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Test laboratory accredited by metas, the Swiss Federal Office of Metrology and Accreditation
Laboratoire d'essai accrédité par metas, l'Office fédéral de métrologie et d'accréditation
Prüflabor akkreditiert durch metas, das Bundesamt für Metrologie und Akkreditierung

Registration number
Numéro d'accréditation
Akkreditierungsnummer

STS 024

Schweizerischer Prüfstellendienst
Service suisse d'essai
Swiss testing service

Date of test: Date de l'essai: Prüfdatum:	***December 19, 2002 and July 1 to 2, 2003***	Report no: Rapport no: Bericht Nr:	***Draft***	Mandate no: Mandat no: Auftrag Nr:	***20025229***
Report: Rapport: Bericht:	***Electromagnetic compatibility***				
Product name: Nom du produit: Produktname	***Mobile Cordless Headset - Dongle HDC-9P***				
Customer: Client: Kunde:	***Logitech***		Serial no: No de série: Seriennummer:		***Final pre-production sample***

Standards / Normes / Normen	Result Résultat Ergebnis
CFR 47, Part 15, Subpart C, Intentional radiator, Paragraph 15.249	***Pass***

Test performed by Essai effectué par : Prüfer	Test report prepared by Rapport d'essai préparé par : Berichterstatter	Test report controlled and approved by Rapport d'essai contrôlé et approuvé par : Prüfbescheinigung
Erich Staub	Erich Staub	Bertrand Daout
.....		.....

Rossens, ... (Issue Date / Date d'édition / Ausstelldatum) V0309

Main language / Langue principale / Hauptsprache : *english* / *français* / *deutsch*

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1. Summary of test results / Résumé des résultats d'essais / Zusammenfassung der Prüfergebnisse

✓ Pass / Réussi / Bestanden

✘ Fail / Echoué / Nicht bestanden

∅ Not applicable to this product / Pas applicable à ce produit / Nicht anwendbar für dieses Produkt

— Not tested / Pas testé / Nicht geprüft

No requirements / Pas d'exigence / Keine Anforderung

Test Type / Type d'essai / Art der Prüfung	**Standard /Norme /Norm**	**Result / Résultat / Ergebnis**
Emission / Emission / Störaussendung		***Transmit mode***
Mains terminal interference voltage Tension perturbatrice aux bornes d'alimentation Störspannung auf den Energieversorgungsleitungen	*CFR 47 § 15.207*	∅ [1]
Carrier measurement Mesure de la porteuse Trägerfrequenzmessung	*CFR 47 § 15.249(a)*	✓
Radiated electromagnetic field Champ perturbateur Störfeldstärke	*CFR 47 § 15.249(d)* *§ 15.209*	✓
Emission / Emission / Störaussendung		***Receive mode***
Mains terminal interference voltage Tension perturbatrice aux bornes d'alimentation Störspannung auf den Energieversorgungsleitungen	*CFR 47 § 15.107*	∅ [1]
Radiated electromagnetic field Champ perturbateur Störfeldstärke	*CFR 47 § 15.109*	✓

1. Powered with / Alimenté avec / Gespeist mit : Internal battery

2. Applied standards / Normes appliquées / Verwendete Normen

CFR 47 Part 15 Subpart C	Code of Federal Regulations - Telecommunication, FCC Part 15, Subpart C: "Intentional Radiators"
CFR 47 Part 15 Subpart B	Code of Federal Regulations - Telecommunication, FCC Part 15, Subpart B: "Unintentional Radiators"

3. Client / Client / Kunde

Client name and address Nom et adresse du client Name und Adresse des Kunden	*Logitech* *1499 SE Tech Center Place* *Vancouver, WA 98683-9575*
Contact Person / Responsable / Kontaktperson	*Mark C. Ohnstad*
e-mail / courier électronique / e-mail	*Mark_ohnstad@logitech.com*
Mandate no / Mandat no / Auftrag Nr.	*20025229*

4. Equipment under test / Equipement à l'essai / Prüfling

4.1 Identification / Identification / Identifikation

Manufacturer name and address Nom et adresse du fabricant Name und Adresse des Herstellers	*Logitech* *1499 SE Tech Center Place* *Vancouver, WA 98683-9575*
Production country / Pays de fabrication / Ursprungsland	*China*
Brand name / nom de marque / Verkaufsmarke	*Logitech*
Product name / Nom du produit / Produktname	*Mobile Cordless Headset - Dongle HDC-9P*
Product description / Description du produit / Produktbeschreibung	*Cordless Headset for mobile phones*
Model number / Numéro de modèle / Modellnummer	*Dongle HDC-9P*
Serial no / No. de série / Seriennummer	*Final pre-production sample*
Software version / Version du logiciel / Softwareversion	*Revision 1.1*
Highest frequency / Fréquence la plus élevée / Höchste Frequenz	*921.7 MHz*
Supply / Alimentation / Speisung	*Li-Ion battery 4.2V, 100mAh*

4.2 Connected cables / Câble connectés / Angeschlossene Kabel

none

4.3 Modifications before the tests / Modifications apportées avant les essais / Vor den Prüfungen angebrachte Änderungen

none

4.4 Pictures of the EUT / Photos de l'EST / Fotos des Prüflings

Equipment under test / Equipment sous test / Prüfling

Equipment under test / Equipment sous test / Prüfling

4.5 Classification / Classification / Klassierung

• Intentional radiator

5. Test conditions / Conditions d'essai / Testbedingungen

5.1 Climatic conditions / conditions climatiques / klimatologische Bedingungen

Temperature / Température / Temperatur:	*20 - 25*	*°C*
Pressure / Pression / Druck:	*1001 - 1012*	*hPa*
Relative humidity / Humidité relative / Relative Luftfeuchtigkeit:	*36 - 45*	*%*

5.2 Location and Date / Lieu et date / Ort und Datum

Test period / Date des essais / Datum der Prüfungen:	*December 19, 2002 and July 1 to 2, 2003*
Location / Lieu / Ort:	*Rossens*

5.3 Persons present / Personnes présentes / Anwesende Personen

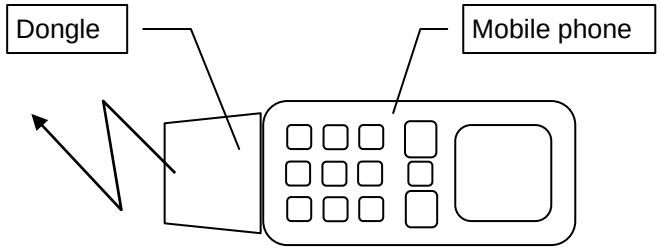
Test Engineer(s) / Ingénieur(s) d'essai / Prüfingenieur(e) :

Erich Staub

Other(s) / Autre(s) / Andere :

Name / Nom / Name	Company / Société / Firma
Roger Meier	*Shockfish SA*

5.4 Test configuration / Configuration d'essai / Prüfkonfiguration

The Dongle was connected to the mobile phone which was switched off.	

5.5 Operating conditions / Conditions de fonctionnement / Betriebszustand

Normal mode of operation, modulated transmitter at lowest and highest operating frequencies.

5.6 Auxillary equipment / Matériel auxiliaire / Zusatzgeräte

The following pieces of equipment are used for the monitoring of the EUT or are necessary for the EUT but they are not tested with the EUT / Les équipements suivants servent à la surveillance de l'EST ou sont indispensable au fonctionnement de celui-ci mais ne font pas partie de l'essai / Folgende Geräte werden für die Überwachung des Prüflings gebraucht oder sind notwendig für die korrekte Funktion. Sie gehören jedoch nicht zum Prüfling.

Product / Produit / Produkt	**Brand / Marque / Marke**	**Model No.**	**ID**	**Remark / Remarque / Bemerkung**
Mobile phone	Nokia	6210	- - -	- - -

6. Emission Test Transmitter

6.1 Carrier measurement

Test site:	☒ anechoic chamber (foam)	☐ open test site		
	☐ anechoic chamber (ferrites)	☐		
Distance:	☐ 30 m	☐ 10 m	☒ 3 m	☐ .....

Position of EUT: 0.8 m (height of the equipment under test above floor)

Test precision: ± 6 dB (30 - 300 MHz) / ± 5.4 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP).

Test set-up:

Remarks:

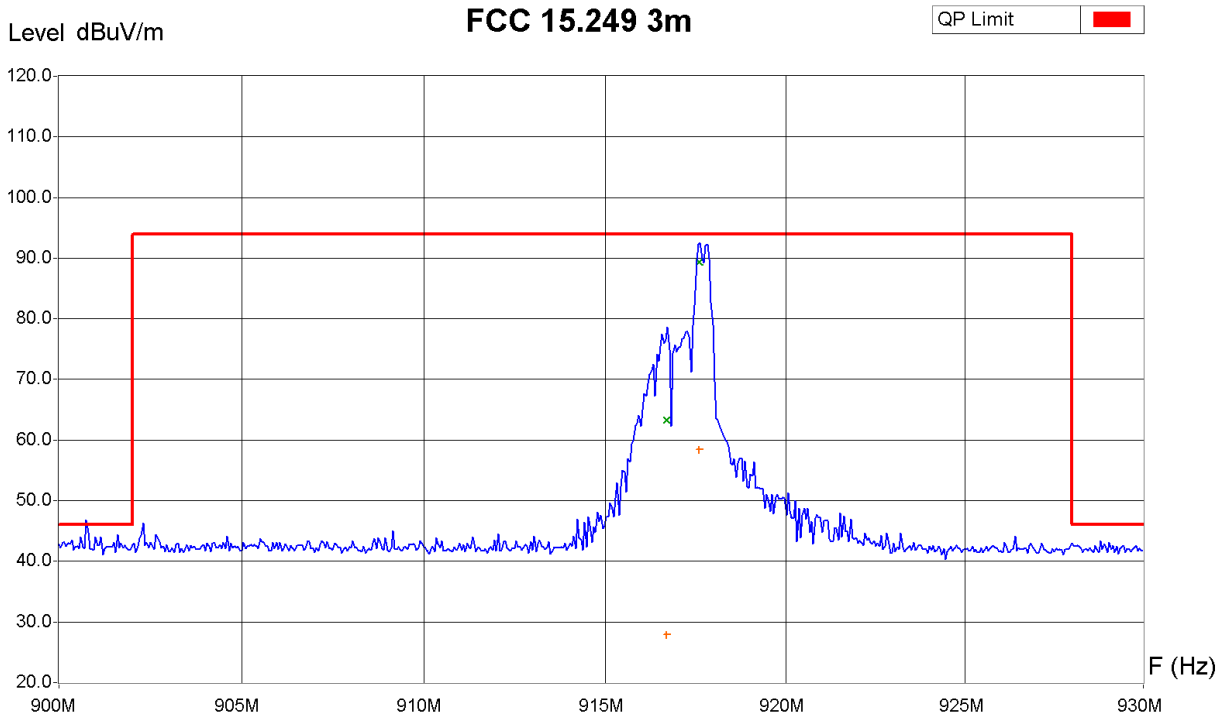
- Maximum field strength measured from 1 to 3 m.
- During this measurement the resolution bandwidth was 120 kHz and the video bandwidth 100 kHz. The theoretical error for broad band signals will be smaller than 0.8 dB. For narrow band signals the level does not change.
- EUT measured in position which showed the highest emission on the first HDC9P prototype

Test equipment:

☒ Spectrum analyser	☒ 88-14	☐ 90-26	☐ 94-24			
☒ Receiver	☐ 85-04	☒ 90-43	☐ 94-35			
☒ Preamplifier	☐ 88-05	☐ 90-01	☐ 90-42	☒ 95-86	☐ 92-39	
☒ Antenna (log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☒ 94-64		
☐ Antenna (horn)	☐ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☒ Attenuators						

Result: ☒ **pass** ☐ **fail** ☐ **not applicable** ☐ **not tested**

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	900 MHz - 930 MHz
Video Bandwidth	100 KHz
Resol Bandwidth	120 KHz
Sweep Time	0 s

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
916.70 MHz	75.3 dBuV/m	63.3 dBuV/m	28.0 dBuV/m	30.7 dB
917.60 MHz	90.5 dBuV/m	89.4 dBuV/m	58.4 dBuV/m	4.6 dB

Operator: E. Staub
Date/Time: 19.12.02 12:16
Filename:
20025229_LCh_Dongle HDC9P_001h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
900.00	42.8	3.2
900.05	42.2	3.8
900.10	43.2	2.8
900.15	43.2	2.8
900.20	42.5	3.5
900.25	43.0	3.0
900.30	42.8	3.2
900.35	43.5	2.5
900.40	41.8	4.2
900.45	42.3	3.7
900.50	42.5	3.5
900.55	42.1	3.9
900.60	44.0	2.0
900.65	42.3	3.7
900.70	42.1	3.9
900.75	46.8	-0.8
900.80	44.8	1.2
900.85	42.1	3.9
900.90	42.0	4.0
900.95	41.8	4.2
901.00	44.0	2.0
901.05	42.6	3.4
901.10	42.6	3.4
901.15	44.0	2.0
901.20	41.1	4.9
901.25	42.1	3.9
901.30	42.3	3.7
901.35	42.3	3.7
901.40	42.3	3.7
901.45	42.5	3.5
901.50	43.1	2.9
901.55	41.5	4.5
901.60	44.5	1.5
901.65	42.3	3.7
901.70	43.0	3.0
901.75	42.3	3.7
901.80	42.6	3.4
901.85	42.3	3.7
901.90	41.8	4.2
901.95	41.8	4.2
902.00	42.8	3.2
917.52	89.7	4.3
917.57	92.3	1.7
917.62	92.5	1.5
917.67	90.0	4.0
917.72	89.2	4.8
917.77	92.0	2.0
917.82	92.3	1.7
917.87	89.8	4.2
928.00	42.9	3.1

928.05	42.4	3.6
928.10	42.4	3.6
928.15	42.6	3.4
928.20	42.4	3.6
928.25	42.1	3.9
928.30	41.4	4.6
928.35	41.9	4.1
928.40	41.9	4.1
928.45	41.8	4.2
928.50	42.3	3.7
928.55	41.8	4.2
928.60	41.4	4.6
928.65	42.6	3.4
928.70	41.9	4.1
928.75	41.4	4.6
928.80	43.4	2.6
928.85	41.9	4.1
928.90	42.9	3.1
928.95	42.3	3.7
929.00	41.4	4.6
929.05	43.1	2.9
929.10	41.9	4.1
929.15	42.6	3.4
929.20	41.4	4.6
929.25	42.4	3.6
929.30	41.3	4.7
929.35	42.1	3.9
929.40	42.4	3.6
929.45	42.4	3.6
929.50	41.4	4.6
929.55	42.1	3.9
929.60	41.9	4.1
929.65	41.6	4.4
929.70	41.9	4.1
929.75	42.4	3.6
929.80	42.6	3.4
929.85	41.7	4.3
929.90	42.1	3.9
929.95	41.7	4.3

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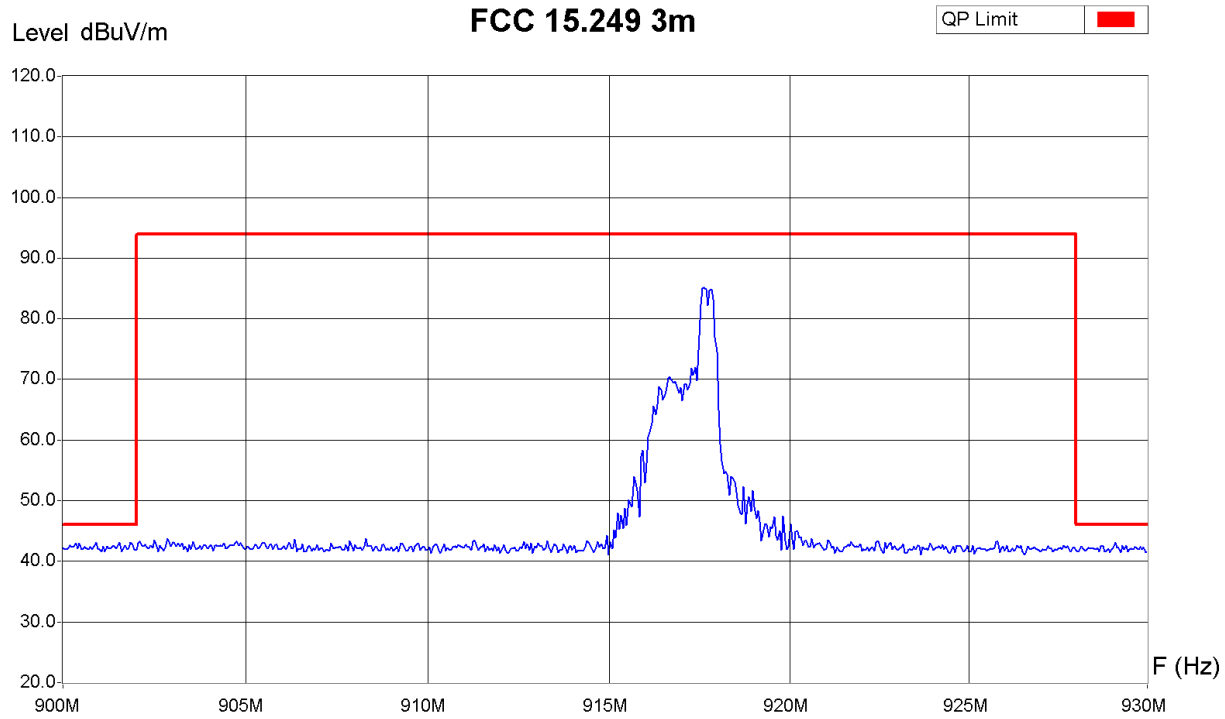
Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	900 MHz - 930 MHz
Video Bandwidth	100 KHz
Resol Bandwidth	120 KHz
Sweep Time	0 s

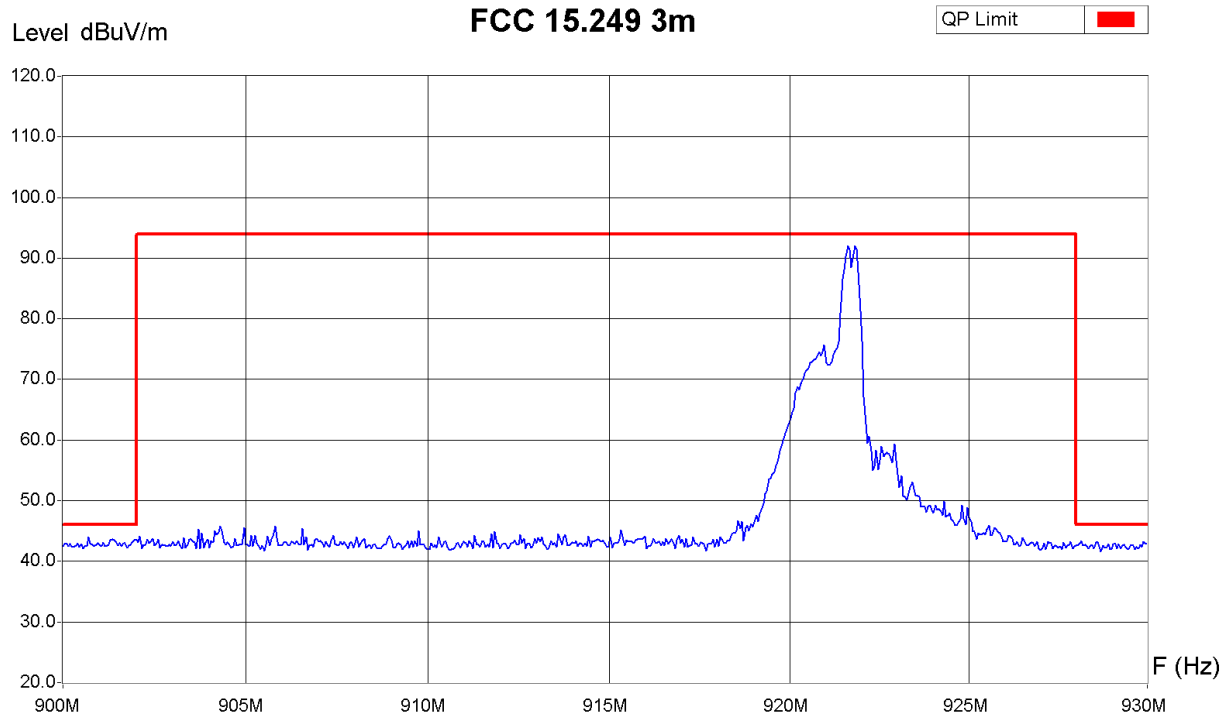
Operator: E. Staub
Date/Time: 19.12.02 12:11
Filename:
20025229_LCh_Dongle HDC9P_001v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
900.00	42.2	3.8
900.05	42.0	4.0
900.10	42.0	4.0
900.15	42.2	3.8
900.20	42.7	3.3
900.25	42.3	3.7
900.30	42.5	3.5
900.35	43.0	3.0
900.40	42.1	3.9
900.45	43.0	3.0
900.50	42.0	4.0
900.55	42.1	3.9
900.60	42.3	3.7
900.65	42.1	3.9
900.70	42.0	4.0
900.75	42.3	3.7
900.80	42.0	4.0
900.85	42.5	3.5
900.90	43.1	2.9
900.95	42.1	3.9
901.00	42.0	4.0
901.05	41.6	4.4
901.10	42.5	3.5
901.15	41.6	4.4
901.20	42.5	3.5
901.25	42.1	3.9
901.30	42.1	3.9
901.35	42.5	3.5
901.40	42.5	3.5
901.45	42.1	3.9
901.50	42.6	3.4
901.55	43.1	2.9
901.60	41.6	4.4
901.65	42.1	3.9
901.70	42.6	3.4
901.75	42.0	4.0
901.80	42.3	3.7
901.85	43.1	2.9
901.90	42.8	3.2
901.95	41.9	4.1
902.00	41.8	4.2
928.00	41.8	4.2
928.05	41.6	4.4
928.10	41.9	4.1
928.15	42.4	3.6
928.20	42.1	3.9
928.25	41.8	4.2
928.30	41.9	4.1
928.35	42.3	3.7
928.40	42.1	3.9

928.45	42.1	3.9
928.50	42.1	3.9
928.55	41.9	4.1
928.60	42.3	3.7
928.65	41.6	4.4
928.70	42.4	3.6
928.75	42.6	3.4
928.80	41.6	4.4
928.85	41.8	4.2
928.90	42.1	3.9
928.95	41.4	4.6
929.00	41.9	4.1
929.05	42.3	3.7
929.10	43.1	2.9
929.15	42.3	3.7
929.20	42.3	3.7
929.25	41.4	4.6
929.30	42.6	3.4
929.35	41.9	4.1
929.40	42.6	3.4
929.45	41.6	4.4
929.50	41.9	4.1
929.55	42.1	3.9
929.60	41.9	4.1
929.65	42.4	3.6
929.70	42.3	3.7
929.75	41.9	4.1
929.80	42.4	3.6
929.85	41.9	4.1
929.90	42.4	3.6
929.95	41.4	4.6

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	900 MHz - 930 MHz
Video Bandwidth	100 KHz
Resol Bandwidth	120 KHz
Sweep Time	0 s

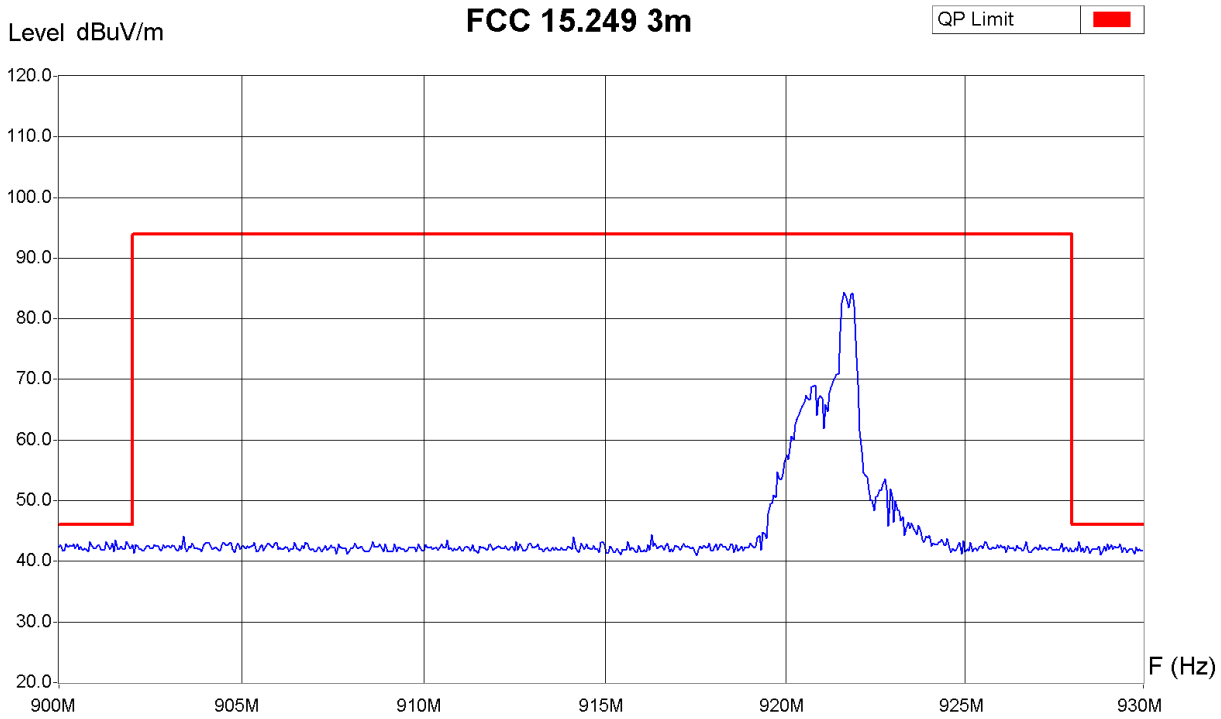
Operator: E. Staub
Date/Time: 19.12.02 13:02
Filename:
20025229_HCh_Dongle HDC9P_001h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
900.00	42.5	3.5
900.05	42.8	3.2
900.10	42.8	3.2
900.15	42.5	3.5
900.20	42.8	3.2
900.25	42.3	3.7
900.30	42.3	3.7
900.35	42.7	3.3
900.40	43.0	3.0
900.45	42.3	3.7
900.50	42.8	3.2
900.55	42.1	3.9
900.60	42.5	3.5
900.65	42.5	3.5
900.70	44.0	2.0
900.75	43.0	3.0
900.80	42.8	3.2
900.85	42.5	3.5
900.90	42.8	3.2
900.95	43.0	3.0
901.00	42.8	3.2
901.05	42.5	3.5
901.10	43.1	2.9
901.15	42.5	3.5
901.20	42.6	3.4
901.25	42.8	3.2
901.30	43.5	2.5
901.35	43.6	2.4
901.40	43.5	2.5
901.45	43.1	2.9
901.50	42.6	3.4
901.55	43.0	3.0
901.60	42.5	3.5
901.65	43.0	3.0
901.70	43.0	3.0
901.75	42.3	3.7
901.80	42.6	3.4
901.85	42.8	3.2
901.90	43.3	2.7
901.95	43.4	2.6
902.00	43.4	2.6
921.56	90.2	3.8
921.61	92.0	2.0
921.66	91.4	2.6
921.76	90.0	4.0
921.81	92.0	2.0
921.86	91.5	2.5
928.00	42.6	3.4
928.05	42.8	3.2
928.10	42.9	3.1

928.15	43.4	2.6
928.20	42.6	3.4
928.25	42.8	3.2
928.30	42.4	3.6
928.35	42.1	3.9
928.40	42.6	3.4
928.45	42.8	3.2
928.50	42.1	3.9
928.55	43.1	2.9
928.60	43.3	2.7
928.65	42.4	3.6
928.70	41.6	4.4
928.75	42.6	3.4
928.80	42.3	3.7
928.85	42.3	3.7
928.90	42.9	3.1
928.95	41.9	4.1
929.00	41.9	4.1
929.05	42.9	3.1
929.10	42.9	3.1
929.15	42.1	3.9
929.20	42.9	3.1
929.25	42.1	3.9
929.30	42.6	3.4
929.35	42.8	3.2
929.40	42.3	3.7
929.45	41.9	4.1
929.50	42.3	3.7
929.55	42.8	3.2
929.60	42.6	3.4
929.65	41.9	4.1
929.70	42.4	3.6
929.75	42.1	3.9
929.80	42.8	3.2
929.85	42.4	3.6
929.90	43.2	2.8
929.95	42.9	3.1

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	900 MHz - 930 MHz
Video Bandwidth	100 KHz
Resol Bandwidth	120 KHz
Sweep Time	0 s

Operator: E. Staub
Date/Time: 19.12.02 13:10
Filename:
20025229_HCh_Dongle HDC9P_001v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
900.00	42.3	3.7
900.05	42.7	3.3
900.10	41.7	4.3
900.15	41.7	4.3
900.20	42.8	3.2
900.25	42.3	3.7
900.30	42.7	3.3
900.35	42.5	3.5
900.40	42.8	3.2
900.45	42.1	3.9
900.50	42.8	3.2
900.55	42.0	4.0
900.60	42.3	3.7
900.65	41.8	4.2
900.70	42.1	3.9
900.75	42.0	4.0
900.80	41.6	4.4
900.85	43.3	2.7
900.90	42.5	3.5
900.95	42.1	3.9
901.00	42.1	3.9
901.05	42.6	3.4
901.10	42.6	3.4
901.15	42.0	4.0
901.20	41.8	4.2
901.25	42.0	4.0
901.30	43.3	2.7
901.35	42.5	3.5
901.40	42.0	4.0
901.45	43.0	3.0
901.50	41.6	4.4
901.55	43.5	2.5
901.60	42.0	4.0
901.65	42.0	4.0
901.70	42.5	3.5
901.75	42.0	4.0
901.80	42.0	4.0
901.85	43.3	2.7
901.90	42.6	3.4
901.95	42.1	3.9
902.00	42.8	3.2
928.00	41.6	4.4
928.05	41.8	4.2
928.10	42.3	3.7
928.15	41.8	4.2
928.20	43.3	2.7
928.25	41.6	4.4
928.30	42.3	3.7
928.35	41.4	4.6
928.40	42.4	3.6

928.45	42.3	3.7
928.50	41.3	4.7
928.55	41.9	4.1
928.60	41.9	4.1
928.65	41.9	4.1
928.70	41.9	4.1
928.75	42.4	3.6
928.80	41.1	4.9
928.85	41.4	4.6
928.90	42.4	3.6
928.95	41.8	4.2
929.00	42.9	3.1
929.05	41.9	4.1
929.10	42.8	3.2
929.15	41.9	4.1
929.20	42.4	3.6
929.25	42.3	3.7
929.30	42.3	3.7
929.35	42.9	3.1
929.40	41.4	4.6
929.45	42.3	3.7
929.50	42.1	3.9
929.55	41.4	4.6
929.60	41.9	4.1
929.65	41.9	4.1
929.70	41.9	4.1
929.75	41.3	4.7
929.80	42.4	3.6
929.85	41.7	4.3
929.90	41.9	4.1
929.95	41.7	4.3

6.2 Radiated electromagnetic field 30 - 1000 MHz

Test site:	☒ anechoic chamber (foam)	☐ open test site		
	☐ anechoic chamber (ferrites)	☐		
Distance:	☐ 30 m	☐ 10 m	☒ 3 m	☐ .....

Position of EUT: 0.8 m (height of the equipment under test above floor)

Test precision: ± 6 dB (30 - 300 MHz) / ± 5.4 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured from 30 to 1000 MHz using a spectrum analyser and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP).

Test set-up:

Remarks:
- Maximum field strength measured from 1 to 3 m.
- EUT measured in position which showed the highest emission on the first HDC9P prototype
- With notch filter at transmitting frequency, for values around carrier see §6.1

Test equipment:

☒ Spectrum analyser	☒ 88-14	☐ 90-26	☐ 94-24			
☒ Receiver	☐ 85-04	☒ 90-43	☐ 94-35			
☒ Preamplifier	☐ 88-05	☐ 90-01	☐ 90-42	☒ 95-86	☐ 92-39	
☒ Antenna (biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☒ 94-37	
☒ Antenna (log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☒ 94-64		
☒ Notch filter	.....					

Result: ☒ **pass** ☐ **fail** ☐ **not applicable** ☐ **not tested**

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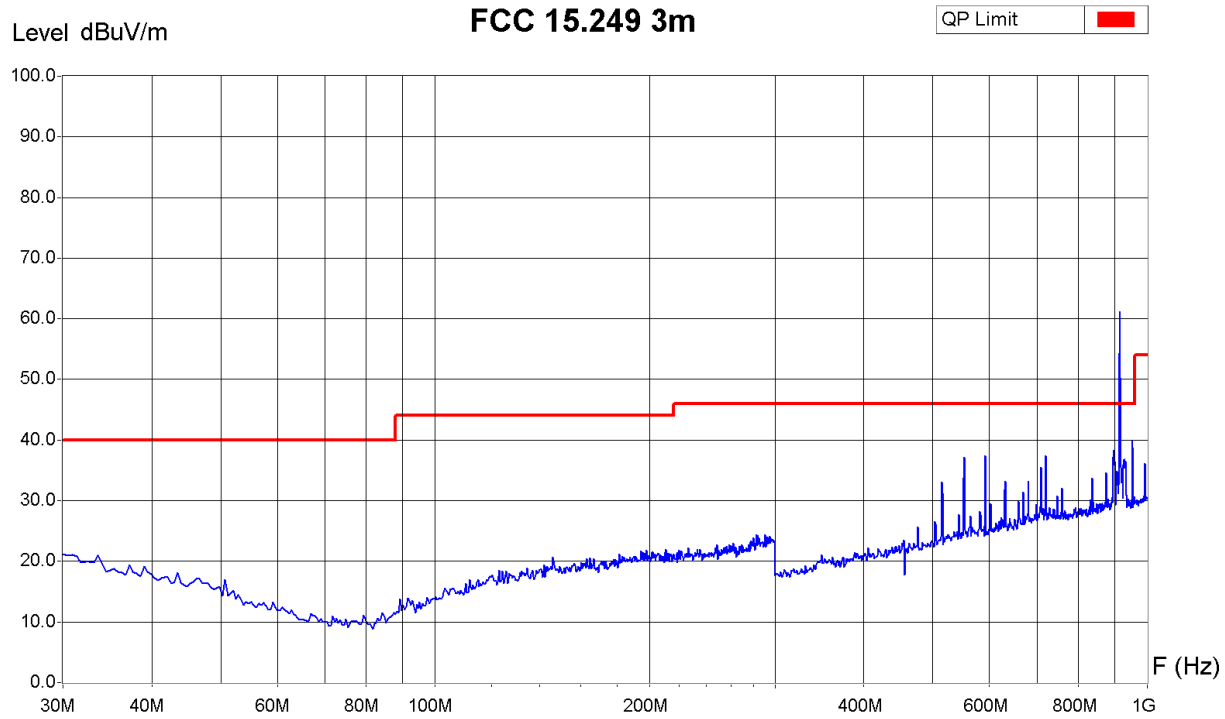
Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



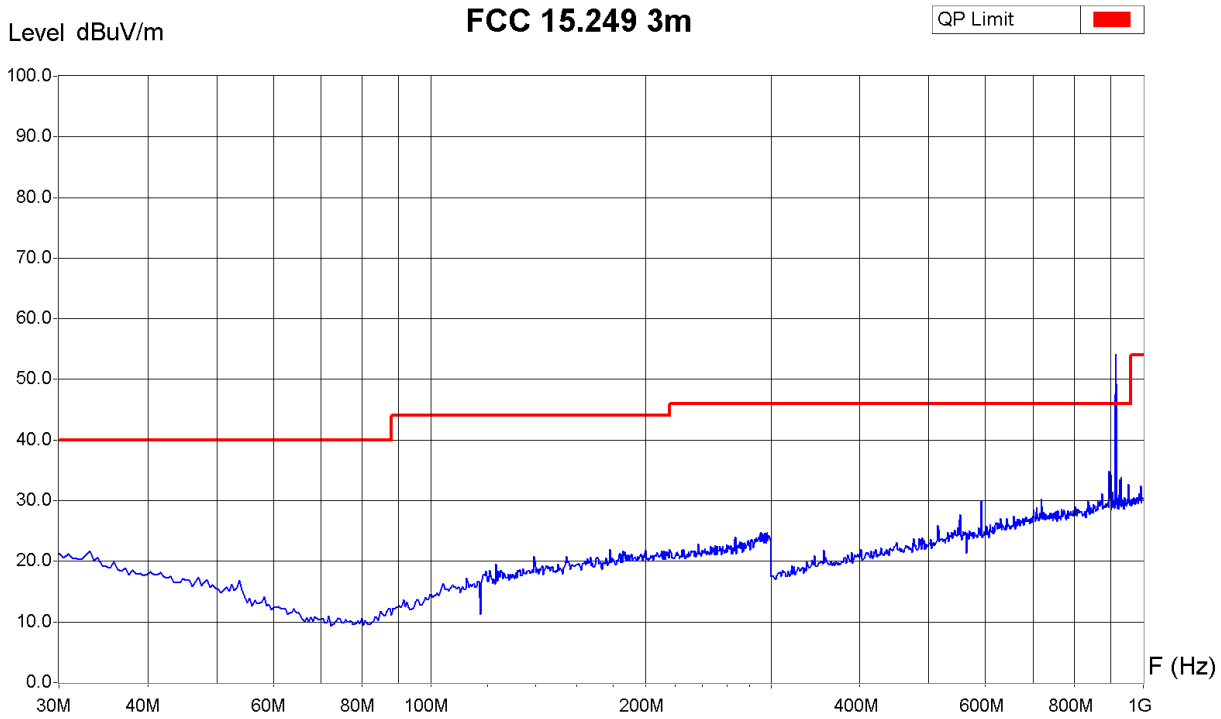
Zone	30 MHz - 300 MHz	300 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.02 11:44
Filename:
20025229_LCh_Dongle HDC9P_000h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
913.81	54.3	-8.3
914.98	61.1	-15.1
916.14	50.3	-4.3

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	30 MHz - 300 MHz	300 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.02 11:50
Filename:
20025229_LCh_Dongle HDC9P_000v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
913.81	47.5	-1.5
914.98	54.1	-8.1
916.14	49.3	-3.3

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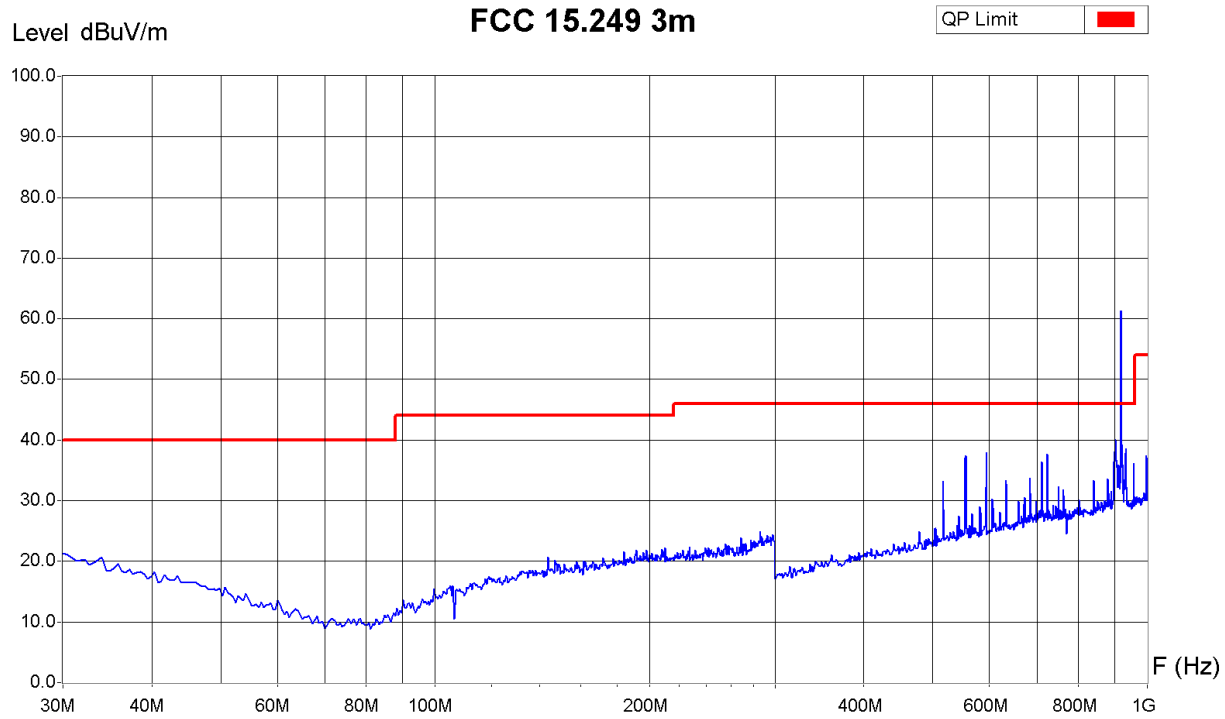
Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



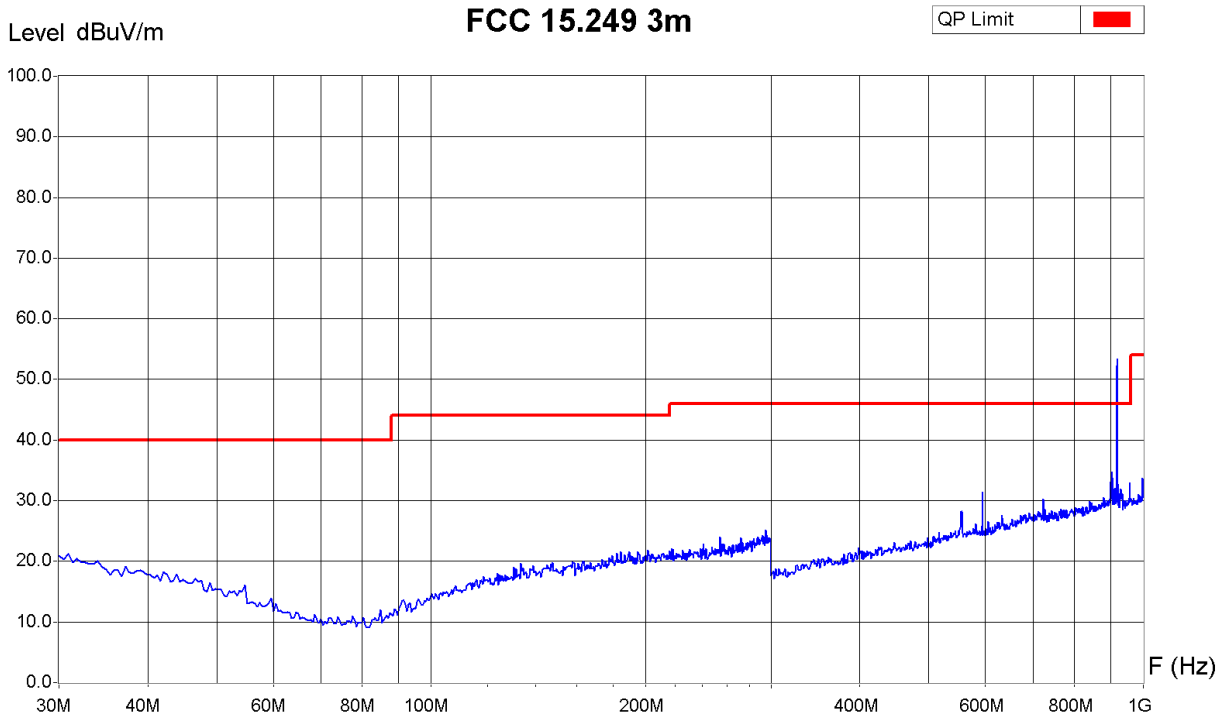
Zone	30 MHz - 300 MHz	300 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.02 11:10
Filename:
20025229_HCh_Dongle HDC9P_000h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
917.30	48.1	-2.1
918.47	61.4	-15.4
919.63	61.2	-15.2

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	30 MHz - 300 MHz	300 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.02 11:04
Filename:
20025229_HCh_Dongle HDC9P_000v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]
918.47	52.2	-6.2
919.63	53.4	-7.4

6.3 Radiated electromagnetic field 1 - 10 GHz

Test site:	☒ anechoic chamber (foam)	☐ open test site		
	☐ anechoic chamber (ferrites)	☐		
Distance:	☐ 30 m	☐ 10 m	☐ 3 m	☒ 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Test precision: ± 6 dB (30 - 300 MHz) / ± 5.4 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph.

Test set-up:

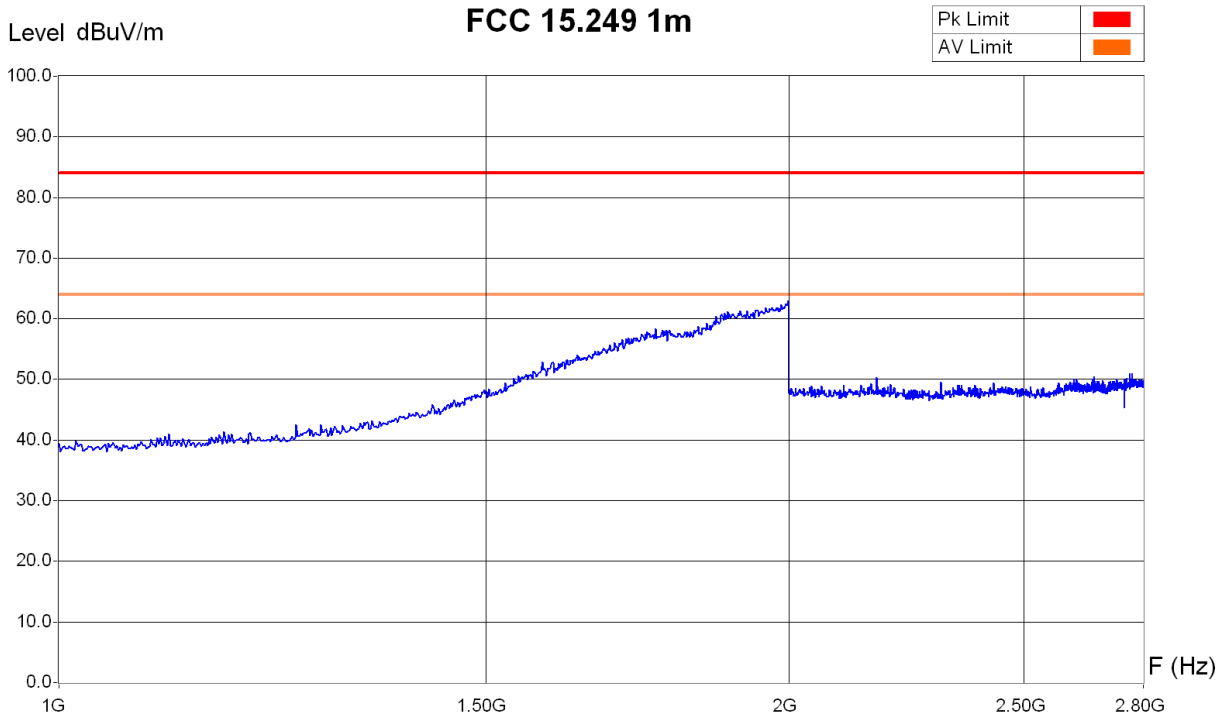
Remarks:
- As the noise level of the measuring system was close the the limit, the RBW has been reduced for some frequency ranges. Any emission exceeding the limit would be measured with a receiver with 1 MHz bandwidth
- EUT measured in position which showed the highest emission on the first HDC9P prototype

Test equipment:

☒ Spectrum analyser	☒ 88-14	☐ 90-26	☐ 94-24			
☒ Receiver	☐ 85-04	☒ 90-43	☐ 94-35			
☒ Preamplifier	☐ 88-05	☐ 90-01	☐ 90-42	☒ 95-86	☒ 92-39	
☐ Antenna (biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
☐ Antenna (log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64		
☒ Antenna (horn)	☒ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☒ Notch and high-pass filter	.....					

Result: ☒ **pass** ☐ **fail** ☐ **not applicable** ☐ **not tested**

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 14:54
Filename:
20025229_LCh_Dongle HDC9P_002h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]
1.850	59.3	4.7
1.862	59.3	4.7
1.864	59.6	4.4
1.865	59.0	5.0
1.867	60.4	3.6
1.869	59.3	4.7
1.870	59.4	4.6
1.872	59.2	4.8
1.874	59.4	4.6
1.875	60.5	3.5
1.877	60.7	3.3
1.879	60.2	3.8
1.880	59.8	4.2
1.882	60.9	3.1
1.884	59.9	4.1
1.885	59.9	4.1
1.887	61.1	2.9
1.889	60.2	3.8
1.890	60.8	3.2
1.892	60.5	3.5
1.894	60.1	3.9
1.895	60.8	3.2
1.897	60.7	3.3
1.899	60.6	3.4
1.900	60.3	3.7
1.902	60.1	3.9
1.903	60.2	3.8
1.905	60.6	3.4
1.907	61.0	3.0
1.908	60.5	3.5
1.910	61.3	2.7
1.912	60.5	3.5
1.913	60.3	3.7
1.915	60.4	3.6
1.917	60.6	3.4
1.918	60.7	3.3
1.920	60.0	4.0
1.922	61.4	2.6
1.923	60.5	3.5
1.925	60.1	3.9
1.927	60.0	4.0
1.928	60.5	3.5
1.930	60.8	3.2
1.932	60.4	3.6
1.933	61.0	3.0
1.935	60.1	3.9
1.937	60.9	3.1
1.938	61.5	2.5
1.940	61.3	2.7
1.942	61.4	2.6

1.943	60.4	3.6
1.945	60.8	3.2
1.947	61.1	2.9
1.948	61.2	2.8
1.950	61.2	2.8
1.952	60.9	3.1
1.953	60.8	3.2
1.955	61.0	3.0
1.957	61.9	2.1
1.958	61.2	2.8
1.960	61.1	2.9
1.962	61.0	3.0
1.963	61.7	2.3
1.965	61.5	2.5
1.967	61.5	2.5
1.968	61.8	2.2
1.970	61.7	2.3
1.972	61.3	2.7
1.973	61.5	2.5
1.975	61.3	2.7
1.977	61.9	2.1
1.978	61.4	2.6
1.980	61.8	2.2
1.982	61.2	2.8
1.983	61.2	2.8
1.985	62.4	1.6
1.987	61.6	2.4
1.988	61.6	2.4
1.990	61.8	2.2
1.992	61.7	2.3
1.993	62.1	1.9
1.995	62.5	1.5
1.997	62.2	1.8
1.998	63.0	1.0

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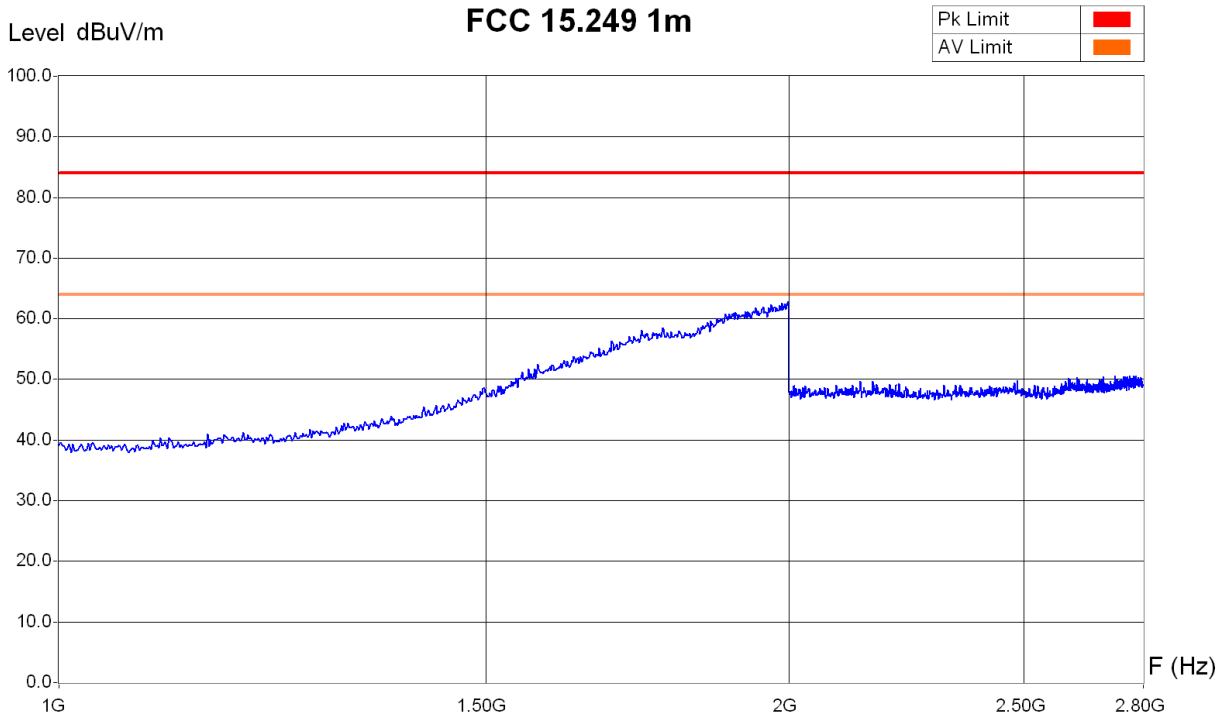
Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 14:51
Filename:
20025229_LCh_Dongle HDC9P_002v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]
1.852	59.4	4.6
1.857	59.6	4.4
1.860	59.2	4.8
1.865	59.0	5.0
1.867	59.1	4.9
1.869	60.0	4.0
1.870	59.4	4.6
1.872	59.8	4.2
1.874	59.5	4.5
1.875	59.8	4.2
1.877	60.0	4.0
1.879	59.2	4.8
1.880	59.4	4.6
1.882	60.2	3.8
1.884	60.8	3.2
1.885	60.4	3.6
1.887	59.8	4.2
1.889	60.4	3.6
1.890	60.8	3.2
1.892	60.1	3.9
1.894	60.0	4.0
1.895	60.8	3.2
1.897	60.4	3.6
1.899	60.9	3.1
1.900	60.0	4.0
1.902	61.1	2.9
1.903	60.6	3.4
1.905	59.9	4.1
1.907	60.6	3.4
1.908	60.5	3.5
1.910	60.3	3.7
1.912	60.5	3.5
1.913	60.7	3.3
1.915	60.4	3.6
1.917	60.7	3.3
1.918	60.2	3.8
1.920	61.2	2.8
1.922	60.2	3.8
1.923	61.2	2.8
1.925	60.4	3.6
1.927	61.0	3.0
1.928	60.3	3.7
1.930	60.0	4.0
1.932	61.0	3.0
1.933	61.2	2.8
1.935	61.1	2.9
1.937	60.9	3.1
1.938	61.8	2.2
1.940	60.7	3.3
1.942	61.4	2.6

1.943	60.6	3.4
1.945	60.6	3.4
1.947	60.9	3.1
1.948	60.9	3.1
1.950	61.6	2.4
1.952	61.9	2.1
1.953	61.0	3.0
1.955	61.2	2.8
1.957	61.0	3.0
1.958	60.9	3.1
1.960	60.3	3.7
1.962	61.8	2.2
1.963	61.0	3.0
1.965	61.3	2.7
1.967	62.3	1.7
1.968	62.1	1.9
1.970	61.2	2.8
1.972	61.8	2.2
1.973	61.8	2.2
1.975	61.2	2.8
1.977	61.9	2.1
1.978	61.6	2.4
1.980	61.3	2.7
1.982	61.3	2.7
1.983	62.2	1.8
1.985	61.4	2.6
1.987	62.6	1.4
1.988	61.5	2.5
1.990	62.1	1.9
1.992	61.8	2.2
1.993	62.4	1.6
1.995	61.5	2.5
1.997	62.6	1.4
1.998	62.8	1.2

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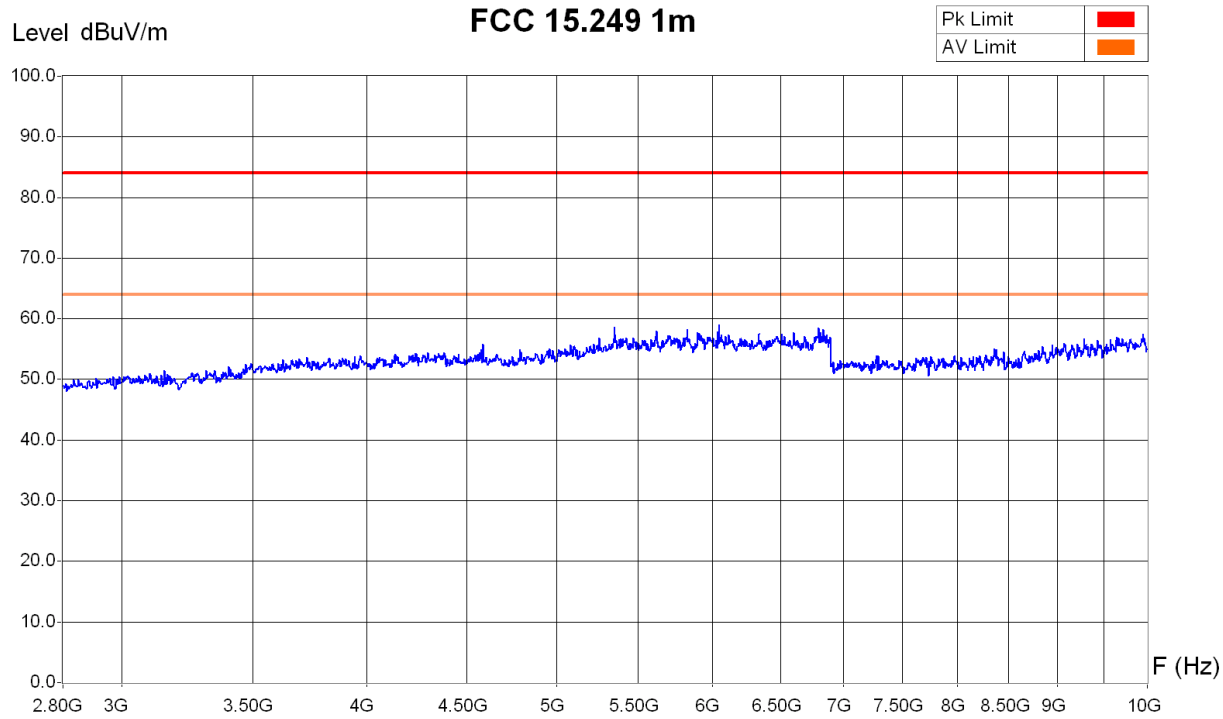
Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 15:06
Filename:
20025229_LCh_Dongle HDC9P_003h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]
6.050	59.0	5.0

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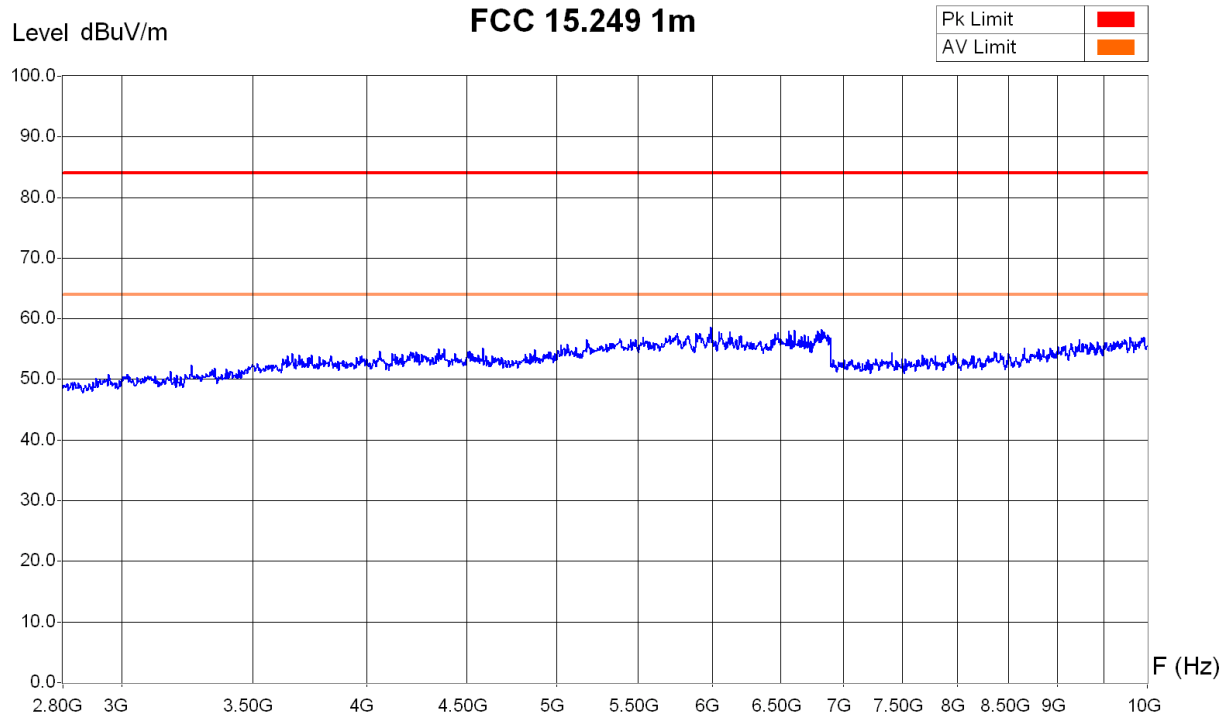
Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P 1202 US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 917.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 15:10
Filename:
20025229_LCh_Dongle HDC9P_003v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

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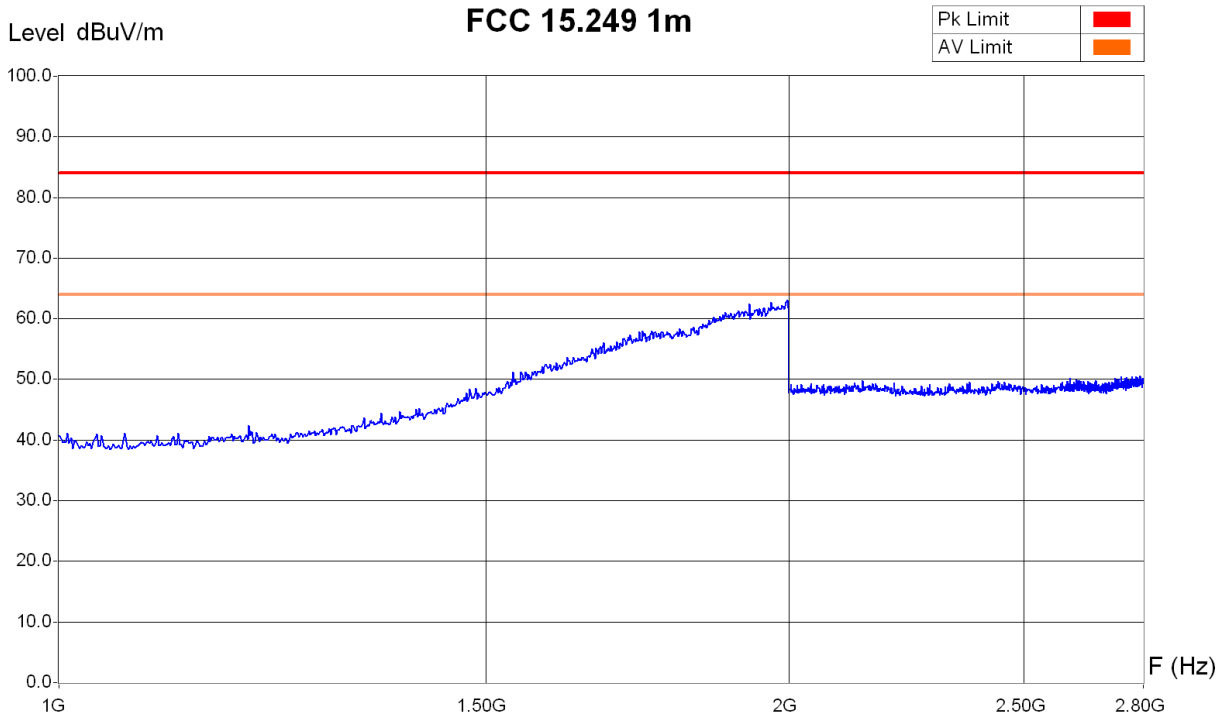
Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz
Sweep Time	0 s	0 s	0 s

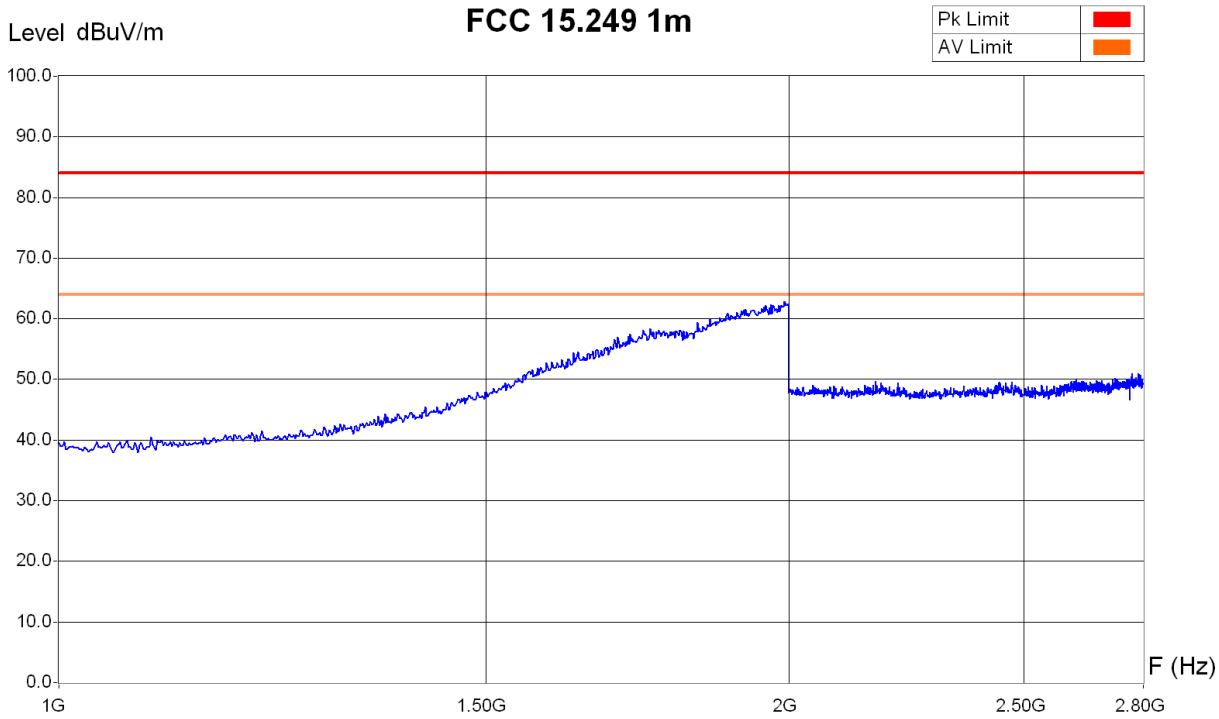
Operator: E. Staub
Date/Time: 19.12.2002 14:27
Filename:
20025229_HCh_Dongle HDC9P_002h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]
1.844	59.1	4.9
1.849	59.0	5.0
1.854	59.7	4.3
1.855	59.0	5.0
1.857	59.3	4.7
1.859	59.3	4.7
1.860	59.6	4.4
1.862	60.3	3.7
1.864	59.4	4.6
1.865	59.3	4.7
1.867	60.1	3.9
1.869	59.7	4.3
1.870	59.8	4.2
1.872	59.8	4.2
1.874	60.4	3.6
1.875	59.7	4.3
1.877	59.7	4.3
1.879	60.7	3.3
1.880	59.9	4.1
1.882	60.4	3.6
1.884	61.1	2.9
1.885	60.4	3.6
1.887	60.3	3.7
1.889	60.7	3.3
1.890	60.1	3.9
1.892	60.5	3.5
1.894	61.0	3.0
1.895	60.2	3.8
1.897	60.4	3.6
1.899	59.9	4.1
1.900	60.8	3.2
1.902	60.4	3.6
1.903	60.9	3.1
1.905	61.1	2.9
1.907	61.3	2.7
1.908	60.3	3.7
1.910	60.6	3.4
1.912	61.0	3.0
1.913	61.0	3.0
1.915	60.9	3.1
1.917	60.4	3.6
1.918	61.2	2.8
1.920	61.2	2.8
1.922	60.9	3.1
1.923	60.5	3.5
1.925	60.6	3.4
1.927	62.5	1.5
1.928	60.0	4.0
1.930	61.0	3.0
1.932	60.5	3.5

1.933	60.9	3.1
1.935	60.9	3.1
1.937	61.4	2.6
1.938	61.3	2.7
1.940	61.5	2.5
1.942	60.7	3.3
1.943	60.6	3.4
1.945	61.6	2.4
1.947	60.9	3.1
1.948	61.2	2.8
1.950	60.4	3.6
1.952	61.7	2.3
1.953	61.8	2.2
1.955	61.0	3.0
1.957	60.4	3.6
1.958	60.9	3.1
1.960	60.8	3.2
1.962	61.8	2.2
1.963	61.5	2.5
1.965	61.3	2.7
1.967	62.6	1.4
1.968	61.6	2.4
1.970	61.9	2.1
1.972	61.9	2.1
1.973	61.5	2.5
1.975	61.7	2.3
1.977	61.4	2.6
1.978	61.9	2.1
1.980	61.9	2.1
1.982	61.7	2.3
1.983	61.6	2.4
1.985	61.5	2.5
1.987	62.2	1.8
1.988	62.0	2.0
1.990	62.1	1.9
1.992	61.5	2.5
1.993	62.1	1.9
1.995	62.7	1.3
1.997	63.1	0.9
1.998	61.8	2.2

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 14:34
Filename:
20025229_HCh_Dongle HDC9P_002v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]
1.834	59.4	4.6
1.852	59.0	5.0
1.855	60.0	4.0
1.860	59.1	4.9
1.862	59.2	4.8
1.864	59.4	4.6
1.865	59.5	4.5
1.869	59.5	4.5
1.870	59.3	4.7
1.872	59.5	4.5
1.874	60.2	3.8
1.875	59.7	4.3
1.877	59.5	4.5
1.879	59.7	4.3
1.880	59.6	4.4
1.882	59.9	4.1
1.884	59.6	4.4
1.885	60.4	3.6
1.887	61.0	3.0
1.889	59.9	4.1
1.890	60.3	3.7
1.892	59.8	4.2
1.894	60.5	3.5
1.895	60.3	3.7
1.897	60.0	4.0
1.899	60.3	3.7
1.900	60.3	3.7
1.902	59.9	4.1
1.903	61.1	2.9
1.905	60.4	3.6
1.907	60.5	3.5
1.908	60.0	4.0
1.910	60.3	3.7
1.912	61.3	2.7
1.913	60.7	3.3
1.915	61.0	3.0
1.917	61.4	2.6
1.918	60.5	3.5
1.920	61.5	2.5
1.922	60.5	3.5
1.923	60.9	3.1
1.925	60.4	3.6
1.927	60.8	3.2
1.928	61.0	3.0
1.930	61.3	2.7
1.932	61.4	2.6
1.933	61.4	2.6
1.935	61.4	2.6
1.937	61.1	2.9
1.938	60.8	3.2

1.940	60.5	3.5
1.942	60.7	3.3
1.943	61.2	2.8
1.945	61.0	3.0
1.947	60.9	3.1
1.948	61.1	2.9
1.950	61.7	2.3
1.952	61.1	2.9
1.953	62.0	2.0
1.955	61.2	2.8
1.957	62.2	1.8
1.958	61.6	2.4
1.960	61.4	2.6
1.962	60.7	3.3
1.963	61.9	2.1
1.965	60.8	3.2
1.967	62.3	1.7
1.968	60.8	3.2
1.970	61.7	2.3
1.972	62.3	1.7
1.973	61.3	2.7
1.975	61.5	2.5
1.977	61.5	2.5
1.978	61.1	2.9
1.980	61.6	2.4
1.982	62.2	1.8
1.983	61.2	2.8
1.985	62.2	1.8
1.987	62.1	1.9
1.988	62.0	2.0
1.990	61.9	2.1
1.992	62.8	1.2
1.993	62.8	1.2
1.995	62.2	1.8
1.997	62.2	1.8
1.998	62.5	1.5

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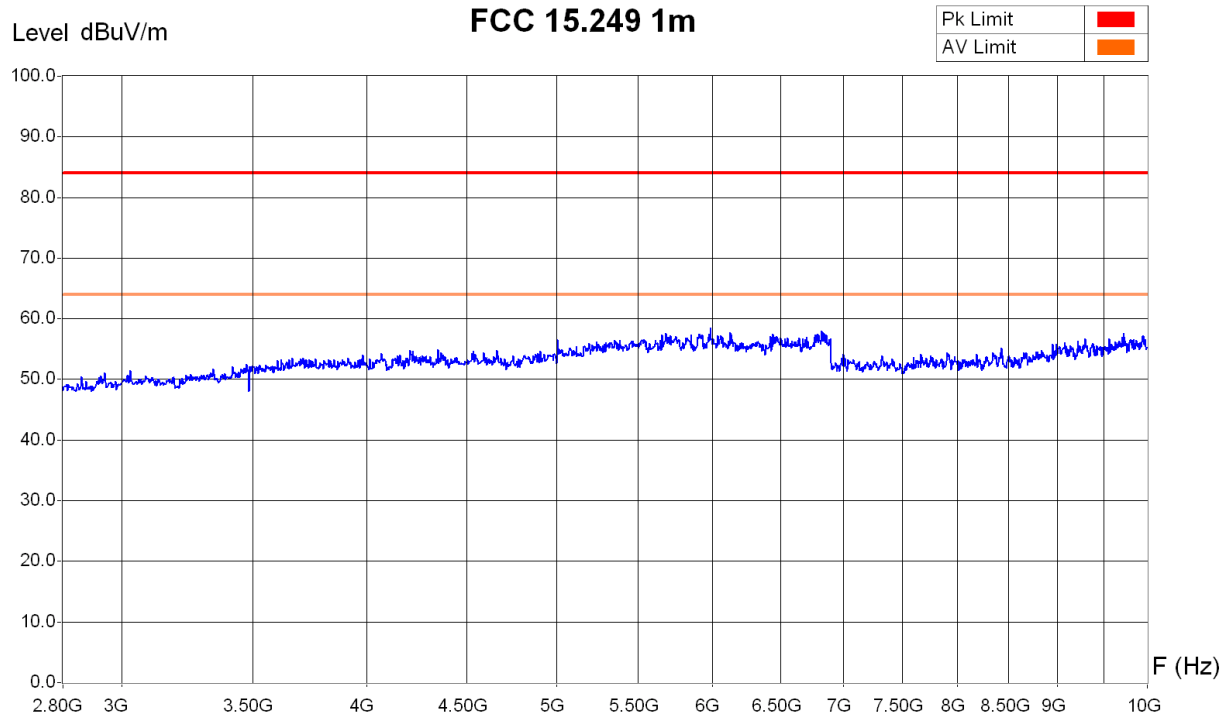
Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 15:44
Filename:
20025229_HCh_Dongle HDC9P_003h.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

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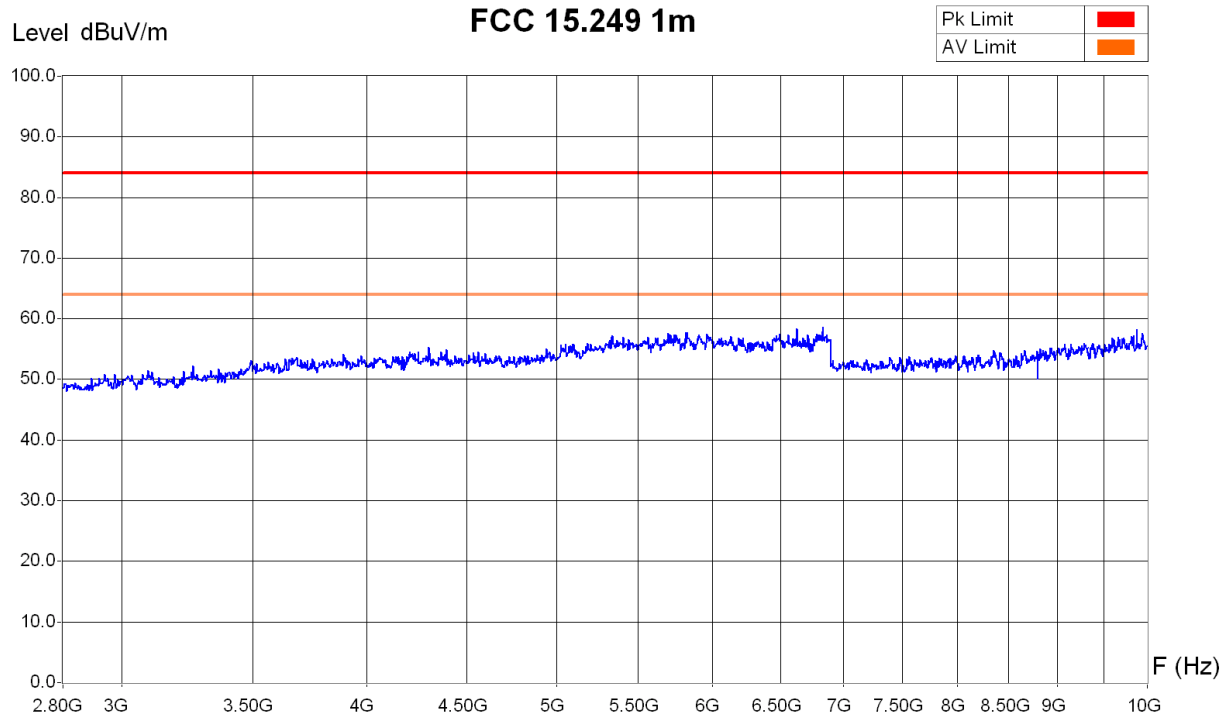
Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Highest channel
Set-Up :	without artificial head
Operating Conditions :	modulated
Remarks :	carrier at 921.7 MHz; Dongle attached to Nokia 6210 (switched off)



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz
Sweep Time	0 s	0 s	0 s

Operator: E. Staub
Date/Time: 19.12.2002 15:40
Filename:
20025229_HCh_Dongle HDC9P_003v.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

7. Emission Test Receiver

7.1 Radiated electromagnetic field 30 - 1000 MHz

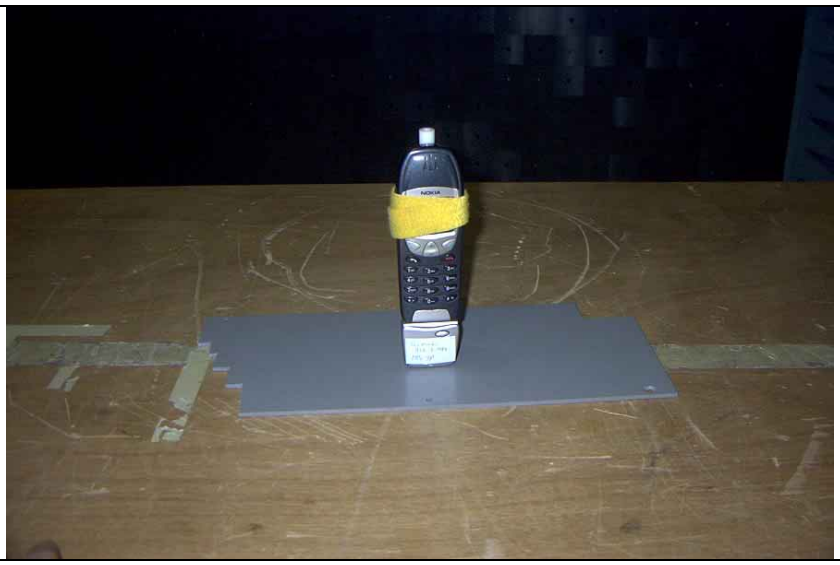
Test site:	☐ anechoic chamber (foam)	☐ open test site		
	☒ anechoic chamber (ferrites)	☐		
Distance:	☐ 30 m	☐ 10 m	☒ 3 m	☐ .....

Position of EUT: 0.8 m (height of the equipment under test above floor)

Test precision: ± 6 dB (30 - 300 MHz) / ± 5.4 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured from 30 to 1000 MHz using a spectrum analyser and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP).

Test set-up:



Remarks:
- Maximum field strength measured from 1 to 3 m.
- Radiated emissions measurements were maximized through orientation of EUT in three orthogonal axes

Test equipment:

☒ Spectrum analyser	☐ 88-14	☐ 90-26	☒ 94-24			
☒ Receiver	☐ 85-04	☐ 90-43	☒ 94-35			
☒ Preamplifier	☐ 88-05	☐ 90-01	☒ 90-42	☐ 95-86	☐ 92-39	
☐ Antenna (horn)	☐ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☒ Antenna	☒ 94-03					
☐ Notch filter	.....					

Result: ☐ **pass** ☒ **fail** ☐ **not applicable** ☐ **not tested**

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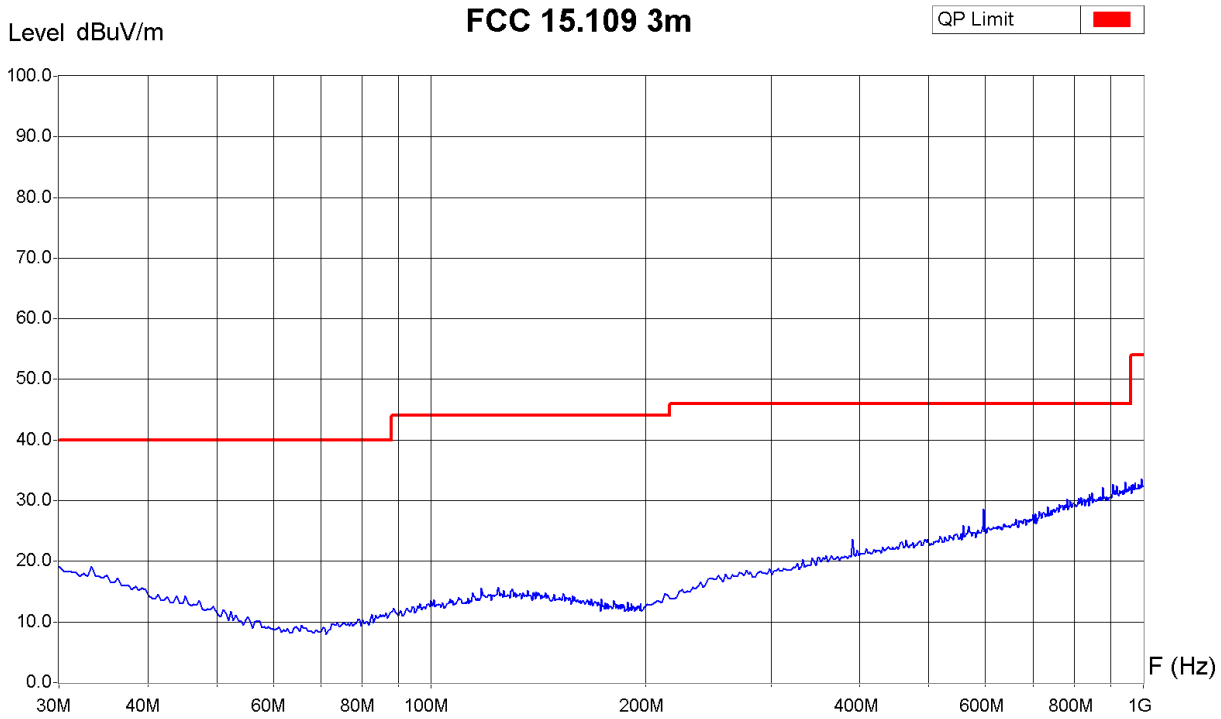
Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	receive mode
Remarks :	917.7 MHz; Dongle attached to Nokia 6210 (switched off)
	P2 = EUT vertical



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	300 KHz	300 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 02.07.03 13:27
Filename:
20025229_RX_DongleHDC9P_000hP2.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]

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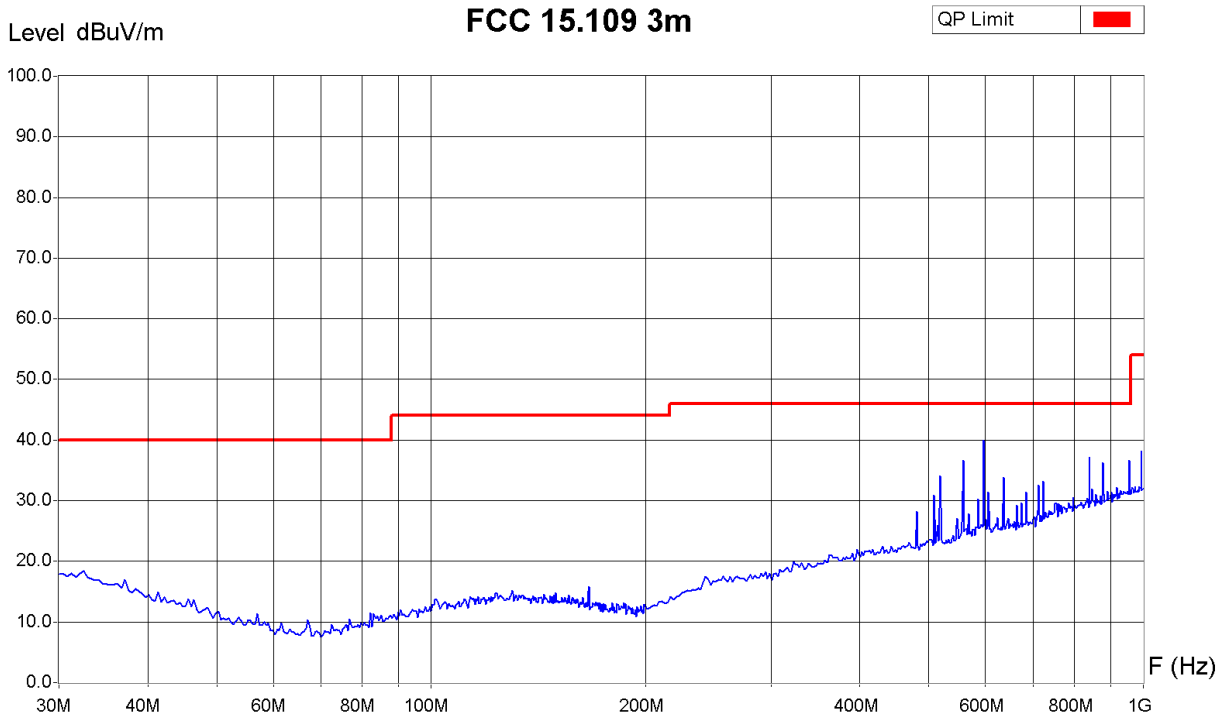
Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 3m
Equipment Under Test :	Dongle HDC9P US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	receive mode
Remarks :	917.7 MHz; Dongle attached to Nokia 6210 (switched off)
	P2 = EUT vertical



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	300 KHz	300 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 02.07.03 13:35
Filename:
20025229_RX_DongleHDC9P_000vP2.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [MHz]	Pk-value [dBµV/m]	Delta [dB]

7.2 Radiated electromagnetic field 1 - 5 GHz

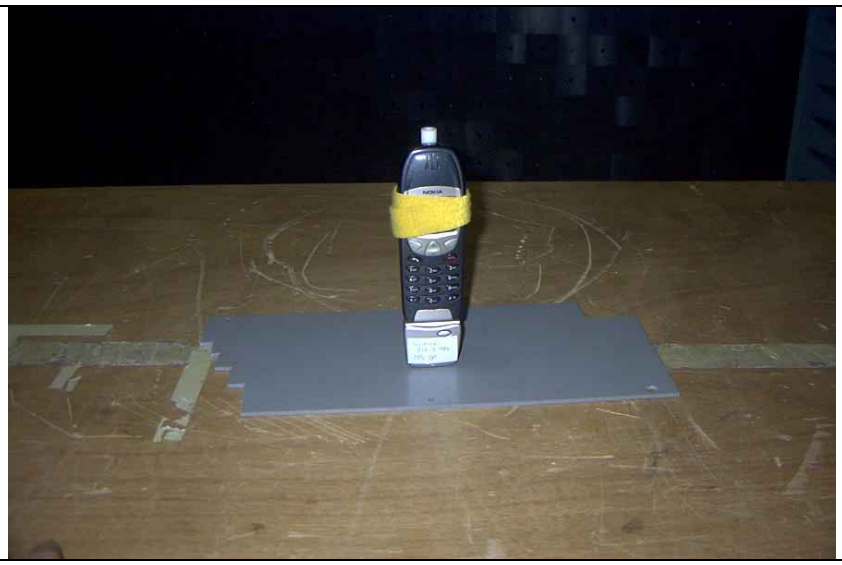
Test site:	☐ anechoic chamber (foam)	☐ open test site		
	☒ anechoic chamber (ferrites)	☐		
Distance:	☐ 30 m	☐ 10 m	☐ 3 m	☒ 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Test precision: ± 6 dB (30 - 300 MHz) / ± 5.4 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph.

Test set-up:



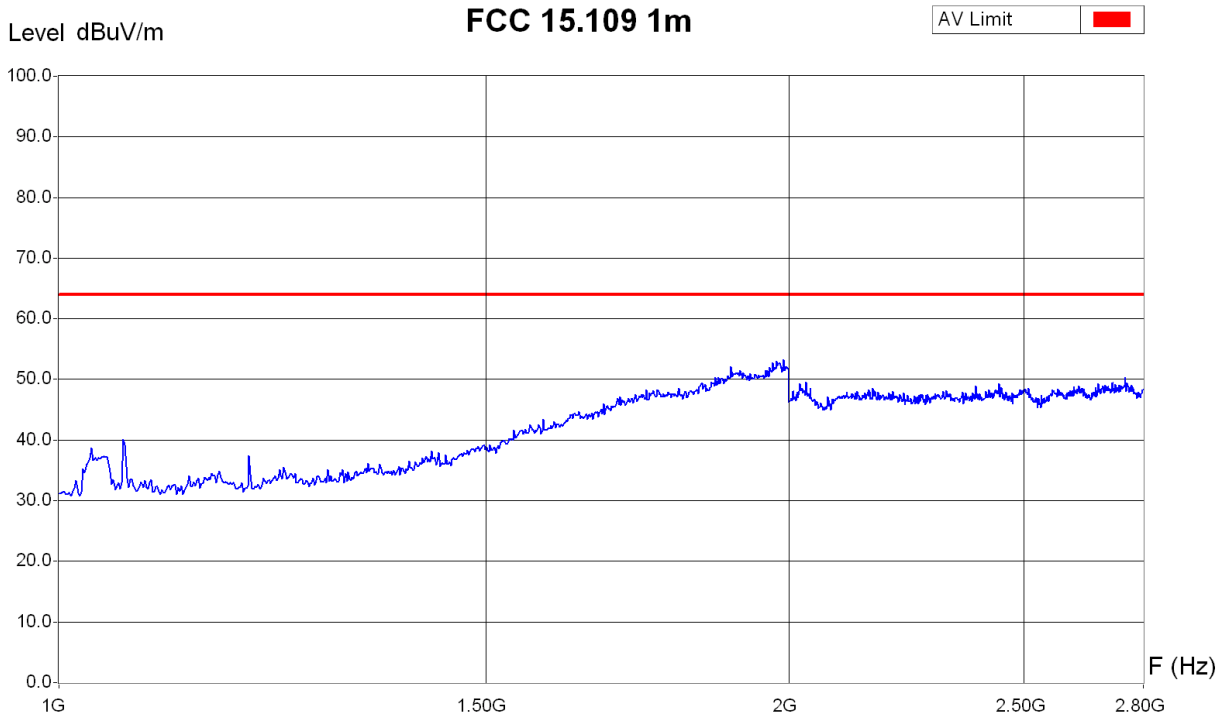
Remarks:
- Radiated emissions measurements were maximized through orientation of EUT in three orthogonal axes

Test equipment:

☒ Spectrum analyser	☒ 88-14	☐ 90-26	☐ 94-24			
☐ Receiver	☐ 85-04	☐ 90-43	☐ 94-35			
☒ Preamplifier	☐ 88-05	☐ 90-01	☐ 90-42	☒ 95-86	☒ 92-39	
☐ Antenna (biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
☐ Antenna (log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64		
☒ Antenna (horn)	☐ 90-24	☒ 90-29	☐ 98-12	☐ 98-13	☐	
☐ Notch and high-pass filter	.....					

Result: ☒ **pass** ☐ **fail** ☐ **not applicable** ☐ **not tested**

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	receive mode
Remarks :	917.7 MHz; Dongle attached to Nokia 6210 (switched off)
	P2 = EUT vertical



Zone	1 GHz - 2 GHz	2 GHz - 2.80 GHz
Video Bandwidth	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 03.07.2003 12:45
Filename: 20025229_RX_DongleHDC9P_001hP2.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

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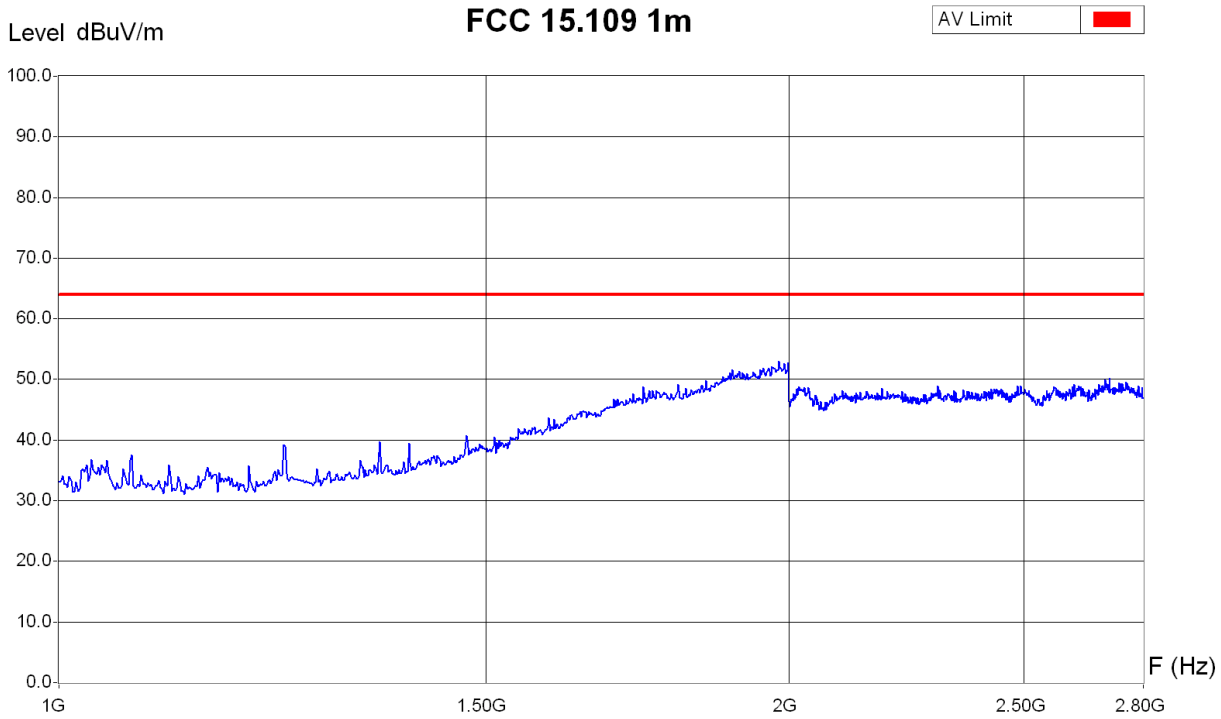
Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	receive mode
Remarks :	917.7 MHz; Dongle attached to Nokia 6210 (switched off)
	P2 = EUT vertical



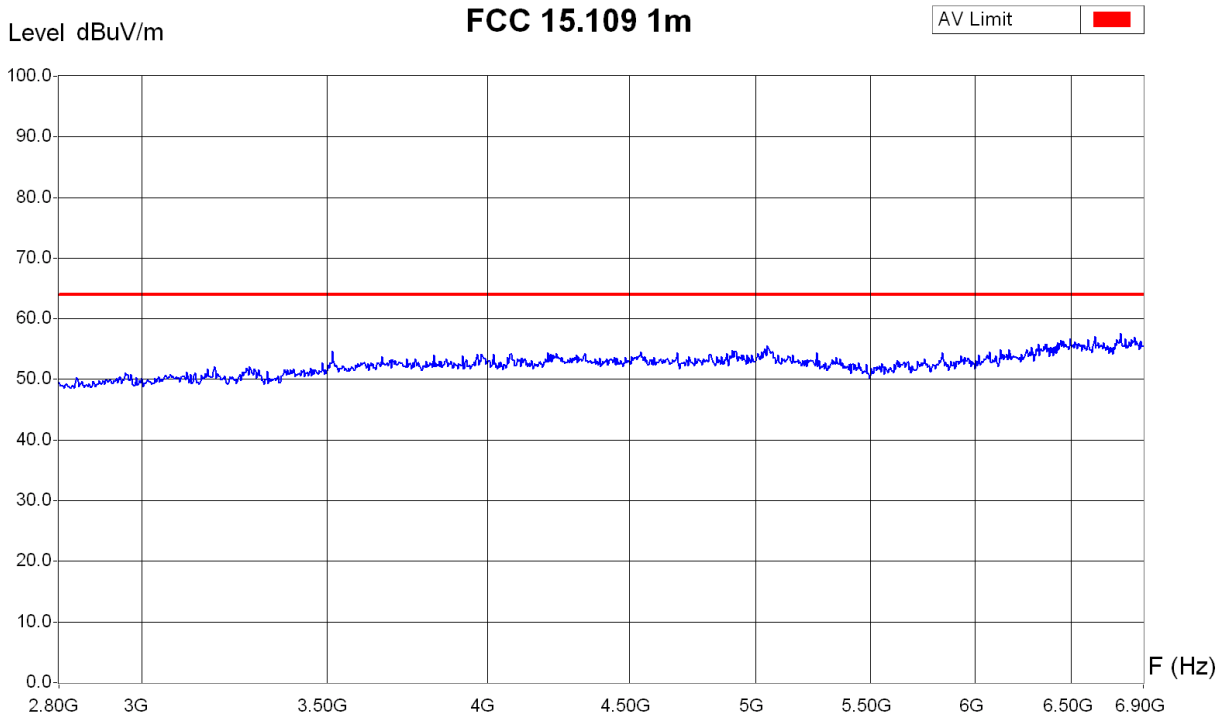
Zone	1 GHz - 2 GHz	2 GHz - 2.80 GHz
Video Bandwidth	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 03.07.2003 12:44
Filename: 20025229_RX_DongleHDC9P_001vP2.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	receive mode
Remarks :	917.7 MHz; Dongle attached to Nokia 6210 (switched off)
	P2 = EUT vertical



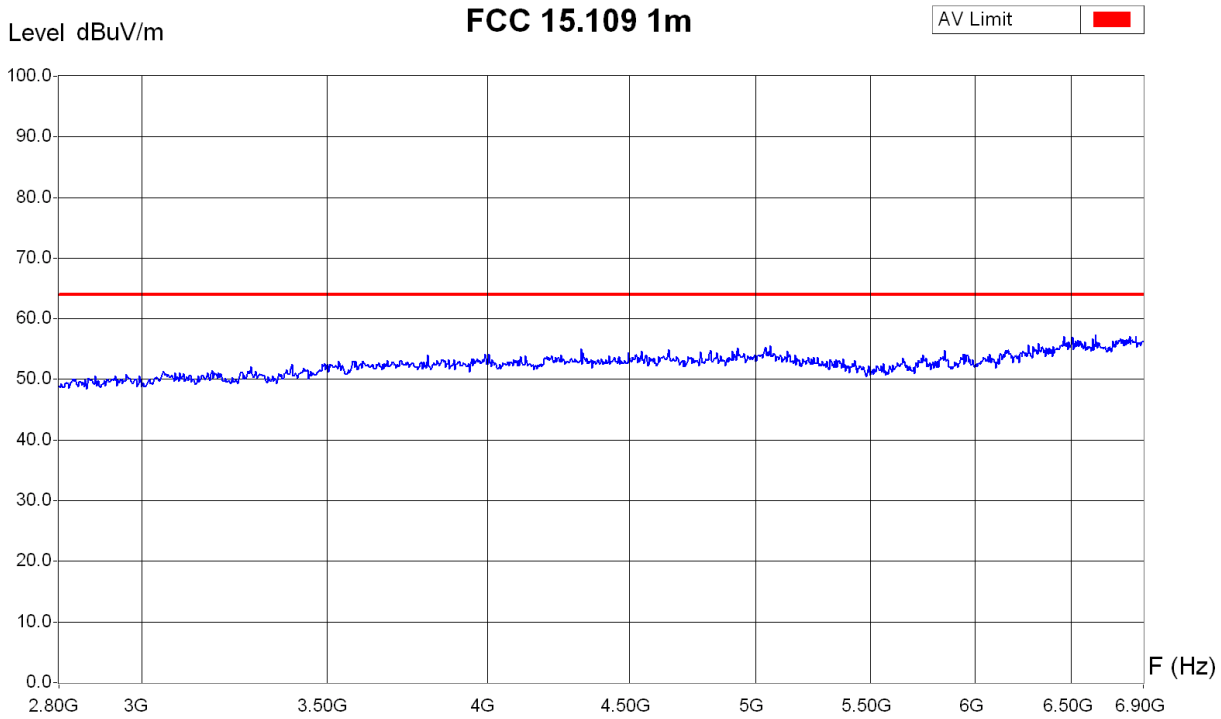
Zone	2.80 GHz - 4.60	4.60 GHz - 6.90
Video Bandwidth	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 03.07.2003 12:54
Filename: 20025229_RX_DongleHDC9P_002hP2.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m
Equipment Under Test :	Dongle HDC9P US: Lowest channel
Set-Up :	without artificial head
Operating Conditions :	receive mode
Remarks :	917.7 MHz; Dongle attached to Nokia 6210 (switched off)
	P2 = EUT vertical



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90
Video Bandwidth	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz
Sweep Time	0 s	0 s

Operator: E. Staub
Date/Time: 03.07.2003 12:56
Filename: 20025229_RX_DongleHDC9P_002vP2.png/.txt

Table of measured Pk-values with any points within 5 dB of the limit of previous plot

Frequency [GHz]	Pk-value [dBµV/m]	Delta [dB]

8. Test equipment

Inv.	Manufacturer	Model	Last cal.	Cal interval
88-14	Hewlett Packard	8562A	Feb 2003	1 year
94-24	Hewlett Packard	8591E	Feb 2003	1 year
94-24	Hewlett Packard	E 4407 B	March 2002	2 years
90-43	Rohde & Schwarz	ESVP	Feb 2003	1 year
94-35	Rohde & Schwarz	ESVS10	Feb 2003	1 year
90-42	Montena emc		Feb 2003	1 year
95-86	Montena emc		Feb 2003	1 year
92-39	Hewlett Packard	8349	Feb 2003	1 year