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Test report

284168-1TRFWL

Date of issue: November 30, 2018

Applicant:

Deltanode Solutions AB

Product:

700 UC

Model:

DHR804

FCC ID: V5FDHR001 IC: 11014A-DHR001

Specifications:

FCC Part 27, RSS-131 Issue 3, RSS-130 Issue 1

Test location

Company name	Nemko Canada Inc.
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City	Ottawa
Province	Ontario
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Website	www.nemko.com
Site number	FCC: CA2040, FCC Test Firm Registration Number: 175281; IC: 2040A-4 (3 m SAC)

Tested by	Kevin Rose, Wireless / EMC Specialist
Reviewed by	Russell Grant, Senior Technical Assessor
Date	November 30, 2018
Signature	

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.
This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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Section 1. Report summary

1.1 Applicant and manufacturer

Company name	Deltanode Solutions AB
Address	Hammarby Fabriksvag 61
City	Stockholm
Province/State	
Postal/Zip code	SE-120 30
Country	Sweden

1.2 Test specifications

FCC Part 27	Miscellaneous Wireless Communications Services
RSS-131 Issue 3	Zone Enhancers
RSS-130 Issue 1	Mobile Broadband Services (MBS), Equipment Operating in the Frequency, Bands 698-756 MHz and 777-787 MHz
KDB 935210 D05 Indus Booster Basic Meas v01r02	MEASUREMENTS GUIDANCE FOR INDUSTRIAL AND NON-CONSUMER SIGNAL BOOSTER, REPEATER, AND AMPLIFIER DEVICES

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See “Summary of test results” for full details.

1.4 Exclusions

None

1.5 Test report revision history

Revision #	Details of changes made to test report
TRF	Original report issued

Section 2. Summary of test results

2.1 FCC Part 27, RSS-131 Issue 3, RSS-130 Issue 1

Part	Test description	Verdict
KDB 935210 D05 3.2	Measuring AGC threshold level	Reported
RSS-131 5.2.1, KDB 935210 D05 3.3	Out-of-band-rejection	Pass
RSS-131 5.2.2, KDB 935210 D05 3.4,	Input-versus-output signal comparison	Pass
FCC 27.50(b), RSS-131 5.2.3, RSS-130 4.4, KDB 935210 D05 3.5	Mean output power and amplifier/booster gain	Pass
FCC 27.53(c), RSS-130 4.6, KDB 935210 D05 3.6.2,	Out-of-band/out-of-block emissions conducted measurements	Pass
FCC 27.53(c)(f), RSS-130 4.6, KDB 935210 D05 3.6.3	Spurious emissions conducted measurements	Pass
FCC 27.54, RSS-131 5.2.4, RSS-130 4.3, KDB 935210 D05 3.7	Frequency stability measurements	N/A[1]
FCC 27.53(c)(f), RSS-130 4.6, KDB 935210 D05 3.8	Spurious emissions radiated measurements	Pass

Notes: [1]The signal booster does not alter the input signal in any way

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	April 29, 2015
Nemko sample ID number	13300322

3.2 EUT information

Product name	700 UC
Model	DHR804
Serial number	10504

3.3 Technical information

Operating band	Canada: 746-756/777-787 MHz USA: 746-758/776-788 MHz
Modulation type	LTE
Channel Spacing	Standard
Power requirements	110 V_{AC}, ~3 A for entire system tested
Emission designator	1M40D7W, 3M00D7W, 5M00D7W, and 10M0D7W
Gain	85 dB
Antenna information	External Antenna is not provided EUT used a 50 Ω termination.

3.4 Product description and theory of operation

Off air high power repeater 33dBm of output power on DL, 25dBm of output power on UL, 85 dB gain in both DL and UL

3.5 EUT exercise details

The EUT was controlled via a Laptop interface with GUI to configure the system The EUT uses set channels Bandwidths user settable to a maximum of 15 MHz.

3.6 EUT setup diagram

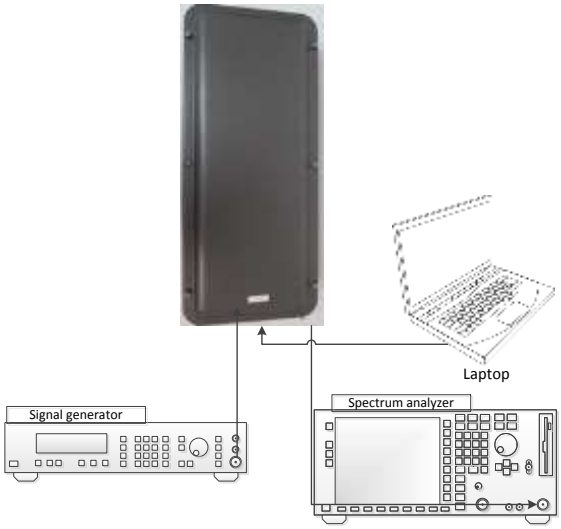

Figure 3.6-1: *Setup diagram*

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5. Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	860–1060 mbar

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55
Conducted spurious emissions	1.13
Radiated spurious emissions	3.78

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: *Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	Dec. 09/18
Flush mount turntable	Sunol	FM2022	FA002082	—	NCR
Controller	Sunol	SC104V	FA002060	—	NCR
Antenna mast	Sunol	TLT2	FA002061	—	NCR
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 26	FA002043	1 year	March 26/19
Spectrum analyzer	Rohde & Schwarz	FSP	FA001920	1 year	Aug. 08/18
Bilog antenna (20–3000 MHz)	Sunol	JB3	FA002108	1 year	Aug. 31/18
Horn antenna (1–18 GHz)	EMCO	3115	FA000825	1 year	Sept 1/18
Preamp (1–18 GHz)	ETS-Lindgren	124334	FA002873	1 year	Nov. 3/18
50 Ω coax cable	Huber + Suhner	None	FA002074	1 year	May 12/18
50 Ω coax cable	Huber + Suhner	None	FA002830	1 year	May 08/19
DFS and Adaptivity system	Aeroflex	PXI 30xx	FA002628	1 year	Aug 26/18
Spectrum analyzer	Rohde & Schwarz	FSW43	FA002971	1 year	Mar. 16/19
Vector Signal Generator	Rohde & Schwarz	SMW200A	FA002970	1 year	Feb. 2/19

Note: NCR - no calibration required, VOU - verify on use

Section 8. Testing data

8.1 KDB 935210 D05 3.2, Measuring AGC threshold level

8.1.1 Definitions and limits

The AGC threshold is the input power at which a 1 dB increase in the input signal power no longer causes a 1 dB increase in the output power.

8.1.2 Test summary

Test date	July 10, 2018	Temperature	22 °C
Test engineer	Kevin Rose	Air pressure	995 mbar
Verdict	Pass	Relative humidity	47 %

8.1.3 Observations, settings and special notes

Test receiver settings:

Detector mode	RMS (for average), Peak (for peak)
Resolution bandwidth	100 kHz
Integration bandwidth	>OBW
Video bandwidth	>RBW
Trace mode	Power Average (for average), Max Hold (for peak)
Measurement time	Auto

8.1.4 Test data

Table 8.1-1: *AGC Threshold*

Modulation	Frequency, MHz	RF input power AVG, dBm
AWGN	751	-47.46
AWGN	782	-56.89

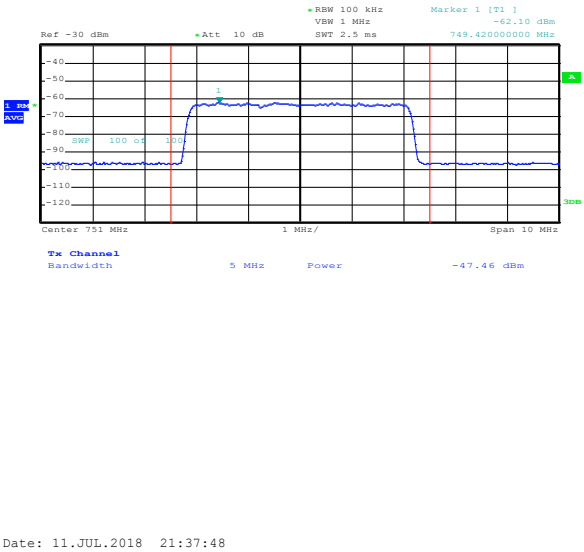

Figure 8.1-1: *AWGN AGC +1 dB DL 751 MHz input power average*

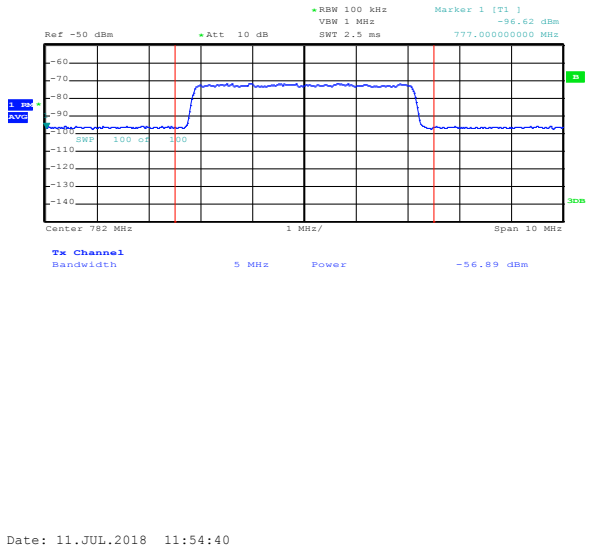

Figure 8.1-2: *AWGN AGC +1 dB UL 782 MHz input power average*

8.2 RSS-131 5.2.1, KDB 935210 D05 3.3, Out-of-band-rejection

8.2.1 Definitions and limits

The gain-versus-frequency response and the 20 dB bandwidth of the zone enhancer shall be reported. The zone enhancer shall reject amplification of other signals outside the passband of the zone enhancer.

8.2.2 Test summary

Test date	June 27, 2018	Temperature	21 °C
Test engineer	Kevin Rose	Air pressure	1000 mbar
Verdict	Pass	Relative humidity	42 %

8.2.3 Observations, settings and special notes

Frequency range	Frequency range = ± 250 % of the passband,
Detector mode	Peak
Resolution bandwidth sweep	1 % to 5 % of the EUT passband,
Video bandwidth	>RBW
Trace mode	Max Hold
Measurement time	Auto

8.2.4 Test data

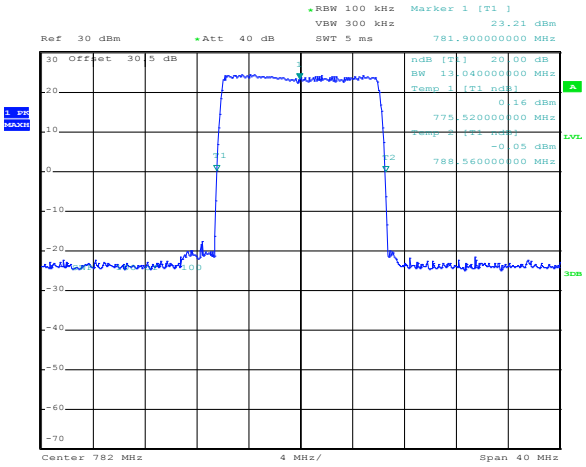

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Figure 8.2-1: *AWGN UL Pass Band*

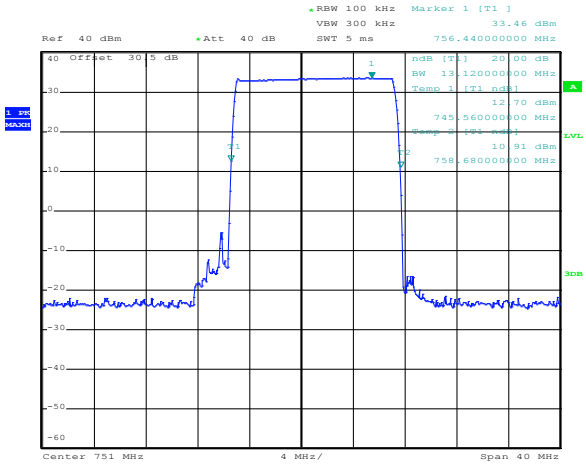

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Figure 8.2-2: *AWGN DL Pass Band*

8.3 RSS-131 5.2.2, KDB 935210 D05 3.4, Input-versus-output signal comparison

8.3.1 Definitions and limits

The spectral growth of the 26 dB bandwidth of the output signal shall be less than 5% of the input signal spectrum.

A 26 dB bandwidth measurement shall be performed on the input signal and the output signal; alternatively, the 99% OBW can be measured and used.

8.3.2 Test summary

Test date	July 11, 2018	Temperature	22 °C
Test engineer	Kevin Rose	Air pressure	1005 mbar
Verdict	Pass	Relative humidity	42 %

8.3.3 Observations, settings and special notes

Receiver settings were:

Frequency range	250% of OBW
Detector mode	Peak
Resolution bandwidth	1 % to 5 % of the anticipated OBW
Video bandwidth	>RBW
Trace mode	Max Hold

8.3.4 Test data

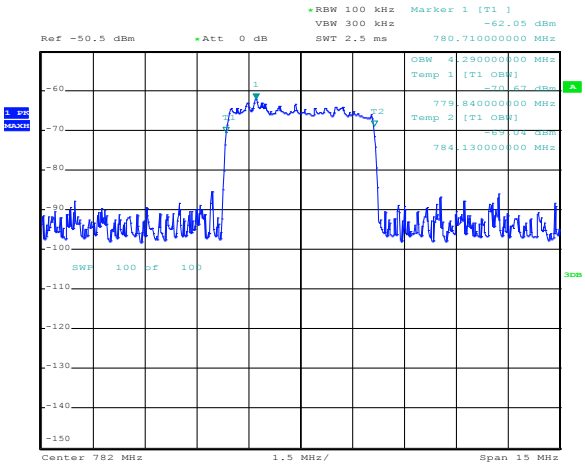

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Figure 8.3-1: *AWGN AGC-0.5 dB 782 MHz input 99% BW*

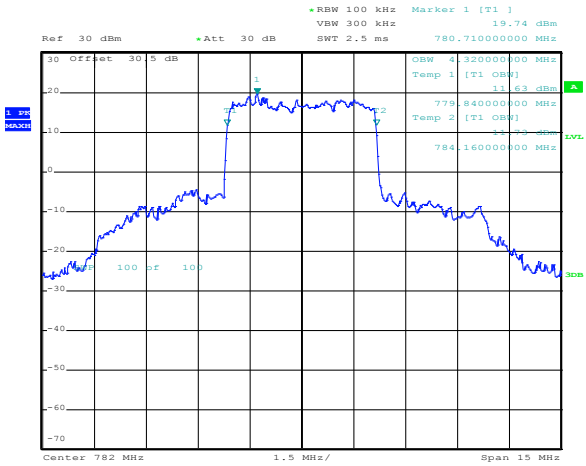

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Figure 8.3-2: *AWGN AGC-0.5 dB 782 MHz output 99% BW*

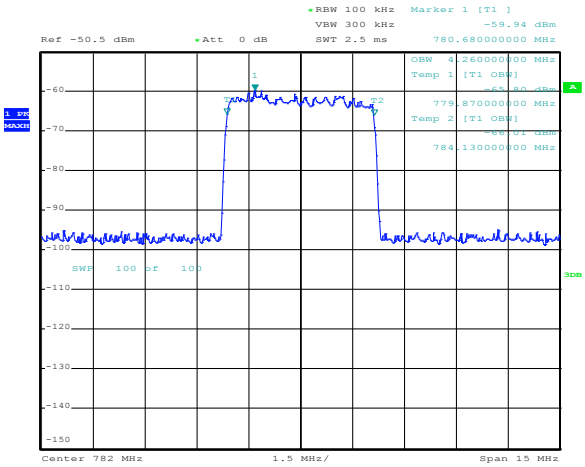

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Figure 8.3-3: *AWGN AGC +3 dB 782 MHz input 99% BW*

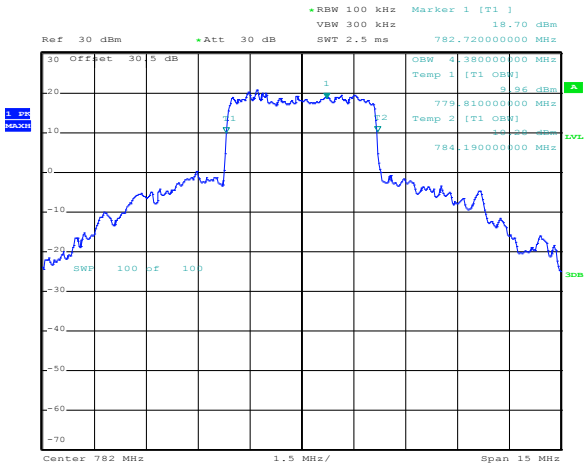

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Figure 8.3-4: *AWGN AGC +3 dB 782 MHz output 99% BW*

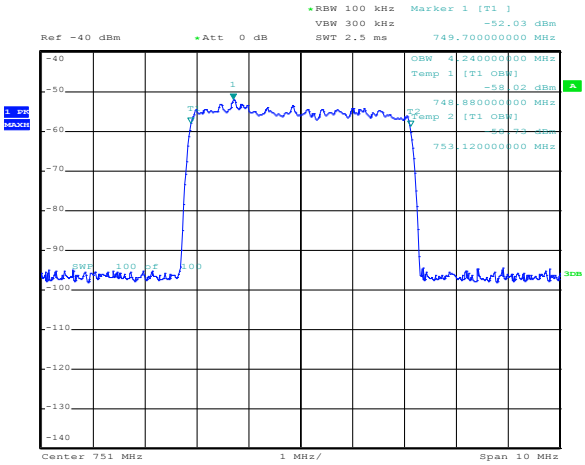

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Figure 8.3-5: *AWGN AGC-0.5 dB 751 MHz input 99% BW*

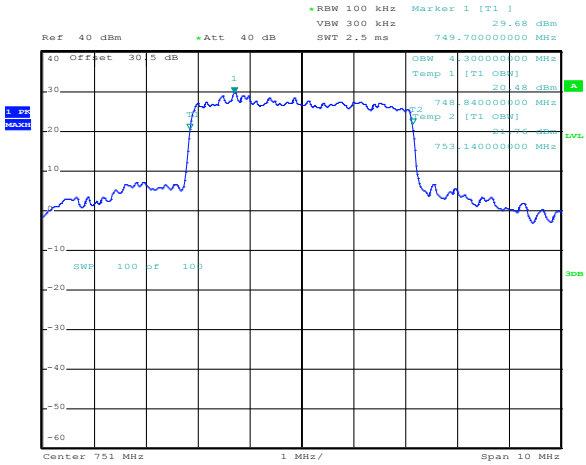

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Figure 8.3-6: *AWGN AGC-0.5 dB 751 MHz output 99% BW*

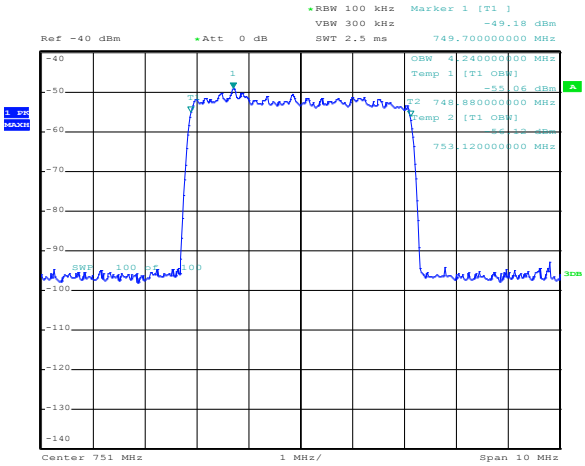

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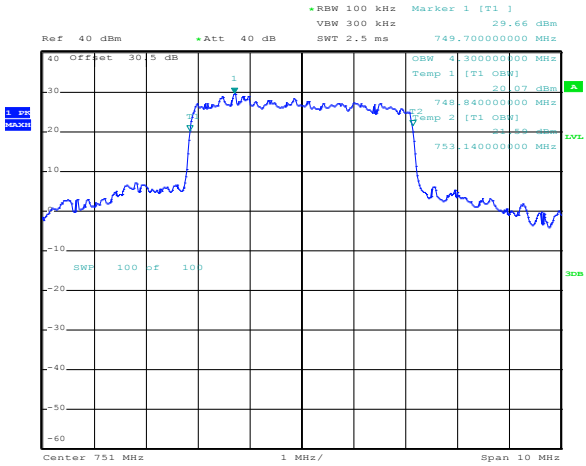
Figure 8.3-7: *AWGN AGC +3 dB 751 MHz input 99% BW*



Date: 11.JUL.2018 21:46:47

Figure 8.3-8: *AWGN AGC +3 dB 751 MHz output 99% BW*

8.4 FCC 27.50(b), RSS-131 5.2.3, RSS-130 4.4, KDB 935210 D05 3.5, Mean output power and amplifier/booster gain

8.4.1 Definitions and limits

FCC 27.50(b)
(2)(4) High Density, 1000 W ERP or 1000 W/MHz ERP with an emission bandwidth greater than 1 MHz
(3)(5) Low Density, 2000 W ERP or 2000 W/MHz ERP with an emission bandwidth greater than 1 MHz

RSS-131 5.2.3 The zone enhancer gain shall not exceed the nominal gain by more than 1.0 dB. Outside of the 20 dB bandwidth, the gain shall not exceed the gain at the 20 dB point

RSS-130 4.4, refer to SRSP-518. In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

8.4.2 Test summary

Test date	June 28, 2018	Temperature	21 °C
Test engineer	Kevin Rose	Air pressure	1006 mbar
Verdict	Pass	Relative humidity	45 %

8.4.3 Observations, settings and special notes

Spectrum analyzer settings:

Detector mode	RMS (for average), Peak (for peak)
Resolution bandwidth	100 kHz
Integration bandwidth	>OBW
Video bandwidth	>RBW
Trace mode	Power Average (for average), Max Hold (for peak)
Measurement time	Auto

Table 8.4-1: *Peak to Average results*

Modulation	Frequency, MHz	RF output power AVG, dBm	RF output power Peak, dBm	Peak to Average Ratio, dB	Peak to Average Ratio Limit, dBm	Peak to Average Margin, dB
AWGN	751	33.19	42.95	9.76	13	3.24
AWGN	782	24.55	34.30	9.75	13	3.25

Table 8.4-2: *+3 dB Average results*

Modulation	Frequency, MHz	RF output power AVG, dBm
AWGN	751	33.14
AWGN	782	24.56

Table 8.4-3: *Amplifier Gain*

Modulation	Frequency, MHz	RF output power AVG, dBm	RF input power AVG, dBm	Gain, dB	Rated Gain, dB	Margin, dB
AWGN	751	33.19	-48.39	81.58	85	3.42
AWGN	782	24.55	-56.95	81.50	85	3.50

8.4.1 Test data

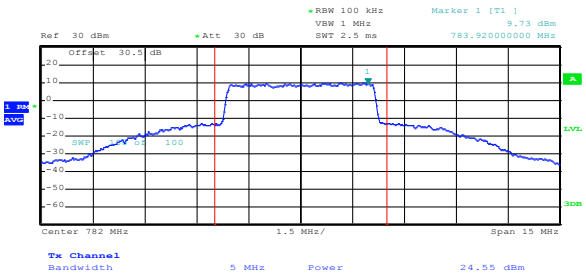


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Figure 8.4-1: *AWGN AGC-0.5 dB 782 MHz output power average*

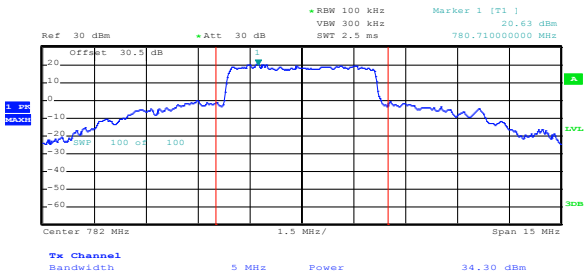

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Figure 8.4-2: *AWGN AGC-0.5 dB 782 MHz output power peak*

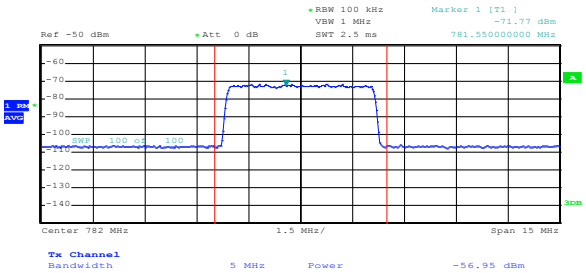

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Figure 8.4-3: *AWGN AGC-0.5 dB DL 782 MHz input power average*

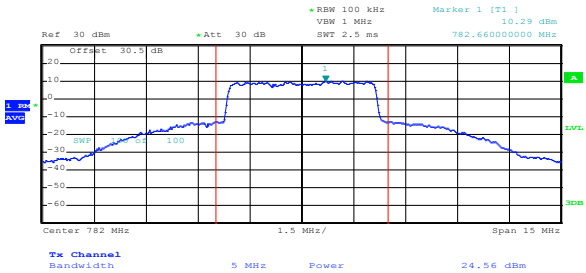

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Figure 8.4-4: *AWGN AGC +3 dB 782 MHz output power average*

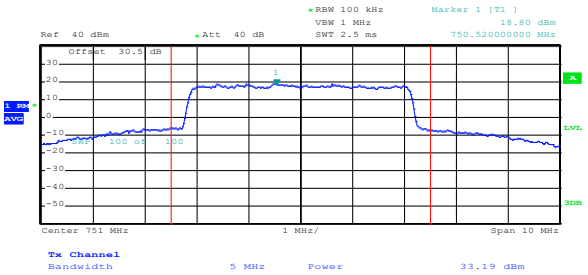

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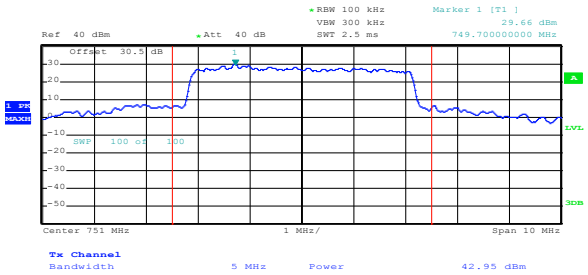
Figure 8.4-5: *AWGN AGC-0.5 dB 751 MHz output power average*



Date: 11.JUL.2018 21:43:10

Figure 8.4-6: *AWGN AGC-0.5 dB 751 MHz output power peak*

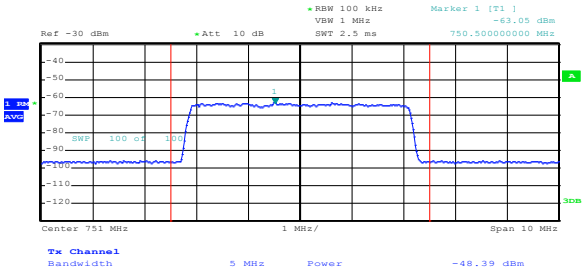


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Figure 8.4-7: *AWGN AGC-0.5 dB DL 751 MHz input power average*

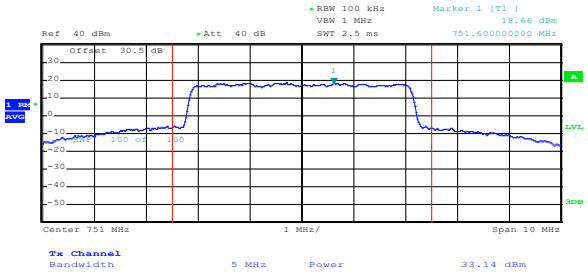

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Figure 8.4-8: *AWGN AGC +3 dB 751 MHz output power average*

8.5 FCC 27.53(c), RSS-130 4.6, KDB 935210 D05 3.6.2, Out-of-band/out-of-block emissions conducted measurements

8.5.1 Definitions and limits

FCC 27.53(c) / RSS-130 4.6
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

8.5.2 Test summary

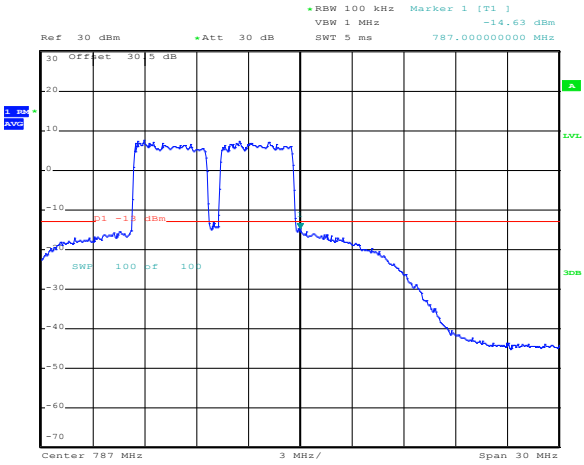
Test date	July 10, 2018	Temperature	22 °C
Test engineer	Kevin Rose	Air pressure	995 mbar
Verdict	Pass	Relative humidity	47 %

8.5.3 Observations, settings and special notes

Test receiver settings:

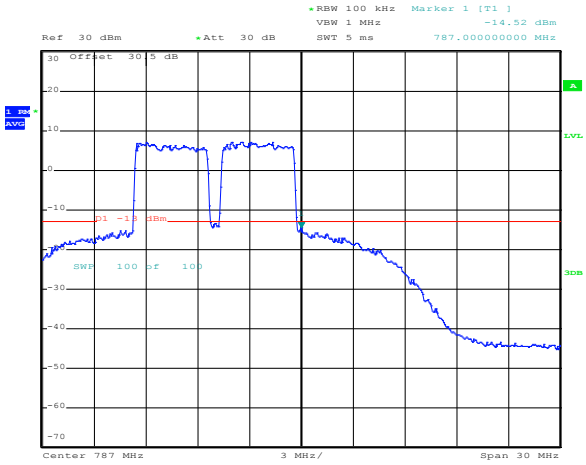
Detector mode	RMS
Resolution bandwidth	100 kHz (AWGN), 3 kHz(MSK)
Integration bandwidth	>OBW
Video bandwidth	>RBW
Trace mode	Power Average (100 sweeps)
Measurement time	Auto

8.5.4 Test data



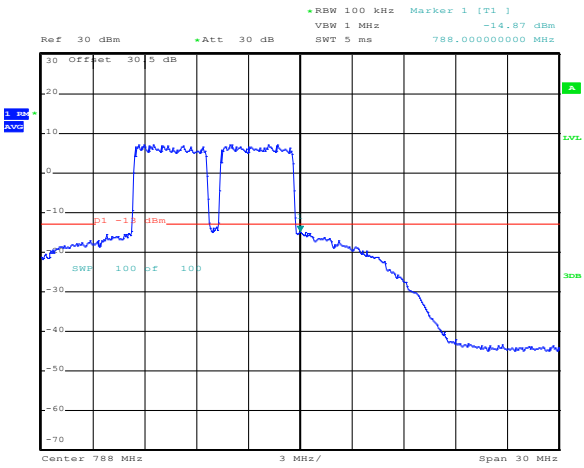
Date: 11.JUL.2018 13:26:48

***Figure 8.5-1: 2X** AWGN 779.5 and 784.5 MHz AGC Out-of-block*



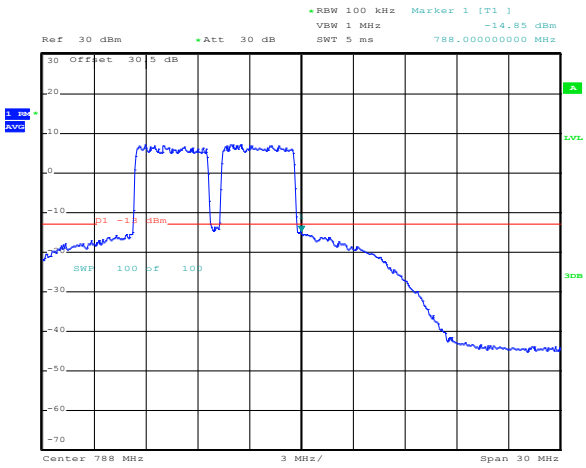
Date: 11.JUL.2018 13:27:19

***Figure 8.5-2: 2X** AWGN 779.5 and 784.5 MHz AGC + 3dB Out-of-block*



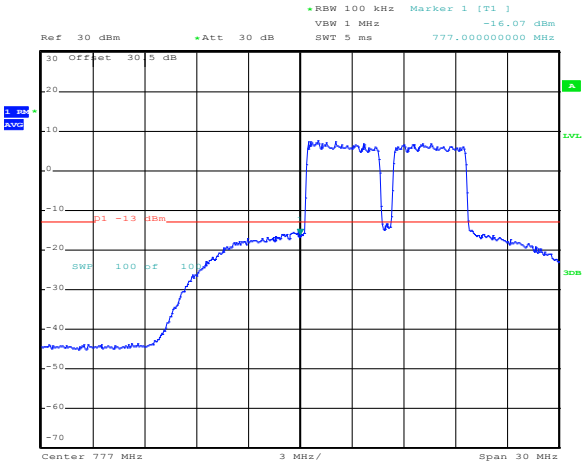
Date: 11.JUL.2018 13:30:21

***Figure 8.5-3: 2X** AWGN 780.5 and 785.5 MHz AGC Out-of-block*



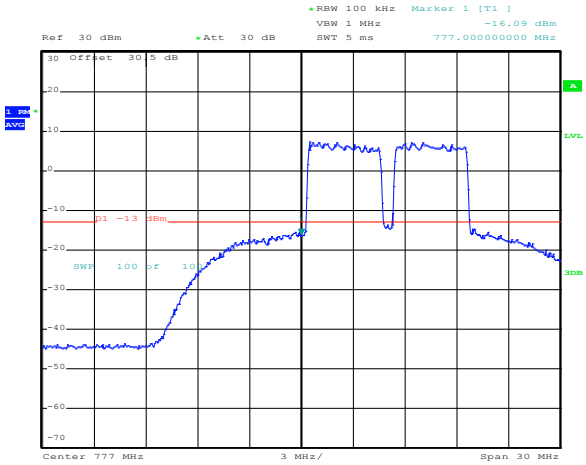
Date: 11.JUL.2018 13:29:55

***Figure 8.5-4: 2X** AWGN 780.5 and 785.5 MHz AGC + 3dB Out-of-block*



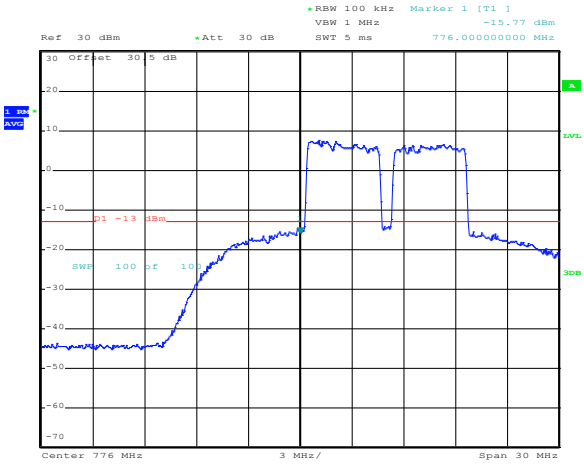
Date: 11.JUL.2018 14:45:18

***Figure 8.5-5: 2x** AWGN 779.5 and 784.5 MHz AGC Out-of-block*



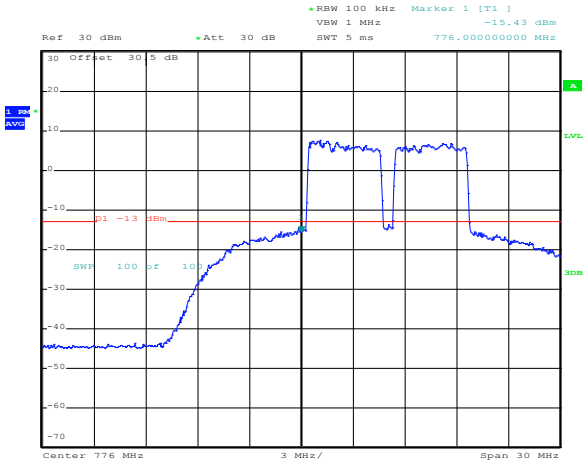
Date: 11.JUL.2018 14:46:05

***Figure 8.5-6: 2x** AWGN 779.5 and 784.5 MHz AGC + 3dB Out-of-block*



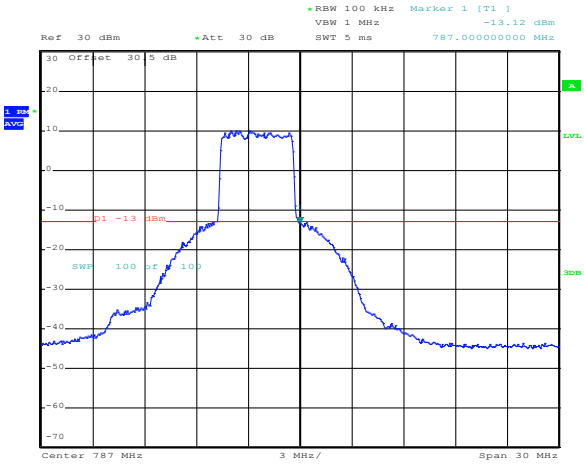
Date: 11.JUL.2018 14:48:28

***Figure 8.5-7: 2x** AWGN 778.5 and 783.5 MHz AGC Out-of-block*



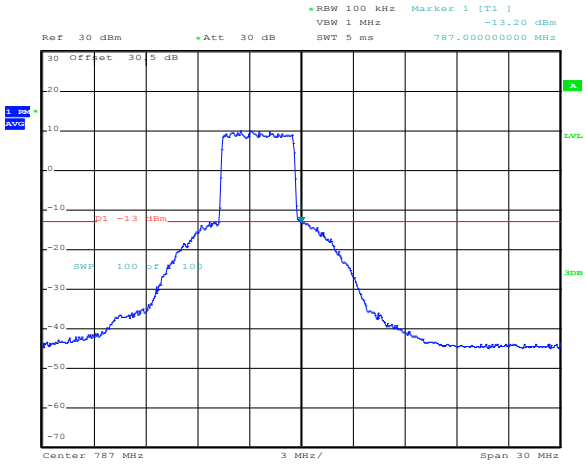
Date: 11.JUL.2018 14:47:47

***Figure 8.5-8: 2x** AWGN 778.5 and 783.5 MHz AGC + 3dB Out-of-block*



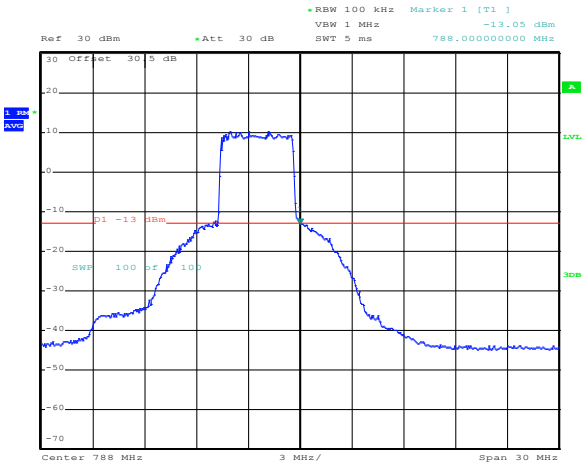
Date: 11.JUL.2018 14:53:56

Figure 8.5-9: *AWGN 784.5 MHz AGC Out-of-block*



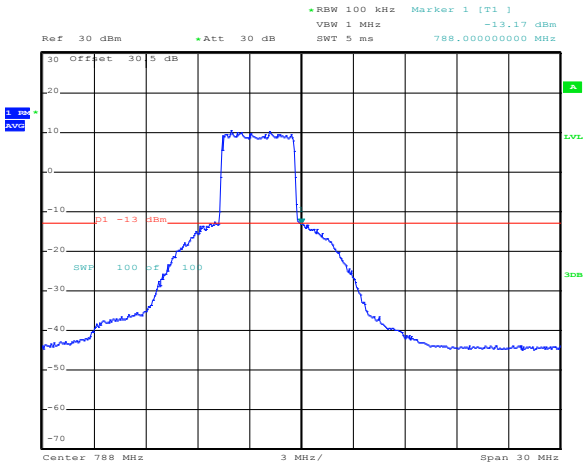
Date: 11.JUL.2018 14:55:06

Figure 8.5-10: *AWGN 784.5 MHz AGC + 3dB Out-of-block*



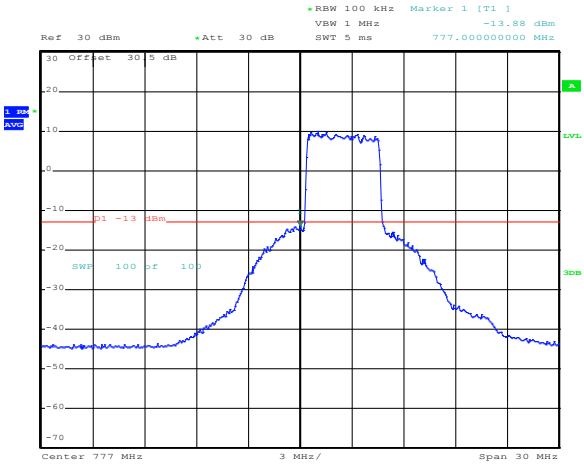
Date: 11.JUL.2018 14:58:12

Figure 8.5-11: *AWGN 785.5 MHz AGC Out-of-block*



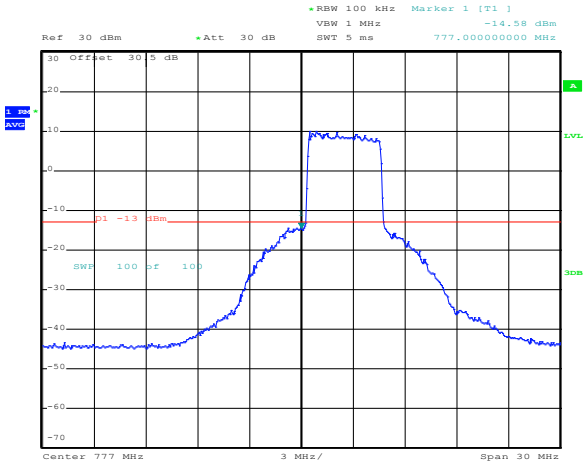
Date: 11.JUL.2018 14:58:53

Figure 8.5-12: *AWGN 785.5 MHz AGC + 3dB Out-of-block*



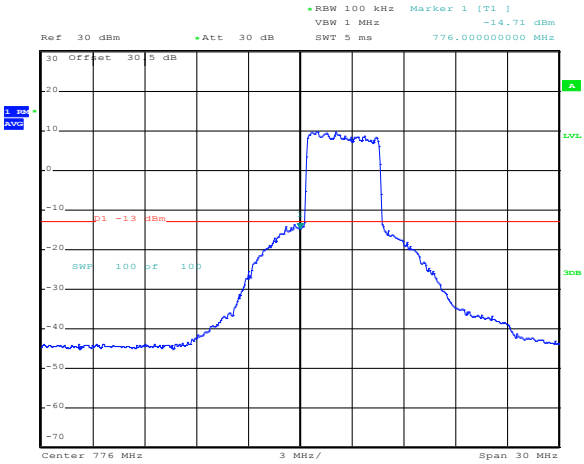
Date: 11.JUL.2018 16:31:16

Figure 8.5-13: *AWGN 779.5 MHz AGC Out-of-block*



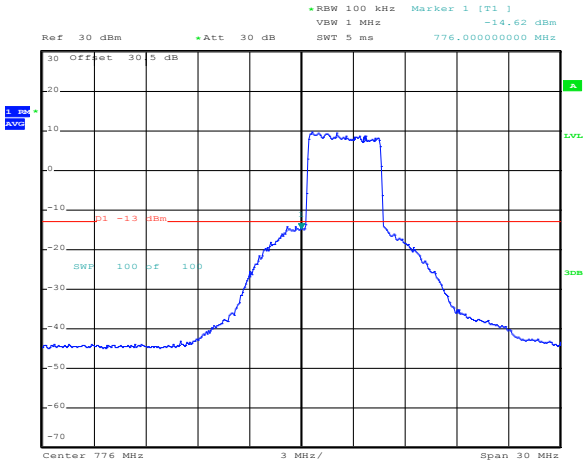
Date: 11.JUL.2018 16:30:28

Figure 8.5-14: *AWGN 779.5 MHz AGC + 3dB Out-of-block*



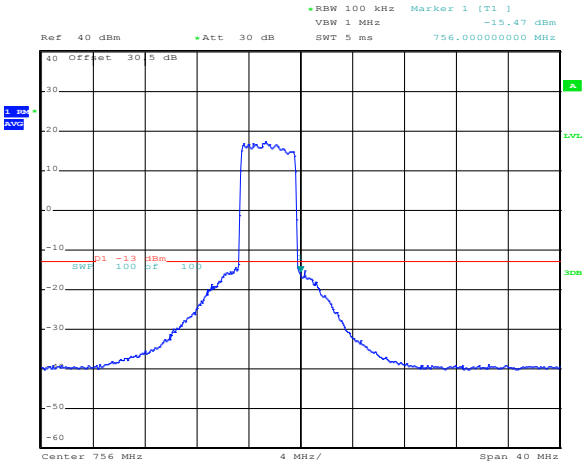
Date: 11.JUL.2018 16:33:00

Figure 8.5-15: *AWGN 778.5 MHz AGC Out-of-block*



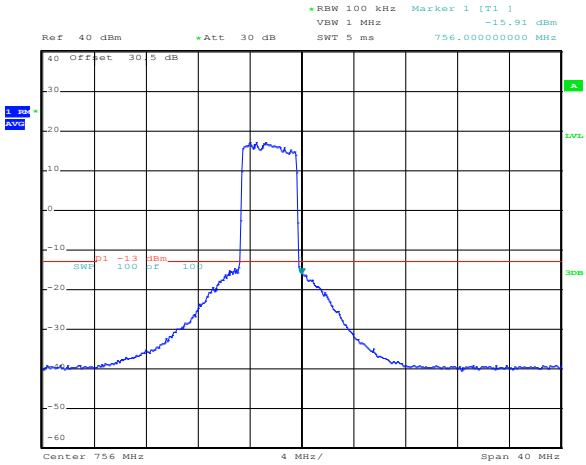
Date: 11.JUL.2018 16:33:44

Figure 8.5-16: *AWGN 778.5 MHz AGC + 3dB Out-of-block*



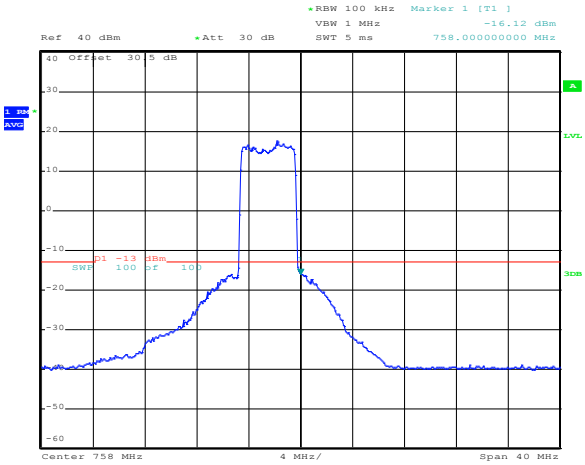
Date: 11.JUL.2018 23:11:22

Figure 8.5-17: *AWGN 753.5 MHz AGC Out-of-block*



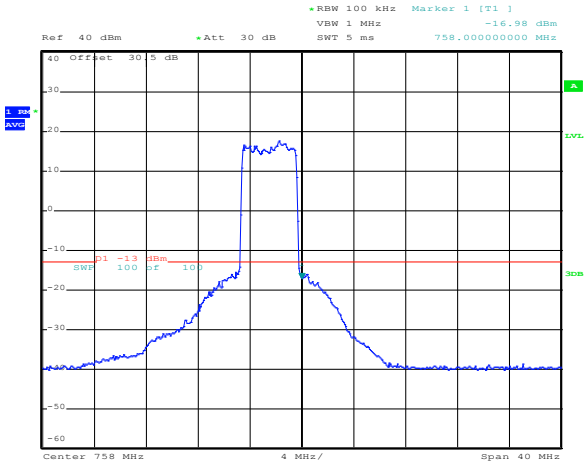
Date: 11.JUL.2018 23:12:20

Figure 8.5-18: *AWGN 753.5 MHz AGC + 3dB Out-of-block*



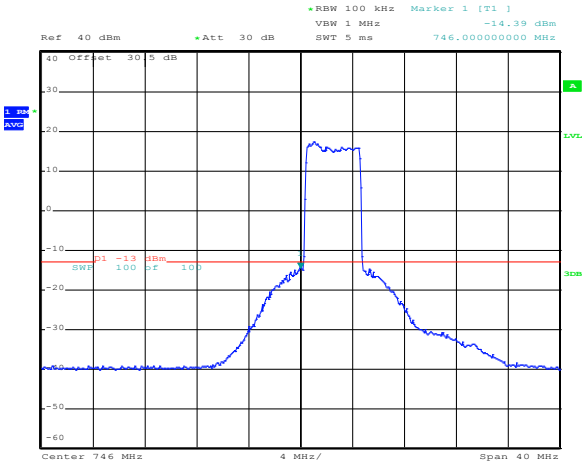
Date: 11.JUL.2018 23:16:50

Figure 8.5-19: *AWGN 755.5 MHz AGC Out-of-block*



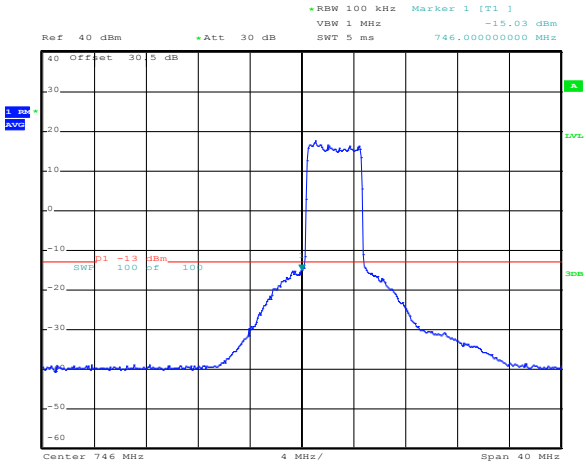
Date: 11.JUL.2018 23:16:05

Figure 8.5-20: *AWGN 755.5 MHz AGC + 3dB Out-of-block*



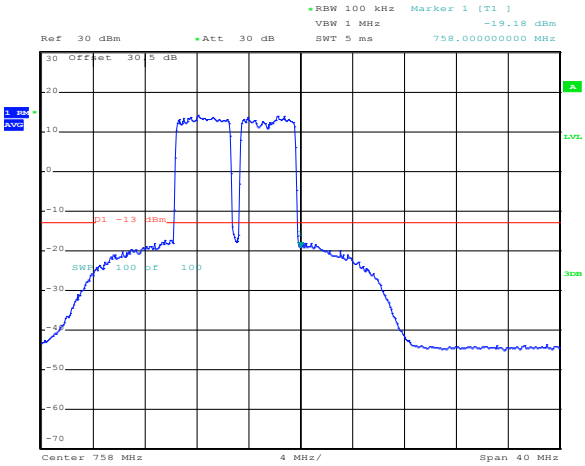
Date: 12.JUL.2018 15:12:52

Figure 8.5-21: *AWGN 748.5 MHz AGC Out-of-block*



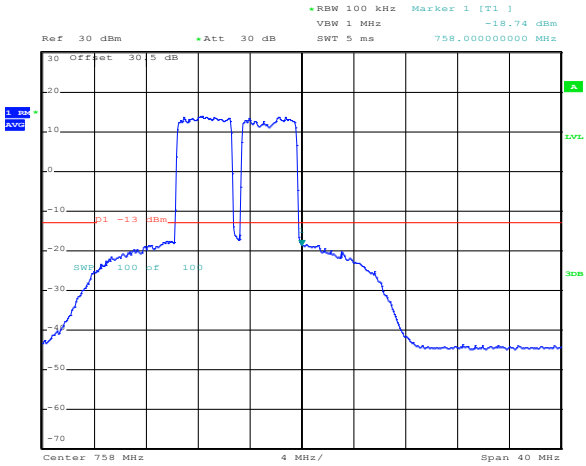
Date: 12.JUL.2018 15:13:21

Figure 8.5-22: *AWGN 748.5 MHz AGC + 3dB Out-of-block*



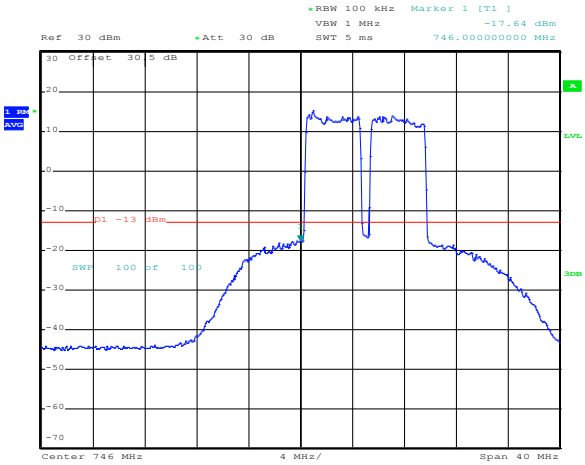
Date: 12.JUL.2018 15:21:19

Figure 8.5-23: *AWGN 750.5 and 755.5 MHz AGC Out-of-block*



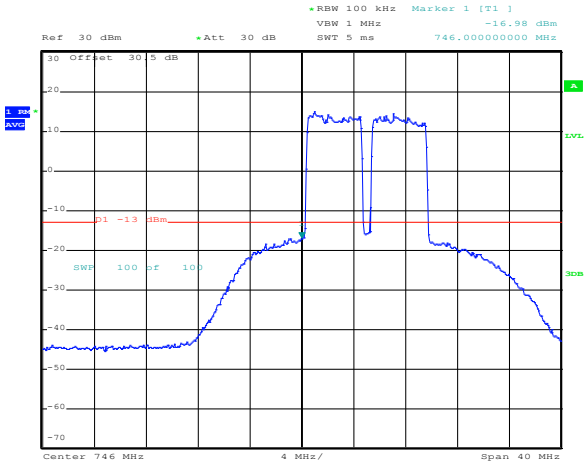
Date: 12.JUL.2018 15:21:55

Figure 8.5-24: *AWGN 750.5 and 755.5 MHz AGC + 3dB Out-of-block*



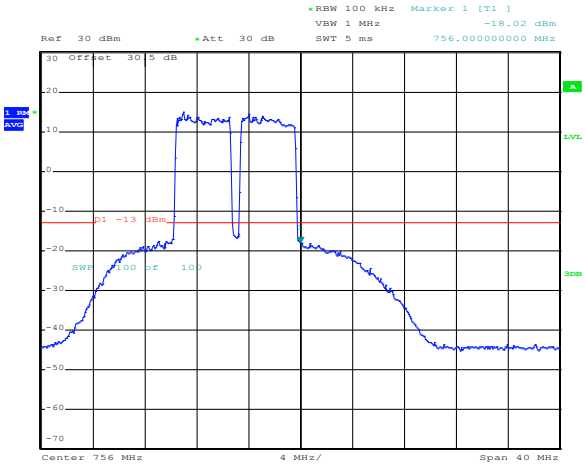
Date: 12.JUL.2018 15:16:36

Figure 8.5-25: *AWGN 748.5 and 753.5 MHz AGC Out-of-block*



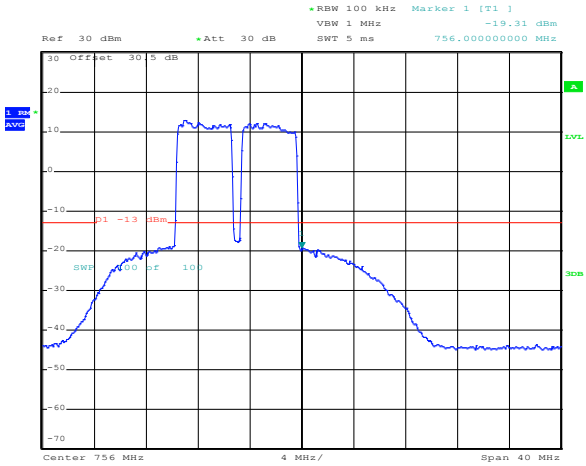
Date: 12.JUL.2018 15:17:21

Figure 8.5-26: *AWGN 748.5 and 753.5 MHz AGC + 3dB Out-of-block*



Date: 12.JUL.2018 15:19:04

Figure 8.5-27: *AWGN 748.5 and 753.5 MHz AGC Out-of-block*



Date: 12.JUL.2018 15:18:33

Figure 8.5-28: *AWGN 748.5 and 753.5 MHz AGC + 3dB Out-of-block*

8.6 FCC 27.53(c)(f), RSS-130 4.6, KDB 935210 D05 3.6.3, Spurious emissions conducted measurements

FCC 27.53(c) / RSS-130 4.6
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

FCC 27.53(f), RSS-130 4.6
For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

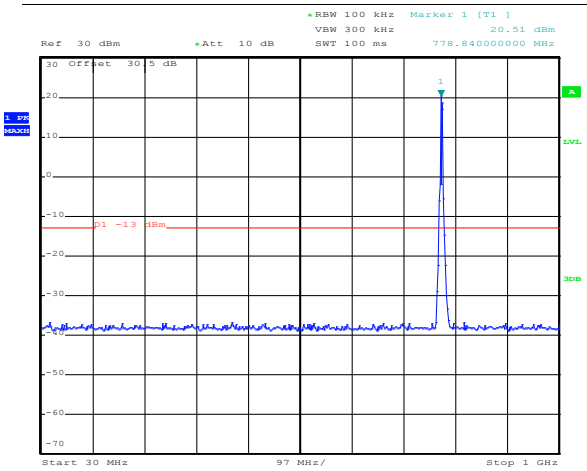
8.6.1 Test summary

Test date	June 27, 2018	Temperature	21 °C
Test engineer	Kevin Rose	Air pressure	1000 mbar
Verdict	Pass	Relative humidity	42 %

8.6.2 Observations, settings and special notes

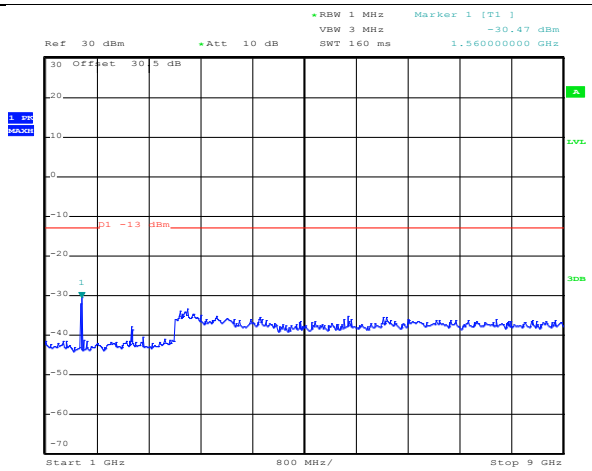
Frequency range	30 MHz to 10th harmonic
Detector mode	Peak
Resolution bandwidth sweep	100 kHz (below 1 GHz), 1000 kHz (above 1 GHz)
Video bandwidth	>RBW
Trace mode	Max Hold
Measurement time	Auto

8.6.3 Test data



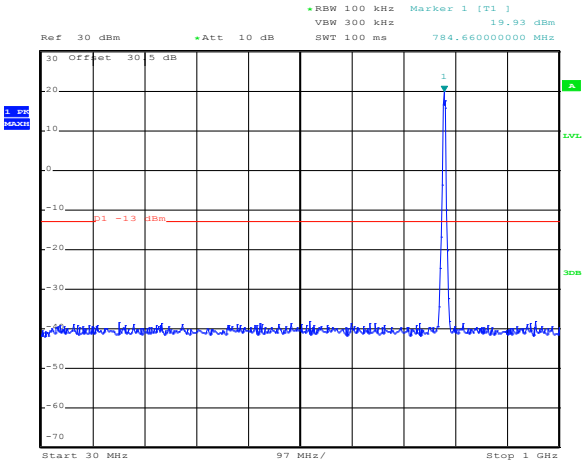
Date: 11.JUL.2018 17:02:21

Figure 8.6-1: *AWGN 779.5 MHz Conducted 30-1000 MHz*



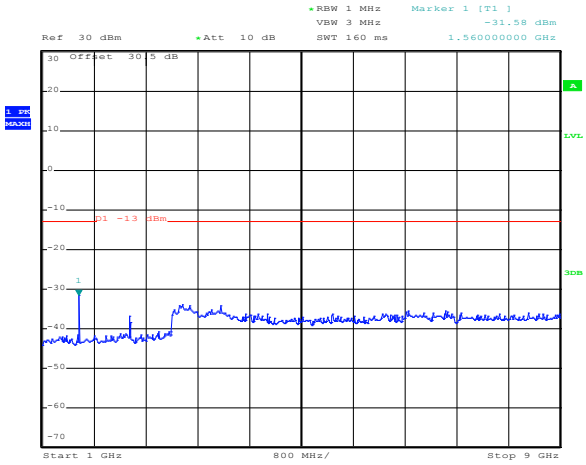
Date: 11.JUL.2018 17:03:05

Figure 8.6-2: *AWGN 779.5 MHz Conducted 1-9 GHz*



Date: 11.JUL.2018 17:05:49

Figure 8.6-3: *AWGN 784.5 MHz Conducted 30-1000 MHz*



Date: 11.JUL.2018 17:04:55

Figure 8.6-4: *AWGN 784.5 MHz Conducted 1-9 GHz*

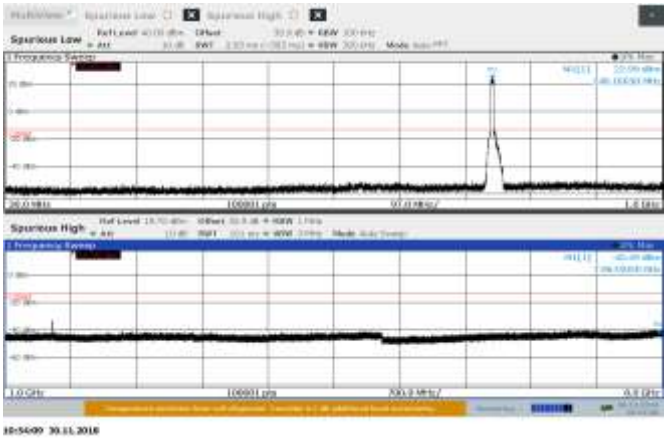


Figure 8.6-5: *AWGN 748.5 MHz Conducted 30-8000 MHz*

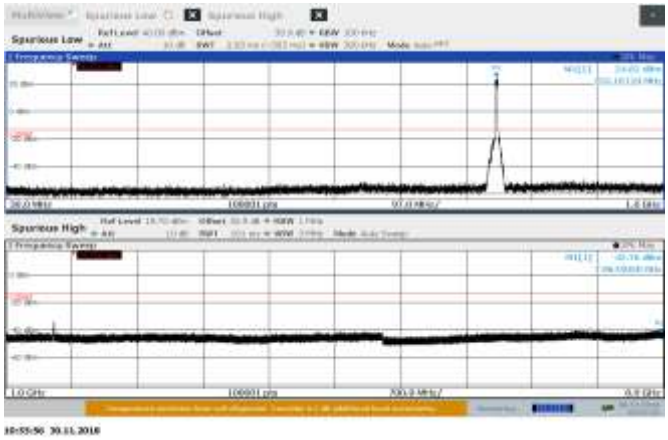


Figure 8.6-6: *AWGN 753.5 MHz Conducted 30-8000 MHz*

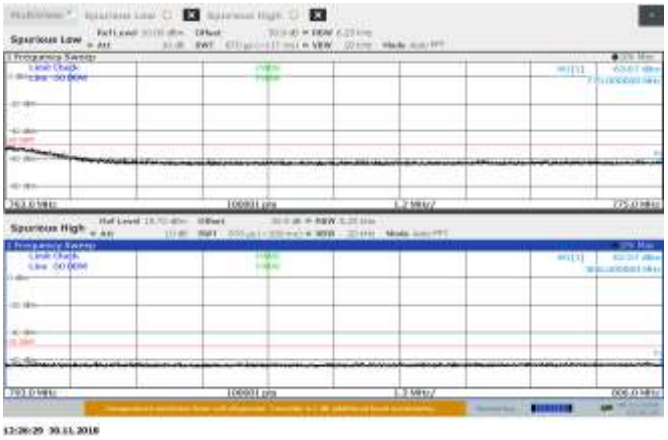


Figure 8.6-7:*TX AWGN at 753.5 MHz, 763-775 and 793 - 806 MHz*

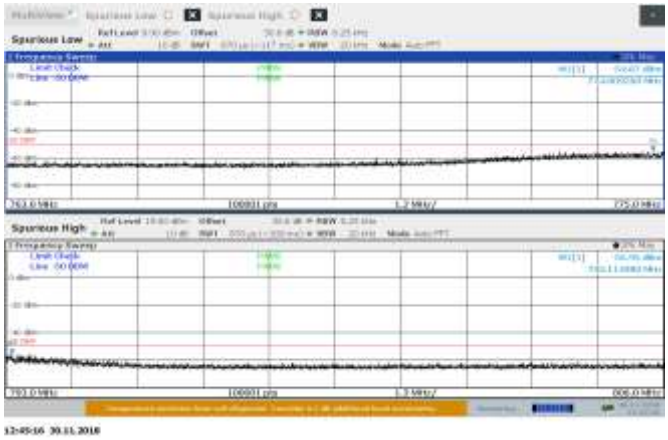


Figure 8.6-8:*TX AWGN at 784.5 MHz, 763-775 and 793 - 806 MHz*

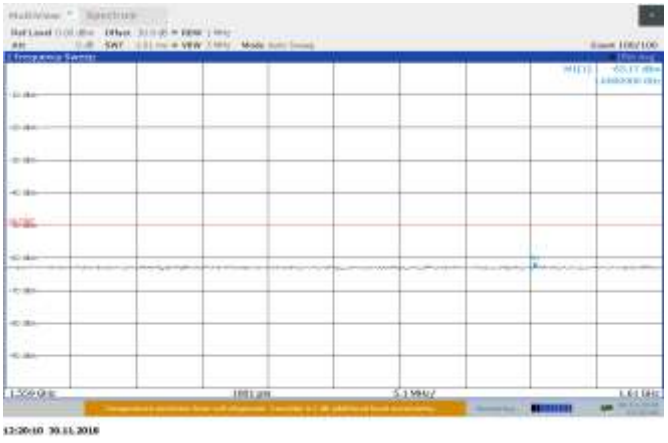


Figure 8.6-9: TX AWGN at 753.5 MHz, frequency span 1559-1610 MHz

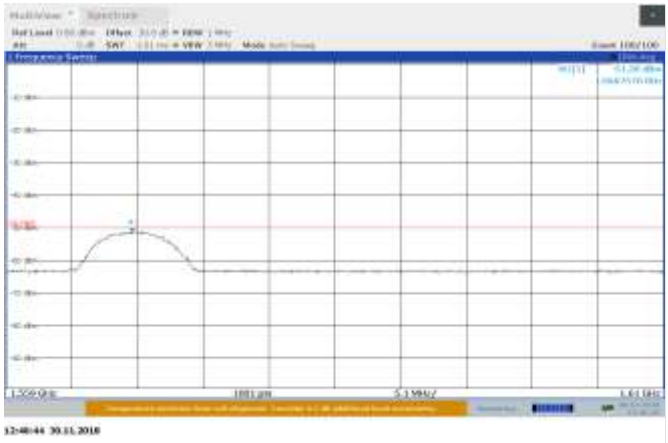


Figure 8.6-10: TX AWGN at 784.5 MHz, frequency span 1559-1610 MHz

8.7 FCC 27.53(c)(f), RSS-130 4.6, KDB 935210 D05 3.8, Spurious emissions radiated measurements

8.7.1 Definitions and limits

FCC 27.53(c) / RSS-130 4.6
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

FCC 27.53(f), RSS-130 4.6
For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

8.7.2 Test summary

Test date	July 5, 2018	Temperature	23 °C
Test engineer	Kevin Rose	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	39 %

8.7.3 Observations, settings and special notes

Worst case examples are provided. No emissions within 20 dB of the limit were detected.

Receiver settings were:

Frequency range	30 MHz to 10th harmonic
Detector mode	Peak
Resolution bandwidth	100 kHz (below 1 GHz), 1000 kHz (above 1 GHz)
Video bandwidth	>RBW
Trace mode	Max Hold

8.7.4 Test data

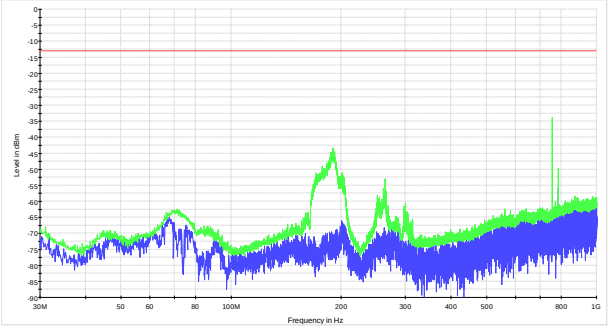


Figure 8.7-1: *30 MHz to 1 GHz*

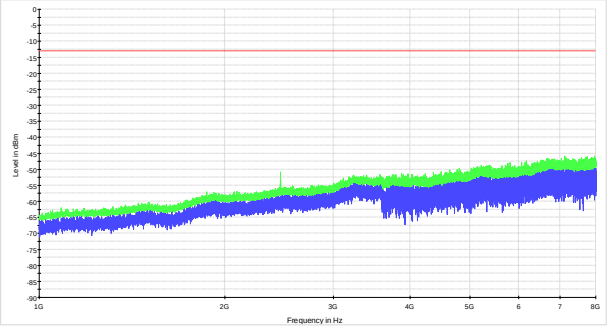


Figure 8.7-2: *1 GHz to 8 GHz*

Table 8.7-1: *Radiated spurious 763 to 776 MHz results*

Frequency, MHz	Field strength, dBµV/m	Substitution factor, dB	Calculated EIRP, dBm	EIRP limit, dBm/100 kHz	EIRP margin, dB
768	16.08	-78.99	-62.91	-34	28.91

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, Substitution factor, and attenuators where applicable.

Table 8.7-2: *Radiated spurious 793 to 806 MHz results*

Frequency, MHz	Field strength, dBµV/m	Substitution factor, dB	Calculated EIRP, dBm	EIRP limit, dBm/100 kHz	EIRP margin, dB
797	15.71	-78.99	-63.28	-34	29.28

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, Substitution factor, and attenuators where applicable.

Table 8.7-3: *Radiated spurious 1559 to 1610 MHz results*

Frequency, MHz	Field strength, dBµV/m	Substitution factor, dB	Calculated EIRP, dBm	EIRP limit, dBm	EIRP margin, dB
1600	10.07	-70.8	-60.73	-50	10.73

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.
Substitution factor includes signal generator, cable loss, and antenna factor.

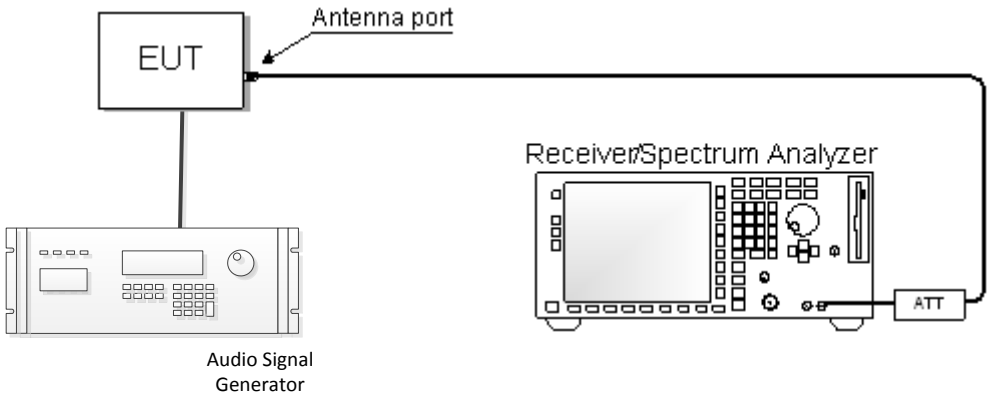
Section 9. Setup Photos

9.1 Set-up

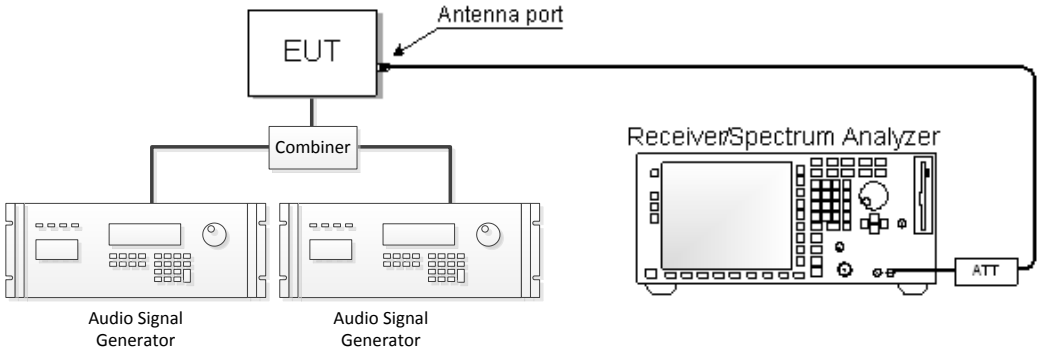
Figure 9.1-1: *Radiated setup photo*

Section 10. Block diagrams of test set-ups

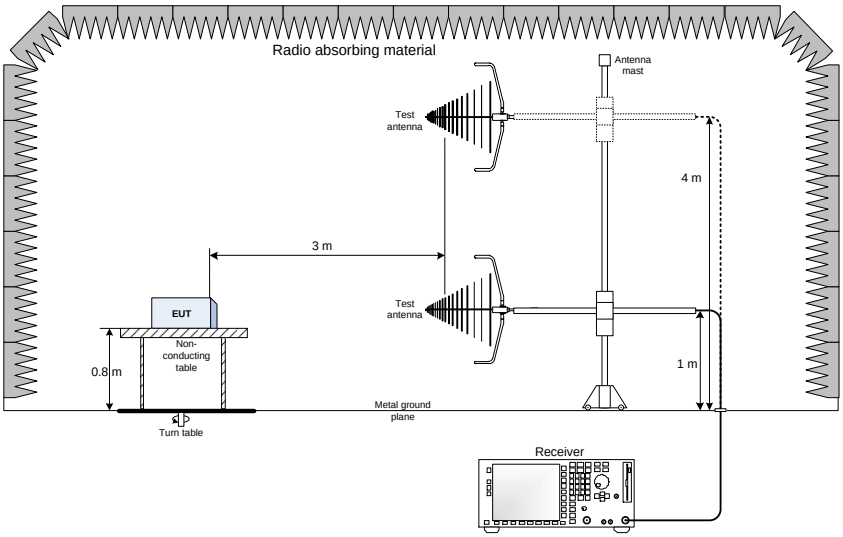
10.1 Measuring AGC threshold level, Out-of-band-rejection, Input-versus-output signal comparison, Mean output power and amplifier/booster gain, Spurious emissions conducted measurements



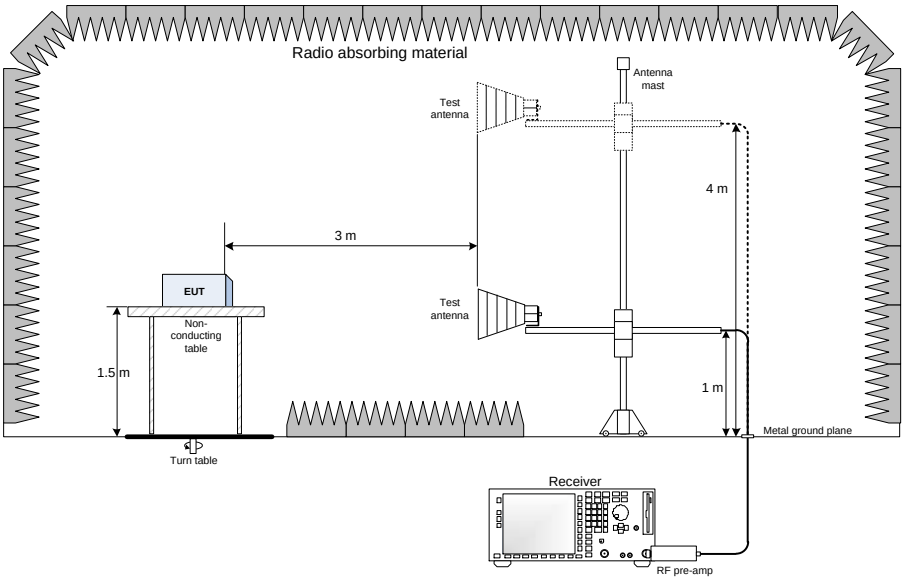
10.2 Out-of-band/out-of-block emissions conducted measurements (intermodulation test)



10.3 Spurious emissions radiated measurements



Below 1 GHz



Above 1 GHz