

---

**From:** Mike Mathis  
**Sent:** Friday, August 21, 2009 11:50 AM  
**To:** PCTEST TCB/CB  
**Subject:** RE: Questions Regarding FCC ID: QHC-GPRSCOL50

Please see responses (so far) below and refer to revised attachments.

**Mike Mathis**  
SmartSynch Product Delivery & Certification

**SmartSynch** | The Smart Grid Intelligence Company™  
*One of the Most Intriguing Green Tech Innovators in America* / **BusinessWeek**

---

**From:** PCTEST TCB/CB  
**Sent:** Thursday, August 20, 2009 4:28 PM  
**To:** Mike Mathis  
**Subject:** Questions Regarding FCC ID: QHC-GPRSCOL50

To: Mr. Mike Mathis/ SMARTSYNC.  
From: Mr. Gregory Czumak / PCTEST TCB/CB

RE: FCC ID: QHC-GPRSCOL50

Applicant: SmartSync

Correspondence Reference Number: IHD90714  
Confirmation Number: 906030714-15  
Date of Original Email: August 20, 2009

Subject: Request for additional information

In regards to your recent TCB application referenced above, we kindly request that you provide the following additional information.

1. Please provide a photo/drawing of the FCC ID label (showing the FCC ID number) and also of the proposed label location. [Attached and added to User's Manual \(attached\)](#)
2. Please submit both the Parts List and the Tune- Up Procedure for the licensed transmitter portion of the EUT. [Motorola](#)
3. The Operational Description does not address the RF operation of the licensed transmitter (GPRS). Please revise accordingly. [Motorola](#)

4. Please submit the schematic diagrams for the licensed transmitter portion of the EUT. [Motorola](#)
5. Please submit a more detailed block diagram of the RF section of the licensed transmitter portion of the EUT. [Motorola](#)
6. Please address Section 15.203 for the Frequency Hopping transmitter ("FH"). I note that the FH test report states that there are no provisions for the connection of an external antenna, but this appears to be contradicted by other information in the application. Please note that, if need be, the EUT may employ the "Professional Installation" caveat of 15.203, with adequate justification. [Elster & SSI revising.](#)
7. What antenna(s) is(are) marketed for use with the licensed transmitter? And with the FH? What antennas were tested with the EUT? [Revised & Added to SSI User's Manual and Operational Description \(attached\). GPRS - Laird/Antenex TRA821/18503P & 900MHz \(FH\) - Elster pn 1B12150H01.](#)
8. The FH Operational Description lists multiple potential antennas for use with the FH (up to 5.15 dBi). Please note that, for a Part 15 transmitter, any antenna type marketed for use with the EUT, or recommended for use with it, must have been tested with the EUT. Please address. I note that the MPE report only demonstrates compliance with RFx requirements with antenna gains up to 3 dBi. Please address. [Elster & SSI revising.](#)
9. The user's manual lists the maximum antenna gains to be used for installation as 6.8 dBi in the cellular band and 2.2 dBi in the PCS band. These do not match the values used to demonstrate compliance with RFx requirements in the MPR report. Please address. [Corrected & Attached in SSI User's Manual.](#)
10. Please confirm compliance with the 3 requirements for the FH in Section 15.247(a) (1) not addressed (RX can hop in tandem with the TX, channel sequence is pseudorandom and channels are all used equally on average), as well as Sections 15.247(g) and (h). [Elster addressing.](#)

The item indicated above must be submitted before processing can continue on the above referenced application.

Sincerely,

Gregory Czumak  
Senior Certification Engineer  
Quality Manager

PCTEST Engineering Laboratory, Inc.  
6660-B Dobbin Road  
Columbia, MD 21045  
410-290-6652  
410-290-6654 (Fax)  
[gregory@pctestlab.com](mailto:gregory@pctestlab.com)

This communication and its attachments contain information from PCTEST Engineering Laboratory, Inc., and is intended for the exclusive use of the recipient (s) named above. It may contain information that is confidential and/or legally privileged. Any unauthorized use that may compromise that confidentiality via distribution or disclosure is prohibited. Please notify the sender immediately if you receive this communication in error, and delete it from your computer system. Usage of PCTEST email addresses for non-business related activities is strictly prohibited. No warranty is made that the e-mail or attachment(s) are free from computer virus or other defect. Thank you.

---

**From:** Mike Mathis  
**Sent:** Monday, August 24, 2009 9:47 AM  
**To:** Andrea Zaworski  
**Subject:** RE: FW: Questions Regarding FCC ID: QHC-GPRSCOL50

Definitely this is the only Elster antenna to be used with the A3 GPRS Collector 5.0 integration.  
As a matter of fact, both the Laird and Elster antennas are the only options.

**Mike Mathis**  
SmartSynch Product Delivery & Certification

**SmartSynch** | The Smart Grid Intelligence Company™  
*One of the Most Intriguing Green Tech Innovators in America* / **BusinessWeek**

---

**From:** Andrea Zaworski  
**Sent:** Monday, August 24, 2009 8:32 AM  
**To:** Mike Mathis  
**Subject:** RE: FW: Questions Regarding FCC ID: QHC-GPRSCOL50

Hi Mike,  
Greg will work to update the MPE report.  
Can you confirm only this one antenna to be used?  
Thanks,  
Andrea

-----Original Message-----

From: Mike Mathis  
Sent: Friday, August 21, 2009 3:19 PM  
To: Andrea Zaworski  
Subject: FW: FW: Questions Regarding FCC ID: QHC-GPRSCOL50

Andrea

Here is Elster's response for the earlier questions.

The MPE report lists Elster's antenna gain at 3dBi and Elster states here that it is <5dBi. Can you guys revise the MPE report and let me know if we are still in exposure compliance?

Mike Mathis  
SmartSynch Product Delivery & Certification

SmartSynch | The Smart Grid Intelligence Company(tm)

-----Original Message-----

From: Thomas.Ellsworth

Sent: Friday, August 21, 2009 2:08 PM

To: Mike Mathis

Subject: RE: FW: Questions Regarding FCC ID: QHC-GPRSCOL50

6. Please address Section 15.203 for the Frequency Hopping transmitter ("FH"). I note that the FH test report states that there are no provisions for the connection of an external antenna, but this appears to be contradicted by other information in the application. Please note that, if need be, the EUT may employ the "Professional Installation" caveat of 15.203, with adequate justification. The Energy Axis Internal LAN Controller 2 (LANOB2) option board is indeed designed to operate with several antenna options when installed in an A3 meter, as described in section 1.1.3.2 ILC2 Antenna Options of the ILC2\_Technical Description (attached). For the SmartSynch A3 Collector 5.0, however, only (1) antenna type is specified: the basic configuration antenna, which is an internal antenna conforming to the meter housing: 1B12150. This antenna has a peak gain of <5dBi. This is the antenna shown in the SmartSynch A3 Collector 5.0 General Assembly diagram, and is the only antenna specified for use in this configuration.

ILC2\_Technical Description.pdf

7. What antenna(s) is(are) marketed for use with the licensed transmitter? And with the FH? What antennas were tested with the EUT? The antenna specified for use with the licensed transmitter (cellular modem) is the Laird (formerly Antenex) TRA821\_1850P (see attached), with a gain of 3dBi. This is the only antenna specified for operation with the licensed transmitter. The only antenna specified for operation with the FH radio (LANOB2) in the SmartSynch A3 Collector 5.0 is the 1B12150, as stated above.

8. The FH Operational Description lists multiple potential antennas for use with the FH (up to 5.15 dBi). Please note that, for a Part 15 transmitter, any antenna type ,arketed

for use with the EUT, or recommended for use with it, must have been tested with the EUT. Please address. I note that the MPE report only demonstrates compliance with RFx requirements with antenna gains up to 3 dBi. Please address. See explanations above.

9. The user's manual lists the maximum antenna gains to be used for installation as 6.8 dBi in the cellular band and 2.2 dBi in the PCS band. These do not match the values used to demonstrate compliance with RFx requirements in the MPR report. Please address.

10. Please confirm compliance with the 3 requirements for the FH in Section 15.247(a)(1) not addressed (RX can hop in tandem with the TX, channel sequence is pseudorandom and channels are all used equally on average), as well as Sections 15.247(g) and (h). The LANOB2 FH transceiver operates asynchronously by design: there is no coordination of frequency hop sequences between any two transceivers. The hopping occurs in a pseudorandom sequence using all 25 channels in the channel list, as described in section 1.1.4 RF Channel Plan and Channel Time of Occupancy in the ILC2\_Technical Description (attached - see entries above each channel list). All channels in the list must be used before returning to any given channel, guaranteeing a time averaged equal distribution of channel occupancy.

Tom Ellsworth  
Senior Engineer, RF  
Elster Electricity SA  
(919) 212 5032

---

**From:** Mike Mathis  
**Sent:** Monday, September 14, 2009 9:44 AM  
**To:** PCTEST TCB/CB  
**Subject:** RE: Follow-Up Questions Regarding FCC ID: QHC-GRPSCOL50

Please see below and attached updated User's Manual and photographs.

**Mike Mathis**  
SmartSynch Product Delivery & Certification

**SmartSynch** | The Smart Grid Intelligence Company™  
*One of the Most Intriguing Green Tech Innovators in America* / **BusinessWeek**

---

**From:** PCTEST TCB/CB  
**Sent:** Wednesday, September 09, 2009 3:37 PM  
**To:** Mike Mathis  
**Subject:** Follow-Up Questions Regarding FCC ID: QHC-GRPSCOL50

To: Mr. Mike Mathis/ SMARTSYNC  
From: Mr. Gregory Czumak / PCTEST TCB/CB

RE: FCC ID: QHC-GPRSCOL50

Applicant: Smart Sync

Correspondence Reference Number: IHD90714-C  
Confirmation Number: 906030714-15  
Date of Original Email: September 9, 2009

Subject: Request for additional information

In regards to your recent TCB application referenced above, we kindly request that you provide the following additional information.

1. Thank you for your email. Do the new labels submitted replace the previous label submitted (in the user's manual)? The new label showing the location of the FCC ID appears to be different, and does not actually show the FCC ID number (only "XXX-XXXXX"). If this is to be the final FCC ID label drawing, please revise it to include the actual FCC ID number. Also, the terms "FCC ID:" and "XXX-XXXXX" appear on different lines- please note that Section 2.925(a)(1) of the FCC Rules requires that these terms be on the same line.  
[Re-configured label to show correct FCC ID and included a photograph. Added to user's manual.](#)
2. The new label showing the statement required by Section 15.19 apparently shows

the sizes of the text (e.g., “.060 HIGH ARIAL NARROW FONT”). Is the unit in inches?

Sections 2.925 and 15.19 require a minimum 8 point type size, which is equal to 0.11 inches. Please address, revising the label if necessary.

Re-configured label with correct Font size and included a photograph. Added to user's manual.

The item indicated above must be submitted before processing can continue on the above referenced application.

Sincerely,

Gregory Czumak  
Senior Certification Engineer  
Quality Manager

PCTEST Engineering Laboratory, Inc.  
6660-B Dobbin Road  
Columbia, MD 21045  
410-290-6652  
410-290-6654 (Fax)  
[gregory@pctestlab.com](mailto:gregory@pctestlab.com)

This communication and its attachments contain information from PCTEST Engineering Laboratory, Inc., and is intended for the exclusive use of the recipient (s) named above. It may contain information that is confidential and/or legally privileged. Any unauthorized use that may compromise that confidentiality via distribution or disclosure is prohibited. Please notify the sender immediately if you receive this communication in error, and delete it from your computer system. Usage of PCTEST email addresses for non-business related activities is strictly prohibited. No warranty is made that the e-mail or attachment(s) are free from computer virus or other defect. Thank you.