🖽 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 5-36a: -26 dBc Bandwidth, Band 4 High Channel, 1.4MHz BW, RB=6



Date: 27.205.2018 11:04:04



Figure 5-37a: Band 4 Low Channel Mask, 20MHz BW, RB=100

Figure 5-38a: Band 4 High Channel Mask, 20MHz BW, RB=100



Date: 27.205.2010 14:05:11

Date: 27.205.2018 18:00:20

🖽 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 5-39a: Band 4 Low Channel Mask, 10MHz BW, RB=50



Figure 5-40a: Band 4 High Channel Mask, 10MHz BW, RB=50



Date: 27.205.2018 14:07:11

Date: 27.315.2018 18:07:40





Figure 5-42a: Band 4 High Channel Mask, 1.4MHz BW, RB=6



Date: 27.205.2018 14:00:24

Date: 27.275.2018 14:00:88

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 5-43a: Band 4 Low Channel Mask, 20MHz BW, RB=1



Figure 5-44a: Band 4 High Channel Mask, 20MHz BW, RB=1



Date: 27.705.2018 14:05:07

Date: 27.275.2018 18:00:14

Figure 5-45a: Band 4 Mid Channel PAR, 20MHz BW, RB=50, QPSK

Figure 5-46a: Band 4 Middle Channel Mask, 20MHz BW, RB=100, 16-QAM



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 5-47a: Band 4 Mid Channel PAR, 10MHz BW, RB=25, QPSK

Figure 5-48a: Band 4 Mid Channel PAR, 10MHz BW, RB=50, 16-QAM





Date: 8.552.2018 02:36:18

Date: 8.552.0018 02:06:48

Figure 5-49a: Band 4 Mid Channel PAR, 1.4MHz BW, RB=3, QPSK

Figure 5-50a: Band 4 Middle Channel Mask, 5MHz BW, RB=6, 16-QAM



🖽 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 5-51a: Occupied Bandwidth, Band 4 Low Channel, 20MHz BW (RB= 100) 16-QAM



Figure 5-52a: Occupied Bandwidth, Band 4 Mid Channel, 20MHz BW (RB= 100) 16-QAM



Date: 27.275.2018 11:40:00

Date: 27.315.2315 11:40:11

Figure 5-53a: Occupied Bandwidth, Band 4 High Channel, 20MHz BW (RB= 100) 16-QAM



Date: 27.315.2018 11:45:14

APPENDIX 5B – LTE Band 4 FREQUENCY STABILITY TEST DATA

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

LTE Band 4 Frequency Stability Test Data



The following configurations were measured for model RHK211LW (STV100-1):

The following measurements were performed by Landon Martin.

CFR 47 Chapter 1 - Federal Communications Commission Rules

Part 2 Required Measurements

2.1055 Frequency Stability - Procedures

- (a,b) Frequency Stability Temperature Variation
- (d) Frequency Stability Voltage Variation

The EUT meets the requirements as stated in CFR 47 chapter 1, Section 27.54, CFR 47 and RSS-139, 6.3 Frequency Stability.

Frequency Stability measurement devices were configured as presented in the block diagram recording frequency, power, data, temperatures, and stepped voltages controlled via a GPIB interface linked to the Environmental chamber, a DC power supply, and the Communications Test Set. A 0.9-metre coax cable was calibrated to characterize the insertion loss for the transmitted frequencies between the RF input/output of the CMW 500 and the EUT antenna port.

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B		
Test Report No.: RTS-6066-1510-13C	Dates of Test:FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LWJuly 21 to October 26, 2015IC: 2503A-RHK210LW		

Test Setup:

The EUT was placed in the Temperature chamber and connected to CMW 500 outside as shown in the figure above. Dry air was pumped inside the temperature chamber to maintain a backpressure during the test. The EUT was kept in the off condition at all times except when the following measurements were to be made.

The chamber was switched on and the temperature was set to -30°C. After the chamber stabilized at -30 °C there was a soak period of one hour to alleviate moisture in the chamber, the EUT voltage was enabled.

The system software recorded the frequency, power, and associated measurements.

A Computer system controlled the automated software. This application was given the command of activating all machines intrinsic to the temperature and voltage tests controlling the CMW 500 via the GPIB Bus. The Environmental Chamber was instructed through an RS-232 serial line. The EUT dialogue was passed through a serial connection.

The EUT repetitively transmitted 100 bursts for each set of programmed parameters recording temperature, voltage settings, and systematically selected frequencies. The power supply was cycled from minimum voltage 3.6 volts, to 3.8 volts and to 4.35 volts maximum voltage. The frequency error was measured at a maximum output power and recorded by the automated system test software.

The EUT output power and frequency was measured at 3.6 volts, 3.8 volts and 4.35 volts. The transmit frequency was varied in 3 steps consisting of 1720.0 MHz, 1732.5 MHz and 1745.0 MHz each was measured under 20 MHz bandwidth with maximum (100) RBs. This frequency was recorded in MHz and deviation from nominal, in Parts Per Million.

After the initial one-hour soak at the beginning of the tests, a period of thirty minutes soak was initialized between each ascending temperature step, before proceeding to the next measurement test cycle.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 IC: 2503A-RHK210LW		

Procedure:

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 29. Switch on the HP 6632B power supply; CMW 500 Communications test Set, and Environmental Chamber.
- 30. Start test program
- 31. Set the Temperature to –30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 32. Set power supply voltage to 3.6 volts.
- 33. Set up CMW 500 Radio Communication Tester.
- 34. Command the CMW 500 to switch to the low channel.
- 35. Enable the voltage to the EUT, and connect a link to the CMW 500 test set.
- 36. EUT is commanded to Transmit 100 Bursts.
- 37. Software logs the following data from the CMW 500, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 38. The CMW 500 commands the EUT to change frequency to the middle channel and high channel and repeats steps 7 to 9.
- 39. Repeat steps 5 to 10 changing the supply voltage to 3.8 Volts
- 40. Increase temperature by 10°C and soak for 1/2 hour.
- 41. Repeat steps 4 12 for temperatures –30°C to 60°C.
- 42. Repeat steps 5 to 10 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 3.8 and 4.35 volts

The maximum frequency error in the LTE band 4 measured was **0.0043 PPM**.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

LTE Band 4 results: channels 20050, 20175 and 20300 @ 20°C maximum transmitted power

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20050	1720.0	3.6	20	6.04	0.0035
20175	1732.5	3.6	20	6.35	0.0037
20300	1745.0	3.6	20	-4.33	-0.0025

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20050	1720.0	3.8	20	4.86	0.0028
20175	1732.5	3.8	20	5.12	0.0030
20300	1745.0	3.8	20	-5.36	-0.0031

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20050	1720.0	4.35	20	7.32	0.0043
20175	1732.5	4.35	20	5.21	0.0030
20300	1745.0	4.35	20	-5.04	-0.0029

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B				
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW			
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW			

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20050	1720.0	3.6	-30	5.55	0.0032
20050	1720.0	3.6	-20	5.94	0.0035
20050	1720.0	3.6	-10	5.99	0.0035
20050	1720.0	3.6	0	7.28	0.0042
20050	1720.0	3.6	10	6.24	0.0036
20050	1720.0	3.6	20	6.04	0.0035
20050	1720.0	3.6	30	5.39	0.0031
20050	1720.0	3.6	40	2.99	0.0017
20050	1720.0	3.6	50	5.08	0.0030
20050	1720.0	3.6	60	5.38	0.0031
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20050	1720.0	3.8	-30	4.05	0.0024
20050	1720.0	3.8	-20	7.12	0.0041
20050	1720.0	3.8	-10	4.75	0.0028
20050	1720.0	3.8	0	4.72	0.0027
20050	1720.0	3.8	10	5.95	0.0035
20050	1720.0	3.8	20	4.86	0.0028
20050	1720.0	3.8	30	5.79	0.0034
20050	1720.0	3.8	40	6.64	0.0039
20050	1720.0	3.8	50	7.77	0.0045
20050	1720.0	3.8	60	5.92	0.0034
Traffic Channel Number	Frequency (MHz)	equency Voltage Temperatur (MHz) (Volts) (Celsius)		Frequency Error (Hz)	РРМ
20050	1720.0	4.35	-30	5.87	0.0034
20050	1720.0	4.35	-20	4.63	0.0027
20050	1720.0	4.35	-10	5.34	0.0031
20050	1720.0	4.35	0	3.95	0.0023
20050	1720.0	4.35	10	5.26	0.0031
20050	1720.0	4.35	20	7.32	0.0043
20050	1720.0	4.35	30	4.75	0.0028
20050	1720.0	4.35	40	6.11	0.0036
20050	1720.0	4.35	50	8.10	0.0047
20050	1720.0	4.35	60	3.92	0.0023

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B				
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW			
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW			

LTE band 4 Results: channel 20175 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20175	1732.5	3.6	-30	7.22	0.0042
20175	1732.5	3.6	-20	4.92	0.0028
20175	1732.5	3.6	-10	4.68	0.0027
20175	1732.5	3.6	0	6.79	0.0039
20175	1732.5	3.6	10	4.39	0.0025
20175	1732.5	3.6	20	6.35	0.0037
20175	1732.5	3.6	30	3.75	0.0022
20175	1732.5	3.6	40	5.49	0.0032
20175	1732.5	3.6	50	-4.22	-0.0024
20175	1732.5	3.6	60	4.02	0.0023
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20175	1732.5	3.8	-30	-3.58	-0.0021
20175	1732.5	3.8	-20	4.33	0.0025
20175	1732.5	3.8	-10	4.59	0.0027
20175	1732.5	3.8	0	4.82	0.0028
20175	1732.5	3.8	10	4.71	0.0027
20175	1732.5	3.8	20	5.12	0.0030
20175	1732.5	3.8	30	-5.58	-0.0032
20175	1732.5	3.8	40	4.36	0.0025
20175	1732.5	3.8	50	-4.05	-0.0023
20175	1732.5	3.8	60	4.19	0.0024
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20175	1732.5	4.35	-30	4.73	0.0027
20175	1732.5	4.35	-20	3.83	0.0022
20175	1732.5	4.35	-10	4.49	0.0026
20175	1732.5	4.35	0	5.21	0.0030
20175	1732.5	4.35	10	3.09	0.0018
20175	1732.5	4.35	20	5.21	0.0030
20175	1732.5	4.35	30	4.95	0.0029
20175	1732.5	4.35	40	-3.91	-0.0023
20175	1732.5	4.35	50	-3.02	-0.0017
20175	1732.5	4.35	60	4.72	0.0027

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5B				
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW			
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW			

LTE band 4 Results: channel 20300 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20300	1745.0	3.6	-30	-5.85	-0.0034
20300	1745.0	3.6	-20	-4.26	-0.0024
20300	1745.0	3.6	-10	-4.79	-0.0027
20300	1745.0	3.6	0	3.26	0.0019
20300	1745.0	3.6	10	-3.73	-0.0021
20300	1745.0	3.6	20	-4.33	-0.0025
20300	1745.0	3.6	30	-5.68	-0.0033
20300	1745.0	3.6	40	-4.21	-0.0024
20300	1745.0	3.6	50	-7.24	-0.0041
20300	1745.0	3.6	60	-6.29	-0.0036
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20300	1745.0	3.8	-30	-6.29	-0.0036
20300	1745.0	3.8	-20	-4.81	-0.0028
20300	1745.0	3.8	-10	3.66	0.0021
20300	1745.0	3.8	0	-2.78	-0.0016
20300	1745.0	3.8	10	-4.68	-0.0027
20300	1745.0	3.8	20	-5.36	-0.0031
20300	1745.0	3.8	30	-5.46	-0.0031
20300	1745.0	3.8	40	-6.47	-0.0037
20300	1745.0	3.8	50	-4.45	-0.0025
20300	1745.0	3.8	60	-5.82	-0.0033
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
20300	1745.0	4.35	-30	-6.14	-0.0035
20300	1745.0	4.35	-20	-5.68	-0.0033
20300	1745.0	4.35	-10	-2.78	-0.0016
20300	1745.0	4.35	0	-2.78	-0.0016
20300	1745.0	4.35	10	-3.46	-0.0020
20300	1745.0	4.35	20	-5.04	-0.0029
20300	1745.0	4.35	30	-5.51	-0.0032
20300	1745.0	4.35	40	-4.86	-0.0028
20300	1745.0	4.35	50	-4.46	-0.0026
20300	1745.0	4.35	60	-7.71	-0.0044

APPENDIX 5C - LTE Band 4 RADIATED EMISSIONS TEST DATA

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5C				
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW			
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW			

Radiated Power Test Data Results

The following configurations were measured for model RHK211LW (STV100-1): The following measurements were performed by Savtej Sandhu.

Date of Test: July 23, 2015

24.1 °C The environmental tests conditions were: Temperature:

Relative Humidity: 34.2 %

The BlackBerry® smartphone was standalone, side button pointing down with the LCD facing to the RX antenna when the turntable is at 0 degree position.

Measurements were performed with QPSK and 16QAM modulations. The smallest test margins are reported below.

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height.

								1	Substitutio	n Mothod			
									Substitutio				
	I	EUT		Rx Ante	enna	Spectrum /	Analyzer		Tracking	Generator			
		Frequency				Reading	Max (V.H)	Pol.	Reading	Corrected (relative to Radia	Reading Isotropic ator)	Limit	Diff to Limit
Туре	Ch	(MHz)	Band	Туре	Pol.	(dBuV)	(dBuV)	Tx-Rx	(dBm)	(dBm)	(W)	(dBm)	(dB)
F0	20000	1715.00	4	Horn	V	-21.34	01.04	V-V	-13.41	05 70	0.00	20.00	4 00
F0	20000	1715.00	4	Horn	Н	-23.07	-21.34	H-H	-12.86	25.78	0.38	30.00	4.22
F0	20175	1732.50	4	Horn	V	-21.74	01 74	V-V	-13.50	25.04	0.20	20.00	1.06
F0	20175	1732.50	4	Horn	Н	-23.31	-21.74	H-H	-12.85	25.94	0.39	30.00	4.00
F0	20349	1749.90	4	Horn	V	-22.25	00.05	V-V	-13.43	05 70	0.20	20.00	4 01
F0	20349	1749.90	4	Horn	Н	-22.70	-22.25	H-H	-12.81	25.79	0.38	30.00	4.21

I TE band 4 10MHz BW BB-1 OPSK modulation

LTE band 4, 10MHz BW, RB=1, 16-QAM modulation

									Substitutio	on Method			
EUT			Rx Antenna Spectrum		Analyzer	nalyzer Tracking Generator							
		Frequency				Reading	Max (V,H)	Pol.	Reading	Corrected (relative to Radia	Reading Isotropic ator)	Limit	Diff to Limit
Туре	Ch	(MHz)	Band	Туре	Pol.	(dBuV)	(dBuV)	Tx-Rx	(dBm)	(dBm)	(W)	(dBm)	(dB)
F0	20000	1715.00	4	Horn	V	-21.99	01.00	V-V	-14.01	05 11	0.00	20.00	4 00
F0	20000	1715.00	4	Horn	Н	-23.98	-21.99	H-H	-13.53	25.11	0.32	30.00	4.09
F0	20175	1732.50	4	Horn	V	-22.71	00 71	V-V	-14.53	24.05	0.21	20 00	5.05
F0	20175	1732.50	4	Horn	Н	-23.95	-22.71	H-H	-13.84	24.95	0.51	30.00	5.05
F0	20349	1749.90	4	Horn	V	-23.19	00 10	V-V	-14.50	24 90	0.21	20.00	5 1 1
F0	20349	1749.90	4	Horn	Н	-23.75	-23.19	H-H	-13.71	24.09	0.31	30.00	5.11

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 5C				
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW			
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW			

Radiated Emissions Test Data Results cont'd

The following measurements were performed by Savtej Sandhu.

Date of Test: July 22, 2015

The environmental test conditions were:Temperature:24.8 °CRelative Humidity:34.6 %

The BlackBerry[®] smartphone was standalone, side button point up with LCD facing to the RX antenna when the turntable is at 0 degree position

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in LTE band 4 with QPSK and 16-QAM modulations for 5MHz BW (channel 19975, 20175 and 20374 with RB = 1).

All emissions were at least 25.0 dB below the limit.

The following measurements were performed by Masud Attayi and Xing Fang.

Date of Test: July 22 and 23, 2015

The environmental test conditions were:	Temperature:	26.6 ºC
	Relative Humidity:	30.2 %

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and a frequency range of 1 GHz to 20 GHz.

The BlackBerry[®] smartphone was standalone, side button point up with LCD facing to the RX antenna when the turntable is at 0 degree position

Measurements were performed in LTE band 4 with QPSK and 16-QAM modulations for 5MHz BW (channel 19975, 20175 and 20374 with RB = 1).

All emissions were at least 25.0 dB below the limit.

APPENDIX 6A- LTE Band 12 CONDUCTED RF EMISSIONS TEST DATA/PLOTS

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
-	APPENDIX 6A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

This appendix contains measurement data pertaining to conducted spurious emissions, 99% power bandwidth and the channel mask.

Test Setup Diagram



The following configurations were measured for model RHK211LW (STV100-1):

Date of Test: July 27 – September 3, 2015

The environmental test conditions were:	Temperature:	22.7 – 23.6 ºC
	Relative Humidity:	38.7 – 61.2 %

The following measurements were performed by Sijia Li and Landon Martin.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Emission Designator Table

Frequency Range (MHz)	Conducted Output Power (dBm)	Conducted Output Power (W)	Emission Designator	Band	Bandwidth (MHz)	Modulation
701.5-713.5	22.74	0.19	4M50G7D	LTE B12	5	QPSK
701.5-713.5	22.45	0.18	4M48D7W	LTE B12	5	16QAM
704.0-711.0	22.72	0.19	8M97G7D	LTE B12	10	QPSK
704.0-711.0	22.55	0.18	8M94D7W	LTE B12	10	16QAM

The conducted spurious emissions – As per 47 CFR 2.202, 2.1046, 27.53, 27.54, 27.50 were measured from 30 MHz to 20 GHz.

-26 dBc Bandwidth and Occupied Bandwidth (99%)

the modulation spectrum was measured by both methods of 99% power bandwidth and –26 dBc bandwidth for each 5MHz and 10MHz with different number of RBs for LTE Band 12.

QPSK and 16-QAM modulations were applied to each of the bandwidths. Only the worst case measurements are documented in this report.

A minimum RB condition was also measured ($\dot{RB} = 1$).

The resolution bandwidth required for out-of-band emissions in the 1 MHz bands immediately outside and adjacent to the frequency block, was determined to be at least 1% of the emission bandwidth.

The worst case –26dBc bandwidth for LTE Band 12 was measured to be 9.22 MHz. Results were derived in a 100 kHz resolution bandwidth.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
	APPENDIX 6A	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW

Test Data for LTE Band 12 selected Frequencies in 10MHz BW (RB = 50)

LTE Band 12	26dBc Occupied Bandwidth	99% Occupied Bandwidth
Frequency (MHz)	(MHz)	(MHz)
707.5	9.22	8.966

Test Data for LTE Band 12 selected Frequencies in 5MHz BW (RB = 25)

LTE Band 12 Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
704	4.635	4.495
707.5	4.64	4.471
711	4.615	4.495

Test Data for LTE Band 12 selected Frequencies in 3MHz BW (RB =15)

LTE Band 17 Frequency (MHz)	99% Occupied Bandwidth (MHz)	
	QPSK	16-QAM
700.5	2.70	2.69
707.5	2.69	2.68
714.5	2.70	2.69

Test Data for LTE Band 12 selected Frequencies in 1.4MHz BW (RB =6)

LTE Band 17 Frequency (MHz)	99% Occupied Bandwidth (MHz)	
	QPSK	16-QAM
706	1.09	1.08
707.5	1.10	1.09
709	1.09	1.09

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 6A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Peak to Average Ratio (PAR)

For each 5MHz and 10MHz with Resource Block allocation 50,25 and 15 as per scalable bandwidths for LTE band 12, the peak to average ratio was measured on the low, middle and high channels with QPSK modulation.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

The worst case measured was 9.61 dB on 10MHz bandwidth with Resource Block allocation 25 while transmitting at 707.5MHz.

Measurement Plots for LTE Band 12

See Figures 6-1a to 6-8a for the plots of the conducted spurious emissions. See Figures 6-9a to 6-16a for the plots of 99% Occupied Bandwidth and -26 dBc Bandwidth.

See Figures 6-17a to 6-21a for the plots of the Channel mask.

See Figures 6-22a for the plots of the Peak to Average Ratio.

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 6A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 3-1a: Band 12, Spurious Conducted Emissions, 10MHz BW (RB= 50)



Figure 3-2a: Band 12, Spurious Conducted Emissions, 10MHz BW (RB= 50)



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Figure 3-3a: Band 12, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



Figure 3-4a: Band 12, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
	APPENDIX 6A	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW





Figure 3-6a: Band 12, Spurious Conducted Emissions, High Channel, 5MHz BW (RB= 25)



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Figure 3-7a: Band 12, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



Figure 3-8a: Band 12, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



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Date: 27.705.2018 - 51:00:17

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6A			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Figure 3-9a: Occupied Bandwidth, Band 12 10MHz BW, RB=50



Figure 3-10a: Occupied Bandwidth, Band 5 Low Channel, 5MHz BW, RB=25



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Figure 3-11a: Occupied Bandwidth, Band 5 Middle Channel, 5MHz BW, RB=25



Figure 3-12a: Occupied Bandwidth, Band 5 High Channel, 5MHz BW, RB=25



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6A			
Test Report No.: RTS-6066-1510-13C	Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180 July 21 to October 26, 2015 IC: 2503A-RHK210LW			

Figure 3-13a: -26 dBc Bandwidth, Band 12 Middle Channel, 10MHz BW, RB=50



Figure 3-14a: -26 dBc Bandwidth, Band 12 Low Channel, 5MHz BW, RB=25



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Figure 3-15a: -26 dBc Bandwidth, Band 12 Middle Channel, 5MHz BW, RB=25

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Figure 3-16a: -26 dBc Bandwidth, Band 12 High Channel, 5MHz BW, RB=25



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Test Report No.: RTS-6066-1510-13C	APPENDIX 6A Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 IC: 2503A-RHK210LW			

Figure 3-17a: Band 12 Channel Mask, 10MHz BW, RB=50



Figure 3-17a: Band 12 Channel Mask, 10MHz BW, RB=50



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Figure 3-18a: Band 12 Low Channel Mask, 5MHz BW, RB=1



Date: 29.705.2018 88:90:88

Figure 3-19a: Band 12 Low Channel Mask, 5MHz BW, RB=25



Date: 29.705.2018 \$8:01:01

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6A			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Figure 3-20a: Band 12 High Channel Mask, 5MHz BW, RB=1



Figure 3-21a: Band 12 High Channel Mask, 5MHz BW, RB=25



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Figure 3-22a: Band 12 PAR, 10MHz BW, RB=25



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APPENDIX 6B - LTE Band 12 FREQUENCY STABILITY TEST DATA

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW		
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW		

LTE Band 12 Frequency Stability Test Data



The following measurements were performed by Sijia Li.

CFR 47 Chapter 1 - Federal Communications Commission Rules

Part 2 Required Measurements

2.1055 Frequency Stability - Procedures

- (a,b) Frequency Stability Temperature Variation
- (d) Frequency Stability Voltage Variation

The EUT meets the requirements as stated in CFR 47 chapter 1, Section 27.54, Frequency Stability.

Frequency Stability measurement devices were configured as presented in the block diagram recording frequency, power, data, temperatures, and stepped voltages controlled via a GPIB interface linked to the Environmental chamber, a DC power supply, and the Communications Test Set. A 0.9-metre coax cable was calibrated to characterize the insertion loss for the transmitted frequencies between the RF input/output of the CMW 500 and the EUT antenna port.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Test Setup:

The EUT was placed in the Temperature chamber and connected to CMW 500 outside as shown in the figure above. Dry air was pumped inside the temperature chamber to maintain a backpressure during the test. The EUT was kept in the off condition at all times except when the following measurements were to be made.

The chamber was switched on and the temperature was set to -30°C. After the chamber stabilized at -30 °C there was a soak period of one hour to alleviate moisture in the chamber, the EUT voltage was enabled.

The system software recorded the frequency, power, and associated measurements.

A Computer system controlled the automated software. This application was given the command of activating all machines intrinsic to the temperature and voltage tests controlling the CMW 500 via the GPIB Bus. The Environmental Chamber was instructed through an RS-232 serial line. The EUT dialogue was passed through a serial connection.

The EUT repetitively transmitted 100 bursts for each set of programmed parameters recording temperature, voltage settings, and systematically selected frequencies. The power supply was cycled from minimum voltage 3.6 volts, 3.8 volts and to 4.35 volts maximum voltage. The frequency error was measured at a maximum output power and recorded by the automated system test software.

The EUT output power and frequency was measured at 3.6 volts, 3.8 volts and 4.35 volts. The transmit frequency was measured on 782MHz for 10MHz bandwidth with maximum (50) RB. The transmit frequency was varied in 3 steps consisting of 779.5 MHz, 782.0 MHz and 784.5 MHz each was measured under 5 MHz bandwidth with maximum (25) RBs. This frequency was recorded in MHz and deviation from nominal, in Parts Per Million.

After the initial one-hour soak at the beginning of the tests, a period of thirty minutes soak was initialized between each ascending temperature step, before proceeding to the next measurement test cycle.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Procedure:

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 43. Switch on the HP 6632B power supply; CMW 500 Communications test Set, and Environmental Chamber.
- 44. Start test program
- 45. Set the Temperature to –30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 46. Set power supply voltage to 3.6 volts.
- 47. Set up CMW 500 Radio Communication Tester.
- 48. Command the CMW 500 to switch to the low channel.
- 49. Enable the voltage to the EUT, and connect a link to the CMW 500 test set.
- 50. EUT is commanded to Transmit 100 Bursts.
- 51. Software logs the following data from the CMW 500, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 52. The CMW 500 commands the EUT to change frequency to the middle channel and high channel and repeats steps 7 to 9.
- 53. Repeat steps 5 to 10 changing the supply voltage to 3.8 Volts
- 54. Increase temperature by 10°C and soak for 1/2 hour.
- 55. Repeat steps 4 12 for temperatures –30°C to 60°C.
- 56. Repeat steps 5 to 10 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 3.8 and 4.35 volts

The following configurations were measured for model RHK211LW (STV100-1):

The maximum frequency error in the LTE Band 12 measured was 0.0058 PPM.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

The following configurations were measured for model RHK211LW (STV100-1):

Date of test: April 25, 2015

LTE Band 12 results (10MHz Bandwidth): char	nels 23060, 23095 and 23129 @ 20°C
maximum transmitted	power

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23060	704	3.6	20	-3.09	-0.0044
23095	707.5	3.6	20	3.85	0.0054
23129	710.9	3.6	20	3.85	0.0054

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23060	704	3.8	20	3.68	0.0052
23095	707.5	3.8	20	4.09	0.0058
23129	710.9	3.8	20	3.30	0.0046

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23060	704	4.35	20	3.45	0.0049
23095	707.5	4.35	20	3.86	0.0055
23129	710.9	4.35	20	3.78	0.0053

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

LTE Band 12 Results (10MHz Bandwidth): channel 23060 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23060	704	3.6	-30	-2.37	-0.0034
23060	704	3.6	-20	2.52	0.0036
23060	704	3.6	-10	3.45	0.0049
23060	704	3.6	0	4.68	0.0066
23060	704	3.6	10	2.69	0.0038
23060	704	3.6	20	-3.09	-0.0044
23060	704	3.6	30	3.63	0.0052
23060	704	3.6	40	-3.82	-0.0054
23060	704	3.6	50	-3.81	-0.0054
23060	704	3.6	60	-3.03	-0.0043

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23060	704	3.8	-30	1.97	0.0028
23060	704	3.8	-20	3.46	0.0049
23060	704	3.8	-10	3.39	0.0048
23060	704	3.8	0	1.65	0.0023
23060	704	3.8	10	-2.90	-0.0041
23060	704	3.8	20	3.68	0.0052
23060	704	3.8	30	2.57	0.0037
23060	704	3.8	40	-2.53	-0.0036
23060	704	3.8	50	-2.22	-0.0031
23060	704	3.8	60	-2.88	-0.0041

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23060	704	4.35	-30	-2.99	-0.0042
23060	704	4.35	-20	-2.79	-0.0040
23060	704	4.35	-10	2.99	0.0042
23060	704	4.35	0	1.66	0.0024
23060	704	4.35	10	-2.22	-0.0031
23060	704	4.35	20	3.45	0.0049
23060	704	4.35	30	-5.18	-0.0074
23060	704	4.35	40	-3.05	-0.0043
23060	704	4.35	50	2.06	0.0029
23060	704	4.35	60	3.25	0.0046

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW		
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW		

LTE Band 12 Results(5MHz Bandwidth): channel 23095 @ maximum transmitted power (cont'd)

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23095	707.5	3.6	-30	3.58	0.0051
23095	707.5	3.6	-20	3.73	0.0053
23095	707.5	3.6	-10	3.13	0.0044
23095	707.5	3.6	0	1.92	0.0027
23095	707.5	3.6	10	3.65	0.0052
23095	707.5	3.6	20	3.85	0.0054
23095	707.5	3.6	30	2.93	0.0041
23095	707.5	3.6	40	-4.11	-0.0058
23095	707.5	3.6	50	-3.08	-0.0043
23095	707.5	3.6	60	-3.60	-0.0051

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23095	707.5	3.8	-30	2.23	0.0032
23095	707.5	3.8	-20	-2.55	-0.0036
23095	707.5	3.8	-10	3.42	0.0048
23095	707.5	3.8	0	3.10	0.0044
23095	707.5	3.8	10	-2.57	-0.0036
23095	707.5	3.8	20	4.09	0.0058
23095	707.5	3.8	30	2.63	0.0037
23095	707.5	3.8	40	-3.30	-0.0047
23095	707.5	3.8	50	1.90	0.0027
23095	707.5	3.8	60	-3.39	-0.0048

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23095	707.5	4.35	-30	-4.28	-0.0060
23095	707.5	4.35	-20	-2.80	-0.0040
23095	707.5	4.35	-10	2.00	0.0028
23095	707.5	4.35	0	5.01	0.0071
23095	707.5	4.35	10	-2.52	-0.0036
23095	707.5	4.35	20	3.86	0.0055
23095	707.5	4.35	30	2.79	0.0039
23095	707.5	4.35	40	-4.03	-0.0057
23095	707.5	4.35	50	-3.22	-0.0045
23095	707.5	4.35	60	1.97	0.0028

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

LTE Band 12 Results(5MHz Bandwidth): channel 23129 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23129	710.9	3.6	-30	3.83	0.0054
23129	710.9	3.6	-20	3.81	0.0054
23129	710.9	3.6	-10	3.46	0.0049
23129	710.9	3.6	0	-2.20	-0.0031
23129	710.9	3.6	10	3.56	0.0050
23129	710.9	3.6	20	3.85	0.0054
23129	710.9	3.6	30	2.46	0.0035
23129	710.9	3.6	40	-3.09	-0.0043
23129	710.9	3.6	50	-2.13	-0.0030
23129	710.9	3.6	60	-3.35	-0.0047

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23129	710.9	3.8	-30	2.16	0.0030
23129	710.9	3.8	-20	-3.91	-0.0055
23129	710.9	3.8	-10	3.00	0.0042
23129	710.9	3.8	0	-1.69	-0.0024
23129	710.9	3.8	10	-2.92	-0.0041
23129	710.9	3.8	20	3.30	0.0046
23129	710.9	3.8	30	-3.00	-0.0042
23129	710.9	3.8	40	-2.99	-0.0042
23129	710.9	3.8	50	1.80	0.0025
23129	710.9	3.8	60	-2.96	-0.0042

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23129	710.9	4.35	-30	-3.25	-0.0046
23129	710.9	4.35	-20	-2.39	-0.0034
23129	710.9	4.35	-10	2.83	0.0040
23129	710.9	4.35	0	4.61	0.0065
23129	710.9	4.35	10	3.56	0.0050
23129	710.9	4.35	20	3.78	0.0053
23129	710.9	4.35	30	2.02	0.0028
23129	710.9	4.35	40	3.75	0.0053
23129	710.9	4.35	50	-2.76	-0.0039
23129	710.9	4.35	60	-2.70	-0.0038

Procedure for IC:

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 1. Switch on the HP 6632B power supply; CMW 500 Communications test Set, and Environmental Chamber.
- 2. Start test program
- 3. Set the Temperature to -30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 4. Set power supply voltage to 3.6 volts.
- 5. Set up CMW 500 Radio Communication Tester.
- 6. Command the CMW 500 to switch to the low channel.
- 7. Enable the voltage to the EUT, and connect a link to the CMW 500 test set.
- 8. EUT is commanded to Transmit 100 Bursts.
- Software logs the following data from the CMW 500, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 10. Using a resolution bandwidth equal to that permitted within the 1MHz band immediately outside the channel edge, reference points will be selected at the unwanted emission levels which comply with the attenuation 43 + 10 log10 p, for the type of device under test, on the emission mask of the lowest and highest channels, and the frequency at these points shall be recorded as fL and fH respectively.
- 11. The frequency stability is calculated by fL minus the frequency offset (frequency error measured in step 9) and fH plus the frequency offset shall be within the frequency range that the equipment is designed to operate (2.5 to 2.57 GHz).
- 12. The CMW 500 commands the EUT to change frequency to the high channel and repeats steps 7 to 11.
- 13. Repeat steps 5 to 12 changing the supply voltage to 3.8 Volts
- 14. Increase temperature to 20 and 50°C and soak for 1/2 hour.
- 15. Repeat steps 4 14 for temperatures –30°C to 60°C.
- 16. Repeat steps 5 to 15 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 3.8 and 4.35 volts
SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B					
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW				

Date of test: Sept 2, 2015.

IC RSS – 130, 4.3 LTE Band 12 Frequency Stability.

LTE Band 12 10MHz Bandwidth results: channels 23060, & 23129 @ 20°C maximum transmitted power

Traffic Channel Number	LTE Band 12 Frequency (MHz)	Voltage (Volts)	Temperatur e (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23060	704	3.6	20	-2.489	700.585	N/A	700.585	N/A
23129	710.9	3.6	20	-3.576	N/A	713.980	N/A	713.980

Traffic Channel Number	LTE Band 12 Frequency (MHz)	Voltage (Volts)	Temperatur e (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23060	704	3.8	20	-2.074	700.585	N/A	700.585	N/A
23129	710.9	3.8	20	2.661	N/A	714.205	N/A	714.205

Traffic Channel Number	LTE Band 12 Frequency (MHz)	Voltage (Volts)	Temperatur e (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23060	704	4.35	20	-3.204	700.705	N/A	700.705	N/A
23129	710.9	4.35	20	-3.018	N/A	714.340	N/A	714.340

SlackBerry.	EMC Test Report for the Black RHM181LW (STV100-4), RHT	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), AMM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6B					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW					
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW					

LTE Band 12 10MHz Bandwidth results: channels 23060, & 23129 @ -30 and +60°C maximum transmitted power

Traffic Channel Number	LTE Band 12 Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23060	704	3.6	-30	2.346	700.615	N/A	700.615	N/A
23129	710.9	3.6	-30	-2.460	N/A	711.055	N/A	711.055
23060	704	3.8	-30	2.632	700.600	N/A	700.600	N/A
23129	710.9	3.8	-30	3.390	N/A	713.710	N/A	713.710
23060	704	4.35	-30	2.918	700.600	N/A	700.600	N/A
23129	710.9	4.35	-30	-2.832	N/A	711.760	N/A	711.760
23060	704	3.6	60	-3.076	700.600	N/A	700.600	N/A
23129	710.9	3.6	60	2.317	N/A	714.340	N/A	714.340
23060	704	3.8	60	-3.004	700.600	N/A	700.600	N/A
23129	710.9	3.8	60	-2.875	N/A	714.325	N/A	714.325
23060	704	4.35	60	2.146	700.570	N/A	700.570	N/A
23129	710.9	4.35	60	-2.460	N/A	714.265	N/A	714.265

APPENDIX 6C - LTE Band 12 RADIATED EMISSIONS TEST DATA

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

Radiated Power Test Data Results

The following configurations were measured for model RHK211LW (STV100-1): The following measurements were performed by Shiva Kumbham.

Date of Test: August 11, 2015

The environmental tests conditions were: Temperature: 25.5 °C

Relative Humidity: 35.6 %

The BlackBerry[®] smartphone was standalone, with horizontal top pointing up the RX antenna when the turntable is at 0 degree position.

Measurements were performed with QPSK and 16QAM modulations. The smallest test margins are reported below.

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height.

				4.1.4									
		гит						Substitution Method					
		EUT		Rx Anter	nna	Spectrum /	Analyzer		Tracking (Generator			
_	ä	Frequency		-		Reading	Max (V H)	Pol.	Reading	Corrected (relative t	l Reading o Dipole)		Diff. To
Туре	Ch	(MHz)	Band	Гуре	Pol.	(dBm)	(dBm)	Tx-Rx	(dBm)	(dBm)	(W)	Limit (dBm)	Limit (dB)
F0	23035	701.50	12	Dipole	V	-45.71	20 66	V-V	1.94	20.22	0 11	25 00	14 77
F0	23035	701.50	12	Dipole	Н	-30.66	-30.00	H-H	-0.54	20.23	0.11	35.00	14.77
F0	23095	707.50	12	Dipole	V	-45.24	20.20	V-V	3.16	01 40	0.14	25 00	10 50
F0	23095	707.50	12	Dipole	Н	-29.38	-29.30	H-H	0.60	21.40	0.14	35.00	13.52
F0	23154	713.40	12	Dipole	V	-45.39	20.22	V-V	3.91	00 17	0.16	25 00	10.00
F0	23154	713.40	12	Dipole	Н	-29.22	-29.22	H-H	0.97	22.17	0.16	35.00	12.03

LTE Band 12, 5MHz BW, RB=1, QPSK modulation

LTE Band 12, 5MHz BW, RB=1, 16QAM modulation

								Substitution Method					
		LUI		Rx Antenna		Spectrum Analyzer		Tracking Generator					
Type	Ch	Frequency	Band	Type	Pol	Reading	Max (V,H)	Pol.	Reading	Corrected (relative t	l Reading to Dipole)		Diff. To
туре	OII	(MHz)	Danu	туре	1 01.	(dBm)	(dBm)	Tx-Rx	(dBm)	(dBm)	(W)	Limit (dBm)	Limit (dB)
F0	23060	704.00	12	Dipole	V	-45.99	-30 80	V-V	1.56	10.85	0 10	35.00	15 15
F0	23060	704.00	12	Dipole	Н	-30.80	-30.80	H-H	-0.80	19.05	0.10	55.00	13.13
F0	23095	707.50	12	Dipole	V	-45.53	20.25	V-V	2.23	20 55	0.11	25.00	14 45
F0	23095	707.50	12	Dipole	Н	-30.25	-30.25	H-H	-0.28	20.55	0.11	35.00	14.45
F0	23129	710.90	12	Dipole	V	-45.86	20.06	V-V	2.88	01 14	0 12	25.00	12.06
F0	23129	710.90	12	Dipole	Н	-30.06	-30.00	H-H	0.01	21.14	0.13	35.00	13.00

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 6C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

Radiated Emissions Test Data Results cont'd

The following measurements were performed by Savtej Sandhu.

Date of Test: August 10, 2015

The environmental test conditions were:Temperature:26.8 °CRelative Humidity:33.2 %

The BlackBerry[®] smartphone was standalone, with horizontal pointing up and top facing the RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in LTE Band 12 with 5MHz BW (channel 23060, 23095 and 23129 with RB = 1) with QPSK modulation. and 10MHz BW (channel 23060, 23095 and 23129 with RB = 1), with 16-QAM modulation.

All emissions had test margins greater than 25.0 dB.

The following measurements were performed by Xing Fang and Winston Vernon.

Date of Test: August 10-11, 2015

The environmental test conditions were:	Temperature:	27.9 ºC
	Relative Humidity:	39.7 %

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height, and a frequency range of 1 GHz to 10 GHz.

The BlackBerry[®] smartphone was standalone, horizontal with top facing to the RX antenna when the turntable is at 0 degree position

Measurements were performed in LTE Band 12 with 5MHz BW (channel 23060, 23095 and 23129 with RB = 1) with QPSK modulation. and 10MHz BW (channel 23060, 23095 and 23129 with RB = 1), with 16-QAM modulation.

All emissions had test margins greater than 25.0 dB.

APPENDIX 7A- LTE Band 17 CONDUCTED RF EMISSIONS TEST DATA/PLOTS

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

This appendix contains measurement data pertaining to conducted spurious emissions, 99% power bandwidth and the channel mask.

Test Setup Diagram



A reference offset of 31.4 dB was applied to the spectrum analyzer reference level for the attenuators and coaxial cable loss in the test circuit.

UNIT	MANUFACTURER	MODEL	<u>SERIAL</u> NUMBER
Attenuator 1	Mini-Circuits	BW-S6W2+	0647
Attenuator 2	Mini-Circuits	BW-S6W2+	0648
Attenuator 3	Mini-Circuits	BW-S20-2W263+	1234
Splitter 1	Weinschel	1515	MES 92

The following configurations were measured for model RHK211LW (STV100-1):

Date of Test: July 27 to September 3, 2015.

The environmental test conditions were:	Temperature:	21.9 – 24.3ºC
	Relative Humidity:	38.7 – 61.60%

The following measurements were performed by Sijia Li and Landon Martin.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Emission Designator Table

Frequency Range (MHz)	Conducted Output Power (dBm)	Conducted Output Power (W)	Emission Designator	Band	Bandwidth (MHz)	Modulation
706.5-713.5	22.69	0.19	4M49G7D	LTE B17	5	QPSK
706.5-713.5	21.79	0.15	4M48D7W	LTE B17	5	16QAM
709-711	22.78	0.19	8M97G7D	LTE B17	10	QPSK
709-711	22.56	0.18	8M99D7W	LTE B17	10	16QAM

The conducted spurious emissions – As per 47 CFR 2.202, 2.1046, 27.53, 27.54, 27.50, RSS-139 were measured from 30 MHz to 20 GHz.

-26 dBc Bandwidth and Occupied Bandwidth (99%)

the modulation spectrum was measured by both methods of 99% power bandwidth and -26 dBc bandwidth for each 5MHz and 10MHz with Resource Block allocations 50 and 25 for LTE band 17.

QPSK and 16-QAM modulations were applied to each of the bandwidths. Only the worst case measurements are documented in this report.

The resolution bandwidth required for out-of-band emissions in the 1 MHz bands immediately outside and adjacent to the frequency block, was determined to be at least 1% of the emission bandwidth.

The worst case –26dBc bandwidth for LTE band 17 was measured to be 9.26MHz. Results were derived in a 100 kHz resolution bandwidth.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Test Data for LTE Band 17 selected Frequencies in 10MHz BW (RB = 50)

LTE Band 17 Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	
	QPSK	QPSK	16-QAM
709.0	9.2	8.966	8.966
710.0	9.2	8.966	8.966
711.0	9.26	8.966	8.990

Test Data for LTE Band 17 selected Frequencies in 5MHz BW (RB = 25)

LTE Band 17 Frequency (MHz)	99% Occupied Bandwidth (MHz)	
	QPSK	16-QAM
706.5	4.483	4.483
710	4.483	4.483
713.5	4.495	4.483

Peak to Average Ratio (PAR)

For each 5MHz and 10MHz with Resource Block allocations 50,25 and 15 as per scalable bandwidths for LTE band 17, the peak to average ratio was measured on the low, middle and high channels with QPSK modulation.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

The worst case measured was 8.05 dB on in 10MHz bandwidth with Resource Block allocation 25.

Measurement Plots for LTE Band 17

See Figures 7-1a to 7-12a for the plots of the conducted spurious emissions.

See Figures 7-19a to 7-24a and 7-37a to 7-39a for the plots of 99% Occupied Bandwidth and -26 dBc Bandwidth.

See Figures 7-25a to 7-32a for the plots of the Channel mask.

See Figures 7-33a to 7-36a for the plots of the Peak to Average Ratio.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 6-1a: Band 17, Spurious Conducted Emissions, Low channel, 10MHz BW (RB= 1)



Figure 6-2a: Band 17, Spurious Conducted Emissions, Low channel, 10MHz BW (RB= 1)



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Figure 6-3a: Band 17, Spurious Conducted Emissions, Middle channel, 10MHz BW (RB= 25)

Figure 6-4a: Band 17, Spurious Conducted Emissions, Middle channel, 10MHz BW (RB= 25)



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Date: 27.275.2018 -85:14:42

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 6-5a: Band 17, Spurious Conducted Emissions, High Channel, 10MHz BW (RB= 50)



Figure 6-6a: Band 17, Spurious Conducted Emissions, High Channel, 10MHz BW (RB= 50)



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Figure 6-7a: Band 17, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



Figure 6-8a: Band 17, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



Date: 27.205.2018 05:18:00

Date: 27.205.2018 25:10:44

Date: 27.375.2018 - 25:17:10

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
Test Report No.: RTS-6066-1510-13C	Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 IC: 2503A-RHK210LW	

Figure 6-9a: Band 17, Spurious Conducted Emissions, Middle Channel, 5MHz BW (RB= 15)



Figure 6-10a: Band 17, Spurious Conducted Emissions, High Channel, 5MHz BW (RB= 15)



Date: 27.275.2016 55:19:46

Figure 6-11a: Band 17, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



Date: 27.205.2018 58:21:04

Date: 27.305.2018 58:00:04

Figure 6-12a: Band 17, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



Date: 27.705.2018 \$8:21:20

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 6-13a: Occupied Bandwidth, Band 17 Low Channel, 10MHz BW, RB=50



Figure 6-14a: Occupied Bandwidth, Band 17 Middle Channel, 10MHz BW, RB=50



Date: 27.375.2018 18:02:14

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Figure 6-15a: Occupied Bandwidth, Band 17 High Channel, 10MHz BW, RB=50



Date: 27.205.2018 10:00:43

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 6-16a: Occupied Bandwidth, Band 5 Low Channel, 5MHz BW, RB=50



Figure 6-17a: Occupied Bandwidth, Band 5 Middle Channel, 5MHz BW, RB=50



Date: 27.205.2018 10:00:00

Date: 27.305.2018 10:07:15

Figure 6-18a: Occupied Bandwidth, Band 5 High Channel, 5MHz BW, RB=50



Date: 27.205.2018 10:07:44

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 6-19a: -26 dBc Bandwidth, Band 17 Low Channel, 10MHz BW, RB=50



Figure 6-20a: -26 dBc Bandwidth, Band 17 Middle Channel, 10MHz BW, RB=50



Date: 27.305.2018 18:18:87

Date: 27.305.2018 18:19:11

Figure 6-21a: -26 dBc Bandwidth, Band 17 High

Channel, 10MHz BW, RB=50

Figure 6-22a: -26 dBc Bandwidth, Band 17 Low Channel, 5MHz BW, RB=25



Date: 27.375.2018 15:19:04

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A		
Test Report No.: RTS-6066-1510-13C	Dates of Test:FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LWJuly 21 to October 26, 2015IC: 2503A-RHK210LW		

Figure 6-23a: -26 dBc Bandwidth, Band 17 Middle Channel, 5MHz BW, RB=25



Figure 6-24a: -26 dBc Bandwidth, Band 17 High Channel, 5MHz BW, RB=25



Date: 27.775.2016 18:00:00

Date: 27.705.2010 10:00:14



Figure 6-25a: Band 17 Low Channel Mask, 10MHz BW, RB=50

Date: 29.705.2018 55:10:21

Figure 6-26a: Band 17 High Channel Mask, 10MHz BW, RB=50



SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 6-27a: Band 17 Low Channel Mask, 10MHz BW, RB=1



Figure 6-28a: Band 17 High Channel Mask,10MHz BW, RB=1



Date: 29.705.2018 00:12:40

Figure 6-29a: Band 17 Low Channel Mask, 5MHz BW, RB=25



Figure 6-30a: Band 17 High Channel Mask, 5MHz BW, RB=25



Date: 29.775.2018 05:14:00

Date: 29.705.2018 - 55:14:50

Date: 29.775.2318 -85:10:11

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Date: 29.705.2015 05:14:19

Figure 6-31a: Band 17 Low Channel Mask, 5MHz BW, RB=1



Figure 6-32a: Band 17 High Channel Mask, 5MHz BW, RB=1



Date: 29,705.2018 05:10:00

Figure 6-33a: Band 17 Mid Channel PAR, 10MHz BW, RB=25

Figure 6-34a: Band 17 Middle Channel PAR, 10MHz BW, RB=50



SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Figure 6-35a: Band 17 Mid Channel PAR, 5MHz BW, RB=15

Figure 6-36a: Band 17 Mid Channel PAR, 5MHz BW, RB=25

	/			
		1		
England	app Complete		dation function (1999) models)	
	Track	e 1		
Maan	15.49	dBm		
Pask	23.01	dBm		
Crest	7.53	dB		
10 9	3.53	dB		
1.6	5.51	dB		
.1 9	6.54	dB		
.01 9	7.24	dB		



Date: 8.552.0018 04:46:54

Date: 8.552.0018 04:87:00

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7A			
Test Report No.: RTS-6066-1510-13C	Dates of Test:FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LWJuly 21 to October 26, 2015IC: 2503A-RHK210LW			

Figure 6-37a: Occupied Bandwidth, Band 17 Low Channel, 10MHz BW (RB= 50) 16-QAM



Figure 6-38a: Occupied Bandwidth, Band 17 Mid Channel, 10MHz BW (RB= 50) 16-QAM



Date: 27.205.2018 10:04:30

Date: 27.205.2018 18:05:00

Figure 6-39a: Occupied Bandwidth, Band 17 High Channel, 10MHz BW (RB= 50) 16-QAM



Date: 27.305.2010 10:05:00

APPENDIX 7B - LTE Band 17 FREQUENCY STABILITY TEST DATA

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

LTE Band 17 Frequency Stability Test Data



The following configurations were measured for model RHK211LW (STV100-1):

The following measurements were performed by Sijia Li.

CFR 47 Chapter 1 - Federal Communications Commission Rules

Part 2 Required Measurements

2.1055 Frequency Stability - Procedures

- (a,b) Frequency Stability Temperature Variation
- (d) Frequency Stability Voltage Variation

The EUT meets the requirements as stated in CFR 47 chapter 1, Section 27.54, CFR 47 and RSS-139, 6.3 Frequency Stability.

Frequency Stability measurement devices were configured as presented in the block diagram recording frequency, power, data, temperatures, and stepped voltages controlled via a GPIB interface linked to the Environmental chamber, a DC power supply, and the Communications Test Set. A 0.9-metre coax cable was calibrated to characterize the insertion loss for the transmitted frequencies between the RF input/output of the CMW 500 and the EUT antenna port.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 7B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Test Setup:

The EUT was placed in the Temperature chamber and connected to CMW 500 outside as shown in the figure above. Dry air was pumped inside the temperature chamber to maintain a backpressure during the test. The EUT was kept in the off condition at all times except when the following measurements were to be made.

The chamber was switched on and the temperature was set to -30°C. After the chamber stabilized at -30 °C there was a soak period of one hour to alleviate moisture in the chamber, the EUT voltage was enabled.

The system software recorded the frequency, power, and associated measurements.

A Computer system controlled the automated software. This application was given the command of activating all machines intrinsic to the temperature and voltage tests controlling the CMW 500 via the GPIB Bus. The Environmental Chamber was instructed through an RS-232 serial line. The EUT dialogue was passed through a serial connection.

The EUT repetitively transmitted 100 bursts for each set of programmed parameters recording temperature, voltage settings, and systematically selected frequencies. The power supply was cycled from minimum voltage 3.6 volts, to 3.8 volts and to 4.35 volts maximum voltage. The frequency error was measured at a maximum output power and recorded by the automated system test software.

The EUT output power and frequency was measured at 3.6 volts, 3.8 volts and 4.35 volts. The transmit frequency was varied in 3 steps consisting of 709.0 MHz, 710.0 MHz and 711.0 MHz each was measured under 10 MHz bandwidth with maximum (50) RBs. This frequency was recorded in MHz and deviation from nominal, in Parts Per Million.

After the initial one-hour soak at the beginning of the tests, a period of thirty minutes soak was initialized between each ascending temperature step, before proceeding to the next measurement test cycle.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)			
	APPENDIX 7B			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LWIC: 2503A-RHK210LW			

Procedure:

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 57. Switch on the HP 6632B power supply; CMW 500 Communications test Set, and Environmental Chamber.
- 58. Start test program
- 59. Set the Temperature to –30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 60. Set power supply voltage to 3.6 volts.
- 61. Set up CMW 500 Radio Communication Tester.
- 62. Command the CMW 500 to switch to the low channel.
- 63. Enable the voltage to the EUT, and connect a link to the CMW 500 test set.
- 64. EUT is commanded to Transmit 100 Bursts.
- 65. Software logs the following data from the CMW 500, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 66. The CMW 500 commands the EUT to change frequency to the middle channel and high channel and repeats steps 7 to 9.
- 67. Repeat steps 5 to 10 changing the supply voltage to 3.8 Volts
- 68. Increase temperature by 10°C and soak for 1/2 hour.
- 69. Repeat steps 4 12 for temperatures –30°C to 60°C.
- 70. Repeat steps 5 to 10 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 3.8 and 4.35 volts

The maximum frequency error in the LTE band 17 measured was -0.0045 PPM.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B		
Test Report No.: RTS-6066-1510-13C	Dates of Test:FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LWJuly 21 to October 26, 2015IC: 2503A-RHK210LW		

LTE Band 17 results: channels 23780, 23790 and 23800 @ 20°C maximum transmitted power

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23780	709.0	3.6	20	2.33	0.0033
23790	710.0	3.6	20	-1.90	-0.0027
23800	711.0	3.6	20	-3.18	-0.0045

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Voltage Temperature (Volts) (Celsius)		РРМ
23780	709.0	3.8	20	1.80	0.0025
23790	710.0	3.8	20	2.70	0.0038
23800	711.0	3.8	20	-2.93	-0.0041

Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)Temperature (Celsius)		Frequency Error (Hz)	РРМ
23780	709.0	4.35	20	2.09	0.0029
23790	710.0	4.35	20	2.43	0.0034
23800	711.0	4.35	20	-2.23	-0.0031

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW			

LTE band 17 Results: channel 23780 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ	
23780	709.0	3.6	-30	-2.33	-0.0033	
23780	709.0	3.6	-20	2.72	0.0038	
23780	709.0	3.6	-10	-2.53	-0.0036	
23780	709.0	3.6	0	3.20	0.0045	
23780	709.0	3.6	10	-1.44	-0.0020	
23780	709.0	3.6	20	2.33	0.0033	
23780	709.0	3.6	30	-2.62	-0.0037	
23780	709.0	3.6	40	-2.82	-0.0040	
23780	709.0	3.6	50	-2.88	-0.0041	
23780	709.0	3.6	60	-2.06	-0.0029	
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ	
23780	709.0	3.8	-30	-2.25	-0.0032	
23780	709.0	3.8	-20	-2.70	-0.0038	
23780	709.0	3.8	-10	2.43	0.0034	
23780	709.0	3.8	0	3.25	0.0046	
23780	709.0	3.8	10	1.65	0.0023	
23780	709.0	3.8	20	1.80	0.0025	
23780	709.0	3.8	30	-3.33	-0.0047	
23780	709.0	3.8	40	-2.07	-0.0029	
23780	709.0	3.8	50	-3.10	-0.0044	
23780	709.0	3.8	60	-2.98	-0.0042	
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ	
23780	709.0	4.35	-30	3.18	0.0045	
23780	709.0	4.35	-20	-2.06	-0.0029	
23780	709.0	4.35	-10	-1.90	-0.0027	
23780	709.0	4.35	0	3.76	0.0053	
23780	709.0	4.35	10	2.66	0.0038	
23780	709.0	4.35	20	2.09	0.0029	
23780	709.0	4.35	30	-3.76	-0.0053	
23780	709.0	4.35	40	2.55	0.0036	
23780	709.0	4.35	50	-2.62	-0.0037	
23780	709.0	4.35	60	2.17	0.0031	

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW			

LTE band 5 Results: channel 23790 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23790	710.0	3.6	-30	-2.70	-0.0038
23790	710.0	3.6	-20	-1.90	-0.0027
23790	710.0	3.6	-10	-2.29	-0.0032
23790	710.0	3.6 0		3.56	0.0050
23790	710.0	3.6	3.6 10		0.0036
23790	710.0	3.6	20	-1.90	-0.0027
23790	710.0	3.6	30	1.24	0.0018
23790	710.0	3.6	40	-2.85	-0.0040
23790	710.0	3.6	50	1.63	0.0023
23790	710.0	3.6	60	2.57	0.0036
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23790	710.0	3.8	-30	-1.50	-0.0021
23790	710.0	3.8	-20	3.45	0.0049
23790	710.0	3.8	-10	1.93	0.0027
23790	710.0	3.8	0	2.89	0.0041
23790	710.0	3.8	10	-2.15	-0.0030
23790	710.0	3.8	20	2.70	0.0038
23790	710.0	3.8	30	-2.63	-0.0037
23790	710.0	3.8	40	2.27	0.0032
23790	710.0	3.8	50	-2.60	-0.0037
23790	710.0	3.8	60	-2.99	-0.0042
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23790	710.0	4.35	-30	-2.33	-0.0033
23790	710.0	4.35	-20	-1.86	-0.0026
23790	710.0	4.35	-10	2.19	0.0031
23790	710.0	4.35	0	-2.53	-0.0036
23790	710.0	4.35	10	1.60	0.0023
23790	710.0	4.35	20	2.43	0.0034
23790	710.0	4.35	30	-2.47	-0.0035
23790	710.0	4.35	40	-2.03	-0.0029
23790	710.0	4.35	50	-2.96	-0.0042
23790	710.0	4.35	60	1.36	0.0019

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW			

LTE band 17 Results: channel 23800 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23800	711.0	3.6	-30	-4.49	-0.0063
23800	711.0	3.6	-20	-4.41	-0.0062
23800	711.0	3.6	-10	2.03	0.0029
23800	711.0	3.6	0	-2.98	-0.0042
23800	711.0	3.6 10		-3.16	-0.0044
23800	711.0	3.6	20	-3.18	-0.0045
23800	711.0	3.6	30	-5.49	-0.0077
23800	711.0	3.6	40	-1.49	-0.0021
23800	711.0	3.6	50	-4.88	-0.0069
23800	711.0	3.6	60	-3.03	-0.0043
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23800	711.0	3.8	-30	-3.93	-0.0055
23800	711.0	3.8	-20	-3.38	-0.0047
23800	711.0	3.8	-10	2.05	0.0029
23800	711.0	3.8	0	-3.12	-0.0044
23800	711.0	3.8	10	-1.97	-0.0028
23800	711.0	3.8	20	-2.93	-0.0041
23800	711.0	3.8	30	-2.99	-0.0042
23800	711.0	3.8	40	-4.06	-0.0057
23800	711.0	3.8	50	-3.65	-0.0051
23800	711.0	3.8	60	-3.79	-0.0053
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23800	711.0	4.35	-30	-2.76	-0.0039
23800	711.0	4.35	-20	-3.63	-0.0051
23800	711.0	4.35	-10	-2.12	-0.0030
23800	711.0	4.35	0	-2.92	-0.0041
23800	711.0	4.35	10	-1.93	-0.0027
23800	711.0	4.35	20	-2.23	-0.0031
23800	711.0	4.35	30	-3.02	-0.0042
23800	711.0	4.35	40	-3.22	-0.0045
23800	711.0	4.35	50	-5.19	-0.0073
23800	711.0	4.35	60	2.10	0.0030

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B			
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW		
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW		

Procedure for IC:

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 1. Switch on the HP 6632B power supply; CMW 500 Communications test Set, and Environmental Chamber.
- 2. Start test program
- 3. Set the Temperature to -30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 4. Set power supply voltage to 3.6 volts.
- 5. Set up CMW 500 Radio Communication Tester.
- 6. Command the CMW 500 to switch to the low channel.
- 7. Enable the voltage to the EUT, and connect a link to the CMW 500 test set.
- 8. EUT is commanded to Transmit 100 Bursts.
- Software logs the following data from the CMW 500, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 10. Using a resolution bandwidth equal to that permitted within the 1MHz band immediately outside the channel edge, reference points will be selected at the unwanted emission levels which comply with the attenuation 43 + 10 log10 p, for the type of device under test, on the emission mask of the lowest and highest channels, and the frequency at these points shall be recorded as fL and fH respectively.
- 11. The frequency stability is calculated by fL minus the frequency offset (frequency error measured in step 9) and fH plus the frequency offset shall be within the frequency range that the equipment is designed to operate (2.5 to 2.57 GHz).
- 12. The CMW 500 commands the EUT to change frequency to the high channel and repeats steps 7 to 11.
- 13. Repeat steps 5 to 12 changing the supply voltage to 3.8 Volts
- 14. Increase temperature to 20 and 50°C and soak for 1/2 hour.
- 15. Repeat steps 4 14 for temperatures –30°C to 60°C.
- 16. Repeat steps 5 to 15 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 3.8 and 4.35 volts

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW			

Date of test: September 2, 2015.

IC RSS – 130, 4.3 LTE Band 17 Frequency Stability.

LTE Band 17 10MHz Bandwidth results: channels 23780, & 23800 @ 20°C maximum transmitted power

Traffic Channel Number	LTE Band 17 Frequency (MHz)	Voltage (Volts)	Temperatur e (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23780	709.0	3.6	20	-1.90258	704.405	N/A	704.405	N/A
23800	711.0	3.6	20	-2.446175	N/A	715.565	N/A	715.565

Traffic Channel Number	LTE Band 17 Frequency (MHz)	Voltage (Volts)	Temperatur e (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23780	709.0	3.8	20	3.733635	704.42	N/A	704.42	N/A
23800	711.0	3.8	20	-1.945496	N/A	715.58	N/A	715.58

Traffic Channel Number	LTE Band 17 Frequency (MHz)	Voltage (Volts)	Temperatur e (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23780	709.0	4.35	20	-2.717972	704.405	N/A	704.405	N/A
23800	711.0	4.35	20	-1.373291	N/A	715.565	N/A	715.565

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7B				
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW			
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW			

LTE Band 17 10MHz Bandwidth results: channels 23780, & 23800 @ -30 and +60°C maximum transmitted power

Traffic Channel Number	LTE Band 17 Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	fL (MHz)	fH (MHz)	fL-Freq Offset (MHz)	fH+Freq Offset (MHz)
23780	709.0	3.6	-30	-3.347397	704.42	N/A	704.42	N/A
23800	711.0	3.6	-30	-4.320145	N/A	715.565	N/A	715.565
23780	709.0	3.8	-30	-3.318787	704.42	N/A	704.42	N/A
23800	711.0	3.8	-30	-3.962517	N/A	715.565	N/A	715.565
23780	709.0	4.35	-30	-2.474785	704.435	N/A	704.435	N/A
23800	711.0	4.35	-30	-4.205704	N/A	715.565	N/A	715.565
23780	709.0	3.6	60	-2.989769	704.405	N/A	704.405	N/A
23800	711.0	3.6	60	-3.232956	N/A	715.565	N/A	715.565
23780	709.0	3.8	60	-1.730919	704.435	N/A	704.435	N/A
23800	711.0	3.8	60	-3.876686	N/A	715.58	N/A	715.58
23780	709.0	4.35	60	-2.717972	704.435	N/A	704.435	N/A
23800	711.0	4.35	60	-4.177094	N/A	715.565	N/A	715.565

APPENDIX 7C - LTE Band 17 RADIATED EMISSIONS TEST DATA

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

Radiated Power Test Data Results

The following configurations were measured for model RHK211LW (STV100-1): Date of Test: August 7, 2015

The following measurements were performed by Shiva Kumbham.

The environmental tests conditions were: Temperature: 27.0 °C

Relative Humidity: 37 %

The BlackBerry[®] smartphone was standalone, vertically with LCD facing the RX antenna when the turntable is at 0 degree position.

Measurements were performed with QPSK and 16QAM modulations. The smallest test margins are reported below.

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height.

Substitution Method EUT Tracking Generator Rx Antenna Spectrum Analyzer Corrected Reading Max Frequency Reading Pol. Reading (relative to Dipole) Diff. To (V,H) Ch Band Type Pol. Type Limit (dB) Limit Tx-Rx (MHz) (dBm) (dBm) (dBm) (W) (dBm) (dBm) F0 23780 709.00 V V-V 17 Dipole -45.772.26 -30.93 20.55 0.11 35.00 14.45 F0 23780 709.00 17 Dipole Н -30.93 H-H -1.53 ٧ V-V F0 23790 710.00 17 Dipole -46.00 2.38 -30.96 20.70 0.12 35.00 14.30 F0 23790 710.00 17 Dipole Н -30.96 H-H -1.51 F0 23799 710.90 17 Dipole V V-V -46.30 2.30 31.13 20.56 0.11 35.00 14.44 F0 23799 710.90 17 Н -31.13 H-H -1.68 Dipole

LTE band 17, 5MHz BW, RB=1, QPSK modulation

LTE band 17, 5MHz BW, RB=1, 16-QAM modulation

FUT						Substitution Method							
EOT			Rx Antenna Spectrum Ana		Analyzer	Tracking Generator							
Type	Ch	Frequency	Band	Type	Pol	Reading	Max (V,H)	Pol.	Reading	Corrected (relative t	l Reading o Dipole)		Diff. To
туре	OII	(MHz)	Danu	туре	FUI.	(dBm)	(dBm)	Tx-Rx	(dBm)	(dBm)	(W)	Limit (dBm)	Limit (dB)
F0	23780	709.00	17	Dipole	V	-46.68	-31 67	V-V	1.51	10 80	0 10	35.00	15 20
F0	23780	709.00	17	Dipole	Η	-31.67	-51.07	H-H	-2.26	19.00	0.10	55.00	13.20
F0	23790	710.00	17	Dipole	V	-46.99	22 10	V-V	1.26	10 59	0.00	25 00	15 10
F0	23790	710.00	17	Dipole	Н	-32.10	-32.10	H-H	-2.61	19.00	0.09	35.00	10.42
F0	23799	710.90	17	Dipole	V	-47.02	21.07	V-V	1.49	10.75	0.00	25 00	15.05
F0	23799	710.90	17	Dipole	Н	-31.97	-31.97	H-H	-2.50	19.70	0.09	35.00	15.25

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 7C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

Radiated Emissions Test Data Results cont'd

The following measurements were performed by Imran Kanji.

Date of Test: August 10, 2015

The environmental test conditions were:	Temperature:	26.2 ºC
	Relative Humidity:	32.4 %

The BlackBerry[®] smartphone was standalone, vertically with LCD facing the RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in LTE band 17 with QPSK and 16-QAM modulations for 10MHz BW (channel 23780, 23790, 23800 with RB = 1).

All emissions were at least 25.0 dB below the limit.

The following measurements were performed by Kevin Guo

Date of Test: August 10-11, 2015

The environmental test conditions were:	Temperature:	27.7 ºC
	Relative Humidity:	40 %

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and a frequency range of 1 GHz to 10 GHz.

The BlackBerry[®] smartphone was standalone, horizontally with LCD facing up and the top pointing to the RX antenna when the turntable is at 0 degree position

Measurements were performed in LTE band 17 with QPSK and 16-QAM modulations for 10MHz BW (channel 23780, 23790, 23800 with RB = 1).

All emissions were at least 25.0 dB below the limit.

APPENDIX 8A- LTE Band 30 CONDUCTED RF EMISSIONS TEST DATA/PLOTS

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)					
-	APPENDIX 8A					
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW				

LTE Band 30 Conducted RF Emission Test Data

This appendix contains measurement data pertaining to conducted spurious emissions, 99% power bandwidth and the channel mask.

Test Setup Diagram



The following configurations were measured for model RHK211LW (STV100-1):

Date of Test: July 27 – September 21, 2015

The environmental test conditions were:	Temperature:	22.7 – 23.6 ºC
	Relative Humidity:	38.7 – 61.2 %

The following measurements were performed by Kevin Guo and Landon Martin.
SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
Test Report No.: RTS-6066-1510-13C	APPENDIX 8A Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 IC: 2503A-RHK210LW		

Emission Designator Table

Frequency Rane (MHz)	Conducted Output Power (dBm)	Conducted Output Power (W)	Emission Designator	Band	Bandwidth (MHz)	Modulation
2307.5-2312.5	24.57	0.29	4M48G7D	LTE B30	5	QPSK
2307.5-2312.5	23.54	0.23	4M48D7W	LTE B30	5	16QAM
2310-2310	24.56	0.29	8M94G7D	LTE B30	10	QPSK
2310-2310	24.36	0.27	8M94D7W	LTE B30	10	16QAM

The conducted spurious emissions – As per 47 CFR 2.1051, 27.53(a)(4), RSS-195, 5.6 were measured from 30 MHz to 20 GHz.

-26 dBc Bandwidth and Occupied Bandwidth (99%)

the modulation spectrum was measured by both methods of 99% power bandwidth and –26 dBc bandwidth for each 5MHz and 10MHz with different number of RBs for LTE Band 30.

QPSK and 16-QAM modulations were applied to each of the bandwidths. Only the worst case measurements are documented in this report.

A minimum RB condition was also measured (RB = 1).

The resolution bandwidth required for out-of-band emissions in the 1 MHz bands immediately outside and adjacent to the frequency block, was determined to be at least 1% of the emission bandwidth.

The worst case –26dBc bandwidth for LTE Band 30 was measured to be 9.15 MHz. Results were derived in a 100 kHz resolution bandwidth.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 8A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Test Data for LTE Band 30 selected Frequencies in 10MHz BW (RB = 50)

LTE Band 30	26dBc Occupied Bandwidth	99% Occupied Bandwidth
Frequency (MHz)	(MHz)	(MHz)
2310	9.15	8.94

Test Data for LTE Band 30 selected Frequencies in 5MHz BW (RB = 25)

LTE Band 30 Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
2307.5	4.625	4.48
2310	4.63	4.47
2312.5	4.66	4.48

Test Data for LTE Band 30 selected Frequencies in 10MHz BW (RB = 25)

LTE Band 30 Frequency (MHz)	99% Occupied Bandwidth (MHz)	
	QPSK	16-QAM
2310	8.94	8.92

Test Data for LTE Band 30 selected Frequencies in 5MHz BW (RB = 25)

LTE Band 17 Frequency (MHz)	99% Occupied Bandwidth (MHz)	
	QPSK	16-QAM
2307.5	4.48	4.48
2310	4.47	4.48
2312.5	4.48	4.47

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
Test Report No.: RTS-6066-1510-13C	APPENDIX 8A Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 IC: 2503A-RHK210LW		

Peak to Average Ratio (PAR)

For each 5MHz and 10MHz with Resource Block allocation 50,25 and 15 as per scalable bandwidths for LTE Band 30, the peak to average ratio was measured on the low, middle and high channels with QPSK modulation.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

The worst case measured was 9.61 dB on 10MHz bandwidth with Resource Block allocation 25 while transmitting at 707.5MHz.

Measurement Plots for LTE Band 30

See Figures 8-1a to 8-8a for the plots of the conducted spurious emissions. See Figures 8-9a to 8-16a for the plots of 99% Occupied Bandwidth and -26 dBc Bandwidth.

See Figures 8-17a to 8-21a for the plots of the Channel mask.

See Figures 8-22a for the plots of the Peak to Average Ratio.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
Test Report No.: RTS-6066-1510-13C	APPENDIX 8A Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 FCC ID: L6ARHK210LW		

Figure 8-1a: Band 30, Spurious Conducted Emissions, 10MHz BW (RB= 50)



Figure 8-2a: Band 30, Spurious Conducted Emissions, 10MHz BW (RB= 50)



Date: 21.SEP.2015 22:03:03



2.35 GHz/

Figure 8-4a: Band 30, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



Date: 21.SEP.2015 22:04:08

Start 2.5 GHz

Date: 21.SEP.2015 22:05:08

Date: 21.SEP.2015 21:56:52

Stop 26 GHz

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 8A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 8-5a: Band 30, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



Figure 8-6a: Band 30, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)



Date: 21.SEP.2015 21:59:24

Figure 8-7a: Band 30, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



Figure 8-8a: Band 30, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



Date: 21.SEP.2015 19:41:26

Date: 21.SEP.2015 19:41:50

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Date: 28.JUL.2015 10:03:51

Date: 28.JUL.2015 10:05:16

Figure 8-9a: Occupied Bandwidth, Band 30 10MHz BW, RB=50



Figure 8-10a: Occupied Bandwidth, Band 5 Low Channel, 5MHz BW, RB=25



Date: 28.JUL.2015 09:59:29

Figure 8-11a: Occupied Bandwidth, Band 5 Middle Channel, 5MHz BW, RB=25



Figure 8-12a: Occupied Bandwidth, Band 5 High Channel, 5MHz BW, RB=25



Date: 28.JUL.2015 10:04:36

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 8-13a: -26 dBc Bandwidth, Band 30 Middle Channel, 10MHz BW, RB=50



Figure 8-14a: -26 dBc Bandwidth, Band 30 Low Channel, 5MHz BW, RB=25



Date: 28.JUL.2015 09:39:06

Date: 28.JUL.2015 09:39:46

Figure 8-15a: -26 dBc Bandwidth, Band 30 Middle Channel, 5MHz BW, RB=25



Date: 28.JUL.2015 09:40:01

Figure 8-16a: -26 dBc Bandwidth, Band 30 High Channel, 5MHz BW, RB=25



Date: 28.JUL.2015 09:40:16

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 8-17a: Band 30 Channel Mask, 10MHz BW, RB=50



Figure 8-17a: Band 30 Channel Mask, 10MHz BW, RB=50



Date: 29.JUL.2015 20:50:14

Figure 8-18a: Band 30 Low Channel Mask, 5MHz BW, RB=1



Date: 29.775.2018 \$1:90:55

Figure 8-19a: Band 30 Low Channel Mask, 5MHz **BW**, **RB=25**



Date: 29.705.2015 88:01:01

Date: 29.JUL.2015 20:55:35

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 8-20a: Band 30 High Channel Mask, 5MHz BW, RB=1



Figure 8-21a: Band 30 High Channel Mask, 5MHz BW, RB=25



Date: 29.705.2018 01:01:00

Date: 29.705.2018 \$1:01:82

Figure 8-22a: Band 30 PAR, 10MHz BW, RB=25



Date: 3.SEP.2015 03:17:20

APPENDIX 8B - LTE Band 30 FREQUENCY STABILITY TEST DATA

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 8B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

LTE Band 30 Frequency Stability Test Data



The following configurations were measured for model RHK211LW (STV100-1):

The following measurements were performed by Sijia Li.

CFR 47 Chapter 1 - Federal Communications Commission Rules

Part 2 Required Measurements

- 2.1055 Frequency Stability Procedures
- (a,b) Frequency Stability Temperature Variation
- (d) Frequency Stability Voltage Variation

The EUT meets the requirements as stated in CFR 47 chapter 1, Section 27.54, Frequency Stability.

Frequency Stability measurement devices were configured as presented in the block diagram recording frequency, power, data, temperatures, and stepped voltages controlled via a GPIB interface linked to the Environmental chamber, a DC power supply, and the Communications Test Set. A 0.9-metre coax cable was calibrated to characterize the insertion loss for the transmitted frequencies between the RF input/output of the CMW 500 and the EUT antenna port.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Test Setup:

The EUT was placed in the Temperature chamber and connected to CMW 500 outside as shown in the figure above. Dry air was pumped inside the temperature chamber to maintain a backpressure during the test. The EUT was kept in the off condition at all times except when the following measurements were to be made.

The chamber was switched on and the temperature was set to -30°C. After the chamber stabilized at -30 °C there was a soak period of one hour to alleviate moisture in the chamber, the EUT voltage was enabled.

The system software recorded the frequency, power, and associated measurements.

A Computer system controlled the automated software. This application was given the command of activating all machines intrinsic to the temperature and voltage tests controlling the CMW 500 via the GPIB Bus. The Environmental Chamber was instructed through an RS-232 serial line. The EUT dialogue was passed through a serial connection.

The EUT repetitively transmitted 100 bursts for each set of programmed parameters recording temperature, voltage settings, and systematically selected frequencies. The power supply was cycled from minimum voltage 3.6 volts, 3.8 volts and to 4.35 volts maximum voltage. The frequency error was measured at a maximum output power and recorded by the automated system test software.

The EUT output power and frequency was measured at 3.6 volts, 3.8 volts and 4.35 volts. The transmit frequency was measured on 782MHz for 10MHz bandwidth with maximum (50) RB. The transmit frequency was varied in 3 steps consisting of 779.5 MHz, 782.0 MHz and 784.5 MHz each was measured under 5 MHz bandwidth with maximum (25) RBs. This frequency was recorded in MHz and deviation from nominal, in Parts Per Million.

After the initial one-hour soak at the beginning of the tests, a period of thirty minutes soak was initialized between each ascending temperature step, before proceeding to the next measurement test cycle.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Procedure:

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 71. Switch on the HP 6632B power supply; CMW 500 Communications test Set, and Environmental Chamber.
- 72. Start test program
- 73. Set the Temperature to –30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 74. Set power supply voltage to 3.6 volts.
- 75. Set up CMW 500 Radio Communication Tester.
- 76. Command the CMW 500 to switch to the low channel.
- 77. Enable the voltage to the EUT, and connect a link to the CMW 500 test set.
- 78. EUT is commanded to Transmit 100 Bursts.
- 79. Software logs the following data from the CMW 500, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 80. The CMW 500 commands the EUT to change frequency to the middle channel and high channel and repeats steps 7 to 9.
- 81. Repeat steps 5 to 10 changing the supply voltage to 3.8 Volts
- 82. Increase temperature by 10°C and soak for 1/2 hour.
- 83. Repeat steps 4 12 for temperatures –30°C to 60°C.
- 84. Repeat steps 5 to 10 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 3.8 and 4.35 volts

The maximum frequency error in the LTE Band 30 measured was **0.0093 PPM**.

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Date of test: August 25, 2015

LTE Band 30 results (10MHz Bandwidth): channels 27710 @ 20°C maximum transmitted

ροινεί					
Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
27710	2310.00	3.6	20	-4.79	-0.0021
27710	2310.00	3.8	20	-5.75	-0.0025
27710	2310.00	4.35	20	-7.08	-0.0031

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 8B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

LTE Band 30 Results (10MHz Bandwidth): channel 27710 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
27710	704	3.6	-30	-8.23	-0.0036
27710	704	3.6	-20	-5.49	-0.0024
27710	704	3.6	-10	-6.04	-0.0026
27710	704	3.6	0	-7.52	-0.0033
27710	704	3.6	10	-5.89	-0.0026
27710	704	3.6	20	-4.79	-0.0021
27710	704	3.6	30	-6.34	-0.0027
27710	704	3.6	40	-8.45	-0.0037
27710	704	3.6	50	-8.51	-0.0037
27710	704	3.6	60	-7.28	-0.0032

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
27710	704	3.8	-30	21.59	0.0093
27710	704	3.8	-20	-6.28	-0.0027
27710	704	3.8	-10	-5.05	-0.0022
27710	704	3.8	0	-6.19	-0.0027
27710	704	3.8	10	-7.32	-0.0032
27710	704	3.8	20	-5.75	-0.0025
27710	704	3.8	30	-6.98	-0.0030
27710	704	3.8	40	-8.41	-0.0036
27710	704	3.8	50	-6.41	-0.0028
27710	704	3.8	60	-7.80	-0.0034

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
27710	704	4.35	-30	-5.85	-0.0025
27710	704	4.35	-20	-7.38	-0.0032
27710	704	4.35	-10	-4.98	-0.0022
27710	704	4.35	0	-5.75	-0.0025
27710	704	4.35	10	-5.19	-0.0022
27710	704	4.35	20	-7.08	-0.0031
27710	704	4.35	30	-7.77	-0.0034
27710	704	4.35	40	-6.98	-0.0030
27710	704	4.35	50	-7.65	-0.0033
27710	704	4.35	60	-7.67	-0.0033

APPENDIX 8C - LTE Band 30 RADIATED EMISSIONS TEST DATA

	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 8C		
- otdokocny.			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Radiated Power Test Data Results

The following configurations were measured for model RHK211LW (STV100-1):

The following measurements were performed by Shiva Kumbham. Date of Test: August 7, 2015 The environmental tests conditions were: Temperature: 25.5 °C Relative Humidity: 35.6 %

The BlackBerry[®] smartphone was standalone, with horizontal top pointing up the RX antenna when the turntable is at 0 degree position.

Measurements were performed with QPSK and 16QAM modulations. The smallest test margins are reported below.

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height.

					50, 5		/, IID-I		(IIIOuui	ation			
						Sp	ectrum		Substitu	ution Metho	od		
		EUT		Rx A	ntenna	a Analyzer		Tracking Generator			or		
Туре	Ch	Frequency (MHz)	Band	Туре	Pol.	Read ing	Max (V, H)	Pol. Tx-Rx	Reading	Co Reading (Dipo (dB	orrected relative to ole)	Li	Diff. To Limit (dB)
		((dBm)	(dBm)	TX TX	(dbiii)	m)	(W)	(dBm)	
F0	23035	2307.50	30	Horn	V	-31.97	-28.04	V-V	-10.99	22.46	0 22	24 00	0.54
F0	23035	2307.50	30	Horn	Н	-28.94	-20.94	H-H	-12.37	23.40	0.22	24.00	0.54
F0	23095	2310.00	30	Horn	V	-31.65	20.01	V-V	-10.95	22.26	0.00	24 00	0.64
F0	23095	2310.00	30	Horn	Н	-28.91	-20.91	H-H	-12.35	23.30	0.22	24.00	0.04
F0	23154	2312.40	30	Horn	V	-31.47	00 76	V-V	-10.70	02 50	0.00	24 00	0 4 0
F0	23154	2312.40	30	Horn	Н	-28.76	-20.70	H-H	-11.82	23.32	0.22	24.00	0.40

LTE Band 30, 5MHz BW, RB=1, QPSK modulation

LTE Band 30, 10MHz BW, RB=1, 16QAM modulation

				Rx		Spectrum		Substitution Method					
		EUT Ante		Antenr	Antenna Analyzer		Tracking Generator						
Туре	Ch	Frequency (MHz)	Band	Туре	Pol.	Readi ng (dBm)	Max (V, H) (dBm)	Pol. Tx-Rx	Reading (dBm)	Co Reading (Dipo (dB m)	orrected relative to ole) (W)	Li mit (dBm)	Diff. To Limit (dB)
F0	27710	2310.00	30	Horn	V	-30.23	-20.28	V-V	-11.36	22.05	0.20	24.00	1.05
F0	27710	2310.00	30	Horn	Н	-29.28	-23.20	H-H	-12.72	22.95	0.20	24.00	1.05

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)			
		APPENDIX 8C		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Radiated Emissions Test Data Results cont'd

The following measurements were performed by Savtej Sandhu.

Date of Test: August 10, 2015

The environmental test conditions were:Temperature:26.8 °CRelative Humidity:33.2 %

The BlackBerry[®] smartphone was standalone, with horizontal pointing up and top facing the RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in LTE Band 30 with 5MHz BW (channel 27710, 23095 and 23129 with RB = 1) with QPSK modulation. and 10MHz BW (channel 27710, 23095 and 23129 with RB = 1), with 16-QAM modulation.

All emissions had test margins greater than 25.0 dB.

The following measurements were performed by Xing Fang and Winston Vernon.

Date of Test: August 10-11, 2015

The environmental test conditions were:	Temperature:	27.9 ºC
	Relative Humidity:	39.7 %

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height, and a frequency range of 1 GHz to 10 GHz.

The BlackBerry[®] smartphone was standalone, horizontal with top facing to the RX antenna when the turntable is at 0 degree position

Measurements were performed in LTE Band 30 with 5MHz BW (channel 27710, 23095 and 23129 with RB = 1) with QPSK modulation. and 10MHz BW (channel 27710, 23095 and 23129 with RB = 1), with 16-QAM modulation.

All emissions had test margins greater than 25.0 dB.

APPENDIX 9A- LTE Band 13 CONDUCTED RF EMISSIONS TEST DATA/PLOTS

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 9A			
-				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

This appendix contains measurement data pertaining to conducted spurious emissions, 99% power bandwidth and the channel mask.

Test Setup Diagram



The following configurations were measured for model RHT181LW(STV100-2):

Date of Test: October 7 - 8, 2015

The environmental test conditions were:	Temperature:	18.5 – 19.0 ºC
	Relative Humidity:	47.6 – 52.1 %

The following measurements were performed by Landon Martin.

Emission Designator Table

Frequency Range (MHz)	Conducted Output Power (dBm)	Conducted Output Power (W)	Emission Designator	Band	Bandwidth (MHz)	Modulation
779.5-784.4	23.38	0.22	4M48G7D	LTE B12	5	QPSK
779.5-784.4	23.37	0.22	4M47D7W	LTE B12	5	16QAM
782-782	23.37	0.22	8M92G7D	LTE B12	10	QPSK
782-782	23.69	0.23	8M94D7W	LTE B12	10	16QAM

The following test configurations were measured on RHT181LW(STV100-2):

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)				
	APPENDIX 9A				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW			

The conducted spurious emissions – As per 47 CFR 2.1051, 27.53(c), RSS-130, 4.6 were measured from 30 MHz to 20 GHz.

-26 dBc Bandwidth and Occupied Bandwidth (99%)

The modulation spectrum was measured by both methods of 99% power bandwidth and – 26 dBc bandwidth for each 5MHz and 10MHz with different number of RBs for LTE Band 13. QPSK and 16-QAM modulations were applied to each of the bandwidths. Only the worst case measurements are documented in this report. A minimum RB condition was also measured (RB = 1). The resolution bandwidth required for out-of-band emissions in the 1 MHz bands immediately outside and adjacent to the frequency block, was determined to be at least 1% of the emission bandwidth.

The worst case –26dBc bandwidth for LTE Band 13 was measured to be 9.23 MHz. Results were derived in a 100 kHz resolution bandwidth. On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)			
	APPENDIX 9A			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Test Data for LTE Band 13 selected Frequencies in 5MHz BW QPSK (RB = 25)

LTE Band 13 Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)			
777	-	4.483			
782	-	4.471			
787	-	4.483			
Test Data for LTE Ban	d 13 selected Frequencies in	5MHz BW 16-QAM (RB = 25)			
LTE Band 13 Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)			
777	4.60	4.471			
782	4.65	4.471			
787	4.62	4.471			

Test Data for LTE Band 13 selected Frequencies in 10MHz BW QPSK (RB = 50)

		· · · ·			
LTE Band 13	26dBc Occupied Bandwidth	99% Occupied Bandwidth			
Frequency (MHz)	(MHz)	(MHz)			
782	9.23	8.918			
Test Data for LTE Band 13 selected Frequencies in 10MHz BW 16-QAM (RB = 5					
LTE Band 13	26dBc Occupied Bandwidth	99% Occupied Bandwidth			
Frequency (MHz)	(MHz)	(MHz)			
782	-	8.942			

Peak to Average Ratio (PAR)

For each 5MHz and 10MHz with Resource Block allocation 50,25 and 15 as per scalable bandwidths for LTE Band 13, the peak to average ratio was measured on the middle channel with QPSK modulation.

On any frequency outside the frequency block and outside the adjacent 1 MHz bands, a resolution bandwidth of at least 1 MHz was applied.

The worst case measured was 10.64 dB on 10MHz bandwidth with Resource Block allocation 50 while transmitting at 782 MHz.

Measurement Plots for LTE Band 13

See Figures 9-40a to 9-51a for the plots of the conducted spurious emissions. See Figures 9-52a to 9-65a for the plots of 99% Occupied Bandwidth and -26 dBc Bandwidth.

See Figures 9-66a to 9-73a for the plots of the Channel mask.

See Figures 9-74a to 9-77a for the plots of the Peak to Average Ratio.

BlackBerry.	EMC Test Report for the Black RHM181LW (STV100-4), RHT	Berry [®] smartphone Model RHK211LW (STV100-1), 181LW(STV100-2)			
	APPENDIX 9A				
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW			

Figure 9-40a: Band 13, Spurious Conducted Emissions, Low channel, 10MHz BW (RB= 1)



Figure 9-41a: Band 13, Spurious Conducted Emissions, Low channel, 10MHz BW (RB= 1)



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Figure 9-42a: Band 13, Spurious Conducted Emissions, Middle channel, 10MHz BW (RB= 25)



Figure 9-43a: Band 13, Spurious Conducted Emissions, Middle channel, 10MHz BW (RB= 25)



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BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 9-44a: Band 13, Spurious Conducted Emissions, High Channel, 10MHz BW (RB= 50)



Figure 9-45a: Band 13, Spurious Conducted Emissions, High Channel, 10MHz BW (RB= 50)



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Figure 9-46a: Band 13, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



Figure 9-47a: Band 13, Spurious Conducted Emissions, Low channel, 5MHz BW (RB= 1)



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 9-48a: Band 13, Spurious Conducted Emissions, Middle Channel, 5MHz BW (RB= 15)



Figure 9-49a: Band 13, Spurious Conducted Emissions, Middle Channel, 5MHz BW (RB= 15)



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 Figure 9-51a: Band 13, Spurious Conducted Emissions, High channel, 5MHz BW (RB= 25)

 *NM 1 MIR

 *NM 3 MIR



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
_	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 9-52a: Occupied Bandwidth, Band 13 Middle Channel, 10MHz BW, RB=50



Figure 9-53a: Occupied Bandwidth, Band 13 Middle Channel, 10MHz BW, RB=50



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Figure 9-54a: Occupied Bandwidth, Band 13 Low Channel, 5MHz BW, RB=50



Figure 9-55a: Occupied Bandwidth, Band 5 Middle Channel, 5MHz BW, RB=50



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 9-56a: Occupied Bandwidth, Band 5 High Channel, 5MHz BW, RB=50



Figure 9-57a: Occupied Bandwidth, Band 5 Low Channel, 5MHz BW, RB=50



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Figure 9-58a: Occupied Bandwidth, Band 5 Middle Channel, 5MHz BW, RB=50



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
	APPENDIX 9A	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW

Figure 9-60a: -26 dBc Bandwidth, Band 13 Low Channel, 10MHz BW, RB=50



Figure 9-61a: -26 dBc Bandwidth, Band 13 Middle Channel, 10MHz BW, RB=50



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Figure 9-62a: -26 dBc Bandwidth, Band 13 High Channel, 10MHz BW, RB=50



Figure 9-63a: -26 dBc Bandwidth, Band 13 Low Channel, 5MHz BW, RB=25



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 9-64a: -26 dBc Bandwidth, Band 13 Middle Channel, 5MHz BW, RB=25



Figure 9-65a: -26 dBc Bandwidth, Band 13 High Channel, 5MHz BW, RB=25



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Note Note

Figure 9-66a: Band 13 Middle Channel Mask,

10MHz BW, RB=50

Figure 9-67a: Band 13 Middle Channel Mask, 10MHz BW, RB=50



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BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
Test Report No.: RTS-6066-1510-13C	Dates of Test: FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW July 21 to October 26, 2015 IC: 2503A-RHK210LW		

Figure 9-68a: Band 13 Middle Channel Mask, 10MHz BW, RB=1



Figure 9-69a: Band 13 Middle Channel Mask,10MHz BW, RB=1



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Figure 9-70a: Band 13 Low Channel Mask, 5MHz BW, RB=25



Figure 9-71a: Band 13 High Channel Mask, 5MHz BW, RB=25



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	









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Figure 9-74a: Band 13 Mid Channel PAR, 10MHz BW, RB=25



Figure 9-75a: Band 13 Middle Channel PAR, 10MHz BW, RB=50



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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 9-76a: Band 13 Mid Channel PAR, 5MHz BW, RB=15





Figure 9-77a: Band 13 Mid Channel PAR, 5MHz BW, RB=25

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APPENDIX 9B - LTE Band 13 FREQUENCY STABILITY TEST DATA

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 9B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

LTE Band 13 Frequency Stability Test Data



The following configurations were measured for model RHT181LW(STV100-2):

Date of test: August 25, 2015

power					
Traffic Channel Number	LTE Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23230	782.00	3.6	20	2.70	0.0035
23230	782.00	3.8	20	-1.76	-0.0023
23230	782.00	4.35	20	1.93	0.0025

LTE Band 13 results (10MHz Bandwidth): channels 23230 @ 20°C maximum transmitted

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 9B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

LTE Band 13 Results (10MHz Bandwidth): channel 23230 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23230	782	3.6	-30	-2.98	-0.0038
23230	782	3.6	-20	3.05	0.0039
23230	782	3.6	-10	3.30	0.0042
23230	782	3.6	0	-1.52	-0.0019
23230	782	3.6	10	3.29	0.0042
23230	782	3.6	20	2.70	0.0035
23230	782	3.6	30	-3.68	-0.0047
23230	782	3.6	40	-3.02	-0.0039
23230	782	3.6	50	-5.52	-0.0071
23230	782	3.6	60	-3.02	-0.0039

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23230	782	3.8	-30	-5.19	-0.0066
23230	782	3.8	-20	3.98	0.0051
23230	782	3.8	-10	3.48	0.0044
23230	782	3.8	0	2.22	0.0028
23230	782	3.8	10	3.36	0.0043
23230	782	3.8	20	-1.76	-0.0023
23230	782	3.8	30	-1.37	-0.0018
23230	782	3.8	40	-3.32	-0.0042
23230	782	3.8	50	-4.49	-0.0057
23230	782	3.8	60	-1.42	-0.0018

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
23230	782	4.35	-30	-3.63	-0.0046
23230	782	4.35	-20	3.39	0.0043
23230	782	4.35	-10	3.60	0.0046
23230	782	4.35	0	2.43	0.0031
23230	782	4.35	10	3.35	0.0043
23230	782	4.35	20	1.93	0.0025
23230	782	4.35	30	-2.69	-0.0034
23230	782	4.35	40	3.96	0.0051
23230	782	4.35	50	-3.89	-0.0050
23230	782	4.35	60	-2.06	-0.0026

APPENDIX 9C - LTE Band 13 RADIATED EMISSIONS TEST DATA
SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 9C		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Radiated Power Test Data Results

The following configurations were measured for model RHT181LW(STV100-2):

The following measurements were performed by Imran Kanji.

Date of Test: October 13, 2015

The environmental tests conditions were:	Temperature:	28.0 [°] C
	Relative Humidity:	30.9 %

The BlackBerry[®] smartphone was standalone, with horizontal top pointing up the RX antenna when the turntable is at 0 degree position.

Measurements were performed with QPSK and 16QAM modulations. The smallest test margins are reported below.

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height.

					10, 0		,		(IIIOuui	ation			
		EUT				Sp	ectrum		Substitu	ution Methe	od		
				Rx A	ntenna	Analy	/zer		Trackin	g Generat	or		
Type	Ch	Frequency	Band	Type	Р	Read ing	Max (V,	Pol.	Reading	Co Reading (Din	orrected relative to	1:	Diff. To
Type	On	(MHz)	Dano	туре	ol.	(dBm)	(dBm)	Tx-Rx	(dBm)	(dB m)	(W)	mit (dBm)	Limit (dB)
F0	23205	779.50	13	Horn	V	-38.99	-31 1/	V-V	2.81	20 77	0 12	35.00	1/ 23
F0	23205	779.50	13	Horn	Н	-31.14	-51.14	H-H	-0.40	20.11	0.12	55.00	14.20
F0	23230	782.00	13	Horn	V	-39.09	-31 00	V-V	3.03	20 00	0 1 2	35.00	14 01
F0	23230	782.00	13	Horn	Н	-31.09	-51.05	H-H	-0.45	20.99	0.15	33.00	14.01
F0	23254	784.40	13	Horn	V	-39.92	20 66	V-V	3.22	01 11	0 12	25 00	12 90
F0	23254	784.40	13	Horn	Н	-30.66	-30.00	H-H	-0.03	21.11	0.13	35.00	13.09

LTE Band 13, 5MHz BW, RB=1, QPSK modulation

LTE Band 13, 10MHz BW, RB=1, 16QAM modulation

				Rx		Rx Spectrum		Substitution Method			bd		
		EUT		Antenna		a Analyzer			Tracking Generator		or		
Туре	Ch	Frequency (MHz)	Band	Туре	F ol.	Readi ng (dBm)	Max (V, H) (dBm)	Pol. Tx-Rx	Reading (dBm)	Co Reading (Dip (dB m)	orrected relative to ole) (W)	Li mit (dBm)	Diff. To Limit (dB)
F0	23230	782.00	13	Horn	V	-39.63	-31 62	V-V	2.49	20.45	0 1 1	35.00	1/ 55
F0	23230	782.00	13	Horn	Н	-31.62	-01.02	H-H	-0.97	20.45	0.11	55.00	14.55

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 9C		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

The following measurements were performed by Imran Kanji.

Date of Test: Oct 8, 2015

The environmental test conditions were:Temperature:27.3 °CRelative Humidity:30.4 %

The BlackBerry[®] smartphone was standalone, with horizontal pointing up and top facing the RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in LTE Band 13 with 5MHz BW (channel 23205, 23230 and 23254 with RB = 1) with QPSK modulation. and 10MHz BW (channel 23230 with RB = 1), with 16-QAM modulation.

All emissions had test margins greater than 25.0 dB.

The following measurements were performed by Xing Fang and Kevin Guo.

Date of Test: October 8 - 9, 2015

The environmental test conditions were:	Temperature:	23.3 - 24.4 ºC
	Relative Humidity:	41.8 – 45.3 %

Test Distance was 3.0 meters with the RX antenna height scans between 3-4 meters height, and a frequency range of 1 GHz to 10 GHz.

The BlackBerry[®] smartphone was standalone, horizontal with top facing to the RX antenna when the turntable is at 0 degree position

Measurements were performed in LTE Band 13 with 5MHz BW (channel 23205, 23230 and 23254 with RB = 1) with QPSK modulation. and 10MHz BW (channel 23230 with RB = 1), with 16-QAM modulation.

All emissions had test margins greater than 25.0 dB.

APPENDIX 10A- CDMA CONDUCTED RF EMISSIONS TEST DATA/PLOTS

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

This appendix contains measurement data pertaining to conducted spurious emissions, 99% power bandwidth and the channel mask.

Test Setup Diagram



SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

The conducted spurious emissions – As per 47 CFR 2.1051, CFR 22.917, CFR 24.238 and RSS-132 4.5 and RSS-133, 6.5 were measured from 30 MHz to 20 GHz. The EUT emissions were in the noise floor.

Date of Test: October 15, 2015

The environmental test conditions were:	Temperature:	20.8 ºC
	Relative Humidity:	53.3 %

Test Data for CDMA Cellular and PCS selected Frequencies in Loopback mode

CDMA Cellular Frequency (MHz)	99% Occupied Bandwidth (MHz)
824.70	1.286
836.52	1.276
848.31	1.280

CDMA PCS Frequency (MHz)	99% Occupied Bandwidth (MHz)
1851.20	1.280
1880.00	1.284
1908.75	1.280

Test Data for CDMA Cellular and PCS selected Frequencies in Loopback mode

Refer to the following measurement plots for more detail.

See Figures 12-1a to 12-12a for the plots of the conducted spurious emissions.

See Figures 12-13a to 12-18a for the plots of 99% Occupied Bandwidth.

See Figures 12-19a to 12-24a for the plots of the Channel mask.

The RF power output was at maximum for all the recorded measurements shown below.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A			
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW		

Test Data for CDMA Cellular and CDMA PCS selected Frequencies in EVDO mode

Cellular Frequency (MHz)	99% Occupied Bandwidth (MHz)
824.70	1.274
836.52	1.274
848.31	1.272

PCS Frequency (MHz)	99% Occupied Bandwidth (MHz)
1851.20	1.282
1880.00	1.276
1908.75	1.278

Measurement Plots for CDMA Cellular and CDMA PCS in EVDO mode

Refer to the following measurement plots for more detail.

See Figures 12-25a to 12-36a for the plots of the conducted spurious emissions. See Figures 12-37a to 12-42a for the plots of 99% Occupied Bandwidth. See Figures 12-43a to 12-46a for the plots of the Channel mask.

The RF power output was at maximum for all the recorded measurements shown below.

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 12-1a: Spurious Conducted Emissions Cellular Loopback mode, Low channel



Figure 12-2a: Spurious Conducted Emissions Cellular Loopback mode, Low channel



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Figure 12-3a: Spurious Conducted Emissions Cellular Loopback mode, Middle channel

Figure 12-4a: Spurious Conducted Emissions Cellular Loopback mode, Middle channel



Date: 16.0CT.2015 12:23:30

Date: 16.0CT.2015 12:24:08

Date: 16.0CT.2015 12:23:13

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 12-5a: Spurious Conducted Emissions Cellular Loopback mode, High Channel



Date: 16.0CT.2015 12:24:24



Figure 12-7a: Spurious Conducted Emissions PCS Loopback mode, Low Channel

Figure 12-6a: Spurious Conducted Emissions Cellular Loopback mode, High Channel



Date: 16.0CT.2015 12:25:21

Figure 12-8a: Spurious Conducted Emissions PCS Loopback mode, Low Channel



Date: 16.0CT.2015 15:41:18

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🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 12-9a: Spurious Conducted Emissions PCS Loopback mode, Middle Channel



Figure 12-10a: Spurious Conducted Emissions PCS Loopback mode, Middle Channel



Date: 16.0CT.2015 15:42:14



Figure 12-11a: Spurious Conducted Emissions PCS Loopback mode, High Channel

Figure 12-12a: Spurious Conducted Emissions PCS Loopback mode, High Channel



Date: 16.0CT.2015 15:43:41

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Date: 16.0CT.2015 15:43:01

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 12-13a: Occupied Bandwidth Cellular Loopback mode, Low Channel



Figure 12-14a: Occupied Bandwidth Cellular Loopback mode, Middle Channel



Date: 16.0CT.2015 12:25:35



Figure 12-15a: Occupied Bandwidth Cellular Loopback mode, High Channel

Figure 12-16a: Occupied Bandwidth PCS Loopback mode, Low Channel



Date: 16.0CT.2015 12:26:39

Center 848.31 MHz

Date: 16.0CT.2015 15:46:09

Date: 16.0CT.2015 12:25:57

Span 2 MHz

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
	APPENDIX 10A	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW

Figure 12-17a: Occupied Bandwidth PCS Loopback mode, Middle Channel



Figure 12-18a: Occupied Bandwidth PCS Loopback mode, High Channel



Date: 16.0CT.2015 15:46:24



Figure 12-19a: Low Channel Mask Cellular Loopback mode

Figure 12-20a: Low Channel Mask Cellular Loopback mode



Date: 16.0CT.2015 12:26:50

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Date: 16.0CT.2015 15:46:47

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW





Date: 16.0CT.2015 12:26:58

Figure 12-23a: Low Channel Mask PCS Loopback mode



Date: 21.0CT.2015 11:19:27

Figure 12-22a: High Channel Mask Cellular Loopback mode



Date: 16.0CT.2015 12:26:58

Figure 12-24a: High Channel Mask PCS Loopback mode



Date: 21.0CT.2015 11:20:38

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 12-25a: Spurious Conducted Emissions Cellular EVDO mode, Low channel



Figure 12-26b: Spurious Conducted Emissions Cellular EVDO mode, Low channel



Date: 19.0CT.2015 11:15:48

Figure 12-27a: Spurious Conducted Emissions Cellular EVDO mode, Middle channel



Figure 12-28a: Spurious Conducted Emissions Cellular EVDO mode, Middle channel



Date: 19.0CT.2015 11:17:12

Date: 19.0CT.2015 11:17:51

Date: 19.0CT.2015 11:16:37

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10A	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Figure 12-29a: Spurious Conducted Emissions Cellular EVDO mode, High Channel



Figure 12-30a: Spurious Conducted Emissions Cellular EVDO mode, High Channel



Date: 19.0CT.2015 11:18:10

Date: 19.0CT.2015 11:18:55

CARLER 1
1.3.0035 (Hz
2.2.0 dB

1.3.0035 (Hz
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SWT 75 ms
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Figure 12-31a: Spurious Conducted Emissions

PCS EVDO mode, Low Channel

Figure 12-32a: Spurious Conducted Emissions PCS EVDO mode, Low Channel



Date: 19.0CT.2015 11:34:37

Date: 19.0CT.2015 11:35:24

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
	APPENDIX 10A	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW

Figure 12-33a: Spurious Conducted Emissions PCS EVDO mode, Middle Channel



Figure 12-34a: Spurious Conducted Emissions PCS EVDO mode, Middle Channel



Date: 19.0CT.2015 11:35:40

PCS EVDO mode, High Channel *RBW 300 kHz *VBW 1 MHz SWT 75 ms MARKER 1 2.46636 GHz Ref 30.6 dBm Marker 1 [T1] -32.47 dB 2.466360000 GH Ì *Att 20 dB 1 PK

Figure 12-35a: Spurious Conducted Emissions



Figure 12-36a: Spurious Conducted Emissions PCS EVDO mode, High Channel



Date: 19.0CT.2015 11:36:49

Date: 19.0CT.2015 11:37:28

Date: 19.0CT.2015 11:36:22

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)	
	APPENDIX 10A	
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW

Figure 12-37a: Occupied Bandwidth Cellular EVDO mode, Low Channel



Figure 12-38a: Occupied Bandwidth Cellular EVDO mode, Middle Channel



Date: 19.0CT.2015 11:19:10



Figure 12-39a: Occupied Bandwidth Cellular EVDO mode, High Channel

Figure 12-40a: Occupied Bandwidth

PCS EVDO mode, Low Channel



Date: 19.0CT.2015 11:19:46

Date: 19.0CT.2015 11:37:42

Date: 19.0CT.2015 11:19:30

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 10A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 12-41a: Occupied Bandwidth PCS EVDO mode, Middle Channel



Figure 12-42a: Occupied Bandwidth PCS EVDO mode, High Channel



Date: 19.0CT.2015 11:37:55



Figure 12-43a: Low Channel Mask Cellular EVDO mode

Figure 12-44a: High Channel Mask Cellular EVDO mode



Date: 19.0CT.2015 11:20:12

Date: 19.0CT.2015 11:20:22

Date: 19.0CT.2015 11:38:28

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 10A		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Figure 12-45a: Low Channel Mask PCS EVDO mode



Figure 12-46a: High Channel Mask PCS EVDO mode



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Date: 21.0CT.2015 11:35:49

APPENDIX 10B – CDMA FREQUENCY STABILITY TEST DATA

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

CDMA Frequency Stability Test Data



The following measurements were performed by Landon Martin.

CFR 47 Chapter 1 - Federal Communications Commission Rules

Part 2 Required Measurements

2.1055 Frequency Stability - Procedures

- (a,b) Frequency Stability Temperature Variation
- (d) Frequency Stability Voltage Variation

24.235 Frequency Stability.

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

The EUT meets the requirements as stated in CFR 47 chapter 1, Section 24.235, CFR 47 chapter 1, Section 22.917 RSS-132, 4.3 Frequency Stability, and RSS-133, 6.3 Frequency Stability.

Frequency Stability measurement devices were configured as presented in the block diagram recording frequency, power, data, temperatures, and stepped voltages controlled via a GPIB interface linked to the Environmental chamber, a DC power supply, and the Communications Test Set. A 0.9-metre coax cable was calibrated to characterize the insertion loss for the transmitted frequencies between the RF input/output of the CMU 200 and the EUT antenna port.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 10B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Test Setup:

The EUT was placed in the Temperature chamber and connected to CMU 200 outside as shown in the figure above. Dry air was pumped inside the temperature chamber to maintain a backpressure during the test. The EUT was kept in the off condition at all times except when the following measurements were to be made.

The chamber was switched on and the temperature was set to -30°C. After the chamber stabilized at -30 °C there was a soak period of one hour to alleviate moisture in the chamber, the EUT voltage was enabled.

The system software recorded the frequency, power, and associated measurements.

A Computer system controlled the automated software. This application was given the command of activating all machines intrinsic to the temperature and voltage tests controlling the CMU 200 via the GPIB Bus. The Environmental Chamber was instructed through an RS-232 serial line. The EUT dialogue was passed through a serial connection.

The EUT repetitively transmitted 100 bursts for each set of programmed parameters recording temperature, voltage settings, and systematically selected frequencies. The power supply was cycled from minimum voltage 3.6 volts, 4.1 volts and to 4.35 volts maximum voltage. The frequency error was measured at a maximum output power and recorded by the automated system test software.

The EUT output power and frequency was measured at 3.6 volts, 4.1 volts and 4.35 volts. The transmit frequency was varied in 3 steps consisting of 824.70, 836.52, and 848.31 MHz for the cellular band and 1851.20, 1880.00 and 1908.75 MHz for the PCS band. This frequency was recorded in MHz and deviation from nominal, in Parts per Million.

After the initial one-hour soak at the beginning of the tests, a period of thirty minutes soak was initialized between each ascending temperature step, before proceeding to the next measurement test cycle.

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

Procedure:

The test system software for commencing the Frequency Stability Tests carried through the following cycle.

- 85. Switch on the HP 6632B power supply; CMU 200 Communications test Set, and Environmental Chamber.
- 86. Start test program
- 87. Set the Temperature to –30°C and maintain a period of one- hour soak time, with the EUT supply voltage disabled.
- 88. Set power supply voltage to 3.6 volts.
- 89. Set up CMU 200 Radio Communication Tester.
- 90. Command the CMU 200 to switch to the low channel.
- 91. Enable the voltage to the EUT, and connect a link to the CMU 200 test set.
- 92. EUT is commanded to Transmit 100 Bursts.
- 93. Software logs the following data from the CMU 200, power supply and temperature chamber: Traffic Channel Number, Traffic Channel Frequency, Power Level, Chamber Temperature, Supply Voltage, Power and Frequency Error.
- 94. The CMU 200 commands the EUT to change frequency to the middle channel and high channel and repeats steps 7 to 9.
- 95. Repeat steps 5 to 10 changing the supply voltage to 3.6 Volts
- 96. Increase temperature by 10°C and soak for 1/2 hour.
- 97. Repeat steps 4 12 for temperatures -30°C to 60°C.
- 98. Repeat steps 5 to 10 changing the supply voltage to 4.1 volts
- 99. Repeat steps 5 to 10 changing the supply voltage to 4.35 volts

Procedure 5 to 10 was repeated at room temperature (20°C) with the power supply voltage set to 3.6, 4.1 and 4.35 volts

The following configurations were measured for model RHT181LW(STV100-2):

The maximum frequency error in the CDMA Cellular measured was **0.0191 PPM**. The maximum frequency error in the CDMA PCS measured was **-0.0113 PPM**.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 10B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

Date of test: October 20, 2015

CDMA Cellular Channel results: channels 1013, 384 and 777 @ 20°C maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	PPM
1013	824.70	3.6	20	11.00	0.0133
384	836.52	3.6	20	10.00	0.0120
777	848.31	3.6	20	13.00	0.0153

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1013	824.70	3.8	20	10.00	0.0121
384	836.52	3.8	20	-11.00	-0.0131
777	848.31	3.8	20	12.00	0.0141

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1013	824.70	4.35	20	9.00	0.0109
384	836.52	4.35	20	14.00	0.0167
777	848.31	4.35	20	10.00	0.0118

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 10B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

CDMA Cellular Results:: channel 1013 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1013	824.70	3.6	-30	-14.00	-0.0170
1013	824.70	3.6	-20	6.00	0.0073
1013	824.70	3.6	-10	12.00	0.0146
1013	824.70	3.6	0	15.00	0.0182
1013	824.70	3.6	10	13.00	0.0158
1013	824.70	3.6	20	11.00	0.0133
1013	824.70	3.6	30	-7.00	-0.0085
1013	824.70	3.6	40	-9.00	-0.0109
1013	824.70	3.6	50	-12.00	-0.0146
1013	824.70	3.6	60	-11.00	-0.0133
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1013	824.70	3.8	-30	-9.00	-0.0109
1013	824.70	3.8	-20	7.00	0.0085
1013	824.70	3.8	-10	13.00	0.0158
1013	824.70	3.8	0	12.00	0.0146
1013	824.70	3.8	10	13.00	0.0158
1013	824.70	3.8	20	10.00	0.0121
1013	824.70	3.8	30	-8.00	-0.0097
1013	824.70	3.8	40	-10.00	-0.0121
1013	824.70	3.8	50	-10.00	-0.0121
1013	824.70	3.8	60	-10.00	-0.0121
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1013	824.70	4.35	-30	-10.00	-0.0121
1013	824.70	4.35	-20	6.00	0.0073
1013	824.70	4.35	-10	12.00	0.0146
1013	824.70	4.35	0	13.00	0.0158
1013	824.70	4.35	10	11.00	0.0133
1013	824.70	4.35	20	9.00	0.0109
1013	824.70	4.35	30	-8.00	-0.0097
1013	824.70	4.35	40	-11.00	-0.0133
1013	824.70	4.35	50	-11.00	-0.0133
1013	824.70	4.35	60	-12.00	-0.0146

BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

CDMA Cellular Results: channel 384 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
384	836.52	3.6	-30	-14.00	-0.0167
384	836.52	3.6	-20	-5.00	-0.0060
384	836.52	3.6	-10	6.00	0.0072
384	836.52	3.6	0	7.00	0.0084
384	836.52	3.6	10	16.00	0.0191
384	836.52	3.6	20	10.00	0.0120
384	836.52	3.6	30	-11.00	-0.0131
384	836.52	3.6	40	-11.00	-0.0131
384	836.52	3.6	50	-13.00	-0.0155
384	836.52	3.6	60	-13.00	-0.0155
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
384	836.52	3.8	-30	-13.00	-0.0155
384	836.52	3.8	-20	-10.00	-0.0120
384	836.52	3.8	-10	14.00	0.0167
384	836.52	3.8	0	12.00	0.0143
384	836.52	3.8	10	12.00	0.0143
384	836.52	3.8	20	-11.00	-0.0131
384	836.52	3.8	30	-11.00	-0.0131
384	836.52	3.8	40	-11.00	-0.0131
384	836.52	3.8	50	-11.00	-0.0131
384	836.52	3.8	60	-12.00	-0.0143
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
384	836.52	4.35	-30	-13.00	-0.0155
384	836.52	4.35	-20	9.00	0.0108
384	836.52	4.35	-10	10.00	0.0120
384	836.52	4.35	0	6.00	0.0072
384	836.52	4.35	10	14.00	0.0167
384	836.52	4.35	20	14.00	0.0167
384	836.52	4.35	30	-11.00	-0.0131
384	836.52	4.35	40	-12.00	-0.0143
384	836.52	4.35	50	-13.00	-0.0155
384	836.52	4.35	60	-13.00	-0.0155

🚟 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

CDMA Cellular Results: channel 777 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
777	848.31	3.6	-30	-11.00	-0.0130
777	848.31	3.6	-20	9.00	0.0106
777	848.31	3.6	-10	14.00	0.0165
777	848.31	3.6	0	13.00	0.0153
777	848.31	3.6	10	14.00	0.0165
777	848.31	3.6	20	13.00	0.0153
777	848.31	3.6	30	-10.00	-0.0118
777	848.31	3.6	40	-11.00	-0.0130
777	848.31	3.6	50	-13.00	-0.0153
777	848.31	3.6	60	-14.00	-0.0165
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
777	848.31	3.8	-30	8.00	0.0094
777	848.31	3.8	-20	10.00	0.0118
777	848.31	3.8	-10	14.00	0.0165
777	848.31	3.8	0	13.00	0.0153
777	848.31	3.8	10	13.00	0.0153
777	848.31	3.8	20	12.00	0.0141
777	848.31	3.8	30	-12.00	-0.0141
777	848.31	3.8	40	-11.00	-0.0130
777	848.31	3.8	50	-11.00	-0.0130
777	848.31	3.8	60	-12.00	-0.0141
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
777	848.31	4.35	-30	-10.00	-0.0118
777	848.31	4.35	-20	5.00	0.0059
777	848.31	4.35	-10	13.00	0.0153
777	848.31	4.35	0	14.00	0.0165
777	848.31	4.35	10	14.00	0.0165
777	848.31	4.35	20	10.00	0.0118
777	848.31	4.35	30	9.00	0.0106
777	848.31	4.35	40	-11.00	-0.0130
777	848.31	4.35	50	-11.00	-0.0130
777	848.31	4.35	60	-12.00	-0.0141

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)		
	APPENDIX 10B		
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW	

CDMA PCS Channel results: channels 25, 600, & 1175 @ 20°C maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
25	1851.20	3.6	20	11.00	0.0059
600	1880.00	3.6	20	12.00	0.0064
1175	1908.75	3.6	20	12.00	0.0063

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
25	1851.20	3.8	20	10.00	0.0054
600	1880.00	3.8	20	11.00	0.0059
1175	1908.75	3.8	20	15.00	0.0079

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
25	1851.20	4.35	20	-11.00	-0.0059
600	1880.00	4.35	20	11.00	0.0059
1175	1908.75	4.35	20	13.00	0.0068

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

CDMA PCS Results: channel 25 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
25	1851.20	3.6	-30	-16.00	-0.0086
25	1851.20	3.6	-20	-12.00	-0.0065
25	1851.20	3.6	-10	13.00	0.0070
25	1851.20	3.6	0	14.00	0.0076
25	1851.20	3.6	10	16.00	0.0086
25	1851.20	3.6	20	11.00	0.0059
25	1851.20	3.6	30	-16.00	-0.0086
25	1851.20	3.6	40	-14.00	-0.0076
25	1851.20	3.6	50	-16.00	-0.0086
25	1851.20	3.6	-30	-20.00	-0.0108
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
25	1851.20	3.8	-30	-18.00	-0.0097
25	1851.20	3.8	-20	-10.00	-0.0054
25	1851.20	3.8	-10	16.00	0.0086
25	1851.20	3.8	0	15.00	0.0081
25	1851.20	3.8	10	16.00	0.0086
25	1851.20	3.8	20	10.00	0.0054
25	1851.20	3.8	30	-12.00	-0.0065
25	1851.20	3.8	40	-17.00	-0.0092
25	1851.20	3.8	50	-17.00	-0.0092
25	1851.20	3.8	60	-21.00	-0.0113
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
25	1851.20	4.35	-30	-18.00	-0.0097
25	1851.20	4.35	-20	-13.00	-0.0070
25	1851.20	4.35	-10	16.00	0.0086
25	1851.20	4.35	0	16.00	0.0086
25	1851.20	4.35	10	20.00	0.0108
25	1851.20	4.35	20	-11.00	-0.0059
25	1851.20	4.35	30	-13.00	-0.0070
25	1851.20	4.35	40	-17.00	-0.0092
25	1851.20	4.35	50	-21.00	-0.0113
25	1851.20	4.35	60	-18.00	-0.0097

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

CDMA PCS Results: channel 600 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
600	1880.00	3.6	-30	-19.00	-0.0101
600	1880.00	3.6	-20	-12.00	-0.0064
600	1880.00	3.6	-10	15.00	0.0080
600	1880.00	3.6	0	18.00	0.0096
600	1880.00	3.6	10	12.00	0.0064
600	1880.00	3.6	20	12.00	0.0064
600	1880.00	3.6	30	-16.00	-0.0085
600	1880.00	3.6	40	-13.00	-0.0069
600	1880.00	3.6	50	-17.00	-0.0090
600	1880.00	3.6	60	-17.00	-0.0090
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
600	1880.00	3.8	-30	-15.00	-0.0080
600	1880.00	3.8	-20	12.00	0.0064
600	1880.00	3.8	-10	13.00	0.0069
600	1880.00	3.8	0	14.00	0.0074
600	1880.00	3.8	10	18.00	0.0096
600	1880.00	3.8	20	11.00	0.0059
600	1880.00	3.8	30	-11.00	-0.0059
600	1880.00	3.8	40	-16.00	-0.0085
600	1880.00	3.8	50	-20.00	-0.0106
600	1880.00	3.8	60	-20.00	-0.0106
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
600	1880.00	4.35	-30	-17.00	-0.0090
600	1880.00	4.35	-20	14.00	0.0074
600	1880.00	4.35	-10	16.00	0.0085
600	1880.00	4.35	0	18.00	0.0096
600	1880.00	4.35	10	15.00	0.0080
600	1880.00	4.35	20	11.00	0.0059
600	1880.00	4.35	30	-11.00	-0.0059
600	1880.00	4.35	40	-17.00	-0.0090
600	1880.00	4.35	50	-15.00	-0.0080
600	1880.00	4.35	60	-16.00	-0.0085

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10B		
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW	
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW	

CDMA PCS Results: channel 1175 @ maximum transmitted power

Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1175	1908.75	3.6	-30	-14.00	-0.0073
1175	1908.75	3.6	-20	17.00	0.0089
1175	1908.75	3.6	-10	14.00	0.0073
1175	1908.75	3.6	0	19.00	0.0100
1175	1908.75	3.6	10	19.00	0.0100
1175	1908.75	3.6	20	12.00	0.0063
1175	1908.75	3.6	30	10.00	0.0052
1175	1908.75	3.6	40	-13.00	-0.0068
1175	1908.75	3.6	50	-14.00	-0.0073
1175	1908.75	3.6	60	-15.00	-0.0079
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1175	1908.75	3.8	-30	-15.00	-0.0079
1175	1908.75	3.8	-20	14.00	0.0073
1175	1908.75	3.8	-10	15.00	0.0079
1175	1908.75	3.8	0	23.00	0.0120
1175	1908.75	3.8	10	19.00	0.0100
1175	1908.75	3.8	20	15.00	0.0079
1175	1908.75	3.8	30	-10.00	-0.0052
1175	1908.75	3.8	40	-14.00	-0.0073
1175	1908.75	3.8	50	-18.00	-0.0094
1175	1908.75	3.8	60	-12.00	-0.0063
Traffic Channel Number	Frequency (MHz)	Voltage (Volts)	Temperature (Celsius)	Frequency Error (Hz)	РРМ
1175	1908.75	4.35	-30	-14.00	-0.0073
1175	1908.75	4.35	-20	15.00	0.0079
1175	1908.75	4.35	-10	19.00	0.0100
1175	1908.75	4.35	0	20.00	0.0105
1175	1908.75	4.35	10	20.00	0.0105
1175	1908.75	4.35	20	13.00	0.0068
1175	1908.75	4.35	30	-10.00	-0.0052
1175	1908.75	4.35	40	-11.00	-0.0058
1175	1908.75	4.35	50	-13.00	-0.0068
1175	1908.75	4.35	60	-15.00	-0.0079

APPENDIX 10C - CDMA RADIATED EMISSIONS TEST DATA

👯 BlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

Radiated Power Test Data Results

Date of Test: October 16, 2015

The following measurements were performed by Imran Kanji. The environmental tests conditions were: Temperature: 24.9 [°]C **Relative Humidity:** 25.7 %

The BlackBerry® smartphone was standalone, horizontal with LCD facing up and top pointing to RX antenna when the turntable is at 0 degree position. Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height.

		EUT		_					Substitutio	n Methoo	1		
		-		Rx Ante	nna	Spectrum /	Analyzer		I racking (Senerator			
Type	Type Ch Frequency Band (MHz)	Band	Туре	Pol	Reading	Max (V,H)	Pol.	Reading	Corrected (relative t	l Reading o Dipole)		Diff. To	
туре		Danu	i ype Poi.		(dBm)	(dBm)	Tx-Rx	(dBm)	(dBm)	(W)	Limit (dBm)	Limit (dB)	
F0	1013	824.70	Cellular	Dipole	V	-38.92	-31.85	V-V	6.30	24 24	0 27	38 50	1/ 16
F0	1013	824.70	Cellular	Dipole	Н	-31.85	-01.00	H-H	4.02	24.34	0.27	00.00	17.10
F0	384	836.52	Cellular	Dipole	V	-39.41	22 10	V-V	5.63	02 21	0.21	20 50	15 10
F0	384	836.52	Cellular	Dipole	Н	-32.10	-32.10	H-H	4.11	23.31	0.21	30.50	15.19
F0	777	848.32	Cellular	Dipole	۷	-40.52	20.65	V-V	5.82	00 47	0.00	20 EU	15.02
F0	777	848.32	Cellular	Dipole	Н	-32.65	-32.00	H-H	4.35	23.47	0.22	30.00	15.05

CDMA Cellular Loopback Mode

CDMA Cellular EVDO Mode

		FUT						9	Substitutio	n Methoo	1		
201			Rx Antenna Spectrum An		Analyzer	er Tracking Generator							
							Max			Corrected	Reading		
		Frequency				Reading	(V,H)	Pol.	Reading	(relative t	o Dipole)		
Туре	Ch	(MHz)	Band	Туре	Pol.	(dBuV)	(dBuV)	Tx-Rx	(dBm)	(dBm)	(W)	Limit (dBm)	Diff. To Limit (dB)
F0	1013	824.70	Cellular	Dipole	V	-43.80	-33 15	V-V	4.44	22 /18	0.18	38 50	16.02
F0	1013	824.70	Cellular	Dipole	Н	-33.15	-55.15	H-H	2.19	22.48	0.10	50.50	10.02
F0	384	836.52	Cellular	Dipole	۷	-47.56	22 07	V-V	4.07	01 75	0 15	20 EU	16 75
F0	384	836.52	Cellular	Dipole	Н	-33.87	-33.07	H-H	2.54	21.75	0.15	30.00	10.75
F0	777	848.32	Cellular	Dipole	V	-49.64	24.04	V-V	3.76	01 41	0.14	20 50	17.00
F0	777	848.32	Cellular	Dipole	Н	-34.04	-34.04	H-H	3.11	21.41	0.14	30.30	17.09

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SlackBerry.	EMC Test Report for the Black RHM181LW (STV100-4), RHT	Berry [®] smartphone Model RHK211LW (STV100-1), 181LW(STV100-2) APPENDIX 10C
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Date of Test: October 26, 2015

The following measurements were performed by Savtej Sandhu. The environmental tests conditions were: Temperature: 24.9 [°]C Relative Humidity: 25.7 %

The BlackBerry® smartphone was standalone, USB Down with LCD facing to RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height.

		FUIT							Substituti	on Method	1		
LOT			Rx Antenna Spectrum Analyzer		Tracking Generator								
										Corrected	Reading		
		Frequency				Reading	Max	Pol.	Reading	(relative to	Isotropic		Diff To
Туре	Ch		Band	Туре	Pol.		(V,H)			Radia	itor)		Limit (dD)
		(MHz)				(dBm)		Tx-Rx	(dBm)	(dBm)	(\\\/)	Limit	LIIIII (UD)
							(dBm)			(ubiii)	(**)	(dBm)	
F0	25	1851.25	PCS	Horn	V	-36.07	26.20	V-V	-14.78	26.00	0.40	22.00	7 00
F0	25	1851.25	PCS	Horn	Н	-26.30	-20.30	H-H	-13.62	20.00	0.40	33.00	7.00
F0	600	1880.00	PCS	Horn	V	-32.82	24.02	V-V	-12.70	07 60	0 5 9	22.00	E 20
F0	600	1880.00	PCS	Horn	Н	-24.92	-24.92	H-H	-11.78	27.02	0.56	33.00	0.30
F0	1175	1908.75	PCS	Horn	V	-32.55	24 70	V-V	-11.88	07 76	0.60	22.00	5.24
F0	1175	1908.75	PCS	Horn	Н	-24.79	-24./9	H-H	-11.65	21.10	0.00	33.00	5.24

CDMA PCS Loopback Mode

CDMA PCS EVDO Mode

EUT						Substitution Method							
			Rx Antenna Spectrum A		Analyzer	nalyzer Tracking Generato		Generator					
							Max			Corrected (relative to	Reading Isotropic		
		Frequency				Reading	(V,H)	Pol.	Reading	Radia	itor)		
Туре	Ch	(MHz)	Band	Туре	Pol.	(dBuV)	(dBuV)	Tx-Rx	(dBm)	(dBm)	(W)	Limit (dBm)	Diff. To Limit (dB)
F0	25	1851.25	PCS	Horn	V	-39.72	-27 18	V-V	-15.61	25.18	0 33	33.00	7 82
F0	25	1851.25	PCS	Horn	Н	-27.18	-27.10	H-H	-14.44	23.10	0.00	55.00	7.02
F0	600	1880.00	PCS	Horn	V	-37.82	26.20	V-V	-14.07	06.00	0.40	22.00	6 77
F0	600	1880.00	PCS	Horn	Н	-26.30	-20.30	H-H	-13.17	20.23	0.42	33.00	0.77
F0	1175	1908.75	PCS	Horn	V	-36.99	26.07	V-V	-13.17	26 47	0.44	22.00	6 52
F0	1175	1908.75	PCS	Horn	Н	-26.07	-20.07	H-H	-12.94	20.47	0.44	33.00	0.03

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SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2)						
	APPENDIX 10C						
Test Report No.: RTS-6066-1510-13C	Dates of Test: July 21 to October 26, 2015	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW IC: 2503A-RHK210LW					

CDMA Cellular Loopback and Test Data Mode

Date of Test: October 16, 2015

The following measurements were performed by Savtej Sandhu. The environmental tests conditions were: Temperature: 26.8 °C Relative Humidity: 25.2 %

The BlackBerry[®] smartphone was standalone, horizontal with LCD facing up and top pointing to the RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in CDMA Cellular Band Loopback and Test Data Mode on channels 1013, 384, and 777.

All emissions had test margins greater than 25.0 dB.

Date of Test: October 13, 2015

The following measurements were performed by Winston Vernon. The environmental tests conditions were: Temperature: 23.0 °C Relative Humidity: 49.4 %

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and a frequency range of 1 GHz to 9 GHz.

The BlackBerry[®] smartphone was standalone, horizontal with LCD facing up and top pointing to the RX antenna when the turntable is at 0 degree position.

Measurements were performed in CDMA Cellular Band Loopback and Test Data Mode on channels 1013, 384, and 777.

All emissions had test margins greater than 25.0 dB.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

CDMA Cellular EVDO Mode

Date of Test: October 16, 2015

The environmental test conditions were:Temperature:23.8 °CRelative Humidity:28.1 %

The BlackBerry[®] smartphone was standalone, horizontal with LCD facing up and top pointing to the RX antenna when the turntable is at 0 degree position.

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and the frequency range scanned was 30MHz – 1GHz.

Measurements were performed in CDMA Cellular Band EVDO Mode on channels 1013, 384, and 777.

All emissions had test margins greater than 25.0 dB.

Date of Test: October 13, 2015

The environmental test conditions were:	Temperature:	23.0 ºC
	Relative Humidity:	49.4 %

Test Distance was 3.0 meters with the RX antenna height scans between 1-4 meters height, and a frequency range of 1 GHz to 9 GHz.

The BlackBerry[®] smartphone was standalone, horizontal with LCD facing up and top pointing to the RX antenna when the turntable is at 0 degree position.

Measurements were performed in CDMA Cellular Band EVDO Mode on channels 1013, 384, and 777.

All emissions had test margins greater than 25.0 dB.

SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10C					
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW				
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW				

CDMA PCS Loopback and Test Data Mode

Date of Test: October 23 - 26, 2015

The environmental test conditions were:Temperature:23.8 °CRelative Humidity:28.1 %

Test Distance was 3.0 metres with a height of 1-4 metres, and a frequency range of 30 MHz to 1000 MHz.

The BlackBerry[®] smartphone was standalone, with USB Up and LCD facing to the RX antenna when the turntable is at 0 degree position.

The measurements were performed in CDMA PCS band Loopback and Test Data mode on channels 25, 600 and 1175.

All emissions had a test margin greater than 25.0 dB.

Date of Test: October 23, 2015

The environmental test conditions were:	Temperature:	23.3 ⁰C
	Relative Humidity:	38.9 %

Test Distance was 3.0 metres with a height of 1-4 metres, and a frequency range of 1GHz-20GHz.

The BlackBerry[®] smartphone was standalone, horizontal with LCD facing down and top pointing to the RX antenna when the turntable is at 0 degree position.

The following measurements were performed in CDMA PCS band Loopback and Test Data mode on channels 25, 600 and 1175.

All emissions had a test margin greater than 25.0 dB.
SlackBerry.	EMC Test Report for the BlackBerry [®] smartphone Model RHK211LW (STV100-1), RHM181LW (STV100-4), RHT181LW(STV100-2) APPENDIX 10C	
Test Report No.:	Dates of Test:	FCC ID: L6ARHK210LW, L6ARHM180LW, L6ARHT180LW
RTS-6066-1510-13C	July 21 to October 26, 2015	IC: 2503A-RHK210LW

Radiated Emissions Test Data Results cont'd

CDMA PCS EVDO Mode

Date of Test: October 23 - 26, 2015

The environmental test conditions were:Temperature:23.8 °CRelative Humidity:28.1 %

Test Distance was 3.0 metres with a height of 1-4 metres, and a frequency range of 30 MHz to 1000 MHz.

The BlackBerry[®] smartphone was standalone, with USB Up and LCD facing to the RX antenna when the turntable is at 0 degree position.

The following measurements were performed in CDMA PCS band EVDO mode on channels 25, 600 and 1175.

All emissions had a test margin greater than 25.0 dB.

Date of Test: October 23, 2015

The environmental test conditions were:	Temperature:	23.3 ºC
	Relative Humidity:	38.9 %

Test Distance was 3.0 metres with a height of 1-4 metres, and a frequency range of 1GHz-20GHz.

The BlackBerry[®] smartphone was standalone, horizontal with LCD facing down and top pointing to the RX antenna when the turntable is at 0 degree position.

The following measurements were performed in CDMA PCS band EVDO mode on channels 25, 600 and 1175.

All emissions had a test margin greater than 25.0 dB.