

Test report

Number:	T251-0155/19	Project file: Date: Pages:	C20190043 2019-02-26 90
Product:	RF transmitter for Anemometer		
Type reference:	WS 010-2, WSD 011-2		
Ratings:	3,6 V Li-SOCI ₂ battery (AA) Protection class: III		
Trademark:	NAVIS		
Applicant:	Navis elektronika, podjetje za elektroniko o Poljska cesta 11, SI-1241 Kamnik, Slovenia	1.0.0. 1	
Manufacturer:	Navis elektronika, podjetje za elektroniko d.o. Poljska cesta 11, SI-1241 Kamnik, Slovenia	0.	
Place of manufacture:	Navis elektronika, podjetje za elektroniko d.o. Poljska cesta 11, SI-1241 Kamnik, Slovenia	0.	
Summary of testing			
Testing method:	47 CFR Part 15, Subpart C		
Testing location:	SIQ Ljubljana, Trpinčeva ulica 37 A, SI-1000 Rev. 1: SIQ Ljubljana, Mašera-Spasićeva ulic Slovenia	Ljubljana, Slovenia a 10, SI-1000 Ljul	a oljana,
Remarks:	Date of receipt of test items: 2017-01-03; Rev Number of items tested: 5; Rev. 1: 2 Date of performance of tests: 2017-01-03 - 20 Rev. 1: 2019-01	. 1: 2019-01-14)17-01-13, 2017-0 -15 – 2019-01-16	3-21
	The test results presented in this report relate	only to the items	tested.
	The product complies with the requirements c	f the testing meth	ods.

Tested by: Andrej Škof

Approved by: Marjan Mak

The report shall not be reproduced except in full.

Page: 2 (90)

CONTENTS

<u>1</u>	GENERAL	3
1.1 1.2	EQUIPMENT UNDER TEST GENERAL PRODUCT INFORMATION	3 3
<u>2</u>	TEST SUMMARY	4
2.1	OPERATING VOLTAGES/FREQUENCIES USED FOR TESTING	4
<u>3</u>	EMISSION TESTS (INTENTIONAL RADIATORS)	5
3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.1 3.1	 §15.203 ANTENNA REQUIREMENTS §15.207 CONDUCTED EMISSION §15.247 (A) (1) 20 DB BANDWIDTH §15.247 (A) (1) TIME OF OCCUPANCY (DWELL TIME) §15.247 (A) (1) NUMBER OF HOPPING FREQUENCIES §15.247 (A) (1) CARRIER FREQUENCY SEPARATION §15.247 (A) (1) PSEUDORANDOM FREQUENCY HOPPING SEQUENCE AND EQUAL HOOPING FREQUENCY USE §15.247 (B) PEAK POWER OUTPUT §15.247 (C) SPURIOUS RF CONDUCTED EMISSIONS 0 §15.247 RADIATED SPURIOUS EMISSIONS 1 §15.247 (I) RF EXPOSURE COMPLIANCE REQUIREMENTS 	5 5 9 15 18 21 22 26 27 89
<u>4</u>	TEST EQUIPMENT	90



page



1 GENERAL

History sheet			
Date	Report No.	Change	Revision
2017-03-21	T251-0042/17	Initial Test Report issued.	
2019-02-26	T251-0155/19	Update of initial test report due to the following changes: Changed has been made on printed circuit board in the sense of added battery holder on printed circuit board. Printed circuit board has been prolonged for that reason. Electronic part of PCB is unchanged - components layout is same. Minor design change has also been made on sensor wind vane. After review, the following test was repeated: Radiated spurious emission Changes in report are marked Rev. 1.	1.0

Environmental conditions:

Ambient temperature: 15°C to 35°C Relative humidity: 30% to 60% Atmospheric pressure: 860 mbar to 1060 mbar

1.1 Equipment under test

RF transmitter for Anemometer

Type: WSD 011-2

NOTE: Difference between WS 010-2 and WSD 011-2 is in angle measurement. WSD 011-2 include's additional electrical circuit with angle sensor, added wind vane and different mounting holder for wind sensor. Since WS 010-2 has identical RF circuitry it is also covered by this test report.

Tested SIQ sample number: S20170016 Rev. 1: S20190434, S20190436

1.2 General product information

Serial number:	Prototype	
Supply voltage:	3.6 V Li-SOCI2 battery (AA)	
Transmitter, Receiver,	Transmitter	
Transceiver, Simplex, Duplex		
Rated RF output power:	< 1 W peak conducted power	
Modulation type:	2G FSK	
Operating frequency:	908.4 MHz – 915.8 MHz	
Channel separation:	150 kHz	
Number of channels:	50	
Antenna type:	Internal	
FCC ID:	2AK8G-NAVIS-WS01	

Page: 4 (90)



2 TEST SUMMARY

STANDARD	Test yes	ed no	Saı pass	mple not pass
FCC 47 CFR Part 15, Subpart C, §15.247 Note: All tests were conducted using ANSI C63.10-2013	Ø		V	

Test	Conclusion
§15.203 Antenna requirements	PASS
§15.207 Conducted emission	N/A
§15.247 (a) (1) 20 dB Bandwidth	PASS
§15.247 (a) (1) Time of Occupancy (Dwell Time)	PASS
§15.247 (a) (1) Number of Hopping Frequencies	PASS
§15.247 (a) (1) Carrier Frequency Separation	PASS
§15.247 (a) (1) Pseudorandom Frequency Hopping Sequence and Equal Hooping Frequency Use	PASS
§15.247 (b) Peak Power Output	PASS
§15.247 (d) Spurious RF Conducted Emissions	N/A
§15.247 Radiated Spurious Emissions	PASS
§15.247 (i) RF Exposure Compliance Requirements	PASS

2.1 Operating voltages/frequencies used for testing

Test	Operating conditions
§15.203 Antenna requirements	/
§15.207 Conducted emission	/
§15.247 (a) (1) 20 dB Bandwidth	3.6 Vdc
§15.247 (a) (1) Time of Occupancy (Dwell Time)	3.6 Vdc
§15.247 (a) (1) Number of Hopping Frequencies	3.6 Vdc
§15.247 (a) (1) Carrier Frequency Separation	3.6 Vdc
§15.247 (b) Peak Power Output	PASS
§15.247 (d) Spurious RF Conducted Emissions	N/A
§15.247 Radiated Spurious Emissions	3.6 Vdc
§15.247 (i) RF Exposure Compliance Requirements	/



3 EMISSION TESTS (Intentional Radiators)

3.1 §15.203 Antenna requirements

Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Conclusion:

PASS; EUT has an Integral antenna.

3.2 §15.207 Conducted emission

Not applicable due to EUT is battery operated.

Page: 6 (90)



3.3 §15.247 (a) (1) 20 dB Bandwidth

Requirement

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Test procedure:

As per Clause 6.9.2 from ANSII C63.10-2013 and FCC/DA-00-705

Test results

03.Jan 17 13:31

Meas Type	OCCUPIED CHANNEL BANDWIDTH
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH1
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Sweep Settings	Screen A				
Center Frequency	908.400561	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	250.000000	kHz	Ref Position	100.000	olo
Start Frequency	908.275561	MHz	Level Range	70.000	dB
Stop Frequency	908.525561	MHz	RF Att	40.000	dB
RBW	10.000000	kHz			
VBW	30.000000	kHz	X-Axis	LIN	
Sweep Time	10.00 ms		Y-Axis	LOG	



T251-0155/19 Page: 7 (90)



03.Jan 17 13:25

Meas Type	OCCUPIED CHANNEL BANDWIDTH
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH25
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Center Frequency	912.000000	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	250.000000	kHz	Ref Position	100.000	~
Start Frequency	911.875000	MHz	Level Range	70.000	dB
Stop Frequency	912.125000	MHz	RF Att	40.000	dB
RBW	10.000000	kHz			
VBW	30.000000	kHz	X-Axis	LIN	
Sweep Time	10.00 ms		Y-Axis	LOG	



Page: 8 (90)



Meas Type	OCCUPIED CHANNEL BANDWIDTH
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH50
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Sweep Settings Screen A

Center Frequency	915.700000	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	250.000000	kHz	Ref Position	100.000	010
Start Frequency	915.575000	MHz	Level Range	70.000	dB
Stop Frequency	915.825000	MHz	RF Att	40.000	dB
RBW	10.000000	kHz			
VBW	30.00000	kHz	X-Axis	LIN	
Sweep Time	10.00 ms		Y-Axis	LOG	



Tabulated test results

Frequency (MHz)	Occupied bandwidth (kHz)	Limit (kHz)	Conclusion
908.4 (CH1)	112	250	PASS
912.0 (CH25)	112	250	PASS
915.8 (CH50)	113	250	PASS



3.4 §15.247 (a) (1) Time of Occupancy (Dwell Time)

Requirement

If the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a second swithin a 10 second period.

Test procedure:

As per Clause 7.8.4 from ANSII C63.10-2013 and FCC/DA-00-705

Test results

05.Jan 17 07:18

Meas Type	DWELL TIME
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH1
Operator	Andrej Skof
Test Spec	

VERTICAL 100 cm, 0 deg

Sweep Settings Screen A

nter Frequency	908.374519 MHz	Ref Level	118.000 dBµV/m
equency Offset	0.000000 Hz	Ref Level Of	fset 0.000 dB
an	0.000000 Hz	Ref Position	100.000 %
Int Frequency	908.374519 MHz	Level Range	70.000 dB
p Frequency	908.374519 MHz	RF Att	30.000 dB
W	1.000000 MHz		
W	3.000000 MHz	X-Axis	LIN
eep Time	50.00 ms	Y-Axis	LOG
A.		RBW 1 MHz	Deita 2 JT1 1
		VBW 3 MHz	=0.35 dB
Ref 118 dBµV	/m #Att 30 dB	SWT 50 ms	2,724359 ms
			Marker 1 [T1]
			109.01 dBµV/m
_110		1 2	24,439103 ms A.
K			
H			
100			
-100-			TDF
			P S
- 90			
PA IL HULL	and the set of the first of the first	L. Lalon t. Ist rat t	the state of the sector with sector the
when all when you	transpire was a harring the section	up and perturn reperted by have	MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM
-70			
1 1 2 - + - I - +			
1			
- 60			
1 1 1 1 1 1 1 1			

5 ms/

Center 908.3745192 MHz

Page: 10 (90)



Meas Type	NUMBER OF PULSES
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH1
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Center Frequency	908.370000	MHz	Ref Level	117.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	0.000000	Hz	Ref Position	100.000	00
Start Frequency	908.370000	MHz	Level Range	70.000	dB
Stop Frequency	908.370000	MHz	RF Att	10.000	dB
RBW	1.000000	MHz			
VBW	3.000000	MHz	X-Axis	LIN	
Sweep Time	20.00 s		Y-Axis	LOG	



T251-0155/19 Page: 11 (90)

SI®

05.Jan 17 07:22

Meas Type	DWELL TIME
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH25
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Center Frequency	911.970000	MHz	Ref Level	118.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	0.000000	Hz	Ref Position	100.000	olo
Start Frequency	911.970000	MHz	Level Range	70.000	dB
Stop Frequency	911.970000	MHz	RF Att	30.000	dB
RBW	1.000000	MHz			
VBW	3.000000	MHz	X-Axis	LIN	
Sweep Time	50.00 ms		Y-Axis	LOG	



Page: 12 (90)



Meas Type	NUMBER OF PULSES
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH25
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Center Frequency	911.970000	MHz	Ref Level	117.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	0.000000	Hz	Ref Position	100.000	olo
Start Frequency	911.970000	MHz	Level Range	70.000	dB
Stop Frequency	911.970000	MHz	RF Att	10.000	dB
RBW	1.000000	MHz			
VBW	3.000000	MHz	X-Axis	LIN	
Sweep Time	20.00 s		Y-Axis	LOG	



SIQ

Page: 13 (90)

05.Jan 17 07:23

Meas Type	DWELL TIME
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH50
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Center Frequency	915.726000	MHz	Ref Level	118.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	0.000000	Hz	Ref Position	100.000	olo
Start Frequency	915.726000	MHz	Level Range	70.000	dB
Stop Frequency	915.726000	MHz	RF Att	30.000	dB
RBW	1.000000	MHz			
VBW	3.000000	MHz	X-Axis	LIN	
Sweep Time	50.00 ms		Y-Axis	LOG	

Ref 11	l8 dBµV/m	* Att	30 dB	SWT 5	0 ms		2.724	359 ms
-110				_	1	Marke 2	r 1 (T1 108.34 33.333	j dBµV/n 333 me
-100								
-90								
Yuuu uu	ikirtaisun lijkod milik	all the second	liuudahud	in the property with	hulder	Vandur	111 premisibilit	planahila
-70				1				
-60								
5.0								

Page: 14 (90)



Meas Type	NUMBER OF PULSES
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH50
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Sweep Settings Screen A

Center Frequency	915.726000	MHz	Ref Level	117.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	0.000000	Hz	Ref Position	100.000	olo
Start Frequency	915.726000	MHz	Level Range	70.000	dB
Stop Frequency	915.726000	MHz	RF Att	10.000	dB
RBW	1.000000	MHz			
VBW	3.000000	MHz	X-Axis	LIN	
Sweep Time	20.00 s		Y-Axis	LOG	
oncop mine			1 / 000		



Tabulated test results

Frequency (MHz)	Dwell Time (ms)	Number of pulses in 20 seconds	Average time of Occupancy (ms)	Limit (ms)	Conclusion
908.4 (CH1)	2.7	10	27	400	PASS
912.0 (CH25)	2.7	10	27	400	PASS
915.8 (CH50)	2.7	10	27	400	PASS



3.5 §15.247 (a) (1) Number of Hopping Frequencies

Requirement

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies

Test procedure:

As per Clause 7.8.3 from ANSII C63.10-2013 and FCC/DA-00-705

Test results

03.Jan 17 11:19

			05.Jan 1				
leas Type	NUMBER OF CH	HANNELS					
quipment under Test	WSD 011-2						
anufacturer	NAVIS ELEKTRO						
P Condition	Honning enabled						
Perstor	Andrei Skof						
perator	Andrej Skol						
est Spec ERTICAL 100 cm, 0 d	eg						
weep Settings	Screen A						
enter Frequency	912.000000 MHz	Reflevel	114.800 dBuV/m				
requency Offset	0.000000 Hz	Ref Level Offs	et 0.000 dB				
nan	8.000000 MHz	Ref Position	100.000 %				
tart Frequency	908.000000 MHz	Level Range	70.000 dB				
ton Frequency	916.000000 MHz	RE Att	40,000 dB				
	50.000000 LHz	N Au	10.000 00				
	200.000000 kHz	V Avia	T.T.N				
	E 00 mg	X-AXIS	LIN				
PR							
			TDP				
-60			PA PS 3DB				
-60 -60 -50			PA PS SDB AC				
-60 -60 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	cy Level	Son kHz/	TDP PA PS SSB AC Stop 916 MHz Level				
- 50 - 50 - 50 - 50 - 50 - 50 - 50 - 50	Level	500 xHz/ Frequency 13 910.230769 MHz	TDF PA PS 3DB AC Stop 916 MHz Level 105.24 dBu				
- 50 - 60 - 50 - 50 - 50 - 50 - 50 - 50 - 50 - 5	CCY Level	B00 kHz/ B00 kHz/ Frequency 13 910.230769 MHz 14 910.320513 MHz	TDP PA PS SDB AC Stop 916 MHz Level 105.24 dBµ 105.32 dBµ				
- 50 - 60 - 50 - 50 - 50 - 50 - 50 - 50 - 50 - 5	Level MHz 104.30 dBp MHz 105.21 dBp MHz 105.11 dBp	BOO XHEX/ Frequency 13 910.230769 MHz 14 910.320513 MHz 15 910.500000 MHz 15 910.500000 MHz	тре РА РБ ЗВВ АС Stop 916 МНг Level 105.24 dBµ 105.32 dBµ 105.37 dBµ				
- 50 - 60 - 50 - 50 - 50 - 50 - 50 - 50 - 50 - 5	Image: Normal State	* Frequency 000 kHz/ * Frequency 13 910.230769 MHz 14 910.320513 MHz 15 910.500000 MHz 16 910.641026 MHz 16 910.641026 MHz	тре РА РБ ЗВВ АС Stop 916 МНг Level 105.24 dBµ 105.32 dBµ 105.37 dBµ 105.40 dBµ				
- 50 - 60 - 50 - 50 - 50 - 50 - 50 - 50 - 50 - 5	Cy Level	B00 kHz/ B00 kH	TDP PA PS Stop 916 MHz Level 105.24 dBµ 105.32 dBµ 105.34 dBµ 105.44 dBµ 105.45 dBµ 105.46 dBµ 105.46 dBµ				
+00 +00 +00 -00 -00 -00 -00 -00 -00 -00	Image: NHz Image:	B00 kHz/ B00 kHz/ B00 kHz/ Frequency 13 910.230769 MHz 14 910.320513 MHz 15 910.500000 MHz 16 910.641026 MHz 17 910.807692 MHz 18 910.961538 MHz 19 911.076923 MHz	тре РА РА Р5 3DB АС Stop 916 Мнг Level 105.24 dBµ 105.32 dBµ 105.37 dBµ 105.45 dBµ 105.42 dBµ 105.42 dBµ				
+00 +00 +00 -00 -00 -00 -00 -00 -00 -00	Image: Note of the second se	B00 kHz/ B00 kHz/ Frequency 13 910.230769 MHz 14 910.320513 MHz 14 910.320513 MHz 15 910.50000 MHz 16 910.641026 MHz 17 910.807692 MHz 18 910.961538 MHz 15 911.076923 MHz 20 911.230769 MHz	тре РА РА Р5 39B Ас Stop 916 Мнг Level 105.24 dBµ 105.32 dBµ 105.37 dBµ 105.46 dBµ 105.45 dBµ 105.42 dBµ 105.42 dBµ 105.42 dBµ				
+00 +00 +00 -00 -00 -00 -00 -00 -00 -00	Image: Note of the second se	B00 KHZ/ B00 KHZ/ Frequency 13 910.230769 MHZ 14 910.320513 MHZ 14 910.320513 MHZ 15 910.500000 MHZ 15 910.641026 MHZ 15 910.641026 MHZ 15 910.961538 MHZ 15 911.07692 MHZ 20 911.230769 MHZ 21 911.423077 MHZ	тре РА РА Р5 39B Ас Stop 916 Мнг Level 105.24 dBµ 105.32 dBµ 105.40 dBµ 105.45 dBµ 105.42 dBµ 105.42 dBµ 105.42 dBµ 105.42 dBµ				
e0 +60 -60 -50 -50 -50 -50 -50 -50 -50 -5	Image: Note of the second se	Boo kHz/ Boo kHz/ Frequency 13 910.230769 MHz 14 910.320513 MHz 15 910.50000 MHz 15 910.50000 MHz 16 910.641026 MHz 17 910.807692 MHz 19 911.076923 MHz 20 911.230769 MHz 21 911.423077 MHz 22 911.525641 MHz	TDP PA PS Stop 916 MHz Level 105.24 dBµ 105.32 dBµ 105.32 dBµ 105.42 dBµ 105.36 dBµ 105.36 dBµ 105.44 dBµ 105.45 dBµ 105.46 dBµ 105.47 dBµ 105.48 dBµ 105.49 dBµ 105.44 dBµ 105.45 dBµ 105.46 dBµ 105.47 dBµ 105.48 dBµ 105.49 dBµ 105.41 dBµ 105.42 dBµ 105.43 dBµ 105.44 dBµ 105.45 dBµ 105.46 dBµ 105.47 dBµ 105.48 dBµ 105.49 dBµ<				

Page: 16 (90)



Meas Type	NUMBER OF CHANNELS
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping enabled
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Sweep Settings Screen A

Center Frequency	912.000000	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	8.000000	MHz	Ref Position	100.000	do
Start Frequency	908.000000	MHz	Level Range	70.000	dB
Stop Frequency	916.000000	MHz	RF Att	40.000	dB
RBW	50.000000	kHz			
VBW	200.000000	kHz	X-Axis	LIN	
Sweep Time	5.00 ms		Y-Axis	LOG	



Page 2 of 3



Meas Type	NUMBER OF CHANNELS
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping enabled
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Sweep Settings Screen A

Center Frequency	912.000000	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	8.000000	MHz	Ref Position	100.000	de
Start Frequency	908.000000	MHz	Level Range	70.000	dB
Stop Frequency	916.000000	MHz	RF Att	40.000	dB
RBW	50.000000	kHz			
VBW	200.000000	kHz	X-Axis	LIN	
Sweep Time	5.00 ms		Y-Axis	LOG	



Page 3 of 3

Conclusion: Number of channels: 50 PASS Page: 18 (90)



3.6 §15.247 (a) (1) Carrier Frequency Separation

Requirement

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Procedure

As per Clause 7.8.2 from ANSII C63.10-2013 and FCC/DA-00-705

Test results

03.Jan 17 12:33

Meas Type	CHANNEL SEPARATION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH1 and CH2
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Center Frequency	908.476282	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.00000	Hz	Ref Level Offset	0.000	dB
Span	500.000000	kHz	Ref Position	100.000	olo
Start Frequency	908.226282	MHz	Level Range	70.000	dB
Stop Frequency	908.726282	MHz	RF Att	40.000	dB
RBW	10.000000	kHz			
VBW	30.00000	kHz	X-Axis	LIN	
Sweep Time	20.00 ms		Y-Axis	LOG	





Page: 19 (90)

03.Jan 17 12:38

Meas Type	CHANNEL SEPARATION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	CH24 - CH26
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Sweep Settings Screen A

Center Frequency	912.000000	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	500.000000	kHz	Ref Position	100.000	olo
Start Frequency	911.750000	MHz	Level Range	70.000	dB
Stop Frequency	912.250000	MHz	RF Att	40.000	dB
RBW	10.000000	kHz			
VBW	30.00000	kHz	X-Axis	LIN	
Sweep Time	20.00 ms		Y-Axis	LOG	



Page 1 of 1

Page: 20 (90)



Meas Type	CHANNEL SEPARATION		
Equipment under Test	WSD 011-2		
Manufacturer	NAVIS ELEKTRONIKA D.O.O.		
OP Condition	CH49 and CH50		
Operator	Andrej Skof		
Test Spec			

VERTICAL 100 cm, 0 deg Sweep Settings Screen A

a the second second					
Center Frequency	915.650000	MHz	Ref Level	114.800	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	500.000000	kHz	Ref Position	100.000	olo
Start Frequency	915.400000	MHz	Level Range	70.000	dB
Stop Frequency	915.900000	MHz	RF Att	40.000	dB
RBW	10.000000	kHz			
VBW	30.00000	kHz	X-Axis	LIN	
Sweep Time	20.00 ms		Y-Axis	LOG	



Page 1 of 1

Tabulated test results

Channel selection	Channel Separation	Limit	Conclusion
	(kHz)	(kHz)	
CH1 to CH2	151	113 (20 dB BW)	PASS
CH 25 to CH26	151	113 (20 dB BW)	PASS
CH 49 to CH50	151	113 (20 dB BW)	PASS



3.7 §15.247 (a) (1) Pseudorandom Frequency Hopping Sequence and Equal Hooping Frequency Use

Data declared by manufacturer by manufacturer:

Pseudorandom Frequency Hopping Sequence

For FHSS[frequency hopping spread spectrum] are used 50 frequency channels in 150 kHz steps. Starting frequency is 908.4MHz. Channel hop is made on every new transmitted package (~2s). Channel hopping sequence is determined by array of pseudorandom generated numbers between 1 and 50.

Equal Hopping Frequency Use

Every new transmitted data package is transmitted on different frequency channel with pseudorandom generated sequence channel change. After 50 transmitted data packages transmitter repeat pseudorandom sequence. This logic ensure that transmitter continuous transmit data packages uniform distributed on all 50 frequency channels.

Page: 22 (90)



3.8 §15.247 (b) Peak Power Output

Requirement

The maximum peak conducted output power of the intentional radiator shall not exceed the following: For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels.

Test Procedure

As per Clause 7.8.5 from ANSII C63.10-2013 and FCC/DA-00-705

Note: The test was performed Radiated since the EUT has an integrated antenna. Calculation of Transmitter Peak Power: $P = (E^*d)^2/(30^*G)$

E - Radiated Field Strength in V/m

d - Measurement distance

G - Numeric gain of the transmitting antenna with reference to isotropic radiator

Calculation of final measurements:

Final Measurement $(dB\mu V/m)$ = Receiver Reading $(dB\mu V/m)$ + AF (dB) + CL (dB) + Atten (dB) + Preamp (dB)

where:

Final Measurement = Final measurement result Receiver Reading = Uncorrected amplitude measured by the receiver AF = Antenna Factor CL = Cable Loss Atten = Attenuator correction Preamp = Preamplifier correction



Test results



21.Mar 17 08:57

Meas Type	PEAK POWER OUTPUT
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	NORMAL (CH1)
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

quency Offset	0.000000 Hz	Defl aval Offect	
10		Rei Level Oliset	0.000 dB
411	1.000000 MHz	Ref Position	100.000 %
rt Frequency	907.900000 MHz	Level Range	100.000 dB
p Frequency	908.900000 MHz	RF Att	40.000 dB
W	200.000000 kHz		
N	500.000000 kHz	X-Axis	LIN
eep Time	2.50 ms	Y-Axis	LOG
>		* RBW 200 kHz Mar)	(er 1 [T1]
Ref 124 dBuV	/m *Att 40 dB	VBW 500 kHz SWT 2.5 ms	106.81 dBuV/m 081974358974 MB#
120			
K		x	
	w		
	0		TDF
-90			2A-
1 marine			PS
A when			
-70-			
			2.0
·eo			
-50-			
		- 1 e g 4 1 e e e g 1 e e e	
Deal Intern			a
-30			





Meas Type	PEAK POWER OUTPUT		
Equipment under Test	WSD 011-2		
Manufacturer	NAVIS ELEKTRONIKA D.O.O.		
OP Condition	NORMAL (CH25)		
Operator	Andrej Skof		
Test Spec			
WT STORAGE STATES AND A STATES			

VERTICAL 100 cm, 0 deg

Sweep Settings	Screen A				
Center Frequency	912.000000	MHz	Ref Level	124.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	1.000000	MHz	Ref Position	100.000	olo
Start Frequency	911.500000	MHz	Level Range	100.000	dB
Stop Frequency	912.500000	MHz	RF Att	40.000	dB
RBW	200.000000	kHz			
VBW	500.000000	kHz	X-Axis	LIN	
Sweep Time	2.50 ms		Y-Axis	LOG	



21.Mar 17 08:57



Page: 25 (90)



21.Mar 17 08:55

Meas Type Equipment under Test Manufacturer OP Condition Operator Test Spec VERTICAL 100 cm, 0 d	PEAK POWER OUTPUT WSD 011-2 NAVIS ELEKTRONIKA D.O.O. NORMAL (CH50) Andrej Skof					
Sweep Settings	Screen A					
Center Frequency Frequency Offset Span Start Frequency Stop Frequency RBW VBW Sweep Time	915.800000 MHz 0.000000 Hz 1.000000 MHz 915.300000 MHz 916.300000 MHz 200.000000 kHz 500.000000 kHz 2.50 ms	Ref Level Ref Level Offset Ref Position Level Range RF Att X-Axis Y-Axis	124.000 dBµV/m 0.000 dB 100.000 % 100.000 dB 40.000 dB LIN LOG			
Ref 124 dBuV/s	* RE WE * Att 40 dB * * * * * * * * * * * * * * * * * * *	3W 200 KHz Marker SW 500 KHz IT 2.5 ms 915	L L T L L 1 2 2 5 . 3 7 dBUY H C C C C C C C C C C C C C C C C C C C			

Final Tabulated test results

Frequency (MHz)	Field Strength (dBµV/m)	Field Strength (V/m)	Antenna Gain (dBi)	Conducted power (W)	Limit (W)	Conclusion
908.4 (CH1)	106.81	0.22	0	0.015	1	PASS
912.0 (CH25)	106.85	0.22	0	0.015	1	PASS
915.8 (CH50)	106.37	0.21	0	0.013	1	PASS

Page: 26 (90)



3.9 §15.247 (c) Spurious RF Conducted Emissions

Test not applicable since EUT has integrated antenna and antenna conducted tests cannot be performed. Due to that radiated tests were done to show compliance with the spurious RF conducted emission limit specified is section 15.247 (c). For the test results see Radiated Spurious Emission test results.

Conclusion: PASS



3.10 §15.247 Radiated Spurious Emissions

Requirements

§15.35 Measurement detector functions and bandwidths

(b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§15.250, 15.252, 15.253(d), 15.255, 15.256, and 15.509 through 15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

§15.209 Radiated emission limit

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency Range (MHz)	Limits (dBµV/m)	Test distance (m)
0,009 to 0,490	20*log(2400/F(kHz))	300
0,490 to 1,705	20*log(24000/F(kHz))	30
1,705 to 30,0	30	30
30 to 88	40**	3
88 to 216	43.5**	3
216 to 960	46**	3
Above 960	54	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

Page: 28 (90)



§15.205 Restricted bands of operation

Requirement

Except as shown in paragraph (d) of §15.205 only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	91-8.294 149.9-150.05		15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ²Above 38.6

§15.247 (d) Band edge

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test procedure

As per Clauses 6.3, 6.4, 6.5, 6.6 and 6.10 from ANSII C63.10-2013 and FCC/DA-00-705



Test results

Calculation of final measurements: Final Measurement (dBµV/m) = Receiver Reading (dBµV/m) + AF (dB) + CL (dB) + Atten (dB) + Preamp (dB)

where:

Final Measurement = Final measurement result Receiver Reading = Uncorrected amplitude measured by the receiver AF = Antenna Factor CL = Cable Loss Atten = Attenuator correction Preamp = Preamplifier correction





06.Jan 17 07:16

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

Antenna: 0 deg, Sample: 0 deg

Scan Start:	9 kHz
Scan Stop:	30 MHz
Detector:	Trace 1: MAX PEAK
Transducer:	HFH2-Z2V





Page: 31 (90)



06.Jan 17 07:16

Meas Type RADIATED EMISSION	
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
Antenna: 0 deg, Sample:	0 deg

Final Measurement

Meas Time:	1 s
Margin:	40 dB
Peaks:	5

Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
6.303750000	MHz	23.74	Quasi Peak	-45.76
9.264750000	MHz	23.20	Quasi Peak	-46.30
26.605500000	MHz	23.05	Quasi Peak	-46.45
2.411250000	MHz	23.03	Quasi Peak	-46.47
15.414000000	MHz	23.01	Quasi Peak	-46.49
	Frequenc 6.303750000 9.264750000 26.605500000 2.411250000 15.414000000	Frequency 6.303750000 MHz 9.264750000 MHz 26.605500000 MHz 2.411250000 MHz 15.414000000 MHz	Frequency Level (dBμV/m) 6.303750000 MHz 23.74 9.264750000 MHz 23.20 26.605500000 MHz 23.05 2.411250000 MHz 23.03 15.414000000 MHz 23.01	Frequency Level (dBµV/m) Detector 6.303750000 MHz 23.74 Quasi Peak 9.264750000 MHz 23.20 Quasi Peak 26.605500000 MHz 23.05 Quasi Peak 2.411250000 MHz 23.03 Quasi Peak 15.41400000 MHz 23.01 Quasi Peak





03.Jan 17 10:15

Meas Type	RADIATED EMISSION, 30 MHz - 900 MHz
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 100 cm, 0 deg

Scan Start:	30 MHz
Scan Stop:	900 MHz
Detector:	Trace 1: MAX PEAK
Transducer:	3142B3m





Page: 33 (90)



03.Jan 17 10:15

Meas Type	RADIATED EMISSION, 30 MHz - 900 MHz
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Final Measurement

Meas Time:	1 s
Margin:	10 dB
Peaks:	8

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
1	850.680000000	MHz	30.97	Quasi Peak	-15.03
1	780.96000000	MHz	29.88	Quasi Peak	-16.12
1	870.330000000	MHz	29.29	Quasi Peak	-16.71
1	806.070000000	MHz	29.24	Quasi Peak	-16.76
1	897.960000000	MHz	28.89	Quasi Peak	-17,11
1	815.580000000	MHz	28.56	Quasi Peak	-17,44
1	792.150000000	MHz	28.36	Quasi Peak	-17.64
1	886.14000000	MHz	27.73	Quasi Peak	-18.27





03.Jan 17 10:18

Meas Type	RADIATED EMISSION, 30 MHz - 900 MHz	
Equipment under Test	WSD 011-2	
Manufacturer	NAVIS ELEKTRONIKA D.O.O.	
OP Condition	Hopping mode	
Operator	Andrej Skof	
Test Spec		

HORIZONTAL 100 cm, 0 deg

Scan Start:	30 MHz
Scan Stop:	900 MHz
Detector:	Trace 1: MAX PEAK
Transducer:	3142B3m

art	Stop	Step		Meas	RF		
equency	Frequency	Size	Res BW	Time	Atten	Preamp	Input
0.000000 MHz	900.000000 MHz	30.00 kHz	120,00 kHz	10 ms	Auto	20 dB	INPUT2
6		RBW	120 kHz				
)		ΜΨ	1 8				
Step ID AU	ro FULSE Att 0 d	B AUTO FREAMF	ON				
120	100 MH	2					
-110							
-100		1					
-90					TD	n -	
- 00-							
					1.7.4		
-70							
122112							
- 6 Q							
					69.	B	
-30		106			95		
10C15E3M							
-30			1	- prof	"Yok work"		
				man allow	T		
Mulhe .			whether and the work				
mande	No. of the second	when we have been					
	and man and and and and and and and and and a						
. ġ							



Page: 35 (90)





03.Jan 17 10:18

Meas Type	RADIATED EMISSION, 30 MHz - 900 MHz
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 100 cm, 0 c	deg

Scan Start:	30 MHz
Scan Stop:	900 MHz
Detector:	Trace 1: MAX PEAK
Transducer:	3142B3m

equency	Frequency	Size	Res BW	Time	Atten	Preamn	Input
0.000000 MHz	900,000000 MHz	30.00 kHz	120,00 kHz	10 ms	Auto	20 dB	INPUT2
\$		R B W M T	120 kHz 1 s				
step ID AU	TO FULSE Att 0 of 100 MB	LE AUTO FREAME	ON				
-110							
PR _100				1.1.			
ай							
					TDI		
					1		
-7.0-							
-60-					6 D E		
-90		i);			95		
10 C15E3W							
-30				unt	-		
20			And more work				
-10-	and the second second second	menound					
0							





03.Jan 17 10:23

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 100 cm, 0 deg

Scan Start:	900 MHz
Scan Stop:	1 GHz
Detector:	Trace 1: MAX PEAK
Transducer:	3142B3m

art equency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
Art equency 00.000000 MHz Step TD AU 120.910 MHz 110. 100.	Stop Frequency 1.000000 GH: TO FOLSE Att 10 920 MHz 530 MHz 94 1.000000 GH: 920 MHz 530 MHz 94 1.00000 GH: 1.000000 GH: 920 MHz 530 MHz 94 1.00000 GH: 1.00000 GH: 1.00000 GH: 1.00000 GH: 1.00000 GH: 1.0000 GH: 1.0000 Hz 530 MHz 94 1.0000 GH: 1.0000 Hz 530 MHz 94 1.0000 GH: 1.0000 Hz 530 MHz 94 1.0000 Hz 54 1.0000 Hz	Step Size 30.00 kHz RBW MT dB AUTO PREAM NH2 950 MH2 96 NH2 950 MH2 96 H + + + +	Res BW 120.00 kHz 120 kHz 1 s F ON 0 MHz 978 MHz 980	Meas Time 1 ms	RF Atten Auto	Preamp 20 dB	Input INPUT2
-20 -10							


Page: 37 (90)



03.Jan 17 10:23

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 100 cm, 0 deg	

Meas Time:	1 s
Margin:	15 dB
Subranges:	25

Trace	Frequenc	У	Level (dBµV/m)	Detector	Delta Limit/dB
1	903.810000000	MHz	37.94	Quasi Peak	-8.06
1	907.980000000	MHz	49.13	Quasi Peak	3.13
1	911.340000000	MHz	93.96	Quasi Peak	47.96
1	913.380000000	MHz	100.27	Quasi Peak	54.27
1	916.860000000	MHz	43.94	Quasi Peak	-2.06
1	920.16000000	MHz	38.19	Quasi Peak	-7.81
1	924.360000000	MHz	37.50	Quasi Peak	-8.50
1	928.590000000	MHz	37.26	Quasi Peak	-8.74
1	933.06000000	MHz	37.08	Quasi Peak	-8.92
1	936.390000000	MHz	37.02	Quasi Peak	-8.98
1	942.600000000	MHz	37.13	Quasi Peak	-8.87
1	947.430000000	MHz	37.02	Quasi Peak	-8.98
1	951.240000000	MHz	37.07	Quasi Peak	-8.93
1	955.110000000	MHz	37.11	Quasi Peak	-8.89
1	959.40000000	MHz	37.15	Quasi Peak	-8.85
1	961.140000000	MHz	37.15	Quasi Peak	-16.85
1	965.940000000	MHz	37.48	Quasi Peak	-16.52
1	970.560000000	MHz	37.69	Quasi Peak	-16.31
1	975.390000000	MHz	37.99	Quasi Peak	-16.01
1	977.490000000	MHz	37.95	Quasi Peak	-16,05
1	982.290000000	MHz	37.83	Quasi Peak	-16.17
1	987.210000000	MHz	37.67	Quasi Peak	-16.33
1	991.410000000	MHz	37.48	Quasi Peak	-16.52
1	995.49000000	MHz	37.50	Quasi Peak	-16,50
1	996.120000000	MHz	37.50	Quasi Peak	-16.50





Meas Type	RADIATED EMISSION, 900 MHz - 1 GHz
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 100 cm, 0 deg

~

Time Domain Scan (1 Range)

900 MHz
1 GHz
Trace 1: MAX PEAK
3142B3m

equency	Frequency	Size	Res BW	Time	Atten	Preamp	Input
)0.000000 МН	z 1.000000 GHz	30.00 kHz квй мт	120.00 kHz	1 ms	Auto	20 dB	INPUT:
Step ID A 120 910 MH -110	UTO FULSE Att 0 d	B AUTO PREAMF	ON MH2 978 MH2 980	0 MHz 590 N	Hz		
РК ХВ —90					7.0		
-90	in the second se						
-==0	¶∔ + [‡]				6D A C	B	
<u>тссі вам</u> 10 Милл^и -30	Mannarhaman	Ansherrelation	anglan wan wanter		miller		
-20							
0 900 MHz					1 GHz		



Page: 39 (90)



03.Jan 17 10:19

Meas Type	RADIATED EMISSION, 900 MHz - 1 GHz
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 100 cm, 0 c	deg

Meas Time:	1 s
Margin:	15 dB
Peaks:	13

Trace	Frequenc	у	Level (dBµV/m)	Detecto	or	Delta Limit/di	3
1	908.520000000	MHz	73.84	Quasi	Peak		27.84
1	908.97000000	MHz	73.30	Quasi	Peak		27.30
1	909.27000000	MHz	72.89	Quasi	Peak		26.89
1	909.72000000	MHz	54.66	Quasi	Peak		8.66
1	910.170000000	MHz	70.04	Quasi	Peak		24.04
1	910.770000000	MHz	65.44	Quasi	Peak		19.44
1	911.520000000	MHz	69.23	Quasi	Peak		23.23
1	911.820000000	MHz	68.55	Quasi	Peak		22.55
1	912.720000000	MHz	66.32	Quasi	Peak		20.32
1	913.320000000	MHz	64.77	Quasi	Peak		18.77
1	913.920000000	MHz	54.54	Quasi	Peak		8.54
1	915.480000000	MHz	57.98	Quasi	Peak		11.98
1	915.78000000	MHz	62.70	Quasi	Peak	1.1.1	16,70





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	1 GHz	
Scan Stop:	10 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

equency	Stop Frequency	Step	Res BW	Time	Atten	Preamp	Input
1.000000 GHz	10.000000 GHz	400.00 kHz rbw mt b auto preamp	1.00 MHz 1 мнг 5 е ом	1 ms	Auto	35 dB	INPUT1
аў 90 -80 -го: -70-					10 GHZ		
-60		- Ingruh t	1	public le velles	TR	n	
Mumann	white have been and all will				60 25	B	
-20							
1 SH2					10 GHz		



Page: 41 (90)



13.Jan 17 16:23

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	

Meas Time:	5 s
Margin:	22 dB
Peaks:	9

Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
9.964400000	GHz	43.21	CISPR Averag	-10.79
3.544400000	GHz	42.11	CISPR Averag	-11.89
3.639600000	GHz	61.70	Max Peak	-12.30
4.571200000	GHz	35.86	CISPR Averag	-18.14
4.573600000	GHz	35.77	CISPR Averag	-18.23
3.519200000	GHz	55.60	Max Peak	-18,40
3.640000000	GHz	35.59	CISPR Averag	, -18,41
8.444800000	GHz	54.55	Max Peak	-19.45
4.571200000	GHz	52.84	Max Peak	-21.16
	Frequenc 9.964400000 3.544400000 3.639600000 4.571200000 3.519200000 3.640000000 8.444800000 4.571200000	Frequency 9.964400000 GHz 3.544400000 GHz 3.639600000 GHz 4.571200000 GHz 4.573600000 GHz 3.519200000 GHz 3.64000000 GHz 3.64000000 GHz 3.64000000 GHz 4.571200000 GHz	FrequencyLevel (dBμV/m)9.964400000 GHz43.213.544400000 GHz42.113.639600000 GHz61.704.571200000 GHz35.864.573600000 GHz35.773.519200000 GHz55.603.64000000 GHz35.598.444800000 GHz54.554.571200000 GHz52.84	FrequencyLevel (dBμV/m)Detector9.964400000 GHz43.21CISPR Average3.544400000 GHz42.11CISPR Average3.639600000 GHz61.70Max Peak4.571200000 GHz35.86CISPR Average4.573600000 GHz35.77CISPR Average3.519200000 GHz55.60Max Peak3.64000000 GHz35.59CISPR Average8.444800000 GHz54.55Max Peak4.571200000 GHz52.84Max Peak





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	1 GHz	
Scan Stop:	10 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art	Stop	Size	Res BW	Meas	Atten	Preamn	Innut
1.000000 GHz	10,000000 GH	z 400.00 kHz	1.00 MH:	z 1 ms	Auto	35 dB	INPUT1
Star NUEC		RBW MT AB ANTO DOFAM	I MHz 5 s				
μ Λ ³⁰		UB AUTO FREAM			10 GHz		
-90							
-70					7.0	n	
-co- FCC15CA		*			with		
- 5 Q	and the second and	amiliate warming and	mananterman	contracted in the lower			
bulgdelikenselveren	entre and				60.25	8	
-30							
÷20							
- 1 ô							
a							



Page: 43 (90)



13.Jan 17 16:26

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Meas Time:	5 s
Margin:	22 dB
Peaks:	9

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
1	4.550400000	GHz	63.30	Max Peak	-10.70
2	9.975200000	GHz	43.17	CISPR Averag	-10.83
1	4.548000000	GHz	62.98	Max Peak	-11.02
2	3.529600000	GHz	42.08	CISPR Averag	-11.92
2	4.548000000	GHz	37.00	CISPR Averag	-17.00
2	4.550400000	GHz	36.86	CISPR Averaç	-17,14
1	9.713600000	GHz	56.15	Max Peak	-17.85
1	3.551600000	GHz	54.99	Max Peak	-19.01
2	1.818000000	GHz	32.67	CISPR Averag	, -21.33





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	1.8 GHz	
Scan Stop:	1.84 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart requency	Stop	Step	Res BW	Meas	RF	Preamp	Input
1.800000 GH:	z 1.840000 GHz	2 400.00 kHz	1.00 MH:	z 1 ms	Auto	20 dB	INPUT1
Step AUTO	Att 01	RBŴ MT ÌB AUTO PREAM	1 MHz 5 s F ON				
BμV 90 3.805 m	GHz I.91 GHz 1.815	GHZ 1.82 GHZ 1	L.825 GH± 1.83	GH₂ 1.835 G	H z		
PK FC-15BPR -70							
XH -EQ- FCC15CA					TO	17	
-50		M	MMM	\uparrow	~~~		
-30	-	J _x ,	x x x V	x	60 à c	E.	
-20							
-10							
0 1.8 GHz		_		4	.84 GHz		



Page: 45 (90)



13.Jan 17 15:53

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	

Meas Time:	5 s
Margin:	21 dB
Peaks:	5

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	1.825200000	GHz	33.23	CISPR Averag	-20.77
2	1.822800000	GHz	33.21	CISPR Averag	-20.79
2	1.816800000	GHz	33.08	CISPR Averag	-20.92
2	1.826800000	GHz	32.99	CISPR Averag	-21.01
2	1.931200000	GHz	32.96	CISPR Averag	-21.04





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	1.8 GHz	
Scan Stop:	1.84 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart	Stop	Step	Dec DW	Meas	RF	Droomn	Innut
1.800000 GH	z 1.840000 GHz	312e : 400.00 kHz	1.00 MH	z 1 ms	Auto	20 dB	INPUT1
Step AUTO	Att 0 d	RBŴ MT 18 AUTO FREAM	1 MHz 5 s E ON				
9μV 90 3.805 n	GH2 1.81 GH2 1.815	GH2 1.82 GH2 1	.825 GH2 1.83	GH2 1.835 G	¥ 2		
РК <u>РССІБВЕ</u> К ХН -70							
- 60					TI	in .	
-50		~~~~		The			
-40				×	61 2-5	8	
-30							
-10-							
0							



Page: 47 (90)



13.Jan 17 15:51

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Meas Time:	5 s
Margin:	21 dB
Peaks:	4

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	1.827600000	GHz	32.86	CISPR Averag	-21.14
2	1.831200000	GHz	32.76	CISPR Averag	-21.24
2	1.817200000	GHz	32.72	CISPR Averag	-21.28
2	1.82000000	GHz	32.70	CISPR Averag	-21.30





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	2.71 GHz	
Scan Stop:	2.76 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart requency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
2.710000 GHz	2,760000 GHz	400.00 kHz RBW MT	1.00 MHz 1 мнг 5 е	1 ms	Auto	20 dB	INPUT1
ВµV 902.715 GH	2 2.725 GHz	2.735 GHz	2.745 GHz	2 - 7 5 5	GHz		
PK FCC15BFK				1	Ţ	8.7	
-co		nn	h				
-40		x x x	MM XX		6	68	
-30							
-10							
0 2.71 GH×				2	.76 GH2		



Page: 49 (90)



13.Jan 17 15:47

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	

Meas Time:	5 s	
Margin:	21 dB	
Peaks:	8	

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	2.746000000	GHz	37.81	CISPR Avera	g -16.19
2	2.744000000	GHz	37.75	CISPR Avera	g -16.25
2	2.731600000	GHz	37.60	CISPR Avera	g -16.40
2	2.734000000	GHz	37.59	CISPR Avera	g -16.41
2	2.736800000	GHz	37.58	CISPR Avera	g -16.42
2	2.728800000	GHz	37.52	CISPR Avera	g -16,48
2	2.725200000	GHz	37.51	CISPR Avera	g -16.49
1	2.725200000	GHz	52.67	Max Peak	-21.33





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	2.71 GHz	
Scan Stop:	2.76 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart requency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
2.710000 GHz	2.760000 GHz	400.00 kHz RBW MT B AUTO FREAMF	1.00 MHz 1 MHz 5 s 0N	1 ms .	Auto	20 dB	INPUT1
ви в в в в в в в в в в в в в	2.725 GHz	2.735 BHS	2.745 GHz	2.755 GH	2		
-70 AXH -60 -60 -60					787		
-30					608 ð 6		
-20							
- 1 Ő							





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0) deg
Final Measurement	
Meas Time:	5 s

Margin:	21 dB
Peaks:	1

Trace	Frequency	y	Level (dBµV/m)	Detector	Delta Limit/dB
2	2.746400000	GHz	37.67	CISPR Averag	g -16.33





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	3.62 GHz	
Scan Stop:	3.7 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	





Page: 53 (90)



Meas TypeRADIATED EMISSIONEquipment under TestWSD 011-2ManufacturerNAVIS ELEKTRONIKA D.O.O.OP ConditionHopping modeOperatorAndrej SkofTest SpecVERTICAL 150 cm, 0 deg

Final Measurement

Meas Time:	5 s
Margin:	21 dB
Peaks:	20

Trace	Frequency	у	Level (dBµV/m)	Detector	Delta Limit/dB
1	3.637200000	GHz	61.65	Max Peak	-12.35
1	3.633600000	GHz	61.63	Max Peak	-12.37
1	3.639600000	GHz	61.54	Max Peak	-12.46
I	3.635200000	GHz	61.42	Max Peak	-12.58
1	3.640800000	GHz	61.38	Max Peak	-12.62
1	3.649200000	GHz	61.34	Max Peak	-12.66
1	3.648400000	GHz	61.16	Max Peak	-12.84
1	3.651200000	GHz	60.96	Max Peak	-13.04
1	3.652800000	GHz	60.94	Max Peak	-13.06
1	3.656000000	GHz	60.70	Max Peak	-13.30
2	3.639600000	GHz	35.74	CISPR Avera	g -18.26
2	3.660400000	GHz	35.67	CISPR Avera	g -18.33
2	3.652800000	GHz	35.65	CISPR Avera	g -18,35
2	3.645200000	GHz	35.64	CISPR Avera	g -18.36
2	3.659600000	GHz	35.63	CISPR Avera	g -18.37
2	3.635200000	GHz	35.63	CISPR Avera	g -18.37
2	3,650800000	GHz	35.61	CISPR Avera	g -18.39
2	3.636800000	GHz	35.60	CISPR Avera	g -18.40
2	3.642400000	GHz	35.58	CISPR Avera	g -18.42
2	3.656000000	GHz	35.49	CISPR Avera	g -18.51

13.Jan 17 15:42





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	3.62 GHz	
Scan Stop:	3.7 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart	Stop	Step	Dec BW	Meas	RF	Dreamn	Innut
3 620000 GH	17 3 700000 G	9120 H= 400 00 kH=	1.00 MH-	1 ms	Auto	35 dB	TNPUT1
5.020000 01	12 9,700000 0.	12 400.00 MIZ	1,00 1112	д шо	nuco	55 GD	1111 011
		RBW	1 MHz				
× .		MT	5 s				
BuV		GB AUTO FREAM			-		
m 90 3.63	GHE 3.64 GHE 3.6	D GHZ 3.66 GHZ 3	1.67 GHZ 3.88 G	HZ 8.69 G1	12		
					-		
PK PCCISPDE							
Ахн							
-70				1			
AXH	and the second				TI	in-	
÷ 6 0	1 - + + + + + + + + + + + + + + + + + +						
FCCISCA	A MARTIN	TMATAN					
5.0		A AMAMAAA					
m		V W V V V	mon	have	mm		
- 4 0					61	B	
	XUXXUX XI IS				90		
-30							
1.1							
1.20							
-1 Q							
0							
3.62 GHz					3.7 GHz		



Page: 55 (90)



Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Final Measurement

Meas Time:	5 s
Margin:	21 dB
Peaks:	20

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	3.639200000 GHz	58.85	Max Peak	-15.15
1	3.636800000 GHz	58.69	Max Peak	-15.31
1	3.633600000 GHz	58.61	Max Peak	-15.39
1	3.645200000 GHz	58.29	Max Peak	-15.71
1	3.644000000 GHz	58.17	Max Peak	-15.83
1	3.646800000 GHz	58.09	Max Peak	-15,91
1	3.649200000 GHz	57.95	Max Peak	-16.05
1	3.652800000 GHz	57.46	Max Peak	-16.54
1	3.656000000 GHz	56.84	Max Peak	-17.16
1	3.658800000 GHz	56.55	Max Peak	-17.45
2	3.637200000 GHz	35.33	CISPR Avera	g -18.67
2	3.636000000 GHz	35.32	CISPR Avera	g -18.68
2	3.639600000 GHz	35.30	CISPR Avera	g -18.70
2	3.633600000 GHz	35.23	CISPR Avera	g -18.77
2	3.642000000 GHz	35.21	CISPR Avera	g -18.79
2	3.648400000 GHz	35.16	CISPR Avera	g -18.84
2	3.660000000 GHz	35.14	CISPR Avera	g -18.86
2	3.652800000 GHz	35.12	CISPR Avera	g -18.88
2	3.656400000 GHz	35.08	CISPR Avera	g -18.92
2	3.654400000 GHz	35.08	CISPR Avera	g -18.92

13.Jan 17 15:39





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	4.5 GHz	
Scan Stop:	4.59 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart	Stop	Step	Dec DW	Meas	RF	Dreams	Innert
A FOODO CT	Frequency	CUE 400 00 bue		1 me	Atten	Preamp	TNDUT
4.300000 GF	12 4.590000	GH2 400.00 KHZ	1.00 MH2	I MS	AULO	35 QB	INPUTI
200		RBW	1 MHz				
¢.		ΜŢ	5 s				
Step AUTO	D Att	: 0 dB AUTO PREAD	IF ON				
m. 90	4.52 GHz	4.54 GHz	4-56 GH2	4.58	GHZ		
		·					
PK FCCISBPE							
АХН							
-70				i			
AXH					TI	171	
- 6 0							
FCCLSCA			11.				
-50-		AMMA	MMMMMM	MMM			
		WW WW	AAA. AILAMA	IAM	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
40							
				1Um	ð (
				100			
-30-							
-20							
-10-			-				
ă.							



Page: 57 (90)



13.Jan 17 15:55

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	

Meas Time:	5 s
Margin:	21 dB
Peaks:	12

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	4.568800000	GHz	35.94	CISPR Avera	g -18.06
2	4.556800000	GHz	35.88	CISPR Average	g -18.12
2	4.566800000	GHz	35.87	CISPR Average	g -18.13
2	4.554000000	GHz	35.83	CISPR Average	g -18.17
2	4.560000000	GHz	35.81	CISPR Average	g -18.19
2	4.548000000	GHz	35.81	CISPR Average	g -18.19
2	4.542000000	GHz	35.80	CISPR Average	g -18.20
2	4.549600000	GHz	35.78	CISPR Average	g -18.22
2	4.550400000	GHz	35.72	CISPR Average	-18.28
2	4.563200000	GHz	35.71	CISPR Averag	g -18.29
1	4.554000000	GHz	54.00	Max Peak	-20.00
1	4.542000000	GHz	53.98	Max Peak	-20.02





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	4.5 GHz	
Scan Stop:	4.59 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art equency	Stop	Step	Res BW	Meas	RF	Preamp	Input
4.500000 GHz 4.590000 GHz 400.00 kHz		1.00 MHz	1 ms	Auto	35 dB	INPUT1	
Step AUTO	Att	RBW MT 0 db Auto Fream	1 MHz 5 s F ON				
μV 90	4,52 GHz	4.54 GHz	4.56 GHz	4.5B	GHZ		
PK PCCISBPR							
AV XH		t.ot.	nt tit and t	† + д 🖡	TD	in	
FCCLSER							
40-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				44 mm		
-30			₩× [₩] ×₩₩×₩×U	VXL XV	à c		
-20					<u></u>		
-10							
ó			-				



Page: 59 (90)



Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Final Measurement

Meas Time:	5 s
Margin:	15 dB
Subranges:	20

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
1	4.557600000	GHz	63.54	Max Peak	-10.46
1	4.555600000	GHz	63.50	Max Peak	-10.50
1	4.566800000	GHz	63.38	Max Peak	-10.62
I	4.564400000	GHz	63.33	Max Peak	-10.67
1	4.549600000	GHz	63.30	Max Peak	-10.70
1	4.553200000	GHz	63.28	Max Peak	-10,72
1	4.578800000	GHz	63.27	Max Peak	-10.73
1	4.546400000	GHz	62.92	Max Peak	-11.08
1	4.570800000	GHz	62.81	Max Peak	-11.19
1	4.542000000	GHz	62.43	Max Peak	-11.57
1	4.573200000	GHz	62.33	Max Peak	-11.67
1	4.579200000	GHz	61.21	Max Peak	-12.79
2	4.573200000	GHz	37.23	CISPR Avera	g -16,77
2	4.576400000	GHz	37.20	CISPR Avera	g -16.80
2	4.560000000	GHz	37.12	CISPR Avera	g -16.88
2	4.566800000	GHz	37.12	CISPR Avera	g -16.88
2	4.556800000	GHz	37.03	CISPR Avera	g -16.97
2	4.564400000	GHz	37.02	CISPR Avera	g -16.98
2	4.546400000	GHz	36.96	CISPR Avera	g -17.04
2	4.551600000	GHz	36.92	CISPR Avera	g -17.08

13.Jan 17 15:58





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	5.44 GHz	
Scan Stop:	5.51 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart requency	Stop Frequency	Step Size	Res BW	Meas Time	RF	Preamp	Input
5.440000 GH	z 5.510000 GF	z 400.00 kHz RBW MT dB AUTO FREA	1.00 MHz 1 MHz 5 s MF ON	: 1 ms	Auto	35 dB	INPUT1
Step_AUTO BµV 90 S.45 -00 PX -70 AXH -70 <tr< th=""><th>Acc 0</th><th>AB AUTO FREA</th><th>MF ON CH2 5.45 GH2 CH2 X X X X</th><th>5.5 GH2</th><th></th><th>10</th><th></th></tr<>	Acc 0	AB AUTO FREA	MF ON CH2 5.45 GH2 CH2 X X X X	5.5 GH2		10	
0 5.44 GHz				5	.51 GH2		



Page: 61 (90)



13.Jan 17 16:04

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	

Meas Time:	5 s
Margin:	15 dB
Subranges:	10

Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
5.480000000	GHz	37.97	CISPR Avera	g -16.03
5.468400000	GHz	37.97	CISPR Average	g -16.03
5.464800000	GHz	37.90	CISPR Average	g -16.10
5.490800000	GHz	37.86	CISPR Average	g -16.14
5.472800000	GHz	37.84	CISPR Averag	g -16.16
5.458400000	GHz	37.83	CISPR Average	g -16.17
5.482800000	GHz	37.82	CISPR Average	g -16.18
5.493600000	GHz	37.81	CISPR Average	g -16.19
5.452400000	GHz	37.80	CISPR Average	-16.20
5,461200000	GHz	37.79	CISPR Averag	-16.21
	Frequenc 5.48000000 5.46840000 5.46480000 5.49080000 5.472800000 5.458400000 5.458400000 5.493600000 5.452400000 5.461200000	Frequency 5.48000000 GHz 5.46840000 GHz 5.46480000 GHz 5.49080000 GHz 5.472800000 GHz 5.458400000 GHz 5.482800000 GHz 5.493600000 GHz 5.493600000 GHz 5.493600000 GHz 5.493600000 GHz 5.452400000 GHz 5.452400000 GHz 5.461200000 GHz	FrequencyLevel (dBμV/m)5.48000000 GHz37.975.46840000 GHz37.975.46480000 GHz37.905.49080000 GHz37.865.47280000 GHz37.845.45840000 GHz37.835.48280000 GHz37.825.49360000 GHz37.815.45240000 GHz37.805.46120000 GHz37.79	FrequencyLevel (dBµV/m)Detector5.480000000 GHz37.97CISPR Average5.468400000 GHz37.97CISPR Average5.464800000 GHz37.90CISPR Average5.464800000 GHz37.90CISPR Average5.490800000 GHz37.86CISPR Average5.472800000 GHz37.84CISPR Average5.458400000 GHz37.83CISPR Average5.458400000 GHz37.82CISPR Average5.493600000 GHz37.81CISPR Average5.452400000 GHz37.80CISPR Average5.461200000 GHz37.79CISPR Average





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	5.44 GHz	
Scan Stop:	5.51 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art equency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
5.440000 GHz	: 5,510000 G	HZ 400.00 kHZ RBW MT J dB AUTO FREAM	1.00 MHz 1 MHz 5 e 15 ON	1 ms	Auto	35 dB	INPUT1
μV 90 5.45 -80 - жн <u>FCCI5BER</u>	GHz 5.4@ GHz	5.47 GHz 5.48	GHZ 5.45 GHZ	5.5 GHz			
AV XB FCC15CA					TD	n	
-40					60 	B	
-30							
- 1 ō		0					



Page: 63 (90)



13.Jan 17 16:02

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Meas Time:	5 s
Margin:	15 dB
Subranges:	5

Trace	Frequency	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	5.464800000	GHz	37.88	CISPR Averag	-16.12
2	5.465200000	GHz	37.86	CISPR Averag	-16.14
2	5.452800000	GHz	37.82	CISPR Averag	-16.18
2	5.458000000	GHz	37.82	CISPR Averag	-16.18
2	5.462000000	GHz	37.76	CISPR Averag	-16.24





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	6.34 GHz	
Scan Stop:	6.42 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

z 6,420000 GH	0120	1100 011	11110		Preamb	Input
	z 400.00 kHz	1.00 MHz	1 ms	Auto	35 dB	INPUT1
Att 0	RBW MT dB AUTO PREAM	1 MHz 5 s E ON				
3Hz 6.36 GHz 6.37	GHZ 6.38 GHZ	6.39 GHz 6.4 GH	z 6.41 GH:	2		
		-		TD	л	
	m			~~~~		
	m_mm	~~~~~		60 26	e S	
				=		
	Att 0	MT Att 0 dB AUTO FREAM	MT 5.8 Att 0 dB AUTO FREAMF ON HI 6.36 GH2 6.37 GH2 6.38 GH2 6.39 GH2 6.4 GH	MT 5 e Att 0 dB AUTO FREAME ON	NT 3 e Att 0 dB AUTO FREAME ON	MT 5 c Att 0 dB AUTO FREAME ON IHI 6.36 CH2 6.37 CH2 6.38 CH2 6.39 CH2 6.39 CH2 6.4 CH2 C.01 CH2 THT IIII CH2



Page: 65 (90)



13.Jan 17 16:08

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	

Meas Time:	5 s
Margin:	15 dB
Subranges:	10

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	6.367200000	GHz	38.56	CISPR Avera	g -15.44
2	6.379600000	GHz	38.51	CISPR Avera	g -15.49
2	6.375600000	GHz	38.50	CISPR Avera	g -15.50
2	6.358800000	GHz	38.49	CISPR Avera	g -15.51
2	6.362000000	GHz	38.47	CISPR Avera	g -15.53
2	6.382800000	GHz	38.46	CISPR Avera	g -15,54
2	6.388000000	GHz	38.46	CISPR Avera	g -15.54
2	6.394800000	GHz	38.42	CISPR Avera	g -15.58
2	6.410000000	GHz	38.35	CISPR Avera	g -15.65
2	6.408400000	GHz	38.34	CISPR Avera	g -15.66





Meas Type	RADIATED EMISSION		
Equipment under Test	WSD 011-2		
Manufacturer	NAVIS ELEKTRONIKA D.O.O.		
OP Condition	Hopping mode		
Operator	Andrej Skof		
Test Spec			

HORIZONTAL 150 cm, 0 deg

Scan Start:	6.34 GHz	
Scan Stop:	6.42 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart	Stop	Step		Meas	RF		
requency	Frequency	Size	Res BW	Time	Atten	Preamp	Input
6.340000 GF	HZ 6,420000 GH	z 400.00 KHz квж мт	1.00 MH2 1 MH2 5 8	z 1 ms	Auto	35 dB	INPUTI
Step AUT 3μV 90 6.35 m	0 Att 0 GHz 6.36 GHz 6.37	dB AUTO FREA GHz 6.38 GHz	MF ON 6.35 GHz 6.4 G	Hz 6.41 GH	z		
PK PCCISBPR							
ΑV • €0					тл	n	
<u> </u>	m	mm	mm	-h-m-n			
-40		MM MM	m	And	60 20	Đ	
-30					_		
-20					_		
- 1 Q					-		
0 6.34 GHz				б.	42 GHz		



Page: 67 (90)



13.Jan 17 16:11

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Meas Time:	5 s
Margin:	15 dB
Subranges:	10

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	6.365200000	GHz	38.61	CISPR Avera	g -15.39
2	6.380800000	GHz	38.56	CISPR Avera	g -15.44
2	6.359600000	GHz	38.56	CISPR Avera	g -15.44
2	6.391200000	GHz	38.56	CISPR Avera	g -15.44
2	6.374400000	GHz	38.56	CISPR Avera	g -15.44
2	6.402800000	GHz	38.54	CISPR Avera	g -15,46
2	6.371600000	GHz	38.54	CISPR Avera	g -15.46
2	6.383600000	GHz	38.49	CISPR Avera	g -15.51
2	6.395200000	GHz	38.49	CISPR Avera	g -15.51
2	6.408400000	GHz	38.41	CISPR Avera	g -15,59





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	7.24 GHz	
Scan Stop:	7.35 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art equency	Stop Frequency	Step Size		Res BW	Meas Time	RF Atten	Preamp	Input
7.240000 0	GHz 7,3500	00 GHz 400.00	0 kHz rbw	1.00 MHz 1 мнг	1 ms	Auto	35 dB	INPUT1
Step AU	то 7,26 бНг	Att 0 dB AUTO 7.28 GHz	MT PREAMP 7.3 GHz	5 s on 7.32 GHz	7.34	GHz		
-90								
-70								
-60						TI	10	
-50	mannt					m		
=90 <u></u>						61 21	8	
-30					_			
-20								
-1 ģ								
3 7.24 GHé	_				7.	35 GHz		





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	9
Final Measurement	
Meas Time:	5 s
Margin:	15 dB
Peaks:	1

Trace	Frequency	Level (dBµV/m) Detector	Delta Limit/dB

2	7.344400000	GHz	40.90	CISPR Averag	-13.10





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Scan Start:	7.24 GHz	
Scan Stop:	7.35 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art equency	Stop Frequency	Step		Res BW	Meas Time	RF Atten	Preamp	Input
7.240000 G	Hz 7,3500	00 GHz 400.0	0 kHz	1.00 MHz	1 ms	Auto	35 dB	INPUT1
•			RBW MT	I MHZ 5 s				
μV 90	7,26 GH2	7.28 GHz	7.3 GHz	7-32 GHz	7.34	GH z		
-BO								
-70								
с. - с.о.						TI	37	
50-150 -50	minun	umunun	- www.www.	man	m	mm		
						61 2	18	
-30								
-20					-			
-1 ú	_							
a								



Page: 71 (90)



13.Jan 17 16:14

Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, 0	deg

Meas Time:	5 s
Margin:	15 dB
Subranges:	3

Trace	Frequenc	у	Level (dBµV/m)	Detector	Delta Limit/dB
2	7.342400000	GHz	40.88	CISPR Aver	rag -13.12
2	7.324400000	GHz	40.86	CISPR Aver	ag -13.14
2	7.310000000	GHz	40.83	CISPR Aver	rag -13.17





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Scan Start:	8.15 GHz	
Scan Stop:	8.26 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

tart requency	Stop Frequency	Step Size	Res BW	Meas	RF Atten	Preamp	Input
8.150000	GHz 8,26000	00 GHz 400.00 kHz	1.00 MHz	1 ms	Auto	35 dB	INPUT1
Step J	LUTO A	RBW MT Ltt 0 dB AUTO PREAMF	l MHz 5 s ON				
90 1	8.17 GH2	8.19 GH= 8.21 GH:	9.33 GHZ	8.25	GHZ		
РК <u>FC-15</u> В	P.R.			1			
-70					т	in .	
-60		month and	mmmm		main		
-50							
-4.0					6 E 0 E	в	
-30				-			
-20			_				
- 1 Ó							
1							


Page: 73 (90)



Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 de	g
Final Measurement	
Meas Time:	5 s
Margin:	15 dB
Peaks:	1

Trace Frequency Level (dBuV/m) Detector Delta Limit/					
	Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB

2	8.180800000 GHz	41.21	CISPR Averag	-12.79





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Stepped Scan (1 Range)

Scan Start:	8.15 GHz	
Scan Stop:	8.26 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art equency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
8.150000 G	Hz 8.26000	00 GHz 400.00 kHz	1.00 MHz	1 ms	Auto	35 dB	INPUT1
Ster AU	ro z	RBW MT AFC 0 dB AUTO PREAM	1 MHz 5 s F ON				
μ v 9ÿ	8.17 GH2	9,19 GHz 9,21 G	Ha 9.23 GHz	8.25	GHZ		
ex realser							
-70				-			
- E 0			-		TI	1.0	
ECCLECK	maniam	minimum	montrom	mini	win		
40	~	~~~~				8	
					24 6		
- 40							
-20				1			
-10							
j.							



Page: 75 (90)



Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec HORIZONTAL 150 cm, () deg
Final Measurement	
Meas Time:	5 s
Margin:	15 dB

0	0 17600000 00	41 00	GTODD 3	4
Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
Peaks:	1			
Margin:	15 dB			

2	8.176800000 GHz	41.23	CISPR Averag	-12.77





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

VERTICAL 150 cm, 0 deg

Stepped Scan (1 Range)

Scan Start:	9.02 GHz	
Scan Stop:	9.2 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

art equency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
9.020000 GHz	9.200000 G	Hz 400.00 kHz RBW MT dB AUTO FREAME	1.00 MHz 1 MHz 5 s 0N	1 ms	Auto	35 dB	INPUT1
Step AUTO 90 -30 -30 -70 -70 -60 -60 -50 -40	Att 0	dB AUTO FREAME	0N 9-14 GHz 	9-18	G H 2 71 MALER (Look (5.7 DB	
-30 -20 -10							



Page: 77 (90)



Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
VERTICAL 150 cm, 0 deg	N 1
Final Measurement	
Meas Time:	5 s
Margin:	15 dB
Peaks:	1

Trace	Frequency	Level (dBµV/m) Detector	Delta Limit/dB
-------	-----------	-------------------------	----------------

2	9.100000000	GHz	42.50	CISPR Averag	-11.50
---	-------------	-----	-------	--------------	--------





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	

HORIZONTAL 150 cm, 0 deg

Stepped Scan (1 Range)

Scan Start:	9.02 GHz	
Scan Stop:	9.2 GHz	
Detector:	Trace 1: MAX PEAK	Trace 2: Average
Transducer:	RE-18GHz	

9.020000 GHz					1111011	ricamp	input
Step AUTO	9.200000 6	Hz 400.00 kHz RBW MT	1.00 MHz 1 MHz 5 8 0N	1 ms	Auto	35 dB	INPUT:
17 90 -90 FC-158FF	9.06 GH= 9.08 (9Hz 9.1 GHz	9-14 GHz	9,18	GHZ		
-70 						вл	
- 5 0						08	
-30							
- 10 <u>-</u>							





Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	Hopping mode
Operator	Andrej Skof
Test Spec	
HORIZONTAL 150 cm, () deg
Final Measurement	
Meas Time:	5 s
Margin:	15 dB

Margin:	15 dB			
Peaks:	1			
Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB

2	9.100000000 GHz	42.48	CISPR Averag	-11.52

Page: 80 (90)

Band Edge



Meas Type	RADIATED EMISSION
Equipment under Test	WSD 011-2
Manufacturer	NAVIS ELEKTRONIKA D.O.O.
OP Condition	NORMAL
Operator	Andrej Skof
Test Spec	

VERTICAL 100 cm, 0 deg

Sweep Settings Screen A

Center Frequency	850.000000	MHz	Ref Level	97.000	dBµV/m
Frequency Offset	0.000000	Hz	Ref Level Offset	0.000	dB
Span	300.000000	MHz	Ref Position	100.000	olo
Start Frequency	700.000000	MHz	Level Range	80.000	dB
Stop Frequency	1.000000	GHz	RF Att	10.000	dB
RBW	30.000000	kHz			
VBW	100.000000	kHz	X-Axis	LIN	
Sweep Time	340.00 ms		Y-Axis	LOG	







Page: 81 (90)

EUT Information

EUT: Test condition: Anemometer WSD 011-2 CONT. TX , CHANNEL 1

Full Spectrum



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (deg)
1.668750	20.88	63.19	42.31	340.0
1.549500	21.18	63.83	42.64	25.0
1.342500	21.55	65.07	43.52	96.0
1.137750	22.07	66.50	44.44	324.0
0.919500	22.94	68.35	45.41	347.0
0.728250	24.00	70.37	46.37	145.0



Anemometer WSD 011-2 CONT. TX , CHANNEL 50

Full Spectrum



Frequency	QuasiPeak	Limit	Margin	Azimuth
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(deg)
1.684500	20.87	63.11	42.24	163.0
1.583250	21.16	63.64	42.49	188.0
1.371750	21.49	64.88	43.40	73.0
1.160250	22.01	66.33	44.33	4.0
0.924000	22.93	68.31	45.37	81.0
0.845250	23.32	69.08	45.76	147.0



Page: 83 (90)

EUT Information

EUT: Test condition: Anemometer WSD 011-2 CONT. TX , CHANNEL 1

Full Spectrum



Frequency	QuasiPeak	Limit	Margin	Height	Pol	Azimuth
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(cm)		(deg)
30.360000	9.71	40.00	30.29	150.0	V	0.0
31.260000	9.08	40.00	30.92	104.0	V	37.0
35.430000	7.52	40.00	32.48	153.0	V	47.0
34.650000	7.41	40.00	32.59	202.0	Н	0.0
32.790000	6.79	40.00	33.21	103.0	V	200.0
37.380000	5.94	40.00	34.06	153.0	н	296.0



Anemometer WSD 011-2 CONT. TX , CHANNEL 50

Full Spectrum



Frequency	QuasiPeak	Limit	Margin	Height	Pol	Azimuth
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(cm)		(deg)
30.180000	9.82	40.00	30.18	104.0	Н	6.0
31.320000	9.01	40.00	30.99	154.0	н	272.0
35.100000	7.57	40.00	32.43	154.0	Н	233.0
32.370000	7.27	40.00	32.73	150.0	Н	254.0
36.390000	7.09	40.00	32.91	204.0	Н	14.0
33.930000	6.80	40.00	33.20	153.0	V	143.0



Page: 85 (90)

EUT Information

EUT: Test condition: Anemometer WSD 011-2 CONT. TX , CHANNEL 1

Full Spectrum



Frequency	QuasiPeak	Limit	Margin	Height	Pol	Azimuth
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(cm)		(deg)
908.400000	104.36	46.00	-58.36	100.0	V	241.0
907.950000	66.85	46.00	-20.85	100.0	V	247.0
844.380000	37.05	46.00	8.95	104.0	V	126.0
812.400000	35.59	46.00	10.41	193.0	V	207.0
922.710000	34.16	46.00	11.84	100.0	V	215.0
937.980000	33.96	46.00	12.04	100.0	V	145.0
954.150000	33.95	46.00	12.05	250.0	V	9.0
893.430000	33.46	46.00	12.54	100.0	V	254.0
877.380000	32.96	46.00	13.04	100.0	V	235.0
736.020000	32.95	46.00	13.05	123.0	V	235.0
833.970000	32.82	46.00	13.18	100.0	V	222.0
856.530000	32.68	46.00	13.32	100.0	V	333.0
811.170000	32.47	46.00	13.53	150.0	V	0.0
786.840000	31.67	46.00	14.33	150.0	V	265.0
784.770000	31.54	46.00	14.46	150.0	V	149.0
740.640000	31.49	46.00	14.51	150.0	V	239.0
764.280000	31.37	46.00	14.63	150.0	V	226.0
760.440000	31.27	46.00	14.73	150.0	V	214.0
693.810000	30.26	46.00	15.74	100.0	V	318.0
617.700000	29.60	46.00	16.40	100.0	V	292.0



Anemometer WSD 011-2 CONT. TX , CHANNEL 50

Full Spectrum



Critical_Freqs PK+ Final_Result QPK

FCC Part 15 Class B

Frequency	QuasiPeak	Limit	Margin	Height	Pol	Azimuth
(MHZ)	(dBµV/m)	(dBµV/m)	(dB)	(cm)		(deg)
915.750000	103.16	46.00	-57.16	100.0	V	222.0
851.730000	37.53	46.00	8.47	104.0	V	306.0
922.920000	34.75	46.00	11.25	100.0	V	286.0
907.800000	34.37	46.00	11.63	100.0	V	0.0
768.060000	34.20	46.00	11.80	122.0	V	312.0
938.820000	34.05	46.00	11.95	100.0	V	0.0
953.790000	34.04	46.00	11.96	100.0	V	274.0
892.500000	33.17	46.00	12.83	100.0	V	0.0
775.470000	33.07	46.00	12.93	150.0	V	326.0
846.000000	32.98	46.00	13.02	100.0	V	8.0
878.790000	32.89	46.00	13.11	100.0	V	0.0
833.340000	32.81	46.00	13.19	100.0	V	16.0
735.480000	32.66	46.00	13.34	124.0	V	0.0
809.430000	32.57	46.00	13.43	150.0	V	357.0
811.410000	32.53	46.00	13.47	150.0	V	34.0
787.650000	32.35	46.00	13.65	104.0	V	118.0
760.530000	32.23	46.00	13.77	150.0	V	274.0
712.170000	31.57	46.00	14.43	124.0	V	254.0
641.190000	30.28	46.00	15.72	100.0	V	280.0
617.220000	29.97	46.00	16.03	100.0	V	3.0



Page: 87 (90)

EUT Information

EUT: Test condition: Anemometer WSD 011-2 CONT. TX , CHANNEL 1

Full Spectrum



Frequency	CAverage	DET 2	Limit	Margin	Height	Pol	Azimuth
(MHz)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	(cm)		(deg)
9977.000000	43.20		54.00	10.80	100.0	V	-14.0
9883.250000	43.04		54.00	10.96	200.0	V	4.0
3513.750000	42.48		54.00	11.52	200.0	Н	25.0
3543.250000	42.37		54.00	11.63	103.0	Н	-25.0
8327.500000	41.29		54.00	12.71	162.0	Н	-14.0
8368.750000	41.26		54.00	12.74	143.0	н	-23.0
3232.750000	41.16		54.00	12.84	200.0	V	22.0
2747.250000	39.66		54.00	14.34	181.0	V	268.0
3663.000000	39.31		54.00	14.69	181.0	V	-23.0
1831.500000	35.64		54.00	18.36	142.0	Н	102.0



Anemometer WSD 011-2 CONT. TX , CHANNEL 1

Full Spectrum



Frequency	CAverage	DET 2	Limit	Margin	Height	Pol	Azimuth
(MHz)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	(cm)		(deg)
9980.500000	43.18		54.00	10.82	150.0	V	-25.0
9899.000000	43.17		54.00	10.83	211.0	Н	25.0
4542.250000	43.16		54.00	10.84	104.0	V	25.0
3516.500000	42.52		54.00	11.48	212.0	V	25.0
3519.750000	42.48		54.00	11.52	250.0	V	-25.0
8561.500000	41.23		54.00	12.77	100.0	V	-14.0
3633.500000	40.47		54.00	13.53	231.0	V	352.0
6358.750000	39.76		54.00	14.24	104.0	V	-14.0
2725.250000	39.64		54.00	14.36	142.0	V	335.0
1816.750000	35.52		54.00	18.48	103.0	V	13.0



3.11 §15.247 (i) RF Exposure Compliance Requirements

Requirement

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See §1.1307(b)(1) of this chapter

Limits for Limits for Maximum Permissible Exposure from §1.1310 for General Population/Uncontrolled Exposure: 0.6 mW/cm²

Calculation procedure: OET 65 (Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields:

 $S = EIRP / 4\pi R^2$

where: S = power density (mW/cm²) EIRP = equivalent (or effective) isotropically radiated power R = distance to the center of radiation of the antenna (cm)

Results: P = 10.77 dBm R = 20 cm

S = 0,00095 mW/cm²

Conclusion: PASS



4 TEST EQUIPMENT

Description & Manufacturer	Model No.	SIQ No.	Last calibration	Calibrated until	Calibration period	Used
ETS, Anechoic chamber	3m	103949	2016-11	2017-11	24 months	х
Rohde-Schwarz, RFI receiver	ESU8	105187	2015-11	2017-11	24 months	/
Rohde-Schwarz, RFI receiver	ESU26	100428	2016-02	2018-02	24 months	х
R&S, Antenna	HFH2-Z2	/	2015-09	2017-09	24 months	Х
EMCO, Antenna	3142B	104351	2015-09	2017-09	24 months	Х
EMCO, Antenna	3115	103002	2015-09	2017-09	24 months	Х
Heinrich Deisel, Turn table	DS 420.00	103337	NA	NA	NA	Х
Antenna tower	/	/	NA	NA	NA	Х
Controller for turn table and antenna tower	/	/	NA	NA	NA	x

Rev. 1:

Description	Model No.	SIQ No.	Last calibration	Calibrated until	Calibration period	Used
Rohde-Schwarz, RFI receiver	ESU26	100428	2018-02	2020-02	24 months	Х
Comtest Engineering, Semi Anechoic Chamber SAC 1	SAC 3m	NPS001	2017-05	2019-05	24 months	х
Rohde & Schwarz, Horn Antenna	HF907 (SN 102508)	102508	2018-05	2020-05	24 months	х
Rohde & Schwarz, Ultra Broadband Antenna	HL562E (SN 100842)	102842	2017-07	2019-07	24 months	х
Maturo, Turn table (2 m diameter)	TT 2.0 SI	/	N/A	N/A	N/A	х
Maturo, Bore- sight antenna mast	BAM-4.0-P	/	N/A	N/A	N/A	х
Maturo, Multi- channel positioning equipment	Maturo NCD	/	N/A	N/A	N/A	х
Schwarzbeck, Biconical antenna	VHBB9124 (SN 9124- 317)	105112	2016-11	2018-11	24 months	х
Rohde & Schwarz, Loop Antenna	FMZB 1519 B	1	2016-08	2018-08	24 months	х