

# ISO/IEC 18046-3:2012-08 (E)

## Information technology - Radio frequency identification device performance test methods - Part 3: Test methods for tag performance

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Symbols and abbreviated terms .....</b>	<b>2</b>
<b>5</b>	<b>Conditions applicable to the test methods .....</b>	<b>2</b>
5.1	Number of tags to be tested .....	2
5.2	Test environment .....	3
5.3	RF environment .....	3
5.4	Pre-conditioning .....	3
5.5	Default tolerance .....	3
5.6	Total measurement uncertainty .....	3
5.7	Test result reporting .....	3
5.8	Test mounting material .....	3
5.9	Test communication parameters .....	3
5.10	Test equipment limits .....	4
5.11	Human exposure to EMF .....	4
<b>6</b>	<b>Setup of test equipment for tag test .....</b>	<b>4</b>
7.1	Identification magnetic field threshold (HTHR Identification) .....	6
7.2	Reading magnetic field threshold (HTHR Read) .....	8
7.3	Writing magnetic field threshold (HTHR Write) .....	10
7.4	Maximum operating magnetic field (Hmax) .....	12
7.5	Survival magnetic field (HSurvival) .....	13
7.6	Load modulation (Lm) .....	14
<b>8.1</b>	<b>Identification electromagnetic field threshold (ETHR Identification) and frequency peak(s) .....</b>	<b>17</b>
8.2	Reading electromagnetic field threshold (ETHR Read) .....	18
8.3	Writing electromagnetic field threshold (ETHR Write) .....	20
8.4	Sensitivity degradation (SDegradation) .....	21
8.5	Maximum operating electromagnetic field (Emax) .....	23
8.6	Survival electromagnetic field (ESurvival) .....	24
8.7	Delta radar cross section (RCS) .....	26
8.8	Interference rejection (IRejection) .....	27
8.9	Maximum identification fade rate (EFade Identification) .....	29
8.10	Maximum write fade rate (EFade Write) .....	30
<b>9.1</b>	<b>Identification electromagnetic field threshold (ETHR Identification) and frequency tolerance .....</b>	<b>31</b>
9.2	Reading electromagnetic field threshold (ETHR Read) and frequency tolerance .....	33
9.3	Writing electromagnetic field threshold (ETHR Write) .....	35
9.4	Sensitivity Directivity (SDirectivity) .....	36

9.5	Interference rejection (IRejection) .....	39
9.6	Maximum operating electromagnetic field (E <sub>max</sub> ) .....	42
9.7	Survival electromagnetic field (ESurvival) .....	43
Annex A (informative) Resonant frequency and Q factor measurement for inductive tag .....		46
strengths > 5 A/m .....		49
Bibliography .....		53