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June 21, 1999
KM499-U027C
Form 731 Confirmation No.: EA94139

Federal Communications Commission
Equipment Authorization Division
7435 Oakland Mills Road
Columbia, MD. 21046

Attn: Joseph Dichoso, Electronic Engineer

Subject: Supplement to Original Application for Certification of 900/2400MHz Spread Spectrum Cordless Telephone System, Panasonic Model KX-TG2550 Series Base Unit, FCC ID: ACJ96NKX-TG2550

Dear Mr. Dichoso:

This is in response to your correspondence reference number 8310 and our telephone conversation of June 19, 1999 regarding processing gain test for the subject application that was assigned Form 731 Confirmation Number EA94139.

Attached find the factory's response regarding processing gain test setup and explanation regarding desired SG1 and undesired SG2 settings during measurements that demonstrated 15.5dB processing gain for the base unit. I hope this can resolve this remaining outstanding item.

Should you have any additional questions or comment, please contact the undersigned immediately. Thank you for your attention in this matter.

Sincerely yours,

Richard Mullen
Project Manager

FAX Correspondence

Date: June 21, 1999

ATT: Mr. Mullen/ PSCD

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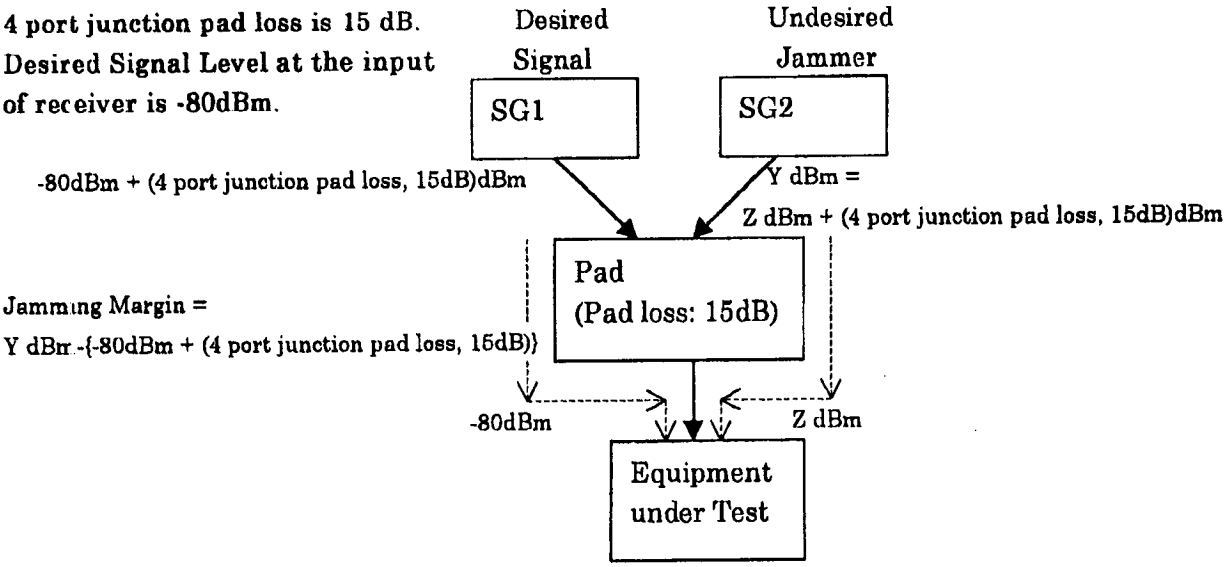
From: M. Mori/ Nawata/ KM4

RE: Your E-mail, Base Unit: ACJ96NKX-TG2550/ FCC 15

Dear Mr. Mullen;

We have received FCC's E-mail via you.
Our engineer advised that, for Processing Gain test, the output level of SG1 can be used any level.
So, our engineer adjusted SG1 output level, so that "Desired signal level at the input of receiver" became to be -80 dBm.
That is all.
Please be advised that it is very simple and easy, and you do not have to think difficult.
Our engineer had adjusted SG1 output signal to - 65dBm, because he only thought this level was better.
And he reported, "SG1 output level is (-80dBm)+(4 port junction pad loss, 15 dB)", instead of "-65 dBm".
But, as you can easily understand, "(-80dBm)+(4 port junction pad loss, 15 dB)" and "-65 dBm" are same.
Both the Desired Signal and Undesired Signal go through the same pad (Pad Loss : - 15 dB).

4 port junction pad loss is 15 dB.
Desired Signal Level at the input of receiver is -80dBm.



Thank you very much.

Mr. Mullen

FCC ID: ACJ96NKX-TG2550
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§15.247(E) PROCESSING GAIN (CONTINUED)

①Desired Signal ····· Signal Generator 1
Undesired Signal ····· Signal Generator 2

Initially Signal generator 2 should be switched off.
The Signal generator 1 should be at the standard conditions.
Then the SINAD ratio is had result as X dB.

②The signal generator 2 is switched on.
RF output level of signal generator 2 is increased to 12dB.
In This time,
SG1 output level is (-80dBm)+(4 port junction pad loss),and
SG2 output level is Y dBm.

③Jamming Margin=(Y dBm)-[(-80dBm)+(4 port junction pad loss)].
Setting level on SG1

Regarding processing gain, this 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 2nd IF signal, which is input to FM de-modulator at SINAD =12 dB is 3 dB, this device uses (S/N)o= 3dB.

KX-TG2550 Process gain

Gp = (C/N)o+Mj+Lsys

Gp = KX-TG210 Process Gain
(S/N)o = S/N ratio for keeping 12dB SINAD
The Base band signals of this model are analog.
(S/N)o is 3dB on this system.
Mj = J/S ratio (CW Jamming margin method)
Lsys = system loss (<=2.0dB)

1. Method of measurement CW Jamming margin