## 1.4 Product description

LARA-R2 series modules provide LTE Cat 1, GSM/(E)GPRS multi-mode technology:

- LARA-R204 is designed mainly for operation in America (on Verizon network)
- LARA-R211 is designed mainly for operation in Europe, Asia and other countries

| 4G LTE | 2G GSM/GPRS/EDGE |
|---|---|
| 3GPP Release 9<br>Long Term Evolution (LTE)<br>Evolved Universal Terrestrial Radio Access (E-UTRA)<br>Frequency Division Duplex (FDD)<br>DL Rx diversity | 3GPP Release 9<br>Enhanced Data rate GSM Evolution (EDGE)<br>GSM EGPRS Radio Access (GERA)<br>Time Division Multiple Access (TDMA)<br>DL Advanced Rx Performance |
| Band support[1]:<br>• LARA-R204:<br>  • Band 13 (750 MHz)<br>  • Band 4 (1700 MHz)<br>• LARA-R211:<br>  • Band 20 (800 MHz)<br>  • Band 3 (1800 MHz)<br>  • Band 7 (2600 MHz) | Band support:<br><br><br>• LARA-R211:<br>  • E-GSM 900 MHz<br>  • DCS 1800 MHz |
| LTE Power Class<br>• Power Class 3 (23 dBm) | GSM/GPRS (GMSK) Power Class<br>• Power Class 4 (33 dBm) for E-GSM band<br>• Power Class 1 (30 dBm) for DCS band<br>EDGE (8-PSK) Power Class<br>• Power Class E2 (27 dBm) for E-GSM band<br>• Power Class E2 (26 dBm) for DCS band |
| Data rate<br>• LTE category 1:<br>up to 10.3 Mb/s DL, 5.2 Mb/s UL | Data rate[2]<br>• GPRS multi-slot class 12[3], CS1-CS4,<br>up to 85.6 kb/s DL/UL<br>• EDGE multi-slot class 12[3], MCS1-MCS9,<br>up to 236.8 kb/s DL/UL |

**Table 2: LARA-R2 series LTE and 2G characteristics**

LARA-R2 modules provide Voice over LTE (VoLTE) as well as Circuit-Switched-Fall-Back (CSFB) audio capability[4].

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[1] LARA-R2 series modules support all the E-UTRA channel bandwidths for each operating band according to 3GPP TS 36.521-1 [11].
[2] GPRS/EDGE multi-slot class determines the number of timeslots available for upload and download and thus the speed at which data can be transmitted and received, with higher classes typically allowing faster data transfer rates.
[3] GPRS/EDGE multi-slot class 12 implies a maximum of 4 slots in DL (reception) and 4 slots in UL (transmission) with 5 slots in total.
[4] Not supported by LARA-R204 module "02" product version.