M2M SIM Overview

22 July 2015

SIM products

Our M2M SIMs are specially designed for use in demanding applications. They have a ruggedized design and have higher data endurance and greater heat resistance than normal SIMs. We only supply M2M-specific SIMs to ensure they can deliver the connectivity and reliability needed by M2M devices and applications.

We maintain a list of accredited devices that have undergone network assurance testing to confirm performance of these SIMs against network protocols. If you decide to use SIMs in unaccredited devices or for unusual circumstances, the application should be qualified with EE to ensure the SIM can operate. Examples of unusual operating circumstances include:

- embedding/setting SIM in resin or concrete
- operating in close proximity of microwaves
- frequent polling (every second)

All of our SIMs specified for use in M2M applications have specifications which support as a minimum:

- temperature range from -40˚C to +105˚C
- extended minimum guaranteed write cycles
- resistant to vibration
- resistant to corrosion (saline environment, humidity)

SIM products – Trial Kit

SIMs are essential components for gaining access to any mobile network. We provide a range of SIM products tailored for M2M applications to address the various device requirements and design constraints generated by M2M developers.

For new developers, we provide access to Trial Kits, which contain:

- a small quantity of EE SIMs, in either 2FF, 3FF or MFF2 (VQFN8) physical formats

2FF

3FF

MFF2 (VQFN8)

- a predefined package of network service, providing access to 2G, 3G or 4G bearer options (data, SMS or voice) for a limited time and/or volume of usage period
  - packet data access via public APN dedicated for M2M use
  - dynamic IP address allocation
- access to a trial account on our M2M management platform:
  - access platform APIs which allow integration with your application and operational environment

- test your software's use of those APIs
- manage the lifecycle of your SIMs
- monitor the activity of each SIM
- confirm network connection status

To request a Trial Kit please visit ee.co.uk/business/large/m2m-with-ee/products or contact your EE account manager.

Appendix 1 SIM specifications

Note: Information is intended as a guide only and is subject to change

Form factor	**2FF M2M fully ruggedized Mini**	**3FF M2M fully ruggedized Micro**	**MFF2 (VQFN8) M2M fully ruggedized Chip**
Picture			
Grade	Industrial	Industrial	Industrial
Size	15mm x 25mm x 0.76mm	12mm x 15mm x 0.76mm	5mm x 6mm x 0.9mm
Temperature range	Operating -40°C to +105°C Storage -40°C to +125°C	Operating -40°C to +105°C Storage -40°C to +125°C	Operating -40°C to +105°C Storage -40°C to +125°C
NVM (non-volatile memory) endurance	Up to 500,000 @ +105°C Max cycling: 16m per 4KB sector	Up to 500,000 @ +105°C Max cycling: 16m per 4KB sector	Up to 500,000 @ +105°C Max cycling: 16m per 4KB sector
Data retention	Up to 15 years @ +85°C Up to 10 years @ +105°C	Up to 15 years @ +85°C Up to 10 years @ +105°C	Up to 15 years @ +85°C Up to 10 years @ +105°C
Plastic type	PVC, ABS, PET	ABS	n/a

Form factor	**2FF M2M fully ruggedized Mini**	**3FF M2M fully ruggedized Micro**	**MFF2 (VQFN8) M2M fully ruggedized Chip**
Socketable	yes	yes	no
Solderable	no	no	yes
Soldering Profile	n/a	n/a	JEDEC J-STD-020C
Supply voltages range	1.62 V to 5.5 V	1.62 V to 5.5 V	1.62 V to 5.5 V
Abbreviated Dial Numbers (ADN)	200	200	200
Fixed Dial Numbers (FDN)	100	100	100
Vibration tolerance	n/a	n/a	Vibration Variable Frequency (VVF) according to JESD22-B103
RoHS/WEEE	Yes	Yes	Yes
Availablity	Available	Available	Available
Minimum order quantity	50+	50+	500
Order multiples	Variable	Variable	500
Packaging	Individual/box	Individual/box	Reel (SIM reader also required)