



Test report No:  
 NIE: 51746REM.002

## Test report

FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-15 Edition),  
 Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207  
 & ICES-003 ISSUE 6 (2016)

Identification of item tested .....	Satellite Smartphone
Trademark .....	Bittium
Model and/or type reference.....	Mx Rugged E
Other identification of the product .....	S/N: Prototype
Final HW version.....	1201
Final SW version .....	1.8.31
FCC ID .....	V27SSD-53
IC .....	N/A
Features.....	<p>SATELLITE</p> <ul style="list-style-type: none"> <li>• L-band 1525 – 1660.5 MHz</li> <li>• GMR-1 3G 45.005; Radio Transmission and Reception DL 186kbps, UL 30kbps</li> <li>• GMR-1 3G with internal antenna DL 21kbps, UL 2.6kbps</li> <li>• GMR-1 3G AMBE2+ voice call</li> </ul> <p>LTE</p> <ul style="list-style-type: none"> <li>• 3GPP rel10 (LTE Advanced)</li> <li>• FDD Cat4, DL 150 Mbit/s, UL 50 Mbit/s</li> <li>• Band configuration: B4 (1700), B28 (700)</li> </ul> <p>UMTS/HSPA</p> <ul style="list-style-type: none"> <li>• 3GPP R99 384/384kbps</li> <li>• 3GPP rel8, HSPA+, 42 Mbps / 5.76 Mbps</li> <li>• Band configuration: B2 (1900), B4 (1700), B5 (850)</li> </ul> <p>GSM/GPRS/EDGE</p> <ul style="list-style-type: none"> <li>• 850/900/1800/1900 MHz</li> </ul> <p>Other Radios</p> <ul style="list-style-type: none"> <li>• Wi-Fi 802.11 b/g/n</li> <li>• Bluetooth 4.0</li> </ul>
Manufacturer.....	BITTIUM WIRELESS LTD. Tutkijantie 8 90590 Oulu, Finland
Test method requested, standard .....	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016)
Summary .....	IN COMPLIANCE
Approved by (name / position & signature).....	Rafael López EMC Lab Manager
Date of issue .....	2017-04-18
Report template No. ....	FDT08_19

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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.

Dekra Testing and Certification 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.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## 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 Dekra Testing and Certification.
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.

## 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 number	Reception date
51746/031	Satellite Smartphone	Mx Rugged E	Prototype	2017-01-16
51746/037	AC/DC Adapter	KSA29B0500210D5	---	2017-01-16
51746/040	Antenna (D)	---	---	2017-01-16
51746/043	USB Cable	---	---	2017-01-16

Sample S/02 is composed of the following elements:

Control N°	Description	Model	Serial number	Reception date
51746/031	Satellite Smartphone	Mx Rugged E	Prototype	2017-01-16
51746/037	AC/DC Adapter	KSA29B0500210D5	---	2017-01-16
51746/043	USB Cable	---	---	2017-01-16

## Test sample description

The Rugged E is a satellite and terrestrial phone targeted for professional Public Safety use.

## Identification of the client

BITTIUM WIRELESS LTD.  
Tutkijantie, 8. 90590. Oulu, Finland.

## Testing period

The performed test started on 2017-01-18 and finished on 2017-01-24.

The tests have been performed at Dekra Testing and Certification.

## Environmental conditions

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

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

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

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

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

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

## Remarks and comments

The tests have been performed by the technical personnel: Antonio Ruiz & Pedro Manuel Valenzuela.

The total uncertainty of the measurement system for the measured conducted disturbance characteristics of EUT from 150 kHz to 30 MHz is  $I = \pm 3,9$  dB for quasi-peak measurements,  $I = \pm 3,2$  dB for average measurements ( $k = 2$ )

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 26GHz is  $I = \pm 2,6$  dB for peaks and average measurements ( $k = 2$ )

## Testing verdicts (Legend)

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

### List of equipment used during the test

CONTROL NUMBER	DESCRIPTION	MANUFACTURER	MODEL	LAST CALIBRATION	NEXT CALIBRATION
2942	EMI TEST Receiver	ROHDE & SCHWARZ	ESU40	2016-06-14	2017-10-09
4578	Bilog Antenna	ETS LINDGREN	3142E	2014-03-17	2017-03-17
4658	Preamplifier	SCHWARZBECK	BBV9743	2016-04-28	2017-04-28
4612	Horn Antenna	SCHWARZBECK	BBHA 9120 D	2016-12-19	2019-12-19
3783	Preamplifier	BONN ELEKTRONIK	BLMA 0118-3A	2016-05-03	2017-05-03
4656	Horn Antenna	SCHWARZBECK	BBHA 9170	2014-03-28	2017-03-28
1975	Preamplifier	MITEQ	JS4-12002600-30-5A	2015-10-06	2017-10-06
4570	Thermohigrometer	HW GROUP	HWg-STE	2016-04-28	2017-04-28
4567	Thermohigrometer	HW GROUP	HWg-STE	2016-04-28	2017-04-28

## Appendix A – Test result

## 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. 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.

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. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor).
OM#02	EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB Port.
OM#03	EUT ON. Satellite IDLE. GSM 900 TCH. Bluetooth ON. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor).
OM#04	EUT ON. Satellite IDLE. GSM 900 TCH. Bluetooth ON. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port..
OM#05	EUT ON. Satellite TCH. GSM 900 IDLE. Bluetooth ON. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor).
OM#06	EUT ON. Satellite TCH. GSM 900 IDLE. Bluetooth ON. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port.

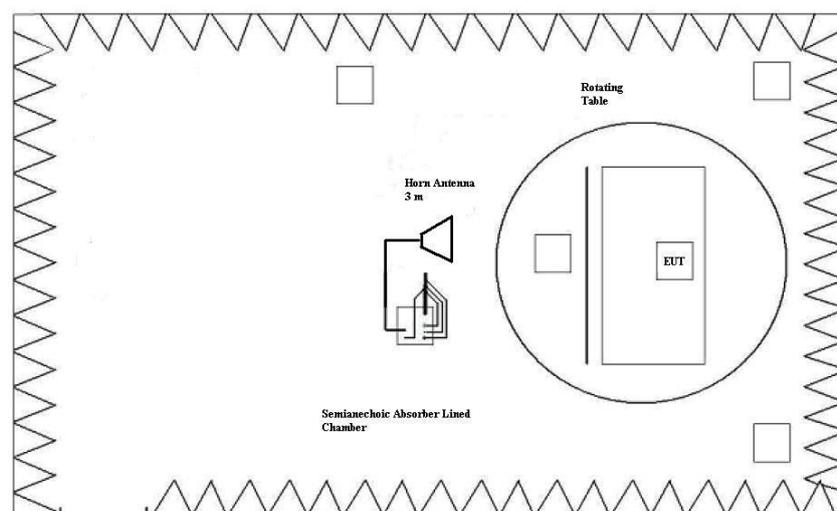
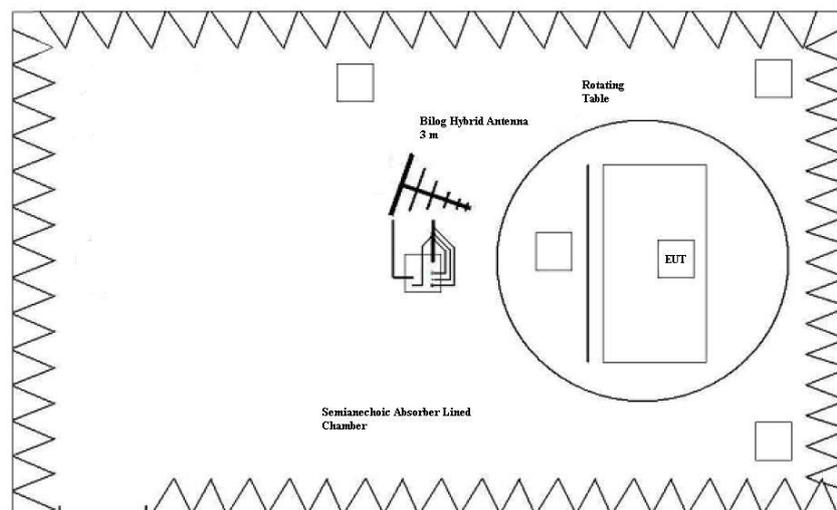
## RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE

<b>LIMITS:</b>	Product standard:	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016)
	Test standard:	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016)

### 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 (10-01-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016) in the frequency range 30 MHz to 26 GHz for class B equipments.

Frequency range (MHz)	QP Limit for 3 m ( $\mu\text{V/m}$ )	QP Limit for 10 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



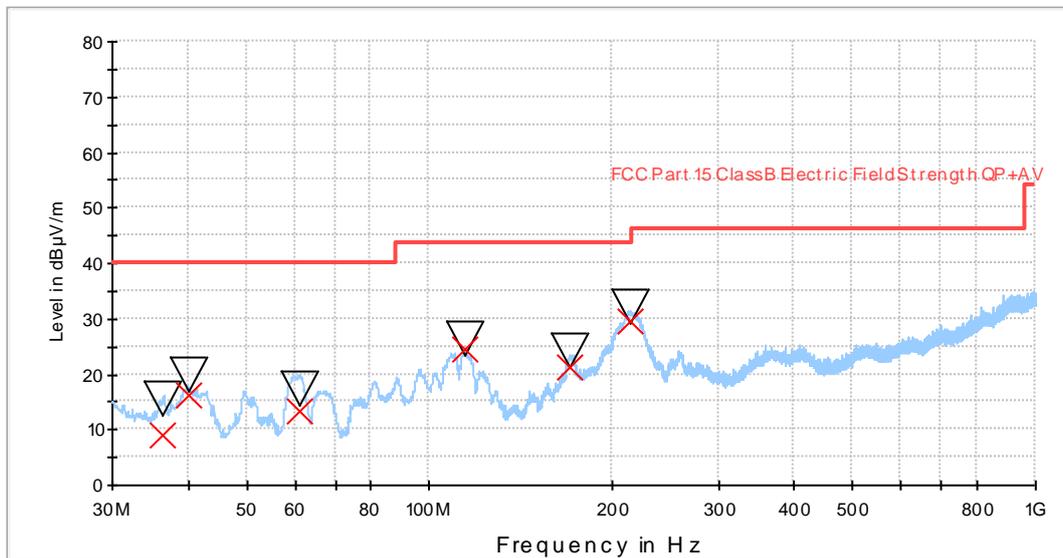
<b>TESTED SAMPLES:</b>	S/01 & S/02
<b>TESTED OPERATION MODES:</b>	OM#01 & OM#02
<b>TEST RESULTS:</b>	CRmmnnRRPP: CR, Radiation Condition; mm: Sample number; nn: Operation mode; RR: Range; PP: Polarization.

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
CR0101HR2_PH	Range: 18 GHz - 26 GHz. Horizontal Polarization.	P
CR0101HR2_PV	Range: 18 GHz - 26 GHz. Vertical Polarization.	P
CR0202LR	Range: 30 MHz - 1000 MHz.	P
CR0202HR1_PH	Range: 1 GHz - 18 GHz. Horizontal Polarization.	P
CR0202HR1_PV	Range: 1 GHz - 18 GHz. Vertical Polarization.	P
CR0202HR2_PH	Range: 18 GHz - 26 GHz. Horizontal Polarization.	P
CR0202HR2_PV	Range: 18 GHz - 26 GHz. Vertical Polarization.	P

## Radiated Emission. CR0101LR

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor).

### FCC class B



— FCC Part 15 Class B Electric Field Strength QP+AV  
— Peak Preview  
▽ Max Peak  
× Quasi Peak

### Maximizations

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)
36.334669	15.5	8.9	133.0	V	188.0
40.001202	20.0	16.3	101.0	V	142.0
60.986774	17.3	13.4	289.0	V	127.0
114.984770	26.4	24.6	202.0	H	180.0
170.321443	24.2	21.3	112.0	H	264.0
214.613627	32.2	29.6	139.0	H	91.0





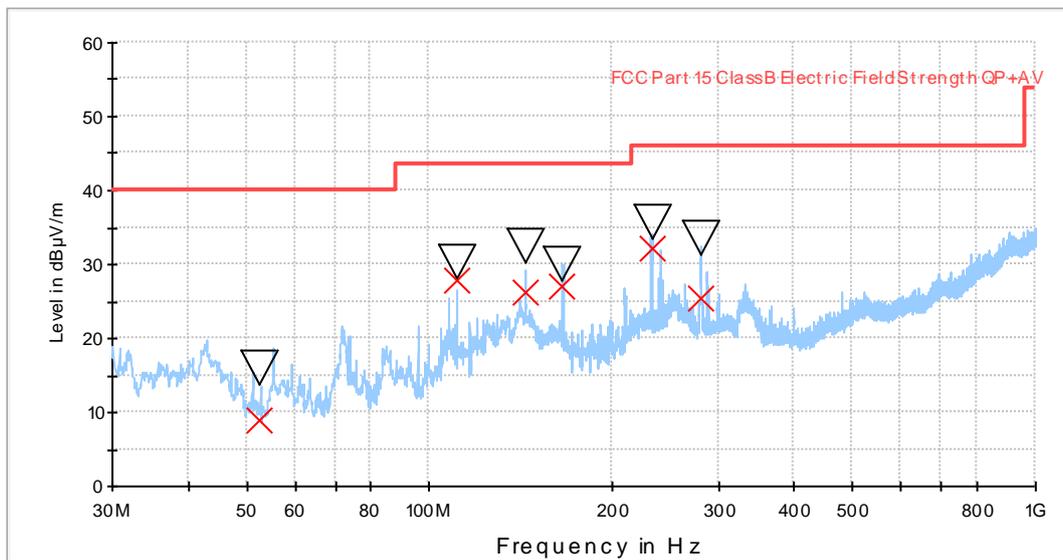




## Radiated Emission. CR0202LR

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port.

### FCC class B



— FCC Part 15 Class B Electric Field Strength QP+AV  
— Preview Result 1-PK+  
▽ Max Peak × QuasiPeak

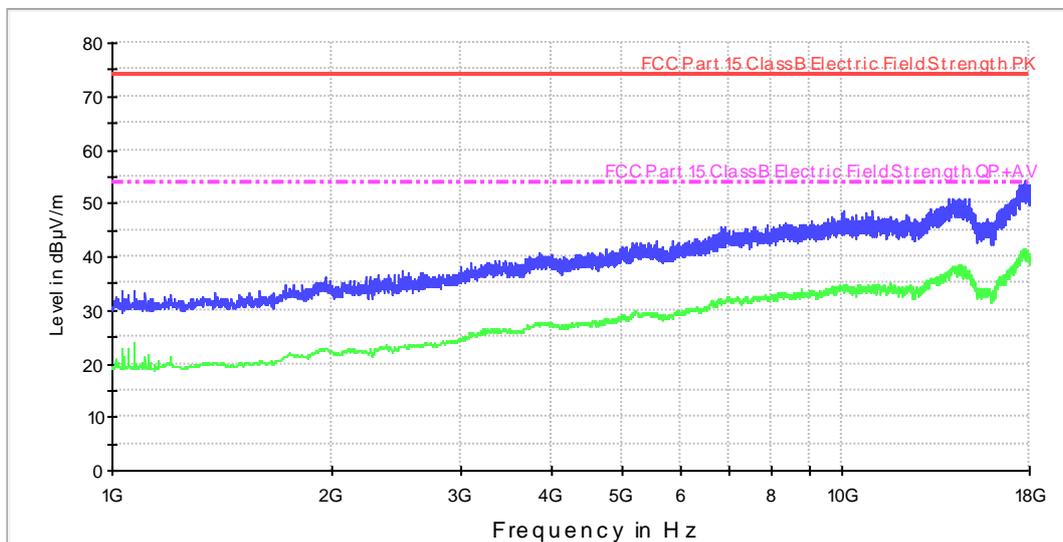
### Maximizations

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)
52.300200	15.9	8.8	186.0	H	121.0
110.996994	30.4	27.9	229.0	H	208.0
144.105010	32.5	26.3	243.0	H	60.0
165.944890	30.1	27.1	174.0	H	83.0
233.233066	35.6	32.3	125.0	H	53.0
280.872545	33.5	25.5	144.0	V	1.0

## Radiated Emission. CR0202RA1\_PH

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Horizontal polarization.

### FCC 1-18GHz class B



— Max Peak-ClearWrite-PK+      — Average-ClearWrite-AVG  
— FCC Part 15 Class B Electric Field Strength PK      - - - FCC Part 15 Class B Electric Field Strength QP+AV

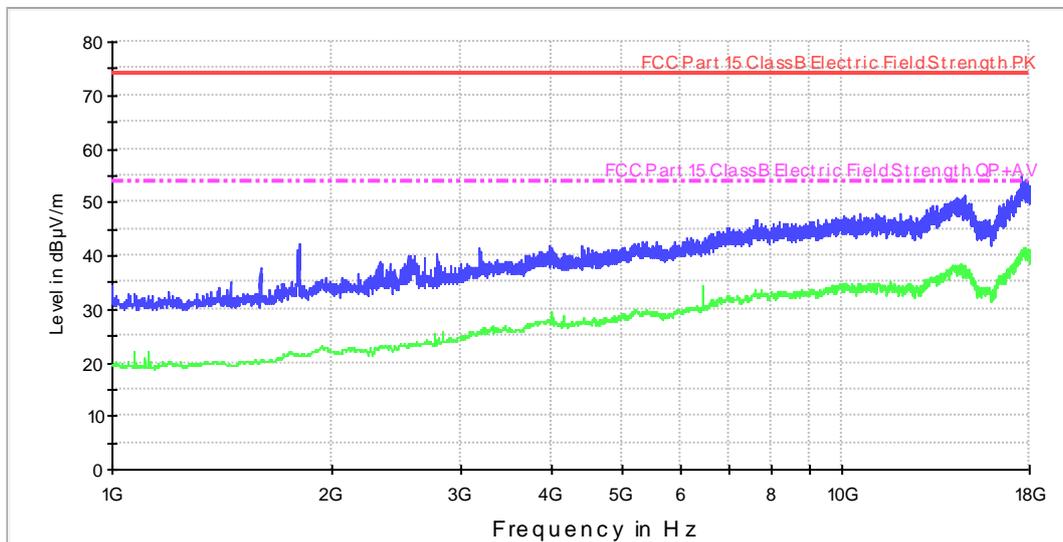
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
1030.000000	33.6	22.9
2503.000000	37.4	23.1
3847.000000	40.8	27.7
6808.000000	45.8	32.0
10998.000000	48.7	33.9
17816.000000	54.3	40.9

## Radiated Emission. CR0202RA1\_PV

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Vertical polarization.

### FCC 1-18GHz class B



— Max Peak-ClearWrite-PK+      — Average-ClearWrite-AVG  
— FCC Part 15 Class B Electric Field Strength PK      - - - FCC Part 15 Class B Electric Field Strength QP+AV

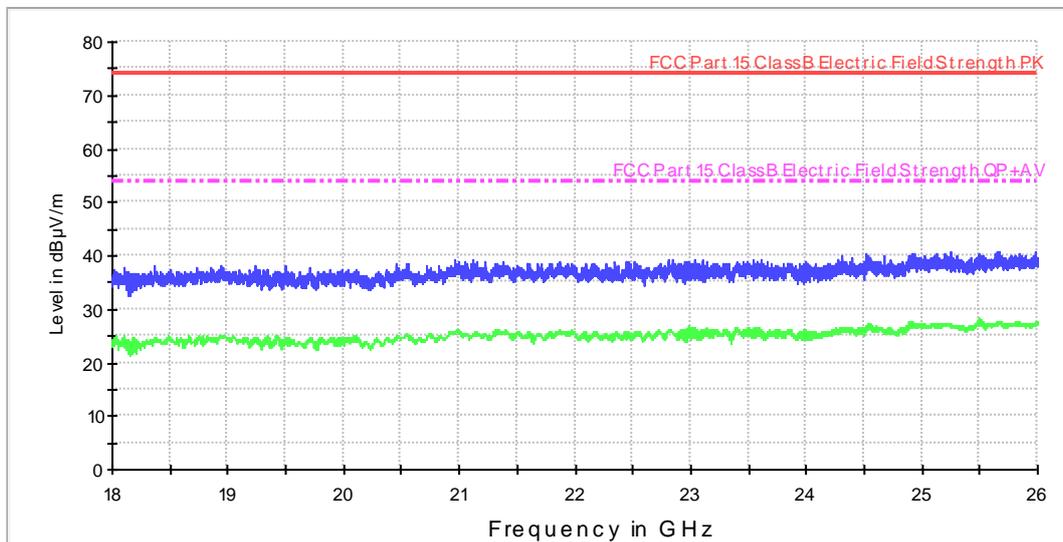
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
1596.000000	37.9	20.2
1801.000000	42.3	21.5
3968.000000	41.8	27.7
6769.000000	44.5	32.3
10529.000000	47.8	34.5
17547.000000	54.8	40.9

## Radiated Emission. CR0202RA2\_PH

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Horizontal polarization.

### FCC 18-26GHz class B



— Max Peak-ClearWrite-PK+      — Average-ClearWrite-AVG  
— FCC Part 15 ClassB Electric FieldStrength PK      - - - FCC Part 15 ClassB Electric FieldStrength QP+AV

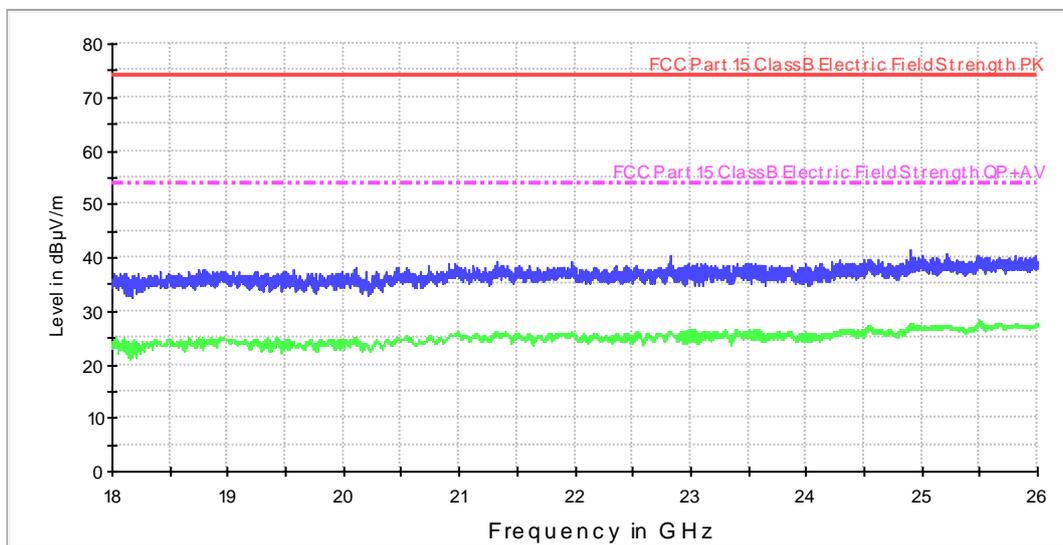
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
18948.000000	38.2	25.0
19240.000000	38.3	24.8
20968.000000	39.4	25.8
22803.000000	39.3	25.7
24317.000000	39.8	26.4
25664.000000	40.6	27.4

## Radiated Emission. CR0202RA2\_PV

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Vertical polarization.

### FCC 18-26GHz class B



— MaxPeak-ClearWrite-PK+      — Average-ClearWrite-AVG  
— FCC Part 15 ClassB Electric FieldStrength PK      - - - FCC Part 15 ClassB Electric FieldStrength QP+AV

### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
18793.000000	37.9	24.5
20103.000000	38.1	24.9
21323.000000	39.1	26.0
22830.000000	40.2	26.0
24284.000000	39.8	26.3
24906.000000	41.5	27.4

## CONTINUOUS CONDUCTED EMISSION

<b>LIMITS:</b>	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016)

### 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 (10-01-15 Edition), Secs. 15.107, 15.109 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016), in the frequency range 0,15 to 30 MHz, for Class B equipment was:

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

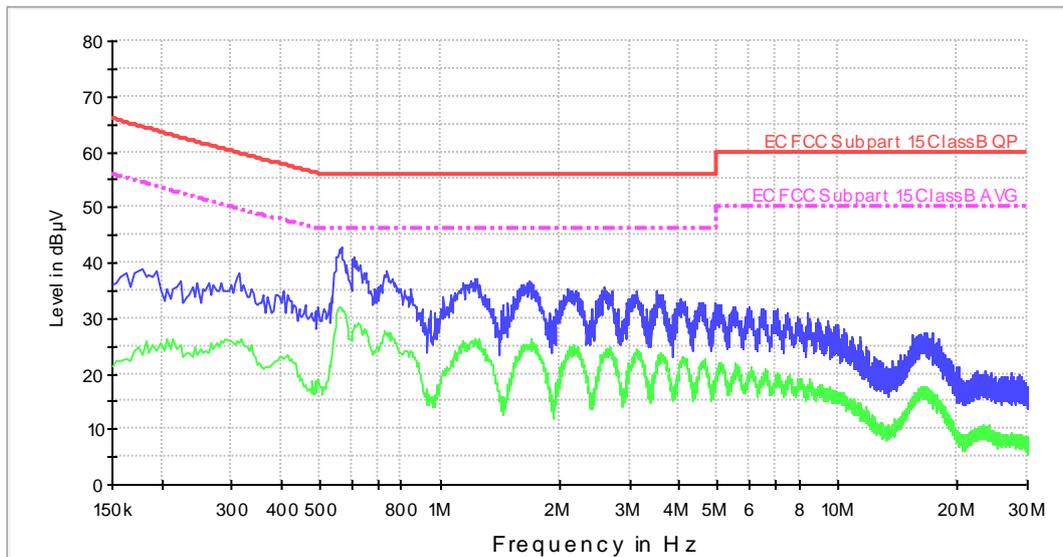
<b>TESTED SAMPLES:</b>	S/01 & S/02
<b>TESTED OPERATION MODES:</b>	OM#01 to OM#06
<b>TEST RESULTS:</b>	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	Description	Result
CC01010N	Neutral wire noise.	P
CC0101L1	Phase wire noise.	P
CC01030N	Neutral wire noise.	P
CC0103L1	Phase wire noise.	P
CC01050N	Neutral wire noise.	P
CC0105L1	Phase wire noise.	P
CC02020N	Neutral wire noise.	P
CC0202L1	Phase wire noise.	P
CC02040N	Neutral wire noise.	P
CC0204L1	Phase wire noise.	P
CC02060N	Neutral wire noise.	P
CC0206L1	Phase wire noise.	P

## Conducted Emission. CC01010N

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor). L1 wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — Average Preview  
 — EC FCC Subpart 15 Class B QP  
 - - - EC FCC Subpart 15 Class B AVG

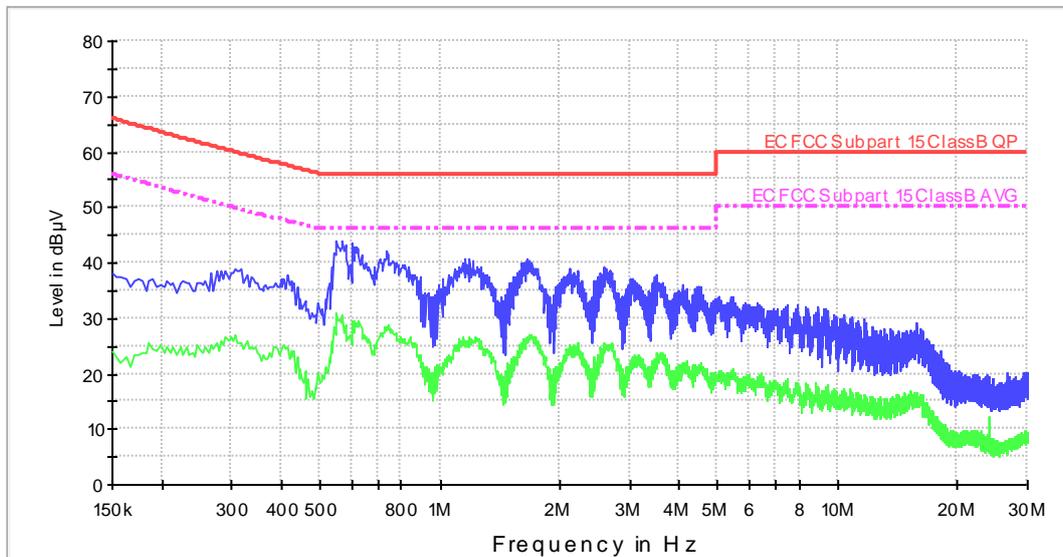
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.178000	39.1	23.3
0.314000	38.1	25.5
0.566000	42.9	31.7
0.738000	37.4	26.8
1.686000	36.6	25.1
2.598000	35.6	23.9
3.614000	34.2	23.5
6.450000	31.8	18.9
16.610000	27.5	16.8
17.946000	26.3	15.0

## Conducted Emission. CC0101L1

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor). L1 wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — Average Preview  
 — EC FCC Subpart 15 Class B QP  
 - - - EC FCC Subpart 15 Class B AVG

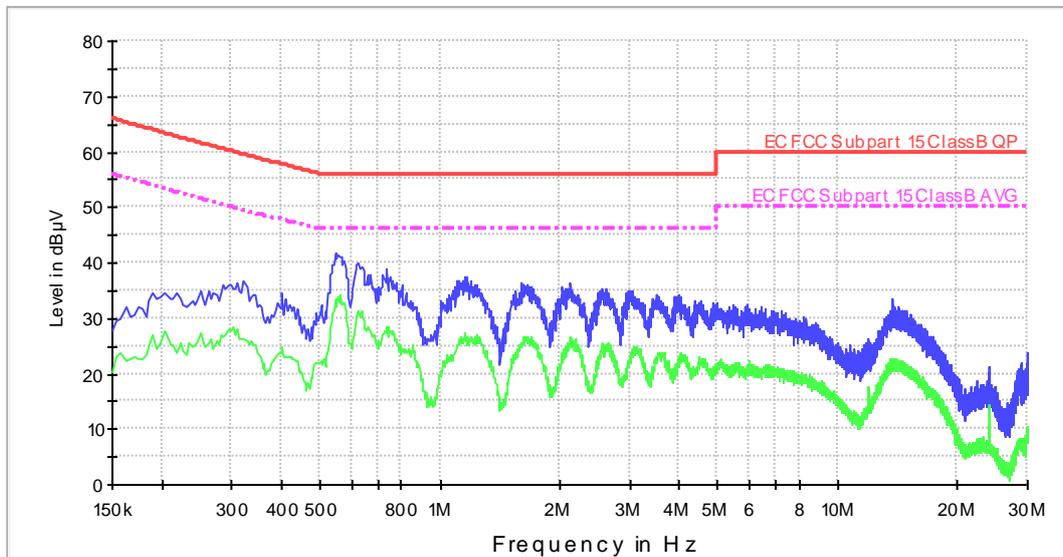
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	38.3	24.1
0.318000	38.8	25.6
0.550000	44.0	31.0
0.742000	41.4	28.3
1.654000	40.6	26.8
2.574000	39.4	24.6
3.634000	36.3	22.8
6.314000	32.8	18.4
10.806000	30.4	16.1
18.074000	24.1	11.0

## Conducted Emission. CC01030N

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/01  
 Operation mode: OM#03  
 Description: EUT ON. Satellite IDLE. GSM 900 TCH. Bluetooth ON. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor). Neutral wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — Average Preview  
 — EC FCC Subpart 15 Class B QP  
 - - - EC FCC Subpart 15 Class B AVG

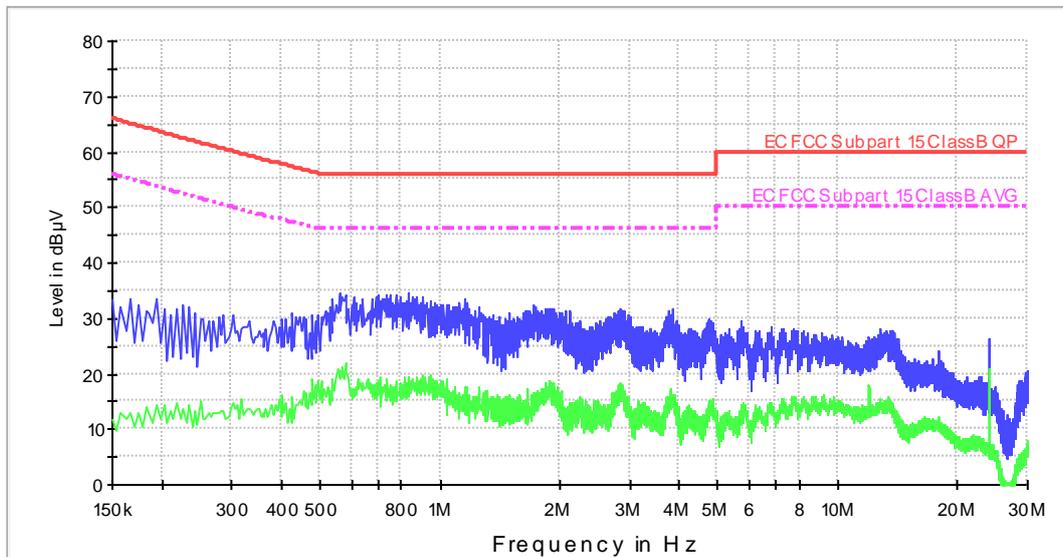
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.322000	36.9	26.4
0.546000	41.7	33.4
1.150000	37.6	27.4
2.130000	36.4	26.6
5.438000	32.4	20.9
13.686000	33.6	21.9

## Conducted Emission. CC0103L1

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/01  
 Operation mode: OM#03  
 Description: EUT ON. Satellite IDLE. GSM 900 TCH. Bluetooth ON. External Antenna. Charging batteries. Power supply: 115Vac (AC/DC Adaptor). L1 wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — EC FCC Subpart 15 Class B QP  
 — Average Preview  
 - - - EC FCC Subpart 15 Class B AVG

### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	33.6	11.8
0.834000	34.7	19.5
0.910000	34.0	19.5
2.850000	31.8	17.4
5.706000	29.6	12.9
12.838000	28.3	14.8

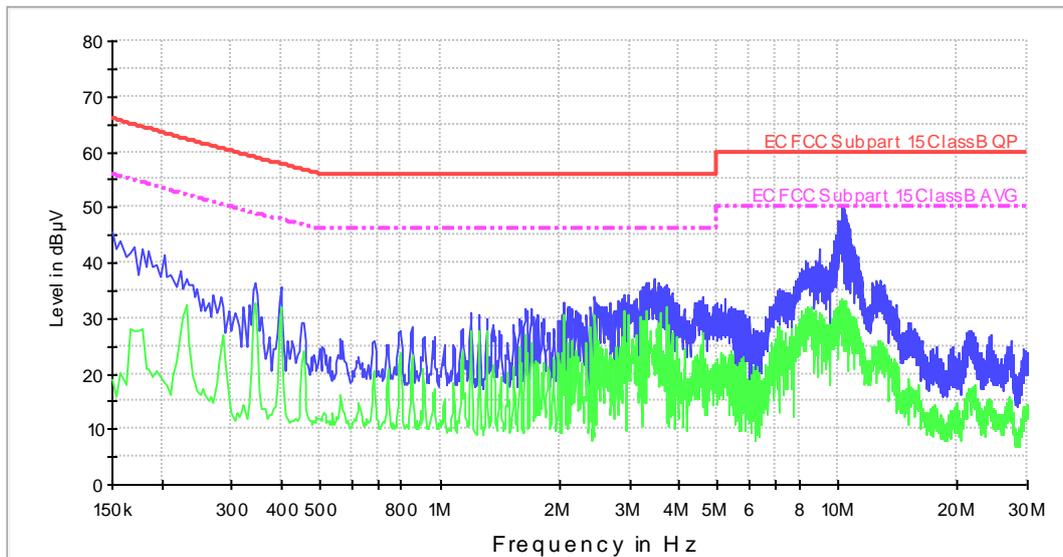




## Conducted Emission. CC02020N

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Neutral wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — EC FCC Subpart 15 Class B QP  
 — Average Preview  
 - - - EC FCC Subpart 15 Class B AVG

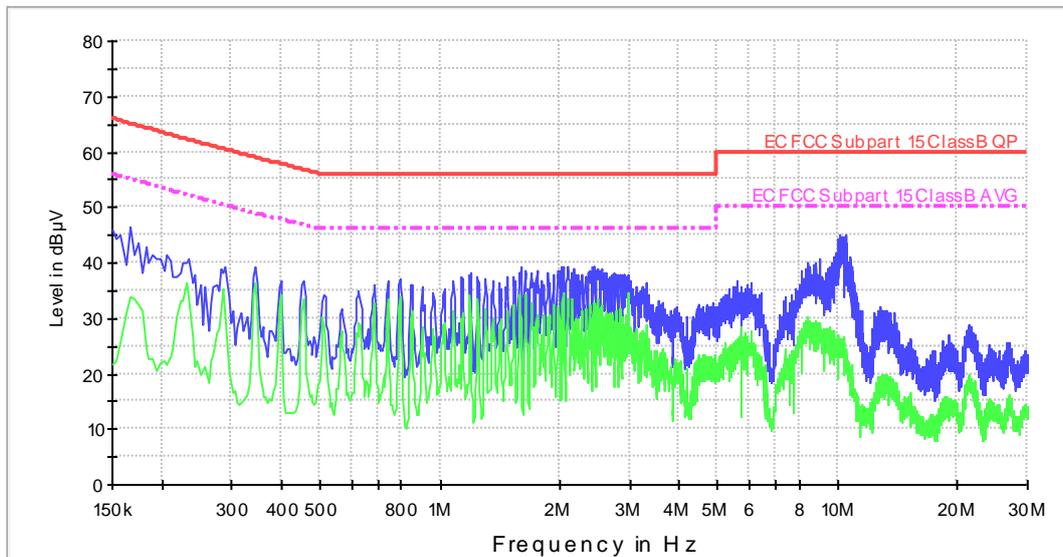
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	45.7	19.0
0.342000	36.3	32.8
0.450000	29.2	22.0
1.198000	31.0	27.7
2.054000	32.8	30.6
3.474000	37.1	24.9
3.710000	35.9	31.9
10.270000	50.3	31.1
10.510000	48.7	29.2
21.566000	27.6	16.6

## Conducted Emission. CC0202L1

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. Satellite IDLE. GSM 900 IDLE. Bluetooth OFF. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. L1 wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — EC FCC Subpart 15 Class B QP  
 — Average Preview  
 - - - EC FCC Subpart 15 Class B AVG

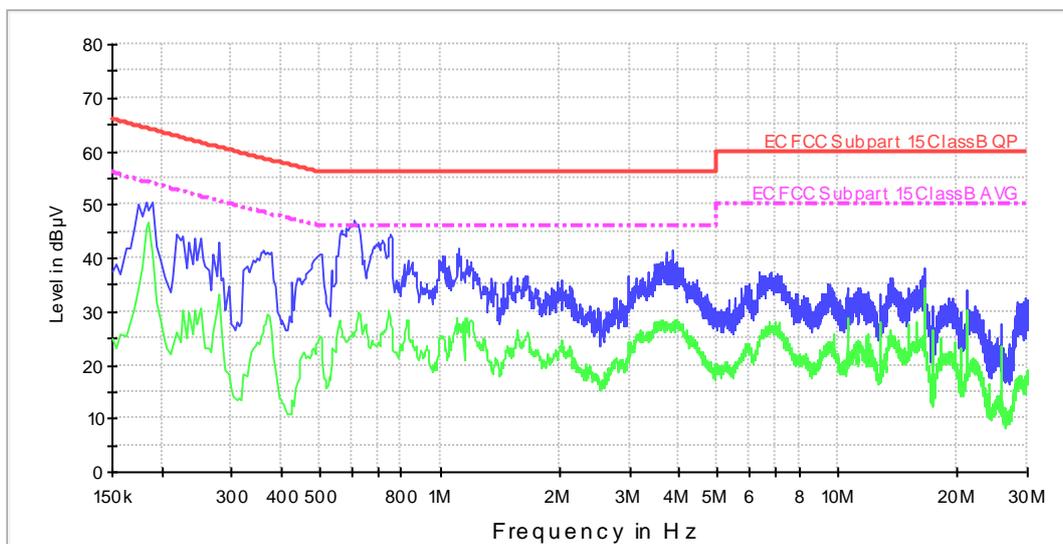
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.166000	46.6	33.8
0.342000	39.2	36.4
0.454000	36.6	33.5
1.198000	38.2	26.3
2.030000	39.4	30.1
2.426000	39.2	30.0
5.598000	36.6	24.3
10.166000	45.2	26.4
10.442000	45.2	23.1
21.394000	29.0	18.4

## Conducted Emission. CC02040N

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#04  
 Description: EUT ON. Satellite IDLE. GSM 900 TCH. Bluetooth ON. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Neutral wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview                      — Average Preview  
 — EC FCC Subpart 15 Class B QP    - - - - EC FCC Subpart 15 Class B AVG

### Subrange Maxima

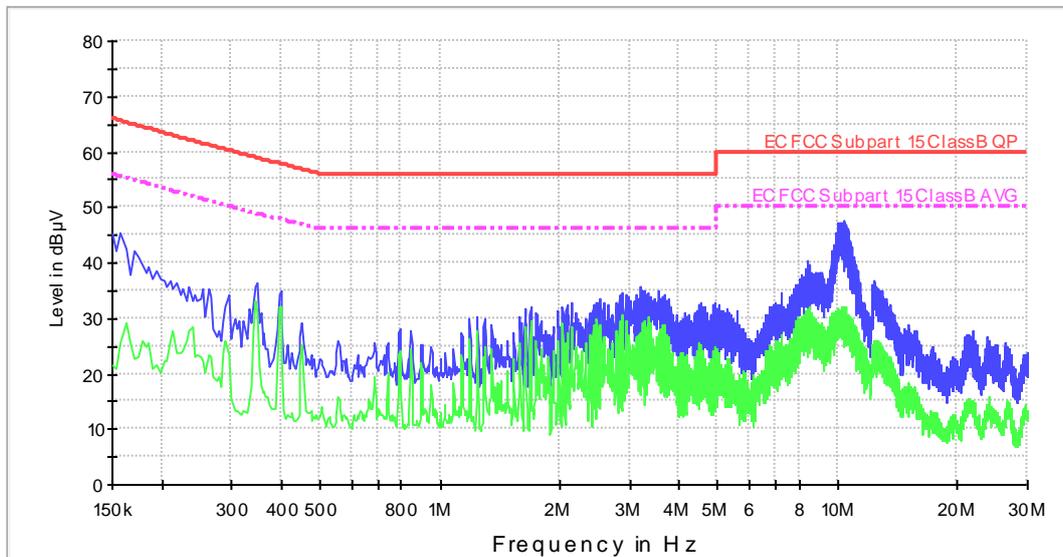
Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.190000	50.6	40.8
0.610000	47.0	26.2
1.110000	42.0	26.4
3.862000	41.5	27.3
6.378000	37.4	25.1
16.466000	38.2	33.9



## Conducted Emission. CC06060N

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#06  
 Description: EUT ON. Satellite TCH. GSM 900 IDLE. Bluetooth ON. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. Neutral wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — EC FCC Subpart 15 Class B QP  
 — Average Preview  
 - - - EC FCC Subpart 15 Class B AVG

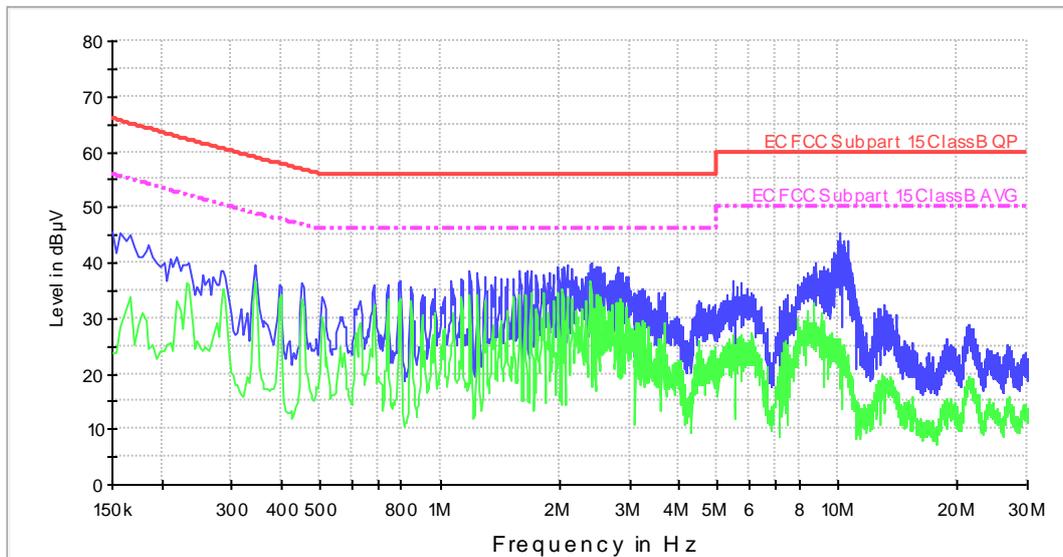
### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.158000	45.6	25.7
0.346000	36.2	31.0
0.450000	29.1	25.1
1.242000	30.3	27.6
2.086000	32.6	24.6
3.190000	35.7	27.4
3.674000	34.1	28.8
10.362000	47.4	30.9
10.430000	47.4	30.7
21.806000	27.7	14.5

## Conducted Emission. CC0606L1

Project: 51746REM.002  
 Company: BITTIUM WIRELESS OY  
 Sample: S/02  
 Operation mode: OM#06  
 Description: EUT ON. Satellite TCH. GSM 900 IDLE. Bluetooth ON. External Antenna. Charging batteries. Transferring data with the PC by USB. Power supply: USB port. L1 wire noise.

### EMI EC FCC Subpart 15 Class B CC



— Peak Preview  
 — Average Preview  
 — EC FCC Subpart 15 Class B QP  
 - - - EC FCC Subpart 15 Class B AVG

### Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	45.8	23.9
0.342000	39.5	36.9
0.450000	36.5	33.6
1.190000	38.5	34.2
2.086000	39.5	33.3
2.398000	40.1	34.1
5.478000	36.7	24.7
10.086000	45.3	26.2
10.566000	44.0	23.5
21.322000	29.0	18.5