



Build a smarter world

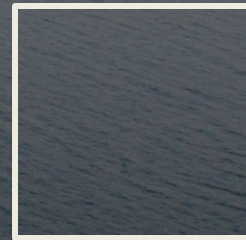
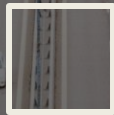
New Product Introduction

NA & LATAM Region

July 2024



GNSS Modules



GNSS modules new products



LG290P

- All-constellations and all-bands GNSS module
- GPS/ GLO/ GAL/ BDS/IRNSS QZSS
- L1, L2, L5, E6, L-band
- 20Hz RTK

Quectel LG290P features



➤ GPS/GLONASS/Galileo/BDS/QZSS/NavIC

- GPS L1C/A, L1C*, L2C, L5
- GLONASS L1, L2
- Galileo E1, E5a, E5b, E6
- BDS B1I, B1C, B2I, B2a, B2b, B3I
- QZSS L1C/A, L1C*, L2C, L5
- NAVIC L5
- SBAS: L1C/A
- PPP*: L-band, PPP-B2b, QZSS L6, Galileo HAS E6

➤ 1040 channels

➤ Concurrent GNSS: 5 + QZSS

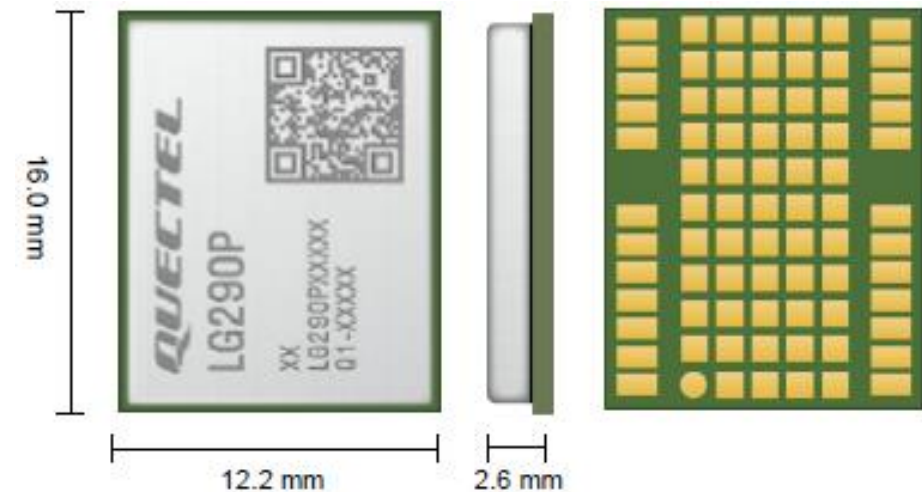
➤ Standalone accuracy: 2D 1.5m, 3D 2.5m

➤ RTK accuracy: 2D 0.8cm + 1ppm, 3D 1.5cm+1ppm

➤ RTK Convergence time: 5s

➤ Max nav. Rate: 20Hz. Default: 10Hz

➤ Power consumption: 98mA @ 3.3V

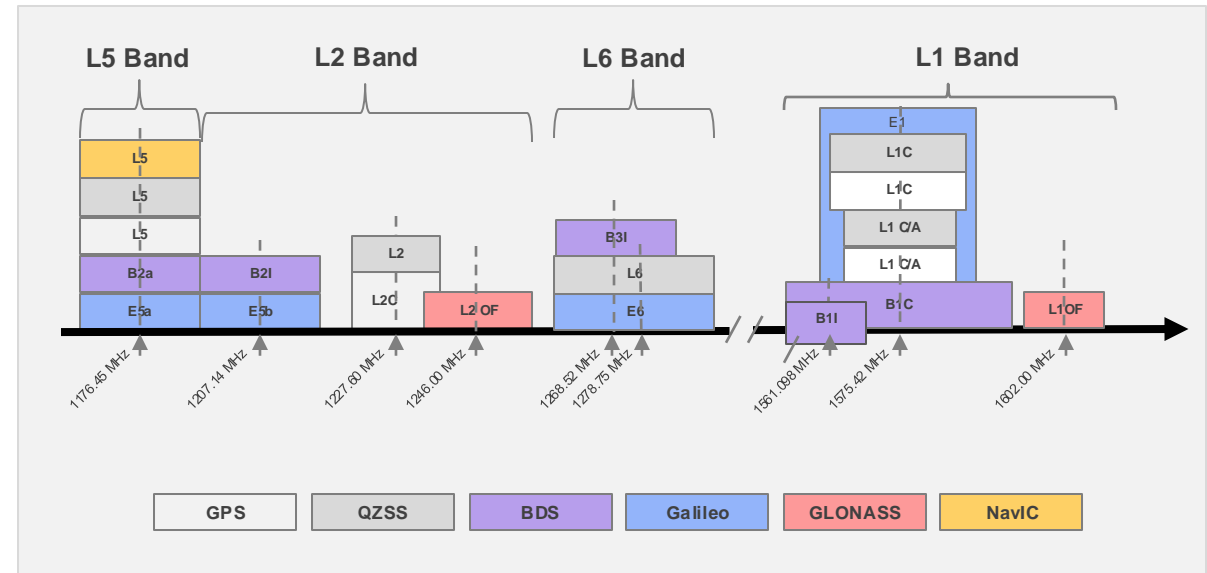


*: under development

Quectel LG290P highlights



- All constellations and frequencies support
- Enhanced accuracy and RTK availability in challenging environments
- Instantaneous RTK accuracy
- Work with longer baseline
- Compatibility with legacy and modern dual-band or triple-band receivers/corrections
- Satellite-based augmentation L-band*, PPP*



*: under development

LG290P comparison

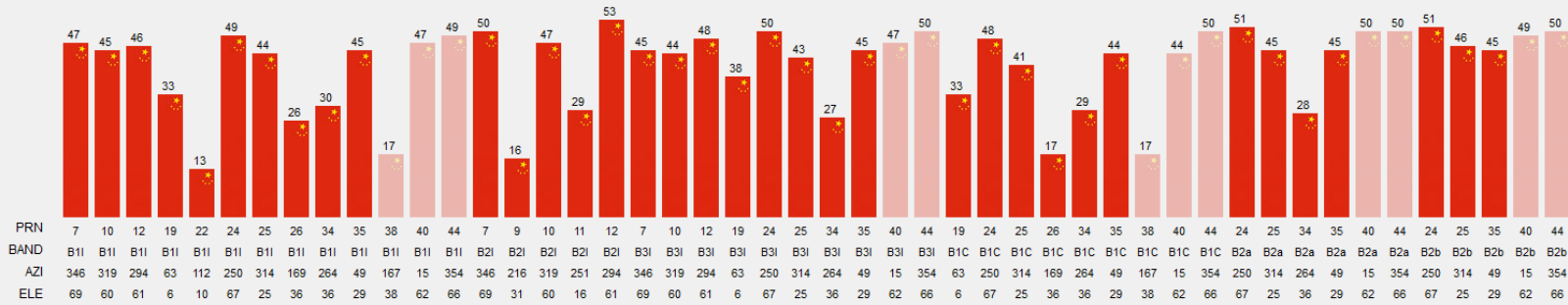


Feature	LG290P	LC29H-EA	ZED-F9P	UM960
Platform	KT5030	AG3335A	F9940	Nebulas IV
Size	12.2 x 16	12.2 × 16	17.0 × 22.0	12.2 x 16
Band	L1+L2+L5+E6+L-band	L1+L5	L1+L2	L1+L2+L5
Type GNSS Receiver	All band	Dual Band	Dual Band	Triple band
Constellations	GPS/GLONASS/Galileo/BDS QZSS/NAVIC	GPS/GLONASS/Galileo/BDS QZSS	GPS/GLONASS/Galileo/BDS QZSS	GPS/GLONASS/Galileo/BDS QZSS
Technology	RTK (Tiple-band), L-band PPP*	RTK(Dual)	RTK(Dual)	RTK(Triple-band)
Current Consumption	98mA @3.3V	30 mA @3.3V	85 mA @3V	133mA @ 3.3V
Position Accuracy	0.8cm+1ppm	1cm+1ppm	1cm+1ppm	0.8cm+1ppm

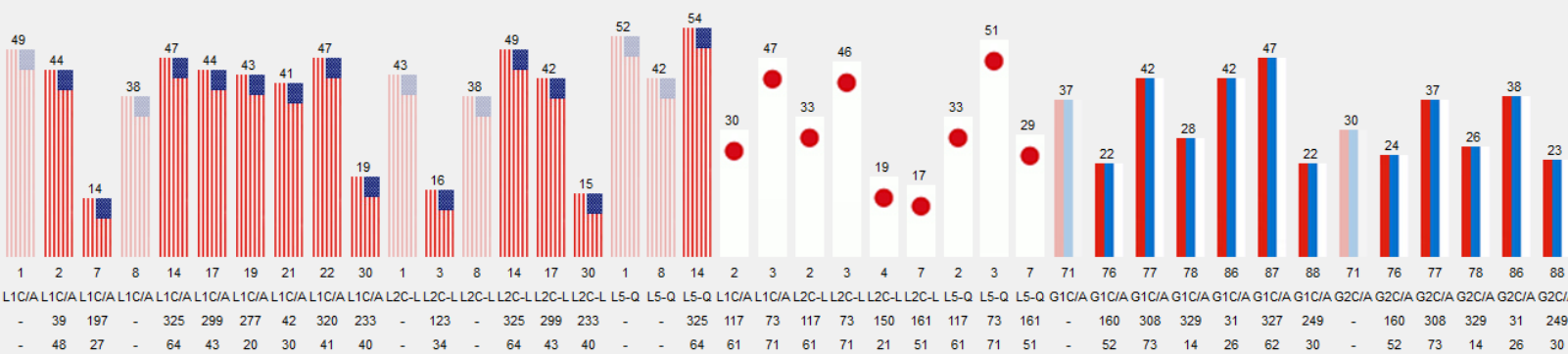
LG290P signals



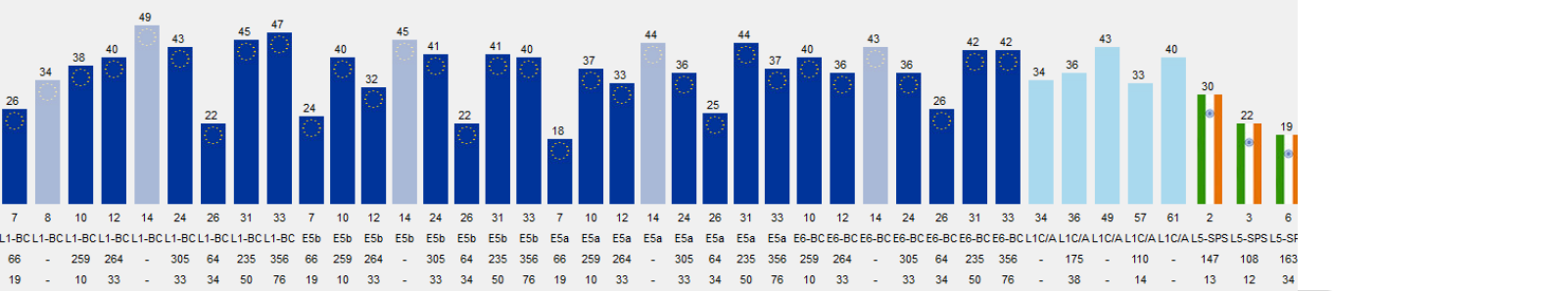
● BDS ● GPS ● QZSS ● SBAS
● GLONASS ● GALILEO ● NAVIC



BDS B1I, B2I, B3I, B1C, B2a, B2b

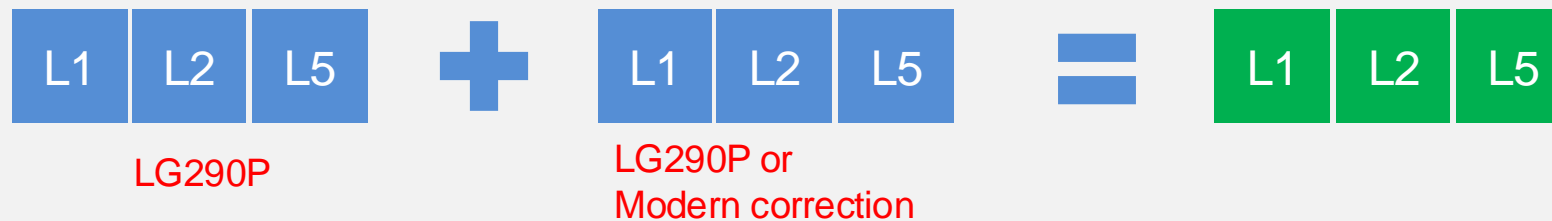
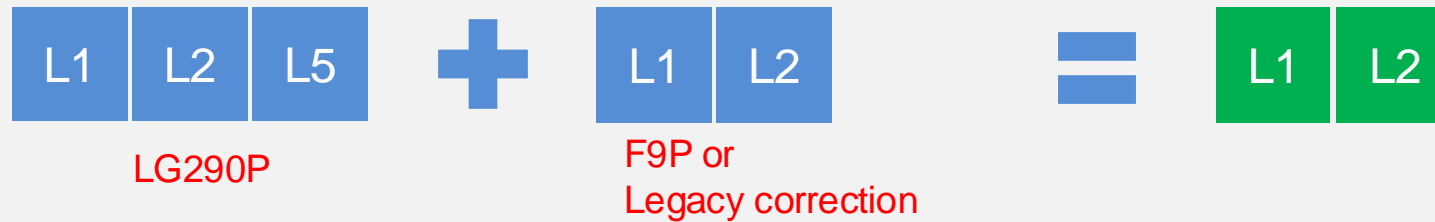


GPS L1C/A, L2CL, L5Q
QZSS L1C/A, L2CL, L5Q
GLONASS G1C/A, G2C/A

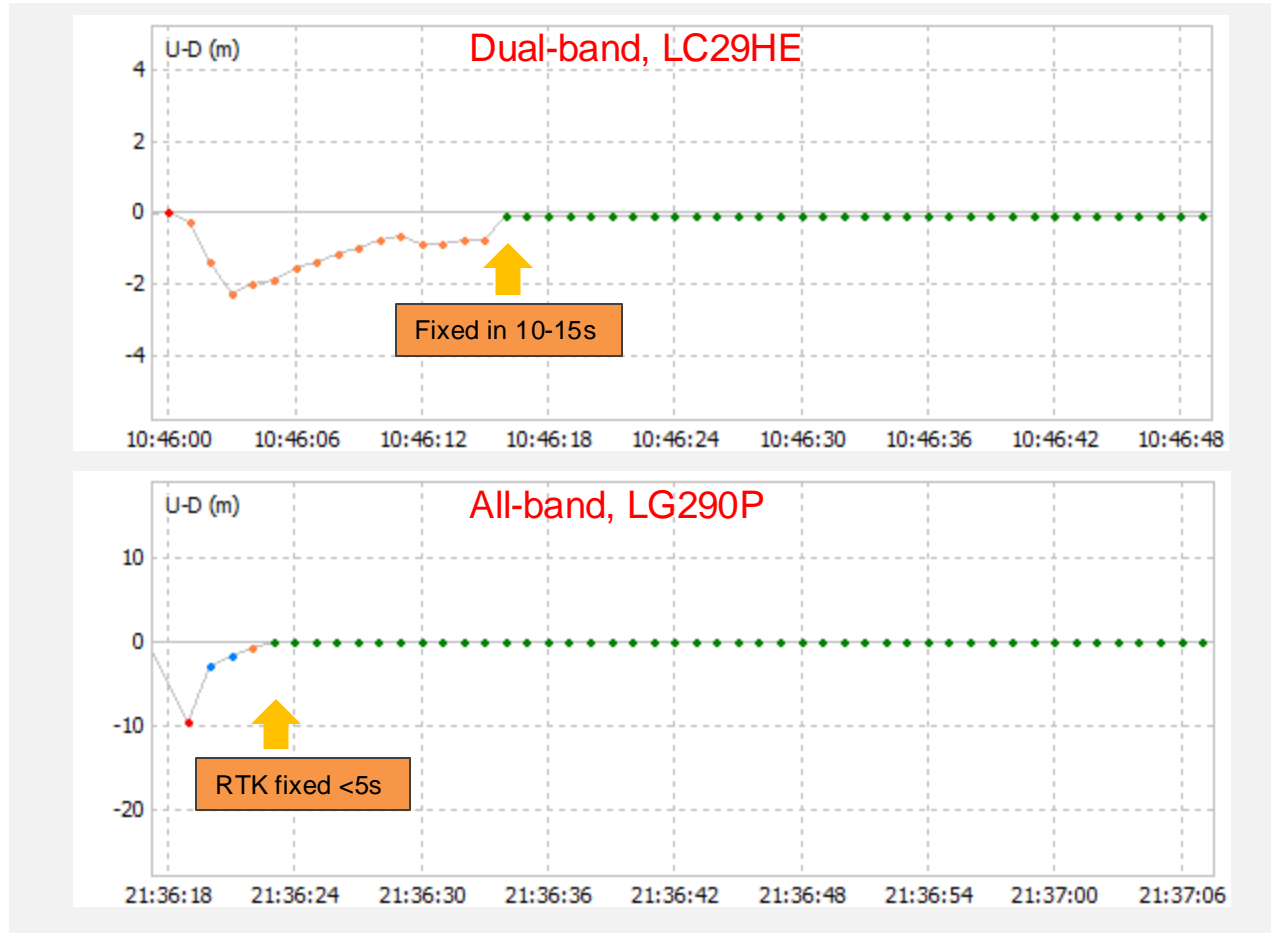


Galileo L1-BC, E5b, E5a, E6-BC
SBAS L1C/A
IRNSS L5-SPS

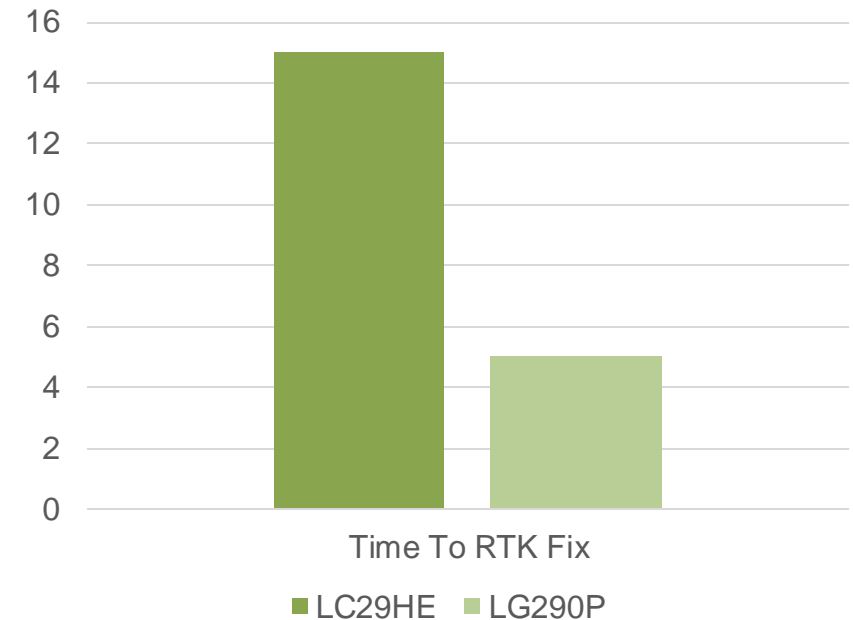
LG290P RTK compatibility



LG290P RTK convergence time



Instantaneous RTK fix with all band LG290P



* Open sky, same triple band antenna, hot start

Lawnmower test (Belgrade)



- Focus on LC29HE, F9P and **LG290P**
- Test device with full-band antenna
 - LC29HE (LC29HEANR11A03S_RSA)
 - F9P (HPG-1.32)
 - LG290P
- RTK service: Base station L1/L2/L5
- Truth system: CPT7

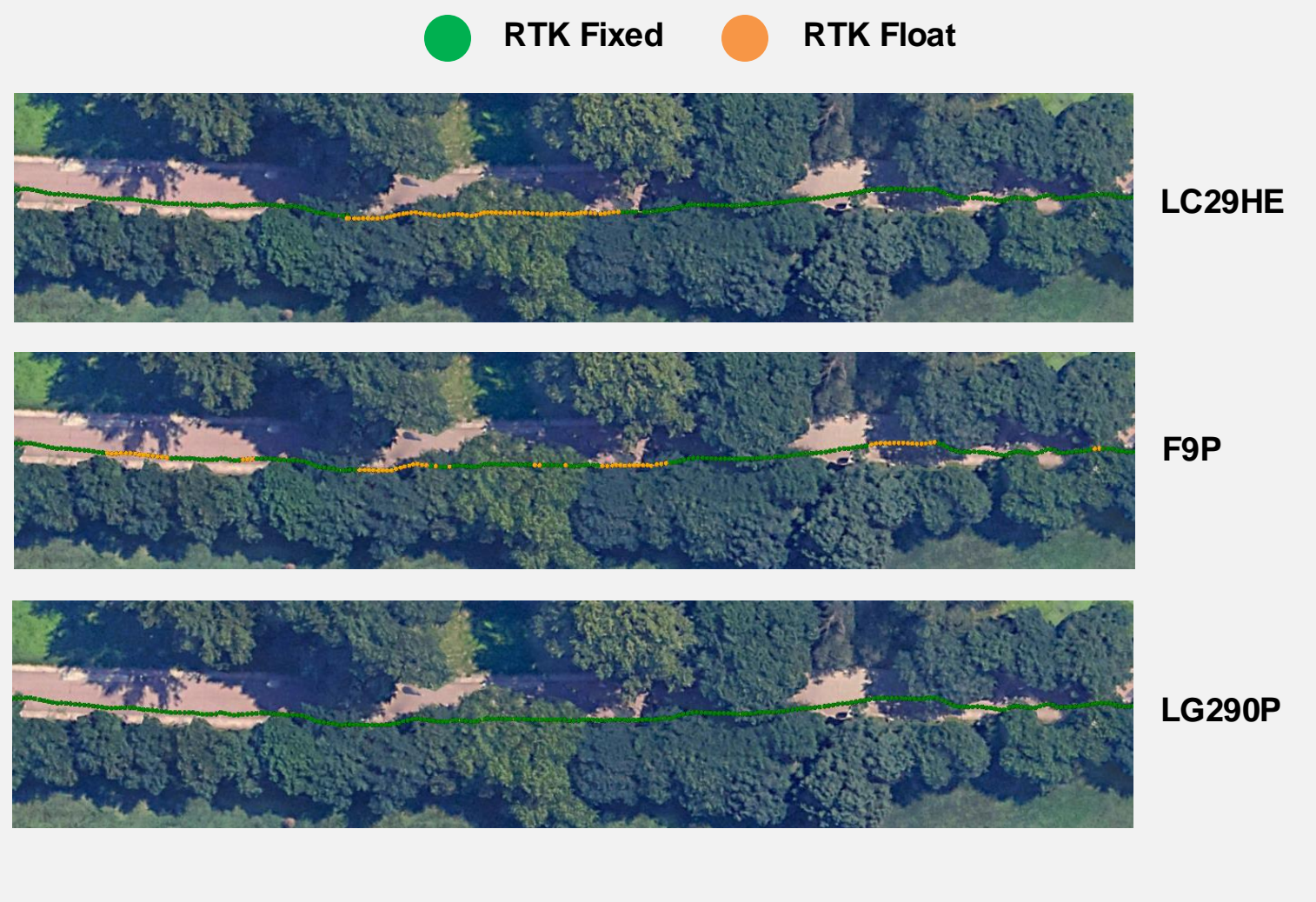


Boulevard



Signals from both sides are interfered.

LG290P solution achieves 100% RTK fixed!



Next to building



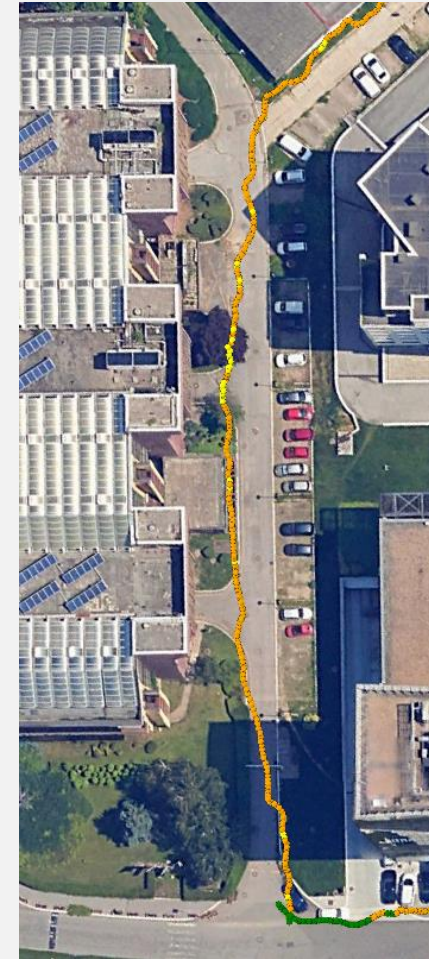
Strong multipath expected from buildings.
Both dual-band solutions are unusable. **LG290P**
is the best.



● RTK Fixed ● RTK Float



LC29HE



F9P

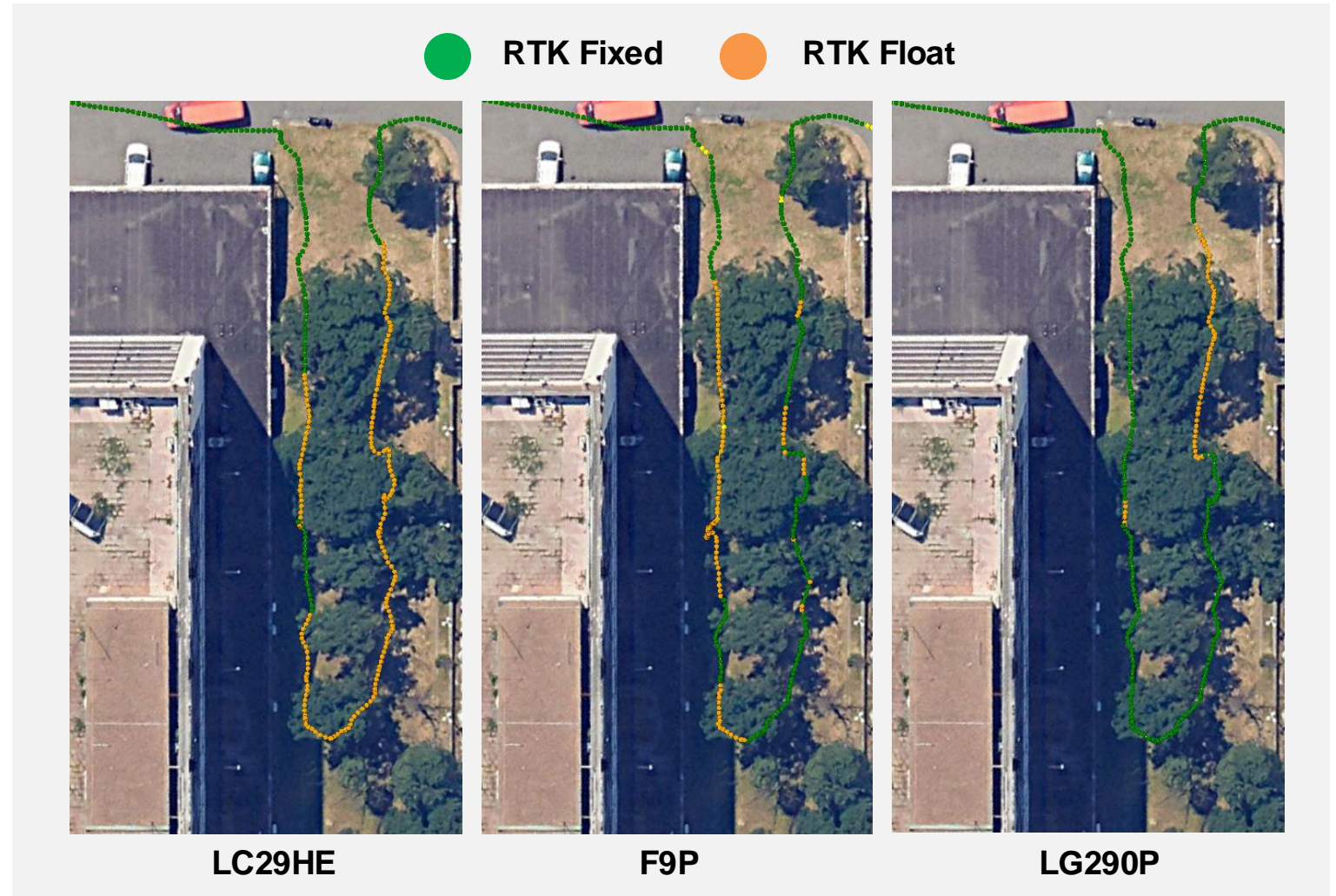


LG290P

Next to building and trees

Signal obstructed by nearby building and interfered by trees.

All solutions degraded a lot. **LG290P** has highest RTK availability



LG290P target applications



Precision Agriculture

- Automatic tillage and harvesting
- Accurate operation
- Reduced labor costs



Robotic Lawn Mower

- Borderless automatic mowing
- Accurate operation
- Reduced labor costs



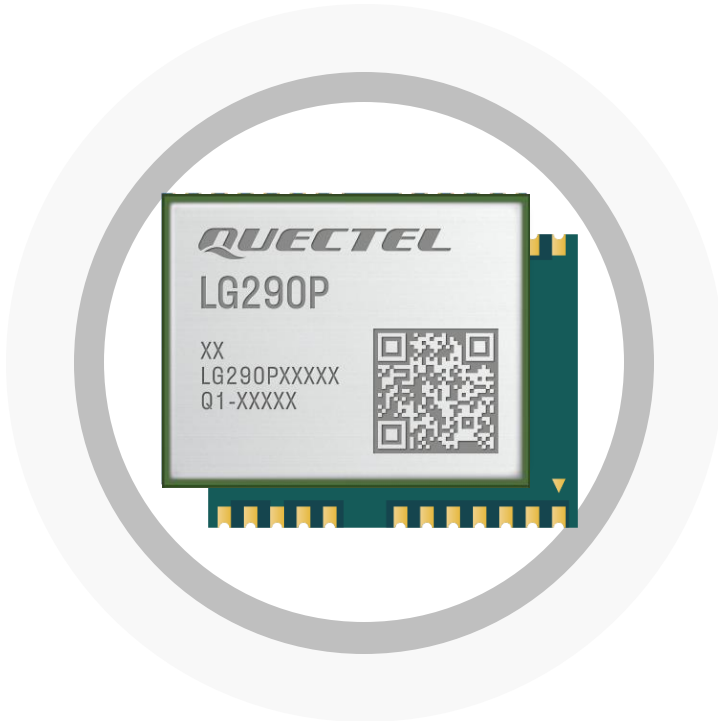
UAV

- Formation flight performance
- UAVs for precision agriculture
- Firefighting UAVs



Patrol Robot

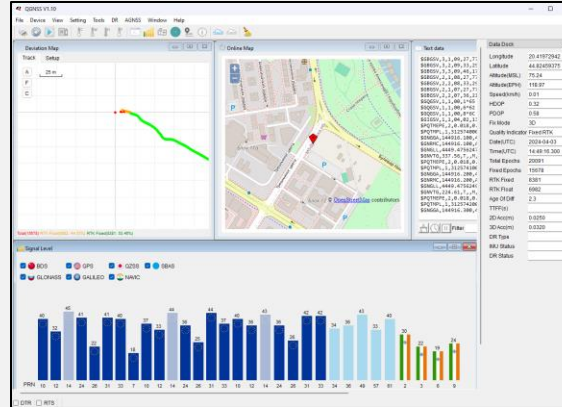
- Navigation and Positioning
- Route Planning



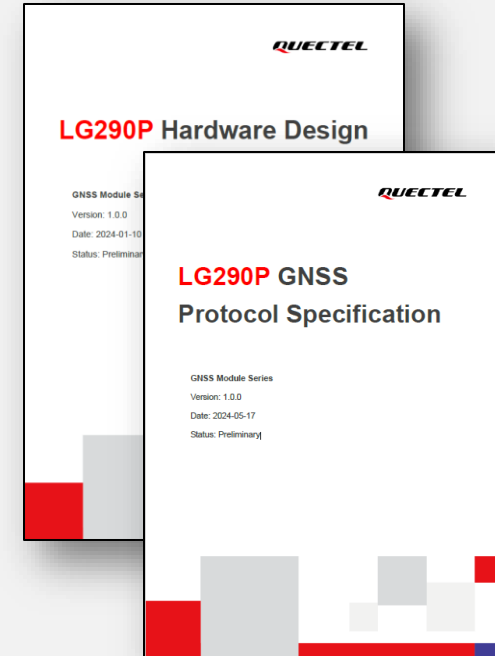
LG290P evaluation package



EVB OC: GNSS-TAA-KIT
TE-A OC: LG290P03AATA



QGNSS v1.10



LG290P Documentations

Marketing materials



Product Name	LG290P
Ordering Code	LG290P03AAMD
EVK Order Code	TE-A: LG290P03AATA; EVB KIT: GNSS-TAA-KIT
Webpage	Click to visit
Image	Click to download
Datasheet	Click to download
EVB User Guide	Click to download
MPQ	250
MOQ	250
MOQ Price	Refer to Sales
Lead Time	8~12 weeks
Gross Weight	Approx. 0.9 g
Module Dimension(mm)	12.2×16×2.6
Country of Origin	China

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

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