

July 30, 2015

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD, 20146

To Whom it may concern:

Re: Equipment Certification, FCC ID: TGD12200 (IC: 6120A)
The following materials document modifications to the 12000 product, related to
applicant's permissive class 2 change application.

Refer to schematic drawing 12200C SCH.PDF for the following narrative. Model
12200C is derived from 12200A.

Change 1:

The original Cypress microcontroller chip (U1) produced under Echelon Corporation
license, has become obsolete. It has been replaced by a newer Echelon
microprocessor. U1 now requires a serial EEPROM memory IC (U3) to load the
operating program upon powerup or reset. U3 also stores nonvolatile data items during
operation. Power and ground planes have been added to facilitate layout and keep
board electrical noise and unintentional emissions low.

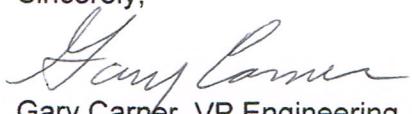
Change 2:

The 12200A has solid state thyristor switches (triacs) to operate external 24 Vac
devices. These are problematic when attempting to control devices with widely different
load characteristics (resistive vs. inductive, for example). Moreover, triacs are imperfect
switches – never all the way off or all the way on. These undesirable characteristics
have been eliminated by replacing triacs on the 12200C with mechanical relays, K1-K6.
Higher energy consumption of the relays requires a power supply with full wave rectifier,
BR1.

Change 3:

Optional 3rd party devices complying with the Dallas one-wire protocol may connect to
T1 and T2 connectors. J4 is an unused interface port reserved for future development.

Sincerely,



Gary Carner, VP Engineering

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