

RFID

(Draft)

(Performance Test Specification for Mobile RFID Reader and Tag)

RFID

RFID

(Contents)

1.	.....	3
1.1	.....	3
1.2	.....	3
1.3	.....	3
1.4	.....	3
1.5	.....	3
2.	.....	6
2.1	.....	6
2.2	.....	6
2.3	.....	6
3.	.....	1 1
4.	.....	1 2
4.1	.....	1 2
4.1.1	.....	1 2
4.1.2	.....	1 4
4.2	.....	1 6
4.2.1	.....	1 6
4.2.2	.....	1 8
4.3	.....	2 0
4.3.1	.....	2 0

1.

1.1

(performance) RFID (Reader, Interrogator) (Tag) 가

1.2

RFID

1.3

RFID

1.4

- [1] , “RFID/USN ,” 2004 12
- [2] MRFS-1-01, “ RFID ”, 2006 3
- [3] ISO/IEC 18000-6:2004/FPDAM 1, “Information technology-Radio frequency identification for item management-Part 6: Parameters for air interface communications at 860 MHz to 960 MHz”, July 2005
- [4] ISO/IEC TR 18046, “Information technology-Automatic identification and data capture techniques-Radio frequency identification device performance test methods”, February 2005
- [5] MRFR-3-01, “ RFID ”, 2005 8
- [6] MRFR-3-02, “ RFID ”, 2005 8
- [7] MRFR-3-03, “ RFID ”, 2005 8
- [8] MRFR-3-04, “ RFID ”, 2005 8
- [9] MRFR-3-05, “ RFID ”, 2005 8
- [10] MRFR-3-06, “ RFID ”, 2005 8
- [11] MRFR-3-07, “ RFID ”, 2005 8

1.5

1.5.1

[(Reader, Interrogator)]

RFID 908.5~914 MHz(FHSS 910 ~ 914 MHz),
 RFID, RFID ISO 18000-6

[RFID]
 RFID 800MHz, RFID 900MHz
 ()

[(Read range)]
 mCode
 (mCode).

[(Application data)]
 RFID 가 . ,
 " " , ISO 18000-6C 6B
 " (user memory)" " " , "AD(application data) "
 {P+OID[0 2 450 3]+O} . " RFID
 (MRFS-3-02-R1)" , , 가 , ,
 , , , (), (), ,
 , URL, URN,

[(Tag)]
 RFID ,
 (Backscattering) .
 RF (Item-level , ,
), (, , ,), (,
) RFID .

[DUT: Device Under Test]

[mCode]
 mCode RFID RFID .
 , 가
 . 48 , 64 , 96 ,
 128 mCode (ISO 18000-6C: UII , ISO 18000-6B: User) {P+OID+O}
 UII set

[UII(Unique Item IDentification)]

RFID mCode micro-mCode, EPC , ISO

[User memory UII]

RFID

가

ISO 18000-6B

User memory

UII set

가

ISO 18000-6C

UII 가

1.5.2

AD: Application data

DUT: Device Under Test

mCode: Mobile RFID code

OID: Object Identifier

O: Object

P: Precursor

RFID: Radio Frequency Identification

2.

2.1

908.5-914MHz

RFID/USN

RFID

가 (DUT)가 .

2.2

RFID

(Anechoic Chamber)

() .

2.3

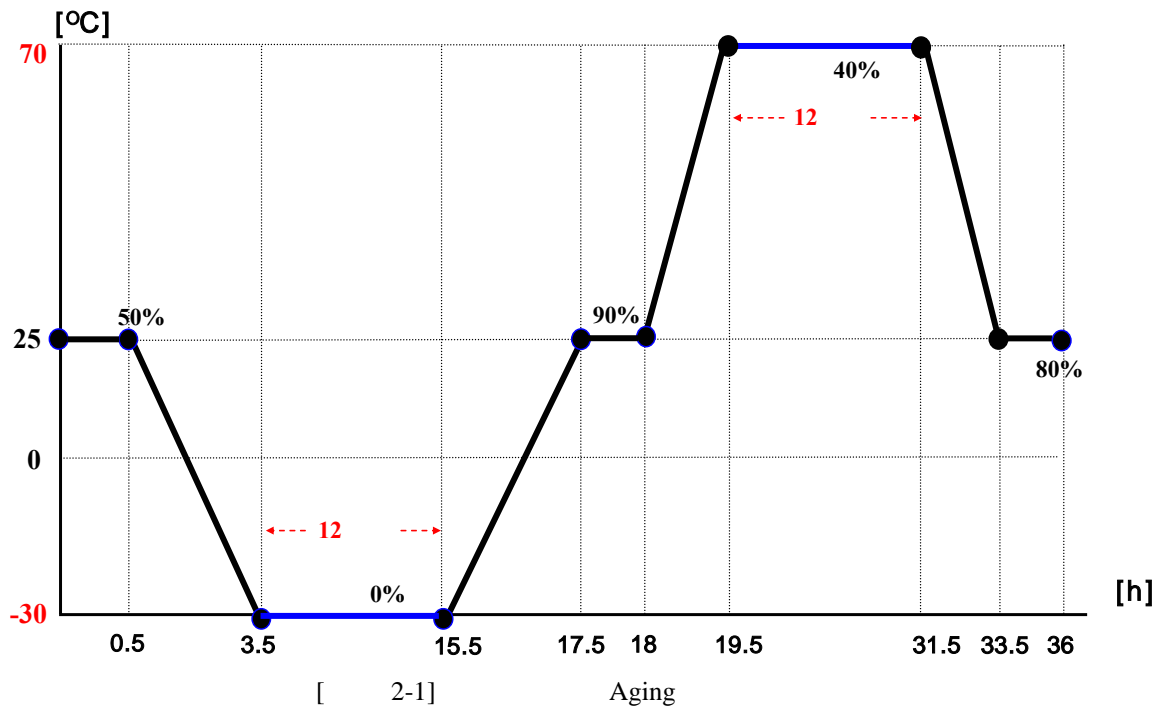
RFID

- Power (20~30dBm , 6dBi) .
- FHSS 15 0.4 Anti-collision

RFID Spectrum Mask

- RFID mCode(96bit) (User (, Type3(), ISO 18000-6C 22bytes, ISO 18000-6C 50bytes) {P+OID[mCode[0 2 450 1], [0 2 450 3]]+O} (mCode: Application defined(000), : Application defined (000, [UTF-8 String Value-UTF-8/Decimal Numeric Character Sring Value-Numeric string compaction]) , mCode 가 locked .
- () RFID (40cm) .
- 7,500mm² (size) () .
- , 200 2 Aging , 10 .

- : 36 / 2 , 15
- / : 0°C ~ -20°C/0%, 25°C/50%, 90%, 80%, 70°C/40%



30cm

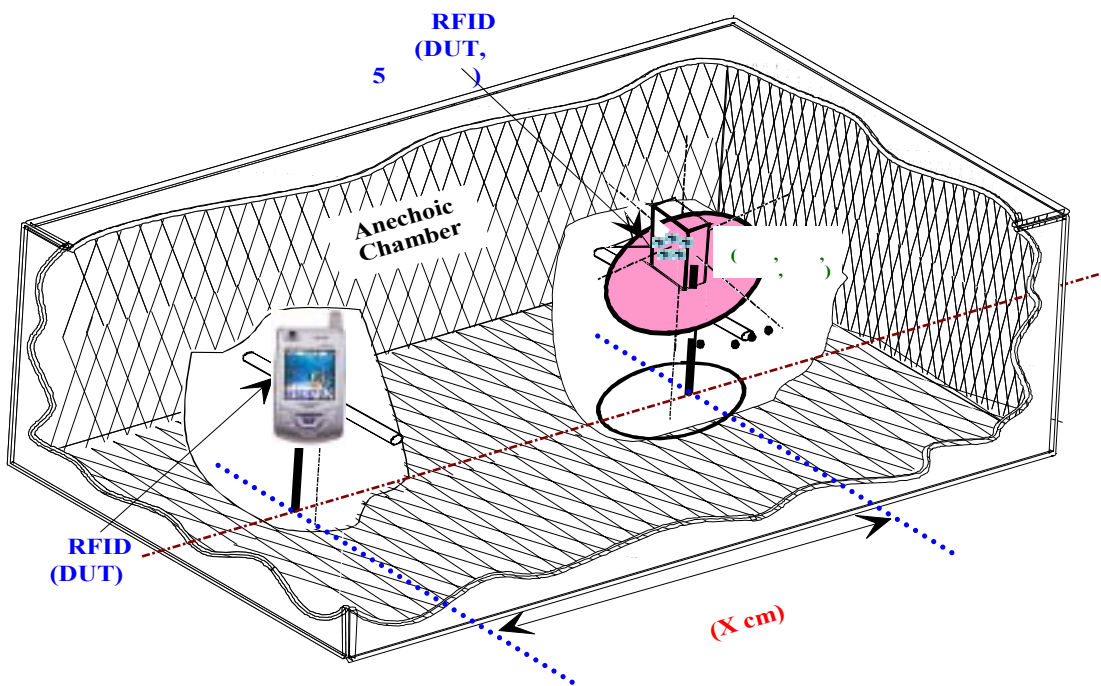
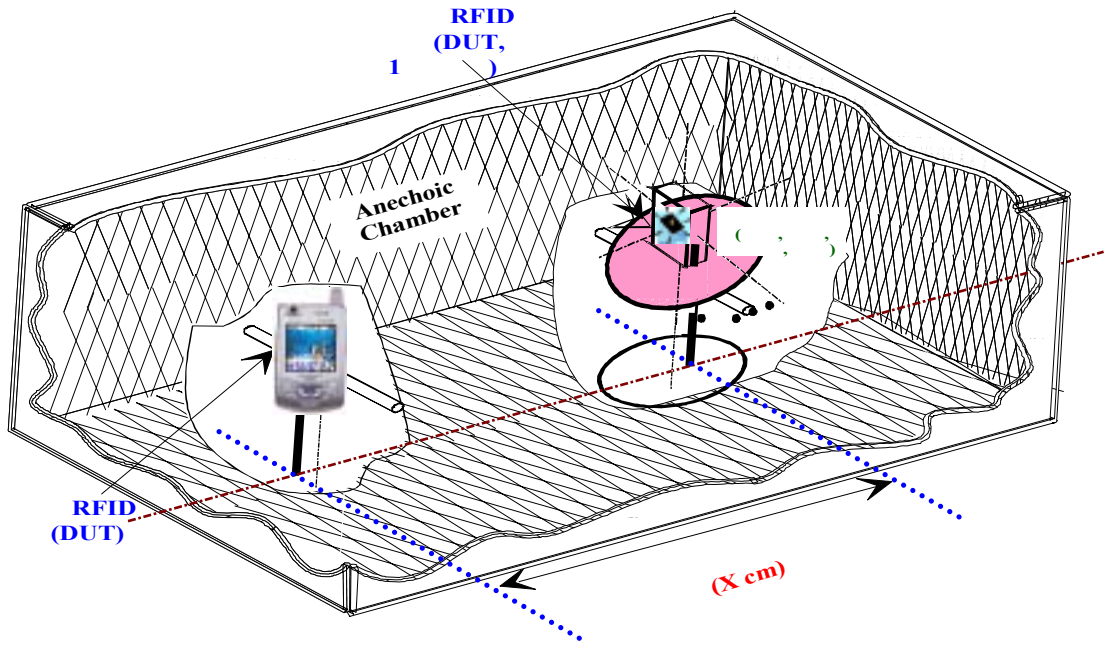
2.3.1

DUT가 , DUT가 100%

mCode 가

- DUT()
 - ()
 - DUT가 , , , , , (10mm), { (5mm), 5mm , , , (가 , 5mm)}, { (5mm), 5mm , , (5mm)} 3가
 - DUT가 , , , , (10mm), { (5mm), 5mm , , , (가 , 5mm)}, { (5mm), 5mm , , (5mm)} 3가 (3mm), (ABS , 5mm), (5mm), (가 , 5mm)
 - 20~30dBm(6dBi)
 - power Position

- (5) 27± (), / 30°
 , 5 Inlay 7.5cm, 가
 10cm
- (Hand Phantom)
- 10 25
 5



(5)

2.3.2

()

DUT가 , DUT가 100%

mCode 가 ()

- DUT()

()

- DUT가 , , , , , , , , , , (10mm), { (5mm), 5mm , , , , (가 , 5mm)}, { (5mm), 5mm , , (5mm)} 3가

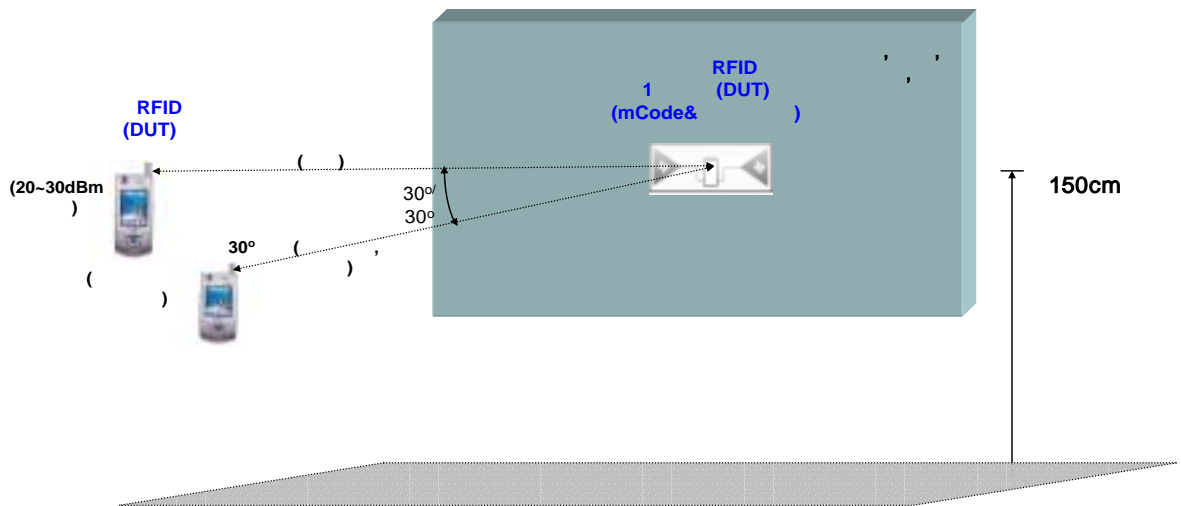
- DUT가 , , , , , , , , , , (10mm), { (5mm), 5mm , , , , (가 , 5mm)}, { (5mm), 5mm , , (5mm)} 3가 (3mm), (ABS , 5mm), (5mm), (가 , 5mm)
- 20~30dBm(6dBi)

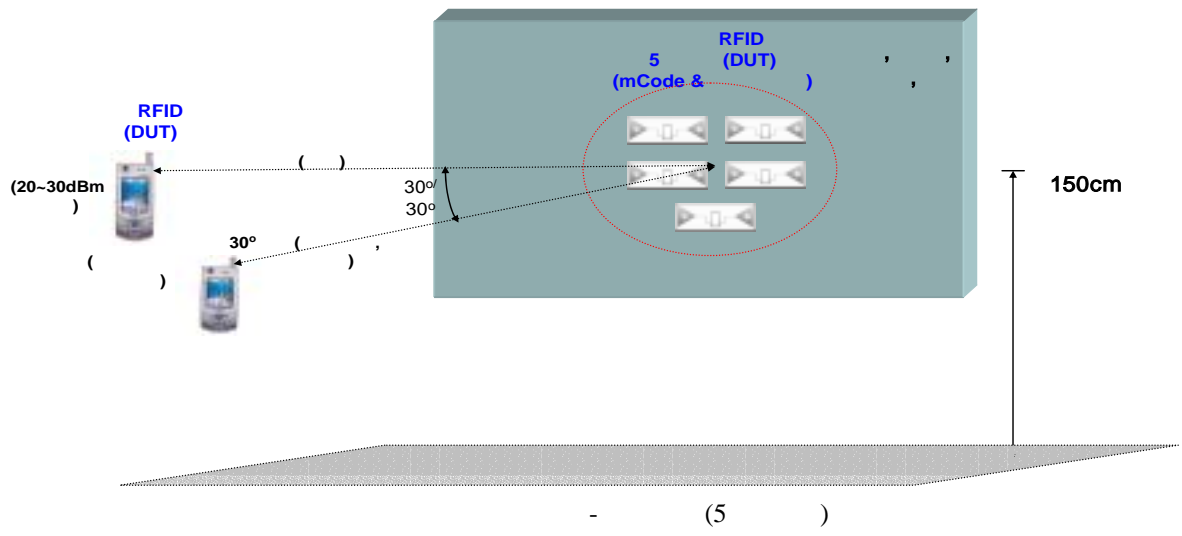
power Position
- (5) 2가 (), / 30°

, 5 Inlay 7.5cm, 가

10cm ,
- (Hand Phantom)
- 10 , 25

5 ,





[2-3]

3.

4.1	4.1.1		, mCode mCode&
	4.1.2		, mCode mCode&
4.2	4.2.1		, mCode mCode&
	4.2.2		, mCode mCode&
4.3	4.3.1		, mCode mCode&

4.

4.1

4.1.1

4.1.1.1

()

4.1.1.2

가 .()

10

3가

(0°), 30°, 30°

Position

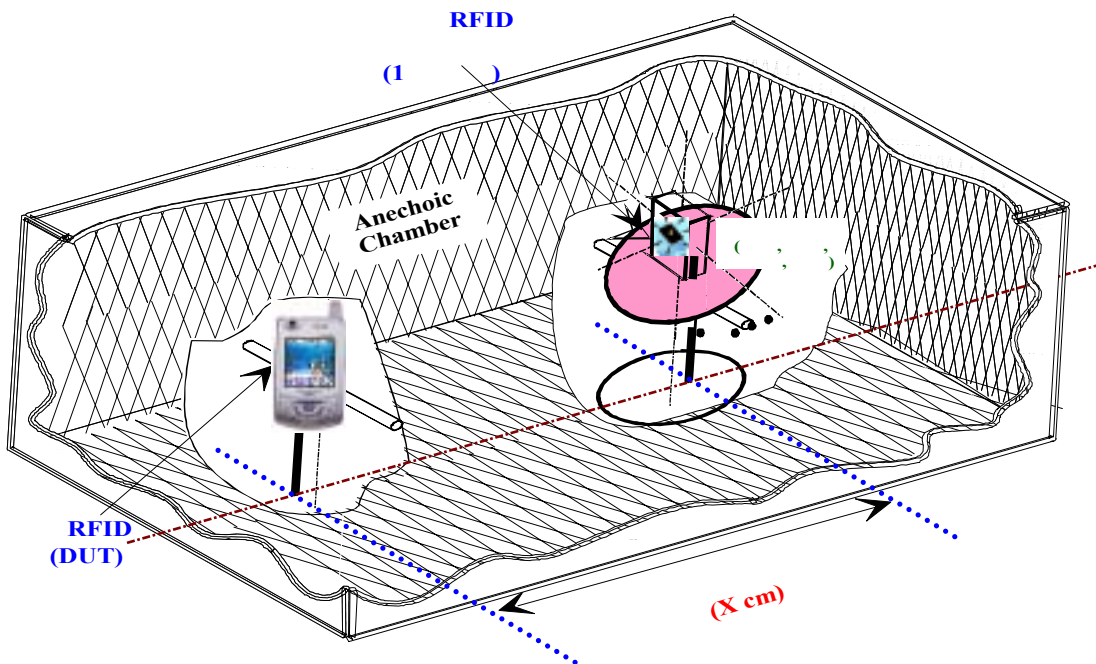
20~30dBm(6dBi)

power

* (Power 3가)

3가 Power

4.1.1.3



[4-1]

96bit mcode가 locked (가 ,
 ISO 18000-6C 22byte, ISO 18000-6B 50byte locked
) 1 ,
 / ,
 30° /
 30° /
 10 ,
 { + } { + }
 가 “ ”

4.1.1.4

		(/10mm , /5mm , /5mm , (가)/5mm)
size[가 x x]	cm x cm x cm/	/ 5mm
↔		0°(), 30°(), 30°()
/		mW/ dBi
Air Interface		
	/ 0°	/ 30°
	{ + }/ 0°	{ + }/ 30°
		{ + }/ 30°
(cm)		
	{ + }/ 0°	{ + }/ 30°
		{ + }/ 30°

4.1.1.5

4가 3가 , 가
 40cm .
 4가 3가 / 30° ,
 가 35cm .

4.1.2

4.1.2.1

) 5 (

4.1.2.2

25 , 5 (Inlay , 7.5cm, 가
10cm) 5

5 + }, { + + } 3가
(0°), 30°, 30°

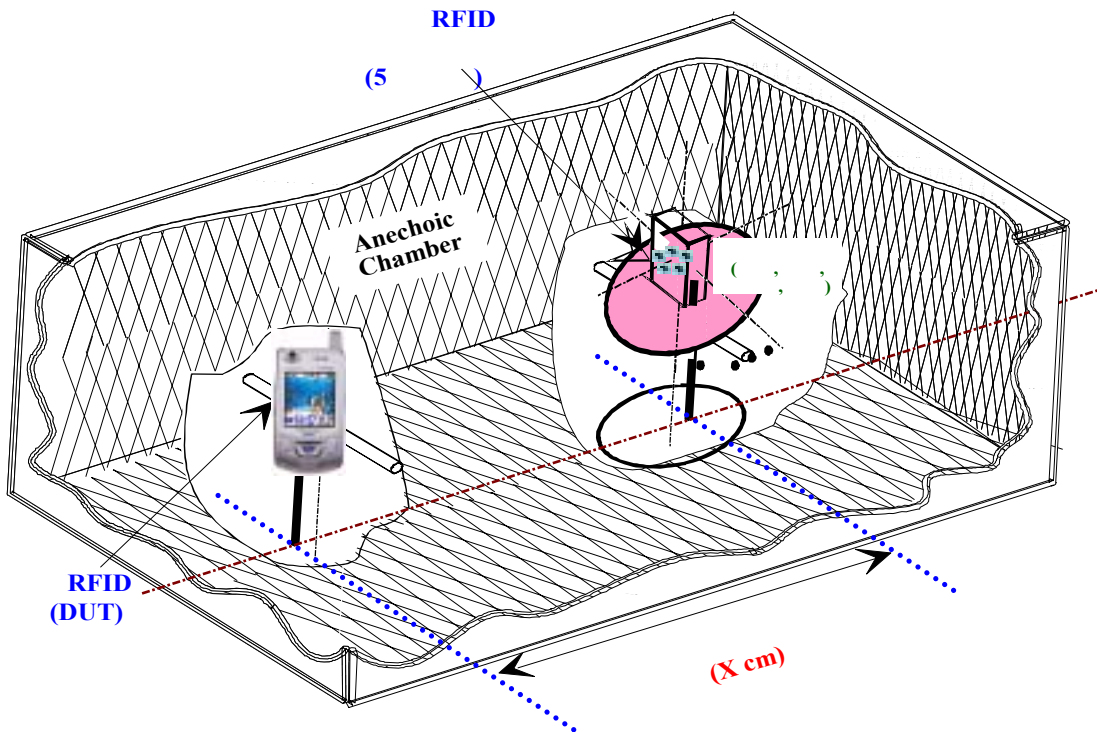
Position

20~30dBm(6dBi)

power

* , (Power 3가)
3가 Power

4.1.2.3



[4-2]

96bit mCode가 locked

5 (가

, ISO 18000-6C 22byte, ISO 18000-6B 50byte
 locked) , 5 .
 5 / , 5
 .
 5 30° / 5
 .
 5 30° / , 5
 .
 25 , 5 5 .
 { + + } { + + }

가 “ ” .

4.1.2.4

		/(/10mm , /5mm , /5mm , (가)/5mm)
size[가 x x]	cm x cm x cm/	/
↔	0°(), 30°(), 30°()	
/	mW/ dBi	
Air Interface		
	/ 0°	/ 30°
{ + + }/ 0°	{ + + }/ 30°	{ + + }/ 30°
{ + + }/ 0°	{ + + }/ 30°	{ + + }/ 30°

4.1.2.5

4가 3가 , 5 가
 35cm . , 5 mCode 2
 .
 4가 3가 / 30° , 5 가
 30cm . , 5 mCode 2
 .
 .

4.2

4.2.1

4.2.1.1

4.2.1.2

10

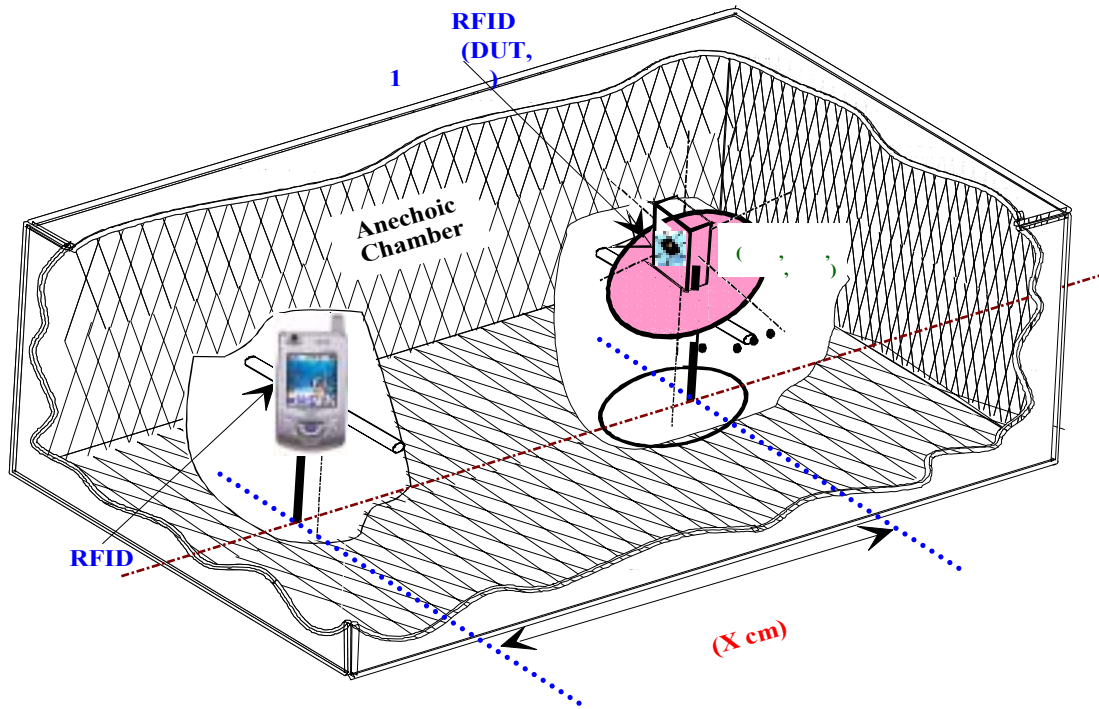
$\{ \theta = 0^\circ, 30^\circ, 30^\circ \}$ 3가
 Position

20~30dBm(6dBi)

power

* (Power 3가)
 3가 Power

4.2.1.3



[4-3]

96bit mcode가 locked (가 , ISO
 18000-6C 22byte, ISO 18000-6B 50byte locked) 1

10, 30° / , 30° / .
 { + + } { + + }

4.2.1.4

		/ (/10mm , /5mm , /5mm , (가)/5mm)	
	size[가 x x]	cm x cm x cm/ 5mm	/
	↔	0°(), 30°(), 30°()	
	/	mW/ dBi	
	Air Interface		
	/ 0°	/ 30°	/ 30°
	{ + }/ 0°	{ + }/ 30°	{ + }/ 30°
	{ + }/ 0°	{ + }/ 30°	{ + }/ 30°
(cm)			

4.2.1.5

4가 3가 ,
 가 40cm .
 4가 3가 / 30° ,
 가 35cm .

4.2.2

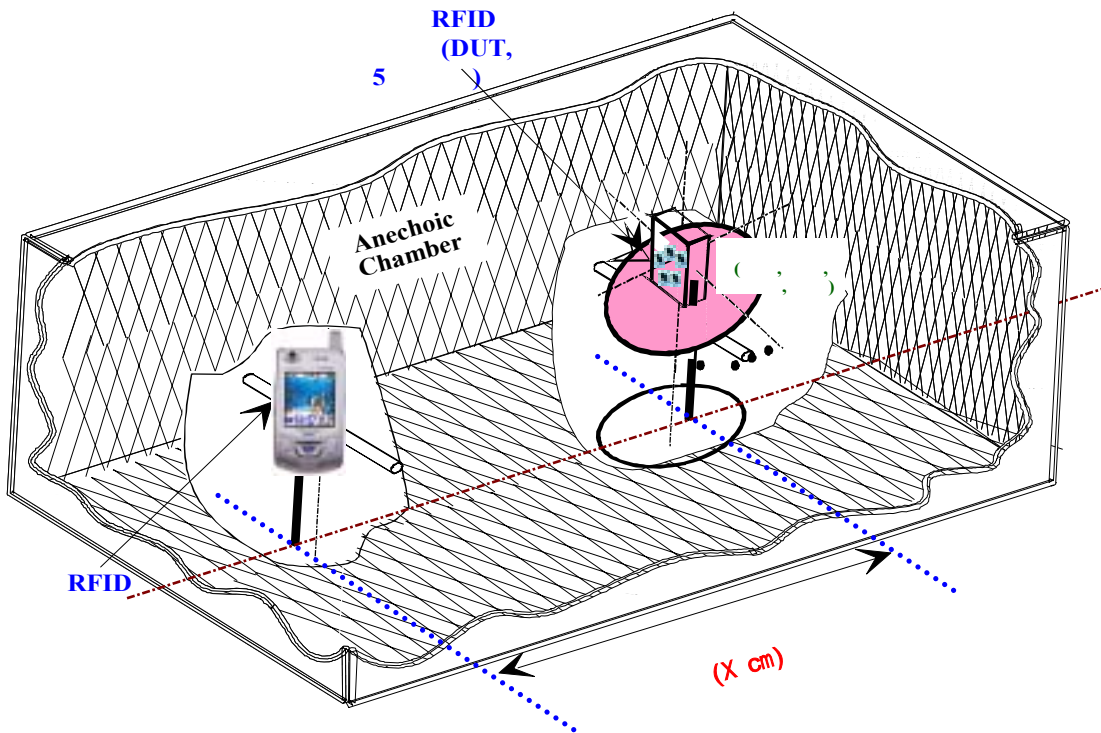
4.2.2.1

4.2.2.2

25, 5 (Inlay, 7.5cm, 가 10cm) 5, { + + }, { + + } 3가 (0°, 30°, 30° Position

20~30dBm(6dBi) power * , (Power 3가) 3가 Power

4.2.2.3



[4-4]

96bit mCode가 locked 5 (가 , ISO 18000-6C 22byte, ISO 18000-6B 50byte locked)

5, 5 / 5

5 30° / 5

5 30° / 5

25, 5 5

{ + } { + }

가 “ ”

4.2.2.4

		(/10mm, /5mm, /5mm, (가) /5mm)
size[가 x x]	cm x cm x cm/	/ 5mm
↔		0°(), 30°(), 30°()
/		mW/ dBi
Air Interface		
	/ 0°	/ 30°
	{ + }/ 0°	{ + }/ 30°
(cm)	{ + }/ 0°	{ + }/ 30°

4.2.2.5

4가 3가, 5 mCode

가 35cm, 5 mCodee

2

4가 3가 / 30°, 5 mCode

가 30cm, 5 mCode

2

4.3

4.3.1

4.3.1.1

4.3.1.2

10

(0°), 30°, 30°

Position

20~30dBm(6dBi)

power

*

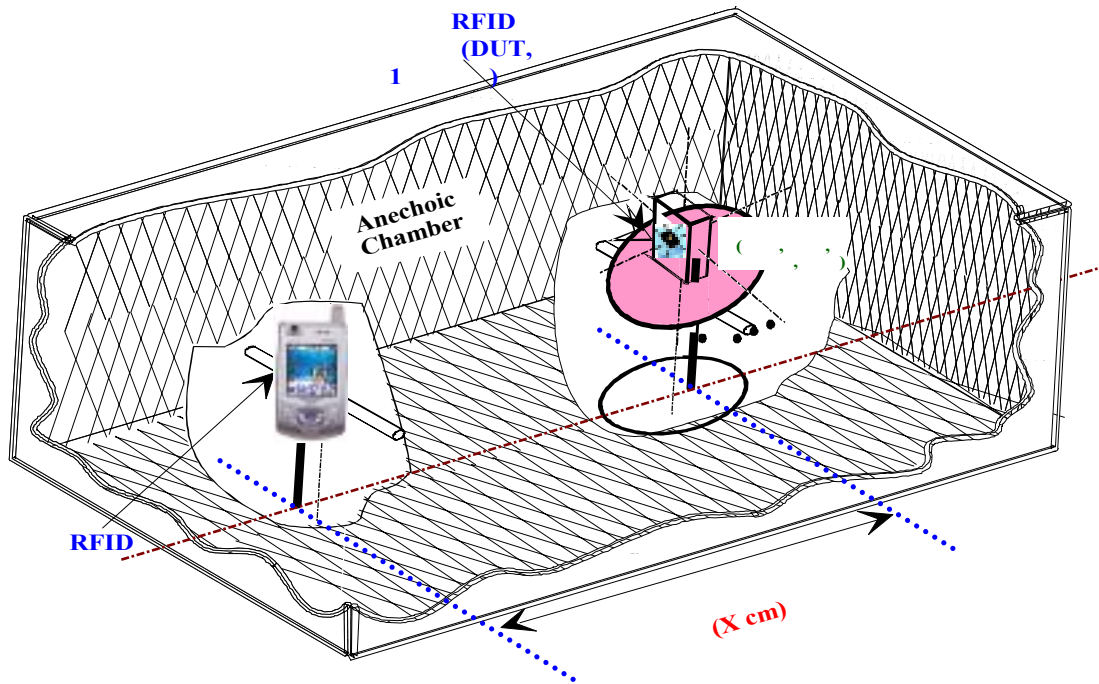
Power

3가

3가

Power

4.3.1.3



[4-5]

96bit mcode가 locked

(

가

, ISO

18000-6C

22byte, ISO 18000-6B

50byte

locked

) 1

30°

30° /

10

가 “ ”

4.3.1.4

		/(/3mm , (ABS /)5mm , / 5mm , (가)/ 5mm)	
	size[가 x x]	cm x cm x cm	
	↔	0°(), 30°(), 30°()	
	/	mW/ dBi	
	Air Interface		
(cm)	/ 0°	/ 30°	/ 30°
	/ 0°	/ 30°	/ 30°
	/ 0°	/ 30°	/ 30°
	/ 0°	/ 30°	/ 30°

4.3.1.5

4가

가 40cm

4가

/ 30°

가 35cm