



Eyal Microwave Ltd.

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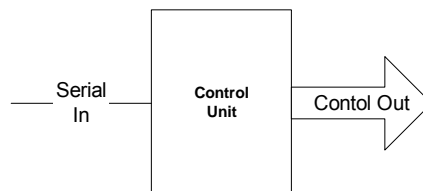
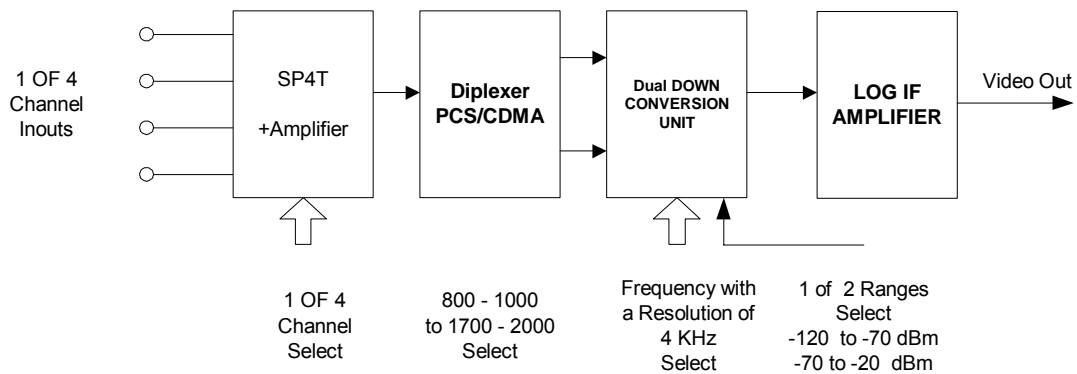
## Signal Strength Detection and Measurement Unit MODEL: SSDM-0820

### 1. General

The unit performs a measurement of an RF Signal at Frequency range of 0.8 to 1 and 1.8 to 2 GHz Frequency range.

The unit includes an SP4T at the front end and performs a double conversion to achieve a narrow band IF Signal of 15 KHz at 6 dB Bandwidth. The unit also performs Filtration to provide improved image rejection and proper frequency range selection. The Unit operates at two Amplitude ranges. Lower range from -120 dam and 60 db above, and -20 dam and 60 dB below. The frequency is selected by changing a Synthesizer frequency. The Amplitude is selecting by switching a 30 dB attenuator inside the Dual down Conversion unit.

The last if signal is low frequency IF of about 10 MHz at those frequencies we can perform Narrow Band Filtration with a crystal filter. The final stage is a log IF unit which provides a 60 dB dynamic range of Amplitude detection. The Diplexer is a printed circuit filter or of the shelf item components.



## Signal Strength Detection System Block Diagram

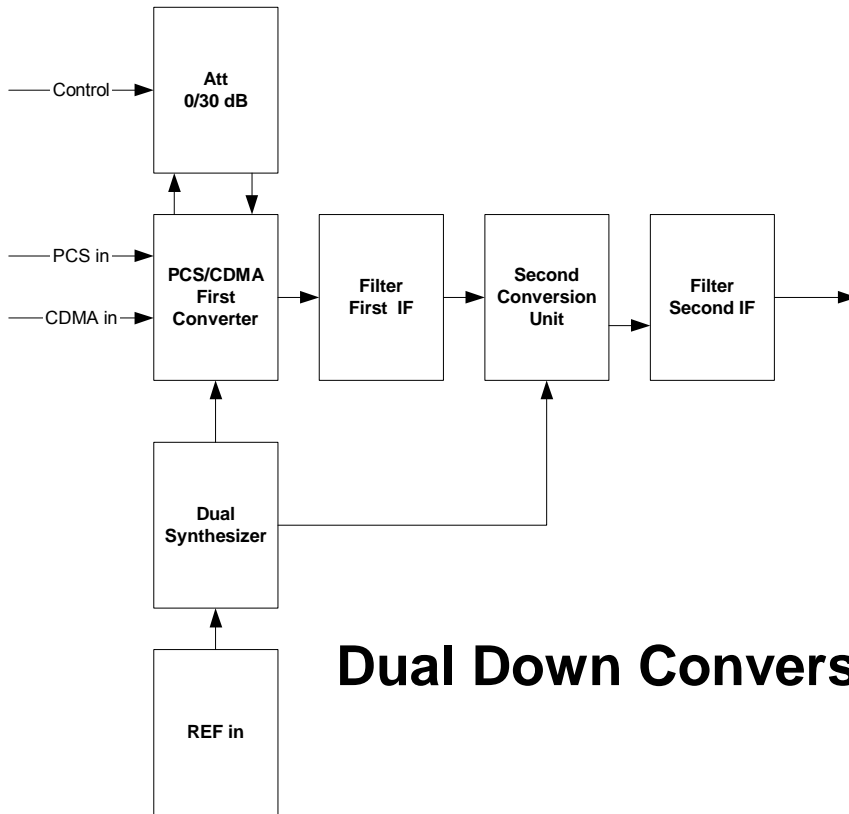


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## Dual Down Conversion Unit

The unit described above is a dual down conversion unit in detailed description. The unit based on an "of the shelf" IC components used in the cellular communication.

All the components are RF Shielded to prevent from controls and various signals being transmitted to the Antenna and increase the noise level.

The unit performance versus CDMA and PCS Range and versus Hi/Low Range Operation.

	The Range	Sensitivity	Pout 1dB
Low Range	CDMA	-121.5	-61
	PCS	-122	-62
High Range	CDMA	-76	-16
	PCS	-76	-16

The unit also utilize controller to provide the serial control for the synthesizer.



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## Signal Strength Test Specifications

### 1. General

The unit is designed to measure the signal strength of a received signal in a defined range.

### 2. Specification

Frequency in	0.8 – 1 and 1.7 - 2 GHz Selected by external control
Pin	-120 - -20 dBm Directly from antenna. No Noise level shall be increased when external antenna is connected.
Selectivity	30 KHz from CF – 60 dB 1 MHz from CF – 100 dB. 100 MHz from CF - 100 dB.
Frequency Resolution	10 KHz
Frequency Stability	+/- 5 pip Overall
IF width	15 KHz / -6 db
DC out	0 – 5 volt
Input Channels	4 (One is selected instantaneously).
Non Selected Channel Isolation	> 30 dB
Channel Switching Time	< 1 mess
Frequency switching time	< 1sec
DC out Bandwidth	<100 microseconds (Rise time to 90 %,Fall time to 10 % )
Supply Voltage	5 Volts Stabilized. Shall be provided by user
Supply Current	< 100 ma
Temperature Range	-10°C to +70°C ( All Components designed to meet -40°C to + 85°C
Accuracy	5 dB (Include all Deviation errors and Temperature.)
NF	<6 dB
Max input power for no damage	> 20 dBm
Load Resistance	100 Ω
Mechanical	Size 10 X 50 X 50 mm