.0	-29.2	37.8	1.0	-66.1	-13.0	-53.1	
2.51	-65.5	H	3.0	-12.3	36.4	1.0	-47.7	-13.0	-34.7	
3.35	-67.9	H	3.0	-21.9	36.5	1.0	-57.3	-13.0	-44.3	
1.67	-70.6	V	3.0	-29.2	37.8	1.0	-66.0	-13.0	-53.0	
2.51	-68.9	V	3.0	-14.7	36.4	1.0	-49.1	-13.0	-36.1	
3.35	-68.3	V	3.0	-22.2	36.5	1.0	-57.7	-13.0	-44.7	
High Channel (848.8MHz)										
1.70	-70.4	H	3.0	-28.9	37.8	1.0	-65.7	-13.0	-52.7	
2.55	-69.6	H	3.0	-13.2	36.4	1.0	-48.6	-13.0	-35.6	
3.40	-68.2	H	3.0	-22.1	36.4	1.0	-57.5	-13.0	-44.5	
1.70	-70.7	V	3.0	-28.9	37.8	1.0	-65.8	-13.0	-52.8	
2.55	-60.6	V	3.0	-16.3	36.4	1.0	-51.7	-13.0	-38.7	
3.40	-68.0	V	3.0	-21.7	36.4	1.0	-57.2	-13.0	-44.2	

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GSM 850MHz EGPRS

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/27/18
Test Engineer: 36648
Configuration: EUT only
Mode: GPRS 1900MHz

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifier	Filter	Limit
3m Chamber C	3m Chamber C	Filter	ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (1850.2MHz)										
3.70	-65.3	H	3.0	-15.4	34.1	1.0	-48.5	-13.0	-35.5	
5.65	-65.9	H	3.0	-11.9	33.3	1.0	-44.2	-13.0	-31.2	
7.40	-68.2	H	3.0	-10.8	33.1	1.0	-42.9	-13.0	-29.9	
3.70	-66.4	V	3.0	-16.1	34.1	1.0	-49.2	-13.0	-36.2	
5.65	-65.1	V	3.0	-11.9	33.3	1.0	-44.2	-13.0	-31.2	
7.40	-66.3	V	3.0	-8.9	33.1	1.0	-41.0	-13.0	-28.0	
Mid Channel (1880.0)										
3.76	-64.4	H	3.0	-14.3	34.1	1.0	-47.4	-13.0	-34.4	
5.64	-65.1	H	3.0	-11.4	33.3	1.0	-43.7	-13.0	-30.7	
7.62	-68.3	H	3.0	-10.7	33.0	1.0	-42.8	-13.0	-29.8	
3.76	-65.0	V	3.0	-14.6	34.1	1.0	-47.7	-13.0	-34.7	
5.64	-67.0	V	3.0	-12.9	33.3	1.0	-45.2	-13.0	-32.2	
7.62	-65.6	V	3.0	-8.0	33.0	1.0	-40.1	-13.0	-27.1	
High Channel (1908.8MHz)										
3.82	-63.3	H	3.0	-13.0	34.0	1.0	-46.0	-13.0	-33.0	
5.73	-65.4	H	3.0	-11.9	33.3	1.0	-43.3	-13.0	-30.3	
7.64	-67.8	H	3.0	-10.2	33.0	1.0	-42.2	-13.0	-29.2	
3.82	-64.5	V	3.0	-14.0	34.0	1.0	-47.0	-13.0	-34.0	
5.73	-66.5	V	3.0	-12.6	33.3	1.0	-44.9	-13.0	-31.9	
7.64	-64.9	V	3.0	-7.3	33.0	1.0	-39.4	-13.0	-26.4	

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GSM 1900MHz GPRS

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/27/18
Test Engineer: 36648
Configuration: EUT only
Mode: EGPRS 1900MHz

Test Equipment:
Substitution: Horn T59 Substitution, and 8R SMA Cable

Chamber	Pre-amplifier	Filter	Limit
3m Chamber C	3m Chamber C	Filter	ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (1850.2MHz)										
3.70	-66.6	H	3.0	-16.6	34.1	1.0	-49.9	-13.0	-36.9	
5.65	-66.4	H	3.0	-12.4	33.3	1.0	-44.7	-13.0	-31.7	
7.40	-67.3	H	3.0	-9.9	33.1	1.0	-41.9	-13.0	-28.9	
3.70	-66.7	V	3.0	-16.4	34.1	1.0	-49.6	-13.0	-36.6	
5.65	-66.0	V	3.0	-12.1	33.3	1.0	-44.4	-13.0	-31.4	
7.40	-66.5	V	3.0	-9.1	33.1	1.0	-41.1	-13.0	-28.1	
Mid Channel (1880.0)										
3.76	-64.5	H	3.0	-14.5	34.1	1.0	-47.6	-13.0	-34.6	
5.64	-67.3	H	3.0	-13.1	33.3	1.0	-45.4	-13.0	-32.4	
7.62	-67.3	H	3.0	-9.7	33.0	1.0	-41.7	-13.0	-28.7	
3.76	-65.2	V	3.0	-14.8	34.1	1.0	-47.8	-13.0	-34.8	
5.64	-67.1	V	3.0	-13.1	33.3	1.0	-45.3	-13.0	-32.3	
7.62	-66.0	V	3.0	-8.4	33.0	1.0	-40.4	-13.0	-27.4	
High Channel (1908.8MHz)										
3.82	-63.7	H	3.0	-13.4	34.0	1.0	-46.4	-13.0	-33.4	
5.73	-65.6	H	3.0	-11.2	33.3	1.0	-43.4	-13.0	-30.4	
7.64	-67.2	H	3.0	-9.6	33.0	1.0	-41.6	-13.0	-28.6	
3.82	-65.0	V	3.0	-14.5	34.0	1.0	-47.5	-13.0	-34.5	
5.73	-67.0	V	3.0	-12.7	33.3	1.0	-45.0	-13.0	-32.0	
7.64	-66.5	V	3.0	-8.9	33.0	1.0	-40.9	-13.0	-27.9	

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GSM 1900MHz EGPRS

9.2.2. CDMA

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date: 03/21/18

Test Engineer: 10641

Configuration: EUT only

Mode: 1xRTT 800MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8T SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber E

3m Chamber E

Filter

EIRP

Frequency	SA reading	Ant. Pol.	Distance	EIRP @ TX	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		Ant End (dBm)						
Low Channel (812.25MHz)										
1.63	-44.0	H	3.0	-21.5	37.8	1.0	-88.4	-13.0	-45.4	
2.45	-44.2	H	3.0	-19.3	38.4	1.0	-88.7	-13.0	-43.7	
3.27	-45.1	H	3.0	-16.3	38.5	1.0	-83.7	-13.0	-40.7	
1.63	-43.5	V	3.0	-21.5	37.8	1.0	-88.3	-13.0	-45.3	
2.45	-44.5	V	3.0	-19.4	38.4	1.0	-88.8	-13.0	-43.8	
3.27	-45.5	V	3.0	-16.9	38.5	1.0	-84.3	-13.0	-41.3	
Mid Channel (820MHz)										
1.64	-44.4	H	3.0	-22.0	37.8	1.0	-88.9	-13.0	-45.9	
2.46	-44.8	H	3.0	-19.9	38.4	1.0	-87.3	-13.0	-44.3	
3.28	-45.3	H	3.0	-16.4	38.5	1.0	-83.8	-13.0	-40.8	
1.64	-43.5	V	3.0	-22.1	37.8	1.0	-88.2	-13.0	-45.2	
2.46	-44.9	V	3.0	-19.8	38.4	1.0	-87.2	-13.0	-44.2	
3.28	-44.4	V	3.0	-15.8	38.5	1.0	-83.2	-13.0	-40.2	
High Channel (822.75MHz)										
1.65	-44.9	H	3.0	-22.5	37.8	1.0	-89.3	-13.0	-46.3	
2.47	-45.8	H	3.0	-20.8	38.5	1.0	-88.3	-13.0	-45.3	
3.29	-44.4	H	3.0	-15.9	38.5	1.0	-83.0	-13.0	-40.0	
1.65	-44.3	V	3.0	-22.1	37.8	1.0	-88.0	-13.0	-45.0	
2.47	-44.0	V	3.0	-18.8	38.5	1.0	-86.3	-13.0	-43.3	
3.29	-45.5	V	3.0	-17.9	38.5	1.0	-85.3	-13.0	-42.3	

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CDMA BC10 1xRTT

High Frequency Substitution Measurement UL Fremont Radiated Chamber											
Company: Project #: Date: 04/12/18 Test Engineer: 12491 Configuration: EUT Only Mode: Rev S/A 800MHz											
Test Equipment: Substitution: Horn T59 Substitution, and 8T SMA Cable											
Chamber			Pre-amplifier		Filter		Limit				
3m Chamber G			3m Chamber G		Filter		EIRP				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes	
Low Channel (817.25MHz)											
1.63	-46.2	H	3.0	-24.7	37.8	1.0	-91.6	-13.0	-48.6		
2.45	-46.8	H	3.0	-23.5	38.7	1.0	-89.2	-13.0	-46.2		
3.27	-45.3	H	3.0	-19.4	38.5	1.0	-84.9	-13.0	-41.9		
1.63	-45.3	V	3.0	-23.5	37.8	1.0	-90.3	-13.0	-47.3		
2.45	-46.8	V	3.0	-22.9	38.7	1.0	-88.6	-13.0	-45.6		
3.27	-46.3	V	3.0	-20.5	38.5	1.0	-86.1	-13.0	-43.1		
Mid Channel (820MHz)											
1.64	-44.7	H	3.0	-23.3	37.8	1.0	-90.1	-13.0	-47.1		
2.46	-45.8	H	3.0	-21.9	38.7	1.0	-87.5	-13.0	-44.5		
3.28	-45.9	H	3.0	-20.0	38.5	1.0	-85.5	-13.0	-42.5		
1.64	-44.4	V	3.0	-23.6	37.8	1.0	-91.4	-13.0	-48.4		
2.46	-46.1	V	3.0	-22.1	38.7	1.0	-87.8	-13.0	-44.8		
3.28	-46.3	V	3.0	-20.5	38.5	1.0	-86.0	-13.0	-43.0		
High Channel (822.75MHz)											
1.65	-46.9	H	3.0	-24.6	37.8	1.0	-91.4	-13.0	-48.4		
2.47	-45.1	H	3.0	-21.9	38.6	1.0	-87.5	-13.0	-44.5		
3.29	-45.9	H	3.0	-19.9	38.5	1.0	-85.5	-13.0	-42.5		
1.65	-46.4	V	3.0	-24.6	37.8	1.0	-91.5	-13.0	-48.5		
2.47	-45.9	V	3.0	-21.9	38.6	1.0	-87.5	-13.0	-44.5		
3.29	-45.9	V	3.0	-20.0	38.5	1.0	-85.6	-13.0	-42.6		

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CDMA BC10 1xEV-DO Rev A

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date: 03/21/18

Test Engineer: 10641

Configuration: EUT Only

Mode: 1xRTT 800MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8T SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber E

3m Chamber E

Filter

EIRP

Frequency	SA reading	Ant. Pol.	Distance	EIRP @ TX	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		Ant End (dBm)						
Low Channel (824.75MHz)										
1.65	-44.6	H	3.0	-22.2	37.8	1.0	-89.0	-13.0	-46.0	
2.47	-44.1	H	3.0	-19.1	38.5	1.0	-86.6	-13.0	-43.6	
3.30	-45.6	H	3.0	-16.6	38.5	1.0	-84.1	-13.0	-41.1	
1.65	-44.6	V	3.0	-22.4	37.8	1.0	-89.3	-13.0	-46.3	
2.47	-47.7	V	3.0	-12.5	38.5	1.0	-80.0	-13.0	-37.0	
3.30	-44.8	V	3.0	-16.1	38.5	1.0	-83.6	-13.0	-40.6	
Mid Channel (836.525MHz)										
1.67	-44.7	H	3.0	-23.2	37.8	1.0	-89.1	-13.0	-47.1	
2.61	-48.1	H	3.0	-12.9	38.6	1.0	-80.5	-13.0	-37.5	
3.35	-45.6	H	3.0	-16.5	38.5	1.0	-84.0	-13.0	-41.0	
1.67	-44.3	V	3.0	-22.1	37.8	1.0	-88.9	-13.0	-46.9	
2.61	-43.9	V	3.0	-18.4	38.6	1.0	-86.0	-13.0	-43.0	
3.35	-45.9	V	3.0	-17.1	38.5	1.0	-84.6	-13.0	-41.6	
High Channel (848.318MHz)										
1.70	-44.7	H	3.0	-22.2	37.9	1.0	-89.0	-13.0	-46.0	
2.64	-45.0	H	3.0	-19.6	38.6	1.0	-87.2	-13.0	-44.2	
3.39	-46.1	H	3.0	-16.9	38.5	1.0	-84.4	-13.0	-41.4	
1.70	-45.2	V	3.0	-22.8	37.9	1.0	-89.9	-13.0	-47.9	
2.64	-47.1	V	3.0	-21.5	38.6	1.0	-88.1	-13.0	-46.1	
3.39	-45.5	V	3.0	-17.5	38.5	1.0	-85.0	-13.0	-42.0	

Rev. 03.19.15

Rev 03.19.15

CDMA BC0 1xRTT

Company:

Project #:

Date: 04/11/18

Test Engineer: 12462

Configuration: EUT Only

Mode: Rev S/A 800MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8T SMA Cable

Chamber	Pre-amplifier	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.75MHz)										
1.648	-48.0	H	3.0	-26.5	37.8	1.0	-93.3	-13.0	-80.3	
2.474	-49.7	H	3.0	-25.6	38.6	1.0	-91.2	-13.0	-80.2	
3.299	-49.5	H	3.0	-23.5	38.5	1.0	-89.1	-13.0	-80.1	
1.649	-48.2	V	3.0	-26.9	37.8	1.0	-93.3	-13.0	-80.3	
2.474	-47.8	V	3.0	-23.7	38.6	1.0	-89.3	-13.0	-80.3	
3.299	-49.2	V	3.0	-23.3	38.6	1.0	-88.8	-13.0	-80.8	
1.87	-47.5	V	3.0	-15.6	37.8	1.0	-82.4	-13.0	-39.4	
Mid Channel (836.525MHz)										
1.6720	-46.8	H	3.0	-25.3	37.8	1.0	-92.1	-13.0	-80.1	
2.6086	-49.3	H	3.0	-26.1	38.4	1.0	-91.6	-13.0	-80.6	
3.3460	-48.7	H	3.0	-22.6	38.5	1.0	-88.1	-13.0	-80.1	
1.6720	-46.3	V	3.0	-25.8	37.8	1.0	-92.3	-13.0	-80.3	
2.6086	-48.8	V	3.0	-24.6	38.4	1.0	-90.0	-13.0	-87.0	
3.3460	-47.5	V	3.0	-24.0	38.5	1.0	-89.5	-13.0	-80.5	
High Channel (848.315MHz)										
1.6888	-48.9	H	3.0	-27.3	37.8	1.0	-94.2	-13.0	-81.2	
2.6450	-48.9	H	3.0	-24.6	38.4	1.0	-90.0	-13.0	-87.0	
3.2932	-49.3	H	3.0	-23.2	38.4	1.0	-88.6	-13.0	-80.6	
1.6888	-47.9	V	3.0	-26.2	37.8	1.0	-92.1	-13.0	-80.1	
2.6450	-47.8	V	3.0	-23.5	38.4	1.0	-88.9	-13.0	-80.9	
3.2932	-48.6	V	3.0	-21.8	38.4	1.0	-87.3	-13.0	-84.3	

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9.2.3. WCDMA

High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: REL 99, 850MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber: 3m Chamber E Pre-amplifier: 3m Chamber E Filter: Filter Limit: ERP <table> <tr> <th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance</th><th>ERP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>ERP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr> <tr> <td colspan="11">Low Channel (825.48MHz)</td></tr> <tr> <td>1.85</td><td>-63.7</td><td>H</td><td>3.0</td><td>-21.3</td><td>37.8</td><td>1.0</td><td>-58.1</td><td>-13.0</td><td>-45.1</td><td></td></tr> <tr> <td>2.48</td><td>-65.4</td><td>H</td><td>3.0</td><td>-20.3</td><td>38.5</td><td>1.0</td><td>-67.8</td><td>-13.0</td><td>-44.8</td><td></td></tr> <tr> <td>3.31</td><td>-64.8</td><td>H</td><td>3.0</td><td>-16.8</td><td>38.5</td><td>1.0</td><td>-63.3</td><td>-13.0</td><td>-40.3</td><td></td></tr> <tr> <td>1.85</td><td>-64.7</td><td>V</td><td>3.0</td><td>-22.5</td><td>37.8</td><td>1.0</td><td>-59.4</td><td>-13.0</td><td>-46.4</td><td></td></tr> <tr> <td>2.48</td><td>-65.6</td><td>V</td><td>3.0</td><td>-20.4</td><td>38.5</td><td>1.0</td><td>-67.9</td><td>-13.0</td><td>-44.9</td><td></td></tr> <tr> <td>3.31</td><td>-66.3</td><td>V</td><td>3.0</td><td>-17.6</td><td>38.5</td><td>1.0</td><td>-65.1</td><td>-13.0</td><td>-42.1</td><td></td></tr> <tr> <td colspan="11">Mid Channel (836.88MHz)</td></tr> <tr> <td>1.87</td><td>-63.7</td><td>H</td><td>3.0</td><td>-21.2</td><td>37.8</td><td>1.0</td><td>-58.0</td><td>-13.0</td><td>-45.0</td><td></td></tr> <tr> <td>2.51</td><td>-64.5</td><td>H</td><td>3.0</td><td>-19.3</td><td>38.6</td><td>1.0</td><td>-66.9</td><td>-13.0</td><td>-43.9</td><td></td></tr> <tr> <td>3.35</td><td>-64.8</td><td>H</td><td>3.0</td><td>-15.5</td><td>38.5</td><td>1.0</td><td>-63.0</td><td>-13.0</td><td>-40.0</td><td></td></tr> <tr> <td>1.87</td><td>-64.4</td><td>V</td><td>3.0</td><td>-22.1</td><td>37.8</td><td>1.0</td><td>-59.0</td><td>-13.0</td><td>-46.0</td><td></td></tr> <tr> <td>2.51</td><td>-65.9</td><td>V</td><td>3.0</td><td>-19.8</td><td>38.6</td><td>1.0</td><td>-67.2</td><td>-13.0</td><td>-44.2</td><td></td></tr> <tr> <td>3.35</td><td>-66.4</td><td>V</td><td>3.0</td><td>-16.6</td><td>38.5</td><td>1.0</td><td>-63.0</td><td>-13.0</td><td>-40.0</td><td></td></tr> <tr> <td colspan="11">High Channel (848.88MHz)</td></tr> <tr> <td>1.89</td><td>-64.5</td><td>H</td><td>3.0</td><td>-21.6</td><td>37.9</td><td>1.0</td><td>-58.3</td><td>-13.0</td><td>-45.3</td><td></td></tr> <tr> <td>2.54</td><td>-65.1</td><td>H</td><td>3.0</td><td>-19.7</td><td>38.6</td><td>1.0</td><td>-67.3</td><td>-13.0</td><td>-44.3</td><td></td></tr> <tr> <td>3.39</td><td>-65.6</td><td>H</td><td>3.0</td><td>-16.4</td><td>38.5</td><td>1.0</td><td>-63.9</td><td>-13.0</td><td>-40.9</td><td></td></tr> <tr> <td>1.89</td><td>-64.2</td><td>V</td><td>3.0</td><td>-21.8</td><td>37.9</td><td>1.0</td><td>-58.7</td><td>-13.0</td><td>-45.7</td><td></td></tr> <tr> <td>2.54</td><td>-65.8</td><td>V</td><td>3.0</td><td>-20.0</td><td>38.6</td><td>1.0</td><td>-67.6</td><td>-13.0</td><td>-44.6</td><td></td></tr> <tr> <td>3.39</td><td>-66.9</td><td>V</td><td>3.0</td><td>-16.9</td><td>38.5</td><td>1.0</td><td>-63.4</td><td>-13.0</td><td>-40.4</td><td></td></tr> </table> Rev 03.19.15	Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes	Low Channel (825.48MHz)											1.85	-63.7	H	3.0	-21.3	37.8	1.0	-58.1	-13.0	-45.1		2.48	-65.4	H	3.0	-20.3	38.5	1.0	-67.8	-13.0	-44.8		3.31	-64.8	H	3.0	-16.8	38.5	1.0	-63.3	-13.0	-40.3		1.85	-64.7	V	3.0	-22.5	37.8	1.0	-59.4	-13.0	-46.4		2.48	-65.6	V	3.0	-20.4	38.5	1.0	-67.9	-13.0	-44.9		3.31	-66.3	V	3.0	-17.6	38.5	1.0	-65.1	-13.0	-42.1		Mid Channel (836.88MHz)											1.87	-63.7	H	3.0	-21.2	37.8	1.0	-58.0	-13.0	-45.0		2.51	-64.5	H	3.0	-19.3	38.6	1.0	-66.9	-13.0	-43.9		3.35	-64.8	H	3.0	-15.5	38.5	1.0	-63.0	-13.0	-40.0		1.87	-64.4	V	3.0	-22.1	37.8	1.0	-59.0	-13.0	-46.0		2.51	-65.9	V	3.0	-19.8	38.6	1.0	-67.2	-13.0	-44.2		3.35	-66.4	V	3.0	-16.6	38.5	1.0	-63.0	-13.0	-40.0		High Channel (848.88MHz)											1.89	-64.5	H	3.0	-21.6	37.9	1.0	-58.3	-13.0	-45.3		2.54	-65.1	H	3.0	-19.7	38.6	1.0	-67.3	-13.0	-44.3		3.39	-65.6	H	3.0	-16.4	38.5	1.0	-63.9	-13.0	-40.9		1.89	-64.2	V	3.0	-21.8	37.9	1.0	-58.7	-13.0	-45.7		2.54	-65.8	V	3.0	-20.0	38.6	1.0	-67.6	-13.0	-44.6		3.39	-66.9	V	3.0	-16.9	38.5	1.0	-63.4	-13.0	-40.4		High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: HSDPA 850MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber: 3m Chamber E Pre-amplifier: 3m Chamber E Filter: Filter Limit: ERP <table> <tr> <th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. 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(H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes	Low Channel (825.48MHz)											1.85	-64.0	H	3.0	-21.5	37.8	1.0	-58.4	-13.0	-45.4		2.48	-65.7	H	3.0	-20.7	38.5	1.0	-68.2	-13.0	-45.2		3.31	-63.9	H	3.0	-14.9	38.5	1.0	-52.4	-13.0	-39.4		1.85	-64.0	V	3.0	-21.8	37.8	1.0	-58.7	-13.0	-45.7		2.48	-65.6	V	3.0	-19.4	38.5	1.0	-67.9	-13.0	-44.9		3.31	-65.2	V	3.0	-16.5	38.5	1.0	-63.9	-13.0	-40.9		Mid Channel (836.88MHz)											1.87	-64.7	H	3.0	-22.2	37.8	1.0	-59.1	-13.0	-46.1		2.51	-65.3	H	3.0	-20.1	38.6	1.0	-67.6	-13.0	-44.6		3.35	-65.0	H	3.0	-15.9	38.5	1.0	-63.4	-13.0	-40.4		1.87	-64.0	V	3.0	-22.7	37.8	1.0	-59.8	-13.0	-46.8		2.51	-65.9	V	3.0	-20.5	38.6	1.0	-68.1	-13.0	-45.1		3.35	-66.1	V	3.0	-16.3	38.5	1.0	-63.8	-13.0	-40.8		High Channel (848.88MHz)											1.89	-65.6	H	3.0	-23.0	37.9	1.0	-59.8	-13.0	-46.8		2.54	-66.3	H	3.0	-19.9	38.6	1.0	-67.5	-13.0	-44.5		3.39	-66.0	H	3.0	-16.8	38.5	1.0	-64.3	-13.0	-41.3		1.89	-64.0	V	3.0	-23.0	37.9	1.0	-59.8	-13.0	-46.8		2.54	-66.8	V	3.0	-20.2	38.6	1.0	-67.8	-13.0	-44.8		3.39	-66.9	V	3.0	-16.7	38.5	1.0	-64.2	-13.0	-41.2		High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: REL 99, 1900MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber: 3m Chamber E Pre-amplifier: 3m Chamber E Filter: Filter Limit: ERP <table> <tr> <th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. 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(H/V)</th><th>Distance</th><th>ERP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>ERP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr> <tr> <td colspan="11">Low Channel (1712.48MHz)</td></tr> <tr> <td>3.42</td><td>-62.9</td><td>H</td><td>3.0</td><td>-12.8</td><td>38.5</td><td>1.0</td><td>-50.3</td><td>-13.0</td><td>-37.3</td><td></td></tr> <tr> <td>5.14</td><td>-68.0</td><td>H</td><td>3.0</td><td>-4.8</td><td>38.7</td><td>1.0</td><td>-42.5</td><td>-13.0</td><td>-29.5</td><td></td></tr> <tr> <td>5.95</td><td>-61.1</td><td>H</td><td>3.0</td><td>-4.3</td><td>38.1</td><td>1.0</td><td>-41.4</td><td>-13.0</td><td>-28.4</td><td></td></tr> <tr> <td>3.42</td><td>-62.1</td><td>V</td><td>3.0</td><td>-13.1</td><td>38.5</td><td>1.0</td><td>-50.6</td><td>-13.0</td><td>-37.6</td><td></td></tr> <tr> <td>5.14</td><td>-68.3</td><td>V</td><td>3.0</td><td>-5.7</td><td>38.7</td><td>1.0</td><td>-43.4</td><td>-13.0</td><td>-30.4</td><td></td></tr> <tr> <td>5.95</td><td>-60.2</td><td>V</td><td>3.0</td><td>-3.8</td><td>38.1</td><td>1.0</td><td>-40.6</td><td>-13.0</td><td>-27.6</td><td></td></tr> <tr> <td colspan="11">Mid Channel (1732.88MHz)</td></tr> <tr> <td>3.47</td><td>-69.7</td><td>H</td><td>3.0</td><td>-10.4</td><td>38.5</td><td>1.0</td><td>-47.9</td><td>-13.0</td><td>-34.9</td><td></td></tr> <tr> <td>5.20</td><td>-69.9</td><td>H</td><td>3.0</td><td>-4.6</td><td>38.7</td><td>1.0</td><td>-44.3</td><td>-13.0</td><td>-31.3</td><td></td></tr> <tr> <td>5.93</td><td>-68.8</td><td>H</td><td>3.0</td><td>-3.7</td><td>38.1</td><td>1.0</td><td>-40.9</td><td>-13.0</td><td>-27.9</td><td></td></tr> <tr> <td>3.47</td><td>-69.4</td><td>V</td><td>3.0</td><td>-11.2</td><td>38.5</td><td>1.0</td><td>-48.7</td><td>-13.0</td><td>-35.7</td><td></td></tr> <tr> <td>5.20</td><td>-68.1</td><td>V</td><td>3.0</td><td>-6.0</td><td>38.7</td><td>1.0</td><td>-43.6</td><td>-13.0</td><td>-30.6</td><td></td></tr> <tr> <td>5.93</td><td>-69.1</td><td>V</td><td>3.0</td><td>-3.4</td><td>38.1</td><td>1.0</td><td>-40.6</td><td>-13.0</td><td>-27.6</td><td></td></tr> <tr> <td colspan="11">High Channel (1752.88MHz)</td></tr> <tr> <td>3.51</td><td>-61.1</td><td>H</td><td>3.0</td><td>-11.6</td><td>38.5</td><td>1.0</td><td>-49.2</td><td>-13.0</td><td>-36.2</td><td></td></tr> <tr> <td>5.26</td><td>-69.2</td><td>H</td><td>3.0</td><td>-4.8</td><td>38.7</td><td>1.0</td><td>-44.5</td><td>-13.0</td><td>-31.5</td><td></td></tr> <tr> <td>7.01</td><td>-69.6</td><td>H</td><td>3.0</td><td>-3.4</td><td>38.1</td><td>1.0</td><td>-40.6</td><td>-13.0</td><td>-27.6</td><td></td></tr> <tr> <td>3.51</td><td>-61.9</td><td>V</td><td>3.0</td><td>-12.6</td><td>38.5</td><td>1.0</td><td>-50.1</td><td>-13.0</td><td>-37.1</td><td></td></tr> <tr> <td>5.26</td><td>-69.0</td><td>V</td><td>3.0</td><td>-6.6</td><td>38.7</td><td>1.0</td><td>-44.2</td><td>-13.0</td><td>-31.2</td><td></td></tr> <tr> <td>7.01</td><td>-69.1</td><td>V</td><td>3.0</td><td>-3.2</td><td>38.1</td><td>1.0</td><td>-40.3</td><td>-13.0</td><td>-27.3</td><td></td></tr> </table> Rev 03.19.15	Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes	Low Channel (1712.48MHz)											3.42	-62.9	H	3.0	-12.8	38.5	1.0	-50.3	-13.0	-37.3		5.14	-68.0	H	3.0	-4.8	38.7	1.0	-42.5	-13.0	-29.5		5.95	-61.1	H	3.0	-4.3	38.1	1.0	-41.4	-13.0	-28.4		3.42	-62.1	V	3.0	-13.1	38.5	1.0	-50.6	-13.0	-37.6		5.14	-68.3	V	3.0	-5.7	38.7	1.0	-43.4	-13.0	-30.4		5.95	-60.2	V	3.0	-3.8	38.1	1.0	-40.6	-13.0	-27.6		Mid Channel (1732.88MHz)											3.47	-69.7	H	3.0	-10.4	38.5	1.0	-47.9	-13.0	-34.9		5.20	-69.9	H	3.0	-4.6	38.7	1.0	-44.3	-13.0	-31.3		5.93	-68.8	H	3.0	-3.7	38.1	1.0	-40.9	-13.0	-27.9		3.47	-69.4	V	3.0	-11.2	38.5	1.0	-48.7	-13.0	-35.7		5.20	-68.1	V	3.0	-6.0	38.7	1.0	-43.6	-13.0	-30.6		5.93	-69.1	V	3.0	-3.4	38.1	1.0	-40.6	-13.0	-27.6		High Channel (1752.88MHz)											3.51	-61.1	H	3.0	-11.6	38.5	1.0	-49.2	-13.0	-36.2		5.26	-69.2	H	3.0	-4.8	38.7	1.0	-44.5	-13.0	-31.5		7.01	-69.6	H	3.0	-3.4	38.1	1.0	-40.6	-13.0	-27.6		3.51	-61.9	V	3.0	-12.6	38.5	1.0	-50.1	-13.0	-37.1		5.26	-69.0	V	3.0	-6.6	38.7	1.0	-44.2	-13.0	-31.2		7.01	-69.1	V	3.0	-3.2	38.1	1.0	-40.3	-13.0	-27.3		High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 03/20/18 Test Engineer: 10641 Configuration: EUT Only Mode: HSDPA 1700MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber: 3m Chamber E Pre-amplifier: 3m Chamber E Filter: Filter Limit: ERP <table> <tr> <th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance</th><th>ERP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>ERP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr> <tr> <td colspan="11">Low Channel (1712.48MHz)</td></tr> <tr> <td>3.42</td><td>-67.2</td><td>H</td><td>3.0</td><td>-18.0</td><td>38.5</td><td>1.0</td><td>-55.6</td><td>-13.0</td><td>-42.6</td><td></td></tr> <tr> <td>5.14</td><td>-63.7</td><td>H</td><td>3.0</td><td>-10.9</td><td>38.7</td><td>1.0</td><td>-49.2</td><td>-13.0</td><td>-36.2</td><td></td></tr> <tr> <td>5.95</td><td>-65.1</td><td>H</td><td>3.0</td></tr></table>	Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes	Low Channel (1712.48MHz)											3.42	-67.2	H	3.0	-18.0	38.5	1.0	-55.6	-13.0	-42.6		5.14	-63.7	H	3.0	-10.9	38.7	1.0	-49.2	-13.0	-36.2		5.95	-65.1	H	3.0
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3.51	-61.1	H	3.0	-11.6	38.5	1.0	-49.2	-13.0	-36.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
5.26	-69.2	H	3.0	-4.8	38.7	1.0	-44.5	-13.0	-31.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
7.01	-69.6	H	3.0	-3.4	38.1	1.0	-40.6	-13.0	-27.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
3.51	-61.9	V	3.0	-12.6	38.5	1.0	-50.1	-13.0	-37.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
5.26	-69.0	V	3.0	-6.6	38.7	1.0	-44.2	-13.0	-31.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
7.01	-69.1	V	3.0	-3.2	38.1	1.0	-40.3	-13.0	-27.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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3.42	-67.2	H	3.0	-18.0	38.5	1.0	-55.6	-13.0	-42.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
5.14	-63.7	H	3.0	-10.9	38.7	1.0	-49.2	-13.0	-36.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
5.95	-65.1	H	3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date: 03/07/18

Test Engineer: 10669

Configuration: EUT Only

Mode: REL 99, 1700MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8R SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber E

3m Chamber E

Filter

ERP E

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (1712.48MHz)										
3.42	-71.7	H	3.0	-22.6	38.5	1.0	-60.0	-13.0	-47.0	
5.14	-63.6	H	3.0	-16.6	38.7	1.0	-48.2	-13.0	-35.2	
6.86	-70.3	H	3.0	-13.4	38.1	1.0	-55.6	-13.0	-37.6	
8.66	-71.5	H	3.0	-12.4	37.1	1.0	-48.6	-13.0	-35.6	
3.42	-72.7	V	3.0	-23.8	38.5	1.0	-61.2	-13.0	-48.2	
5.14	-69.3	V	3.0	-4.4	38.7	1.0	-44.1	-13.0	-31.1	
6.86	-70.6	V	3.0	-14.0	38.1	1.0	-51.1	-13.0	-38.1	
8.66	-70.6	V	3.0	-11.9	37.1	1.0	-47.9	-13.0	-34.9	
Mid Channel (1732.88MHz)										
3.47	-70.3	H	3.0	-20.9	38.5	1.0	-58.4	-13.0	-45.4	
5.20	-66.6	H	3.0	-13.4	38.7	1.0	-51.0	-13.0	-38.0	
6.93	-69.0	H	3.0	-11.9	38.1	1.0	-49.0	-13.0	-36.0	
8.66	-70.1	H	3.0	-10.9	37.0	1.0	-45.9	-13.0	-32.9	
3.47	-71.9	V	3.0	-22.8	38.5	1.0	-60.1	-13.0	-47.1	
5.20	-66.7	V	3.0	-12.8	38.7	1.0	-50.5	-13.0	-37.5	
6.93	-69.3	V	3.0	-13.1	38.1	1.0	-50.2	-13.0	-37.2	
8.66	-71.6	V	3.0	-12.6	37.0	1.0	-48.6	-13.0	-35.6	
High Channel (1752.48MHz)										
3.51	-71.6	H	3.0	-22.1	38.5	1.0	-59.7	-13.0	-46.7	
5.26	-67.4	H	3.0	-14.1	38.7	1.0	-51.8	-13.0	-38.8	
7.01	-69.8	H	3.0	-12.6	38.1	1.0	-49.7	-13.0	-36.7	
8.76	-70.2	H	3.0	-10.9	36.9	1.0	-46.8	-13.0	-33.8	
3.51	-71.6	V	3.0	-22.6	38.5	1.0	-60.0	-13.0	-47.0	
5.26	-68.7	V	3.0	-12.6	38.7	1.0	-50.3	-13.0	-37.3	
7.01	-69.9	V	3.0	-12.9	38.1	1.0	-50.0	-13.0	-37.0	
8.76	-71.6	V	3.0	-12.4	36.9	1.0	-49.3	-13.0	-36.3	
Raw 03.10.15										
WCDMA Band 4 Rel 99										

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date: 03/07/18

Test Engineer: 10669

Configuration: EUT Only

Mode: HSDPA 1700MHz

Test Equipment:

Substitution: Horn T59 Substitution, and 8R SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (1712.48MHz)										
3.42	-70.4	H	3.0	-23.7	34.6	1.0	-47.3	-13.0	-44.3	
5.14	-67.9	H	3.0	-16.2	34.2	1.0	-48.3	-13.0	-35.3	
6.86	-70.9	H	3.0	-15.4	33.9	1.0	-49.3	-13.0	-36.3	
8.66	-70.6	H	3.0	-12.6	33.7	1.0	-44.6	-13.0	-31.6	
3.42	-70.9	V	3.0	-22.0	34.6	1.0	-46.6	-13.0	-42.6	
5.14	-68.4	V	3.0	-15.4	34.2	1.0	-48.6	-13.0	-35.6	
6.86	-70.9	V	3.0	-15.6	33.9	1.0	-48.4	-13.0	-35.4	
8.66	-70.7	V	3.0	-12.8	33.7	1.0	-44.7	-13.0	-31.7	
Mid Channel (1732.88MHz)										
3.47	-69.5	H	3.0	-20.6	34.6	1.0	-44.1	-13.0	-41.1	
5.20	-66.7	H	3.0	-16.8	34.2	1.0	-50.0	-13.0	-37.0	
6.93	-69.9	H	3.0	-16.3	33.9	1.0	-47.2	-13.0	-34.2	
8.66	-71.6	H	3.0	-13.4	32.6	1.0	-45.0	-13.0	-32.0	
3.47	-69.6	V	3.0	-20.5	34.6	1.0	-46.0	-13.0	-41.0	
5.20	-69.2	V	3.0	-18.0	34.2	1.0	-49.2	-13.0	-36.2	
6.93	-70.4	V	3.0	-14.9	33.9	1.0	-47.8	-13.0	-34.8	
8.66	-71.9	V	3.0	-14.0	32.6	1.0	-45.7	-13.0	-32.7	
High Channel (1752.48MHz)										
3.51	-70.2	H	3.0	-22.2	34.5	1.0	-46.7	-13.0	-43.7	
5.26	-69.3	H	3.0	-16.6	34.2	1.0	-49.7	-13.0	-36.7	
7.01	-69.8	H	3.0	-14.0	33.9	1.0	-46.9	-13.0	-33.9	
8.76	-71.3	H	3.0	-13.2	32.6	1.0	-44.8	-13.0	-31.8	
3.51	-71.7	V	3.0	-22.0	34.5	1.0	-46.0	-13.0	-43.0	
5.26	-69.6	V	3.0	-16.6	34.2	1.0	-49.7	-13.0	-36.7	
7.01	-69.8	V	3.0	-14.0	33.9	1.0	-46.9	-13.0	-33.9	
8.76	-71.9	V	3.0	-13.9	32.6	1.0	-45.6	-13.0	-32.6	
Raw 03.10.15										
WCDMA Band 4 HSDPA										

9.4. FIELD STRENGTH OF SPURIOUS RADIATION (Ant 4)

9.4.1. GSM

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: _____ Project #: _____ Date: 03/19/18 Test Engineer: 10649 Configuration: EUT only Mode: GPRS 1900MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber E	3m Chamber E	Filter	EIRP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.2MHz)										
3.70	-47.8	H	3.0	-17.8	38.6	1.0	-56.4	-13.0	-43.4	
6.66	-46.7	H	3.0	-12.7	38.6	1.0	-50.3	-13.0	-37.3	
7.40	-70.8	H	3.0	-13.2	37.8	1.0	-50.0	-13.0	-37.0	
3.70	-47.7	V	3.0	-17.7	38.6	1.0	-56.4	-13.0	-43.4	
6.66	-47.7	V	3.0	-13.9	38.6	1.0	-51.5	-13.0	-38.5	
7.40	-72.6	V	3.0	-14.5	37.8	1.0	-51.4	-13.0	-38.4	
Mid Channel (1885.0)										
3.76	-47.2	H	3.0	-17.1	38.6	1.0	-54.7	-13.0	-41.7	
6.64	-47.8	H	3.0	-13.5	38.6	1.0	-51.1	-13.0	-38.1	
7.62	-71.9	H	3.0	-14.0	37.7	1.0	-50.8	-13.0	-37.8	
3.76	-47.3	V	3.0	-17.7	38.6	1.0	-56.4	-13.0	-43.4	
6.64	-47.3	V	3.0	-13.4	38.6	1.0	-50.9	-13.0	-37.9	
7.62	-70.6	V	3.0	-13.0	37.7	1.0	-49.8	-13.0	-36.8	
High Channel (1909.8MHz)										
3.82	-48.6	H	3.0	-18.4	38.7	1.0	-56.0	-13.0	-43.0	
6.73	-48.6	H	3.0	-13.5	38.6	1.0	-51.0	-13.0	-38.0	
7.64	-70.8	H	3.0	-13.0	37.7	1.0	-49.7	-13.0	-36.7	
3.82	-48.7	V	3.0	-18.9	38.7	1.0	-56.7	-13.0	-43.7	
6.73	-48.2	V	3.0	-15.1	38.6	1.0	-52.6	-13.0	-39.6	
7.64	-70.8	V	3.0	-13.2	37.7	1.0	-49.9	-13.0	-36.9	

GSM 1900MHz GPRS

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: _____ Project #: _____ Date: 03/19/18 Test Engineer: 10649 Configuration: EUT only Mode: EGPRS 1900MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber E	3m Chamber E	Filter	EIRP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.2MHz)										
3.70	-48.7	H	3.0	-18.8	38.6	1.0	-56.4	-13.0	-43.4	
6.66	-47.7	H	3.0	-13.5	38.6	1.0	-51.2	-13.0	-38.2	
7.40	-71.4	H	3.0	-13.7	37.8	1.0	-50.5	-13.0	-37.5	
3.70	-47.8	V	3.0	-18.0	38.6	1.0	-55.6	-13.0	-42.6	
6.66	-47.0	V	3.0	-13.2	38.6	1.0	-50.8	-13.0	-37.8	
7.40	-71.7	V	3.0	-14.2	37.8	1.0	-51.0	-13.0	-38.0	
Mid Channel (1885.0)										
3.76	-48.3	H	3.0	-18.2	38.6	1.0	-55.8	-13.0	-42.8	
6.64	-49.5	H	3.0	-15.3	38.6	1.0	-52.9	-13.0	-39.9	
7.62	-72.1	H	3.0	-14.2	37.7	1.0	-51.0	-13.0	-38.0	
3.76	-47.6	V	3.0	-17.5	38.6	1.0	-55.2	-13.0	-42.2	
6.64	-49.1	V	3.0	-15.2	38.6	1.0	-52.7	-13.0	-39.7	
7.62	-71.0	V	3.0	-13.4	37.7	1.0	-50.1	-13.0	-37.1	
High Channel (1909.8MHz)										
3.82	-47.7	H	3.0	-17.5	38.7	1.0	-55.1	-13.0	-42.1	
6.73	-47.3	H	3.0	-12.9	38.6	1.0	-50.4	-13.0	-37.4	
7.64	-71.1	H	3.0	-13.2	37.7	1.0	-50.0	-13.0	-37.0	
3.82	-47.6	V	3.0	-17.4	38.7	1.0	-55.0	-13.0	-42.0	
6.73	-47.0	V	3.0	-12.9	38.6	1.0	-50.4	-13.0	-37.4	
7.64	-71.6	V	3.0	-14.0	37.7	1.0	-50.7	-13.0	-37.7	

GSM 1900MHz EGPRS

9.4.2. WCDMA

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: _____ Project #: _____ Date: 03/20/18 Test Engineer: 10649 Configuration: EUT Only Mode: REL 99, 1900MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber E	3m Chamber E	Filter	EIRP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1852.48MHz)										
3.70	-41.8	H	3.0	-11.9	38.6	1.0	-49.5	-13.0	-36.5	
6.66	-53.8	H	3.0	-9.7	38.6	1.0	-47.3	-13.0	-34.3	
7.41	-48.0	H	3.0	-8.3	37.8	1.0	-45.1	-13.0	-32.1	
3.70	-42.4	V	3.0	-12.5	38.6	1.0	-50.1	-13.0	-37.1	
6.66	-44.6	V	3.0	-10.9	38.6	1.0	-48.4	-13.0	-35.4	
7.42	-45.9	V	3.0	-8.4	37.8	1.0	-45.2	-13.0	-32.2	
Mid Channel (1880MHz)										
3.76	-40.9	H	3.0	-10.8	38.6	1.0	-48.5	-13.0	-35.5	
6.64	-43.1	H	3.0	-8.8	38.6	1.0	-46.3	-13.0	-33.3	
7.62	-45.3	H	3.0	-7.5	37.7	1.0	-44.2	-13.0	-31.2	
3.76	-42.0	V	3.0	-11.9	38.6	1.0	-49.6	-13.0	-36.6	
6.64	-43.6	V	3.0	-9.7	38.6	1.0	-47.2	-13.0	-34.2	
7.62	-46.2	V	3.0	-8.6	37.7	1.0	-45.3	-13.0	-32.3	
High Channel (1907.48MHz)										
3.81	-42.0	H	3.0	-11.8	38.7	1.0	-49.4	-13.0	-36.4	
6.72	-45.6	H	3.0	-11.1	38.6	1.0	-48.6	-13.0	-35.6	
7.66	-45.4	H	3.0	-7.5	37.7	1.0	-44.1	-13.0	-31.1	
3.82	-42.1	V	3.0	-11.9	38.7	1.0	-49.5	-13.0	-36.5	
6.72	-43.9	V	3.0	-9.8	38.6	1.0	-47.3	-13.0	-34.3	
7.62	-46.7	V	3.0	-8.0	37.7	1.0	-44.6	-13.0	-31.6	

WCDMA Band 2 Rel 99

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: _____ Project #: _____ Date: 03/20/18 Test Engineer: 10649 Configuration: EUT Only Mode: HSDPA 1900MHz Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber E	3m Chamber E	Filter	EIRP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1852.48MHz)										
3.70	-43.6	H	3.0	-13.6	38.6	1.0	-51.2	-13.0	-38.2	
6.66	-43.6	H	3.0	-9.5	38.6	1.0	-47.1	-13.0	-34.1	
7.41	-45.8	H	3.0	-7.9	37.8	1.0	-44.7	-13.0	-31.7	
3.70	-42.7	V	3.0	-12.5	38.6	1.0	-50.1	-13.0	-37.1	
6.66	-44.4	V	3.0	-10.6	38.6	1.0	-48.2	-13.0	-35.2	
7.41	-46.0	V	3.0	-8.5	37.8	1.0	-45.3	-13.0	-32.3	
7.42	-46.3	V	3.0	-8.6	38.6	1.0	-42.1	-13.0	-29.1	
Mid Channel (1880MHz)										
3.76	-42.1	H	3.0	-13.0	38.6	1.0	-49.6	-13.0	-36.6	
6.64	-43.8	H	3.0	-9.8	38.6	1.0	-47.1	-13.0	-34.1	
7.62	-46.1	H	3.0	-8.3	37.7	1.0	-45.1	-13.0	-32.1	
3.76	-41.6	V	3.0	-11.5	38.6	1.0	-49.1	-13.0	-36.1	
6.64	-43.6	V	3.0	-9.7	38.6	1.0	-47.3	-13.0	-34.3	
7.62	-45.6	V	3.0	-8.0	37.7	1.0	-44.8	-13.0	-31.8	
7.60	-46.4	V	3.0	-4.4	38.6	1.0	-41.9	-13.0	-28.9	
High Channel (1907.48MHz)										
3.82	-41.7	H	3.0	-11.4	38.7	1.0	-49.1	-13.0	-36.1	
6.72	-44.4	H	3.0	-10.0	38.6	1.0	-47.5	-13.0	-34.5	
7.62	-46.6	H	3.0	-7.5	37.7	1.0	-44.2	-13.0	-31.2	
3.82	-42.0	V	3.0	-11.7	38.6	1.0	-49.4	-13.0	-36.4	
6.72	-43.9	V	3.0	-9.8	38.6	1.0	-47.3	-13.0	-34.3	
7.62	-45.6	V	3.0	-7.6	37.7	1.0	-44.2	-13.0	-31.2	
7.64	-47.1	V	3.0	-7.0	38.4	1.0	-42.4	-13.0	-29.4	

WCDMA Band 2 HSDPA

10. SETUP PHOTOS

Please refer to 12124121-EP1V1 for setup photos