



Request for Additional Information for EMC Certification

Company:	ZTE Corporation	Composite Device:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
MT#:	27237	FCC Direct Filing:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
		Permit But Ask:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
FCC ID:	Q78-ZTEMF100	FCC Rule Part:	22H/24E; 15B	
UPN:	N/A	RSS Standard:	N/A	
FRN:	0009043175	Class II PC/Reassessment:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>

Dear Cai Cai,

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. A block diagram with the frequencies of all oscillators labeled, along with the tuning frequency ranges could not be found in the supporting documentation. This is required by 2.1033.b.5¹. Please indicate where this diagram may be found.

[This has been revised. See MF100 Technical Operational Discription Rev 1.pdf and BLOCK DIAGRAM OF MF100 Rev. 1.pdf](#)

2. The User Manual states the following on page 32 of 33: *"This device complies with part 15 of the FCC Rules. Operation is subjected to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."* As a licensed device, the following statement should be given in the user manual instead, per 15.19 of the FCC Rules: *"This device complies with part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference."* Please correct this statement or justify why this device is not considered a licensed device.

[This has been revised. Please see page 32 of ZTE MF100 USB Modem User Manual Rev 1.pdf.](#)

3. It is unclear why 859.6 MHz was chosen for the GSM Frequency Stability test in section 6.7 of PART 22 24 report rev5.pdf. This frequency is out of the range of the transmission band for Part 22H mobile devices. Please justify the choice of this frequency.

[The test frequency was 836.6 MHz, not 859.6 MHz for GSM frequency stability. Please refer to updated test report \(PART 22 24 report rev6.pdf\) on page 93.](#)

4. In section 2 of PART 22 24 report rev5.pdf, the modulating characteristics requirements of Part 22/24 devices is not addressed. Please justify in the test report why this requirement is not tested.

[We added the modulating characteristics requirement at section 6.9 of the updated report \(PART 22 24 report rev6.pdf\).](#)

5. In Section 6.3 of PARS 22 24 report rev5.pdf, the -26 dBc bandwidth does not appear to have been tested. The -26 dBc bandwidth corresponds with the 99.5% bandwidth, not the 99% bandwidth. Please justify why this test method was used for the occupied bandwidth test.

¹ 2.1033.b.5 says: (5) A block diagram showing the frequency of all oscillators in the device. The signal path and frequency shall be indicated at each block. The tuning range(s) and intermediate frequency(ies) shall be indicated at each block.



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The occupied bandwidth, this is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated. So we tested the 99% Bandwidth. The test report (PART 22 24 report rev6.pdf) has been updated in section 6.3 for the test procedure.

6. Please confirm that SAR testing was performed according to KDB 941225. FYI, the photographs of the settings on the Base Station Simulator during each mode of testing should be included in each FCC SAR report. The FCC has very precise requirements on the settings of the EUT during SAR testing, and these settings need to be verified during the TCB review.

The SAR test report has been updated on page 12 and 13 (SAR-GSM11601369S02_V1_1.pdf).

7. FYI, in Section 6.3 of PART 22 24 report rev6.pdf, the emissions bandwidth is incorrectly listed. The Emissions bandwidth for Part 22/24 devices is not the 99% occupied bandwidth. The emissions bandwidth is the -26 dBc bandwidth, which corresponds to 0.25% of the power above and below the emissions bandwidth. The 99% bandwidth would correspond to the -20 dBc bandwidth. Since the -26 dBc bandwidth can be determined from estimating the plot bandwidth, this data will be used in the emission designator.

The -26 dBc Bandwidth test results and plots have been added at Section 6.3 of the test report (FCC PART 22 24 report rev7.pdf)

8. We cannot use Base Station Simulator photograph results of the test configuration after the SAR testing has been complete. Please confirm that FCC KDB 941225 has been implemented during the FCC SAR testing for this job.

We confirm that FCC KDB 941225 has been implemented during the FCC SAR testing for this project, following the below procedure. FYI, the test report is revised on page 5 (adding the KDB 941225 into the standard list) – SAR-GSM11601369S02_V1_1 updated.pdf.

For 2G: 1. GSM Voice mode is not applied for this data card, we have evaluated in the GPRS one timeslot with the maximum output power,

2. In EGPRS mode we have used the GMSK modulation with the MCS 1 to evaluate. The multi-slot configuration mode has also been evaluated for GPRS and EGPRS.

For 3G: 1. In WCDMA mode, SAR is measured using the 12.2kbps RMC with TPC bits configured to all 1.

2. In HSDPA mode, SAR is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2kbps RMC configured in test loop mode 1.

9. Again, the reviewer wanted to remind you that the 26 dBc plots provided did not appear to be set appropriately. While it will not affect this filing, please be sure to set the markers to -26dBc for future filings.

Well noted by SGS; will pay more attention to this next project.

10. Most, if not all, of the SAR plots are not acceptable since they do not clearly show the SAR distribution relative to the EUT. Please show these plots in the SEM CAD software and re-submit.

This has been revised. See SAR-GSM11601369S02_V1_2-UPDATE.pdf



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

Thank you!

A handwritten signature in black ink, appearing to read "Jenn Warnell", is enclosed in a light yellow rectangular box.

Jenn Warnell
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Admin Review By: Jenn Warnell
Technical Review By: Jeff Hazen

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.