AT4 wireless S.A.
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ENAC ENSAYOS Nº 51/LE203

TEST REPORT

REFERENCE STANDARD:

FCC Rules and Regulations 47 CFR Part 15, Subpart B

FCC Rules and Regulations 47 CFR Part 15, Subpart B: Limits and methods of measurements for radio frequency devices. Unintentional radiators

NIE ..... :	33376REM.004
Approved by (name / position & signature) ..... :	Rafael López EMC Manager
Elaboration date ..... :	2011-08-25

Rafael López Martín
Firmado digitalmente por Rafael López Martín
Fecha: 2011.09.28 16:47:09 +02'00'

Identification of item tested ..... :	Mobile Broadband Module
Trademark ..... :	Ericsson
Model and/or type reference ..... :	F5321
Other identification of the product ..... :	N/S: A401646808; C37003GU66; C37003JC18 Type number: KRD 131 23/1, KRD 131 23/4, KRD 131 23/7 FCC ID: VV7-MBMF5321 IC: 287AG-MBMF5321 IMEI TAC: 35874204; 35874304; 35874404 Final HW Version: R1 Final SW Version: R1A24
Features ..... :	QUAD BAND 850/900/1800/1900 GSM/GPRS/EGPRS class 10, WCDMA Bands I/II/V,VI, VIII HSDPA Cat. 14 HSUPA Cat. 6
Description ..... :	MiniPCI Full Size Wireless WAN module

Applicant ..... :	Ericsson AB
Address..... :	Lindholmspiren 11 SE-417 56, Gothenburg, Sweden
CIF/NIF/Passport..... :	SE556056625801
Contact person..... :	Fredrik Claesson
Telephone / Fax..... :	Phone: +46 10 7127856 Fax: +46 107126033
e-mail..... :	fredrik.a.claesson@ericsson.com

Test samples supplier ..... :	Ericsson AB
Address..... :	Lindholmspiren 11
	SE-417 56, Gothenburg, Sweden
CIF/NIF/Passport..... :	SE556056625801
Contact person..... :	Fredrik Claesson
Telephone / Fax..... :	Phone: +46 10 7127856 Fax: +46 107126033
e-mail..... :	fredrik.a.claesson@ericsson.com
Manufacturer ..... :	Ericsson AB
Address..... :	Lindholmspiren 11
	SE-417 56, Gothenburg, Sweden
CIF/NIF/Passport..... :	SE556056625801
Contact person..... :	Fredrik Claesson
Telephone / Fax..... :	Phone: +46 10 7127856 Fax: +46 107126033
e-mail..... :	fredrik.a.claesson@ericsson.com
Test method requested ..... :	
Standard..... :	FCC Rules and Regulations 47 CFR Part 15
Test procedure.....:	PEEM103; ANSI C63.4-2009
Report template No..... :	FDT08_12

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Competences and guarantees

This certificate of conformity was issued in accordance with the decision Nº 3/2000 of the Joint Committee established under the Agreement on Mutual Recognition between the European Community and the United States of America. By this decision, AT4 wireless can act as Conformity Assessment Body (CAB) on Electromagnetic Compatibility. This Certificate applies to the samples listed at technical reports.

This laboratory is designed by the Federal Communications Commission (ES0004)

AT4 wireless is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, AT4 wireless has a calibration and maintenance programme for its measurement equipment.

AT4 wireless guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at AT4 wireless at the time of performance of the test.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of AT4 wireless.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the following AT4 wireless's internal documents:

1. PODT000: Procedure for the measure uncertainty calculation.
2. FRF70: Procedure for the measure uncertainty calculation from 12,75 to 26GHz.

Usage of samples

Samples undergoing test have been selected by: The client.

Sample S/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
33376B/73	Mobile Broadband Module	F5321	N/S: A401646808 Type number: KRD 131 23/1 FCC ID: VV7-MBMF5321 IC Type Approval: 287AG-MBMF5321 IMEI TAC: 35874204 Final HW Version: R1 Final SW Version: R1A24	2011/07/15

Sample S/02 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
33376B/118	Mobile Broadband Module	F5321	N/S: C37003JC18 Type number: KRD 131 23/7 FCC ID: VV7-MBMF5321 IC Type Approval: 287AG-MBMF5321 IMEI TAC: 35874404 Final HW Version: R1 Final SW Version: R1A24	2011/08/29

Sample S/03 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
33376B/116	Mobile Broadband Module	F5321	N/S: C37003GU66 Type number: KRD 131 23/4 FCC ID: VV7-MBMF5321 IC Type Approval: 287AG-MBMF5321 IMEI TAC: 35874304 Final HW Version: R1 Final SW Version: R1A24	2011/08/29

Auxiliary elements used with the samples S/01 to S/03:

Control Nº	Description	Model	Serial Nº	Date of reception
33376B/50	Cradle	---	---	2011/06/06
33376B/60	Power supply cable	---	---	2011/07/04
33376B/76	Antenna simulator	---	---	2011/07/15

Testing period

The performed test started on 2011-07-20 and finished on the 2011-09-02.

The tests have been performed at AT4 wireless.

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 80 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

In the semianechoic chamber (21 meters x 11 meters x 8 meters), the following limits were not exceeded during the test.

Temperature	Min. = 15 ºC Max. = 30 ºC
Relative humidity	Min. = 45 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω
Normal site attenuation (NSA)	< ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 30 ºC
Relative humidity	Min. = 45 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

Summary

Considering the results of the performed test according to standard **FCC Rules and Regulations 47 CFR Part 15, Subpart B,** the items under test are **IN COMPLIANCE** with the requested specifications specified in the standard.

NOTE: The results presented in this Test Report apply only to the particular item under test established in page 1 of this document, as presented for test on the date(s) shown in section, "USAGE OF SAMPLES, TESTING PERIOD AND ENVIRONMENTAL CONDITIONS".

Remarks and comments

The tests have been realized by the technical personnel: Antonio Ruiz & José Manuel Marquez.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 MHz to 1 GHz is I = ± 4,57 dB for quasi-peak measurements, I = ± 4,48 dB for peak measurements (k = 2) and from 1 to 12,75 GHz is I = ± 3,43 dB for average and peak measurements.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 12,75 GHz to 26 GHz is I = ± 4,09 dB for average and peak measurements.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 150 kHz to 30 MHz is I = ± 3,60 dB for quasi-peak measurements, I = ± 3,48 dB for peak measurements (k = 2).

ANSI C63.4-2009 states that the frequency and amplitude of at least six spurious emission signals shall be reported. If there are less than six signals observed within 20 dB of the limit, then: "the noise level of the measuring instrument at representative frequencies shall be reported".

The F5321 Ericsson Mobile Broadband Module (FCC ID: VV7-MBMF5321; IC: 287AG-MBMF5321) comes with three different variants with minor HW changes depending on the support of the following features: GPS, HW reset pin and tuneable antennas. A summary of the supported features is included below:

F5321 variants	GPS	HW reset pin	Tuneable antennas
Variant 1	Yes	No	No
Variant 2	Yes	Yes	Yes
Variant 3	No	No	No

More detailed information about the different variants has been provided in the supporting documentation from the manufacturer.

These minor changes are supposed that will not affect to the performance of the device. A pre-scan on radiated and conducted emissions have been performed on the three different variants, being found that the three variants are electrically equivalent with no relevant changes on the test results. As conclusion, the test results included in this test report and corresponding to the variant 1 mentioned above are considered representative and valid for the three indicated HW variants.

Used Modules:

PTCRB#	Type	Model	Comments
26951	Initial	F5321 gw (KRD 131 23/1)	Full size. GPS. Label F5321 gw
26952	Variant	F5321 w (KRD 131 23/4)	Full size. w/o GPS. Label F5321 w
26953	Variant	F5321 gw (KRD 131 23/7)	Full size. GPS. With Tunable antenna + Hw Reset PIN. Label F5321 gw

It was realized a full testing on the sample S/01 and only Radiated Emission Spot-Checking on the samples S/02 & S/03.

Testing veredicts

Not applicable ..... : NA

Pass..... : P

Fail ..... : F

Not measured..... : NM

APPENDIX A

Test Result

APPENDIX A CONTENT:

DESCRIPTION OF THE OPERATION MODES

The operation modes described in this paragraph constitute a functionality of the sample under test for itself. Every operation mode takes a failure criteria for the immunity test that they were applying to it and a monitoring to guarantee performance of the same ones.

In the following table appears the operation modes used by the samples tested to that it refers the present test report.

OPERATION MODE	DESCRIPTION
OM#01	EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc
OM#02	EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc
OM#03	EUT ON. IDLE UMTS FDD II. GPS ON. Nominal Power Supply: 3,3Vdc
OM#04	EUT ON. IDLE UMTS FDD V. GPS ON. Nominal Power Supply: 3,3Vdc
OM#05	EUT ON. TCH 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc
OM#06	EUT ON. TCH 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc
OM#07	EUT ON. TCH UMTS FDD II. GPS ON. Nominal Power Supply: 3,3Vdc
OM#08	EUT ON. TCH UMTS FDD V. GPS ON. Nominal Power Supply: 3,3Vdc

RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE.

LIMITS:	Product standard:	FCC RULES AND REGULATIONS 47 CFR PART 15, SUBPART B
	Test standard:	FCC RULES AND REGULATIONS 47 CFR PART 15, SUBPART B

LIMITS OF INTERFERENCE CLASS B

The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B in the frequency range 30 MHz to 25 GHz, for Class B equipment, which is a transmitter in a band over 500 MHz, was:

Frequency range (MHz)	Limit for 3 m (µV/m)	Limit for 3 m (dBµV/m)
30 to 88	100	40
88 to 216	150	43,52
216 to 960	200	46,02
Above 960	500	53,98

TESTED SAMPLES:	S/01; S/02 & S/03
TESTED OPERATION MODES:	OM#01; 02; 03 & 04
TEST RESULTS :	**CR**mmnn: CR, Radiation Condition; mm: Sample number; nn: Operation mode, xx: Polarisation.

CRmmnn	Description	Result
CR0101	Range 30 - 1000 MHz. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0101_PH	Range 1 – 18 GHz. Horizontal polarization. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0101_PV	Range 1 – 18 GHz. Vertical polarization. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0101_PH	Range 18 – 25 GHz. Horizontal polarization. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0101_PV	Range 18 – 25 GHz. Vertical polarization. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0102	Range 30 - 1000 MHz. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0102_PH	Range 1 – 18 GHz. Horizontal polarization. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0102_PV	Range 1 – 18 GHz. Vertical polarization. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0102_PH	Range 18 – 25 GHz. Horizontal polarization. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0102_PV	Range 18 – 25 GHz. Vertical polarization. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P

TEST RESULTS:	(Cont.)

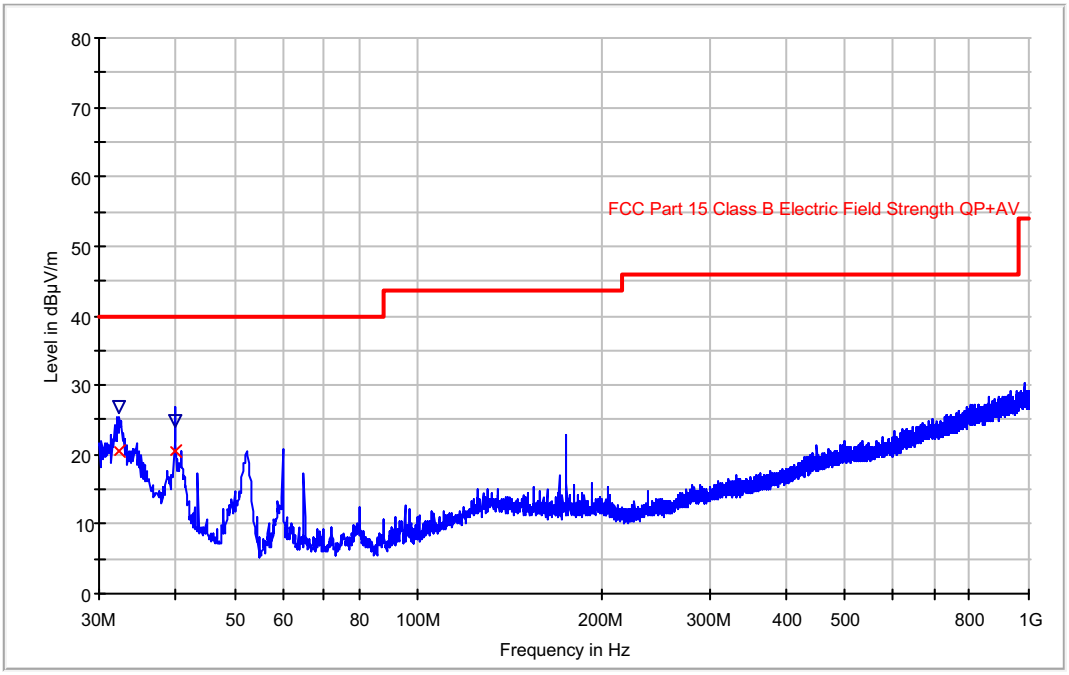
CRmmnn	Description	Result
CR0103	Range 30 - 1000 MHz. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0103_PH	Range 1 – 18 GHz. Horizontal polarization. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0103_PV	Range 1 – 18 GHz. Vertical polarization. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal power supply: 3,3Vdc.	P
CR0103_PH	Range 18 – 25 GHz. Horizontal polarization. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0103_PV	Range 18 – 25 GHz. Vertical polarization. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal power supply: 3,3Vdc.	P
CR0104	Range 30 - 1000 MHz. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0104_PH	Range 1 – 18 GHz. Horizontal polarization. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0104_PV	Range 1 – 18 GHz. Vertical polarization. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0104_PH	Range 18 – 25 GHz. Horizontal polarization. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0104_PV	Range 18 – 25 GHz. Vertical polarization. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P
CR0201	Range 30 - 1000 MHz. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0202	Range 30 - 1000 MHz. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0203	Range 30 - 1000 MHz. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0204	Range 30 - 1000 MHz. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0301	Range 30 - 1000 MHz. EUT ON. IDLE 850MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0302	Range 30 - 1000 MHz. EUT ON. IDLE 1900MHz. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0303	Range 30 - 1000 MHz. EUT ON. IDLE UMTS FDD BAND II. GPS ON. Nominal Power Supply: 3,3Vdc	P*
CR0304	Range 30 - 1000 MHz. EUT ON. IDLE UMTS FDD BAND V. GPS ON. Nominal Power Supply: 3,3Vdc	P*

* It was realized a full testing on the sample S/01 and only Radiated Emission Spot-Checking on the samples S/02 & S/03.

Radiated Emission: CR0101 (30MHz to 1GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Sample:	S/01
Operation mode:	OM#01
Setup:	EMI radiated
Mode:	EUT ON. IDLE 850MHz. GPS ON. Nominal power supply: 3,3Vdc.

FCC class B Bilog Hybrid



Maximized

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
32.388577	20.4	27.0	99.00	V	132.0
40.015030	20.6	24.8	113.00	V	228.0

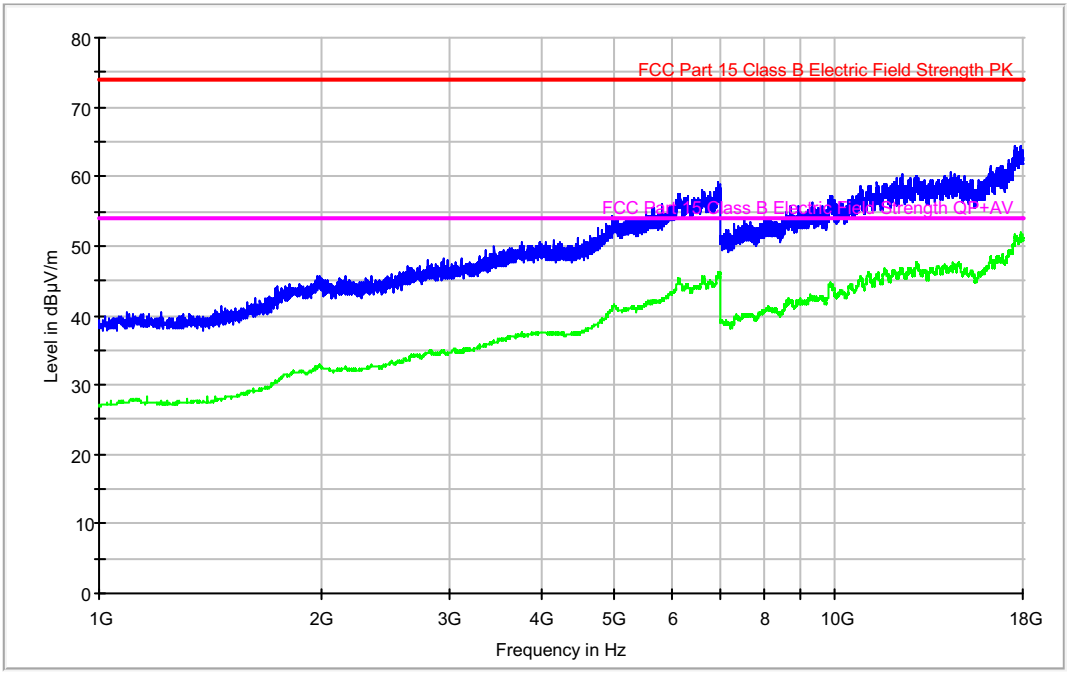
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
60.000000	20.8	148.00	V	88.0
95.000000	12.7	148.00	V	88.0
170.000000	17.0	148.00	V	88.0
175.000000	22.8	148.00	V	-2.0
414.400000	18.6	148.00	V	88.0
644.900000	24.1	148.00	H	88.0
982.900000	30.4	148.00	V	-2.0

Radiated Emission: CR0101_PH (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#01
Setup:	EMI radiated
Mode:	EUT ON. Idle 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 1-18GHz class B



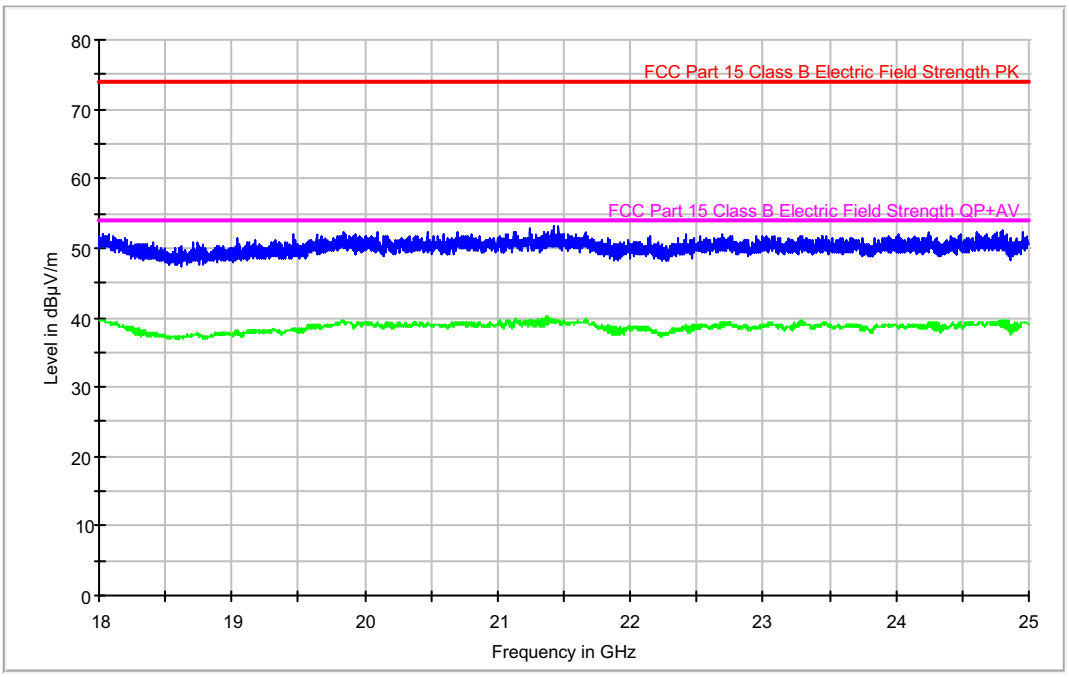
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.1	32.4
4.000000	50.9	37.6
6.000000	56.1	43.8
8.000000	54.8	41.1
10.000000	58.1	43.2
18.000000	64.4	52.1

Radiated Emission: CR0101_PH (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#01
Setup:	EMI radiated
Mode:	EUT ON. Idle 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 18-25GHz class B



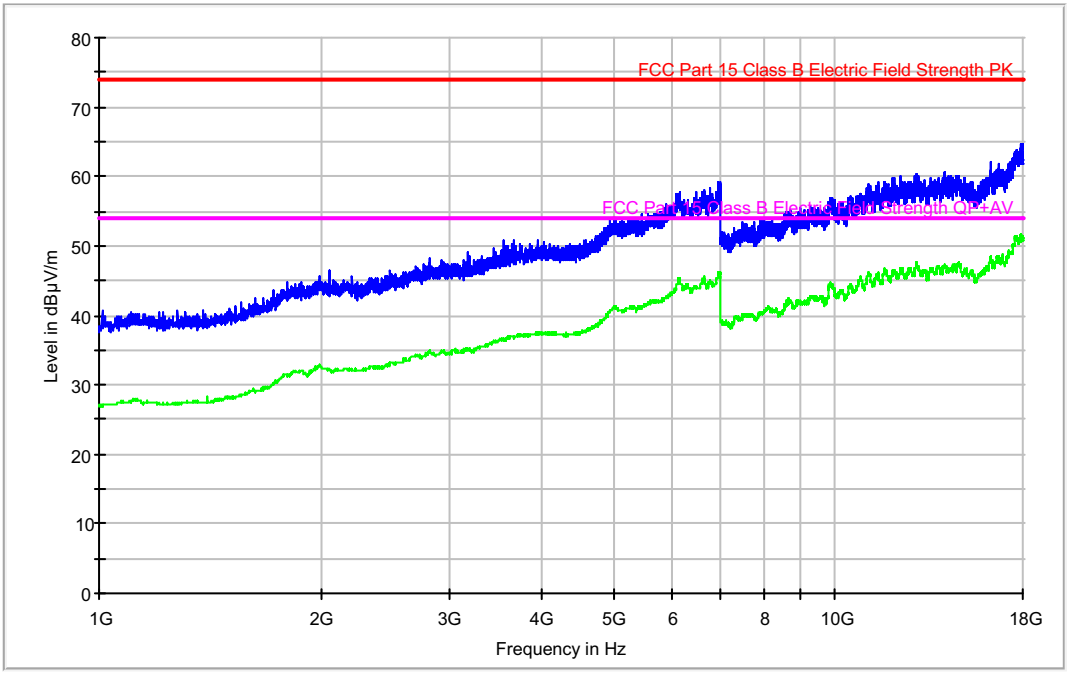
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.1	37.6
20.000000	51.0	38.2
21.000000	50.6	39.2
22.000000	50.8	38.0
23.000000	50.5	38.2
24.000000	51.4	38.3

Radiated Emission: CR0101_PV (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#01
Setup:	EMI radiated
Mode:	EUT ON. Idle 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 1-18GHz class B



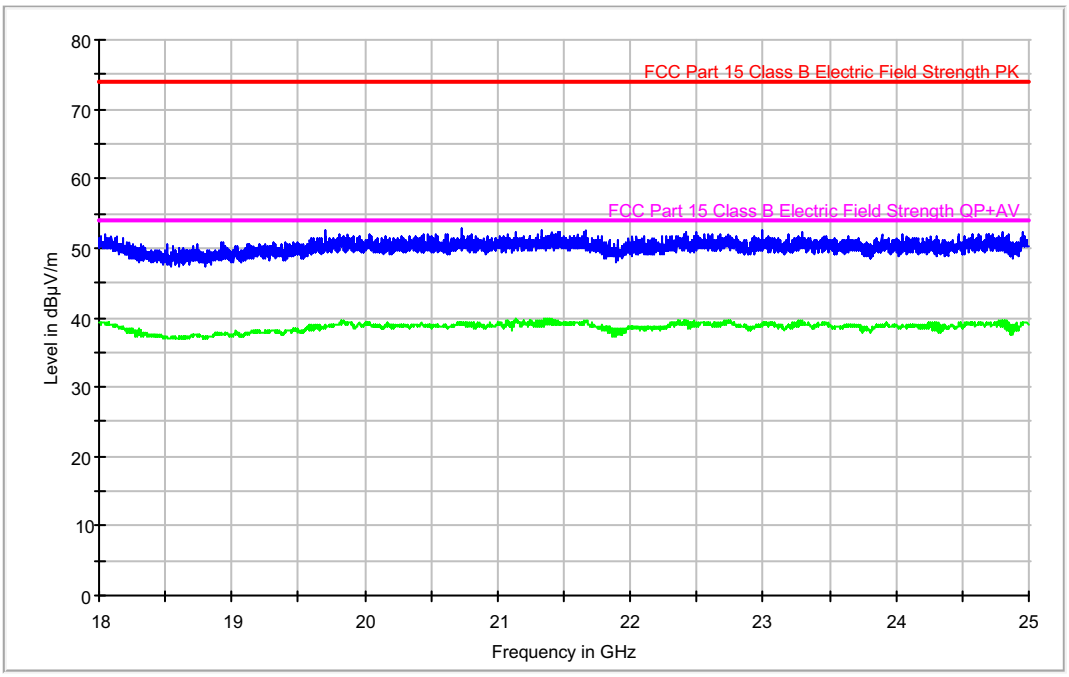
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.2	32.4
4.000000	50.8	37.7
6.000000	56.1	43.8
8.000000	54.6	41.8
10.000000	58.3	43.2
18.000000	64.5	52.0

Radiated Emission: CR0101_PV (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#01
Setup:	EMI radiated
Mode:	EUT ON. Idle 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 18-25GHz class B



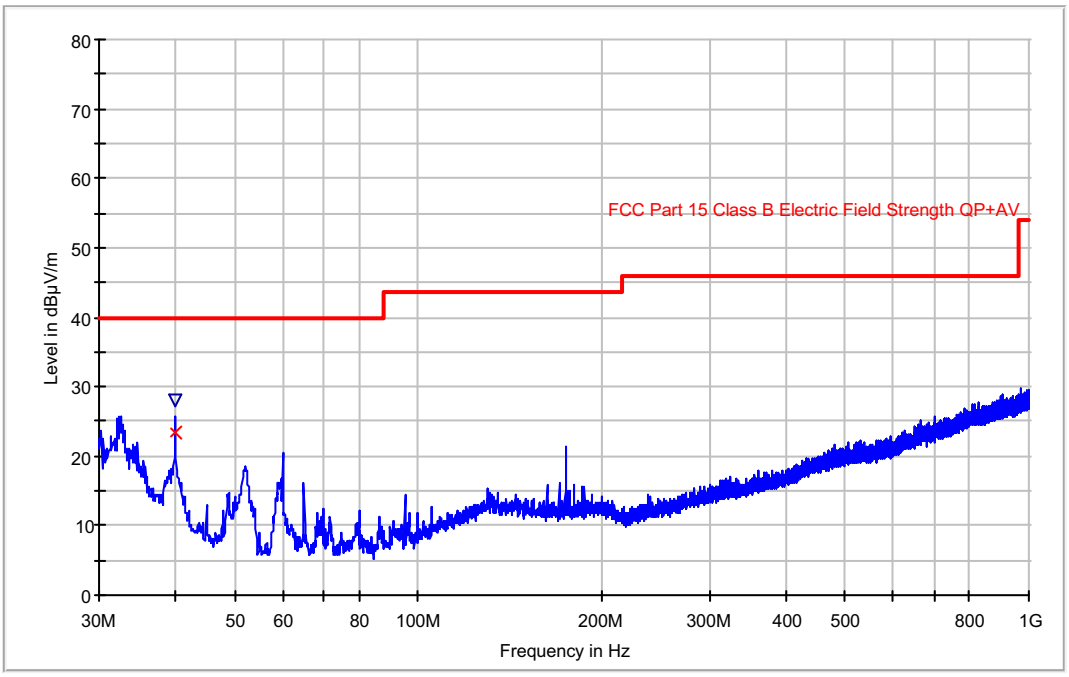
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.2	37.4
20.000000	51.1	38.1
21.000000	50.5	39.3
22.000000	50.8	38.1
23.000000	50.4	38.0
24.000000	51.1	38.2

Radiated Emission: CR0102 (30MHz to 1GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Sample:	S/01
Operation mode:	OM#02
Setup:	EMI radiated
Mode:	EUT ON. IDLE 1900MHz. GPS ON. Nominal power supply: 3,3Vdc.

FCC class B Bilog Hybrid



Maximized

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
40.013026	23.4	28.0	115.00	V	227.0

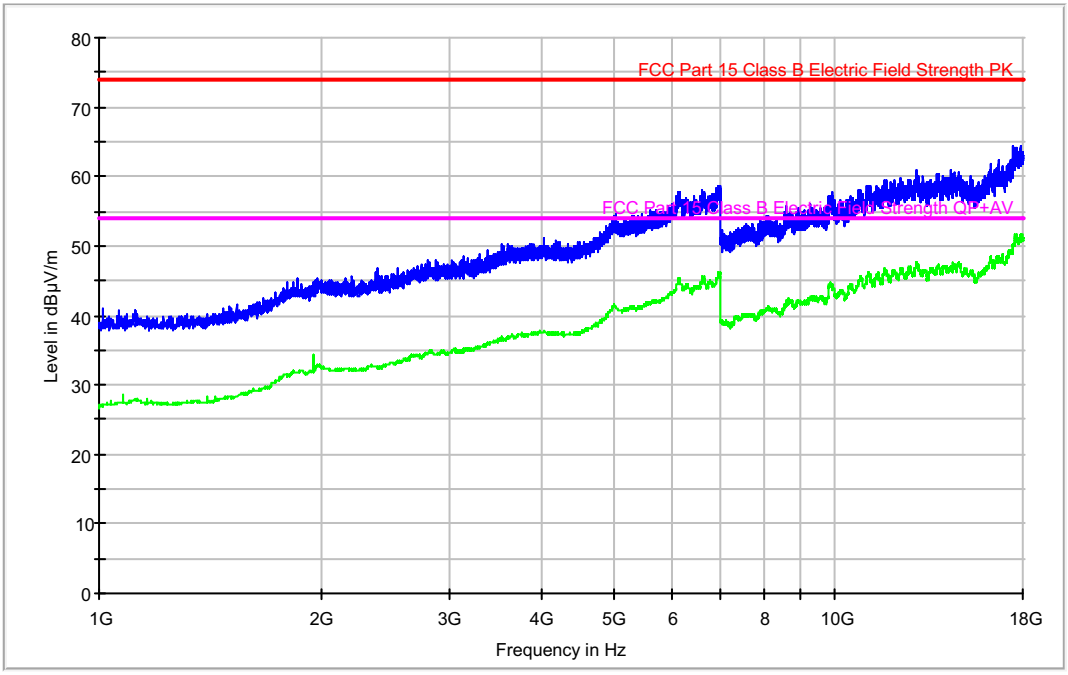
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
60.000000	20.5	147.00	V	89.0
95.000000	14.5	147.00	V	89.0
170.000000	16.3	147.00	V	89.0
175.000000	21.4	147.00	V	-2.0
414.900000	18.6	147.00	V	89.0
624.800000	23.6	147.00	V	89.0

Radiated Emission: CR0102_PH (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#02
Setup:	EMI radiated
Mode:	EUT ON. Idle 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 1-18GHz class B



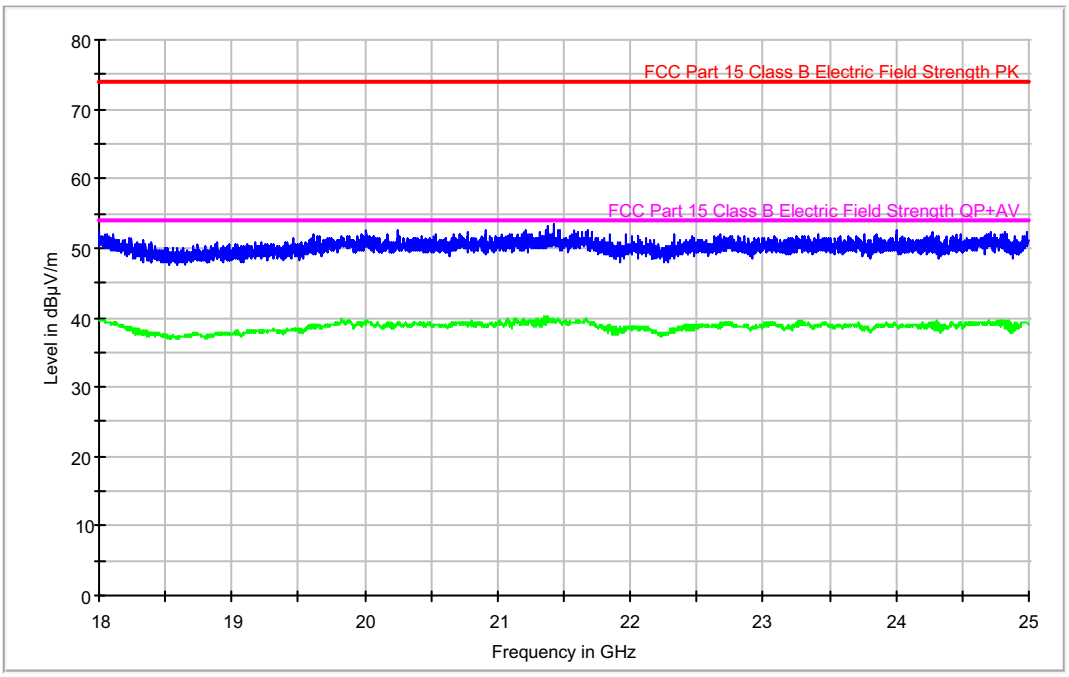
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.1	32.4
4.000000	51.0	37.6
6.000000	56.1	43.9
8.000000	54.8	41.9
10.000000	58.2	43.2
18.000000	64.6	52.4

Radiated Emission: CR0102_PH (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#02
Setup:	EMI radiated
Mode:	EUT ON. Idle 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 18-25GHz class B



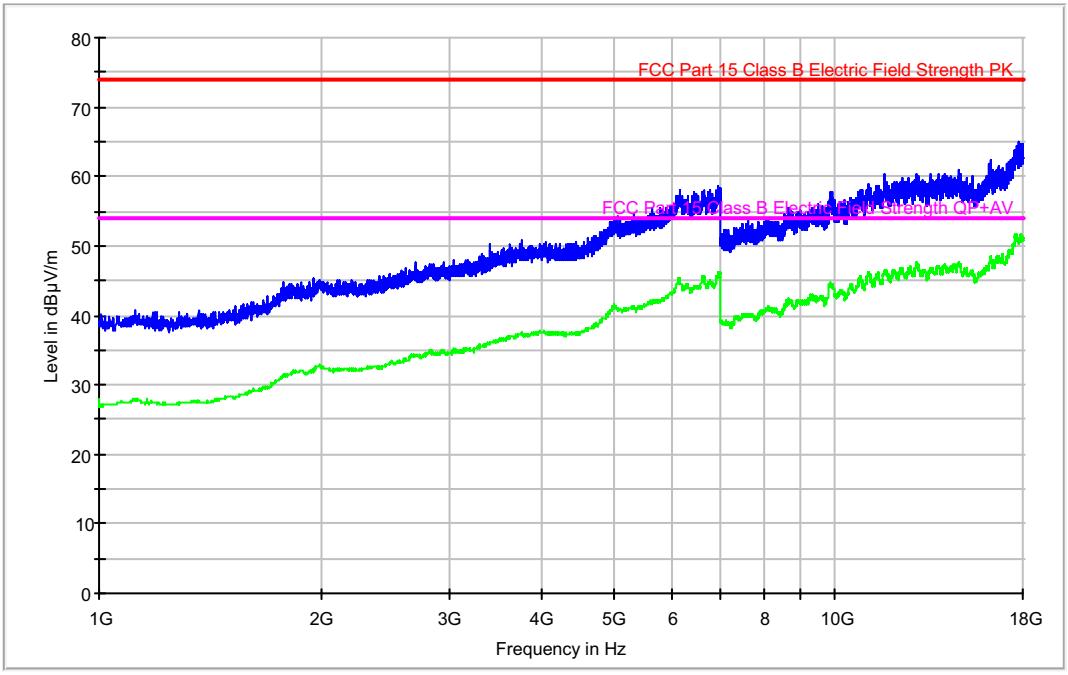
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.1	37.7
20.000000	51.1	38.1
21.000000	50.7	39.4
22.000000	50.6	38.3
23.000000	50.4	38.1
24.000000	51.3	38.4

Radiated Emission: CR0102_PV (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#02
Setup:	EMI radiated
Mode:	EUT ON. Idle 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 1-18GHz class B



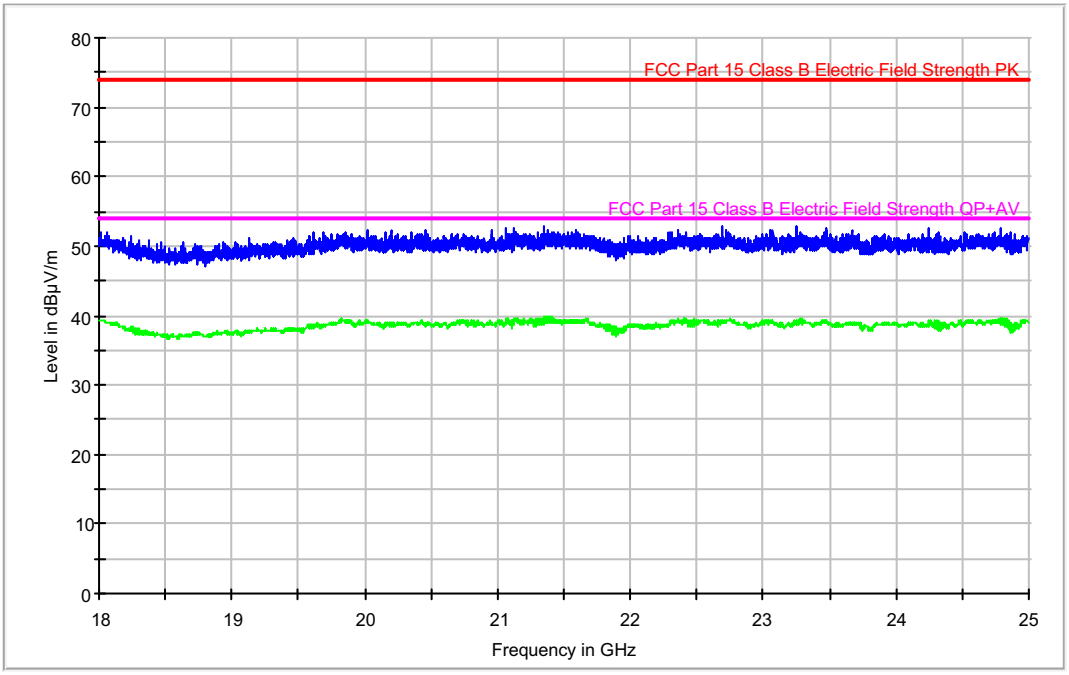
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.1	32.4
4.000000	50.8	37.5
6.000000	56.1	43.8
8.000000	54.9	42.0
10.000000	58.1	43.2
18.000000	64.5	52.3

Radiated Emission: CR0102_PV (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#02
Setup:	EMI radiated
Mode:	EUT ON. Idle 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 18-25GHz class B



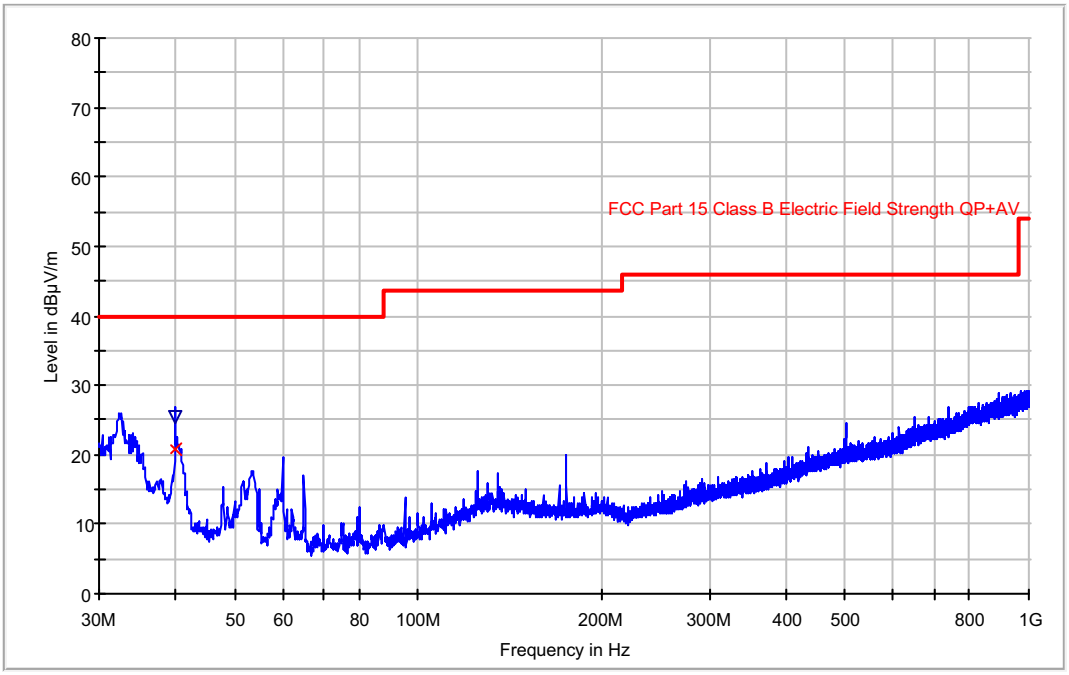
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.2	37.6
20.000000	51.0	38.3
21.000000	50.8	39.0
22.000000	50.8	38.1
23.000000	50.6	38.2
24.000000	51.3	38.4

Radiated Emission: CR0103 (30MHz to 1GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Sample:	S/01
Operation mode:	OM#03
Setup:	EMI radiated
Mode:	EUT ON. Idle FDD Band II. GPS ON. Nominal power supply: 3,3Vdc.

FCC class B Bilog Hybrid



Maximized

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
39.980962	20.7	25.3	108.00	V	229.0

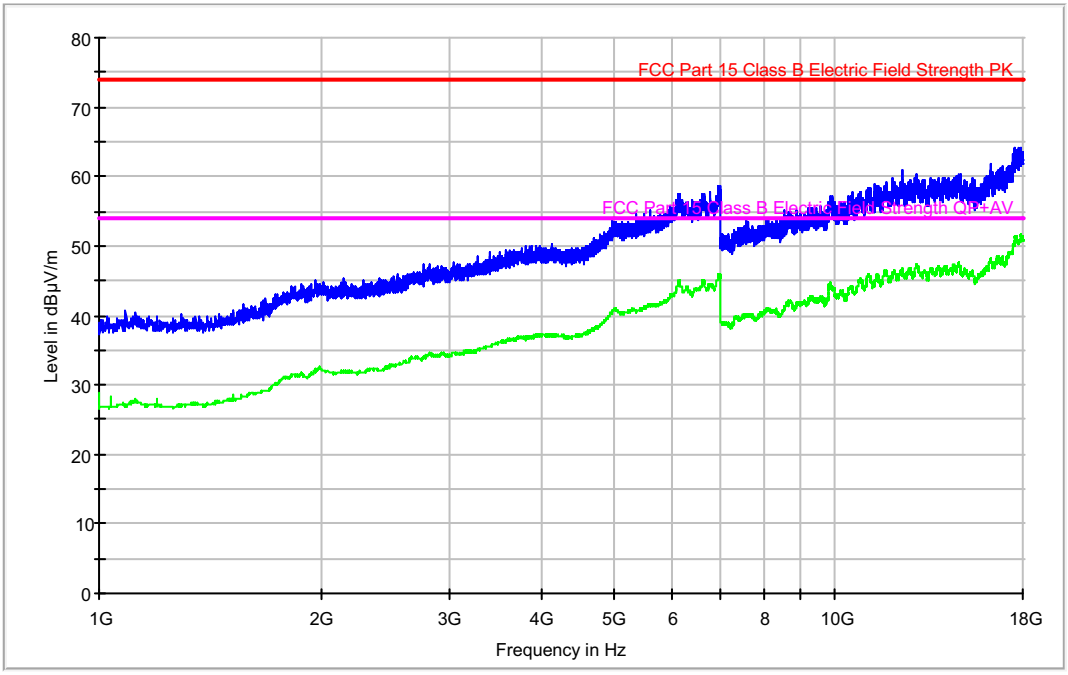
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
60.000000	19.8	147.00	V	-2.0
95.000000	13.9	147.00	V	89.0
125.000000	17.7	147.00	V	-2.0
175.000000	19.8	147.00	V	89.0
403.900000	19.6	147.00	V	-2.0
501.000000	24.5	147.00	V	89.0

Radiated Emission: CR0103_PH (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#03
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band II. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 1-18GHz class B



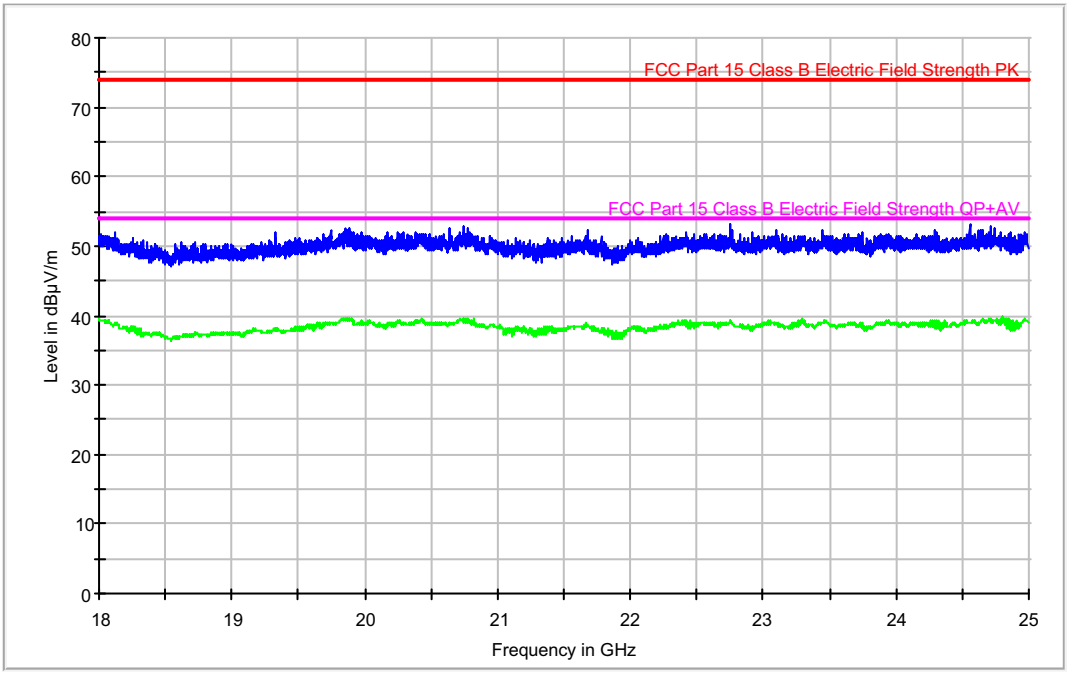
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.1	32.4
4.000000	50.9	37.6
6.000000	56.3	43.9
8.000000	54.8	41.9
10.000000	58.3	43.4
18.000000	64.4	52.4

Radiated Emission: CR0103_PH (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#03
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band II. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 18-25GHz class B



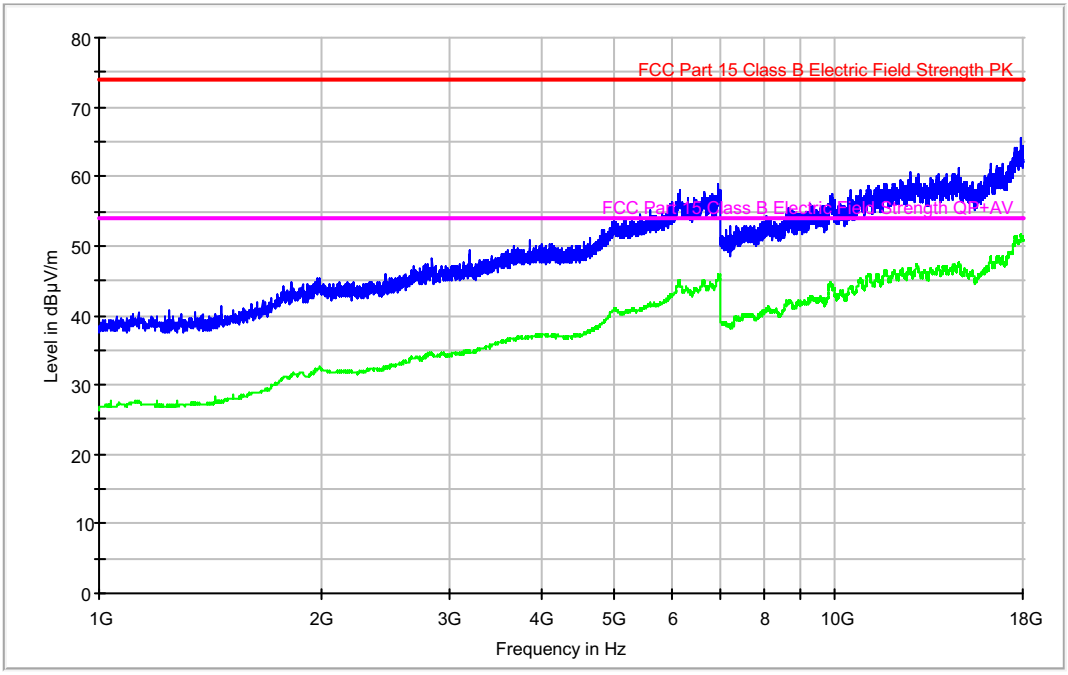
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.2	37.8
20.000000	51.0	38.3
21.000000	50.7	39.1
22.000000	50.8	38.0
23.000000	50.4	38.3
24.000000	51.5	38.2

Radiated Emission: CR0103_PV (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#03
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band II. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 1-18GHz class B



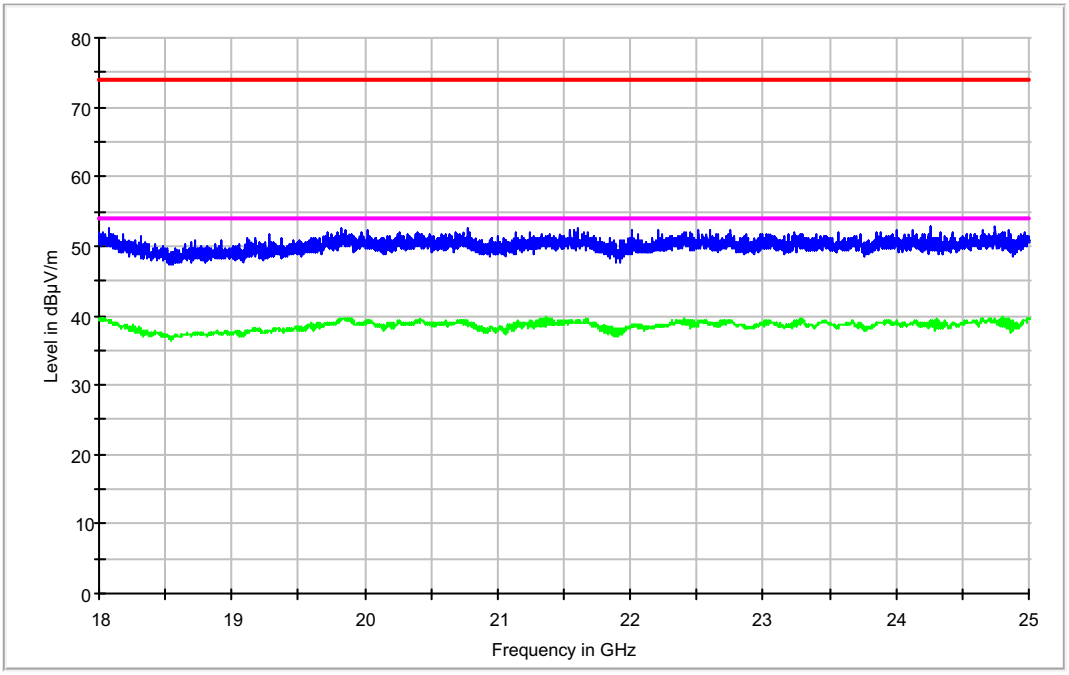
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.3	32.3
4.000000	51.1	37.7
6.000000	56.1	43.8
8.000000	54.9	41.8
10.000000	58.1	43.2
18.000000	64.2	52.3

Radiated Emission: CR0103_PV (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#03
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band II. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 18-25GHz class B



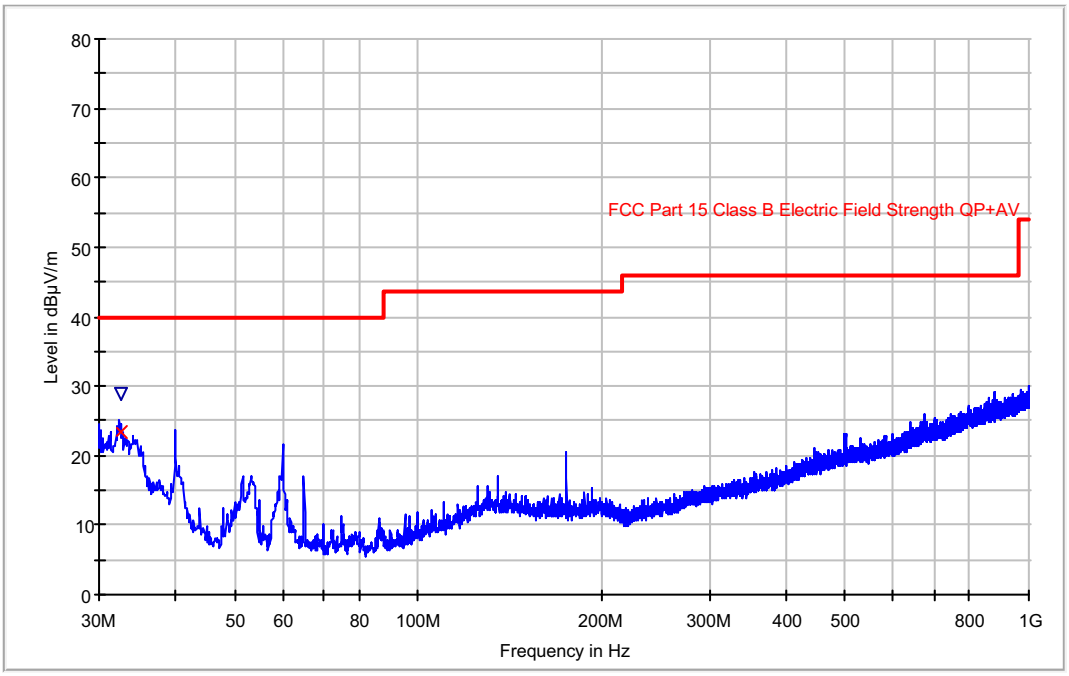
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.1	37.4
20.000000	51.2	38.1
21.000000	50.8	39.1
22.000000	50.6	38.2
23.000000	50.6	38.3
24.000000	51.6	38.4

Radiated Emission: CR0104 (30MHz to 1GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Sample:	S/01
Operation mode:	OM#04
Setup:	EMI radiated
Mode:	EUT ON. Idle FDD Band V . GPS ON. Nominal power supply: 3,3Vdc.

FCC class B Bilog Hybrid



Maximized

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
32.651503	23.4	28.9	132.00	V	51.0

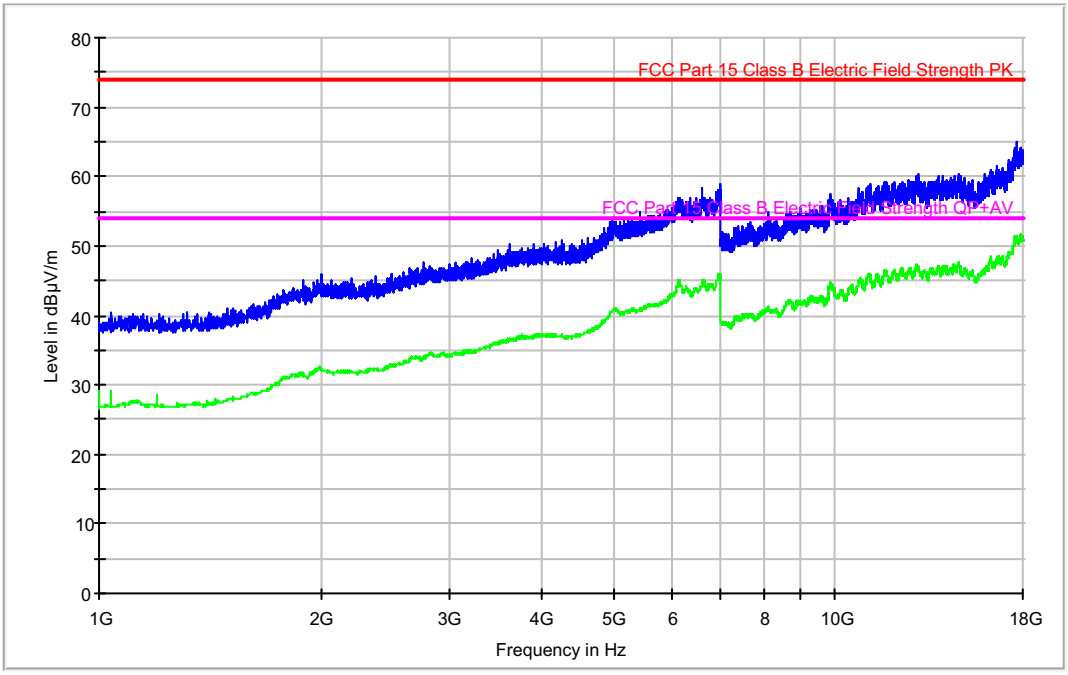
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
60.000000	21.8	148.00	V	-2.0
110.000000	13.3	148.00	V	88.0
135.000000	17.1	148.00	V	88.0
175.000000	20.6	148.00	V	88.0
413.700000	18.9	148.00	V	88.0
639.100000	24.8	148.00	V	88.0

Radiated Emission: CR0104_PH (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#04
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band V. GPS ON. Nominal power supply: 3,3Vdc. Horizontal polarization.

FCC 1-18GHz class B



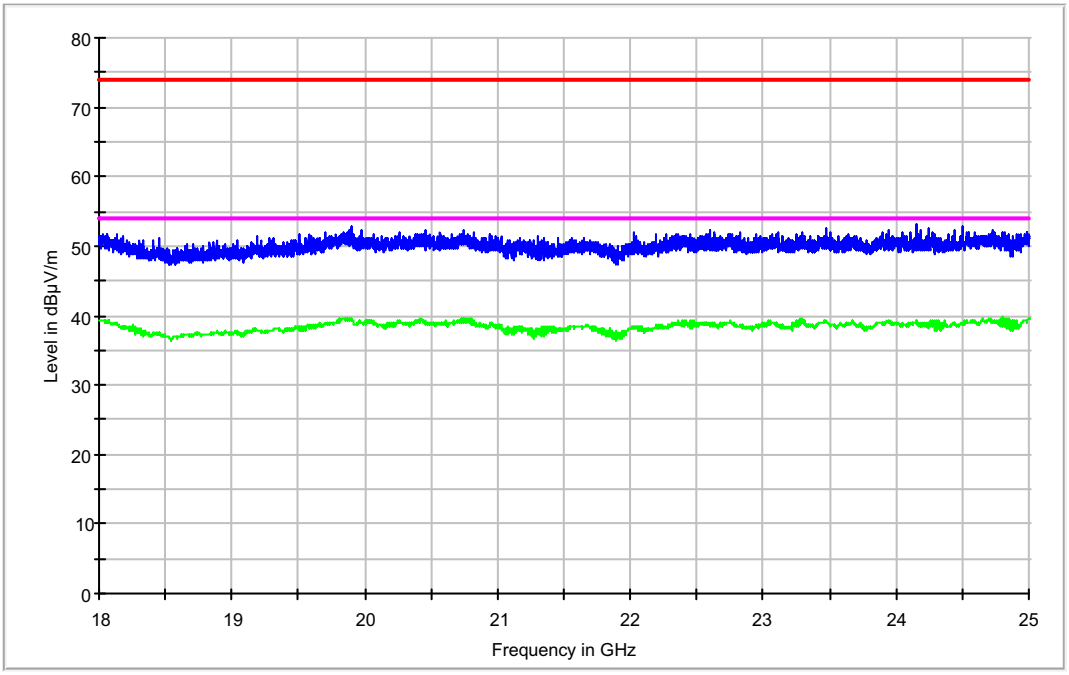
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.2	32.4
4.000000	51.1	37.8
6.000000	56.1	43.8
8.000000	54.9	42.0
10.000000	58.0	43.2
18.000000	64.5	52.3

Radiated Emission: CR0104_PH (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#04
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band V. GPS ON. Nominal power supply: 3,3Vdc.Horizontal polarization.

FCC 18-25GHz class B



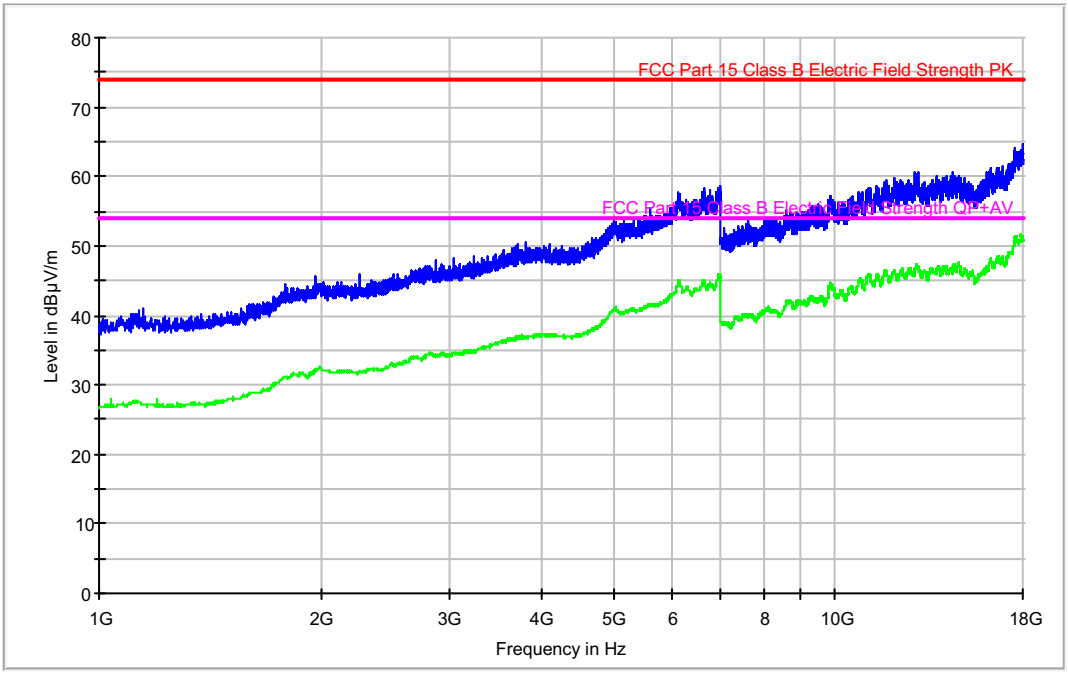
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.3	37.7
20.000000	51.0	38.1
21.000000	50.5	39.5
22.000000	50.6	38.2
23.000000	50.4	38.3
24.000000	51.5	38.5

Radiated Emission: CR0104_PV (1GHz to 18GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#04
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band V. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 1-18GHz class B



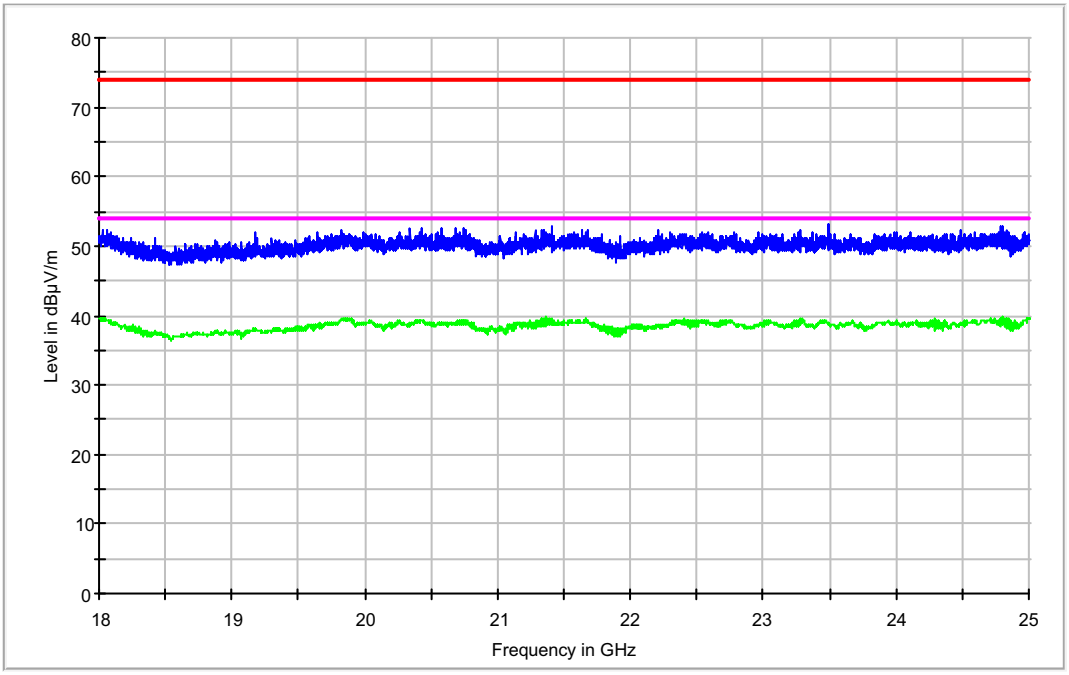
Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
2.000000	45.2	32.3
4.000000	50.9	37.7
6.000000	56.1	43.8
8.000000	54.9	41.8
10.000000	58.0	43.1
18.000000	64.6	52.2

Radiated Emission: CR0104_PV (18GHz to 25GHz)

Project:	33376REM.004
Company:	ERICSSON AB
Samples:	S/01
Operation mode:	OM#04
Setup:	EMI radiated
Mode:	EUT ON. Idle UMTS FDD Band V. GPS ON. Nominal power supply: 3,3Vdc. Vertical polarization.

FCC 18-25GHz class B



Subrange Maxima

Frequency (GHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
19.000000	50.1	37.7
20.000000	51.3	38.0
21.000000	50.4	39.4
22.000000	50.9	38.1
23.000000	50.3	38.3
24.000000	51.5	38.4

CONTINUOUS CONDUCTED EMISSION ON POWER LEADS

LIMITS:	Product standard :	FCC RULES AND REGULATIONS 47 CFR PART 15, SUBPART B
	Test standard :	FCC RULES AND REGULATIONS 47 CFR PART 15, SUBPART B

CLASS B

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B in the frequency range 0,15 to 30 MHz, for Class B equipment was:

Frequency range (MHz)	**Limit (dBµV)**	
	Quasi-peak	**Average**
0,15 to 0,5	66-56	56-46
0,5 to 5	56	46
5 to 30	60	50

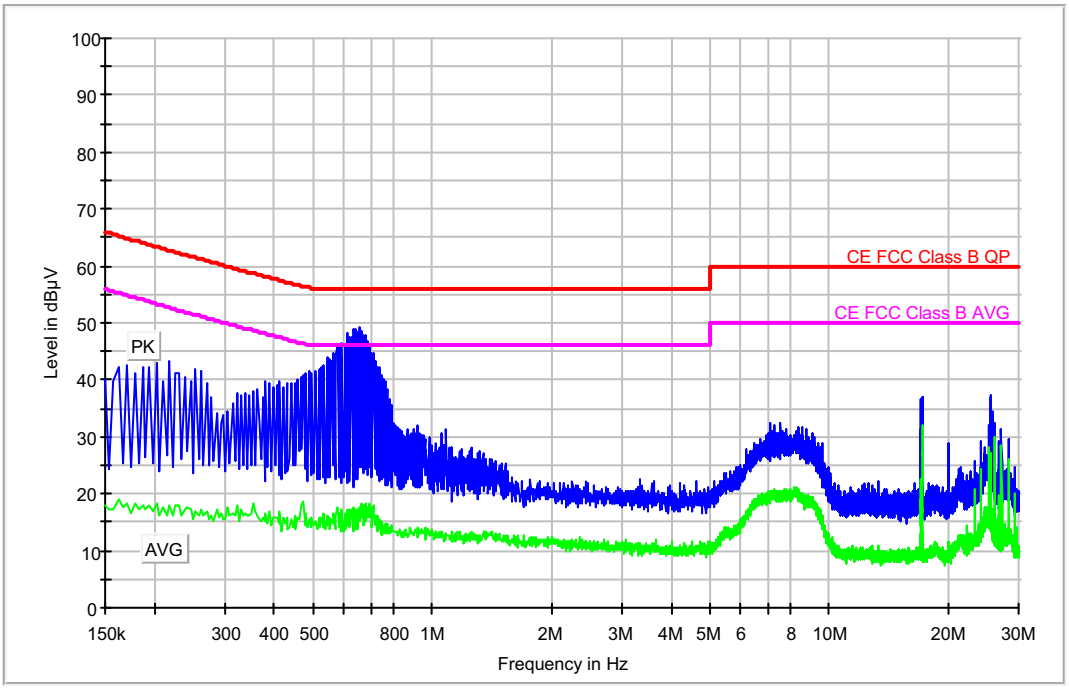
TESTED SAMPLES:	S/01
TESTED OPERATION MODES:	OM#01 to 08
TEST RESULTS :	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	**Description**	**Result**
CC0101NE	Negative wire noise	P
CC0101PO	Positive wire noise	P
CC0102 NE	Negative wire noise	P
CC0102 PO	Positive wire noise	P
CC0103 NE	Negative wire noise	P
CC0103 PO	Positive wire noise	P
CC0104 NE	Negative wire noise	P
CC0104 PO	Positive wire noise	P
CC0105 NE	Negative wire noise	P
CC0105 PO	Positive wire noise	P
CC0106 NE	Negative wire noise	P
CC0106 PO	Positive wire noise	P
CC0107 NE	Negative wire noise	P
CC0107 PO	Positive wire noise	P
CC0108 NE	Negative wire noise	P
CC0108 PO	Positive wire noise	P

Continuous Conducted emission : CC0101NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#01
Setup: EMI conducted
Mode: EUT ON. IDLE 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



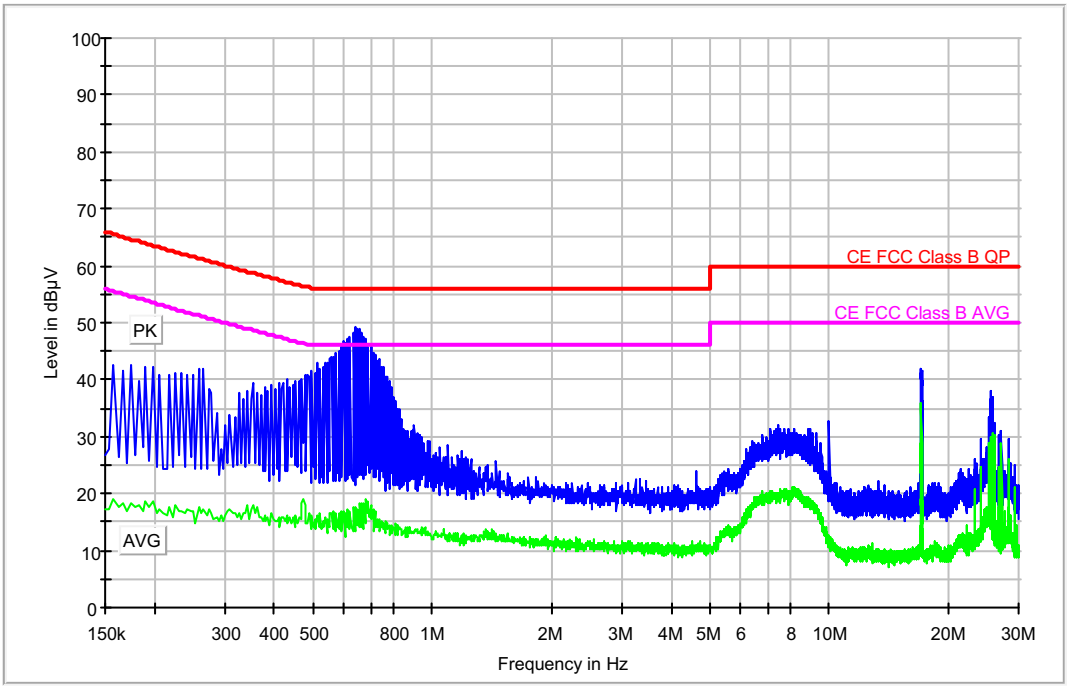
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.654000	49.2	17.7
0.642000	49.0	17.4
0.634000	48.8	17.6
0.662000	48.7	18.5
0.610000	48.3	17.4
0.670000	47.8	17.9
0.678000	47.7	18.3
0.626000	47.6	17.1
0.618000	47.5	17.2
0.686000	46.7	17.7

Continuous Conducted emission : CC0101PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#01
Setup: EMI conducted
Mode: EUT ON. IDLE 850 MHz. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



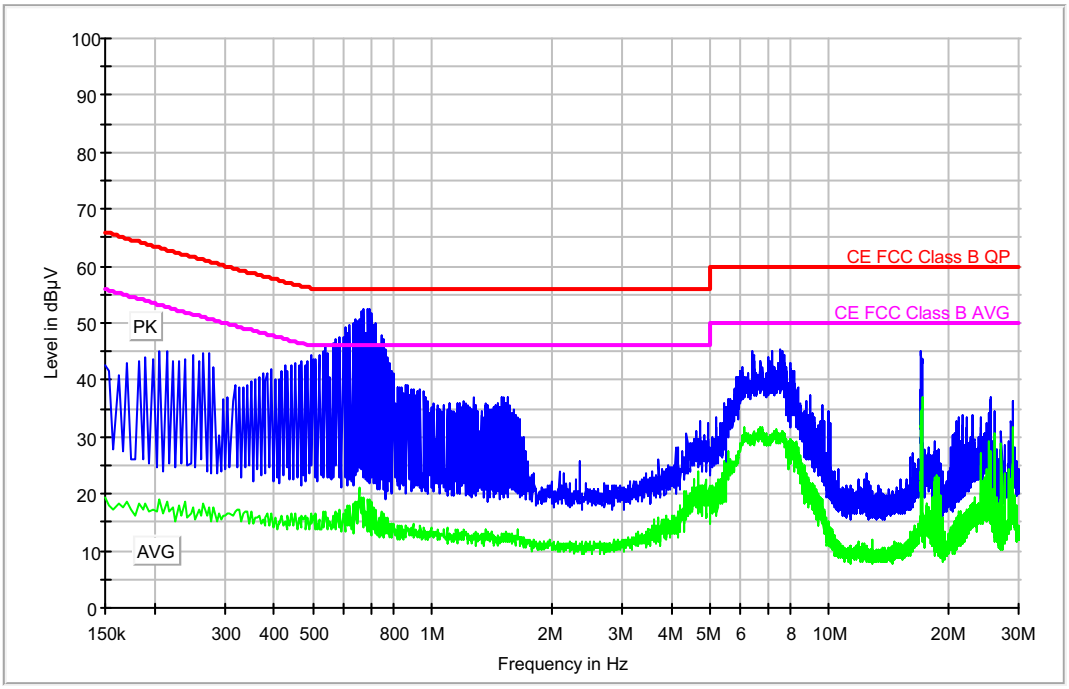
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.642000	49.2	17.6
0.650000	48.9	17.2
0.658000	48.8	18.3
0.666000	48.4	18.4
0.634000	48.1	17.7
0.674000	47.7	18.3
0.622000	47.6	16.9
0.614000	47.3	17.1
0.682000	47.1	19.2
0.598000	46.8	17.0

Continuous Conducted emission : CC0102NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#02
Setup: EMI conducted
Mode: EUT ON. IDLE 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



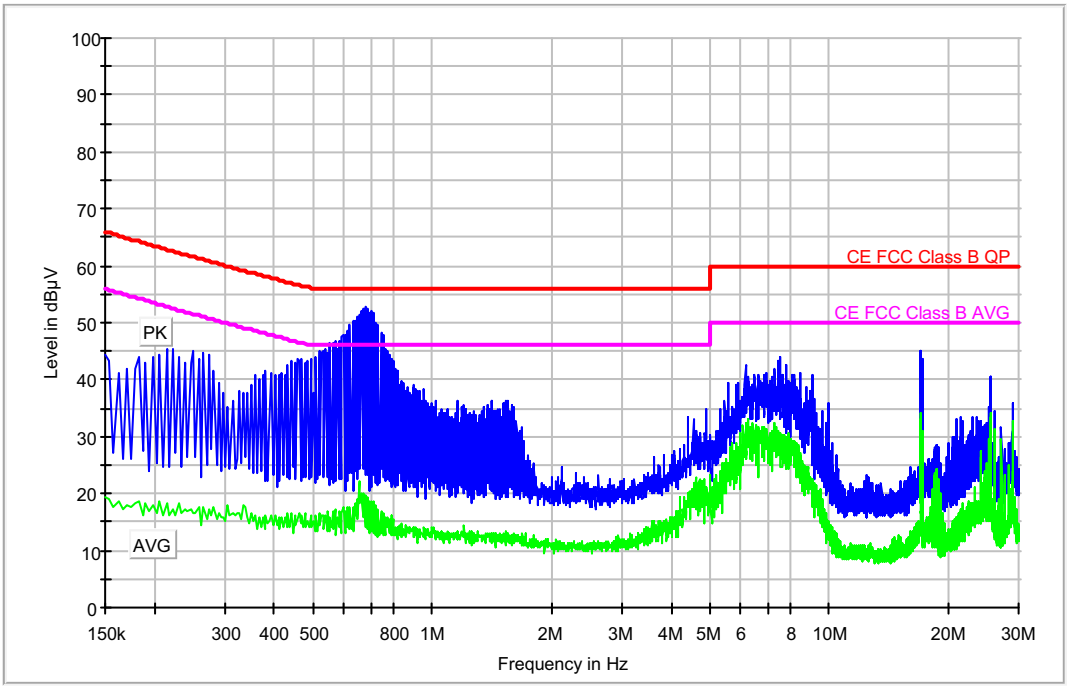
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.690000	52.6	19.0
0.698000	52.5	18.9
0.674000	52.4	19.2
0.666000	52.1	19.3
0.706000	51.6	18.7
0.654000	50.7	21.0
0.638000	50.7	18.6
0.646000	50.2	18.7
0.630000	50.1	18.2
0.722000	49.9	17.4

Continuous Conducted emission : CC0102PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#02
Setup: EMI conducted
Mode: EUT ON. IDLE 1900 MHz. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



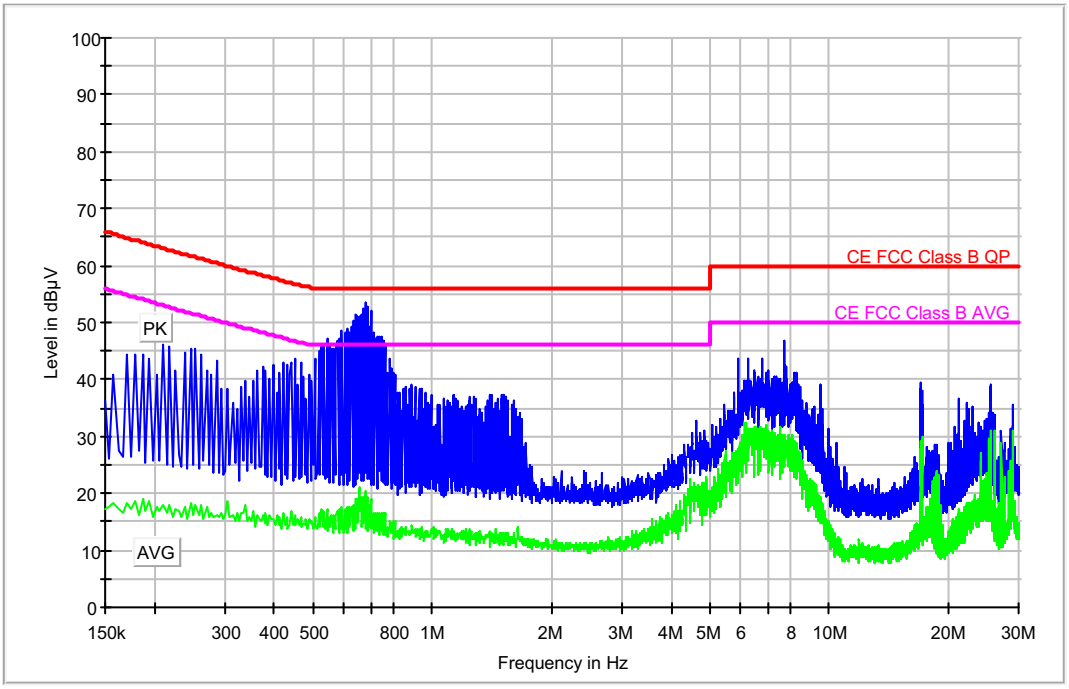
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.682000	52.8	19.5
0.674000	52.6	20.1
0.690000	52.4	19.3
0.662000	52.1	20.0
0.706000	52.0	18.5
0.698000	51.7	18.6
0.714000	51.7	18.5
0.654000	51.4	22.0
0.646000	51.1	18.9
0.638000	50.3	18.4

Continuous Conducted emission : CC0103NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#03
Setup: EMI conducted
Mode: EUT ON. IDLE UMTS FDD II. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



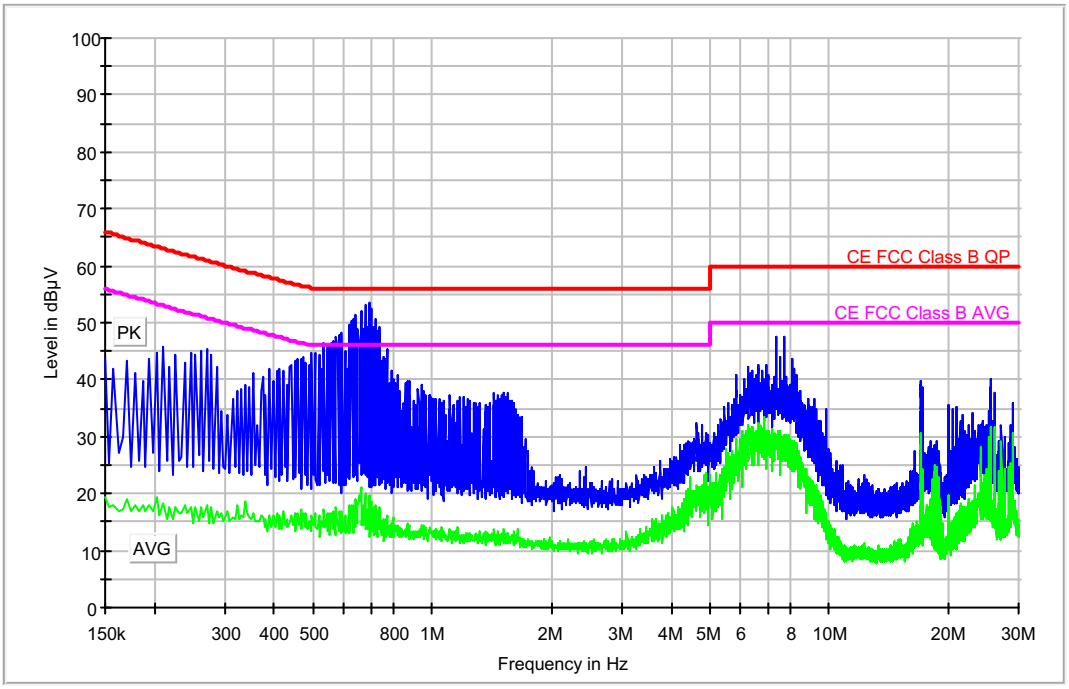
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.678000	53.4	20.3
0.686000	52.9	19.2
0.670000	52.6	19.4
0.702000	52.0	19.0
0.642000	51.4	19.0
0.662000	51.4	19.5
0.654000	51.1	21.0
0.634000	50.3	18.1
0.694000	49.3	17.8
0.626000	49.3	17.8

Continuous Conducted emission : CC0103PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#03
Setup: EMI conducted
Mode: EUT ON. IDLE UMTS FDD II. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



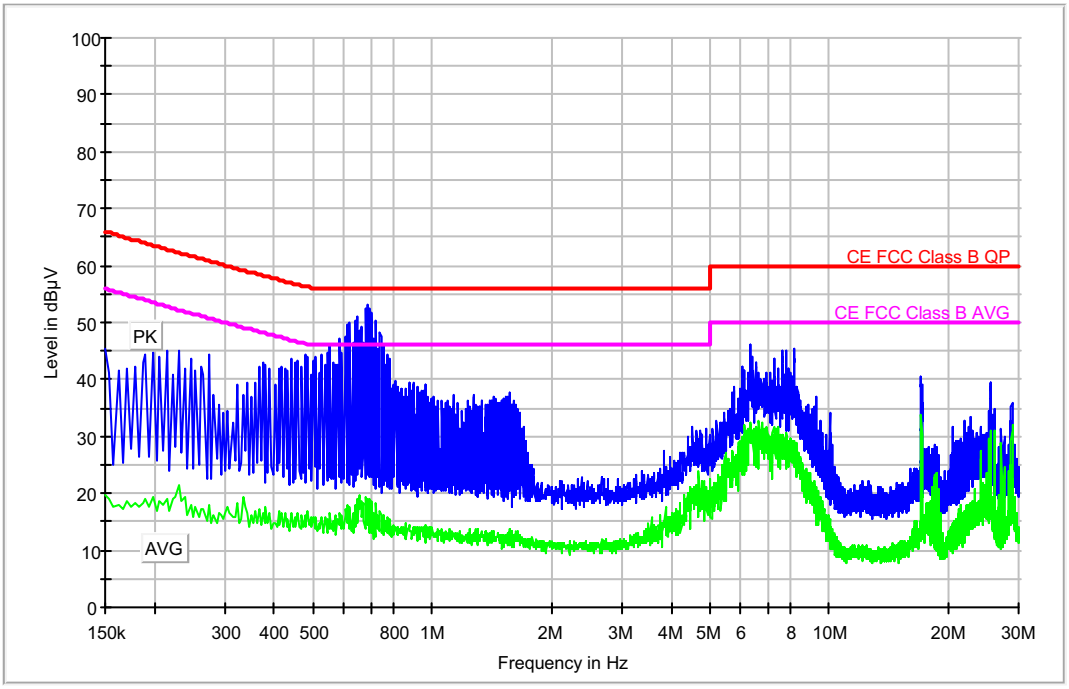
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.694000	53.7	19.7
0.678000	53.2	20.2
0.702000	52.5	18.8
0.662000	52.1	21.2
0.642000	51.6	19.2
0.722000	50.6	17.9
0.634000	50.6	17.9
0.626000	50.2	17.9
0.618000	49.6	17.9
0.738000	49.3	17.5

Continuous Conducted emission : CC0104NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#04
Setup: EMI conducted
Mode: EUT ON. IDLE UMTS FDD V. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



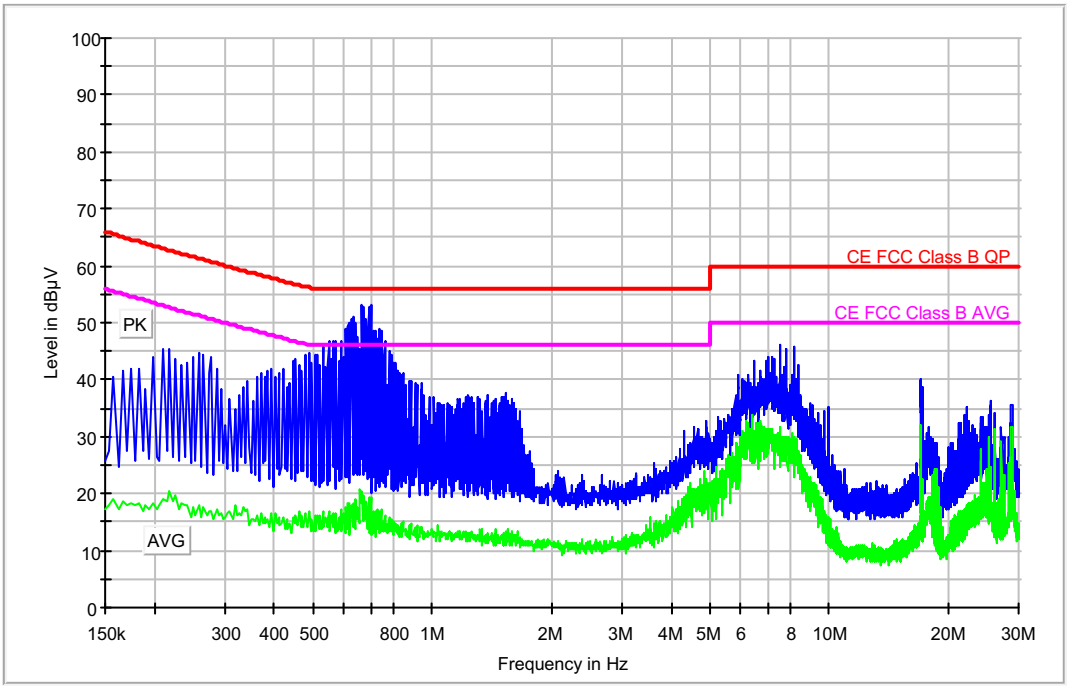
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.690000	53.2	19.1
0.698000	52.6	19.0
0.682000	52.6	19.5
0.706000	51.9	18.8
0.646000	51.1	18.9
0.638000	50.4	17.9
0.722000	50.4	18.2
0.622000	50.2	17.8
0.614000	49.6	17.9
0.662000	49.4	18.6

Continuous Conducted emission : CC0104PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#04
Setup: EMI conducted
Mode: EUT ON. IDLE UMTS FDD V. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



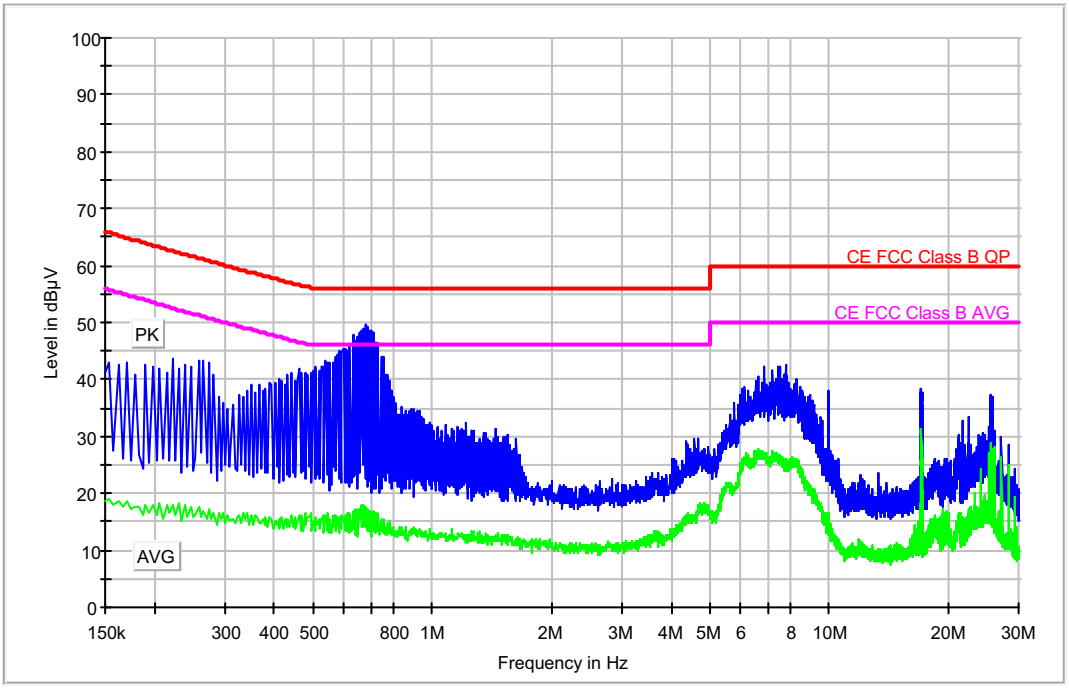
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.702000	53.1	19.3
0.666000	53.1	20.6
0.694000	52.9	19.3
0.674000	52.8	19.7
0.634000	51.2	18.5
0.682000	50.8	18.7
0.626000	50.6	18.0
0.642000	50.1	18.9
0.618000	50.1	18.2
0.734000	48.9	17.0

Continuous Conducted emission : CC0105NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#05
Setup: EMI conducted
Mode: EUT ON. TCH 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



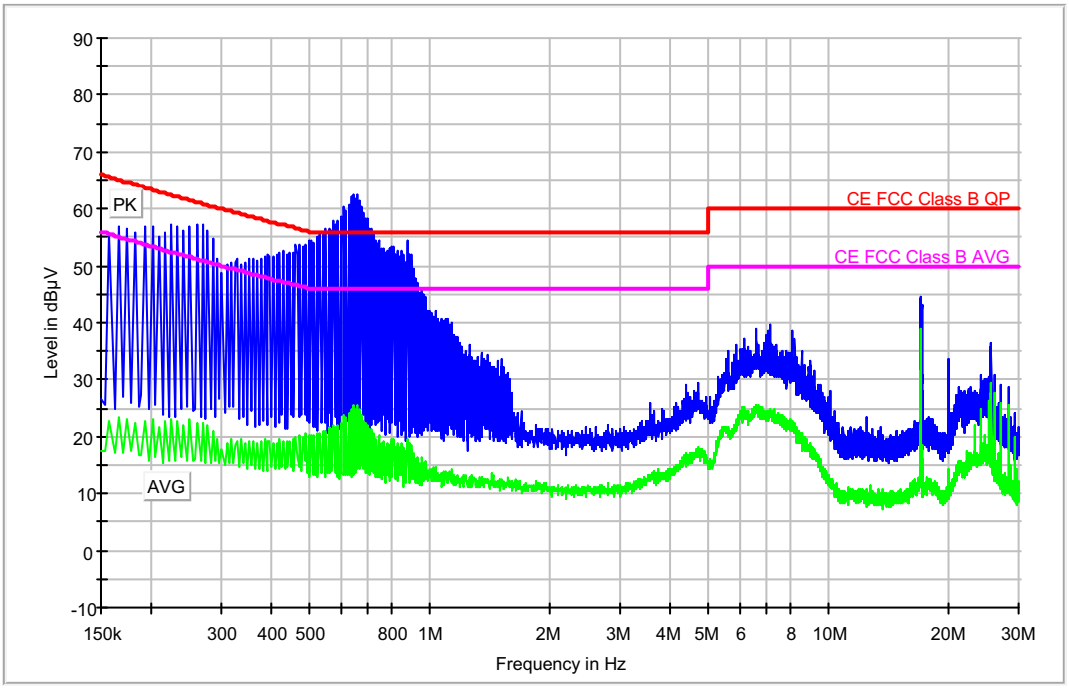
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.682000	49.5	17.5
0.690000	49.3	17.4
0.674000	49.0	18.0
0.662000	48.7	17.9
0.698000	48.6	16.9
0.706000	48.6	16.9
0.654000	48.2	17.2
0.714000	48.2	16.8
0.630000	47.7	16.8
0.646000	47.6	17.2

Continuous Conducted emission : CC0105PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#05
Setup: EMI conducted
Mode: EUT ON. TCH 850MHz. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



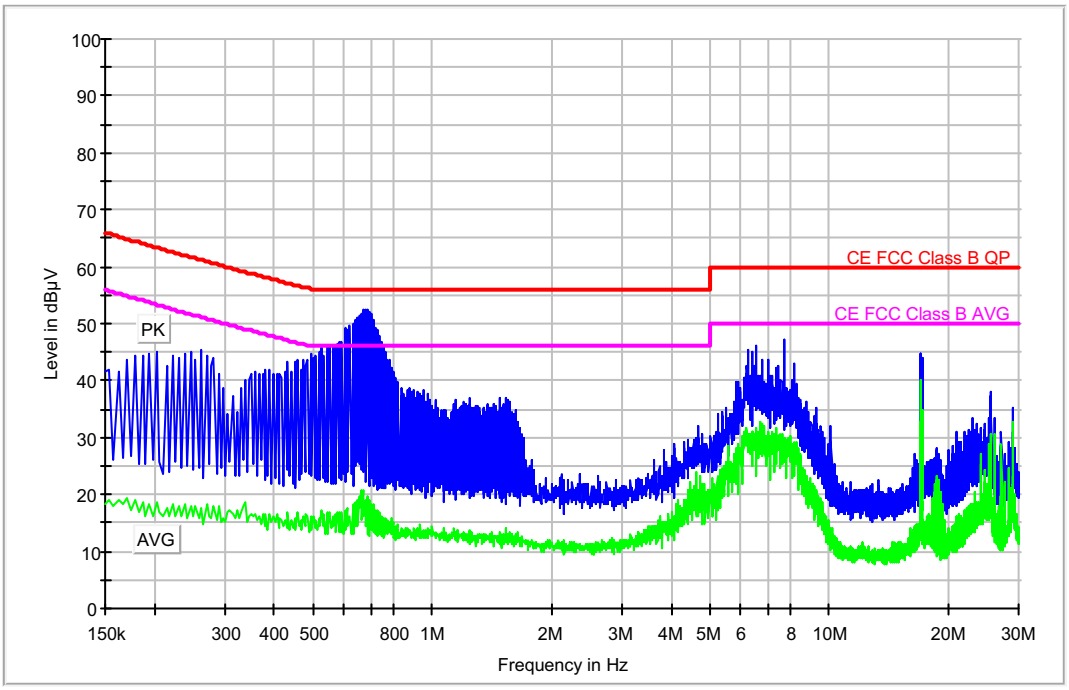
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.642000	62.5	25.5
0.658000	62.4	25.6
0.634000	62.1	25.0
0.650000	61.8	24.8
0.666000	61.6	24.9
0.626000	60.8	24.2
0.610000	60.4	23.7
0.678000	60.4	23.7
0.618000	59.6	23.4
0.686000	59.5	22.7

Continuous Conducted emission : CC0106NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#06
Setup: EMI conducted
Mode: EUT ON. TCH 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



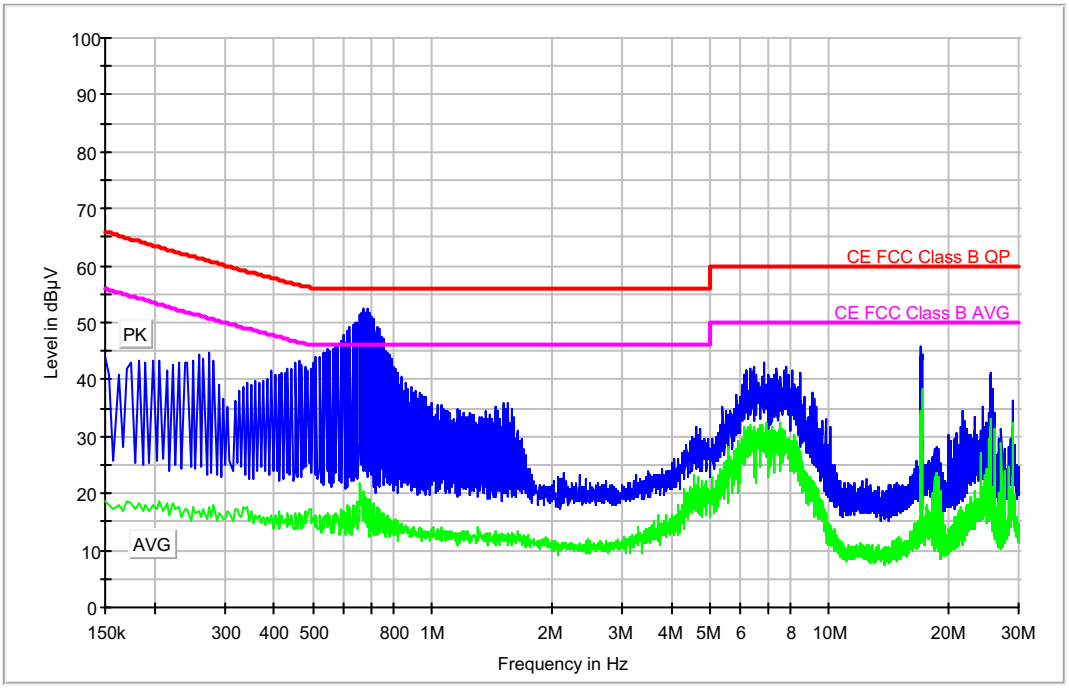
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.686000	52.6	19.6
0.678000	52.4	19.1
0.670000	52.4	20.8
0.698000	52.2	19.0
0.662000	51.7	20.7
0.706000	51.6	18.1
0.654000	51.3	19.7
0.646000	51.1	19.1
0.638000	50.8	18.6
0.714000	50.6	18.2

Continuous Conducted emission : CC0106PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#06
Setup: EMI conducted
Mode: EUT ON. TCH 1900MHz. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



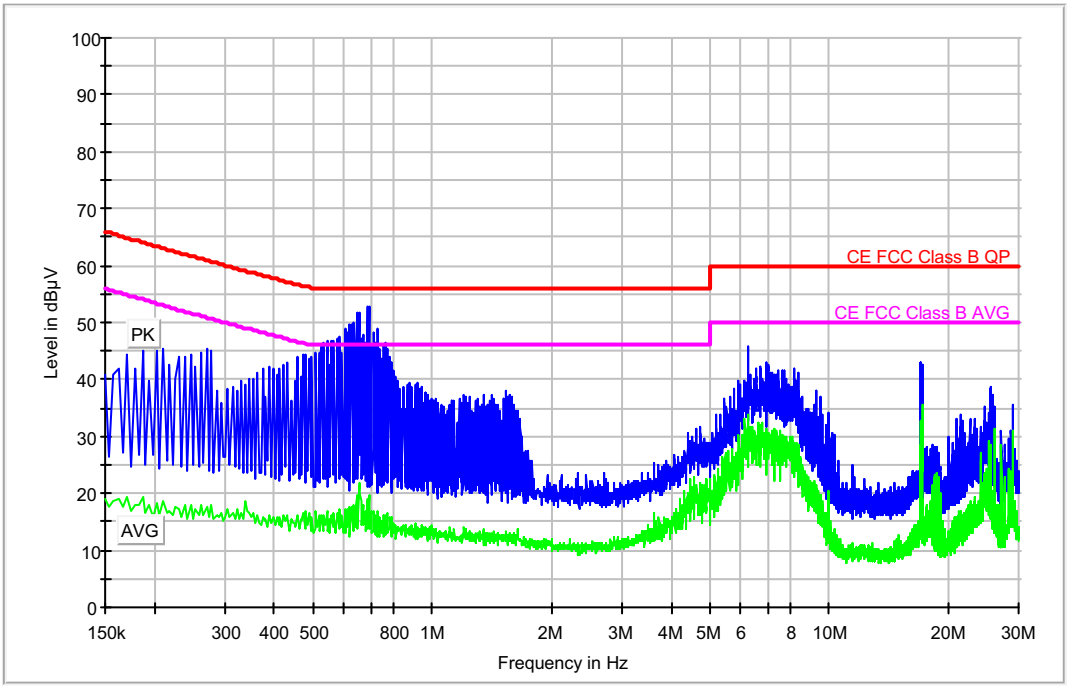
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.690000	52.5	19.1
0.674000	52.4	20.6
0.682000	51.9	19.2
0.698000	51.8	18.9
0.666000	51.7	18.9
0.658000	51.4	22.0
0.706000	51.2	17.9
0.714000	50.7	18.2
0.646000	50.1	18.8
0.638000	49.8	17.6

Continuous Conducted emission : CC0107NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#07
Setup: EMI conducted
Mode: EUT ON.TCH UMTS FDD II. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



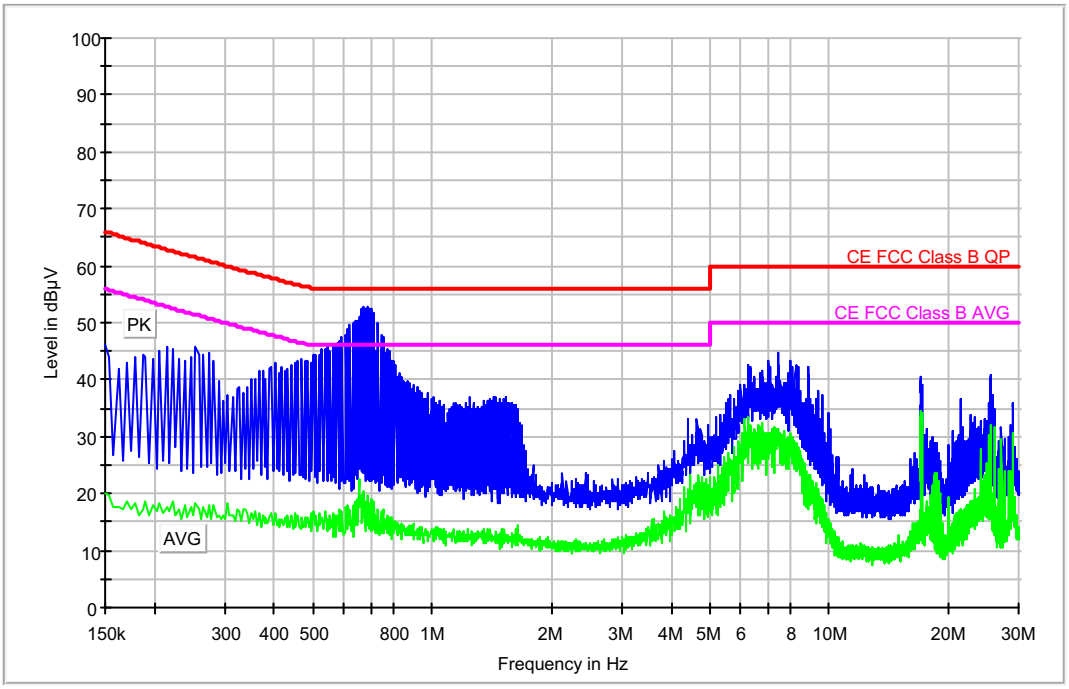
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.694000	52.9	19.6
0.686000	52.8	19.2
0.646000	51.9	19.8
0.654000	51.8	21.7
0.634000	50.0	18.0
0.626000	49.8	17.4
0.618000	49.6	17.5
0.730000	49.0	17.0
0.602000	48.8	17.2
0.610000	48.4	17.4

Continuous Conducted emission : CC0107PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#07
Setup: EMI conducted
Mode: EUT ON.TCH UMTS FDD II. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



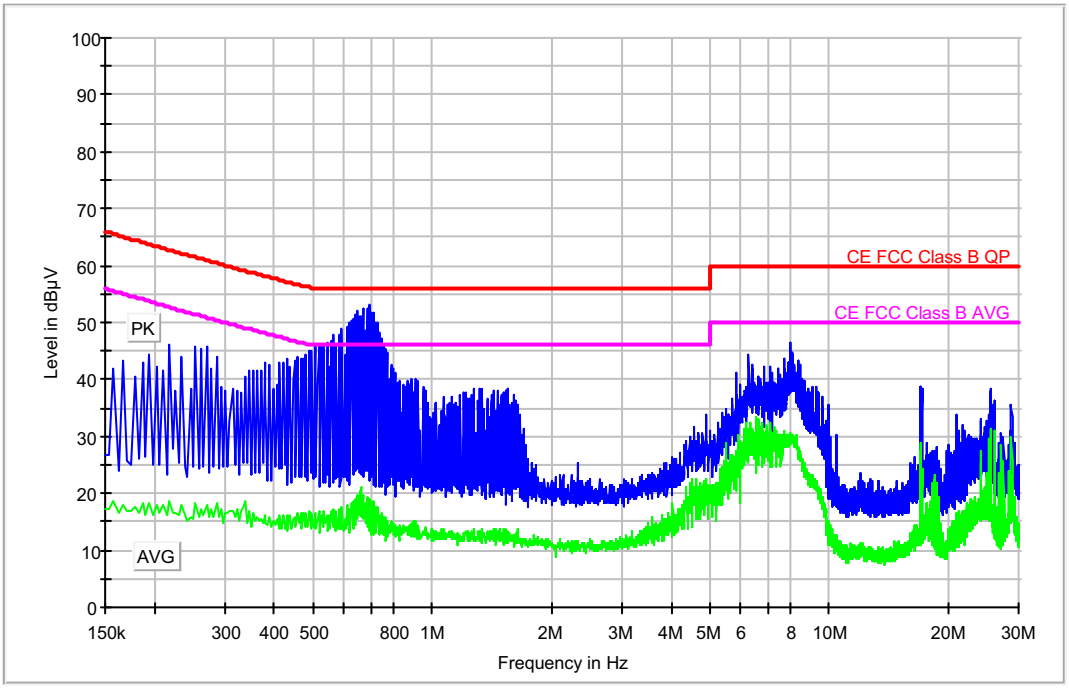
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.674000	52.7	20.5
0.690000	52.7	19.5
0.662000	52.6	19.7
0.682000	52.6	18.8
0.698000	52.5	18.4
0.706000	52.3	18.9
0.714000	51.7	18.7
0.654000	51.1	22.4
0.638000	50.5	18.6
0.646000	50.2	19.0

Continuous Conducted emission : CC0108NE	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#08
Setup: EMI conducted
Mode: EUT ON. IDLE UMTS FDD V. GPS ON. Nominal power supply: 3,3Vdc. Negative noise.

EC FCC Class B ESU CC5



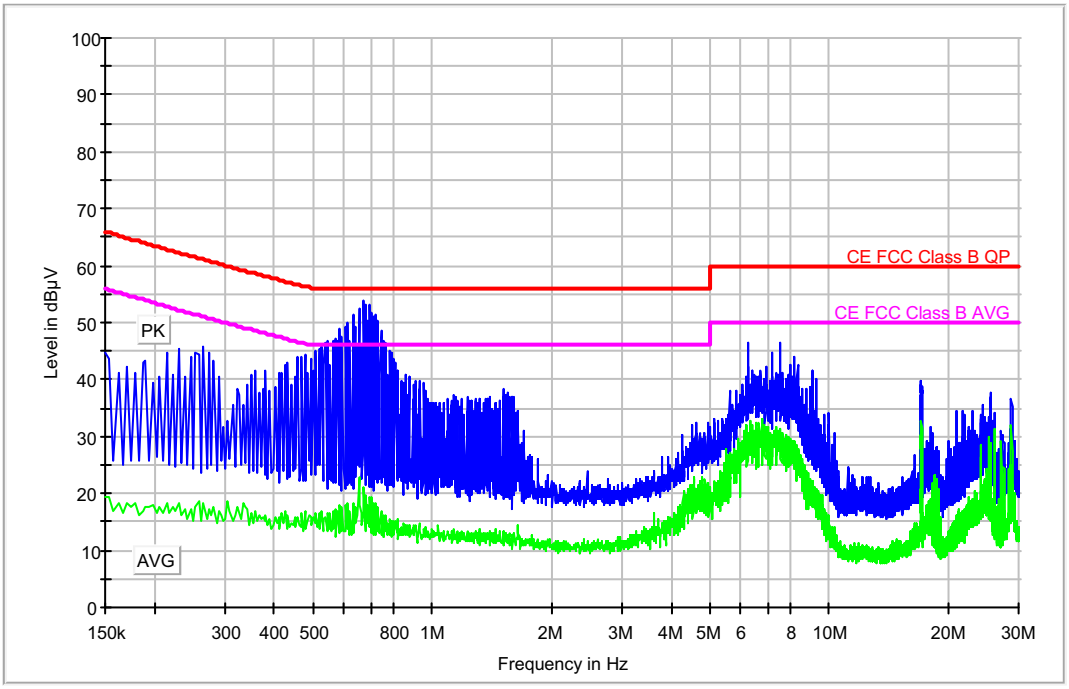
Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.694000	53.2	19.2
0.686000	52.4	19.2
0.670000	52.4	19.7
0.650000	52.1	19.6
0.710000	51.8	18.6
0.702000	51.8	18.6
0.642000	51.3	18.9
0.662000	51.2	21.0
0.634000	50.7	18.5
0.626000	50.5	18.3

Continuous Conducted emission : CC0108PO	Detector : Peak / Average / Cuasi-peak

Project: 33376REM.004
Company: ERICSSON AB
Sample: S/01
Operation mode: OM#08
Setup: EMI conducted
Mode: EUT ON. IDLE UMTS FDD V. GPS ON. Nominal power supply: 3,3Vdc. Positive noise.

EC FCC Class B ESU CC5



Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.674000	53.8	21.1
0.698000	53.2	19.3
0.682000	53.1	19.6
0.654000	52.6	22.9
0.706000	51.8	19.2
0.630000	51.3	18.5
0.722000	51.3	18.4
0.714000	50.9	18.3
0.690000	50.2	18.0
0.730000	50.2	17.7