

## UHF RFID tag IP with 3.6kBit EEPROM and -18dBm sensitivity

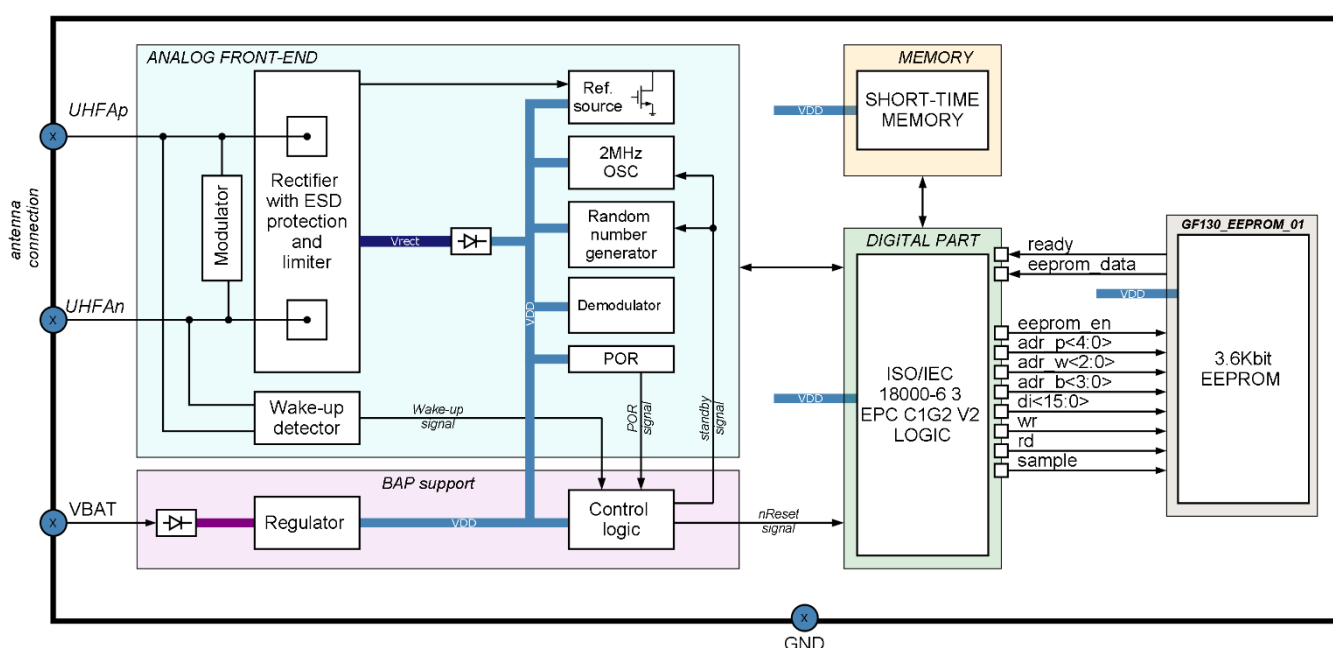
## OVERVIEW

130GF\_RFID\_EPCGen2\_01 IP is intended for use in passive UHF transponder applications. IP derives its operating power from an RF electromagnetic field generated by a reader, which is received and rectified by the IP. The tag IP sends the answer back to the reader using a backscatter modulation technique. RFID EPCGen2 IP provides a fast and flexible anti-collision protocol based on internal random number generator according to EPC standard. IP supports all EPC C1G2 mandatory commands. The IP contains an embedded 3.6Kbit EEPROM organized in 4 banks. IP has 2 operation modes: passive mode and Battery assisted passive (BAP) mode.

IP technology: GF Embedded EEPROM 130 nm.

IP status: silicon proven.

Total area:  $520 \times 550 \mu\text{m}^2$ ,  $0.286 \text{ mm}^2$ .



## ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Unit
			min	typ.	max	
Operating temperature	T <sub>A</sub>	-	-40	25	+65	°C
Operating carrier frequency	F <sub>c</sub>	-	860	-	960	MHz
EEPROM retention time	t <sub>ret</sub>	-	-	10	-	year
EEPROM write endurance	N <sub>end</sub>	-	-	1M	-	cycle
Read sensitivity	P <sub>rd_min</sub>	T <sub>A</sub> = 25 °C	-	-18	-	dBm
Write sensitivity	P <sub>wr_min</sub>	T <sub>A</sub> = 25 °C	-	-17	-	dBm
Sensitivity in BAP mode	P <sub>BAP_min</sub>	T <sub>A</sub> = 25 °C	-	-24	-	dBm
Impedance	Z	F <sub>c</sub> = 915 MHz	-	20-j300	-	Ohms
EEPROM memory size	-	-	-	3.6	-	Kbits
ESD protection	-	-	-	2	-	kV