

Illumina, Inc. - iScan System



GENERAL DESCRIPTION:

The iScan System is a cutting-edge, dedicated array scanner that supports rapid, sensitive, and accurate imaging of Illumina's array-based genetic analysis products. The system features a high signal-to-noise ratio, high sensitivity, an excellent limit of detection, and a broad dynamic range leading to exceptionally high data quality. The iScan System supports Infinium, GoldenGate, DASL, Gene Expression (Direct Hybridization), and Methylation assays along with different multi-sample BeadChip formats.



TECHNICAL DESCRIPTION:

At the System's core is the iScan Reader, which incorporates high-performance lasers, optics, and detection systems. The iScan Reader offers sub-micron resolution and unmatched throughput rates. Even the highest density BeadChips can be scanned in just minutes, allowing processing of up to 96 multi-sample BeadChips per day. These imaging features are especially beneficial for high-density genotyping, CNV analysis, DNA methylation, and gene expression profiling.

CONTACT INFORMATION

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COST

- \$230,000/system
- \$6-\$600/analysis

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier
- Second Tier
- Third Tier
- Fourth Tier
- Bottom Tier

RANKINGS

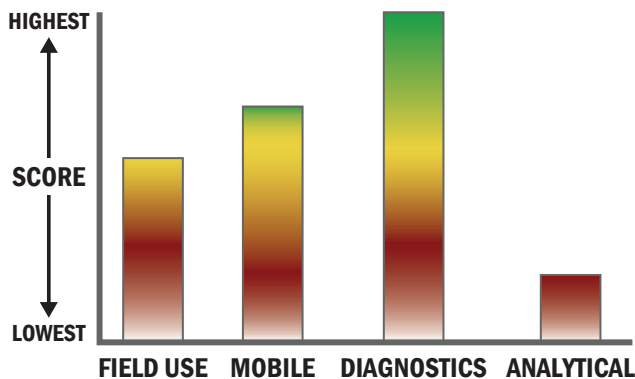
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FIELD USE System	<input checked="" type="radio"/>	<input type="radio"/> N/A	<input type="radio"/> N/A
MOBILE Laboratory	<input checked="" type="radio"/>	<input type="radio"/> N/A	<input type="radio"/> N/A
DIAGNOSTIC Laboratory	<input checked="" type="radio"/>	<input type="radio"/> N/A	<input type="radio"/> N/A
ANALYTICAL Laboratory	<input checked="" type="radio"/>	<input type="radio"/> N/A	<input type="radio"/> N/A

Survey Source

Vendor and Internet Supplied Information

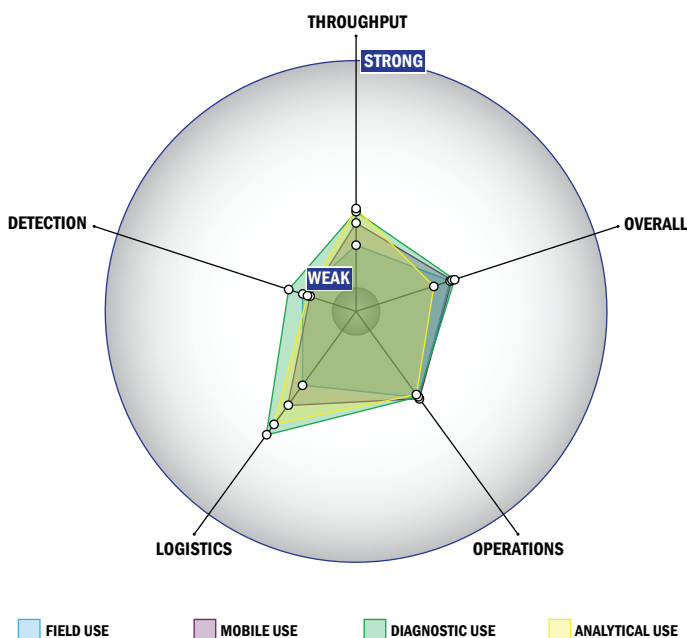
Scoring Analysis

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.



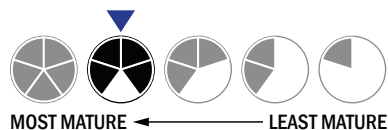
Evaluation Criteria

Throughput:

- Greater than 8 hours for detection
- Multiple samples, multiple tests/sample per run
- Less than 32 samples every 2 hours
- The system or device is currently semi-automated
- Device or system is intended for multiple detection assays
- 5 or more solutions, buffer, eluents, and/or reagents
- 5 or more components
- Less than 5 minutes is required for set-up
- Greater than 12 steps are required for detection

Logistics:

- A day of training and technical skills are required
- Approximately the size of a home dishwasher
- More than 50 kg
- System or device has 110V electrical requirement



Operations:

- Can be used from 25 °C to 37 °C
- Components must be frozen (-20 °C)
- Performance is not influenced by relative humidity
- Between 1 to 6 months shelf life
- Greater than 10 years expected life
- Results cannot be viewed in real-time
- The system could be adapted to a fully autonomous system with some effort
- 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
- This system does not test liquids
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- Manual kit not integrated with the system handles spore lysis

