

# Asian Resonance

## Evaluation of Cell Phone Detector



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### Abstract

The ubiquity of the cell phone has made communication easier and faster. It's great to be able to call anyone at any time. There is great need to limit the use of cell phone at particular places and at particular times. Hence, the use of intelligent cell phone detector is guaranteed. Currently the three main technologies used by cellular phone providers are 2G, 3G, and 4G.

The two most popular cellular phone detectors available on the market today are produced by Berkeley Varitronics Systems and Mobile Security Products. These companies produce the wolfhound cell phone detector and Cell buster respectively. This study examines detecting cellular phones when a person is entering a secure facility or cellular phone restricted area. The detection technique studied requires measuring a cell phone's electromagnetic properties and determining an identifiable signature. Measuring the RF spectrum around 240 -400MHz (outside the cellular phone band) shows the most potential.

The main problem with ensuring that a cellular phone isn't in a secure facility is that an accurate method for detecting them doesn't exist. The only way to be certain is to perform full body searches on a regular basis. This study explores the impact of cell phone detector in Respondents. The research design based on a survey methodology using a sample of randomly selected users/respondents. The main value of this paper is the discussion of impact of cell phone detector.

**Keywords:** Cell phone, cell phone detector, communication, impact  
**Introduction**

Cell phones were first introduced into the U.S. market in the mid-1980s and have since experienced dramatic growth. The two most popular cellular phone detectors available on the market today are produced by Berkeley Varitronics Systems and Mobile Security Products. These companies produce the wolfhound cell phone detector and Cellbuster respectively.

### Berkeley Varitronics Systems Wolfhound Cellphone Detector

Berkeley Varitronics Systems wolfhound cell phone detector will detect PCS, CDMA, GSM, and cellular bands using RF signatures. It also has the capability to directionally find or locate cellular phones that are nearby. The wolfhound, according to the advertisement, can detect phones that are in standby mode, actively using voice, or data transmissions.

Wolfhound cell phone detector features -

1. 40 to 50 foot radius of coverage
2. -60 dBm sensitivity
3. Audible alert
4. Vibrating alert
5. One-handed operation
6. •Continually scans for cellular phone uplink activity
7. Integrated laser-assisted directional antenna
8. Estimated battery runtime of 18 hours

The Wolfhound on paper seems to be a great way to detect cellular phones, but may just randomly detect cellular phone communications in the area and not necessarily the phone or device that set it off. A couple of quotes from their advertisement imply this: "It took only two hours to find five cell phones that were either in use at the time or hidden in the jail cells on standby mode ready to take calls" and "With only 30 minutes of operation, the device can detect many cell phones and identify the positions which led the team to find 10 mobile phones." These two quotes suggest that their device is picking up transmissions in the area, but it doesn't show that they were directly from the phone they found or a phone at all.

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**Objective of Research**

To evaluate the advantages of cell phone detector

**Hypothesis of Research**

Both Male and Female users/Respondents are satisfied.

**Research methodology**

This study relied on a sample of randomly selected cell phone detector using respondents . We sampled 150 respondents. Out of the 150 questionnaire sent out, all 150 were received. (representing 100%). The sample included both users and non users of cell phone detector

software/systems. The survey instruments included open ended and closed ended questionnaires. We also followed up with personal or telephone interviews with director of these Respondents. In order to ascertain the benefits of cell phone detector, we focused on respondents that adopt cell phone software/system in their phones. The findings are presented by the use of descriptive statistics.

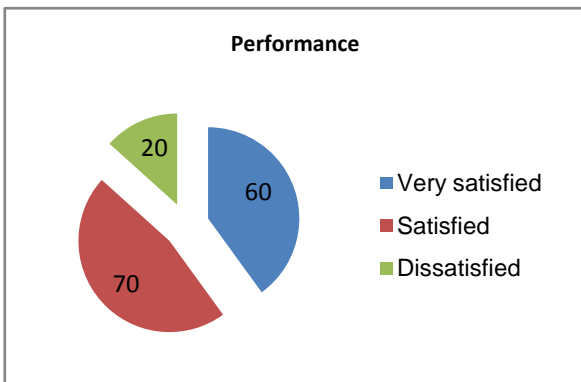
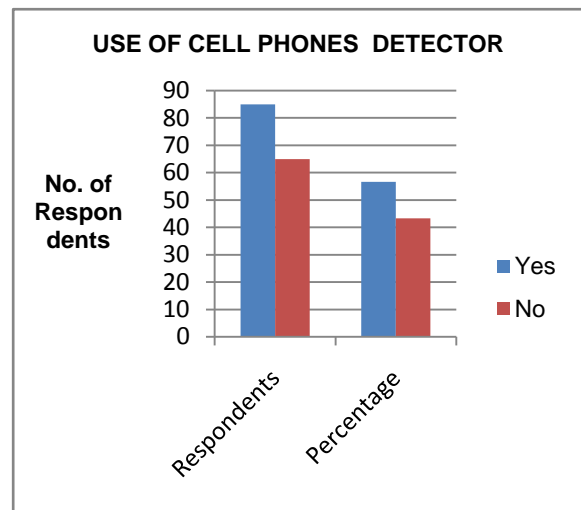
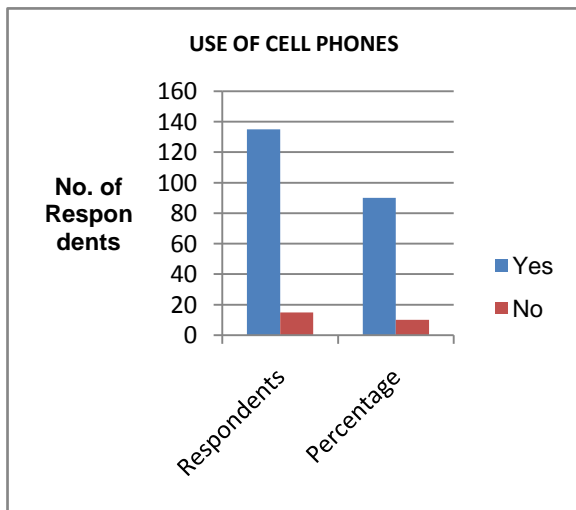
**Analysis of Results**

In this section, we present an analysis and discussion of the empirical results.

**Table 1**  
**Status of Cell Phones Uses**

USE OF CELL PHONES	Respondents	Percentage
Yes	135	90
No	15	10
Total	150	100
USE OF CELL PHONES DETECTOR	Respondents	Percentage
Yes	85	56.67
No	65	43.33
Total	150	100
PERFORMANCE	Respondents	Percentage
Very satisfied	60	40
Satisfied	70	46.67
Dissatisfied	20	13.33
Total	150	100

Source -Based on survey method



Source- based on table no. 1

The results as indicated in Table 1 suggest that almost all the respondents use cell phones in their life and that all respondents use cell phones detector software in their cell phones. 46.67 percent of the respondents are satisfied with the performance of cell phone detector software. It is 13.37 percent of the respondents selected dissatisfied with the results of their cell phones detector software.

**Hypothesis Testing -**

Both Male and Female users/Respondents are satisfied.

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**Table 2**  
**Satisfaction regarding cell phone detector**

Particular	Male	Female	Total	Calculated Value	Table value	Interpretation
Satisfied	65	40	105	0.528	3.841	CV<TV 0.528<3.841 H <sub>0</sub> Accepted

**Source- Based on survey Method**

$$D.f. = (r-1) (c-1) = 1$$

The table value of  $\chi^2$  for 5% significance level at 1 degree of freedom is 3.841. Since the calculated value of  $\chi^2$  is lower than the table value, the null hypothesis is accepted and we conclude that the Both Male and Female users/Respondents are satisfied.

**Conclusion-**

Cellular phone technology is gaining new data capabilities very rapidly. New features like Bluetooth, high resolution cameras, memory cards, and Internet make them ideal for getting data in and out of secure facilities. A cellular phone uses many different transmission protocols such as FDMA or CDMA. Many businesses depend on keeping information protected and build fortresses that called

secure facilities to protect their investment. Currently the only way to ensure that no one is bringing a cellular phone into a secure facility is to search everyone entering and exiting. This requires a lot of manpower and money to implement.

**References -**

1. "CellbusterCell Phone Detector", Cellbusters INC.2004. Accessed September, 2008. Website <http://www.cellbusters.com>
2. "Wolfhound Cellphone Detector", Berkeley Varitronics Systems. 2010. Accessed March, 2009. Website <http://www.bysystems.com>
3. Gupta k. Shahshi; Rangji Praneet : Research Methodology , Kalyani Publishers, 2012.
4. "How Cell Phone Works", How Stuff works A Discovery Company. Accessed April, 2009. Website <http://www.howstuffworks.com/cellphone.htm/printable>.