



Test report No:
NIE: 60433REM.002A1

Test report

FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 (January 2016, Updated April 2017)

Identification of item tested	Thingy:91
Trademark	Thingy:91
Model and /or type reference tested	Thingy:91
Other identification of the product	HW Version: 0.7.2 SW Version: Rev0.2.1 FCC ID: 2ANPOTHINGY91 Contains FCC ID: 2ANPO00NRF9160 IC: nRF9160-SICA
Features	LTE Cat-M1, LTE-NB1
Manufacturer	NORDIC SEMICONDUCTOR ASA Otto Nielsens Vel 12 7052 Trondheim, NORWAY
Test method requested, standard	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 Issue 6 (January 2016, Updated April 2017)
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Rafael López EMC Consumer & RF Lab. Manager
Date of issue	2020-01-23
Report template No	FDT08_21

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Competences and guarantees

DEKRA Testing and Certification is a testing laboratory accredited by the National Accreditation Body (ENAC - Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification 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 DEKRA Testing and Certification at the time of performance of the test.

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4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification and the Accreditation Bodies.

Uncertainty

Uncertainty (factor $k=2$) was calculated according to the DEKRA Testing and Certification internal document PODT000.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 MHz to 1000 MHz is $I = \pm 4,9$ dB for quasi-peak measurements, $I = \pm 4,6$ dB for peak measurements ($k = 2$)

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 1000 MHz to 26 GHz is $I = \pm 2,6$ dB for peaks and average measurements ($k = 2$)

Data provided by the client

The sample consist of a compact LTE multi-sensor prototyping platform, model Thingy:91.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples under test have been selected by: The client.

Sample S/01 is composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
60433/001	Thingy:91	Thingy:91	---	2019-04-03

Test sample description

Ports..... :	Port name and description		Cable				
			Specified length [m]	Attached during test	Shielded		
	LTE RF		2	☒	☒		
	BTLE			☐	☐		
			☐	☐			
Supplementary information to the ports..... :	N/A						
Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC:	☐	☐	☐	☐	☐
	☐	AC:	☐	☐	☐	☐	☐
	☒	DC: 4.4V – 5.25V (USB)					
☐	DC:						
Rated Power	1W						
Clock frequencies.....	32kHz, 32MHz						
Other parameters	---						
Software version	Rev0.2.1						
Hardware version	0.7.2						
Dimensions in cm (W x H x D)	58x20x58 mm						
Mounting position	☒	Table top equipment					
	☐	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					

	☐	Hand-held equipment		
	☐	Other:		
Modules/parts.....:	Module/parts of test item		Type	Manufacturer
	Cover markings			
Accessories (not part of the test item)	Description		Type	Manufacturer
Documents as provided by the applicant.....:	Description		File name	Issue date
	Cover markings			

Copy of marking plate:
Data not provided

Identification of the client

NORDIC SEMICONDUCTOR ASA
Otto Nielsens Vel 12
7052 Trondheim, NORWAY

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2019-04-05
Date (finish)	2019-05-29

Document history

Report number	Date	Description
60433REM.002	2019-12-16	First release
60433REM.002A1	2020-01-23	Second release. Modification on description of OM#1 and OM#19. This modification test report cancels and replaces the test report 60433REM.002.

Environmental conditions

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

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the semianechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

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

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

Remarks and comments

The test have been performed by the technical personnel: Daniel Lopez, Victoria Olmedo, Alberto Parada & Daniel Mejías.

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

List of equipment used during the test

Control Number	Description	Last Calibration Date	Model	Manufacturer	Next Calibration
1650	THREE-PHASE ARTIFICIAL V-NETWORK 100A	2017-09-20	NNLK8121	SCHWARZBECK	2019-09-20
1935	EMI TEST RECEIVER 9kHz-3GHz	2017-12-12	ESPI3	ROHDE AND SCHWARZ	2019-12-12
2942	EMI TEST RECEIVER 20Hz-40GHz	2018-06-19	ESU40	ROHDE AND SCHWARZ	2020-06-19
3548	USB TEMPERATURE AND HUMIDITY SENSOR	2019-04-02	HUMIDIPROBE	PICO TECHNOLOGY	2020-04-02
4612	HORN ANTENNA 1-18GHz	2018-06-14	BBHA 9120 D	SCHWARZBECK MESS-ELEKTRONIK	2021-06-14
5151	TRANSIENT LIMITER 10DB N CONNECTOR	2019-04-10	VTSD 9561-F	SCHWARZBECK	2021-04-10
5641	HYBRID BILOG ANTENNA 30MHz-6GHz	2018-07-31	3142E	ETS LINDGREN	2021-07-31
6121	PRE-AMPLIFIER G>40dB 10MHz-6GHz	2019-04-30	BLNA 0160-01N	BONN ELEKTRONIK	2020-04-30
6129	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	2019-04-03	HWg-STE	HW GROUP	2020-04-03
6165	EMI TEST RECEIVER 9kHz-7GHz	2017-08-04	ESR7	ROHDE AND SCHWARZ	2019-08-04
6195	PRE-AMPLIFIER G>55dB 1-18GHz	2019-02-21	AMF-7D-01001800-22-10P	NARDA	2020-02-21

Summary

Emission Test		
Requirement – Test case	Verdict	Remark
Radiated emission. Electromagnetic field measure (30 KHz – 1000 MHz)	P	---
Radiated emission. Electromagnetic field measure (1 GHz – 18 GHz)	P	---
Continuous conducted emission (150 KHz – 30 MHz)	P	---

Appendix A: Test results

Appendix A Content

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DESCRIPTION OF THE OPERATION MODES

The operation modes described in this paragraph constitute a functionality of the sample under test for itself. The operation modes used by the samples to which the present report refers, are shown in the following table:

OPERATION MODE	DESCRIPTION
OM#01	EUT ON. MS in IDLE mode. Bluetooth ON. GPS receiving valid positional signal. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. (worst case for Radiated Emission)
OM#02	EUT ON. MS allocated in a channel. NB-IoT Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#03	EUT ON. MS allocated in a channel. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#04	EUT ON. MS allocated in a channel. NB-IoT Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#05	EUT ON. MS allocated in a channel. NB-IoT Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#06	EUT ON. MS in IDLE mode. NB-IoT Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#07	EUT ON. MS in IDLE mode. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#08	EUT ON. MS in IDLE mode. NB-IoT Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#09	EUT ON. MS in IDLE mode. NB-IoT Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#10	EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#11	EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#12	EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#13	EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#14	EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.

OPERATION MODE	DESCRIPTION
OM#15	EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#16	EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#17	EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#18	EUT ON. GPS receiving valid positional signal. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.
OM#19	EUT ON. NFC passive TAG being read by an auxiliary NFC reader. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.

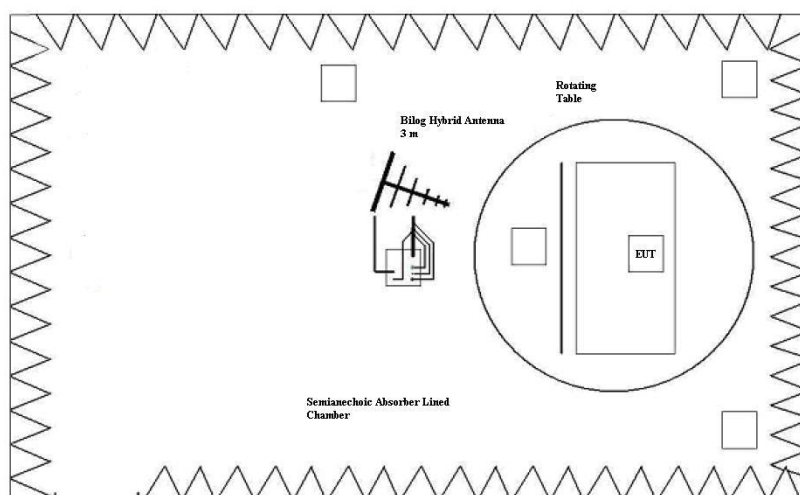
RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE

LIMITS:	Product standard:	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 Issue 6 (January 2016, Updated April 2017)
	Test standard:	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 Issue 6 (January 2016, Updated April 2017)

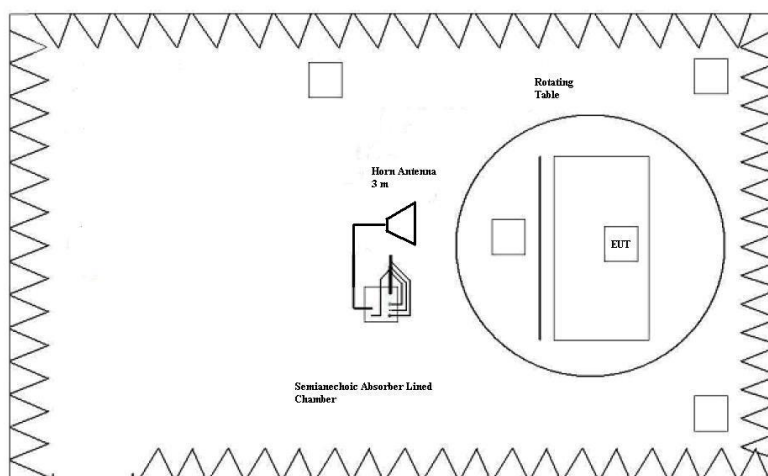
Limits of interference Class B

The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-1-16 Edition), Secs. 15.109 & ICES-003 Issue 6 (Updated 04-2017) in the frequency range 30 MHz to 18 GHz for class B equipments.

Frequency range (MHz)	QP Limit for 3 m		PK Limit for 3 m
	($\mu\text{V/m}$)	($\text{dB}\mu\text{V/m}$)	($\text{dB}\mu\text{V/m}$)
30 to 88	100	40	---
88 to 216	150	43.5	---
216 to 960	200	46	---
Above 960	500	54	74



Setup for measurements < 1GHz.



Setup for measurements > 1GHz.

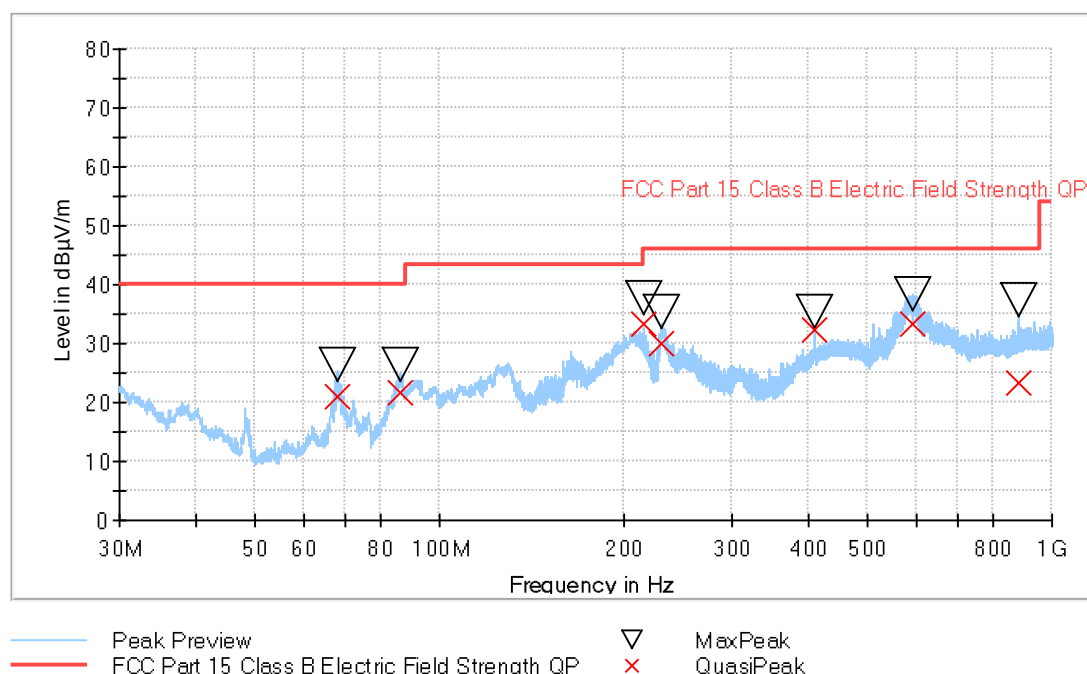
TESTED SAMPLE:	S/01
TESTED OPERATION MODES:	OM#01
TEST RESULTS:	CRmmnnRRPP: CR, Radiated Condition; mm: Sample number; nn: Operation mode; RR: Range; PP: Polarization.

CRmmnnRRPP	Description	Result
CR0101LR	Range: 30 MHz - 1000 MHz.	P
CR0101HR1 PH	Range: 1 GHz - 18 GHz. Horizontal Polarization.	P
CR0101HR1 PV	Range: 1 GHz - 18 GHz. Vertical Polarization.	P

Radiated Emission. CR0101LR

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#01
Description: EUT ON. MS in IDLE mode. Bluetooth ON. GPS receiving valid positional signal. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. (worst case)

FCC Part 15 Class B



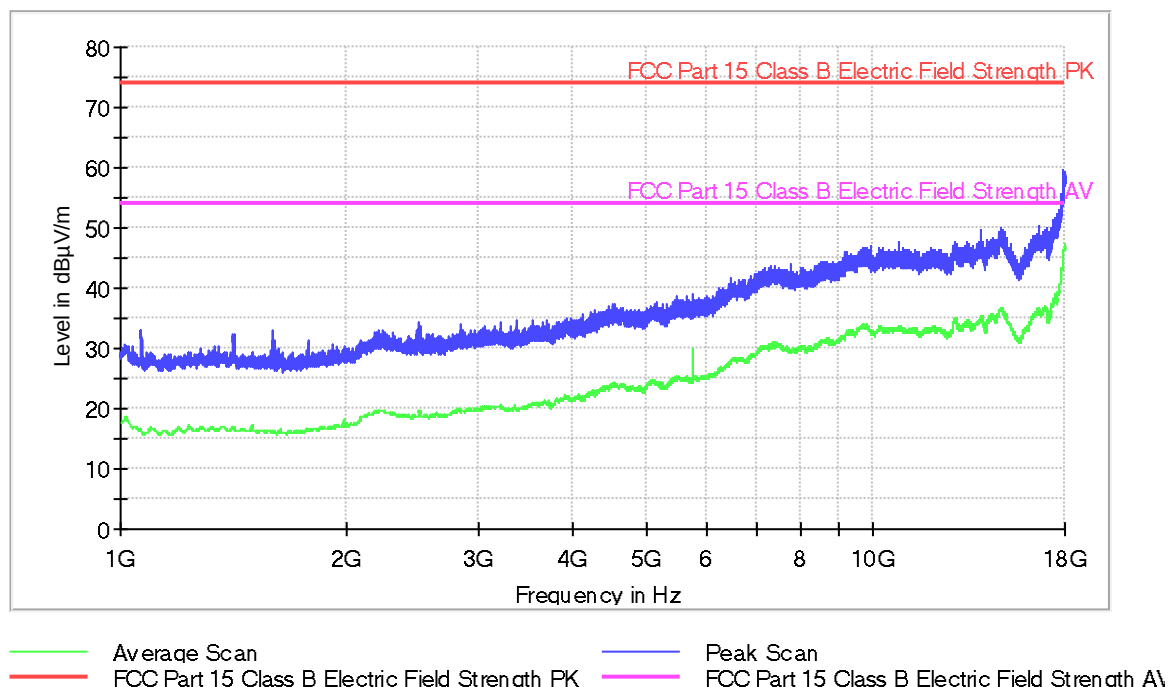
Maximizations

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
68.239000	26.40	21.16	40.00	13.60	228.0	H	22.0
86.235000	26.21	21.71	40.00	13.79	120.0	V	44.0
216.005000	37.72	33.32	46.00	8.28	135.0	H	174.0
230.614000	35.39	30.12	46.00	10.61	116.0	H	36.0
407.979000	35.45	32.48	46.00	10.55	176.0	V	-14.0
593.165000	38.28	33.35	46.00	7.72	133.0	H	49.0
884.679000	37.25	23.36	46.00	8.75	151.0	V	-33.0

Radiated Emission. CR0101HR1_PH

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#01
Description: EUT ON. MS in IDLE mode. Bluetooth ON. GPS receiving valid positional signal. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. (worst case). Horizontal Polarization

FCC 1-18GHz class B



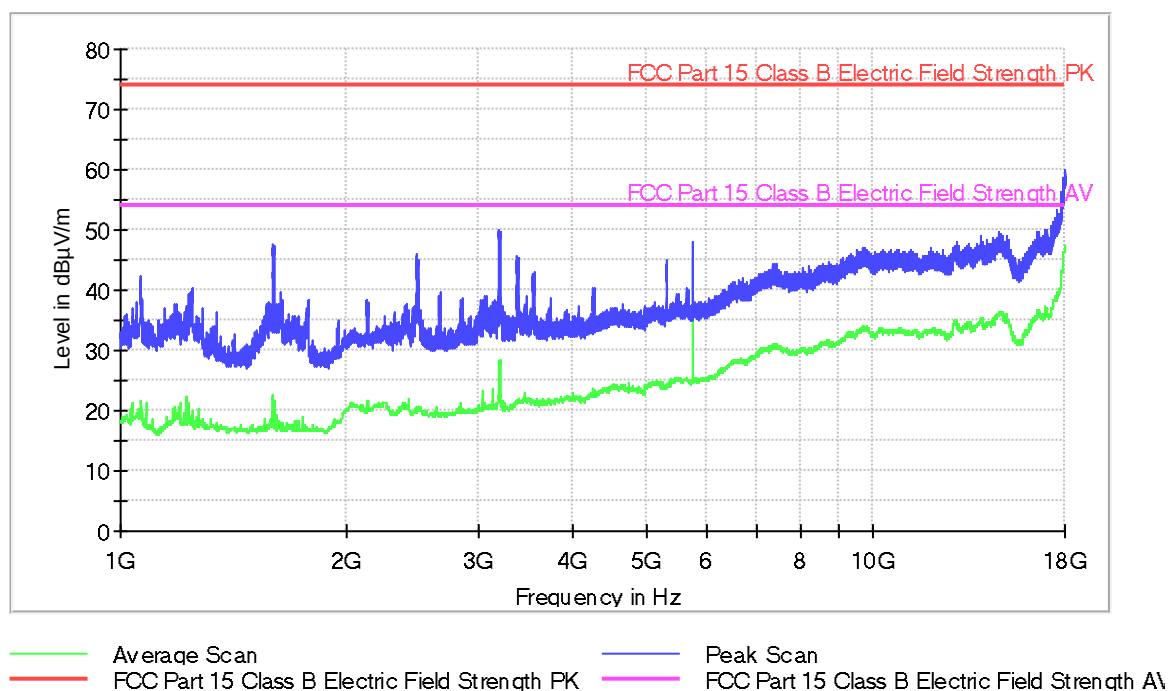
Subrange Maxima

Frequency (MHz)	PK+ CLRWR (dBμV/m)	AVG CLRWR (dBμV/m)
3524.800000	34.8	20.9
6461.600000	41.5	27.7
9225.200000	45.9	32.5
10819.600000	47.7	33.5
14833.200000	49.9	36.5
17944.400000	59.7	46.2

Radiated Emission. CR0101HR1_PV

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#01
Description: EUT ON. MS in IDLE mode. Bluetooth ON. GPS receiving valid positional signal. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. (worst case). Vertical Polarization

FCC 1-18GHz class B



Subrange Maxima

Frequency (MHz)	PK+ CLRWR (dBμV/m)	AVG CLRWR (dBμV/m)
3185.200000	50.1	27.4
5760.000000	48.0	45.5
9350.800000	45.8	32.8
11969.600000	47.1	33.2
14699.200000	49.7	36.3
17972.800000	60.0	46.9

CONTINUOUS CONDUCTED EMISSION

LIMITS:	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 (January 2016, Updated April 2017)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 (January 2016, Updated April 2017)

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 (10-1-16 Edition), Secs. 15.107 & ICES-003 Issue 6 (January 2016), in the frequency range 0,15 to 30 MHz, for Class B equipment was:

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

*Decreases with the logarithm of the frequency.

TESTED SAMPLES:	S/01
TESTED OPERATION MODES:	OM#02 to OM#19
TEST RESULTS:	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	DESCRIPTION	RESULT
CC0102N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0102L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0103N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0103L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0104N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0104L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0105N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0105L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0106N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0106L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0107N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0107L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0108N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0108L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0109N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0109L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P

TEST RESULTS:

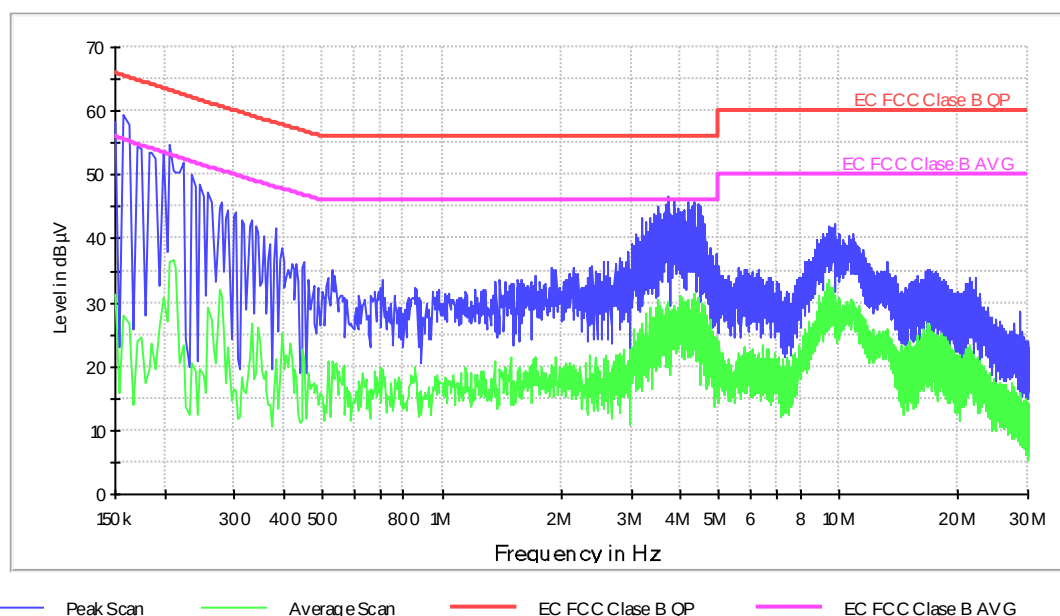
(cont.)

CCmmnnhh	DESCRIPTION	RESULT
CC0110N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0110L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0111N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0111L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0112N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0112L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0113N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0113L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0114N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0114L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0115N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0115L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0116N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0116L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0117N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0117L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0118N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0118L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P
CC0119N	Range: 150kHz – 30MHz. AC port. Neutral wire noise.	P
CC0119L1	Range: 150kHz – 30MHz. AC port. Phase wire noise.	P

Conducted Emission. CC0102N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#02
Description: EUT ON. MS allocated in a channel. NB-IoT Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



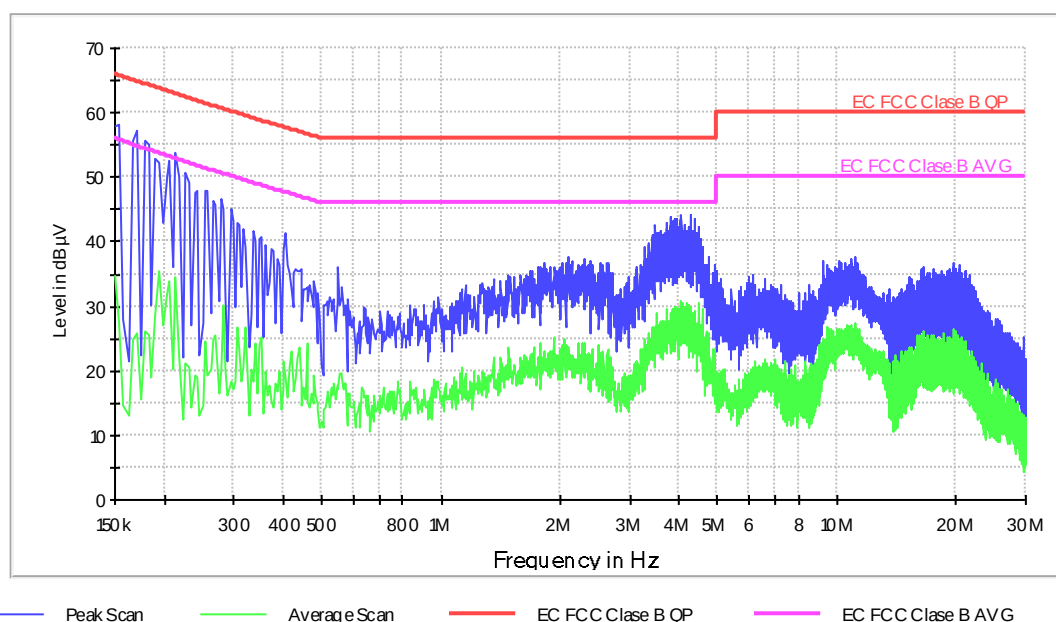
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.158000	59.5	28.0
0.258000	47.2	29.2
0.450000	36.4	21.2
0.858000	32.3	19.6
1.886000	35.5	17.8
3.522000	45.2	30.3
3.734000	46.7	27.9
9.750000	42.4	30.2
10.838000	40.6	28.7
17.666000	34.4	24.5

Conducted Emission. CC0102L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#02
Description: EUT ON. MS allocated in a channel. NB-IoT Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



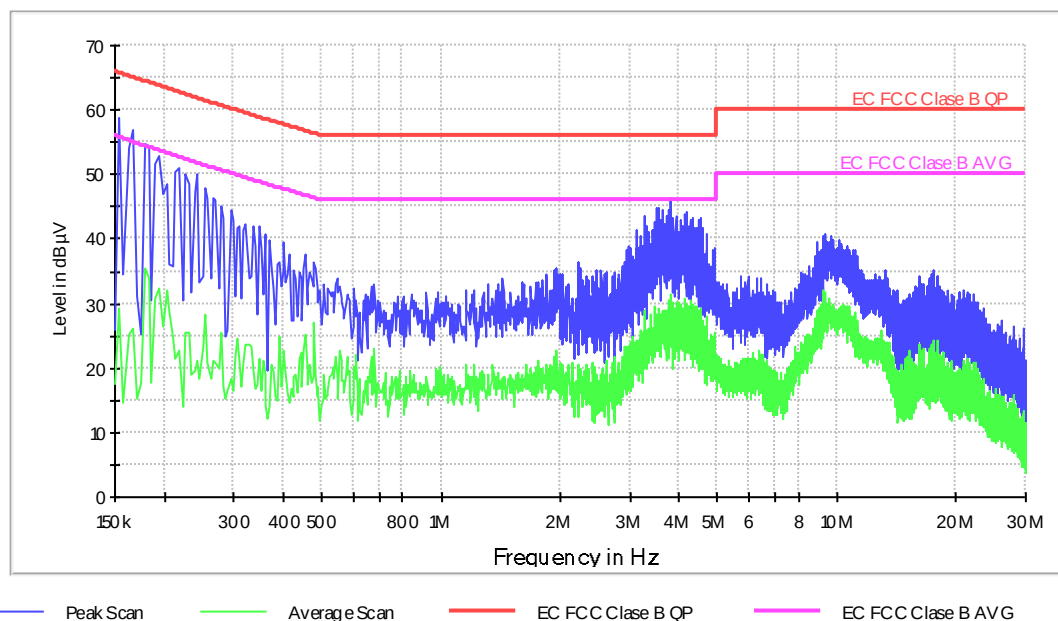
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	58.1	27.4
0.258000	47.8	19.4
0.550000	36.2	17.1
1.150000	33.2	19.6
2.102000	37.6	23.6
3.482000	42.6	26.7
4.054000	44.2	29.2
9.190000	37.1	22.5
11.102000	37.7	26.4
19.630000	36.6	24.7

Conducted Emission. CC0103N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#03
Description: EUT ON. MS allocated in a channel. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



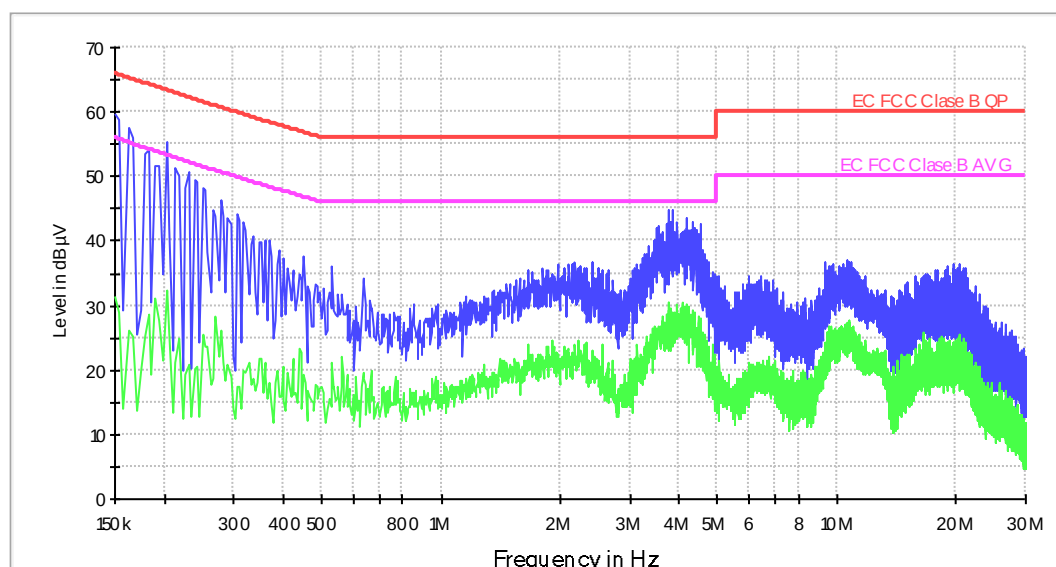
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	58.9	29.2
0.258000	46.4	20.8
0.454000	37.8	25.3
1.158000	32.1	16.7
1.958000	35.3	22.8
3.550000	44.9	28.4
3.786000	46.2	31.5
9.342000	40.7	31.6
10.646000	38.9	28.6
17.886000	34.2	24.2

Conducted Emission. CC0103L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#03
Description: EUT ON. MS allocated in a channel. NB-IoT Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

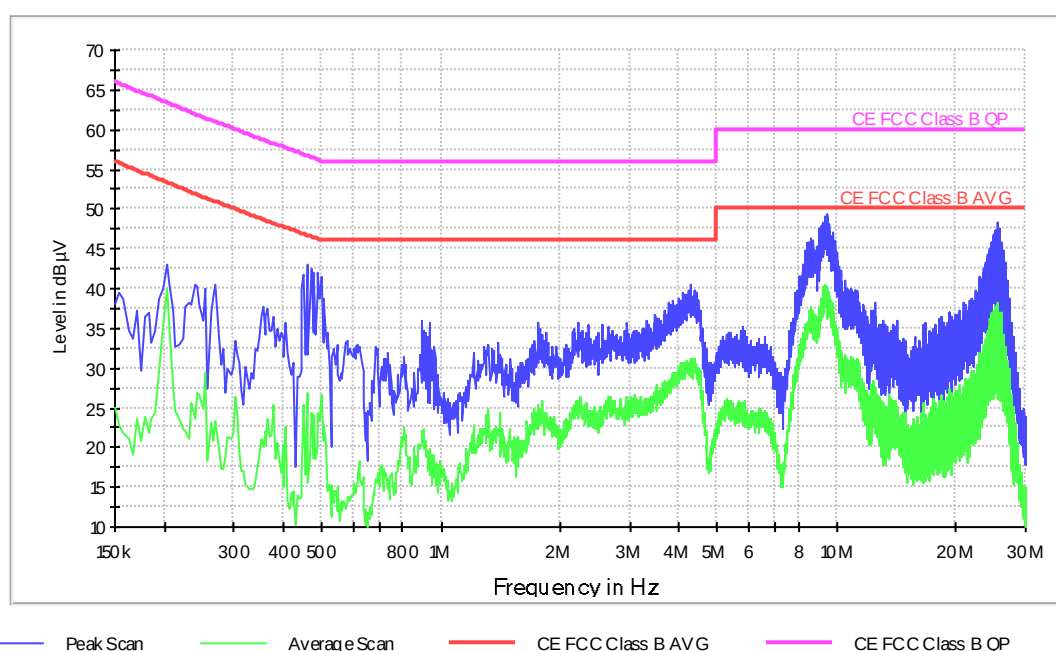
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	59.7	31.4
0.278000	46.4	26.1
0.450000	37.5	19.2
1.150000	31.5	18.2
2.106000	36.5	22.8
3.534000	42.3	26.0
3.862000	44.9	27.6
9.342000	36.6	24.1
10.602000	36.9	26.1
20.426000	36.4	23.1

Conducted Emission. CC0104N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#04
Description: EUT ON. MS allocated in a channel. NB-IoT Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



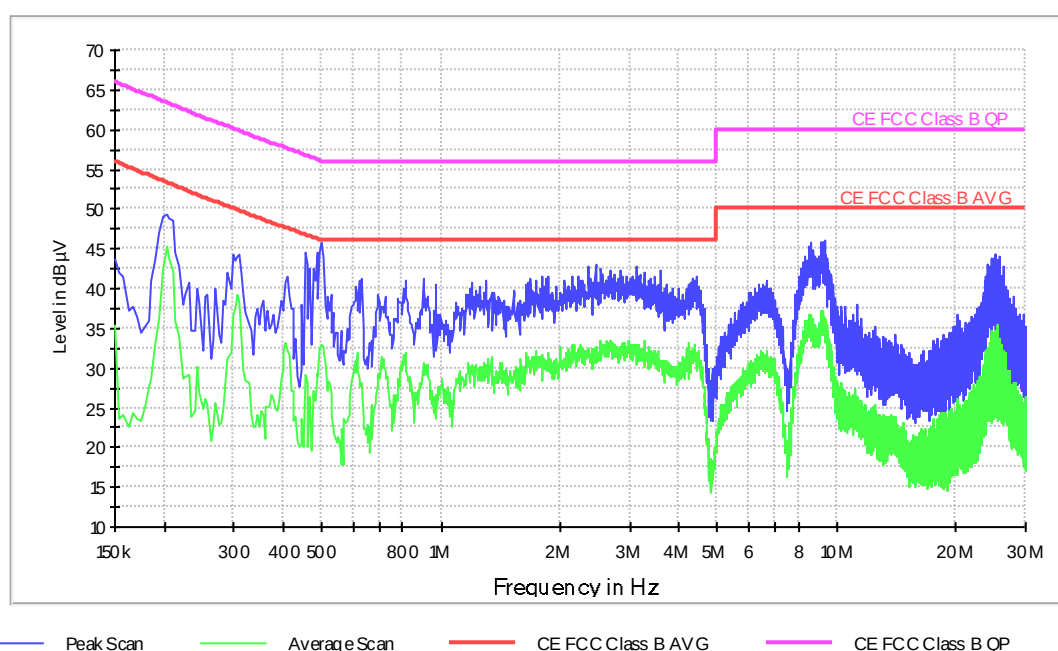
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.202000	42.7	38.5
0.270000	40.1	23.5
0.458000	44.3	26.2
0.894000	35.2	23.7
1.762000	36.5	24.8
3.484000	36.6	27.1
4.268000	41.9	30.2
9.420000	49.4	40.5
10.442000	40.2	32.3
25.380000	48.3	35.7

Conducted Emission. CC0104L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#04
Description: EUT ON. MS allocated in a channel. NB-IoT Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



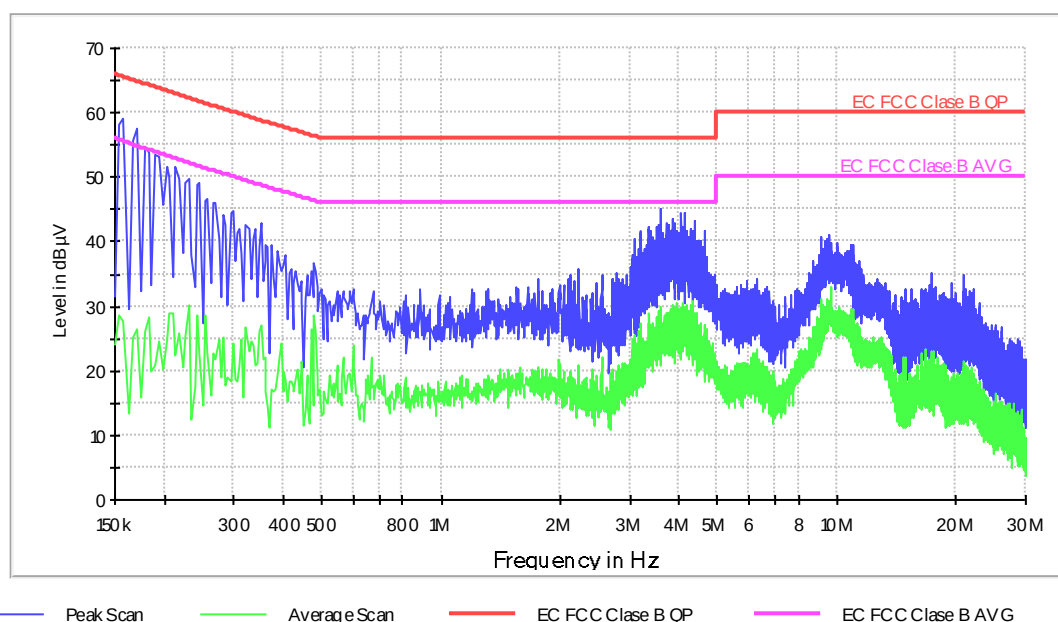
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.202000	48.2	45.5
0.298000	44.7	35.1
0.498000	46.2	32.6
0.913000	41.1	31.2
1.864000	42.9	32.4
2.467000	43.2	30.3
4.414000	41.5	30.5
9.305000	46.1	35.0
11.198000	36.9	25.5
25.245000	45.3	33.0

Conducted Emission. CC0105N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#05
Description: EUT ON. MS allocated in a channel. NB-IoT Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



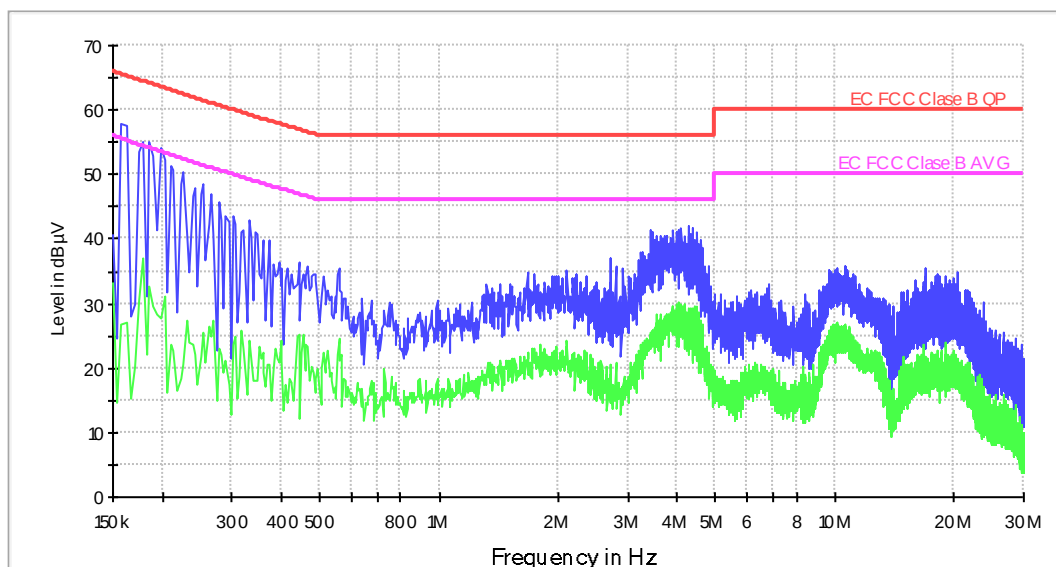
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.158000	59.1	27.6
0.258000	46.7	22.6
0.478000	36.7	28.6
0.886000	32.8	16.9
2.090000	34.3	19.1
3.590000	45.1	29.9
4.110000	44.6	29.9
9.546000	41.2	30.9
10.918000	39.6	28.4
20.894000	35.0	21.5

Conducted Emission. CC0105L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#05
Description: EUT ON. MS allocated in a channel. NB-IoT Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

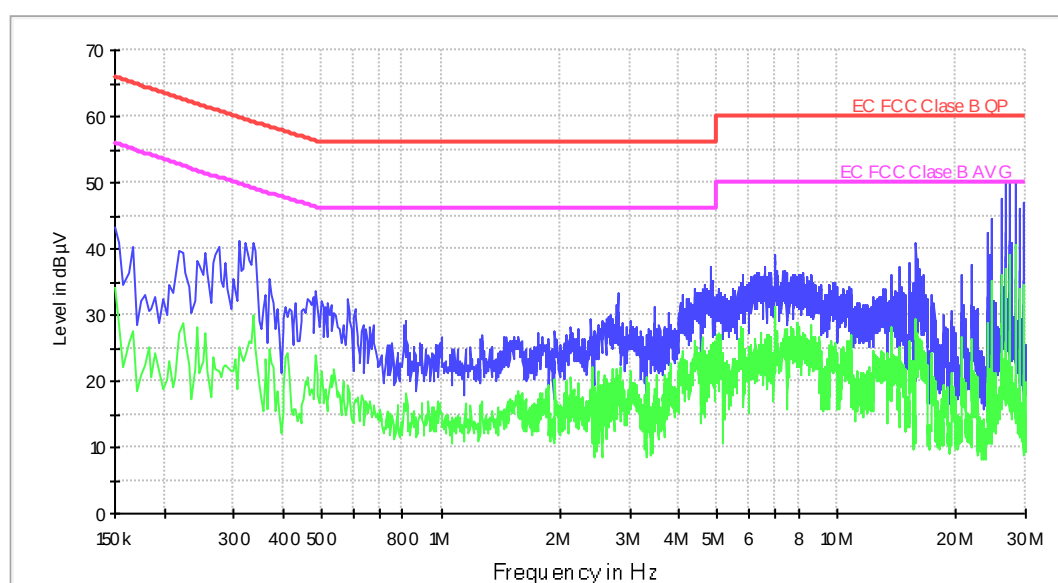
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.158000	57.9	26.8
0.266000	47.1	24.9
0.442000	36.4	25.2
0.990000	30.5	18.3
2.106000	35.1	24.3
3.418000	41.3	25.6
4.282000	42.0	28.7
10.086000	35.6	25.8
10.610000	35.9	26.1
20.390000	34.9	21.6

Conducted Emission. CC0106N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#06
Description: EUT ON. MS in IDLE mode. NB-IoT Band 2. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Neutral wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

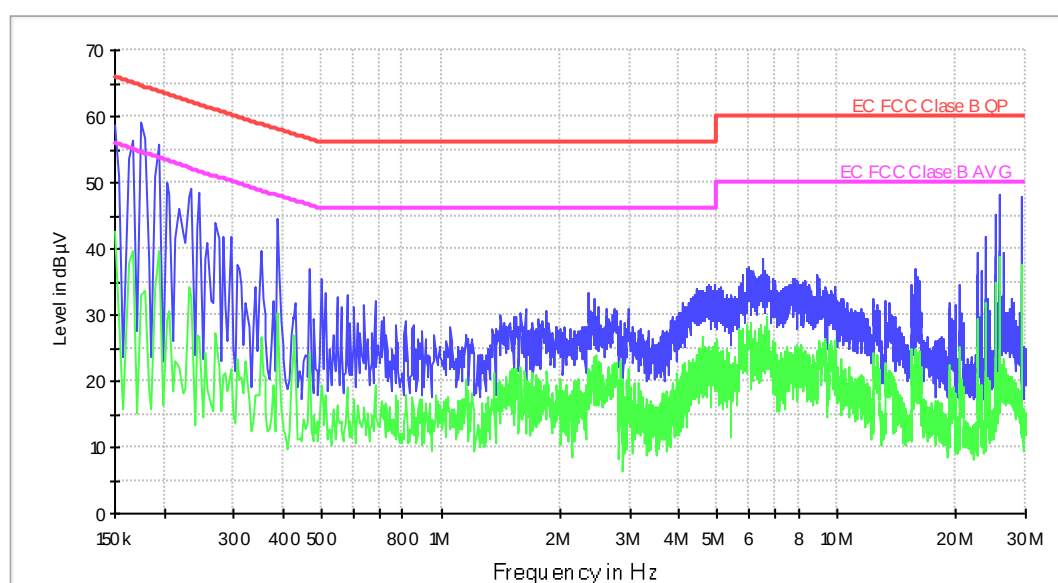
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	43.2	34.3
0.310000	41.3	25.1
0.482000	33.6	23.9
0.814000	29.1	17.2
1.942000	27.7	20.3
2.794000	33.3	21.0
4.798000	37.3	24.5
6.994000	39.1	31.3
15.878000	40.9	26.3
27.274000	50.1	38.9

Conducted Emission. CC0106L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#06
Description: EUT ON. MS in IDLE mode. NB-IoT Band 2. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Phase wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

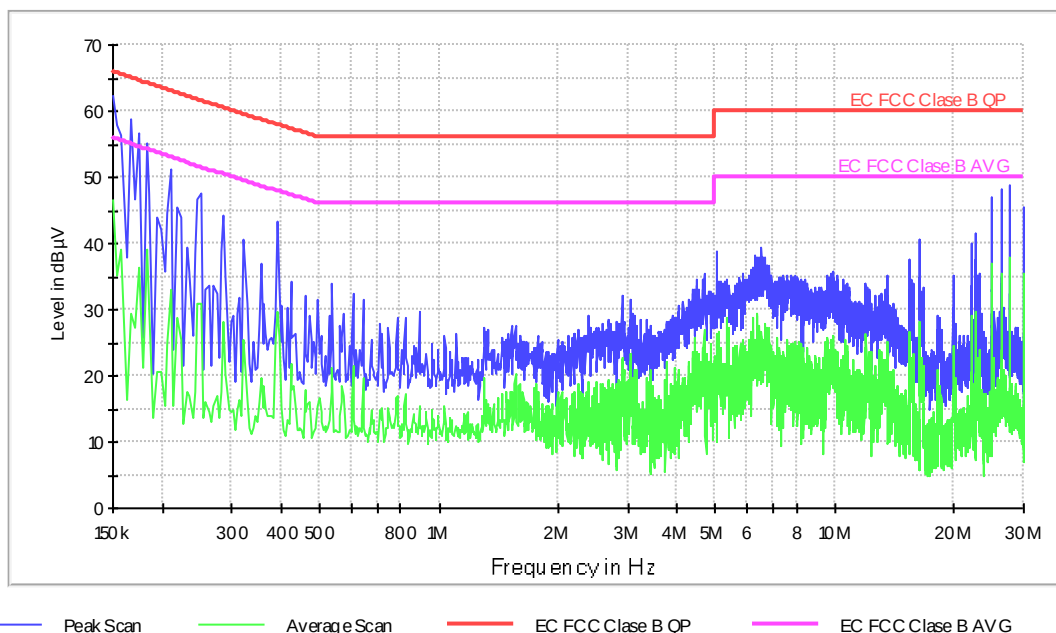
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.174000	59.0	33.1
0.386000	44.5	30.4
0.466000	37.0	24.2
0.810000	29.1	15.9
1.634000	31.0	19.8
2.366000	33.4	21.3
5.962000	37.2	26.2
6.506000	38.6	26.0
15.834000	36.9	24.9
25.870000	48.3	35.0

Conducted Emission. CC0107N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#07
Description: EUT ON. MS in IDLE mode. NB-IoT Band 4. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Neutral wire noise.

FCC Class B



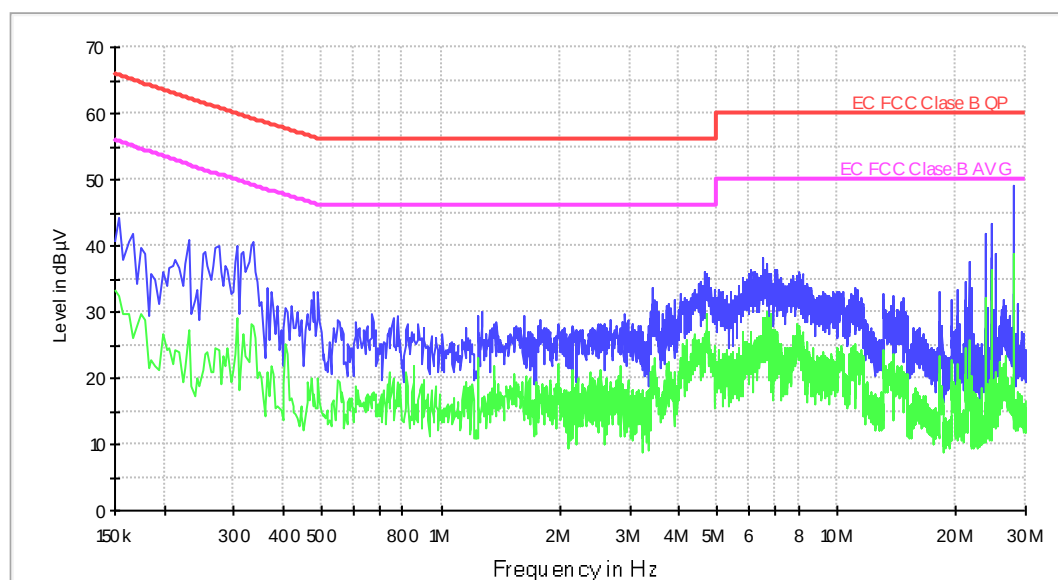
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	62.3	46.8
0.286000	44.1	28.0
0.538000	34.0	21.1
0.890000	29.6	15.3
1.522000	27.6	17.6
2.898000	32.1	22.4
5.038000	38.7	26.4
6.538000	39.5	26.7
16.386000	40.5	28.3
27.750000	48.9	32.5

Conducted Emission. CC0107L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#07
Description: EUT ON. MS in IDLE mode. NB-IoT Band 4. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Phase wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

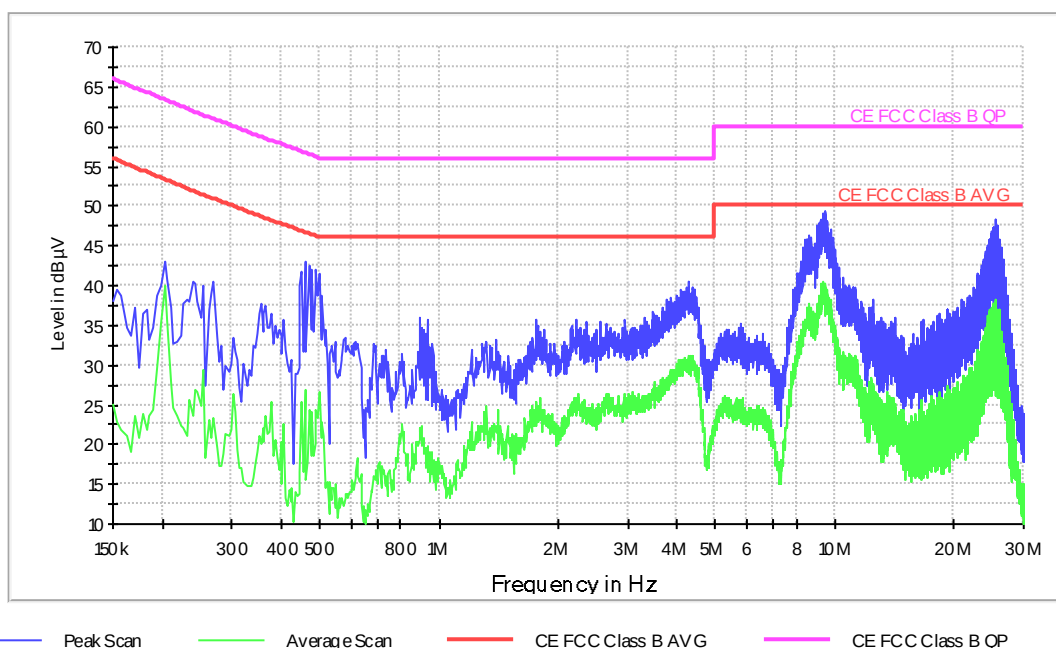
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	44.1	32.5
0.334000	40.5	27.9
0.478000	33.0	17.5
1.238000	29.5	22.9
1.270000	29.9	17.1
3.426000	33.7	20.5
6.062000	36.4	25.9
6.482000	38.3	29.0
11.174000	33.6	20.1
28.106000	49.2	38.9

Conducted Emission. CC0108N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#08
Description: EUT ON. MS in IDLE mode. NB-IoT Band 12. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Neutral wire noise.

FCC Class B



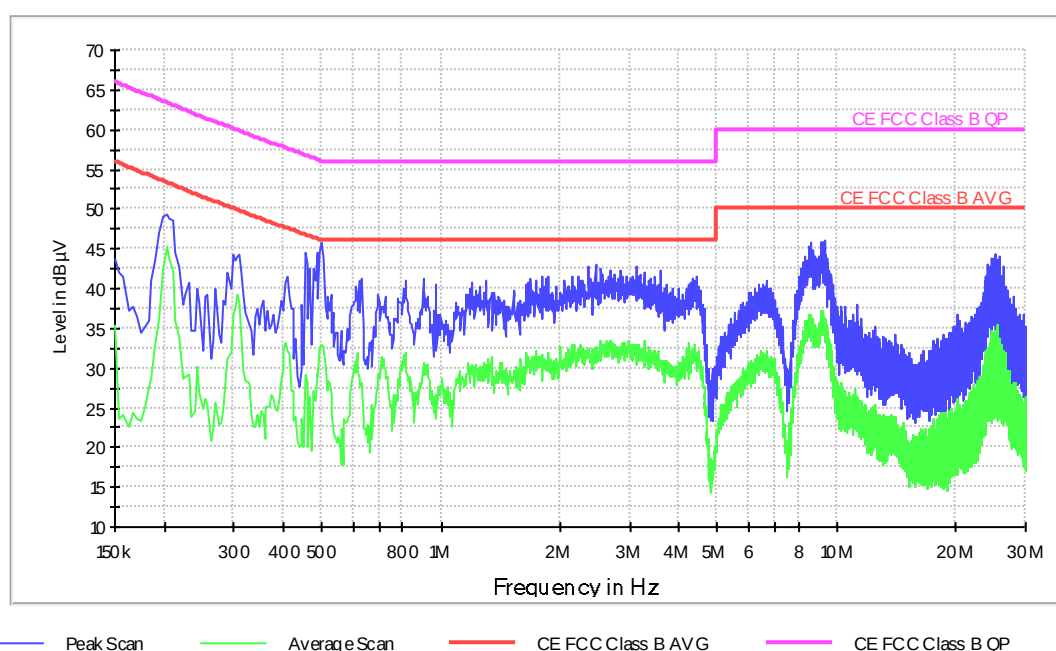
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.200000	43.3	40.5
0.268000	40.2	24.8
0.462000	43.1	26.5
0.902000	35.6	22.6
1.764000	36.8	24.8
3.464000	36.3	27.3
4.264000	39.5	29.2
9.427000	50.3	38.4
10.442000	41.3	31.9
25.347000	48.3	34.5

Conducted Emission. CC0108L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#08
Description: EUT ON. MS in IDLE mode. NB-IoT Band 12. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Phase wire noise.

FCC Class B



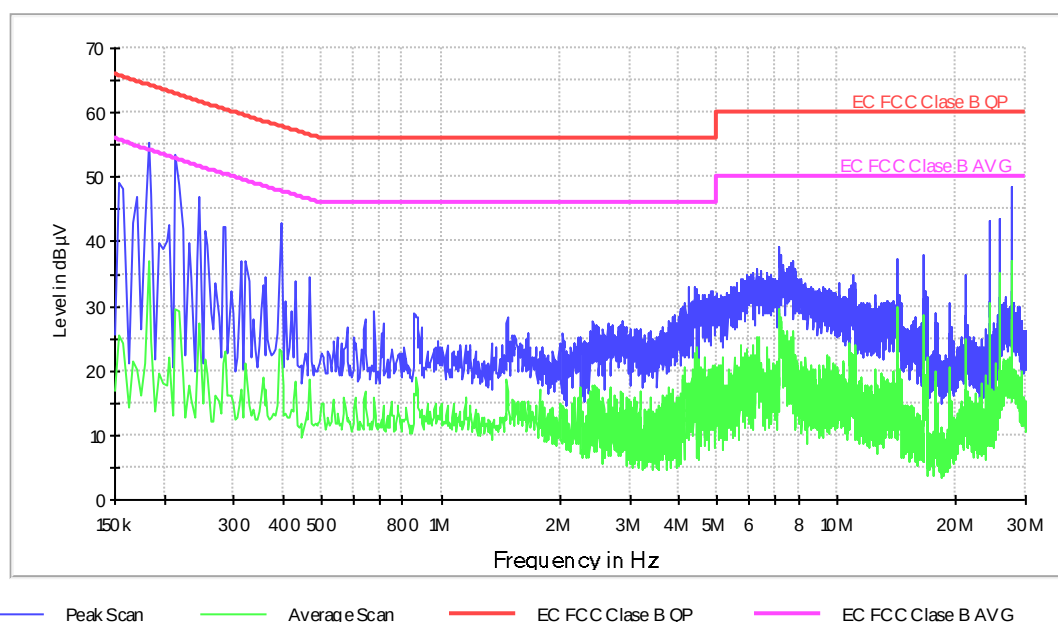
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.218000	48.2	45.1
0.273000	45.5	35.3
0.472000	45.7	32.8
0.912000	41.3	32.3
1.884000	41.8	31.5
2.442000	42.4	29.3
4.432000	42.0	31.2
9.280000	45.8	34.7
11.214000	37.1	26.5
25.248000	44.3	33.1

Conducted Emission. CC0109N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#09
Description: EUT ON. MS in IDLE mode. NB-IoT Band 13. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Neutral wire noise.

FCC Class B



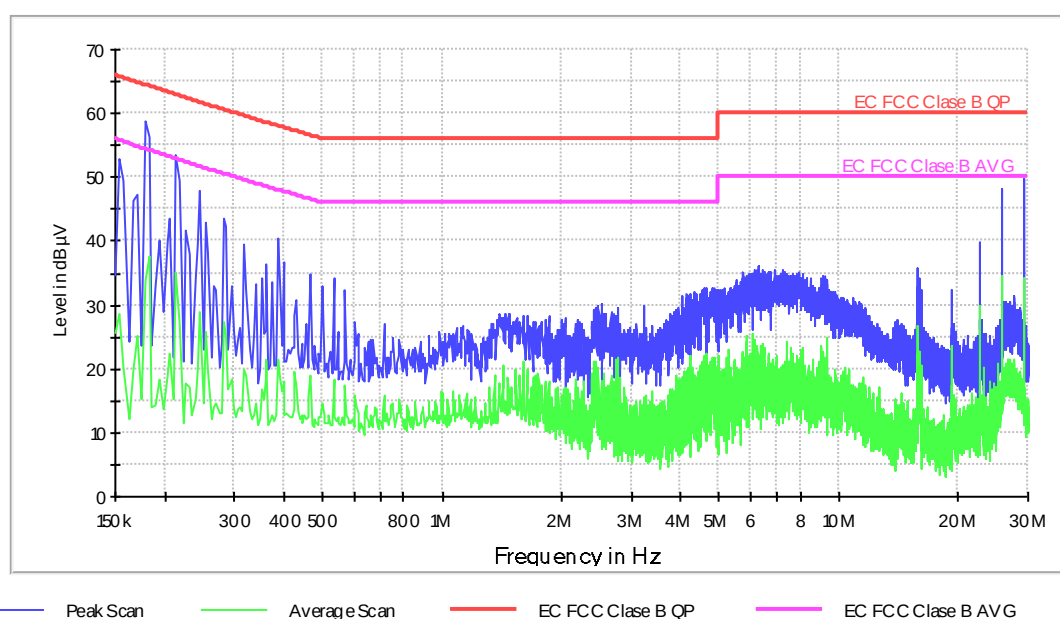
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.182000	55.4	37.0
0.394000	42.8	23.0
0.466000	34.6	18.7
0.858000	28.9	16.5
1.470000	28.4	16.8
2.886000	27.7	16.5
6.114000	35.2	18.9
7.170000	39.2	27.3
16.574000	37.9	28.5
27.710000	48.6	36.9

Conducted Emission. CC0109L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#09
Description: EUT ON. MS in IDLE mode. NB-IoT Band 13. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Phase wire noise.

FCC Class B



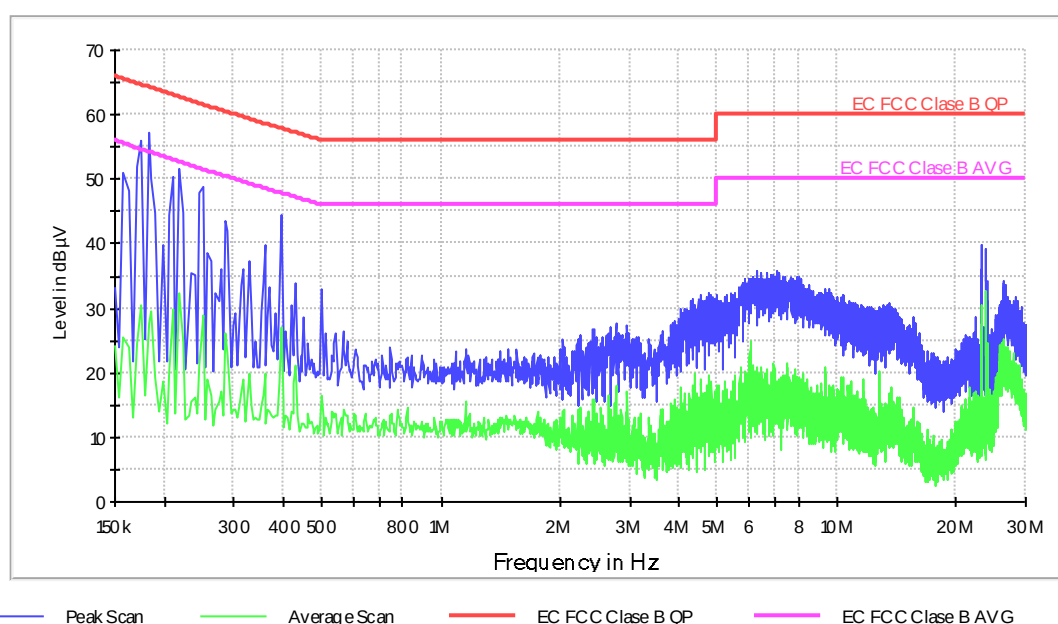
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.178000	58.8	33.8
0.282000	43.5	27.3
0.466000	34.7	18.9
1.126000	26.6	13.0
1.398000	28.7	14.7
2.518000	30.1	18.2
5.750000	35.1	22.7
6.258000	36.0	19.1
15.706000	35.9	26.7
29.358000	49.8	33.1

Conducted Emission. CC0110N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#10
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 2.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz.. Neutral wire noise.

FCC Class B



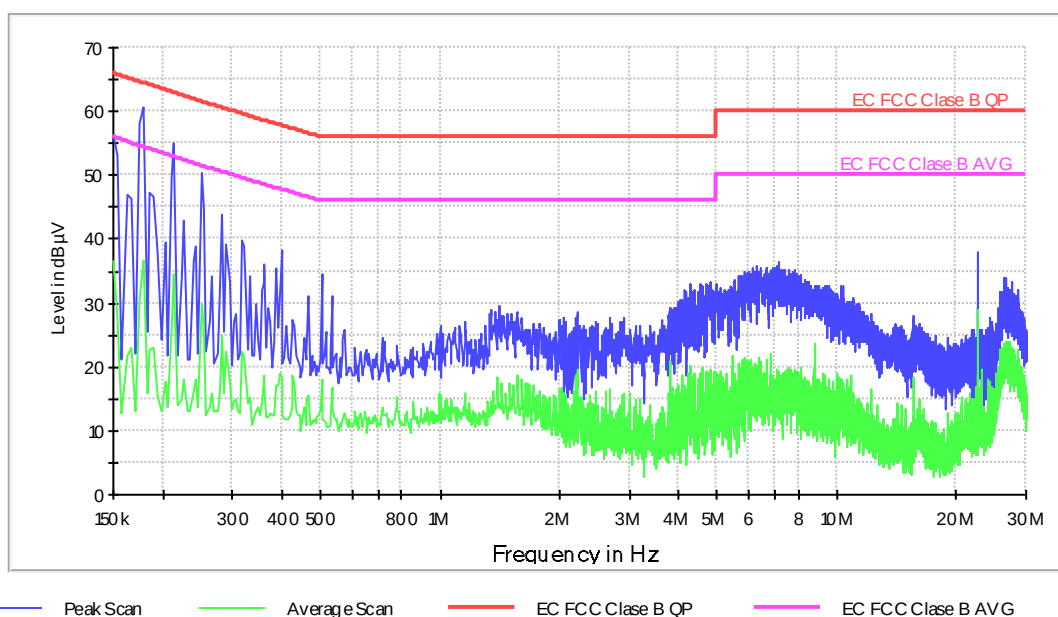
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.182000	57.1	27.6
0.394000	44.6	27.0
0.498000	33.0	16.6
0.746000	23.9	13.3
2.034000	25.1	14.1
2.762000	27.7	18.1
6.010000	34.7	19.5
6.266000	35.8	18.0
10.758000	31.1	15.3
23.202000	39.8	30.6

Conducted Emission. CC0110L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#10
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 2.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



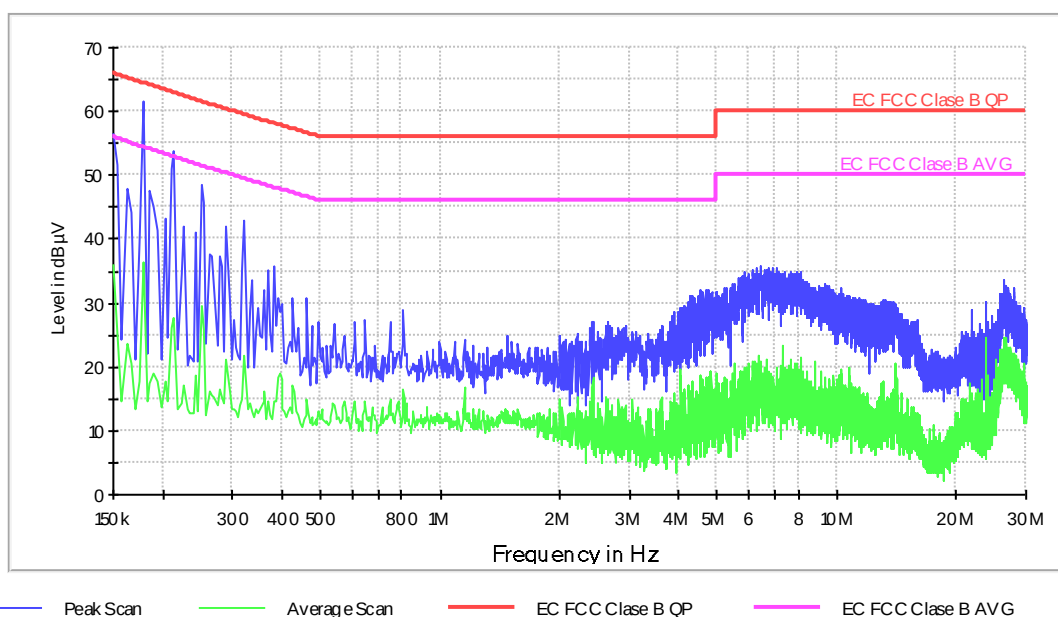
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.178000	60.5	36.7
0.282000	43.9	25.0
0.502000	34.5	17.9
1.154000	27.0	15.8
1.410000	29.6	14.2
2.210000	28.8	19.6
5.970000	34.9	19.8
7.170000	36.3	15.8
10.978000	30.7	13.9
22.726000	37.9	26.3

Conducted Emission. CC0111N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#11
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 4.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



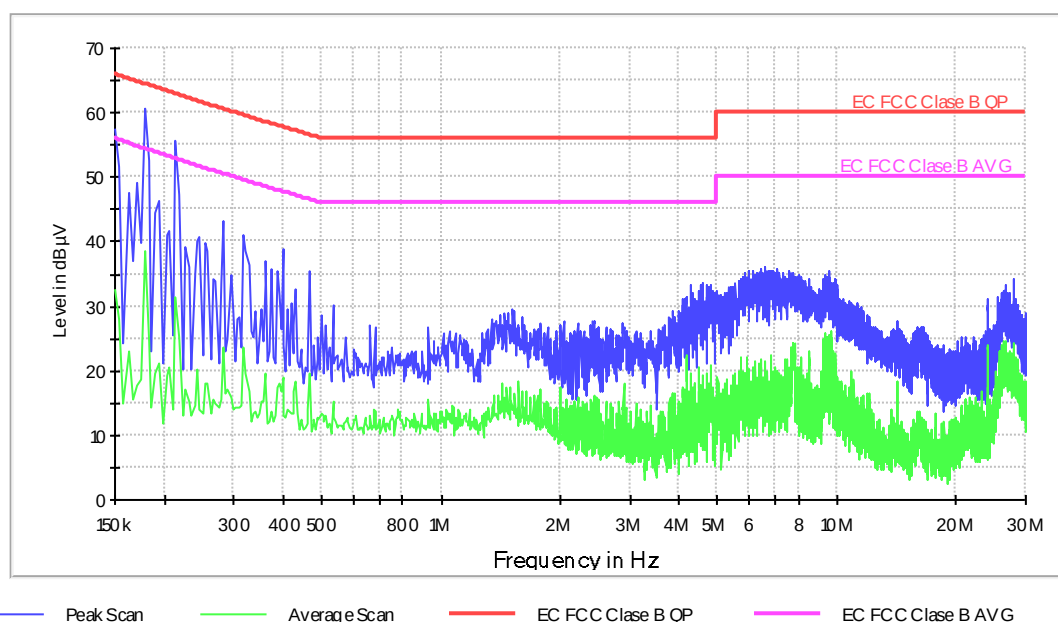
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.178000	61.5	36.3
0.322000	42.8	21.6
0.462000	30.7	14.8
0.806000	29.0	16.6
1.482000	25.0	12.9
2.422000	27.2	15.2
5.878000	34.9	19.8
6.418000	35.8	16.5
10.558000	31.2	15.4
26.322000	33.7	24.5

Conducted Emission. CC0111L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#11
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 4.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



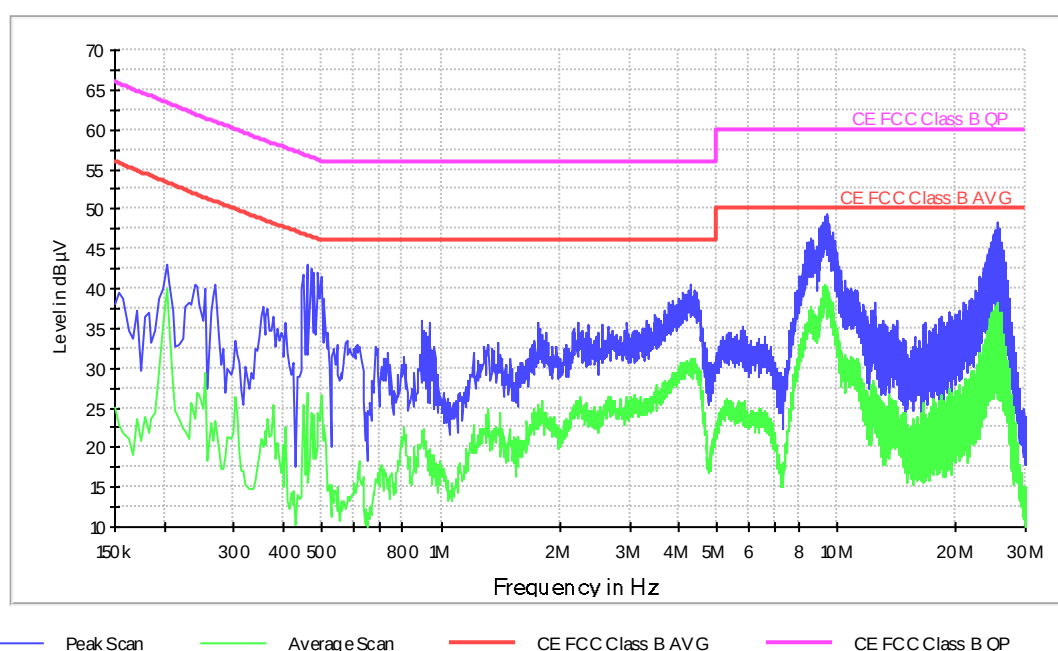
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.178000	60.5	38.5
0.282000	43.2	23.7
0.466000	35.3	19.6
0.930000	26.6	15.7
1.518000	29.6	14.3
2.434000	27.7	13.5
6.010000	35.4	18.6
6.566000	36.0	19.2
10.730000	30.9	17.3
28.122000	34.2	24.3

Conducted Emission. CC0112N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#12
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 12.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



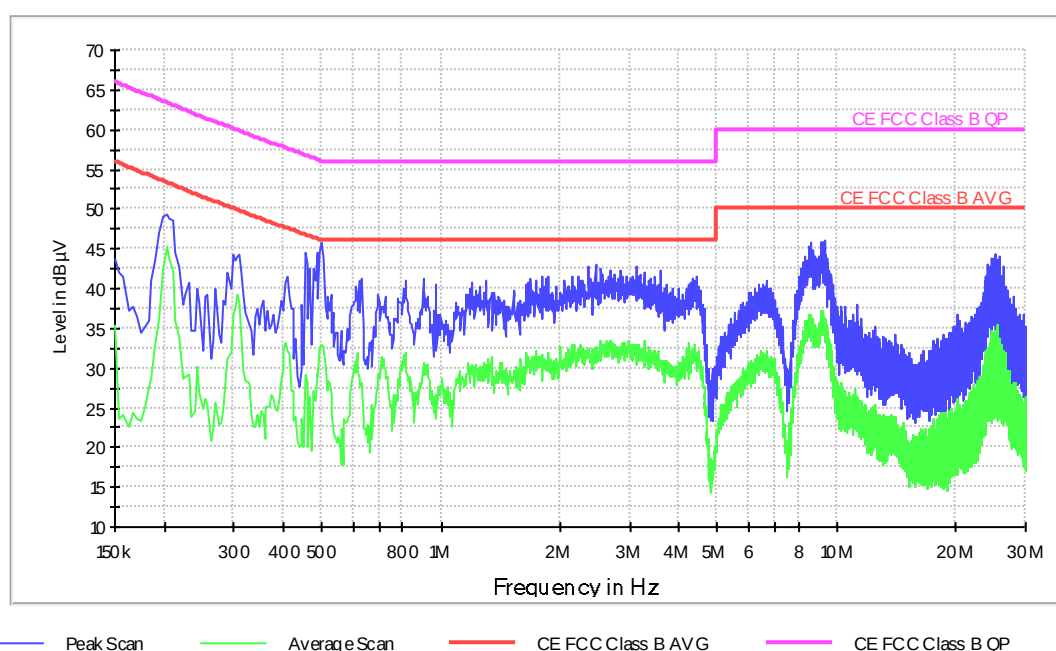
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.202000	43.0	40.0
0.270000	40.4	23.8
0.458000	43.9	26.9
0.894000	35.9	23.1
1.758000	36.8	25.5
3.482000	36.6	27.9
4.270000	41.6	30.9
9.418000	49.3	40.3
10.438000	40.6	31.9
25.338000	48.6	35.3

Conducted Emission. CC0112L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#12
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 12.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



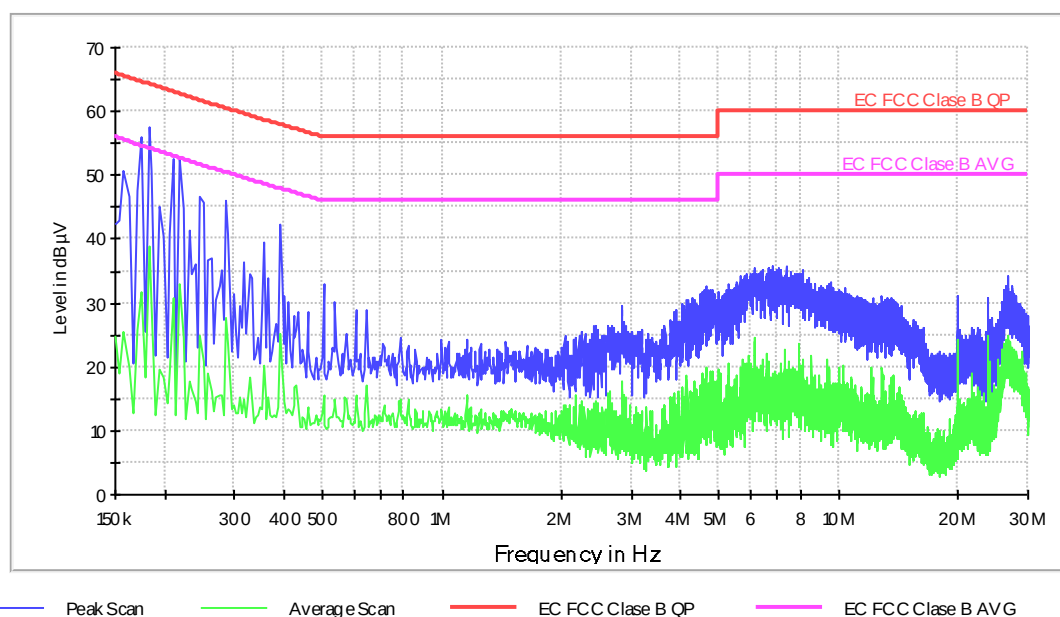
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.202000	48.4	45.4
0.298000	45.0	36.7
0.498000	45.9	33.0
0.902000	41.3	31.6
1.862000	42.6	32.0
2.458000	42.9	30.1
4.426000	41.5	31.0
9.298000	45.9	35.1
11.202000	36.7	25.7
25.250000	44.9	33.1

Conducted Emission. CC0113N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#13
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 13.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



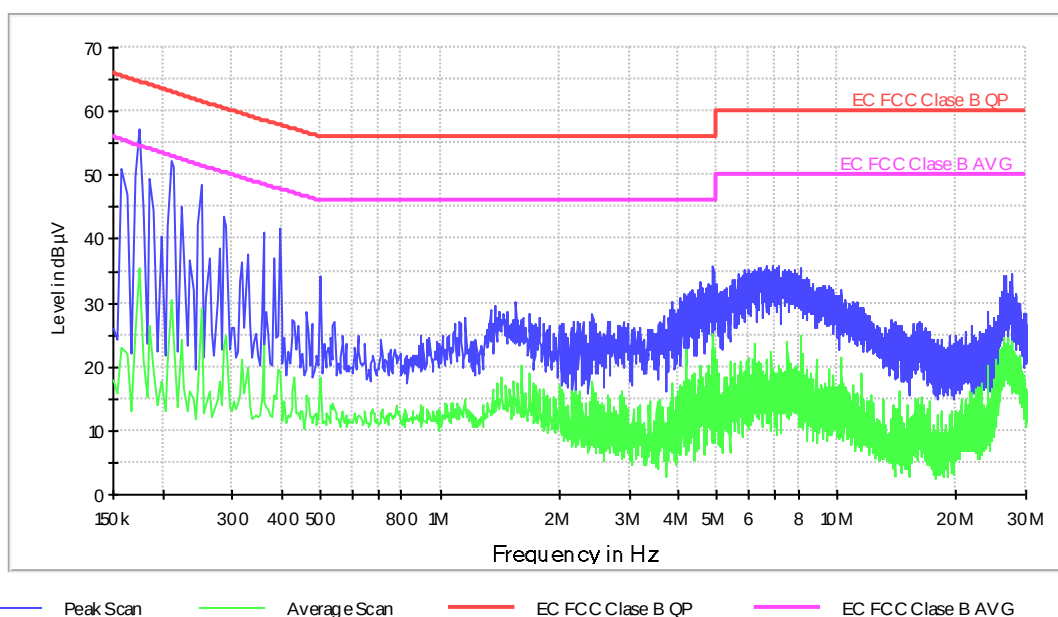
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.182000	57.6	38.9
0.286000	46.2	27.7
0.502000	32.9	15.5
0.786000	24.6	14.9
2.038000	24.9	14.1
2.842000	29.6	15.4
6.106000	35.5	24.6
6.790000	35.9	14.4
10.558000	31.5	15.1
26.622000	34.1	23.1

Conducted Emission. CC0113L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#13
Description: EUT ON. Bluetooth ON. MS in IDLE mode. LTE Cat. M1 Band 13.
Charging batteries. EUT power supply: 5Vdc (through USB cable).
Test arrangement for tabletop equipment according to ANSI C63.4.
Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



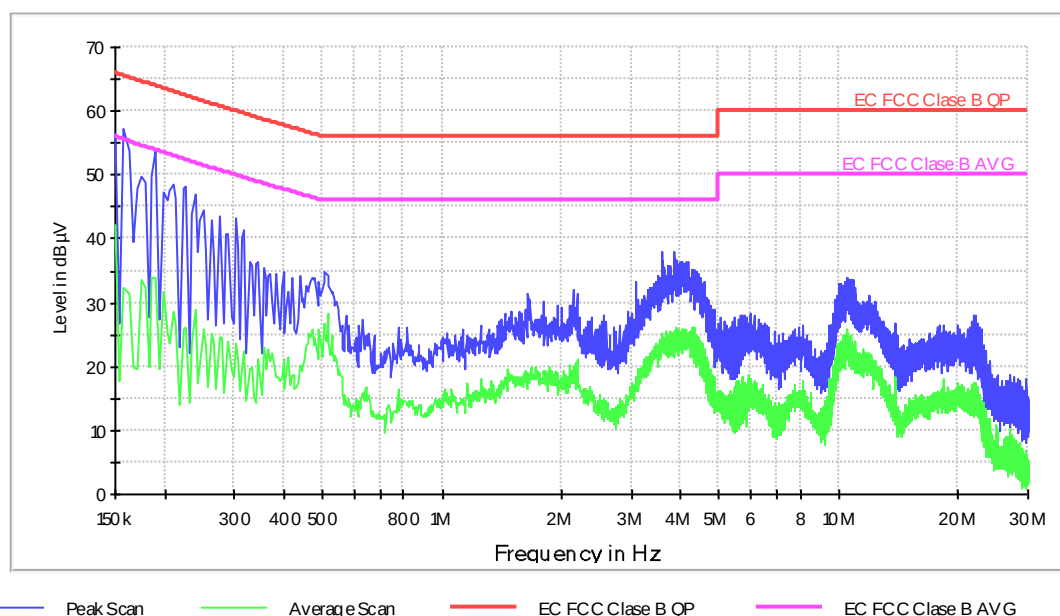
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.174000	57.2	35.6
0.286000	43.4	23.2
0.498000	34.3	18.3
1.158000	27.6	13.9
1.554000	30.2	14.9
2.426000	28.4	17.9
4.886000	35.9	25.2
7.174000	35.8	16.1
10.462000	30.5	15.5
27.498000	34.6	23.8

Conducted Emission. CC0114N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#14
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



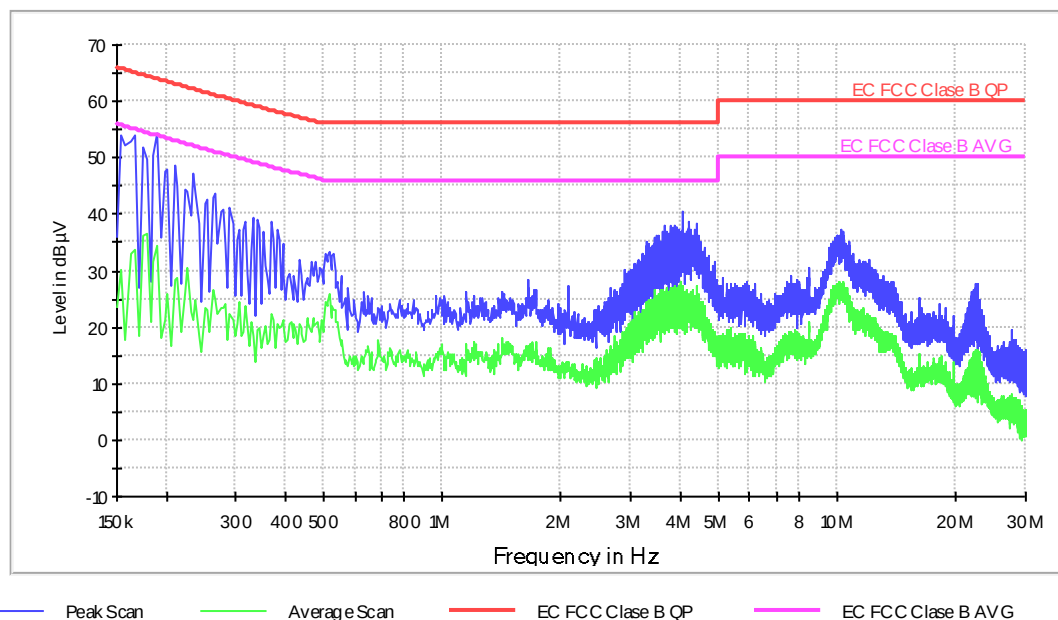
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.158000	57.3	32.3
0.274000	43.5	24.6
0.506000	35.0	25.3
0.818000	26.3	14.0
1.650000	31.5	18.3
3.570000	37.8	25.2
3.842000	38.1	25.3
10.338000	33.3	23.8
10.474000	33.9	25.8
22.010000	28.1	16.6

Conducted Emission. CC0114L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#14
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 2. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



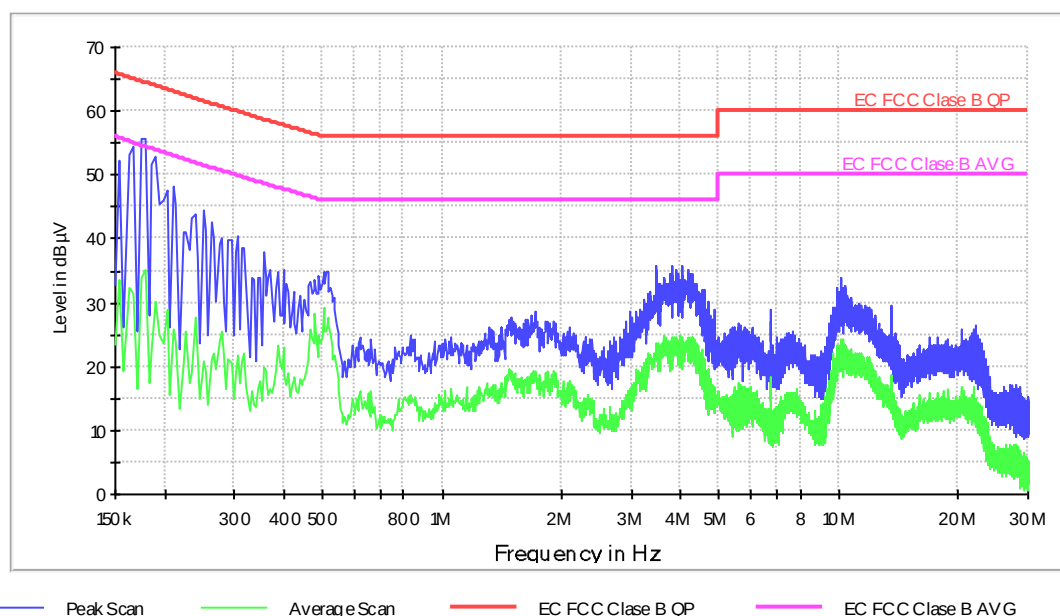
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.190000	54.5	34.6
0.266000	43.5	24.8
0.518000	33.4	25.9
1.150000	26.4	17.0
1.654000	28.3	16.6
3.490000	36.3	25.0
4.062000	40.5	27.5
10.246000	37.2	27.5
10.398000	37.0	27.4
22.486000	27.6	15.4

Conducted Emission. CC0115N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#15
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz.. Neutral wire noise.

FCC Class B



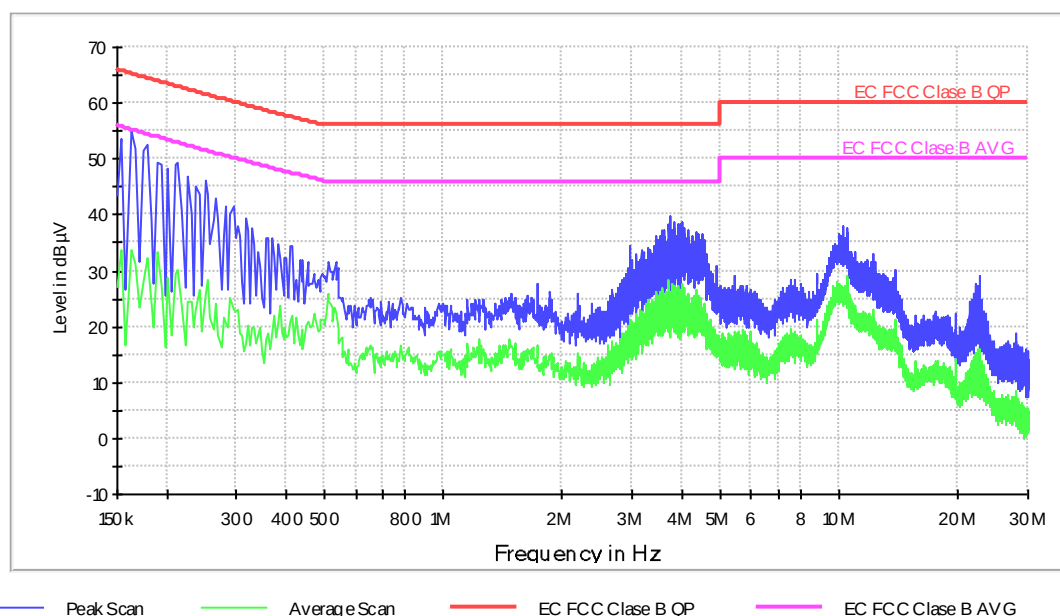
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.178000	55.7	35.1
0.262000	42.7	21.2
0.510000	35.0	25.6
0.830000	24.8	15.5
1.722000	28.5	19.3
3.450000	35.6	23.5
3.806000	35.8	24.5
10.186000	33.8	23.6
10.414000	32.4	23.2
22.110000	26.3	14.8

Conducted Emission. CC0115L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#15
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 4. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



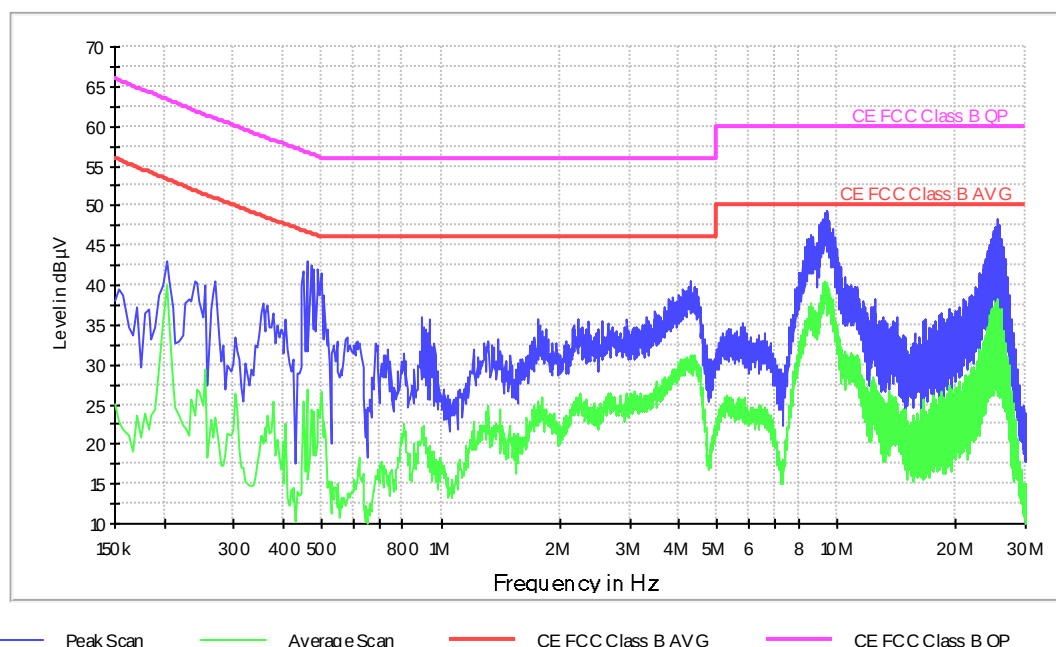
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.162000	55.0	33.9
0.266000	42.9	24.0
0.434000	32.0	16.7
0.778000	25.3	16.5
1.726000	27.6	16.6
3.590000	37.4	27.0
3.750000	39.9	26.4
10.250000	37.8	26.9
10.506000	37.6	28.3
22.562000	29.2	16.0

Conducted Emission. CC0116N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#16
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



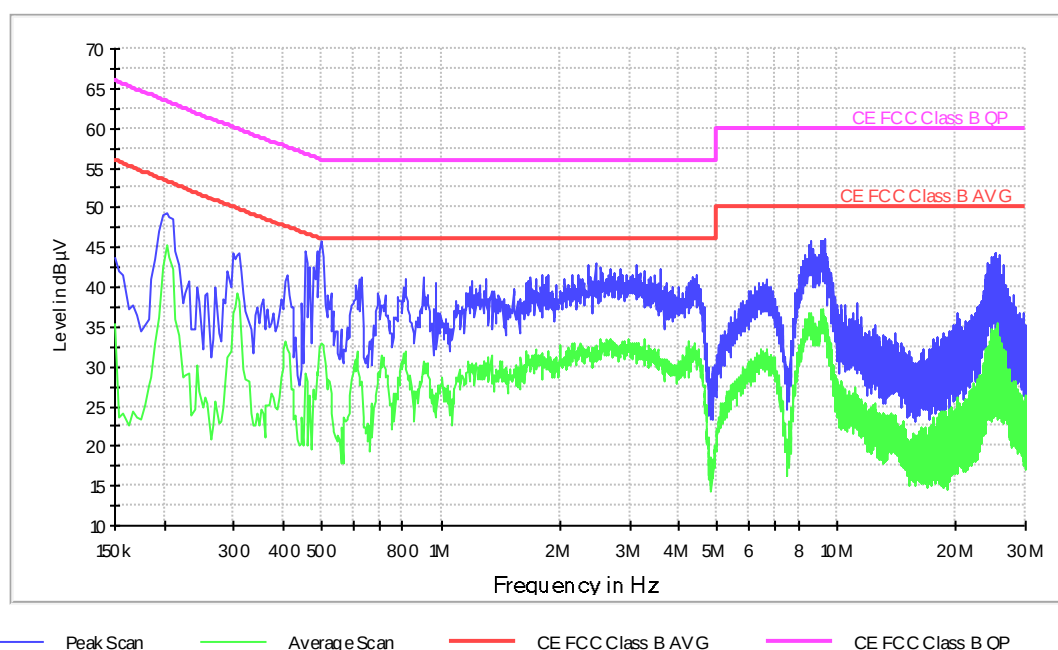
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.202000	42.8	39.9
0.270000	40.6	23.7
0.458000	43.7	27.0
0.894000	36.0	23.0
1.758000	36.5	25.3
3.482000	36.7	28.1
4.270000	40.3	30.7
9.418000	49.2	40.4
10.438000	40.8	32.0
25.338000	48.5	35.2

Conducted Emission. CC0116L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#16
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 12. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



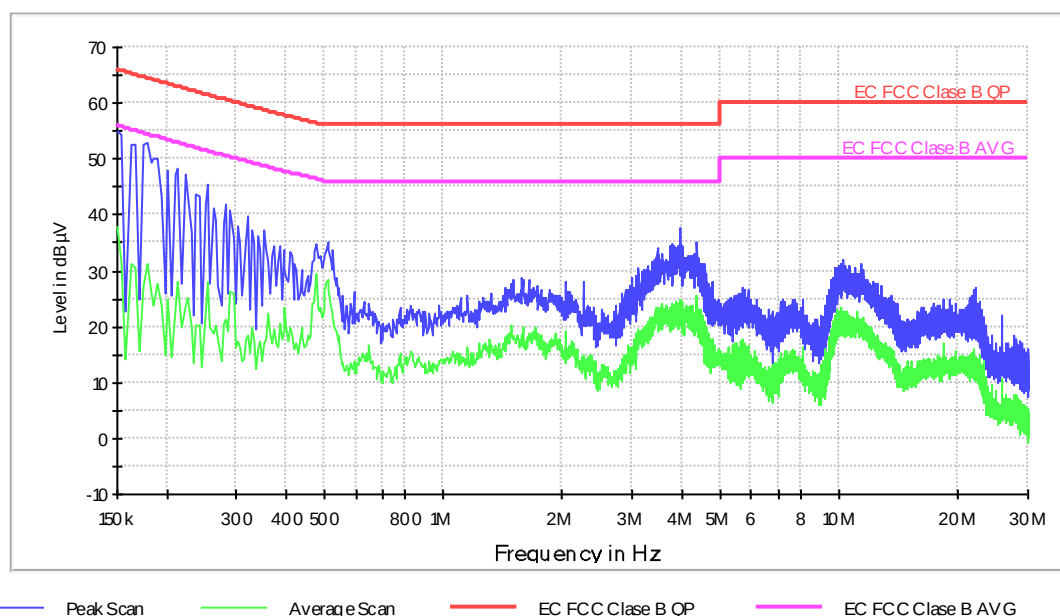
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.202000	47.9	45.3
0.298000	45.3	35.9
0.498000	45.4	33.2
0.902000	40.9	31.7
1.862000	42.3	32.2
2.458000	41.9	30.1
4.426000	41.7	30.9
9.298000	46.1	35.0
11.202000	36.6	25.9
25.250000	43.9	32.8

Conducted Emission. CC0117N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#17
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



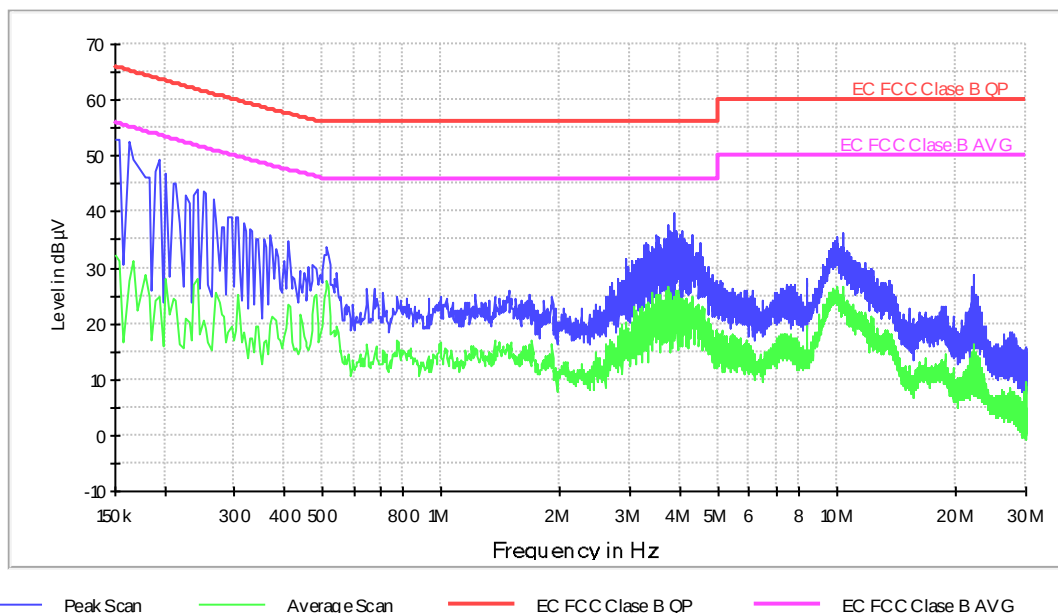
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	55.1	37.8
0.282000	41.8	21.4
0.510000	35.0	28.4
1.150000	25.4	16.3
1.582000	28.9	18.5
3.470000	34.2	23.4
3.970000	37.6	24.9
10.210000	32.0	22.4
11.338000	31.1	21.1
22.030000	26.9	13.8

Conducted Emission. CC0117L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#17
Description: EUT ON. Bluetooth paired with an ancillary device. MS allocated in a channel. LTE Cat. M1 Band 13. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



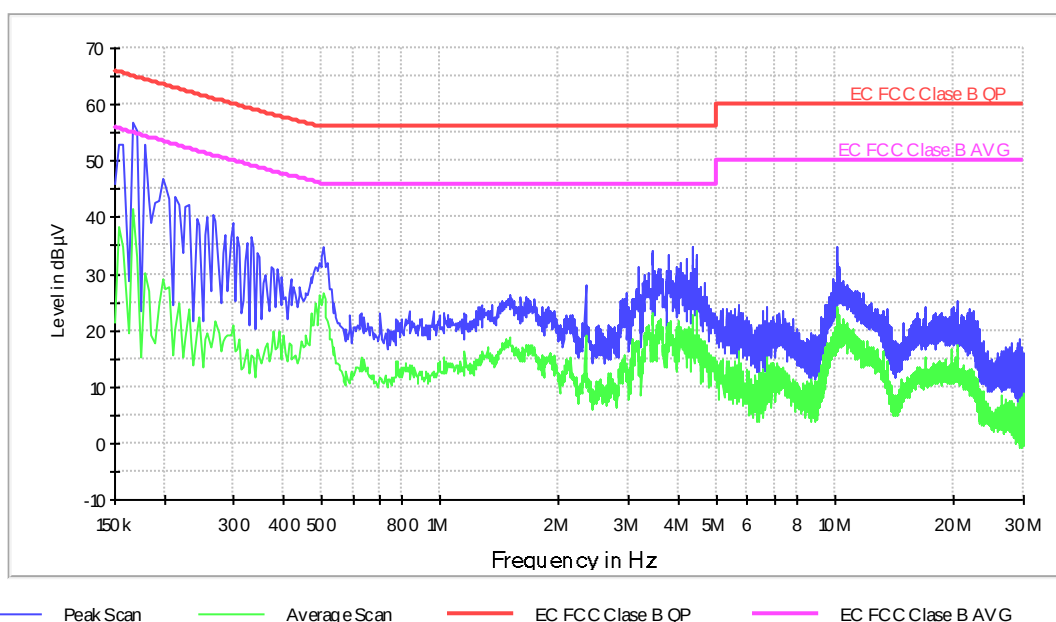
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	53.1	32.3
0.266000	42.1	20.4
0.514000	33.8	27.6
1.218000	25.4	15.5
1.482000	25.7	16.0
3.506000	35.9	25.1
3.882000	39.9	24.3
10.330000	36.1	26.7
10.402000	33.2	23.0
22.122000	28.7	15.4

Conducted Emission. CC0118N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#18
Description: EUT ON. GPS receiving valid positional signal. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Neutral wire noise.

FCC Class B



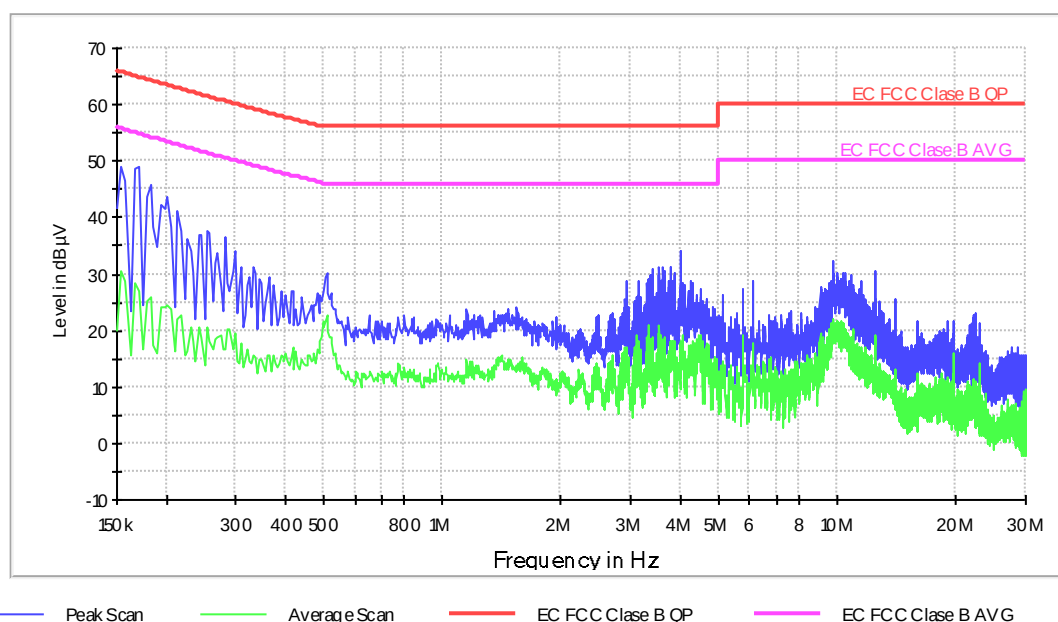
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.166000	56.9	41.6
0.266000	40.4	18.8
0.506000	34.9	26.8
0.834000	23.6	12.8
1.506000	26.2	17.4
3.454000	34.2	23.0
4.370000	34.7	20.7
10.102000	34.6	20.1
10.502000	28.7	20.1
20.382000	25.3	17.5

Conducted Emission. CC0118L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#18
Description: EUT ON. GPS receiving valid positional signal. Charging batteries.
EUT power supply: 5Vdc (through USB cable). Test arrangement for
tabletop equipment according to ANSI C63.4. Laptop power supply:
115Vac, 60Hz. Phase wire noise.

FCC Class B



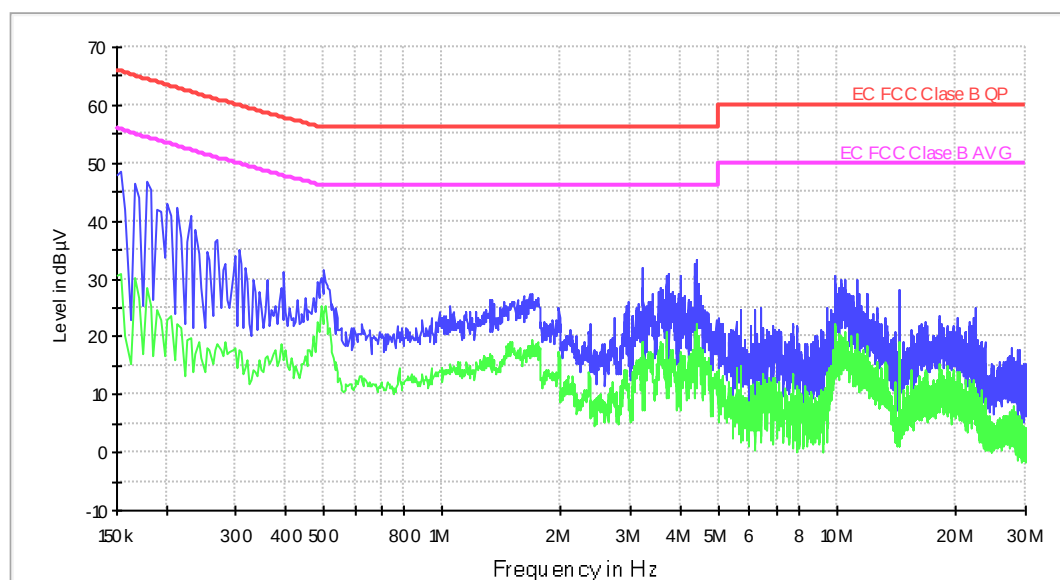
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	49.2	30.5
0.258000	37.2	18.1
0.510000	30.3	22.6
1.154000	23.9	14.9
1.546000	24.1	13.7
3.546000	31.2	20.9
4.022000	33.9	16.3
9.798000	32.4	20.2
12.498000	30.6	18.4
22.298000	23.2	10.6

Conducted Emission. CC0119N

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#19
Description: EUT ON. NFC passive TAG being read by an auxiliary NFC reader. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Neutral wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

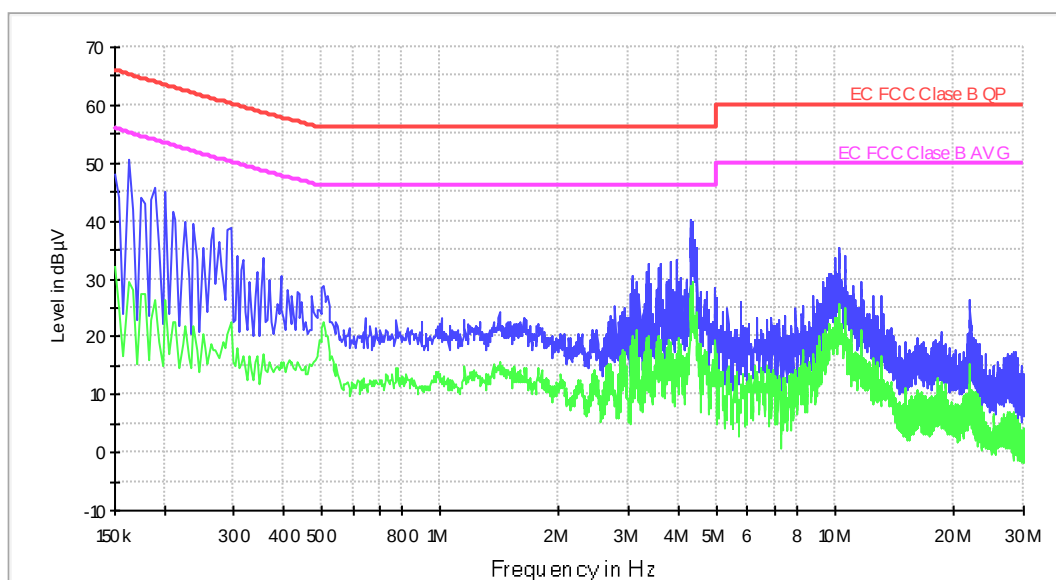
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	48.6	30.9
0.270000	36.8	18.8
0.502000	31.7	23.9
1.050000	25.2	15.1
1.686000	27.4	19.4
3.214000	32.0	19.2
4.402000	33.2	22.1
9.826000	30.6	19.9
10.522000	29.8	18.9
22.446000	24.9	11.0

Conducted Emission. CC0119L1

Project: 60433REM002
Company: NORDIC SEMICONDUCTOR OY
Sample: S/01
Operation mode: OM#19
Description: EUT ON. NFC passive TAG being read by an auxiliary NFC reader. Charging batteries. EUT power supply: 5Vdc (through USB cable). Test arrangement for tabletop equipment according to ANSI C63.4. Laptop power supply: 115Vac, 60Hz. Phase wire noise.

FCC Class B



— Peak Scan — Average Scan — EC FCC Class B QP — EC FCC Class B AVG

Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.162000	50.5	29.5
0.294000	38.9	22.5
0.506000	28.8	22.6
1.006000	23.3	12.7
1.410000	24.2	14.3
3.358000	32.5	20.3
4.290000	40.3	26.7
10.262000	35.4	21.2
10.570000	34.0	24.8
21.998000	26.5	15.4