RADIO REPORT

FCC 47 CFR Part 15C
ISED Canada RSS-247

Digital transmission systems operating within the 2400.0 MHz - 2483.5 MHz band

Report Reference No	G0M-2111-1157-TFC247BL-V02
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	DAkkS - Registration number : D-PL-12092-01-03 (ISED) ISED Testing Laboratory site: 3470A DAkkS - Registration number : D-PL-12092-01-04 (FCC) FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	BVK TEKNOLOJI ANONIM SIRKETI
Address	Resitpasa Mah., Katar Cad. ITU Teknokent ARI-6 No:2/49/103 Sariyer 34467 Istanbul TURKEY
Test Specification	47 CFR Part 15C RSS-247, Issue 2, 2017-02 RSS-Gen, Issue 5, Amendment 2, 2021-02
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model(s)	2KY-303C
Additional Model(s)	None
Brand Name(s)	None
Hardware Version(s)	v3.1
Software Version(s)	20211002
FCC ID	2A4FC2303
IC	-
Test Result	**PASSED**

Possible test case verdicts:		
Required by standard but not tested	N/T	
Not required by standard	N/R	
Not applicable to EUT	N/A	
Test object does meet the requirement	P(PASS)	
Test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 °C - 30 °C	
Test Lab Humidity	25 % - 55 %	
Date of receipt of test item	2022-02-08	
Report:		
Compiled by	Florian Voigt	
Tested by (+ signature) (Responsible for Test)	Florian Voigt	F. Voigt .....
Approved by (+ signature) (Deputy Head of Lab)	Toralf Jahn	T. J .....
Date of Issue	2022-06-28	
Total number of pages	44	
General Remarks:		
The test results presented in this report relate only to the object tested. **The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.** This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.		
Additional Comments:		

ADDITIONAL VARIANTS

Additional Variants (not tested and not evaluated variants)		
Not-tested Variant	**Description**	
1	Product Type Description	OTCaccess MiniSmart Bluetooth Keypad outdoor version
	Model name	2KY-303D
	Brand name	-
	Hardware Version	v3
	Software Version	20211002
Comment: Those named additional variants above have not been tested. Those additional variants of the series have been declared by the manufacturer. The test report explicitly states that those variants were neither tested nor assessed nor evaluated.		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2022-03-31	Initial Release	Florian Voigt
02	2022-06-28	Replaced document: G0M-2111-1157-TFC247BL-V01 Replaced by: G0M-2111-1157-TFC247BL-V02 Reason: Customer changed the declaration of his antenna gain from -5.99 dBi to -0.65 dBi.	

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V_{NOM}	Nominal supply voltage

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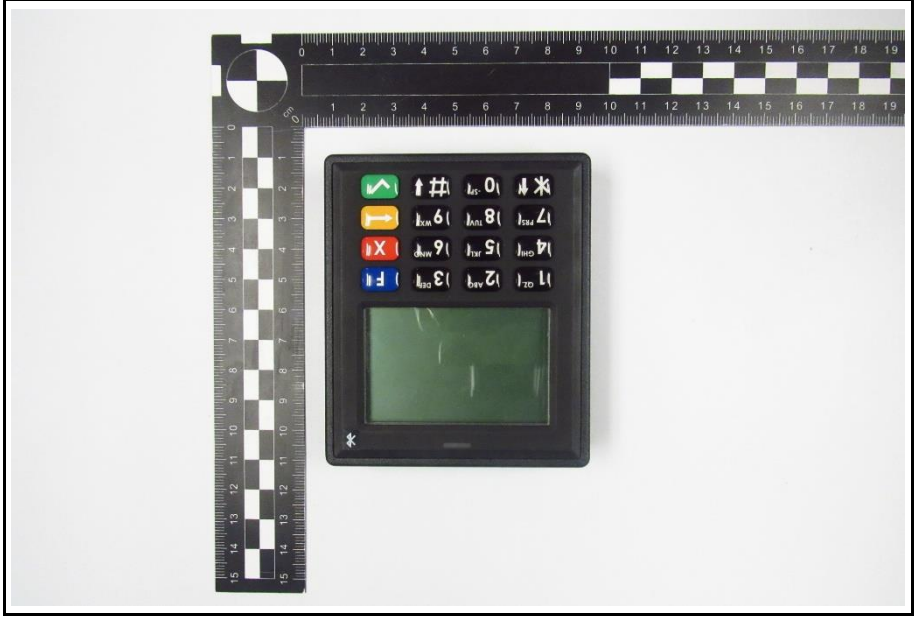
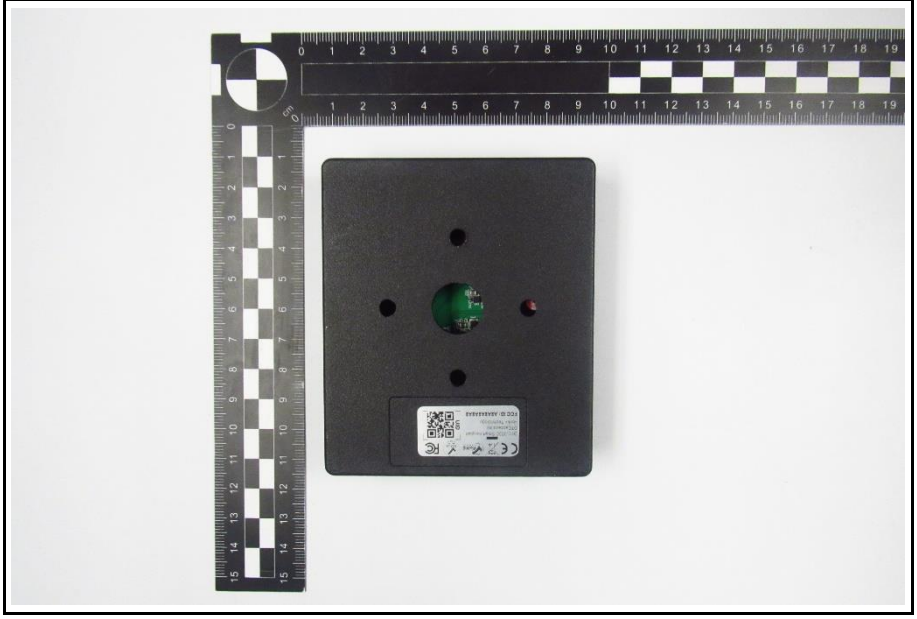
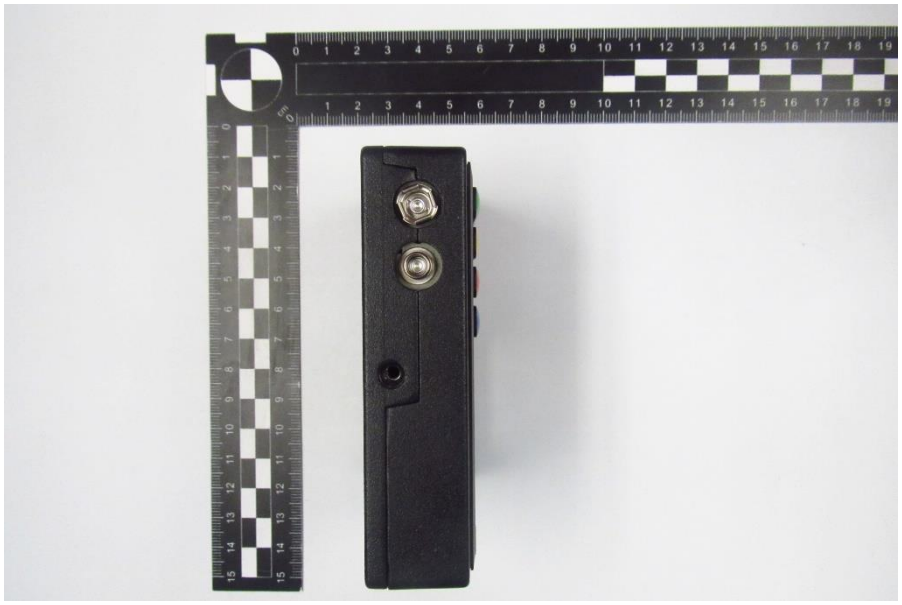
1 Equipment (Test Item) Under Test

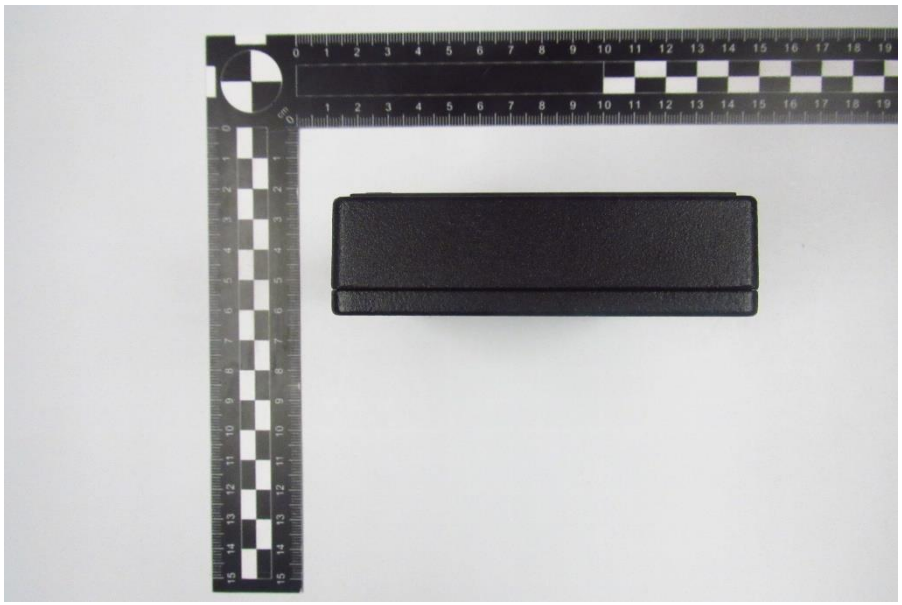
Description	OTCaccess MiniSmart Bluetooth Keypad Indoor	
Model	2KY-303C	
Additional Model(s)	None	
Brand Name(s)	None	
Serial Number(s)	Prototype	
Test Sample Id(s)	38309	
Hardware Version(s)	v3.1	
Software Version(s)	20211002	
PMN	-	
HVIN	-	
FVIN	-	
HMN	-	
FCC ID	2A4FC2303	
IC	-	
Equipment type	End Product	
Radio type	Transceiver	
Assigned frequency bands	2400.0 MHz - 2483.5 MHz	
Radio technology	Bluetooth LE 5.0	
Bluetooth Specification	LE 1M PHY	Yes
	LE 2M PHY	Disabled
	LE Coded PHY S=8 (125 kbit)	No
	LE Coded PHY S=2 (500 kbit)	No
	Stable Modulation Index - Transmitter	No
	Stable Modulation Index - Receiver	No
Modulation	GFSK	
Number of antenna ports	1	
Radio Module	Type	Bluetooth LE + Zigbee radio module
	Model	MDBT50Q-1MV2
	Manufacturer	Ratrac
	HW Version	Not specified by customer
	SW Version	Not specified by customer
	FCC ID	SH6MDBT50Q
	IC	8017A-MDBT50Q
Antenna	Type	Integrated antenna
	Model	MDBT50Q-1MV2
	Manufacturer	Nordic
	Gain	-0.65 dBi (customer declaration)
Supply Voltage (External)	V_{NOM}	12 VDC
Supply Voltage (Battery)	V_{NOM}	9 VDC
Operating Temperature	T_{NOM}	20 °C
AC/DC-Adaptor	None	
Manufacturer	BVK TEKNOLOJI ANONIM SIRKETI ISBI SUBE ISBI PLAZA NO:1/310 BAKIRKOY Istanbul TURKEY	

1.1 Photos – Equipment External

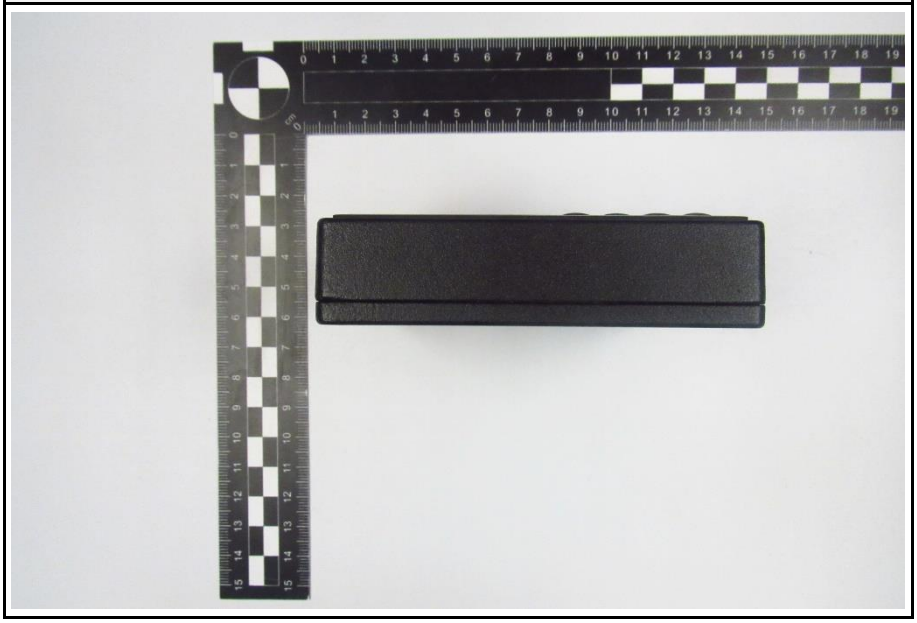
EUT top side


EUT bottom side


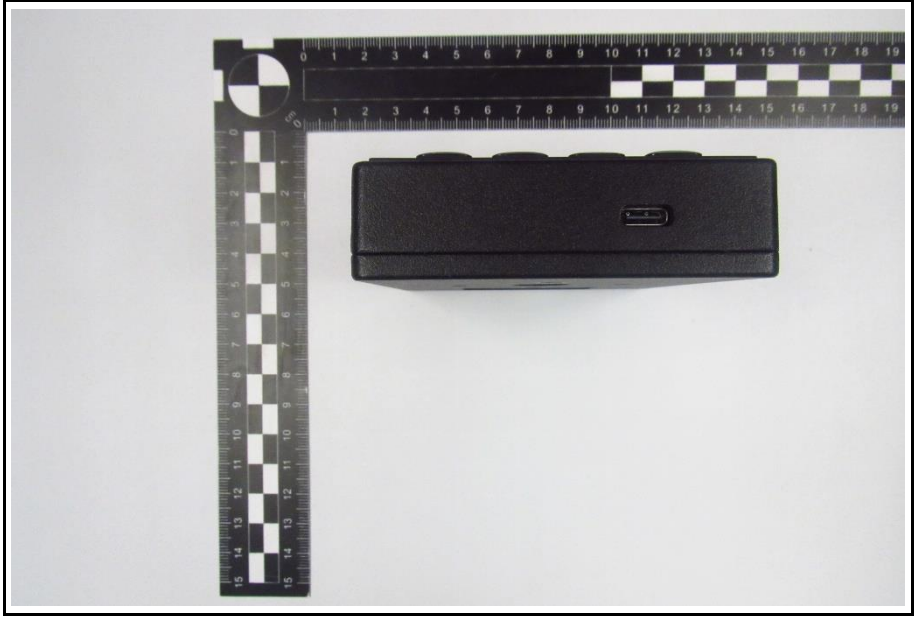
EUT right side


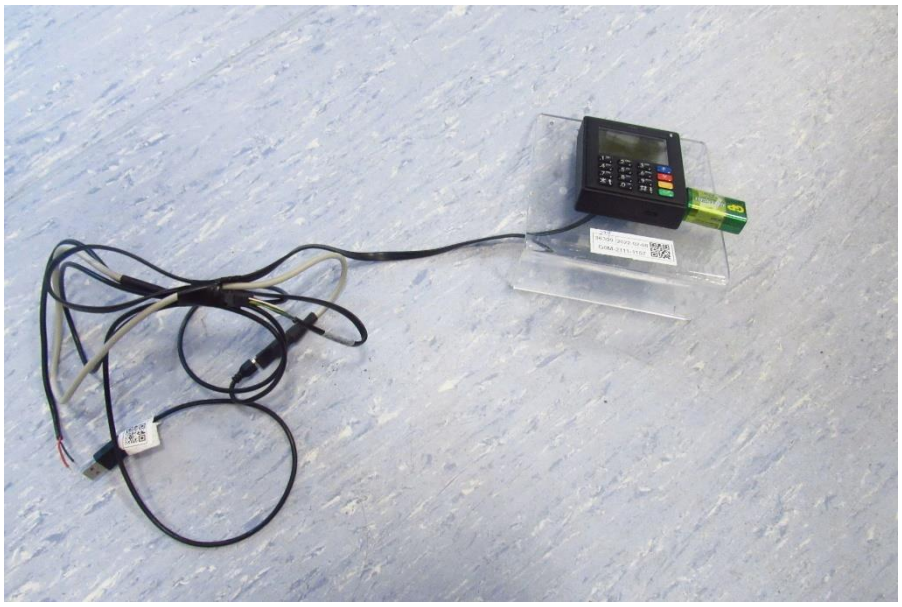
EUT left side


EUT front side



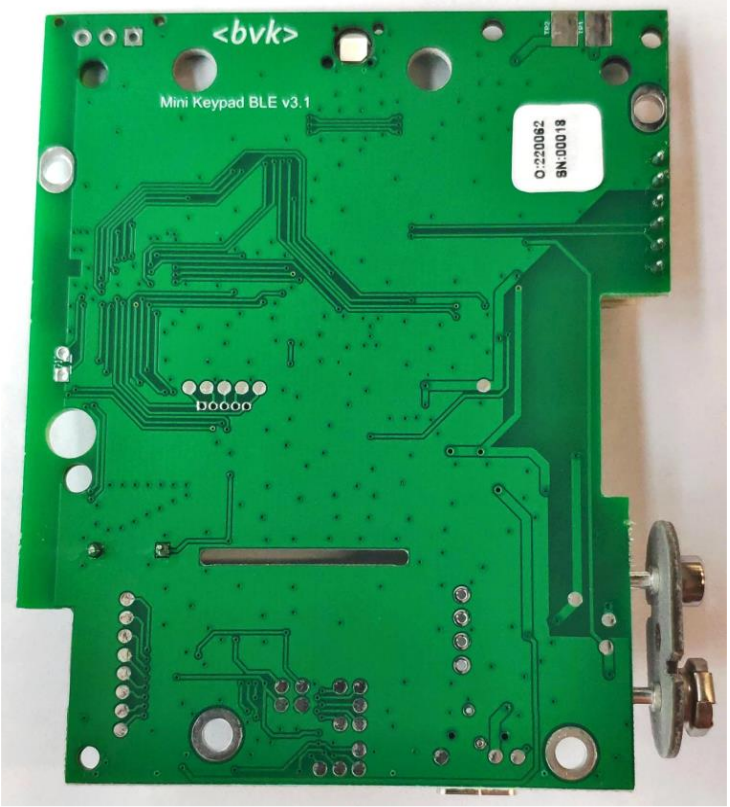
EUT back side



Test Set-up with battery


1.2 Photos – Equipment Internal

PCB top side

PCB bottom side

Comment: Photo provided by customer

1.3 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Laptop	Lenovo	T450	Setting test modes
AE	Laptop power supply	Lite-On Technology	ADLX45NLC3A	-
SFT	EUT control software	Nordic	Direct Test Mode v2	-
AE	Power supply	Aaronia AG	KSAC1200075W1UV-1	Used for AC-Mains conducted emission measurements as supply
AE	USB to TTL converter	---	U232-P9	Interfacing serial interface, setting test modes
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment:				

1.4 Test Modes

Mode	Description
GFSK	Mode = Transmit Modulation = 2-GFSK Spreading = None Duty cycle = 85% Datarate = 1 Mbit/s Payload Length = 255 bytes
Receive	Mode = Receive
Comment: Laptop was in standby mode during all measurements below 1000 MHz. This means the serial interface was inactive during testing. EUT was tested with 9 VDC Battery attached.	

1.5 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	39	2480
F2	Tx	0	2402
Comment: Test frequency F1 is selected as the worst case by evaluation of module test report "E2/2018/50091" issued on 2018-03-31 by "SGS Taiwan Ltd. Electronics & Communication Laboratory"			

1.6 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBµV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

Reading on Analyzer (dBµV) + A.F. (dB/m) = Net field strength (dBµV/m)

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBµV/m). The FCC limits are given in units of µV/m. The following formula is used to convert the units of µV/m to dBµV/m:

Limit (dBµV/m) = 20*log (µV/m)

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading + AF	= Net Reading	:	Net reading - FCC limit	= Margin
+21.5 dBµV + 26 dB/m	= 47.5 dBµV/m	:	47.5 dBµV/m - 57.0 dBµV/m	= -9.5 dB

2 Result Summary

FCC 47 CFR Part 15C, ISED RSS-247				
Product Standard Reference	**Requirement**	**Reference Method**	**Result**	**Remarks**
ISED RSS-Gen, Issue 5 A2 (section 6.7)	Occupied Bandwidth	ANSI C63.10-2013	N/R	Informational only
FCC § 15.247(a)(2) ISED RSS-247, Issue 2 (section 5.2)	6 dB Bandwidth	ANSI C63.10-2013	N/T	
FCC § 15.247(b) ISED RSS-247, Issue 2 (section 5.4)	Maximum peak conducted power	ANSI C63.10-2013	N/T	
FCC § 15.247(e) ISED RSS-247, Issue 2 (section 5.2)	Power spectral density	ANSI C63.10-2013	N/T	
FCC § 15.207 ISED RSS-247, Issue 2 (section 3.1)	AC power line conducted emissions	ANSI C63.10-2013	PASS	
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Band edge compliance	ANSI C63.10-2013	N/T	
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Conducted spurious emissions	ANSI C63.10-2013	N/T	
FCC § 15.247(d) FCC § 15.209 ISED RSS-Gen, Issue 5 A2 (section 6.13)	Transmitter radiated spurious emissions	ANSI C63.10-2013	PASS	
ISED RSS-247, Issue 2 (section 3.1)	Receiver radiated spurious emissions	ANSI C63.4-2014	PASS	
Comment:				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - AC powerline conducted emissions

3.1.1 Information

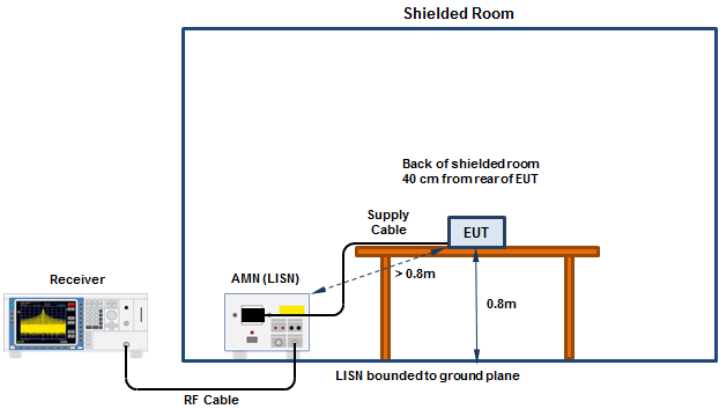
Test Information	
Reference	FCC § 15.207; ISED RSS-247, Issue 2 (section 3.1)
Measurement Method	ANSI C63.10 6.2
Measurement Uncertainty	± 3.82 dB
Operator	Florian Voigt
Date	2022-02-22

3.1.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dBµV]	Average [dBµV]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50
* Limit decreases linearly with the logarithm of the frequency		

3.1.3 Setup

Test Setup



3.1.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	R&S	ESR7	EF00943	2021-08	2022-08
Pulse Limiter	R&S	ESH3-Z2	EF01222	2021-07	2022-07
LISN	Schwarzbeck	NSLK 8127 RC	EF01592	2021-07	2022-07

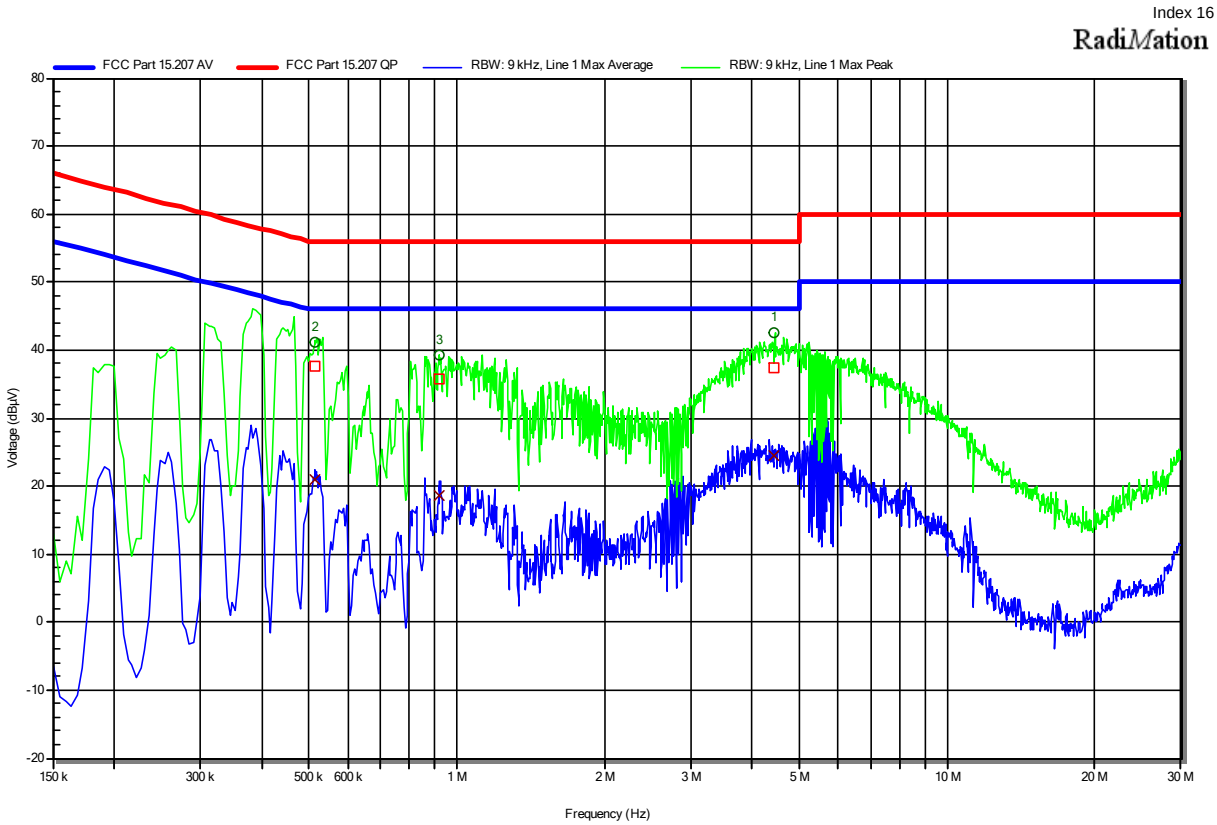
3.1.5 Setup Photos

Setup CE

3.1.6 Results

Conducted emissions at the mains power port according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Test Date:	2022-02-22
Operating Conditions:	ambient temperature: 23 °Celsius power input: 12.0 VDC
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	2480MHz, 1MBit/s, 2-GFSK
EUT Configuration:	
Applied to Port:	Mains
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	4.445 MHz	37.29 dBµV	56 dBµV	-18.71 dB	Pass	Line 1
2	515.4 kHz	37.62 dBµV	56 dBµV	-18.38 dB	Pass	Line 1
3	918.15 kHz	35.75 dBµV	56 dBµV	-20.25 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	4.445 MHz	24.43 dBµV	46 dBµV	-21.57 dB	Pass	Line 1
2	515.4 kHz	21.07 dBµV	46 dBµV	-24.93 dB	Pass	Line 1
3	918.15 kHz	18.61 dBµV	46 dBµV	-27.39 dB	Pass	Line 1

Conducted emissions at the mains power port according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Test Date:	2022-02-22
Operating Conditions:	ambient temperature: 23 °Celsius power input: 12.0 VDC
LISN:	Schwarzbeck NSLK 8127 RC N
Operational Mode:	2480MHz, 1MBit/s, 2-GFSK
EUT Configuration:	
Applied to Port:	Mains
Note 1:	

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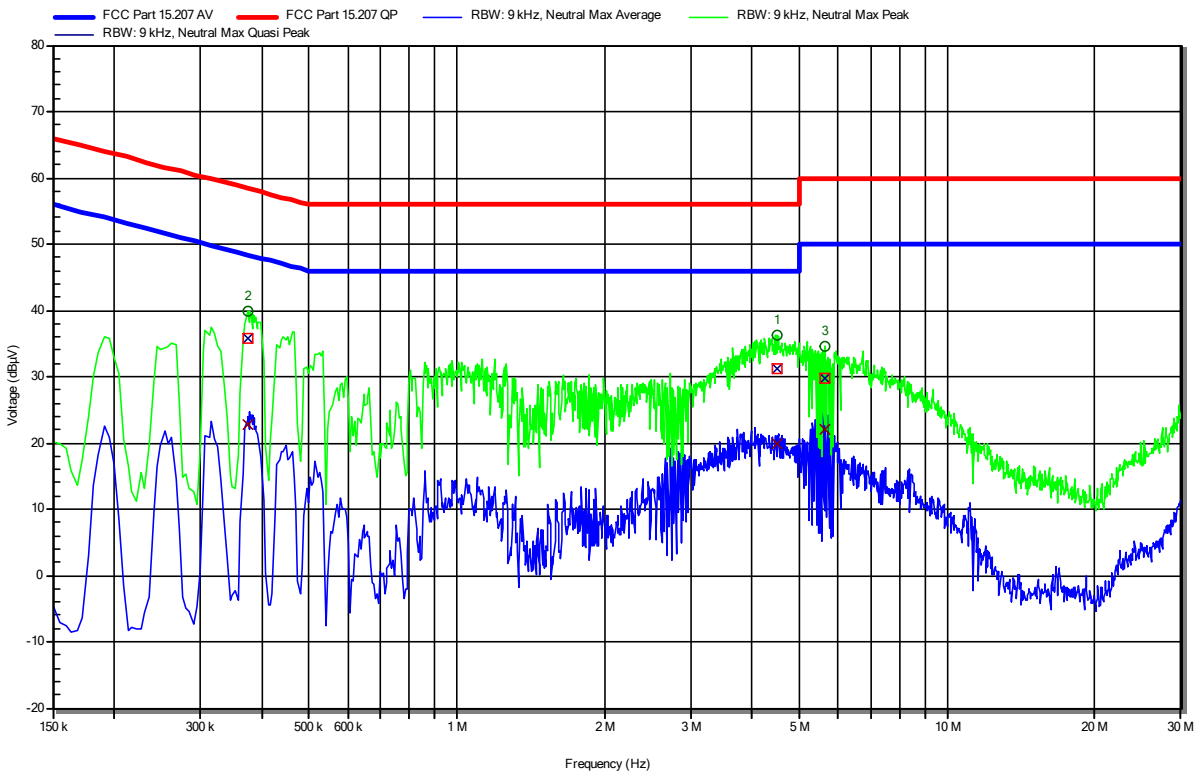
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	4.515 MHz	31.16 dBµV	56 dBµV	-24.84 dB	Pass	Neutral
2	375 kHz	35.72 dBµV	58.39 dBµV	-22.67 dB	Pass	Neutral
3	5.632 MHz	29.75 dBµV	60 dBµV	-30.25 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	4.515 MHz	19.87 dBµV	46 dBµV	-26.13 dB	Pass	Neutral
2	375 kHz	22.84 dBµV	48.39 dBµV	-25.55 dB	Pass	Neutral
3	5.632 MHz	21.95 dBµV	50 dBµV	-28.05 dB	Pass	Neutral

Conducted emissions at the mains power port according to RSS-247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Test Date:	2022-02-22
Operating Conditions:	ambient temperature: 23 °Celsius power input: 12.0 VDC
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	Rx, 2480MHz
EUT Configuration:	
Applied to Port:	Mains
Note 1:	

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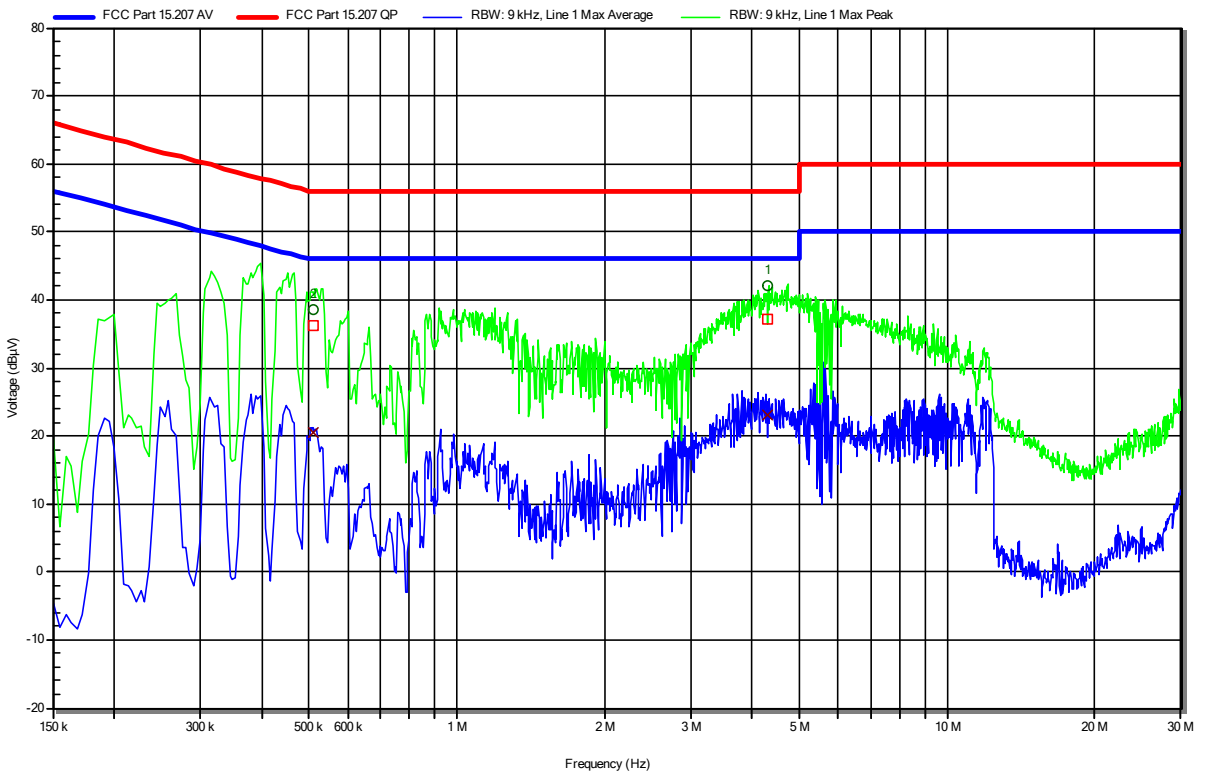

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	4.315 MHz	37.24 dBµV	56 dBµV	-18.76 dB	Pass	Line 1
2	510 kHz	36.23 dBµV	56 dBµV	-19.77 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	4.315 MHz	22.97 dBµV	46 dBµV	-23.03 dB	Pass	Line 1
2	510 kHz	20.41 dBµV	46 dBµV	-25.59 dB	Pass	Line 1

Conducted emissions at the mains power port according to RSS-247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Test Date:	2022-02-22
Operating Conditions:	ambient temperature: 23 °Celsius power input: 12.0 VDC
LISN:	Schwarzbeck NSLK 8127 RC N
Operational Mode:	Rx, 2480MHz
EUT Configuration:	
Applied to Port:	Mains
Note 1:	

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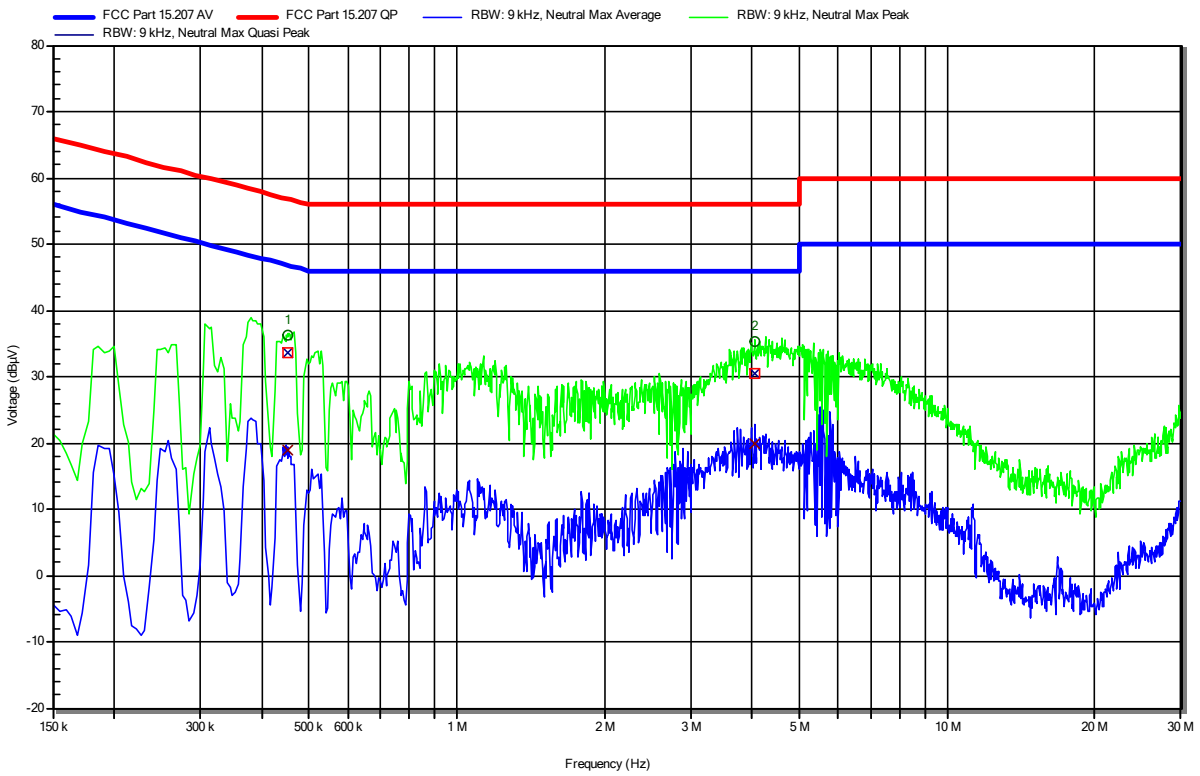
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	451.5 kHz	33.59 dBµV	56.85 dBµV	-23.26 dB	Pass	Neutral
2	4.051 MHz	30.6 dBµV	56 dBµV	-25.4 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	451.5 kHz	18.81 dBµV	46.85 dBµV	-28.04 dB	Pass	Neutral
2	4.051 MHz	19.87 dBµV	46 dBµV	-26.13 dB	Pass	Neutral

3.2 Test Conditions and Results - Transmitter radiated emissions

3.2.1 Information

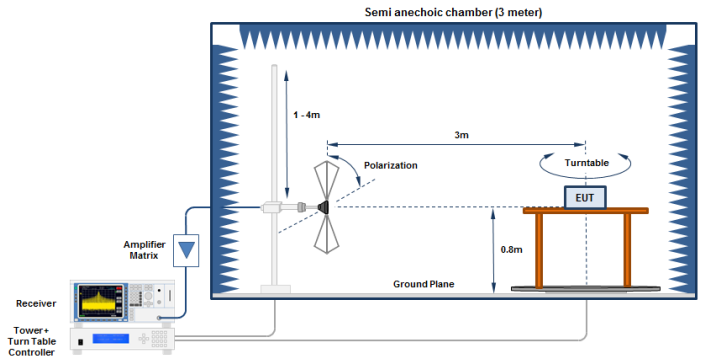
Test Information	
Reference	FCC § 15.247(d); FCC § 15.209; ISED RSS-Gen, Issue 5 A2 (section 6.13)
Measurement Uncertainty	± 5.95 dB
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6, 11.12
Operator	Florian Voigt
Date	2022-02-10

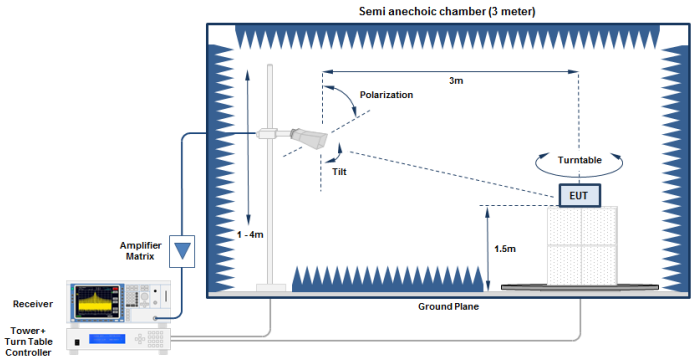
3.2.2 Limits

Limits			
Frequency range [MHz]	Detector	Field strength [µV/m]	Measurement distance [m]
0.009 - 0.09	Average	2400/F[kHz]	300
0.09 - 0.110	Quasi-Peak	2400/F[kHz]	300
0.110 - 0.490	Average	2400/F[kHz]	300
0.490 - 1.705	Quasi-Peak	24000/F[kHz]	30
1.705 - 30.0	Quasi-Peak	30	30
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.2.3 Setup

Test Setup 30 MHz - 1000 MHz



Test Setup > 1 GHz


3.2.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	R&S	HK 116	EF00030	2021-05	2024-05
Antenna	R&S	HL 223	EF00187	2019-05	2022-05

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic chamber	Frankonia	AC 2	EF01616	2021-09	2022-09
Spectrum analyzer	R&S	FSU43	EF01631	2021-07	2022-07
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	Schwarzbeck	HWRD 650	EF01679	2021-03	2022-03
Horn antenna	Schwarzbeck	BBHA 9120B	EF01678	2021-03	2022-03

3.2.5 Procedure

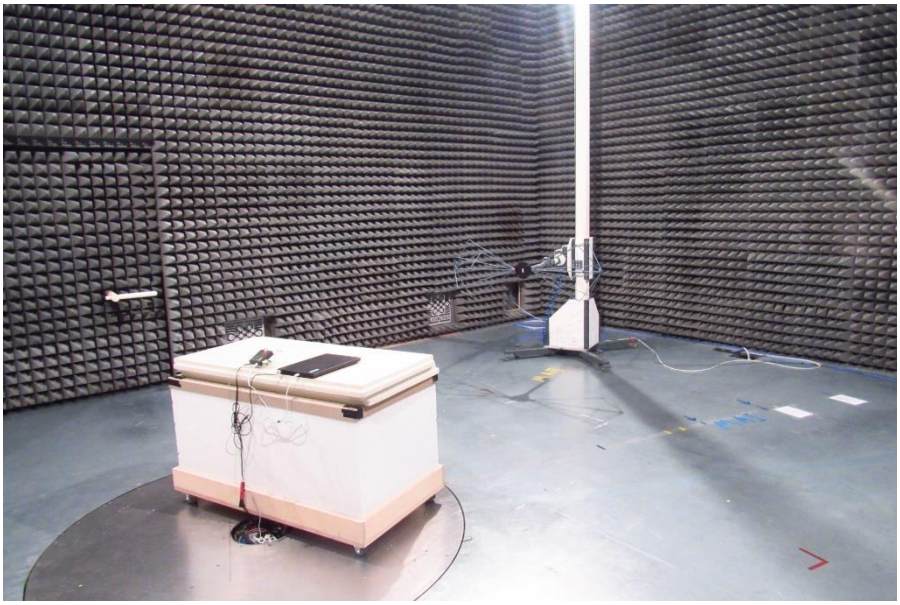
Test Procedure 30 MHz - 1000 MHz
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

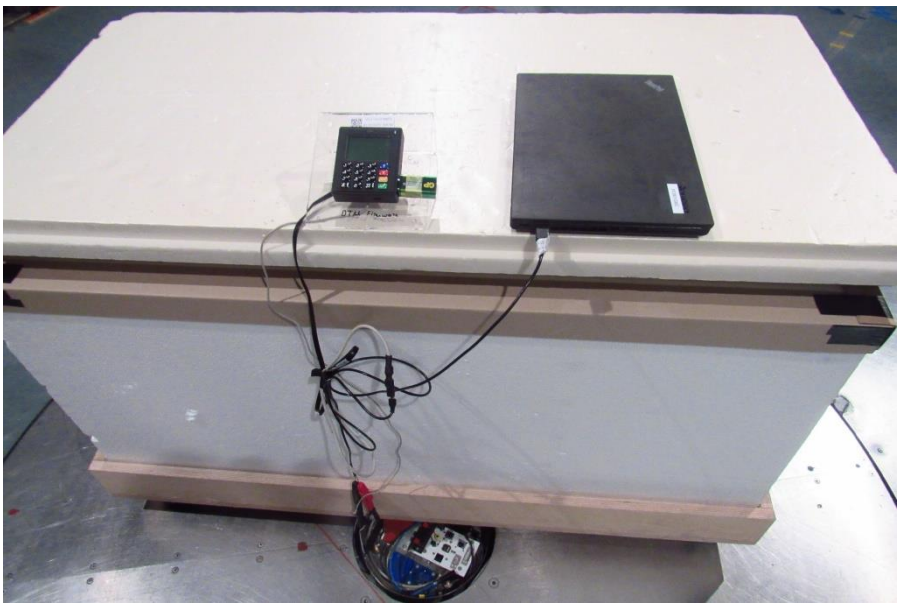
Test Procedure > 1 GHz
1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

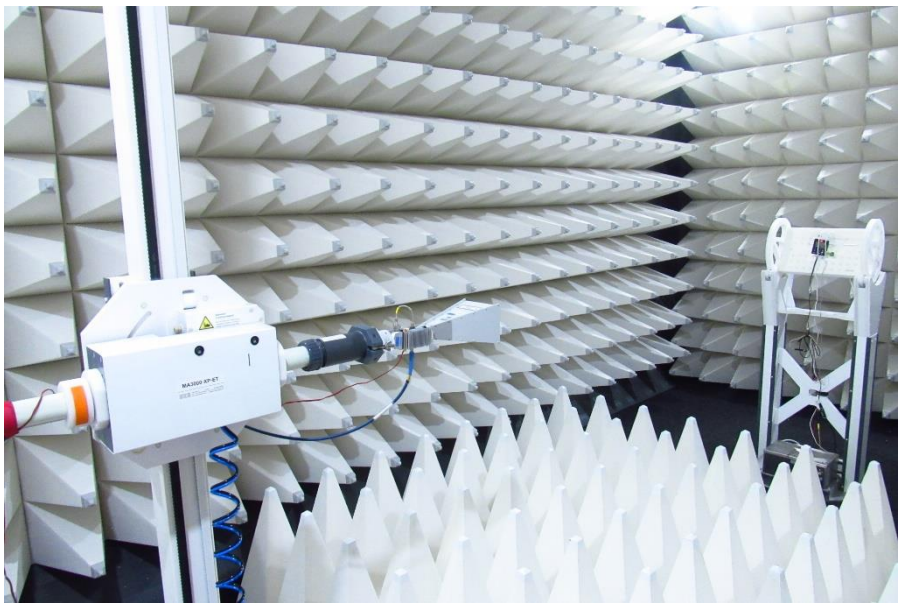
3.2.6 Results

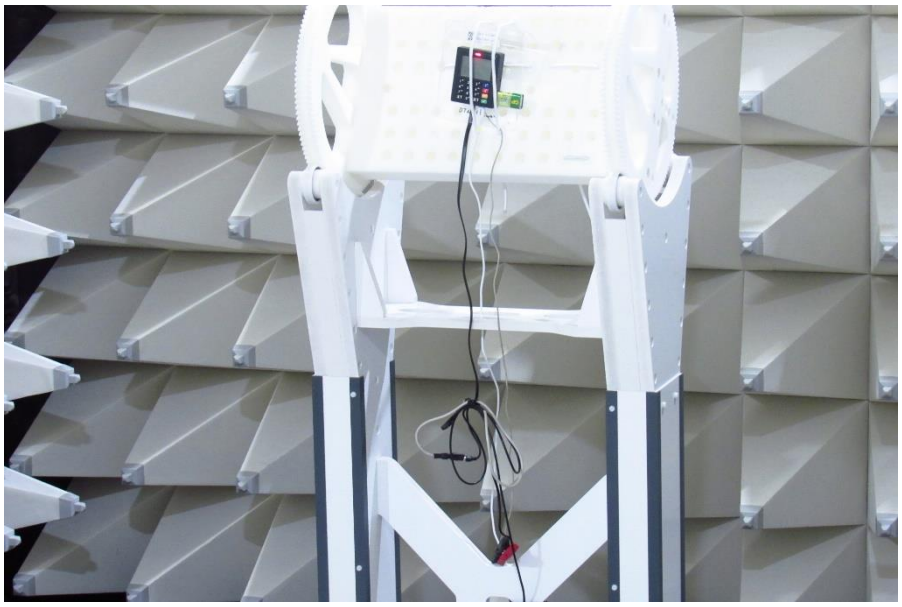
Test Results						
Channel [MHz]	Emission [MHz]	Level [dBµV/m]	Det.	Pol.	Limit [dBµV/m]	Margin [dB]
2402	4804	40.83	pk	hor	74.00	-33.17
2402	4804	36.15	avg	hor	54.00	-17.85
2402	12011	53.32	pk	hor	74.00	-20.68
2402	12011	54.13	pk	ver	74.00	-19.87
2402	12011	50.11	avg	hor	54.00	-03.89
2402	12011	48.74	avg	ver	54.00	-05.26
2480	2483.6	57.62	pk	ver	74.00	-16.38
2480	2483.6	45.59	avg	ver	54.00	-08.41
2480	4960	42.68	pk	ver	74.00	-31.32
2480	4960	43.94	pk	hor	74.00	-30.06
2480	4960	38.09	avg	ver	54.00	-15.91
2480	4960	38.19	avg	hor	54.00	-15.81
2480	7439	56.65	pk	hor	74.00	-17.35
2480	7439	52.69	avg	hor	54.00	-01.31
2480	7441	51.26	pk	ver	74.00	-22.74
2480	7441	47.00	avg	ver	54.00	-07.00
2480	12399	46.64	pk	ver	74.00	-27.36
2480	12399	39.48	avg	ver	54.00	-14.52
2480	12401	48.39	pk	hor	74.00	-25.61
2480	12401	42.05	avg	hor	54.00	-11.95

3.2.7 Setup Photos

Setup below 1 GHz


Setup EUT view below 1GHz


Setup above 1GHz


Setup EUT view above 1GHz


3.3 Test Conditions and Results - Receiver radiated emissions

3.3.1 Information

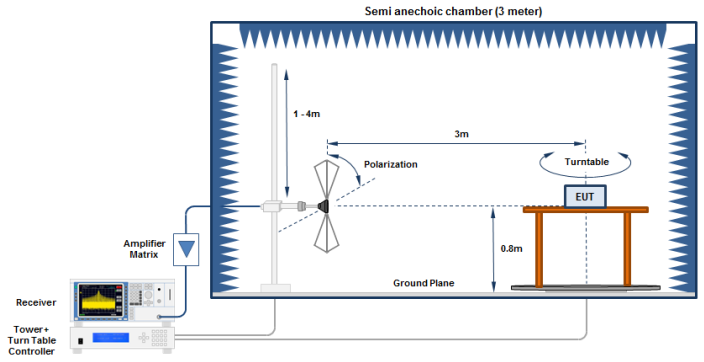
Test Information	
Reference	ISED RSS-247, Issue 2 (section 3.1)
Measurement Uncertainty	± 5.95 dB
Measurement Method	ANSI C63.4-2014 8.1-8.3
Operator	Florian Voigt
Date	2022-02-10

3.3.2 Limits

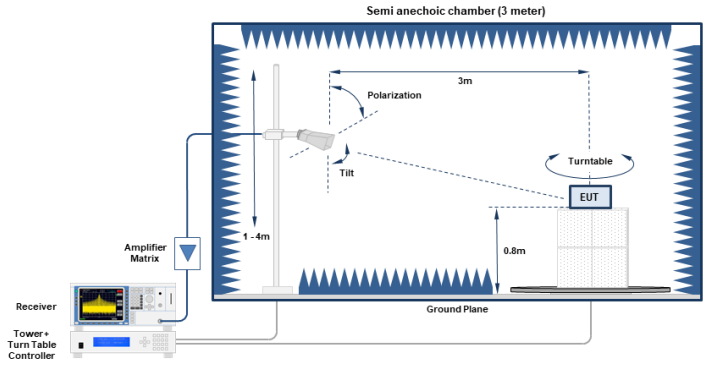
Limits			
Frequency range [MHz]	Detector	Field strength [µV/m]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.3.3 Setup

Test Setup 30 MHz - 1000 MHz



Test Setup > 1 GHz



3.3.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	R&S	HK 116	EF00030	2021-05	2024-05
Antenna	R&S	HL 223	EF00187	2019-05	2022-05

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	Schwarzbeck	BBHA 9120D	EF00018	2019-10	2022-10
Antenna	Schwarzbeck	HWRD 650	EF01679	2021-03	2022-03

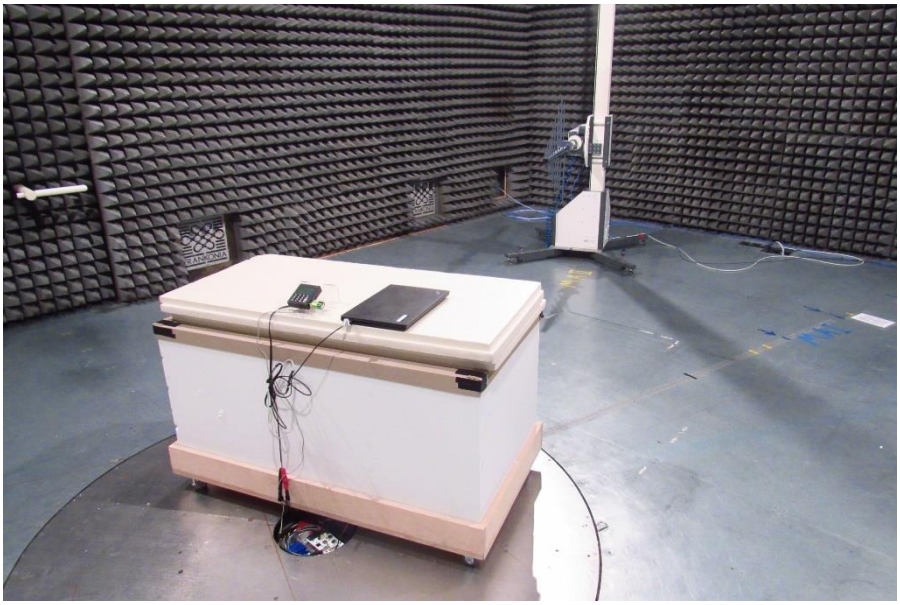
3.3.5 Procedure

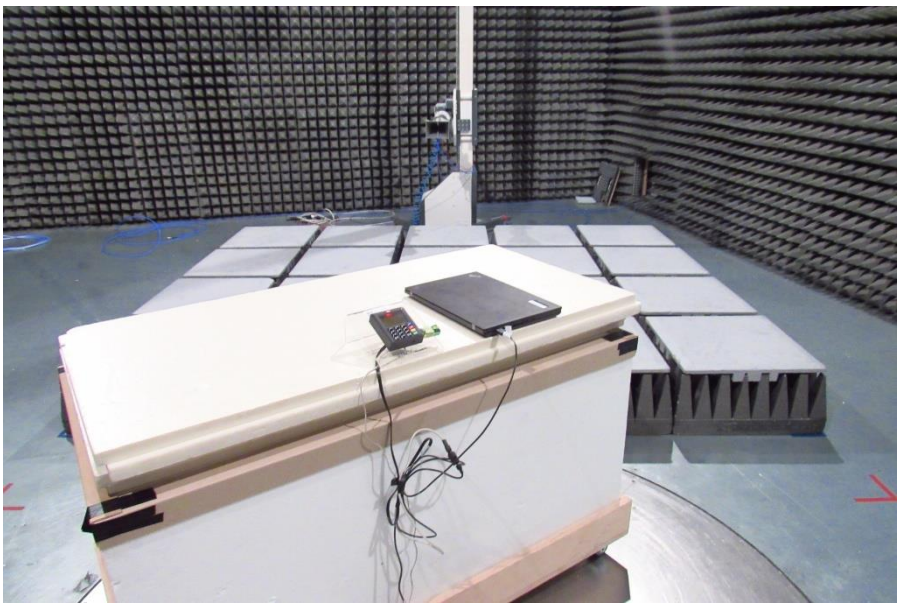
Test Procedure
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT is set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

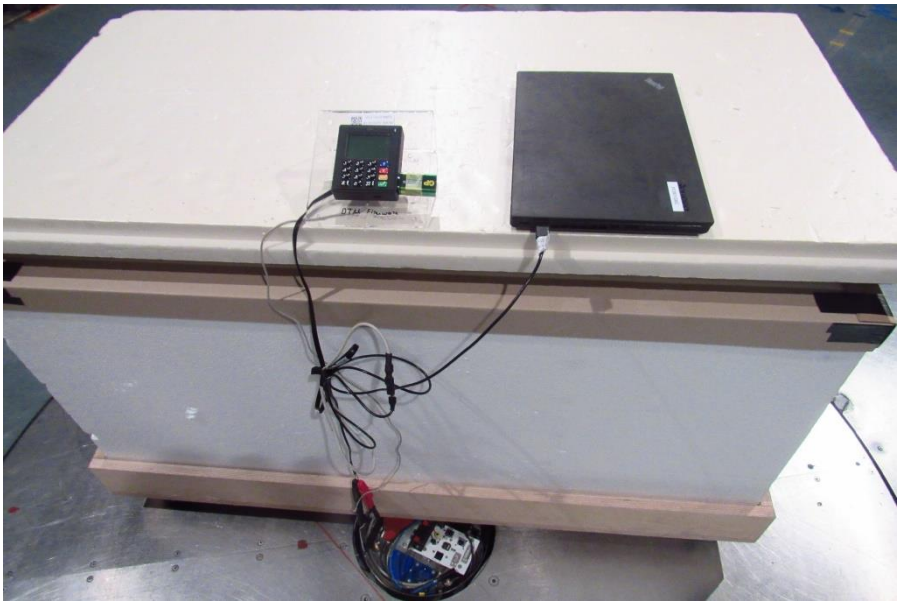
3.3.6 Results

Test Results						
Channel [MHz]	Emission [MHz]	Level [dBµV/m]	Det.	Pol.	Limit [dBµV/m]	Margin [dB]
2480	907.6	29.00	pk	ver	46.00	-17.03

3.3.7 Setup Photos

Setup below 1 GHz


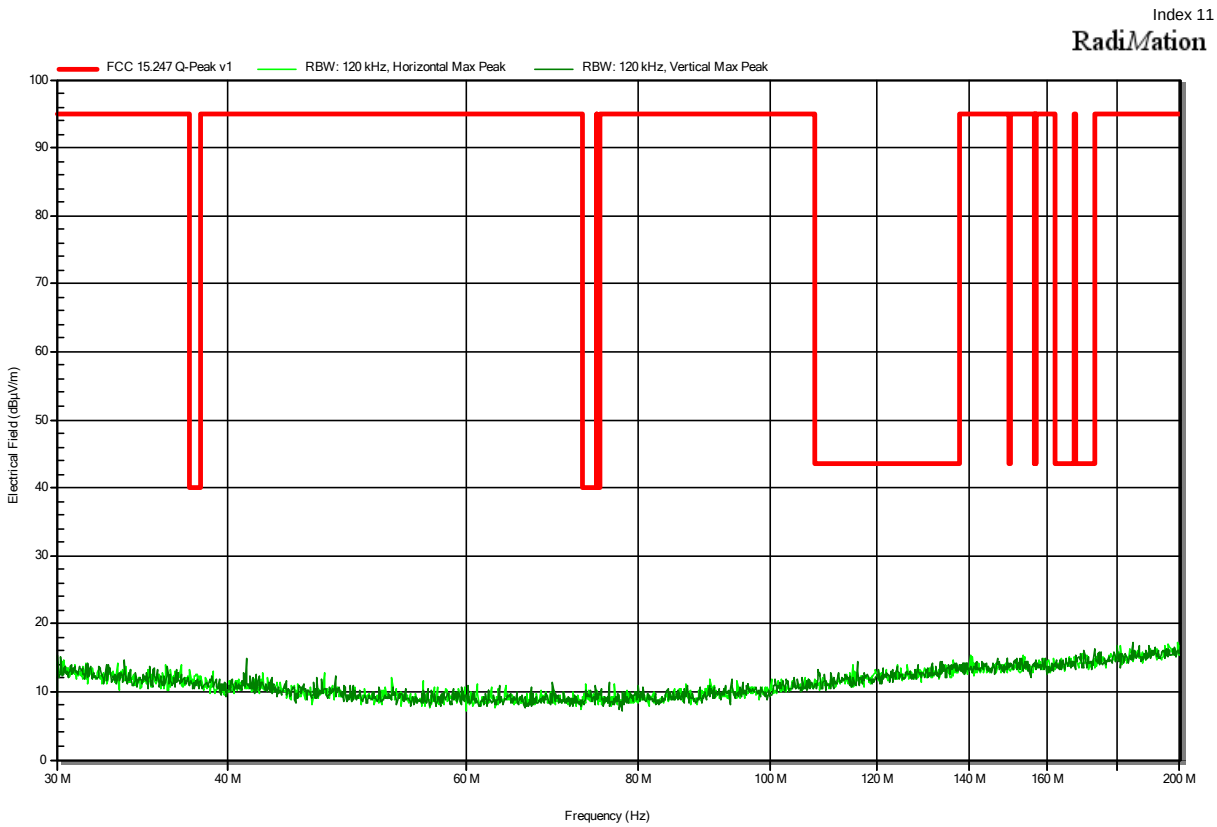
Setup above 1GHz


Setup EUT view


ANNEX A Transmitter spurious emissions

Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Rohde & Schwarz HK 116
Measurement distance:	3 m
Mode:	Tx; 2480MHz, GFSK
Test Date:	2022-02-10
Note:	



Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Rohde & Schwarz HL 223
Measurement distance:	3 m
Mode:	Tx; 2480MHz, GFSK
Test Date:	2022-02-10
Note:	

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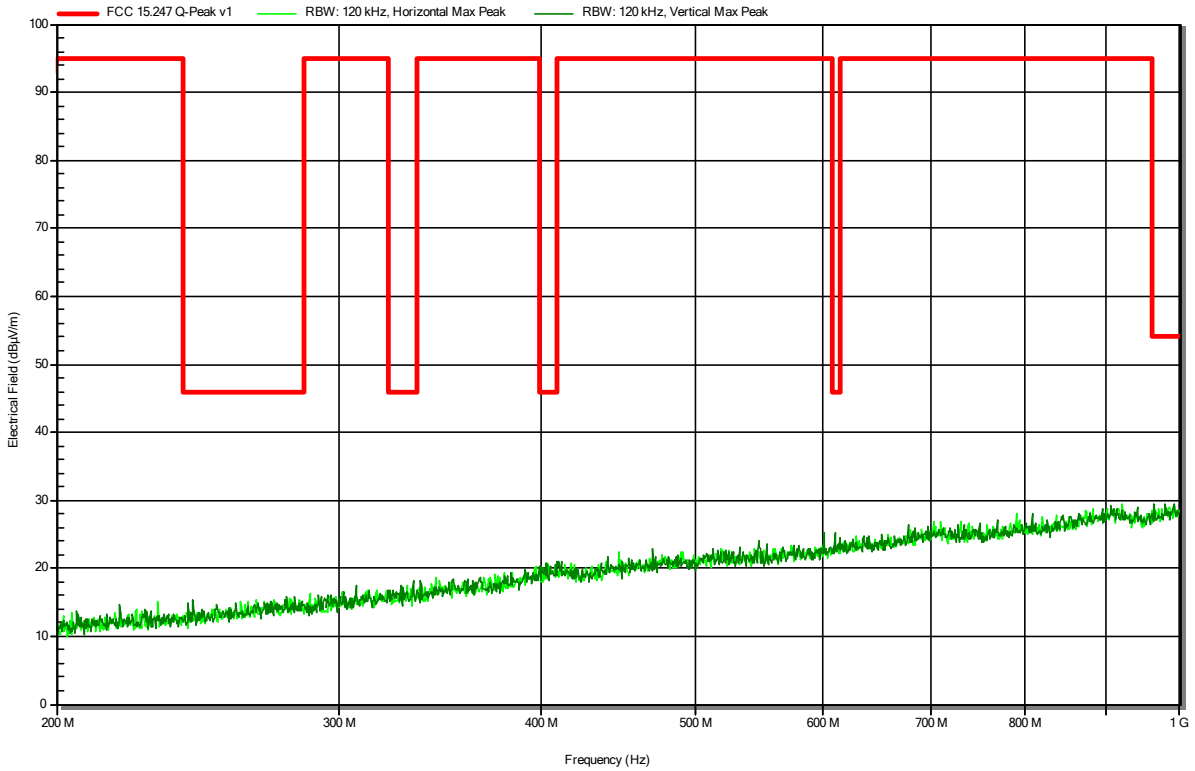
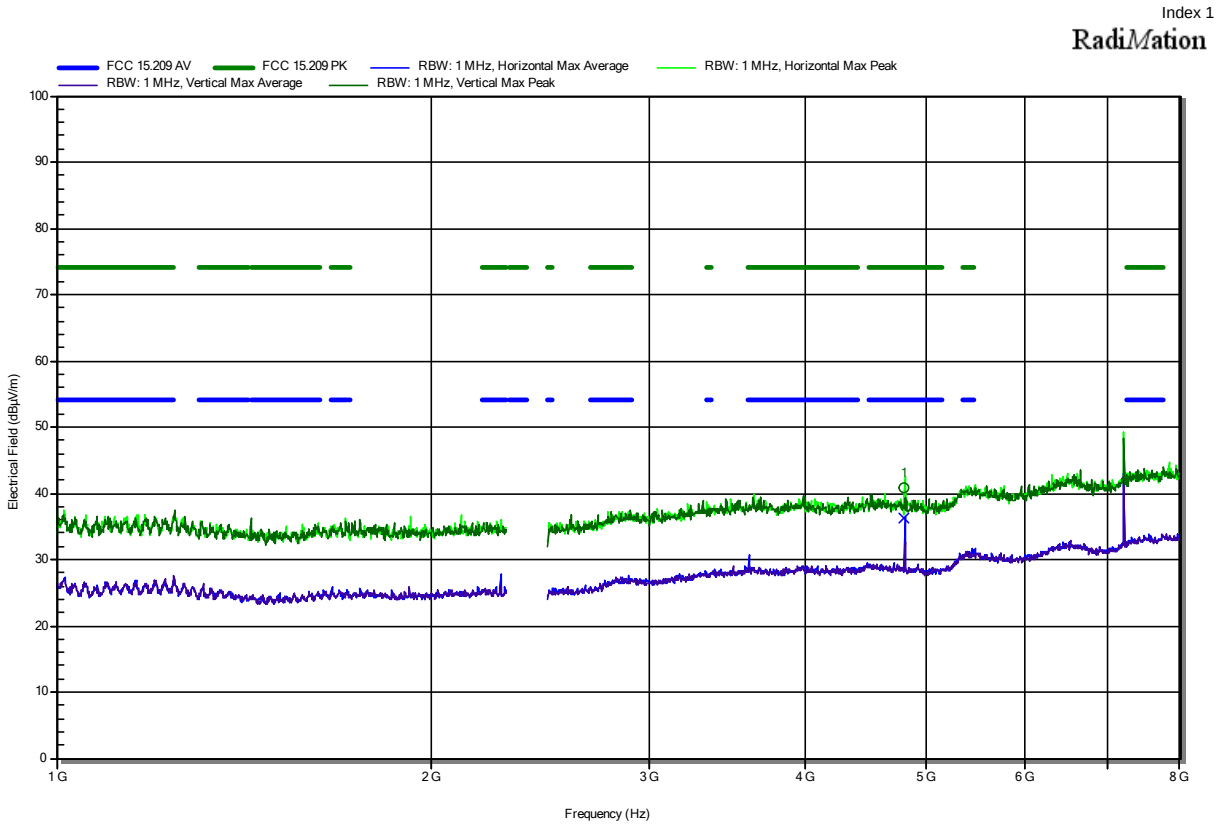
RadiMation



Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck BBHA 9120B
Measurement distance:	3 m
Mode:	Tx; 2402MHz, GFSK
Test Date:	2022-02-10
Note:	

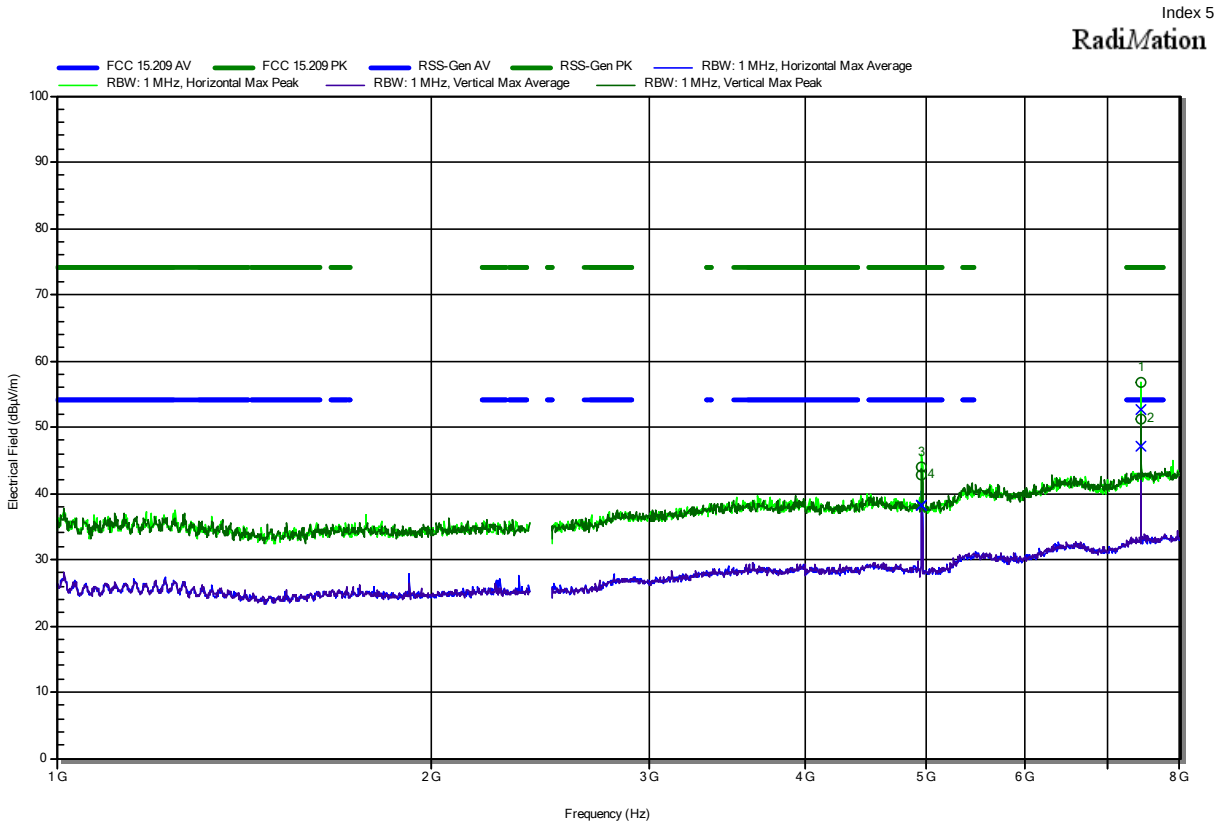


Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
4.804 GHz	40.83 dBµV/m	74 dBµV/m	-33.17 dB	Pass	Horizontal

Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
4.804 GHz	36.15 dBµV/m	54 dBµV/m	-17.85 dB	Pass	Horizontal

Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck BBHA 9120B
Measurement distance:	3 m
Mode:	Tx; 2480MHz, GFSK
Test Date:	2022-02-10
Note:	

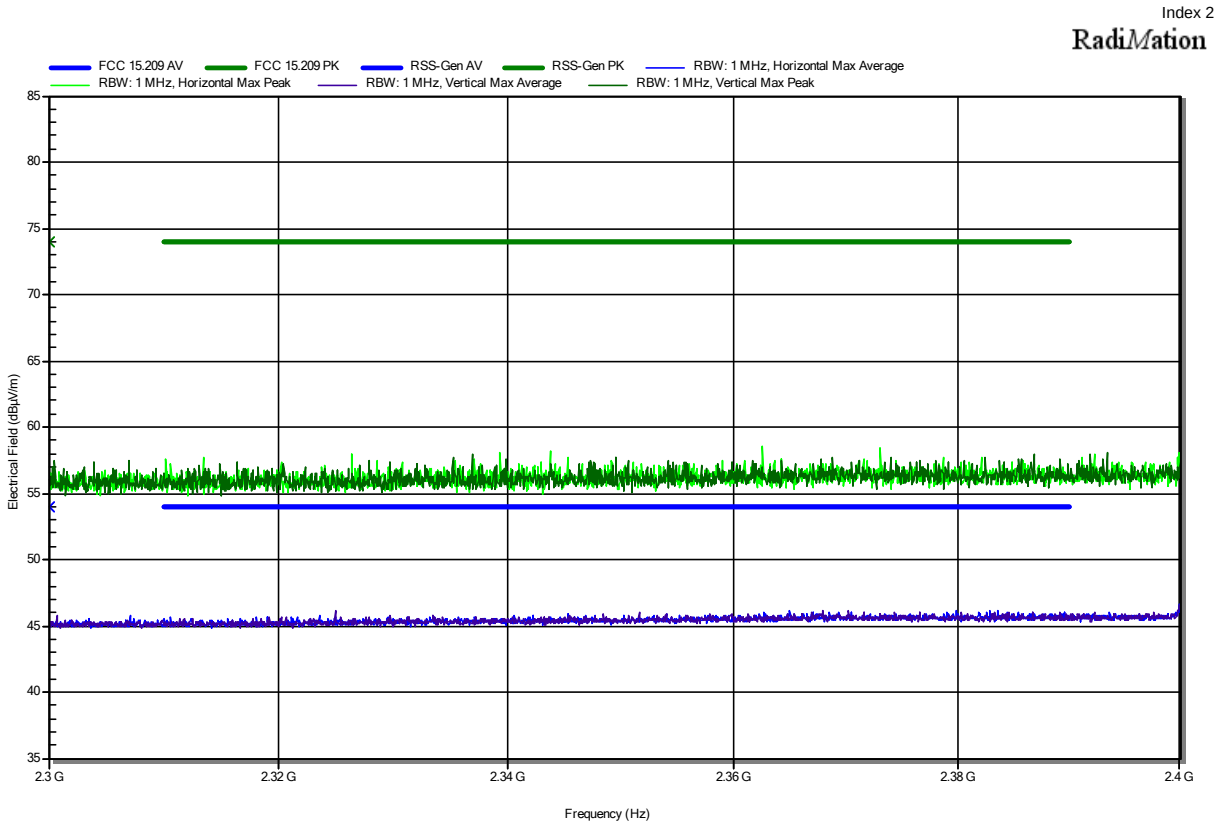


Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
4.96 GHz	42.68 dBµV/m	74 dBµV/m	-31.32 dB	Pass	Vertical
4.96 GHz	43.94 dBµV/m	74 dBµV/m	-30.06 dB	Pass	Horizontal
7.439 GHz	56.65 dBµV/m	74 dBµV/m	-17.35 dB	Pass	Horizontal
7.441 GHz	51.26 dBµV/m	74 dBµV/m	-22.74 dB	Pass	Vertical

Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
4.96 GHz	38.09 dBµV/m	54 dBµV/m	-15.91 dB	Pass	Vertical
4.96 GHz	38.19 dBµV/m	54 dBµV/m	-15.81 dB	Pass	Horizontal
7.439 GHz	52.69 dBµV/m	54 dBµV/m	-1.31 dB	Pass	Horizontal
7.441 GHz	47 dBµV/m	54 dBµV/m	-7 dB	Pass	Vertical

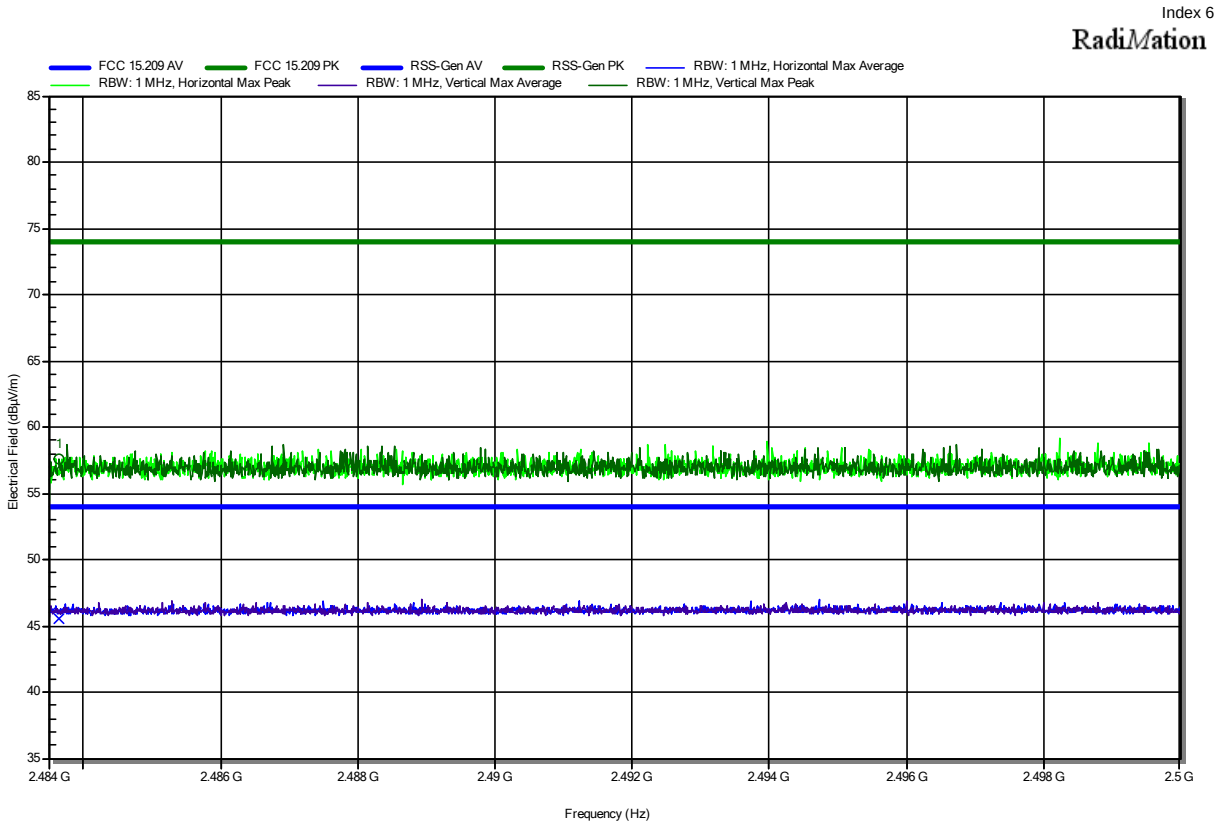
Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck BBHA 9120B
Measurement distance:	3 m
Mode:	Tx; 2402MHz, GFSK
Test Date:	2022-02-10
Note:	lower bandedge



Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck BBHA 9120B
Measurement distance:	3 m
Mode:	Tx; 2480MHz, GFSK
Test Date:	2022-02-10
Note:	upper bandedge

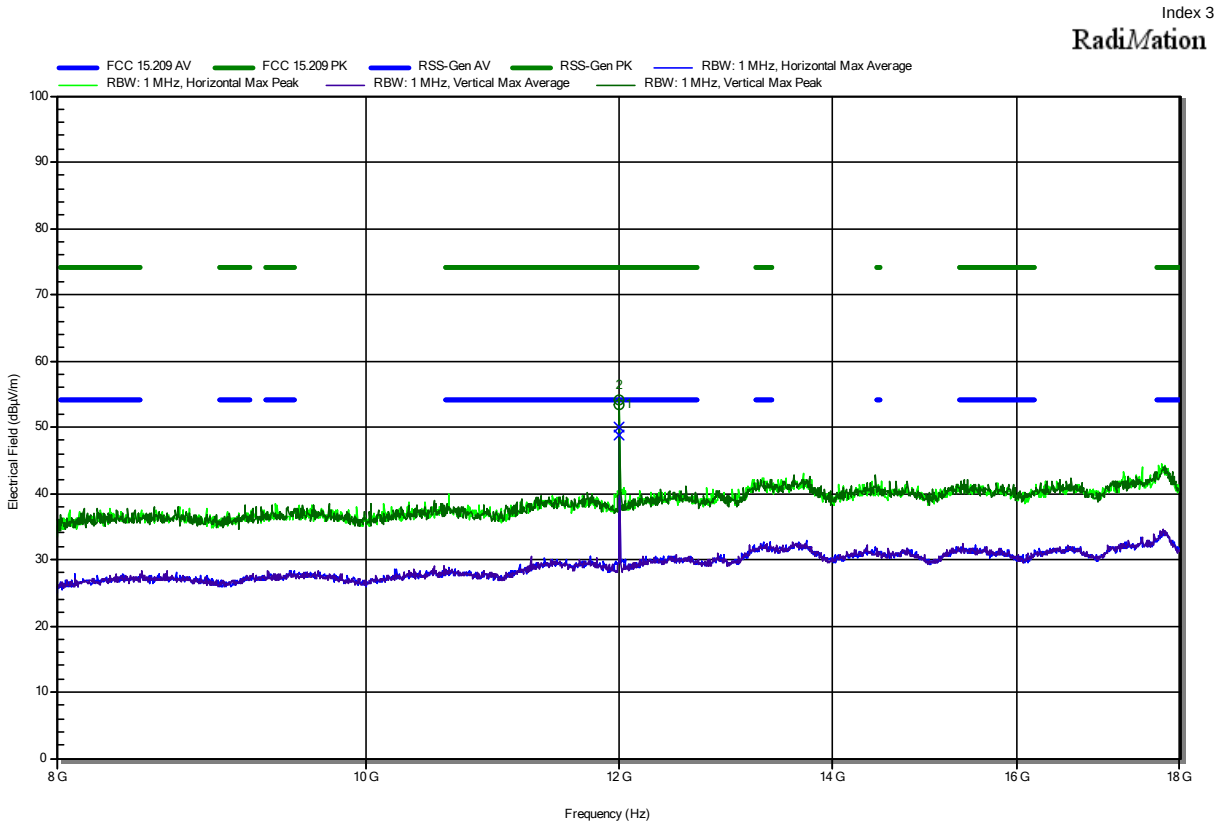


Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
2.4836 GHz	57.62 dBµV/m	74 dBµV/m	-16.38 dB	Pass	Vertical

Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
2.4836 GHz	45.59 dBµV/m	54 dBµV/m	-8.41 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck HWRD 650
Measurement distance:	3 m
Mode:	Tx; 2402MHz, GFSK
Test Date:	2022-02-10
Note:	

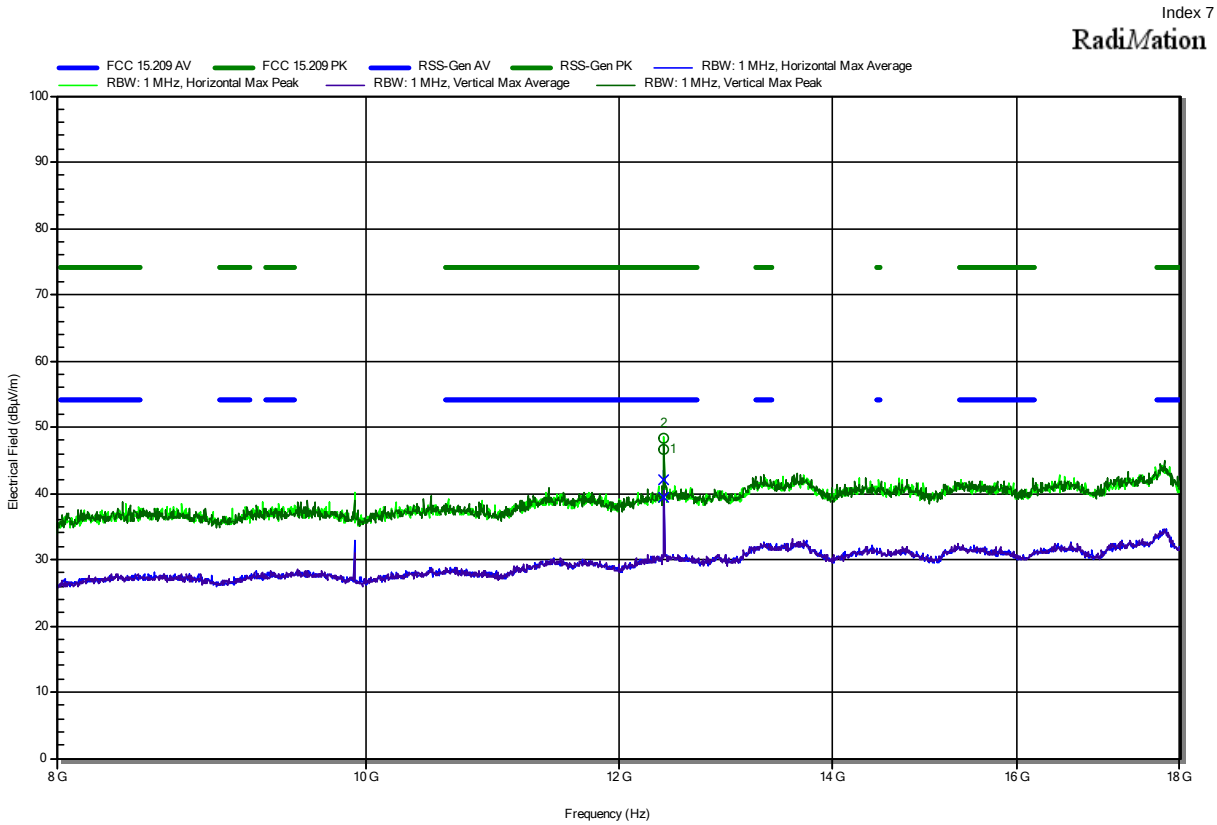


Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
12.011 GHz	53.32 dBµV/m	74 dBµV/m	-20.68 dB	Pass	Horizontal
12.011 GHz	54.13 dBµV/m	74 dBµV/m	-19.87 dB	Pass	Vertical

Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
12.011 GHz	50.11 dBµV/m	54 dBµV/m	-3.89 dB	Pass	Horizontal
12.011 GHz	48.74 dBµV/m	54 dBµV/m	-5.26 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, 47 CFR Part 15.247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck HWRD 650
Measurement distance:	3 m
Mode:	Tx; 2480MHz, GFSK
Test Date:	2022-02-10
Note:	



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
12.399 GHz	46.64 dBµV/m	74 dBµV/m	-27.36 dB	Pass	Vertical
12.401 GHz	48.39 dBµV/m	74 dBµV/m	-25.61 dB	Pass	Horizontal

Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
12.399 GHz	39.48 dBµV/m	54 dBµV/m	-14.52 dB	Pass	Vertical
12.401 GHz	42.05 dBµV/m	54 dBµV/m	-11.95 dB	Pass	Horizontal

ANNEX B Receiver spurious emissions

Radiated Spurious Emissions according to RSS-247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Rohde & Schwarz HK 116
Measurement distance:	3 m
Mode:	Rx; 2480MHz
Test Date:	2022-02-10
Note:	

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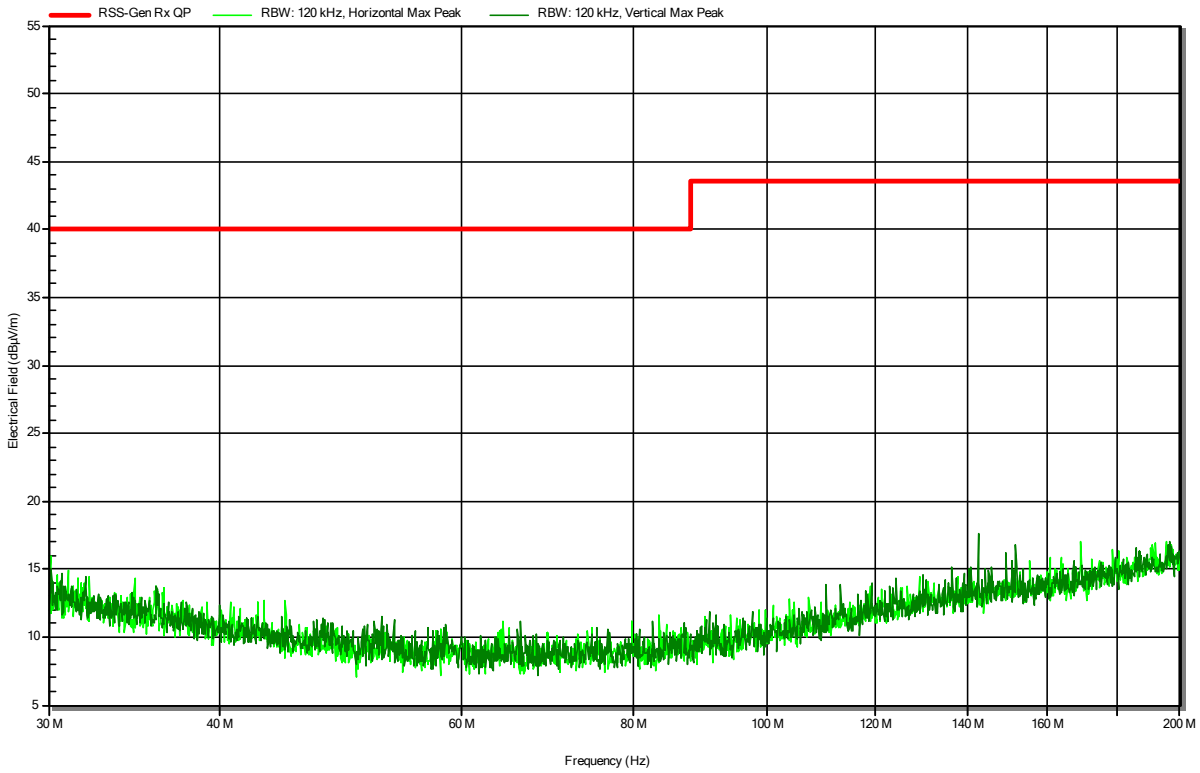
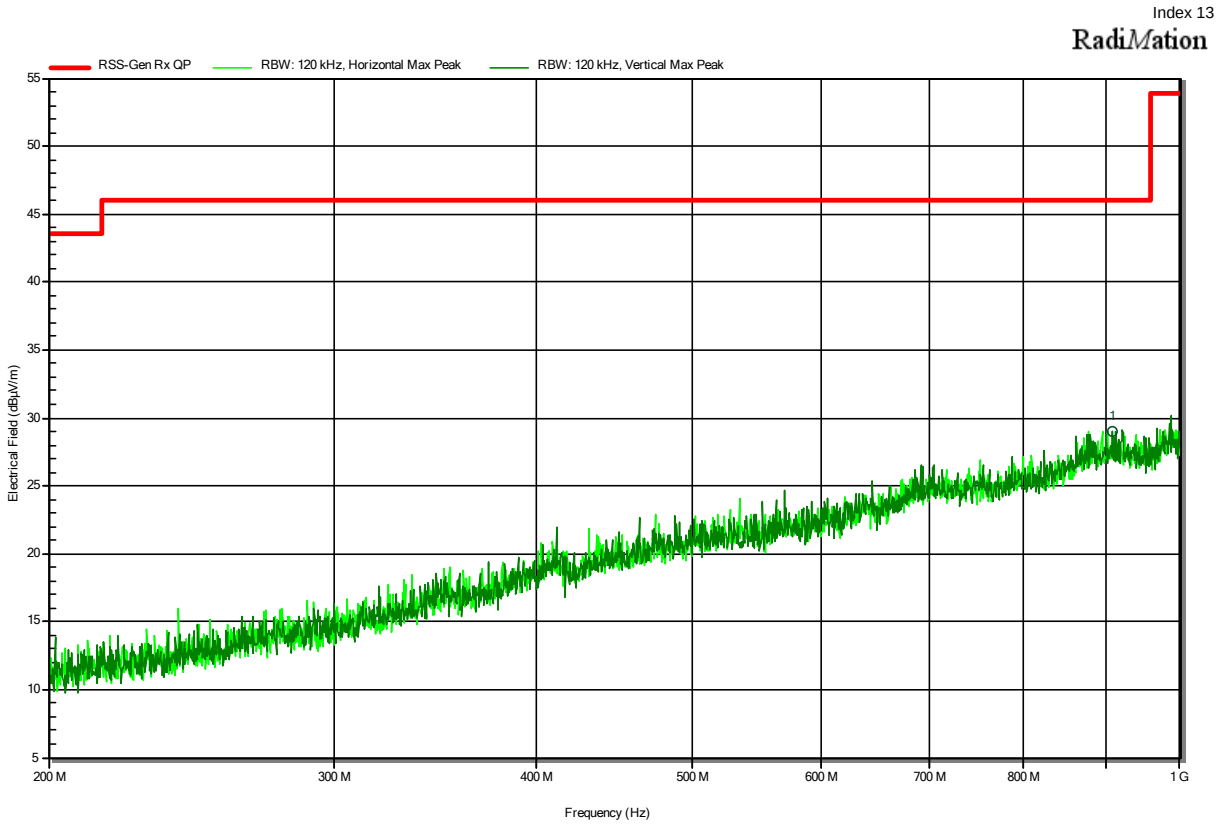
RadiMation



Radiated Spurious Emissions according to RSS-247

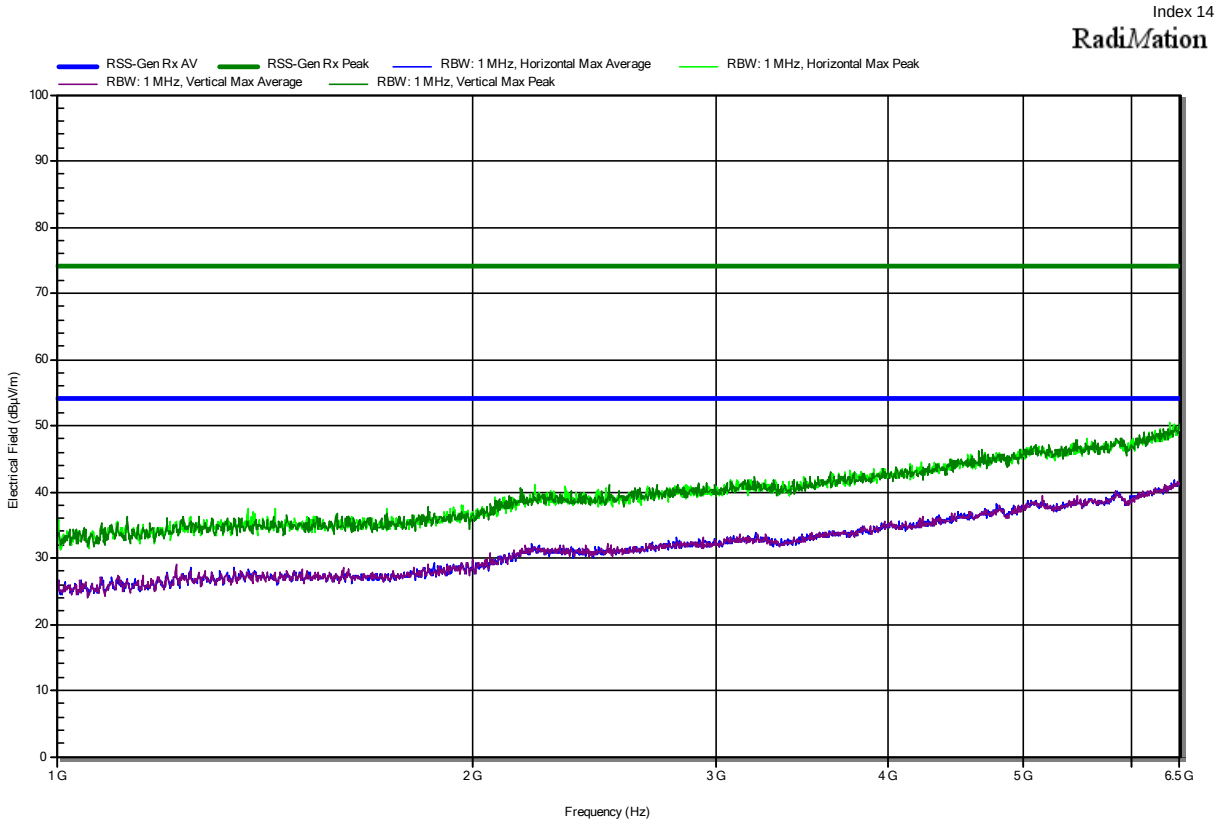
Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Rohde & Schwarz HL 223
Measurement distance:	3 m
Mode:	Rx; 2480MHz
Test Date:	2022-02-10
Note:	



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
907.6 MHz	29 dBµV/m	46 dBµV/m	-17.03 dB	Pass	Vertical

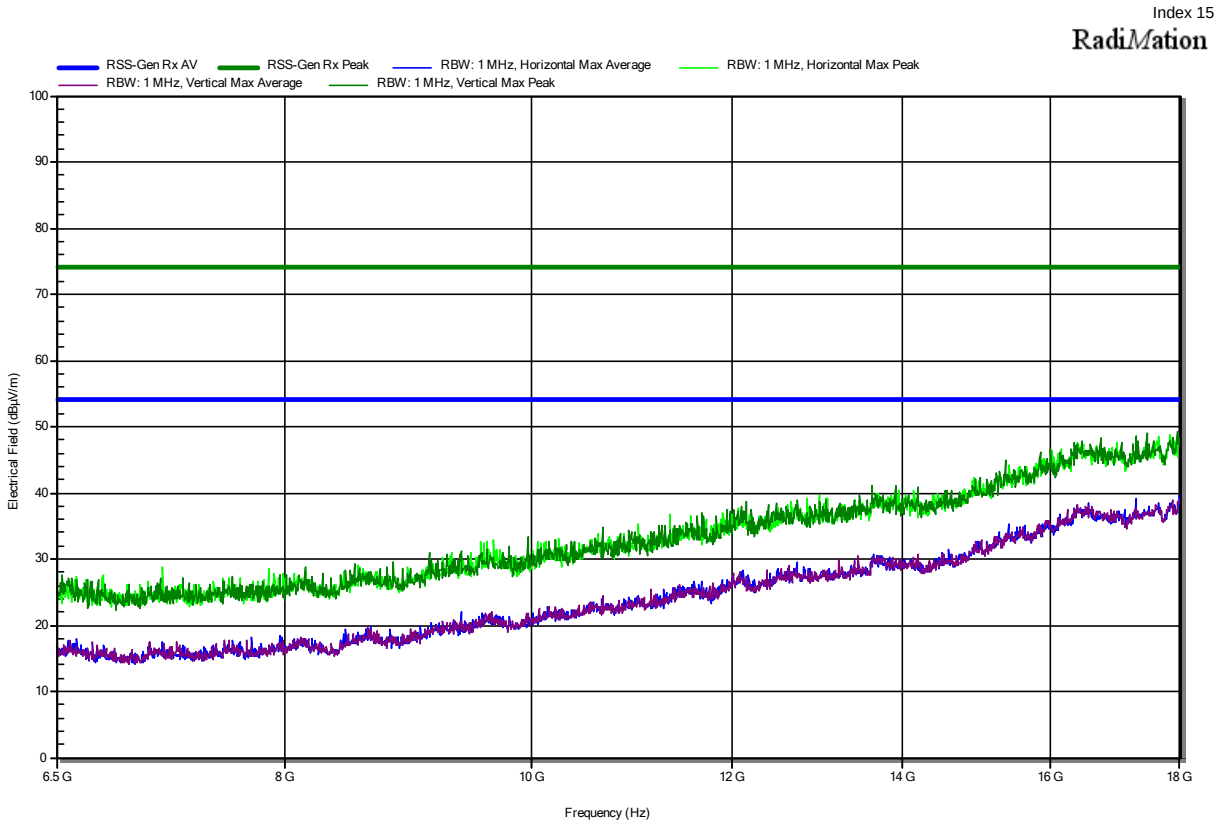
Radiated Spurious Emissions according to RSS-247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck BBHA 9120D
Measurement distance:	3 m
Mode:	Rx; 2480MHz
Test Date:	2022-02-10
Note:	



Radiated Spurious Emissions according to RSS-247

Project Number:	G0M-2111-1157
Applicant:	BVK TEKNOLOJI ANONIM
Model Description:	OTCaccess MiniSmart Bluetooth Keypad Indoor
Model:	2KY-303C
Test Sample ID:	38309
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Voigt
Measurement software:	RadiMation, version 2020.1.8
Test Conditions:	Tnom: 23 °Celsius, Vnom: 12.0 VDC
Antenna:	Schwarzbeck HWRD 650
Measurement distance:	3 m
Mode:	Rx; 2480MHz
Test Date:	2022-02-10
Note:	



= = = END OF TEST REPORT = = =