



Date: March 7, 2023

Federal Communications Commission
7435 Oakland Mills Road
Columbia MD 21046

Subject: Class II permissive Change for PCB and Part Modification as per PAG C2PCPX for FCC ID:
HD5-VM1AL0N, originally granted on: November 14, 2018

To Whom It May Concern:

With reference to the C2PCPX procedure subject to PAG approval as described in KDB Publication 388624 D02, the application shall fulfil the followings condition:

1. The requirements of § 2.1043 are fulfilled, i.e., the device's block functions for the Fundamental frequency, primary modulator circuit, maximum power, or field strength ratings shall remain unchanged.

The block function for fundamental frequency, primary modulator circuit, max power or field strength remains unchanged. Due to part EOL, original NFC transmitter NQ310 was replaced by NQ410. NQ410 maintained the same fundamental frequency, max power or field strength as NQ310.

2. Transmitter PCB layout and parts changes are only permitted if there is no change in identifying a device's form, functional specification, as initially granted or previously approved under a Class II permissive change.

All implemented changes(provided in Appendix)will not alter the device PCB form, functional specification.

3. PCB changes are limited to non-substantive modifications layout changes to the same size physical circuit board previously granted.

Yes, all non-substantive modifications layout changes were maintained in same size physical circuit board previously granted. For non-substantive modifications layout changes refer to Appendix for illustration.

4. C2PCPX is not permitted to add, remove, augment, or change capabilities, such as transmitters, increased bandwidth, additional rule parts, bands, etc.

There are no addition or removal of bandwidth, bands & transmitter capabilities.

5. In the PAG submission for item C2PCPX, the applicant shall provide complete information on testing demonstrating that the proposed changes for fundamental emissions are unchanged within the normal, acceptable tolerances and out-of-band; emissions do not exceed the appropriate limits. The PAG submission shall include all applicable test reports and internal photos.

The NFC test reports: TERF2212002708ER and other RF test reports are provided in application. The current NFC radiated field strength result is close to originally granted and is within the acceptable tolerance category.

6. The modified device shall not be marketed under the existing grant of certification before confirmation that the C2PCPX PAG is approved and granted.

Yes, the modified device would not be marketed under the existing grant of certification before C2PCPX PAG is completed.

7. Software Defined Radio (SDR) grants that use the C2PCPX procedure are not permitted to make subsequent Class III permissive changes.

Not applicable, our product is non SDR.

8. The C2PCPX PAG procedure has no impact on the provisions of V) of this publication for non-SDR software-only changes; thus, adding an equipment class when related to rule changes is still permitted.

Not applicable, our product is non SDR.

9. Class I permissive changes are not permitted under this C2PCPX procedure.

Yes, our application is pursuant to C2PC

SGS

Sincerely,

Jim Chang

On behalf of: SGS Taiwan Ltd.

Telephone: +886 2 2299 3279 Ext.: 1194

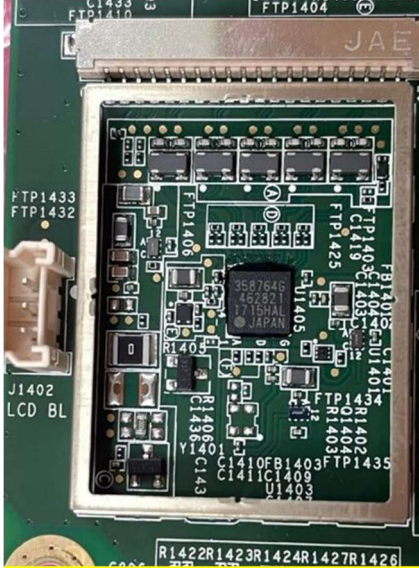
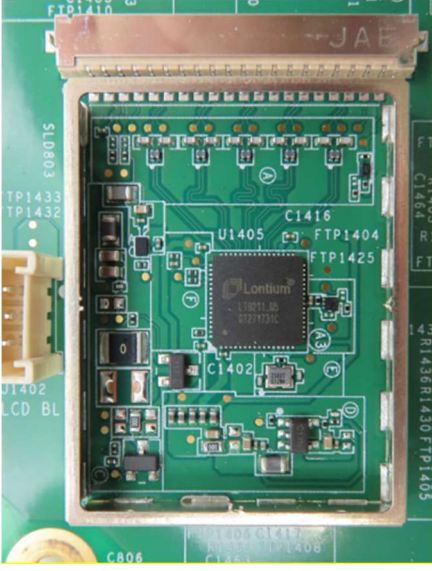
Email: jim.chang@sgs.com

Appendix

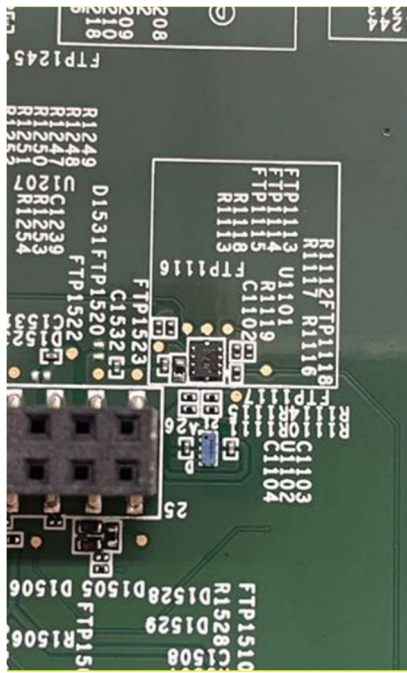
Product changes description and comparison

The change of components was triggered by EOL and global part shortage. Description of changes illustrated with photo for comparison as follow:

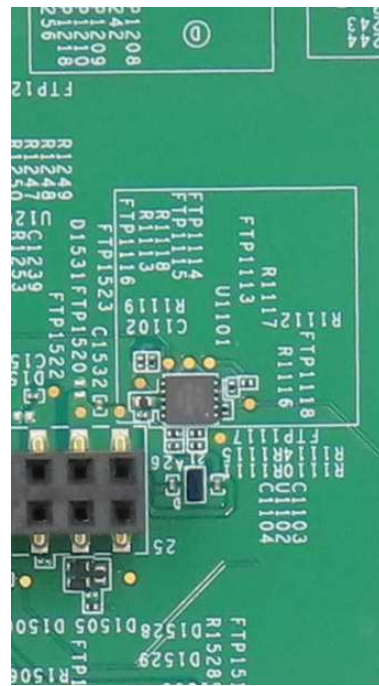
- 1) Non substantive modification layout changes. All changes within same form factor
 - I. U1405
Display Interface bridge IC
 - II. U1101
Analogue to digital converter IC
 - III. BAT1801
RTC super capacitor

Designator in Schematic/PCB & Its function	Original PCBA	New PCBA	Changes Illustration
I) U1405 Display interface bridge IC. Transform display output format from MIPI DSI to LVDS	 <p>Toshiba: TC358764XBG(EL)</p>	 <p>Lontium: LT9211_U5</p>	Display interface bridge IC change. Non-Pin to pin compatible. Electrically close to identical but not 100%. Surrounding peripheral components and PCB layout changed.

II)U1101
Analog to digital
convertor IC



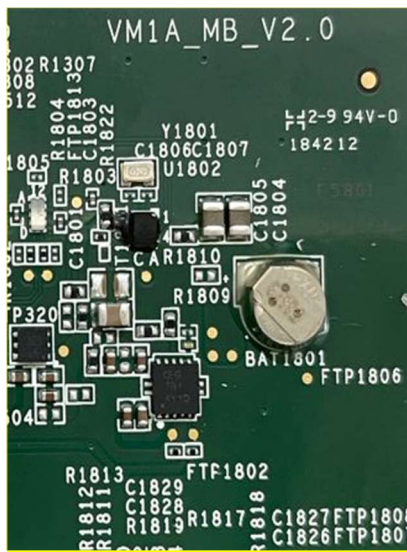
MOLEX: ADS1015IRUGR



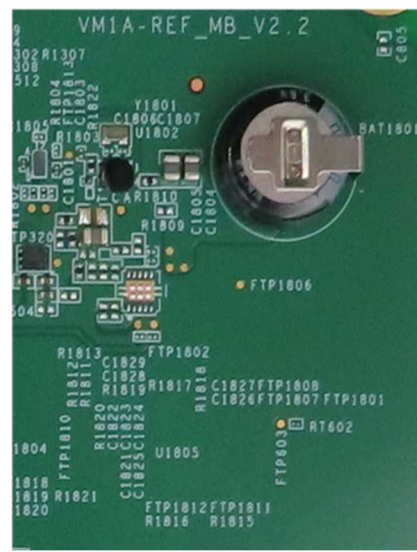
SGMICRO: SGM58031XTD10G/TR

Different size but
with same functional
pinout. Electrically
equivalent.
Surrounding
peripheral
components
unchanged. PCB
layout changes
limited to ADC IC
itself.

III) BAT1801
RTC super
capacitor



SEIKO: XH414HG IV01E

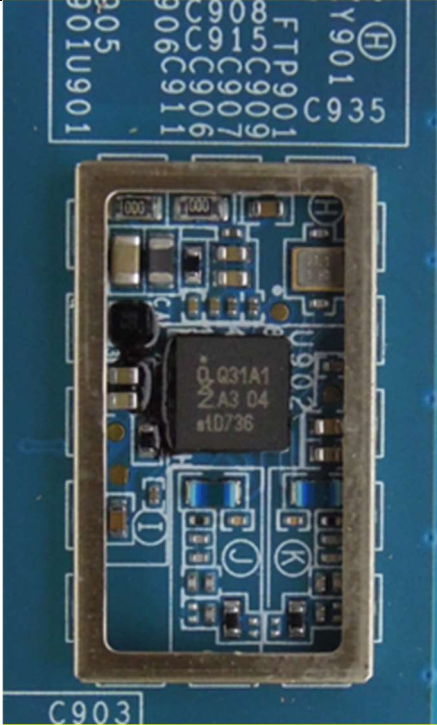
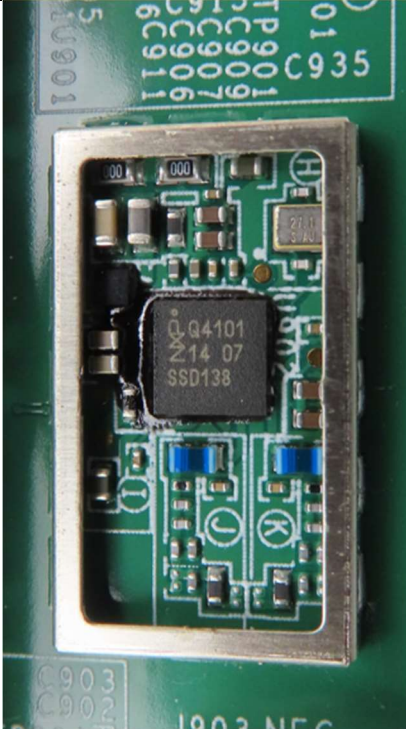


ELNA: DXS-3R6H224U

Different size but
with same functional
pinout. Electrically
equivalent.
Surrounding
peripheral
components
unchanged. PCB
layout changes
limited to RTC
capacitor itself,

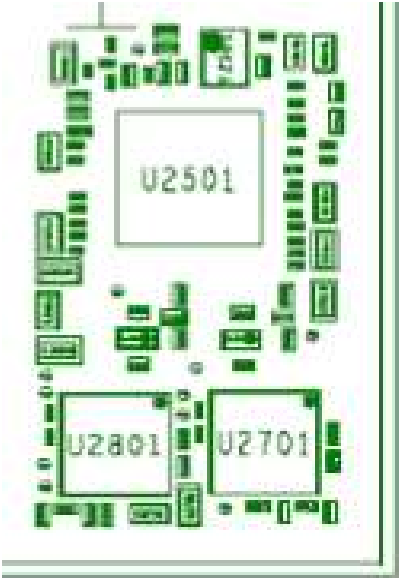
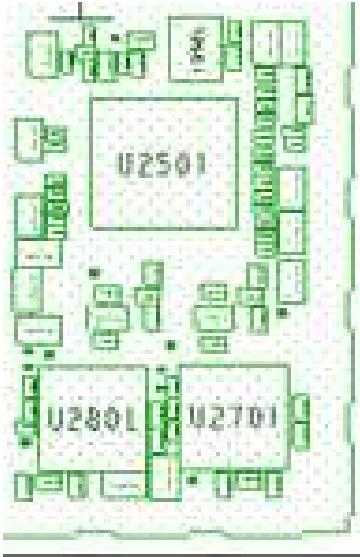
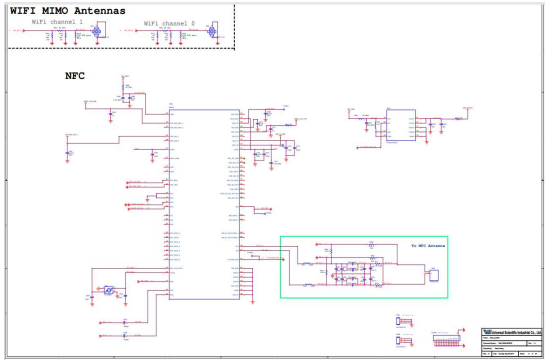
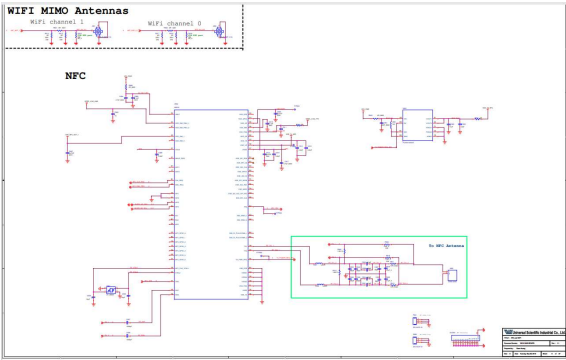
2) RF transmitter

I. NFC module

Designator in Schematic/PCB & Its function	Original PCBA	New PCBA	Changes Illustration
I)NFC Module			<p>NQ310 & NQ410 both has same output power, operating frequency, pin to pin compatible. No change on PCB layout and NFC antenna.</p>
U902 NFC controller IC	NXP: NQ310	NXP: NQ410	

BT & WLAN Module is unchanged and provided as supplementary info as follow

Designator in Schematic/PCB & Its function	Original PCBA	New PCBA

<p>BT & WLAN Module</p>		
<p>U2501 BT & WLAN transceiver IC</p>	<p>Qualcomm: WCN3990</p>	<p>Qualcomm: WCN3990</p>
<p>U2801, U2701 External Power Amplifier module for BT & WLAN transceiver IC</p>	<p>Qorvo: QM48858</p>	<p>Qorvo: QM48858</p>
<p>R901, R902 Resistor. BT & WLAN RF output path matching component</p>	 <p>WiFi MIMO Antennas</p> <p>WiFi channel 1</p> <p>WiFi channel 0</p> <p>Resistance: 0 ohm</p>	 <p>WiFi MIMO Antennas</p> <p>WiFi channel 1</p> <p>WiFi channel 0</p> <p>Resistance: 0 ohm</p>