

GENERAL INFORMATION

1.1. Product description

DATASHEET

TAGSYS RFID™
e-connecting goods

Medio L40 HF RFID Reader



BREAKTHROUGH PERFORMANCE

Based on the industry leading TAGSYS Medio L400 electronics, Medio L40 uses advances in Digital Signal Processing (DSP) and RF Front End technology to achieve breakthrough performance in read range and read speed.

HIGH DETECTION ENVIRONMENTS

The Medio L40 Reader provides high detection level performance in a compact and easy to integrate unit.

Featuring RFIDSP technology developed by TAGSYS, including real-time signal processing algorithm for extracting RFID tag information in noisy background environments, Medio L40 is the ideal reader component to drive your track and trace applications.

A flat profile casing makes Medio L40 very easy to integrate in various environments. Medio L40 is compatible with TAGSYS' L400 Reader platform and can be deployed with the same full software suite, guaranteeing a high level of flexibility and straight forward implementation path.

Available with 4 RF channels, Medio L40 reader can manage complex multiple antenna systems or control several single reading points at a time.

TAGSYS provides complete, reliable, high performance RFID infrastructure systems for item-level tracking in a variety of industries.

Our unique RFID expertise, combined with a true understanding of RFID business processes, makes us the ideal RFID partner to ease and ensure the success of your project.

More information on TAGSYS can be found at www.tagsysrfid.com



MEDIO L40 READER

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PRODUCT SPECIFICATIONS

ELECTRICAL

OPERATING FREQUENCY:

13.56 MHz

PROTOCOLS SUPPORTED:

TAGSYS C210, C220, C270 (NXP ICODE 1), C370 (NXP SLI)
ISO 15693 supporting AFI and read multiple block command

COMMUNICATION INTERFACE:

Ethernet, USB, RS232

RF CHANNELS:

4 (multiplexing)

ANTENNA CONNECTIONS:

SMA

RF OUTPUT POWER:

Variable (up to 5W max)

GENERAL PURPOSE INPUT/OUTPUT:

2 Input / Output

INPUT POWER SUPPLY:

24 VDC, 1A (Power supply not included)



MECHANICAL

DIMENSIONS:

240 x 130 x 35 mm (9.5 x 5.1 x 1.4 in)

OPERATING TEMPERATURE:

0°C to 40°C (32°F to 104°F)

CASING:

Bulk Aluminum

SOFTWARE

Configuration Tool: TAGSYS Explorer
STxNG SDK (Win32, .Net, Java)

CERTIFICATIONS

ETSI EN 300 330 (EM Emission)
ETSI EN 301 489 (EM Immunity)
ETSI EN 50364 (Human Exposure)
EN 60950 (Electrical Safety)
FCC ID pending

1.2. Related Submittal(s) / Grant(s)

All host equipments used in the test configuration are FCC granted, when relevant.

1.3. Tested System Details

The system was configured for testing in a typical fashion (as a customer would normally use it).
Different configuration of antennas with RFID reader MEDIO L40 are already certified, a little modification with new power supplies and three new antennas are presented and tested in this test report:

MEDIO L40 + 4 x AERO LC	<i>(Already certified – Worst Case, tested to show there is none modification and compliance)</i>
MEDIO L40 + PLAIN TUNNEL 50x50	<i>New antenna</i>
MEDIO L40 + 1 x TR-CAu	<i>New antenna</i>
MEDIO L40 + 1 x TR-SA	<i>New antenna</i>

- **Equipment under test (EUT):**

Erreur ! Source du renvoi introuvable.

Serial number: **G1323002B0**

FCC ID: **QHKMEDIOL40**

Internal max frequencies: 300MHz

- **Antenna:**

TR-CAu	Sn: T0720001A0
TR-SA	Sn: T0817004-D0
AERO LC	Sn: T0531010B1
AERO LC	Sn: E0730062C1-R
AERO LC	Sn: E0912050C1-R
AERO LC	Sn: E0616045C0-R
PLAIN TUNNEL 50x50	Sn: K1320003-L0

- **Power supply:**

- AC/DC adapter VPELECTRONIQUE, A2-50S18R-V 100-240VAC, 1.5A, 50-60Hz, 24VDC, 2.08A, Sn: none.
- AC/DC adapter XP Power, VEH40US24 100-240VAC / 47-63Hz, 24VDC, Sn: 06592709 1051

Configuration Tunnel Only:

- TRACO Power, TBL 060-124, 100-240V 50/60Hz 1.4-0.9A / 24VDC 2.5A
- Schneider Electric, ABL 7RM24025, 100-240V 50/60Hz 1.1-0.6A / 24VDC 2.5A

- **Input/output:**

- **Configuration (TR-SA/TR-CAu/AERO LC):**

- 1 x Power supply 24VDC
- 1 x Synchro
- 1 x LAN
- 1 x USB
- 1 x RS-232
- 1 x GPIO
- 1 x Extension
- 4 x RF outputs SMA

- **Configuration (Tunnel):**

- 1 x Power supply AC (P+N+E), unshielded cable, length: 1m
- 1 x LAN, shielded cable, length: 3m
- 1 x Power supply 24VDC
- 1 x Synchro, not used not tested
- 1 x USB, shielded cable, length: 1.5m
- 1 x RS-232, unshielded cable, length: 1.5m
- 1 x GPIO, internal cable to tunnel
- 1 x Extension, internal cable to tunnel
- 4 x RF output SMA

- **Cables**

- 1 x Power supply 2 wires unshielded, length: 1m until adapter.
- 1 x Synchro, 2 wires unshielded, length: 1m
- 1 x LAN, shielded cable, length: 5m connected to laptop by switch.
- 1 x USB, shielded cable, length: 2m
- 1 x RS-232, LAN cable shielded with adaptor, length: 3m
- 1 x GPIO, 8 wires unshielded, length: 1m
- 1 x Extension, 10 wires unshielded, length: 1m
- 4 x RF output SMA, BNC cable with 6 ferrites reader side shielded, length: 3m
- 1 x RF output TR-SA antenna, BNC cable with 6 ferrites reader side shielded, length: 3m
- 1 x RF output TR-CAu antenna, BNC cable with 6 ferrites reader side shielded, length: 3m

- **Auxiliaries equipment used during test:**

- 1 x Laptop HEWLETT PACKARD PROTECTSMART with its power supply sn: 5CD244603W
- 5 x TAGSYS - RFID tag (ISO 15693)

• Running Mode

The EUT exercise program used during radiated and conducted testing was exercised the reader in a manner similar to a typical use.

The test program permits the continuous reading of a RFID tag.

Software: TAGSYS Explorer v1.6.0.27291

Tag Parameters :

ISO 15693

Parameters | Information and State | Memory | Custom

Uplink (Device to Tag)

Command modulation depth: 10% (ASK)

EOF modulation depth: 10% (ASK)

Data coding mode: 1 of 256

Downlink (Tag to Device)

Number of subcarriers: 1 subcarrier

Data rate: Fast

Memory Mapping (Vicc)

Block length: 4 Number of blocks: 28

Application Family Identifier (AFI)

☐ Use AFI AFI value: 0

Default Read

Fields to read: UID only

First block: 0 Number of blocks: 1

Number of time slots: 16

Signal level threshold: 0

☐ Quiet tags once read

Advanced

☐ Set write option flag

☐ Set protocol extension flag

AERO LC configuration :

Output power parameter : 5W

RF mode : Multiplexer (Each RF channel ON independently, never 4 together)

TR-CAu configuration:

Output power parameter : 3.5W

RF mode : Multiplexer (Each RF channel ON independently, never 2 together "Channel 1 & 2")

TR-SA configuration:

Output power parameter : 2W

RF mode : Mono channel (channel 1)

Tunnel configuration:

Output power parameter : 5W

RF mode : Multiplexer (Each RF channel ON independently, never 4 together)

1.4. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-2009, FCC Part 15 Subpart C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.5. Test facility

Tests have been performed from March 21st to 29th, 2011.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-2009 in a letter dated March 25th, 2008 (registration number 94821). This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.