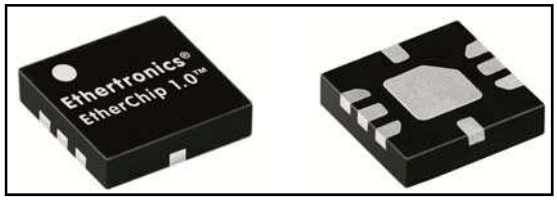
AIRFDC™ Tunable Capacitor GSM, WCDMA, LTE

100 MHz to 3000 MHz



Ethertronics' EtherChip 1.0™ tunable capacitor addresses the challenges facing today's product designers. Using AIRFDC™ (Air InteRFace Digital Conditioning™) technology, EtherChip 1.0 allows characteristics of the antenna and RF performance to be adapted to the environment experienced by the antenna; providing optimal connectivity in a less than ideal RF environment.

EtherChip 1.0 tunable capacitor can be used in a variety of applications including:

- Cellphones
- Tablets and Notebooks
- M2M Products
- Other Wireless Devices

TECHNOLOGY ADVANTAGES

Ethertronics' **AIRFDC**™ (**Air** Inte**RF**ace **D**igital **C**onditioning) technology and the EtherChip 1.0 product employ active impedance matching techniques to provide tuning capacitance for the antenna system. EtherChip 1.0 can seamlessly adjust the characteristics of a cellular antenna for its dynamic requirements including:

- Making a wideband antenna by correcting the impedance mismatch.
- Retuning the antenna for frequency shifts.
- Offsetting hand and head effects.
- Reducing the antenna's physical volume by up to 50 percent without performance tradeoffs.

Antenna performance can be significantly improved by applying these techniques or other applications using AIRFDC.

KEY BENEFITS

Features

Operation Frequency

- Operation Frequency is 100MHz ~ 3000MHz.

4 bit 16 states Tunable Capacitor

- Can use changeable one capacitance value which is selected from 16 states.

Tuning Range

- Tuning Range is 0.72 ~ 3.62pF at Shunt Configuration.

Control by SPI

- Control by 3-wire SPI (Serial Peripheral Interface).

ESD Tolerance

- Endure Peak 2kV ESD (Electrostatic Discharge).

Small Package

- Total package size is 2 x 2 x 0.45 mm^3.
- Package type is QFN 8-pin.

END USER ADVANTAGES

Fewer Dropped Calls

- Improved connectivity due to the capacitor's ability to dynamically re-tune the antenna for frequency shifts or hand and head effects.

Thin Devices

- Reduced antenna volume enables "thin" form factors desired by consumers even with the need to cover more frequency bands for LTE.

SERVICE AND SUPPORT

Extensive RF Experience

- EtherChip 1.0 is supported by documentation, and when needed, by the expertise of RF engineers who have integrated hundreds of antenna and RF system designs into wireless devices.

Global Operations & Design Support

- Ethertronics' global operations encompass an integrated network of design centers that provide local customer support.

ETHERTRONICS
9605 Scranton Road, Suite 300 | San Diego, CA 92121 - USA | www.ethertronics.com
tel +(1) 858.550.3820 | fax +(1) 858.550.3821 | email: etherchip@ethertronics.com