Testno poročilo

Predlogo uporabljamo za pripravo zapisov o izvajanju meritev, za dokazovanje doseganja posameznih specifikacij, za zapise o kalibracijah testne in merilne opreme in podobno.

Dokument je sestavljen po meroslovnih načelih. Na prvi strani je povzetek celotnega postopka in rezultatov in jo lahko uporabimo samostojno, kot certifikat. Na naslednjih straneh mora biti zapisano dovolj podatkov, da bi na njihovi osnovi lahko ustrezno kompetentna oseba postopke ponovila in po njih prišla do enakih rezultatov (v razredu merilne negotovosti merilne metode).

Besedilo v <špičastih oklepajih> so navodila, kaj je treba pri posamezni točki napisati in ga na koncu pobrišemo.

Ta navodila so napisana s skritim besedilom, ki se ne tiska.

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| --- | --- | --- |
| PREDMET MERITEV | | |
| Številka projekta |  |
| Izdelek |  |
| Faza projekta |  |
| Projektni vodja |  |
| Produktni vodja |  |
| Datum zaključka meritev | 10.4.2023 |

Kaj merimo (inventarna številka, številka naprave, povezava s projektom, ident, količina), na katere vrste/skupine izdelkov/naprav se nanaša … To oznako tudi uporabi namesto xx v oznaki dokumenta. ll sta zadnji dve številki leta.

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| CILJ / NAMEN / hipoteza |
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| Povzetek |
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ALI

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| --- | --- | --- |
| Lastnost / funkcija | Skladnost z zahtevami | Zahtevane aktivnosti |

VSEBINA

[1. Testirani vzorci 3](#_Toc131682108)

[2. Oprema 3](#_Toc131682109)

[3. Test 3](#_Toc131682110)

[3.1. Parametri meritve 4](#_Toc131682111)

[3.1.1. Merilna metoda 4](#_Toc131682112)

[a. Rezultati 4](#_Toc131682113)

[3. Seznam uporabljene literature 6](#_Toc131682114)

Pri krajših dokumentih kazalo ni smiselno, zato ga pred končno izdajo poročila lahko tudi zbrišemo.

# Testirani vzorci

1x MC115DCB20BDNP00 (AksIM-4)

# Oprema

1x E201-9B, serial number 4RX651

Python 3.10.10 testno okolje z RLS komunikacijsko knjižnico (Pyserial), Unittest testno ogrodje

# Test

1. Test naraščanja pozicije:

Izvedene so bile štiri spremembe pozicije, ki so razvidne iz priložene slike:

A picture containing text

Description automatically generated

1. Test diagnostike pri nižjih amplitudah / odmiku enkoderja od ringa:

Ring je bil zvišan za 5 post listkov (inkrementalno) in zavrten ob vsaki inkrementaciji. LED luči so svetile oranžno (rdeča in zelena naenkrat). Branje BISS-c paketa:

Text, letter

Description automatically generated

Pojavili so se errorji.

3. Test biss-C application note:

Napisan je bil avtomatski test, ki preverja, da delovanje enkoderja ustreza vsebini šeste strani specifikacije dokumenta. Branje biss-c paketa je bilo sicer izvedeno že z drugo nalogo.

## Parametri meritve

Meritev je bila izvedena v domačem, ne-laboratorijskem okolju, brez upoštevanja ISO standardov, zato ni veljavna in služi zgolj kot prikaz.

### Merilna metoda

Ročni testi, avtomatski testi, pisani v Python okolju, metoda opazovanja.

## Rezultati

Pri prvem testu so bile LED lučke zelene, kar pomeni, da je pozicija v redu.

Pri drugem testu so svetile oranžno, kar pomeni, da je pozicija sicer veljavna, a je točnost meritve vprašljiva.

Pri tretjem testu so se vrednosti prebrale, pojavili pa so se tudi erorji.

Testna specifikacija:

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| --- | --- | --- | --- |
| **DATE** | 13.4.2023 | **RESPONSIBLE:** | S C |
| **DESCRIPTION** | This test verifies that correct readhead position is saved in FLASH memory, as stated in the requirements. | | |
| **SETUP** | * Mechanical tool to move readhead precisely in tangential direction. * Python test environment with RLS communication library. * Communication interface (E201-9B). | | |
| **PROCEDURE** | 1. Rotate readhed. 2. Perform readout via communication interface. Write down observations regarding readhead position. 3. Perform power down. 4. Perform power up. 5. Perform readout via communication interface. Write down observations regarding readhead position. 6. Verification. | | |
| **VERIFICATION** | * Position from before power down matches the one after power up (stored correctly in FLASH memory). | | |

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| **DATE** | 13.4.2023 | **RESPONSIBLE:** | S C |
| **DESCRIPTION** | This test verifies that power down movement produces error flags, as stated in the requirements. | | |
| **SETUP** | * Mechanical tool to move readhead precisely in tangential direction. * Python test environment with RLS communication library. * Communication interface (E201-9B). | | |
| **PROCEDURE** | 1. Perform power down.   3. Rotate readhead for more than 90 degrees.  4. Perform power up.  5.Perform readout via communication interface. Write down observations.  6. Verification. | | |
| **VERIFICATION** | * Error bits are visible in readout. | | |

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| --- | --- | --- | --- |
| **DATE** | 13.4.2023 | **RESPONSIBLE:** | S C |
| **DESCRIPTION** | This test verifies that power cycle resets error flags, as stated in the requirements. | | |
| **SETUP** | * Mechanical tool to move readhead precisely in tangential direction. * Python test environment with RLS communication library. * Communication interface (E201-9B). | | |
| **PROCEDURE** | 1. Mount redehaed to wrong position in power down mode. 2. Perform power up. 3. Perform readout via communication interface. Write down observations. 4. Perform power down. 5. Perform power up. 6. Perform readout via communication interface. Write down observations.   Verification. | | |
| **VERIFICATION** | * Error bits should disappear during the second power down event, as they can only be cleared by power cycle. | | |

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| **DATE** | 13.4.2023 | **RESPONSIBLE:** | S C |
| **DESCRIPTION** | This test verifies that acceleration error produces error flags, as stated in the requirements. | | |
| **SETUP** | * Mechanical tool to move readhead precisely in tangential direction. * Python test environment with RLS communication library. * Communication interface (E201-9B). | | |
| **PROCEDURE** | 1. Mount readhead to nominal mounting position. 2. Move readhead abruptly to gain acceleration error. 3. Perform readout via communication interface. Write down observations. 4. Verification. | | |
| **VERIFICATION** | * Error bits are present | | |

# Seznam uporabljene literature

REVIZIJE

<https://pythonhosted.org/pyserial/>

<https://realpython.com/python3-object-oriented-programming/>

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| rev. | datum | spremembe | pripravil | pregledal | odobril |
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