Request for Additional Information for EMC Certification

Company:	Shanghai Simcom Ltd.	**Composite Device:**	**Yes:** ☐	**No:** ☒
MT#:	29534	**FCC Direct Filing:**	**Yes:** ☐	**No:** ☒
		Permit But Ask:	**Yes:** ☐	**No:** ☒
FCC ID:	UDV-1005242010007	**FCC Rule Part:**	22/24	
UPN:	8460A-20100524007	**RSS Standard:**	RSS-132&133	
FRN:	0017938671	**Class II PC/Reassessment:**	**Yes:** ☐	**No:** ☒

Dear Bruce,

Thank you for your application. In order for us to process your approval, the following must be addressed. Please provide a response in a timely manner to avoid delays or dismissals.

Technical Review:

1. This application seems to be for the SIM900B EVB device which incorporates a Modular 22/24 transmitter onto a PCB with interface connections. Please confirm the extent of the EUT. If the Interface Board is included, please include this board in the external and internal photo exhibits. If the interface board is not part of the EUT, please justify the Class B Computer Peripheral application.

The SIM900B EVB is just an auxiliary device for test and develop. It will not install in the final house device.

2. The (SIM300B EVB) Users Manual states:

   For other antenna(s) not described in this filing the antenna gain included cable loss must not exceed 7.3 dBi in the 850 MHz Cellular band and 12.7 dBi in the PCS 1900 MHz band, for the purpose of satisfying the requirements of 2.1043 and 2.1091.

   Please note that the antenna gain values currently specified in the Manual have not been justified in the application. The MPE estimation has been calculated with a 1 dBi gain antenna in both bands. Please either supply an updated RF Exposure exhibit for the higher gain antennas or provided an updated manual with the maximum gain allowed in the application.

We deleted the antenna's description. The client use only the antenna as the antenna specification.

3. Please note that the 15B Form 731 listed the Equipment Class as PCB, were PCB applies to the Part 22/24 portion and JBP applies to the Class B Computer Peripheral portion of the application.

We have updated the 731 form 15B description (JBP).

4. The EVB board photos in the Users Manual show a power input port, which is connected to an accessory 5VDC power adaptor. The Class B Computer Peripheral application indicated that AC Conducted Emissions are not applicable. FCC Part 15 Subpart B requires AC Conducted Emissions on anything that directly or indirectly connects to the AC mains. Please provide AC Conducted Emissions compliance data/information in the test report.

We have updated the FCC 15B report – add the AC conducted emission test.

5. The Industry Canada Representative cover letter provided by Micron Electronics Canada Ltd. States that the Applicant is Micron Electronics Canada Ltd, when in fact the Applicant is Shanghai Simcom Ltd. Please provide a revised letter.

We have updated the Canadian Representative cover letter.

6. Please submit a Modular Approval Cover letter specific to the Industry Canada IC Number and requirements of RSS-GEN Section 7.1.1. Additionally, part of the modular requirements is that guidance is provided to OEM customers of the labeling requirements of the final host device into which the module is installed. Please provide this guidance and label wording that will be provided to the OEM installers.

This has been provided.

7. The Users Manual submitted in this application is a manual only for the EVB Development Kit, not the module itself. Please provide the OEM Installation Manual which clearly provides installation guidance for the Module itself. The Development Kit manual clearly shows that the vehicle-mount antenna is provided, but is this antenna also provided with the module when the module is supplied to the OEM installers? If the module is not supplied with the antenna, how is the OEM made aware of the antenna restrictions for

their installation? Please be sure that the OEM installers are provided with a list of all antennas that can be used with this device.

Please see the "SIM900B module usermanual.pdf", it includes the module's construction and technical items. At page 49, it explains the Antenna Interface and antenna requirement.

8. The original request indicated that Modular Approval applications must be provided with guidance on labeling that is provided to the OEM installers. You indicated that additional information was provided, but this information was not provided for review. Please provide the OEM Installation guidance for labeling of the final host device. Please amend the FCC Modular Approval request letter to address the modular labeling requirements.

Please see the "Modular Approval Letter Request for Additional Information rev2.pdf". Please see the section 6 of SIM900B module usermanual.pdf for product install requirements.

9. Modular Approval is restricted to the combination of transmitter and antenna. Please update the FCC and IC Modular approval request letters to indicate the antennas that are acceptable for use with this device to ensure compliance. Just stating that there is a unique antenna connector is not sufficient to meet the antenna requirements for modular approval.

Please see the document: Modular Approval Letter Request for Additional Information rev2.pdf. Added the information: The device which uses this module in final product should contain following information in obvious place – This product contains the module FCC ID: UDV-1005242010007

According to the GSM 850 MPE evaluation formula S = PG* Duty factor / $4\pi R^2$ (Report: SHEMO10050067103_v1.0_official) section 14.3-page 9), we know that:

Peak power = 2041.74mW

Duty cycle = ¼

R(distance to the center of radiated of antenna) = 20cm

S(limit 0.55mW)

we can cal the G(max) = 5.42dBi (GSM850)

We also can cal G(max) = 9.85dBi (GSM1900)

So, we think the antenna gain limit for OEM installer is 5.42dBi for GSM840, 9.85dBi for GSM1900. Is this right?

10. The applicant has asked the question about the maximum Antenna Gain allowed, but they have only taken into consideration the RF Exposure MPE at 20cm. They should also ensure that the maximum allowed antenna gain also complies with the maximum allowed ERP and EIRP per the FCC Part 22 and 24 and RSS-132 and RSS-133. Please have the applicant recalculate the maximum allowed antenna gain and update the exhibits accordingly. (you can see an example of how this is calculated in application for FCC ID: N7NSL6087).

Please see the document "Evaluation of RF Exposure for SIM900B module.pdf"

11. The Canada Modular letter indicates that the Module is complete with own antenna, and no connector, but the EUT clearly has an antenna connector and has been tested with a cables vehicle mount antenna. If the Module does not meet all the requirements of RSS-GEN 7.1.1., then a Limited Modular Approval of 7.1.2 can be requested, clearly documenting how you retain control over final compliance.

Yes, please see the user manual and Mounting SIM900B onto the application plotform.pdf.

12. The IC Modular Approval Request letter still needs to be updated top reflect the antenna connector issue (antenna is not included), how control of compliance is maintained (OEM for Mobile configurations only with installation guidance provided) and the Limited Modular Approval request.

Please see the document Industry Canada Modular Approval Letter rev3.pdf and Mounting SIM900B onto the application platform and antenna installation.pdf.

13. The revised RF Exposure calculation has addressed RF Exposure requirements but did not address the ERP and EIRP power limits of FCC 22/24 and RSS-132/133. As an example, FCC Part 24H has a maximum 2W (33dBm) EIRP limit. The RF Conducted power in the 1900 MHz band is 30dBm, and the stated antenna gain is 9.9 dBm, which creates a 39.9dBm EIRP transmitter, which above the 33dBm EIRP even when the 0.25 duty factor is included. Please re-address the maximum allowed power taking the ERP and EIRP power limits into consideration.

We have update the Evaluation of RF Exposure for SIM900B module rev1 and Mounting SIM900B onto the application platform and antenna installation. rev1(page 4) for GSM 1900 allow max antenna gain.

14. Please submit a revised Industry Canada Modular Approval Request Letter exhibit to indicate that there is an antenna connector (not an included antenna), and indicate how control of compliance is maintained by the manufacturer for these OEM installed devices (it seems like detailed installation guidance for compliance will be provided to the OEM, but this needs to be confirmed in this IC Modular Letter).

Please see the "Industry Canada Modular Approval Letter rev4.pdf"

If you have any questions or concerns, please contact us.

Thank you!

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Admin Review By: Jenn Warnell
Technical Review By: Chris Harvey

Please note that partial responses increase processing time and should not be submitted. The items indicated above must be provided before processing can continue on the above referenced application. Failure to provide the requested information in a timely manner may result in application dismissal.