iRZ
Wireless solutions
for M2M world

THE TEST
RECORD SHEET
GSM modem
iRZ MC55i-485GI

1. The purpose of measurements – the testing of functionality of GSM modem iRZ MC55i-485GI in various temperature modes, the defining of the critical temperature values.

2. The testing was performed using the climate chamber CM 70/75-80 TX simultaneously for 2 modems randomly chosen from the production lot. The power supply voltage – 12 V DC. The SIM cards were taken out from the thermo zone and were kept outside at the room temperature. The testing at positive temperatures was applied to the permanently turned on modem (standby mode) and after 30 minute exposure in the chamber with the set temperature. The testing at the negative temperatures was applied after 30 minute exposure in the chamber with the set temperature in the turned of mode (cold start).

3. GSM modems iRZ MC55i-485GI testing results (the worst results were chosen to show in the table):

Chamber temperature, ^{o}C	The confident start	The confident network registration	Voice incoming and outgoing calls	GPRS/EDGE functionality, active receiving and transmission for the period of 1 minute	The value of the embedded thermometer, ^{o}C before the testing/ after the testing	The status of the module temperature alarm, before the testing/ after the testing	The reaction to the exceeding temperature alarm limits values
+20	yes	yes	yes	yes	+20/+24	normal	
+40	yes	yes	yes	yes	+40/+44	normal	
+60	yes	yes	yes	yes	+60/+64	normal	
+70	yes	yes	yes	yes	+70/+74	normal	
+75	yes	yes	yes	yes	+75/+79	normal	
+80	yes	yes	yes	yes	+80/+85	normal/warning	
+85	yes	yes	yes	yes	+85/+88	normal/warning	
+90	yes	no	no	no	+90/+93	warning	
+95	no	no	no	no	-	critical	turn off
+85	yes	yes	yes	yes	+85/+88	normal	
0	yes	yes	yes	yes	0/+4	normal	
-20	yes	yes	yes	yes	-20/-16	normal	
-25	yes	yes	yes	yes	-25/-20	normal	
-30	yes	yes	yes	yes	-30/-23	normal	
-35	yes	yes	yes	yes	-35/-28	normal	
-40	yes	yes	yes	yes	-40/-34	warning/normal	
-45	yes	yes	yes	yes	-43/-37	warning	
-50	yes	yes	yes	yes	-47/42	warning	
-55	yes	yes/no	yes	yes	-50/-44	warning	
-60	yes	no	-	-	-50	warning	
+20	yes	yes	yes	yes	+20/+24	normal	

4. The testing results allow to formulate the conclusions regarding the temperature characteristics of the GSM modem iRZ MC55i-485GI:

   a) The nominal operation temperature range - (-35) – (+75) ^{o}C,

   b) Increased (maximum) operation temperature range - (-50) – (+85) ^{o}C,

   c) Maximum limit operation temperature range (with partial operation ability) - (-60) – (+85) ^{o}C.