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Radio measurements on Radio 2219 B5 radio equipment with FCC ID TA8AKRC161678-1 and IC: 287AB-AS1616781

(8 appendices)

Test object

Product name: Radio 2219 B5
Product number: KRC 161 678/1

Summary

See appendix 1 for details.

Standard		Compliant	Appendix
FCC CFR 47 / IC RSS-132 ISSUE 3			
2.1046 / RSS-132 5.4	RF power output	Yes	2
2.1049 / RSS-Gen 4.6.1	Occupied bandwidth	Yes	3
2.1051 / RSS-132 5.5	Band edge	Yes	4
2.1051 / RSS-132 5.5	Spurious emission at antenna terminals	Yes	5
2.1053 / RSS-132 5.5	Field strength of spurious radiation	Yes	6
2.1055 / RSS-132 5.3	Frequency stability	Yes	7

SP Technical Research Institute of Sweden

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Performed by

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Monika Fuller

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Description of the test object related to single RAT GSM mode

Equipment:	Radio equipment Radio 2219 B5 Product number KRC 161 678/1 FCC ID TA8AKRC161678-1 IC: 287AB-AS1616781
HVIN:	AS1616781
Hardware revision state:	R1A
Frequency band (3GPP B5):	TX: 869 - 894 MHz RX: 824 - 849 MHz
IBW:	20 MHz with 20 W/ carrier 25 MHz with 13 W/ carrier
Output power:	Max 20 W/ carrier Max output power 80 W/ antenna port
Antenna ports:	2 TX/RX ports
RF configurations:	Single and multi carrier, 1-4 carriers/ port Single antenna, dual TX Contigouos Spectrum (CS) and Non-Contiguous Spectrum (NCS)
RF power Tolerance:	+0.6/ - 2.0 dB
CPRI Speed	9.8 Gbit/s
Channel bandwidths:	200 kHz
Modulations :	GMSK, 8PSK and AQPSK
Nominal power voltage:	-48VDC

The information above is supplied by the manufacturer.

Operation modes during measurements

Measurements were performed with the test object transmitting following modulations: GMSK, AQPSK, 8-PSK.

Unless otherwise stated, all measurements were performed with the test object transmitting pseudorandom data in all timeslots and settings for maximum transmitter output power applicable for each configuration.

All measurements were performed with the test object configured for maximum transmit power if not otherwise noted. The measured configurations covers worst case settings. The settings below were used for all measurements if not otherwise noted.

Conducted measurements

The test object was supplied with -48 VDC by an external power supply. Additional connections are documented in the set-up drawings below.

Radiated measurements

The test object was powered with -48 VDC. All measurements were performed with the test object configured for maximum transmit power.

Purpose of test

The purpose of the tests is to verify compliance to the performance characteristics specified in applicable items of FCC CFR 47 and Industry Canada RSS-132 and RSS-Gen. Test scope limited to single RAT GSM mode.

References

Measurements were done according to relevant parts of the following standards:
ANSI 63.4-2014
ANSI/TIA/EIA-603-D-2010
CFR 47 part 2, April 2017
CFR 47 part 22, April, 2017
3GPP TS 51.021, version 13.3.0
KDB 971168 D03 IM Emission Repeater Amp v01
RSS-Gen Issue 4
RSS-132 Issue 3

Appendix 1

Test frequencies used for conducted and radiated measurements

TX test frequencies, conducted measurements:

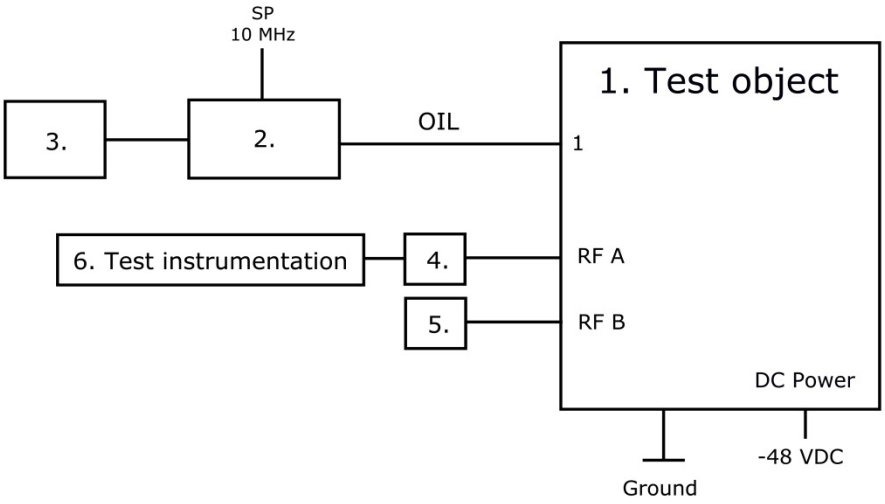
ARFCN Downlink	Frequency [MHz]	Symbolic name	Comment
128	869.2	B	Single carrier TX bottom frequency
129	869.4	B+1	Single carrier TX bottom frequency
129 132	869.4 870.0	B2	2 carrier TX bottom constellation
129 132 135 138	869.4 870.0 870.6 871.2	B4	4 carrier TX botttom constellation
190	881.6	M	Single carrier TX mid frequency
190 193	881.6 882.2	M2	2 carrier TX mid constellation
190 193 196 199	881.6 882.2 882.8 883.4	M4	4 carrier TX mid constellation
250	893.6	T-1	Single carrier TX top frequency
251	893.8	T	Single carrier TX bottom frequency
247 250	893.0 893.6	T2	2 carrier TX top constellation
241 244 247 250	891.8 892.4 893.0 893.6	T4	4 carrier TX top constellation
129 132 228	869.4 870.0 889.2	$B_{im\,3}$	3 carrier TX bottom configuration according to KDB 971168 D03
151 247 250	873.8 893.0 893.6	$T_{im\,3}$	3 carrier TX top configuration according to KDB 971168 D03

TX test frequencies, radiated measurements:

ARFCN Downlink	Frequency [MHz]	Symbolic name	Comment
128	869.2	B	Single carrier TX bottom frequency
190	881.6	M	Single carrier TX mid frequency
251	893.8	T	Single carrier TX top frequency
185 195	880.6 882.6	M2	2 carrier TX mid constellation
183 188 192 197	880.2 881.2 882.0 883.0	M4	4 carrier TX mid constellation

All RX frequencies were configured 45 MHz below the corresponding TX frequency according the applicable duplex offset for the operating band.

Test setup: Conducted measurements



Test object:

1.	Radio 2219 B5, KRC 161 678/1, rev. R1A, s/n: D825138266 With Radio Software: CXP 901 7316/2, rev. R64HS. FCC ID TA8AKRC161678-1 and IC: 287AB-AS1616781

Associated equipment:

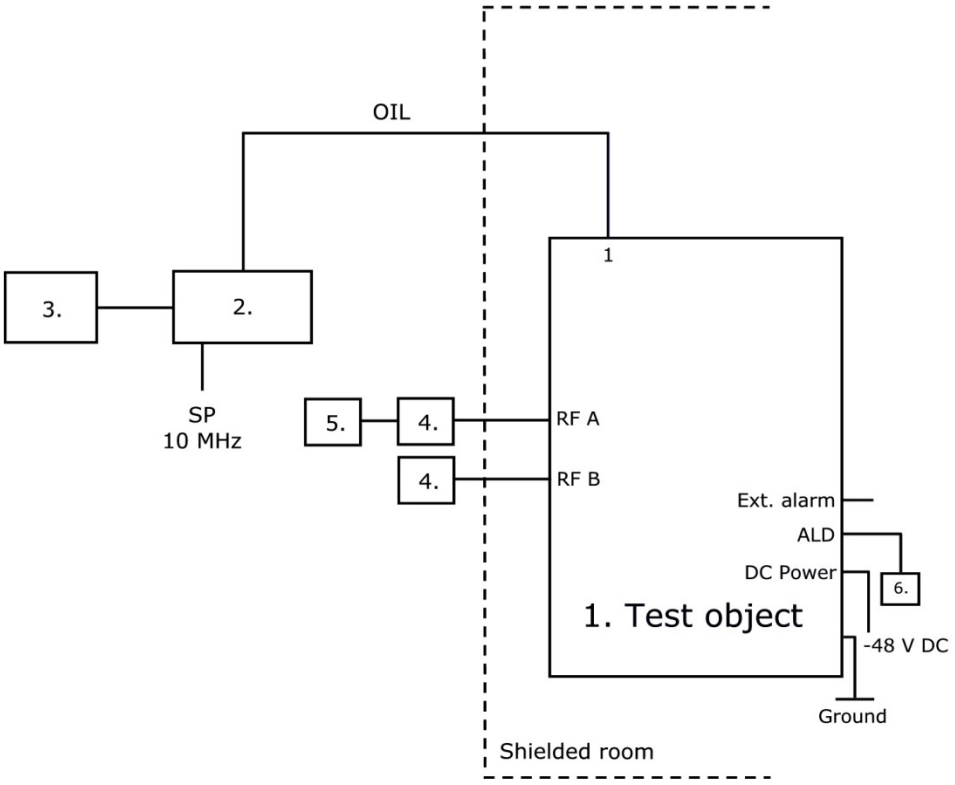
2.	Testing Equipment: CT10, LPC 102 487/1, rev. R1C, s/n: T01F265031, BAMS – 1000797753 with software CXA 104 446/1, rev. R8U

Functional test equipment:

3.	HP EliteBook 8560w, BAMS – 1001236850
4.	RF Attenuator: SP number: 902 282
5.	Terminator, 50 ohm
6.	SP Test Instrumentation according to measurement equipment list for each test. The signal analyzer was connected to the SP 10 MHz reference standard during all measurements.

Appendix 1

Test setup: Radiated measurements



Test object:

1.	Radio 2219 B5, KRC 161 678/1, rev. R1A, s/n: D825138266 With Radio Software: CXP 901 7316/2, rev. R64HS. FCC ID TA8AKRC161678-1 and IC: 287AB-AS1616781

Associated equipment:

2.	Testing Equipment: CT10, LPC 102 467/1, rev. R1C, s/n: T01F375047, BAMS – 1001466801 with software CXA 104 446/1, rev. R8U

Functional test equipment:

3.	HP EliteBook 8560w, BAMS – 1001236850
4.	Attenuator/ Terminator
5.	R&S ESIB 26, SP number: 503 292, for supervision purpose only

Interfaces:	**Type of port:**
Power: -48VDC	DC Power
RF port A, 4.3-10 connector, combined TX/RX	Antenna
RF port B, 4.3-10 connector, combined TX/RX	Antenna
1, optical interface	Signal
2, optical interface, not used in this configuration	Signal
EXT Alarm, shielded multi-wire	Signal
ALD, shielded multi-wire	Signal
Ground wire	Ground

Measurement equipment

	Calibration Due	SP number
Test site Tesla	2019-12	503 881
R&S ESU 40	2017-07	901 385
R&S FSQ 40	2017-07	504 143
R&S FSW 43	2017-08	902 073
Control computer with R&S software EMC32 version 9.15.0	-	503 899
High pass filter 1-18 GHz	2017-06	901 501
High pass filter 1-20 GHz	2017-06	901 373
RF attenuator Weinschel 6905-40-11-LIM	2018-03	902 282
Coaxial cable Sucoflex 102EA	2018-03	BX50191
Coaxial cable Sucoflex 102EA	2018-03	BX50236
ETS Lindgren BiConiLog Antenna 3142E	2019-03	BX61914
EMCO Horn Antenna 3115	2019-12	502 175
µComp Nordic, Low Noise Amplifier	2017-12	901 545
Temperature and humidity meter, Testo 635	2017-05	504 023
Temperature and humidity meter, Testo 625	2017-06	504 188

Uncertainties

Measurement and test instrument uncertainties are described in the quality assurance documentation ”SP-QD 10885”. The uncertainties are calculated with a coverage factor k=2 (95% level of confidence). Compliance evaluation is based on a shared risk principle with respect to the measurement uncertainty.

Reservation

The test results in this report apply only to the particular test object as declared in the report.

Delivery of test object

The test object was delivered 2017-02-14.

Manufacturer’s representative

Mikael Jansson, Ericsson AB.

Test engineers

Tomas Lennhager, Tomas Isbring and Andreas Johnson, RISE.

Test participant

None.

RF power output measurements according to CFR 47 2.1046 / IC RSS-132 5.4

Date	Temperature	Humidity
2017-04-03	22 °C ± 3 °C	36% ± 5 %
2017-05-08	22 °C ± 3 °C	15% ± 5 %

Test set-up and procedure

The test object was connected to a signal analyzer measuring peak and RMS output power in CDF mode.

Measurement equipment	SP number
Rohde & Schwarz signal analyser FSW 43	902 073
RF attenuator	502 282
Testo 635 temperature and humidity meter	504 203

Measurement uncertainty: 0.7 dB

Results

Single carrier

Rated output power level at RF connector 1x 43 dBm/ port.

Tested modulation and Symbolic name	Port RF A [RMS dBm/ dB PAR]	Port RF B [RMS dBm/ dB PAR]
GMSK, B+1	42.75/ 0.42	42.89/ 0.38
GMSK, M	42.62/ 0.38	42.63/ 0.42
GMSK, T-1	42.66/ 0.40	42.63/ 0.42
8PSK, B+1	42.29/ 3.48	42.40/ 3.48
AQPSK, B+1	42.66/ 3.62	42.78/ 3.64

Reduced output power apply for the channel 128 and 251: 38 dBm/ port.

Tested modulation and Symbolic name	Port RF B [RMS dBm/ dB PAR]
GMSK, B	37.79/ 0.32
GMSK, T	37.63/ 0.36

Multi carrier

Rated output power 2x 43 dBm/ port.

Tested modulation and Symbolic name	Port RF A [RMS dBm/ dB PAR]	Port RF B [RMS dBm/ dB PAR]
GMSK, B2	45.80/ 3.30	45.86/ 3.32
GMSK, M2	45.62/ 3.30	45.62/ 3.30
GMSK, T2	45.70/ 3.30	45.67/ 3.34

Multi carrier

Rated output power 4x 43 dBm/ port.

Tested modulation and Symbolic name	Port RF A [RMS dBm/ dB PAR]	Port RF B [RMS dBm/ dB PAR]
GMSK, B4	48.39/ 6.18	48.47/ 6.12
GMSK, M4	48.57/ 6.16	48.58/ 6.18
GMSK, T4	48.54/ 6.12	48.48/ 6.10

Power Spectrum Density

Single carrier

Rated output power level at RF connector 1x 43 dBm/ port.

Tested modulation and Symbolic name	Port RF A [RMS dBm]	Port RF B [RMS dBm]
GMSK, B+1	42.88	43.01

Remark

This unit is tested without antenna. ERP/EIRP compliance is addressed at the time of licensing, as required by the responsible FCC/IC Bureau(s). Licensee's are required to take into account maximum allowed antenna gain used in combination with above power settings to prevent the radiated output power to exceed the limits.

Limits

CFR47 § 22.913: The effective radiated power ERP shall not exceed 1000 W or 800 W/ MHz (PSD) per sector.
The PAR (0.1%) shall not exceed 13 dB.

RSS-132 5.4: The average equivalent isotropically radiated power (e.i.r.p.) limits in SRSP-503 apply, resulting in a maximum EIRP of 1640 W.
The PAR (0.1%) shall not exceed 13 dB.

Complies?	Yes

Occupied bandwidth measurements according to CFR47 2.1049 / RSS-Gen 4.6.1

Date	Temperature	Humidity
2017-04-04	22 °C ± 3 °C	31% ± 5 %

Test set-up and procedure

The measurements were made per definition in § 2.1049. The output was connected to a signal analyzer with the RMS detector activated. The signal analyzer was connected to an external 10 MHz reference standard during the measurements.

Measurement equipment	SP number
Rohde & Schwarz signal analyser FSW 43	902 073
RF attenuator	502 282
Testo 635 temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

Single carrier

Diagram	Modulation	Symbolic name	Tested Port	Occupied BW (99%) [kHz]
1	GMSK	B+1	RFA	244
2	GMSK	B+1	RFB	245
3	GMSK	M	RFA	244
4	GMSK	M	RFB	245
5	8 PSK	M	RFA	245
6	8 PSK	M	RFB	245
7	AQPSK	M	RFA	241
8	AQPSK	M	RFB	239
9	GMSK	T-1	RFA	244
10	GMSK	T-1	RFB	245

The diagrams are shown on the following pages.

Appendix 3

Diagram 1:

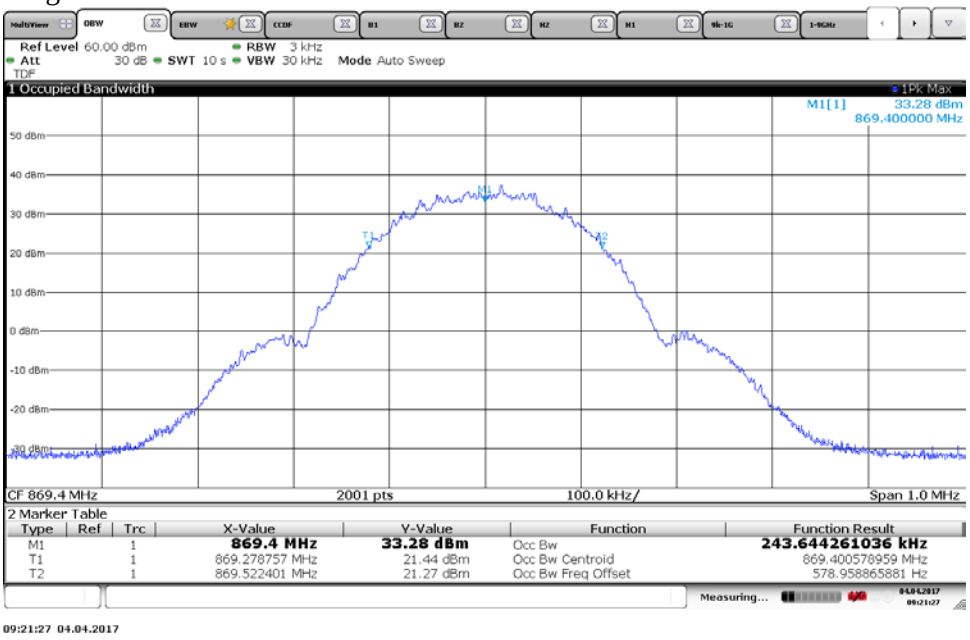
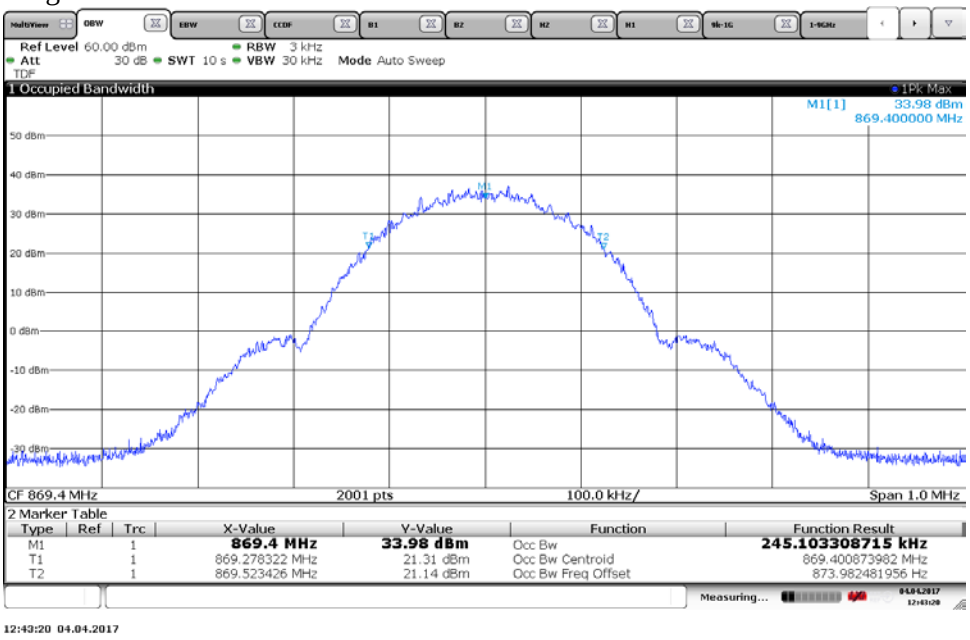


Diagram 2:



Appendix 3

Diagram 3:

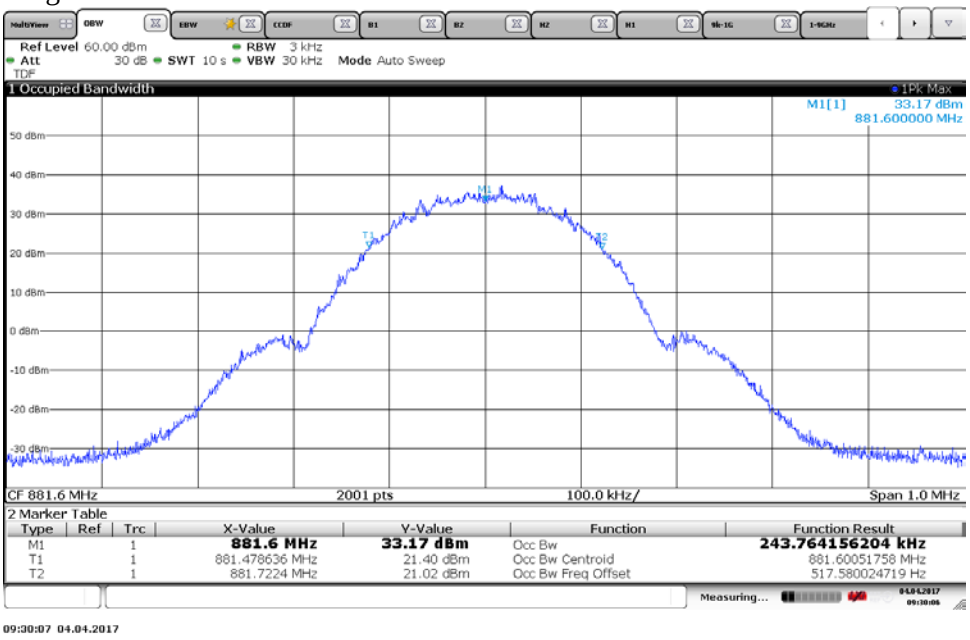


Diagram 4:

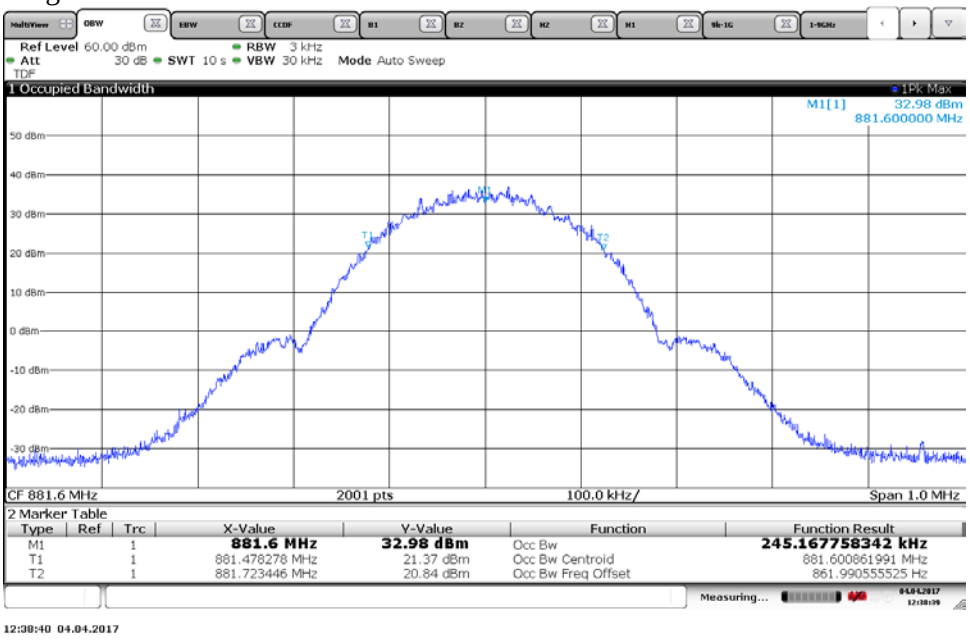


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Diagram 5:

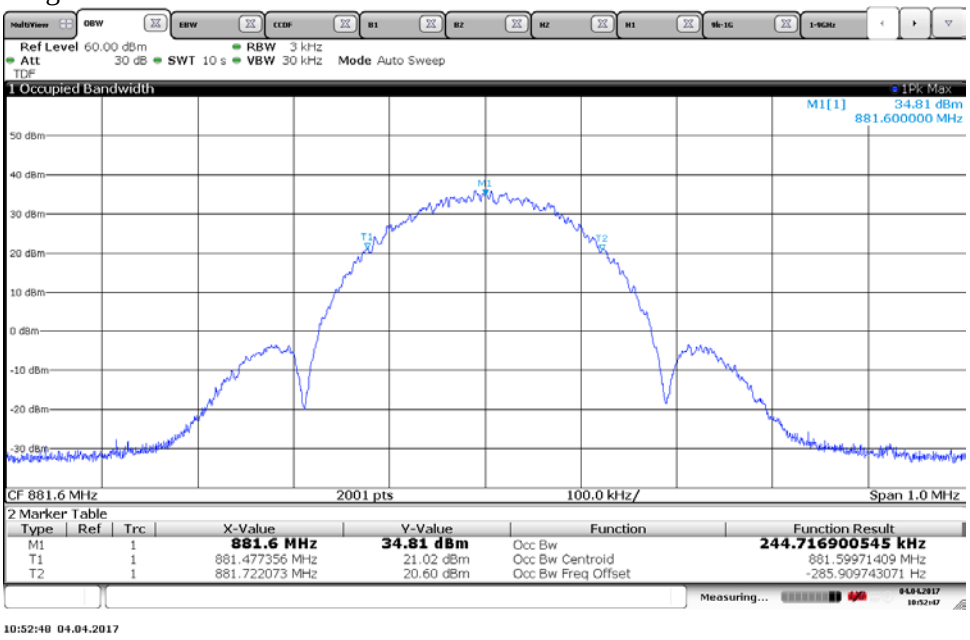

Diagram 6:

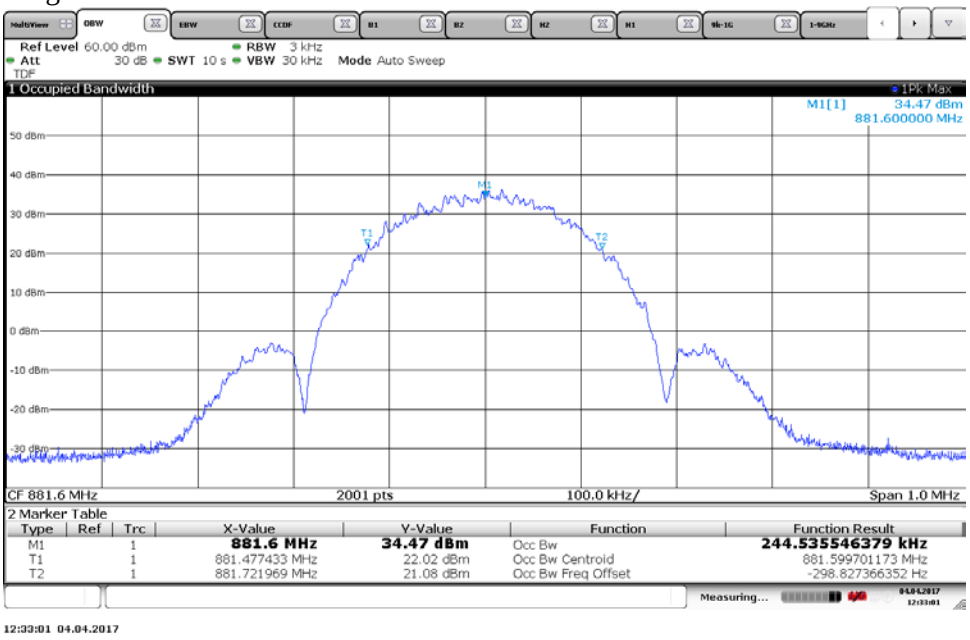

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Diagram 7:

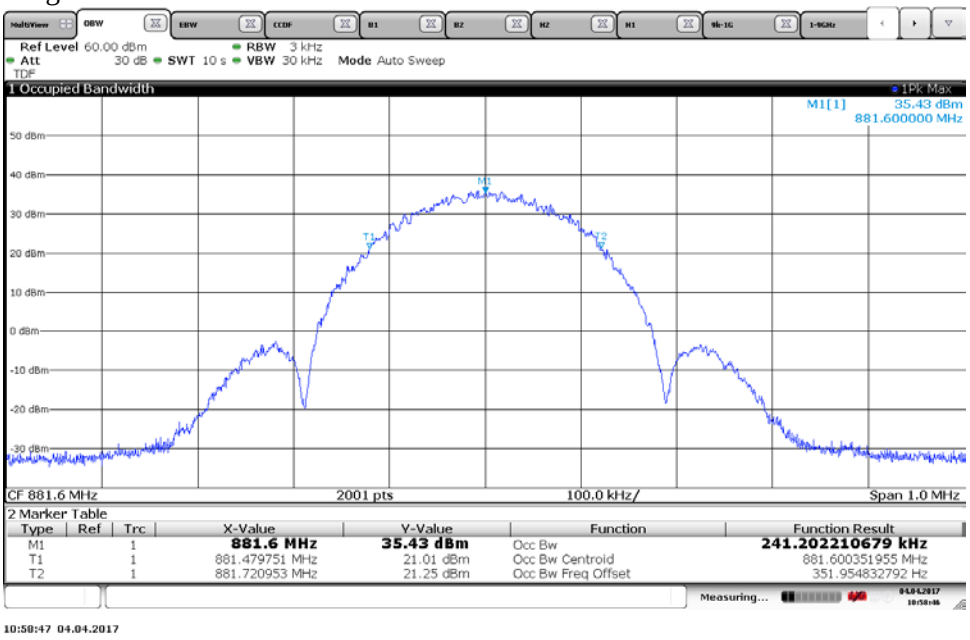
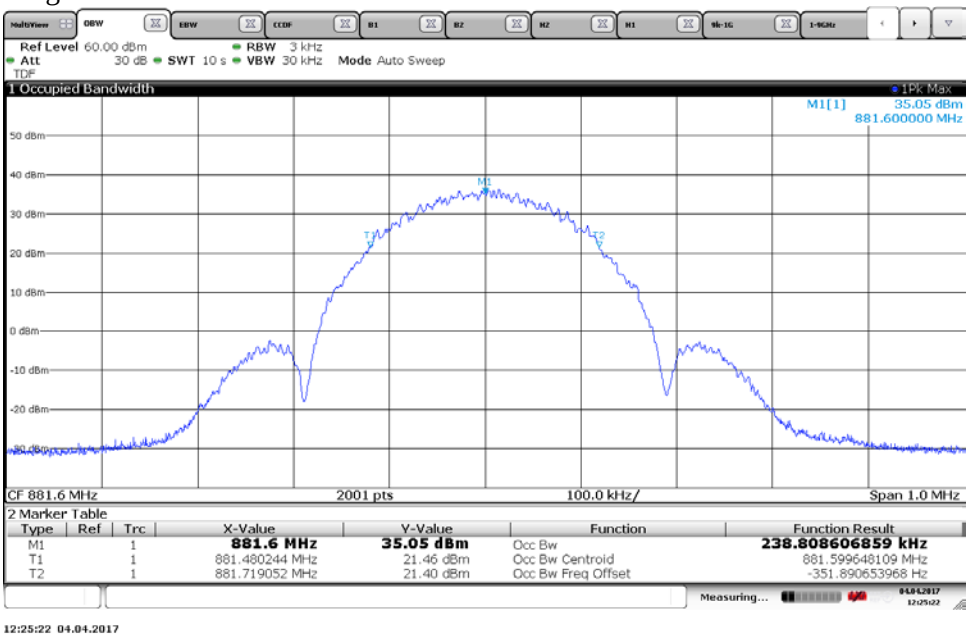


Diagram 8:



Appendix 3

Diagram 9:

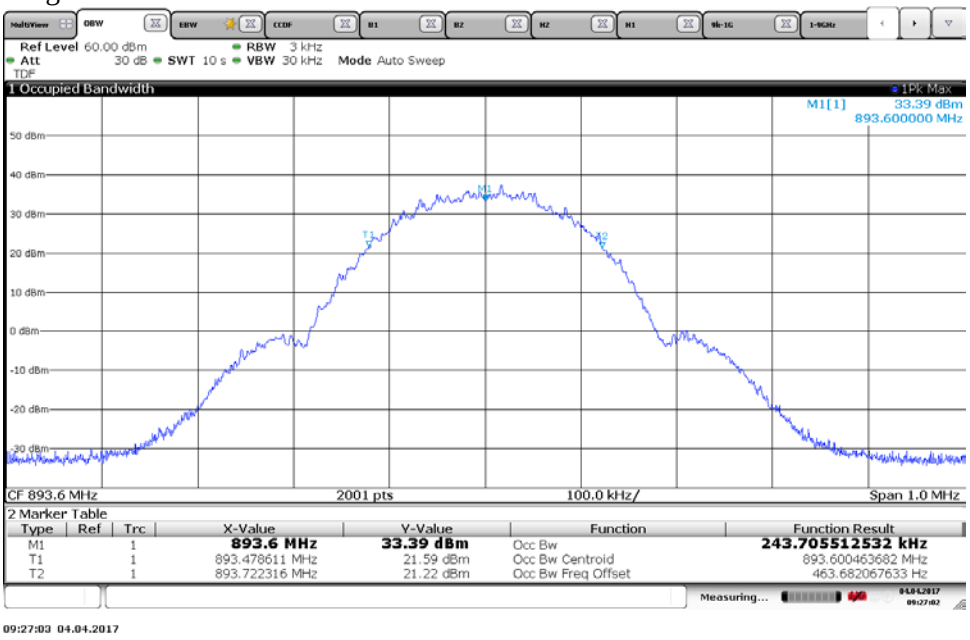
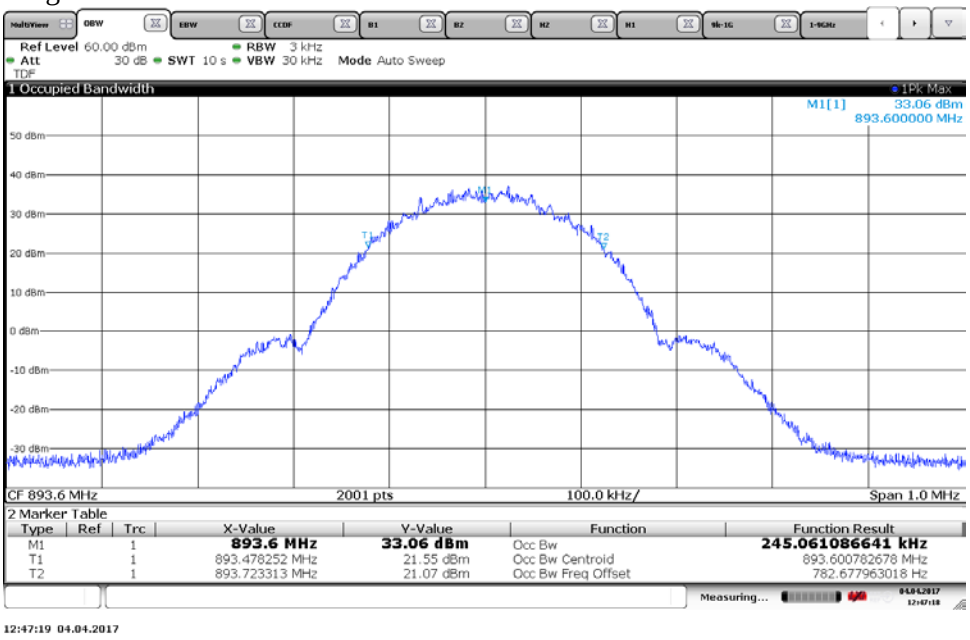


Diagram 10:



Band edge measurements according to CFR 47 §2.1051 / IC RSS-132 5.5

Date	Temperature	Humidity
2017-04-04	22 °C ± 3 °C	31% ± 5 %
2017-05-08	22 °C ± 3 °C	15% ± 5 %

Test set-up and procedure

The measurements were made per definition in § 22.917. The test object was connected to a spectrum analyzer with the RMS detector activated. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements.

FCC rules specify a RBW of at least 1% of the fundamental emission bandwidth (EBW) for offsets up to 1 MHz from the band edge and a RBW of 100 kHz for measurements of emissions more than 1 MHz away from the band edges.

Measurement equipment	SP number
Rohde & Schwarz signal analyser FSW 43	902 073
RF attenuator	502 282
Testo 635 temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

Single carrier

Diagram	Modulation	Symbolic name	Tested Port
1 a-b	GMSK	B+1	RF B
2 a-b	8PSK	B+1	RF B
3 a-b	GMSK	T-1	RF B
4 a-b	8PSK	T-1	RF B
5 a-b	GMSK	B	RF B
6 a-b	GMSK	T	RF B

The diagrams are shown on the following pages.

Remark

Where multiple requirements apply, the most stringent requirement is considered for compliance assessment.

Limits

CFR 47 § 22.917: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 100 kHz RBW below 1 GHz and 1MHz RBW above 1 GHz.

IC RSS-132 5.5.1.2: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB per any 100 kHz RBW.

Complies?	Yes

Appendix 4

Diagram 1 a:

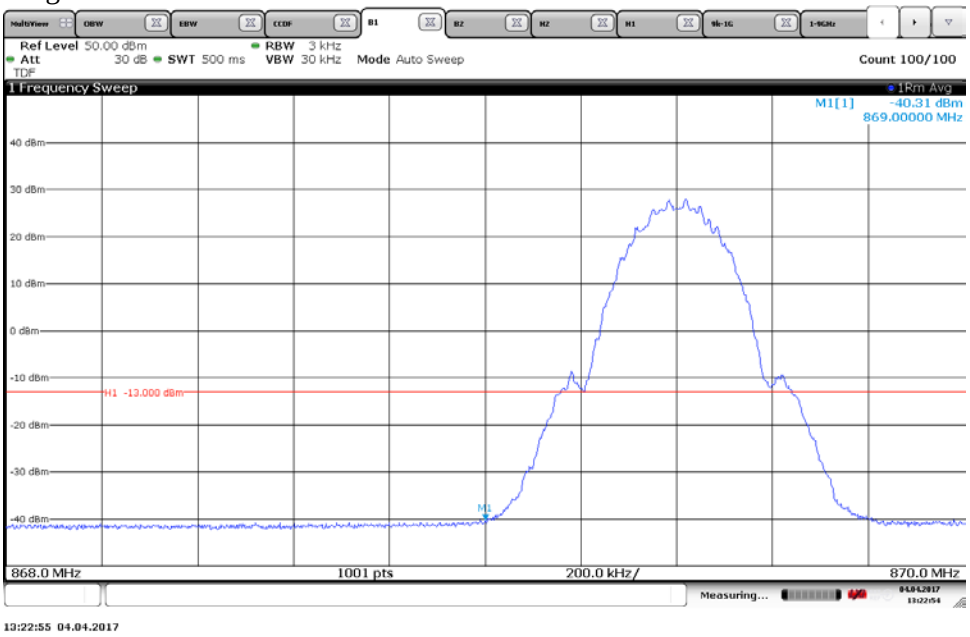
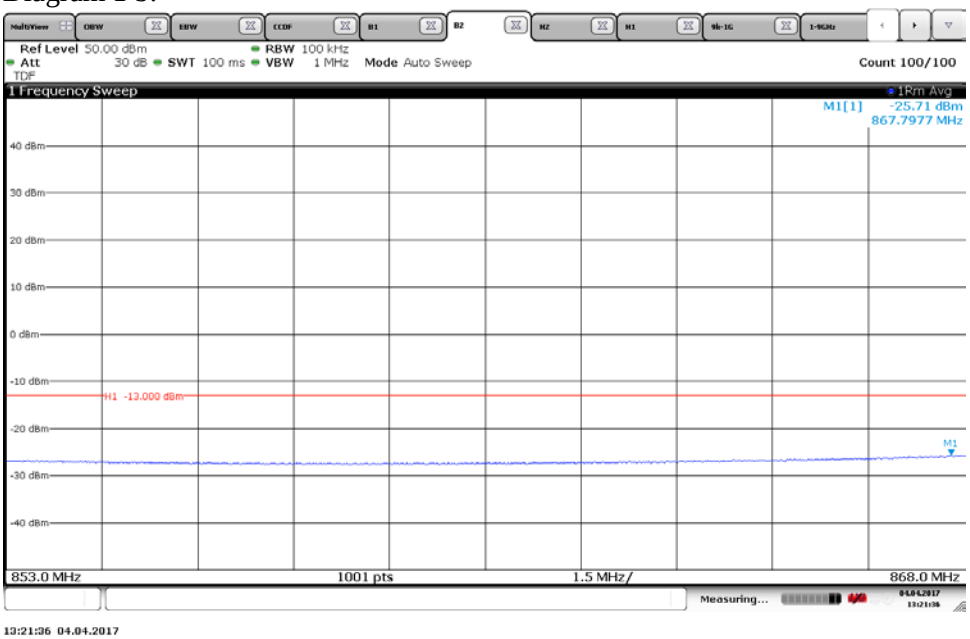


Diagram 1 b:



Appendix 4

Diagram 2 a:

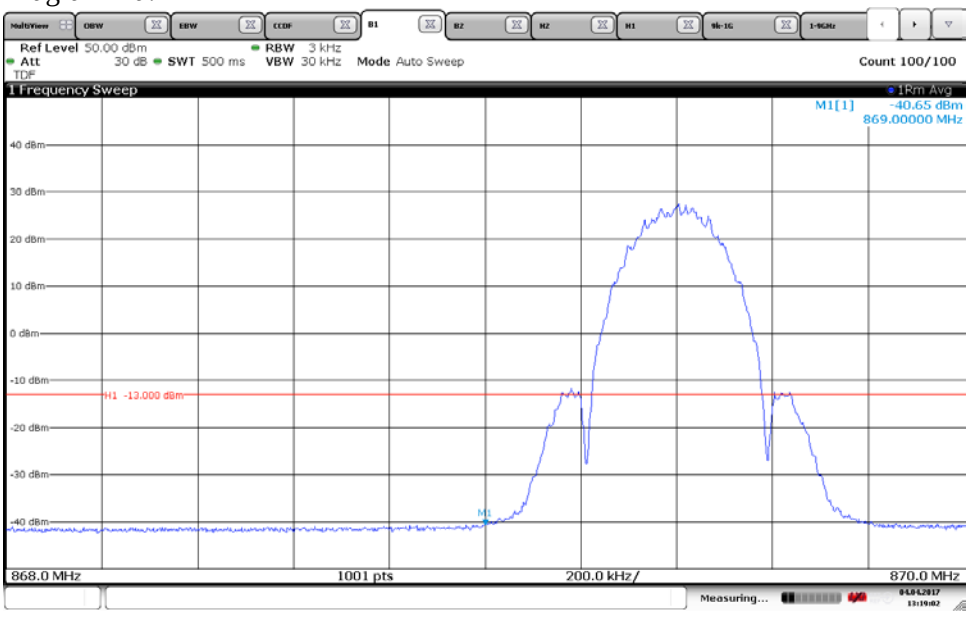
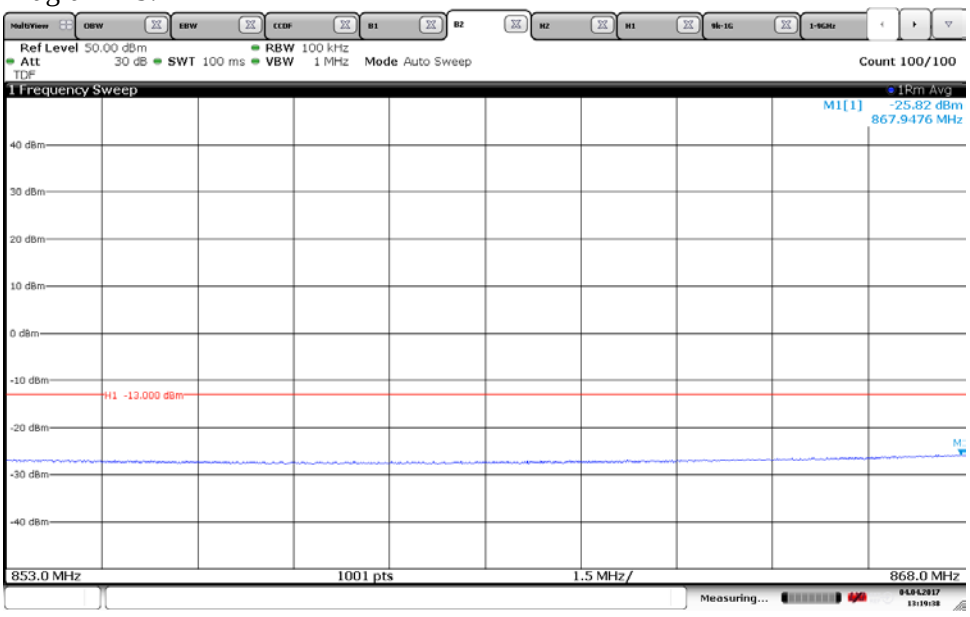


Diagram 2 b:



Appendix 4

Diagram 3 a:

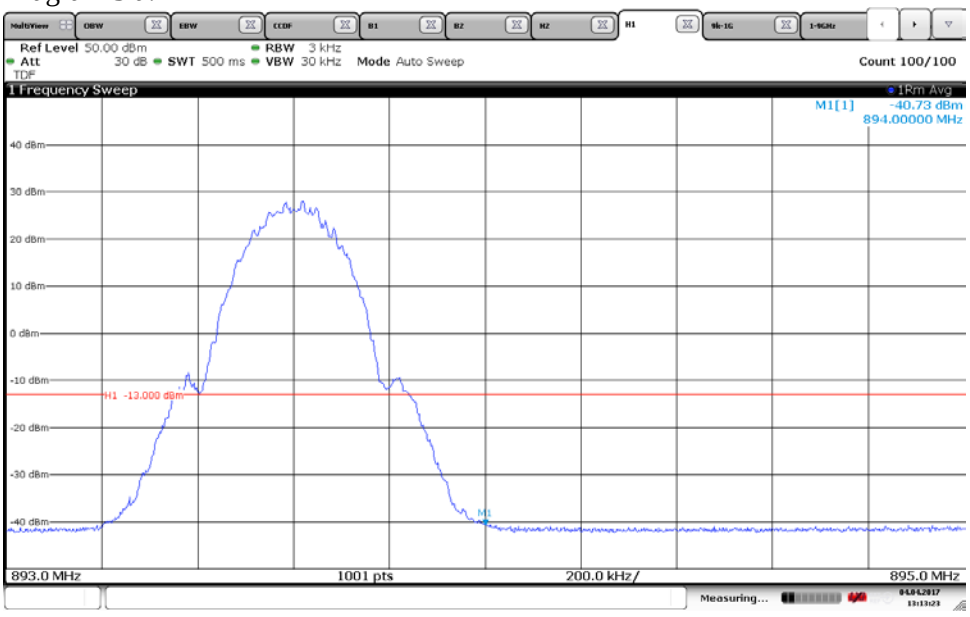
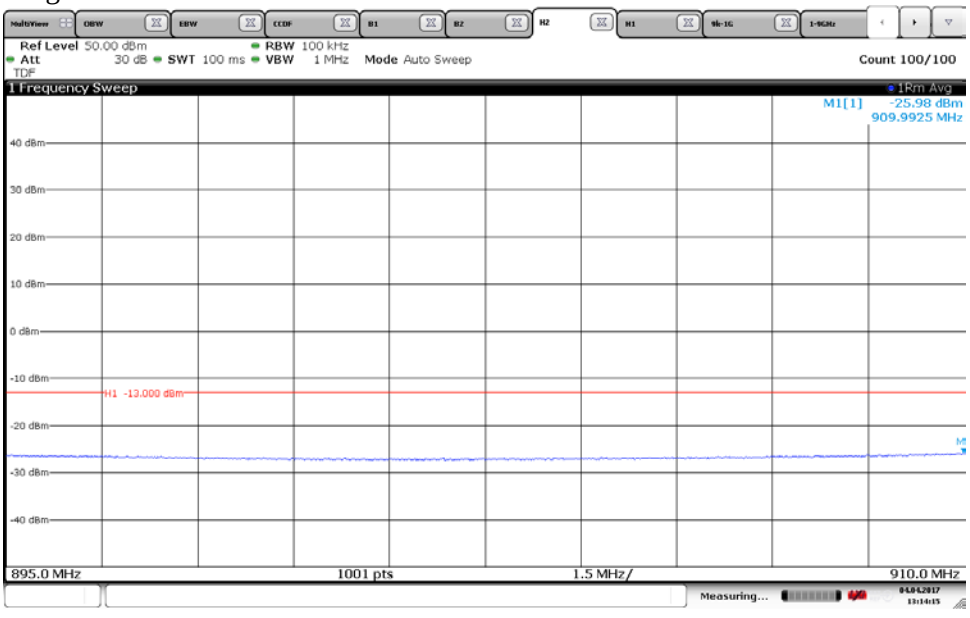


Diagram 3 b:



Appendix 4

Diagram 4 a:

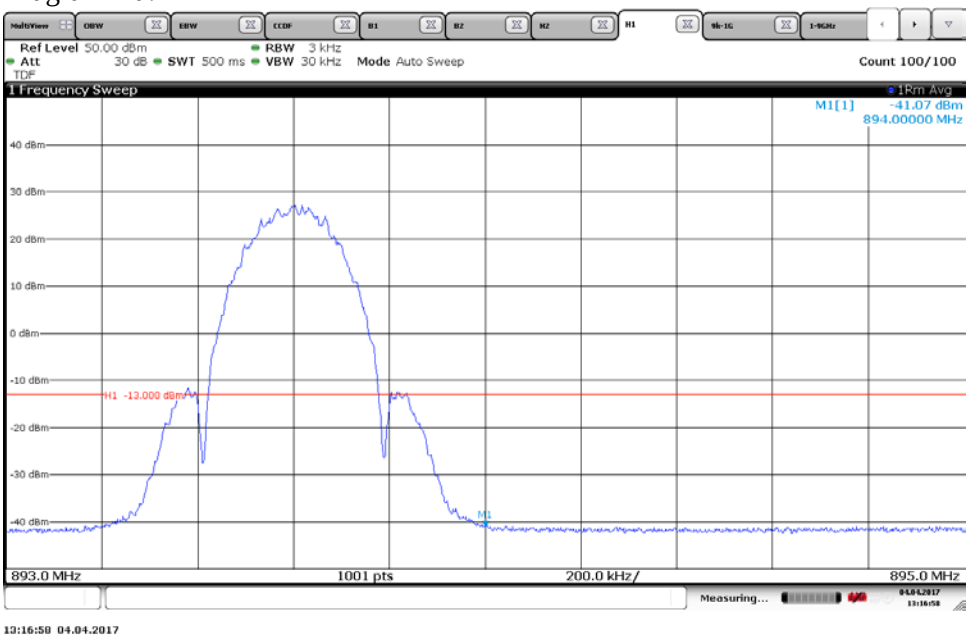
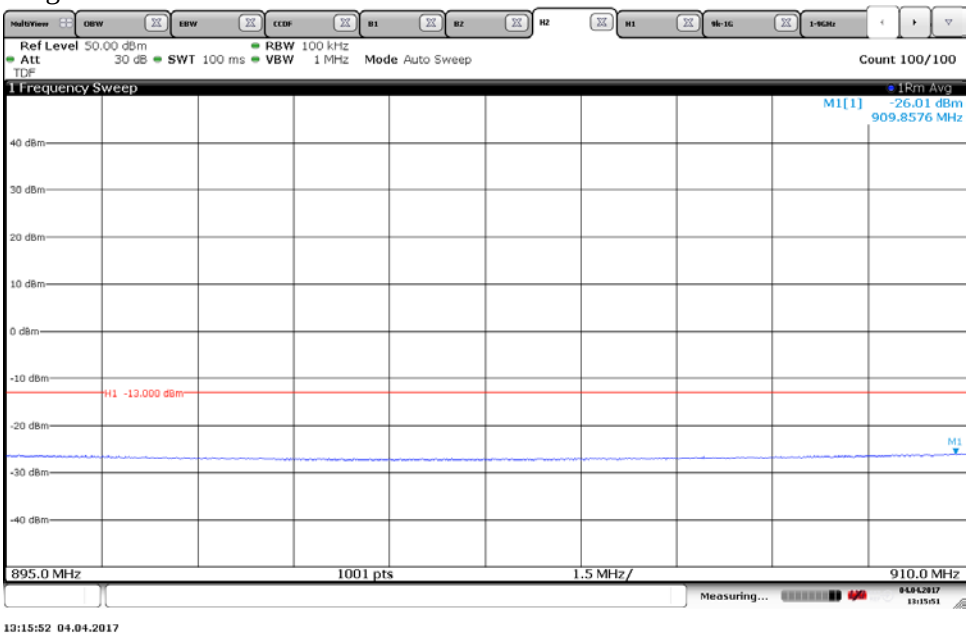


Diagram 4 b:



Appendix 4

Diagram 5 a:

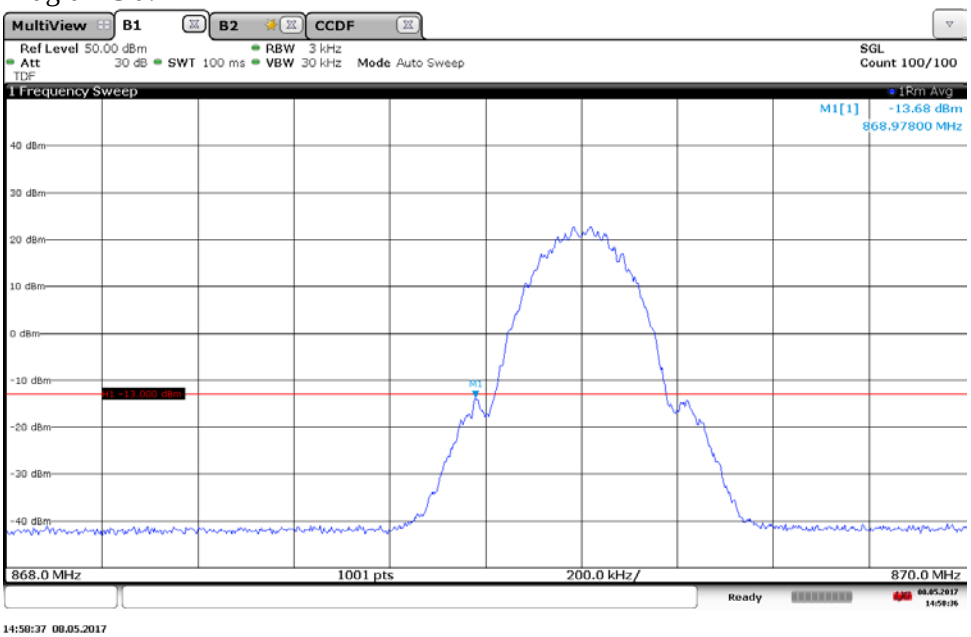
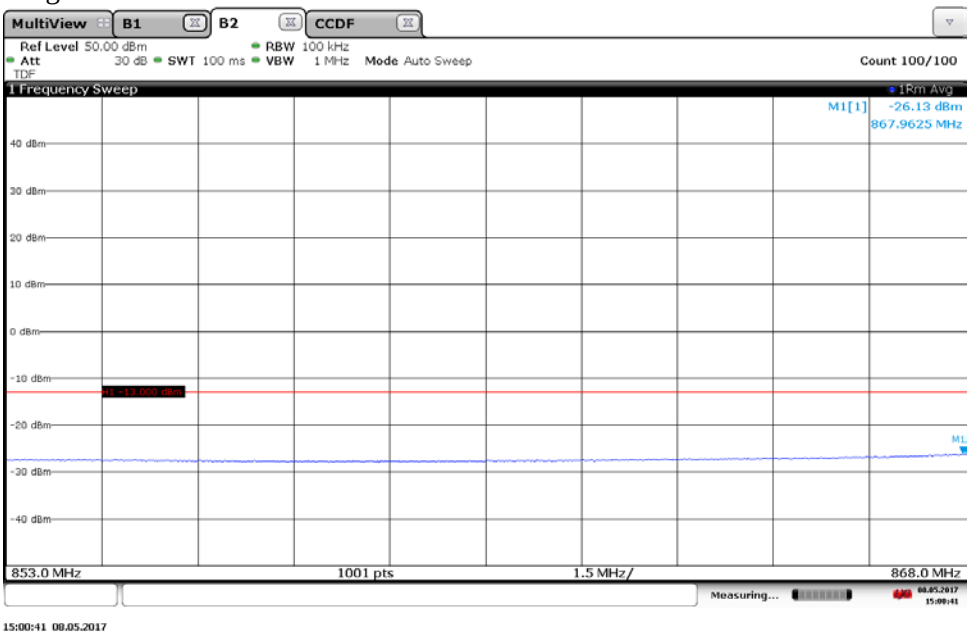


Diagram 5 b:



Appendix 4

Diagram 6 a:

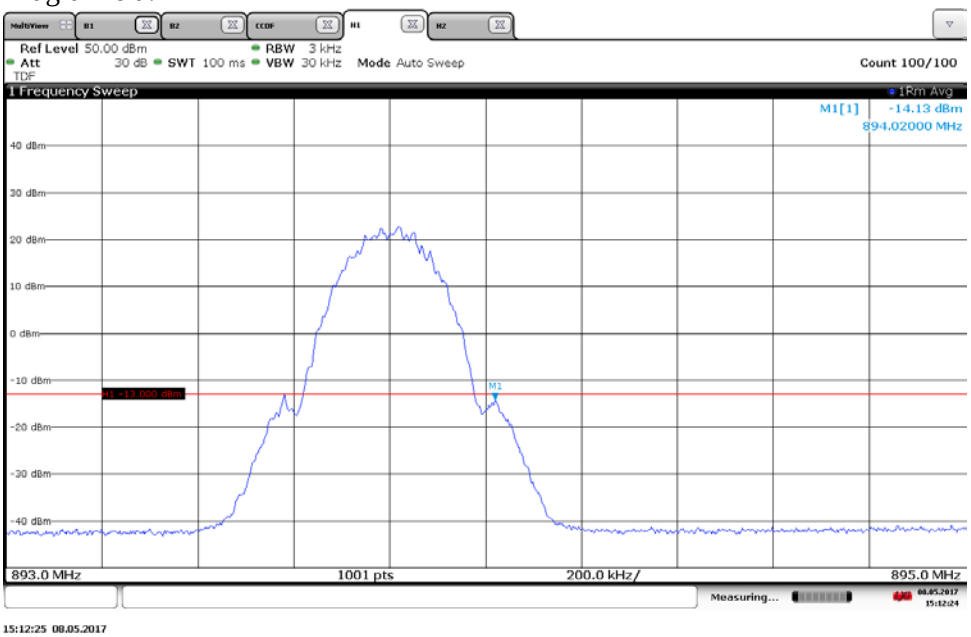
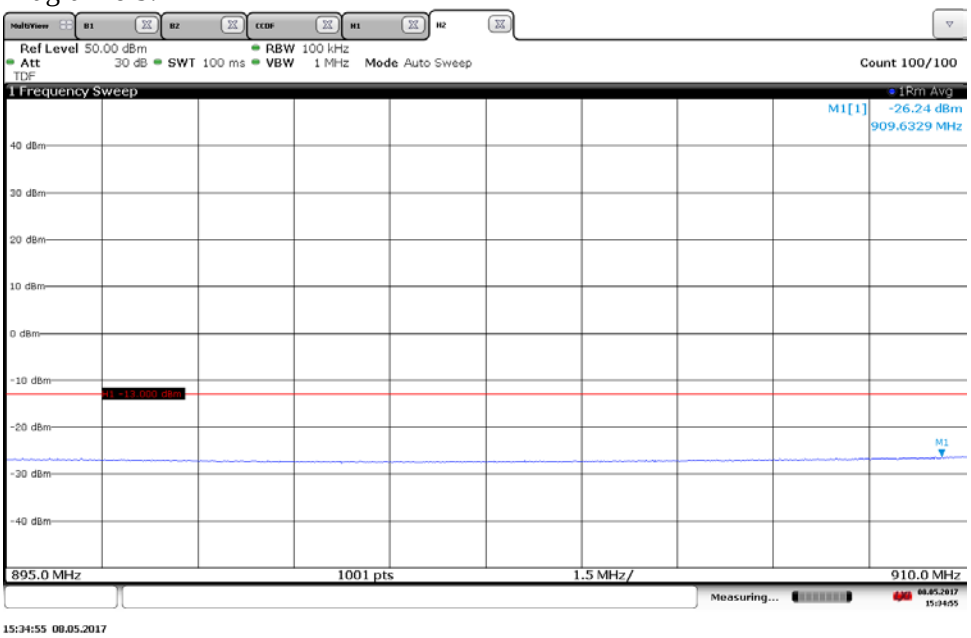


Diagram 6 b:



Conducted spurious emission measurements according to CFR 47 2.1051 / IC RSS-132 5.5

Date	Temperature	Humidity
2017-04-04	22 °C ± 3 °C	31% ± 5 %

Test set-up and procedure

The measurements were made per definition in § 22.917. The output was connected to a spectrum analyzer with the RMS detector activated. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements.

Measurement equipment	SP number
Rohde & Schwarz signal analyser FSW 43	902 073
RF attenuator	502 282
High pass filter	901 373
Testo 635 temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

Single carrier

Diagram	Modulation	Symbolic name	Tested Port
1 a+b	GMSK	B+1	RF B
2 a+b	GMSK	M	RF B
3 a+b	8PSK	M	RF B
4 a+b	GMSK	M	RF A
5 a+b	GMSK	T-1	RF B

Multi carrier

Diagram	Modulation	Symbolic name	Tested Port
6 a+b+c	GMSK	M2	RF B
7 a+b+c	8PSK	M2	RF B
8 a+b+c	GMSK	$B_{im\,3}$	RF B
9 a+b+c	8PSK	$B_{im\,3}$	RF B
10 a+b+c	GMSK	$T_{im\,3}$	RF B
11 a+b+c	8PSK	$T_{im\,3}$	RF B
12 a+b+c	GMSK	M4	RF B
13 a+b+c	8PSK	M4	RF B

Remarks

The upper frequency boundary covers 10x the highest TX fundamental frequency.

Limits

CFR 47 § 22.917: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 100 kHz RBW below 1 GHz and 1MHz RBW above 1 GHz.

IC RSS-132 5.5.1.2: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB per any 100 kHz RBW.

Complies?	Yes

Appendix 5

Diagram 1a:

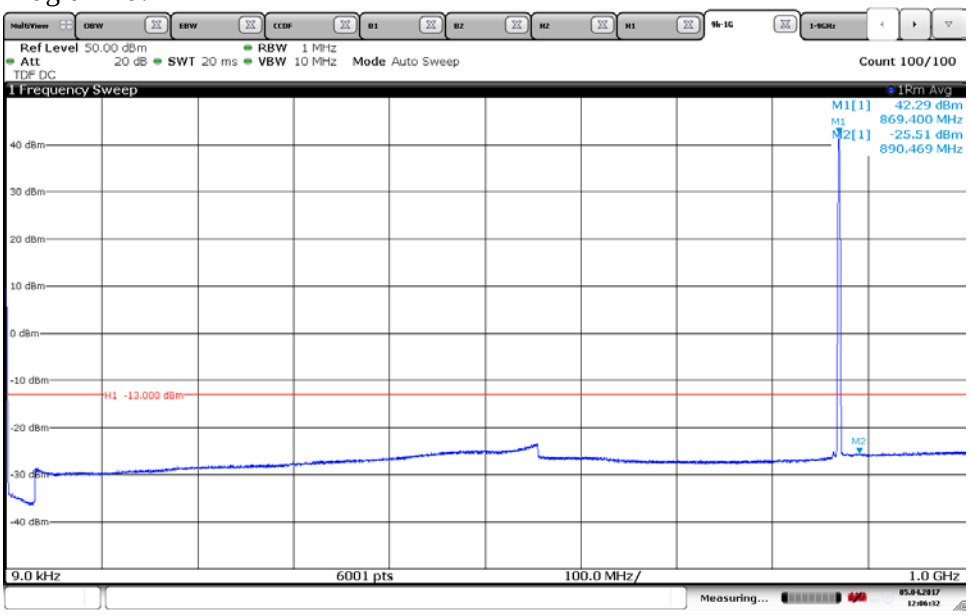
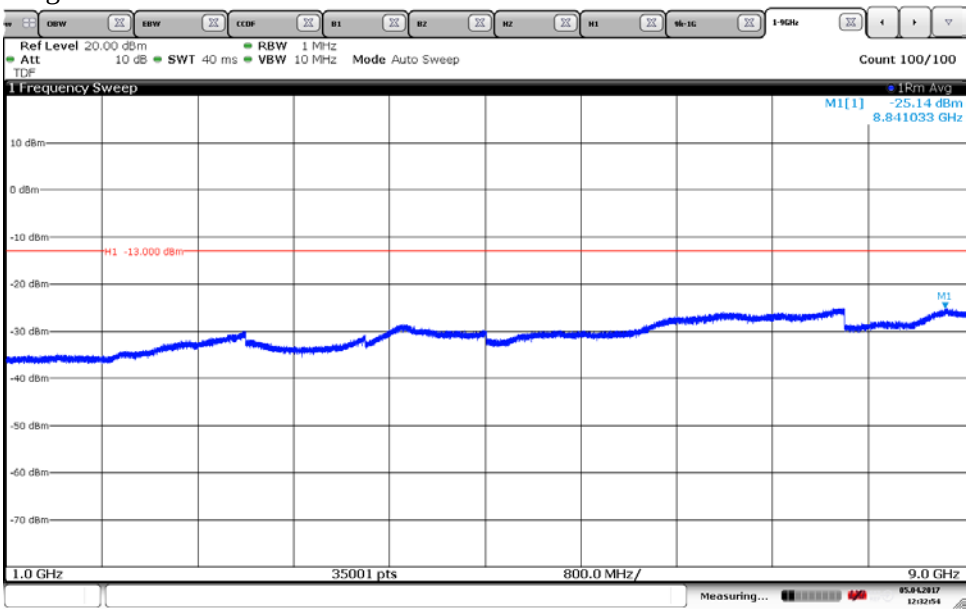


Diagram 1b:



Appendix 5

Diagram 2a:

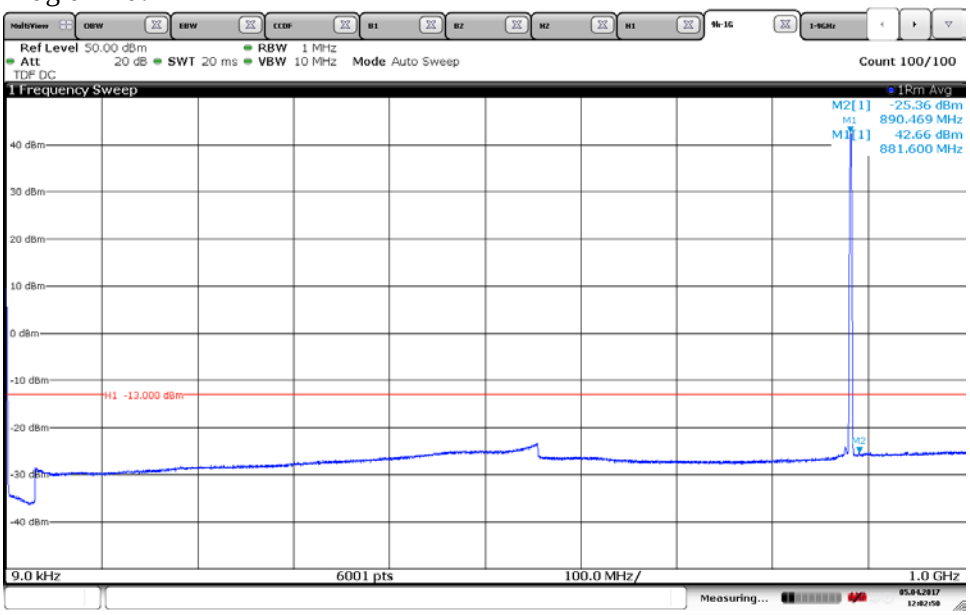
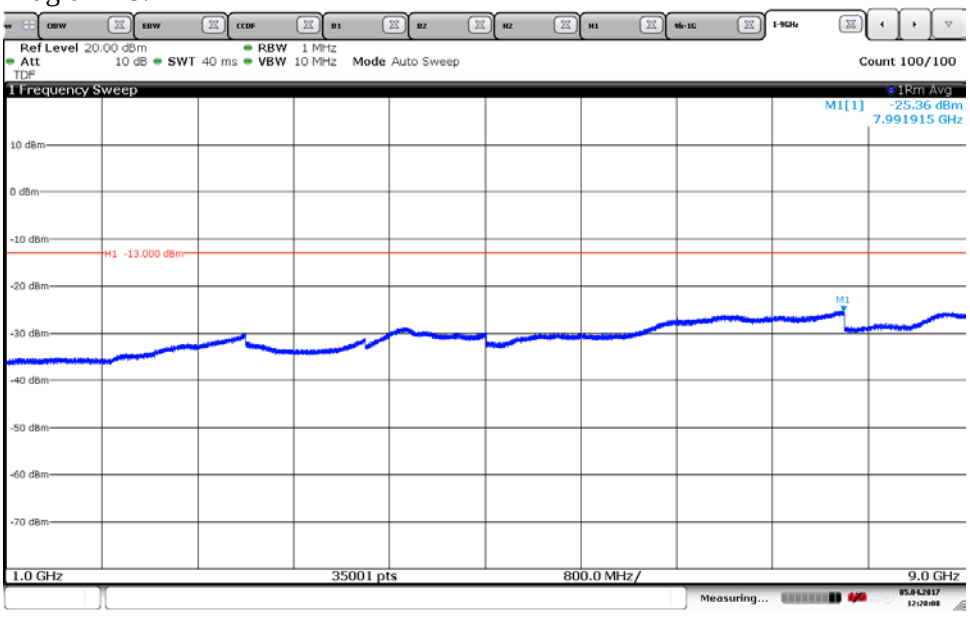


Diagram 2b:



Appendix 5

Diagram 3a:

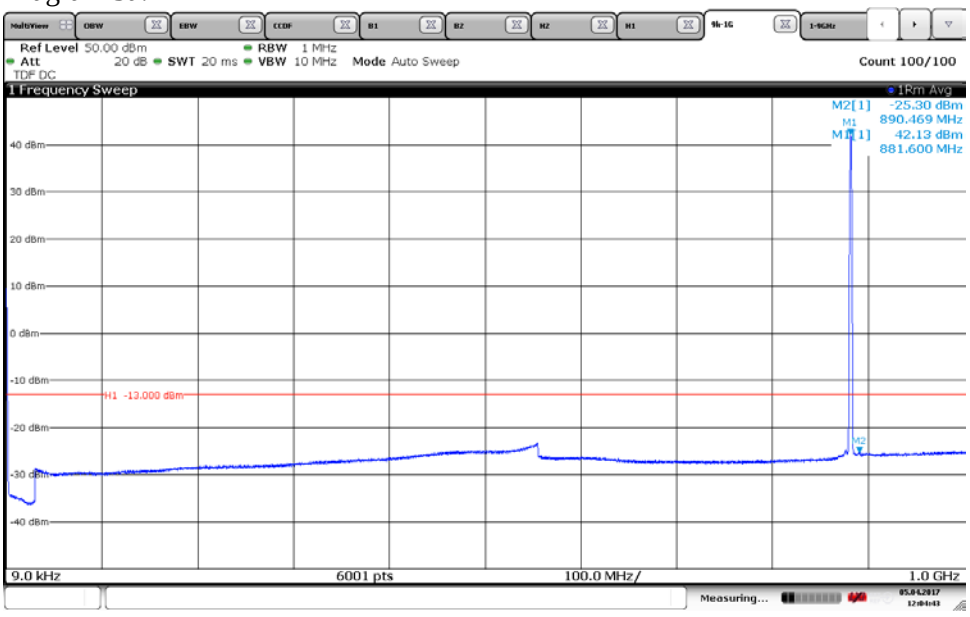
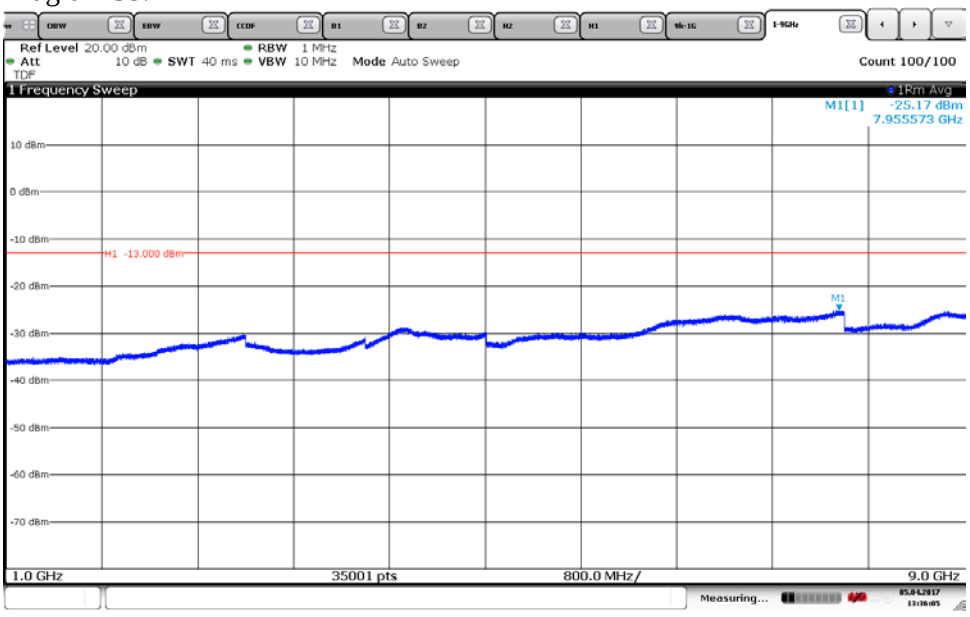


Diagram 3b:



Appendix 5

Diagram 4a:

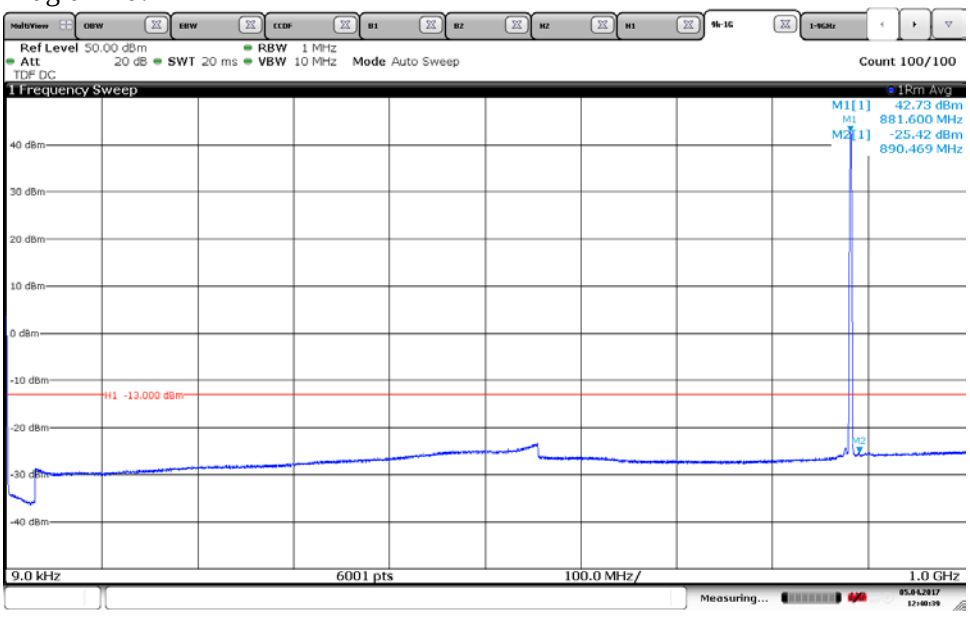
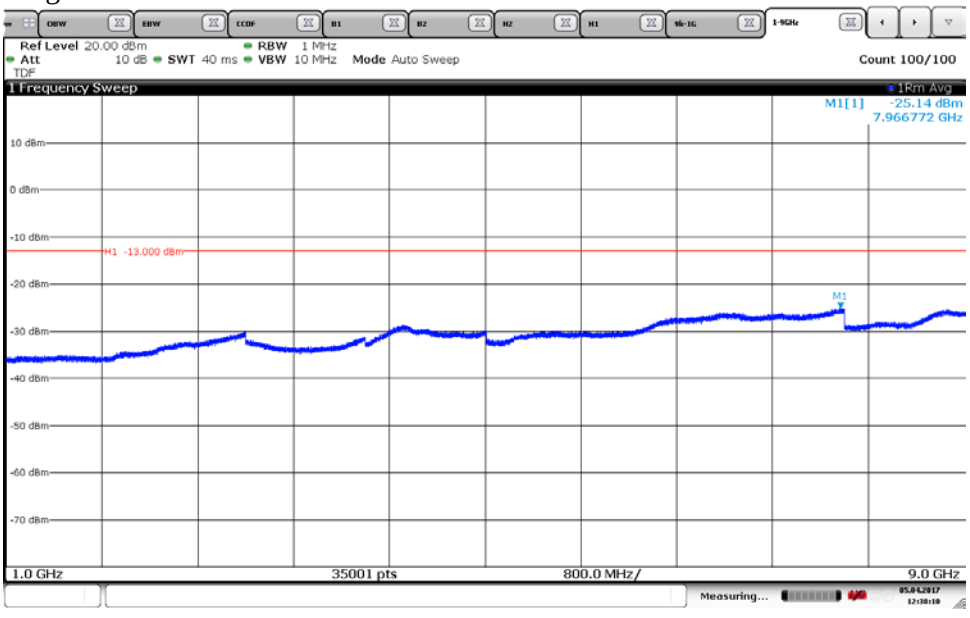


Diagram 4b:



Appendix 5

Diagram 5a:

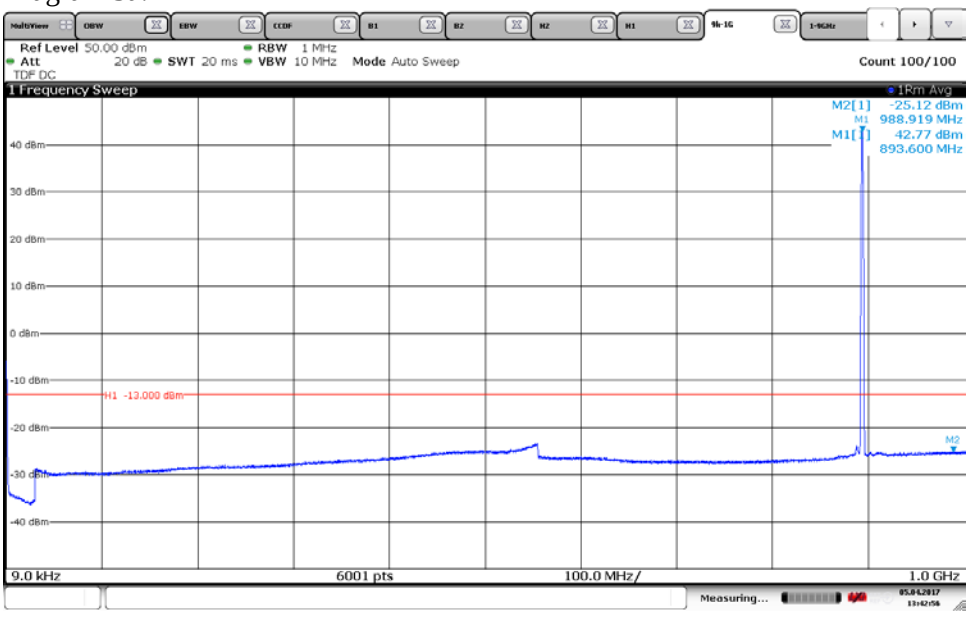
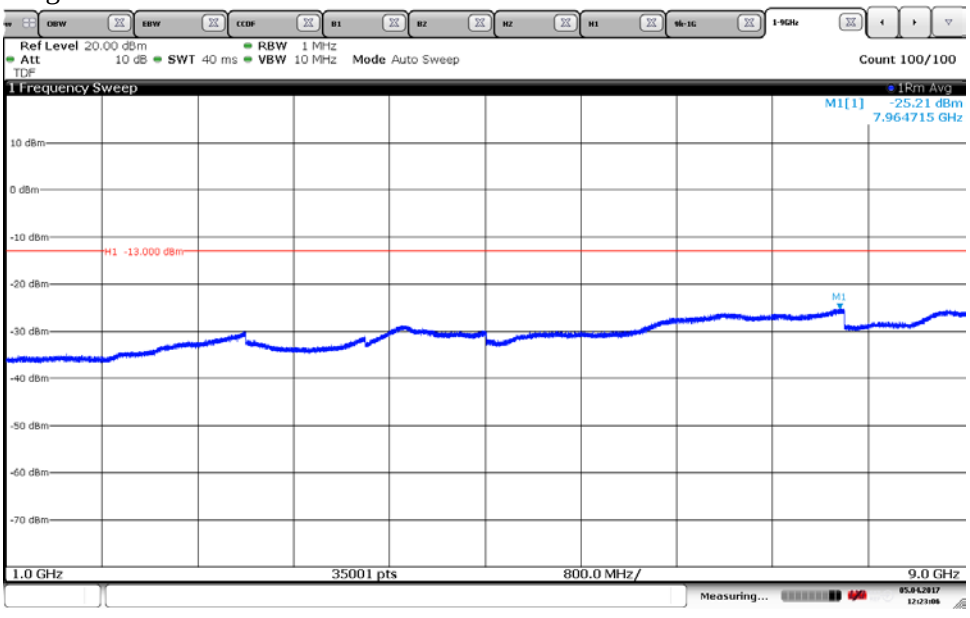
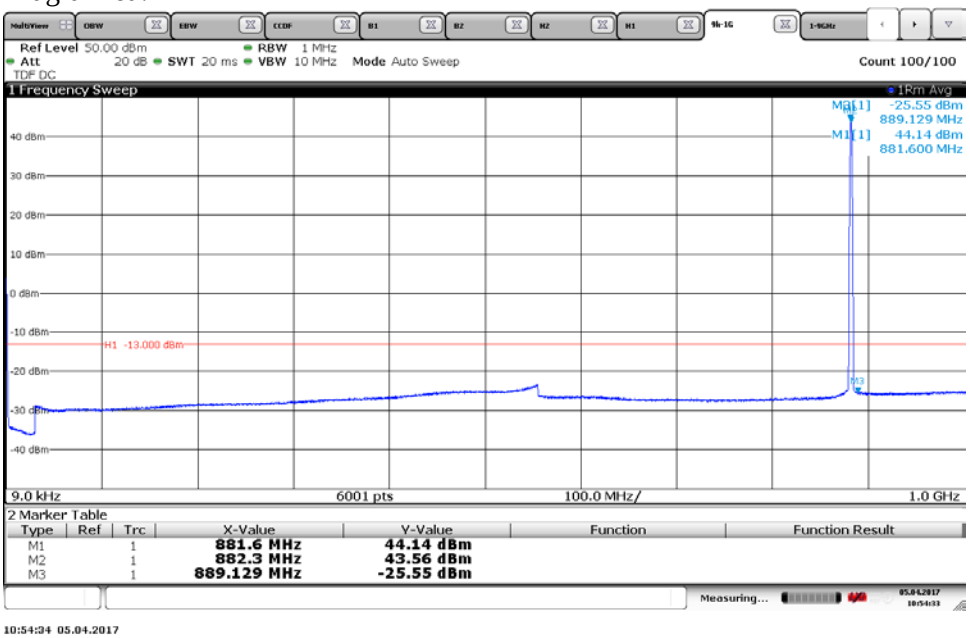


Diagram 5b:



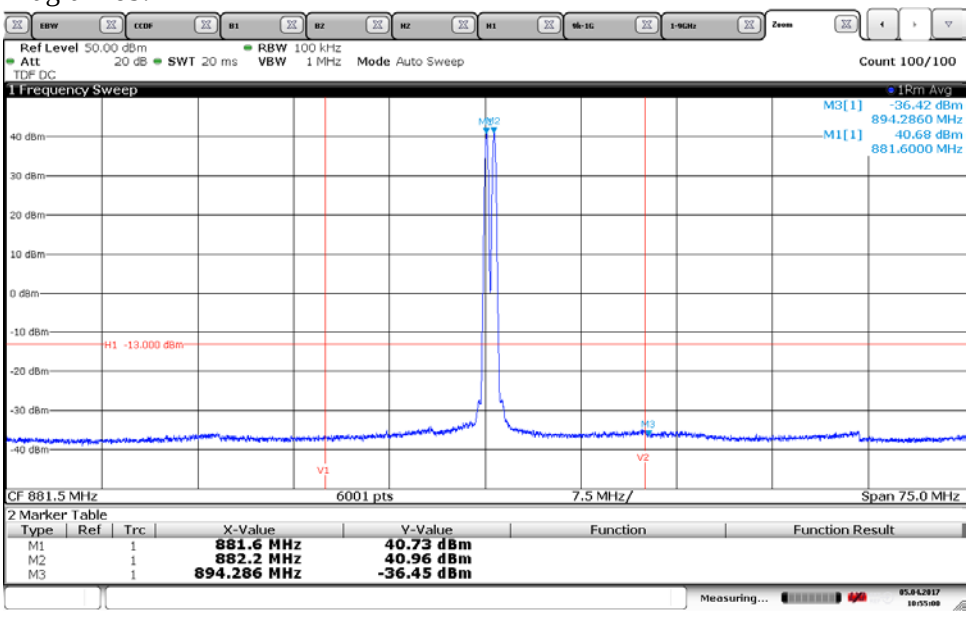
Appendix 5

Diagram 6a:



10:54:34 05.04.2017

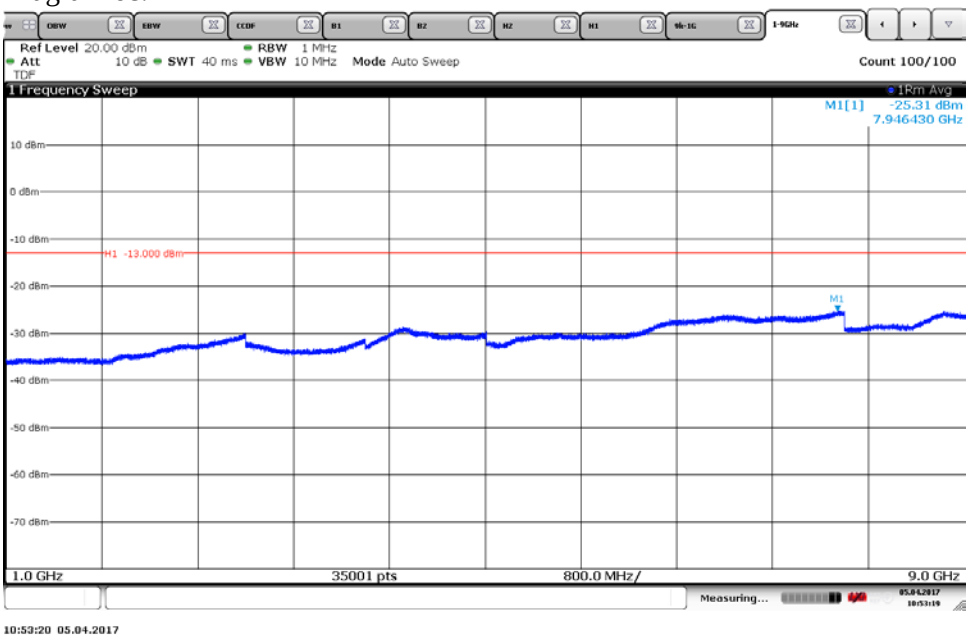
Diagram 6b:



10:55:00 05.04.2017

Appendix 5

Diagram 6c:



Appendix 5

Diagram 7a:

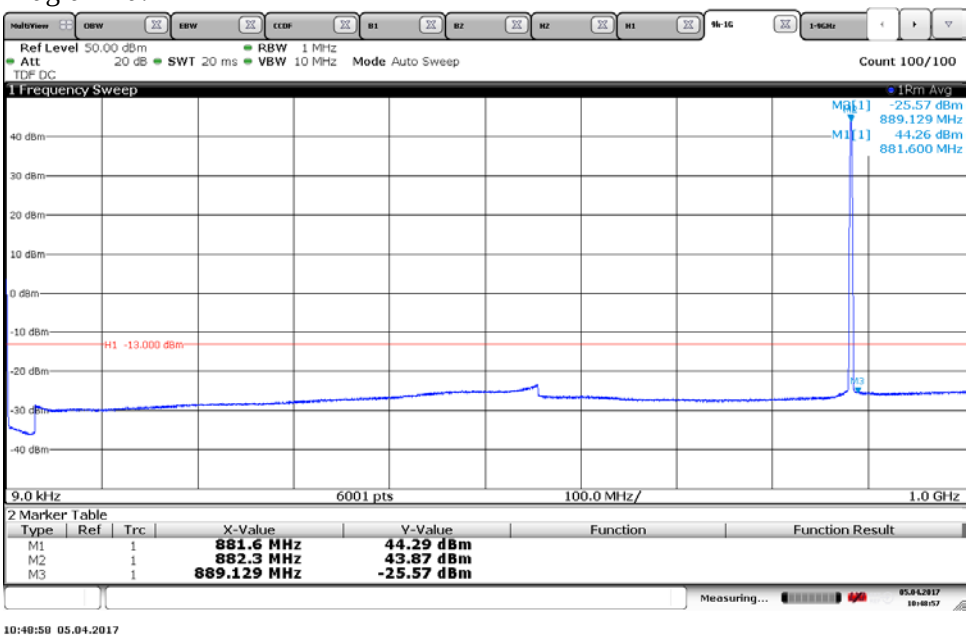
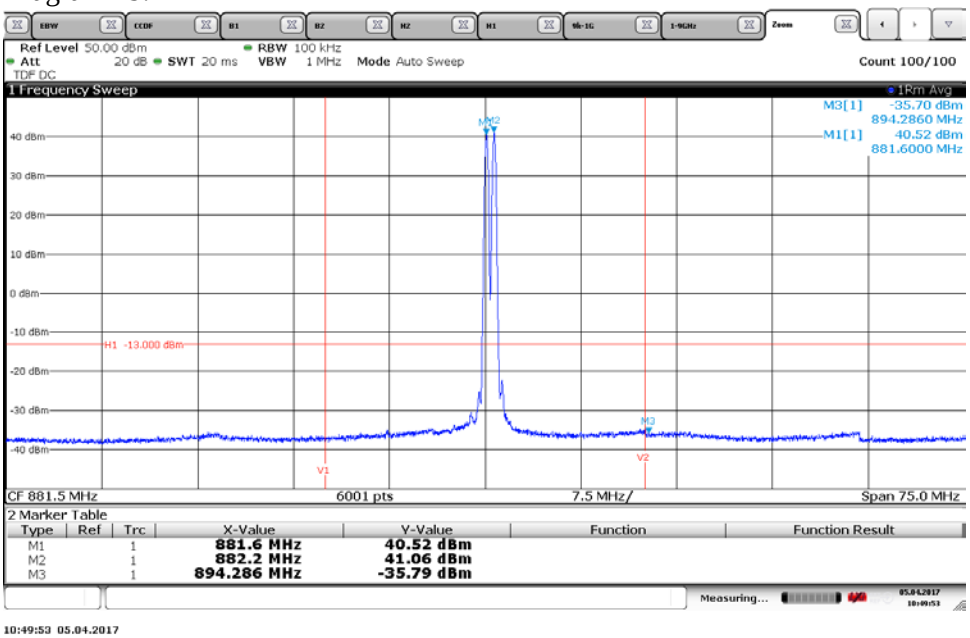
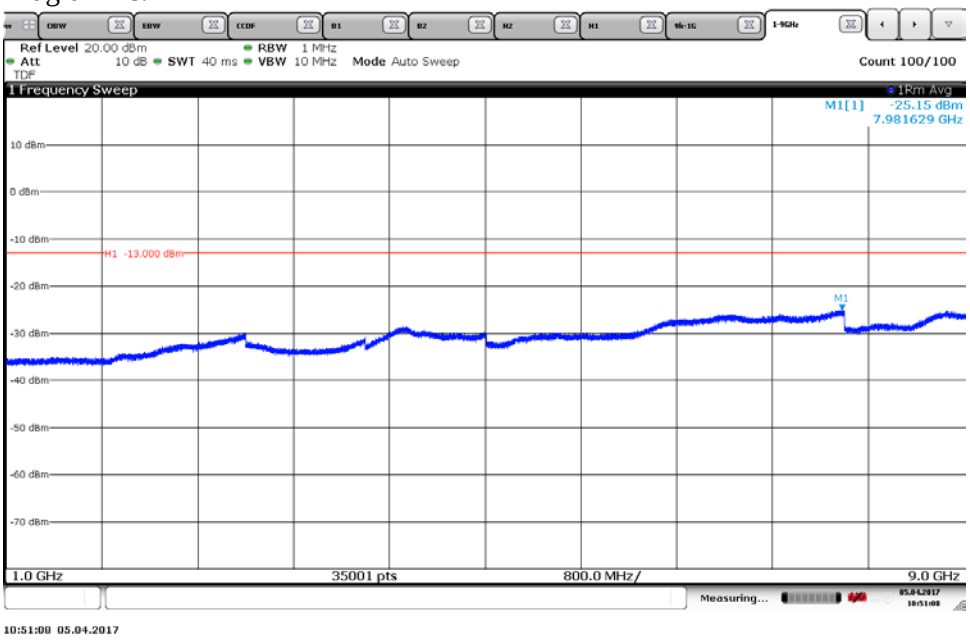


Diagram 7b:



Appendix 5

Diagram 7c:



Appendix 5

Diagram 8a:

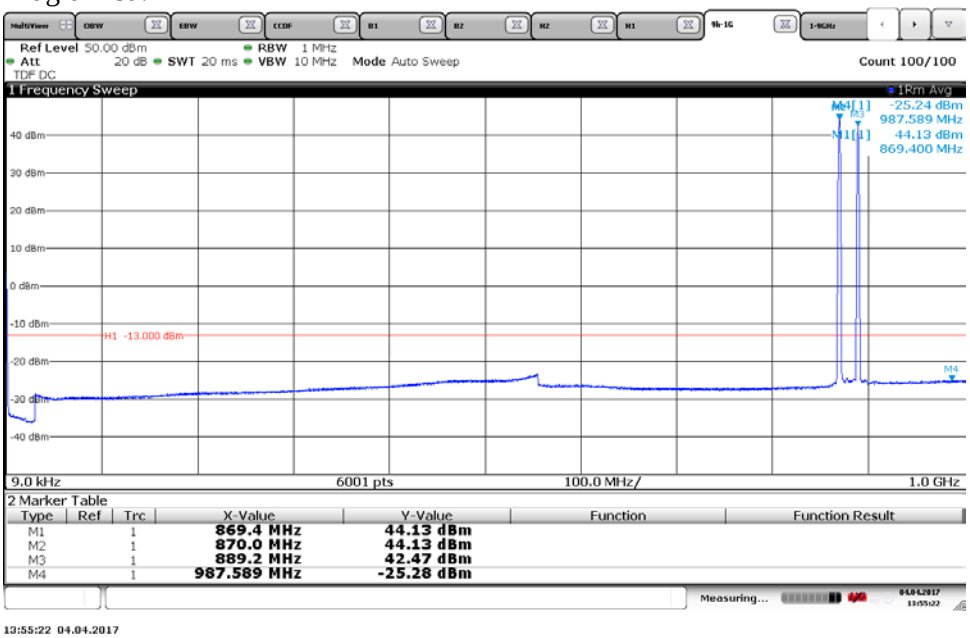
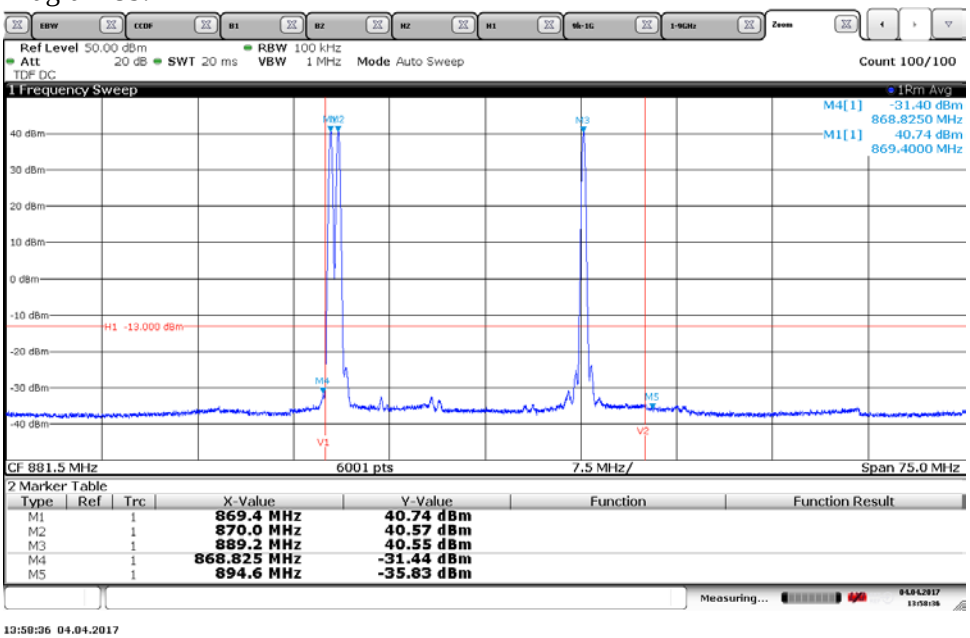
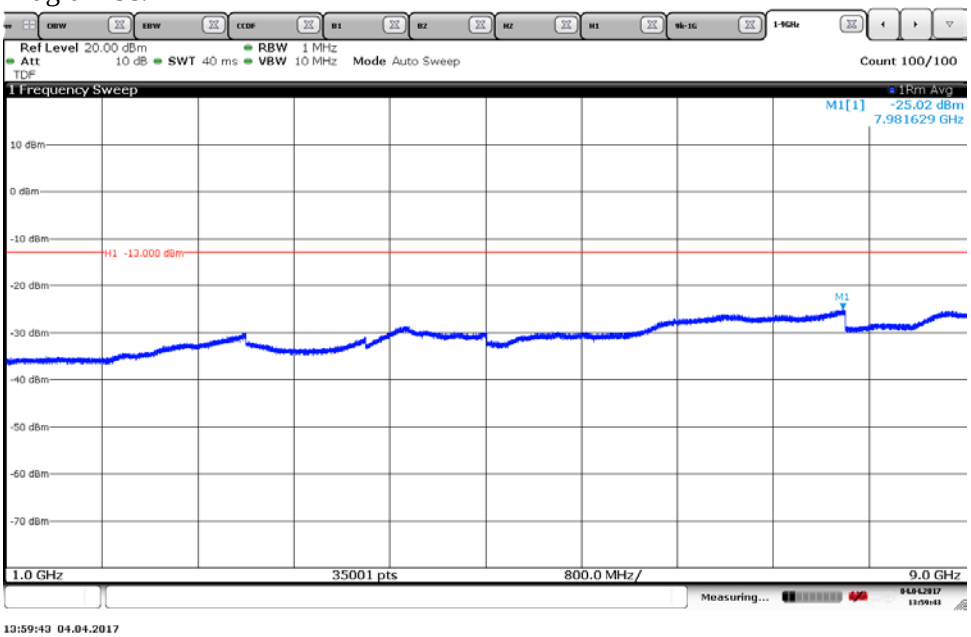


Diagram 8b:



Appendix 5

Diagram 8c:



Appendix 5

Diagram 9a:

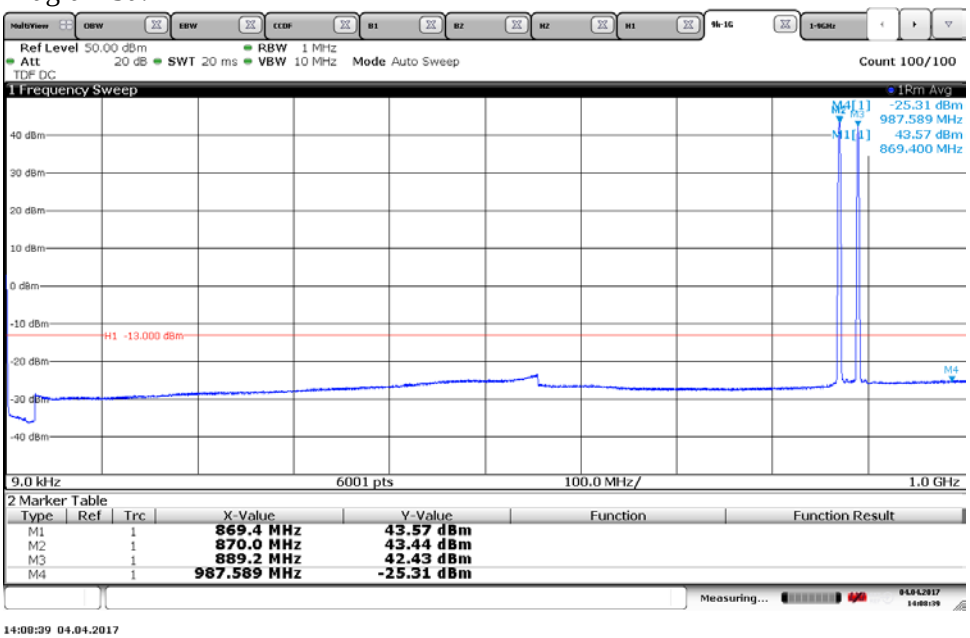
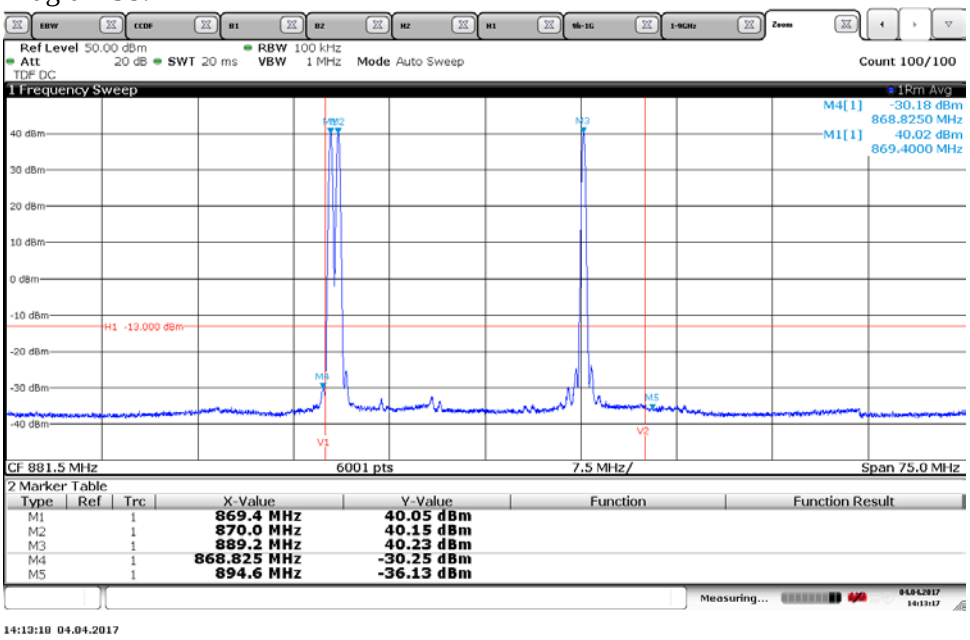
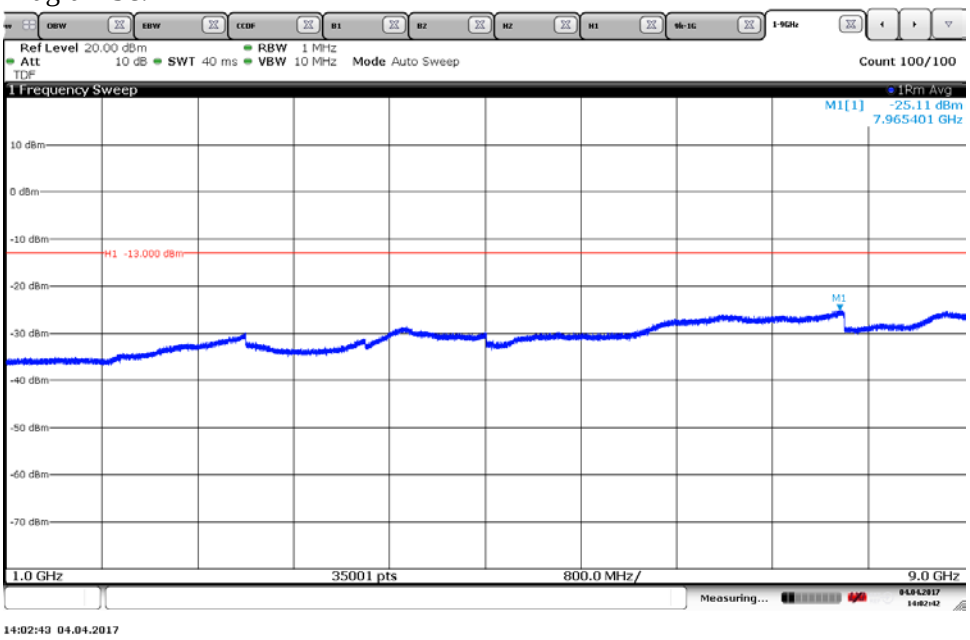


Diagram 9b:



Appendix 5

Diagram 9c:



Appendix 5

Diagram 10a:

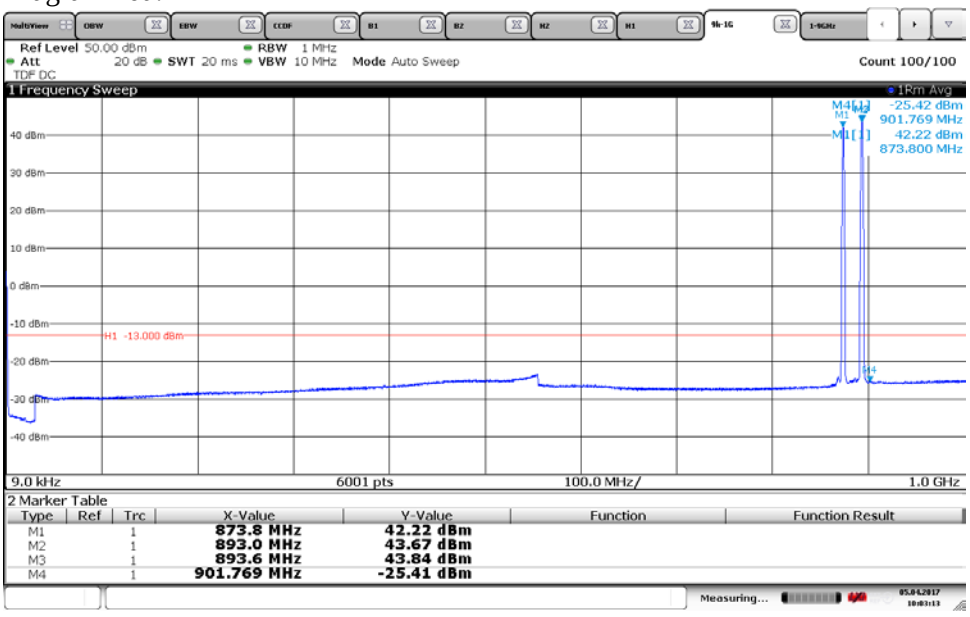
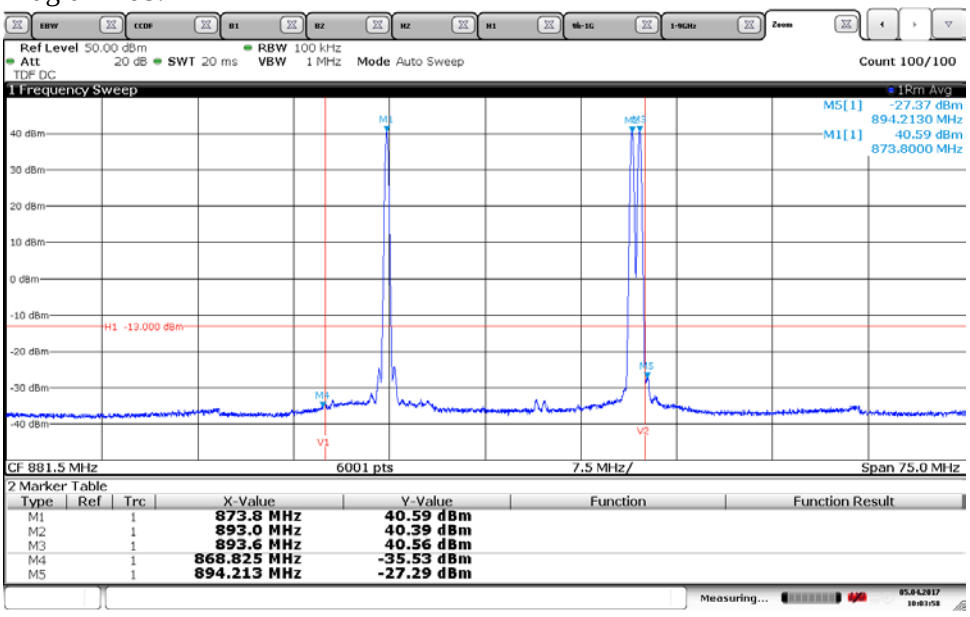
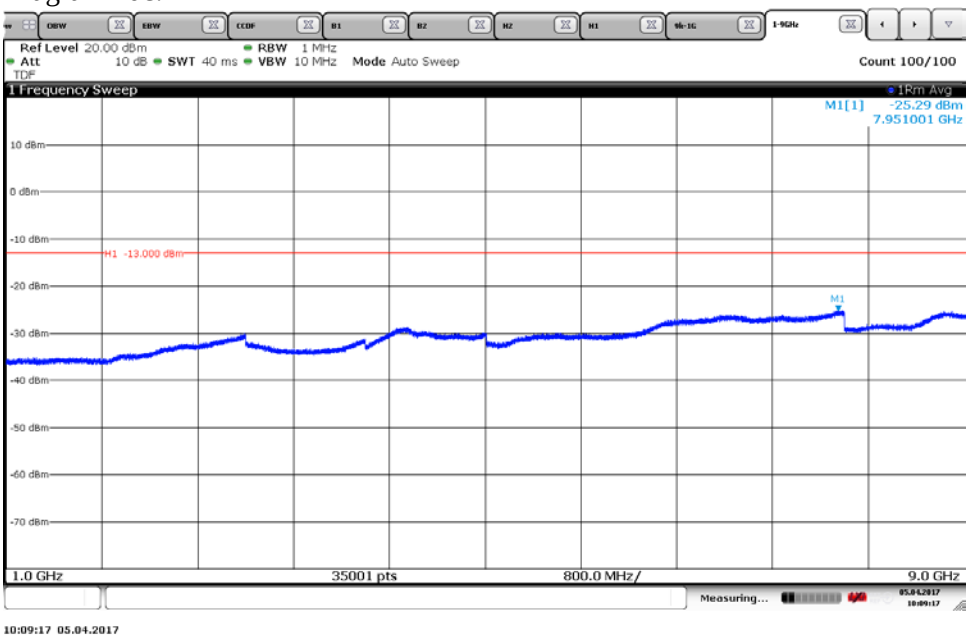


Diagram 10b:



Appendix 5

Diagram 10c:



Appendix 5

Diagram 11a:

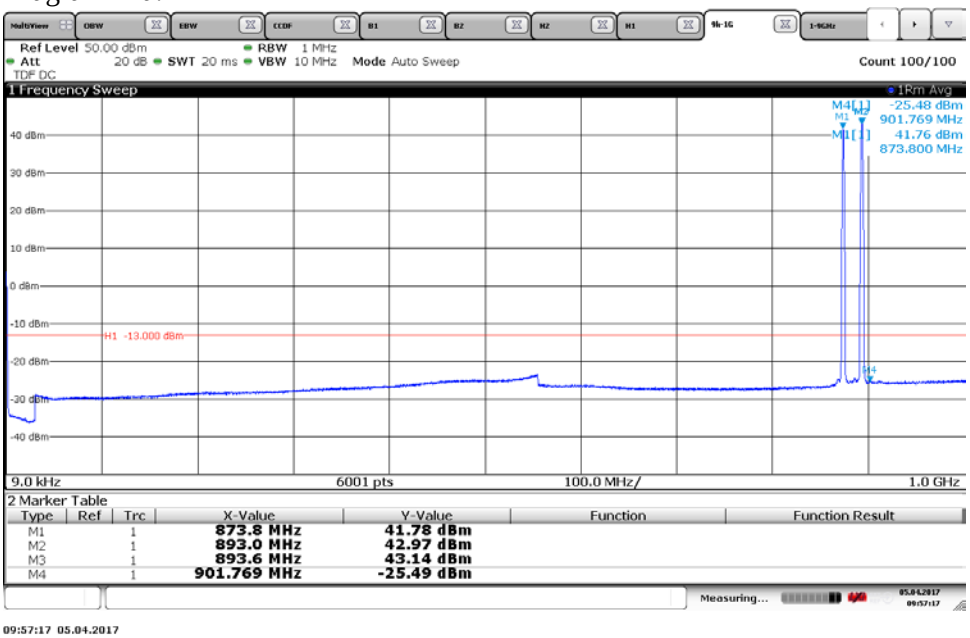
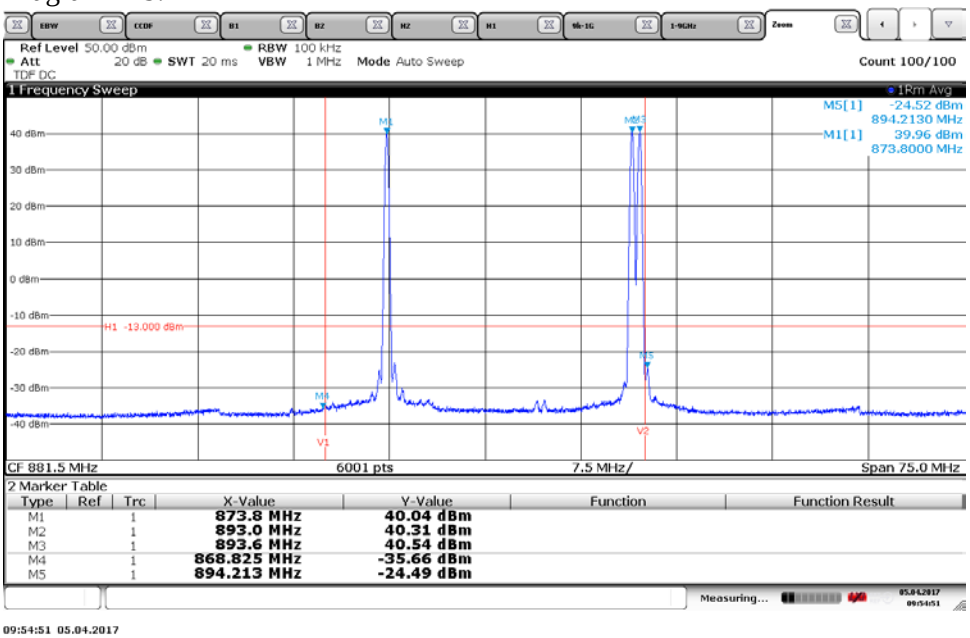
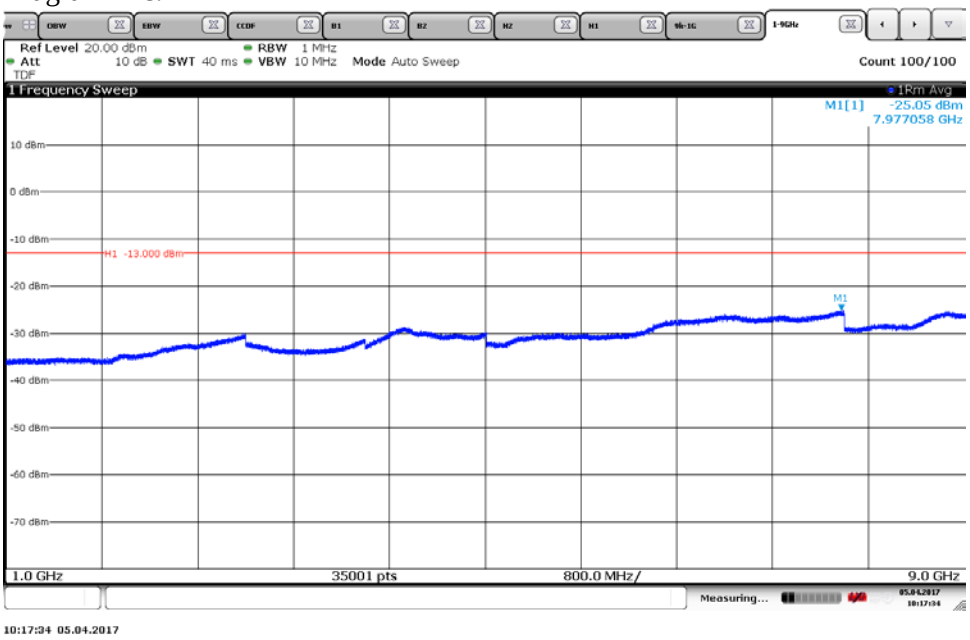


Diagram 11b:



Appendix 5

Diagram 11c:



Appendix 5

Diagram 12a:

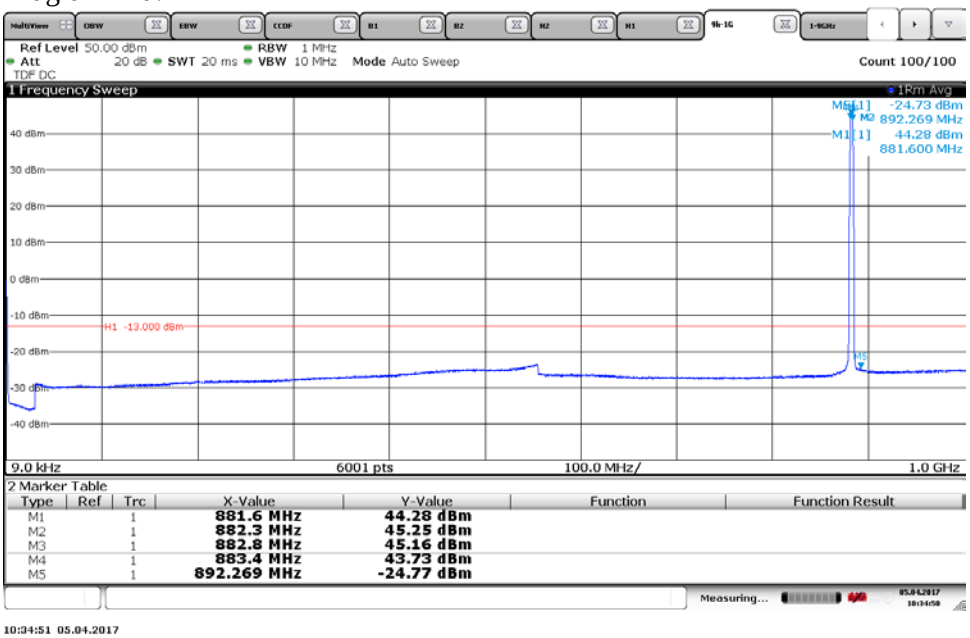
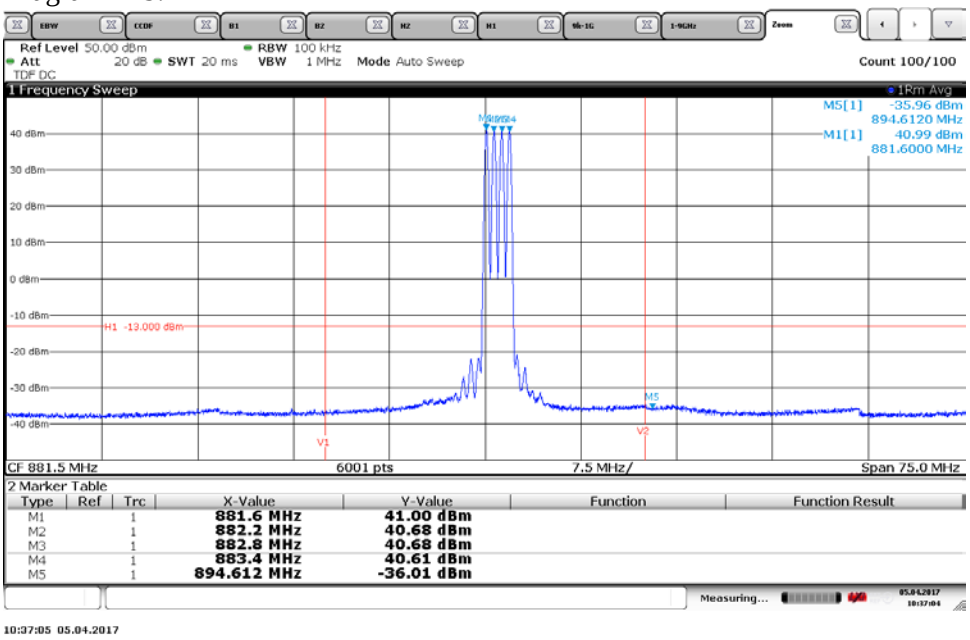
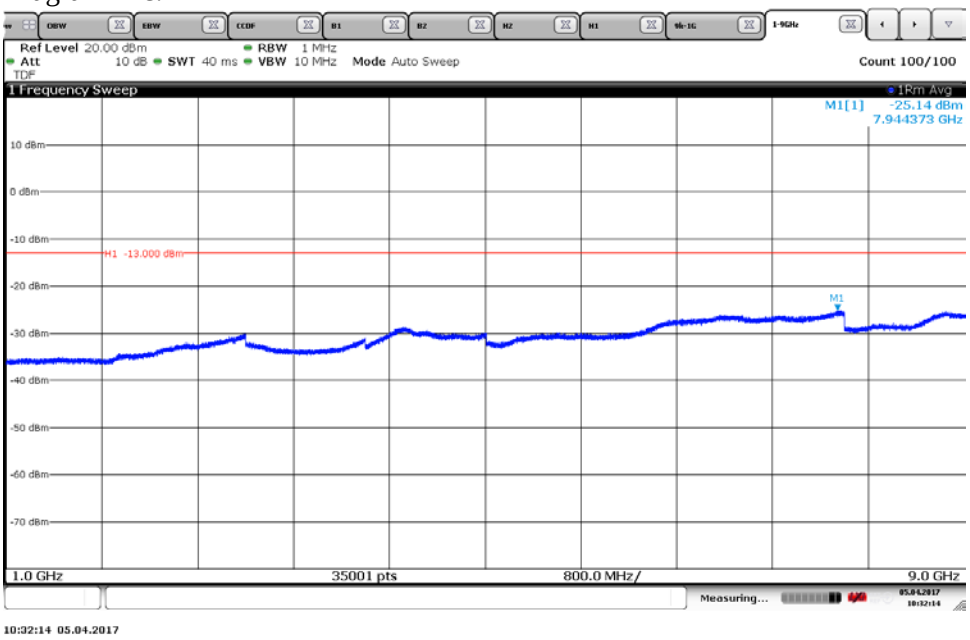


Diagram 12b:



Appendix 5

Diagram 12c:



Appendix 5

Diagram 13a:

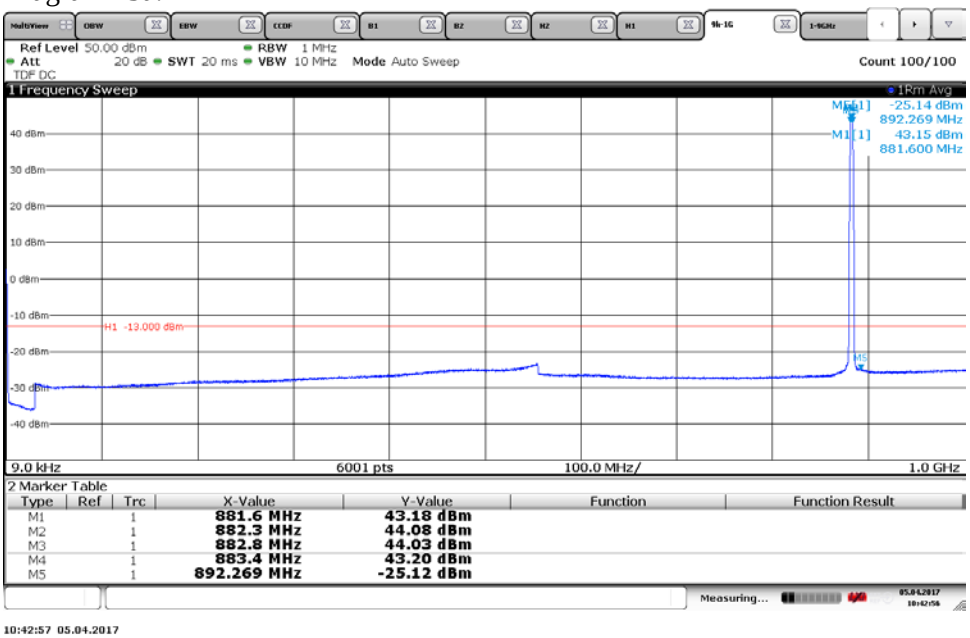
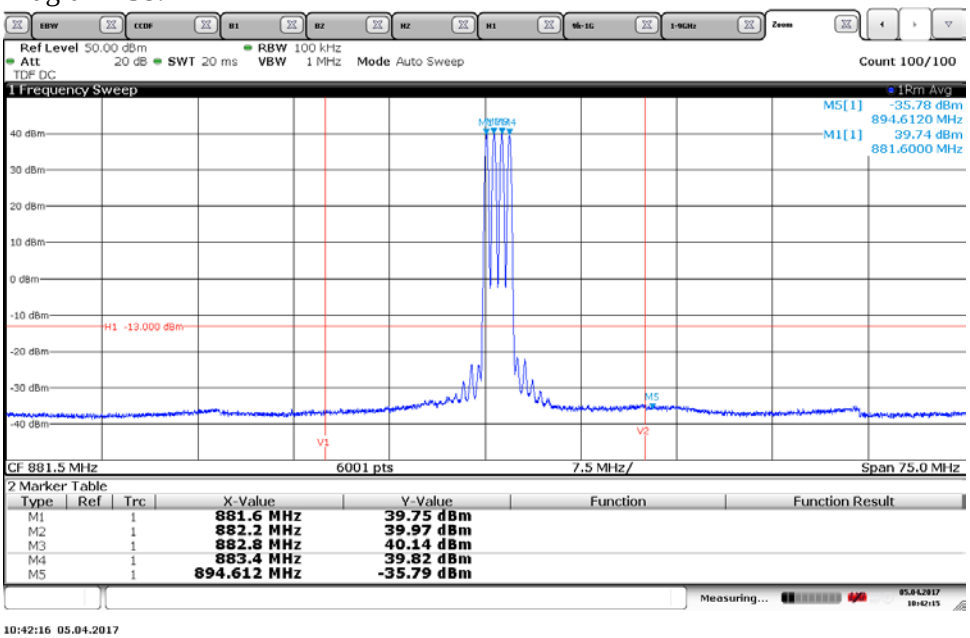
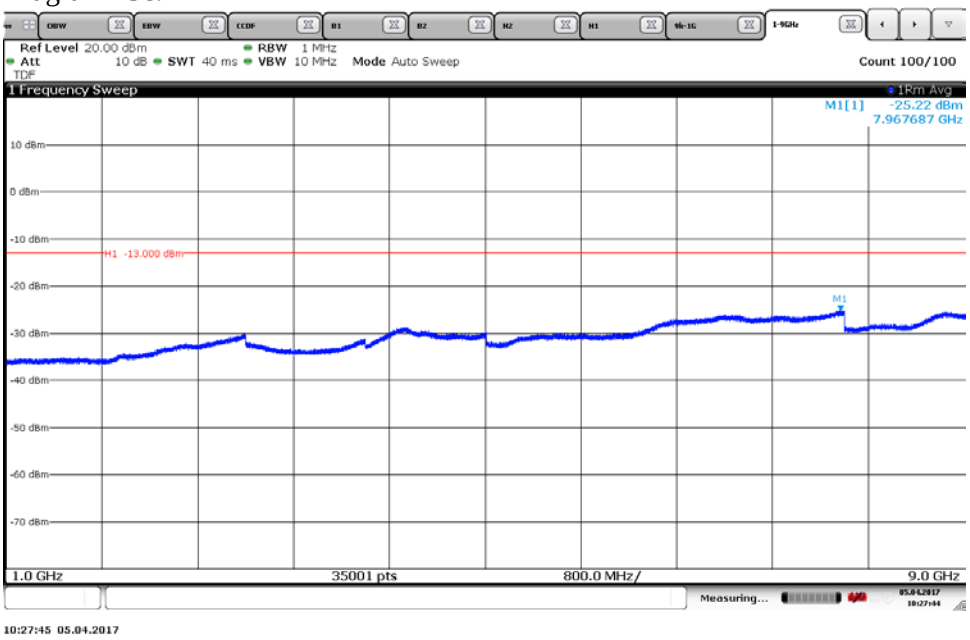


Diagram 13b:



Appendix 5

Diagram 13c:



Appendix 6

Field strength of spurious radiation measurements according to 47 CFR 2.1053 / IC RSS-132 5.5

Date	Temperature	Humidity
2017-02-23	22 °C ± 3 °C	29 % ± 5 %
2017-02-24	22 °C ± 3 °C	25 % ± 5 %

The test sites are listed at FCC, Columbia with registration number: 93866. The test site complies with RSS-Gen, Industry Canada file no. 3482A-1.

The measurements were performed with both horizontal and vertical polarization of the antenna. The antenna distance was 3 m in the frequency range 30 MHz – 9 GHz.

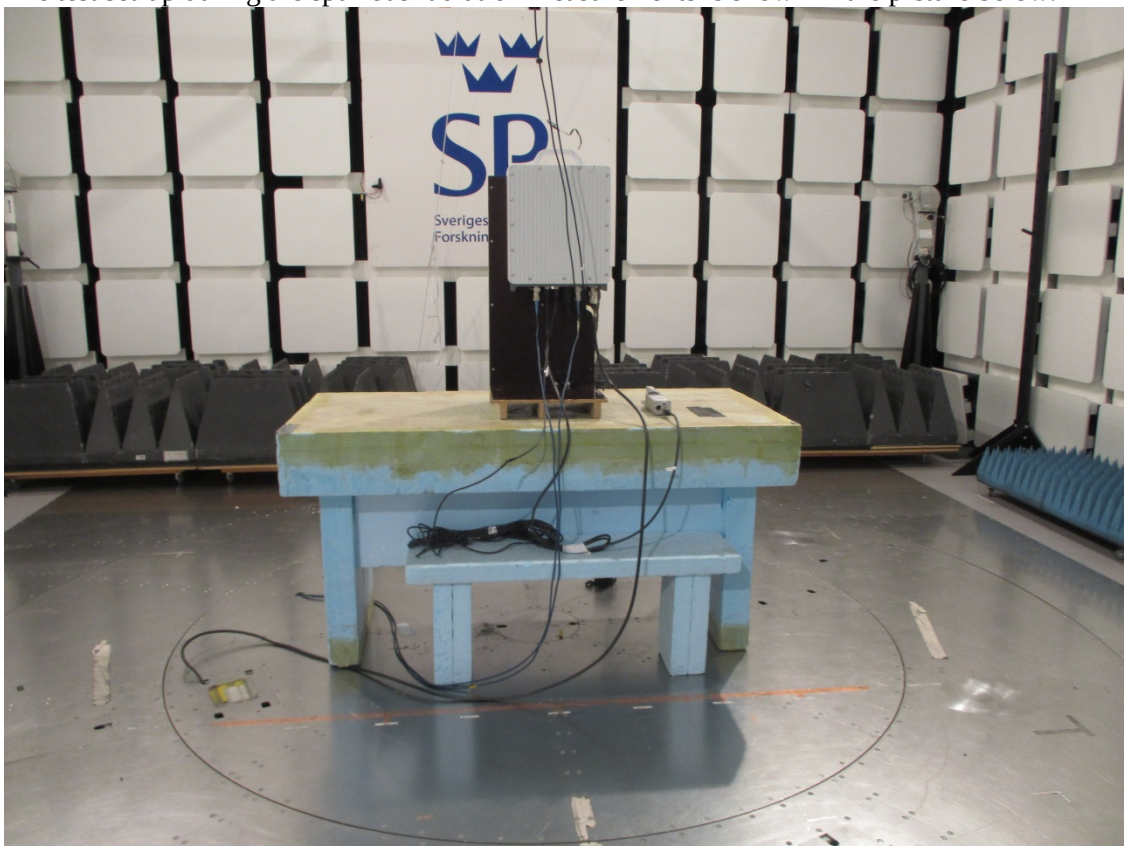
The measurement was performed with a RBW of 1 MHz.

A propagation loss in free space was calculated. The used formula was $\gamma = 20\log\left(\frac{4\pi D}{\lambda}\right)$, γ is the propagation loss and D is the antenna distance.

The measurement procedure was as the following:

1. A pre-measurement is performed with peak detector. For measurement < 1 GHz the test object was measured in eight directions with the antenna at three heights, 1.0 m, 1.5 m and 2.0. For measurements > 1 GHz the test object was measured in seventeen directions with the antenna at 1.0 m height.
2. Spurious radiation on frequencies closer than 20 dB to the limit in the pre-measurement is scanned 0-360 degrees and the antenna is scanned 1- 4 m for maximum response. The emission is then measured with the RMS detector and the RMS value is reported. Frequencies closer than 10 dB to the limit when measured with the RMS detector were measured with the substitution method according to ANSI/TIA/-603-D-2010.

The test set-up during the spurious radiation measurements is shown in the picture below:



Measurement equipment

Measurement equipment	SP number
Semi anechoic chamber Tesla	503 881
R&S ESU 40	901 385
EMC 32 ver. 9.15.0	503 899
ETS Lindgren BiConiLog 3142E	BX61914
ETS Lindgren Horn Antenna 3115	502 175
µComp Nordic, Low Noise Amplifier	901 545
HP Filter 1-18 GHz	901 501
Temperature and humidity meter, Testo 625	504 188

Test frequencies

Symbolic name
B
M
T
M2
M4

Results

Representing worst case:
Single RAT GSM, GMSK, symbolic name M4, Diagram 1 a-b

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical	Horizontal
30-9000	All emission > 20 dB below limit	All emission > 20 dB below limit

Measurement uncertainty: 3.1 dB

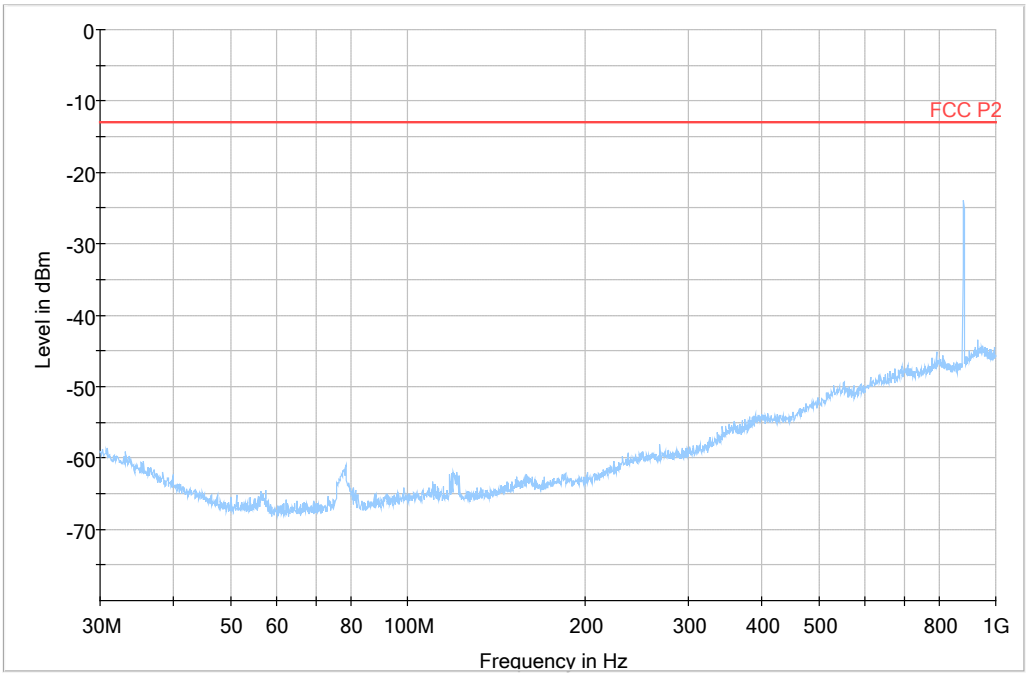
Limits

CFR 47 §22.917 and IC RSS-132 5.5

Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm.

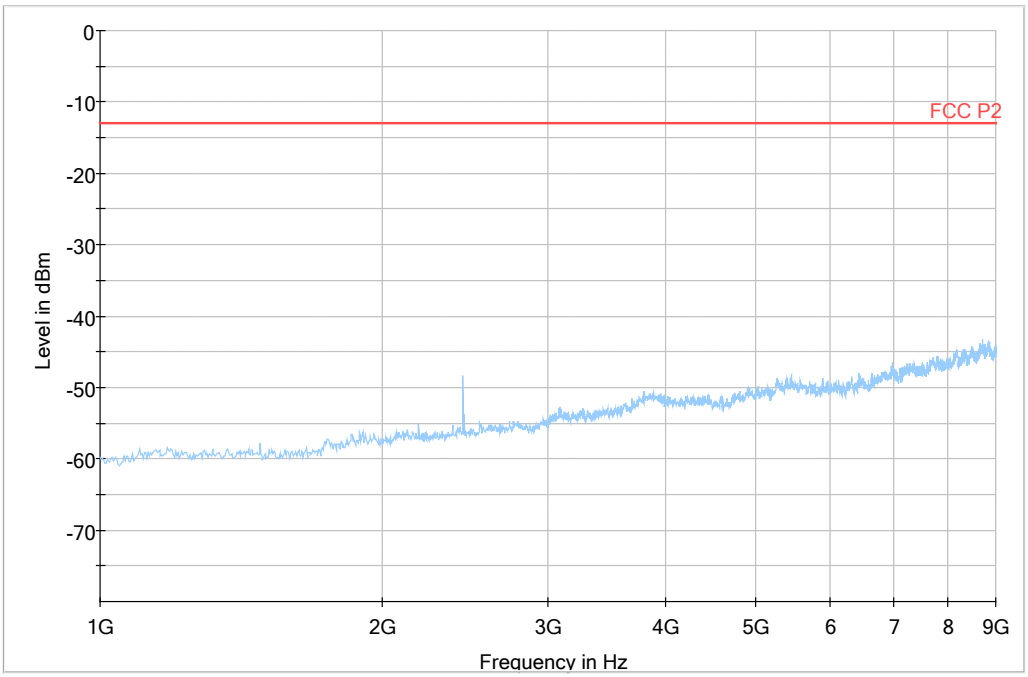
Complies?	Yes

Diagram 1a:



Note: The emission at 880 MHz to 883 MHz are the carrier frequencies and shall be ignored in the context.

Diagram 1b:



Appendix 7

Frequency stability measurements according to CFR 47 §22.355 , 2.1055 / IC RSS 132 5.3

Date	Temperature (test equipment)	Humidity (test equipment)
2017-04-06	22 °C ± 3 °C	24% ± 5 %
2017-04-07	24 °C ± 3 °C	29% ± 5 %

Test set-up and procedure

The measurements were made per J-STD-007A Vol 1 (GMSK).

The output was connected to a spectrum analyzer. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements.

Measurement equipment	SP number
R&S FSQ	504 143
EAB RF attenuator	-
Temperature Chamber	501 031
Testo 635, temperature and humidity meter	504 203
Multimeter Fluke 87	502 190

Results

Nominal Voltage -48 V DC

Maximum output power at mid channel (M, 881.6 MHz)

Test conditions		Frequency error (Hz)
Supply voltage DC (V)	T (°C)	
-48.0	+20	-11
-55.2	+20	-12
-40.8	+20	-10
-48.0	+30	+18
-48.0	+40	+20
-48.0	+50	-15
-48.0	+10	-12
-48.0	0	-13
-48.0	-10	-14
-48.0	-20	+11
-48.0	-30	+13
Maximum freq. error (Hz)		20
Measurement uncertainty		$< \pm 1 \times 10^{-7}$

Remark

It was deemed sufficient to test one combination of TX frequency, channel bandwidth configuration and test model (modulation), as all combinations share a common internal reference from which the TX frequency derives.

Limits

Limit according to:

§22.355
The frequency stability shall be within ± 1.5 ppm (± 1322.4 Hz).

RSS-132 5.3 Frequency:
The carrier frequency shall not depart from the reference frequency in excess of ± 1.5 ppm (± 1322.4 Hz) for base stations when tested to the temperature and supply voltage variations specified in RSS-Gen.

Complies?	Yes

External photos

Front side

Rear side

Left side

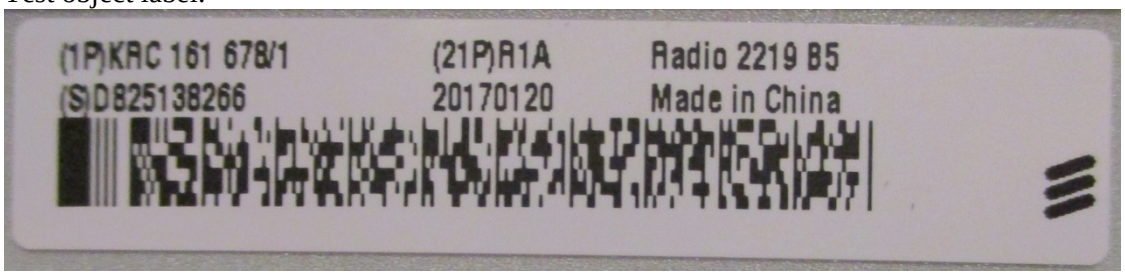
Right side

Appendix 8

Top side

Bottom side

Test object label:



SFP module: