Date: 11/16/2017

Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

Subject: FCC Class II Permissive change application for SetinelHDx FCC ID: 2AFS2-SHDX originally granted on 06/13/2016

eInfochips is herein submitting a class II permissive change filing for SetinelHDx as listed in the operation description exhibit. Below changes were made with respect to the original product.

RF related changes:

1. Length of the RF trace for antenna ANT1 (Internal Antenna path A) has been reduced by 3.45mm. Length of the RF trace for antenna ANT2 (Internal Antenna path B) has been reduced by 0.95mm. The trace shape for both of these Antenna traces have also been modified.

Product level changes:

1. GPS Receiver Antenna part changed to AGGP.25F.07.0060A

Enclosure changes:

1. Air flow vents have been added to back cover of the enclosure.
2. Battery holding bracket has been modified to fit the GPS receiver antenna.
3. Hole was added to enclosure cover top side to provide opening for GPI cable connector.

Board level changes:

Mother Board:

1. U2, U3, U4 & U5 (MT41K512M8RH-125:IT) – Removed(Qty-4) and mounted Part MT41K512M16HA-125 with reference designators U21 & U47 in place (Qty-2).
2. R416 Changed to 43ohm (Earlier 33ohm was mounted)
3. Connection of Pin # 1 of LS1 changed from VCC_3V3 to VSYS
4. C250 removed and USB_CHASSIS_GND net merged with DGND net
5. Pin connections of CON3 swapped internally.
6. FB54 added between CON3 pins and VSYS net
7. FB55 added between CON3 pins and VCC_3V3 net
8. Added U23, R453, R454 and C725 to sense on board temperature.
9. Connection of pin # 33, 35, 37 of CON5 changed from VCC_1V65 to DGND and FB37 removed.

10. Connection of pin # 27, 29 of CON5 changed from VCC_3V3 to DGND and FB18 removed.
11. Added R445, R446, R447, and R448 in series on SPI0 interface signals.
12. Removed C307 & FB21; and merged SD_CHASSIS_GND net into DGND net.
13. Removed L12, C439, C666, C667, C441, R270, C465, R246, R249, FB31, TP33 from board and removed net VCC_1V65 locally from board and made pin # 1, 3 & 32 of U34 NC.
14. Removed C442, C443, and R276 from board and made pin # 4 of U34 NC.
15. Added CON7 connector for debugging purpose.

Controller Board:

1. Added D16(BAT54C), C694, R475 and U41(KT3225T) in place of Y1(SC32S-7PF20PPM) for RTC accuracy and back-up purpose.
2. Added U50, R532, R529, R530, R531, C769 and U50 to sense on board temperature.
3. Pin # 1 of OSC3 is connected with pin # 18 of U19 through R535(0E).
4. Removed U20, R341, R342 and C335.
5. GPS Receiver module changed from GYSFFMAXB(U24) to SE868V3B577R002(U43) and required circuitry around it also modified accordingly.
6. Removed U35(F6QA1G575H2JF).
7. Added U47(TPS73201DBVR) and circuitry around it to generate bias supply for GPS receiver antenna.
8. Added U44 (XC6221A182MR-G) and circuitry around it to generate power supply for changed GPS Receiver module part.
9. Changed part number of U23 from SN74AVC4T245RGYR to TXS0104ERGYR. Added one more part of TXS0104ERGYR for voltage level translation of additional signals.
10. Added U49 & U51 (SN74AHC1G08DCKR).
11. Added J12 & J11 & circuitry around them for debugging & testing purpose.
12. Changed connector of External GPI J10 part from SM02B-GHS-TB to MJ1-2503A
13. Added R513, R512 & C763
14. Added LEDs D19, D20 and resistors R514, R515.
15. Added resistors R510 & R511 for GPS receiver module selection.
16. Interchanged placement of L6, F1 & TVS1
17. Changed part number of TVS1 from SMCJ17CA-TP to TPSMD17A.
18. Removed CE1(47uF. 50V) and added C685(470pF) in its place.
19. Removed CE2 (47uf, 50V) and added C684(470pF) & C681, C682 (22uF) in their place.
20. Added D18 (SSB43L-E3/52T).
21. Added C755, C683, C686 (470pF).
22. Removed C593 & ESD3
23. Removed U29 (TPS22969DNYR) & C409 and added FB48 (48E; 6A) in place of it.
24. Added C687, C717, C688, C718 (470pF), R544 (4.7E), C779 (1000pF) and R468, R469, R470 (0E).
25. Removed U30, Q1, Q2 and circuitry around it
26. Removed D13 and circuitry around it
27. Changed value of R219 from 0E to 1K, mounted C410
28. Added U45 (TPS62097RWKT), L15 (1UH; 3.3A), FB52 (MPZ1608S221A) and circuitry around it to generate 1.8V power rail locally on board.

29. Interchanged VCC_3V3 and DGND pin-connections on CON1. Added VCC_1V8 connections on CON1.
30. Added L1(common mode choke) on USB1 interface signals.
31. Removed shield clips (CLIP1 to CLIP11).
32. Changed CAM_DGND net to DGND.
33. Added C719, C720 (470pF)
34. Removed FB44, FB46, C568, C569, C570, C556, C557 and C558 from pin # 29 & 37 of CON5. Changed connection of pin # 27, 29, 33, 35 & 37 of CON5 to DGND.
35. Added FB44(120E,1.3A), C722, C557(10uF), C556(1uF) and C558(0.1uF) to generate IMG_3V3 specifically for the image sensor U38(OV10633-C96A) from VCC_3V3.
36. Added U42(TPS73201DBVR), FB46 (9 120E,1.3A), R471926.7K), R472(71.5K), R473(84.5K), R474(100K), C713, C715, C570(1uF), C721, C568(10uF), C569(0.1uF) and C711, C716 (470pF) to generate IMG_1V65(1.65V) from CB_1V8(1.8V) locally on board.

The detailed implementation, operation and method is explained as per operation description exhibit.

Sincerely,

Date: 11/21/2017

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Controller
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