

• Communication

New
ED-2945

CDMA TRAINING KIT

- Rich experiments devoted to IS95 standard
- Easy-to-follow structure as main functions are itemized in modules

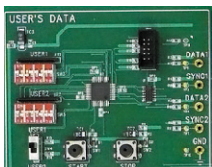
- « USER'S DATA
- « CONV. ENCODER
- « INTERLEAVER
- « MODULATOR
- « CLOCK
- « WALSH CODE
- « DEMODULATOR
- « DEINTERLEAVER
- « PN CODE
- « CON. DECODER
- « DISPLAY



> EXPERIMENTS

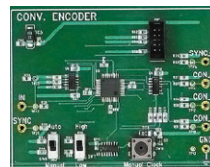
- CDMA Overview (IS95A)
- CDMA Trainer
- CDMA Transmitter
 - » Forward Channel
 - › USER'S Data
 - › Convolution Encoder
 - › Block Interleaver
 - › PN Code
 - » Walsh Code
 - › Modulator
- CDMA Receiver
 - » Forward Channel
 - › PN Code
 - › Walsh Code
 - » Demodulator
 - » Block Interleaver
 - » Convolution Decoder
 - » Display
- Compiler setup and programming
- Firmware experiments
- Overall experiments

Experiments Module



USER'S DATA

Generates the two signals in 8-bit NRZ(Ch1, Ch2)

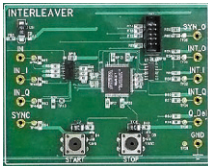


CONV. ENCODER

It is a type of codes that boast for excellent error correction efficiency in the CDMA system and uses for the Channel Code. This module codes a previously stored data with regular rules using the memory elements. Two types of modes : Manual Mode and Auto Mode

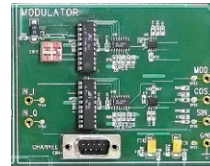
CDMA TRAINING KIT

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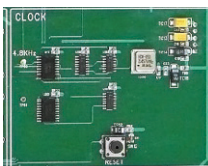
INTERLEAVER

Prevents Burst Error by dispersing the symbol signal column randomly at the time axis through Interleaver without having to send continuous symbol signal for specific data. This module helps understand a principle on how to prevent Such Burst Error.



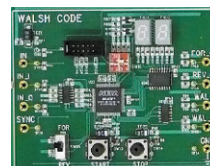
MODULATOR

Experiments on QPSK modulation which is used for channel modulation in the mobile system



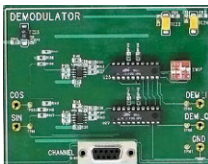
CLOCK

Generates CLOCK which is a standard of CDMA modules



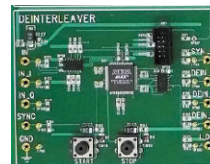
WALSH CODE

Generates Walsh Code being used as a cross signal in IS95A CDMA. In forward direction, it generates 16x16 Walsh Code, whereas it is used as a cross modulation code in reverse direction



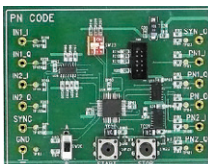
DEMODULATOR

Experiments on QPSK demodulation for channel demodulation in the mobile system



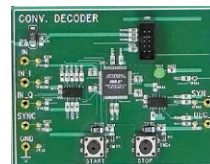
DEINTERLEAVER

Demodulates INTERLEAVER SIGNAL at transmission



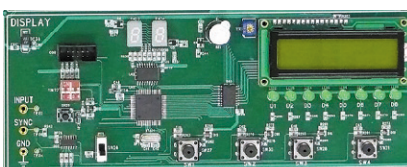
PN CODE

Experiments on Maximum Length, Balance Property, Run Property, Shift and Add Property, Autocorrelation Property which are the characteristics of PN Code



CONV. DECODER

At reception, it recovers the transmitted data which was coded in Trellis at transmission



DISPLAY

Displays received information on LED, FND and LCD