

Annex 2: Measurement diagrams
to
TEST REPORT
No.: 6-0147-12-9-3c

According to:
FCC Regulations
CFR47: Part 15 B
Part 15 C
IC Regulations
RSS Gen, Issue 3
RSS-132, Issue 2
RSS-133, Issue 5

for
Cinterion Wireless Modules GmbH

EHS5-US Module

FCC-ID: QIPEHS5-US
IC-ID: 7830A-EHS5US







Laboratory Accreditation and Listings			
 DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-01	 FEDERAL COMMUNICATIONS COMMISSION FC USA Reg. No.: 736496 MRA US-EU 0003	 Industry Canada Reg. No.: 3462D-1 Reg. No.: 3462D-2 Reg. No.: 3462D-3	 Voluntary Controls for Electromagnetic Emissions Reg. No.: R-2665, R-2666 C-2914, T-1967, G-301
 WiFi ALLIANCE AUTHORIZED RF LABORATORY	 CTIA Authorized Test Lab LAB CODE 20011130-00		
accredited according to DIN EN ISO/IEC 17025			
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1. Measurement diagrams

1.1. Conducted emissions on AC-mains (110V/60Hz)

1.1.1. Part 15B: RX-Mode

Diagram No. 1.1_G850

Date: 03.09.2012 Page 1 of 1
 Test Description: Conducted Voltage Measurement Class B
 Testspezifikation: FCC 15.107
 Diagram: Shows the peak values as a sum of measured ports (N+L1) in maxhold
 Operator name: Tas
 Report.- Nr. 6-0147-12-9-3c

Operating mode: Idle - G850 (BCCH 182)
 Measured on line: Mains AC L1 and N
 Power during test: 110 V AC 60 Hz (AC/DC Adapter)
 Comment 1:

EUT Information

EUT Name: EHS5-US
 Manufacturer: Cinterion
 Serial Number: 004401080756915
 Hardware Rev: B2 rev.3
 Software Rev: 00.207
 Comment: Interface R232
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	25.8	1000.0	9.000	GN	N	0.0	40.2	66.0
6.946563	0.1	1000.0	9.000	GN	N	0.1	59.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	0.7	1000.0	9.000	GN	N	0.0	55.3	56.0
6.946563	-3.9	1000.0	9.000	GN	N	0.1	53.9	50.0

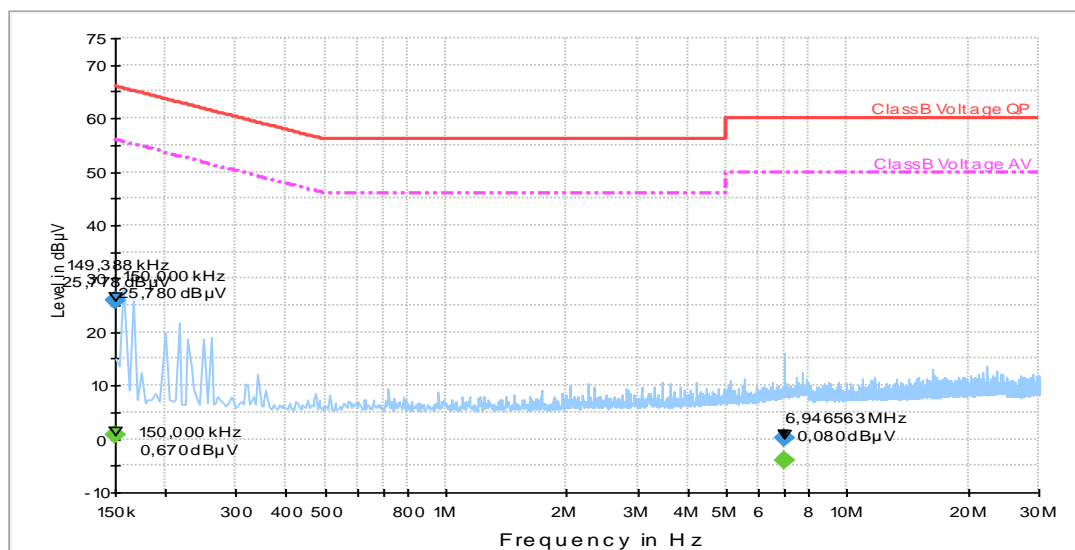


Diagram No. 1.2_PCS1900_RX

Date: 03.09.2012 Page 1 of 1
 Conducted Voltage Measurement Class B
 FCC 15.107
 Shows the peak values as a sum of measured ports (N+L1) in maxhold
 Operator name: Tas
 Report.- Nr. 6-0147-12-9-3c
 Operating mode: TCH - PCS1900 (ARFCN 661)
 Measured on line: Mains AC L1 and N
 Power during test: 110 V AC 60 Hz (AC/DC Adapter)
 Comment 1:

EUT Information

EUT Name: EHS5-US
 Manufacturer: Cinterion
 Serial Number: 004401080756915
 Hardware Rev: B2 rev.3
 Software Rev: 00.207
 Comment: Interface R232
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	26.9	1000.0	9.000	GN	N	0.0	39.1	66.0

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	1.4	1000.0	9.000	GN	N	0.0	54.6	56.0

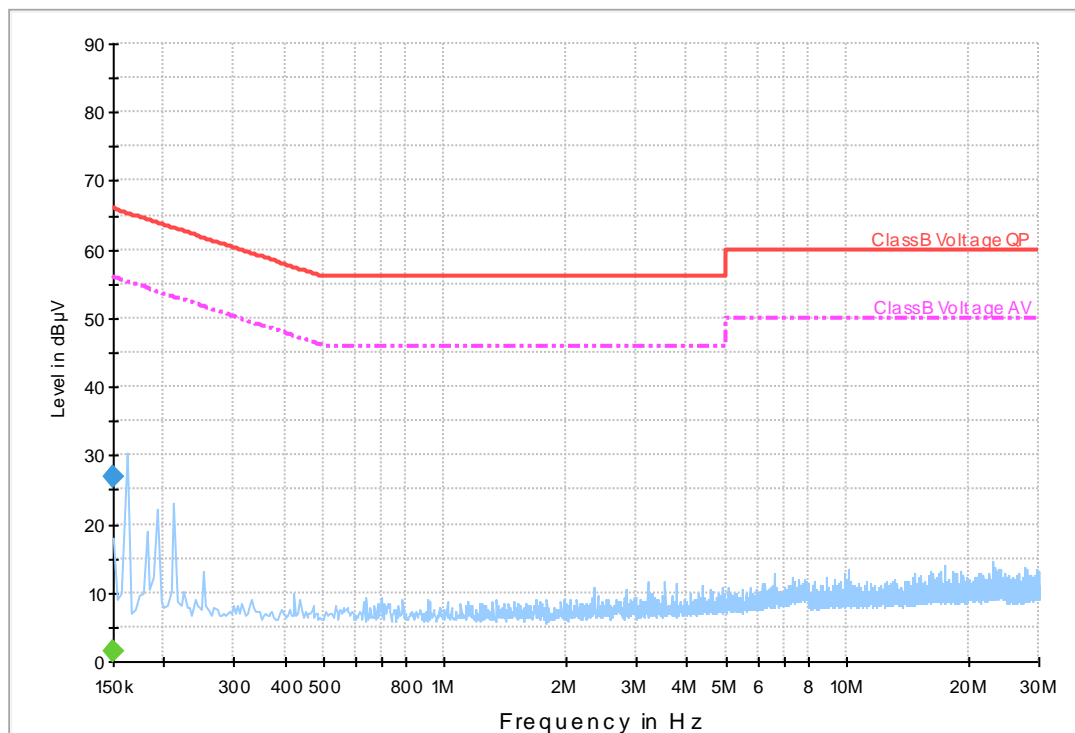


Diagram No. 1.3_FDDV_RX

Test Description:	Date: 03.09.2012	Page 1 of 1
Testspezifikation:	Conducted Voltage Measurement Class B	
Diagram:	FCC 15.107	
Operator name:	Shows the peak values as a sum of measured ports (N+L1) in maxhold	
Report.- Nr.	HLA	
	6-0147-12-9-3c	
Operating mode:	TCH - PCS1900 (ARFCN 661)	
Measured on line:	Mains AC L1 and N	
Power during test:	110 V AC 60 Hz (AC/DC Adapter)	
Comment 1:		

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

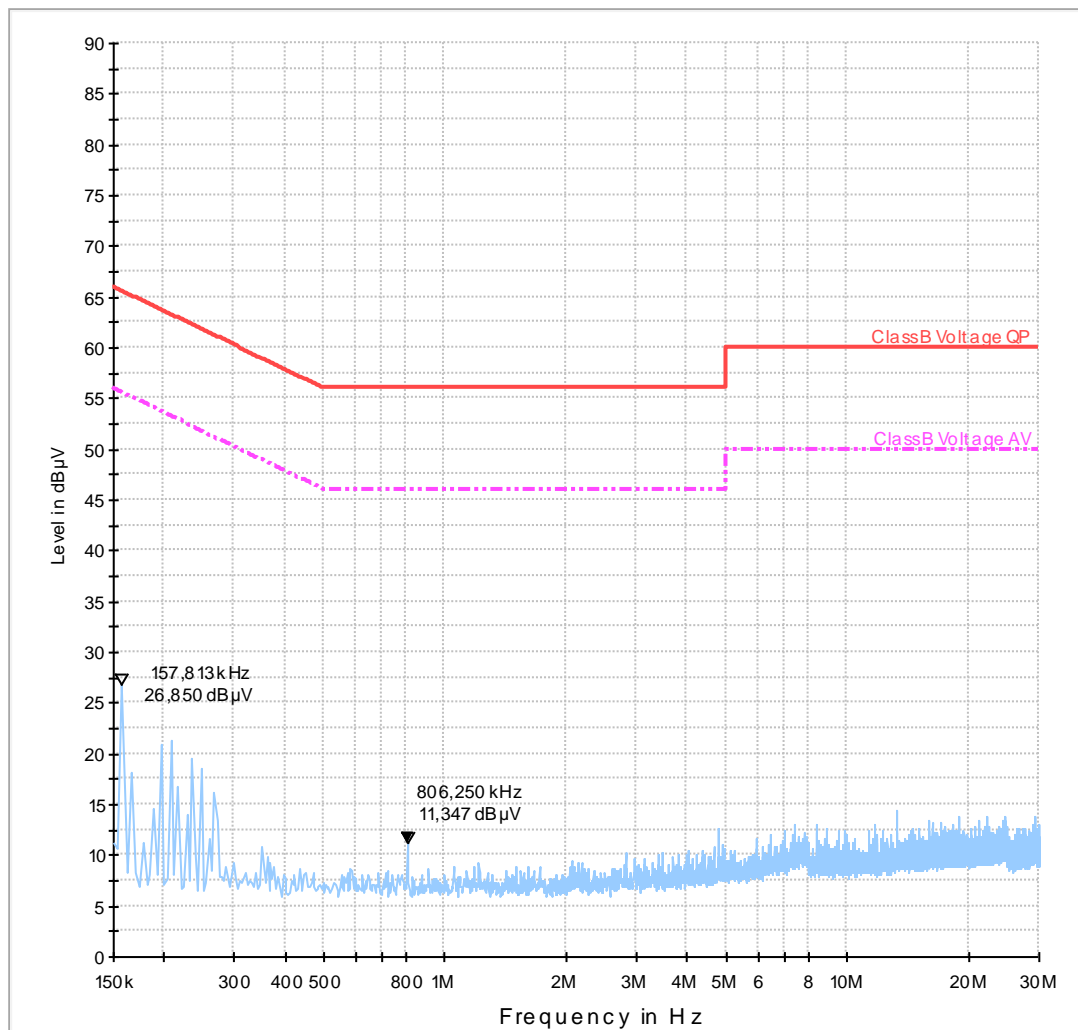
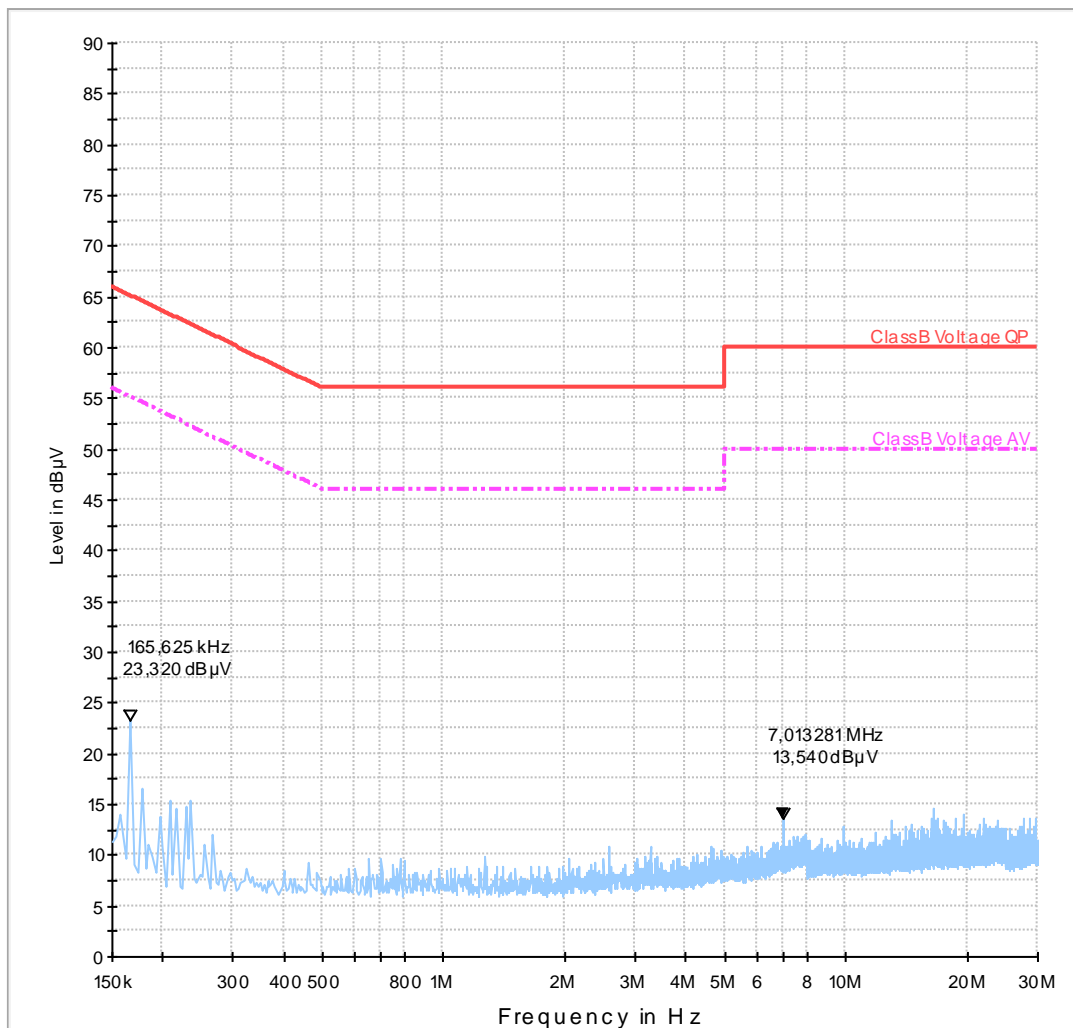


Diagram No. 1.4_FDDII_RX

Test Description:	Date: 03.09.2012	Page 1 of 1
Testspezifikation:	Conducted Voltage Measurement Class B	
Diagram:	FCC 15.107	
Operator name:	Shows the peak values as a sum of measured ports (N+L1) in maxhold	
Report.- Nr.	HLA	
	6-0147-12-9-3c	
Operating mode:	TCH - FDDII (ARFCN 9262)	
Measured on line:	Mains AC L1 and N	
Power during test:	110 V AC 60 Hz (AC/DC Adapter)	
Comment 1:		

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0



1.1.2. Part 15C: TX-Mode

Diagram No. 1.01_TX_G850

Test Description:	Date: 03.09.2012	Page 1 of 1
Testspecification:	Conducted Voltage Measurement Class B	
Diagram:	FCC 15.207	
Operator name:	Shows the peak values as a sum of measured ports (N+L1) in maxhold	
Report.- Nr.	Tas	
	6-0147-12-9-3c	
Operating mode:	TCH - G850 (ARFCN 192)	
Measured on line:	Mains AC L1 and N	
Power during test:	110 V AC 60 Hz	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	28.2	1000.0	9.000	GN	L1	0.0	37.8	66.0
2.684844	5.9	1000.0	9.000	GN	N	0.1	50.1	56.0
24.832188	19.2	1000.0	9.000	GN	N	0.2	40.8	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	2.1	1000.0	9.000	GN	L1	0.0	53.9	56.0
2.684844	-5.5	1000.0	9.000	GN	N	0.1	51.5	46.0
24.832188	19.3	1000.0	9.000	GN	N	0.2	30.7	50.0

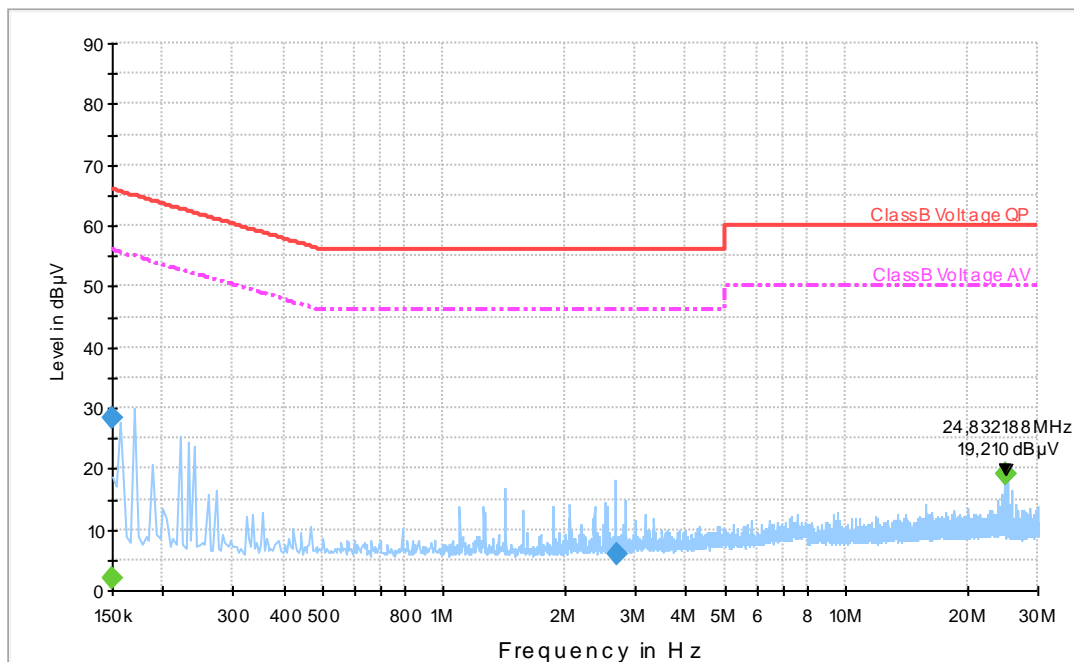


Diagram No. 1.02_TX_PCS1900

Test Description:	Date: 03.09.2012	Page 1 of 1
Testspezifikation:	Conducted Voltage Measurement Class B	
Diagram:	FCC 15.107	
Operator name:	Shows the peak values as a sum of measured ports (N+L1) in maxhold	
Report.- Nr.	Tas	6-0147-12-9-3c
Operating mode:	TCH - PCS1900 (ARFCN 661)	
Measured on line:	Mains AC L1 and N	
Power during test:	110 V AC 60 Hz (AC/DC Adapter)	
Comment 1:		

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

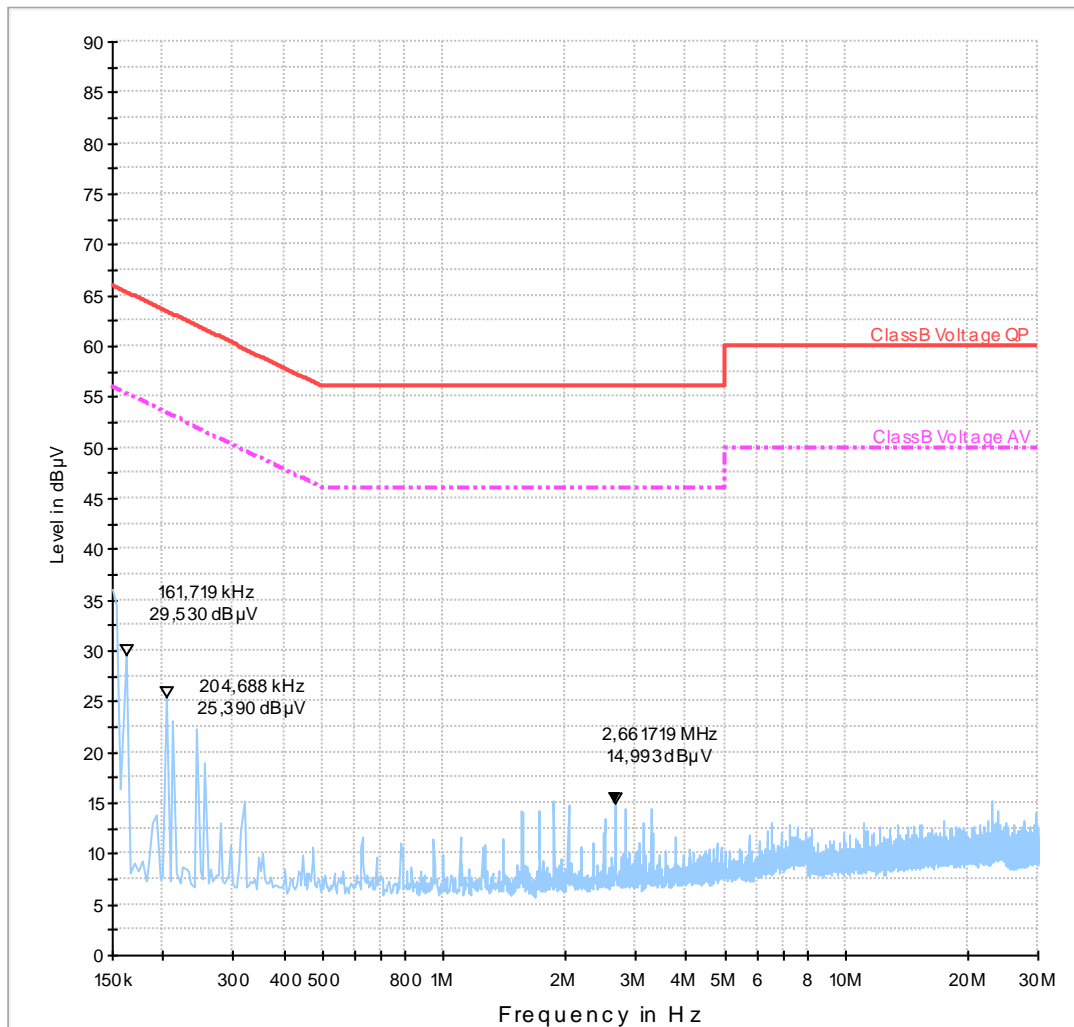


Diagram No. 1.03_TX_FDDV

Date: 03.09.2012 Page 1 of 1
 Conducted Voltage Measurement Class B
 FCC 15.107
 Shows the peak values as a sum of measured ports (N+L1) in maxhold
 HLa
 6-0147-12-9-3c

Test Description:
 Testspezifikation:
 Diagram:
 Operator name:
 Report.- Nr.

Operating mode: TCH - FDDV (ARFCN 4182) RMC
 Measured on line: Mains AC L1 and N
 Power during test: 110 V AC 60 Hz (AC/DC Adapter)
 Comment 1:

EUT Information

EUT Name: EHS5-US
 Manufacturer: Cinterion
 Serial Number: 004401080756915
 Hardware Rev: B2 rev.3
 Software Rev: 00.207
 Comment: Interface R232
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150938	28.1	1000.0	9.000	GN	L1	0.0	37.9	65.9
24.832188	19.0	1000.0	9.000	GN	N	0.2	41.0	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150938	2.8	1000.0	9.000	GN	L1	0.0	53.2	55.9
24.832188	19.1	1000.0	9.000	GN	N	0.2	30.9	50.0

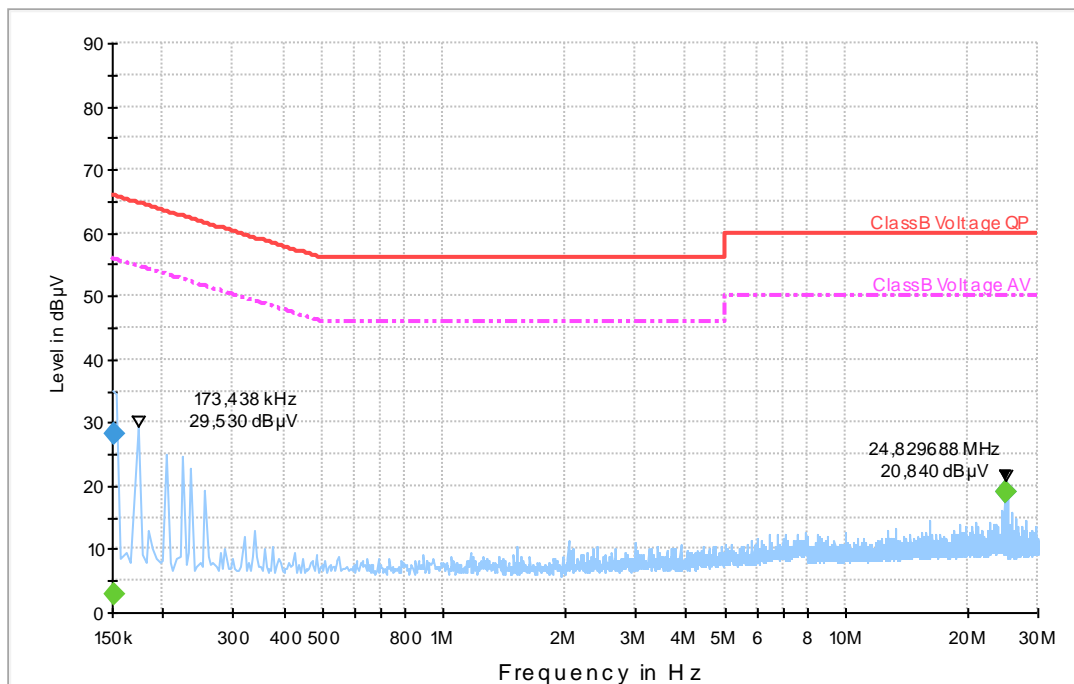


Diagram No. 1.04_TX_FDDII

Date: 03.09.2012 Page 1 of 1
 Conducted Voltage Measurement Class B
 FCC 15.107
 Shows the peak values as a sum of measured ports (N+L1) in maxhold
 Operator name: HLa
 Report.- Nr. 6-0147-12-9-3c

Operating mode: TCH - FDDII (ARFCN 9662) HSPA
 Measured on line: Mains AC L1 and N
 Power during test: 110 V AC 60 Hz (AC/DC Adapter)
 Comment 1:

EUT Information

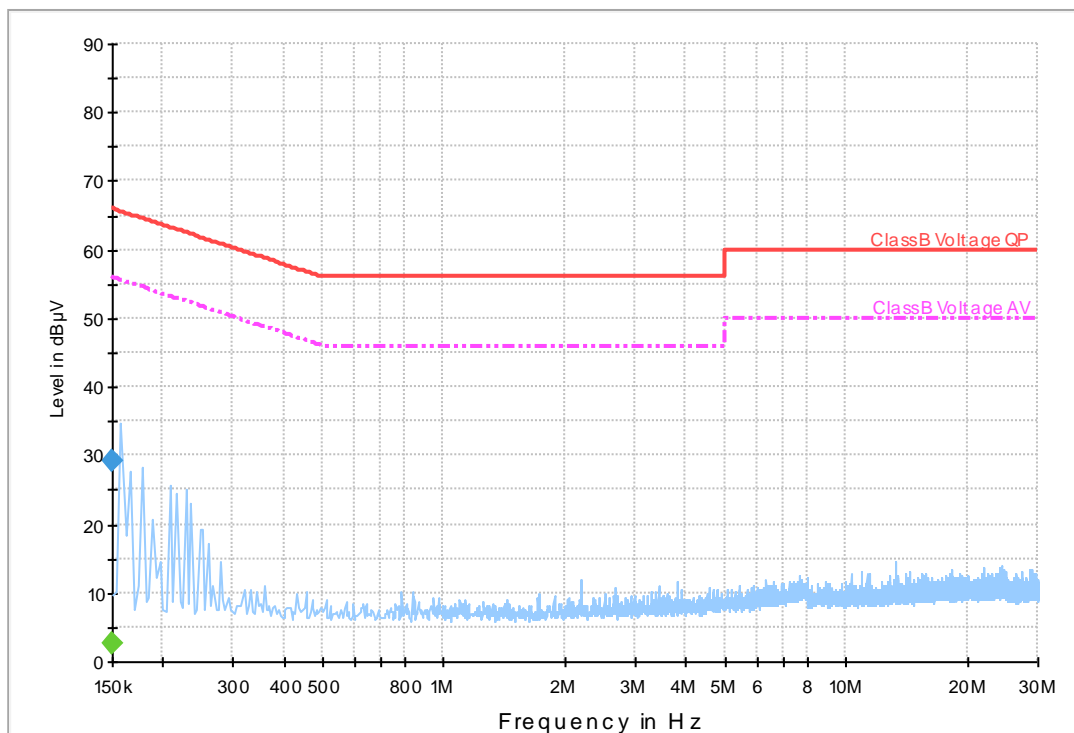
EUT Name: EHS5-US
 Manufacturer: Cinterion
 Serial Number: 004401080756915
 Hardware Rev: B2 rev.3
 Software Rev: 00.207
 Comment: Interface R232
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	29.2	1000.0	9.000	GN	N	0.0	36.8	66.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	2.7	1000.0	9.000	GN	N	0.0	53.3	56.0



1.2. Conducted emissions on RF-antenna port

1.2.1. Part 15B: RX-Mode

Diagram No.: 10.01

Common Information

Test Description:	Receiver Conducted Emissions (IDLE)
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 15.111, RSS-132
Operation mode:	RX - G850, BCCH ARFCN-182
Operator Name:	Tas
Comment:	RX downlink carrier visible and for spurious emission test shall be 6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	00440108075600
Hardware Rev:	B2 rev.3
Software Rev:	00.260
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 cable

Sweep 1

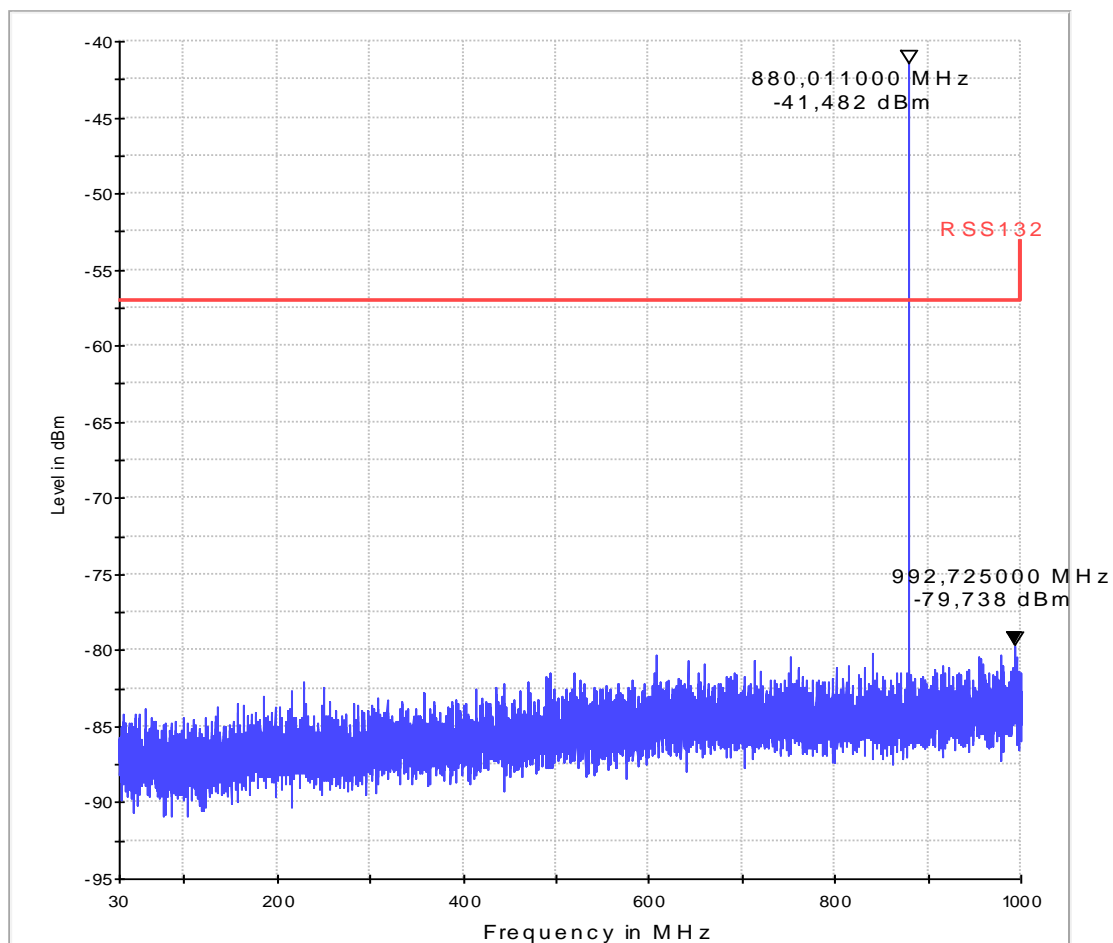


Diagram No.: 10.02

Common Information

Test Description:	Receiver Conducted Emissions (IDLE)
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 15.111, RSS-132
Operation mode:	RX - G850, BCCH ARFCN-182
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	00440108075600
Hardware Rev:	B2 rev.3
Software Rev:	00.260
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 cable

Sweep2

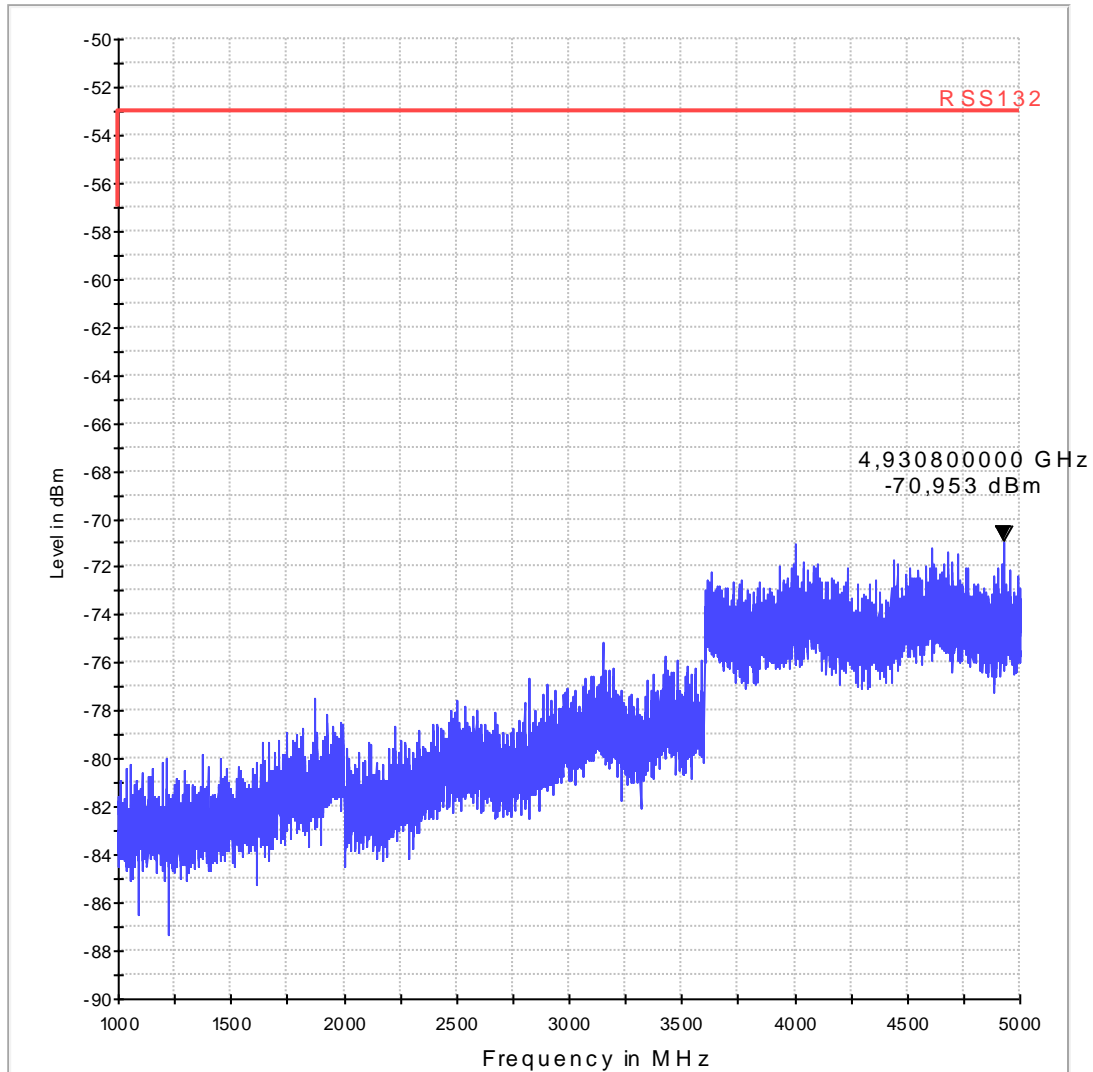


Diagram No.: 10.1

Common Information

Test Description:	RX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 15.111, RSS-132
Operation mode:	RX - PCS1900, BCCH 651 middle
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232

Sweep1

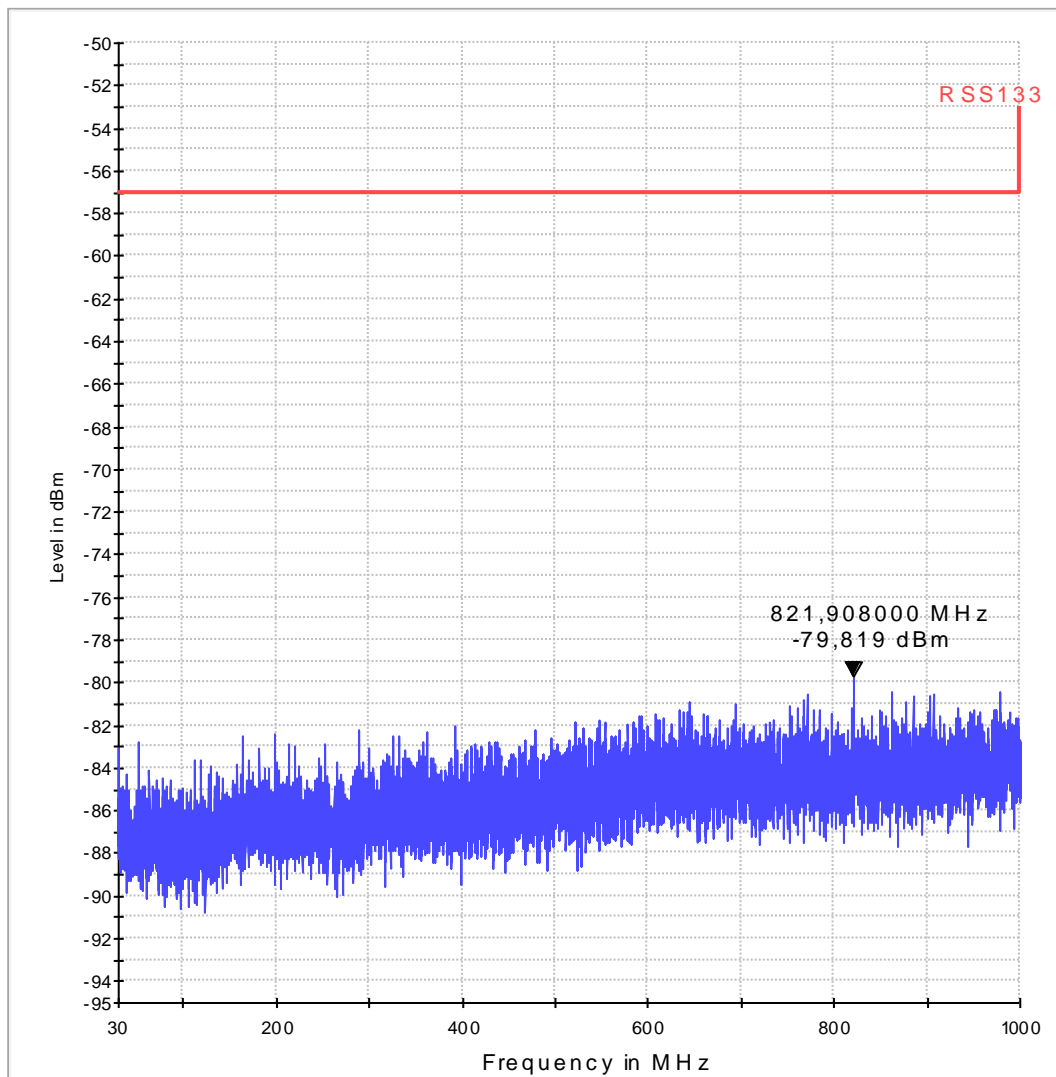


Diagram No.: 10.2

Common Information

Test Description:	RX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 15.111, RSS-132
Operation mode:	RX - PCS1900, BCCH 651 middle (DL visible)
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232

Sweep2

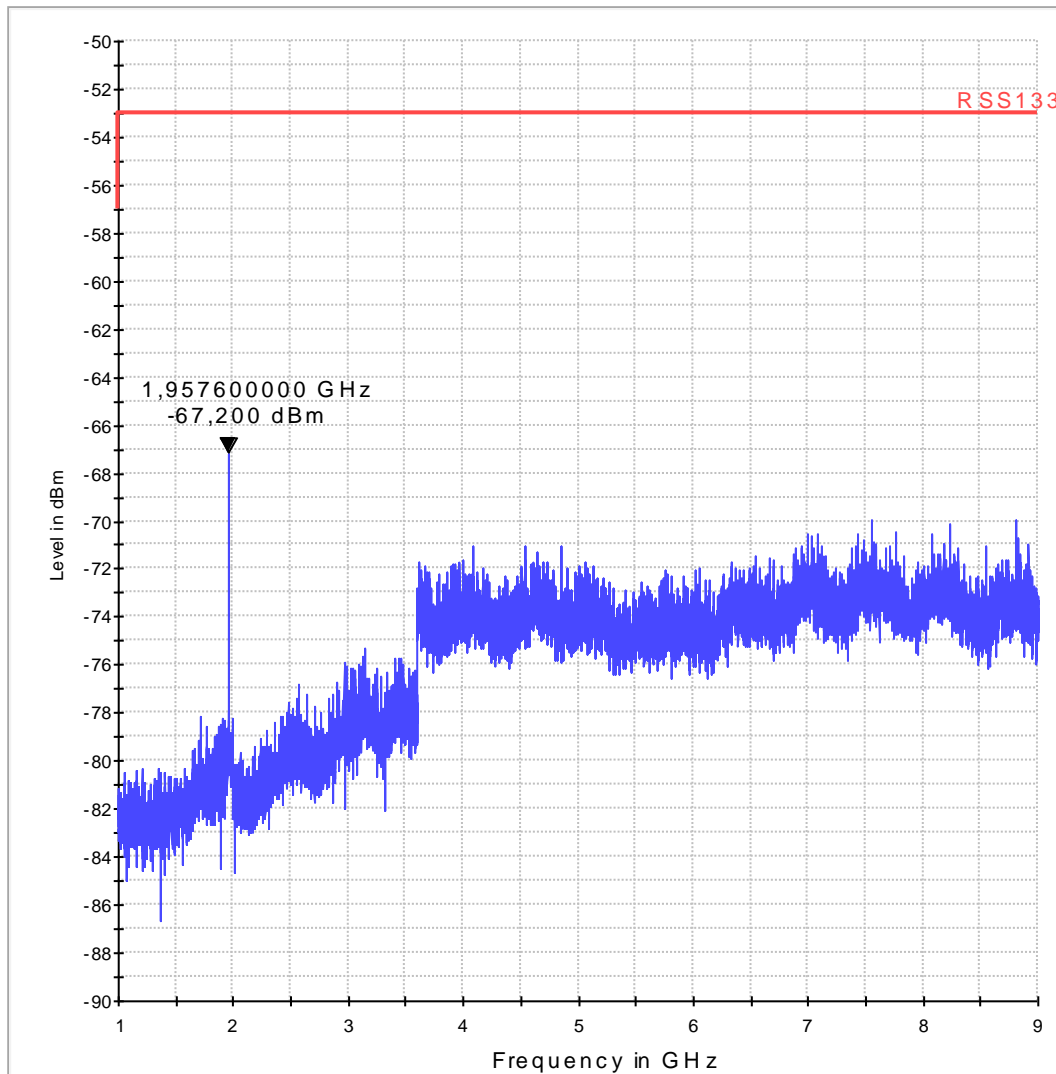


Diagram No.: 10.3

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC Part 15.111, RSS-132
Operation mode:	RX - FDD V, U-ARFCN 4400 (DL channel visible)
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232

Sweep1

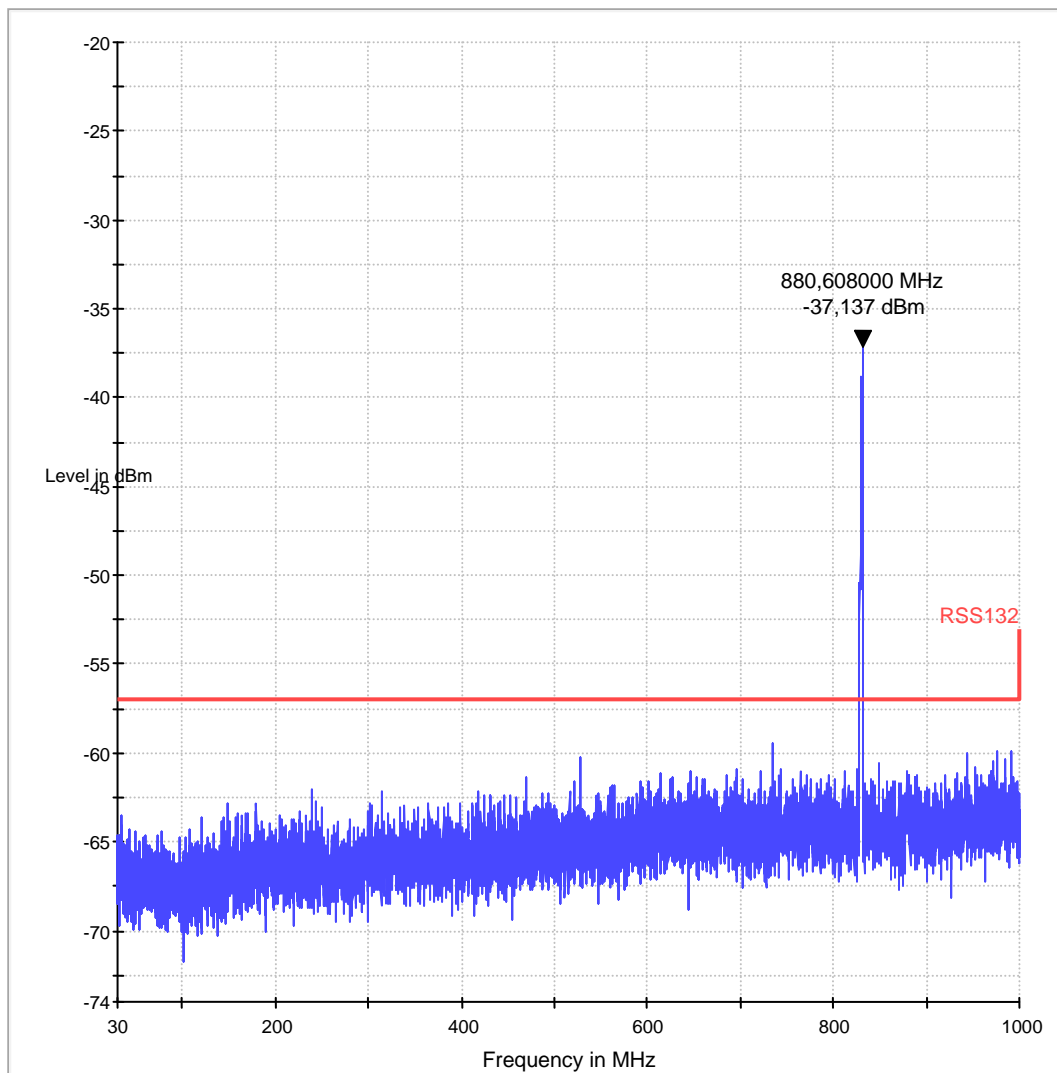


Diagram No.: 10.6

Common Information

Test Description:	RX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 15.111, RSS-132
Operation mode:	RX - FDD V, U-ARFCN 4400
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232

Sweep2

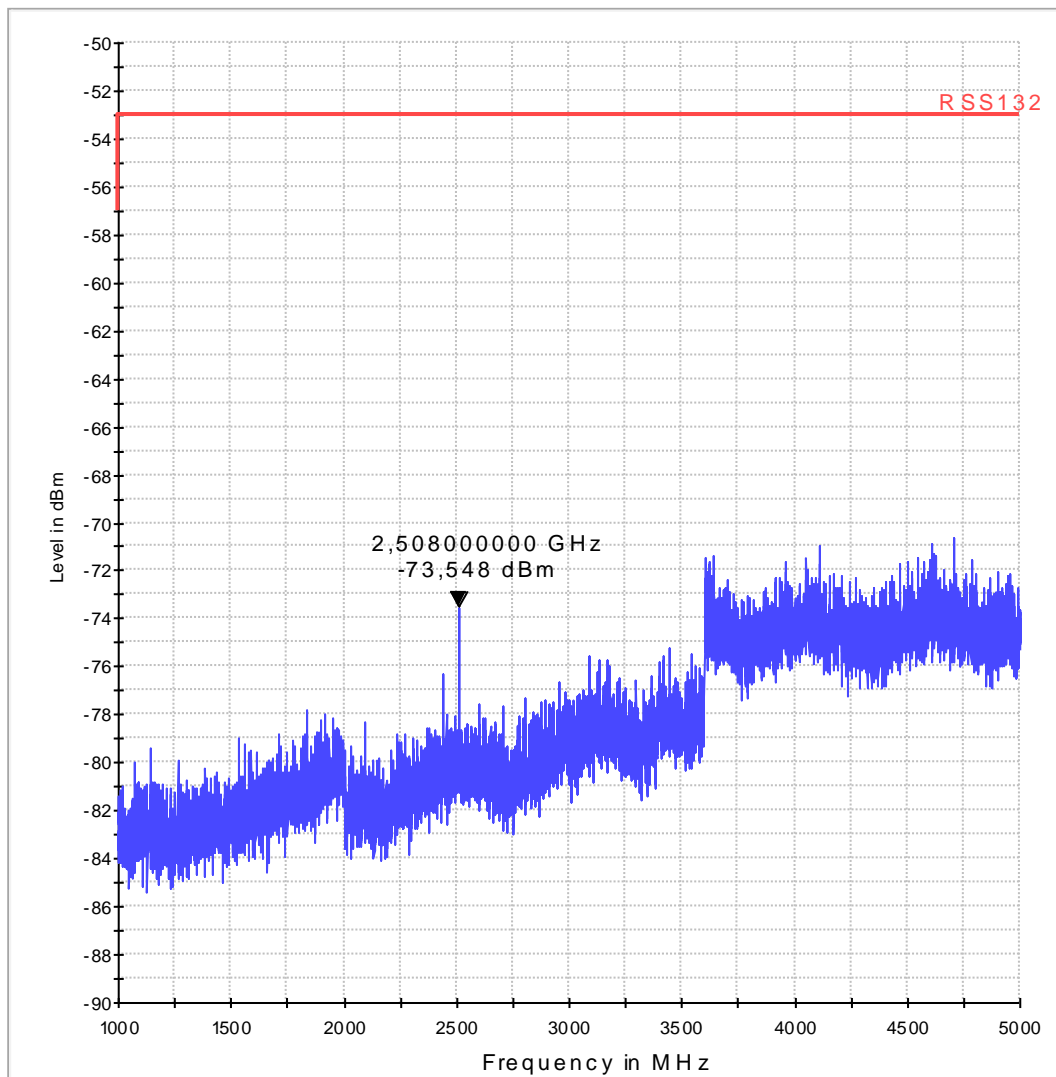


Diagram No.: 12.07

Common Information

Test Description:	RX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	RSS-133
Operation mode:	RX - FDD II, U-ARFCN 9800
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232

Sweep1

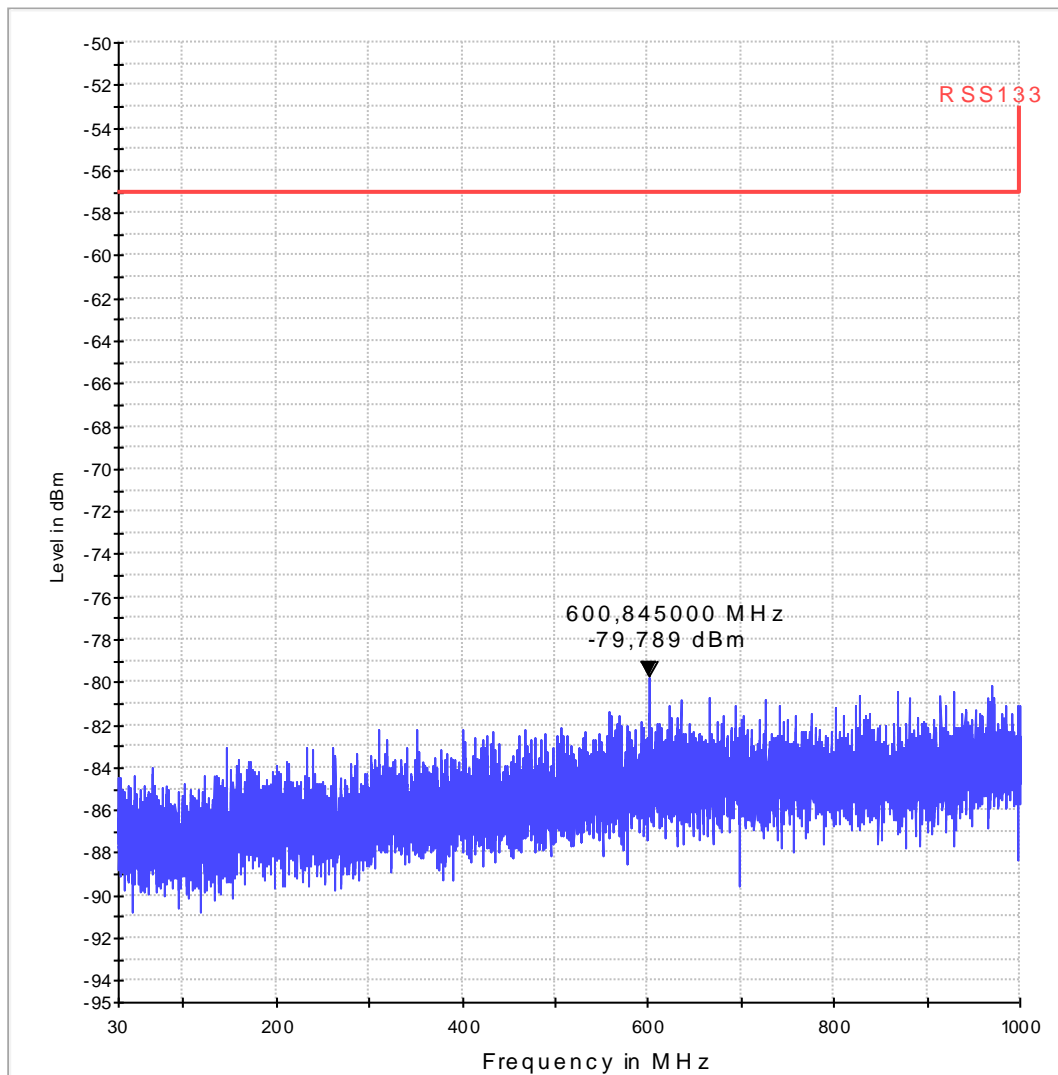


Diagram No.: 12.08

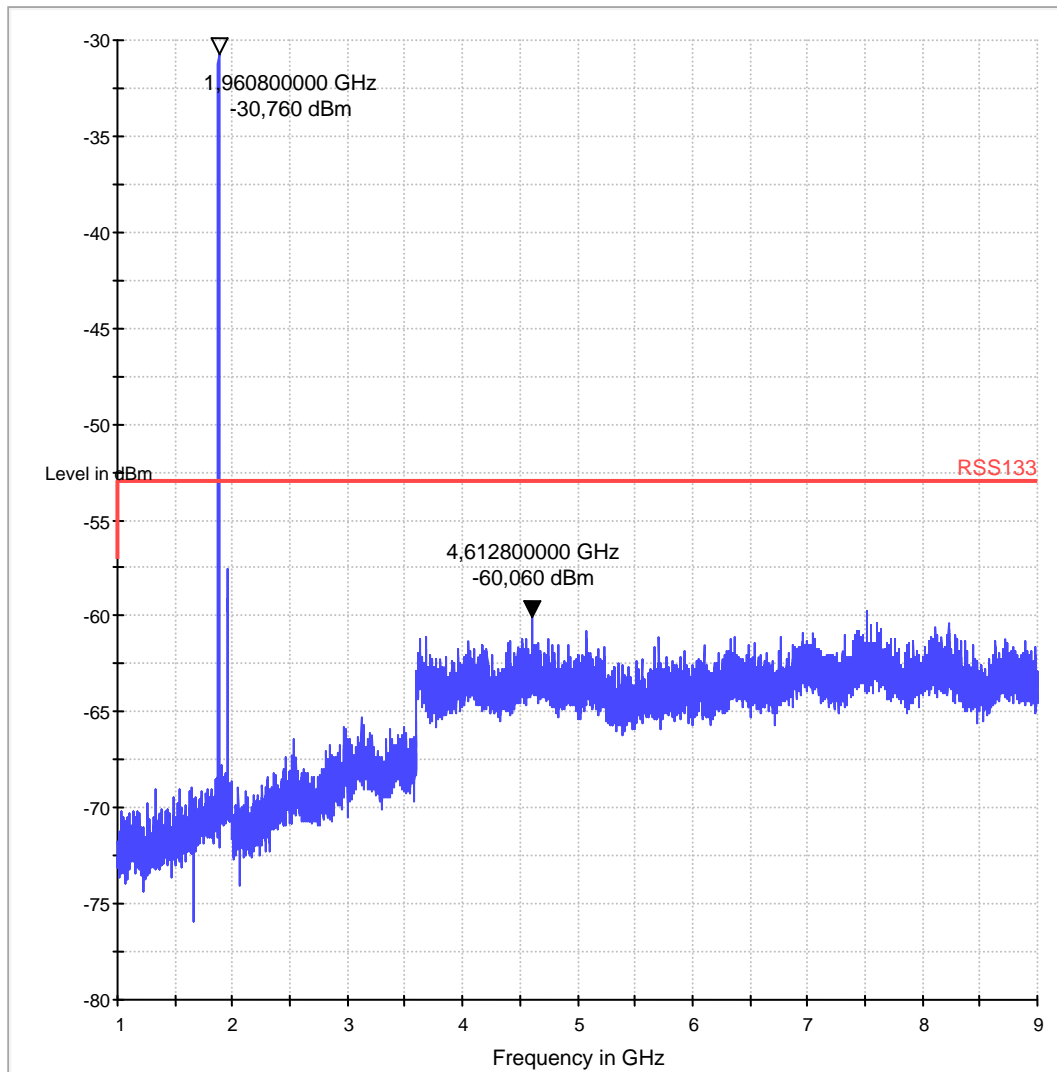
Common Information

Test Description:	RX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	RSS-133
Operation mode:	RX - FDD II, U-ARFCN 9800 (BCCH visible)
Operator Name:	Tas
Comment:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232

Sweep2



1.3. Radiated magnetic field strength measurements (f<30MHz)

1.3.1. Part 15C: TX-Mode

Diagram No. 2.01

Test description:	Date: 31.08.2012 Page 1 of 1
Test site and distance:	Magnetic Fieldstrength Measurement related to 300/30 m distance
Distance correction:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used
Rec. antenna (pre-scan):	height 1.00 m. parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	OOu
Operating conditions:	EDGE 850 MHz .Ch.Low 128 TX-mode
Comment 1:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC15.209_magn hor+vert

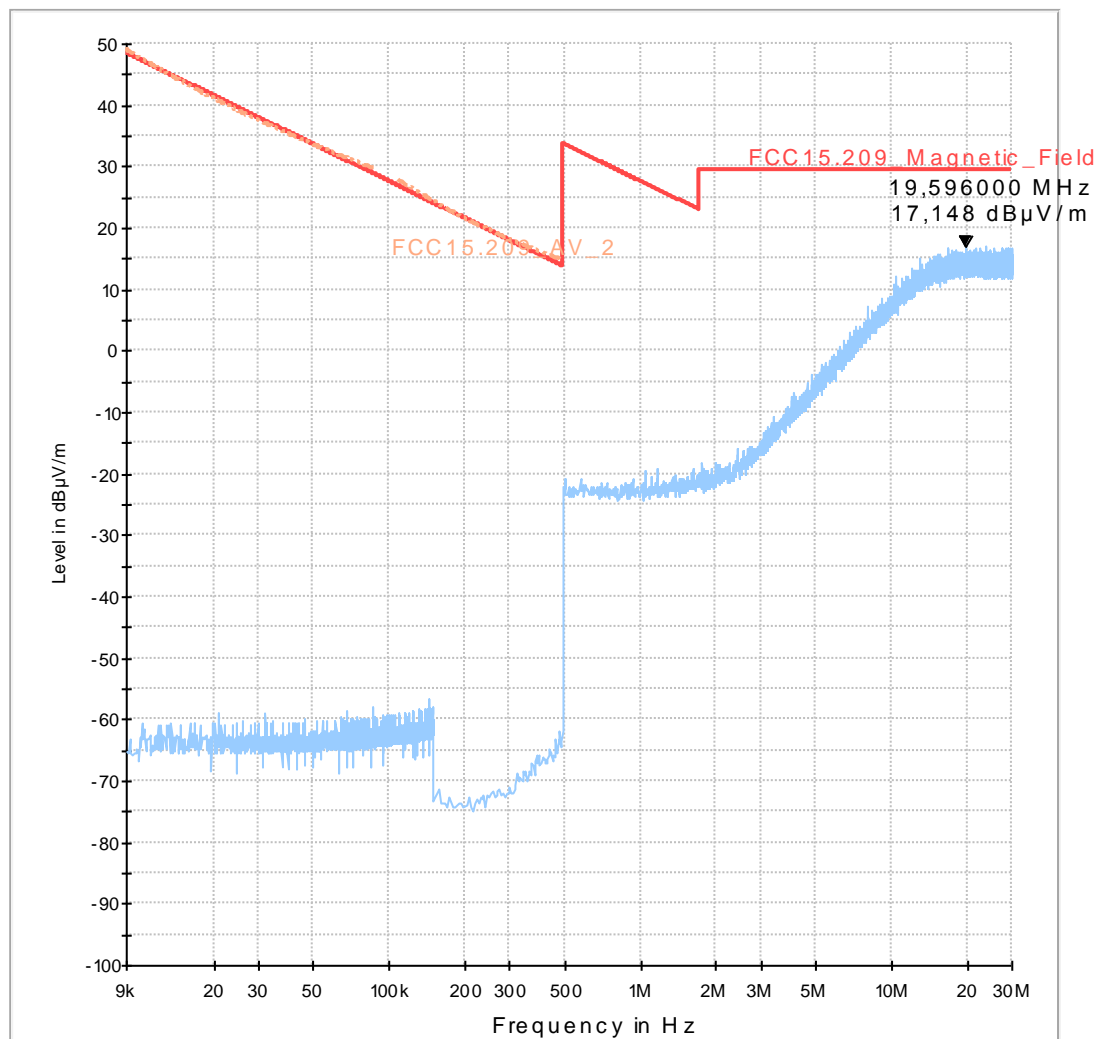


Diagram No. 2.02

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	EDGE 850 MHz .Ch.Middle 192 TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

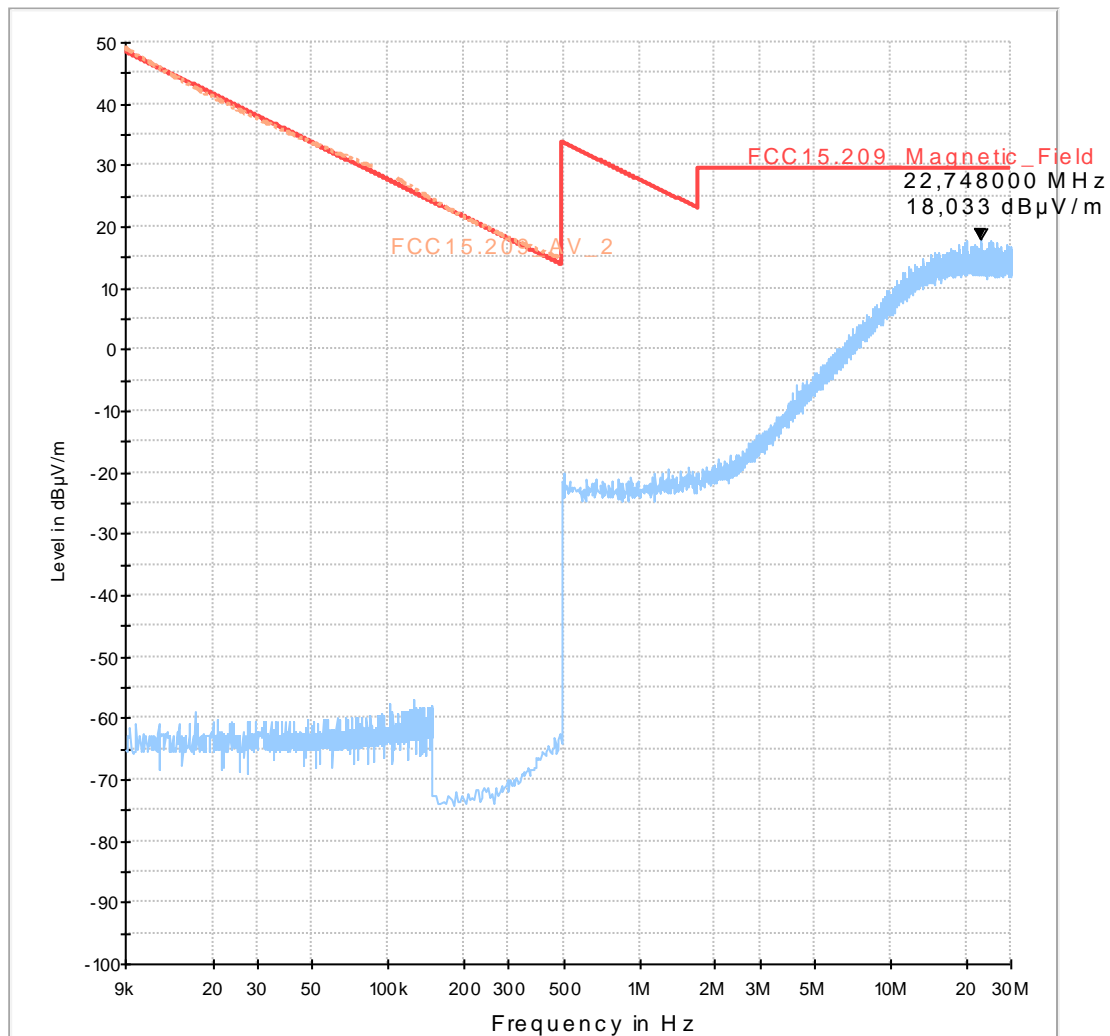


Diagram No. 2.03

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	EDGE 850 MHz .Ch.High 251TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

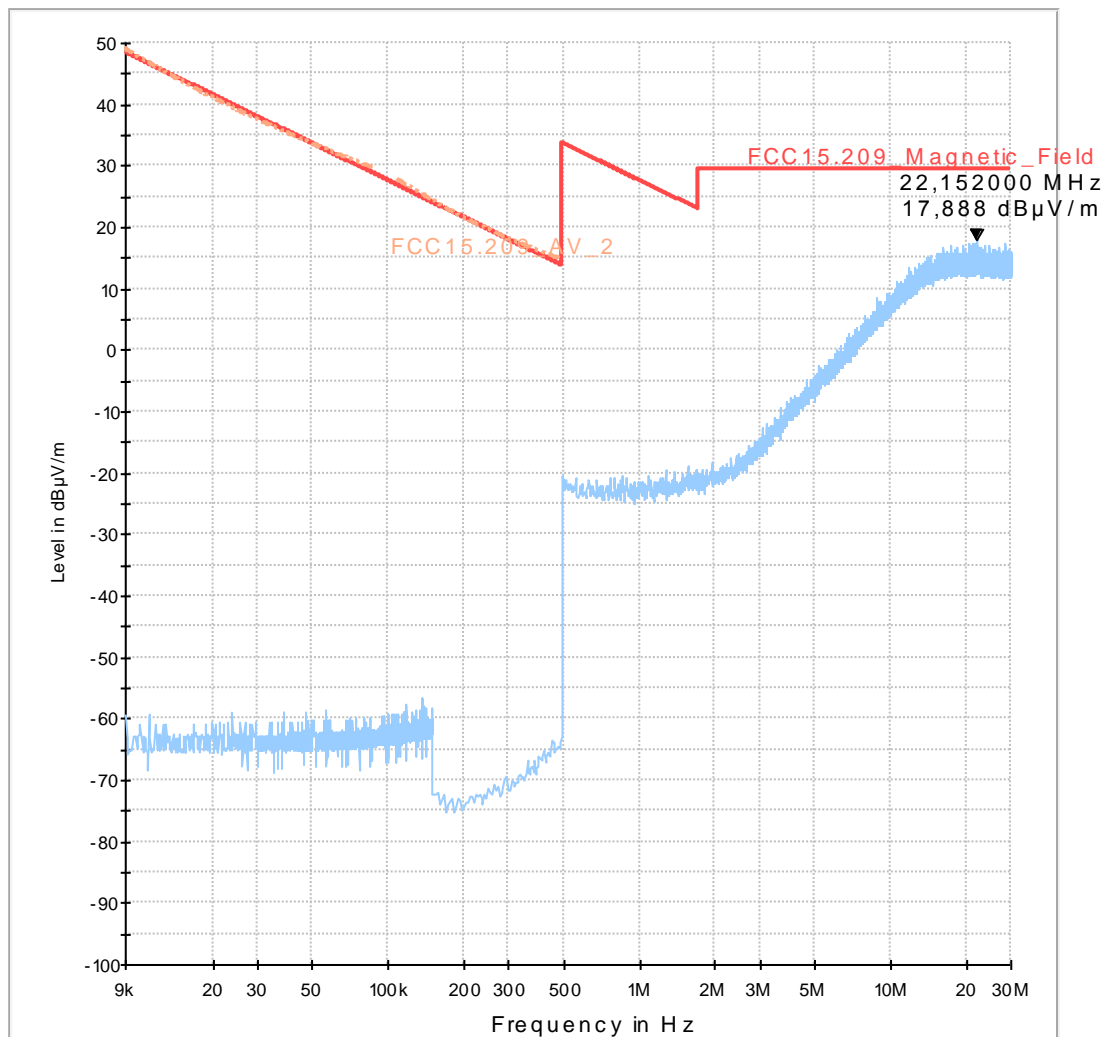


Diagram No. 2.04

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	EDGE 1900 MHz .Ch.Low 512 TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

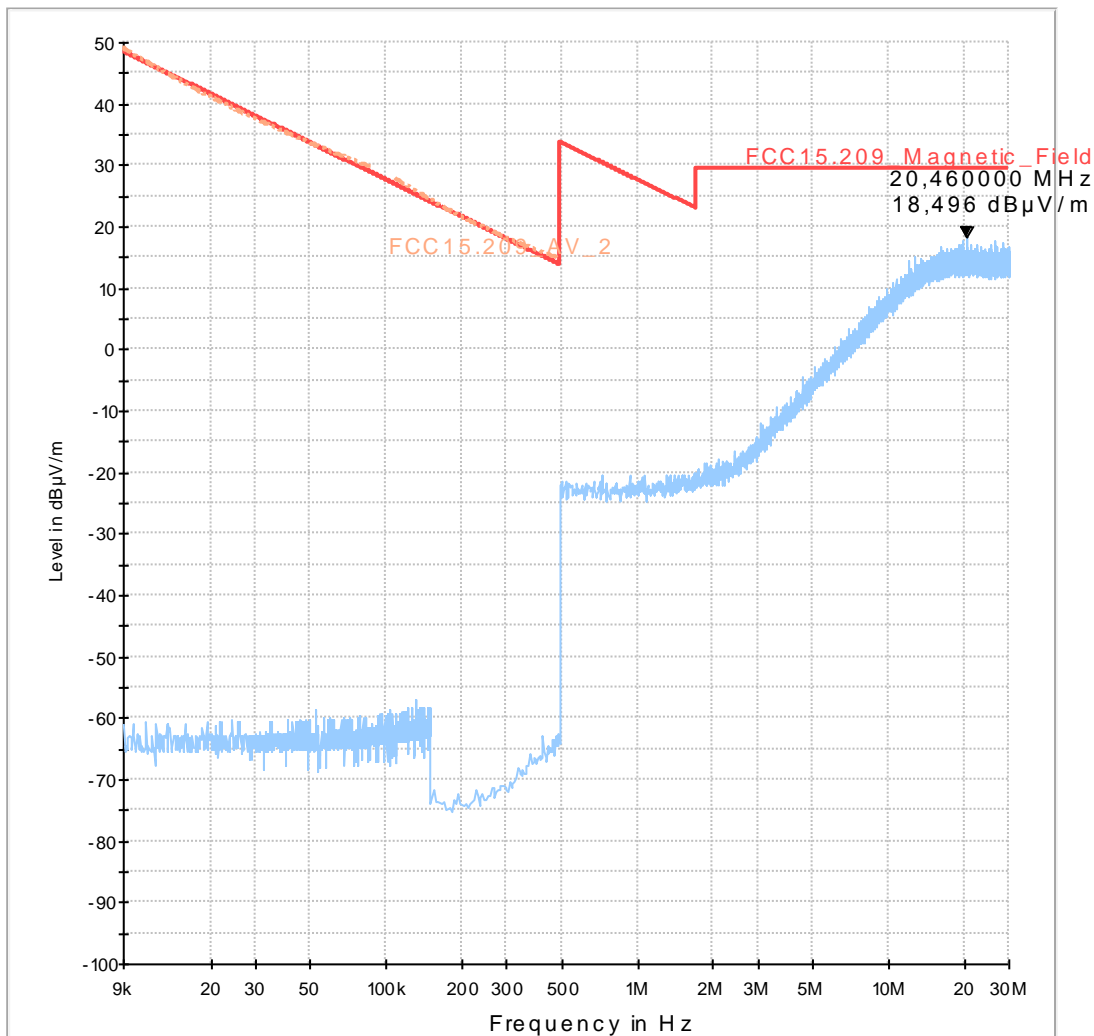


Diagram No. 2.05

Test description:	Date: 31.08.2012 Page 1 of 1
Test site and distance:	Magnetic Fieldstrength Measurement related to 300/30 m distance
Distance correction:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used
Rec. antenna (pre-scan):	height 1.00 m. parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	OOU
Operating conditions:	EDGE 1900 MHz .Ch.Middle 661 TX-mode
Comment 1:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

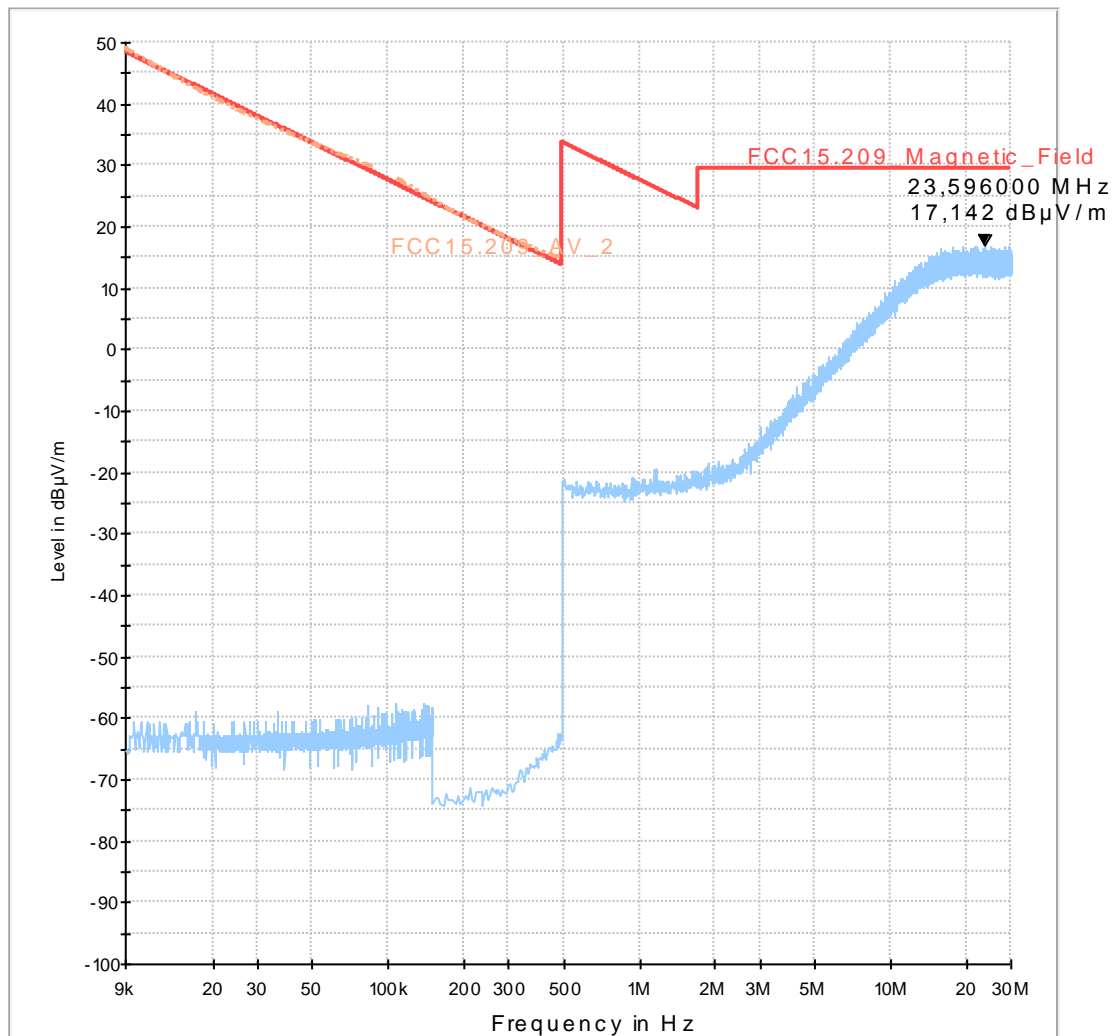


Diagram No. 2.06

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	EDGE 1900 MHz .Ch.High 810 TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

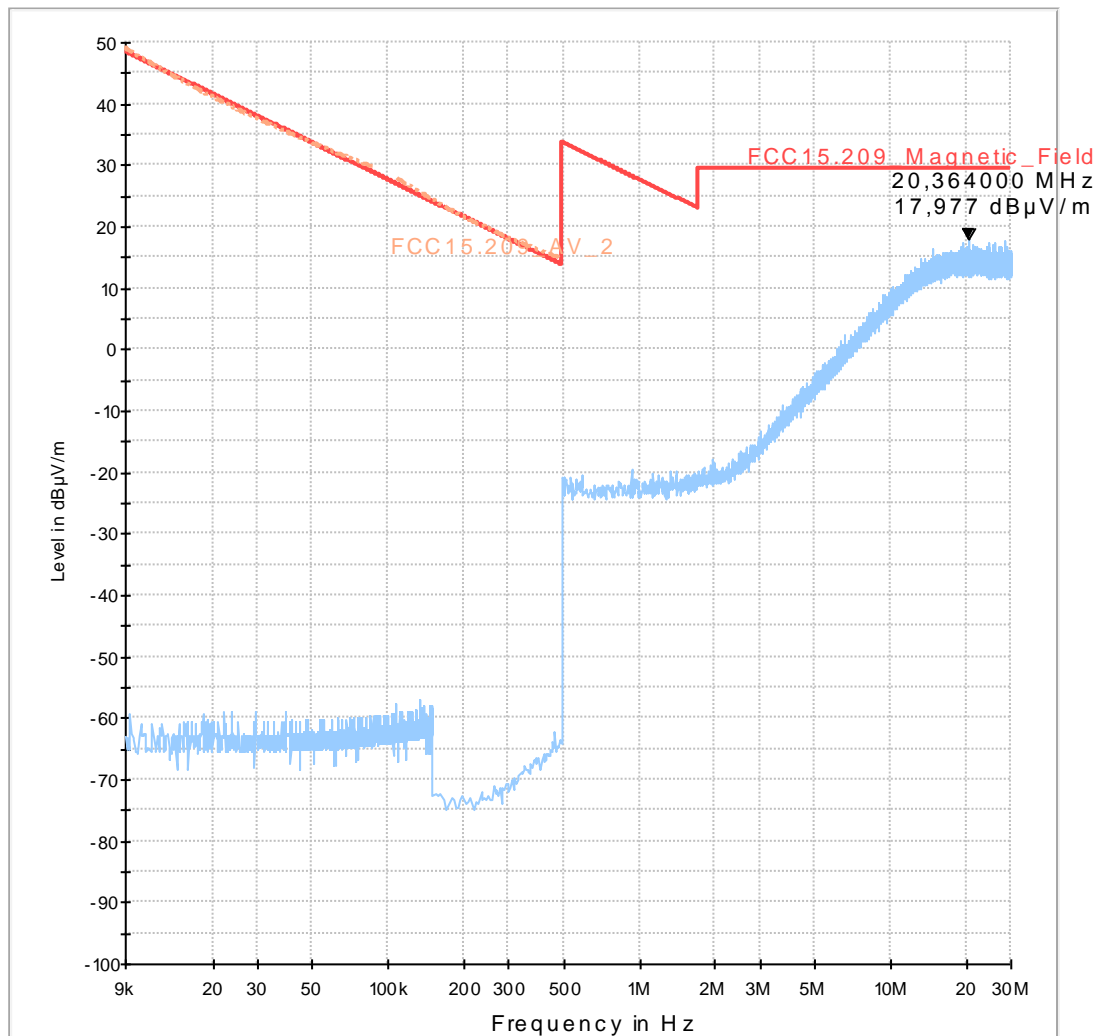


Diagram No. 2.07

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	FDDV RMC Ch.Low 4132 TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

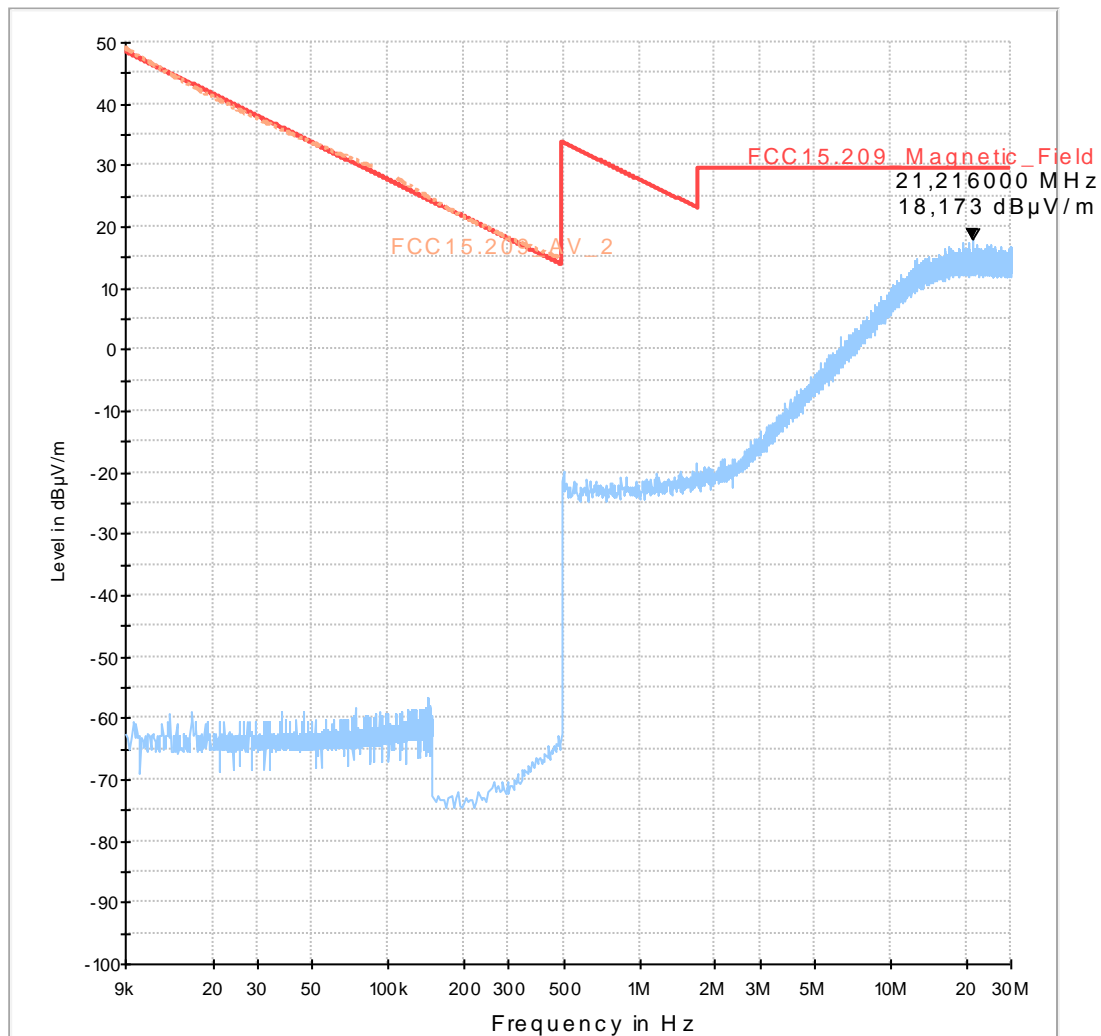


Diagram No. 2.08

Test description:	Date: 31.08.2012 Page 1 of 1
Test site and distance:	Magnetic Fieldstrength Measurement related to 300/30 m distance
Distance correction:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used
Rec. antenna (pre-scan):	height 1.00 m. parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	OOu
Operating conditions:	FDDV RMC Ch.Middle 4182 TX-mode
Comment 1:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

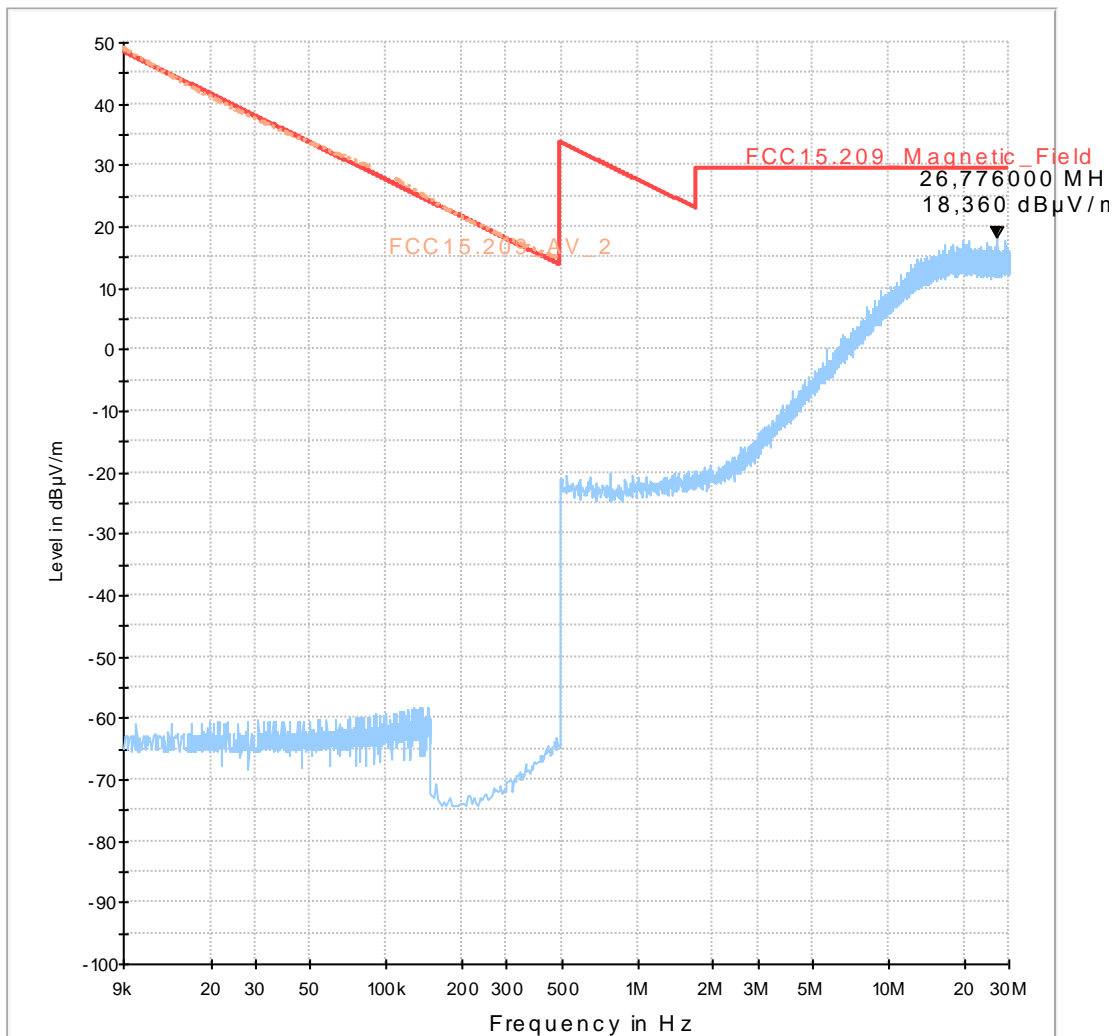


Diagram No. 2.09

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	FDDV RMC Ch.High 4233 TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

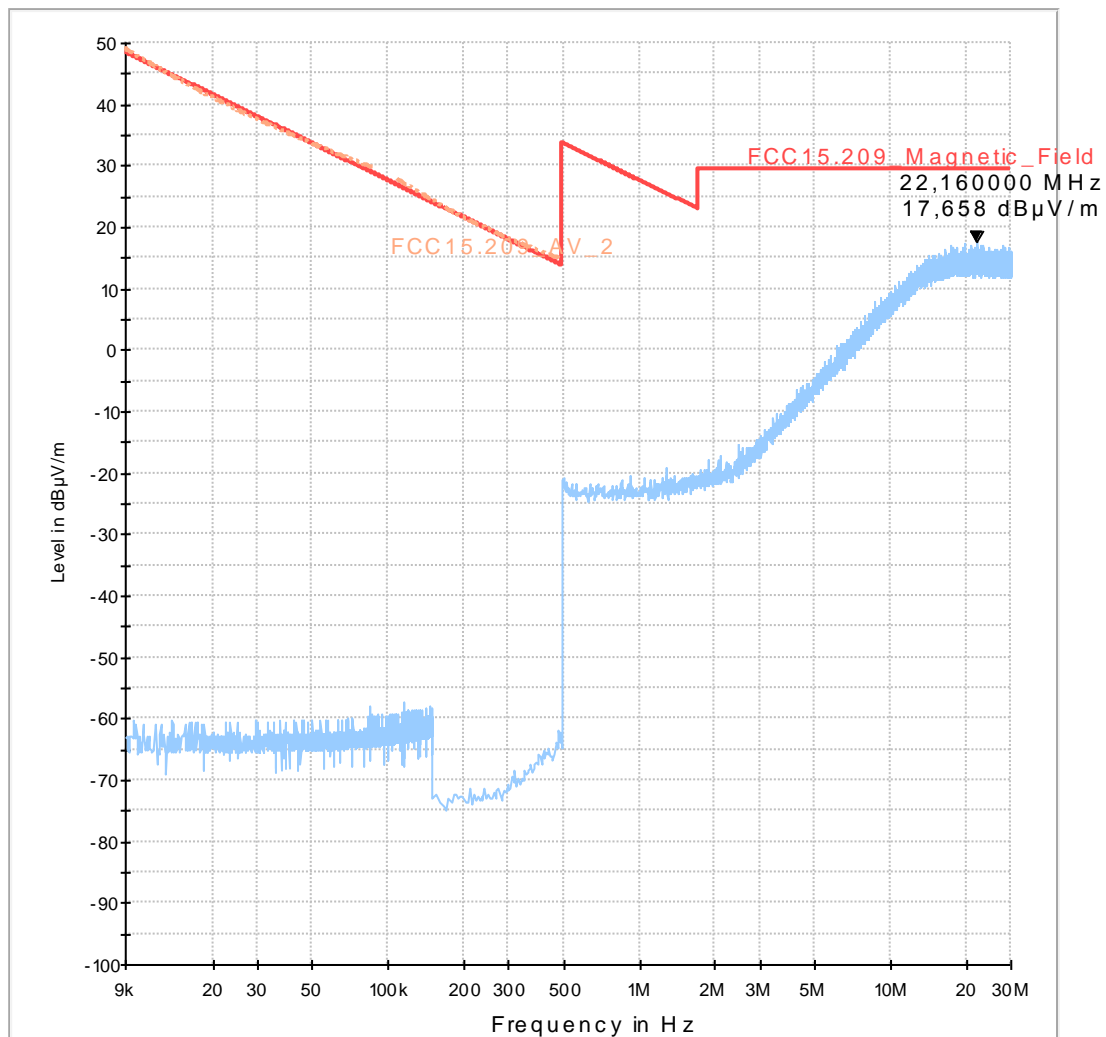


Diagram No. 2.10

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	FDDII Ch.Low 9262 MHz TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

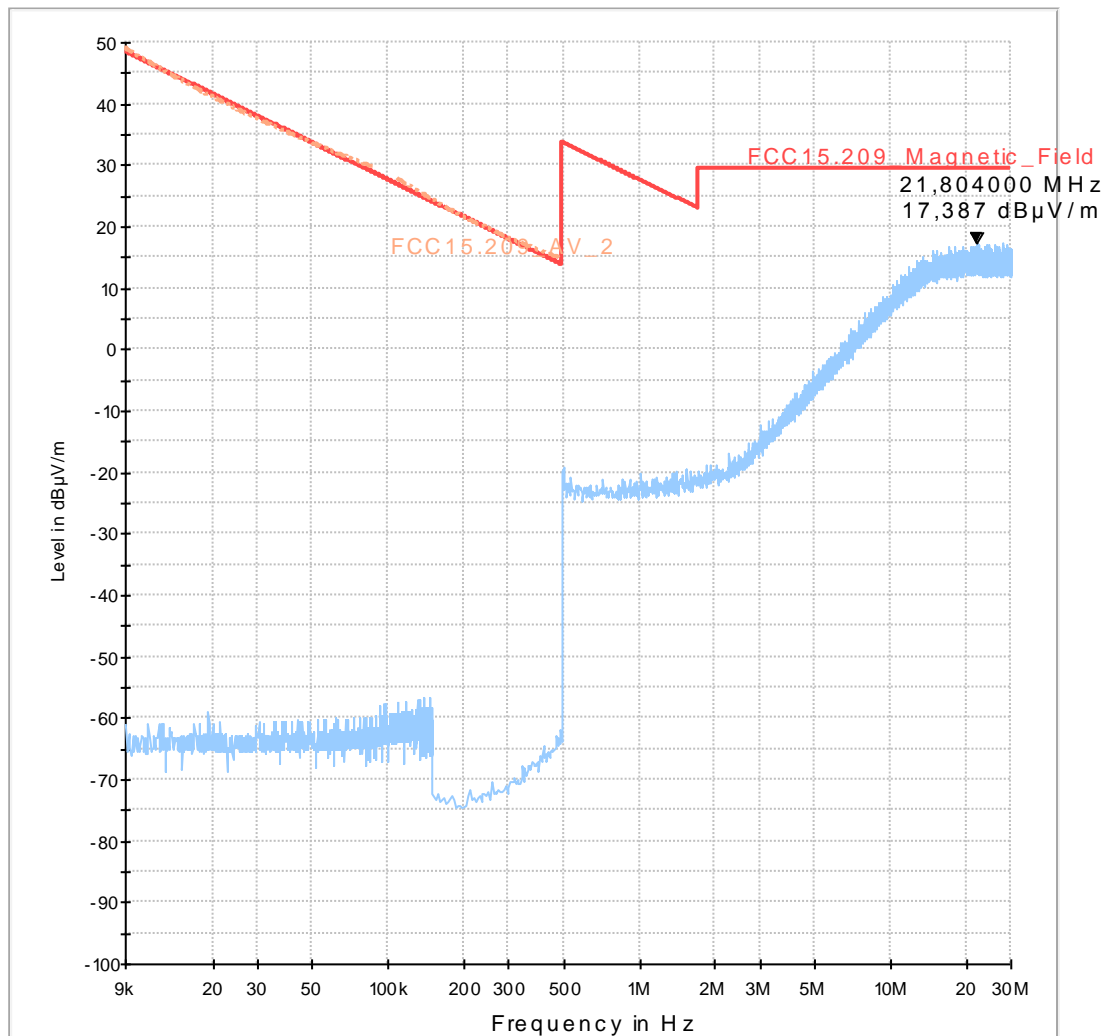


Diagram No. 2.11

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	FDDII Ch.Middle 9400 MHz TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC 15.209_magn hor+vert

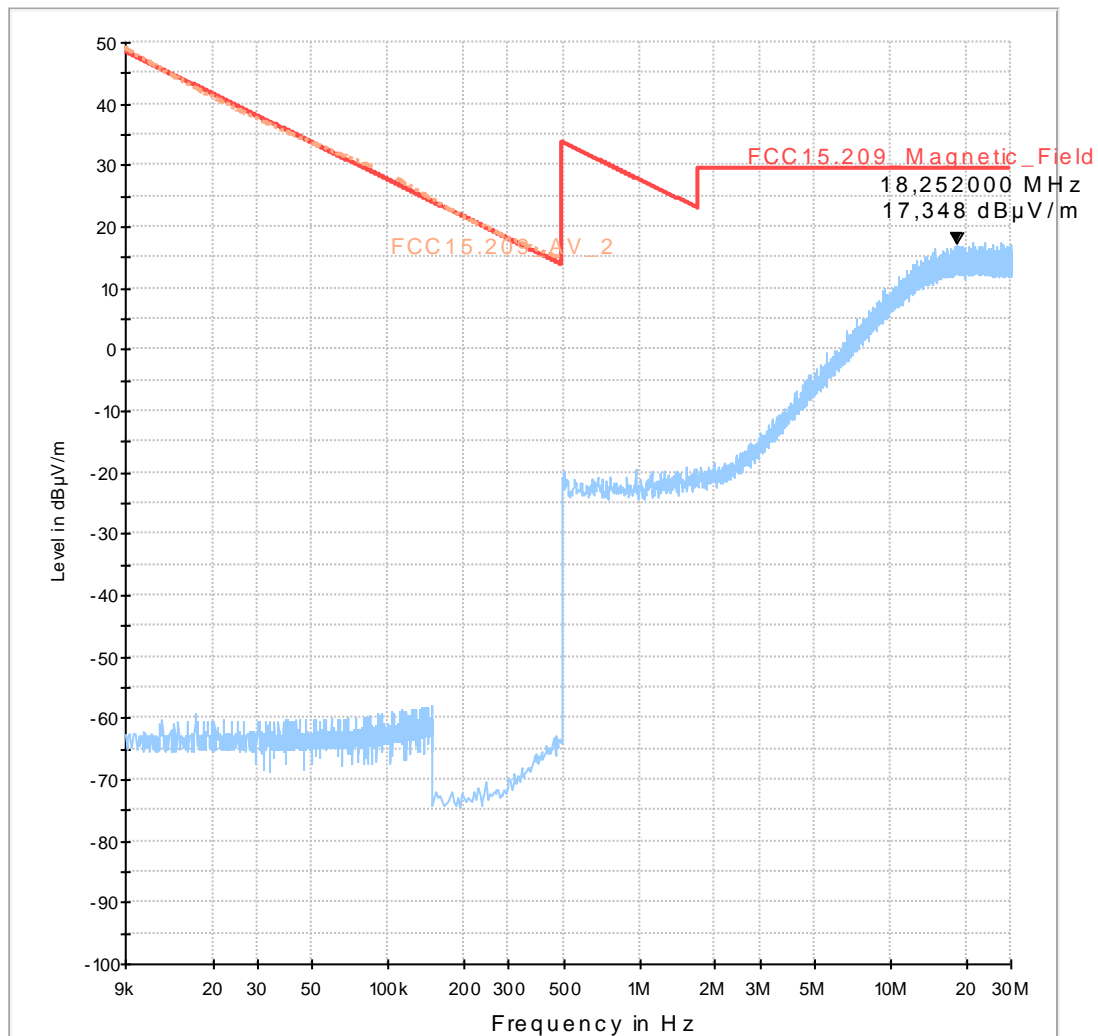


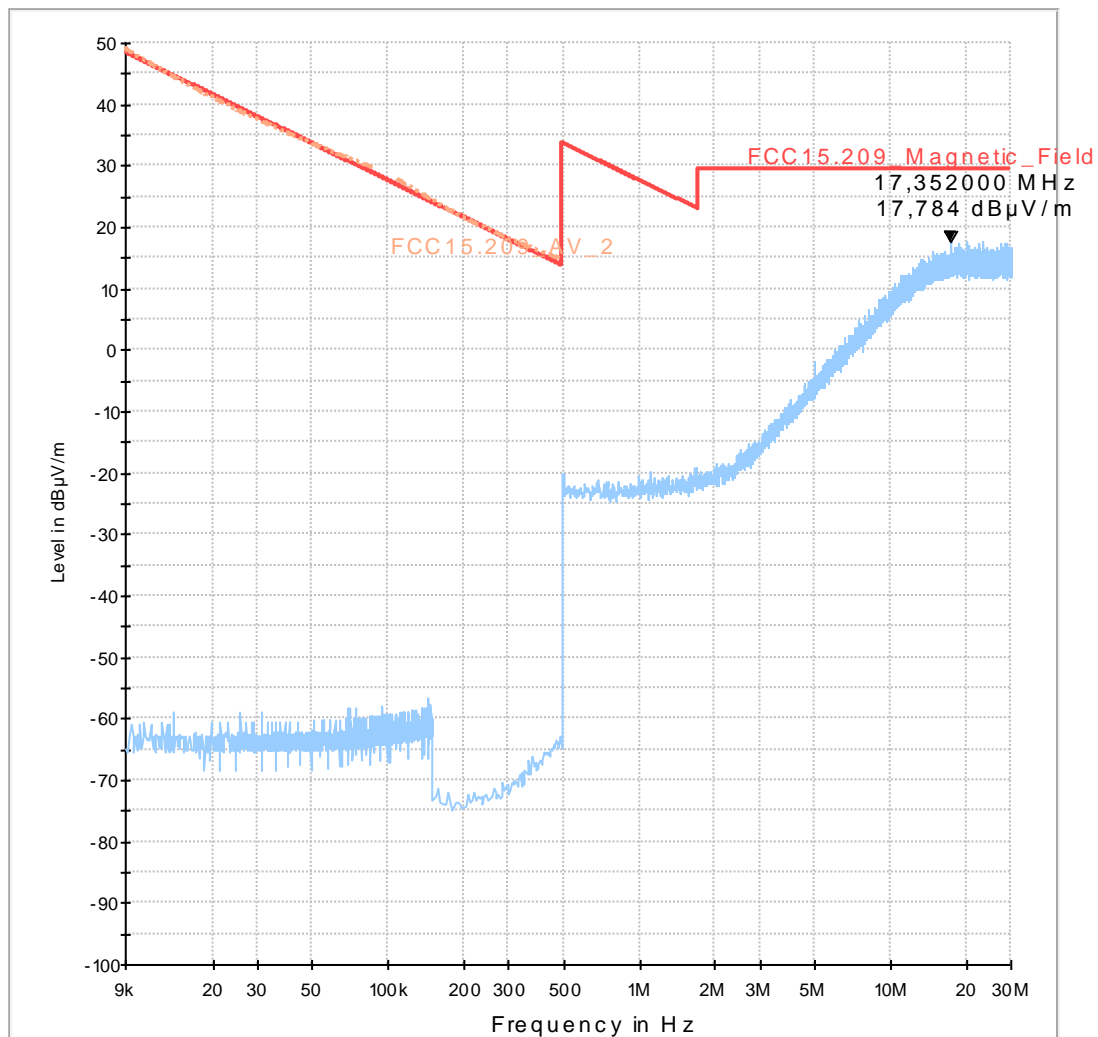
Diagram No. 2.12

Date:	31.08.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 300/30 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m used	
Distance correction:	height 1.00 m. parallel and 90° to EUT polarisation	
Rec. antenna (pre-scan):	bypass	
Used filter:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Test specification:		
Operator:	OOu	
Operating conditions:	FDDII Ch.High 9538 MHz TX-mode	
Comment 1:	6-0147-12-9-3c	

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

FCC15.209_magn hor+vert



1.4. Radiated emissions in the frequency range 30 to 1000MHz

1.4.1. Part 15B: RX-Mode

Diagram No. 3.01_RX

Test description:	Date: 31.08.2012 Page 1 of 1
Test site and distance:	Electric Fieldstrength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3m measurement distance
Used filter:	not used
Test specification:	FCC15.109, class B; RSS-Gen.: Issue 3
Operator:	Tas
Operating conditions:	IDLE_G850 (DL ARFCN 182)
Measured sides of EUT:	front, right, rear, left
Comment 1:	DL visible of G850 band
Comment 2:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

05_FCC15.109_hor+vert_kipp

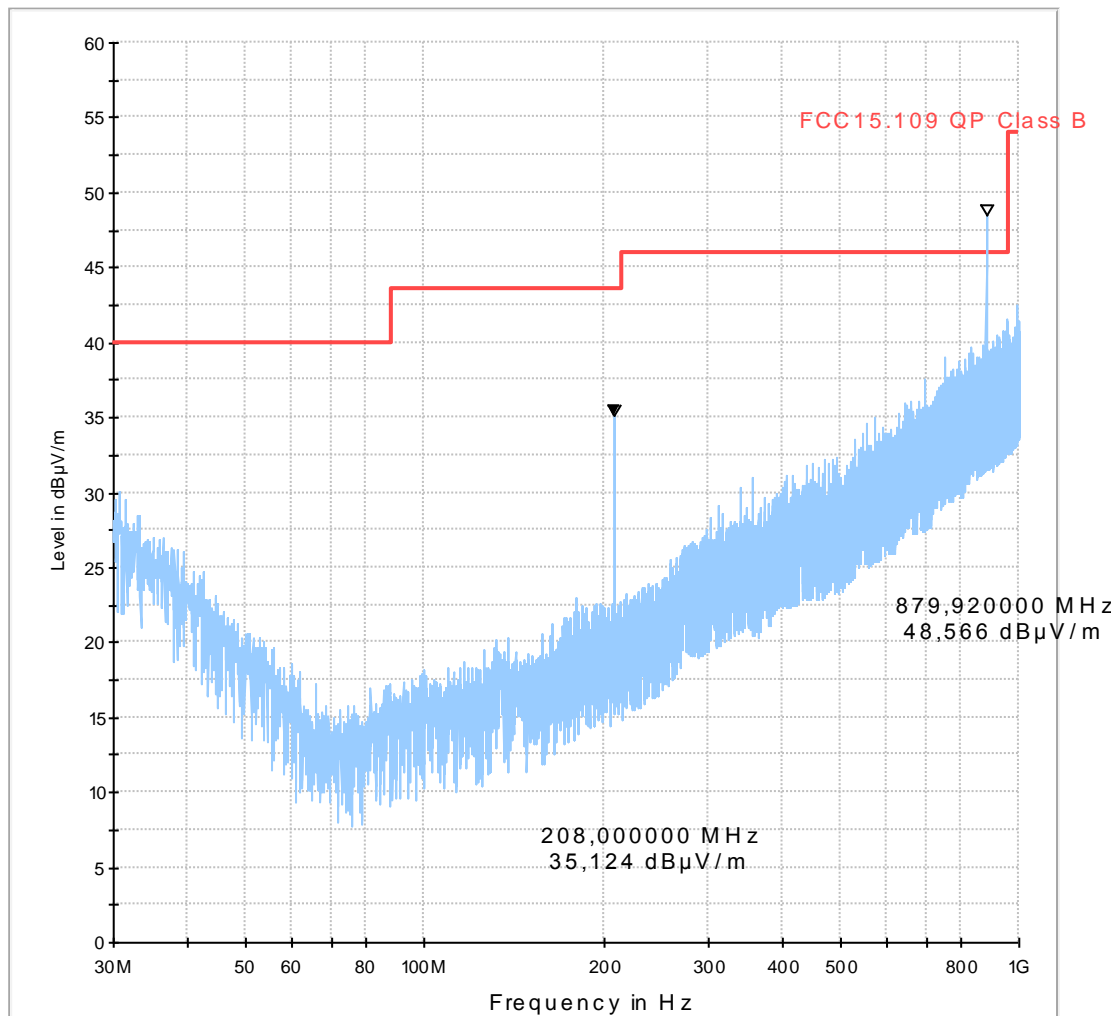


Diagram No. 3.02_RX

Test description:	31.08.2012 Page 1 of 1
Test site and distance:	Electric Fieldstrength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Test specification.:	not used
	FCC15.109, class B; RSS-Gen.: Issue 3
Operator:	Tas
Operating conditions:	IDLE_PCS1900 (DL ARFCN 651)
Power during tests:	12 V DC
Comment 1:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
208.02000	35.7	1000.	120.000	128.0	H	64.0	0.0	11.7	7.80	43.50

01_FCC15.209_hor+vert_kipp

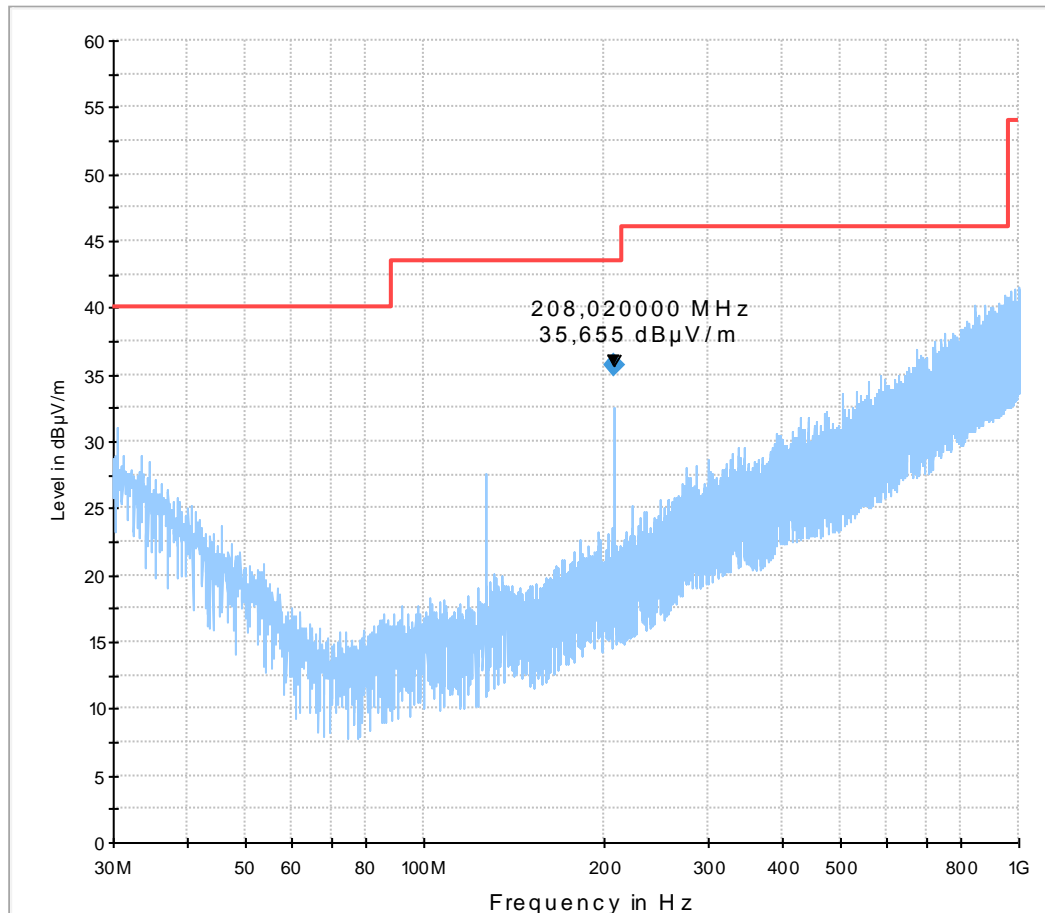


Diagram No. 3.03_RX

Test description:	Date: 31.08.2012 Page 1 of 1
Test site and distance:	Electric Fieldstrength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3m measurement distance
Used filter:	not used
Test specification:	not used
	FCC15.109, class B; RSS-Gen.: Issue 3
Operator:	Tas
Operating conditions:	IDLE_FDD V (DL U-ARFCN 4400)
Measured sides of EUT:	front, right, rear, left
Comment 1:	DL visible of FDD V band (at 879 MHz)
Comment 2:	6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-SI30 3/v3 0/0

05_FCC15.109_hor+vert_kipp

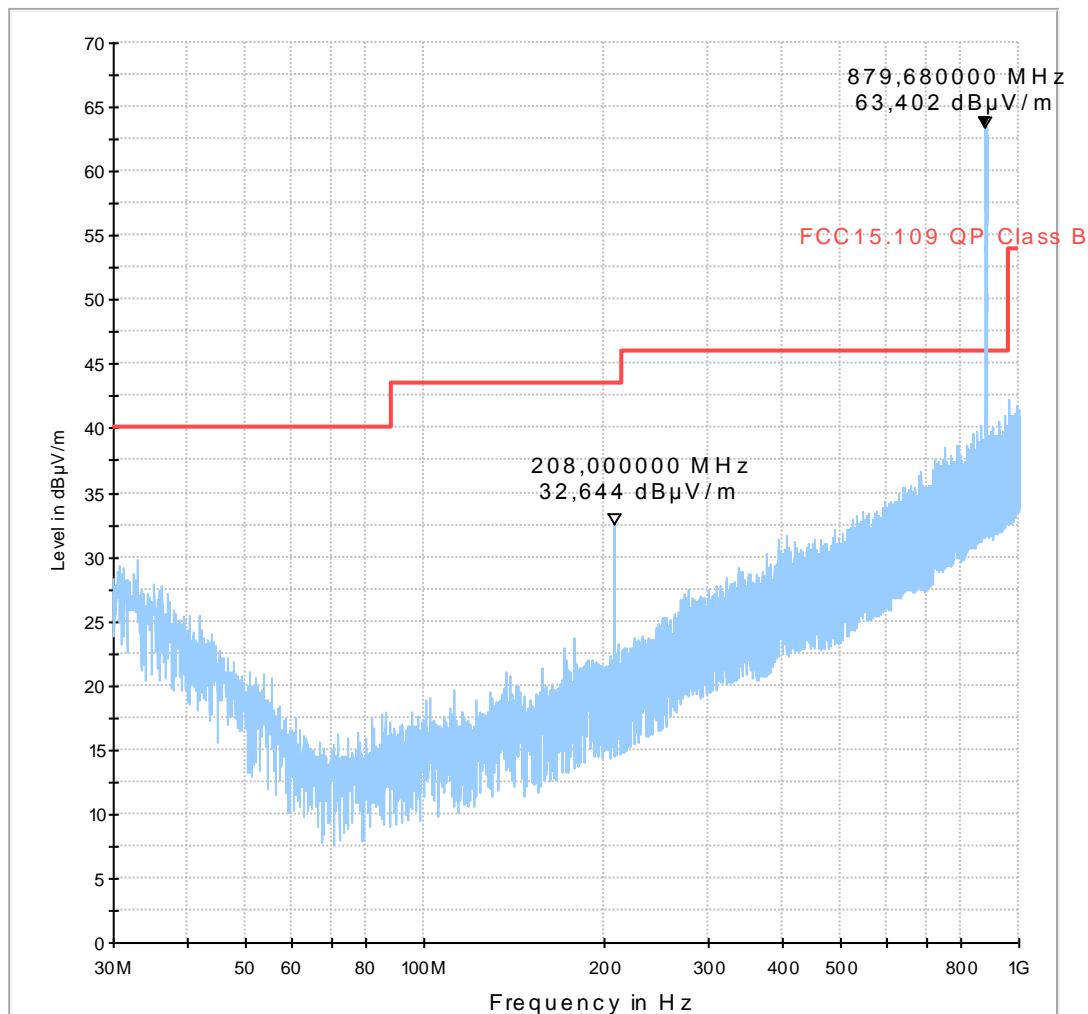


Diagram No. 3.04_RX

Date: 31.08.2012 Page 1 of 1
 Test description: Electric Fieldstrength Measurement
 Test site and distance: Semi Anechoic Room (SAR) with 3m measurement distance
 Distance correction: not used
 Used filter: not used
 Test specification: FCC15.109, class B; RSS-Gen.: Issue 3

Operator: Tas
 Operating conditions: IDLE FDD II (DL U-ARFCN 9800)
 Measured sides of EUT: front, right, rear, left
 Comment 1: --
 Comment 2: 6-0147-12-9-3c

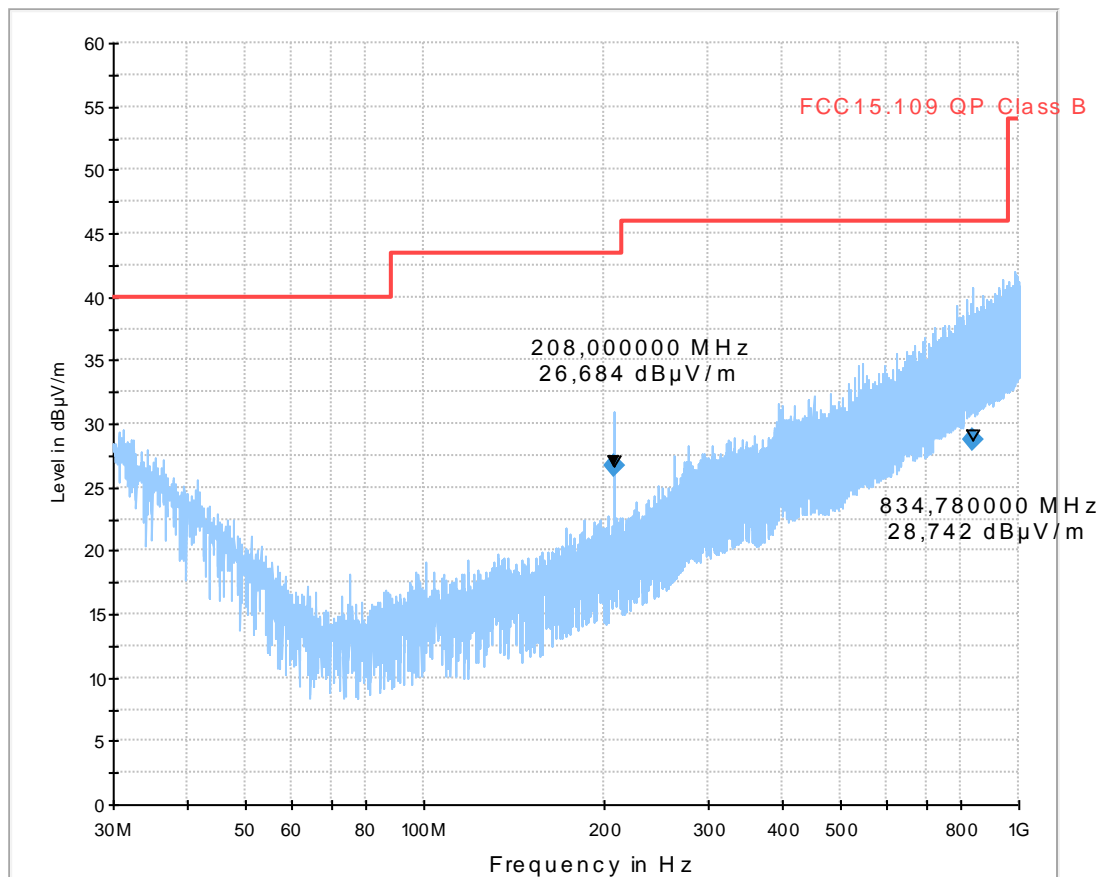
EUT Information

EUT Name: EHS5-US
 Manufacturer: Cinterion
 Serial Number: 004401080756915
 Hardware Rev: B2 rev.3
 Software Rev: 00.207
 Comment: Interface R232
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA Handset HH-S130 3/v3 0/0

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
208.00000	26.7	1000.	120.000	220.0	V	64.0	90.0	11.7	16.8	43.5
834.78000	28.7	1000.	120.000	300.0	H	252.0	90.0	25.4	17.3	46.0

05_FCC15.109_hor+vert_kipp



1.4.1.1. Radiated emissions in the frequency range above 1000MHz

1.4.1.2. Part 15B: RX-Mode

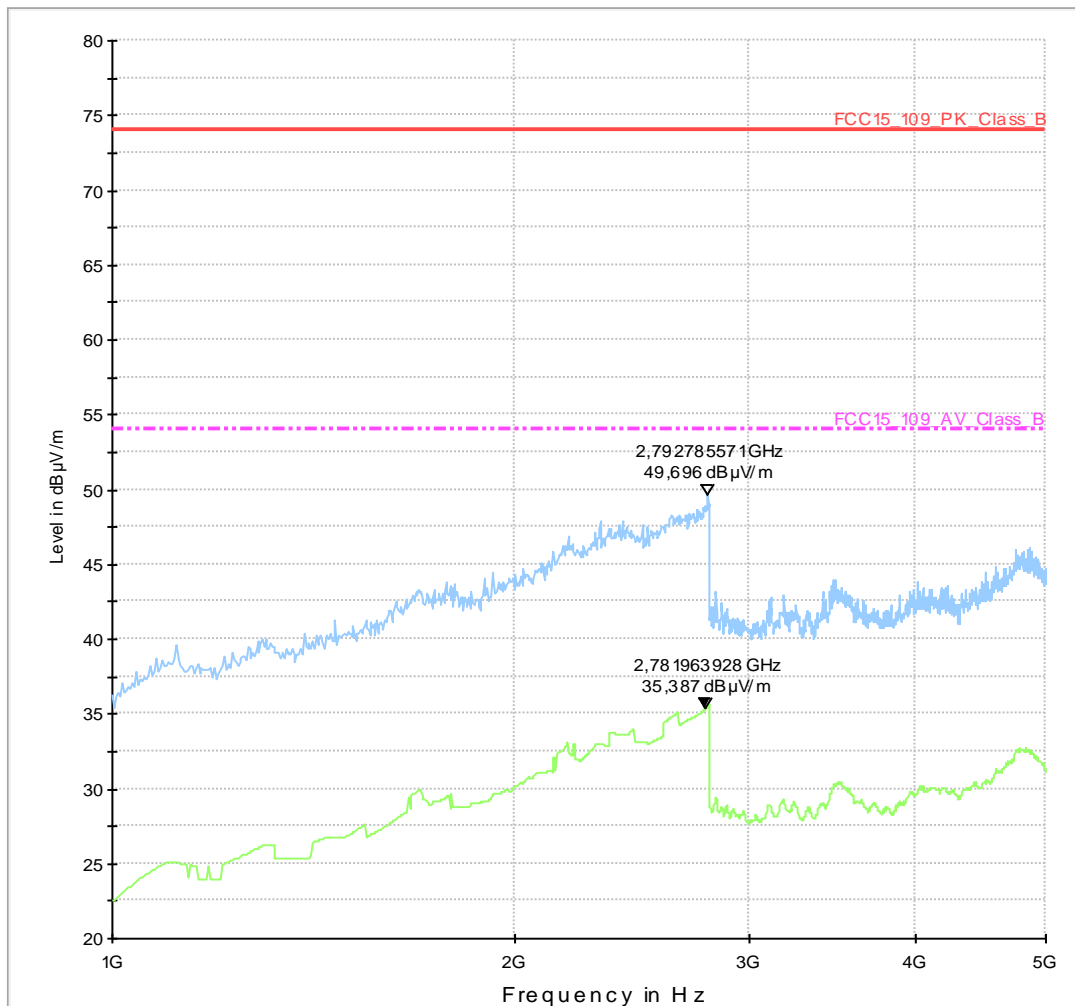
8.01_850_RX

Common Information

Test Description:	Radiated Filed Strength Emission
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 15.109
Section:	15.109
Operating Mode:	RX G850, DL: BCCH 182
Equipment Class:	Class B
Environmental Conditions:	Humidity: 70%rH; Temperature: 19°C
Operator:	YZH 6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0



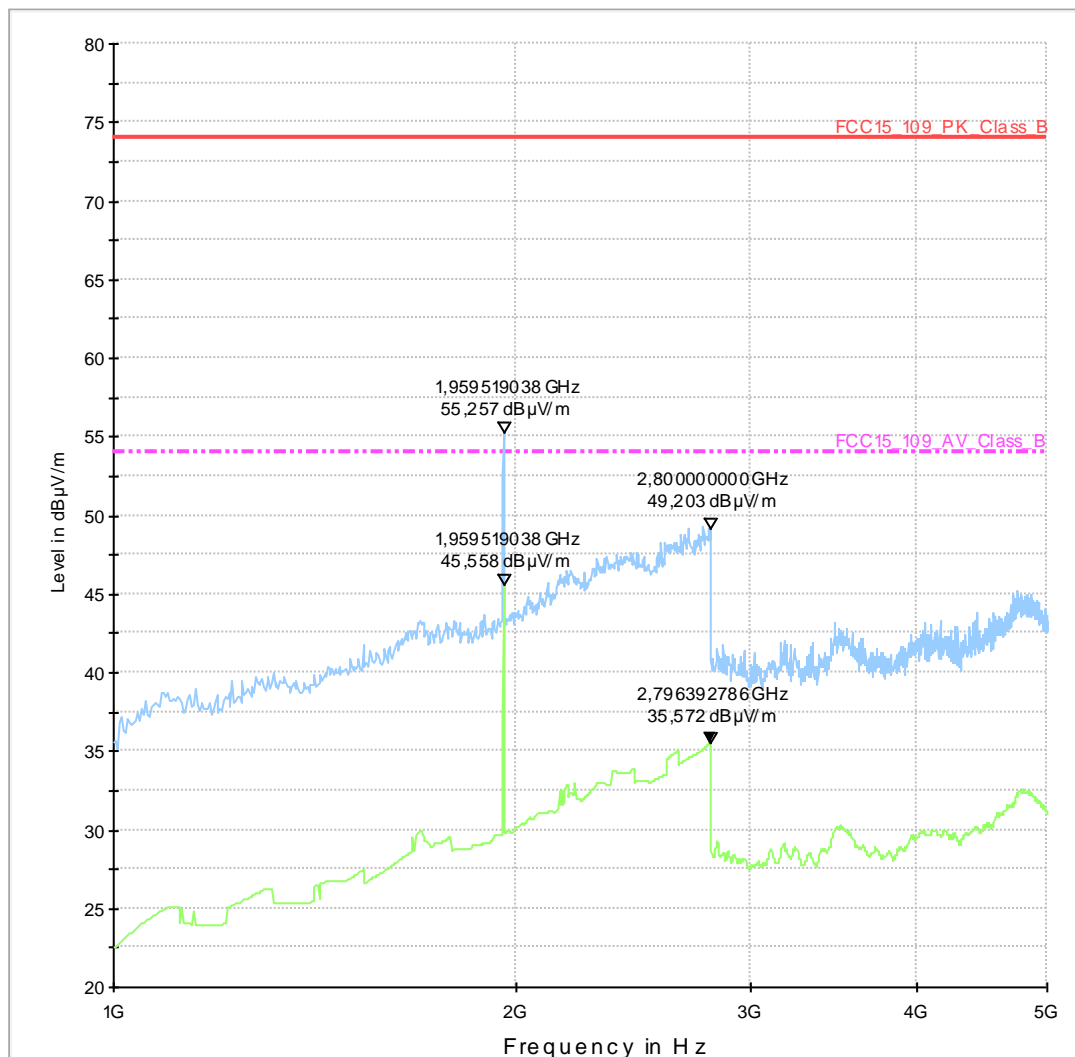
8.02_PCS1900_RXa

Common Information

Test Description:	Radiated Field Strength Emission
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 15.109
Section:	15.109
Operating Mode:	Idle PCS1900, GPRS DL:BCCH: 651 (DL visible)
Equipment Class:	Class B
Environmental Conditions:	Humidity: 70%rH; Temperature: 19°C
Operator:	YZH 6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0



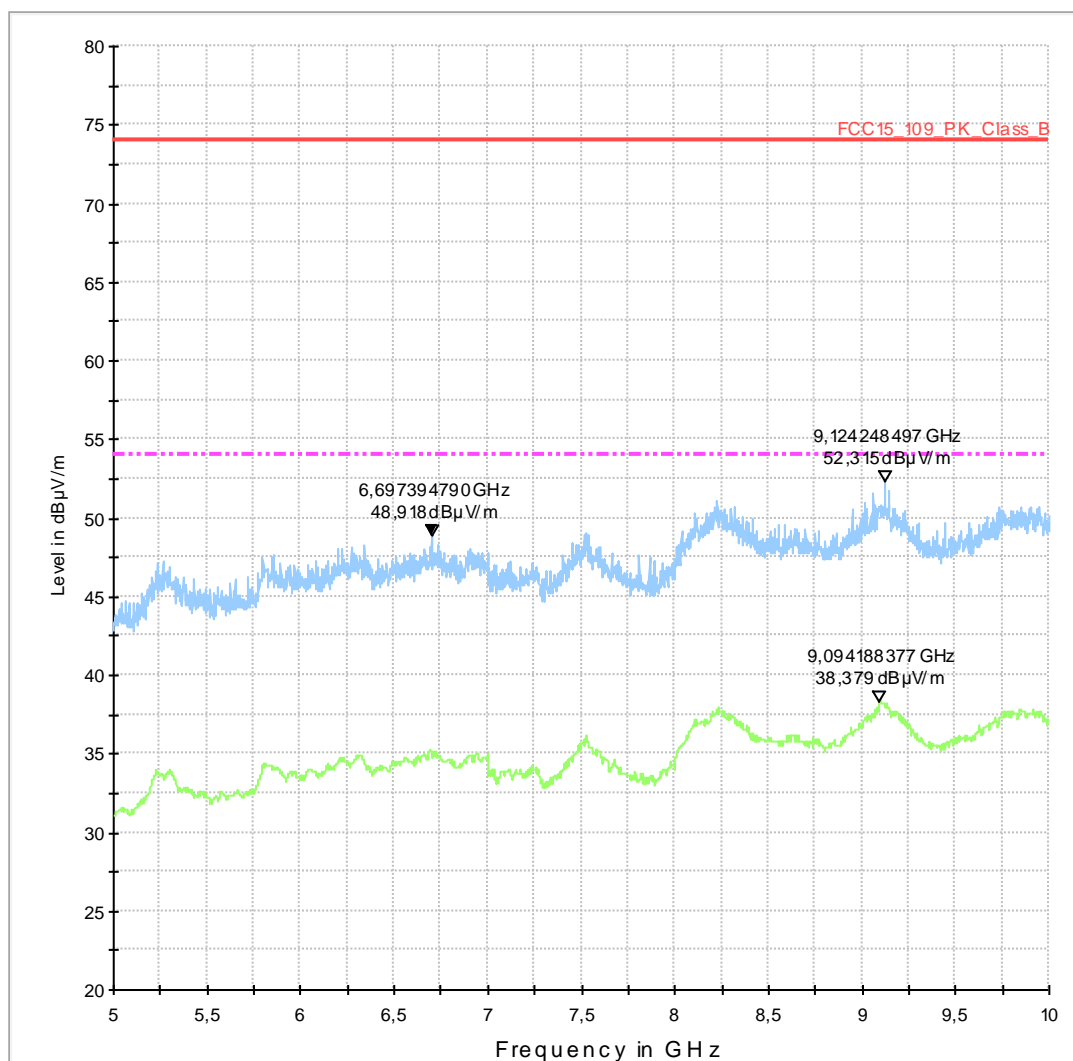
8.02_PCS1900_RXb

Common Information

Test Description:	Radiated Field Strength Emission
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 15.109
Section:	15.109
Operating Mode:	Idle PCS1900, GPRS DL:BCCH: 651
Equipment Class:	Class B
Environmental Conditions:	Humidity: 69%rH; Temperature: 19°C
Operator:	YZH 6-0147-12-9-3c

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0



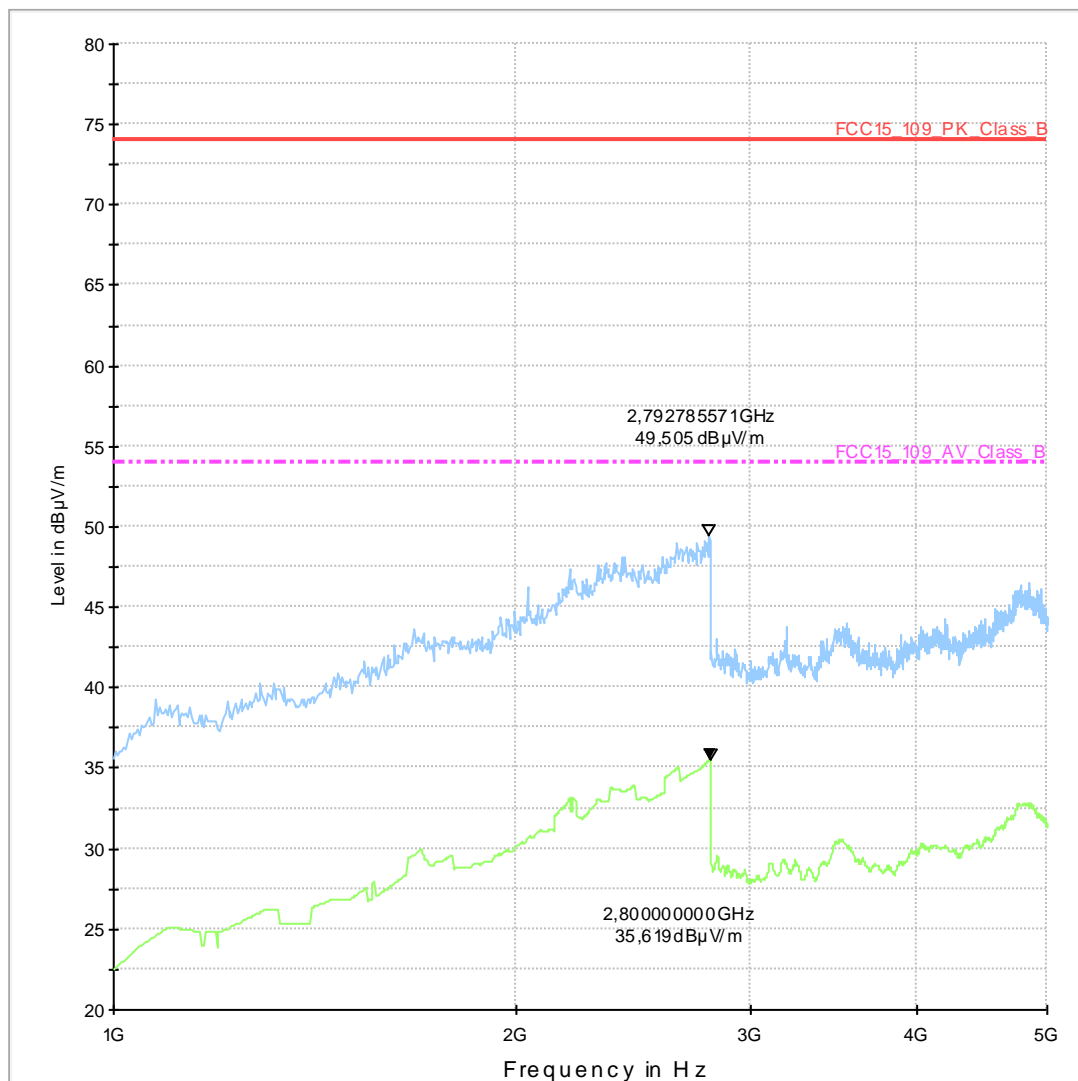
8.03_FDDV_RX

Common Information

Test Description:	Radiated Filed Strength Emission
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 15.109
Section:	15.109
Operating Mode:	EUT allocated Idle channel 4400 (UL = 881.4 MHz)
Equipment Class:	Class B
Environmental Conditions:	Humidity: 49%rH; Temperature: 23°C
Operator:	Tas

EUT Information

EUT Name:	EHS5-US
Manufacturer:	Cinterion
Serial Number:	004401080756915
Hardware Rev:	B2 rev.3
Software Rev:	00.207
Comment:	Interface R232
Accessories:	Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0



8.04_FDDII_RX

Common Information

Test Description: Radiated Field Strength Emission
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 15.109
 Section: 15.109
 Operating Mode: EUT allocated Idle channel 9800 (UL = 1960 MHz, DL visible)
 Equipment Class: Class B
 Environmental Conditions: Humidity: 49%rH; Temperature: 23°C
 Operator: Tas
 6-0147-12-9-3c

EUT Information

EUT Name: EHS5-US
 Manufacturer: Cinterion
 Serial Number: 004401080756915
 Hardware Rev: B2 rev.3
 Software Rev: 00.207
 Comment: Interface R232
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

Final Measurement Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1448.807615	39.6	---	100.0	1000.000	H	118.0	90.0	2.4

Final Measurement Result 2

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1452.294589	---	26.8	100.0	1000.000	H	-1.0	90.0	2.4

