



# TC55 vs. Consumer Products TCO White Paper

## Background

Motorola Solutions' TC55 represents new customer opportunities beyond addressing the needs of traditional enterprise customers. The TC55 can also combat smartphone competitive threats emerging in the enterprise space. Competitive threats from smartphones are clearly evident, particularly since most users are well educated on the capabilities and benefits of the growing number of applications that claim to address some business needs. The total cost of ownership (TCO) remains a key differentiator and is often seen as abstract and difficult to measure or estimate. This white paper will help explain the TCO analysis between consumer products and enterprise solutions, specifically the TC55.

## Executive Summary

1. The TC55 is recognized as an ideal product that targets the intersection of traditional enterprise mobile computing requirements and the convenience and familiarity of consumer grade devices. Target customers are those customers that will answer yes to the following questions that will drive a decision for which the TC55 will be compelling:
  - a. Is medium scanning required?
  - b. Is one device for multiple users desired?
  - c. Will the environment have demanding conditions (drop, water, temperature)?
  - d. Is the mobile device expected to have a service life of 3+ years?
  - e. Long battery life needed for long or multiple shifts support.
  - f. Are enterprise grade applications needed for security, scanning, and device management required?
2. Many factors drive the total cost of ownership; product durability, replacement cost, down time, service costs, and the purchase of add-on accessories such as scanning sleds, protective boots, or other accessories.
3. Motorola is not alone in understanding that rugged devices when contrasted with consumer grade devices provide a lower total cost of ownership for customers. Gartner and VDC have conducted studies that predict 27%-50% higher TCO cost for consumer grade devices vs. ruggedized devices.
4. Motorola has modeled a TCO calculator based on VDC consultation and our industry knowledge. As a proof point, the TC55 has been profiled against 2 distinct applications and requirements (1) using Samsung S4 Active and (2) the iPhone 4S. The results suggest a higher TCO of 28% and 36%, respectively, against the TC55 over a 4-year period.
5. Every use case is unique but the data and analysis point to a lower TCO in these business conditions with the TC55 representing the best of both types of mobile devices. Motorola can model a TCO analysis with customer-specific requirements using our TCO calculator tool to help estimate customer specific savings.
6. The TC55 delivers other great features<sup>1</sup> over consumer devices that include:
  - a. 4x louder audio performance with the dual external speakers.
  - b. Longer battery life that is 40% greater than Samsung S4 Active and 200% greater than iPhone 5.
  - c. Advanced capacitive touch screen that works when wet, with gloves, with a finger or stylus.
  - d. Service from the Start is included with every TC55 in most markets in Europe and the Americas providing peace of mind and quick turn (3 days).

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<sup>1</sup> For more detailed information on features, please refer to the TC55 Partner Brief.

## Addressing the Consumer Challenges

There is an opportunity to better educate the customer on line-of-business application requirements and the impact of downstream investments when comparing the TC55 with competitive consumer solutions. Even though most decision makers understand that enterprise mobility is a 3-5 year strategic investment that is driven by total cost of ownership (TCO) and return on investment (ROI), the allure of lower initial expenditure must be addressed head on with the customer. Cost drivers that are derived from IT challenges, and higher multi-year TCO considerations need consideration. It is acknowledged that consumer devices can meet some limited enterprise applications. However the perceived opportunity for consumer smart phones to meet purpose driven requirements is showing signs that this novelty is diminishing under the reality of productivity losses.

Below is a summary of three separate TCO analyses that independently analyzed the total cost of ownership between enterprise grade or rugged devices vs. consumer grade smartphones.

## VDC TCO Analysis Summary

In March 2013 VDC published findings on rugged devices vs. non-rugged devices. The conclusion, non rugged devices are 100% more likely to fail and have a TCO that is 50% higher. Consider the key takeaways from the latest VDC study on TCO illustrated in Figure 2[a] and 2[b] shown below.

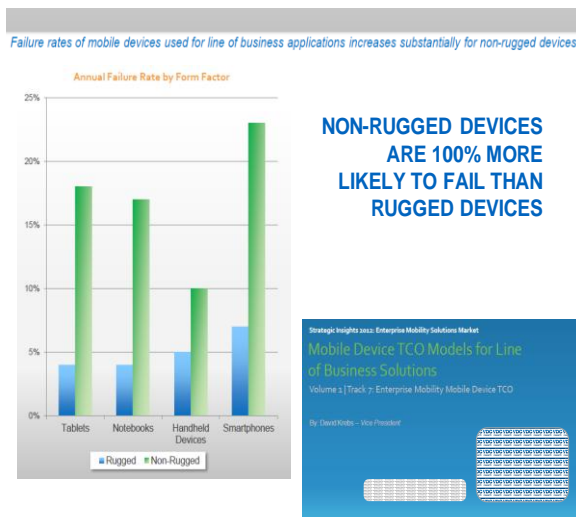
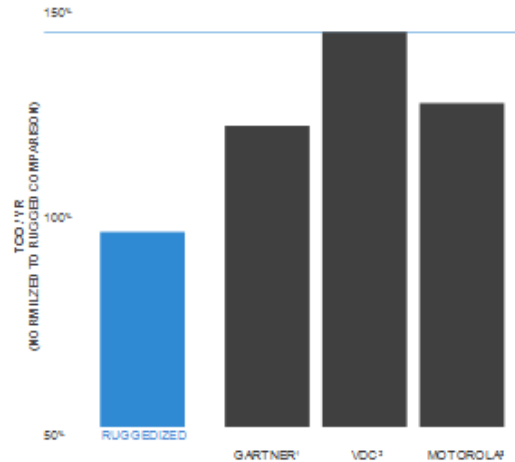


Figure 2[a] – Failure rate of rugged vs. non-rugged

## LOWER TCO THAN A SMARTPHONE



Consumer Smartphones increase TCO by up to 50% compared to Ruggedized

Figure 1 - TCO Comparison Summary

- 1) Frederica Troni, "Total Cost of Ownership of Mobile Devices: 2012 Update." March 20, 2012. Gartner
- 2) David Krebs, "Mobile Device TCO Models for Line of Business Solutions". Volume 1 | Track 7: Enterprise Mobility Mobile Device TCO. March 2013. VDC research.
- 3) Motorola Solutions. "Motorola Solutions TCO Calculator". Average result for common applications in field sales and service. Q3 2013.

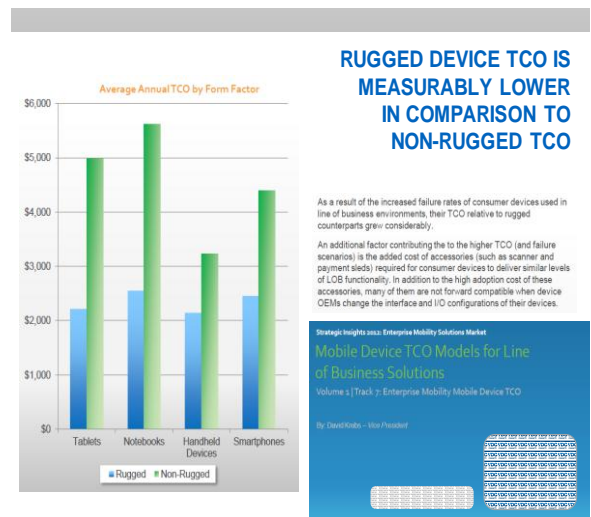



Figure 2[b] – TCO comparison.

## Gartner TCO Analysis Summary

In 2012 Gartner analyzed common usage patterns for mobile devices in the enterprise environment. The patterns were identified as Platform support, Appliance support and Concierge support. The platform profile is considered here as most applicable and is defined as a company selected device with multiple business applications and central IT support. One key conclusion, that a non rugged device (consumer smartphone) will have a **27% higher TCO** compared to a rugged device over 4 years based on using a 500 unit deployment.



Device/Support Type	Smartphone (Platform)	Ruggedized Device(Platform)	
<b>Summary</b>			
Total direct costs	\$ 1,426.49	\$ 1,037.46	
otal end user costs	\$ 487.40	\$ 475.81	
TCO	\$ 1,913.89	\$ 1,503.26	<b>27%</b>

**Table 1** - Gartner TCO comparison summary

### Ruggedized Devices Under the Platform Support Level

Under this profile, the assumptions are:

- The devices have a four-year life cycle.
- A warranty uplift is factored in to match the longer life cycle of the device.
- All devices are cellular-enabled.
- Voice costs are lower, due to the data-centric nature of the assigned tasks.
- Support includes a native wireless email solution, as well as the cost of management and security software suite.
- Users depend more on such devices to accomplish their job, implying higher end-user operations/downtime costs.
- We assume a user mix of 30% data entry users and 70% structured task users.

### Ruggedized Devices Under the Platform Support Level

Under this profile, the assumptions are:

- The devices are expensed, and have a life cycle of two years.
- IT labor costs account for the complexity of managing one or more business applications.
- Support includes the costs of managing a native wireless email solution, as well as the cost of handling security and management tools.
- Training costs will be higher than in the appliance profile, because we assume that IT personnel and end users will have to be trained to use and support a least one business application.
- We assume a user mix of 40% structured task users, 45% knowledge workers and 15% power users.

## Motorola TCO Analysis

In order to position the TC55 with respect to consumer solutions, consider the comparison of two separate profiles that provide a range of assumptions and requirements in order to illustrate a potential TCO variance.

- (a) An iPhone 4S smartphone bundled with a sled for scanning to meet medium scanning requirements, and an extra battery ensure high usage over a full shift. We plan to maintain the iPhone for a full 4

years. In this case with the scanning sled provided equivalent functionality to the TC55 with integrated scanner.

- (b) A Samsung S4 Active smartphone with a protective case to provide some minimal drop protection. We assume that the scanning is only light and can be handled by the camera. It was further assumed that the S4 Active would be replaced after 2 years due to expected damage and fallout. In this case equivalency for scanning capability as compared to the TC55 is not achieved but thought to be good enough for the profile requirement.

It was also assumed that the average discount pricing for the TC55 and non contract pricing for the two consumer phones be used as bundled carrier services for either devices would be of equal consideration.

Three major categories contribute to TCO, hardware acquisition, service/support, and indirect costs. The indirect costs include productivity loss and IT support costs associated with a failure or incident. Please note that an internal TCO calculator has been created and was used to derive the discussed trends<sup>2</sup>. When breaking down the TCO, the percent contribution is important to note. See Table 2.

Major Contributor Percent Breakdown of the TCO	iPhone 4S with Scan Sled	TC55	Samsung with Protective Case - no Scan Sled
Hardware Acquisition Costs	50%	75%	50%
Service / Support Costs	30%	10%	25%
Indirect Costs	20%	15%	25%

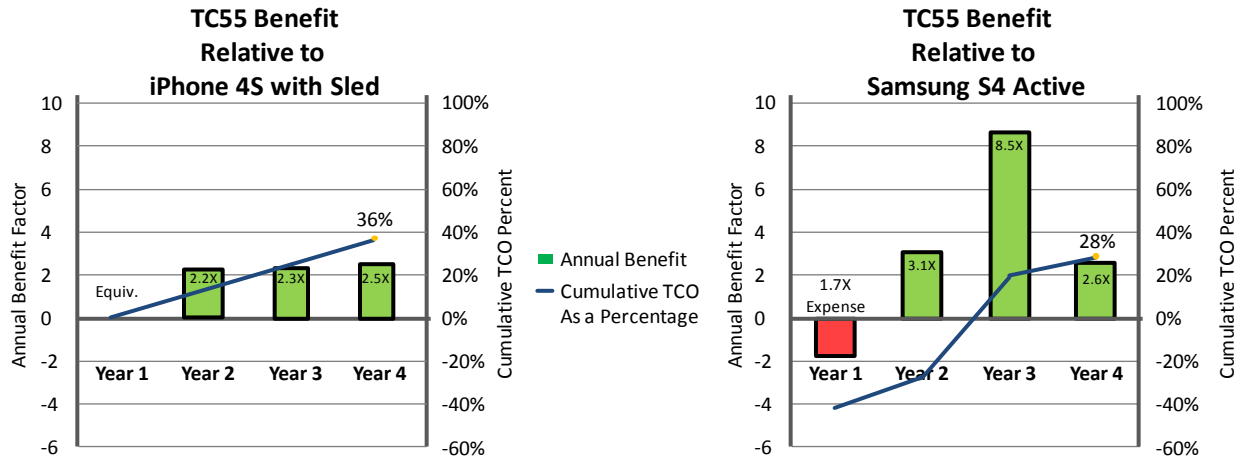
**Table 2 – Major contributors and percent breakdown relative to the TCO**

In this example, we consider the lifecycle period to be four years which represents a normal expectation for enterprise mobile computing. The initial startup expense of the TC55 relative to the iPhone 4S with sled is equivalent while the Samsung S4 Active with protective case is 1.7 times greater. The scanner being the equalizer in the case of the iPhone but recognizing that the Samsung S4 Active device is less capable.

After only 2 years the savings of the TC55 relative to the iPhone S4 profile is significant providing a TCO approximately 20% less and 36% over four years. Conversely, the Samsung S4 Active with a protective case, has a breakeven TCO at the end of the second year but will reach a 28% savings at the end of four years lifespan. See figure 3.

The cost savings is primarily driven by a significantly lower failure rate (consistent with the aforementioned VDC and Gartner TCO Study) driving higher productivity and lower IT support costs. One can argue the assumptions in the profiles may not meet an individual application but the profile is intended to provide two data points that demonstrate a consistent TCO savings range using industry data, and profiles and assumptions that are in line with typical enterprise applications.

<sup>2</sup> As a trusted advisor, MSI can complete a detailed assessment on behalf of customer engagements.



**Figure 3** – Comparing the TC55 cost with the iPhone 4S and Samsung solutions

### What is the Customer’s Cost of Doing Nothing?

When framing out the opportunity with the customer, it is also essential to understand from the customer’s perspective the cost of doing nothing. If the cost of doing nothing is lower than purchasing the TC55, then obviously the customer will choose to do nothing. For some customers it may mean that multiple devices may have to be supported in the interim. The customer may have to go without a solution that does not have telephony features. Or perhaps, the customer may have to continue to support an outmoded Windows handheld platform with a compromised user experience enabled with a small size display. Insight into the “cost of doing nothing” will be instrumental in positioning the TC55. Shown in Table 3 are subject areas that should be explored with the customer.

Subject Area	Specific Points to Explore
Multi-Piece Solutions	<ul style="list-style-type: none"> <li>Scanning, imaging, supplemental battery, another device for telephony, ...</li> <li>Management of multiple suppliers / accessories</li> </ul>
UI / UX Flexibility	<ul style="list-style-type: none"> <li>Legacy solutions typically have smaller displays and excessive scrolling to view information leads to productivity loss</li> <li>Limited display area restricts opportunities for customizing home screens</li> </ul>
Customer Intimacy	<ul style="list-style-type: none"> <li>MSI continually customizes platforms to meet enterprise requirements</li> <li>Consumer vendors will not be able to provide the same level of care /service / touch points that MSI will provide</li> <li>MSI may be asked to further extend/support the product lifecycle</li> </ul>

**Table 3** – Subject areas to explore to help the customer understand the cost of doing nothing.

## Summary and Perspective

- 1) The notion of using consumer devices in the enterprise vertical is challenging the economic feasibility of durable solutions. However it can still be demonstrated that consumer solutions deliver a higher total cost of ownership TCO when used in the enterprise vertical.
- 2) Even though the initial acquisition cost may be lower, further scrutiny demonstrates productivity loss, IT challenges, and higher TCO is realized with the use of consumer devices over a life cycle of 2,3,4 or more years.
- 3) Consumer devices forgo the traditional enterprise core values. Recognizing that the enterprise market is a niche for consumer handset manufactures while it is a core competency for MSI. We provide a superior solution with investment in product lifecycle support, product platforms, extended service and maintenance, access to roadmaps, and with the investment and support of the largest ecosystem of software application partners in the enterprise space.
- 4) Although 3<sup>rd</sup>-party sleds can normalize the initial equipment investment through incorporating scanning functionality, payment functionality, and additional battery capacity for the reasons outlined above there are significant challenges that the customer must overcome.
- 5) The customers has taken note that some consumer device manufactures have invested and try to deliver devices that are “good enough” in the enterprise vertical but have challenges. For example, in June of 2013, Samsung announced the Galaxy S4 Active that demonstrated an investment in quality to improve durable robustness<sup>3</sup>. Even with the improvement it does not approach the durability and seal performance of the TC55 and is only sufficient for “summer proof” performance withstanding limited exposure to dust and water.
- 6) By educating the customer, it is believed that MSI can overcome the current appeal of consumer devices with touch screens, size and weight, and features. Utilizing the TC55, there is the opportunity for the customer to request customization of the protective casing – in addition to leveraging Android mainstream applications.
- 7) Personal versus associate use blurs productivity and corporate liability lines. Consider the following two use cases for positioning TC55:

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<sup>3</sup>[http://www.phonearena.com/news/Samsung-Galaxy-S4-Active-meets-its-match-in-a-swimming-pool\\_id44523](http://www.phonearena.com/news/Samsung-Galaxy-S4-Active-meets-its-match-in-a-swimming-pool_id44523)  
[http://www.phonearena.com/news/Waterproof-Galaxy-S4-Active-warranty-wont-cover-liquid-damage-AT-T-employee-complains\\_id45895](http://www.phonearena.com/news/Waterproof-Galaxy-S4-Active-warranty-wont-cover-liquid-damage-AT-T-employee-complains_id45895)  
[http://www.phonearena.com/news/Its-official-Samsung-and-AT-T-will-exchange-your-waterlogged-Samsung-Galaxy-S4-Active\\_id46137](http://www.phonearena.com/news/Its-official-Samsung-and-AT-T-will-exchange-your-waterlogged-Samsung-Galaxy-S4-Active_id46137)

Samsung claims IP67 compliance (submersion in water up to 1 meter for 30 minutes) stating that the USB rubber cover must be checked to ensure it is properly closed and recommends the user to reseal the battery cover and then press on the center of the cover to outgas any air that may be trapped between the cover and inner electronics. Reportedly, Samsung is not honoring the warranty if the phone is damaged from underwater use. Shortly after the release of the phone, the Samsung messaging “Summer Proof” took root.

<b>Traditional enterprise Solutions</b> <b>Meeting one or more of the following conditions:</b>	<b>Non-traditional Enterprise Solutions</b> <b>Meeting one or more of the following conditions:</b>
Scanning is a necessity.	Light scanning is considered good enough.
Primary usage requires one device to many users necessitating the benefits of the managed enterprise lifecycle including challenges such as breakage/repair, replacement cycles, and technology migration roadmaps.	Primary usage requires one device to one user and the customer may consider relaxing the enterprise lifecycle requirements to achieve a lower acquisition investment but lifecycle challenges such as breakage/repair, replacement cycles, and technology migration roadmaps are still compelling.
Compatibility between the accessories and options will be compelling. The rugged charging cable will not be compelling (but still valued) since the multi-device charging station will be utilized for the majority of the use cases.	Service from the start will be compelling as a means to reduce TCO.
Environmental durability versus consumer-grade robustness is a necessity.	The rugged charging cable will be compelling by preventing wear on the USB connector.
Device management is required to limit or enhance functionality for different knowledge workers	Durable robustness is good enough.
	The ability to customize the user experience is considered compelling as a perk for users.
	Software upgrades need to be controlled and validated at the customer end rather than by the manufacturer of the device

**Table 4 – TC55 Use Case Advantages**