

# ELECTRONIC COUNTERMEASURES

## DMC-3

### GSM UMTS WIFI VIDEO BLUETOOTH DETECTOR

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DMC-3 is a highly sensitive selective radio frequency analyzer automatically monitoring frequency range from 860 to 2500 MHz. DMC-3 is designed for detection of mobile phone activity and for protection of objects in which is usage of mobile wireless terminals prohibited.

The detected frequency spectrum is divided into 4 sections according to the ETSI telecommunication standard - GSM, UMTS, DECT+TDD, WiFi+Video+Bluetooth. Each frequency segment has its own gain adjustment, its own visual alarm signaling, and common audible warning. The usage of the detector is very simple: after turning the device ON the local radio frequency background is automatically stored and the device goes immediately to protection mode. There is a possibility to connect external signaling or other devices which can register or can be activated by mobile phone signal. The optional DMC-3Q devices can be connected to an object bus and then all events and parameters can be monitored and controlled from a master PC.

The main advantage of DMC-3 is the detection of communication in the 3G (UMTS) telecommunication standard. The 3G systems use spread spectrum technology allowing for communication with very low output power. The automatic power regulation of a mobile terminal is theoretically up to 80dB and in practice the usual radiated radio frequency power of the UMTS phone are microwatts which means 100-1000x less than the pulse power of the GSM system. However, DMC-3 meets the demands of a high sensitivity and a large dynamic detection range by selective frequency analysis supported by a unique custom firmware.



#### Why to use DMC-3?

Beside benefits for users the rapid development of electronic and telecommunication technologies also brings some new threats. Modern mobile terminals use 3G (UMTS) communication technology which is almost undetectable by the standard wide band detection technology. At the same time we can observe an increasing commercial offer of various "spy software technologies" which are able to convert the standard mobile phone to an ultimate listening and tracing device. All standard functions of the phone remain unchanged but the spy software can stealthily provide spatial eavesdropping, monitoring of phone conversation, internet communication, SMS, and also send an information about actual position of the user. More information about SPY software can be easily found on the internet, for example by searching for "spy phone" keyword.

## Technical specification of DMC-3

- power voltage 10.7 to 17 V DC
- current consumption 52 mA
- frequency range
  - GSM 871-915 MHz, 1710-1790 MHz
  - 3G 1920-1982 MHz
  - DECT+TDD 1880-1900, 1900-1920 MHz
  - WIFI+VIDEO, BLUETOOTH 2399-2485 MHz
- sensitivity for alarm gate activation 14  $\mu$ V / 50ohm (-84 dBm)
- manual sensitivity adjustment (4 segments -0 to -37 dB)
- automatic dynamic range of sensitivity 50 dB
- alarm gate activation: background + 8 dB, +/- 2 dB dynamic optimization
- scan cycle 0.8 to 2.6 sec. (depends on number of active segments)
- 4 x LED alarm notification (GSM, UMTS, DECT+TDD, WIFI+VIDEO)
- internal audible alarm warning
- external ALARM warning 5V / 2mA
- internal multi band antenna
- external antenna option Z = 50ohm
- size 168 x 83 x 35 mm
- weight 260 g