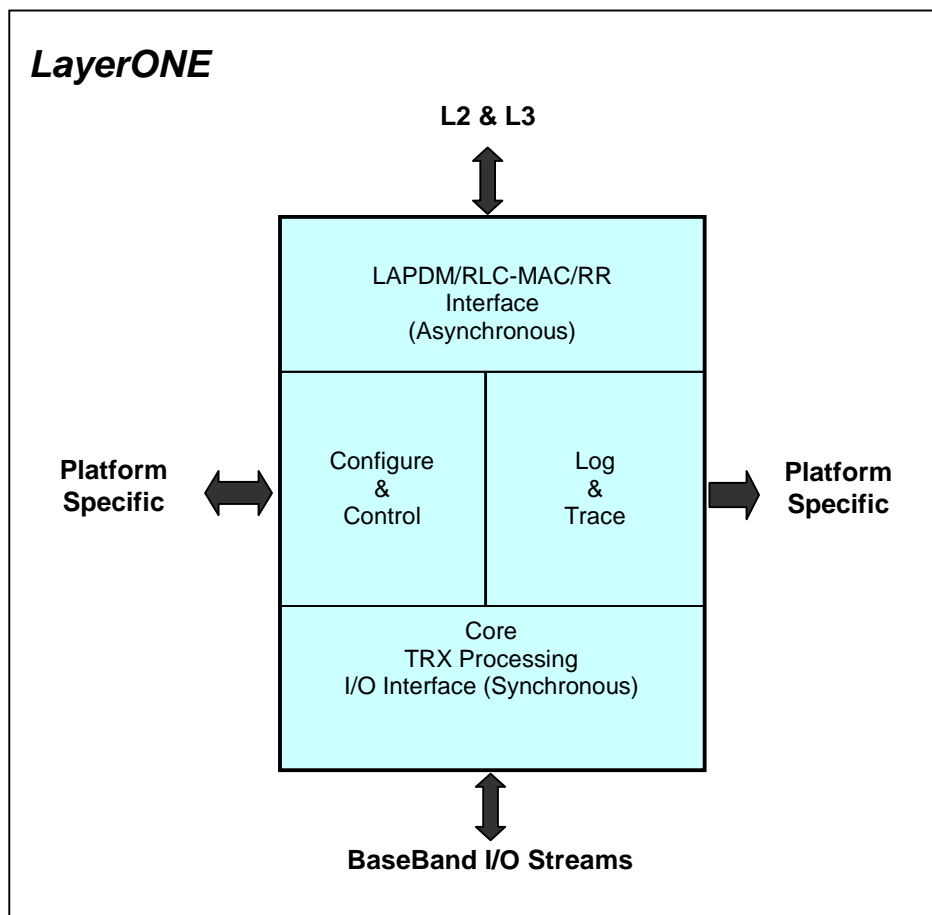




# GSM/GPRS/EGPRS LayerONE BTS FRAMEWORK

DelCom's GSM *LayerONE* is a 2.75G physical layer solution for picocells and femtocells based on software-defined radio (SDR) technology. Designed with ease of integration in mind, the software framework allows for rapid product development without the need for expertise in the intricacies of modulation, channel coding, interleaving, and physical channel multiplexing. Clean and concise Layer 2, Layer 3, and base-band interfaces and extensive logging capabilities make integration a snap. Highly portable to almost any fixed-point core, *LayerOne* is available for a variety of platforms including Texas Instruments' TMS320C6400™ family of digital signal processors and DaVinci™ SoCs.



## Physical Channels:

| Physical Channel | GSM   |                                     |
|------------------|---|-------------------------------------|
|                  | DL (TX)   | UL (RX)                             |
| I                | TCH/F + SACCH                                       | TCH/F + SACCH                       |
| II & III         | TCH/H + SACCH                                       | TCH/H + SACCH                       |
| IV               | FCCH +SCH+CCCH (PCH/AGCH)+BCCH                      | RACH                                |
| V                | FCCH +SCH+ CCCH+BCCH+SDCCH/4 +SACCH/4               | RACH+ SDCCH/4 + SACCH/4             |
| VI               | CCCH+BCCH   | RACH                                |
| VII              | SDCCH/8+SACCH/8                                     | SDCCH/8+SACCH/8                     |
|                  | GPRS/EGPRS  |                                     |
| XI               | PBCCH+PCCCH(PCH/AGCH/PNCH) +PDTCH/F+PACCH/F+PTCCH/F | PRACH + PDTCH/F + PACCH/F + PTCCH/F |
| XII              | PCCCH(PCH/AGCH/PNCH)+PDTCH/F +PACCH/F+PTCCH/F       | PRACH + PDTCH/F + PACCH/F + PTCCH/F |
| XIII             | PDTCH/F+PACCH/F+PTCCH/F                             | PDTCH/F + PACCH/F + PTCCH/F         |

## Traffic Channels:

### **Circuit Switched:**

- Full rate and enhanced full rate traffic channels for speech (TCH/FS & TCH/EFS)
- Adaptive full rate traffic channel for speech (TCH/AFS)
- Wideband Adaptive full rate traffic channel for speech (TCH/WFS)
- Full rate circuit switched data (TCH/F14.4/F9.6/F4.8/F2.4)
- Half rate traffic channel for speech (TCH/HS)
- Adaptive half rate traffic channel for speech (TCH/AHS)

### **Packet Switched:**

- GPRS Packet Data CS-1 through CS-4 (PDTCH/F)
- EGPRS/EDGE Packet Data MCS-1 through MCS-9 (PDTCH/F)

## Control Channels:

### **Circuit Switched:**

- FCCH, SCH, BCCH, AGCH, PCH, NCH, BCH, RACH, FACCH/F, FACCH/H, SACCH, SDCCH

### **Packet Switched:**

- PBCCH, PCCCH, PTCCH/U, PTCCH/D, PACCH

## Additional Features:

- Automatic system information message scheduling and transmission
- Support for multiple, independent cells on a single core
- A5/1 and A5/3 ciphering support
- Source code licenses are available to qualified customers and partners