



FCC ID: PWO460004
IC ID: N/A
CT Project: p1350023

Technical Reviewer: Chris Harvey
Date: 9/20/2013

1. The Block Diagram contains operational blocks for the 2100 MHz but not for the paired 1700 MHz operation. Also, please add the frequency range information on the block diagram (i.e. 824-848 MHz & 869-894 MHz for the 800MHz bands).
CT: Block Diagram has been updated, please see REV 1.
2. The test setup photos are not included. Please provide.
CT: Please see file *Test Setup Photos_PWO460004.pdf*.
3. The Antenna Gain exhibit seems to only show the Uplink Frequencies and does not mention the Downlink frequency. Please correct and update any other exhibits that may need to be corrected with updated gain information. Also, the specified range for 700 MHz in the exhibits such as 777-787MHz is not uplink spectrum. It is downlink spectrum. Please note that the correct range for uplink is 746-757 MHz. Please revise the information. Additionally, the correct frequency range for 777-787 MHz is 776-787 MHz downlink.
**CT: The 777 - 787 MHz is an Uplink frequency band. 746 - 757 MHz is a downlink frequency band. Refer to KDB 935210 D03 Annex A - Consumer Signal Booster Authorized Frequency Band chart.
The Frequency Band chart on page 5 of the test report represents the frequency bands used by the EUT and not the allowable frequency bands for CMRS listed in Annex A of KDB 935210 D03. Please refer to the REV 1 antenna kitting exhibit.**
4. Please note that I will wait to review the MPE exhibit until the antenna gain issue has been resolved.
CT: Noted.
5. Please correct the frequency range information in the test report and "Operational Description" exhibits for the 700 MHz Upper band as described as item #6.
CT: The frequency ranges in the test report and "Operational Description" exhibit are correct per the actual frequencies used by the EUT as declared by the manufacturer.
6. In many locations throughout the TEST report there are stated limits that have been calculated but these calculations have not been shown in the report (as examples, Conducted Spurious Emissions and Noise Limits). In all cases where a limit is calculated, the report must always show where this calculation is from and a sample calculation.
CT: Formulas for calculating limits have been added to the test report.



7. There are many tests that have been performed in different modulations, and a statement of the intended modulations for which this device is being approved, but the test sections do not justify the selection of the modulations used during testing. One example of this is the Out of Band Emissions starting on Page 21, that lists GSM, CDMA and WCDMA modulations, but does not include all the modulations listed on page 5 of the report. It is suggested that the modulations described on page 5 be grouped into 'types' that are then justified to be used for each particular test. Also, please use the same modulation designators throughout the report (i.e. HSUPA vs. WCDMA). If GSM modulation is being used to represent GSM/GPRS/EDGE modulations (Emission Types GXW and G7W) then please justify that on page 5.

CT: The C63 Wireless Working Group, RF Booster Task Group that created KDB 935210 D03 Wideband Consumer Signal Booster Measurement Guidance DR04-41516, determined that testing with GSM, CDMA, and WCDMA modulations would satisfy the testing requirements of the different modulation types and protocols available in the CMRS band.

I tested the EUT per the procedures and guidance provided per KDB 935210 D03 Wideband Consumer Signal Booster Measurement Guidance DR04-41516.

8. The Out Of Band Emissions test limit in the test report is stated as -19dBm (which seems to be an error and maybe from the Inter-modulation requirements). Please confirm the OOB test limit and correct as needed.

CT: 20.21(e)(8)(i)(E) Indicates that the OOB limit is 6 dB more stringent than the FCC mobile Emissions Limit which is -13 dBm. This makes the limit -19 dBm.

9. The CDMA plots for occupied BW Output Uplink band shows an elevated skirt for all output plots.

CT: The CDMA signals show an Eb/No of greater than 20 dB which will allow for adjacent channels to operate without interference. This is perfectly acceptable and will within the "must be similar" guidelines.

10. The Downlink Detection Time Limit is stated as 300mS, but should be 1 second. The Downlink restart time Test Results data unit should be Seconds, but is shown as mS.

CT: The limits and units have been corrected.

11. Based on "User Manual", the antenna connectors of the inside and the outside antennas stated as SMA male and F male respectively. However, from the provided external photo, the connectors look the same and possibly are TNC Connectors. Please confirm the antenna connectors and update the exhibit accordingly.

CT: Please refer to the REV 1 User Manual exhibit.

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Response by: Greg Corbin

Submitted by: Jennifer Sanchez

Date: 9/20/2013