

Chris Harvey

From: Jong-gon Ban <banjg@ktl.re.kr>
Sent: Thursday, January 09, 2014 2:44 AM
To: Harvey, Christopher
Cc: Hoque, Claire; danieljoonpark@hotmail.com; Briggs, Mark; '조성규'
Subject: RE: POINTMOBILE CO.,LTD, //V2X-PM40 //AN13T0689 Notice #1

Dear chris,

Please check my response and updated documents.

Dear JG Ban,

You are listed as the Technical Contact for the above referenced TCB application. The following item(s) need(s) to be resolved before the review can be continued:

This application is being submitted for approval of a handset device that incorporates a WWAN Module that has been approved, but this application is being submitted under a new FCC ID and not taking advantage of the Modular Approval. The original Module RF Reports are submitted in this application.

1. Please provide the compliance information for the Class B Computer Peripheral compliance (Label does not yet have the FCC logo for DoC and there is no application submitted for JBP Certification).

=> I missed uploading the Class B report. Please check the Part 15B report for CoC.

2. You have submitted the 7Layers Class B test report for the WWAN Module, but this report is not needed in the application for the handset, so it will not be reviewed or submitted to the FCC for the applications of this handset.

=> Ok. Just ignore it, Please.

3. Please provide a separate label location exhibit (required by FCC), which can be extracted from page 8 of the User's Manual.

=> Please check the 'Label info & Location_PM40' file.

4. Please note that the FCC ID in the application exhibits is V2X-PM40, but the online application form was completed without the '-' dash. I have updated the online form to show FCC ID V2X-PM40. Please confirm that this is OK with you.

=>Thank you. 'V2X-PM40' is correct.

5. Please update the Block Diagram exhibit to indicate the exact frequencies of operation of this device (for example, instead of stating 2.4GHz for 802.11b/g/n, please indicate the exact frequencies of operation 2412-2462 MHz. Please note that stating 802.11a does not provide enough information about the frequency of operation since 802.11a operation covers four different FCC frequency bands in 5 GHz range. Please update the Operational Description and the Block Diagram exhibit to indicate the exact frequencies of operation.

=>Please check the updated operational description. You can check them on page 5 'RF specification'.

6. Please provide Compliance report for the NII requirements for 15.407 DFS and TPC requirements and the AdHoc attestation for operation per FCC KDB 848637. Please be sure to provide all items required by this KDB, including the reports and attestation for all requirements (Active/Passive Scanning, channel plan, Software Configuration Control, DFS compliance, etc.).

=> Please check the DFS test report. And you'll be able to check this information from updated Operational description file on page 5 ~ 7.

7. The Operational Description indicates this device has the capability of HSPA+, which is 3GPP Release 7, but the RF and SAR reports do not document this capability. The User's Manual and Block Diagram exhibits also indicate HSPA+ capability. If SAR testing exclusions for modes of operation are being taken, then they must be documented in accordance with FCC KDB 941225 D02. The SAR report only documents 3GPP rel 6 HSPA.

=> HSPA+ is not supported. Please check the updated documents.

8. The DTS measurement report page 14 of 59 states that the Peak and Average power measurements are performed in accordance with FCC KDB 558074 sections 9.1.2 and 9.2.2 4, respectively, however the measurement plots seem to show simple peak measurements, not integrated channel power per the KDB. It is noted that typically the power at the lower data rates is higher than the power at higher data rates, but the power tables show that the power is higher at the higher data rates.

=> We re-evaluated the Peak & Average powers according to the KDB 558074 method. Please check the updated Part 15C WLAN report from page 16.

9. Also, the Average Power tables have a note stating that the Duty Cycle Correction Factor is $10\log(1/x)$, but this 'x' is not defined and the factor is not provided.

=> Please check the Part 15C WLAN report on page 9 about Duty Cycle.

10. Please note that references to FCC KDB documents should be complete. While you reference 558074 V03r01 on page 1, the reference should include that this is Document D01 of 558074.

=> Please check it on page 1 of Part15C WLAN report.

11. Please provide more test Measurement Procedure information for the Power Spectral Density test in the DTS report. How are the peaks determined? The markers seem to be at the exact same location in the waveform for each mode of operation, even though it appears that the peaks may be at a different part of the spectrum. Did you follow the procedure of an FCC acceptable measurement procedure or KDB?

=> Please check it on page 29 of Part 15C WLAN report.

12. The Operational Description and Manual indicate WLAN data rates up to 72.2Mbps, but the DTS/NII reports only indicate up to 65Mbps capability. Please confirm and update.

=> The data rates are updated as 65Mbps.

13. The HCT reports for 5.8GHz DTS mentions 802.11ac on page 4, but this device appears not to have 802.11ac capability. Please confirm and correct.

=> This device doesn't have 802.11ac capability. And the HCT report is updated as correct.

14. The HCT 15.407 NII report (HCTR1311FR13) page footer indicates that this is an FCC 15.247 (DTS) report, and pages 18 and 71 indicate compliance with FCC 15.247 rules sections. Please update this report to correctly reference FCC 15.407 and the specific requirements of NII compliance.

=> HCT Revised the rule section to 15.407 from 15.247 on Page 18 and 71

15. Does this Bluetooth device have the capability of Adaptive Frequency Hopping (AFH) which uses a reduced hopset. If so, please document compliance with the minimum number of Hopping Channels and Dwell Time requirements in the AFH mode of operation.

=> Please check the AFH attestation document.

16. Please provide a tune-up exhibit that documents the power tolerances allowed for each transmitter. This information may be contained in the Operational Description, but the information provided does not indicate if the power levels are Peak or Average. Please update this information.

=> Please check it on page 2 of operational description.

17. Please provide the test setup photographs for each test report clearly showing if a ferrite core is required in the cables or power.
=> Please check the setup photos from Part15B report on page 14.
18. The SAR report does not document the estimated SAR of the Bluetooth transmitter as required by FCC KDB 447498 D01 V05r01 section 4.3.2 (2). Please update the SAR report to clearly document compliance with this simultaneous transmission requirement.
=> Please check it on page 36 from revised SAR report.
19. Please provide the RF Schematic Diagram for the WWAN module included in this device.
=> Please check it on page 12 from the updated circuit diagram.
20. The Schematic Diagram exhibit includes some traces/pins for NFC operation (13.56MHz?) but this capability is not listed in the operational Description. Does this device have NFC capability? If yes, please include compliance documentation. If not, please update the Schematic.
=> NFC is removed from the schematic diagram. Please check it from the updated circuit diagram.
21. Please update the WWAN Radiated report to include the antenna gain information for each specific band (it appears that only the 850MHz band gain was provided). Also, provide a sample calculation for ERP/EIRP => Please check the updated ant gain info on page 4 and ERP sample calculation for ERP/EIRP on page 6.
22. The User's Manual exhibit does not include any information about the required separation required (minimum of 15mm per SAR report) or metallic component composition of the body-worn accessories. Because SAR testing was performed with an air-gap, body-worn accessories should not contain any metallic components and should provide a minimum of 15mm separation to the body.
=> Please check the required separation and body-worn accessories on page 10 from updated user manual.
23. In the future, please show the SAR separation distance by using a measurement stick/ruler in the SAR setup photos.
=> Ok. Thanks for your information.
24. Please provide a sample calculation for the SAR scaling factors used in the SAR data tables. The SAR report should document the highest power tolerance for each mode/transmitter to justify the SAR scaling used in the SAR data tables.
=> Please check it on page 16 from SAR report.
25. Please note that the Manual contains Canada compliance information, but no application for Industry Canada approval has been submitted.
=> There is no IC application. But the applicant want to leave it as it is for the future.
26. The SAR report seems to state that the WWAN or Voice transmission will not transmit simultaneously with the other transmitters (WLAN or BT). Please provide more detailed description of simultaneous transmission capabilities of this device in the operational Description. Please note that the User's Manual implies simultaneous operation on page 54.
=> WWAN + BT simultaneous only possible. Please check it on page 36 from SAR report. And please check the operational description on page 5 for simultaneous transmission capabilities.
27. The BT and WLAN RF reports indicate antenna gain of 0.69 (no units), -0.15dBi, but the Operational Description exhibit has different Antenna gain data. Please confirm the actual peak antenna gain (in dBi) for each band and update all reports and the Operational Description exhibits as needed.
=> The antenna gain information is changed in the all reports.

28. The Internal Photos clearly document that this device is assembled with 2 different possible scanner circuits. The SAR report should document any investigation used to determine the worst case configuration for RF Exposure compliance. Please update the SAR report.

=> 1D(different) scanner device SAR values are added at the worst configuration in each band.

29. For the BT RF report please indicate how it was determined that the 2 modulations tested were the worst case of the 3 available modulations.

=> Please check it on page 6 from Part15C BT report. Test modulations were selected according to the Maximum output powers.

30. Please update the FCC Part 22/24 Radiated test report to include the ERP/EIRP measurements for the EDGE 850 and EDGE 1900 MHz operating modes.

=> Please check it on page 8 from Part22/24 report.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted. Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender. Revised documentation should not be emailed, but instead should be submitted through "Add Attachment" function at the UL-CCS website. Please have your Assessment Number and FCC ID/IC Certification number handy. You may use the following link: <https://cert.ccsemc.com/filing/>

Best regards,

Chris Harvey
Chris.Harvey@ul.com

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반 종 곤 / JG (Jong-gon Ban)
선임연구원 / Senior Engineer
한국산업기술시험원 / KOREA TESTING LABORATROY

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E-mail : banjg@ktl.re.kr Web: www.ktl.re.kr =====

-----Original Message-----

From: Chris.Harvey@ul.com [mailto:Chris.Harvey@ul.com]
Sent: Friday, December 13, 2013 3:32 AM
To: banjg@ktl.re.kr
Cc: Chris.Harvey@ul.com; claire.hoque@ul.com; danieljoonpark@hotmail.com; mark.briggs@ul.com
Subject: POINTMOBILE CO.,LTD, //V2X-PM40 //AN13T0689 Notice #1

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Best regards,

Chris Harvey
Chris.Harvey@ul.com

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No virus found in this message.

Checked by AVG - www.avg.com

Version: 2014.0.4259 / Virus Database: 3658/6975 - Release Date: 01/04/14