Roche Applied Science - LightCycler 480

GENERAL DESCRIPTION:

The LightCycler 480 Real-Time PCR System is a fully integrated multiwell-plate based real-time PCR platform for highly accurate qualitative and quantitative detection of nucleic acids. Building on the benefits of Roche's capillary-based LightCycler® Systems, it goes one step further in offering enhanced throughput, compatibility with automation equipment and maximum flexibility regarding hard- and software. Providing novel ways to combine speed and accuracy without compromises, the LightCycler® 480 Real-Time PCR System meets the needs of a broad range of applications in research fields such as gene expression studies, discovery and analysis of genetic variation or array data validation.

TECHNICAL DESCRIPTION:

The LightCycler 480 Real-Time PCR System is a fully integrated multiwell-plate based real-time PCR platform. Benefit from novel thermal cycling and data capture technologies to achieve outstanding temperature homogeneity and assay reproducibility. Increase the sensitivity and yield of your real-time PCR applications, with robust LightCycler® 480 reagents and specially engineered clear or white consumables. Analyze true raw data, breaking free from the need to use passive reference dyes or normalization plates to get accurate results. Flexibly switch between 96- or 384-well plate formats. Select from numerous assay formats and detection dyes, expanding the range of real-time PCR applications in your lab.

CONTACT INFORMATION

Roche Applied Science
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Indianapolis, IN 46250

COST

- $50,000/system
- $0.68/analysis

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

RANKINGS

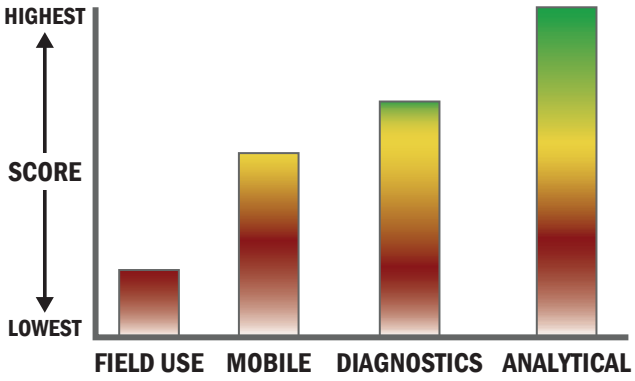
	Biological	Chemical	Radiological
FIELD USE System	Fourth Tier	N/A	N/A
MOBILE Laboratory	Top Tier	N/A	N/A
DIAGNOSTIC Laboratory	Top Tier	N/A	N/A
ANALYTICAL Laboratory	Top Tier	N/A	N/A

Survey Source

Vendor and Internet Supplied Information

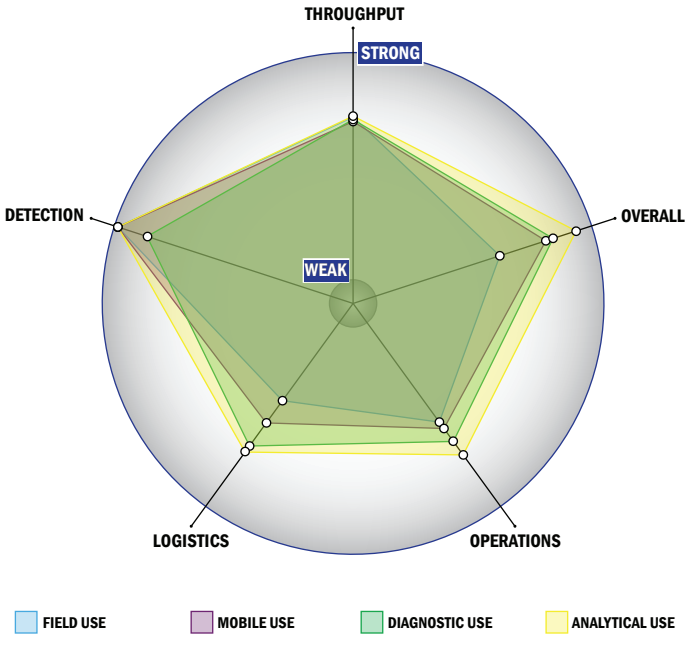
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



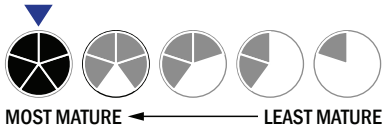
Evaluation Criteria

Throughput:

- Between 30 and 60 minutes for detection
- Multiple samples, multiple tests/sample per run
- Greater than 750 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 2 components
- 10-20 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a home dishwasher
- More than 50 kg
- Satellite, wireless and wired connections are available
- System or device has 220V electrical requirement



Operations:

- Can be used from 4°C to 37°C
- Components must be frozen (-20°C)
- Between 1 to 3 years shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Less than 10 µL
- Superior specificity. System has a false alarm rate approaching zero (~0%)
- 1-100 CFU per mL
- 1-100 PFU per mL
- Less than 1 ng per mL
- Spore lysis not necessary for detection by system