

CS231-2 Operational / Technical Descriptions

The CS231-2 RFID module hops among 50 channels (Ch.1 - 50) from 902.75MHz to 927.25MHz in 500kHz steps in operating mode according to a generated pseudo-random sequence. The time of occupancy on each frequency is 0.4 seconds maximum within a 20 seconds period.

Each CS231-2 module hops among its 50 available channels according to an independently generated pseudo-random sequence. The module maintains no capability to coordinate RF channel occupancy among separate units. Within each hop, the RFID module may be sending command to the tag or receiving backscatter from the tag, alternating between them as required by the EPC Gen 2 protocol. When the module is sending command to the tag, the reader is sending out modulated signal. When the reader is receiving backscatter from the tag, the reader is sending out continuous wave signal.

The power measured at the port can be adjusted from 15dBm to maximum 27dBm.

The system supports six preset profiles of operational configurations. The details of the settings of each profile are shown in table:

Profile	Tari (µs)	Reader to Tag Forward Link Modulation	Pulse Width (µs)	Tag to Reader Link Frequency (kHz)	Tag to Reader Reverse Modulation
0	25.00	PR-ASK	12.50	120	Miller, M=4
1	12.50	DSB-ASK	6.25	160	Miller, M=2
2	25.00	PR-ASK	12.50	250	Miller, M=4
3	25.00	PR-ASK	12.50	300	Miller, M=4
4	6.25	DSB-ASK	3.13	400	FM0
5	25.00	PR-ASK	12.50	250	Miller, M=2

Glossary:

Tari: time interval of symbol 0

Forward Link: modulation method of reader to tag link

Pulse Width: time width of RF pulse at power below average power level

Link Frequency: data rate of tag to reader link

Reverse Modulation: Encoding method of the tag to reader link (either FM0 or Miller subcarrier)