

ISO 14443-2

Yo, LIC. SANTO C. SIERRA, Intérprete Judicial del Juzgado de Primera Instancia, debidamente juramentado para el ejercicio de mis funciones CERTIFICO: Que he procedido a traducir las partes centrales de un documento, escrito originalmente en Inglés, y cuya versión al Español, según mi mejor conocimiento, es el siguiente:



PRUEBA INFORME

Prueba de Normas ISO/IEC 14443-
2 parámetros para eMRTD



REFERENCIA: IC.E.RE.1905.009
VERSIÓN: v1.0
FECHA: 17/06/2019

SOLICITANTE: NXP Semiconductores
PRODUCTO: ChipDoc versión 3 – 3.0

INFORME VALIDADO Y APROBADO POR:

S. JOBARD - Técnico gerente

IC.E.RE.1905.009_v1.0_SJ.sig

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

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RESUMEN

1	General Información	3
1.1	Prueba Laboratorio Identificación	3
1.2	Prueba Identificación	3
1.3	Prueba Medio ambiente	4
1.4	Prueba Herramientas	4
1.5	Prueba Resultado Terminología	5
2	Objeto Bajo Prueba	6
2.1	Solicitante información	6
2.2	Producto Identificación	6
2.3	Implementación Conformidad Declaración	7
3	Prueba Resultados	8
3.1	eMRTD Transmisión (Carga Modulación Amplitud)	8
3.2	Operante Campo Fuerza	26
3.3	eMRTD Recepción	29
3.4	eMRTD Resonancia Frecuencia	35
3.5	eMRTD Máximo Cargando Efecto	36
3.6	eMRTD Lectura Actuación Análisis	37
4	Conclusión	39



PRUEBA INFORME

PÁGINA 3 DE 39

Ref.: IC.E.RE.1905.009
Versión: v1.0
Fecha: 17/06/2019



1 GENERAL INFORMACIÓN

1.1 PRUEBA LABORATORIO I IDENTIFICACIÓN

Cubo ICUBE PRUEBAS CENTRO
707 camino tú Quintín
13300 Salón Delaware Provenza
FRANCIA

Contacto: contacto@icube-tc.com

1.2 PRUEBA I IDENTIFICACIÓN

Prueba de Normas ISO/IEC 14443-2 parámetros para eMRTD

Este documento informes el resultados de el siguiente pruebas:

- eMRTD Transmisión,
- Operación Campo Fortaleza,
- eMRTD Recepción,
- eMRTD Resonancia Frecuencia,
- eMRTD Máximo Cargando Efecto.

El prueba método usado se ajusta a el siguiente especificación:

- [R1] Normas ISO/IEC 18745-2:2016
Información Tecnología Prueba métodos para máquina legible viajar documento (Vehículo de marca registrada)
y asociado dispositivos
Parte 2: Prueba métodos para el Sin contacto interfaz
Primero edición Fecha: 15 de agosto de 2016
- [R2] ISO/IEC JTC1/SC17/GT8 N2638
Solicitud Perfil Sin contacto Interfaz Doc 9303
Versión versión 1.3 Fecha: 03-02-2016
- [R3] ISO/IEC de Normas ISO/IEC 10373-6:2016
Identificación tarjetas - Prueba métodos - Parte 6: Proximidad tarjetas
Tercero edición - Fecha: 15 de julio de 2016

El resonancia frecuencia prueba es no realizado bajo Normas ISO/IEC 17025 Cofrac acreditación.

Sobre el resultados expresado en el cuantitativo forma, el conformidad a el especificación es declarado sin tomando explícitamente en cuenta el Incertidumbres asociado a el resultados. El muestras son consideró como "ajustarse" si el resultado es en el rango especificado por el referencia documento.

Fecha de el prueba : 18 a 27° de Junio 2019.
Prueba realizado por: M.GIROD.

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 4 DE 39



1.3 PRUEBA MEDIO AMBIENTE

El pruebas son realizado bajo el siguiente condiciones:

Temperatura	Relativo humedad
+23°C ± 3°C	25% a 75%
+50°C ± 3°C	-
-10°C ± 3°C	-

El pruebas en +50°C y -10°C temperaturas son realizado en clima cámara.

1.4 TEST TOOLS

Hardware y software	Identificación y versión
Software prueba ambiente	SCRIPTI S™ v01.04.01 + Parche 4
Software prueba suite	Normas ISO/IEC 14443 Prueba Suite para CCP Cosa análoga versión 06.00 + Parche 2 + Desplazamiento del campo de parche + Parche Ruido Medición versión 2 Normas ISO/IEC 18745-2 prueba Suite para CCP Cosa análoga versión 01.01 + Parche 1 + Parche Comando2precondiciones.py + ScriptisEPassportAnalog v01.16-IC.SW.1702.002
CCP Sin contacto Lector Software versión	KEOLABS Ley de Protección Ambiental (RGPA) versión 3.12.17.0227 KEOLABS Laboratorio Proxi versión 4.28.17.0628
PICC Sin contacto Lector Hardware versión	KEOLABS Laboratorio Proxi Búsqueda versión 4.1
PCD Asamblea	KEOLABS PCD Asamblea Normas ISO/IEC 10373-6 Alto Velocidad KEOLABS PCD Asamblea Normas ISO/IEC 10373-6 Bajo Velocidad
Referencia PICC	KEOLABS Referencia CCP Normas ISO/IEC 10373-
Sondas	2 LeCroy PP018 KEOLABS CCP Sonda KEOLABS Sonda SC-PICC+ versión 1.9
Amplificador	Bowen M02.30.70S
Osciloscopio	LeCroy ODH 6034A
Cambio climatico	AGLUTINANTE MKF 240

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 5 DE 39



1.5 TERMINOLOGIA DE RESULTADOS DE PRUEBAS

Resultado	Descripción
APROBADO	Resultado se ajusta a el esperado resultado especificado en referencia prueba plan.
FALLIDO	Resultado hace no ajustarse a el esperado resultado especificado en referencia prueba plan.
N/A	Prueba no aplicable. Para ejemplo, para un opcional función eso es no apoyado por el producto bajo prueba.
NE	Prueba no ejecutado.
NI	Prueba no implementado.
INC	Poco concluyente prueba.
INF	Informativo prueba.



PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 6 DE 39



2 OBJETO BAJO PRUEBA

2.1 INFORMACIÓN DEL SOLICITANTE

NXP Semiconductores

Microvía 1,
8101 Gratkorn,
Austria

Representado por: Olga Iakusheva.

2.2 IDENTIFICACIÓN DEL PRODUCTO

Producto nombre:	ChipDoc versión 3
Producto Versión:	3.0
Hardware identificación y revisión:	N7121 B1
Software Revisión:	JCOP 4 P71

Muestra recepción fecha (dd/mm/aaaa): 06/12/2019

Forma factor: Tarjeta Identificación-1 Tamaño

Cantidad: 3

Referencia de el objetos bajo prueba:

- 1K3606 (De serie número: No proporcionó)
- 2K3606 (De serie número: No proporcionó)
- 3K3606 (De serie número: No proporcionó)



Cifra 1 Muestra descripción general

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 7 DE 3



2.3 DECLARACIÓN DE CONFORMIDAD DE IMPLEMENTACIÓN

El solicitante tiene proporcionó el información especificado en el mesa abajo.

Información para prueba configuración	
Físico tamaño de producto	Identificación-1: Sí
Ubicación de antena dentro MRTD electrónico	No proporcionó
CCP clase	CCP Clase 1
MRTD electrónico blindado o no y cómo (ceguera)	NO
Resonancia frecuencia rango (si opcional prueba es realizado)	No proporcionó
Fuerza	☒ 0 dBm ☐ 10 dBm
Señal Interfaz • Tipo A o B	Tipo A
Poco tarifas apoyado • De eMRTD a eMRTD lector o 106 kbit/s o 212 kbit/s o 424 kbit/s o 848 kbit/s o 1.7 Mbit/s o 3.4 Mbit/s o 6.8 Mbit/s • De eMRTD lector a eMRTD o 106 kbit/s o 212 kbit/s o 424 kbit/s o 848 kbit/s o 1.7 Mbit/s o 3.4 Mbit/s o 6.8 Mbit/s	Sí Sí Sí Sí Sí Sí NO Sí Sí Sí Sí NO NO NO
Control de Acceso Aplicado • BAC • CAE • PASO	NO Sí Sí
Activo Autenticación	Sí
Extendido Unidad de Atención Primaria	Sí
Criptográfico Opciones: • Dinámica vinculante • Estático vinculante	Sí NO



SECUENCIA DE COMANDO DE PRUEBA 1 usado para Operante Campo Fortaleza prueba.

El reproducción de este informe es autorizado solo en es integral formato. El comprende 39 páginas.

PRUEBA INFORME

Ref.: IC.E.RE.1905.009
Versión: v1.0
Fecha: 17/06/2019



PÁGINA 8 DE 39



3 PRUEBA RESULTADOS

3.1 EMRTD TRANSMISION (AMPLITUD DE MODULACIÓN DE CARGA)

Método:

El prueba método usado se ajusta a documento [R1] capítulo 5.3.1.

El resultados para poco tarifas más alto que 848 kbit/s son realizado de acuerdo a a documento [R3] capítulo 7.2.1.1.

Este prueba es cubierto por Normas ISO/IEC 17025 Cofrac acreditación.

Prueba condiciones:

El prueba es realizado bajo el condiciones definido en §1.3 .

En +50°C temperatura, *Transmisiones* en A= 6.5 Soy y 7,5 A/m son no aplicable. Ellos son reemplazado por uno prueba realizado en 6 Soy.

3.1.1 Temperatura -10°C

Resultados:

Referencia objetos bajo prueba	Información	H (A/m)	V Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @106 kbit/s	1.5	18.0	21.8	22.4	APROBAR
		2.5	13.9	22.2	22.6	APROBAR
		3.5	11.8	22.3	22.4	APROBAR
		4.5	10.4	22.4	22.4	APROBAR
		5.5	9.4	22.2	22.1	APROBAR
		6.5	8.6	22.4	22.1	APROBAR
		7.5	8.0	22.2	21.9	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @106 kbit/s	1.5	18.0	22.2	22.7	APROBAR
		2.5	13.9	22.6	22.8	APROBAR
		3.5	11.8	22.8	22.6	APROBAR
		4.5	10.4	22.8	22.7	APROBAR
		5.5	9.4	22.8	22.6	APROBAR
		6.5	8.6	22.8	22.3	APROBAR
		7.5	8.0	22.8	22.3	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @106 kbit/s	1.5	18.0	21.9	22.7	APROBAR
		2.5	13.9	22.3	22.8	APROBAR
		3.5	11.8	22.4	22.8	APROBAR
		4.5	10.4	22.6	22.8	APROBAR
		5.5	9.4	22.6	22.5	APROBAR
		6.5	8.6	22.5	22.4	APROBAR
		7.5	8.0	21.7	21.4	APROBAR

Amplitud de modulación de carga a 106 kbit/s:

PRUEBA INFORME

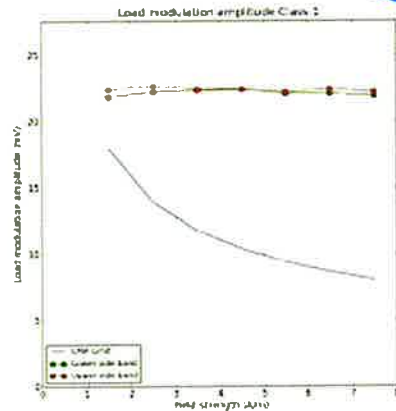
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Versión: v1.0

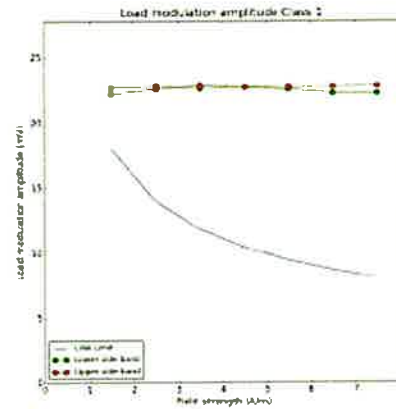
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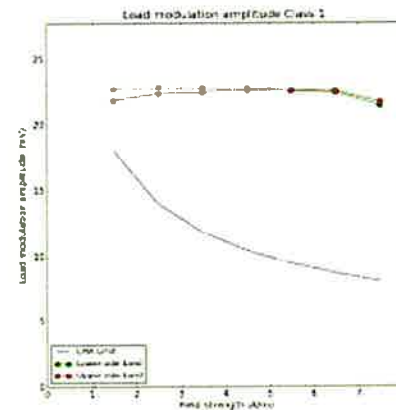
PÁGINA 9 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @106 kbit/s



Curva Carga Modulación Amplitud de el muestra 2 @106 kbit/s



Curva Carga Modulación Amplitud de el muestra 3 @106 kbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 10 DE 39



Amplitud de modulación de carga a 1,7 Mbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V-LMA Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @1.7 Mbit/s	1.5	18.0	22.7	24.1	APROBADO
		2.5	13.9	23.3	23.9	APROBADO
		3.5	11.8	23.1	23.7	APROBADO
		4.5	10.4	23.5	23.3	APROBADO
		5.5	9.4	23.5	23.1	APROBADO
		6.5	8.6	23.8	23.1	APROBADO
		7.5	8.0	23.7	23.0	APROBADO
2K3606	eMRTD Transmisión para Muestra 2 @1.7 Mbit/s	1.5	18.0	22.4	23.4	APROBADO
		2.5	13.9	22.7	23.1	APROBADO
		3.5	11.8	22.9	22.9	APROBADO
		4.5	10.4	23.0	22.8	APROBADO
		5.5	9.4	23.2	22.6	APROBADO
		6.5	8.6	23.4	22.4	APROBADO
		7.5	8.0	23.4	22.3	APROBADO
3K3606	eMRTD Transmisión para Muestra 3 @1.7 Mbit/s	1.5	18.0	22.0	23.5	APROBADO
		2.5	13.9	22.4	23.2	APROBADO
		3.5	11.8	22.5	23.1	APROBADO
		4.5	10.4	22.7	22.9	APROBADO
		5.5	9.4	23.1	22.7	APROBADO
		6.5	8.6	23.0	22.4	APROBADO
		7.5	8.0	23.1	22.4	APROBADO



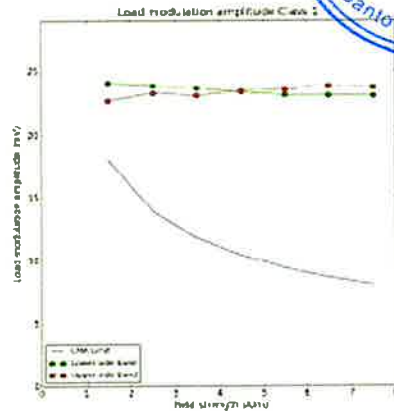
PRUEBA INFORME

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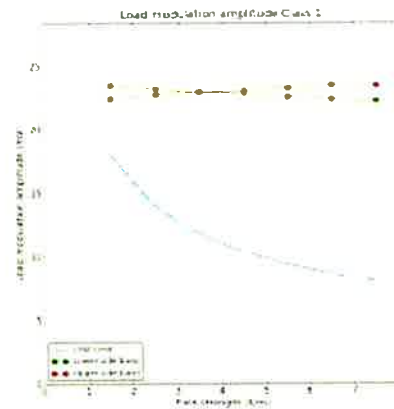
Versión: v1.0

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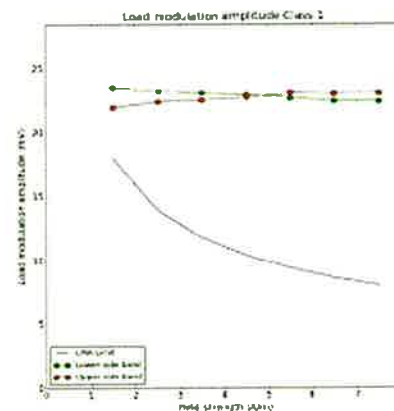
PÁGINA 11 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @1.7 Mbit/s



Curva Carga Modulación Amplitud de el muestra 2 @1.7 Mbit/s



Curva Carga Modulación Amplitud de el muestra 3 @1.7 Mbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019



Referencia objetos bajo prueba	Información	H (A/M)	V-LMA Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @3.4 Mbit/s	1.5	18.0	22.7	24.4	APROBADO
		2.5	13.9	23.4	24.2	APROBADO
		3.5	11.8	23.3	23.3	APROBADO
		4.5	10.4	23.8	23.4	APROBADO
		5.5	9.4	24.8	23.0	APROBADO
		6.5	8.6	24.4	23.1	APROBADO
		7.5	8.0	24.2	23.0	APROBADO
2K3606	eMRTD Transmisión para Muestra 2 @3.4 Mbit/s	1.5	18.0	22.6	23.7	APROBADO
		2.5	13.9	23.1	23.4	APROBADO
		3.5	11.8	23.1	22.7	APROBADO
		4.5	10.4	23.2	22.4	APROBADO
		5.5	9.4	24.3	22.4	APROBADO
		6.5	8.6	24.1	22.1	APROBADO
		7.5	8.0	23.8	22.2	APROBADO
3K3606	eMRTD Transmisión para Muestra 3 @3.4 Mbit/s	1.5	18.0	22.0	24.2	APROBADO
		2.5	13.9	22.5	23.9	APROBADO
		3.5	11.8	22.5	23.1	APROBADO
		4.5	10.4	23.2	22.9	APROBADO
		5.5	9.4	23.5	22.8	APROBADO
		6.5	8.6	23.3	22.7	APROBADO
		7.5	8.0	23.3	22.4	APROBADO

Amplitud de modulación de carga a 3.4 Mbit/s:



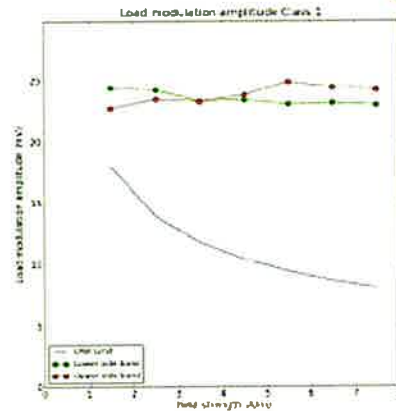
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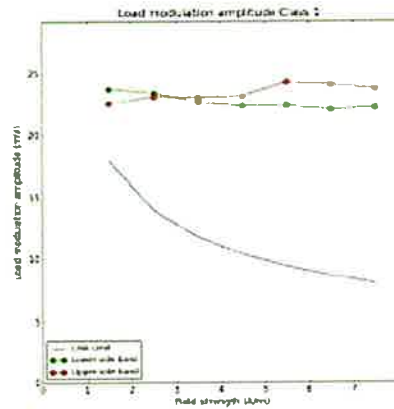
Versión: v1.0

Fecha: 17/06/2019

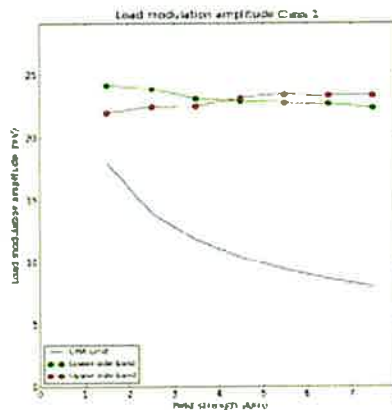
PÁGINA 13 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @3.4 Mbit/s



Curva Carga Modulación Amplitud de el muestra 2 @3.4 Mbit/s



Curva Carga Modulación Amplitud de el muestra 3 @3.4 Mbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 14 DE 39



3.1.2 Temperatura +23°C

Resultados:

Amplitud de modulación de carga a 106 kbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V-LMA Límit (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @106 kbit/s	1.5	18.0	21.5	21.9	APROBAR
		2.5	13.9	21.8	22.0	APROBAR
		3.5	11.8	21.8	21.8	APROBAR
		4.5	10.4	21.9	21.9	APROBAR
		5.5	9.4	22.0	21.8	APROBAR
		6.5	8.6	21.9	21.5	APROBAR
		7.5	8.0	21.9	21.4	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @106 kbit/s	1.5	18.0	21.6	21.9	APROBAR
		2.5	13.9	21.9	21.9	APROBAR
		3.5	11.8	21.9	21.8	APROBAR
		4.5	10.4	22.0	21.9	APROBAR
		5.5	9.4	21.9	21.7	APROBAR
		6.5	8.6	21.9	21.4	APROBAR
		7.5	8.0	22.0	21.4	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @106 kbit/s	1.5	18.0	21.3	21.9	APROBAR
		2.5	13.9	21.7	22.0	APROBAR
		3.5	11.8	21.8	21.8	APROBAR
		4.5	10.4	21.8	21.9	APROBAR
		5.5	9.4	21.8	21.7	APROBAR
		6.5	8.6	21.7	21.5	APROBAR
		7.5	8.0	21.9	21.5	APROBAR

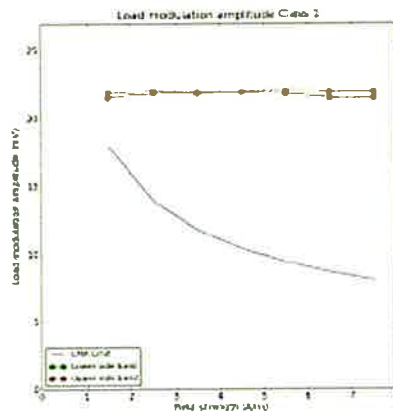
PRUEBA INFORME

Ref.: IC.E.RE.1905.009

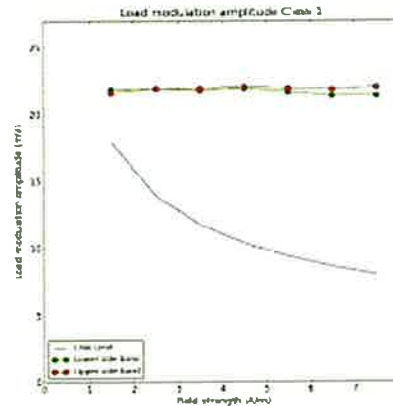
Versión: v1.0

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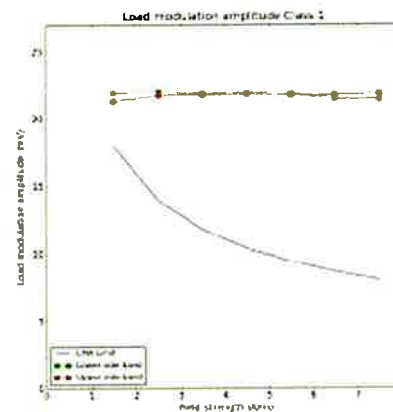
PÁGINA 15 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @106 kbit/s



Curva Carga Modulación Amplitud de el muestra 2 @106 kbit/s



Curva Carga Modulación Amplitud de el muestra 3 @106 kbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 16 DE 39



Amplitud de modulación de carga a 1.7 Mbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V _{LMA} Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @1.7 Mbit/s	1.5	18.0	21.7	22.7	APROBAR
		2.5	13.9	22.1	22.4	APROBAR
		3.5	11.8	22.2	22.0	APROBAR
		4.5	10.4	22.2	22.0	APROBAR
		5.5	9.4	22.4	21.9	APROBAR
		6.5	8.6	22.5	21.5	APROBAR
		7.5	8.0	22.5	21.5	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @1.7 Mbit/s	1.5	18.0	21.9	22.6	APROBAR
		2.5	13.9	22.2	22.4	APROBAR
		3.5	11.8	22.3	22.0	APROBAR
		4.5	10.4	22.3	21.9	APROBAR
		5.5	9.4	22.5	21.7	APROBAR
		6.5	8.6	22.5	21.5	APROBAR
		7.5	8.0	22.6	21.4	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @1.7 Mbit/s	1.5	18.0	21.6	22.9	APROBAR
		2.5	13.9	22.1	22.5	APROBAR
		3.5	11.8	22.0	22.3	APROBAR
		4.5	10.4	22.2	22.1	APROBAR
		5.5	9.4	22.5	21.9	APROBAR
		6.5	8.6	22.5	21.7	APROBAR
		7.5	8.0	22.4	21.6	APROBAR



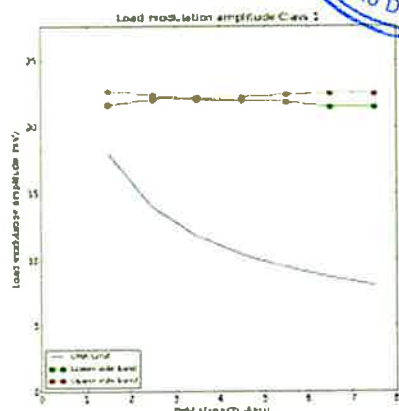
PRUEBA INFORME

Ref.: IC.E.RE.1905.009

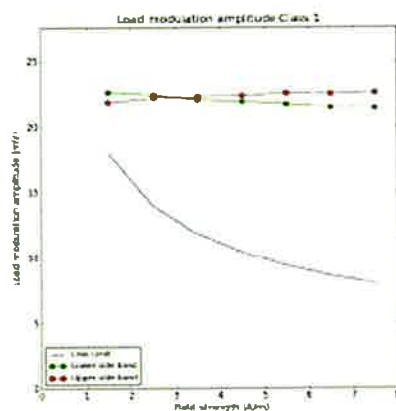
Versión: v1.0

Fecha: 17/06/2019

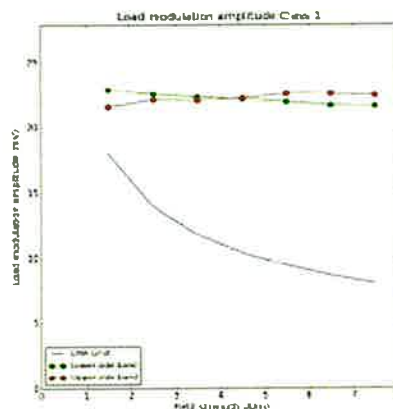
PÁGINA 17 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @1.7 Mbit/s



Curva Carga Modulación Amplitud de el muestra 2 @1.7 Mbit/s



Curva Carga Modulación Amplitud de el muestra 3 @1.7 Mbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 18 DE 39



Amplitud de modulación de carga a 3,4 Mbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V _{LMA} Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @3.4 Mbit/s	1.5	18.0	21.9	23.0	APROBAR
		2.5	13.9	22.4	22.7	APROBAR
		3.5	11.8	22.3	21.9	APROBAR
		4.5	10.4	22.7	21.6	APROBAR
		5.5	9.4	23.4	21.6	APROBAR
		6.5	8.6	23.2	21.4	APROBAR
		7.5	8.0	23.0	21.6	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @3.4 Mbit/s	1.5	18.0	21.9	22.7	APROBAR
		2.5	13.9	22.5	22.5	APROBAR
		3.5	11.8	22.6	21.6	APROBAR
		4.5	10.4	22.6	21.3	APROBAR
		5.5	9.4	23.6	21.5	APROBAR
		6.5	8.6	23.5	21.1	APROBAR
		7.5	8.0	23.2	21.2	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @3.4 Mbit/s	1.5	18.0	21.6	23.3	APROBAR
		2.5	13.9	22.3	22.9	APROBAR
		3.5	11.8	22.3	22.2	APROBAR
		4.5	10.4	22.7	21.9	APROBAR
		5.5	9.4	23.3	21.9	APROBAR
		6.5	8.6	23.0	21.6	APROBAR
		7.5	8.0	23.0	21.6	APROBAR



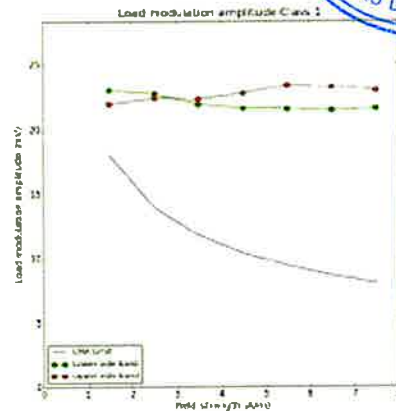
PRUEBA INFORME

Ref.: IC.E.RE.1905.009

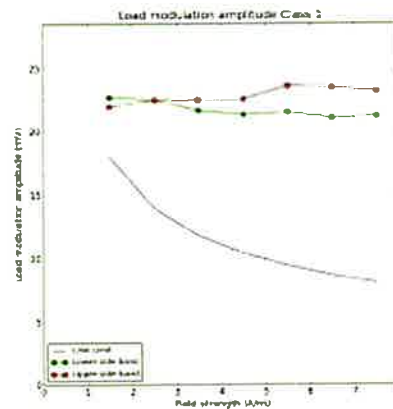
Versión: v1.0

Fecha: 17/06/2019

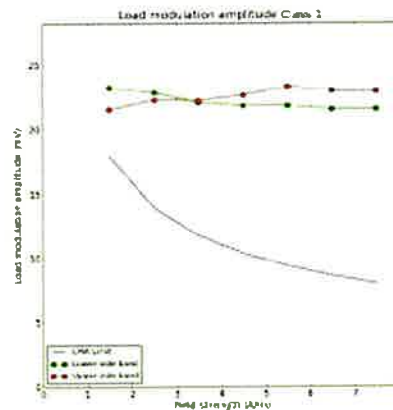
PÁGINA 19 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @3.4 Mbit/s



Curva Carga Modulación Amplitud de el muestra 2 @3.4 Mbit/s



Curva Carga Modulación Amplitud de el muestra 3 @3.4 Mbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 20 DE 39



3.1.3 Temperatura +50°C

Resultados:

Amplitud de modulación de carga a 106 kbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V-LMA Límit (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @106 kbit/s	1.5	18.0	22.3	22.5	APROBAR
		2.5	13.9	22.5	22.4	APROBAR
		3.5	11.8	22.6	22.3	APROBAR
		4.5	10.4	22.6	22.4	APROBAR
		5.5	9.4	22.4	22.0	APROBAR
		6.0	9.0	22.4	22.0	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @106 kbit/s	1.5	18.0	22.3	22.4	APROBAR
		2.5	13.9	22.7	22.4	APROBAR
		3.5	11.8	22.6	22.4	APROBAR
		4.5	10.4	22.7	22.4	APROBAR
		5.5	9.4	22.6	22.2	APROBAR
		6.0	9.0	22.5	22.0	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @106 kbit/s	1.5	18.0	21.3	21.7	APROBAR
		2.5	13.9	21.6	21.8	APROBAR
		3.5	11.8	21.7	21.7	APROBAR
		4.5	10.4	21.7	21.7	APROBAR
		5.5	9.4	21.7	21.5	APROBAR
		6.0	9.0	21.6	21.3	APROBAR



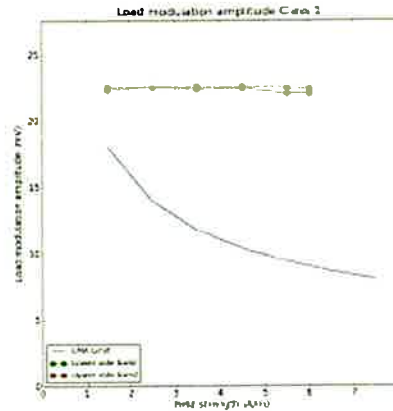
PRUEBA INFORME

Ref.: IC.E.RE.1905.009

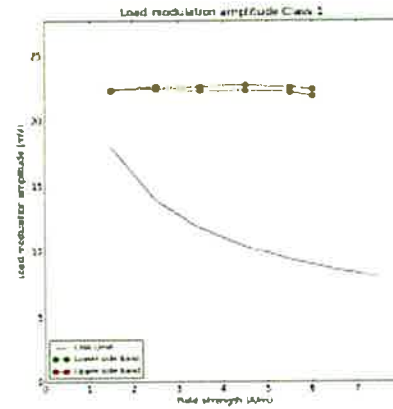
Versión: v1.0

Fecha: 17/06/2019

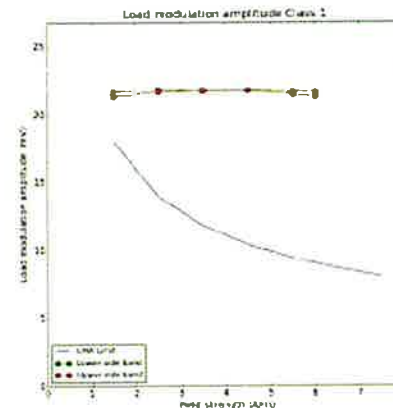
PAGINA 21 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @106 kbit/s



Curva Carga Modulación Amplitud de el muestra 2 @106 kbit/s



Curva Carga Modulación Amplitud de el muestra 3 @106 kbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 22 DE 39



Amplitud de modulación de carga a 1,7 Mbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V LMA Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @1.7 Mbit/s	1.5	18.0	22.4	23.1	APROBAR
		2.5	13.9	22.7	22.8	APROBAR
		3.5	11.8	22.9	22.6	APROBAR
		4.5	10.4	22.9	22.4	APROBAR
		5.5	9.4	23.0	22.1	APROBAR
		6.0	9.0	23.1	22.0	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @1.7 Mbit/s	1.5	18.0	22.4	22.8	APROBAR
		2.5	13.9	22.7	22.6	APROBAR
		3.5	11.8	23.0	22.3	APROBAR
		4.5	10.4	22.9	22.3	APROBAR
		5.5	9.4	23.0	21.9	APROBAR
		6.0	9.0	22.9	21.7	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @1.7 Mbit/s	1.5	18.0	21.5	22.4	APROBAR
		2.5	13.9	21.9	22.2	APROBAR
		3.5	11.8	21.9	21.8	APROBAR
		4.5	10.4	22.2	21.8	APROBAR
		5.5	9.4	22.2	21.6	APROBAR
		6.0	9.0	22.1	21.4	APROBAR



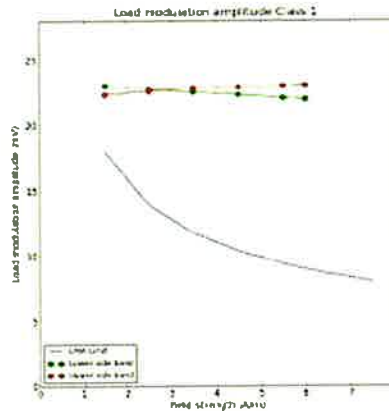
PRUEBA INFORME

Ref.: IC.E.RE.1905.009

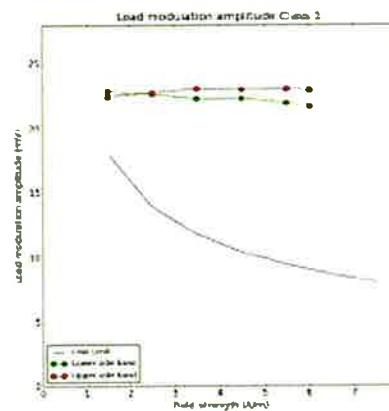
Versión: v1.0

Fecha: 17/06/2019

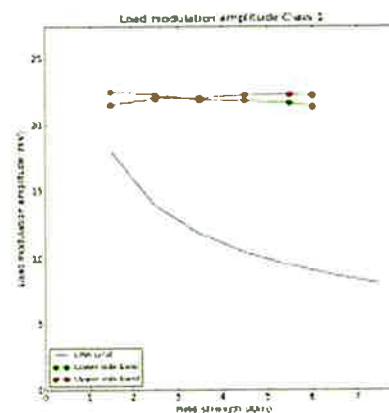
PÁGINA 23 DE 39



Curva Carga Modulación Amplitud de el muestra 1 @1.7 Mbit/s



Curva Carga Modulación Amplitud de el muestra 2 @1.7 Mbit/s



Curva Carga Modulación Amplitud de el muestra 3 @1.7 Mbit/s

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 24 DE 39



Amplitud de modulación de carga a 3.4 Mbit/s:

Referencia objetos bajo prueba	Información	H (A/M)	V _{LMA} Límite (mv)	Superior banda lateral (mv)	Más bajo banda lateral (mv)	Resultado
1K3606	eMRTD Transmisión para Muestra 1 @3.4 Mbit/s	1.5	18.0	22.6	23.4	APROBAR
		2.5	13.9	23.2	23.0	APROBAR
		3.5	11.8	23.1	22.3	APROBAR
		4.5	10.4	23.6	21.8	APROBAR
		5.5	9.4	24.1	22.0	APROBAR
		6.0	9.0	23.8	21.7	APROBAR
2K3606	eMRTD Transmisión para Muestra 2 @3.4 Mbit/s	1.5	18.0	22.7	22.9	APROBAR
		2.5	13.9	23.3	22.6	APROBAR
		3.5	11.8	23.3	22.0	APROBAR
		4.5	10.4	23.3	21.5	APROBAR
		5.5	9.4	24.2	21.5	APROBAR
		6.0	9.0	23.9	21.4	APROBAR
3K3606	eMRTD Transmisión para Muestra 3 @3.4 Mbit/s	1.5	18.0	21.7	22.7	APROBAR
		2.5	13.9	22.1	22.4	APROBAR
		3.5	11.8	22.2	21.6	APROBAR
		4.5	10.4	22.4	21.3	APROBAR
		5.5	9.4	23.2	21.3	APROBAR
		6.0	9.0	23.4	20.7	APROBAR

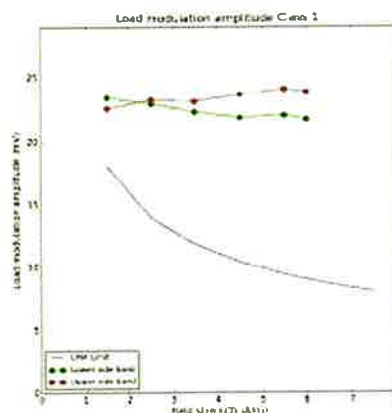


PRUEBA INFORME

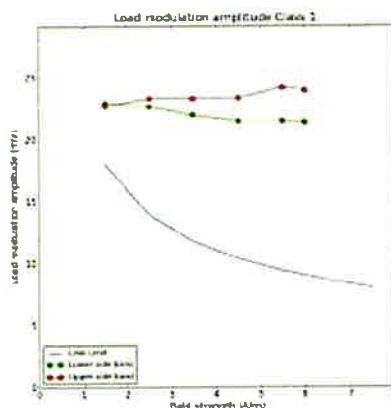
Ref.: IC.E.RE.1905.009

Versión: v1.0

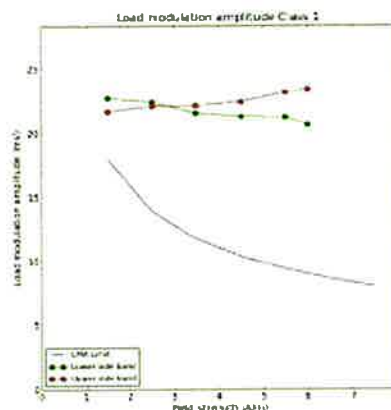
Fecha: 17/06/2019



Curva Carga Modulación Amplitud de el muestra 1 @3.4 Mbit/s



Curva Carga Modulación Amplitud de el muestra 2 @3.4 Mbit/s



Curva Carga Modulación Amplitud de el muestra 3 @3.4 Mbit/s



PRUEBA INFORME

PÁGINA 26 DE 39

Ref.: IC.E.RE.1905.009
Versión: v1.0
Fecha: 17/06/2019



3.2 FUNCIONAMIENTO CAMPO FORTALEZA

Método:

El prueba método usado se ajusta a documento [R1] capítulo 5.3.2 y 7.2.1.

El siguiente secuencia de Comandos (siguiente SECUENCIA_DE_COMANDO_DE_PRUEB A1) es realizado:

Paso	Dominio
1	LEER BINARIO para Acceso a tarjeta EF
2	MSE: Colocar EN
3	GENERAL AUTENTICAR para encriptado mientras tanto
4	GENERAL AUTENTICAR a mapa el mientras tanto
5	GENERAL AUTENTICAR a llevar a cabo Llave acuerdo
6	GENERAL AUTENTICAR a llevar a cabo Mutual Autenticar
7	SELECCIONAR
8	LEER BINARIO para EF.DG14
9	MSE: COLOCAR EN
10	GENERAL AUTENTICAR
11	INTERNO AUTENTICAR un
12	LEER BINARIO para EF.CVCA
13	MSE: COLOCAR Horario de verano CVCA
14	PSO: VERIFICAR CERTIFICADO DV
15	MSE: COLOCAR Horario de verano DV
16	PSO: VERIFICAR CERTIFICADO ES
17	MSE: COLOCAR EN
18	CONSEGUIR DESAFÍO
19	EXTERNO AUTENTICAR
20	LEER BINARIO para EF.DG3
^a Automóvil club británico es apoyado por Documento de identidad electrónico	



Cada apoyado simétrico tasa de bits y máximo tasa de bits en ambos instrucciones (eMRTD a eMRTD Lector y eMRTD Lector a documento de identidad electrónico (MRTD) son Probado.

Prueba condiciones:

El pruebas es realizado bajo el condiciones definido en §1.3 .

En T=50°C, Operante Campo Fortaleza en AI= 6.5 Soy y 7,5 A/m son no aplicable. Ellos son reemplazado por uno prueba realizado en 6 Soy.

PRUEBA INFORME

Ref.: IC.E.RE.1905.009
Versión: v1.0
Fecha: 17/06/2019

PÁGINA 27 DE 39



Resultados:

→ Objeto bajo prueba: 1K3606

Información	H (A/m)	T (°C)	Resultados								Máximo
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s		
Operación Campo Fortaleza para muestra 1	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	NO	NO	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
	+23	APROBAR	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	



² Máximo poco tarifas en ambas instrucciones son colocar como declarado en capítulo 2.3: en 3.4 Mbit/s para eMRTD a eMRTD Lector y en 848 Kbit/s para eMRTD Lector a Documento de identidad electrónico (MRTD).

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 28 DE 39



Resultados:

→ Objeto bajo prueba: 2K3606

Información	H (A/m)	T (°C)	Resultados								Máximo
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s		
Operación Campo Fortaleza para muestra 2	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	NO	NO	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
	+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR		

→ Objeto bajo prueba: 2K3606

Información	H (A/m)	T (°C)	Resultados								
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s	Máximo	
Operación Campo Fortaleza para muestra 2	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	NO	NO	APROBAR	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR	
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	APROBAR	NO	NO	NO	APROBAR
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	APROBAR	

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

3.3 e MRTD RECEPCIÓN**Método:**

El prueba método usado se ajusta a documento [R1] capítulo 5.3.3 y 7.2.2.

Pruebas condiciones:

El prueba es realizado bajo el condiciones definido en §1.3

Resultados:

→ Objeto bajo prueba: 1K3606

Condición 1:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 1 Condición 1	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A



PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 60 DE 396



Condición 2:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 1 Condición 2	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A

Condición 3:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 1 Condición 3	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

→ Objeto bajo prueba: 2K3606

Condición 1:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 2 Condición 1	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A



PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 32 DE 39



Condición 2:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 2 Condición 2	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	

Condición 3:

Información	H (A/m)	T (°C)	Resultados							
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s	
eMRTD Recepción para Muestra 2 Condición 3	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A	

PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

→ Objeto bajo prueba: 3K3606

Condición 1:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 3 Condición 1	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A



PRUEBA INFORME

PÁGINA 34 DE 39

Ref.: IC.E.RE.1905.009
Versión: v1.0
Fecha: 17/06/2019

Condición 2:

Información	H (A/m)	T (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 3 Condición 2	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		en	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A

Condición 3:

Información	yo (Soy)	yo (°C)	Resultados						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Recepción para Muestra 3 Condición 3	1.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	2.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	3.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	4.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	5.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	6.0	+50	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
	7.5	-10	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A
		+23	APROBAR	APROBAR	APROBAR	APROBAR	N/A	N/A	N/A

PRUEBA INFORME

Ref.: IC.E.RE.1905.009
 Versión: v1.0
 Fecha: 17/06/2019

**3.4 E MRTD R ESONANCIA FRECUENCIA****Método:**

Este opcional prueba es realizado de acuerdo a a documento [R1] capítulo 5.3.4. A Vector Red
 Analizador Agilent E5061A es usado.

El mesurado valores son dado para información objetivo solo y No APROBADO/REPROBADO
 O resultado es proporcionó.

Este prueba es no cubierto por Normas ISO/IEC 17025 Cofrac acreditación.

Prueba condiciones:

El prueba es realizado bajo el siguiente condiciones:

- Temperatura: +23°C ±3 °C
- Relativo Humedad: 25% a 75%

Referencia objetos bajo prueba	Información	Fuerza (dBm)	Resonancia frecuencia	Resultado
1K3606	Resonancia frecuencia	0	15.5	INF
2K3606	Resonancia frecuencia	0	15.3	INF
3K3606	Resonancia frecuencia	0	15.3	INF

Resultados:

PRUEBA INFORME

PÁGINA 36 DE 39

Ref.: IC.E.RE.1905.009
Versión: v1.0
Fecha: 17/06/2019



3.5 e MRTD MÁXIMO CARGANDO EFECTO

Método:

Este prueba es realizado de acuerdo a a documento [R1] capítulo 5.3.5.

El eMRTD cargando efecto en $H_{\min}$. deber no superar el cargando efecto de el seleccionado Referencia CCP sintonizado a 13.56 megahercio y calibrado a obtener Carga V en CON3 en $H_{\min}$.
Carga V y $H_{\min}$. depender a el CCP clases.

Prueba condiciones:

El prueba es realizado bajo el condiciones definido en §1.3

Resultados:

Referencia objetos bajo prueba	Información	T (°C)	$H_{\min}$ (A/m)	Mesurado H (A/m)	Resultado
1K3606	Máximo cargando efecto para muestra 1	-10	1.5	1.67	APROBAR
		+23		1.66	APROBAR
		+50		1.66	APROBAR
2K3606	Máximo cargando efecto para muestra 2	-10	1.5	1.67	APROBAR
		+23		1.67	APROBAR
		+50		1.66	APROBAR
3K3606	Máximo cargando efecto para muestra 3	-10	1.5	1.67	APROBAR
		+23		1.66	APROBAR
		+50		1.66	APROBAR



25 Cofrac
O/REPROBADO

Método:

El eMRTD lectura actuación análisis es realizado de el Operante Campo Fortaleza pruebas. El evaluación acepta en cuenta 3 muestras, en -10°C , $+23^{\circ}\text{C}$ y $+50^{\circ}\text{C}$ temperaturas y de $H_{\min.}$ a $H_{\max.}$

- Tasa de bits condición 1: eMRTD Lector @848 kbit/s / eMRTD @848 kbit/s
- Tasa de bits condición 2: eMRTD Lector @848 kbit/s / eMRTD @3,4 Mbit/s

[illegible]

Cifra 2 Ejemplo de eMRTD Tratamiento tiempo medurado en REQA

En $T=50^{\circ}\text{C}$, Operante Campo Fortaleza en $\text{Al}= 6.5$ Soy y $7,5 \text{ A/m}$ son no aplicable. Ellos son reemplazado por uno prueba realizado en 6 Soy.

Información:

- Tasa de bits condición 2 contiene un adicional tratamiento tiempo pendiente a el S(PARÁMETROS) intercambio. Este adicional tratamiento tiempo es medurado en 2.3 EM y es incluido a el eMRTD tratamiento tiempo.
- eMRTD transmisión tiempo es el suma de el duración de el eMRTD respuestas. Este momento, incluido a el eMRTD tratamiento tiempo, tiene estado medurado en 28.8 EM para Tasa de bits condición 1 y en 9.9 EM para Tasa de bits condición 2.



PRUEBA INFORME

Ref.: IC.E.RE.1905.009

Versión: v1.0

Fecha: 17/06/2019

PÁGINA 38 DE 39

Resultados:

→ Objeto bajo prueba: 1K3606

Información	H (A/m)	T (°C)	eMRTD Tratamiento tiempo (EM)				Delta (1) - (2)
			Tasa de bits condición 1 (1)		Tasa de bits condición 2 (2)		
			Lector	eMRTD	Lector	eMRTD	
			848 kbit/s	848 kbit/s	848 kbit/s	3.4 Mbit/s	
eMRTD lectura tiempo actuación para muestra 1	1.5	-10	3819.1		4338.4		-519.3
		+23	3355.2		3429.6		-74.4
		+50	4721.8		4547.8		174.0
	4.5	-10	1646.8		1628.3		18.5
		+23	1653.5		1635.6		17.9
		+50	1655.9		1637.1		18.8
	6.0	+50	1625.5		1594.5		31.0
	7.5	-10	1187.2		1169.5		17.7
		+23	1192.7		1175.4		17.3

→ Objeto bajo prueba:: 2K3606

Información	H (A/m)	T (°C)	eMRTD Tratamiento tiempo (EM)				
			Tasa de bits condición 1 (1)		Tasa de bits condición 2 (2)		Delta (1) - (2)
			Lector 848 kbit/s	eMRTD 848 kbit/s	Lector 848 kbit/s	eMRTD 3.4 Mbit/s	
eMRTD lectura tiempo actuación para muestra 2	1.5	-10	4657.6		4637.8		19.8
		+23	4647		4628.5		18.5
		+50	4715.1		4694.2		20.9
	4.5	-10	1639.4		1621.9		17.5
		+23	1647.7		1628.6		19.1
		+50	1649.8		1633.0		16.8
	6.0	+50	1651.8		1633.2		18.6
	7.5	-10	1198.5		1179.9		18.6
		+23	1204.7		1187.5		17.2

→ Objeto bajo prueba: 3K3606

Información	H (A/m)	T (°C)	eMRTD Tratamiento tiempo (EM)				
			Tasa de bits condición 1 (1)		Tasa de bits condiclón 2 (2)		Delta (1) - (2)
			Lector	eMRTD	Lector	eMRTD	
			848 kbit/s	848 kbit/s	848 kbit/s	3.4 Mbit/s	
eMRTD lectura tiempo actuación para muestra 3	1.5	-10	4704.6		4685.3		19.3
		+23	4701.0		4672.0		29.0
		+50	4761.1		4744.8		16.3
	4.5	-10	1645.6		1626.9		18.7
		+23	1653.7		1635.5		18.2
		+50	1655.3		1638.2		17.1
	6.0	+50	1656.1		1639.1		17.0
	7.5	-10	1187.7		1168.6		19.1
		+23	1194.3		1176.1		18.2

PRUEBA INFORME

Ref.: IC.E.RE.1905.009
 Versión: v1.0
 Fecha: 17/06/2019

4 CONCLUSIÓN

El siguiente mesa resume el resultados de el pruebas realizado de acuerdo a a referencia documentos listado en §1.2 .

Referencia de objeto bajo prueba	Prueba	Temperatura (°C)	Resultado
1K3606	eMRTD Transmisión	-10	APROBAR
		+23	APROBAR
	Operante Campo Fortaleza	-10	APROBAR
		+23	APROBAR
	eMRTD Recepción	-10	APROBAR
		+23	APROBAR
	eMRTD Resonancia frecuencia (*)	+23	INF
	eMRTD Máximo Cargando Efecto	-10	APROBAR
		+23	APROBAR
2K3606	eMRTD Transmisión	-10	APROBAR
		+23	APROBAR
	Operante Campo Fortaleza	-10	APROBAR
		+23	APROBAR
	eMRTD Recepción	-10	APROBAR
		+23	APROBAR
	eMRTD Resonancia frecuencia (*)	+23	INF
	eMRTD Máximo Cargando Efecto	-10	APROBAR
		+23	APROBAR
3K3606	eMRTD Transmisión	-10	APROBAR
		+23	APROBAR
	Operante Campo Fortaleza	-10	APROBAR
		+23	APROBAR
	eMRTD Recepción	-10	APROBAR
		+23	APROBAR
	eMRTD Resonancia frecuencia (*)	+50	APROBAR
		+23	INF
	eMRTD Máximo Cargando Efecto	-10	APROBAR
		+23	APROBAR
		+50	APROBAR

(*) Este prueba es no cubierto por Normas ISO/IEC 17025 Cofrac acreditación.

FIN DE DOCUMENTO

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Traducido a petición de la parte interesada y registrada en mí protocolo. En Santo Domingo, Distrito Nacional, Capital de la República Dominicana, a los

Diecinueve (19) del mes de Febrero del año Dos Mil Veinticinco (2025).



LIC. SANTO C. SIERRA
 INTERPRETE JUDICIAL
 HELP



República Dominicana
 Procuraduría General de la República
 Confirme la validez de este documento ingresando al código CIS en portal.servicios.pgr.gob.do
 Código CIS: 001-5202-4696169-3



TEST REPORT

Test of ISO/IEC 14443-2 parameters for eMRTD

REFERENCE:	IC.E.RE.1905.009
VERSION:	v1.0
DATE:	17/06/2019
APPLICANT:	NXP Semiconductors
PRODUCT:	ChipDoc v3 – 3.0

REPORT VALIDATED AND APPROVED BY:

S.JOBARD - Technical manager

IC.E.RE.1905.009_v1.0_SJ.sig

**TEST REPORT**

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

SUMMARY

1	General Information	3
1.1	Test Laboratory Identification	3
1.2	Test Identification	3
1.3	Test Environment	4
1.4	Test Tools	4
1.5	Test Result Terminology	5
2	Object Under Test	6
2.1	Applicant information	6
2.2	Product Identification	6
2.3	Implementation Conformance Statement.....	7
3	Test Results	8
3.1	eMRTD Transmission (Load Modulation Amplitude).....	8
3.2	Operating Field Strength.....	26
3.3	eMRTD Reception.....	29
3.4	eMRTD Resonance Frequency	35
3.5	eMRTD Maximum Loading Effect	36
3.6	eMRTD Reading Performance Analysis	37
4	Conclusion.....	39

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

1 GENERAL INFORMATION**1.1 TEST LABORATORY IDENTIFICATION****ICUBE TESTING CENTER**

707 chemin du Quintin
13300 Salon de Provence
FRANCE

Contact: contact@icube-tc.com**1.2 TEST IDENTIFICATION**
Test of ISO/IEC 14443-2 parameters for eMRTD

This document reports the results of the following tests:

- eMRTD Transmission,
- Operating Field Strength,
- eMRTD Reception,
- eMRTD Resonance Frequency,
- eMRTD Maximum Loading Effect.

The test method used conforms to the following specification:

- [R1]** ISO/IEC 18745-2:2016
Information Technology Test methods for machine readable travel document (MRTD)
and associated devices
Part 2: Test methods for the contactless interface
First edition Date: 2016-08-15
- [R2]** ISO/IEC JTC1/SC17/WG8 N2638
Application Profile Contactless Interface Doc 9303
Version v1.3 Date: 2016-02-03
- [R3]** ISO/IEC of ISO/IEC 10373-6:2016
Identification cards - Test methods - Part 6: Proximity cards
Third edition - Date: 2016-07-15

The resonance frequency test is not performed under ISO/IEC 17025 Cofrac accreditation.

Concerning the results expressed in the quantitative way, the conformity to the specification is declared without taking explicitly into account the uncertainties associated to the results. The samples are considered as "conform" if the result is in the range specified by the reference document.

Date of the test: 18th to 27th of June 2019.

Test performed by: M.GIROD.



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

1.3 TEST ENVIRONNEMENT

The tests are performed under the following conditions:

Temperature	Relative humidity
+23°C ± 3°C	25% to 75%
+50°C ± 3°C	-
-10°C ± 3°C	-

The tests at +50°C and -10°C temperatures are performed in climate chamber.

1.4 TEST TOOLS

Hardware and software	Identification and version
Software test environment	SCRIPTIS™ v01.04.01 + Patch 4
Software test suite	ISO/IEC 14443 Test Suite for PICC Analog v06.00 + Patch 2 + Patch_Field_Offset + Patch Noise Measurement v2 ISO/IEC 18745-2 test Suite for PICC Analog v01.01 + Patch 1 + Patch Command2preconditions.py + ScriptisEPassportAnalog v01.16-IC.SW.1702.002
PICC Contactless Reader Software version	KEOLABS RGPA v3.12.17.0227 KEOLABS ProxiLAB v4.28.17.0628
PICC Contactless Reader Hardware version	KEOLABS ProxiLAB Quest v4.1
PCD Assembly	KEOLABS PCD Assembly ISO/IEC 10373-6 High Speed KEOLABS PCD Assembly ISO/IEC 10373-6 Low Speed
Reference PICC	KEOLABS Reference PICC ISO/IEC 10373-6 Class 1 at 13.56 MHz
Probes	2 LeCroy PP018 KEOLABS PICC Probe KEOLABS SC-PICC-Probe+ v1.9
Amplifier	Bowen M02.30.70S
Oscilloscope	LeCroy HDO 6034A
Climate chamber	BINDER MKF 240

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

1.5 TEST RESULT TERMINOLOGY

Result	Description
PASS	Result conforms to the expected result specified in the reference test plan.
FAIL	Result does not conform to the expected result specified in the reference test plan.
NA	Test not applicable. For example, for an optional function that is not supported by the product under test.
NE	Test not executed.
NI	Test not implemented.
INC	Inconclusive test.
INF	Informative test.





TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 6 OF 39

2 OBJECT UNDER TEST

2.1 APPLICANT INFORMATION

NXP Semiconductors

Mikronweg 1,
8101 Gratkorn,
Austria

Represented by: Olga Iakusheva.

2.2 PRODUCT IDENTIFICATION

Product name:	ChipDoc v3
Product version:	3.0
Hardware identification and revision:	N7121 B1
Software revision:	JCOP 4 P71

Sample reception date (dd/mm/yyyy): 12/06/2019

Form factor: Card ID-1 Size

Quantity: 3

Reference of the objects under test:

- 1K3606 (Serial number: Not provided)
- 2K3606 (Serial number: Not provided)
- 3K3606 (Serial number: Not provided)



Figure 1 Sample overview

Ref.: IC.E.RE.1905.009
Version: v1.0
Date: 17/06/2019

Santo Domingo R.D.

Information for test setup	
Physical size of product	ID-1: YES
Location of antenna within e-MRTD	Not provided
PICC class	PICC Class 1
e-MRTD shielded or not and how (<i>blindage</i>)	NO
Resonance frequency range (if optional test is performed)	Not provided
Power	☒ 0 dBm ☐ 10 dBm
Signal Interface • Type A or B	Type A
Bit rates supported	
• From eMRTD to eMRTD reader	
o 106 kbit/s	YES
o 212 kbit/s	YES
o 424 kbit/s	YES
o 848 kbit/s	YES
o 1.7 Mbit/s	YES
o 3.4 Mbit/s	YES
o 6.8 Mbit/s	NO
• From eMRTD reader to eMRTD	
o 106 kbit/s	YES
o 212 kbit/s	YES
o 424 kbit/s	YES
o 848 kbit/s	YES
o 1.7 Mbit/s	NO
o 3.4 Mbit/s	NO
o 6.8 Mbit/s	NO
Access control applied ¹	
• BAC	NO
• EAC	YES
• PACE	YES
Active Authentication	YES
Extended APDU required for AA	YES
Cryptographic options:	
• Dynamic binding	YES
• Static binding	NO

¹ TEST COMMAND SEQUENCE 1 used for Operating Field Strength test.



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 8 OF 39

TEST RESULTS

3.1 EMRTD TRANSMISSION (LOAD MODULATION AMPLITUDE)

Method:

The test method used conforms to document [R1] chapter 5.3.1.

The results for bit rates higher than 848 kbit/s are performed according to document [R3] chapter 7.2.1.1.

This test is covered by ISO/IEC 17025 Cofrac accreditation.

Test conditions:

The test is performed under the conditions defined in §1.3.

At +50°C temperature, *Transmissions* at H= 6.5 A/m and 7.5A/m are not applicable. They are replaced by one test performed at 6 A/m.

3.1.1 Temperature -10°C

Results:

Load Modulation Amplitude at 106 kbit/s:

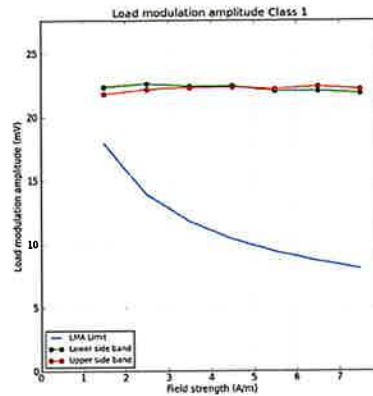
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @106 kbit/s	1.5	18.0	21.8	22.4	PASS
		2.5	13.9	22.2	22.6	PASS
		3.5	11.8	22.3	22.4	PASS
		4.5	10.4	22.4	22.4	PASS
		5.5	9.4	22.2	22.1	PASS
		6.5	8.6	22.4	22.1	PASS
		7.5	8.0	22.2	21.9	PASS
2K3606	eMRTD Transmission for Sample 2 @106 kbit/s	1.5	18.0	22.2	22.7	PASS
		2.5	13.9	22.6	22.8	PASS
		3.5	11.8	22.8	22.6	PASS
		4.5	10.4	22.8	22.7	PASS
		5.5	9.4	22.8	22.6	PASS
		6.5	8.6	22.8	22.3	PASS
		7.5	8.0	22.8	22.3	PASS
3K3606	eMRTD Transmission for Sample 3 @106 kbit/s	1.5	18.0	21.9	22.7	PASS
		2.5	13.9	22.3	22.8	PASS
		3.5	11.8	22.4	22.8	PASS
		4.5	10.4	22.6	22.8	PASS
		5.5	9.4	22.6	22.5	PASS
		6.5	8.6	22.5	22.4	PASS
		7.5	8.0	21.7	21.4	PASS

TEST REPORT

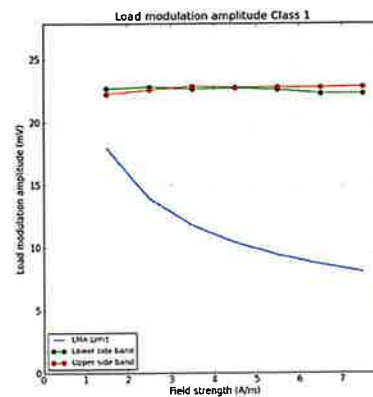
Ref.: IC.E.RE.1905.009

Version: v1.0

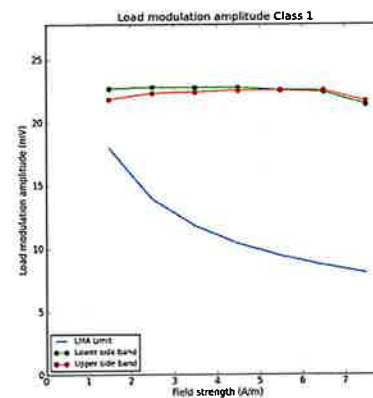
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @106 kbit/s



Curve Load Modulation Amplitude of the sample 2 @106 kbit/s



Curve Load Modulation Amplitude of the sample 3 @106 kbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 10 OF 39

Load Modulation Amplitude at 1.7 Mbit/s:

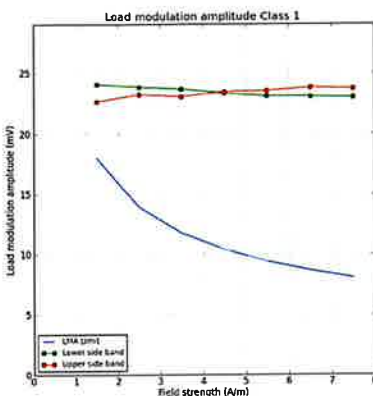
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @1.7 Mbit/s	1.5	18.0	22.7	24.1	PASS
		2.5	13.9	23.3	23.9	PASS
		3.5	11.8	23.1	23.7	PASS
		4.5	10.4	23.5	23.3	PASS
		5.5	9.4	23.5	23.1	PASS
		6.5	8.6	23.8	23.1	PASS
		7.5	8.0	23.7	23.0	PASS
2K3606	eMRTD Transmission for Sample 2 @1.7 Mbit/s	1.5	18.0	22.4	23.4	PASS
		2.5	13.9	22.7	23.1	PASS
		3.5	11.8	22.9	22.9	PASS
		4.5	10.4	23.0	22.8	PASS
		5.5	9.4	23.2	22.6	PASS
		6.5	8.6	23.4	22.4	PASS
		7.5	8.0	23.4	22.3	PASS
3K3606	eMRTD Transmission for Sample 3 @1.7 Mbit/s	1.5	18.0	22.0	23.5	PASS
		2.5	13.9	22.4	23.2	PASS
		3.5	11.8	22.5	23.1	PASS
		4.5	10.4	22.7	22.9	PASS
		5.5	9.4	23.1	22.7	PASS
		6.5	8.6	23.0	22.4	PASS
		7.5	8.0	23.1	22.4	PASS

TEST REPORT

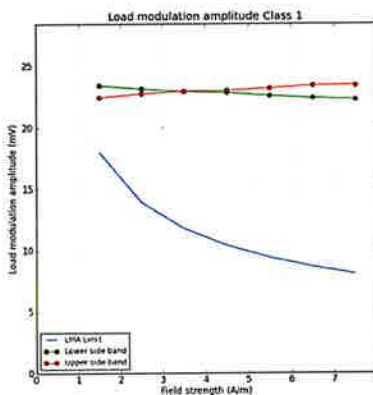
Ref.: IC.E.RE.1905.009

Version: v1.0

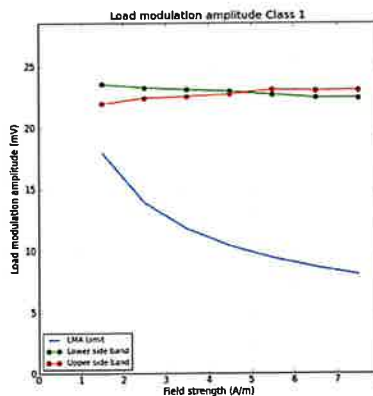
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @1.7 Mbit/s



Curve Load Modulation Amplitude of the sample 2 @1.7 Mbit/s



Curve Load Modulation Amplitude of the sample 3 @1.7 Mbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 12 OF 39

Load Modulation Amplitude at 3.4 Mbit/s:

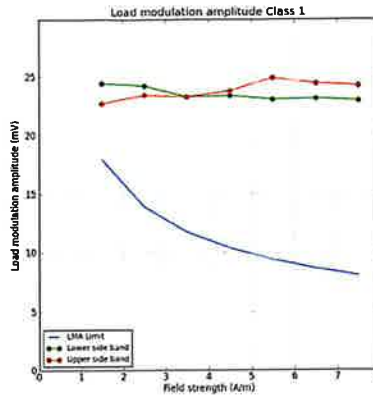
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @3.4 Mbit/s	1.5	18.0	22.7	24.4	PASS
		2.5	13.9	23.4	24.2	PASS
		3.5	11.8	23.3	23.3	PASS
		4.5	10.4	23.8	23.4	PASS
		5.5	9.4	24.8	23.0	PASS
		6.5	8.6	24.4	23.1	PASS
		7.5	8.0	24.2	23.0	PASS
2K3606	eMRTD Transmission for Sample 2 @3.4 Mbit/s	1.5	18.0	22.6	23.7	PASS
		2.5	13.9	23.1	23.4	PASS
		3.5	11.8	23.1	22.7	PASS
		4.5	10.4	23.2	22.4	PASS
		5.5	9.4	24.3	22.4	PASS
		6.5	8.6	24.1	22.1	PASS
		7.5	8.0	23.8	22.2	PASS
3K3606	eMRTD Transmission for Sample 3 @3.4 Mbit/s	1.5	18.0	22.0	24.2	PASS
		2.5	13.9	22.5	23.9	PASS
		3.5	11.8	22.5	23.1	PASS
		4.5	10.4	23.2	22.9	PASS
		5.5	9.4	23.5	22.8	PASS
		6.5	8.6	23.3	22.7	PASS
		7.5	8.0	23.3	22.4	PASS

TEST REPORT

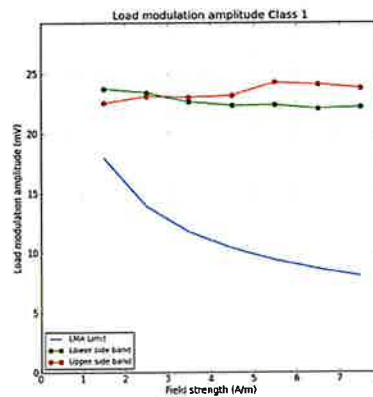
Ref.: IC.E.RE.1905.009

Version: v1.0

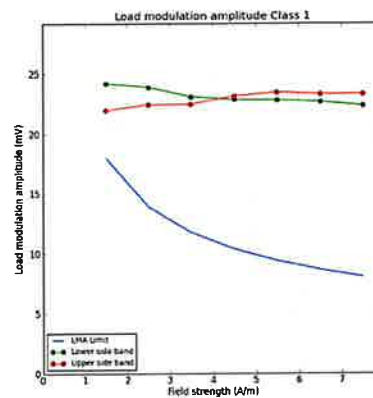
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @3.4 Mbit/s



Curve Load Modulation Amplitude of the sample 2 @3.4 Mbit/s



Curve Load Modulation Amplitude of the sample 3 @3.4 Mbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 14 OF 39

3.1.2 Temperature +23°C

Results:

Load Modulation Amplitude at 106 kbit/s:

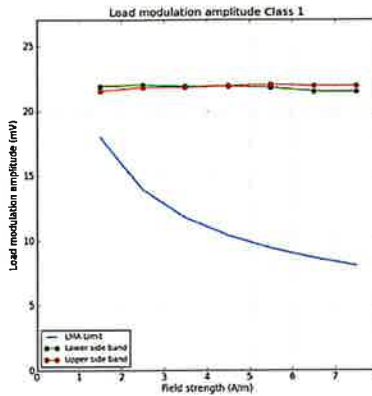
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @106 kbit/s	1.5	18.0	21.5	21.9	PASS
		2.5	13.9	21.8	22.0	PASS
		3.5	11.8	21.8	21.8	PASS
		4.5	10.4	21.9	21.9	PASS
		5.5	9.4	22.0	21.8	PASS
		6.5	8.6	21.9	21.5	PASS
		7.5	8.0	21.9	21.4	PASS
2K3606	eMRTD Transmission for Sample 2 @106 kbit/s	1.5	18.0	21.6	21.9	PASS
		2.5	13.9	21.9	21.9	PASS
		3.5	11.8	21.9	21.8	PASS
		4.5	10.4	22.0	21.9	PASS
		5.5	9.4	21.9	21.7	PASS
		6.5	8.6	21.9	21.4	PASS
		7.5	8.0	22.0	21.4	PASS
3K3606	eMRTD Transmission for Sample 3 @106 kbit/s	1.5	18.0	21.3	21.9	PASS
		2.5	13.9	21.7	22.0	PASS
		3.5	11.8	21.8	21.8	PASS
		4.5	10.4	21.8	21.9	PASS
		5.5	9.4	21.8	21.7	PASS
		6.5	8.6	21.7	21.5	PASS
		7.5	8.0	21.9	21.5	PASS

TEST REPORT

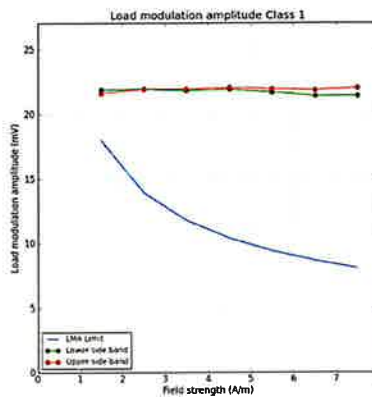
Ref.: IC.E.RE.1905.009

Version: v1.0

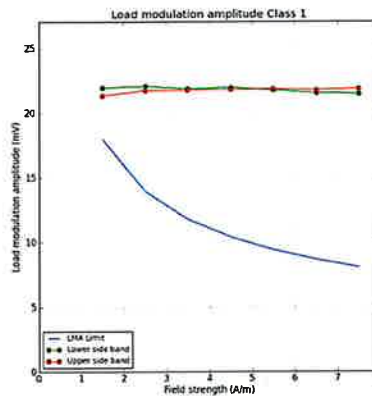
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @106 kbit/s



Curve Load Modulation Amplitude of the sample 2 @106 kbit/s



Curve Load Modulation Amplitude of the sample 3 @106 kbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 16 OF 39

Load Modulation Amplitude at 1.7 Mbit/s:

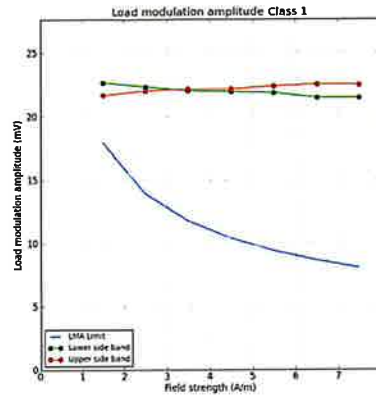
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @1.7 Mbit/s	1.5	18.0	21.7	22.7	PASS
		2.5	13.9	22.1	22.4	PASS
		3.5	11.8	22.2	22.0	PASS
		4.5	10.4	22.2	22.0	PASS
		5.5	9.4	22.4	21.9	PASS
		6.5	8.6	22.5	21.5	PASS
		7.5	8.0	22.5	21.5	PASS
2K3606	eMRTD Transmission for Sample 2 @1.7 Mbit/s	1.5	18.0	21.9	22.6	PASS
		2.5	13.9	22.2	22.4	PASS
		3.5	11.8	22.3	22.0	PASS
		4.5	10.4	22.3	21.9	PASS
		5.5	9.4	22.5	21.7	PASS
		6.5	8.6	22.5	21.5	PASS
		7.5	8.0	22.6	21.4	PASS
3K3606	eMRTD Transmission for Sample 3 @1.7 Mbit/s	1.5	18.0	21.6	22.9	PASS
		2.5	13.9	22.1	22.5	PASS
		3.5	11.8	22.0	22.3	PASS
		4.5	10.4	22.2	22.1	PASS
		5.5	9.4	22.5	21.9	PASS
		6.5	8.6	22.5	21.7	PASS
		7.5	8.0	22.4	21.6	PASS

TEST REPORT

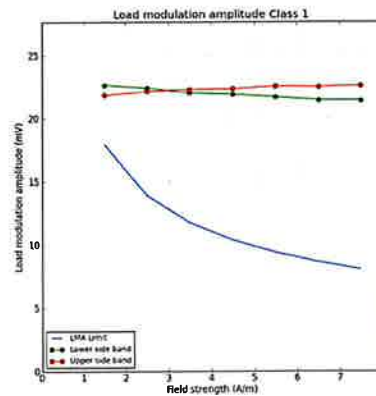
Ref.: IC.E.RE.1905.009

Version: v1.0

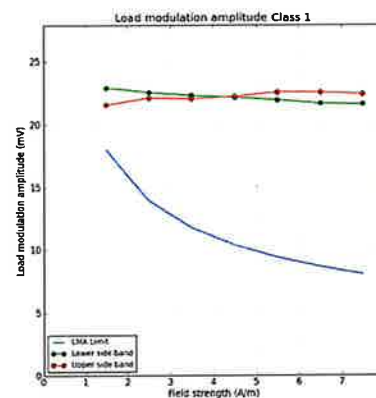
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @1.7 Mbit/s



Curve Load Modulation Amplitude of the sample 2 @1.7 Mbit/s



Curve Load Modulation Amplitude of the sample 3 @1.7 Mbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 18 OF 39

Load Modulation Amplitude at 3.4 Mbit/s:

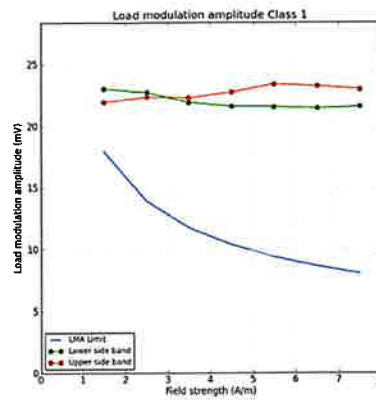
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @3.4 Mbit/s	1.5	18.0	21.9	23.0	PASS
		2.5	13.9	22.4	22.7	PASS
		3.5	11.8	22.3	21.9	PASS
		4.5	10.4	22.7	21.6	PASS
		5.5	9.4	23.4	21.6	PASS
		6.5	8.6	23.2	21.4	PASS
		7.5	8.0	23.0	21.6	PASS
2K3606	eMRTD Transmission for Sample 2 @3.4 Mbit/s	1.5	18.0	21.9	22.7	PASS
		2.5	13.9	22.5	22.5	PASS
		3.5	11.8	22.6	21.6	PASS
		4.5	10.4	22.6	21.3	PASS
		5.5	9.4	23.6	21.5	PASS
		6.5	8.6	23.5	21.1	PASS
		7.5	8.0	23.2	21.2	PASS
3K3606	eMRTD Transmission for Sample 3 @3.4 Mbit/s	1.5	18.0	21.6	23.3	PASS
		2.5	13.9	22.3	22.9	PASS
		3.5	11.8	22.3	22.2	PASS
		4.5	10.4	22.7	21.9	PASS
		5.5	9.4	23.3	21.9	PASS
		6.5	8.6	23.0	21.6	PASS
		7.5	8.0	23.0	21.6	PASS

TEST REPORT

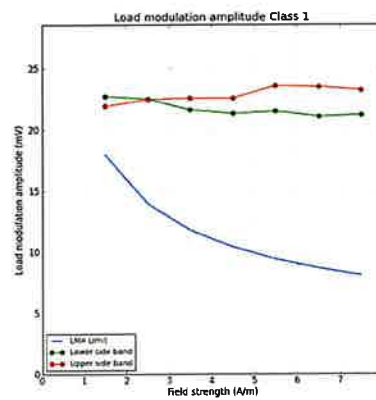
Ref.: IC.E.RE.1905.009

Version: v1.0

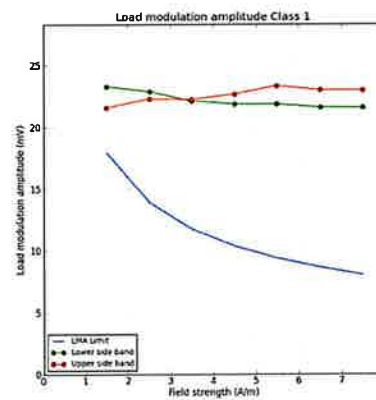
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @3.4 Mbit/s



Curve Load Modulation Amplitude of the sample 2 @3.4 Mbit/s



Curve Load Modulation Amplitude of the sample 3 @3.4 Mbit/s

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

3.1.3 Temperature +50°C**Results:****Load Modulation Amplitude at 106 kbit/s:**

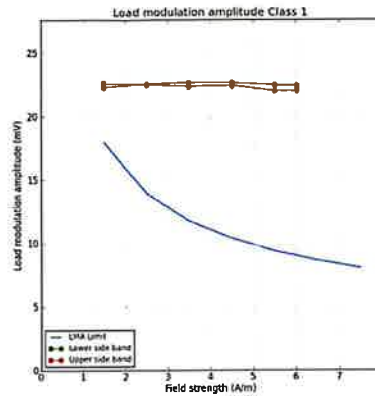
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @106 kbit/s	1.5	18.0	22.3	22.5	PASS
		2.5	13.9	22.5	22.4	PASS
		3.5	11.8	22.6	22.3	PASS
		4.5	10.4	22.6	22.4	PASS
		5.5	9.4	22.4	22.0	PASS
		6.0	9.0	22.4	22.0	PASS
2K3606	eMRTD Transmission for Sample 2 @106 kbit/s	1.5	18.0	22.3	22.4	PASS
		2.5	13.9	22.7	22.4	PASS
		3.5	11.8	22.6	22.4	PASS
		4.5	10.4	22.7	22.4	PASS
		5.5	9.4	22.6	22.2	PASS
		6.0	9.0	22.5	22.0	PASS
3K3606	eMRTD Transmission for Sample 3 @106 kbit/s	1.5	18.0	21.3	21.7	PASS
		2.5	13.9	21.6	21.8	PASS
		3.5	11.8	21.7	21.7	PASS
		4.5	10.4	21.7	21.7	PASS
		5.5	9.4	21.7	21.5	PASS
		6.0	9.0	21.6	21.3	PASS

TEST REPORT

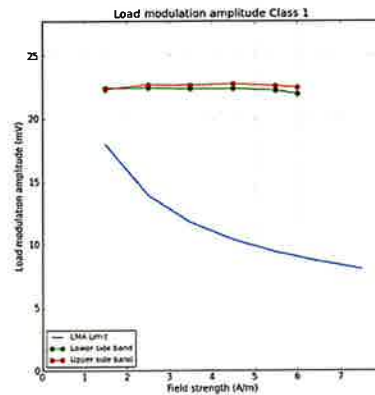
Ref.: IC.E.RE.1905.009

Version: v1.0

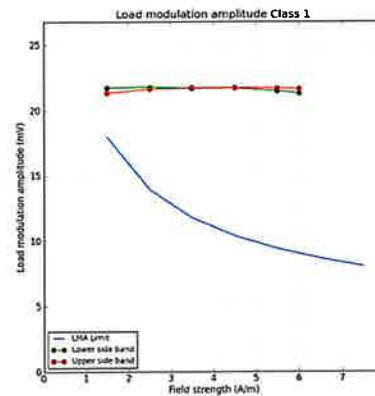
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @106 kbit/s



Curve Load Modulation Amplitude of the sample 2 @106 kbit/s



Curve Load Modulation Amplitude of the sample 3 @106 kbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 22 OF 39

Load Modulation Amplitude at 1.7 Mbit/s:

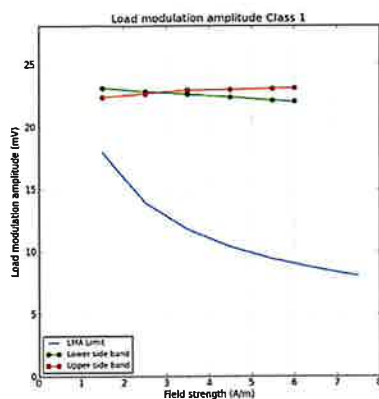
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @1.7 Mbit/s	1.5	18.0	22.4	23.1	PASS
		2.5	13.9	22.7	22.8	PASS
		3.5	11.8	22.9	22.6	PASS
		4.5	10.4	22.9	22.4	PASS
		5.5	9.4	23.0	22.1	PASS
		6.0	9.0	23.1	22.0	PASS
2K3606	eMRTD Transmission for Sample 2 @1.7 Mbit/s	1.5	18.0	22.4	22.8	PASS
		2.5	13.9	22.7	22.6	PASS
		3.5	11.8	23.0	22.3	PASS
		4.5	10.4	22.9	22.3	PASS
		5.5	9.4	23.0	21.9	PASS
		6.0	9.0	22.9	21.7	PASS
3K3606	eMRTD Transmission for Sample 3 @1.7 Mbit/s	1.5	18.0	21.5	22.4	PASS
		2.5	13.9	21.9	22.2	PASS
		3.5	11.8	21.9	21.8	PASS
		4.5	10.4	22.2	21.8	PASS
		5.5	9.4	22.2	21.6	PASS
		6.0	9.0	22.1	21.4	PASS

TEST REPORT

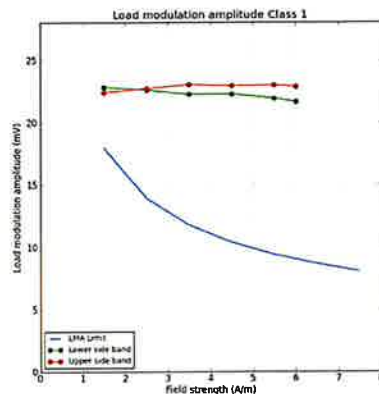
Ref.: IC.E.RE.1905.009

Version: v1.0

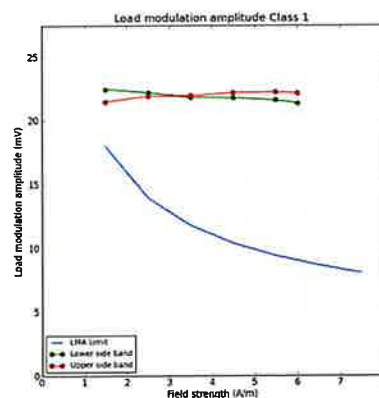
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @1.7 Mbit/s



Curve Load Modulation Amplitude of the sample 2 @1.7 Mbit/s



Curve Load Modulation Amplitude of the sample 3 @1.7 Mbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 24 OF 39

Load Modulation Amplitude at 3.4 Mbit/s:

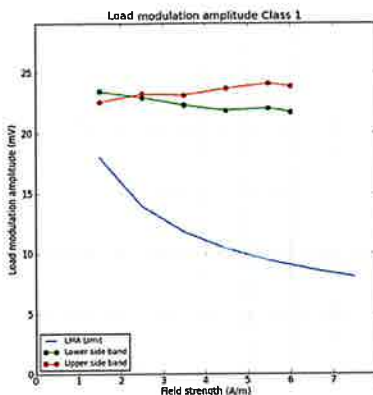
Reference objects under test	Information	H (A/m)	V _{LMA} Limit (mV)	Upper sideband (mV)	Lower sideband (mV)	Result
1K3606	eMRTD Transmission for Sample 1 @3.4 Mbit/s	1.5	18.0	22.6	23.4	PASS
		2.5	13.9	23.2	23.0	PASS
		3.5	11.8	23.1	22.3	PASS
		4.5	10.4	23.6	21.8	PASS
		5.5	9.4	24.1	22.0	PASS
		6.0	9.0	23.8	21.7	PASS
2K3606	eMRTD Transmission for Sample 2 @3.4 Mbit/s	1.5	18.0	22.7	22.9	PASS
		2.5	13.9	23.3	22.6	PASS
		3.5	11.8	23.3	22.0	PASS
		4.5	10.4	23.3	21.5	PASS
		5.5	9.4	24.2	21.5	PASS
		6.0	9.0	23.9	21.4	PASS
3K3606	eMRTD Transmission for Sample 3 @3.4 Mbit/s	1.5	18.0	21.7	22.7	PASS
		2.5	13.9	22.1	22.4	PASS
		3.5	11.8	22.2	21.6	PASS
		4.5	10.4	22.4	21.3	PASS
		5.5	9.4	23.2	21.3	PASS
		6.0	9.0	23.4	20.7	PASS

TEST REPORT

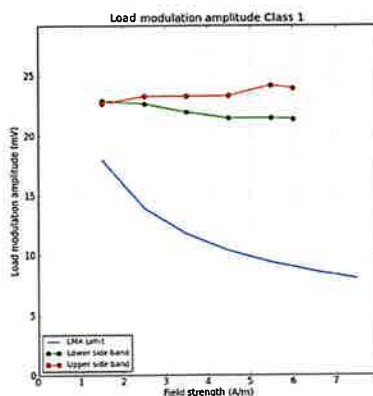
Ref.: IC.E.RE.1905.009

Version: v1.0

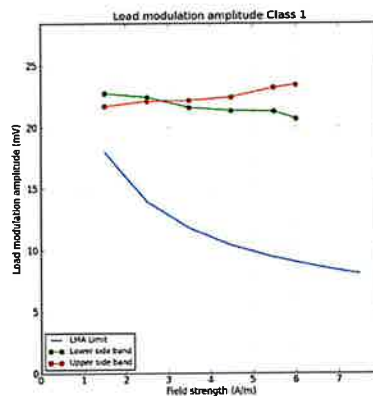
Date: 17/06/2019



Curve Load Modulation Amplitude of the sample 1 @3.4 Mbit/s



Curve Load Modulation Amplitude of the sample 2 @3.4 Mbit/s



Curve Load Modulation Amplitude of the sample 3 @3.4 Mbit/s



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 26 OF 39

3.2 OPERATING FIELD STRENGTH

Method:

The test method used conforms to document [R1] chapter 5.3.2 and 7.2.1.

The following sequence of commands (following TEST_COMMAND_SEQUENCE1) is performed:

Step	Command
1	READ BINARY for EF.CardAccess
2	MSE: Set AT
3	GENERAL AUTHENTICATE for encrypted nonce
4	GENERAL AUTHENTICATE to map the nonce
5	GENERAL AUTHENTICATE to perform Key agreement
6	GENERAL AUTHENTICATE to perform Mutual Authenticate
7	SELECT
8	READ BINARY for EF.DG14
9	MSE: SET AT
10	GENERAL AUTHENTICATE
11	INTERNAL AUTHENTICATE ^a
12	READ BINARY for EF.CVCA
13	MSE: SET DST CVCA
14	PSO: VERIFY CERTIFICATE DV
15	MSE: SET DST DV
16	PSO: VERIFY CERTIFICATE IS
17	MSE: SET AT
18	GET CHALLENGE
19	EXTERNAL AUTHENTICATE
20	READ BINARY for EF.DG3

^a AA is supported by eMRTD. INTERNAL AUTHENTICATE command is sent.

Every supported symmetric bitrate and maximum bitrate in both directions (eMRTD to eMRTD Reader and eMRTD Reader to eMRTD) are tested.

Test conditions:

The tests is performed under the conditions defined in §1.3.

At T=50°C, *Operating Field Strength* at H= 6.5 A/m and 7.5A/m are not applicable. They are replaced by one test performed at 6 A/m.

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

Results:

→ Object under test: 1K3606



Information	H (A/m)	T (°C)	Results							
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s	Max ²
Operation Field Strength for sample 1	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS

² Maximum bit rates in both directions are set as declared in chapter 2.3: at 3.4 Mbit/s for eMRTD to eMRTD Reader and at 848 Kbit/s for eMRTD Reader to eMRTD.



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 28 OF 39

→ Object under test: 2K3606

Information	H (A/m)	T (°C)	Results							
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s	Max ²
Operation Field Strength for sample 2	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS

→ Object under test: 3K3606

Information	H (A/m)	T (°C)	Results							
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s	Max ²
Operation Field Strength for sample 3	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA	PASS
		+23	PASS	PASS	PASS	PASS	NA	NA	NA	PASS

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

**3.3 EMRTD RECEPTION****Method:**

The test method used conforms to document [R1] chapter 5.3.3 and 7.2.2.

Tests conditions:

The test is performed under the conditions defined in §1.3

Results:

→ Object under test: 1K3606

Condition 1:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 1 Condition 1	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	+50	PASS	PASS	PASS	PASS	NA	NA	NA
		-10	PASS	PASS	PASS	PASS	NA	NA	NA



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 30 OF 39

Condition 2:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 1 Condition 2	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA

Condition 3:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 1 Condition 3	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

→ Object under test: 2K3606

Condition 1:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 2 Condition 1	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA



TEST REPORT

Ref.: IC.E.RE.1905.009
Version: v1.0
Date: 17/06/2019

PAGE 32 OF 39

Condition 2:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 2 Condition 2	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA

Condition 3:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 2 Condition 3	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

→ Object under test: 3K3606

Condition 1:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 3 Condition 1	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 34 OF 39

Condition 2:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 3 Condition 2	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		v	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA

Condition 3:

Information	H (A/m)	T (°C)	Results						
			106 kbit/s	212 kbit/s	424 kbit/s	848 kbit/s	1.7 Mbit/s	3.4 Mbit/s	6.8 Mbit/s
eMRTD Reception for Sample 3 Condition 3	1.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	2.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	3.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	4.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	5.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
		+50	PASS	PASS	PASS	PASS	NA	NA	NA
	6.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA
	6.0	+50	PASS	PASS	PASS	PASS	NA	NA	NA
	7.5	-10	PASS	PASS	PASS	PASS	NA	NA	NA
		+23	PASS	PASS	PASS	PASS	NA	NA	NA

TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

3.4 EMRTD RESONANCE FREQUENCY**Method:**

This optional test is performed according to document [R1] chapter 5.3.4. A Vector Network Analyzer Agilent E5061A is used.

The measured values are given for information purpose only and no PASS/FAIL result is provided.

This test is not covered by ISO/IEC 17025 Cofrac accreditation.

Test conditions:

The test is performed under the following conditions:

- Temperature: +23°C ±3°C
- Relative humidity: 25% to 75%

Results:

Reference objects under test	Information	Power (dBm)	Resonance frequency	Result
1K3606	Resonance frequency	0	15.5	INF
2K3606	Resonance frequency	0	15.3	INF
3K3606	Resonance frequency	0	15.3	INF



TEST REPORT

Ref.: IC.E.RE.1905.009
Version: v1.0
Date: 17/06/2019

3.5 EMRTD MAXIMUM LOADING EFFECT

Method:

This test is performed according to document [R1] chapter 5.3.5.

The eMRTD loading effect at H_{min} shall not exceed the loading effect of the selected Reference PICC tuned to 13.56 MHz and calibrated to obtain V_{load} at CON3 at H_{min} .
 V_{load} and H_{min} depend to the PICC classes.

Test conditions:

The test is performed under the conditions defined in §1.3

Results:

Reference objects under test	Information	T (°C)	H_{min} (A/m)	Measured H (A/m)	Result
1K3606	Maximum loading effect for sample 1	-10	1.5	1.67	PASS
		+23		1.66	PASS
		+50		1.66	PASS
2K3606	Maximum loading effect for sample 2	-10	1.5	1.67	PASS
		+23		1.67	PASS
		+50		1.66	PASS
3K3606	Maximum loading effect for sample 3	-10	1.5	1.67	PASS
		+23		1.66	PASS
		+50		1.66	PASS

TEST REPORT

Ref.: IC.E.RE.1905.009
Version: v1.0
Date: 17/06/2019

3.6 EMRTD READING PERFORMANCE ANALYSIS

Method:

The applied method is not defined in [R1] and is not covered by ISO/IEC 17025 Cofrac accreditation. The measured values are given for information purpose only and no PASS/FAIL result is provided.

The eMRTD reading performance analysis is performed from the Operating Field Strength tests. The evaluation takes into account 3 samples, at -10°C , $+23^{\circ}\text{C}$ and $+50^{\circ}\text{C}$ temperatures and from $H_{\min}$ to $H_{\max}$.

As requested, following bit rate conditions are considered:

- Bitrate condition 1: eMRTD Reader @848kbit/s / eMRTD @848kbit/s
- Bitrate condition 2: eMRTD Reader @848kbit/s / eMRTD @3.4Mbit/s

The timing **eMRTD processing time** reported in the result's tables is the sum of the delay between the end of each reader commands and the end of the associated eMRTD answer as shown in Figure 2.



Figure 2 Example of eMRTD Processing time measured on REQA

At $T=50^{\circ}\text{C}$, *Operating Field Strength* at $H= 6.5 \text{ A/m}$ and 7.5 A/m are not applicable. They are replaced by one test performed at 6 A/m .

Information:

- Bitrate condition 2 contains an additional processing time due to the S(PARAMETERS) exchange. This additional processing time is measured at 2.3 ms and is included to the eMRTD processing time.
- eMRTD transmission time is the sum of the duration of the eMRTD answers. This timing, included to the eMRTD processing time, has been measured at 28.8 ms for Bitrate condition 1 and at 9.9 ms for Bitrate condition 2.



TEST REPORT

Ref.: IC.E.RE.1905.009

Version: v1.0

Date: 17/06/2019

PAGE 38 OF 39

Results:

→ Object under test: 1K3606

Information	H (A/m)	T (°C)	eMRTD Processing time (ms)				Delta (1) - (2)
			Bitrate condition 1 (1)		Bitrate condition 2 (2)		
			Reader	eMRTD	Reader	eMRTD	
			848 kbit/s	848 kbit/s	848 kbit/s	3.4 Mbit/s	
eMRTD reading time performance for sample 1	1.5	-10	3819.1		4338.4		-519.3
		+23	3355.2		3429.6		-74.4
		+50	4721.8		4547.8		174.0
	4.5	-10	1646.8		1628.3		18.5
		+23	1653.5		1635.6		17.9
		+50	1655.9		1637.1		18.8
	6.0	+50	1625.5		1594.5		31.0
	7.5	-10	1187.2		1169.5		17.7
		+23	1192.7		1175.4		17.3

→ Object under test: 2K3606

Information	H (A/m)	T (°C)	eMRTD Processing time (ms)				Delta (1) - (2)
			Bitrate condition 1 (1)		Bitrate condition 2 (2)		
			Reader	eMRTD	Reader	eMRTD	
			848 kbit/s	848 kbit/s	848 kbit/s	3.4 Mbit/s	
eMRTD reading time performance for sample 2	1.5	-10	4657.6		4637.8		19.8
		+23	4647		4628.5		18.5
		+50	4715.1		4694.2		20.9
	4.5	-10	1639.4		1621.9		17.5
		+23	1647.7		1628.6		19.1
		+50	1649.8		1633.0		16.8
	6.0	+50	1651.8		1633.2		18.6
	7.5	-10	1198.5		1179.9		18.6
		+23	1204.7		1187.5		17.2

→ Object under test: 3K3606

Information	H (A/m)	T (°C)	eMRTD Processing time (ms)				Delta (1) - (2)
			Bitrate condition 1 (1)		Bitrate condition 2 (2)		
			Reader	eMRTD	Reader	eMRTD	
			848 kbit/s	848 kbit/s	848 kbit/s	3.4 Mbit/s	
eMRTD reading time performance for sample 3	1.5	-10	4704.6		4685.3		19.3
		+23	4701.0		4672.0		20.0
		+50	4761.1		4744.8		16.3
	4.5	-10	1645.6		1626.9		18.7
		+23	1653.7		1635.5		18.2
		+50	1655.3		1638.2		17.1
	6.0	+50	1656.1		1639.1		17.0
	7.5	-10	1187.7		1168.6		19.1
		+23	1194.3		1176.1		18.2



TEST REPORT

Ref.: IC.E.RE.1905.009
Version: v1.0
Date: 17/06/2019

PAGE 39 OF 39



4 CONCLUSION

The following table summarizes the results of the tests performed according to reference documents listed in §1.2.

Reference of object under test	Test	Temperature (°C)	Result
1K3606	eMRTD Transmission	-10	PASS
		+23	PASS
		+50	PASS
	Operating Field Strength	-10	PASS
		+23	PASS
		+50	PASS
	eMRTD Reception	-10	PASS
		+23	PASS
		+50	PASS
	eMRTD Resonance frequency (*)	+23	INF
	eMRTD Maximum Loading Effect	-10	PASS
		+23	PASS
		+50	PASS
2K3606	eMRTD Transmission	-10	PASS
		+23	PASS
		+50	PASS
	Operating Field Strength	-10	PASS
		+23	PASS
		+50	PASS
	eMRTD Reception	-10	PASS
		+23	PASS
		+50	PASS
	eMRTD Resonance frequency (*)	+23	INF
	eMRTD Maximum Loading Effect	-10	PASS
		+23	PASS
		+50	PASS
3K3606	eMRTD Transmission	-10	PASS
		+23	PASS
		+50	PASS
	Operating Field Strength	-10	PASS
		+23	PASS
		+50	PASS
	eMRTD Reception	-10	PASS
		+23	PASS
		+50	PASS
	eMRTD Resonance frequency (*)	+23	INF
	eMRTD Maximum Loading Effect	-10	PASS
		+23	PASS
		+50	PASS

(*) This test is not covered by ISO/IEC 17025 Cofrac accreditation.

END OF DOCUMENT

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