TEST REPORT # EMCC-170121A, 2017-09-06

EQUIPMENT UNDER TEST:

Device:	1200S
Serial Number:	170102
Application:	Amplifier
Manufacturer:	Acom Ltd.
Address:	Bul. Nikola Mushanov 151 1330 Sofia Bulgaria
Phone:	+359 2 920 97 80
Email:	bmarinov@acom-bg.com

RELEVANT STANDARD(S): 47 CFR §§ 97.307, 97.317

TEST REPORT PREPARED BY:

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TEST PERSONNEL:

Daniel Mayle

HEAD OF COMMERCIAL EMC AND RADIO DEPT.:

Wolfgang Döring

CONTENTS

1 GENERAL INFORMATION

1.1 Purpose

The purpose of this report is to show compliance with the 47 CFR §97.307 and §97.317 requirements for the certification of external RF amplifiers operating in the amateur radio service.

1.2 Limits and Reservations

The test results in this report apply only to the particular equipment under test (EUT) as declared in this report. This test report shall not be reproduced except in full without the written permission of EMCCons DR. RAŠEK GmbH & Co. KG.

1.3 Test Location

Test Laboratory:	EMCCons DR. RAŠEK GmbH & Co. KG
Accreditation No.:	D-PL-12067-01-02
Address of Labs I, II, III and Head Office:	EMCCons DR. RAŠEK GmbH & Co. KG Boelwiese 8 91320 Ebermannstadt GERMANY
Address of Labs IV and V:	EMCCons DR. RAŠEK GmbH & Co. KG Stoernhofer Berg 15 91364 Unterleinleiter GERMANY
Phone:	+49 9194 7262-0
Fax:	+49 9194 7262-199
E-Mail:	emc.cons@emcc.de
Web:	www.emcc.de

1.4 Manufacturer

Company Name:	Acom Ltd.
Street:	Bul. Nikola Mushanov 151
City:	1330 Sofia
Country:	Bulgaria

1.5 Applicant

Company Name:	Acom Ltd.
Street:	Bul. Nikola Mushanov 151
City:	1330 Sofia
Country:	Bulgaria
Name for contact purposes:	Mr Bilyan Marinov
Phone:	+359 2 920 97 80
E-Mail:	bmarinov@acom-bg.com

1.6 Dates and Test Location

Date of Receipt of EUT:	2017-07-31
Test Date:	CW 31/2017, 2017-07-31
Test Location:	Lab IV

1.7 Ordering Information

Purchase Order:	E-Mail dated 2017-06-21

1.8 Climatic Conditions

Date	Temperature [°C]	Relative Humidity [%]	Air Pressure [hPa]	Lab	Customer attended tests
2017-07-31	25	62	976	IV	Yes, Mr Bilyan Marinov

2 PRODUCT DESCRIPTION

2.1 Equipment Under Test (EUT)

Trade Name:	1200S
Serial Number:	170102
Software Version:	2.0
Hardware Revision:	1.2/1.2/1.1/1.3
Application:	Amplifier
Power Supply:	93-265 VAC
Highest internally generated or used frequency:	54 MHz
Ports:	1x GND stud 1x KEY-IN jack 1x KEY-OUT jack 1x RF INPUT 1x RF OUTPUT 1x power cord socket 1x CAT/AUX interface 1x RS232 port
Accessories delivered with EUT:	Power cord operating manual with CE declaration of compliance spare fuses
Variants:	None
Remarks:	None

For further information concerning port description see Annex 3.

2.2 Intended Use

The following information was delivered by the customer:

Product description (description of equipment function):
Amplifier for amateur radio service

General product information:

The following information was taken out of user´s manual delivered by the customer.

8. SPECIFICATIONS

8-1. Parameters

a) Standard frequency coverage (*):

1.800 - 2.000 MHz
5.020 - 5.455 MHz
7.000 - 7.300 MHz
10.100 - 10.150 MHz
14.000 - 14.350 MHz
18.068 - 18.168 MHz
21.000 - 21.450 MHz
24.890 - 24.990 MHz
28.000 - 29.700 MHz
50.000 - 54.000 MHz

(*) Extensions or changes of the frequency coverage are possible on request.

b) Rated output power: 1000W +/-0.5dB, PEP or continuous carrier, without mode limitation 500W with mains power supply voltage below 150VAC.

c) Intermodulation distortions (IM3): better than 31dB below the rated PEP.

d) Harmonic and parasitic emissions output suppression: better than 60dB (65dB typically).

e) Input and output impedances:

- nominal value: 50 Ohm unbalanced, UHF (SO239) type connectors;
- input circuit: broadband, SWR below 1.2:1 (1.1:1 typically); 1.8 – 54 MHz continuous range without retuning or switching;
- RF by-pass path SWR - below 1.1:1, 1.8-54 MHz;
- acceptable SWR at the output load (the antenna): up to 3:1 with proportional power reduction and up to 1.5:1 for full output power;

f) RF power gain: 14dB +/-1dB (typically 40W for 1000W output power);

g) Mains power supply voltage: 93-265VAC.Below 150VAC the output power is reduced.

h) Mains power consumption at full output power: 2100VA or less wth a power factor of 0.95 or higher;

i) Mains power consumption in Low Energy (waiting) mode: less than 1VA;

j) Complies with EU safety regulations and electromagnetic compatibility standards, as well as with the US Federal Communications Commission (FCC) rules;

k) Environmental conditions:

- temperature range: -10ºC to +40ºC (14ºF to 104ºF);

- relative air humidity: up to 95% @ 35ºC (95ºF);

l) Dimensions (projections not included) and weight, operating: (W x H x D) 372 x 171 x 427 mm (14.6 x 6.7 x 16.8 In); 14.5 kg (32 Lbs).

8-2. Functions

a) Receive / transmit control:

- KEY-IN input – Phono RCA jack; voltage applied to the transceiver keying output up to +12V; current drawn by the transceiver keying output up to 6mA;

- An optional KEY-OUT output – Phono RCA jack; output resistance: not more than 120 Ohm; maximum safe input voltage from the transceiver +50V; maximum safe current drawn by the transceiver: 20mA;

- **minimum** dead time, necessary for safe amplifier switchingover from receive to transmit: 10ms between the transmit request on the KEY IN input and the RF drive on the RF INPUT jack.

b) Frequency control directly by CAT from the transceiver.

c) Remote control through RS232 interface.

d) Remote power on by DSR/DTR and CTS/RTS lines on the RS232 port.

e) Remote power on/turn off by DC voltage impulse or continuous DC voltage on CAT/AUX port ON_RMT input.

8-3. Storage and shipment

a) Environment conditions for storage and shipment:

- temperature range: -40ºC to +70ºC (-40ºF to 158ºF);

- relative air humidity: up to 75% @ 35ºC (95ºF);

- above sea-level: up to 12000m, including the luggage compartment of an aircraft.

b) Dimensions and weight at transportation (max): (W x H x D) 540 x 320 x 530 mm (20.9 x 12.6 x 21.2 In); 17kg (32 Lbs).

2.3 EUT Peripherals/Simulators

An Elecraft K3 Transceiver, Serial No. 2972, was used as exciter.

The following information was taken out of user´s manual delivered by the customer.

Specifications

⚠ Some specifications apply only if the corresponding option modules are installed (see ***Options***, pg. 45).

GENERAL

Frequency Range	Main and Sub Receivers, 490 kHz - 30 MHz and 44-54 MHz. Transmitter: Amateur bands between 1.8 and 54 MHz (varies by country). 144-148 MHz with K144XV option. MARS coverage on request (excluding transmit from 7.550-8.999 MHz at 13 W and higher, and 7.650-8.999 MHz at 12 W or lower).
Tuning Step Sizes	1, 10, 20, and 50 Hz fine steps; user-configurable coarse tuning steps (per-mode). Direct keypad frequency entry in either MHz or kHz.
Memories	100 general purpose, plus 4 scratch-pad memories per band
Frequency Stability	+/- 5 ppm (0-50 C) TCXO standard; +/- 1 ppm TCXO opt. (+/- 0.5 PPM typ., 0-50 C). K3EXREF option locks TCXO to an external 10-MHz reference (+/- 1 to 2 Hz typ.).
Antenna Jacks	50 ohms nominal. One SO-239 supplied (2nd SO-239 jack supplied with KAT3 ATU). BNC jacks for RX antenna in/out and transverter in/out (KXV3 Option).
Modes	USB, LSB, AM, FM, CW, DATA (FSK D [direct], AFSK A [Audio], PSK D [Direct] and DATA A [Audio]; PSK). Built in PSK, RTTY, and CW text decode/display.
VFOs	Dual VFOs (A and B) with separate weighted tuning knobs
Remote Control Port	EIA-232 standard DE-9F; USB adapter option. Full control of all radio functions.
Audio I/O	Line-level isolated TX/RX audio interface (stereo outputs); front (1/4") and rear (1/8") stereo headphone jacks; stereo speaker jack.
Transverter Interface	Transmit, 0 dBm typ.; BNC in/out connectors on KXV3 option module. KXV3A (updated KXV3) includes connectors for K144XV internal 2-meter module.
Buffered IF output	BNC connector (KXV3 Option); see pg. 39 for interface recommendations.
Other I/O	Key/Keyer/Computer, Paddle, PTT In, and KEY Out. Band information output via binary interface and AUXBUS on ACC connector.
Real-Time Clock/Calendar	Accuracy: Approx. +/- 20 ppm (+/- 2 seconds/day). U.S. and E.U. date formats. Battery: 3 V coin cell (see pg. 48 for replacement instructions).
Supply Voltage and Current	13.8 V nominal (11 V min, 15 V max). 17-22 A typical in TX for K3/100, 3-4 A typical in TX for K3/10. 0.9A typical RX (less sub receiver). When using reduced supply voltage (< 12 V), power output should be reduced (e.g. 70 W at 11 V). **Recommended supply:** 13.8VDC @ 25A, continuous duty for K3/100; 13.8VDC @ 6A for K3/10. For best results, use the supplied 5 foot (1.53 m) power cable. When a battery is used, both sides of the battery cable should be protected by fast-blow fuses.
Accessory DC output	Switched, 0.5 A max; 13 V no-load, 12 V max load (@ Vsupply = 13.8 V)
Weight (K3/100)	Approx. 8.5 lbs. (3.8 kg). With KRX3 sub receiver option, 9.5 lbs. (4.3 kg).
Size	Enclosure only, 4.0 x 10.7 x 10.0 in., HWD (10.2 x 27.2 x 25.4 cm). With projections, 4.4 x 11.1 x 11.8 in. (11.2 x 28.2 x 30.0 cm).

*RECEIVER (Main and Sub)**

Sensitivity (MDS)	-136 to -138 dBm (typ.), preamp on, 500 Hz bandwidth. 6 m MDS with PR6 option: -143 to -144 dBm (typ.). Reduced sensitivity near 8.2 MHz (first I.F.) and from 44-49.5 MHz. Sensitivity decreases gradually below 1.8 MHz due to intentional high-pass response at the T-R switch. (Use RX ANT input or sub receiver's AUX input to avoid the high-pass filter loss.) **Note:** KBPF3 option required for full general coverage (including 0.49 to 1.7 MHz).
Dynamic Range	IMD3 > 100 dB, Blocking 140 dB, typical (at 5, 10, and 20 kHz spacing)
Image and I.F. Rejection	> 70 dB
Audio Output	2.5 W per channel into 4 ohms; typ. 10% THD @ 1 kHz, 2 W
S-Meter	Nom. S9 = 50 µV, preamp on; user-adjustable
Noise Blanker	Adjustable, multi-threshold/multi-width hardware blanker plus DSP blanker
Receive AF graphic EQ	+/- 16 dB/octave, 8 bands
Filter Controls	IF Shift/Width & Lo/High Cut with automatic crystal filter selection

*** Receive specifications are guaranteed only within ham bands.** Dynamic range measurements based on 400-Hz, 8-pole filter. Other available filters have very similar performance; see www.elecraft.com for full list.

*TRANSMITTER **

Output Power	K3/100: 0.1 W –100 W typ. Suggested max from 51-52 MHz, 85 W; 52-54, 70 W. K3/10 (or K3/100 with PA bypassed): 0.1 W –12 W, HF-10 m; 8 W max on 6 m. XVTR OUT (KXV3 option): -10 to +1.8 dBm. K144XV: ~10 W, 144-148 MHz. **Note:** Output can be set up to 110 W. However, IMD and spurious products are specified at 100 W, the recommended max. If a KAT3 ATU is installed, actual output will be slightly lower (typ. loss < 0.5 dB below 28 MHz, < 0.8 dB above).
Duty Cycle	CW and SSB modes, 100% 10-min. 100W key-down at 25 C ambient
True RF Speech Processor	Adjustable compression
Transmit AF graphic EQ	+/- 16 dB/octave, 8 bands
SSB TX Bandwidth	4 kHz max (> 2.8 kHz requires 6 kHz AM filter)
SSB TX Monitor	Post-DSP filtering/processing
VOX	DSP-controlled, adjustable threshold, delay, and anti-VOX
Full and Semi CW Break-In	Adjustable delay; diode T/R Switching
SSB Carrier Suppression	> 50 dB
Harmonic / Spurious Outputs	> 50 dB below carrier @ 100W (> 60 dB on 6 meters)
CW Offset/Sidetone	300-800 Hz, adjustable (filter center frequency tracks sidetone pitch)
Mic Connector	Front panel, 8 pin; rear panel 3.5 mm. Switchable DC bias (*MAIN:MIC SEL*)

*** Transmit specifications are guaranteed only within ham bands.**

2.4 Mode of Operation During Testing and Test Setup

Test mode a:
The EUT was supplied with 220 VAC / 60 Hz and switched on. The terminal “RF INPUT” was connected via coaxial cable to exciter “Elecraft K3 Transceiver”. The exciter provided the desired parameters. “RF OUTPUT” was connected to a dummy load.

Terminal	Tested with
Power supply	220 VAC / 60 Hz
RF input	“RF INPUT”, for all frequencies
RF output	“RF OUTPUT”, for all frequencies

2.5 Modifications Required for Compliance

None.

3 TEST RESULTS SUMMARY

Summary of test results for the following EUT:

Manufacturer: Acom Ltd.
Device: 1200S
Serial No: 170102

Requirement	47 CFR Section	Report Section	Result
Spurious Emissions & Gain	97.307(d), 97.317(a)	4	Passed

The client has made the determination that EUT Condition, Characterization, and Mode of Operation are representative of production units and meet the requirements of the specifications referenced herein.
Consistent with Industry practice, measurement and test equipment not directly involved in obtaining measurement results but having an impact on measurements (such as cable loss, antenna factors, etc.) are factored into the "Correction Factor" documented in certain test results. Instrumentation employed for testing meets tolerances consistent with known Industry Standards and Regulations.
The measurements contained in this report were made in accordance with the procedures described in ANSI C63.4-2014. All requirements were found to be within the limits outlined in this report.
The test results in this report apply only to the particular equipment under test (EUT) as declared in this report.

Test Personnel: Daniel Mayle
Issuance Date: 2017-09-06

4 SPURIOUS EMISSIONS & GAIN

Test Requirement: FCC 47 CFR, § 97.317(a) & § 97.317(b), § 97.307(d)

4.1 Regulation

§ 97.307 Emission standards.

(d) For transmitters installed after January 1, 2003, the mean power of any spurious emission from a station transmitter or external RF power amplifier transmitting on a frequency below 30 MHz must be at least 43 dB below the mean power of the fundamental emission. For transmitters installed on or before January 1, 2003, the mean power of any spurious emission from a station transmitter or external RF power amplifier transmitting on a frequency below 30 MHz must not exceed 50 mW and must be at least 40 dB below the mean power of the fundamental emission. For a transmitter of mean power less than 5 W installed on or before January 1, 2003, the attenuation must be at least 30 dB. A transmitter built before April 15, 1977, or first marketed before January 1, 1978, is exempt from this requirement.

§ 97.317 Standards for certification of external RF power amplifiers.

(a) To receive a grant of certification, the amplifier must:

(1) Satisfy the spurious emission standards of §97.307 (d) or (e) of this part, as applicable, when the amplifier is operated at the lesser of 1.5 kW PEP or its full output power and when the amplifier is placed in the “standby” or “off” positions while connected to the transmitter.

(2) Not be capable of amplifying the input RF power (driving signal) by more than 15 dB gain. Gain is defined as the ratio of the input RF power to the output RF power of the amplifier where both power measurements are expressed in peak envelope power or mean power.

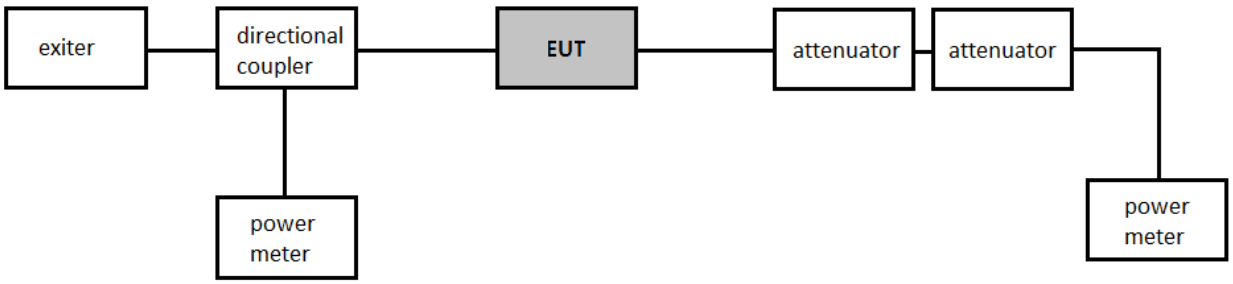
(3) Exhibit no amplification (0 dB gain) between 26 MHz and 28 MHz.

4.2 Test Equipment

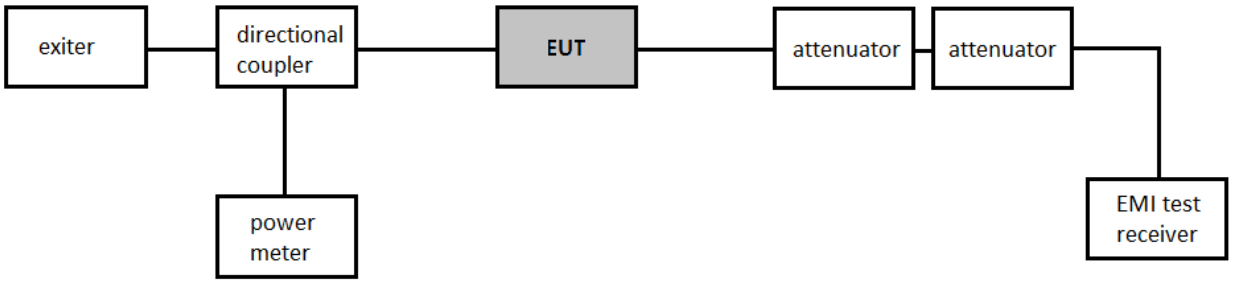
Type	Manufacturer/ Model No.	EMCC Ident No.	Last Calibration	Next Calibration
EMI Test Receiver	R&S / ESU8	3846	2017-01	2018-01
60-Hz-Converter	AEG / DAMK4/DAGK4	1	n.a.	n.a.
Digital Multimeter	Agilent / U1241A	2717	2016-01	2018-01
Dual Directional Coupler	Pulsar / C40-112-481/5N	5467	2016-01	2018-01
RF Power Meter	R&S / URV 5	298	2017-06	2019-06
RF Power Meter	R&S / NRVD	1265	2016-11	2018-11
Insertion Probe	R&S / URV 5-Z2	2745	2016-03	2018-03
Insertion Probe	R&S / URV 5-Z2	546	2016-03	2018-03
Attenuator	Bird / 8329-300	828	2016-12	2018-12
Attenuator	Narda / 766-20	2428	2015-10	2017-10

4.3 Test Setups

Schematic test setups for spurious emissions and gain:



test setup “gain”



test setup “spurious emissions”

4.4 Test Result

Mode: test mode a

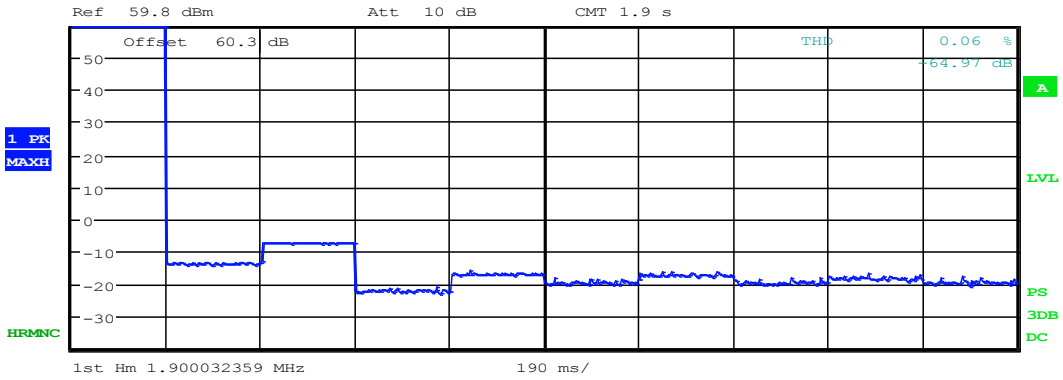
power gain § 97.317				spurious emissions § 97.307(d)			
Frequency f1 [MHz]	Input power [W]	output power [W]	amplifier gain [dB]	2 * f1 [dBc]	3 * f1 [dBc]	4 * f1 [dBc]	5-10 * f1 [dBc]
1.9	32	1000	14.9	-73.7	-67.4	-82.1	< -77.2
3.75	35.9	1000	14.4	-69.4	-72.2	-82.6	< -70.9
7.15	43.3	1000	13.6	-71.4	-66	-82.9	< -71
10.125	41.4	1000	13.8	-77.9	-66.5	-82.8	< -62.9
14.17	46.9	1000	13.3	-74.7	-60.1	-72.3	< -60.7
18.118	38.4	1000	14.2	-61.1	-57.4	-72.6	< -62.8
21.225	36.9	1000	14.3	-73.3	-66.4	-72.3	< -66.9
24.93	41.9	1000	13.8	-74.1	-55.9	-81	< -66.2
26.33	3.49	3.25	-0.3	/			
27	5.15	4.8	-0.3				
27.995	5.18	4.8	-0.3				
28.5	48.2	1000	13.2	-74	-54.7	-80.3	< -66.5
52	36.7	1000	14.4	-77.9	-67.5	-77.7	< -70.3

Manufacturer: Acom Ltd.
Device: 1200S
Serial No: 170102
Test Date: 2017-07-31

The EUT meets the requirements of this section.

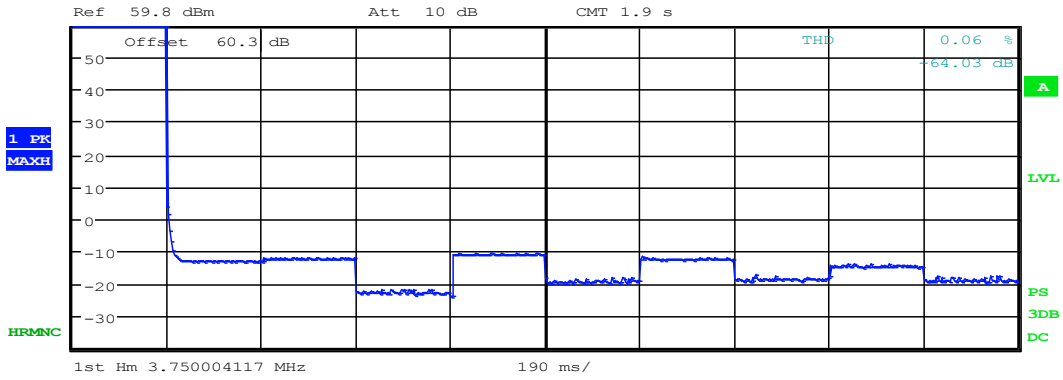
4.5 Measurement Plots

The R&S ESU8 implemented function “harmonic distortion” was used to proof compliance.



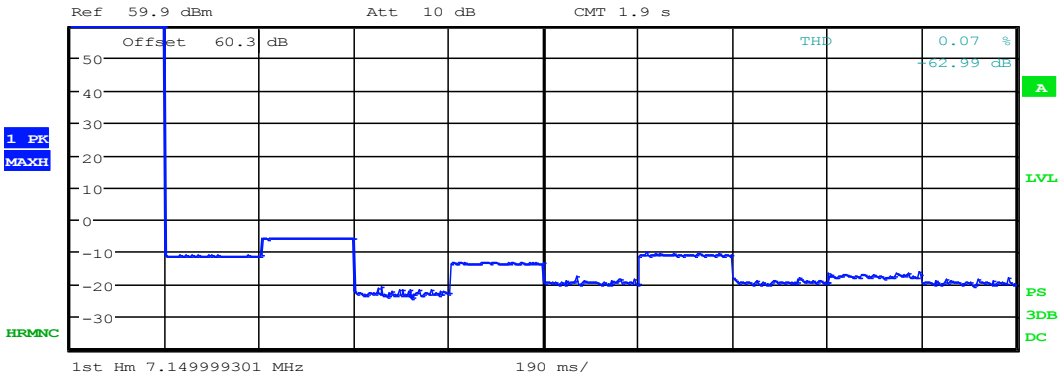
No	Frequency	RBW	Power
1	1.90 MHz	10 kHz	59.71 dBm
2	3.80 MHz	20 kHz	-73.73 dBc
3	5.70 MHz	30 kHz	-67.39 dBc
4	7.60 MHz	50 kHz	-82.05 dBc
5	9.50 MHz	50 kHz	-77.00 dBc
6	11.40 MHz	100 kHz	-79.48 dBc
7	13.30 MHz	100 kHz	-77.22 dBc
8	15.20 MHz	100 kHz	-79.55 dBc
9	17.10 MHz	100 kHz	-78.20 dBc
10	19.00 MHz	100 kHz	-79.45 dBc

$f_{carrier}$ = 1.9 MHz



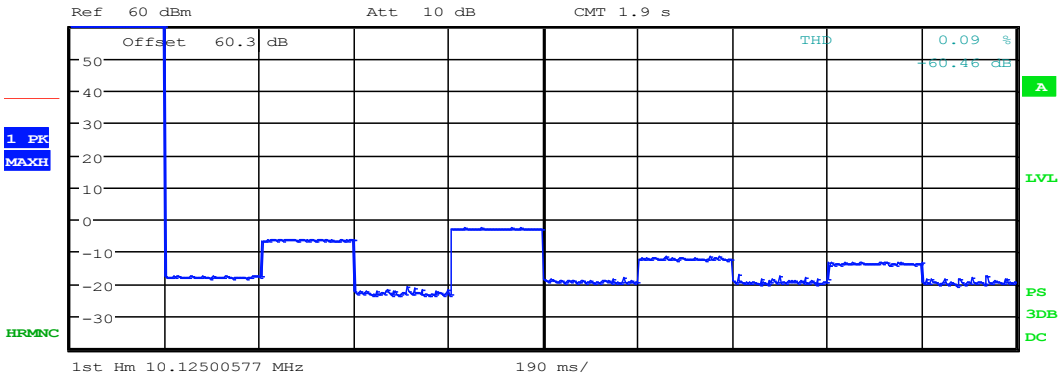
No	Frequency	RBW	Power
1	3.75 MHz	10 kHz	59.67 dBm
2	7.50 MHz	20 kHz	-69.38 dBc
3	11.25 MHz	30 kHz	-72.21 dBc
4	15.00 MHz	50 kHz	-82.62 dBc
5	18.75 MHz	50 kHz	-70.89 dBc
6	22.50 MHz	100 kHz	-79.18 dBc
7	26.25 MHz	100 kHz	-72.36 dBc
8	30.00 MHz	100 kHz	-78.54 dBc
9	33.75 MHz	100 kHz	-74.49 dBc
10	37.50 MHz	100 kHz	-78.79 dBc

$f_{carrier}$ = 3.75 MHz



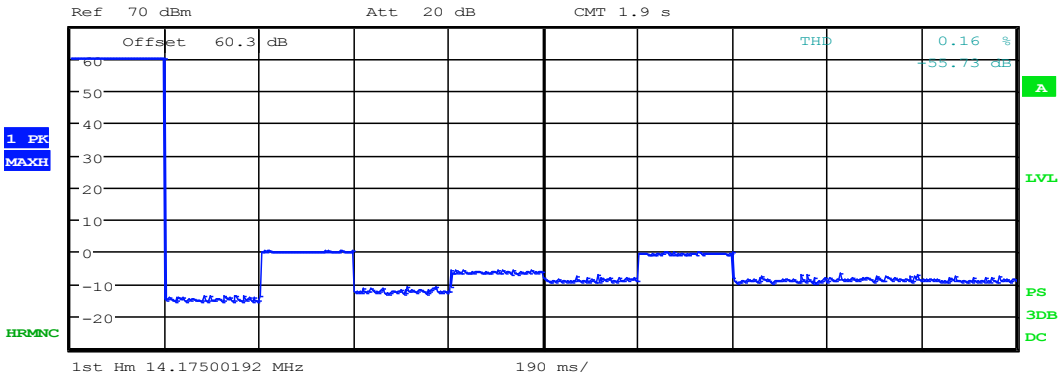
No	Frequency	RBW	Power
1	7.15 MHz	10 kHz	59.81 dBm
2	14.30 MHz	20 kHz	-71.40 dBc
3	21.45 MHz	30 kHz	-66.00 dBc
4	28.60 MHz	50 kHz	-82.88 dBc
5	35.75 MHz	50 kHz	-73.65 dBc
6	42.90 MHz	100 kHz	-79.54 dBc
7	50.05 MHz	100 kHz	-71.02 dBc
8	57.20 MHz	100 kHz	-79.39 dBc
9	64.35 MHz	100 kHz	-77.58 dBc
10	71.50 MHz	100 kHz	-79.63 dBc

$f_{carrier}$ = 7.15 MHz



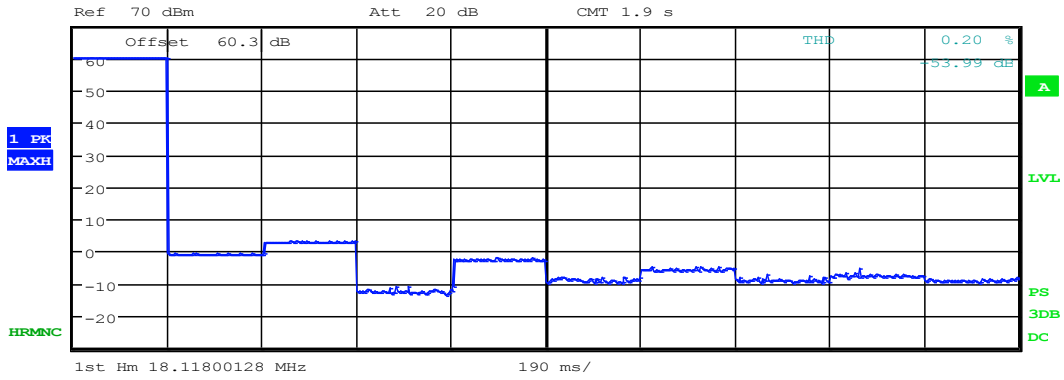
No	Frequency	RBW	Power
1	10.13 MHz	10 kHz	59.84 dBm
2	20.25 MHz	20 kHz	-77.90 dBc
3	30.38 MHz	30 kHz	-66.47 dBc
4	40.50 MHz	50 kHz	-82.82 dBc
5	50.63 MHz	50 kHz	-62.89 dBc
6	60.75 MHz	100 kHz	-79.20 dBc
7	70.88 MHz	100 kHz	-72.23 dBc
8	81.00 MHz	100 kHz	-79.29 dBc
9	91.13 MHz	100 kHz	-73.72 dBc
10	101.25 MHz	100 kHz	-79.35 dBc

$f_{carrier}$ = 10.125 MHz



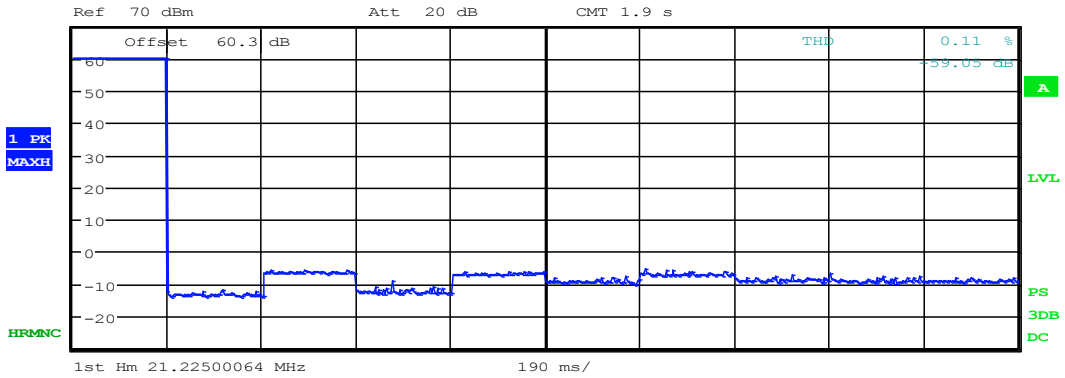
No	Frequency	RBW	Power
1	14.18 MHz	10 kHz	59.97 dBm
2	28.35 MHz	20 kHz	-74.71 dBc
3	42.53 MHz	30 kHz	-60.09 dBc
4	56.70 MHz	50 kHz	-72.27 dBc
5	70.88 MHz	50 kHz	-66.46 dBc
6	85.05 MHz	100 kHz	-68.83 dBc
7	99.23 MHz	100 kHz	-60.72 dBc
8	113.40 MHz	100 kHz	-68.91 dBc
9	127.58 MHz	100 kHz	-68.55 dBc
10	141.75 MHz	100 kHz	-68.93 dBc

$f_{carrier}$ = 14.175 MHz



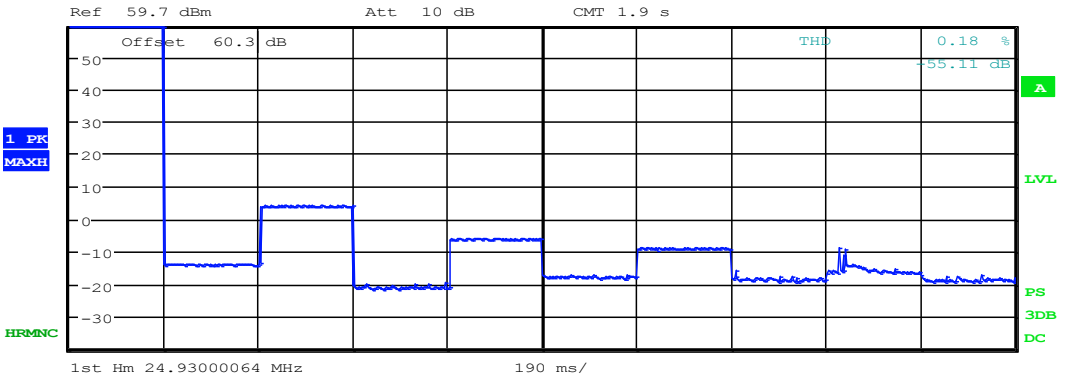
No	Frequency	RBW	Power
1	18.12 MHz	10 kHz	60.09 dBm
2	36.24 MHz	20 kHz	-61.10 dBc
3	54.35 MHz	30 kHz	-57.35 dBc
4	72.47 MHz	50 kHz	-72.59 dBc
5	90.59 MHz	50 kHz	-62.82 dBc
6	108.71 MHz	100 kHz	-69.06 dBc
7	126.83 MHz	100 kHz	-65.87 dBc
8	144.94 MHz	100 kHz	-69.11 dBc
9	163.06 MHz	100 kHz	-67.69 dBc
10	181.18 MHz	100 kHz	-69.10 dBc

$f_{carrier}$ = 18.118 MHz



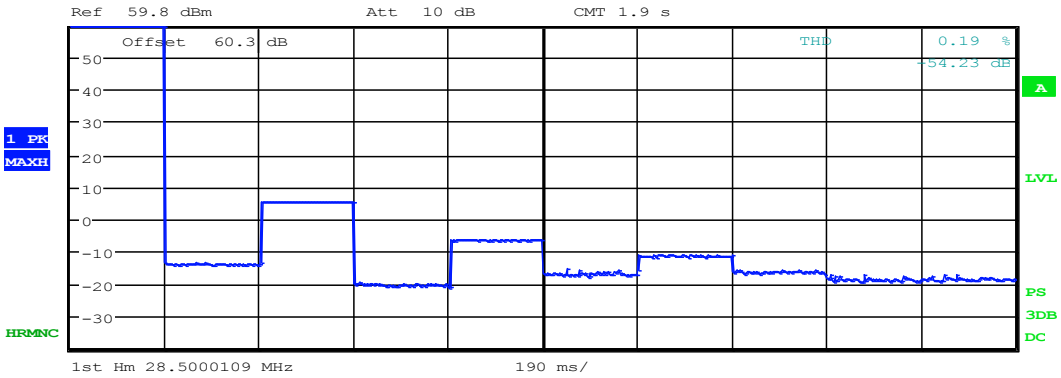
No	Frequency	RBW	Power
1	21.23 MHz	10 kHz	59.90 dBm
2	42.45 MHz	20 kHz	-73.25 dBc
3	63.68 MHz	30 kHz	-66.44 dBc
4	84.90 MHz	50 kHz	-72.28 dBc
5	106.13 MHz	50 kHz	-66.90 dBc
6	127.35 MHz	100 kHz	-69.09 dBc
7	148.58 MHz	100 kHz	-66.97 dBc
8	169.80 MHz	100 kHz	-68.72 dBc
9	191.03 MHz	100 kHz	-68.92 dBc
10	212.25 MHz	100 kHz	-69.05 dBc

$f_{carrier}$ = 21.225 MHz



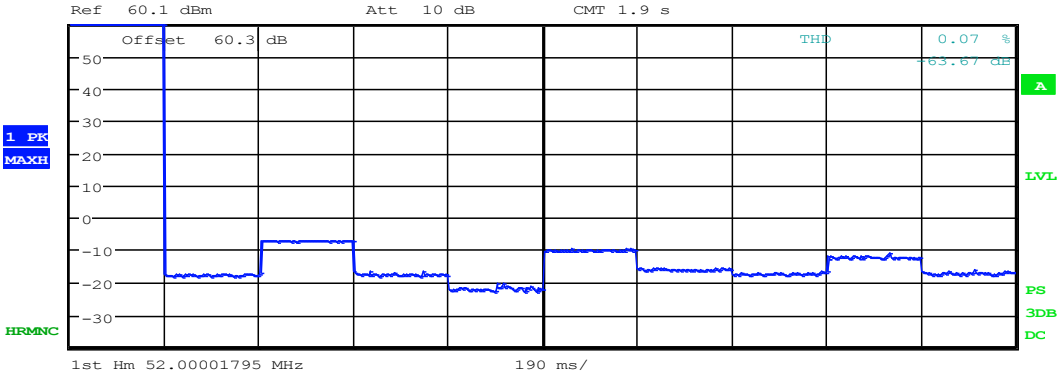
No	Frequency	RBW	Power
1	24.93 MHz	10 kHz	59.68 dBm
2	49.86 MHz	20 kHz	-74.05 dBc
3	74.79 MHz	30 kHz	-55.85 dBc
4	99.72 MHz	50 kHz	-81.01 dBc
5	124.65 MHz	50 kHz	-66.16 dBc
6	149.58 MHz	100 kHz	-77.74 dBc
7	174.51 MHz	100 kHz	-69.06 dBc
8	199.44 MHz	100 kHz	-78.54 dBc
9	224.37 MHz	100 kHz	-75.15 dBc
10	249.30 MHz	100 kHz	-78.66 dBc

$f_{carrier}$ = 24.93 MHz



No	Frequency	RBW	Power
1	28.50 MHz	10 kHz	59.73 dBm
2	57.00 MHz	20 kHz	-74.00 dBc
3	85.50 MHz	30 kHz	-54.73 dBc
4	114.00 MHz	50 kHz	-80.30 dBc
5	142.50 MHz	50 kHz	-66.53 dBc
6	171.00 MHz	100 kHz	-76.87 dBc
7	199.50 MHz	100 kHz	-71.44 dBc
8	228.00 MHz	100 kHz	-76.28 dBc
9	256.50 MHz	100 kHz	-78.67 dBc
10	285.00 MHz	100 kHz	-78.58 dBc

$f_{carrier}$ = 28.5 MHz



No	Frequency	RBW	Power
1	52.00 MHz	10 kHz	60.04 dBm
2	104.00 MHz	20 kHz	-77.93 dBc
3	156.00 MHz	30 kHz	-67.45 dBc
4	208.00 MHz	50 kHz	-77.70 dBc
5	260.00 MHz	50 kHz	-82.15 dBc
6	312.00 MHz	100 kHz	-70.33 dBc
7	364.00 MHz	100 kHz	-76.15 dBc
8	416.00 MHz	100 kHz	-77.53 dBc
9	468.00 MHz	100 kHz	-72.41 dBc
10	520.00 MHz	100 kHz	-77.29 dBc

$f_{carrier}$ = 52.0 MHz

5 LIST OF ANNEXES

Following annexes are separated parts from this test report.

Description	Pages
Annex 1: Photographs of test set-up	2
Annex 2: Photographs of equipment under test (EUT)	4
Annex 3: Description of equipment under test (EUT), ports	6