

TIMCO ENGINEERING INC.

849 NW State Road 45
Newberry, Florida 32669
<http://www.timcoengr.com>

December 13, 2001

Mr. Stan Lyles
Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

SUBJECT: HK PROTECH, INC FCC ID: PQXHKG2003 CONFIRMATION #: EA102245
CORRESPONDENCE ID: 21271

Dear Mr. Lyles:

1. Please indicate how you change the output power and what changes to the device are made.

**The output was reduced by applying the following modifications:
R314 was changed from 2.2K to 4.7K**

2. Please update tune up info.

I have uploaded the revised tuning procedure with this letter.

3. Please update users manual.

I have uploaded the revised users manual with this letter.

4. Please note that the attenuation requirement for spurious emissions is $43 + 10\log(P)$ dB. This is referenced to the desired signal yielding dBc. The attenuation specification is not XX uV/M, or derived from absolute value of the field strength. The dBc is determined from the substitution method such as described in the ANSI/TIA/EIA-603-1992 document

On the next page, please find the test data shown using the substitution method.

5. Page 9 of original test report shows frequency 925.0 MHz and coax loss is 1.95 dB. Please explain why is coax loss different in the test report you uploaded on 11/14/01. Frequency at 925.0 MHz and coax loss is 4.50 dB.

Due to a software error here at Timco Engineering the coax loss that was reported in the original test report was incorrect. The correct coax loss should have been 4.5 dB. Since the next page was performed using the substitution method the field strength information is moot.

Best regards,

Mario de Aranzeta

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2.1053
95.635(b)(7)

UNWANTED RADIATION:

The tabulated Data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 to at least the 10th harmonic of the fundamental. This test was conducted per ANSI C63.4-1992.

REQUIREMENTS: HIGH POWER: $43 + 10\log(1.40) = 44.46$ dB
LOW POWER: $43 + 10\log(0.30) = 37.77$ dB

TEST DATA: Substitution Method

HIGH POWER

Emission Frequency MHz	dBc	Margin dB
462.70	0.00	0.00
925.00	53.7	9.24
1388.00	71.51	27.05
1851.00	71.00	26.54
2314.00	73.85	29.39
2776.00	71.20	26.74
3239.00	56.85	12.39
3701.00	56.00	11.54
4164.00	60.14	15.68
4627.00	68.47	24.01

LOW POWER

Emission Frequency MHz	dBc	Margin dB
462.70	0.00	0.0
925.00	58.14	20.37
1388.00	54.84	17.07
1851.00	70.33	32.56
2314.00	62.08	24.31
2776.00	69.93	32.16
3239.00	61.18	23.41
3701.00	60.73	22.96
4164.00	59.27	21.50
4627.00	70.40	32.63

METHOD OF MEASUREMENT: The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 to at least the tenth harmonic of the fundamental. This test was conducted per TIA/EIA STANDARD 603 using the substitution method. Measurements were made at the open field test site of TIMCO ENGINEERING, INC. located at 849 NW State Road 45, Newberry, FL 32669.