
Request for FCC Class II Permissive Change

13 July 2004

Federal Communications Commission
7435 Oakland Mills Road
Columbia MD 21046

Subject: Class II Permissive Change

FCCID JFE-D2D00003

To Whom It May Concern:

Parts obsolescences and need for a system improvement to increase the temperature range required several changes to the radio. We request a permissive change for the following:

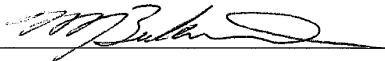
- 1) Replace an obsolete LNA Infineon BGA622 (U30, U33) with the Hittite HMC286. Both parts are similar in gain and noise figure. Since the LNA is located in the receive channel, it does not effect the transmit spectrum or contribute to spurious emissions.
- 2) A system improvement of: The discrete power-on-reset circuit (D2, C114) was replaced by an integrated circuit U23. Also, R55 changed from 10K to 100K. The purpose was to reduce timing variances when the base band processor (U18) is reset. This allows for a more reliable processor to host communication over a greater temperature range. This change doesn't effect the transmit spectrum or produce unwanted emissions.
- 3) A system improvement of: Two plated-thru connector mounting holes were added to accommodate a different style PCMICA connector. This is a passive change and doesn't effect the transmit spectrum or contribute to spurious emissions.
- 4) A system improvement of: The 3.3 Volt regulator (U16, AME8805AEFT) was replaced with a 3.5 Volt regulator (AME8805GEFT). The extra 0.2 Volt increase compensates for the voltage drop thru the power filter (L9). The voltage level at the modulator/ demodulator IC (U15, U8) is set at the desired design level. Emission tests shows no effect on the transmit spectrum or increase in spurious emissions.
- 5) A system improvement of: The synthesizer recalibration circuit (R105, C233, U34) was added. During a temperature change (an increase or decrease from initial power up temperature), the synthesizer (U7, Si4113) can lose frequency lock. The added circuit monitors the synthesizer lock or near-loss-of- lock output pin (U7.12). If a near-loss-of-lock condition occurs, the circuit briefly powers down the synthesizer (U7.13). Then re-power the synthesizer, thus recalibrating it at the new temperature. This change doesn't effect the transmit spectrum or produce any additional spurious emissions.

6) A system improvement of: The synthesizer output match has been changed to increase the drive level of the up and down conversion process (U15.68, U8.68, U8.23). This increases the reliability over a greater temperature range. The change consists of removing resistor R61 and replacing inductor L142 with a 200 ohm resistor. In addition, change the power splitter by replacing R7 with a zero ohms and replacing R6 and R8 with a 3.9nH inductor. The benefit is synthesizer output is frequency match to the load and suppresses the fundamental harmonics of the LO.

The radio board with the above changes has successfully tested for compliance with FCC Part 15 rules. A copy of the radiated spurious emissions data is included on subsequent pages.

Sincerely

Grantee: PORKEA VISION INC.

Signed: 

Printed: MICHAEL J. BUETTMAN

Title: 220 PROGRAM DIRECTOR