



August 9, 2021

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, Maryland 21046

Dear Application Examiner:

Logic PD is seeking a Class 2 Permissive Change for FCC ID:YKP1024119.

Applicable FCC Rules:

FCC 15.247
FCC 15.407

The Torpedo + Wireless SOM -32 is a family of System on Module(SOM) devices manufactured by Logic PD. These SOMs use several processors from the AM/DM37xx family. The differences between the SOMs are processor core (with or without DSP), processor operating speed, memory density and operating temperature. These SOMs share a common PCB and radio module with 802.11 abgn WIFI, Bluetooth and Bluetooth LE capabilities. The SOMAM3703-32-1780AKIR-A SOM tested in this C2PC is considered representative of the entire Torpedo + Wireless SOM -32 family of SOMs.

Logic PD completed a class 2 permissive change on June 16, 2015 to address a radio supply issue. As part of that C2PC in 2015, we reduced output power significantly from our original grant.

As part of this current C2PC, several power levels were lowered in software.

WIFI Channel	2015 C2PC Setting	New C2PC Setting
1	0x20	0x1E
11	0x50*	0x1E
36	0x1E	0x15
48	0x1E	0x17
149	0x50*	0x1C

*Note – A setting of 0x50 indicated power is not restricted by software.



The SOM utilizes EPSON part number TG-5035CJ-18S 26.0000MHZ in Y4 and Y5 component locations. This part has been discontinued due to a fire at the AKM semiconductor factory. Y4 supplies a clock signal to the wireless IC has been replaced by Epson part number TG2016SMN 26.000000MHZ ECGNNM. Y5 supplies a clock to the processor and has been replaced by Abracon part number AMPMAFB-26.0000T. To better support these new oscillators, C206 has been changed to a 22 Ohm resistor and R163 has been depopulated.

We are seeking a class 2 permissive change for the following item changes:

- Component Changes: Y4, Y5, C206 and R163

The Torpedo + Wireless SOM -32 Family includes the following models:

1. SOMAM3703-32-1780AKIR-A / SOMAM3703-32-1780AKIR-B
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a AM3703 Industrial Temperature ARM only processor capable of running up to 800MHz.
 - ii. Processor is rated for Industrial temperatures.
2. SOMDM3730-32-1780AKIR-A / SOMDM3730-32-1780AKIR-B
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 800MHz.
 - ii. Processor is rated for industrial temperatures.
3. SOMDM3730-32-1880AKIR-A
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.
 - ii. Processor is rated for industrial temperatures.
4. SOMDM3730-32-2780AKCR-A / SOMDM3730-32-2780AKCR-B
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.
 - ii. Processor is rated for commercial temperatures.
 - iii. Uses a higher density memory part; 512MB of LPDDR instead of 256MB.
5. SOMDM3730-32-2880AKXR-A
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.
 - ii. Processor is rated for extended temperatures.
 - iii. Uses a higher density memory part; 512MB of LPDDR instead of 256MB.
6. SOMDM3730-IDX01-0401R-A / SOMDM3730-IDX01-0401R-B
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.



- ii. Processor is rated for extended temperatures.
 - iii. Memory Density 512MB DDR.
 - iv. W.FL connector not populated at J6.
- 7. SOMDM3730-IDX01-0501R-A / SOMDM3730-IDX01-0501R-B
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.
 - ii. Processor is rated for extended temperatures.
 - iii. Memory Density Change from 512MB DDR to 256MB DDR.
 - iv. W.FL connector not populated at J6.
- 8. SOMDM3730-32-1880AKIR-B / SOMDM3730-32-1880AKIR-C
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 800MHz.
 - ii. Processor is rated for extended temperatures.
- 9. SOMDM3730-32-2880AKXR-B / SOMDM3730-32-2880AKXR-C
 - a. PMN: Torpedo + Wireless SOM -32
 - b. Difference:
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.
 - ii. Processor is rated for Industrial temperatures.
 - iii. Uses a higher density memory part; 512MB of LPDDR instead of 256MB.
- 10. SOMDM3730-KES01-0201R-A
 - a. PMN: Torpedo + Wireless SOM -32
 - i. Uses a DM3730 Industrial Temperature dual core processor capable of running up to 1GHz.
 - ii. Processor is rated for Industrial temperatures.
 - iii. Uses a higher density memory part; 512MB of LPDDR instead of 256MB.

These differences do not change the electrical characteristics beyond the rated limits established by Logic PD and do not change the mechanical characteristics significantly enough to require new photographs to identify the radio equipment between the various implementations of the Torpedo + Wireless SOM -32 models.

Your efforts in reviewing this application are greatly appreciated. Please contact me if there are questions or additional information needed concerning this request.

Sincerely,

Russ Stebner
Senior Director of Products
952-259-5301
russ.stebner@logicpd.com