To: Stan Lyles (slyles@fcc.gov)
FCC Equipment Authorization Branch

From: Louie Sanguinetti, Good Technology, (lsanguinetti@good.com)

cc: Steve Behm, CKC Laboratories, Inc. (submittals@ckc.com)

FCC ID:	PX3G100
Applicant:	Good Technology, Inc.
Correspondence Reference Number:	22989
731 Confirmation Number:	EA703747

Subject: Good Technology's replies to FCC inquires

1. **FCC: Please justify your emission designator of 13K6F1D. F1D generally not used for GMSK modulation.**

Good Technology: The emission designator was calculated in accordance with the FCC rules outlined in 2.201 and 2.202. The F1D description of the transmitter radio signal was derived as follows:

The G100 uses Gaussian filtered minimum shift keying (GMSK). MSK is continuous-phase FSK (frequency shift keying) with a minimum modulation index. Since MSK is a form of FSK, a frequency modulation designation is appropriate. Hence, the first symbol of the transmit signal description should be "F" (frequency modulation) as stipulated in FCC rules 2.201(c)(3).

The G100 transmits digital information and does not use a sub-carrier. Therefore, the second symbol of the transmit signal description should be "1" as stipulated in FCC rules 2.201(d)(2).

The G100 transmits data information only. Therefore, the third symbol of the transmit radio signal description should be "D" as stipulated in FCC rules 2.201(e)(5).

Given the above, F1D is an appropriate description of the transmit radio signal. The F1D description is also consistent with other FCC approved products that operate on the Mobitex network and use the same modulation.

As given in the FCC rules 2.202, the necessary bandwidth calculation was done using the following equation: Bn=2M+2DK, K=1. For the G100, D=2000Hz and M=4800Hz. Hence, the necessary bandwidth is 13600Hz.

Hence, the appropriate emissions designator for the G100 is 13K6F1D.

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2. FCC: Radiated spurious emissions measurements and the substitution method

Good Technology: Please see separate response from CKC Laboratories regarding emissions measurements.

3. FCC: Operational Description states: "The G100 antenna….. an omnidirectional vertically polarized radiation pattern when oriented in the dominant user position." Please submit photos of device in "dominant user position."

Good Technology: The dominant user position for the G100 is the position Good Technology expects the device to be positioned most of the time in operation. For most users, Good Technology considers the device oriented vertically in the holster to be the dominant user position. See photo below:

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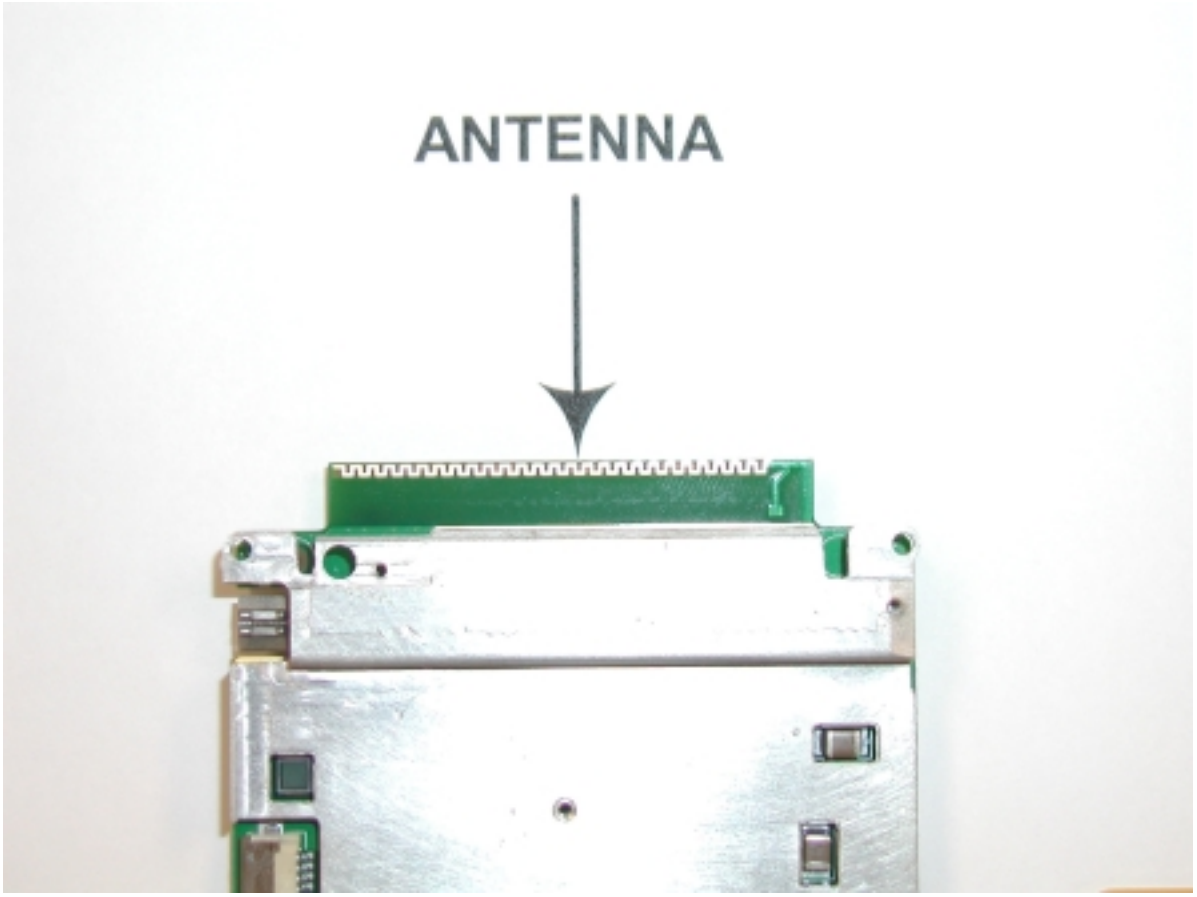
4. FCC: Please show location and connection scheme of antenna on internal photos.

Good Technology: The antenna is formed by copper traces printed directly on the main printed circuit board. The antenna connects directly to the radio circuitry by microstrip and stripline transmission lines printed directly on the main PCB. See photo below for the location of the antenna on the main PCB.



5. FCC: SAR report page 5 of 5 - is that conducted power? Please submit details of measurement setup and procedure.

Good Technology: The power listed on page 5 of the SAR report is conducted power (not radiated power). The conducted power is measured as follows:

Test Conditions:

The G100 (MOBI_EVT4) was cabled into the spectrum analyzer through an SMA 30 dB PAD. The amplitude setting on the spectrum analyzer was set to +10dBm. The spectrum analyzer span was set to 0Hz with a sweep time of 100msec. All measurements were performed with the spectrum analyzer in peak detect mode. Through special diagnostic software, the G100 was programmed to transmit a

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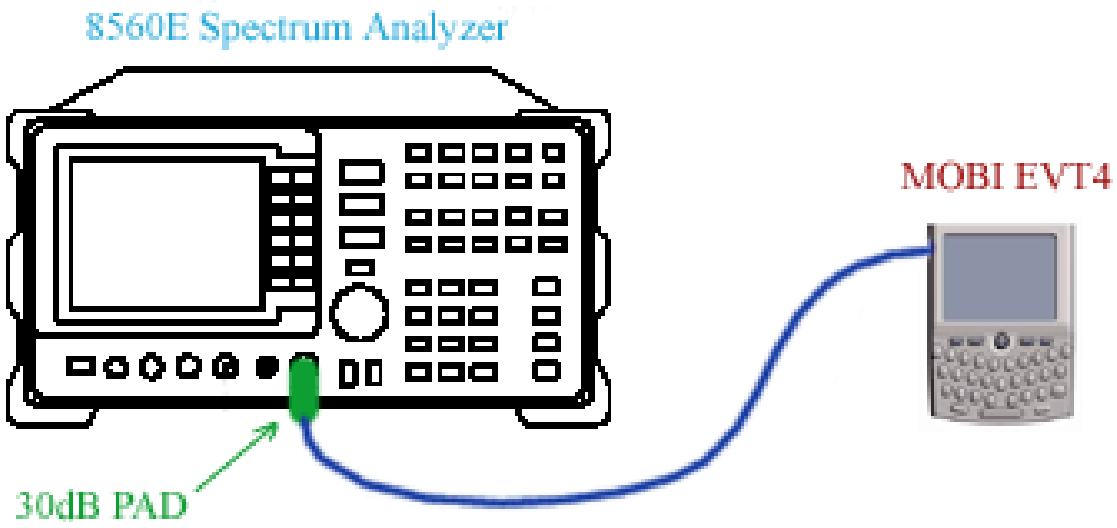
50msec pulse at full power every 500msec. The peak power of the transmit pulse was measured on the spectrum analyzer.

Test Equipment:

1. Spectrum Analyzer, Agilent, Model No: 8650E.
2. 30dB SMA Coaxial Attenuator, Mini-circuits, Model No: BW-S30W2.

Test Setup:



6. FCC: Please describe how duty cycle = 9% is applicable, and how it is established. Is crest factor correction used with SAR probe? Please describe.

Good Technology: The G100 has a source based 9% duty factor achieved by permanent firmware implemented at the factory to satisfy SAR compliance. The G100's radio-modem keeps track of the total amount of time it spends transmitting and receiving at the link layer in order to communicate one network-layer message to the base station and then it waits before attempting to communicate the next message such that the inter-message transmit duty cycle does not exceed 9%. Therefore if the total amount of link layer transmission time to communicate one network layer message is x, and the total amount of time spent receiving between the start of one message dialogue and the start of the next is y then: (x / (x+y)) <= 0.09 = 9%.

Please see separate document from Aprel Laboratories for an explanation on the crest factor.

7. FCC: Please explain how device against flat phantom represents hand. Will

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hand cover or be within a few cm of antenna in normal use?

Good Technology: Please see separate document from Aprel Laboratories for an answer to this question.

8. FCC: Graph 3 shows "hot spot" outside of device. Please submit zoom scan plots superimposed on device for max SAR configurations.

Good Technology: Please see separate document from Aprel Laboratories for an answer to this question.

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