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Federal Communications Commission  
Equipment Approval Services  
P.O. Box 358315  
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Subject: Original Application for Certification of 900/2400MHz  
Panasonic Spread Spectrum Cordless Telephone System Model KX-TG2550 Series  
Base Unit: FCC ID: ACJ96NKX-TG2550  
Handset Unit: FCC ID: ACJ96NKX-TG2550R

Gentlemen:

Enclosed, find two (2) Matsushita Electric Industrial Co., Ltd.'s Applications for Equipment Authorization, dated April 22, 1998. This system is in compliance with Part 15, Subpart C and in accordance with §15.247 of the FCC Rules. Pursuant to §0.459, selective parts of the schematic diagram in Exhibit F are block-out as these areas contain either circuitry subject to patent pending issues and/or other confidential information not normally subject to general release. Attached Appendix Page contains entire schematic diagram including confidential areas not to be released for general public review.

The subject device is a 25-channel direct sequence spread spectrum cordless telephone system with BPSK modulation. The base transceiver transmits within 2406.16 ~ 2477.84 MHz with 240 kHz channel separation with 200 mW  $\pm$  3 dB (100~400 mW) rated RF output power. The handset transceiver transmits within 904.56 ~ 925.04 MHz with 120 kHz channel separation with 80 mW  $\pm$  3 dB (40~160 mW) rated RF output power. Note, §15.247 allows a maximum rated output power of 1 watt for operation within these frequency bands and the first sample tested was measured at 126.6 mW for base unit and 100.7 mW for handset unit. We would like the grant to reflect authorization for maximum RF output power to be 400 mW and 160 mW, respectively to include  $\pm$  3 dB production tolerance. If needed, we can provide additional measurements performed on worst-case samples adjusted to +3 dB adjustment.

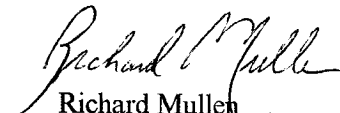
This cordless telephone system has one million digital security coding combinations that are provided by the following means:

- Provided with 20 bits (one million) for security codes.
- When the handset is not on the base unit, the 20 bit codes changes by the free-running timer.
- When the user puts the handset on the base unit, the free-running timer ceases and decides the exact security code. The base unit sends the security code information to the handset.
- When shipped from the factory, the security code is decided by the manufacture. However, once the user uses the cordless handset, the security code is constantly changing by the free-running timer.

This cordless device uses analog modulation for baseband signal and does not convert voice signal to digital signal. The analog voice signal is modulated to a FM signal and processed to produce a spread spectrum signal. Since the processed signal is analog and not digital, this unit does not have BER. Instead, it uses SINAD, which means a distortion of analog signal. Since C/N of the 2<sup>nd</sup> IF signal, which is input to FM de-modulator at SINAD =12 dB is 3 dB, this device uses (S/N)<sub>o</sub>= 3dB. Comparing with digital baseband system, this analog device's (S/N)<sub>o</sub> is much lower.

The subject device's base unit was submitted for Part 68 registration under pending FCC Reg No: ACJJPN- -WI-E. Should you have any questions, please contact the undersigned. Thank you for your attention in this matter.

Sincerely yours,



Richard Mullen  
Project Manager

cc: K. Nawata / KME-KM4