EMI -	TEST RE	PORT
	- FCC Part 15.249, RSS21	0 -
Type / Model Name	: <u>B6R-HAS (The PUCK</u>	()
Product Description	: Control unit for the G	/60/Symax system
Applicant	: Plättner Elektronik Gn	nbH
Address	: Lerchenbreite 8	
	38889 BLANKENBUR	RG, GERMANY
Manufacturer	: Mertik Maxitrol GmbH	& Co.KG
Address	: Warnstedter Str.3	
	06502 THALE, GERM	IANY
est Result according to the st	andards	POSITIVE



The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

CSA Group Bayern GmbH Ohmstrasse 1-4 · 94342 STRASSKIRCHEN · GERMANY Tel.: +49(0)9424-94810 · Fax: +49(0)9424-9481440 File No. T43898-01-00KJ, page 1 of 21



IC: 4943A-B6RHAS

Contents

1 <u>T</u>	EST STANDARDS	3
2 <u>E</u>	QUIPMENT UNDER TEST	4
2.1	Photo documentation of the EUT	4
2.1	Short description of the equipment under test (EUT)	4
2.2	Veriente of the EUT	4
2.3	Variants of the EUT	4
2.4	Antenne	4
2.5	Antenna Dewer europhy eveter utilized	5 F
2.6	Power supply system utilised	5
2.7	Peripheral devices and interface cables	5
2.8	Determination of worst case conditions for final measurement	5
2.9	Test jig	5
2.10	Test software	5
3 <u>T</u>	EST RESULT SUMMARY	6
3.1	Final assessment	6
4 <u>T</u>	EST ENVIRONMENT	7
4.1	Address of the test laboratory	7
4.2	Environmental conditions	7
4.3	Statement of the measurement uncertainty	7
4.4	Measurement protocol for FCC and ISED	8
5 <u>T</u>	EST CONDITIONS AND RESULTS	10
5.1	AC power line conducted emissions	10
5.2	Field strength of fundamental	11
5.3	Correction for pulsed operation (duty cycle)	12
5.4	Out-of-band emission, radiated	15
5.5	EBW and OBW	18
5.6	Frequency stability	20
6 <u>L</u>	ISED TEST EQUIPMENT AND ACCESSORIES	21
<u>AT 1</u>	ACHMENT (PHOTO DOCUMENTATION OF THE TEST SET-UP)	<u>A</u>
<u>ATT</u>	ACHMENT (EXTERNAL PHOTOS OF THE EUT)	<u>B</u>
<u>ATT</u>	ACHMENT (INTERNAL PHOTOS OF THE EUT)	<u>C</u>
Atta	achment A, B and C as separatly supplement	



IC: 4943A-B6RHAS

1 <u>TEST STANDARDS</u>

The tests were performed according to following standards:

FCC Rules and Regulations Part 15, Subpart A - General (May, 2018)

FCC Rules and Regulations Part 15, Subpart Part 15, Subpart C, Section 15.209	t C - Intentional Radiators (May, 2018) Radiated emission limits, general requirements
Part 15, Subpart C, Section 15.249	Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz
RSS-Gen Issue 5, April 2018	General Requirements for Compliance of Radio Apparatus
RSS-210 Issue 9, August 2016	Licence-Exempt Radio Apparatus: Category I Equipment
ANSI C63.10: 2013	Testing Unlicensed Wireless Devices
CISPR 16-4-2: 2013	Uncertainty in EMC measurement



IC: 4943A-B6RHAS

2 EQUIPMENT UNDER TEST

2.1 Photo documentation of the EUT

Detailed photos see T43898-01-00KJ attachment B and T43898-01-00KJ attachment C.

2.2 Short description of the equipment under test (EUT)

The EuT is a smart control that works in conjunction with the GV60/Symax System. Its basic functions turn the fire on and off and adjust the flame height.

All tests were carried out with the test sample "B6R-HASPB".

	Used test sample
Setup for testing	Radiated test sample
Operating frequency	918.0 MHz
Frequency range	902 MHz – 928 MHz
Test signals	cont. modulated & normal operation mode
Social autors	Cont. CW unmod.: 3718771522 (with temporary SMA antenna connector)
Serial numer	Cont. CW mod.: 3718771524
	Normal operation mode: 3718771515
Firmware	1.12.151.x.x
Modulation	GFSK
Data rate	32000 bps (bps = bits per second)
	2.8 V _{nom}
Voltage range	2.3 V _{min}
	3.3 V _{max}
	20 ⁰ C _{nom}
Temprature range	-20 ⁰ C _{min}
	50 ⁰ C _{max}

2.3 Variants of the EUT

	Transmitter B6R-H (PUCK)						
B6R-H		Frequency Handset			Color		
	A	US (918 MHz)	SP	Standard w/o Display (Puck)	В	Black	
					w	White	

2.4 Operation frequency and channel plan

The EuT works on just one frequency.



IC: 4943A-B6RHAS

2.5 Antenna

The following antennas shall be used with the EUT:

Number	Characteristic	Model number	Plug	Frequency range (MHz)	Gain (dBi)	Cable loss (dB)
1	Miniature Helical PCB Antenna DN038		without plug	868/918	-10	without cable

2.6 Power supply system utilised

Power supply voltage, V_{nom} : 2x 1.5 V Battery powered

2.7 Peripheral devices and interface cables

The following peripheral devices and interface cables are connected during the measurements:

-	Model :
	Model :
	Model :

2.8 Determination of worst case conditions for final measurement

Measurements have been made in all three orthogonal axes and the settings of the EUT were changed to locate at which position and at what setting of the EUT produce the maximum of the emissions. For the further measurement the EUT is set in horizontal position.

2.9 Test jig

No Test jig was used.

2.10 Test software

No test software was used.



IC: 4943A-B6RHAS

TEST RESULT SUMMARY 3

Operating in the 902 MHz – 928 MHz band:
--

FCC Rule Part	RSS Rule Part	Description	Result
15.207(a)	RSS Gen, 8.8	AC power line conducted emissions	not applicable 1)
15.249(a)	RSS-210, B10(a)	Field strength of fundamental	passed
15.35(c)	RSS-Gen, 8.2	Pulsed operation	passed
15.249(d)	RSS-210, B10(b)	Out-of-band emission, radiated	passed
15.215(c)	-	Emission bandwidth	passed
-	RSS-Gen, 6.7 RSS-210, A.1.3	Occupied bandwidth	passed
15.215(c)	RSS-Gen, 6.11	Transmitter frequency stability	passed

1) Not applicable, because the system is battery powered. Note:

3.1 Final assessment

The equipment under test fulfills the EMI requirements cited in clause 1 test standards.

Date of receipt of test sample

: acc. to storage records

Testing commenced on

Testing concluded on

: 14 November 2018

: 08 November 2018

Checked by:

Tested by:

Klaus Gegenfurtner Teamleader Radio

Josef Knab Radio Team



IC: 4943A-B6RHAS

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

CSA Group Bayern GmbH Ohmstrasse 1-4 94342 STRASSKIRCHEN GERMANY

4.2 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	86-106 kPa

4.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. It is noted that the expanded measurement uncertainty corresponds to the measurement results from the standard measurement uncertainty multiplied by the coverage factor k = 2. The true value is located in the corresponding interval with a probability of 95 % The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 / 11.2003 "Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements" and is documented in the quality system acc. to DIN EN ISO/IEC 17025. For all measurements shown in this report, the measurement uncertainty of the test laboratory, CSA Group Bayern GmbH, is below the measurement uncertainty as defined by CISPR. Therefore, no special measures must be taken into consideration with regard to the limits according to CISPR. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Measurement Type	Range	Confidence Level	Calculated Uncertainty
AC power line conducted emissions	0.15 MHz to 30 MHz	95%	± 3.29 dB
EBW and OBW	2400 MHz to 3000 MHz	95%	± 2.5 x 10 ⁻⁷
Maximum peak conducted output power	2400 MHz to 3000 MHz	95%	± 0.62 dB
Power spectral density	2400 MHz to 3000 MHz	95%	± 0.62 dB
Conducted Spurious Emissions	9 kHz to 10000 MHz	95%	± 2.15 dB
Conducted Spurious Emissions	10000 MHz to 40000 MHz	95%	± 3.47 dB
Radiated Spurious Emissions	9 kHz to 30 MHz	95%	± 3.53 dB
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	± 3.71 dB
Radiated Spurious Emissions	1000 MHz to 10000 MHz	95%	± 2.34 dB
Field strength of the fundamental	100 kHz to 100 MHz	95%	± 3.53 dB

File No. T43898-01-00KJ, page 7 of 21



4.4 Measurement protocol for FCC and ISED

4.4.1 Test methodology

The Open Area test site is a listed Open Site under the Canadian Test-Sites File-No:

IC 3009A-1

The Anechoic chamber is a listed test site under the Canadian Test-Sites File-No:

IC 3009A-2

In compliance with RSS 210 testing for RSS compliance may be achieved by following the procedures set out in ANSI C63.10.

4.4.2 Justification

The equipment under test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral using the appropriate impedance characteristic or left unterminated. Where appropriate, cables are manually manipulated with respect to each other thus obtaining maximum disturbances from the unit.

4.4.3 General Standard information

In compliance with 47 CFR Part 15 Subpart A, Section 15.38 testing for FCC compliance may be achieved by following the procedures set out in ANSI C63.10 and applying the CISPR 22 limits.

4.4.3.1.1 Radiated emission (electrical field 30 MHz - 1 GHz)

Description of measurement:

Spurious emissions from the EUT are measured in the frequency range of 30 MHz to 1000 MHz using a tuned receiver and appropriate broadband linearly polarised antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection. Table top equipment is placed on a 1.0 X 1.5 m nonconducting table 80 centimetres above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. The setup of the equipment under test is established in accordance with ANSI C63.10.The interface cables that are closer than 40 centimetres to the ground plane are bundled in the center in a serpentine fashion so that they are at least 40 centimetres from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screened room located outside the test area. The antenna is positioned 3, 10 or 30 metres horizontally from the EUT and is repeated vertically. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 metres and the EUT is rotated 360 degrees.

The final level in $dB\mu V/m$ is calculated by taking the reading from the EMI receiver (Level $dB\mu V$) and adding the correction factors and cable loss factor (dB). The FCC or CISPR limit is subtracted from this result in order to provide the limit margin listed in the measurement protocol.

The resolution bandwidth setting: 30 MHz – 1000 MHz: RBW: 120 kHz

Example:

Level	+	Factor	=	Level -	CISPR Limit	=
(dBµV)		(dB)		(dBµV/m)	(dBµV/m)	(dB)
75.0	+	32.6	=	107.6 -	110.0	= -2.4
	Level (dBµV) 75.0	Level + (dBµV) 75.0 +	Level + Factor (dBµV) (dB) 75.0 + 32.6	Level + Factor = (dBµV) (dB) 75.0 + 32.6 =	Level + Factor = Level - $(dB\mu V)$ (dB) (dB $\mu V/m$) 75.0 + 32.6 = 107.6 -	Level + Factor = Level - CISPR Limit $(dB\mu V)$ (dB) (dB $\mu V/m$) (dB $\mu V/m$) 75.0 + 32.6 = 107.6 - 110.0



IC: 4943A-B6RHAS

4.4.3.1.2 Radiated emission (electrical field 1 GHz - 40 GHz)

Description of measurement:

Radiated emissions from the EUT are measured in the frequency range 1 GHz up to the maximum frequency as specified in 47 CFR Part 15, Subpart A, Section 15.33, using a spectrum analyser and appropriate linearly polarized antennas. Table top equipment is placed on a 1.0 X 1.5 metre non-conducting table, 1.5 metre above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. The setup of the equipment under test is following set out in ANSI C63.10. The interface cables that are closer than 40 centimetres to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimetres from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screened room located outside the test area. Measurements are made in both the horizontal and vertical polarization planes in a fully anechoic room using a spectrum analyzer set to max peak detector function and a resolution 1 MHz and video bandwidth 3 MHz for peak measurement. The conditions determined as worst case will then be used for the final measurements. When the EUT is larger than the beam width of the measuring antenna it will be moved over the surface for the four sides of the equipment. Where appropriate, the test distance may be reduced in order to detect emissions under better uncertainty and are calculated at the specified test distance.



5 TEST CONDITIONS AND RESULTS

5.1 AC power line conducted emissions

For test instruments and accessories used see section 6 Part A 4.

5.1.1 Description of the test location

Test location: NONE

5.1.2 Applicable standard

FCC Part 15, Section 15.207 and RSS-Gen 8.8:

5.1.3 Test result

Remarks: This test is not applicable, because the system is battery powered.



IC: 4943A-B6RHAS

5.2 Field strength of fundamental

For test instruments and accessories used see section 6 Part CPR 2.

5.2.1 Description of the test location

Test location:OATS 1Test distance:3 m

5.2.2 Photo documentation of the test set-up

For test setup photos see T43898-01-00KJ ATTACHMENT A

5.2.3 Applicable standard

FCC Part 15, Section 15.249(a), RSS-210 B10(a):

5.2.4 Description of Measurement

The measurements are performed following the procedures set out in ANSI C63.10. EMI test receiver settings: 30 MHz – 1000 MHz: RBW: 120 kHz

5.2.5 Test result

Frequency	Level QP	Bandwidth	Correct. factor	Corrected level	Limit	Delta
(MHz)	(dBµV)	(kHz)	(dB)	dB(µV/m)	dB(µV/m)	(dB)
918.0	55.3	120	29.2	84.5	94.0	-9.5

Note: The correction factor includes cable loss and antenna factor.

Limit according to FCC Part 15, Section 15.249(a), RSS-210 B10(a):

Frequency	Field strength	of fundamental
(MHz)	(mV/m)	dB(µV/m)
902 - 928	50	94

The requirements are FULFILLED.

Remarks:



5.3 Correction for pulsed operation (duty cycle)

For test instruments and accessories used see section 6 Part DC.

5.3.1 Description of the test location

Test location: Shielded Room S4

5.3.2 Photo documentation of the test set-up

For test setup photos see T43898-01-00KJ ATTACHMENT A

5.3.3 Applicable standard

FCC Part 15, Section 15.35(c), RSS-GEN 8.2:

5.3.4 Description of Measurement

The measurements are performed following the procedures set out in ANSI C63.10.

Spectrum analyser settings: refer to attached plots

The duty cycle factor is calculated from the sum of the individual ON times, per equation:

$$\delta(dB) = 20\log\left[\sum_{i=1}^{\infty} (t_1 + t_2 + \cdots)/T\right]$$

 δ is the duty cycle correction factor

t1 is the duration of pulse 1

t2 is the duration of pulse 2

T is the period of the pulse train, or 100 ms if the pulse train length is greater than 100 ms

5.3.5 Test result

t ₁	<i>t</i> ₂	<i>t</i> ₃	<i>t</i> 4	∑ <i>t</i>	δ
(ms)	(ms)	(ms)	(ms)	(ms)	(dB)
16.88	17.04	-	-	33.92	-9.4

Remarks: The pulse train (*T*) exceeds 100 ms, therefore the duty cycle have been calculated by averaging

the sum of the pulse widths over the 100 ms with the highest average value.

The length of the signal is dependent of the button which is pressed (automatically switch off

after 15.1 s). The shortest TX on time is 315.3 ms.

For detailed results, please see the test protocol below.

File No. T43898-01-00KJ, page 12 of 21



IC: 4943A-B6RHAS



CSA Group Bayern GmbH Ohmstrasse 1-4 · 94342 STRASSKIRCHEN · GERMANY Tel.: +49(0)9424-94810 · Fax: +49(0)9424-9481440 File No. T43898-01-00KJ, page 13 of 21





CSA Group Bayern GmbH Ohmstrasse 1-4 · 94342 STRASSKIRCHEN · GERMANY Tel.: +49(0)9424-94810 · Fax: +49(0)9424-9481440 File No. T43898-01-00KJ, page 14 of 21



IC: 4943A-B6RHAS

5.4 Out-of-band emission, radiated

For test instruments and accessories used see section 6 Part SER1, SER 2, SER 3.

5.4.1 Description of the test location

Test location: OATS 1 / Anechoic chamber 1

Test distance: 3 m

5.4.2 Photo documentation of the test set-up

For test setup photos see T43898-01-00KJ ATTACHMENT A

5.4.3 Applicable standard

FCC Part 15, Section 15.249(d), RSS-210 B10(b):

5.4.4 Description of Measurement

The measurements are performed following the procedures set out in ANSI C63.10.

200 Hz
9 kHz
120 kHz
1 MHz

5.4.5 Test result 9 kHz to 30 MHz

FCC Part 15C, Section 15.209

Frequency (MHz)	Reading QP dB(µV/m)	D factor (dB)	Level QP dB(µV/m)	Limit QP dB(µV/m)	Delta (dB)
0.1	33.6	-80	-46.4	27.6	-74.0
1	30.2	-40	-9.8	27.6	-37.4
15	20.7	-40	-19.3	29.5	-48.8
20	29.6	-40	-10.4	29.5	-39.9
25	29.7	-40	-10.3	29.5	-39.8

RSS-GEN 8.9

Frequency (MHz)	Reading QP dB(µA/m)	D factor (dB)	Level QP dB(µA/m)	Limit QP dB(µA/m)	Delta (dB)
0.1	-17.9	-80	-97.9	-23.9	-74.0
1	-21.3	-40	-61.3	-23.9	-37.4
15	-30.8	-40	-70.8	-21.9	-48.9
20	-21.9	-40	-61.9	-21.9	-40.0
25	-21.8	-40	-61.8	-21.9	-39.9

Note: In the frequency range 9 kHz to 30 MHz no emission could be detected. The frequencies mention the noise level. The measurement results from distance 3 m are extrapolated (D factor) to the specified distance. The measured dBµV/m readings, are reduced by 51.5 dB to be converted to dBµA/m for RSS-GEN 8.9.



IC: 4943A-B6RHAS

5.4.6 Test result 30 MHz to 1 GHz

Frequency (MHz)	Level QP (dBµV)	Bandwidth (kHz)	Correct. Factor (dB)	Corrected level QP dB(µV/m)	Limit QP dB(µV/m)	Delta (dB)
30 ^{*)}	5.8	120.0	12.9	18.7	40.0	-21.3
200 *)	3.5	120.0	11.0	14.5	43.5	-29.0
400 *)	0.5	120.0	18.6	19.1	46.0	-29.0
459.01	13.2	120.0	20.3	33.5	46.0	-12.5
600 ^{*)}	0.1	120.0	24.1	24.2	46.0	-21.8
800 *)	-0.7	120.0	27.7	27.0	46.0	-19.0
1000 *)	-0.7	120.0	30.2	29.5	54.0	-24.5

Note: The correction factor includes cable loss and antenna factor. The measurement results are from distance of 3 m. *) This frequencies mention the noise level.

5.4.7 Test result 1 GHz to 10 GHz

Frequency (MHz)	Level Pk (dBµV)	Duty Cycle correction (dB)	Level AV (dBµV)	Correct. factor (dB)	Corrected level PK (dBµV/m)	Corrected level AV (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Delta (dB)
2753.91	58.8	-9.4	49.4	-6.2	52.6	43.2	74.0	54.0	-10.8
4589.86	54.4	-9.4	45.0	-4.8	49.6	40.2	74.0	54.0	-13.8
5507.83	54.2	-9.4	44.8	-3.8	50.4	41.0	74.0	54.0	-13.0
6425.8	49.3	-9.4	39.9	-2.2	47.1	37.7	74.0	54.0	-16.3
9179.71	50.6	-9.4	41.2	0.0	50.6	41.2	74.0	54.0	-12.8

Note: The correction factor includes cable loss and antenna factor. In the frequency range 1 GHz to 10 GHz no emission above 4 GHz could be detected. The measurement results are from distance of 3 m. Average values were calculated from the subtraction of peak values minus correction duty cycle factor.

Limit according to FCC Part 15C, Section 15.209:

Frequency	Field strength	Measurement distance
(MHz)	(µV/m)	(m)
0.0090.49	2400/F (F in kHz)	300
0.49 – 1.705	24000/F (F in kHz)	30
1.705 – 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Limit according to RSS-GEN 8.9:

Table 5 – General field strength	limits at frequencies above 30 MHz
----------------------------------	------------------------------------

Frequency	Field strength	Measurement distance
(MHz)	(µV/m)	(m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3



Table 6 – General field strength limits at frequencies below 30 MHz

Frequency	Magnetic field strength	Measurement distance
(MHz)	(µA/m)	(m)
0.0090.49	6.37/F (F in kHz)	300
0.49 – 1.705	63.7/F (F in kHz)	30
1.705 – 30.0	0.09	30

Average limit according to FCC Part 15, Section 15.249(d), RSS-210 B10(b):

Fundamental frequency	Field strength of harmonics			
(MHz)	(µV/m)	dB(µV/m)		
902 - 928	500	54		

The requirements are FULFILLED.

Remarks: The measurement was performed up to the 10th harmonic (10000 MHz).



IC: 4943A-B6RHAS

5.5 EBW and OBW

For test instruments and accessories used see section 6 Part MB.

5.5.1 Description of the test location

Test location: Shielded Room S4

5.5.2 Photo documentation of the test set-up

For test setup photos see T43898-01-00KJ ATTACHMENT A

5.5.3 Applicable standard

FCC Part 15, Section 15.215(c), RSS-GEN 6.7 and RSS-210 A.1.3:

5.5.4 Description of Measurement

The measurements are performed following the procedures set out in ANSI C63.10.

Spectrum analyser settings: refer to attached plots

5.5.5 Test result

FCC Part 15C, Section 15.215(c)						
20dB bandwidth						
Operating frequency (MHz)flow (MHz)fhigh (MHz)Bandwidth (kHz)Frequencys between (MHz)Result						
918.0 917.94725 918.08065 133.40 902 to 928 PASS						

RSS-GEN 6.7 and RSS-210 A.1.3

99% bandwidth							
Operating frequency (MHz)flow (MHz)fhigh (MHz)Bandwidth (kHz)limit (kHz)Result							
918.0	917.92790	918.09855	170.65	4590	PASS		

Limit according to FCC Part 15, Section 15.215(c):

Frequency band (MHz)	Emission bandwidth		
902 to 928	Within the designated frequency band		

Limit according to RSS-210 A.1.3:

Operating frequency	Bandwith of momentary signals
(MHz)	(kHz)
> 900	\leq 0.5 % of the center frequency.

The requirements are FULFILLED.

Remarks:

For detailed test result please refer to following test protocols.

File No. T43898-01-00KJ, page 18 of 21



IC: 4943A-B6RHAS



CSA Group Bayern GmbH Ohmstrasse 1-4 · 94342 STRASSKIRCHEN · GERMANY Tel.: +49(0)9424-94810 · Fax: +49(0)9424-9481440 File No. T43898-01-00KJ, page 19 of 21



IC: 4943A-B6RHAS

5.6 Frequency stability

For test instruments and accessories used see section 6 Part FS.

5.6.1 Description of the test location

Test location: AREA4

5.6.2 Photo documentation of the test set-up

For test setup photos see T43898-00-02KJ ATTACHMENT A

5.6.3 Applicable standard

FCC Part 15, Section 15.215(c), RSS-GEN 6.11:

5.6.4 Description of Measurement

The measurements are performed following the procedures set out in ANSI C63.10.

Spectrum analyser settings:

RBŴ	VBW	Span	Trace mode	Detector
100 Hz	300 Hz	3 kHz	max. hold	max. peak

5.6.5 Test result

Tempreature (C ⁰)	Voltage (V)	Measured frequency at startup (MHz)	Measured frequency at 2 minutes (MHz)	Measured frequency at 5 minutes (MHz)	Measured frequency at 10 minutes (MHz)	Limit between (MHz)	Result
50	2.8	918.011036	918.011020	918.011012	918.011007	904.6 - 925.4	PASS
40	2.8	918.011846	918.011838	918.011838	918.011846	904.6 - 925.4	PASS
30	2.8	918.013212	918.013266	918.013337	918.013367	904.6 - 925.4	PASS
20	2.3	918.015053	918.015044	918.015048	918.015044	904.6 - 925.4	PASS
20	2.8	918.015061	918.015040	918.015036	918.015032	904.6 - 925.4	PASS
20	3.3	918.015044	918.015027	918.015023	918.015023	904.6 - 925.4	PASS
10	2.8	918.016170	918.016174	918.016178	918.016178	904.6 - 925.4	PASS
0	2.8	918.016435	918.016448	918.016448	918.016440	904.6 - 925.4	PASS
-10	2.8	918.015162	918.015207	918.015224	918.015229	904.6 - 925.4	PASS
-20	2.8	918.012065	918.012170	918.012187	918.012115	904.6 - 925.4	PASS

Limit according to FCC Part 15, Section 15.215(c) and RSS-210 A.1.3:

Frequency band (MHz)	Frequency stability		
902 to 928	Within 80% of the permitted frequency band		

Remarks:

CSA Group Bayern GmbH Ohmstrasse 1-4 • 94342 STRASSKIRCHEN • GERMANY Tel.: +49(0)9424-94810 • Fax: +49(0)9424-9481440 File No. T43898-01-00KJ, page 20 of 21



IC: 4943A-B6RHAS

6 USED TEST EQUIPMENT AND ACCESSORIES

All test instruments used are calibrated and verified regularly. The calibration history is available on request.

Test ID	Model Type	Equipment No.	Next Calib.	Last Calib.	Next Verif.	Last Verif.
CPR 2	ESVS 30 VULB 9168 NW-2000-NB KK-EF393/U-16N-21N20 m KK-SD_7/8-2X21N-33,0M	02-02/03-05-006 02-02/24-05-005 02-02/50-05-113 02-02/50-12-018 02-02/50-15-028	06/06/2019 18/04/2019	06/06/2018 18/04/2018		
DC	FSP 30 RF Antenna	02-02/11-05-001 02-02/24-05-032	09/10/2019	09/10/2018		
FS	FSP 30 METRAHIT WORLD WK-340/40 6543A	02-02/11-05-001 02-02/32-15-001 02-02/45-05-001 02-02/50-05-157	09/10/2019 13/12/2018 06/04/2019	09/10/2018 13/12/2017 06/04/2018		
MB	FSP 30 RF Antenna	02-02/11-05-001 02-02/24-05-032	09/10/2019	09/10/2018		
SER 1	ESCI HFH 2 - Z 2 NW-2000-NB KK-EF393/U-16N-21N20 m KK-SD_7/8-2X21N-33,0M ANT1010A	02-02/03-05-005 02-02/24-15-001 02-02/50-05-113 02-02/50-12-018 02-02/50-15-028 02-02/50-16-035	14/12/2018 22/03/2019	14/12/2017 22/03/2018		
SER 2	ESVS 30 VULB 9168 NW-2000-NB KK-EF393/U-16N-21N20 m KK-SD_7/8-2X21N-33,0M	02-02/03-05-006 02-02/24-05-005 02-02/50-05-113 02-02/50-12-018 02-02/50-15-028	06/06/2019 18/04/2019	06/06/2018 18/04/2018		
SER 3	ESW26 AMF-6D-01002000-22-10P 3117 WHJS 1000-10EE 18N-20 NMS111-GL200SC01-NMS1 BAM 4.5-P NCD	02-02/03-17-002 02-02/17-15-004 02-02/24-05-009 02-02/50-05-070 02-02/50-17-003 102-02/50-17-012 02-02/50-17-024 02-02/50-17-025	08/12/2018 08/05/2019	08/12/2017 08/05/2018		