

FCC TEST REPORT

FCC 47 CFR Part 15C Industry Canada RSS-210

Digital transmission systems operating within the 2400 - 2483.5 MHz band

Report Reference No...... G0M-1409-4154-TFC247BL-DUO-V01

Testing Laboratory Eurofins Product Service GmbH

Address..... Storkower Str. 38c

15526 Reichenwalde

Germany

Accreditation:



A2LA Accredited Testing Laboratory, Certificate No.: 1983.01

FCC Filed Test Laboratory, Reg.-No.: 96970

IC OATS Filing assigned code: 3470A

Applicant's name Amor Gummiwaren GmbH

Address...... August-Rost-Straße 4

99310 Arnstadt GERMANY

Test specification:

Standard 47 CFR Part 15C

KDB Publication No. 558074 RSS-210, Issue 8, 2010-12 RSS-Gen, Issue 4, 2014-11

ANSI C63.4:2009

Test scope.....: complete Radio compliance test

Equipment under test (EUT):

Product description electric device

Model No. Duo
Additional Model(s) None

Brand Name(s) Vibratissimo

Hardware version V2.0

Firmware / Software version BLE-Stack SD110 V6.0.0

FCC-ID: 2ADAR504002 IC: 12372A-504002

Test result Passed



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Possib	ie test	. Case	veru	ICIS.

- neither assessed nor tested N/N

- required by standard but not appl. to test object......: N/A

- required by standard but not tested.....: N/T

- not required by standard for the test object: N/R

- test object does meet the requirement...... P (Pass)

- test object does not meet the requirement...... F (Fail)

Testing:

Test Lab Temperature...... 20 – 23 °C

Test Lab Humidity 32 – 38 %

Compiled by: Matthias Handrik

Tested by (+ signature).....:
(Responsible for Test)

Matthias Handrik

(responsible for rest)

Approved by (+ signature): Christian Weber

Date of issue 2015-01-19

Total number of pages: 81

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:



Version History

Version	Issue Date	Remarks	Revised by
01	2015-01-19	Initial Release	



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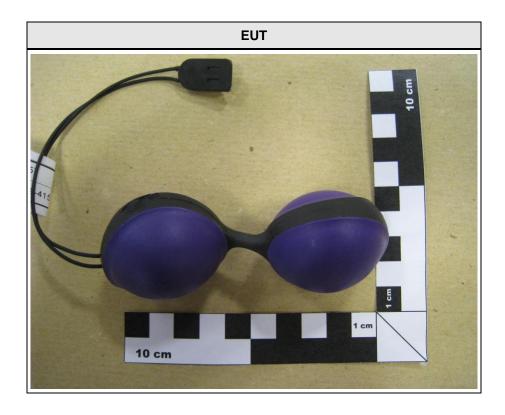


1 Equipment (Test item) Description

Description	electric device		
Model	Duo		
Additional Model(s)	None		
Brand Name(s)	Vibratissimo		
Serial number	None		
Hardware version	V2.0		
Software / Firmware version	BLE-Stack SD1	10 V6.0.0	
FCC-ID	2ADAR504002		
IC	12372A-504002		
Equipment type	End product		
Radio type	Transceiver		
Radio technology	Bluetooth 4.0 Low Energy		
Operating frequency range	2402 - 2480 MHz		
Assigned frequency band	2400 - 2483.5 M	Hz	
	F _{LOW}	2402 MHz	
Main test frequencies	F _{MID}	2442 MHz	
	F _{HIGH}	2480 MHz	
Spreading	Frequency Hopping		
Modulations	GFSK		
Number of channels	40		
Channel spacing	2MHz		
Number of antennas	1		
	Туре	integrated	
Antenna	Model	wire antenna	
Antenna	Manufacturer	unspecified	
	Gain	+2.75 dBi (manufacturer declaration)	
Manufacturer	Amor Gummiwaren GmbH August-Rost-Straße 4 99310 Arnstadt GERMANY		
	V _{NOM}	3.7 VDC	
Power supply	V _{MIN}	N/R	
	V _{MAX} N/R		
	Model	FW7713	
AC/DC-Adaptor	Vendor	Friwo	
AO/DO-Adaptol	Input	100-240V AC, 50/60 Hz, 150 mA	
	Output	5.0 VDC, 100 mA	

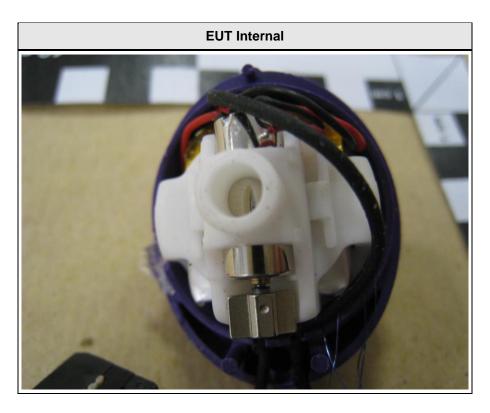


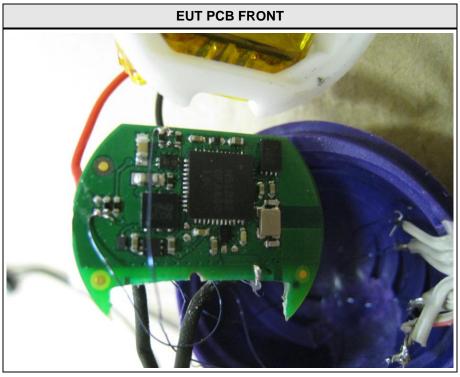
1.1 Photos – Equipment External

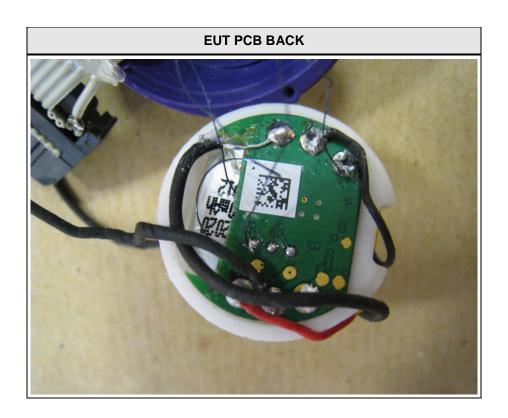




1.2 Photos – Equipment internal

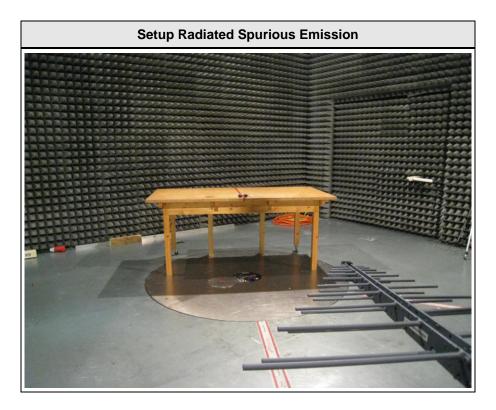


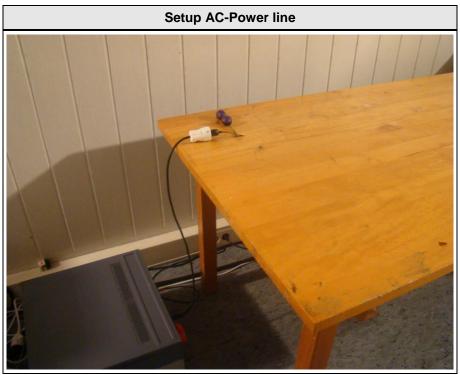






1.3 Photos – Test setup







1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments		
AE	Laptop	DELL	Latitude D 630	-		
AE	AC/DC adaptor	FRIWO Gerätebau GmbH	FW7713	-		
AE :	AE : Auxiliary/Associated Equipment					



1.5 Test Modes

Mode #	Description			
	General conditions:	EUT powered by internal battery.		
Transmit	Radio conditions:	Mode = standalone transmit Spreading = Hopping stopped (single hopping channel) Modulation = GFSK Data rate = 1 Mbps Bandwidth = 2 MHz Duty cycle = 100 % Power level = Maximum		
	General conditions:	EUT powered by internal battery.		
Receive	Radio conditions:	Mode = standalone receive (scan mode) Spreading = FHSS Modulation = GFSK		
AC Dowerline	General conditions:	EUT charged by AC/DC adaptor		
AC-Powerline	Radio conditions:	Mode = Radio "OFF" during charging		



1.6 Test Equipment Used During Testing

Measurement Software				
Description	Manufacturer	Name	Version	
EMC Test Software	Dare Instruments	Radimation	2014.1.15	

Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

6dB Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Maximum peak conducted power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Power spectral density					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Band edge compliance					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Conducted spurious emissions						
Description	Cal. Date	Cal. Due				
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02	

Radiated spurious emissions							
Description Manufacturer Model Identifier Cal. Date Cal. Du							
Semi-anechoic chamber	Frankonia	AC 1	EF00062	-	-		
Spectrum Analyzer	R&S FSEK30		EF00168	2014-01	2015-01		
Biconical Antenna	R&S	HK 116	EF00012	2013-02	2016-02		
LPD Antenna	R&S	HL 223	EF00187	2014-03	2017-03		
LPD Antenna	R&S	HL 025	EF00327	2013-02	2016-02		



AC powerline conducted emissions							
Description Manufacturer Model Identifier Cal. Date Cal. Duc							
AMN	R&S	ESH2-Z5	EF00182	2014-11	2015-11		
EMI Test Receiver	R&S	ESCS 30	EF00295	2014-10	2015-10		



1.7 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 $dB\mu V$. 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 (dB μ V) + A.F. (dB) = Net field strength (dB μ V/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 $dB\mu V/m$). The FCC limits are given in units of $\mu V/m$. The following formula is used to convert the units of $\mu V/m$ to $dB\mu V/m$:

Limit (dB μ V/m) = 20*log (μ V/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 dB μ V + 26 dB = 47.5 dB μ V/m : 47.5 dB μ V/m - 57.0 dB μ V/m = -9.5 dB



2 Result Summary

FCC 47 CFR Part 15C, IC RSS-210							
Product Specific Standard Section	Requirement – Test	Reference Method	Result	Remarks			
RSS-Gen 6.6	Occupied Bandwidth	RSS-Gen 6.6	N/R	Informational only			
FCC § 15.247(a)(2) IC RSS-210 § A8.2	6dB Bandwidth	KDB Publication No. 558074	PASS				
FCC § 15.247(b)(3) IC RSS-210 § A8.4	Maximum peak conducted power	KDB Publication No. 558074	PASS				
FCC § 15.247(e) IC RSS-210 § A8.2	Power spectral density	KDB Publication No. 558074	PASS				
47 CFR 15.207 RSS-Gen 8.8	AC power line conducted emissions	KDB Publication No. 558074 / ANSI C63.4	PASS				
FCC § 15.247(d) IC RSS-210 § A8.5	Band edge compliance	KDB Publication No. 558074	PASS				
FCC § 15.247(d) IC RSS-210 § A8.5	Conducted spurious emissions	KDB Publication No. 558074	PASS				
FCC § 15.247(d) FCC § 15.209 IC RSS-210 A8.5 IC RSS-Gen 6.13	Transmitter radiated spurious emissions	KDB Publication No. 558074 / ANSI C 63.4	PASS				
IC RSS-Gen 7.1	Receiver radiated spurious emissions	ANSI C 63.4	PASS				



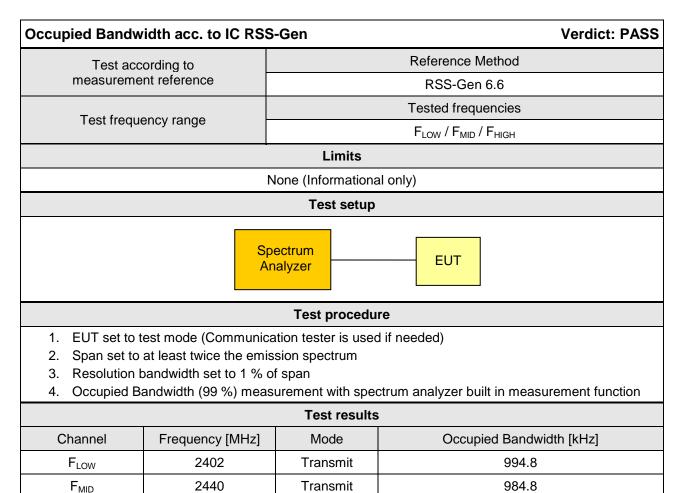
3 Test Conditions and Results

 F_{HIGH}

Comments:

3.1 Test Conditions and Results - Occupied Bandwidth

2480



Transmit

977.3



Occupied Bandwidth - FLOW

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BT-LE, 2402 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used

Note 2: OBW= 994.8 MHz



Occupied bandwidth: 994.8 KHz Date: 2.DEC.2014 16:03:27



Occupied Bandwidth - F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

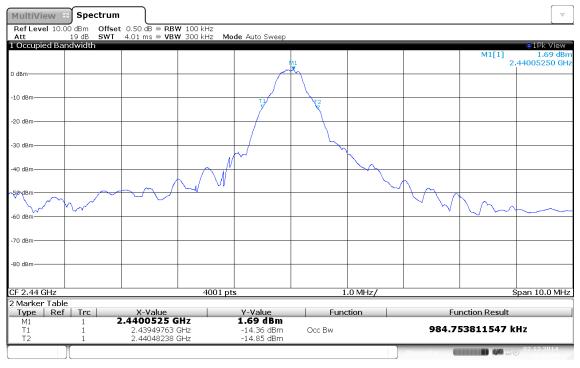
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BT-LE, 2440 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used

Note 2: OBW= 984.8 MHz



Occupied bandwidth: 984.8 KHz Date: 2.DEC.2014 16:08:20



Occupied Bandwidth - F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

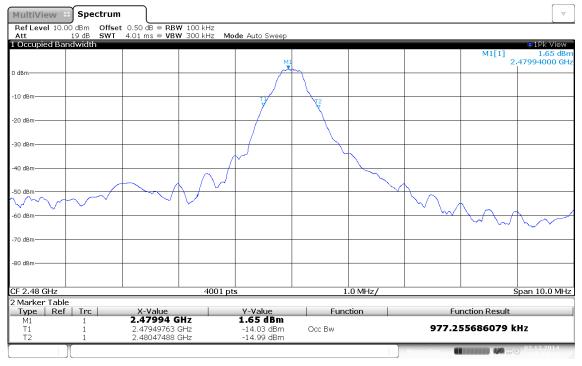
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BT-LE, 2480 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used

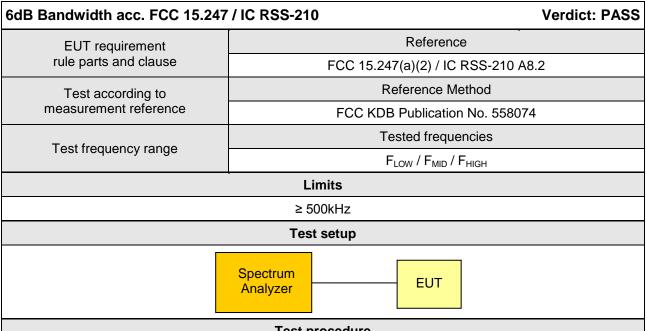
Note 2: OBW= 977.3 MHz



Occupied bandwidth: 977.3 KHz Date: 2.DEC.2014 16:11:42



3.2 Test Conditions and Results - 6 dB Bandwidth



Test procedure

- 1. EUT set to test mode
- 2. Span set to at least twice the emission spectrum
- 3. Detector set to peak and max hold and RBW is set to 100 kHz
- 4. Envelope peak value of emission spectrum is selected
- 5. Marker on envelope of spectrum is set to level of -6 dB to the left of the peak
- 6. Marker on envelope of spectrum is set to level of -6 dB to the right of the peak
- 7. 6 dB Bandwidth is determined by marker frequency separation

Test results							
Channel	Frequency [MHz]	Mode	6 dB Bandwidth [kHz]	Limit [kHz]	Result		
F _{LOW}	2402	Transmit	770.7	500	PASS		
F _{MID}	2440	Transmit	918.9	500	PASS		
F _{HIGH}	2480	Transmit	872.2	500	PASS		
Comments:							



6 dB Bandwidth - F_{LOW}

Minimum 6 dB Bandwidth acc. to FCC 15,247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

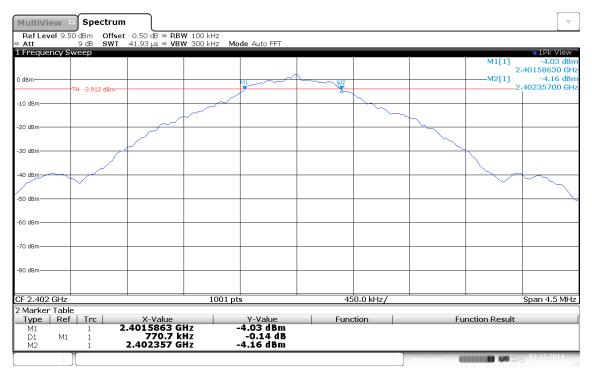
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2402 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)

Note 2: Minimum 6 dB Bandwidth conducted



6 dB bandwidth: 770.7 KHz > 500 KHz; verdict: PASS

Date: 2.DEC.2014 14:55:27



6 dB Bandwidth - F_{MID}

Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

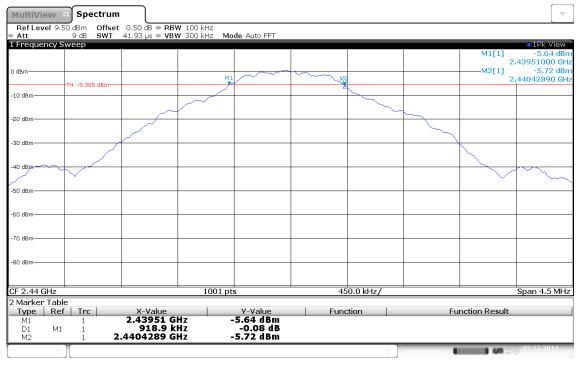
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2440 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)

Note 2: Minimum 6 dB Bandwidth conducted



6 dB bandwidth: 918.9 KHz > 500 KHz; verdict: PASS

Date: 2.DEC.2014 14:58:26



6 dB Bandwidth - FHIGH

Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

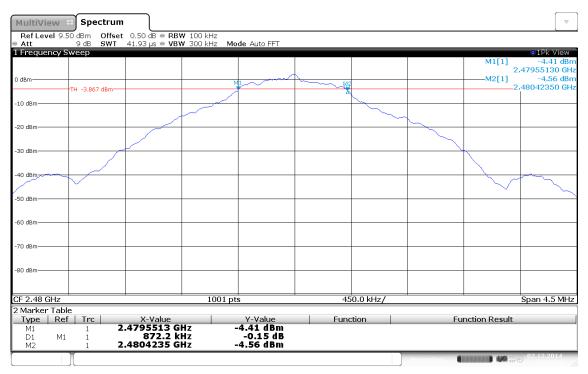
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2480 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)

Note 2: Minimum 6 dB Bandwidth conducted



6 dB bandwidth: 872.2 KHz > 500 KHz; verdict: PASS

Date: 2.DEC.2014 15:09:15

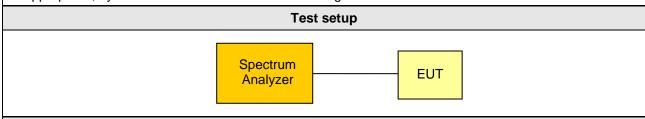


3.3 Test Conditions and Results - Maximum peak conducted power

Maximum peak conducted powe	r acc. to FCC 15.247 / IC RSS-210 Verdict: PASS			
EUT requirement	Reference			
rule parts and clause	FCC 15.247(b)(3) / IC RSS-210 A8.4			
Test according to	Reference Method			
measurement reference	FCC KDB Publication No. 558074			
Toot fraguency range	Tested frequencies			
Test frequency range	F _{LOW} / F _{MID} / F _{HIGH}			
Measurement mode	Peak			
Maximum antenna gain	nna gain 2.75 dBi ⇒ Limit correction = 0 dB			
	Limits			
1 W (30 dRm)				

1 W (30 dBm)

The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Center frequency set to test channel center frequency
- 3. Span set to twice the 20 dB bandwidth and detector to peak and max hold
- 4. Resolution bandwidth is set to 3 MHz
- 5. Peak conducted power is determined from peak of spectrum envelope

Test results							
Channel	Frequency [MHz]	Voltage [VDC]	Mode	Peak power [dbm]	Peak power [W]	Limit [dBm]	Margin [dB]
F_{LOW}	2402	$V_{\text{nom}} = 3.7$	Transmit	2.33	0.00	30	-27.67
F _{MID}	2440	$V_{\text{nom}} = 3.7$	Transmit	2.38	0.00	30	-27.62
F _{HIGH}	2480	$V_{nom} = 3.7$	Transmit	2.39	0.00	30	-27.61
Comment:							



3.4 Test Conditions and Results – Power spectral density

Power spectral density acc. to	Verdict: PASS				
EUT requirement	Reference				
rule parts and clause	FCC 15.247(e) / IC RSS-210 A8.2				
Test according to	Reference Method				
measurement reference	FCC KDB Publication No. 558074				
T	Tested frequencies				
Test frequency range	F _{LOW} / F _{MID} / F _{HIGH}				
Measurement mode	Peak				
	Limits				
	8 dBm / 3 kHz				
	Test setup				
	Spectrum Analyzer EUT				
Test procedure					

Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Center frequency set to test channel center frequency
- 3. Span is set large enough to capture maximum emissions in passband, RBW is set to 3kHz
- 4. Peak power density is determined from peak emission of envelope

Test results								
Channel	Frequency [MHz]	Test mode	Peak frequency [MHz]	Peak power density [dBm]	Limit [dBm/3kHz]	Margin [dB]		
F _{LOW}	2402	Transmit	2399.986	2.24	8.0	-05.76		
F _{MID}	2440	Transmit	2439.991	2.36	8.0	-05.64		
F _{HIGH}	2480	Transmit	2480.022	2.35	8.0	-05.65		
Comments:								



3.5 Test Conditions and Results – AC power line conducted emissions

Power line conducte	07 / IC RSS-Gen	Verdict: PASS				
Test according referenced standards			Reference Method			
				ANSI C63.4		
Fully configured sample	e scanned over		F	requency range		
the following freque	ency range		0.1	5 MHz to 30 MHz		
Points of Application			Ар	plication Interface		
AC Mains	3		LISN			
EUT test mo	ode	AC power line				
		Limits	s and results			
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result	
0.15 to 5	66 to 56	*	PASS	56 to 46*	PASS	
0.5 to 5	56		PASS	46	PASS	
5 to 30	60		PASS	50	PASS	
Comments: * Limit decreases linearly with the logarithm of the frequency.						



Conducted Emissions

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1409-4154

Manufacturer: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

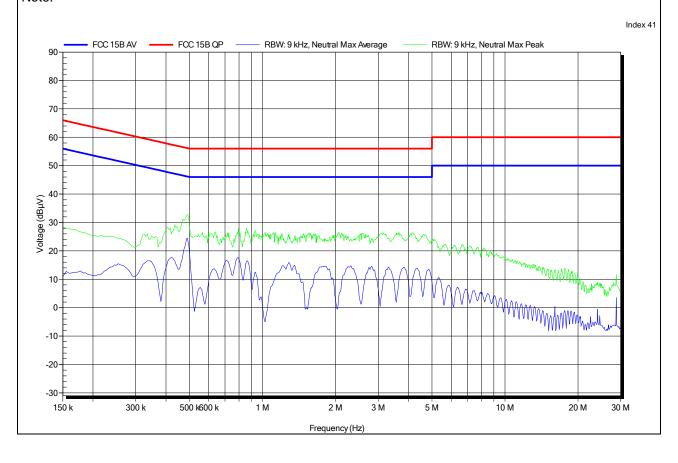
Test Site: Eurofins Product Service GmbH

Operator: Klein

Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC-DC Adpater)

LISN: ESH2-Z5 N Mode: charging Test Date: 2014-12-30

Note:





Conducted Emissions

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1409-4154

Manufacturer: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

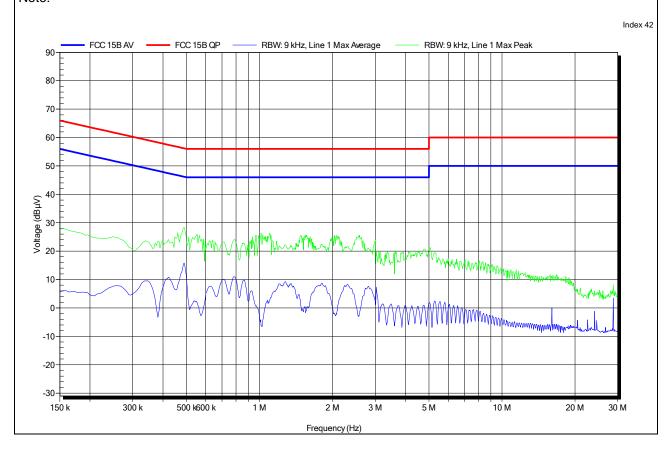
Test Site: Eurofins Product Service GmbH

Operator: Klein

Test Conditions: Tnom: 23°C, Unom: 120 VAC (AC-DC Adpater)

LISN: ESH2-Z5 L Mode: charging Test Date: 2014-12-30

Note:





3.6 Test Conditions and Results – Band edge compliance

Band-edge compliance acc. FCC 15.247 / IC RSS-210 Verdict: PASS				
EUT requirement		Reference		
rule parts and clause		FCC 15.247(d) / IC RSS-210 A8.5		
Test according to		Reference Method		
measurement reference		FCC KDB Publication No. 558074		
Toot fraguency range		Tested frequencies		
Test frequency range	F _{LOW} / F _{HIGH}			
Measurement mode		Peak		
	Lin	nits		
Limit		Condition		
≤ -20 dB / 100 kHz		Peak power measurement detector = Peak		
≤ -30 dB / 100 kHz		Peak power measurement detector = RMS		
Test setup				
	pectrum nalyzer	EUT		

Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Span set around lower band edge and detector is set to peak and max hold
- 3. Resolution bandwidth is set to 100 kHz
- 4. Markers are set to peak emission levels within frequency band and outside frequency band
- 5. Band edge attenuation is determined from level difference

Test results								
Channel	Frequency [MHz]	Mode	Level [dBc]	Limit [dBc]	Margin [dB]			
F _{LOW}	2402	Transmit	-44.38	-20	-24.38			
F _{HIGH}	2480	Transmit	-59.18	-20	-39.18			
Comments:								



Band-edge compliance

Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

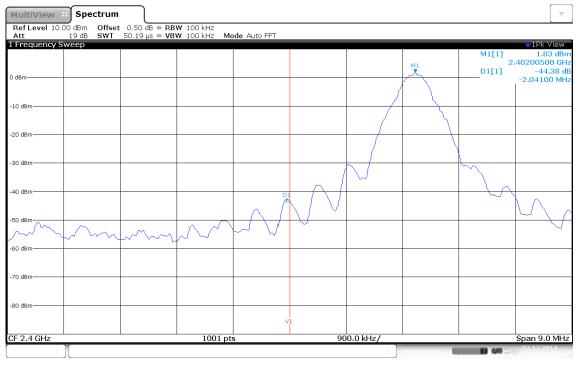
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2402 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: 558074 D01 Meas Guidance

Note 2: lower Band-edge, conducted measurement



Limit: Marker Delta value >20 dB; Result: PASS

Date: 2.DEC.2014 16:14:47



Band-edge compliance

Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

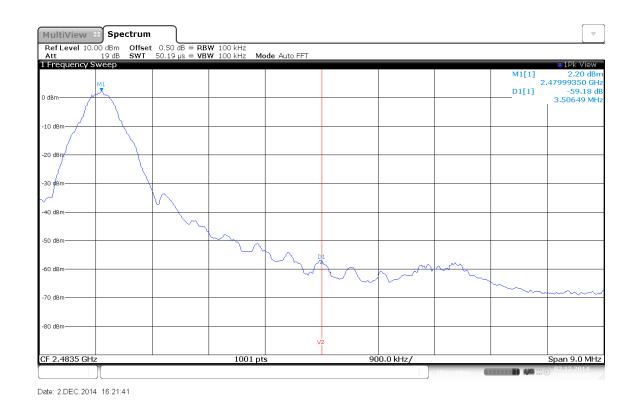
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2480 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: 558074 D01 Meas Guidance

Note 2: upper Band-edge, conducted measurement





3.7 Test Conditions and Results - Conducted spurious emissions

Conducted spurious emissions acc. to FCC 15.247 / IC RSS-210 Verdict: PASS						
EUT requirement rule parts and clause	Reference					
	FCC 15.247(d) / IC RSS-210 A8.5					
Test according to measurement reference	Reference Method					
	FCC KDB Publication No. 558074					
Test frequency range	Tested frequencies					
	10 MHz – 10 th Harmonic					
Measurement mode	Peak					
Limits						
Limit		Condition				
≤ -20 dB / 100 kHz		Peak power measurement detector = Peak				
≤ -30 dB /100 kHz		Peak power measurement detector = RMS				
Test setup						
Spectrum Analyzer EUT						
Toot precedure						

Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Span it set according to measurement range
- 3. Resolution bandwidth is set to 100 kHz and detector to peak and max hold
- 4. Markers are set to peak emission levels within frequency band
- 5. Emission level is determined by second marker on emission peak
- 6. Attenuation is determined from level difference

Test results									
Channel	Frequency [MHz]	Mode	Emission [MHz]	Emission Level [dbm]	Peak power [dBm]	Limit [dBm]	Margin [dB]		
F _{LOW}	2402	Transmit	7205.7	-48.32	2.1	-17.9	-30.42		
F _{MID}	2440	Transmit	7319.1	-50.48	2.4	-17.6	-32.88		
F _{HIGH}	2480	Transmit	7440.8	-54.23	2.3	-17.7	-36.53		
Comments:									



Conducted spurious emissions - F_{LOW}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

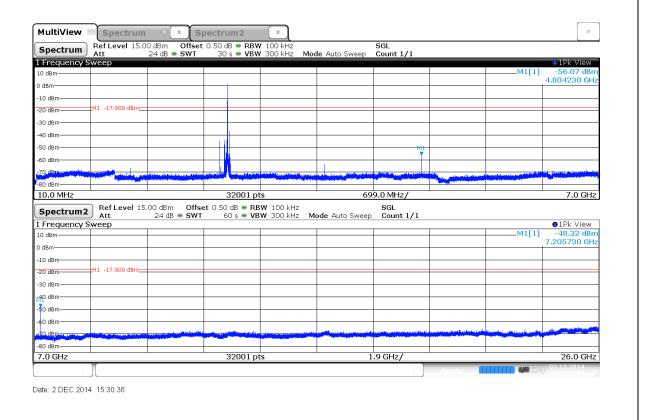
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2402 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)

Note 2: conducted measurement





Conducted spurious emissions - F_{MID}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

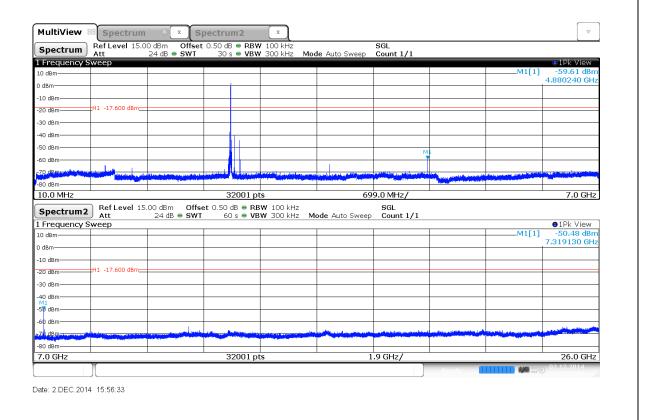
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2440 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)

Note 2: conducted measurement





Conducted spurious emissions - FHIGH

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1408-4154

Applicant: Amor Gummiwaren EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

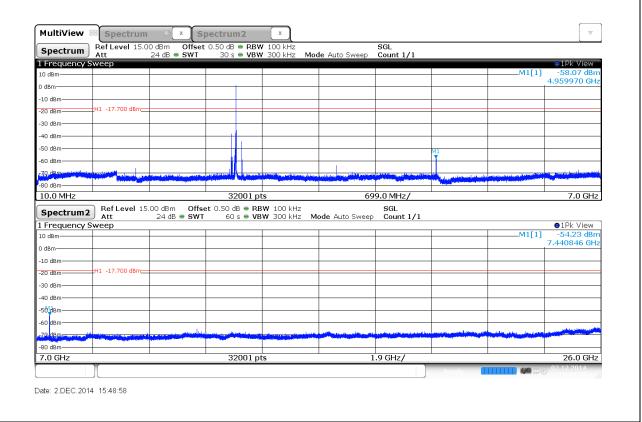
Operator: Wilfried Treffke Test Conditions: Tnom / Vnom

Mode: Tx, BTLE, 2480 MHz, modulated

Test Date: 2014-12-02 Verdict: PASS

Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)

Note 2: conducted measurement



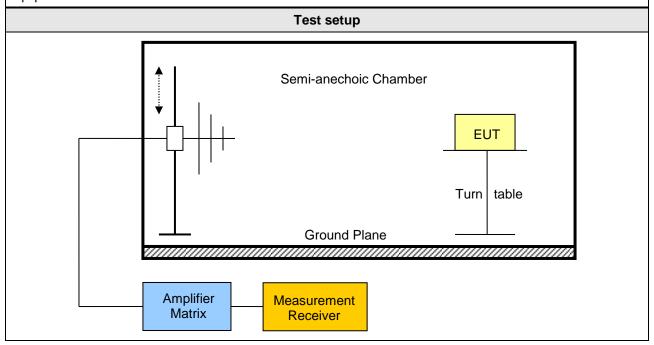


3.8 Test Conditions and Results - Transmitter radiated emissions

Transmitter radiated emissions acc. FCC 47 CFR 15.247 / IC RSS-210 Verdict: PASS							
Test according referenced standards		Reference Method					
		FCC 15.247(d) / IC RSS-210 A8.5					
Test according to measurement reference		Reference Method					
		FCC KDB Publication No. 558074 / ANSI C63.4					
Test frequency range		Tested frequencies					
		30 MHz – 10 th Harmonic					
Limits							
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]			
30 – 88	Quasi-Peak	100	40	3			
88 – 216	Quasi-Peak	150	43.5	3			
216 – 960	Quasi-Peak	200	46	3			
960 – 1000	Quasi-Peak	500	54	3			
> 1000	Average	500	54	3			

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.





Product Service

Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Span it set according to measurement range
- 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz
- 4. Markers are set to peak emission levels within restricted bands

Test results									
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Limit dist. [m]*	Margin [dB]
F_{LOW}	2402	Transmit	1406	47.59	pk	hor	74.00	3	-26.41
F_{LOW}	2402	Transmit	2324	50.49	pk	ver	74.00	3	-23.51
F _{LOW}	2402	Transmit	2324	26.53	RMS	ver	54.00	3	-27.47
F_{LOW}	2402	Transmit	2324	56.18	pk	hor	74.00	3	-17.82
F_{LOW}	2402	Transmit	2324	30.36	RMS	hor	54.00	3	-23.64
F_{LOW}	2402	Transmit	2380	48.95	pk	ver	74.00	3	-25.05
F_{LOW}	2402	Transmit	2380	25.75	RMS	ver	54.00	3	-28.25
F _{LOW}	2402	Transmit	2380	53.87	pk	hor	74.00	3	-20.13
F _{LOW}	2402	Transmit	2380	28.12	RMS	hor	54.00	3	-25.88
F _{LOW}	2402	Transmit	2400	88.00	pk	ver	95.00	3	-07.00
F _{LOW}	2402	Transmit	2400	88.01	pk	hor	95.00	3	-06.99
F _{LOW}	2402	Transmit	4800	51.45	pk	hor	74.00	3	-22.55
F _{LOW}	2402	Transmit	4800	43.92	pk	ver	74.00	3	-30.08
F _{LOW}	2402	Transmit	7192	48.88	pk	ver	95.00	3	-46.12
F _{LOW}	2402	Transmit	7200	50.18	pk	hor	95.00	3	-44.82
F _{MID}	2440	Transmit	4880	47.97	pk	ver	74.00	3	-26.03
F_{MID}	2440	Transmit	4880	55.68	pk	hor	74.00	3	-18.32
F _{MID}	2440	Transmit	4880	38.22	avg	hor	54.00	3	-15.78
F _{MID}	2440	Transmit	7320	50.34	pk	ver	74.00	3	-23.66
F _{MID}	2440	Transmit	7320	52.57	pk	hor	74.00	3	-21.43
F _{HIGH}	2480	Transmit	2483.5	52.36	pk	ver	74.00	3	-21.64
F _{HIGH}	2480	Transmit	2483.5	38.14	RMS	ver	54.00	3	-15.86
F _{HIGH}	2480	Transmit	2483.5	59.56	pk	hor	74.00	3	-14.44
F _{HIGH}	2480	Transmit	2483.5	44.67	RMS	hor	54.00	3	-09.33
F _{HIGH}	2480	Transmit	2495	54.03	pk	hor	74.00	3	-19.97
F _{HIGH}	2480	Transmit	2495	26.21	RMS	hor	54.00	3	-27.79
F _{HIGH}	2480	Transmit	2495.9	48.04	pk	ver	74.00	3	-25.96
F _{HIGH}	2480	Transmit	2495.9	25.29	RMS	ver	54.00	3	-28.71
F _{HIGH}	2480	Transmit	2497	52.12	pk	hor	74.00	3	-21.88

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F _{HIGH}	2480	Transmit	2497	25.27	RMS	hor	54.00	3	-28.73
F _{HIGH}	2480	Transmit	2500	51.82	pk	ver	74.00	3	-22.18
F _{HIGH}	2480	Transmit	2500	56.89	pk	hor	74.00	3	-17.11
F _{HIGH}	2480	Transmit	2569	51.95	pk	ver	95.00	3	-43.05
F _{HIGH}	2480	Transmit	2569	55.56	pk	hor	95.00	3	-39.44
F _{HIGH}	2480	Transmit	4952	47.57	pk	ver	74.00	3	-26.43
F _{HIGH}	2480	Transmit	4961	55.72	pk	hor	74.00	3	-18.28
F _{HIGH}	2480	Transmit	4961	36.34	avg	hor	54.00	3	-17.66
F _{HIGH}	2480	Transmit	7432	51.70	pk	hor	74.00	3	-22.30
F _{HIGH}	2480	Transmit	7440	48.58	pk	ver	74.00	3	-25.42
Commonto:	Comments * Dhysical distance between FUT and measurement enterns								

Comments: * Physical distance between EUT and measurement antenna.



Test Conditions and Results - Receiver radiated emissions 3.9

Receiver radiated emiss	ions acc. IC	RS	S-210			Verdict: PASS		
Test according referenced standards			Reference Method					
			IC RSS-210 A8.5					
Test according to			Reference Method					
measurement reference			ANSI C63.4					
Test frequency ran	one.			Te	ested frequencies			
rest frequency fair	ige			30 I	MHz – 3 th Harmonic			
EUT test mode					Receive			
			Limits					
Frequency range [MHz]	Detector		Limit [µV/m]		Limit [dBµV/m]	Limit Distance [m]		
30 – 88	Quasi-Pea	ık	100		40	3		
88 – 216	Quasi-Pea	ık	150		43.5	3		
216 – 960 Quasi-		ık	200		46	3		
960 – 1000	Quasi-Pea	ık	500		54	3		
> 1000	Average		500		54	3		
			Test setup					
	<u></u>	S	Semi-anechoic C		EUT Turn table	-		
Amplifier Measurement Receiver								



Test procedure

- 1. EUT set to receive mode (Communication tester is used if needed)
- 2. Span it set according to measurement range
- 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz
- 4. Markers are set to peak emission levels

Test results								
Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbµV/m]	Det.	Limit [µV/m]	Margin [μV/m]		
F _{MID}	2440	2788	38.6	pk	54	-15.40		

Comments:

^{*} Physical distance between EUT and measurement antenna.

^{**} Emission level corresponds to ambient noise floor



ANNEX A Transmitter radiated spurious emissions

Spurious emissions according to FCC 15B

Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

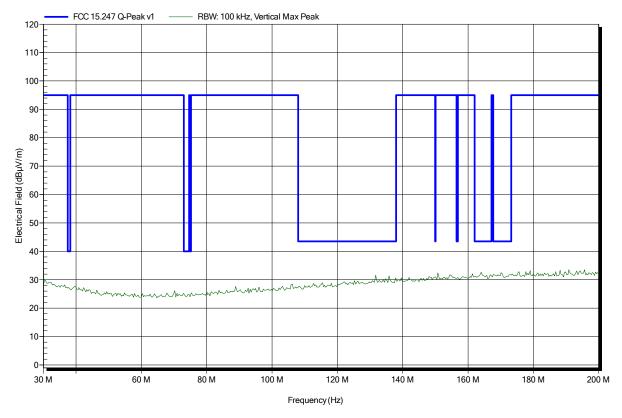
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Rohde & Schwarz HK 116, Vertical

Measurement distance: 3 m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-07 Note: maximum





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

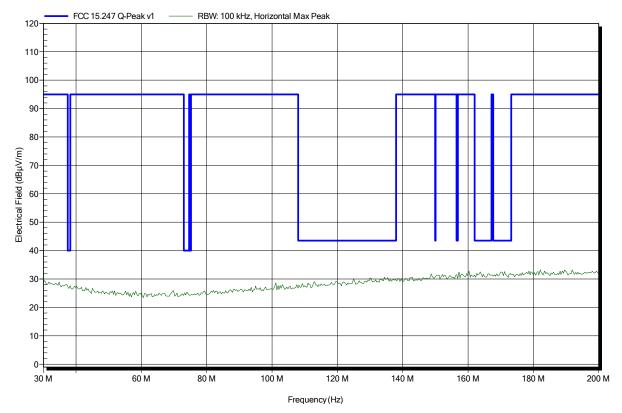
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Rohde & Schwarz HK 116, Horizontal

Measurement distance: 3 n

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-07 Note: maximum





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

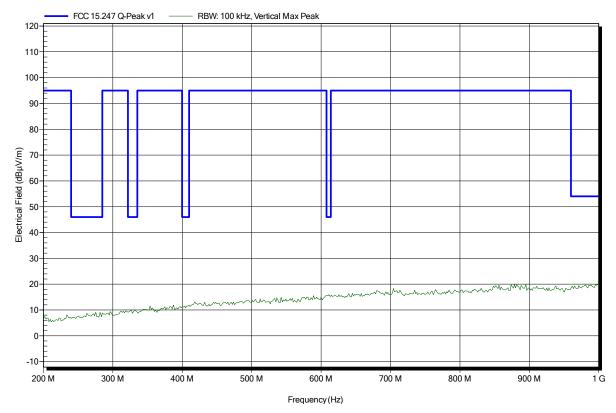
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Rohde & Schwarz HL 223, Vertical

Measurement distance: 3 r

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06 Note: maximum





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

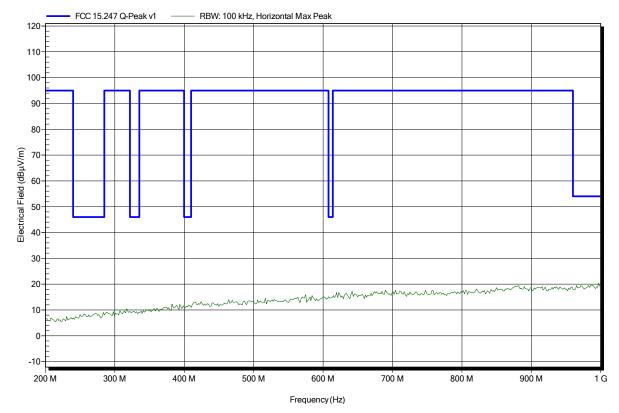
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery
Antenna: Rohde & Schwarz HL 223, Horizontal

Measurement distance: 3 n

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-07 Note: maximum





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

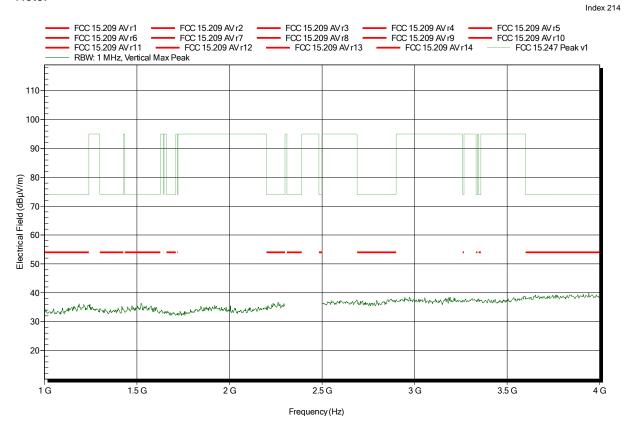
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

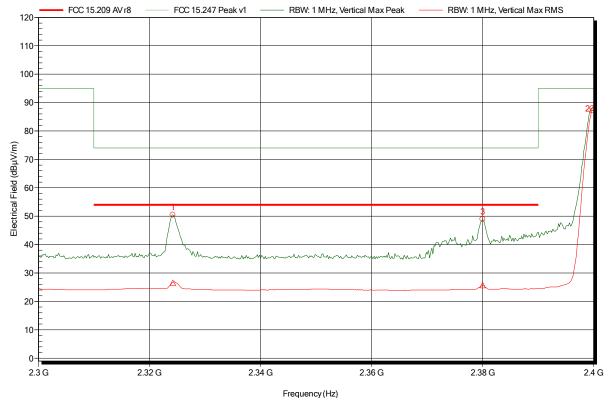
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06 Note: lower bandedge



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.324 GHz	50.49 dBμV/m	74 dBμV/m	-23.51 dB	Pass
2.38 GHz	48.95 dBμV/m	74 dBμV/m	-25.05 dB	Pass
2.4 GHz	88 dBμV/m	95 dBμV/m	-7 dB	Pass
Frequency 2.324 GHz 2.38 GHz 2.4 GHz	RMS 26.53 dBµV/m 25.75 dBµV/m 87.51 dBµV/m	RMS Limit 54 dBµV/m 54 dBµV/m	RMS Difference -27.47 dB -28.25 dB	RMS Status Pass Pass



Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

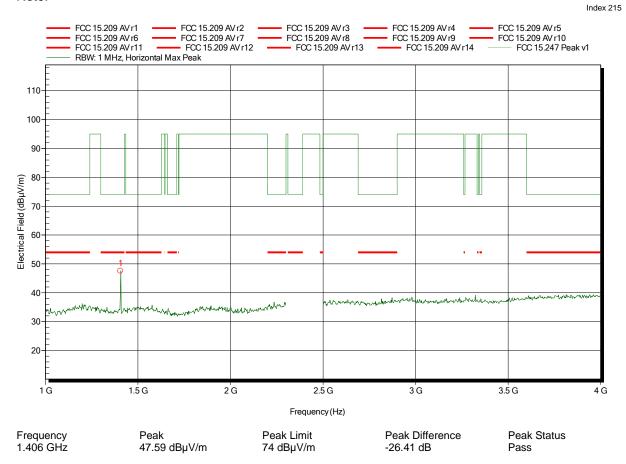
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

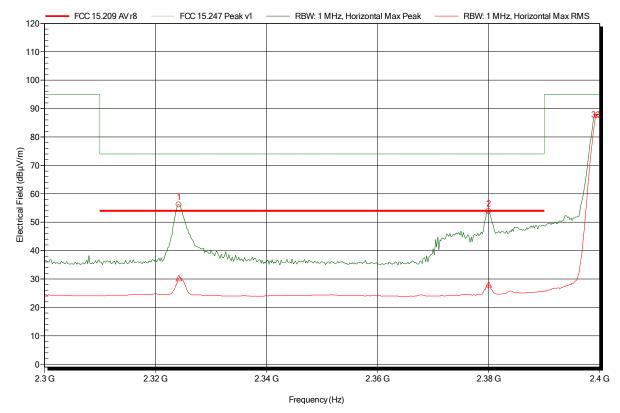
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06 Note: lower bandedge



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.324 GHz	56.18 dBμV/m	74 dBμV/m	-17.82 dB	Pass
2.38 GHz	53.87 dBμV/m	74 dBμV/m	-20.13 dB	Pass
2.4 GHz	88.01 dBμV/m	95 dBμV/m	-6.99 dB	Pass
Frequency 2.324 GHz 2.38 GHz 2.4 GHz	RMS 30.36 dBμV/m 28.12 dBμV/m 87.82 dBμV/m	RMS Limit 54 dBμV/m 54 dBμV/m	RMS Difference -23.64 dB -25.88 dB	RMS Status Pass Pass



Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

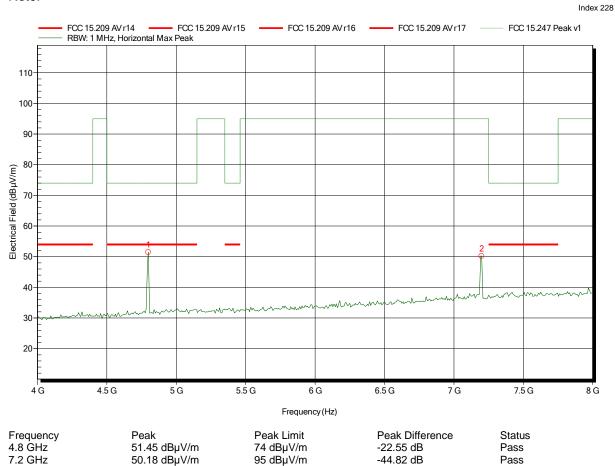
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

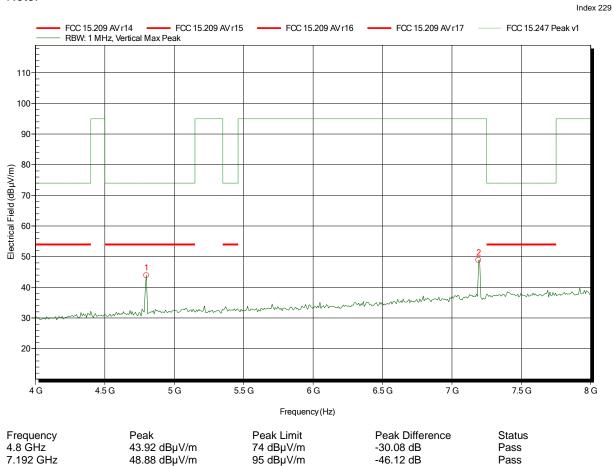
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

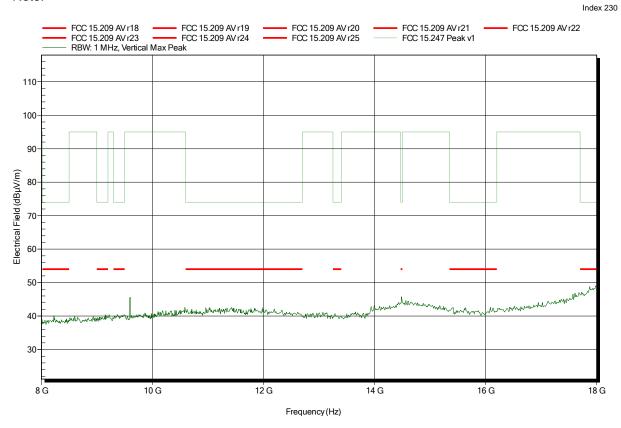
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

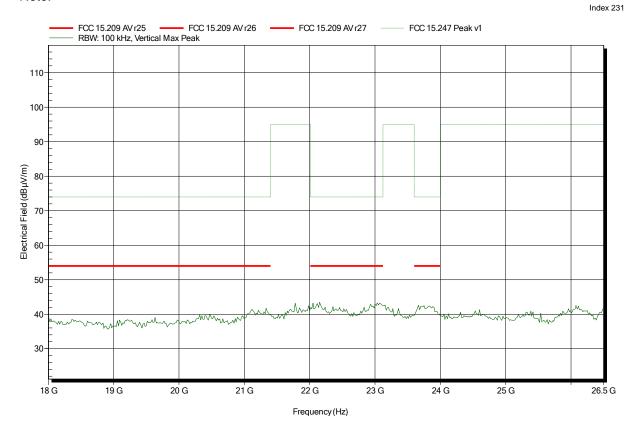
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

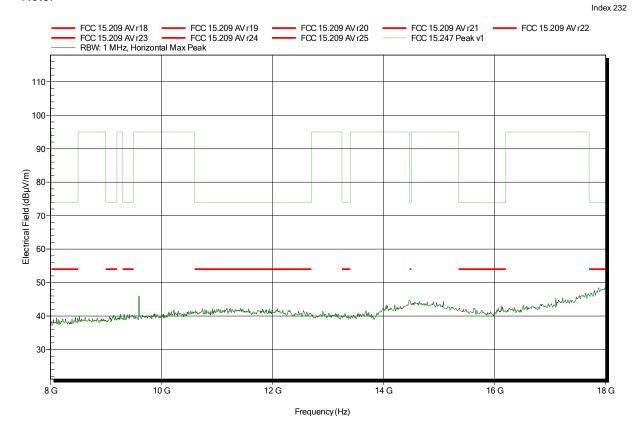
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

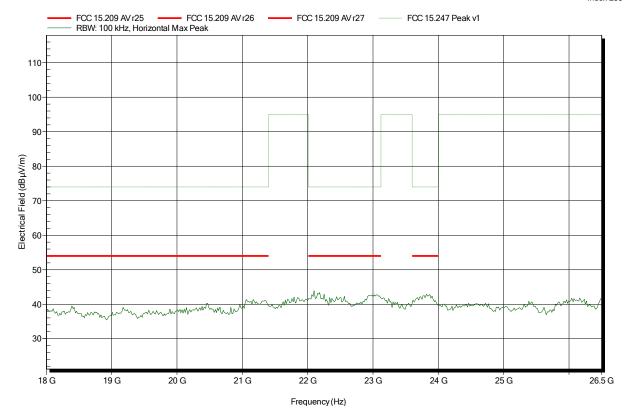
Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery
Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2402MHz, 1Mbps, Pmax

Test Date: 2015-01-06

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

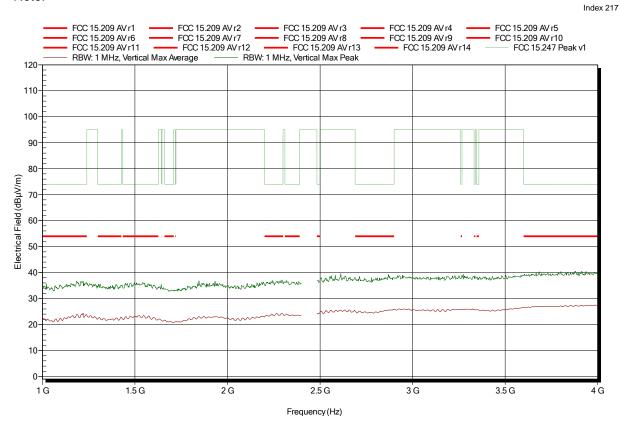
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

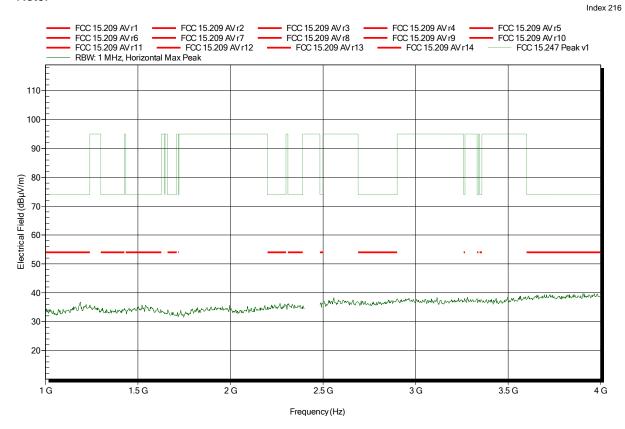
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

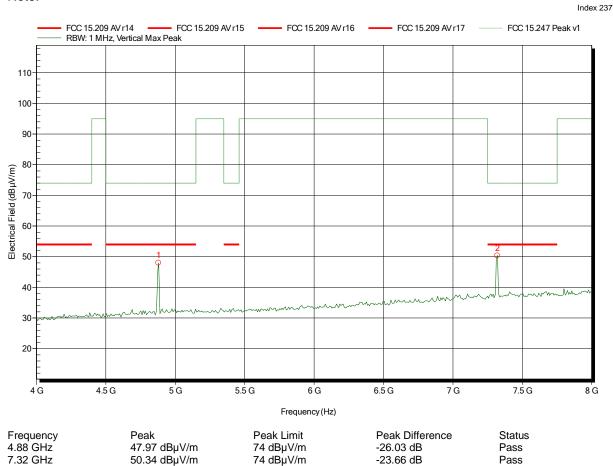
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

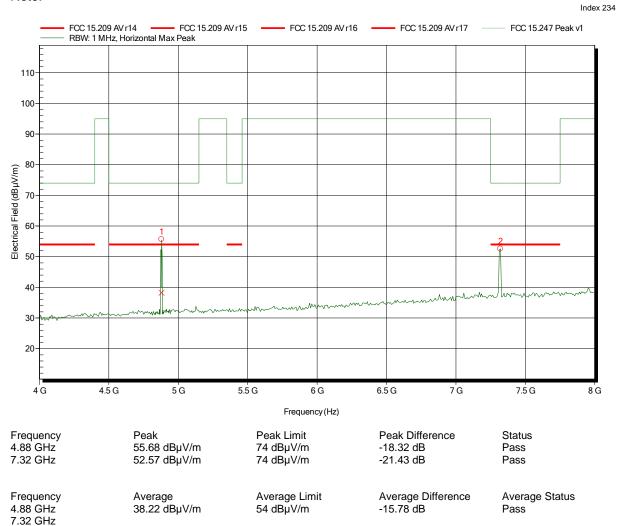
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

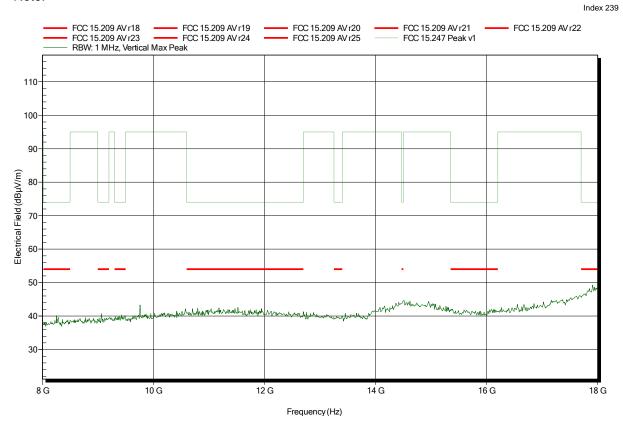
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

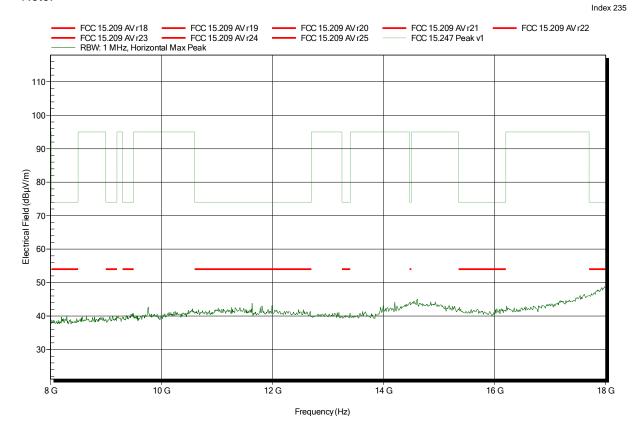
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

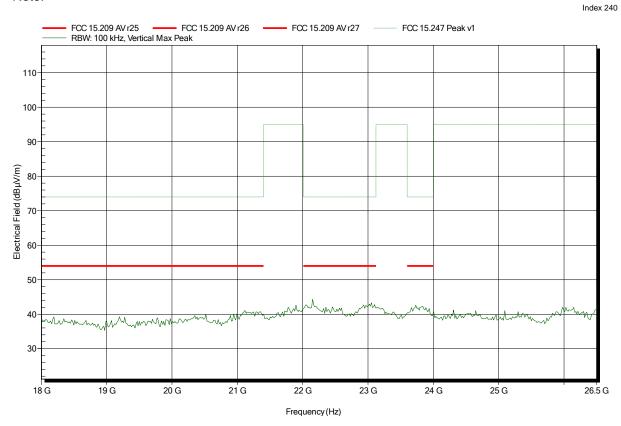
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

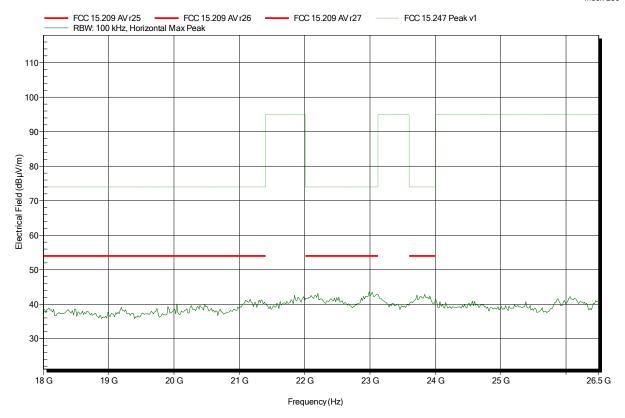
Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery
Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2440MHz, 1Mbps, Pmax

Test Date: 2015-01-06

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

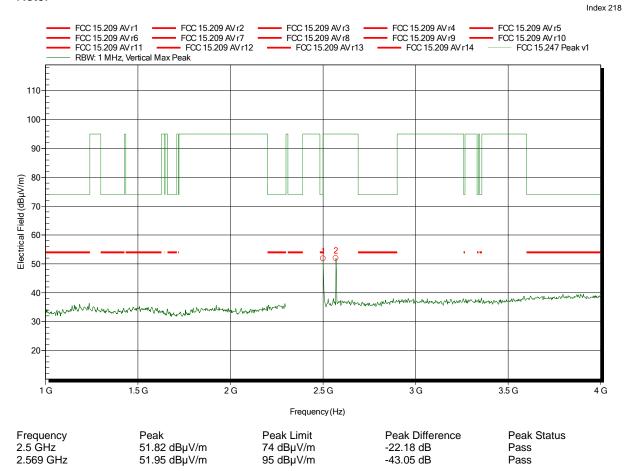
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

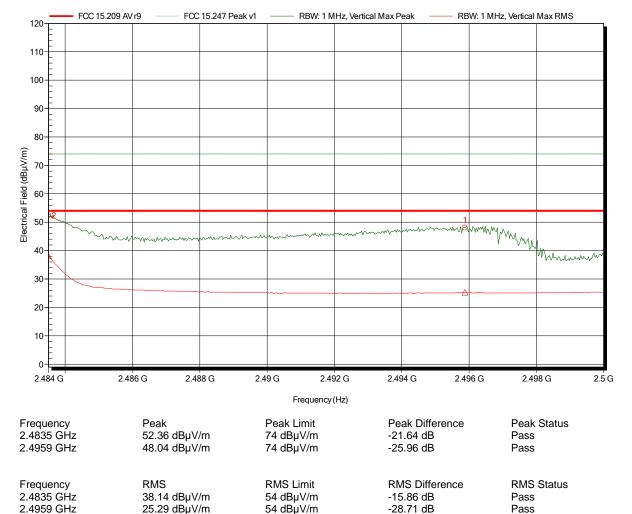
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06 Note: upper bandedge





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

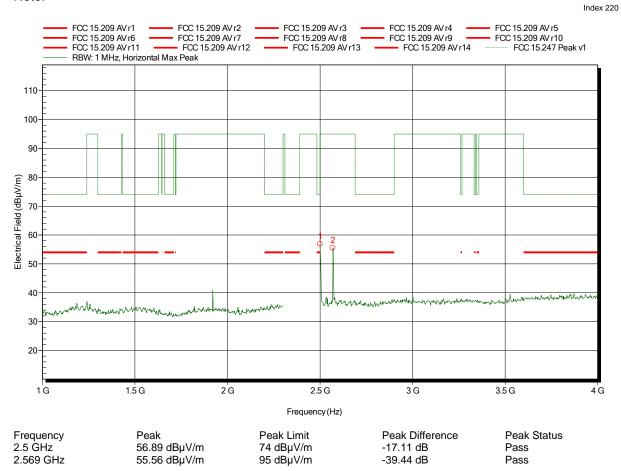
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

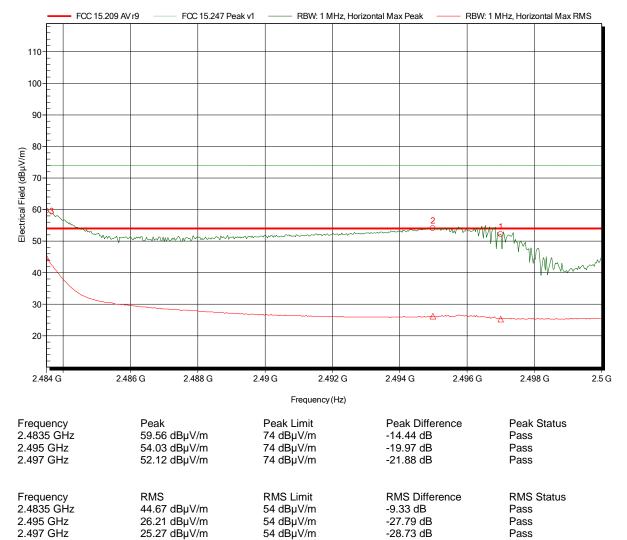
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 n

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06 Note: upper bandedge





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

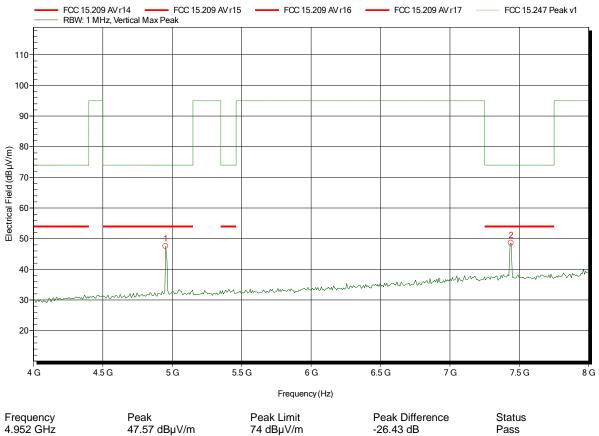
Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Schwarzbeck BBHA 9120D, Vertical Antenna:

Measurement distance: 1 m converted to 3m

TX; 2480MHz, 1Mbps, Pmax Mode:

Test Date: 2015-01-06

Note: Index 241



7.44 GHz

 $48.58~dB\mu V/m$

 $74 \; dB\mu V/m$

-25.42 dB

Pass



Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

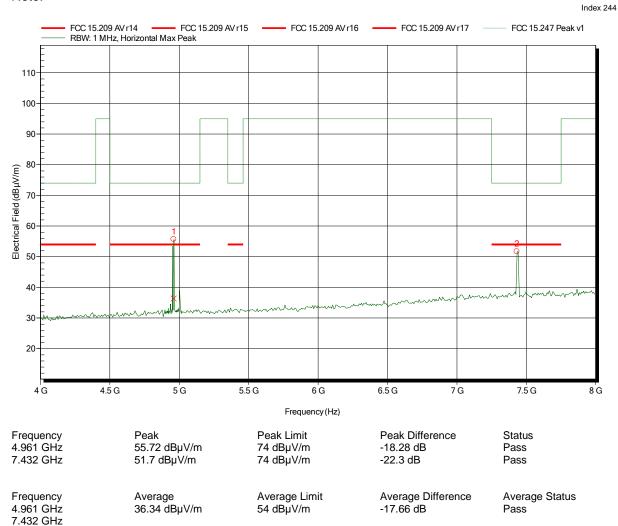
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

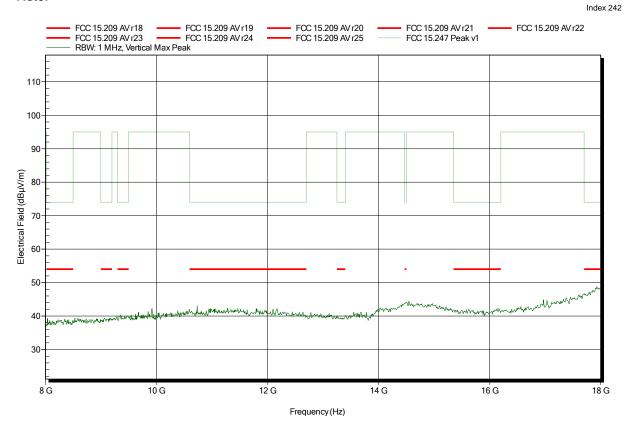
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

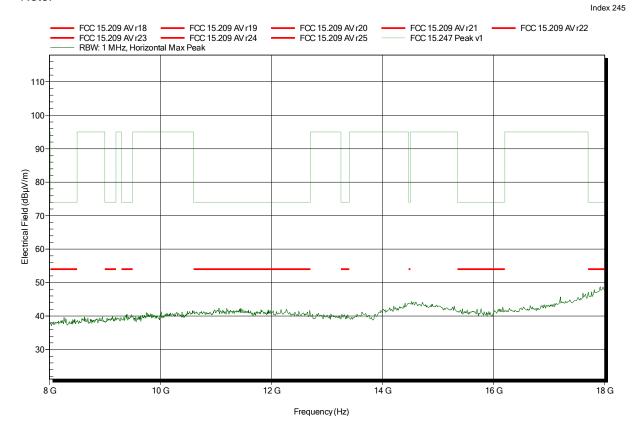
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

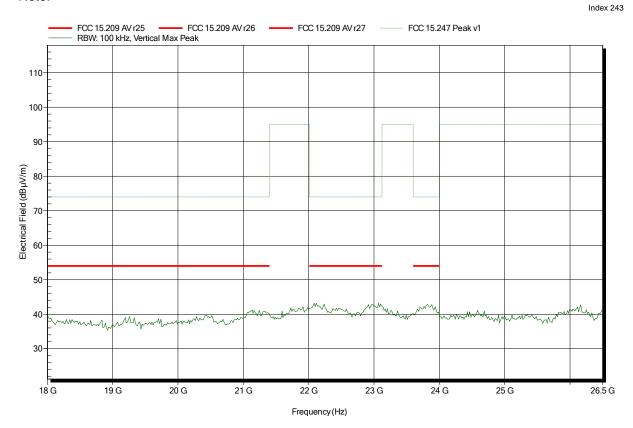
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

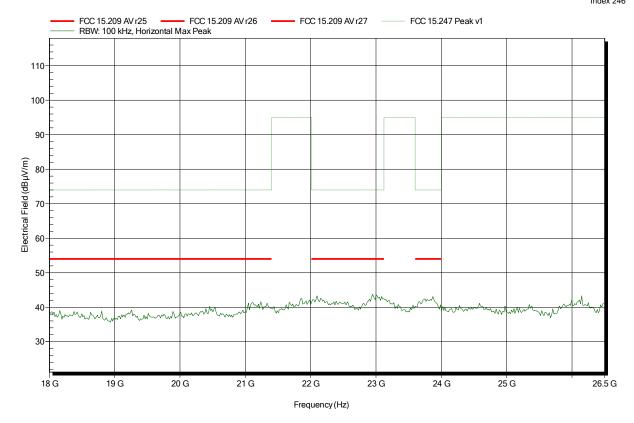
Test Conditions: Tnom: 22°C, Vnom: 3.0VDC battery
Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; 2480MHz, 1Mbps, Pmax

Test Date: 2015-01-06

Note:







ANNEX B Receiver radiated spurious emissions

Spurious emissions according to RSS-GEN

Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

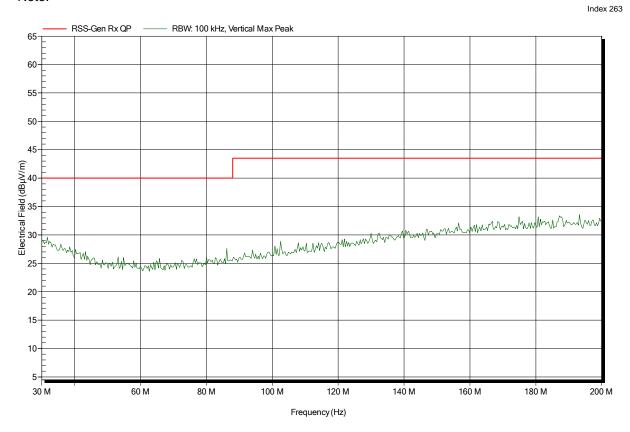
Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Rohde & Schwarz HK 116, Vertical

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Rohde & Schwarz HK 116, Horizontal

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:

RSS-Gen Rx QP - RBW: 100 kHz, Horizontal Max Peak 55-50-45-man de la company de la compan 20-15-10-60 M 80 M 100 M 120 M 140 M 160 M 180 M 30 M 200 M Frequency (Hz)



Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

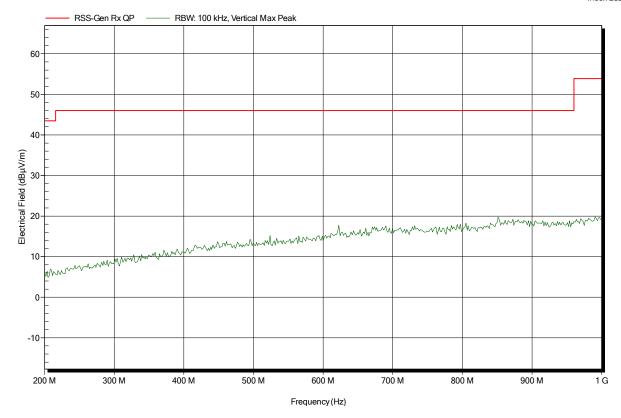
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Rohde & Schwarz HL 223, Vertical

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

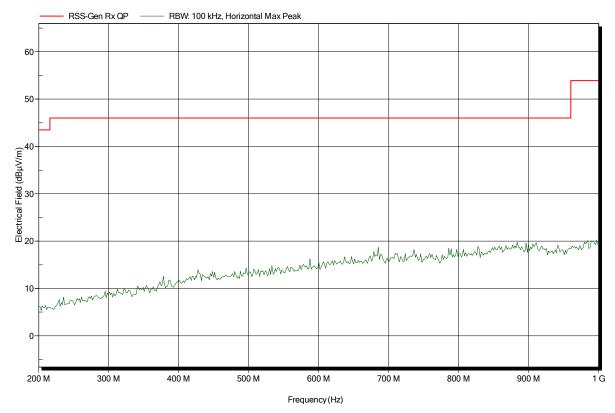
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Rohde & Schwarz HL 223, Horizontal

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

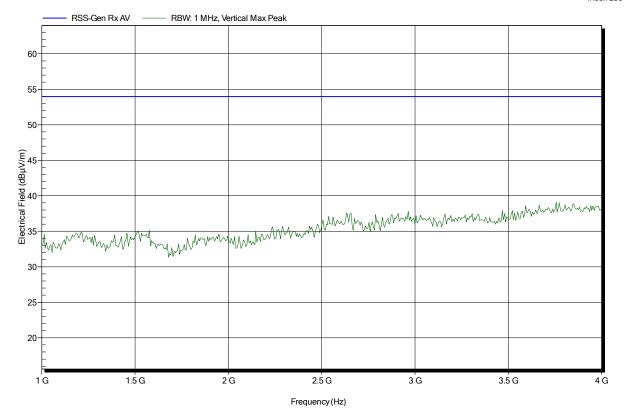
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

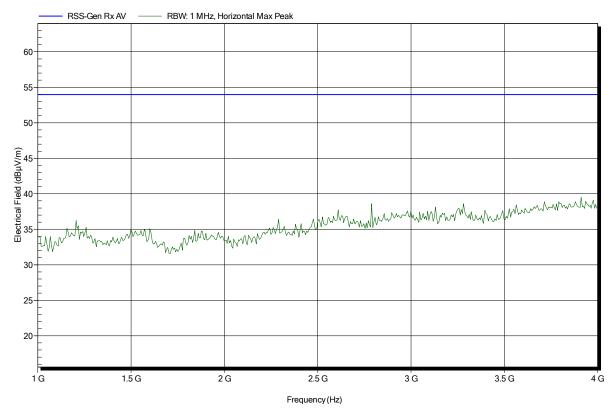
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

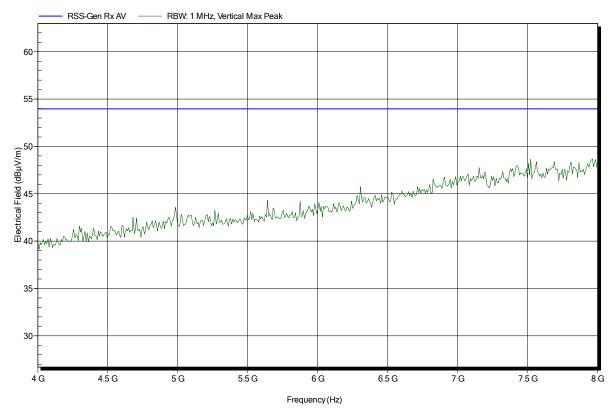
Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:





Project number: G0M-1409-4154

Applicant: Amor Gummiwaren GmbH

EUT Name: electric device

Model: Duo

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 3.7VDC battery Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

Mode: RX; 2440MHz Test Date: 2015-01-07

Note:

