



FCC PART 27
FCC PART 22H, PART 24E
TEST REPORT

For

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Shenzhen, 518102 China

FCC ID: OWWDS127825S

Report Type: Original Report	Product Type: Wideband Digital Signal Booster
Report Number: RSZ181224008-00B	
Report Date: 2019-03-12	
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Wideband Digital Signal Booster
Tested Model	DS27T-5S-IOT
Multiple Model [#]	DS23T-5S-IOT, DS20T-5S-IOT
Voltage Range	AC 100~240V
Date of Test	Dec 28, 2018~ Mar 12, 2019
Sample serial number	181224008
Received date	2018-12-24
Sample/EUT Status	Good condition

Note: This is an Industrial Signal Booster. The series product, model DS23T-5S-IOT, DS20T-5S-IOT and DS27T-5S-IOT are electrically identical. Model DS27T-5S-IOT was selected for fully testing, which was explained in the product similarity declaration letter.

Objective

This test report is prepared on behalf of *SHENZHEN HUAPTEC CO., LTD* in accordance with Part 2-Subpart J, Part 22-Subpart H, Part 24-Subpart E, Part 27 and Part 20.21 of the Federal Communication Commissions rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 20.21 – Signal Boosters
Part 22 Subpart H - Public Mobile Services
Part 24 Subpart E - Personal Communication Services
Part 27 – Miscellaneous wireless communications services

Applicable Standards: TIA/EIA 603-D, FCC KDB 935210 D05 Indus Booster Basic Meas v01r02.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement uncertainty with radiated emission is 5.81 dB for 30MHz-1GHz and 4.88 dB for above 1GHz, 1.95dB for conducted measurement.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.5dB
Unwanted Emission, conducted		±1.5dB
Radiated Emissions	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±3°C
Supply voltages		±0.4%

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing according to TIA/EIA-603-D.

The final qualification test was performed with the EUT operating at normal mode.

Equipment Modifications

No modification was made to the EUT.

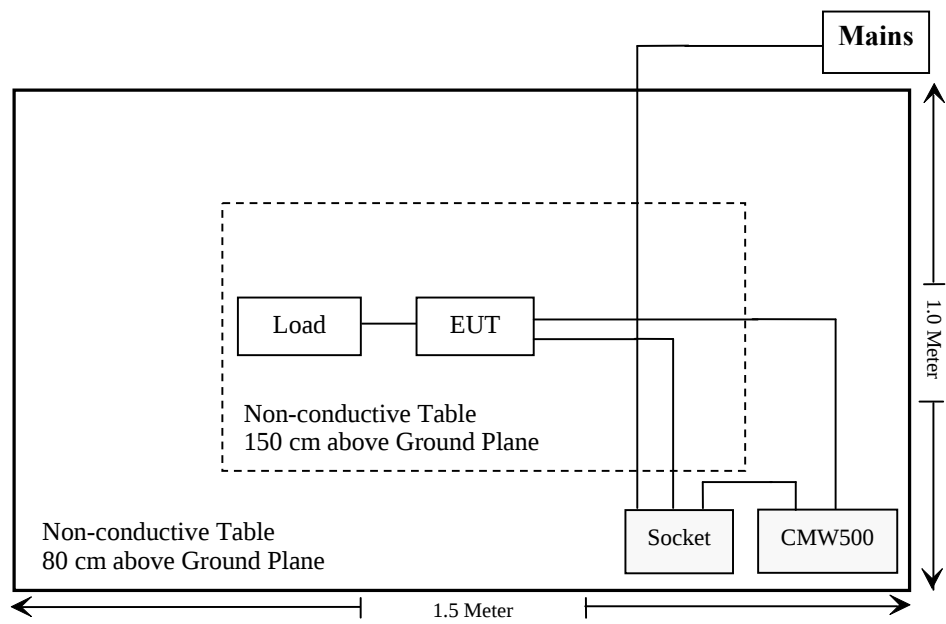
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
N/A	Load	N/A	N/A
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-146520-wh

External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielding Detachable RF Cable	1.2	CMW500	EUT
Shielding Detachable RF Cable	1.5	EUT	Load
Un-shielding Detachable AC Cable	1.7	Socket	EUT
Un-shielding Detachable AC Cable	1.5	Socket	CMW500

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§ 2.1046; § 22.913; § 24.232; § 22.913; § 27.50	RF Output Power	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.917; § 24.238; §27.53	Bandwidth	Compliance
§ 2.1051; § 22.917; § 24.238; §27.53	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053; § 22.917; § 24.238; §27.53	Field Strength of Spurious Radiation	Compliance
§ 2.1053; § 22.917; § 24.238; §27.53	Band Edge & Intermodulation	Compliance
§ 2.1055; § 22.355; § 24.235; § 27.54	Frequency stability	Not Applicable*
§ 20.21	Out of Band Rejection	Compliance

Not Applicable*: EUT was a signal booster.

Note: 1) This device is an Industrial Signal Booster

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Sunol Sciences	Horn Antenna	DRH-118	A052604	2017-12-22	2020-12-21
Rohde & Schwarz	Signal Analyzer	FSEM	845987/005	2018-06-23	2019-06-23
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2017-12-22	2020-12-21
COM-POWER	Pre-amplifier	PA-122	181919	2018-08-01	2019-02-01
Sonoma instrument	Amplifier	310 N	186238	2018-11-12	2019-05-12
Anritsu	Signal Generator	68369B	004114	2018-12-24	2019-12-24
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2018-01-11	2019-01-11
COM POWER	Dipole Antenna	AD-100	41000	NCR	NCR
A.H. System	Horn Antenna	SAS-200/571	135	2018-09-01	2021-08-31
UTiFLEX MICRO-COAX	RF Cable	UFA147A-2362-100100	MFR64639 231029-003	2018-08-01	2019-02-01
Ducommun technologies	RF Cable	104PEA	218124002	2018-11-21	2019-05-21
Ducommun technologies	RF Cable	RG-214	1	2018-11-21	2019-05-21
Ducommun technologies	RF Cable	RG-214	2	2018-11-21	2019-05-21
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-04	2017-12-29	2020-12-28
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-03	2017-12-29	2020-12-28
Heatsink Required	Amplifier	QLW-18405536-J0	15964001002	2018-08-01	2019-02-01
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-146520-wh	2018-06-23	2019-06-23

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200120	2018-12-24	2019-12-24
Agilent	USB wideband power meter	U2021XA	MY54250003	2018-06-23	2019-06-23
Rohde Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2018-07-11	2019-07-11
Ducommun technologies	RF Cable	RG-214	3	Each Time	
WEINSCHTEL	30dB Attenuator	Unknown	Unknown	Each Time	
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-146520-wh	2018-06-23	2019-06-23
Anritsu	Signal Generator	68369B	004114	2018-12-24	2019-12-24

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E and Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) & § 24.232 (c) & § 27.50 (b) (c) (d) - RF OUTPUT POWER and AMPLIFIER GAIN

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the maximum effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts.

According to FCC §2.1046 and §24.232 (a)(1) Base stations with an emission bandwidth of 1 MHz or less are limited to 1640 watts equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.

(2) Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.

(3) Base station antenna heights may exceed 300 meters HAAT with a corresponding reduction in power; see Tables 1 and 2 of this section.

According to §27.50(b)(9), control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP.

According to §27.50(c)(9), control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

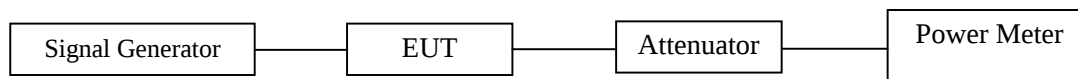
According to §27.50(d)(3), A licensee operating a base or fixed station in the 2110-2155 MHz band utilizing a power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must coordinate such operations in advance with all Government and non-Government satellite entities in the 2025-2110 MHz band. A licensee operating a base or fixed station in the 2110-2180 MHz band utilizing power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must be coordinated in advance with the following licensees authorized to operate within 120 kilometers (75 miles) of the base or fixed station operating in this band: All Broadband Radio Service (BRS) licensees authorized under this part in the 2155-2160 MHz band and all advanced wireless services (AWS) licensees authorized to operate on adjacent frequency blocks in the 2110-2180 MHz band.

According to §27.50(d)(4), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

Test Procedure

Conducted method:

According to KDB 935210 D05 Indus Booster Basic Meas v01r02 clause 3.5



Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Tracy Hu on 2019-01-18.

For model DS27T-5S-IOT:**Lower 700MHz (A+B+C Block) Band:**

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	708.7	AWGN	Pre-AGC	-54	21.9	75.9	29.75
			3dB above AGC	-51	22.1	73.1	29.95
		GSM	Pre-AGC	-54	20.7	74.7	28.55
			3dB above AGC	-51	20.8	71.8	28.65
Downlink	740.3	AWGN	Pre-AGC	-54	27.0	81	34.85
			3dB above AGC	-51	27.1	78.1	34.95
		GSM	Pre-AGC	-54	27.5	81.5	35.35
			3dB above AGC	-51	27.6	78.6	35.45

Upper 700MHz (C Block) Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	785.4	AWGN	Pre-AGC	-55	20.2	75.2	28.05
			3dB above AGC	-52	20.3	72.3	28.15
		GSM	Pre-AGC	-55	20.2	75.2	28.05
			3dB above AGC	-52	20.3	72.3	28.15
Downlink	749.0	AWGN	Pre-AGC	-53.5	27.5	81	35.35
			3dB above AGC	-50.5	27.6	78.1	35.45
		GSM	Pre-AGC	-55	27.1	82.1	34.95
			3dB above AGC	-52	27.2	79.2	35.05

Cellular Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	834.0	AWGN	Pre-AGC	-55	20.9	75.9	28.75
			3dB above AGC	-52	21.1	73.1	28.95
		GSM	Pre-AGC	-55	20.7	75.7	28.55
			3dB above AGC	-52	20.8	72.8	28.65
Downlink	880.6	AWGN	Pre-AGC	-54	27.2	81.2	35.05
			3dB above AGC	-51	27.4	78.4	35.25
		GSM	Pre-AGC	-55	26.7	81.7	34.55
			3dB above AGC	-52	26.8	78.8	34.65

PCS Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	EIRP (dBm)
Uplink	1865.9	AWGN	Pre-AGC	-54	20.2	74.2	30.2
			3dB above AGC	-52	20.3	71.3	30.3
		GSM	Pre-AGC	-56	20.2	75.2	30.2
			3dB above AGC	-54	20.4	72.4	30.4
Downlink	1951.4	AWGN	Pre-AGC	-54	27	81	37
			3dB above AGC	-51	27.1	78.1	37.1
		GSM	Pre-AGC	-54	26.7	80.7	36.7
			3dB above AGC	-51	26.8	77.8	36.8

AWS Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	EIRP (dBm)
Uplink	1755.0	AWGN	Pre-AGC	-56	19.5	75.5	29.5
			3dB above AGC	-53	19.6	72.6	29.6
		GSM	Pre-AGC	-55.7	19.4	75.1	29.4
			3dB above AGC	-52.7	19.5	72.2	29.5
Downlink	2150.5	AWGN	Pre-AGC	-54	26.6	80.6	36.6
			3dB above AGC	-51	26.8	77.8	36.8
		GSM	Pre-AGC	-55	26.5	81.5	36.5
			3dB above AGC	-52	26.7	78.7	36.7

Note: ERP=Conducted Output Power(dBm) +Antenna Gain (dBi)-2.15 dB

EIRP=Conducted Output Power(dBm) +Antenna Gain (dBi)

The Maximum indoor and outdoor Gain for all Bands are 10 dBi

The frequency was selected to test, which according to the peak of the frequency point from out-of-band rejection test.

For model DS23T-5S-IOT:**Lower 700MHz (A+B+C Block) Band:**

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	708.7	AWGN	Pre-AGC	-54	22.1	76.1	29.95
			3dB above AGC	-51	21.9	72.9	29.75
		GSM	Pre-AGC	-54	20.8	74.8	28.65
			3dB above AGC	-51	20.9	71.9	28.75
Downlink	740.3	AWGN	Pre-AGC	-57	23.4	80.4	31.25
			3dB above AGC	-54	23.1	77.1	30.95
		GSM	Pre-AGC	-57	23.3	80.3	31.15
			3dB above AGC	-54	23.4	77.4	31.25

Upper 700MHz (C Block) Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	785.4	AWGN	Pre-AGC	-55	20.3	75.3	28.15
			3dB above AGC	-52	20.2	72.2	28.05
		GSM	Pre-AGC	-55	20.3	75.3	28.15
			3dB above AGC	-52	20.2	72.2	28.05
Downlink	749.0	AWGN	Pre-AGC	-56.5	23.4	79.9	31.25
			3dB above AGC	-53.5	23.5	77	31.35
		GSM	Pre-AGC	-58	23.3	81.3	31.15
			3dB above AGC	-55	23.2	78.2	31.05

Cellular Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	834.0	AWGN	Pre-AGC	-55	21.1	76.1	28.95
			3dB above AGC	-52	21.2	73.2	29.05
		GSM	Pre-AGC	-55	20.8	75.8	28.65
			3dB above AGC	-52	20.9	72.9	28.75
Downlink	880.6	AWGN	Pre-AGC	-57	23.2	80.2	31.05
			3dB above AGC	-54	23.3	77.3	31.15
		GSM	Pre-AGC	-58	23.4	81.4	31.25
			3dB above AGC	-55	23.6	78.6	31.45

PCS Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	EIRP (dBm)
Uplink	1865.9	AWGN	Pre-AGC	-54	20.3	74.3	30.3
			3dB above AGC	-52	20.2	72.2	30.2
		GSM	Pre-AGC	-56	20.4	76.4	30.4
			3dB above AGC	-54	20.3	74.3	30.3
Downlink	1951.4	AWGN	Pre-AGC	-57	23.1	80.1	33.1
			3dB above AGC	-54	23.1	77.1	33.1
		GSM	Pre-AGC	-57	23.1	80.1	33.1
			3dB above AGC	-54	23.2	77.2	33.2

AWS Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	EIRP (dBm)
Uplink	1755.0	AWGN	Pre-AGC	-54	19.4	73.4	29.4
			3dB above AGC	-52	19.5	71.5	29.5
		GSM	Pre-AGC	-56	19.5	75.5	29.5
			3dB above AGC	-54	19.6	73.6	29.6
Downlink	2150.5	AWGN	Pre-AGC	-57	23.1	80.1	33.1
			3dB above AGC	-54	23.2	77.2	33.2
		GSM	Pre-AGC	-58	23.1	81.1	33.1
			3dB above AGC	-55	23.2	78.2	33.2

Note: ERP=Conducted Output Power(dBm) +Antenna Gain (dBi)-2.15 dB

EIRP=Conducted Output Power(dBm) +Antenna Gain (dBi)

The Maximum indoor and outdoor Gain for all Bands are 10 dBi

The frequency was selected to test, which according to the peak of the frequency point from out-of-band rejection test.

For model DS20T-5S-IOT:**Lower 700MHz (A+B+C Block) Band:**

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	708.7	AWGN	Pre-AGC	-54	22.2	76.2	30.05
			3dB above AGC	-52	21.8	73.8	29.65
		GSM	Pre-AGC	-56	21.1	77.1	28.95
			3dB above AGC	-54	20.8	74.8	28.65
Downlink	740.3	AWGN	Pre-AGC	-60	20.2	80.2	28.05
			3dB above AGC	-57	20.1	77.1	27.95
		GSM	Pre-AGC	-60	20.2	80.2	28.05
			3dB above AGC	-57	20.3	77.3	28.15

Upper 700MHz (C Block) Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	785.4	AWGN	Pre-AGC	-54	20.4	74.4	28.25
			3dB above AGC	-52	20.3	72.3	28.15
		GSM	Pre-AGC	-56	20.4	76.4	28.25
			3dB above AGC	-54	20.3	74.3	28.15
Downlink	749.0	AWGN	Pre-AGC	-59.5	20.3	79.8	28.15
			3dB above AGC	-56.5	20.4	76.9	28.25
		GSM	Pre-AGC	-61	20.3	81.3	28.15
			3dB above AGC	-58	20.2	78.2	28.05

Cellular Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	ERP (dBm)
Uplink	834.0	AWGN	Pre-AGC	-54	21.2	75.2	29.05
			3dB above AGC	-52	21.1	73.1	28.95
		GSM	Pre-AGC	-56	20.9	76.9	28.75
			3dB above AGC	-54	20.9	74.9	28.75
Downlink	880.6	AWGN	Pre-AGC	-60	20.2	80.2	28.05
			3dB above AGC	-57	20.2	77.2	28.05
		GSM	Pre-AGC	-61	20.3	81.3	28.15
			3dB above AGC	-58	20.5	78.5	28.35

PCS Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	EIRP (dBm)
Uplink	1865.9	AWGN	Pre-AGC	-54	20.4	74.4	28.25
			3dB above AGC	-52	20.3	72.3	28.15
		GSM	Pre-AGC	-56	20.3	76.3	28.15
			3dB above AGC	-54	20.4	74.4	28.25
Downlink	1951.4	AWGN	Pre-AGC	-60	20.2	80.2	28.05
			3dB above AGC	-57	20.1	77.1	27.95
		GSM	Pre-AGC	-60	20.2	80.2	28.05
			3dB above AGC	-57	20.1	77.1	27.95

AWS Band:

Modes	Frequency (MHz)	Signal Type	Signal Level	Input power (dBm)	Output Power (dBm)	Gain (dB)	EIRP (dBm)
Uplink	1755.0	AWGN	Pre-AGC	-54	19.6	73.6	27.45
			3dB above AGC	-52	19.5	71.5	27.35
		GSM	Pre-AGC	-56	19.4	75.4	27.25
			3dB above AGC	-54	19.6	73.6	27.45
Downlink	2150.5	AWGN	Pre-AGC	-60	20.1	80.1	27.95
			3dB above AGC	-57	20.2	77.2	28.05
		GSM	Pre-AGC	-61	20.1	81.1	27.95
			3dB above AGC	-58	20.2	78.2	28.05

Note: ERP=Conducted Output Power(dBm) +Antenna Gain (dBi)-2.15 dB

EIRP=Conducted Output Power(dBm) +Antenna Gain (dBi)

The Maximum indoor and outdoor Gain for all Bands are 7.85 dBi

The frequency was selected to test, which according to the peak of the frequency point from out-of-band rejection test.

FCC §2.1049, §22.917 & §24.238 & §27.53 - BANDWIDTH

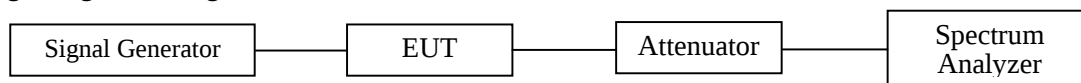
Applicable Standard

FCC §2.1049, §22.917, §22.905, §24.238 & §27.53.

Test Procedure

According to KDB 935210 D05 Indus Booster Basic Meas v01r02 clause 3.4

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) to demonstrate compliance to the technical requirements specified in §90.219(e)(4)(i) and (ii). See KDB Publication 971168 for more information regarding measuring the OBW.



Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Tracy Hu on 2019-01-05.

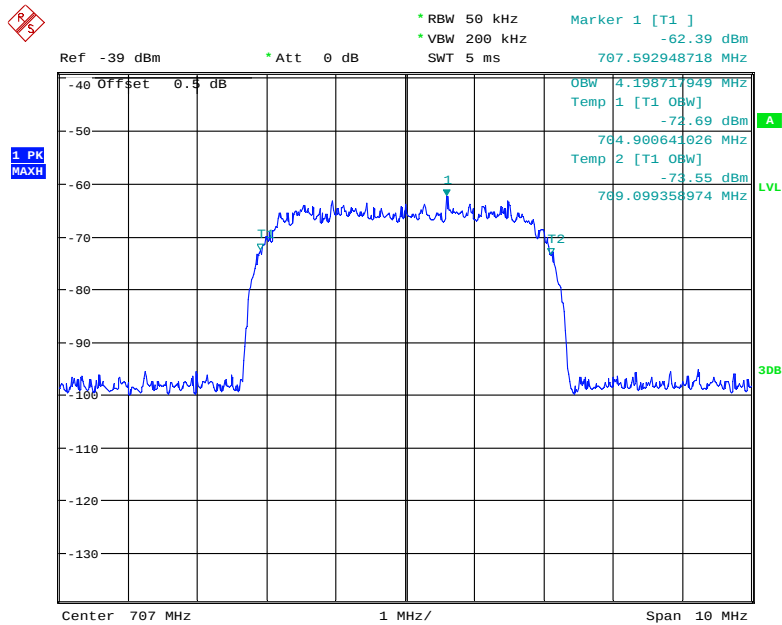
EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following tables and plots.

Lower 700MHz (A+B+C Block) Band

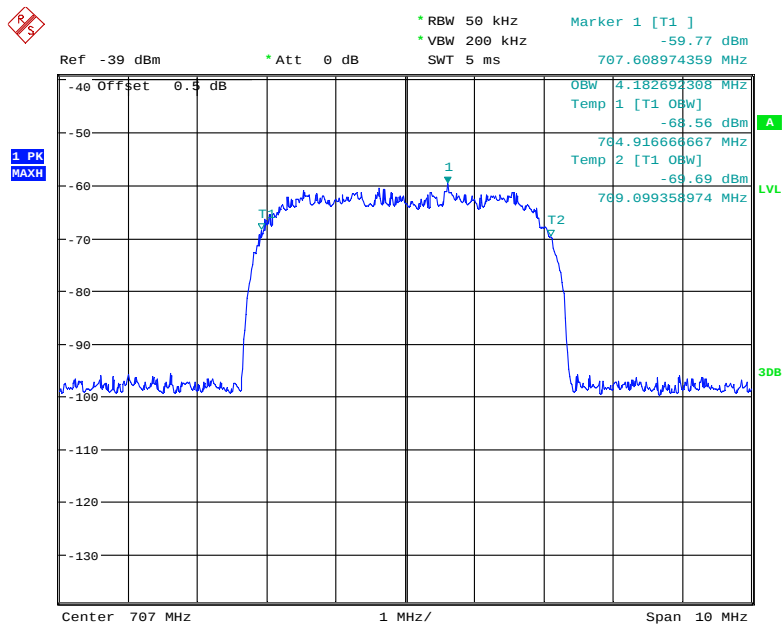
Mode	Signal Type	Signal Level	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)	
				Input	Output	Input	Output
Uplink	AWGN	Pre-AGC	707	4.20	4.13	4.66	4.63
		3dB above AGC	707	4.18	4.15	4.65	4.63
	GSM	Pre-AGC	707	0.25	0.25	0.32	0.32
		3dB above AGC	707	0.24	0.25	0.32	0.31
Downlink	AWGN	Pre-AGC	737	4.17	4.15	4.65	4.65
		3dB above AGC	737	4.17	4.15	4.63	4.63
	GSM	Pre-AGC	737	0.25	0.25	0.32	0.31
		3dB above AGC	737	0.25	0.25	0.31	0.31

99% Bandwidth-UL-AWGN-Pre AGC-Input



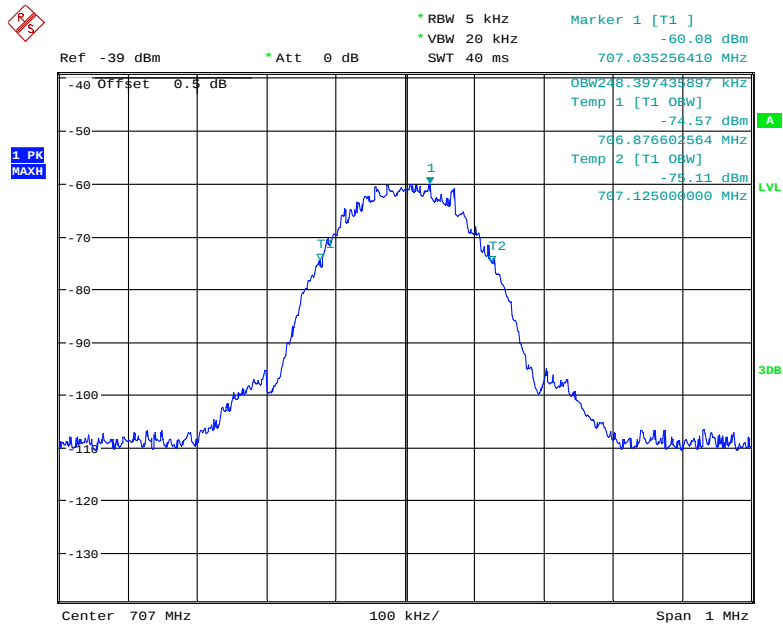
Date: 5.JAN.2019 16:33:23

99% Bandwidth-UL- AWGN-3dB above AGC-Input



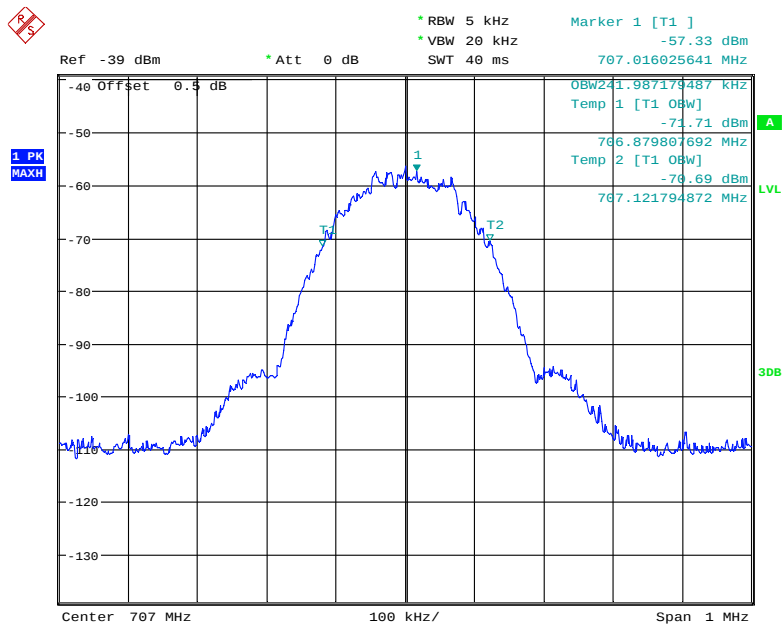
Date: 5.JAN.2019 16:29:59

99% Bandwidth-UL-GSM-Pre AGC-Input



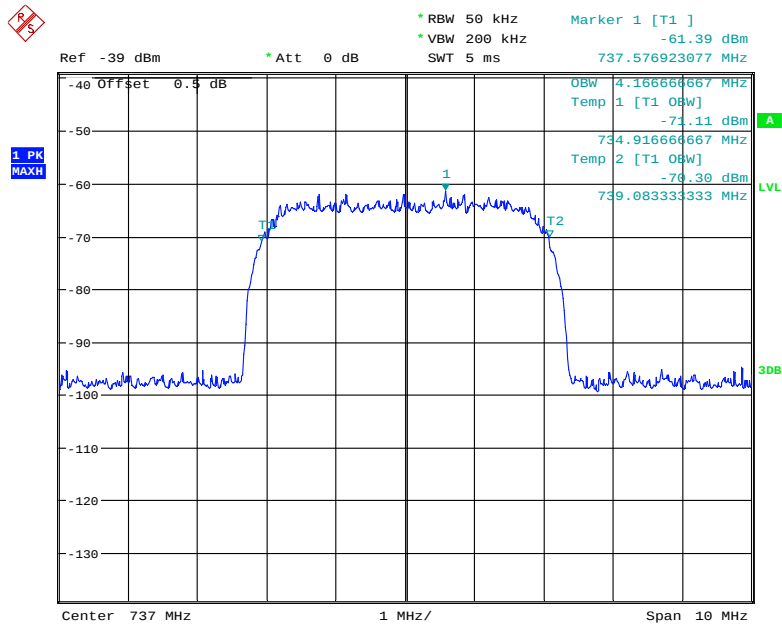
Date: 5.JAN.2019 16:49:51

99% Bandwidth-UL- GSM-3dB above AGC-Input



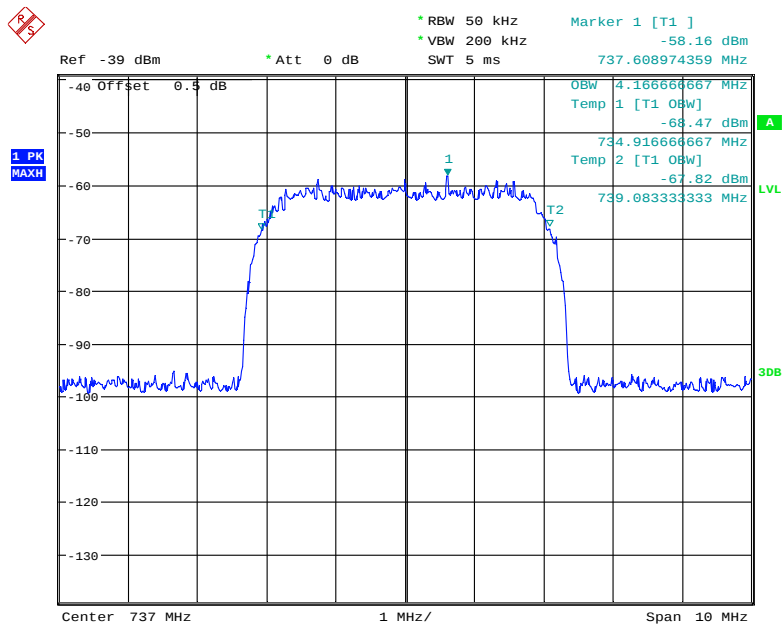
Date: 5.JAN.2019 16:53:21

99% Bandwidth-DL- AWGN- Pre AGC -Input



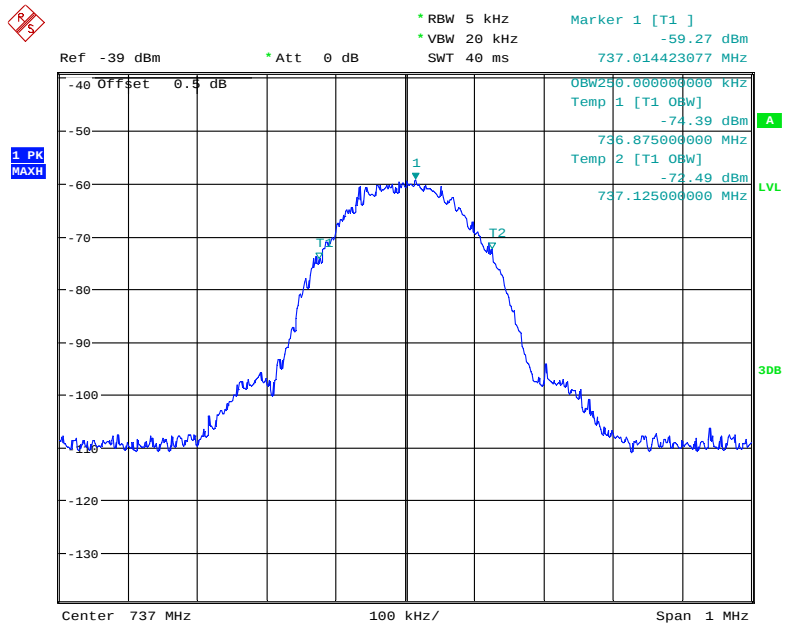
Date: 5.JAN.2019 16:34:30

99% Bandwidth-DL- AWGN- 3dB Above AGC -Input



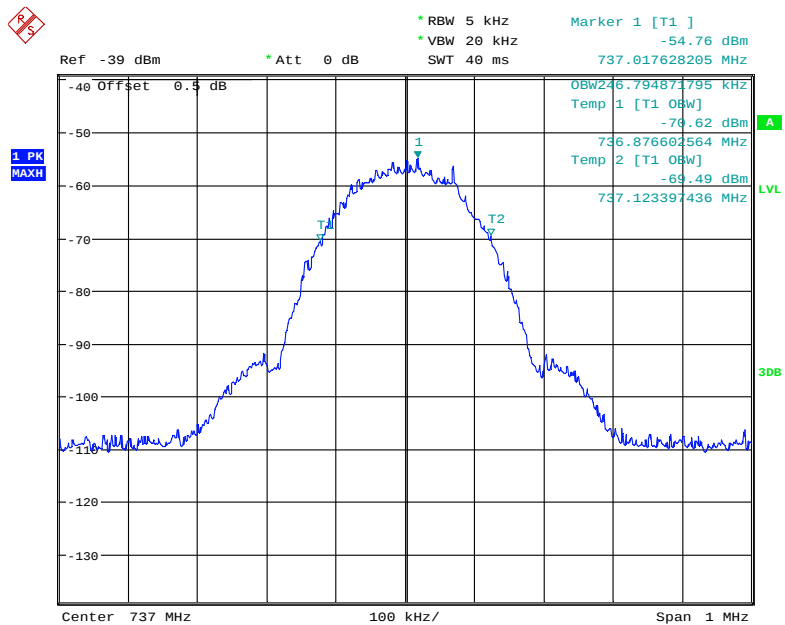
Date: 5.JAN.2019 16:38:23

99% Bandwidth-DL- GSM- Pre AGC -Input



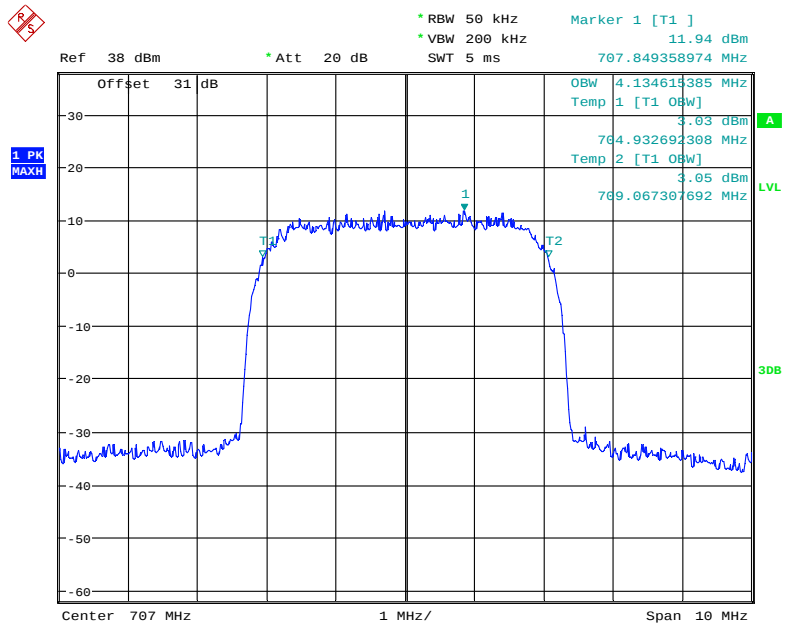
Date: 5.JAN.2019 16:49:02

99% Bandwidth-DL- GSM- 3dB Above AGC -Input



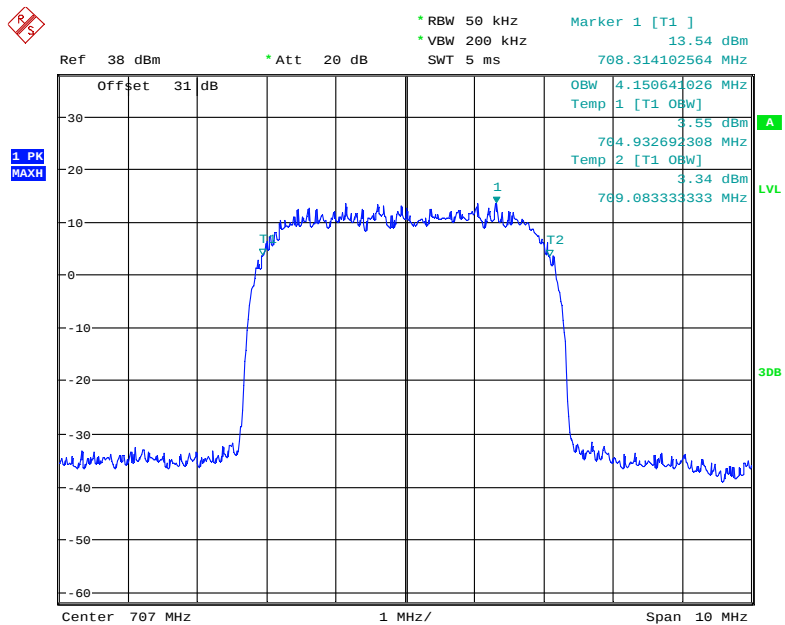
Date: 5.JAN.2019 16:45:56

99% Bandwidth-UL- AWGN- Pre AGC -Output



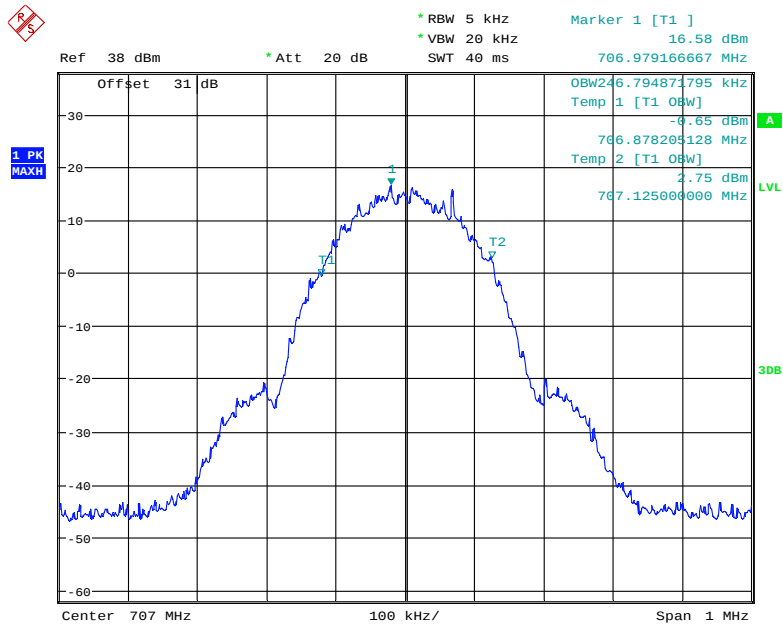
Date: 5.JAN.2019 17:42:30

99% Bandwidth-UL- AWGN-3dB above AGC-Output



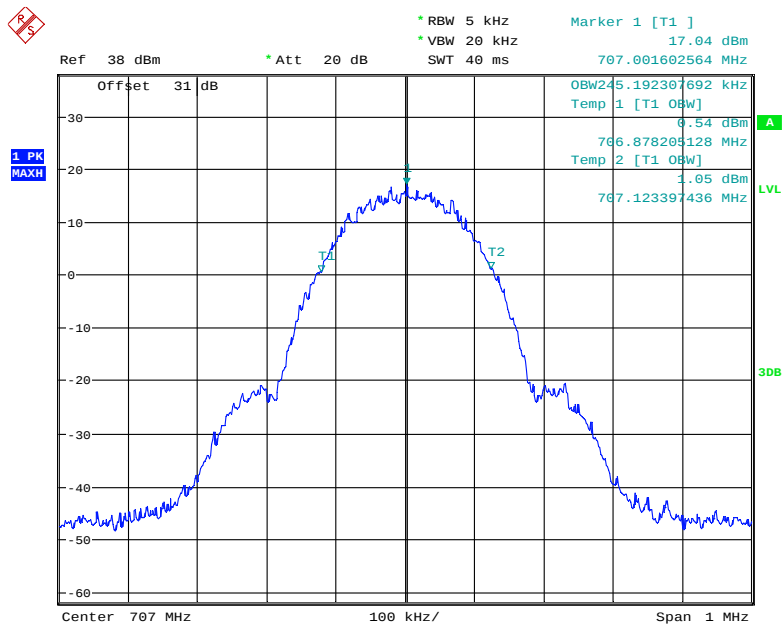
Date: 5.JAN.2019 17:45:49

99% Bandwidth-UL- GSM- Pre AGC -Output



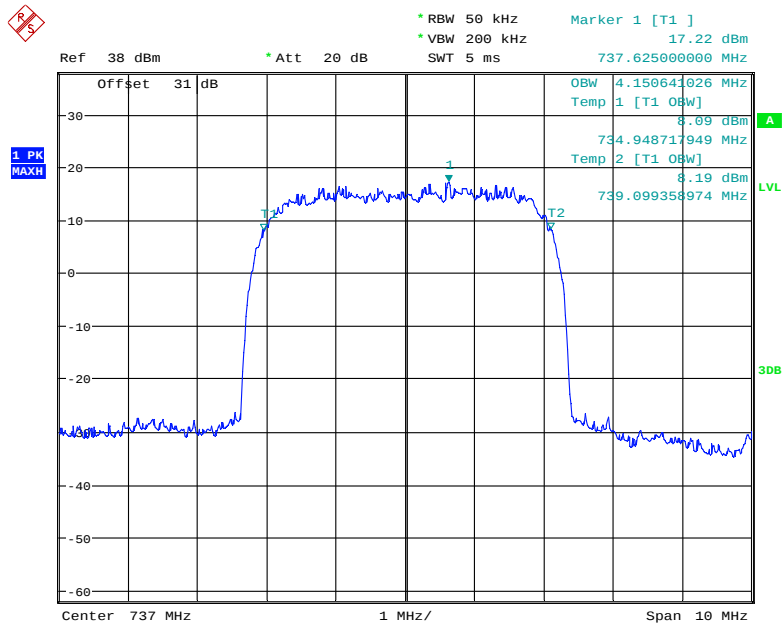
Date: 5.JAN.2019 17:16:59

99% Bandwidth-UL- GSM-3dB above AGC-Output



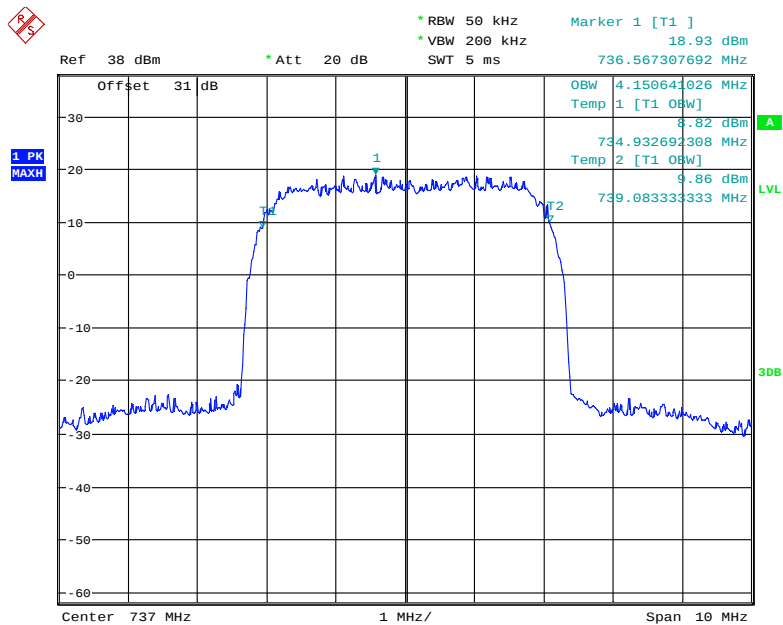
Date: 5.JAN.2019 17:06:44

99% Bandwidth-DL- AWGN- Pre AGC -Output



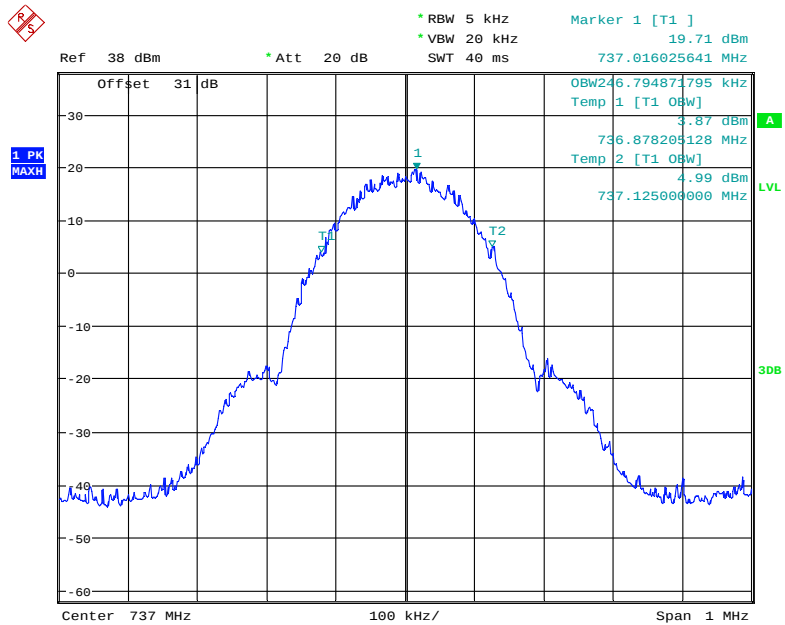
Date: 5.JAN.2019 17:51:25

99% Bandwidth-DL- AWGN- 3dB Above AGC -Output



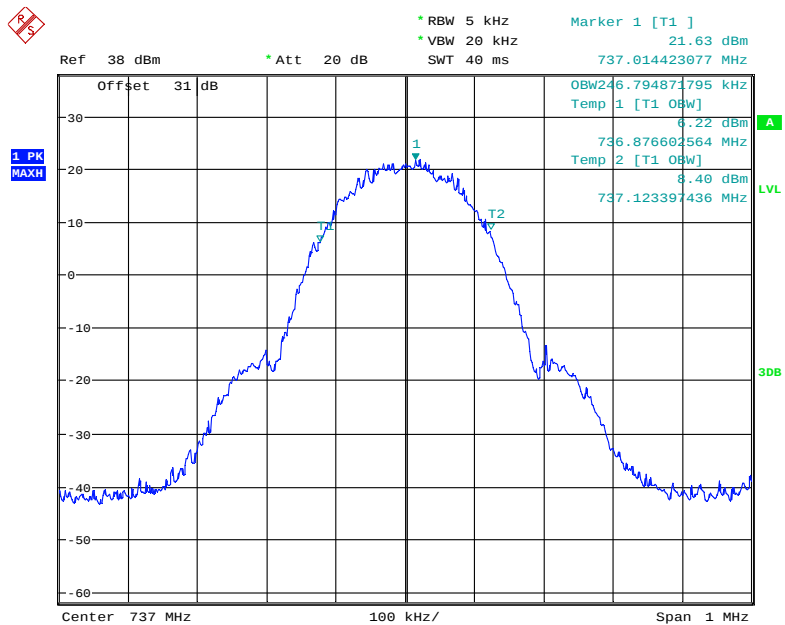
Date: 5.JAN.2019 17:56:12

99% Bandwidth-DL- GSM- Pre AGC -Output



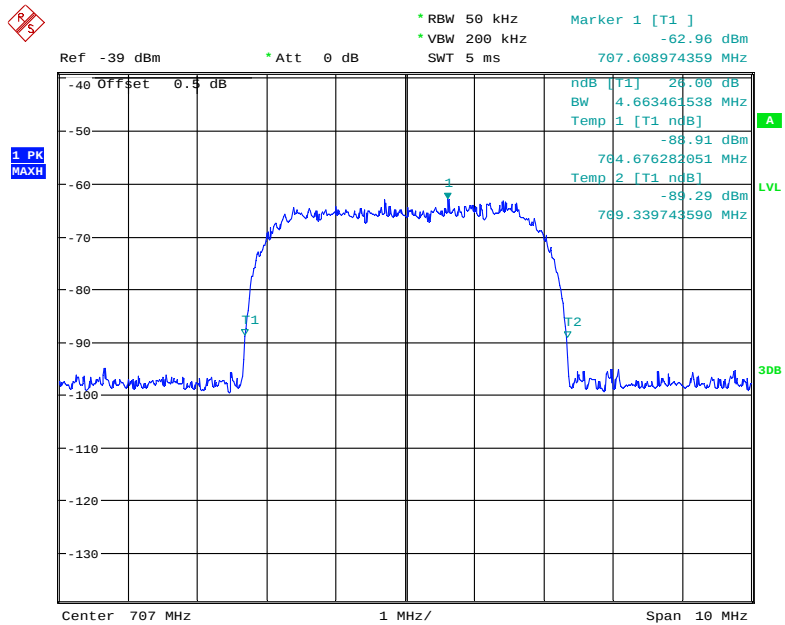
Date: 5.JAN.2019 18:17:24

99% Bandwidth-DL- GSM- 3dB Above AGC -Output



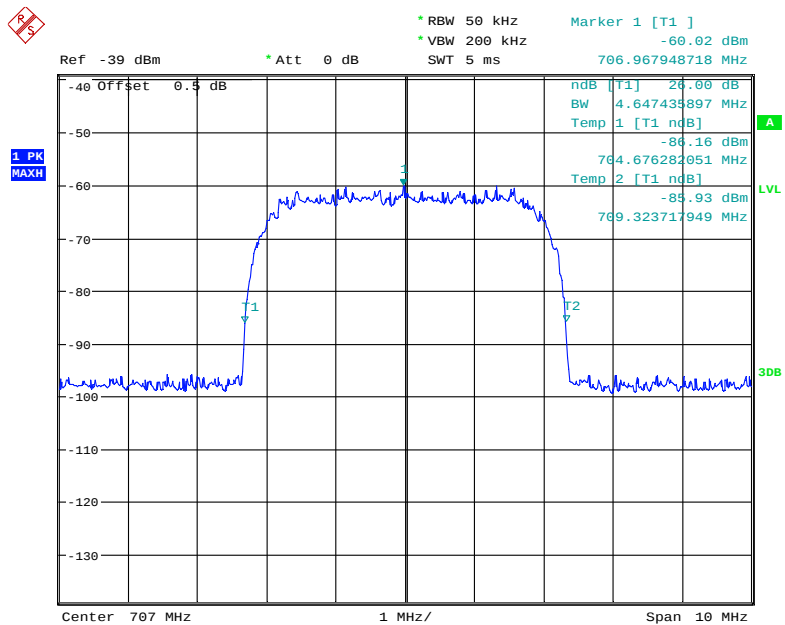
Date: 5.JAN.2019 18:13:54

26 dB Bandwidth-UL-AWGN-Pre AGC-Input



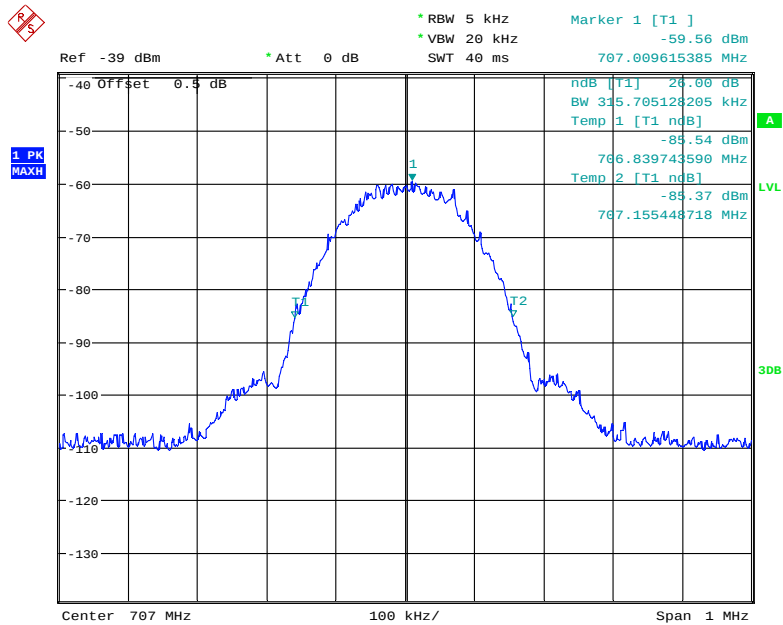
Date: 5.JAN.2019 16:16:32

26 dB Bandwidth-UL- AWGN-3dB above AGC-Input



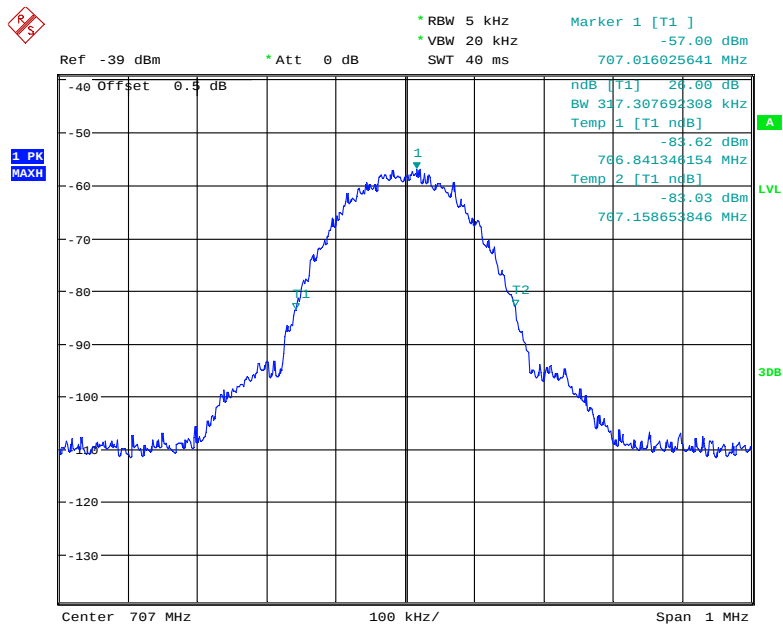
Date: 5.JAN.2019 16:21:39

26 dB Bandwidth-UL-GSM-Pre AGC-Input



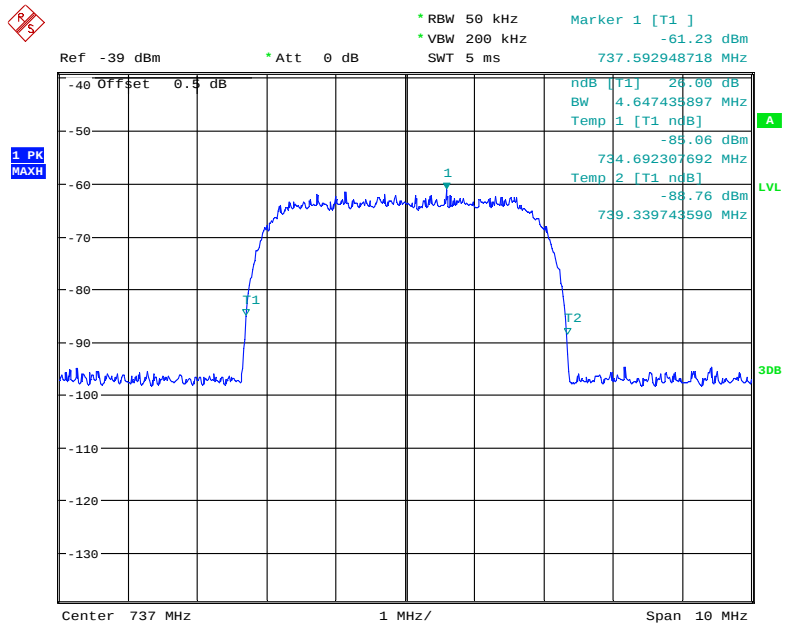
Date: 5.JAN.2019 15:40:23

26 dB Bandwidth-UL- GSM-3dB above AGC-Input



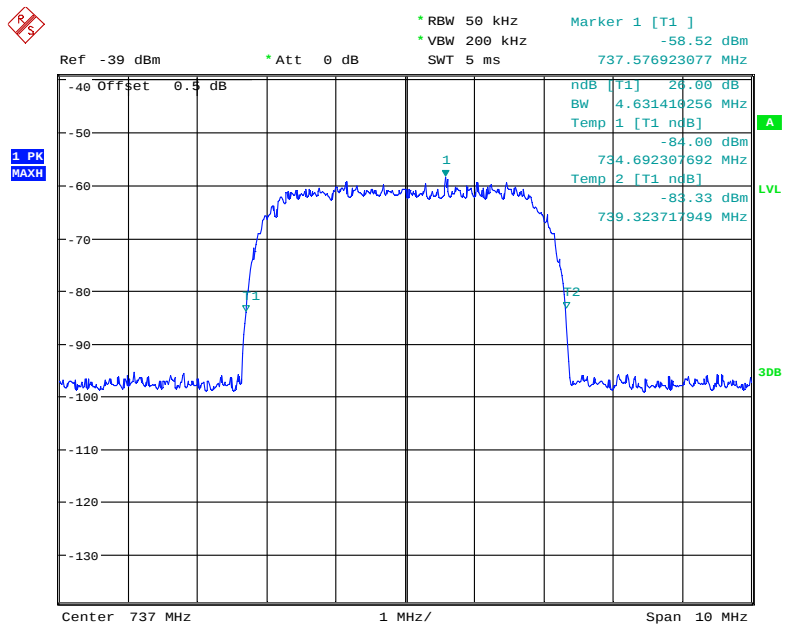
Date: 5.JAN.2019 15:53:07

26 dB Bandwidth-DL- AWGN- Pre AGC -Input



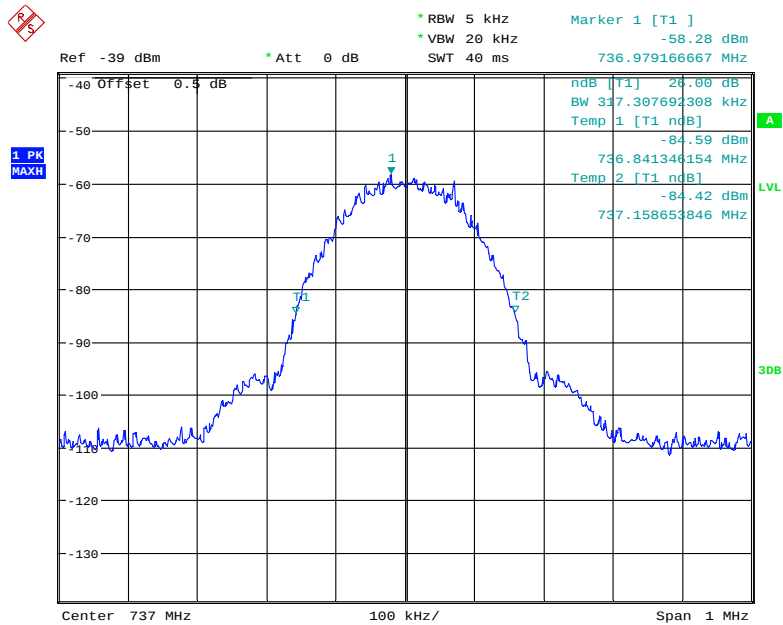
Date: 5.JAN.2019 16:07:12

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Input



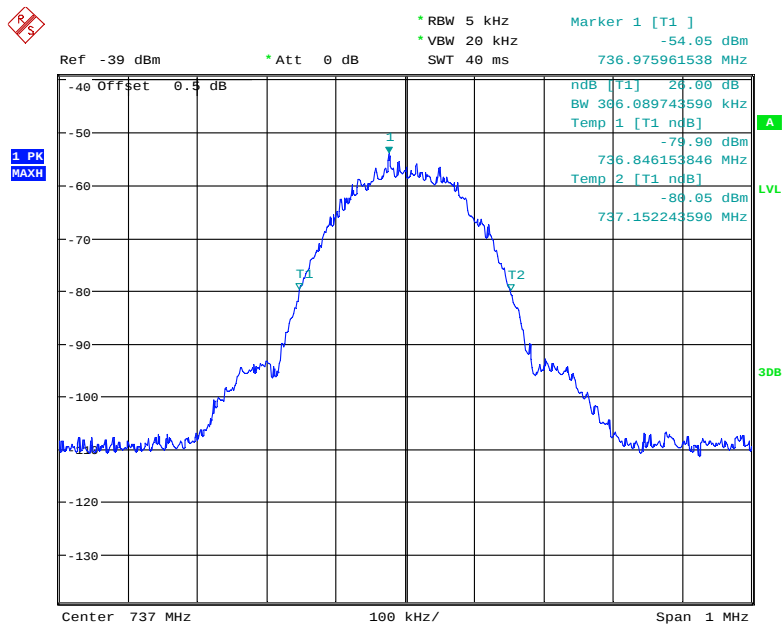
Date: 5.JAN.2019 16:14:31

26 dB Bandwidth-DL- GSM- Pre AGC -Input



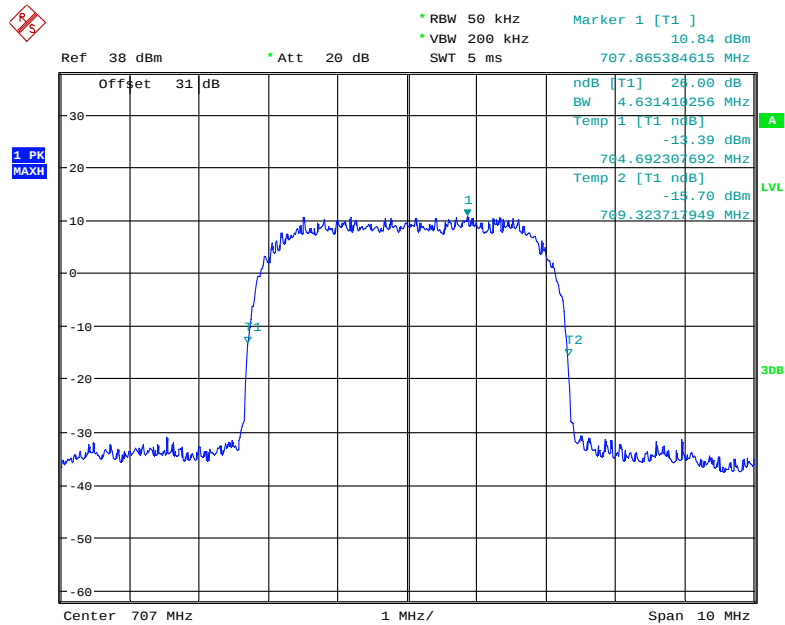
Date: 5.JAN.2019 16:00:01

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Input



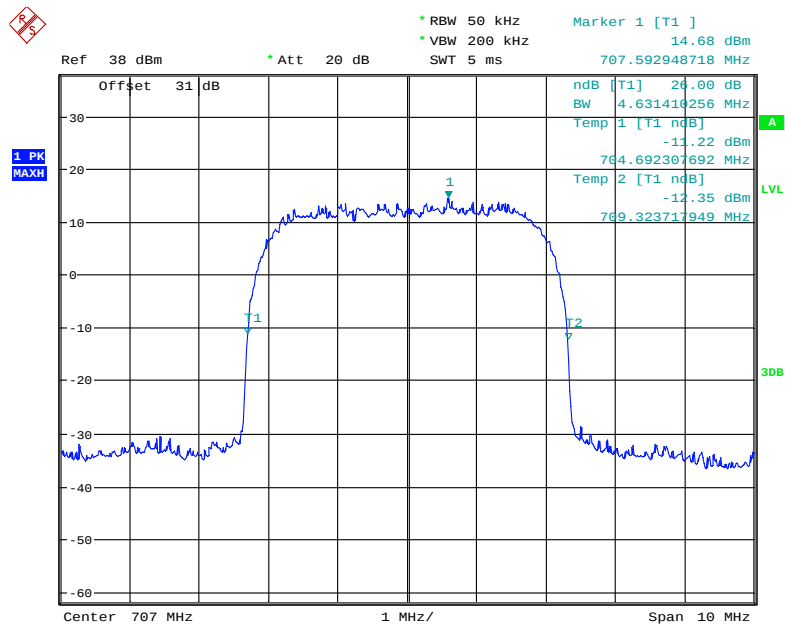
Date: 5.JAN.2019 15:55:41

26 dB Bandwidth-UL- AWGN- Pre AGC -Output



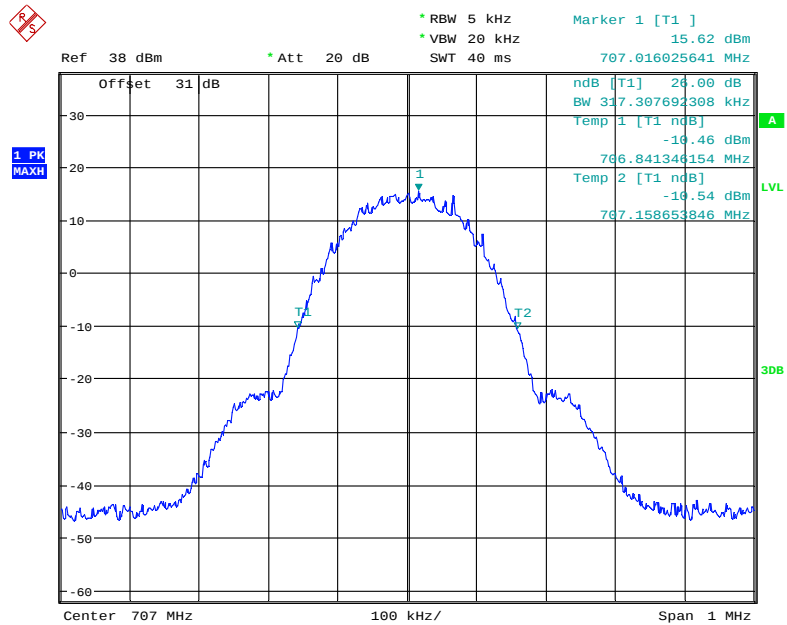
Date: 5.JAN.2019 17:36:24

26 dB Bandwidth-UL- AWGN-3dB above AGC-Output



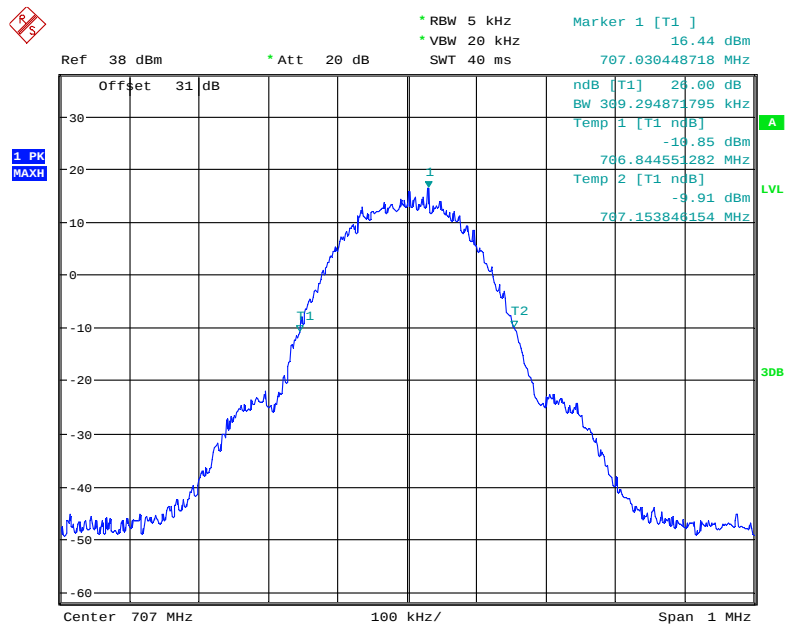
Date: 5.JAN.2019 17:33:07

26 dB Bandwidth-UL- GSM- Pre AGC -Output



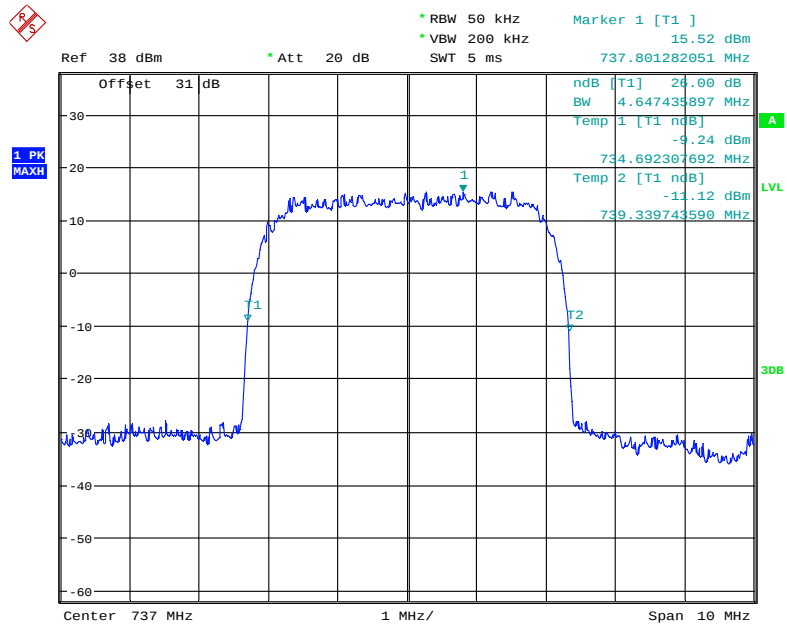
Date: 5.JAN.2019 17:25:27

26 dB Bandwidth-UL- GSM-3dB above AGC-Output



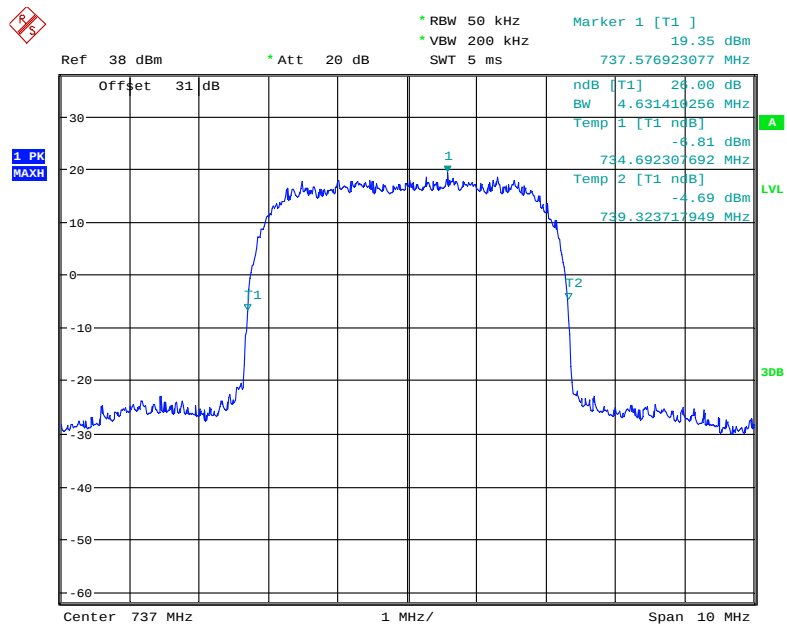
Date: 5.JAN.2019 17:29:40

26 dB Bandwidth-DL- AWGN- Pre AGC -Output



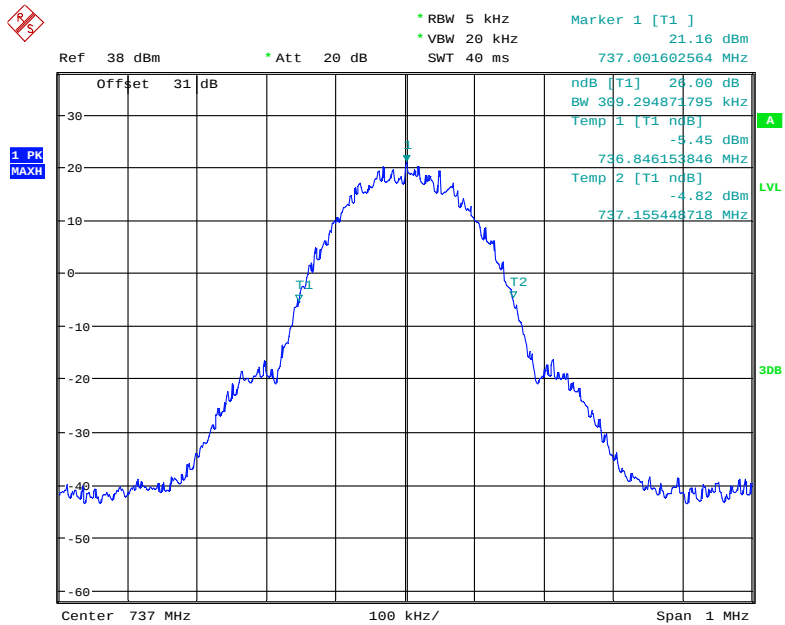
Date: 5.JAN.2019 18:00:40

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Output



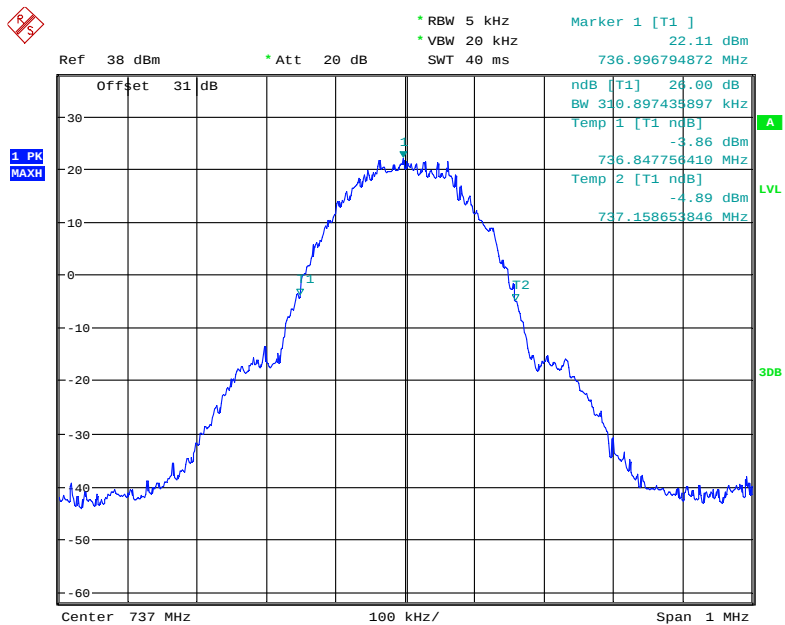
Date: 5.JAN.2019 17:57:42

26 dB Bandwidth-DL- GSM- Pre AGC -Output



Date: 5.JAN.2019 18:05:51

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Output

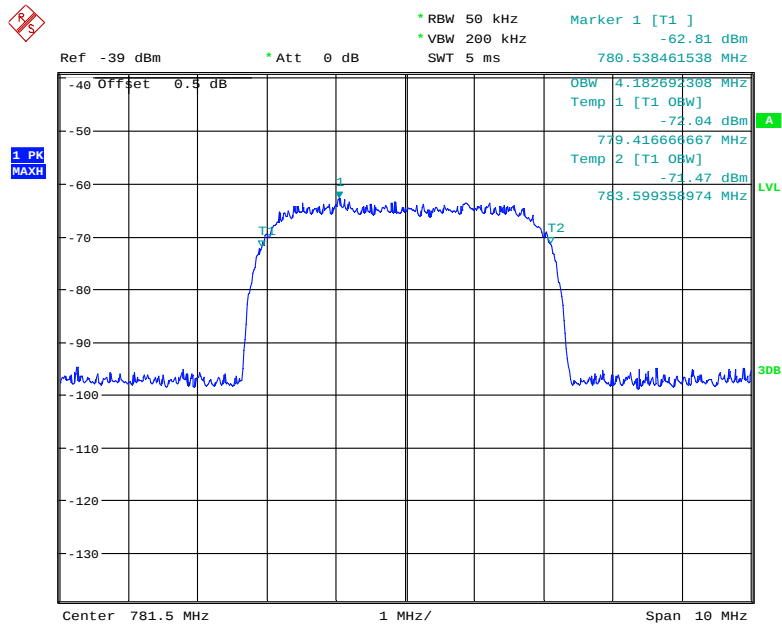


Date: 5.JAN.2019 18:09:33

Upper 700MHz (C Block) Band:

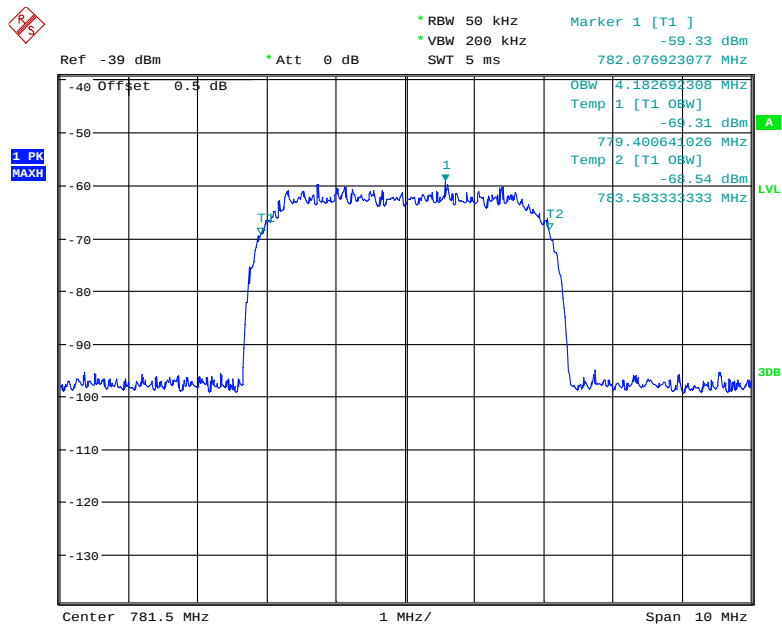
Mode	Signal Type	Signal Level	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)	
				Input	Output	Input	Output
Uplink	AWGN	Pre-AGC	781.5	4.18	4.17	4.65	4.63
		3dB above AGC	781.5	4.18	4.17	4.63	4.65
	GSM	Pre-AGC	781.5	0.25	0.24	0.31	0.32
		3dB above AGC	781.5	0.24	0.24	0.31	0.31
Downlink	AWGN	Pre-AGC	751.5	4.18	4.17	4.65	4.65
		3dB above AGC	751.5	4.18	4.15	4.65	4.66
	GSM	Pre-AGC	751.5	0.24	0.24	0.32	0.31
		3dB above AGC	751.5	0.24	0.24	0.31	0.31

99% Bandwidth-UL-AWGN-Pre AGC-Input



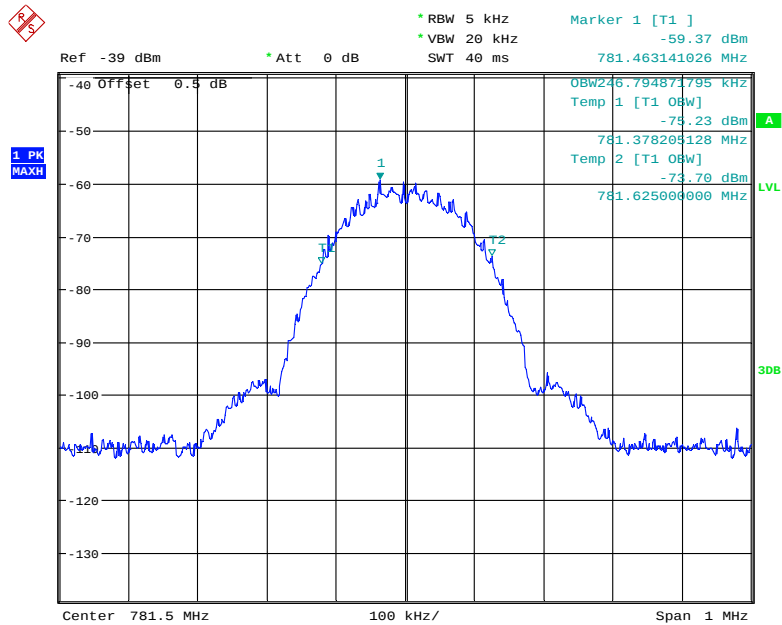
Date: 5. JAN. 2019 16:33:00

99% Bandwidth-UL- AWGN-3dB above AGC-Input



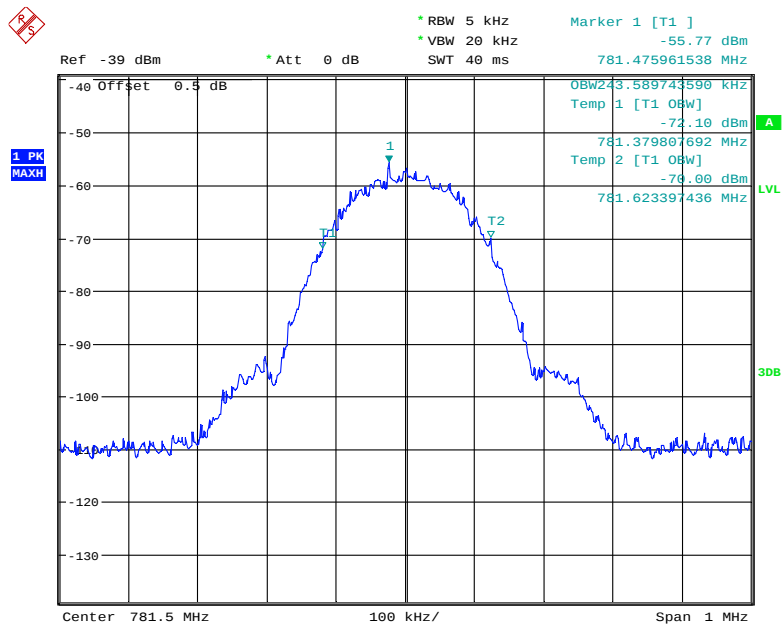
Date: 5. JAN. 2019 16:30:32

99% Bandwidth-UL-GSM-Pre AGC-Input



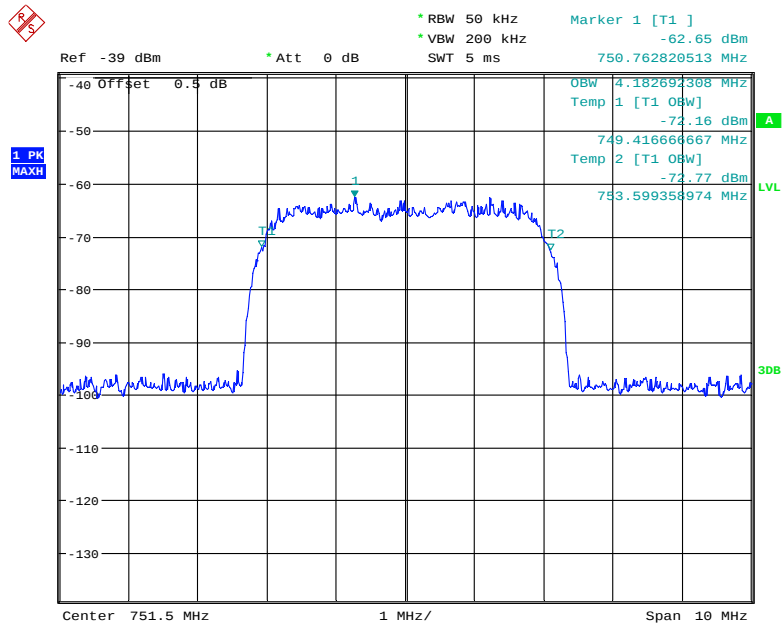
Date: 5.JAN.2019 16:50:22

99% Bandwidth-UL- GSM-3dB above AGC-Input



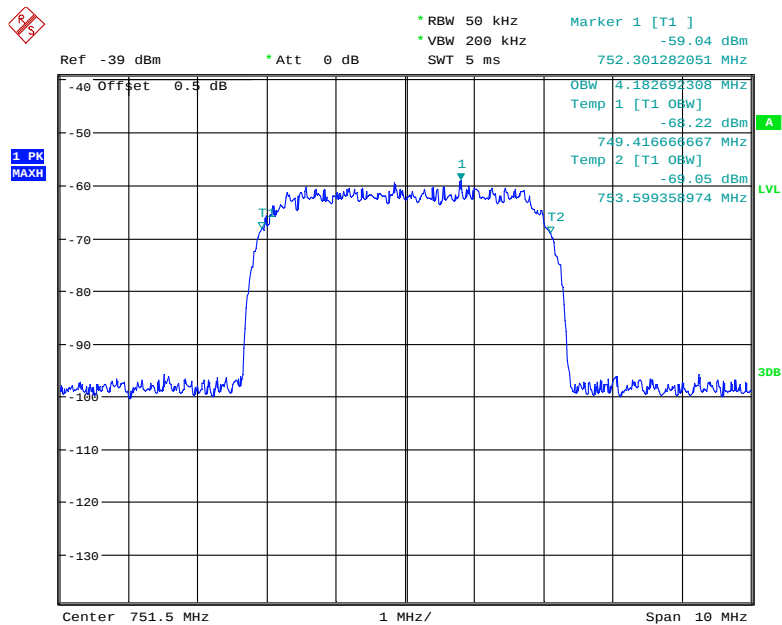
Date: 5.JAN.2019 16:53:01

99% Bandwidth-DL- AWGN- Pre AGC -Input

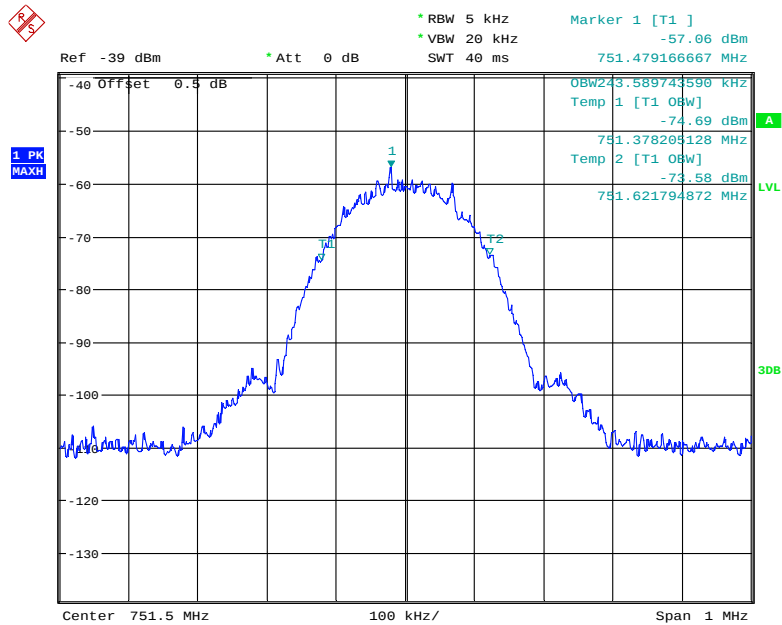


Date: 5. JAN. 2019 16:35:05

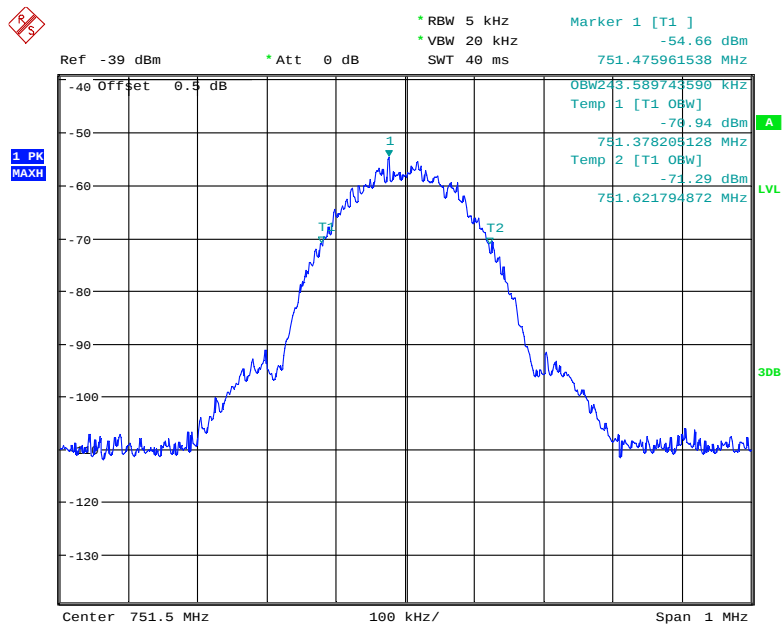
99% Bandwidth-DL- AWGN- 3dB Above AGC -Input



Date: 5. JAN. 2019 16:38:01

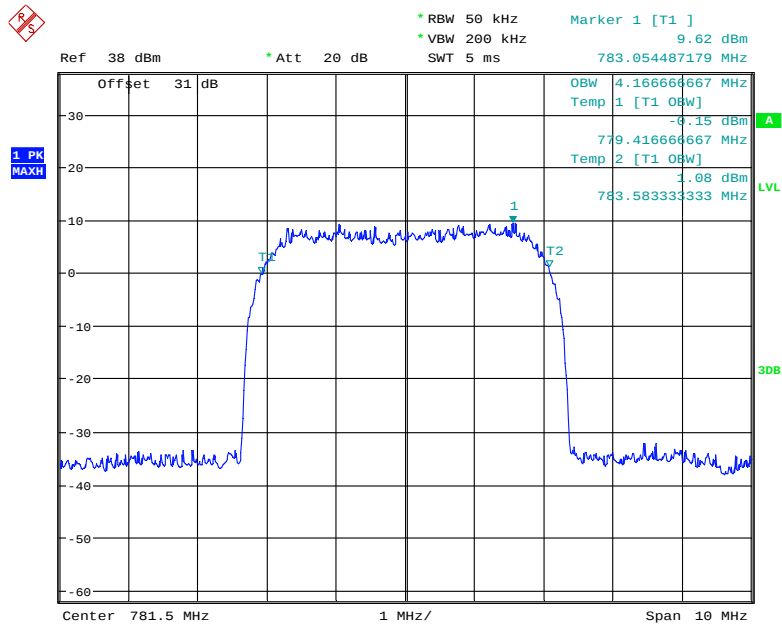
99% Bandwidth-DL- GSM- Pre AGC -Input

Date: 5. JAN. 2019 16:48:42

99% Bandwidth-DL- GSM- 3dB Above AGC -Input

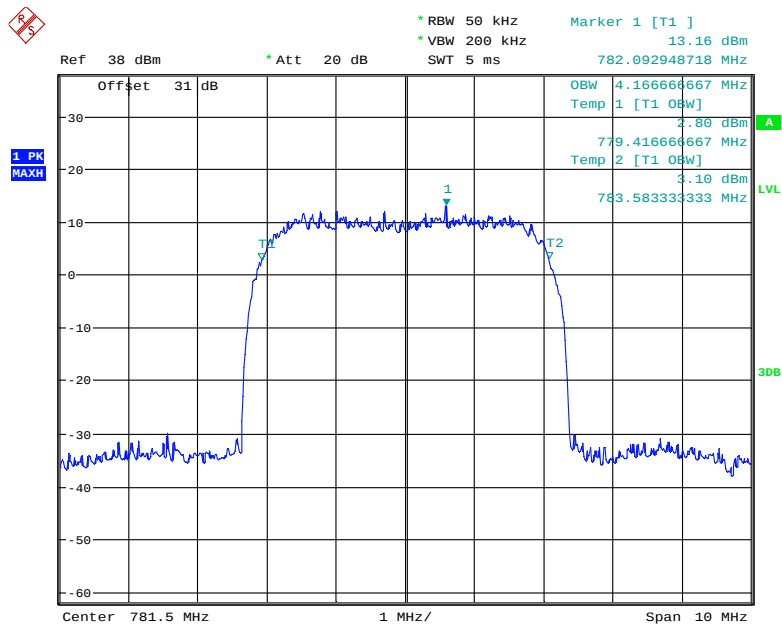
Date: 5. JAN. 2019 16:46:23

99% Bandwidth-UL- AWGN- Pre AGC -Output



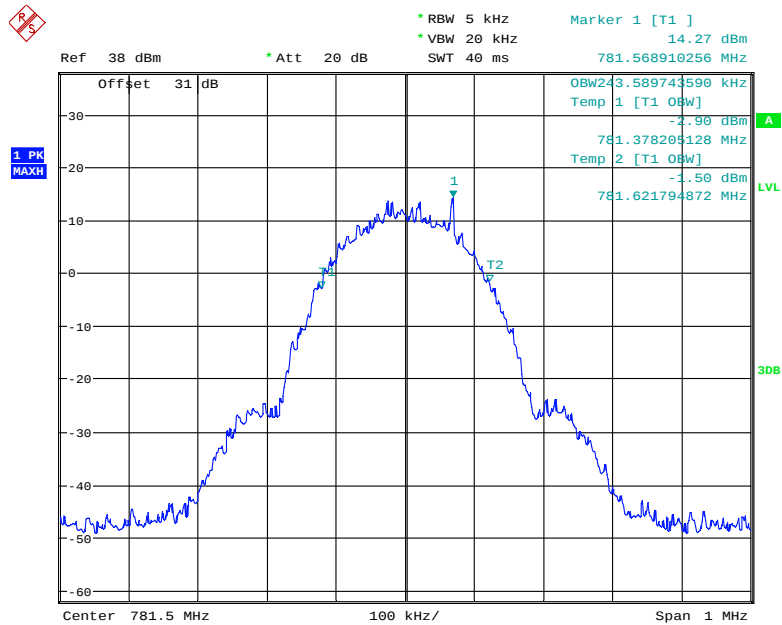
Date: 5. JAN. 2019 17:43:02

99% Bandwidth-UL- AWGN-3dB above AGC-Output



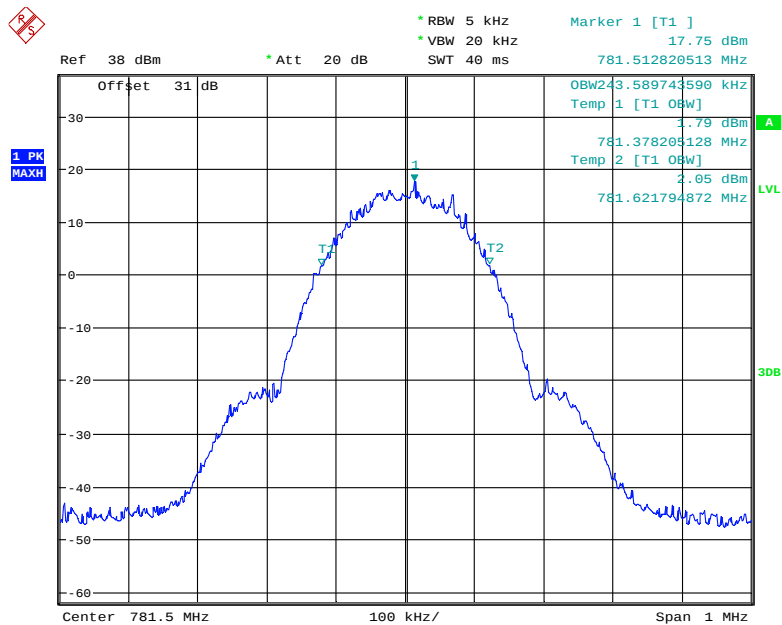
Date: 5. JAN. 2019 17:45:31

99% Bandwidth-UL- GSM- Pre AGC -Output



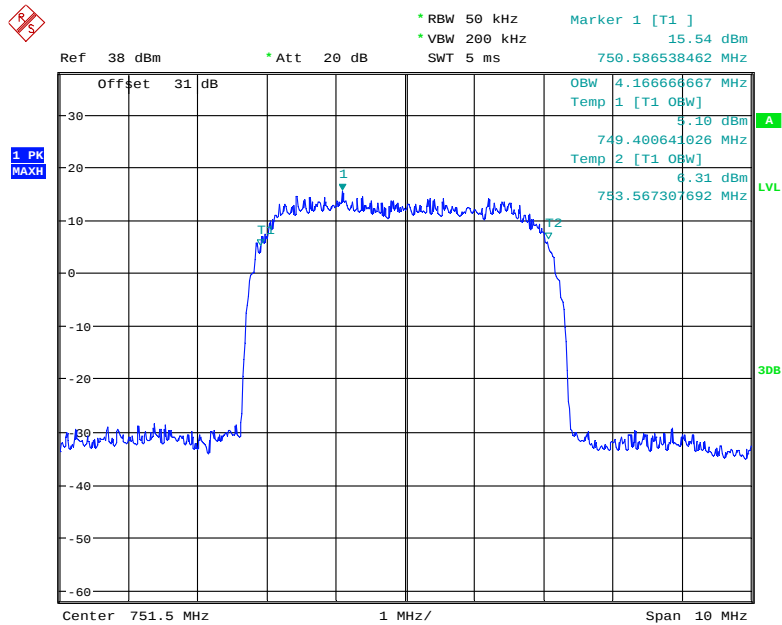
Date: 5. JAN. 2019 17:16:38

99% Bandwidth-UL- GSM- 3dB Above AGC -Output



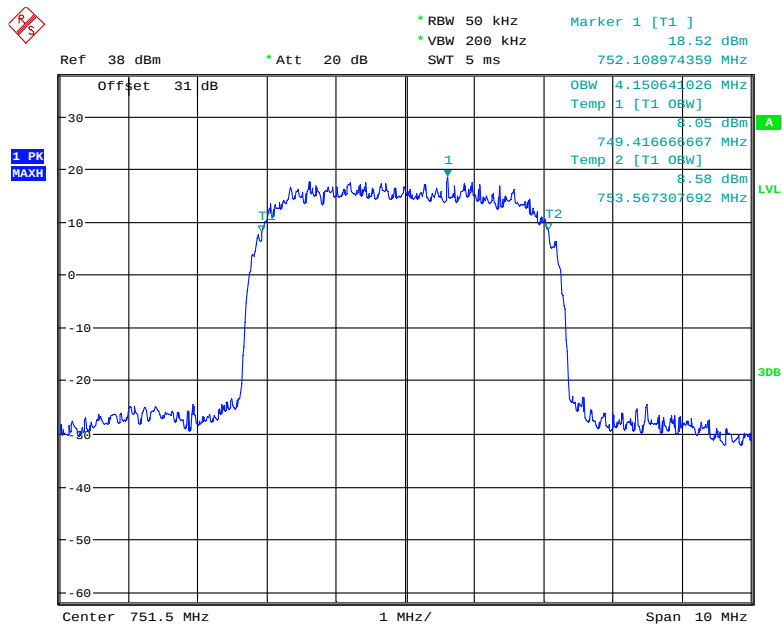
Date: 5. JAN. 2019 17:13:43

99% Bandwidth-DL- AWGN- Pre AGC -Output



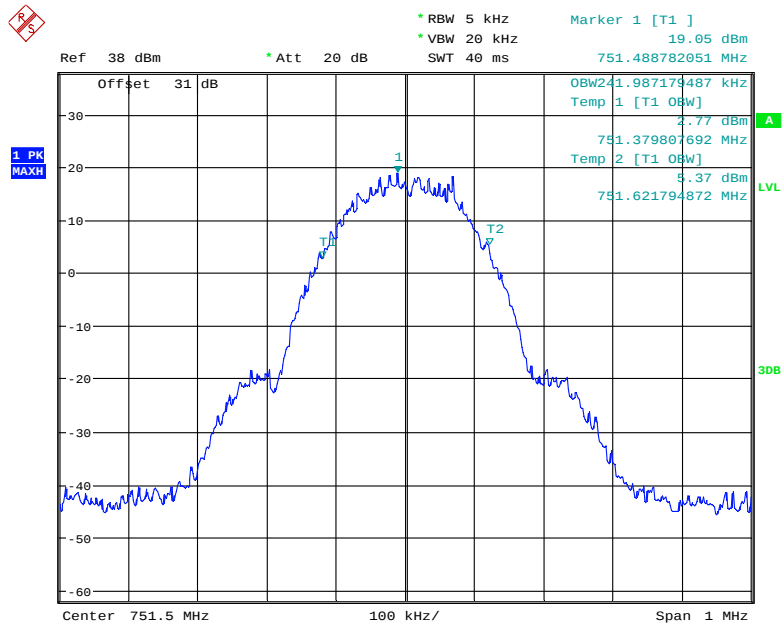
Date: 5. JAN. 2019 17:53:11

99% Bandwidth-DL- AWGN- 3dB Above AGC -Output



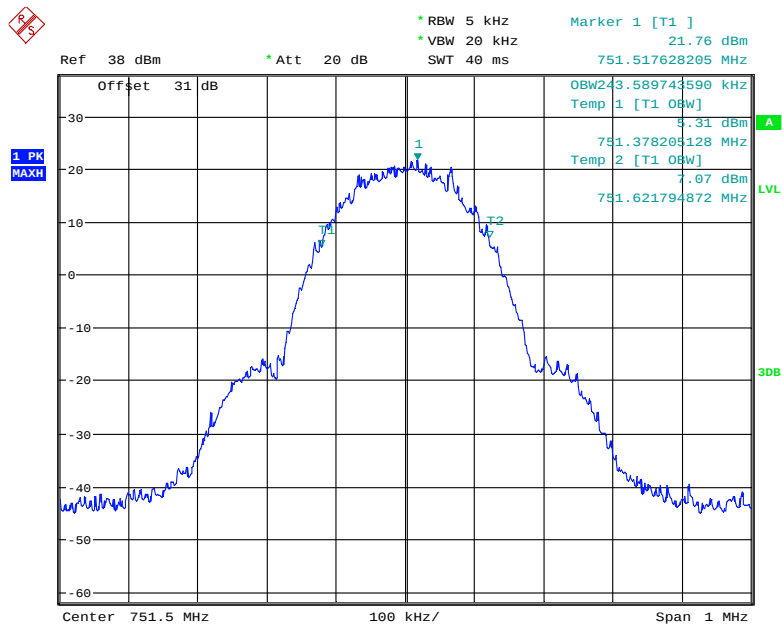
Date: 5. JAN. 2019 17:55:50

99% Bandwidth-DL- GSM- Pre AGC -Output



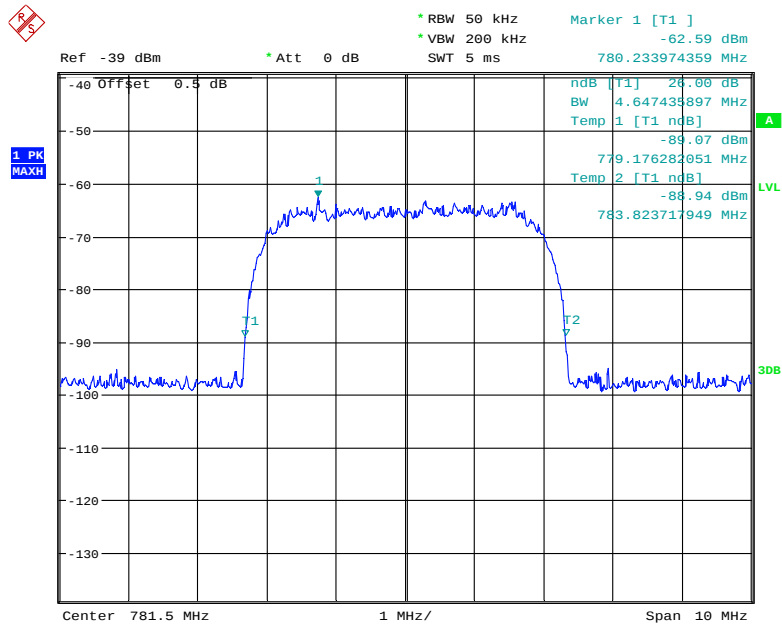
Date: 5. JAN. 2019 18:17:07

99% Bandwidth-DL- GSM- 3dB Above AGC -Output



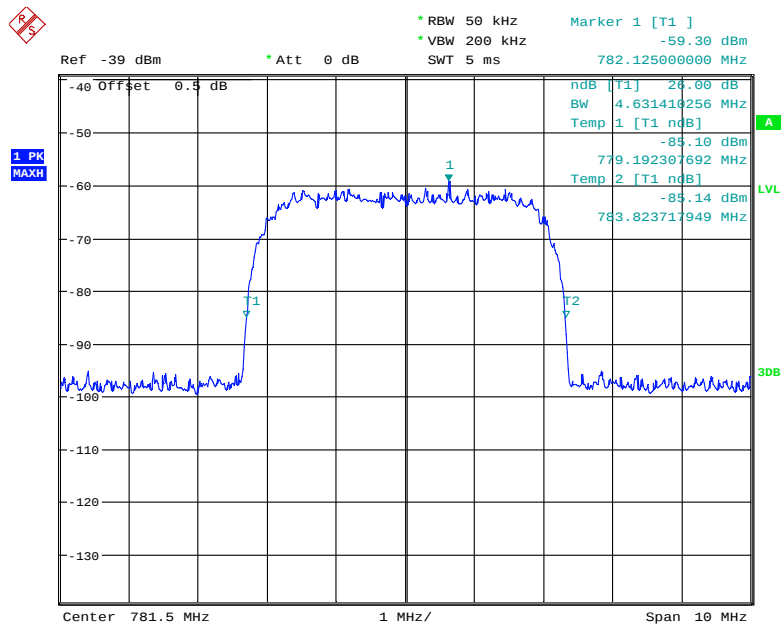
Date: 5. JAN. 2019 18:14:25

26 dB Bandwidth-UL-AWGN-Pre AGC-Input



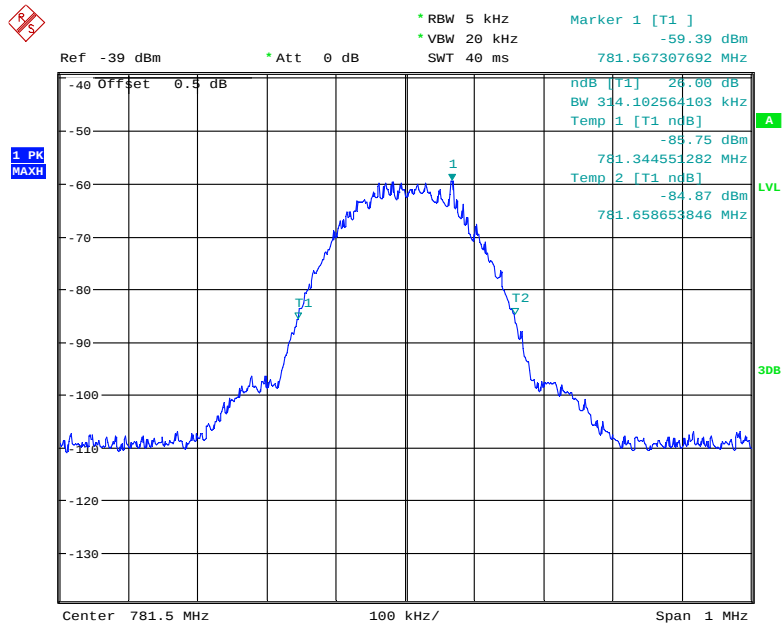
Date: 5. JAN. 2019 16:17:12

26 dB Bandwidth-UL- AWGN-3dB above AGC-Input



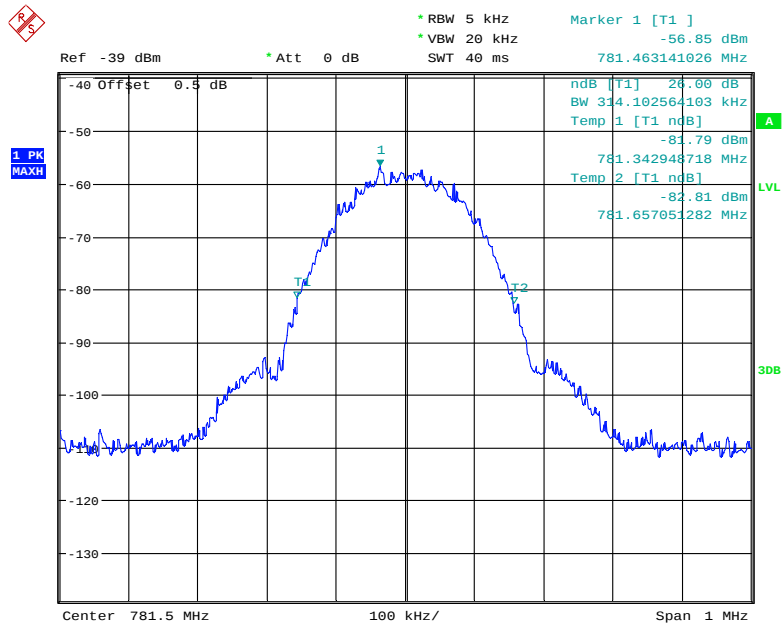
Date: 5. JAN. 2019 16:21:15

26 dB Bandwidth-UL-GSM-Pre AGC-Input



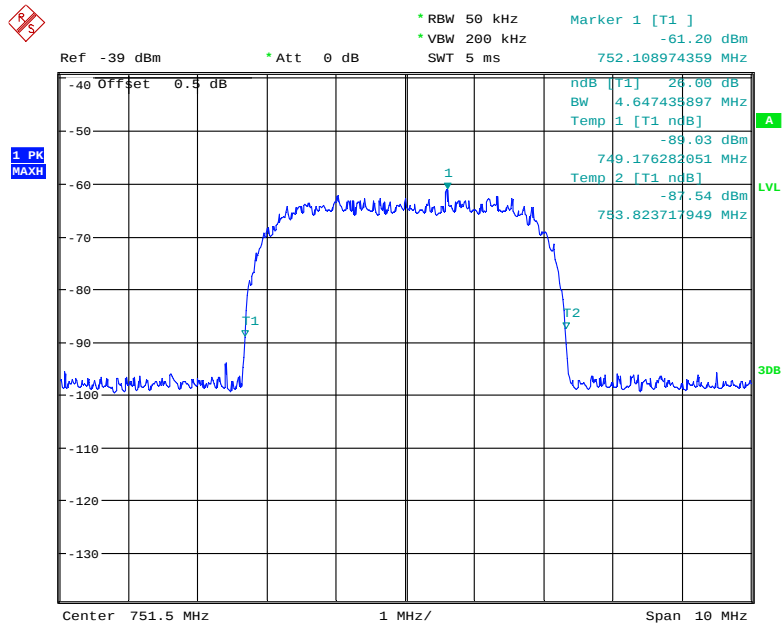
Date: 5.JAN.2019 15:44:01

26 dB Bandwidth-UL- GSM-3dB above AGC-Input



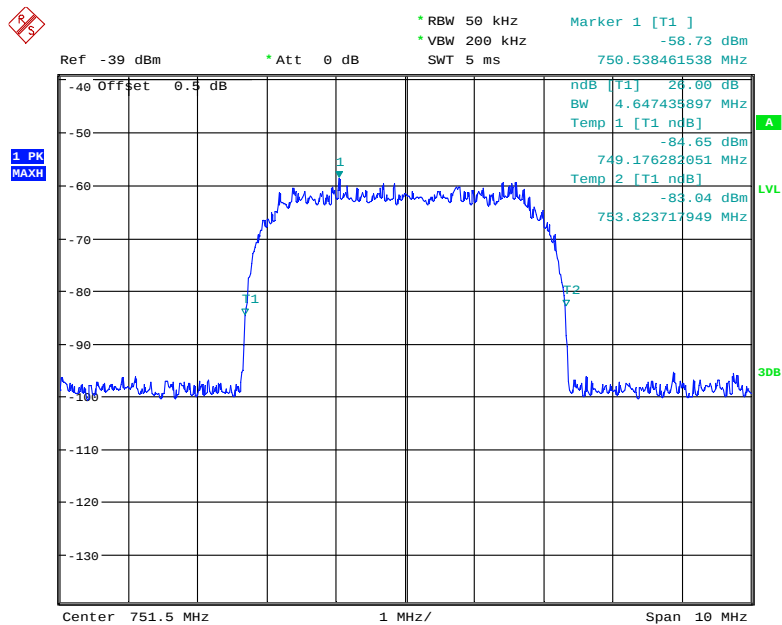
Date: 5.JAN.2019 15:52:42

26 dB Bandwidth-DL- AWGN- Pre AGC -Input



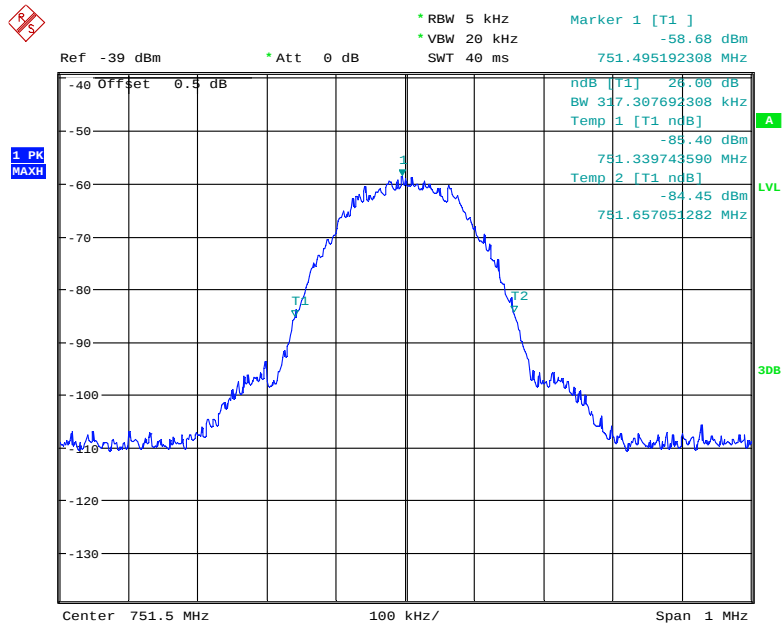
Date: 5.JAN.2019 16:07:50

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Input



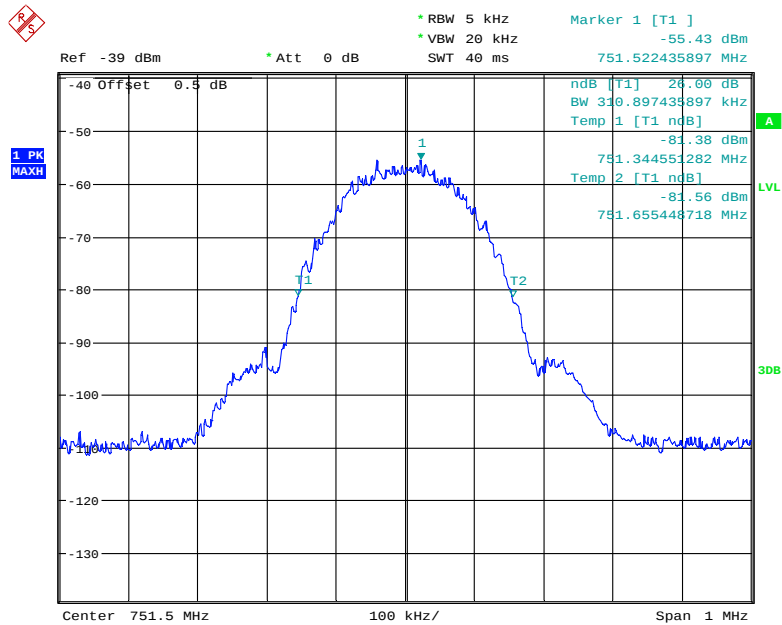
Date: 5.JAN.2019 16:14:10

26 dB Bandwidth-DL- GSM- Pre AGC -Input



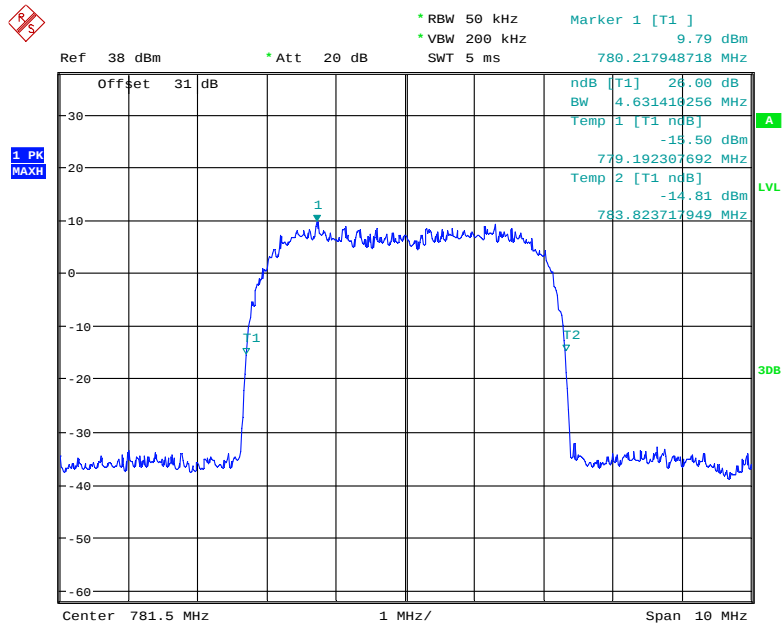
Date: 5. JAN. 2019 15:59:38

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Input



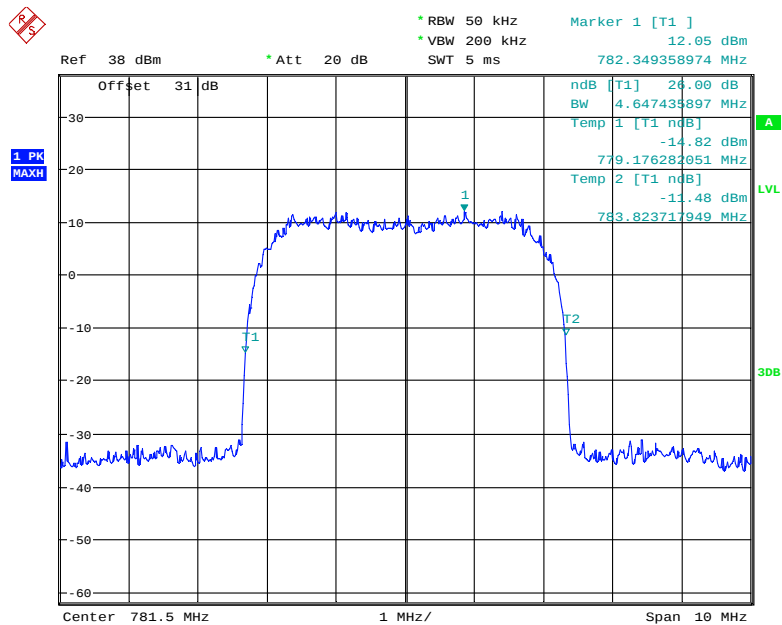
Date: 5. JAN. 2019 15:56:18

26 dB Bandwidth-UL- AWGN- Pre AGC -Output



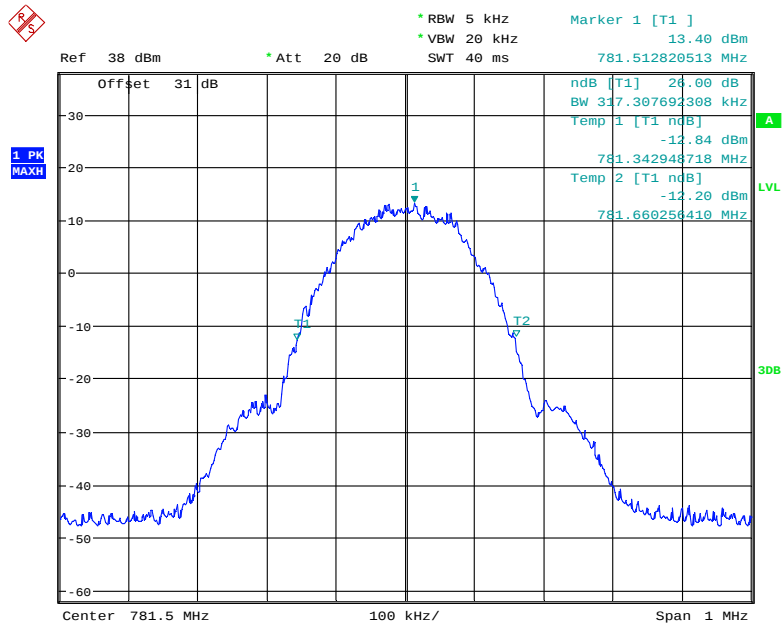
Date: 5. JAN. 2019 17:36:07

26 dB Bandwidth-UL- AWGN-3dB above AGC-Output



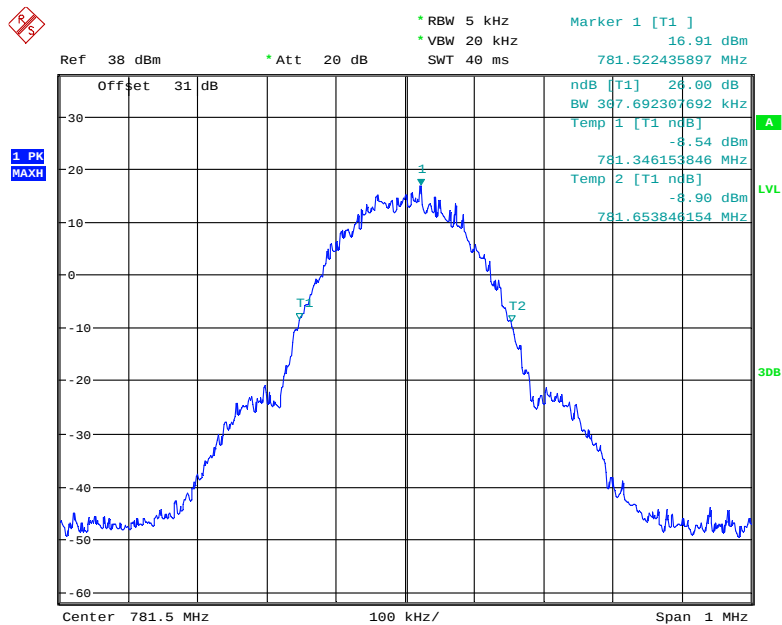
Date: 5. JAN. 2019 17:33:45

26 dB Bandwidth-UL- GSM- Pre AGC -Output



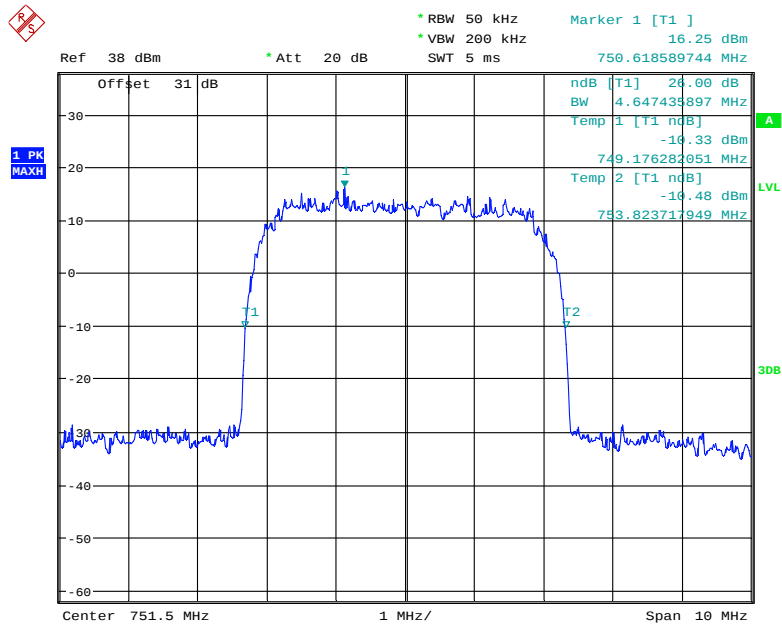
Date: 5. JAN. 2019 17:26:15

26 dB Bandwidth-UL- GSM-3dB above AGC-Output



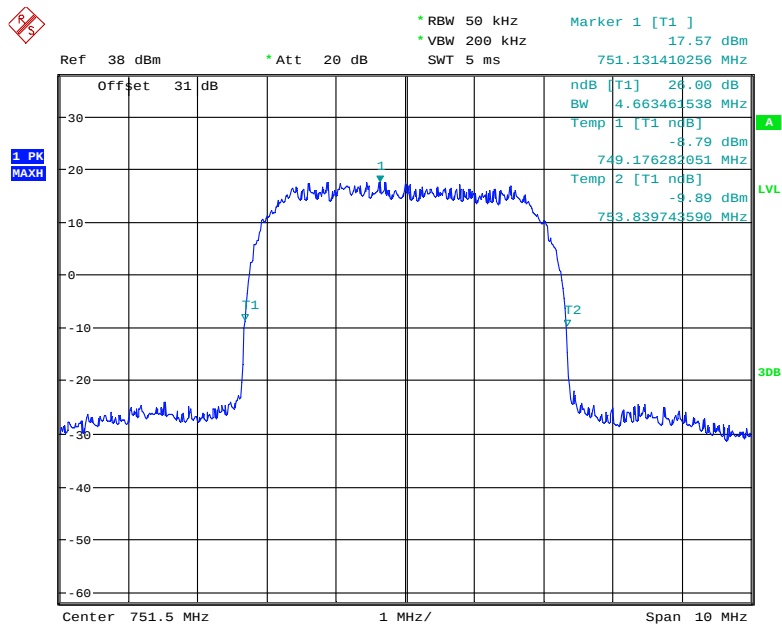
Date: 5. JAN. 2019 17:29:23

26 dB Bandwidth-DL- AWGN- Pre AGC -Output



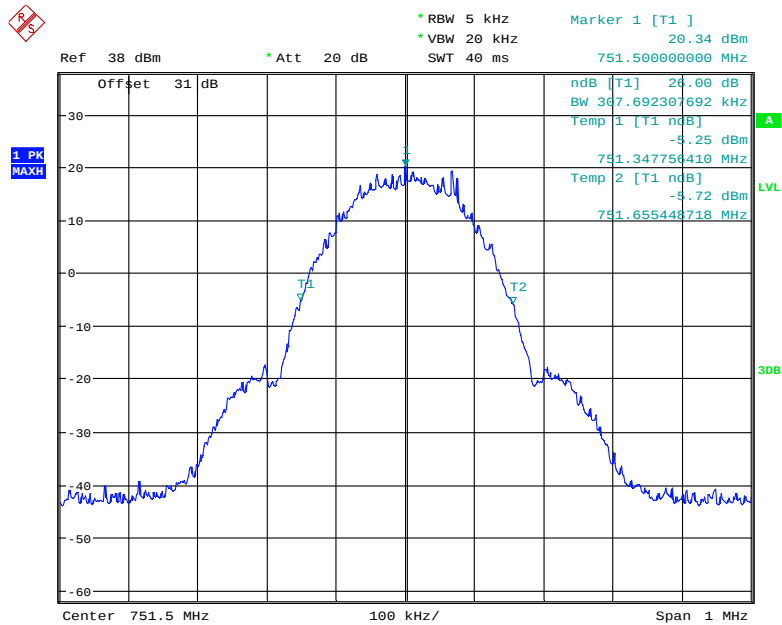
Date: 5.JAN.2019 18:00:26

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Output



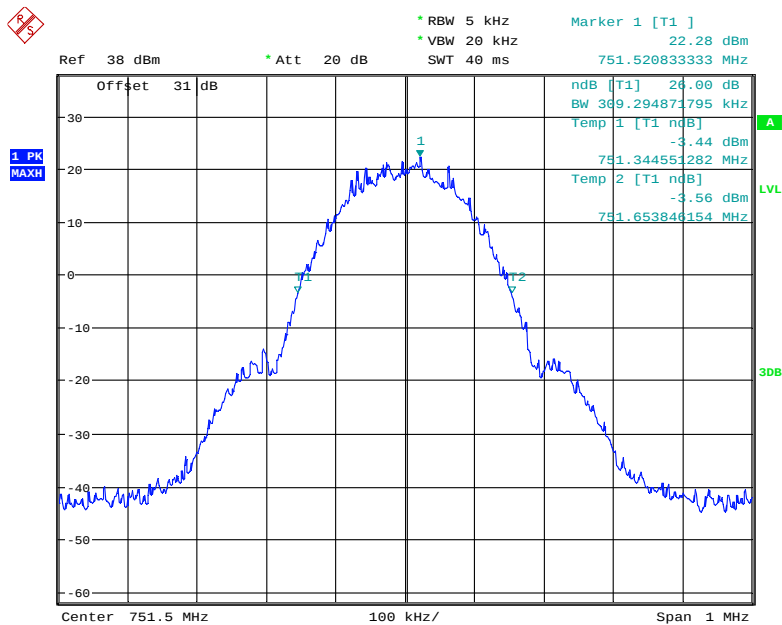
Date: 5.JAN.2019 17:58:18

26 dB Bandwidth-DL- GSM- Pre AGC -Output



Date: 5.JAN.2019 18:06:44

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Output

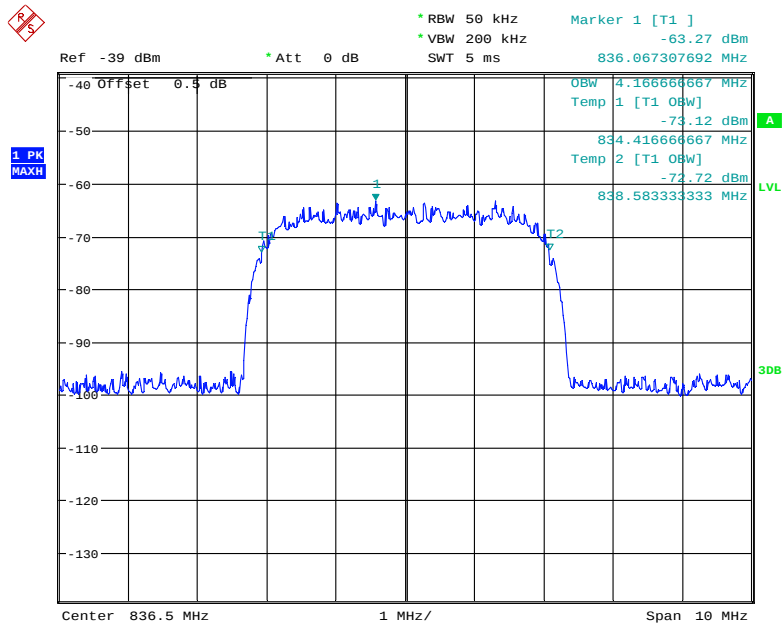


Date: 5.JAN.2019 18:09:18

Cellular Band

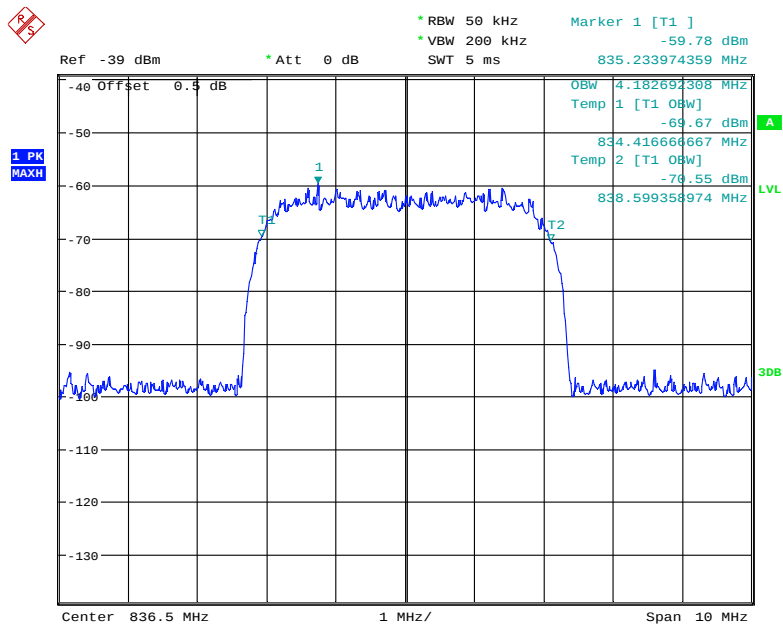
Mode	Signal Type	Signal Level	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)	
				Input	Output	Input	Output
Uplink	AWGN	Pre-AGC	836.5	4.17	4.18	4.63	4.63
		3dB above AGC	836.5	4.18	4.13	4.65	4.62
	GSM	Pre-AGC	836.5	0.25	0.25	0.32	0.32
		3dB above AGC	836.5	0.25	0.24	0.31	0.31
Downlink	AWGN	Pre-AGC	881.5	4.18	4.17	4.65	4.63
		3dB above AGC	881.5	4.18	4.15	4.65	4.62
	GSM	Pre-AGC	881.5	0.25	0.25	0.32	0.32
		3dB above AGC	881.5	0.25	0.25	0.32	0.31

99% Bandwidth-UL-AWGN-Pre AGC-Input



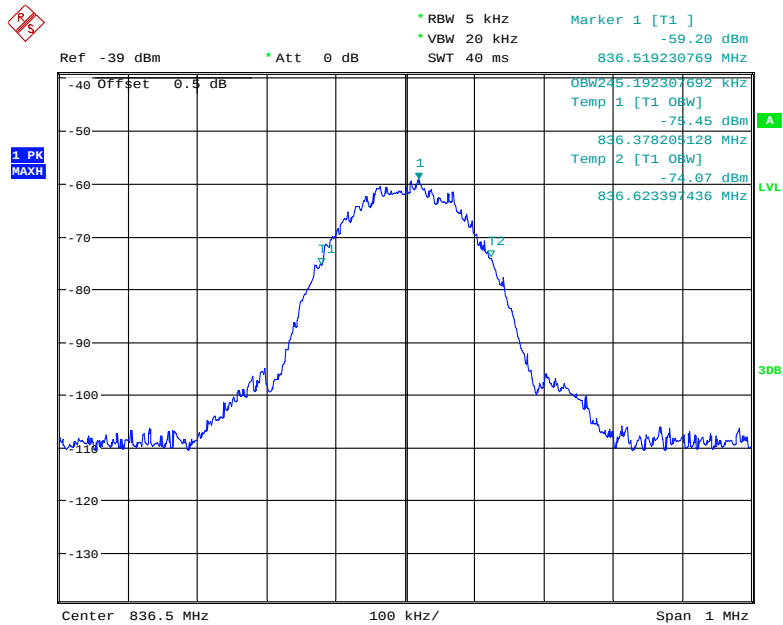
Date: 5.JAN.2019 16:32:36

99% Bandwidth-UL- AWGN-3dB above AGC-Input



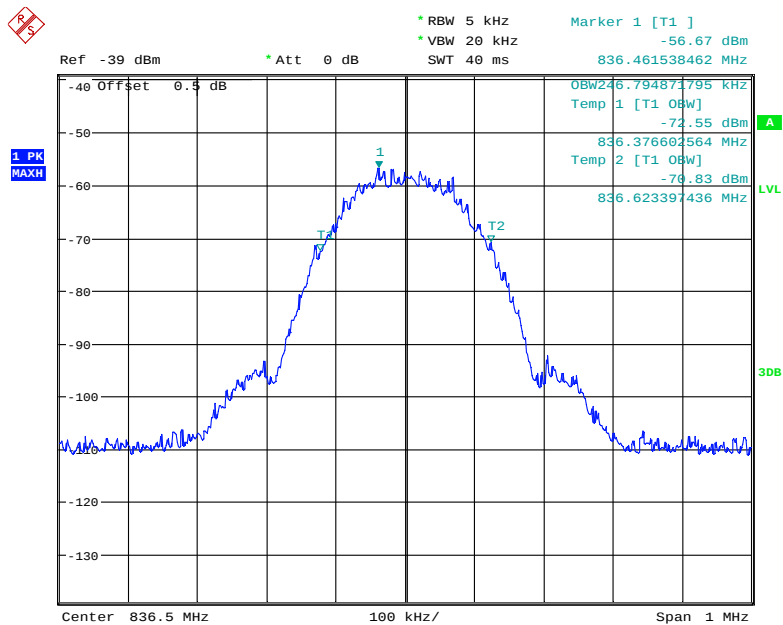
Date: 5.JAN.2019 16:30:55

99% Bandwidth-UL-GSM-Pre AGC-Input



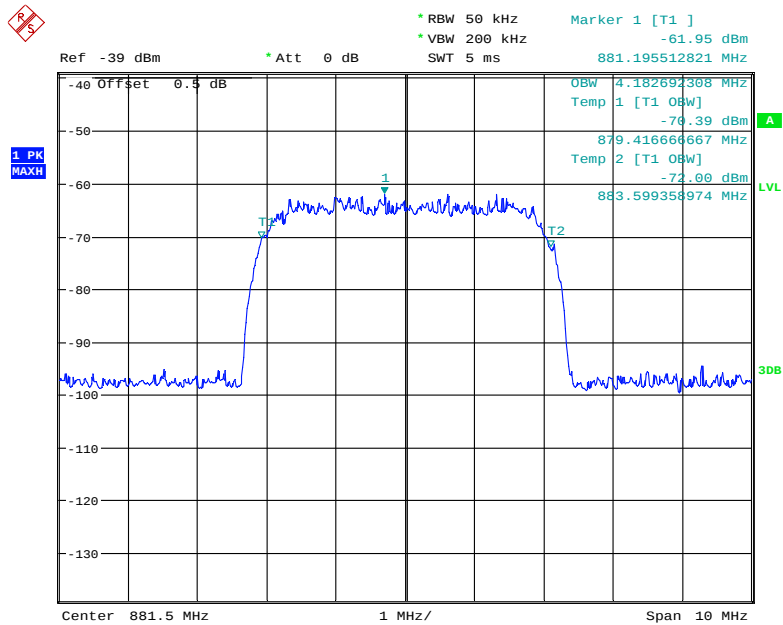
Date: 5.JAN.2019 16:50:43

99% Bandwidth-UL- GSM-3dB above AGC-Input



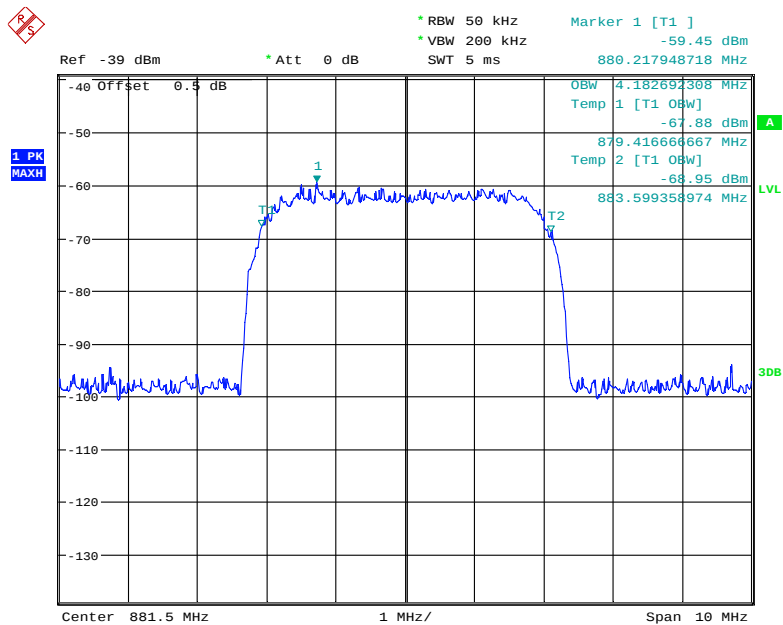
Date: 5.JAN.2019 16:52:44

99% Bandwidth-DL- AWGN- Pre AGC -Input



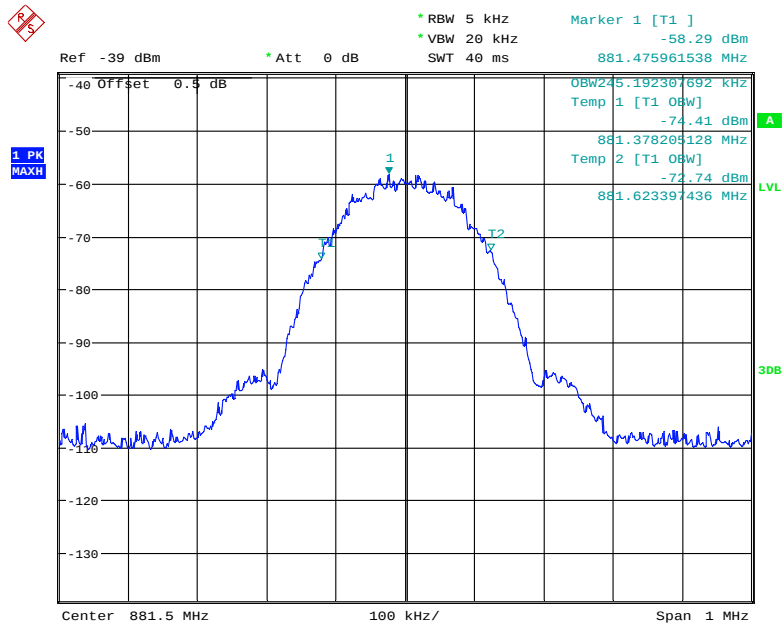
Date: 5.JAN.2019 16:35:37

99% Bandwidth-DL- AWGN- 3dB Above AGC -Input



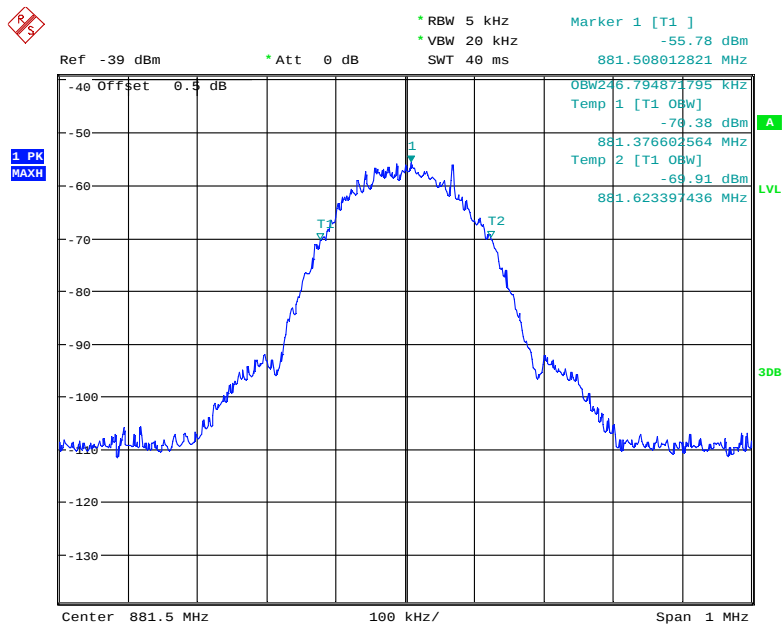
Date: 5.JAN.2019 16:37:37

99% Bandwidth-DL- GSM- Pre AGC -Input



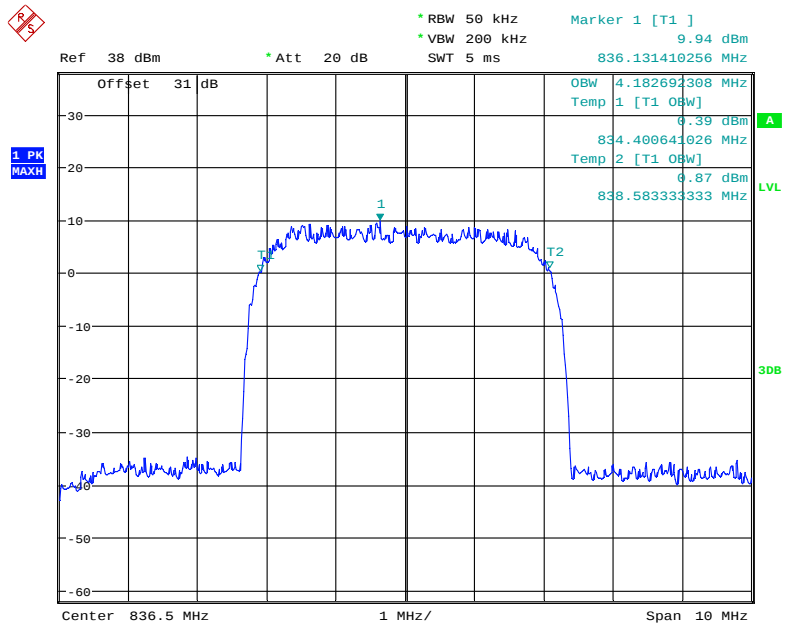
Date: 5.JAN.2019 16:48:25

99% Bandwidth-DL- GSM- 3dB Above AGC -Input



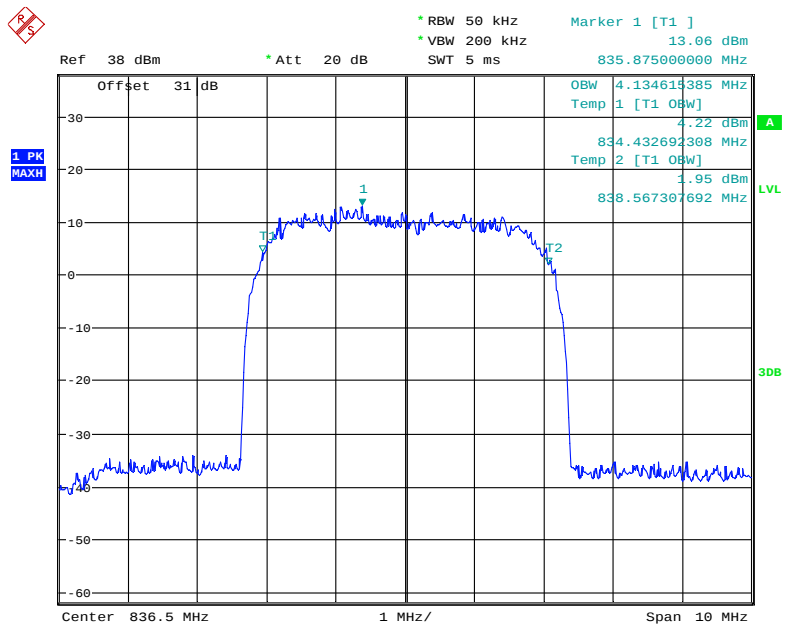
Date: 5.JAN.2019 16:46:42

99% Bandwidth-UL- AWGN- Pre AGC -Output



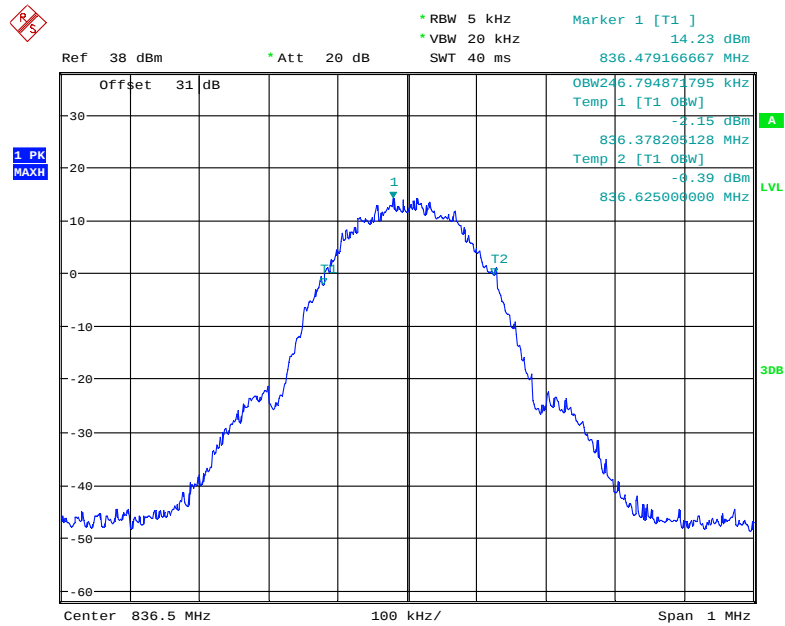
Date: 5.JAN.2019 17:43:23

99% Bandwidth-UL- AWGN-3dB above AGC-Output



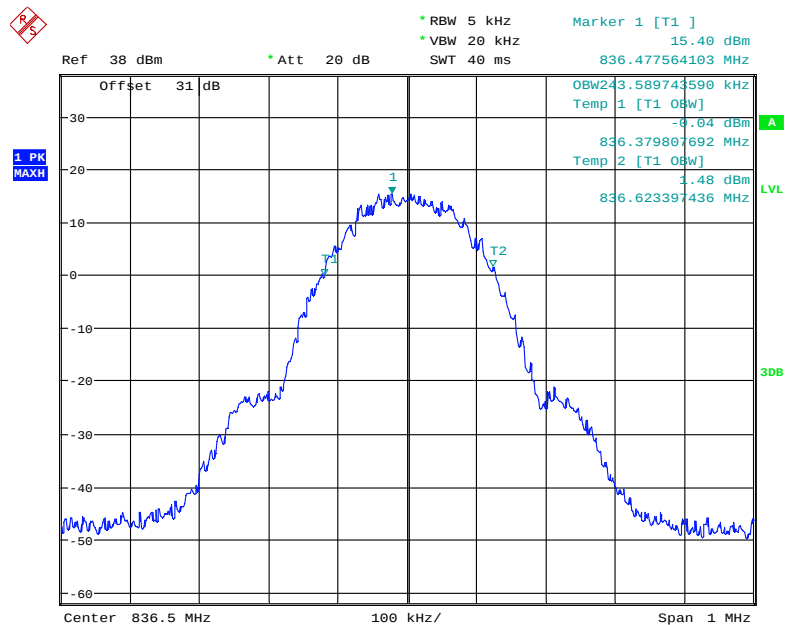
Date: 5.JAN.2019 17:45:07

99% Bandwidth-UL- GSM- Pre AGC -Output



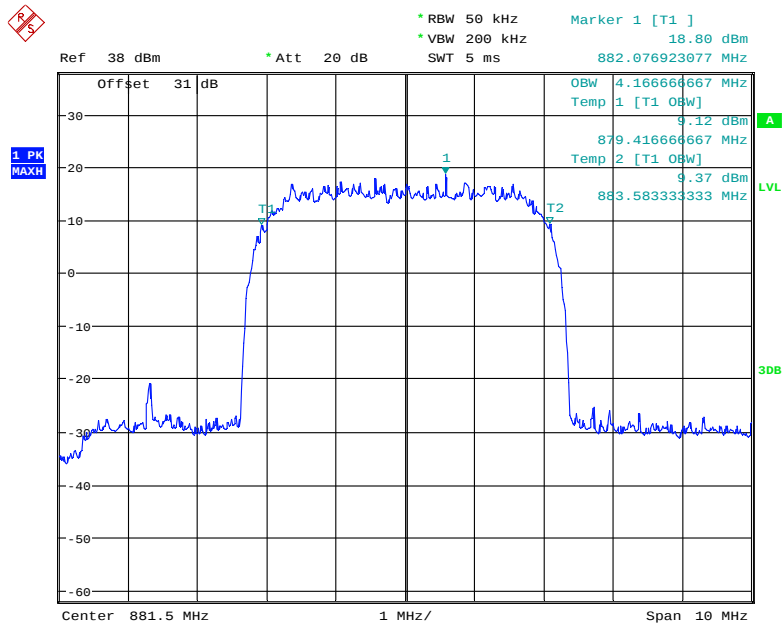
Date: 5.JAN.2019 17:16:23

99% Bandwidth-UL- GSM-3dB above AGC-Output



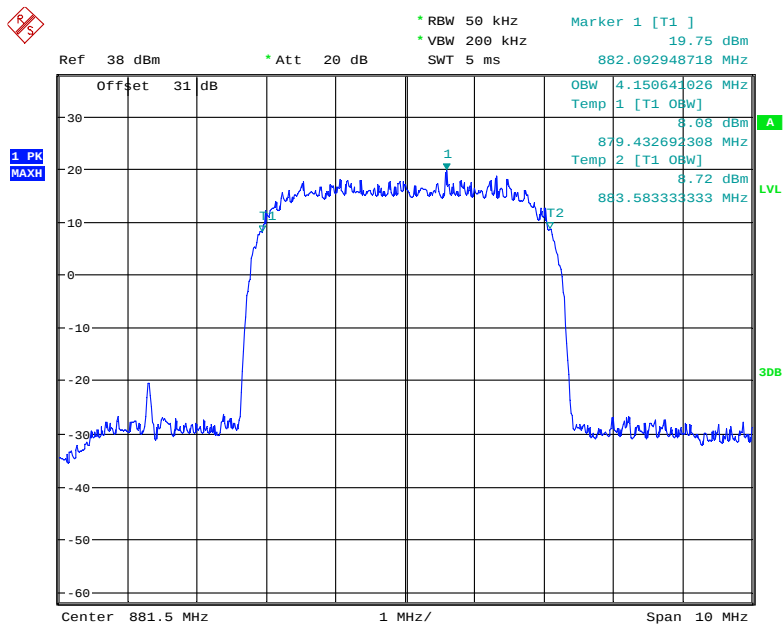
Date: 5.JAN.2019 17:14:11

99% Bandwidth-DL- AWGN- Pre AGC -Output



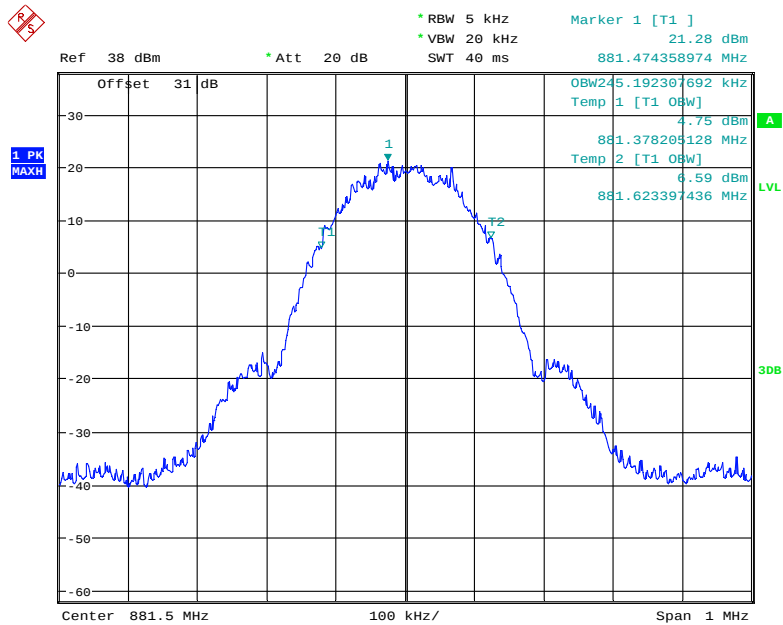
Date: 5.JAN.2019 17:53:36

99% Bandwidth-DL- AWGN- 3dB Above AGC -Output



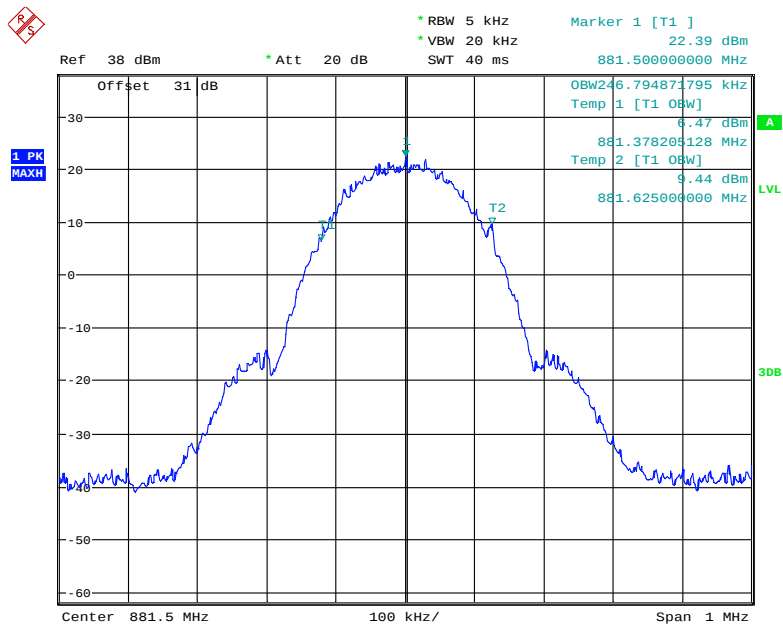
Date: 5.JAN.2019 17:55:32

99% Bandwidth-DL- GSM- Pre AGC -Output



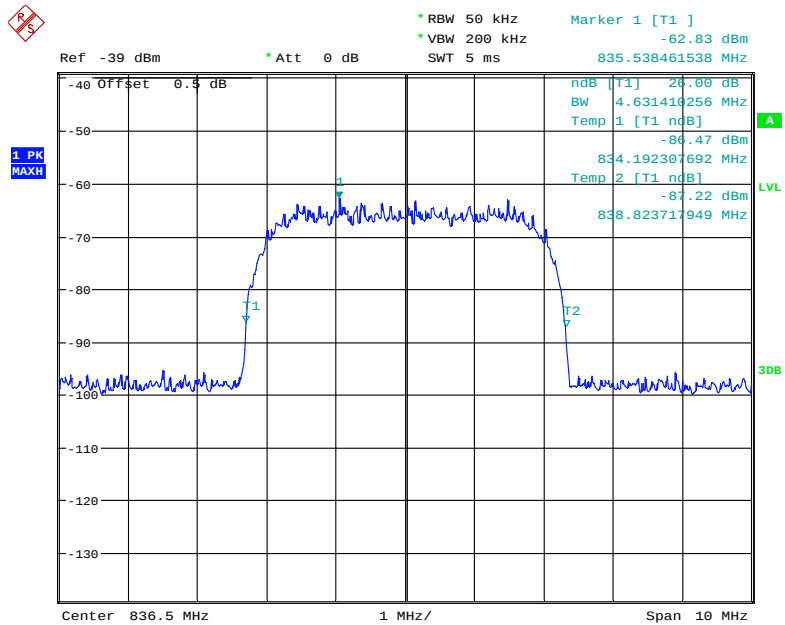
Date: 5.JAN.2019 18:16:51

99% Bandwidth-DL- GSM- 3dB Above AGC -Output



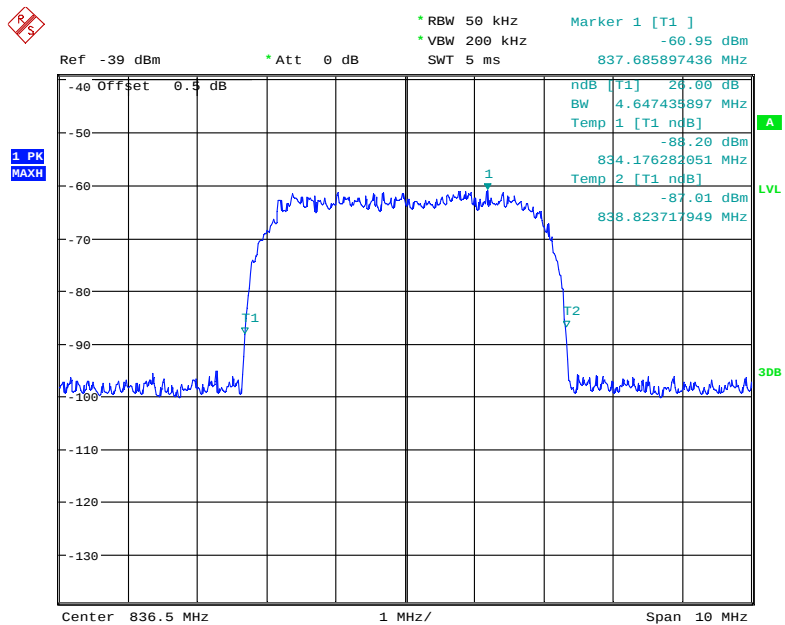
Date: 5.JAN.2019 18:14:49

26 dB Bandwidth-UL-AWGN-Pre AGC-Input



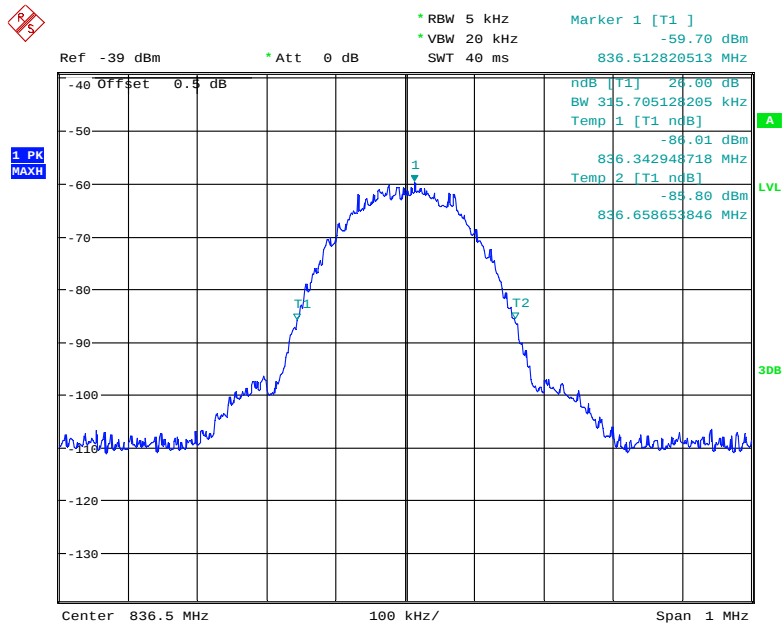
Date: 5.JAN.2019 16:18:34

26 dB Bandwidth-UL- AWGN-3dB above AGC-Input



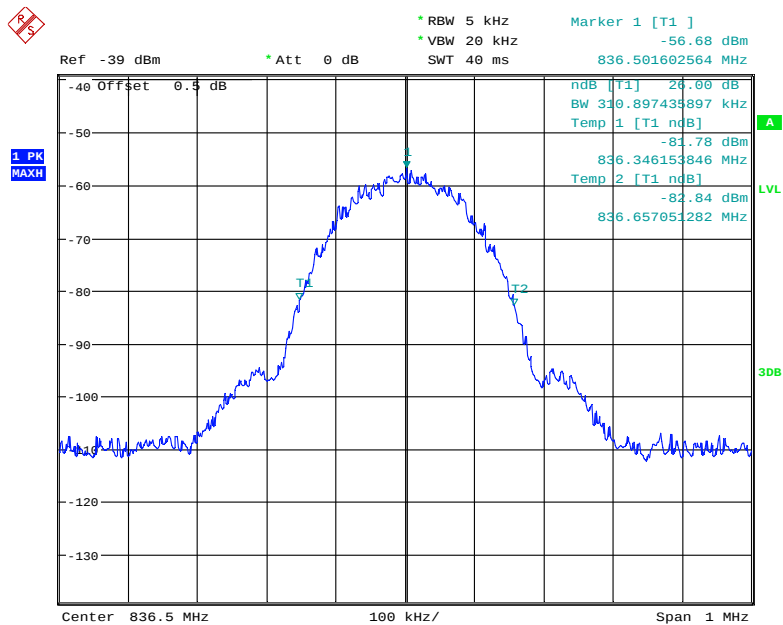
Date: 5.JAN.2019 16:20:56

26 dB Bandwidth-UL-GSM-Pre AGC-Input



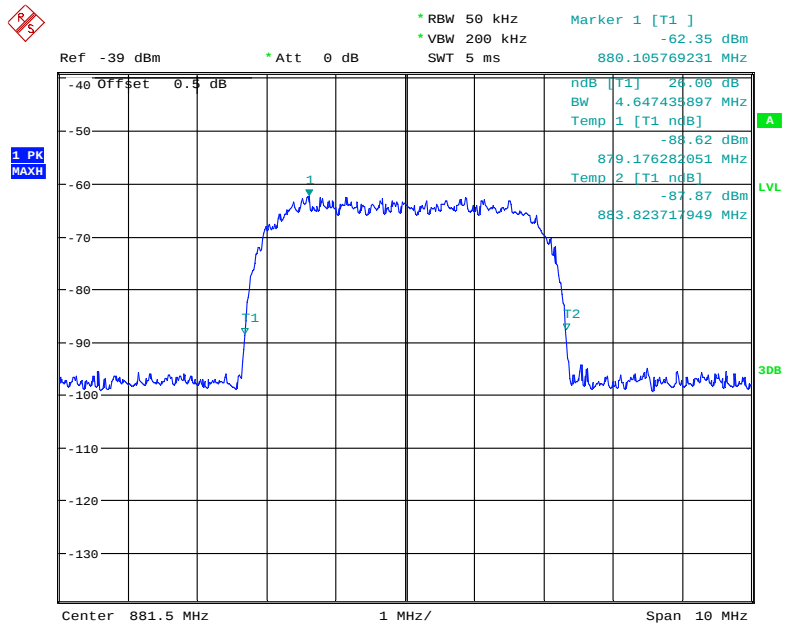
Date: 5.JAN.2019 15:44:32

26 dB Bandwidth-UL- GSM-3dB above AGC-Input



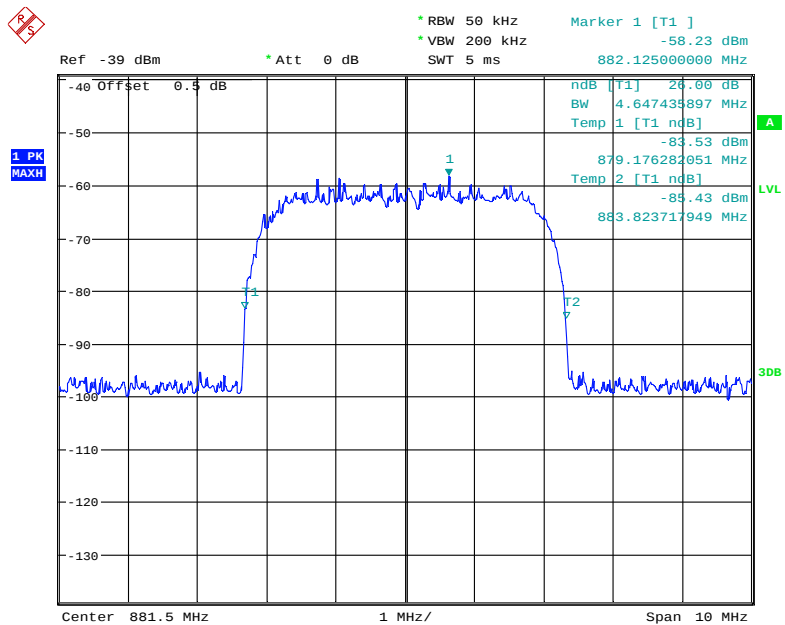
Date: 5.JAN.2019 15:52:22

26 dB Bandwidth-DL- AWGN- Pre AGC -Input



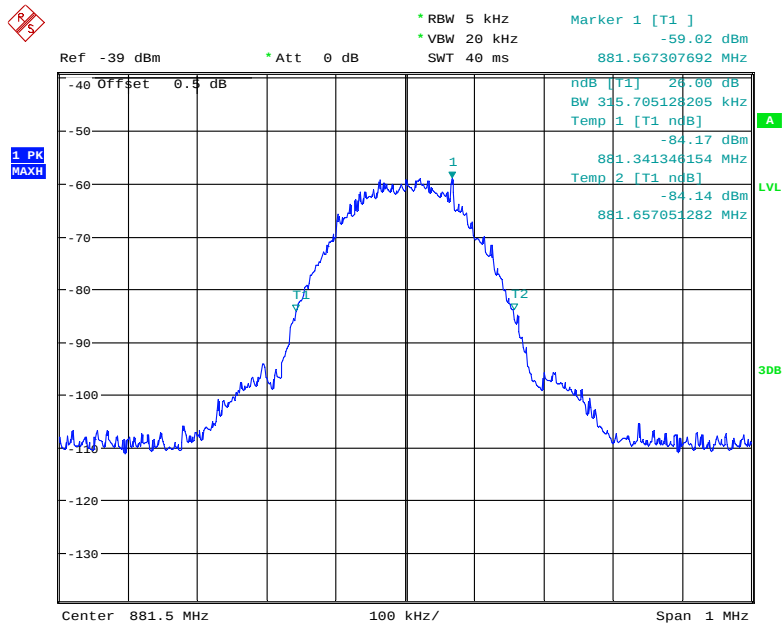
Date: 5.JAN.2019 16:08:16

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Input



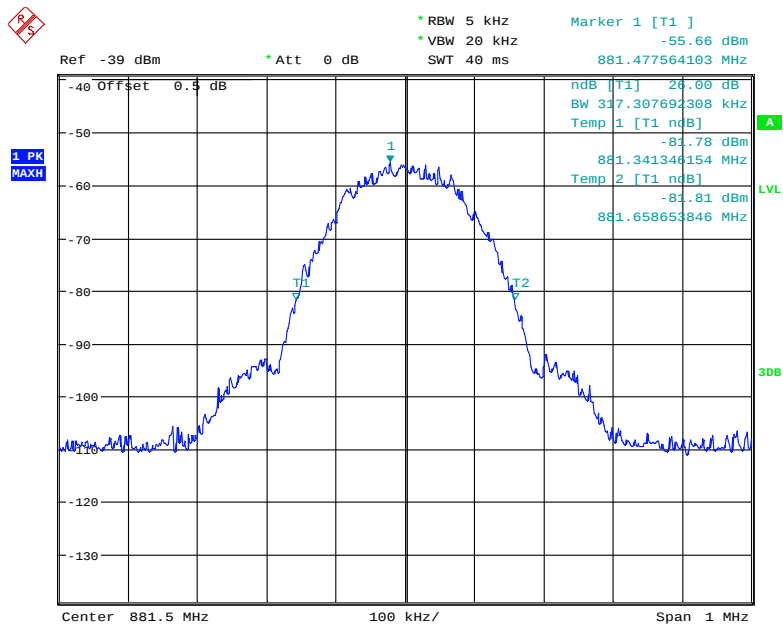
Date: 5.JAN.2019 16:13:41

26 dB Bandwidth-DL- GSM- Pre AGC -Input



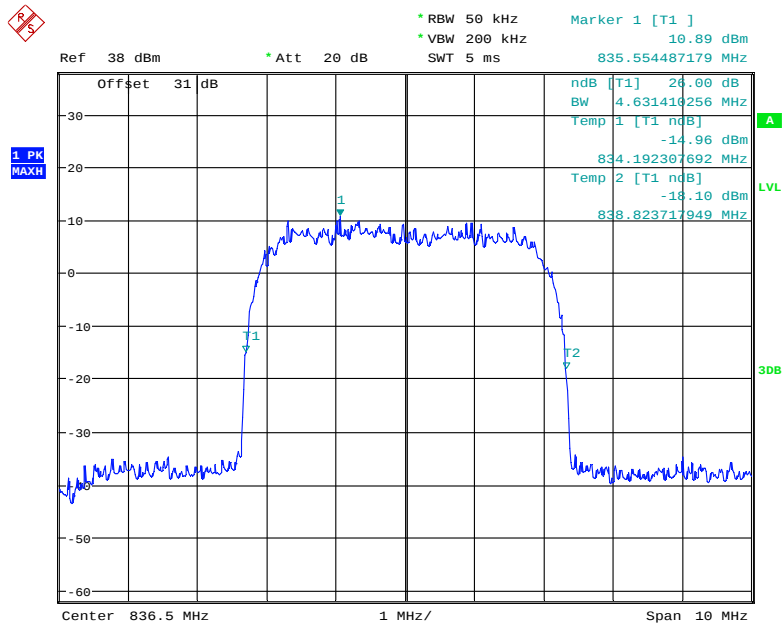
Date: 5.JAN.2019 15:59:13

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Input



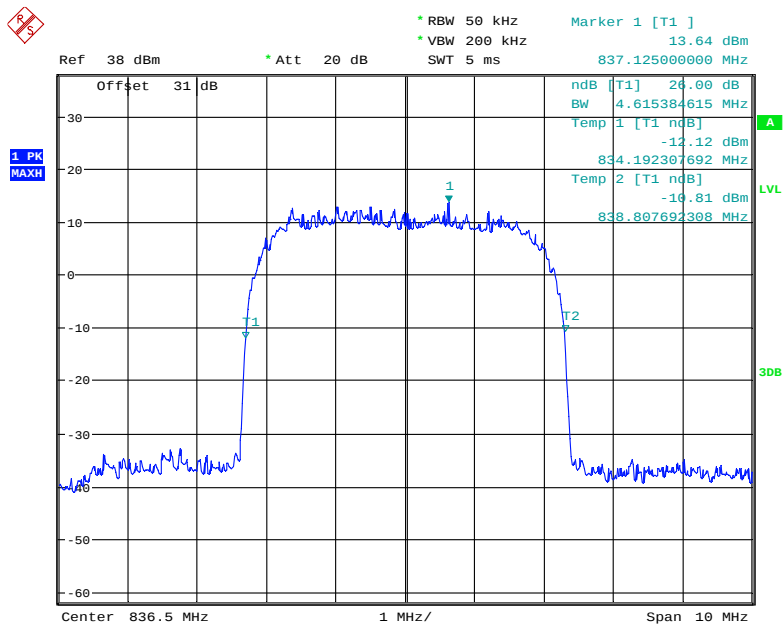
Date: 5.JAN.2019 15:56:40

26 dB Bandwidth-UL- AWGN- Pre AGC -Output



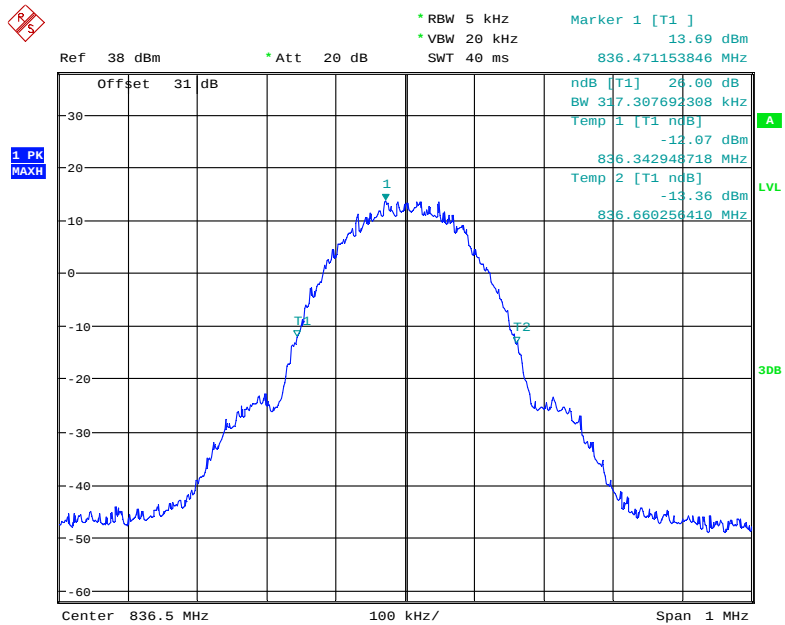
Date: 5.JAN.2019 17:35:51

26 dB Bandwidth-UL- AWGN-3dB above AGC-Output



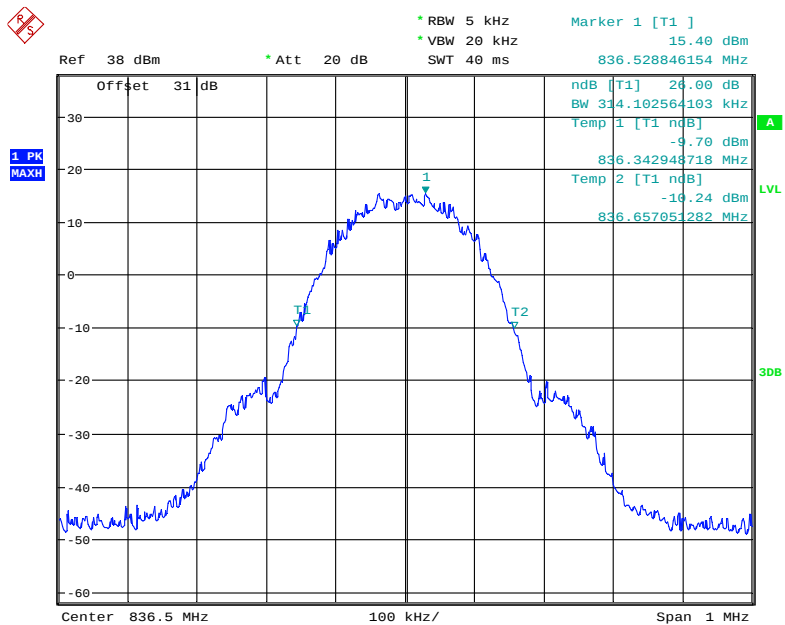
Date: 5.JAN.2019 17:34:03

26 dB Bandwidth-UL- GSM- Pre AGC -Output



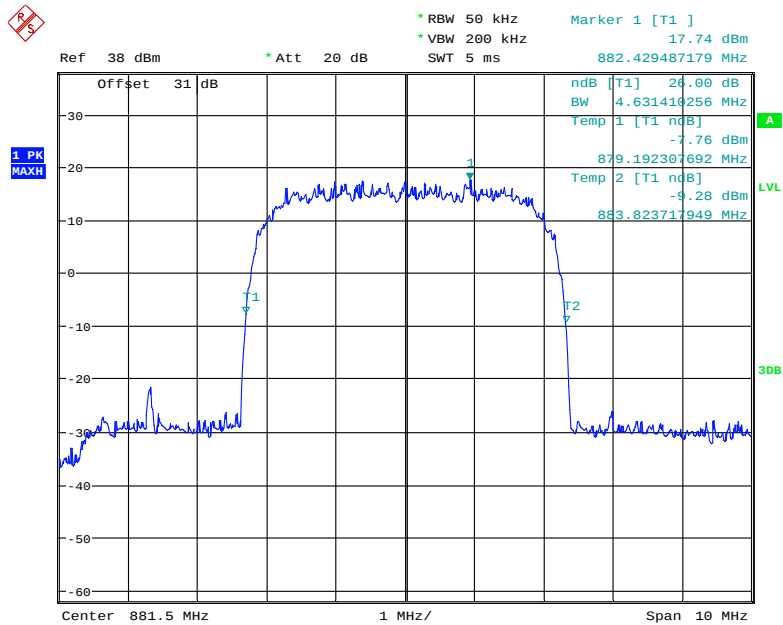
Date: 5.JAN.2019 17:26:35

26 dB Bandwidth-UL- GSM-3dB above AGC-Output



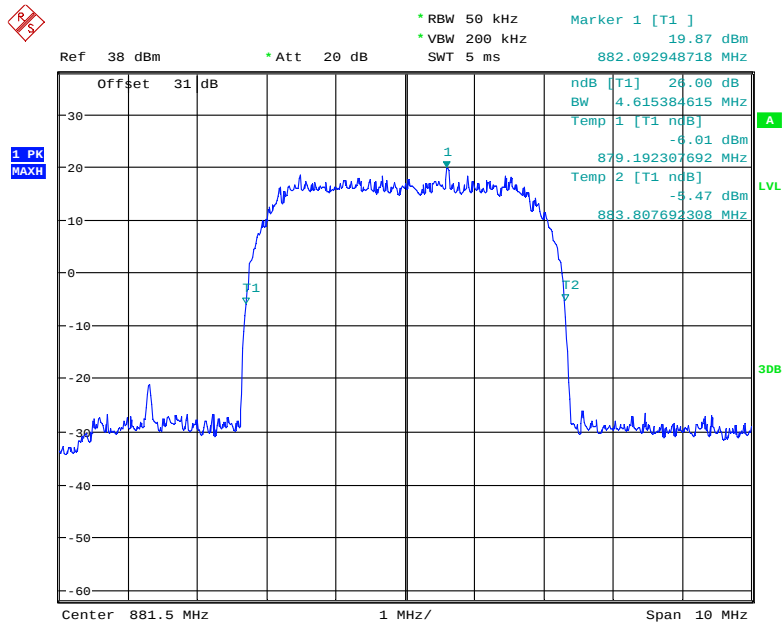
Date: 5.JAN.2019 17:29:08

26 dB Bandwidth-DL- AWGN- Pre AGC -Output



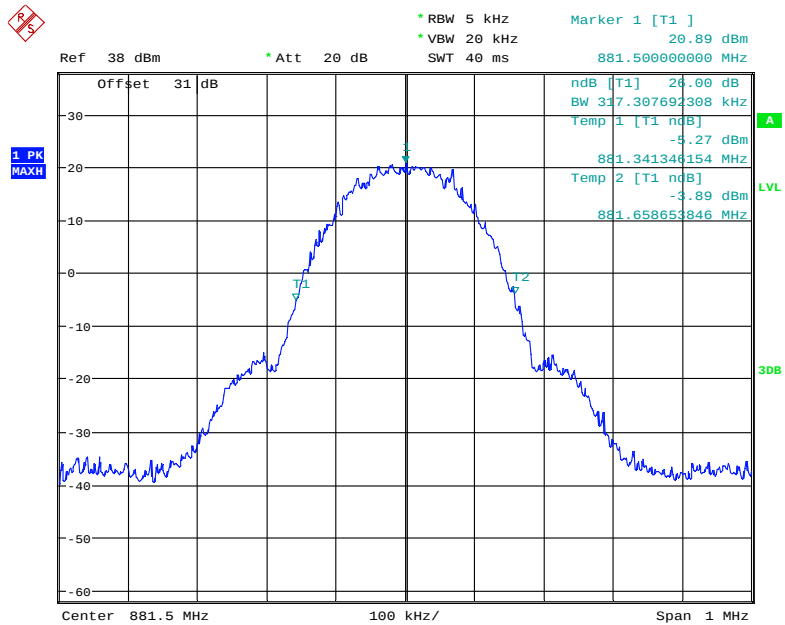
Date: 5.JAN.2019 18:00:10

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Output



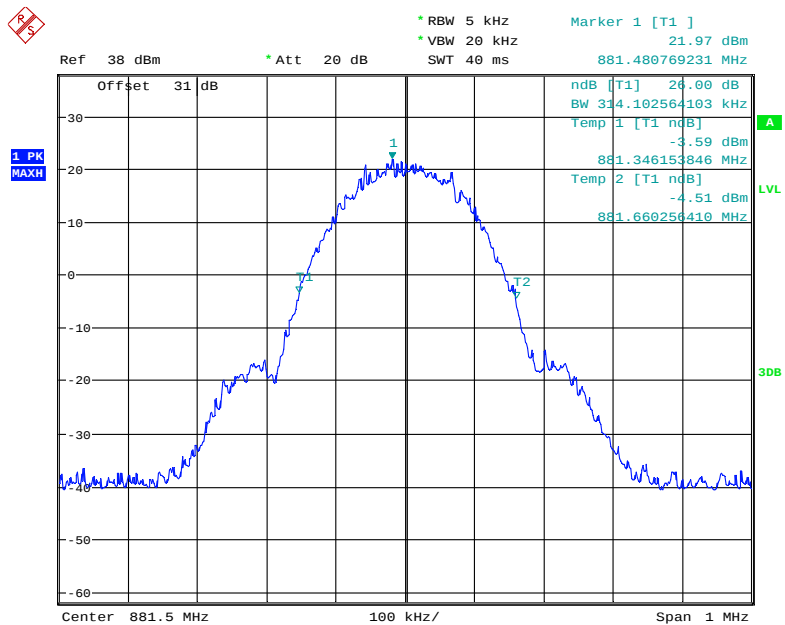
Date: 5.JAN.2019 17:58:36

26 dB Bandwidth-DL- GSM- Pre AGC -Output



Date: 5.JAN.2019 18:07:17

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Output

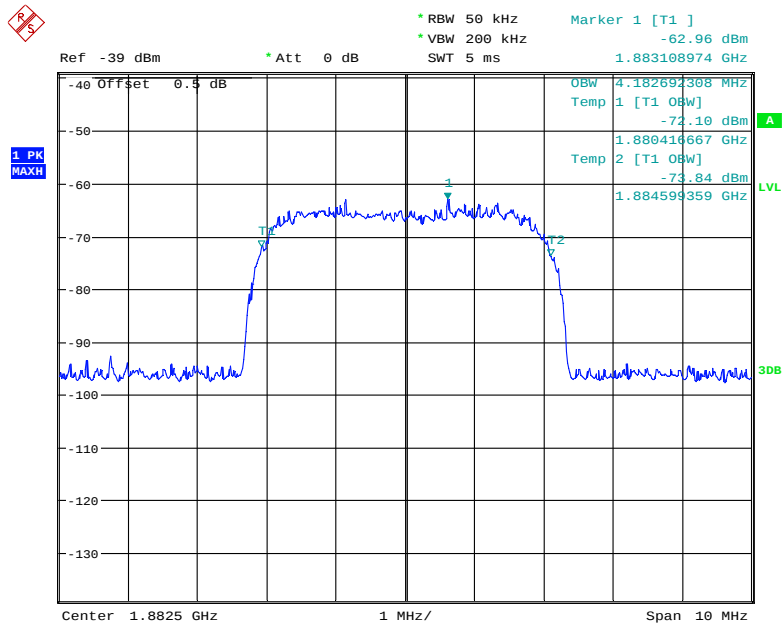


Date: 5.JAN.2019 18:09:01

PCS Band

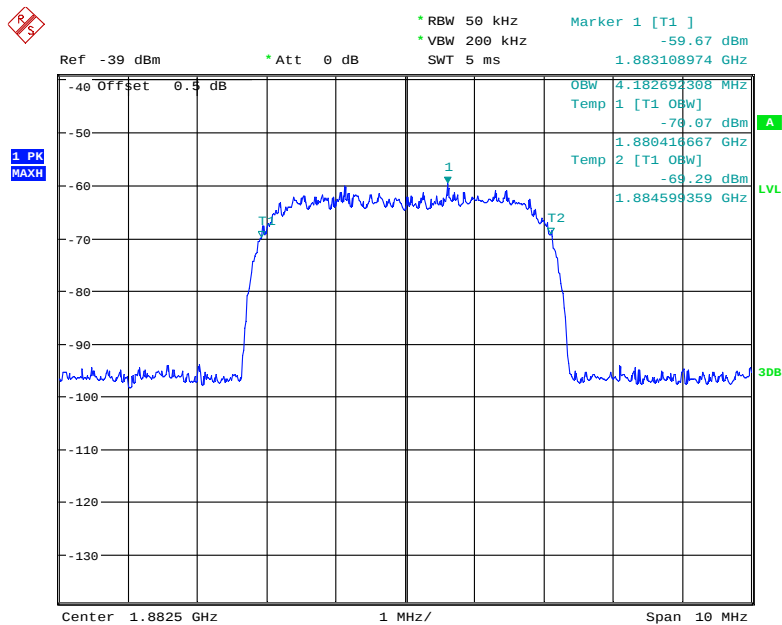
Mode	Signal Type	Signal Level	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)	
				Input	Output	Input	Output
Uplink	AWGN	Pre-AGC	1882.5	4.18	4.17	4.66	4.65
		3dB above AGC	1882.5	4.18	4.15	4.63	4.63
	GSM	Pre-AGC	1882.5	0.25	0.25	0.32	0.32
		3dB above AGC	1882.5	0.25	0.24	0.31	0.31
Downlink	AWGN	Pre-AGC	1962.5	4.18	4.17	4.65	4.63
		3dB above AGC	1962.5	4.18	4.18	4.63	4.65
	GSM	Pre-AGC	1962.5	0.25	0.24	0.32	0.31
		3dB above AGC	1962.5	0.25	0.25	0.32	0.32

99% Bandwidth-UL-AWGN-Pre AGC-Input



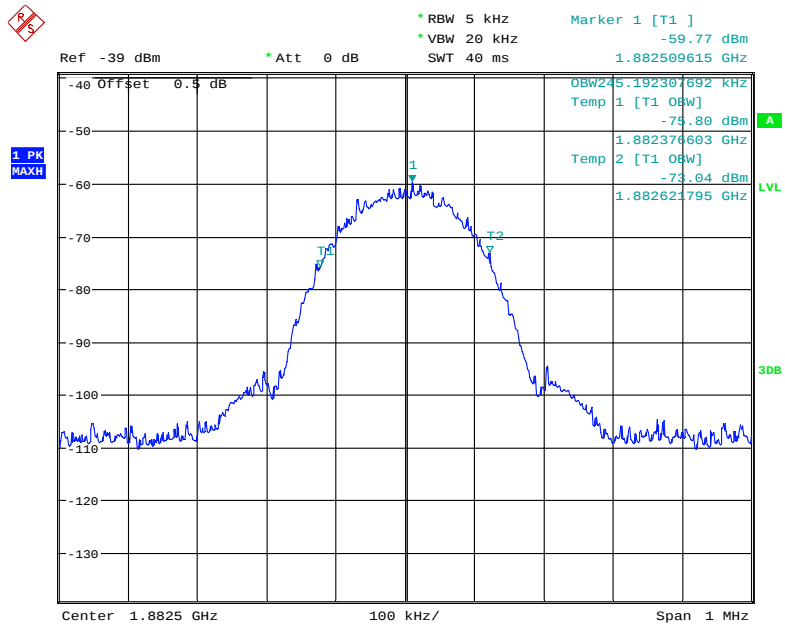
Date: 5.JAN.2019 16:32:19

99% Bandwidth-UL- AWGN-3dB above AGC-Input



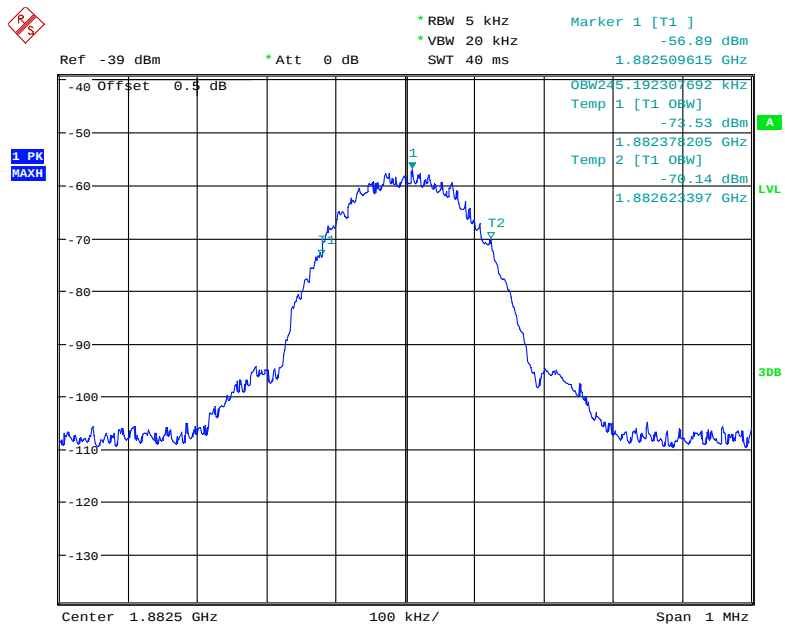
Date: 5.JAN.2019 16:31:12

99% Bandwidth-UL-GSM-Pre AGC-Input



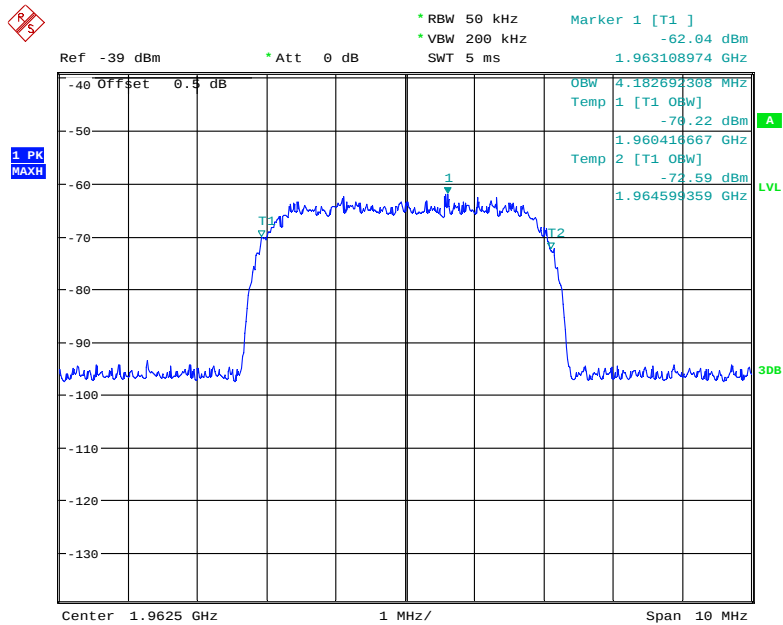
Date: 5.JAN.2019 16:51:01

99% Bandwidth-UL- GSM-3dB above AGC-Input



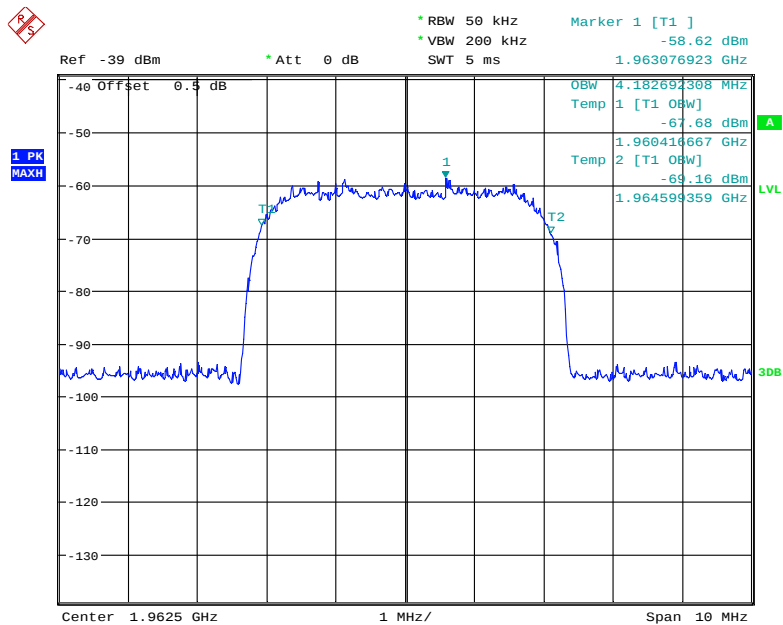
Date: 5.JAN.2019 16:52:22

99% Bandwidth-DL- AWGN- Pre AGC -Input



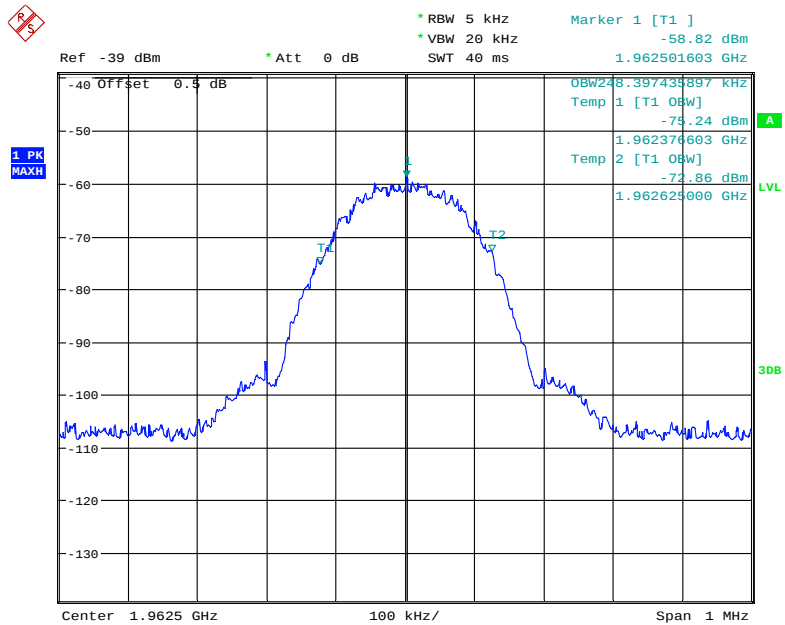
Date: 5.JAN.2019 16:36:03

99% Bandwidth-DL- AWGN- 3dB Above AGC -Input



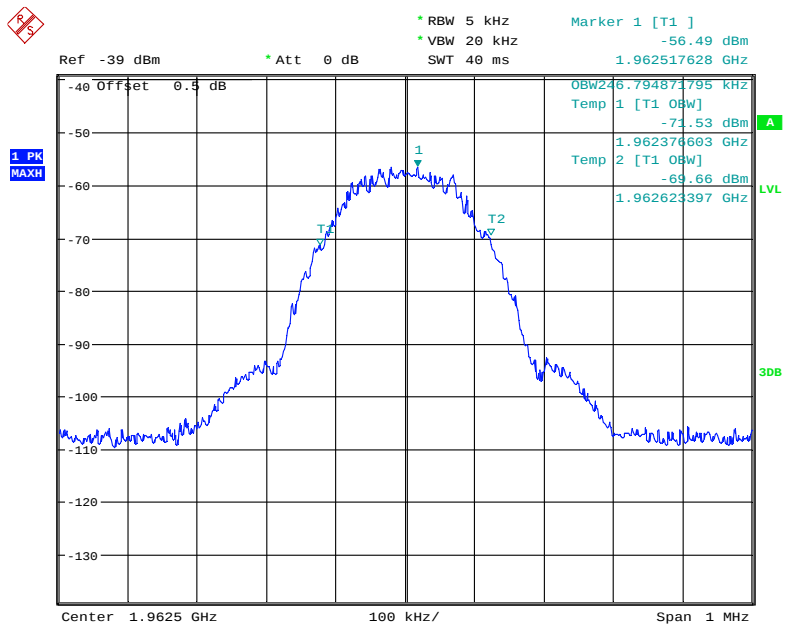
Date: 5.JAN.2019 16:37:19

99% Bandwidth-DL- GSM- Pre AGC -Input



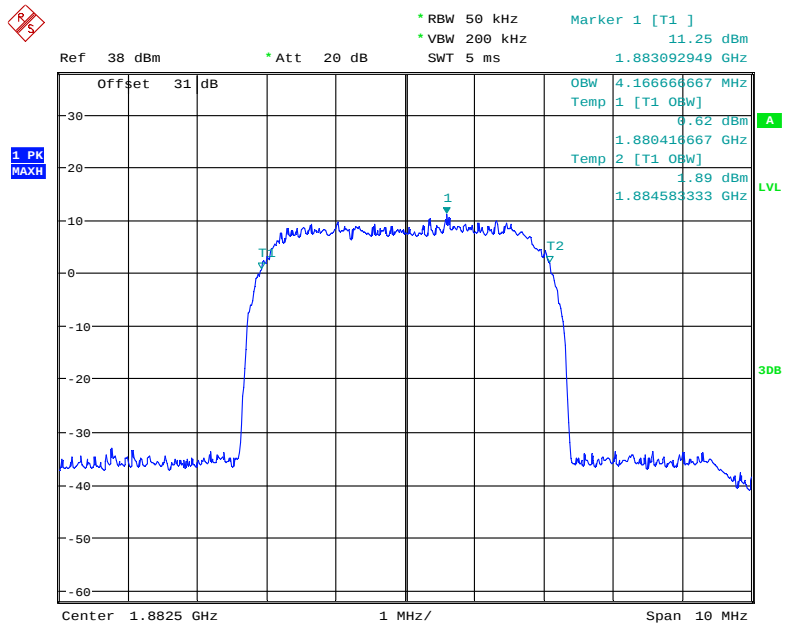
Date: 5.JAN.2019 16:48:05

99% Bandwidth-DL- GSM- 3dB Above AGC -Input



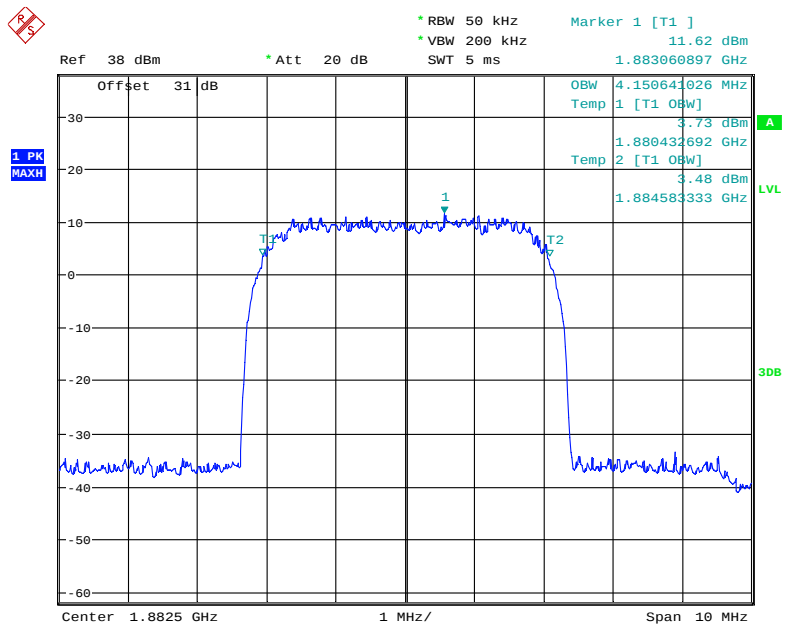
Date: 5.JAN.2019 16:47:03

99% Bandwidth-UL- AWGN- Pre AGC -Output

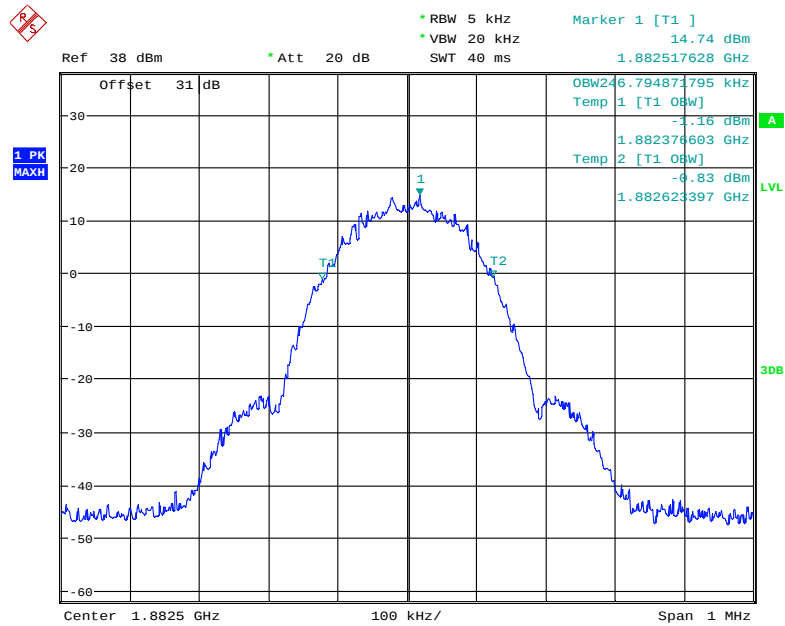


Date: 5.JAN.2019 17:43:48

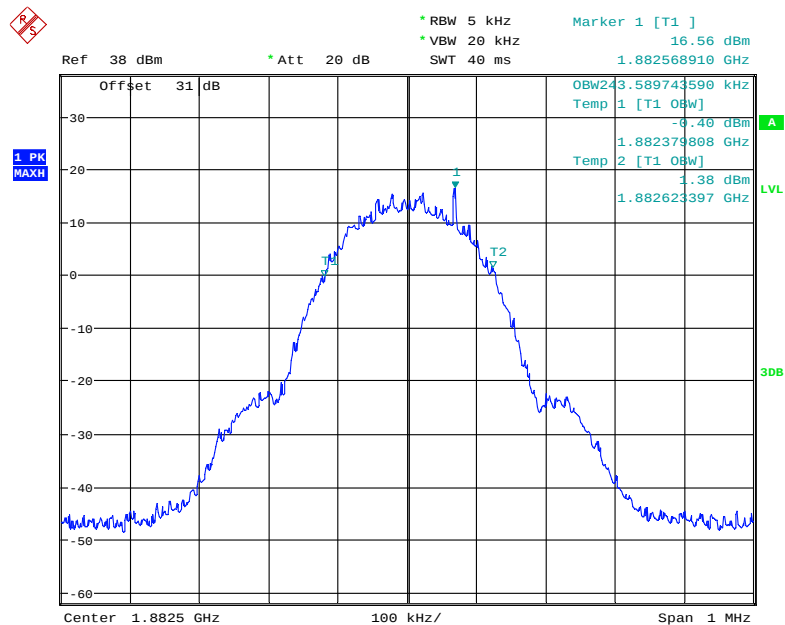
99% Bandwidth-UL- AWGN-3dB above AGC-Output



Date: 5.JAN.2019 17:44:47

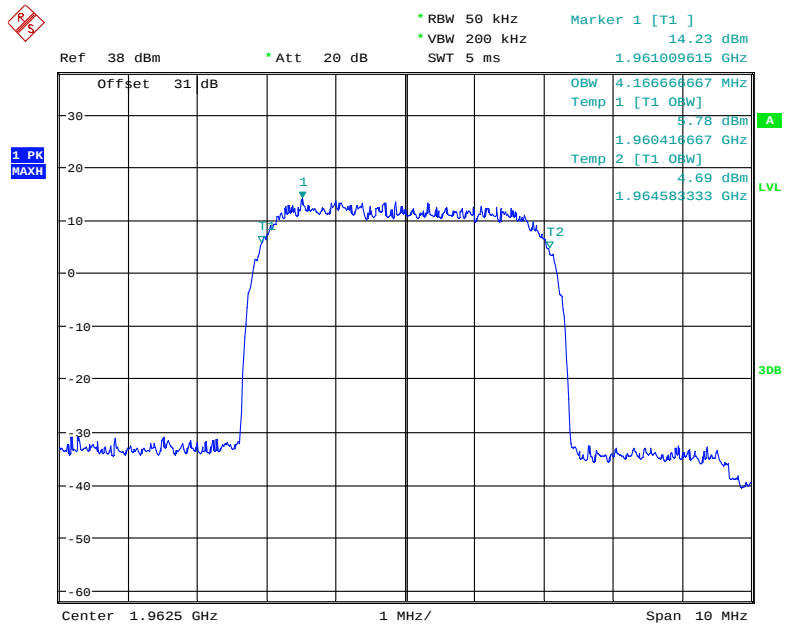
99% Bandwidth-UL- GSM- Pre AGC -Output

Date: 5.JAN.2019 17:16:04

99% Bandwidth-UL- GSM-3dB above AGC-Output

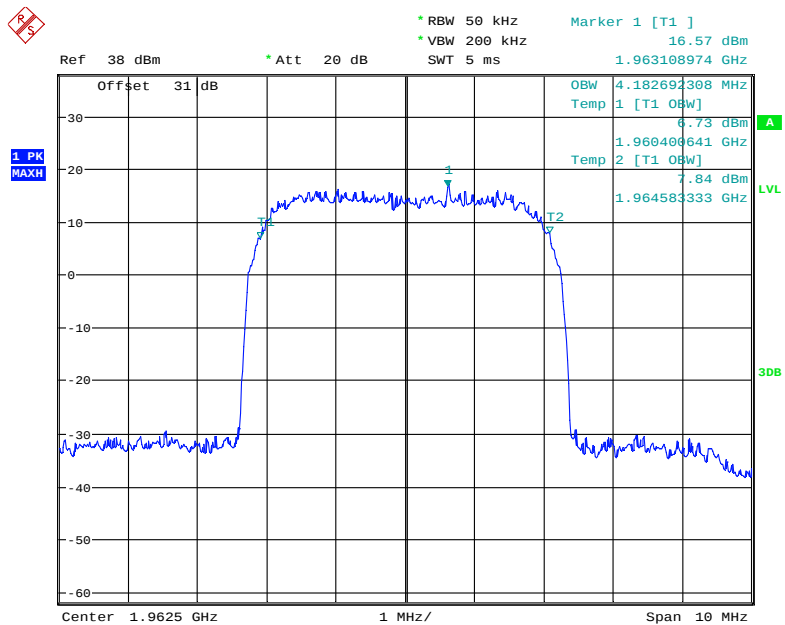
Date: 5.JAN.2019 17:14:32

99% Bandwidth-DL- AWGN- Pre AGC -Output



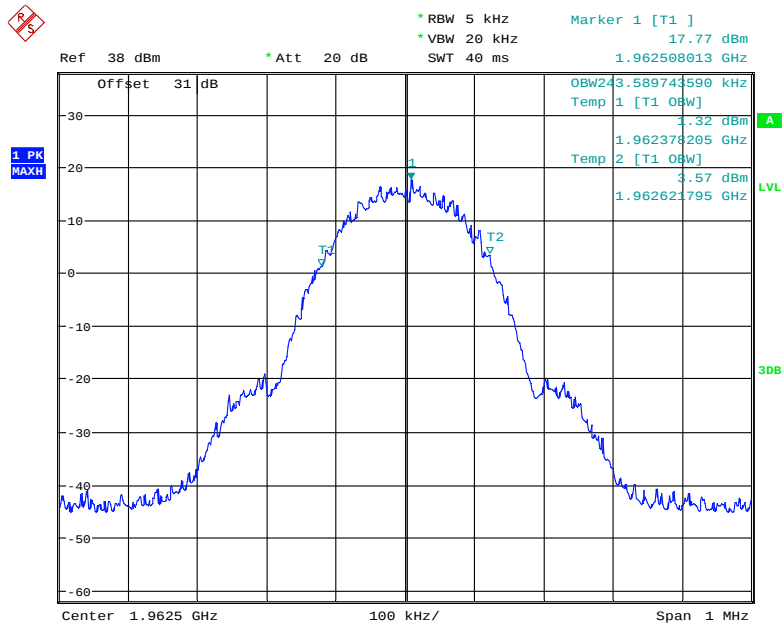
Date: 5.JAN.2019 17:53:57

99% Bandwidth-DL- AWGN- 3dB Above AGC -Output



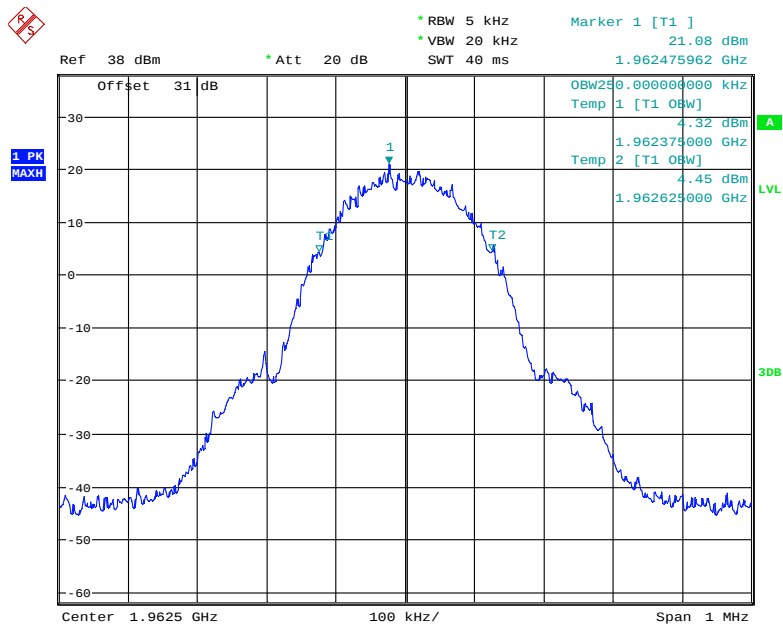
Date: 5.JAN.2019 17:55:14

99% Bandwidth-DL- GSM- Pre AGC -Output



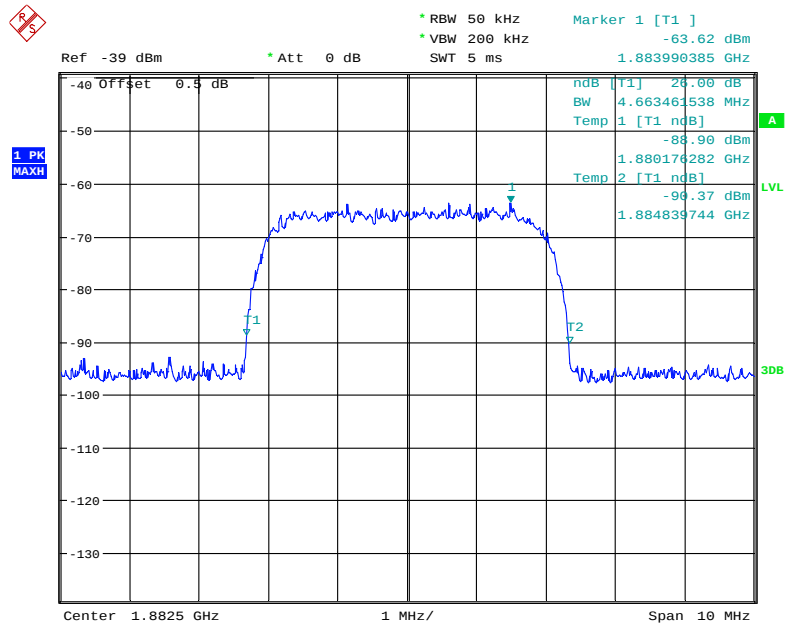
Date: 5.JAN.2019 18:16:30

99% Bandwidth-DL- GSM- 3dB Above AGC -Output



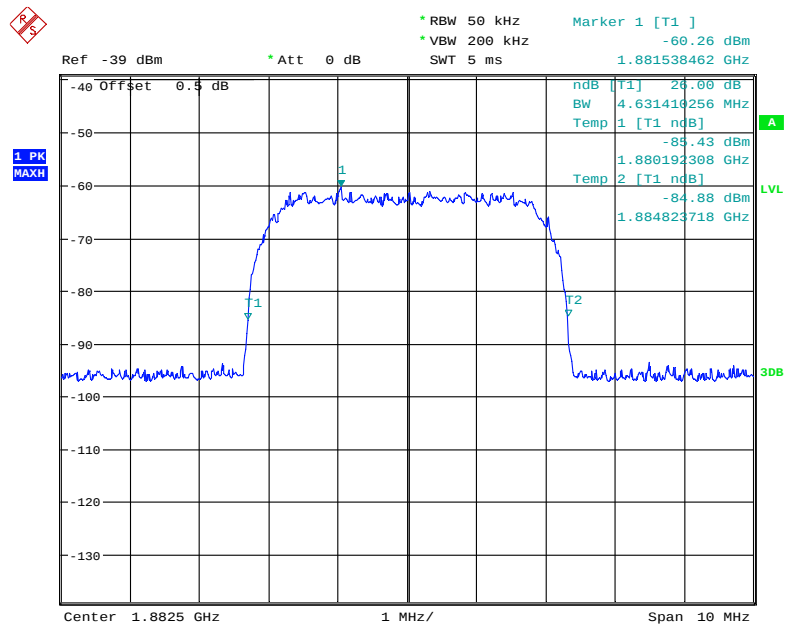
Date: 5.JAN.2019 18:15:13

26 dB Bandwidth-UL-AWGN-Pre AGC-Input



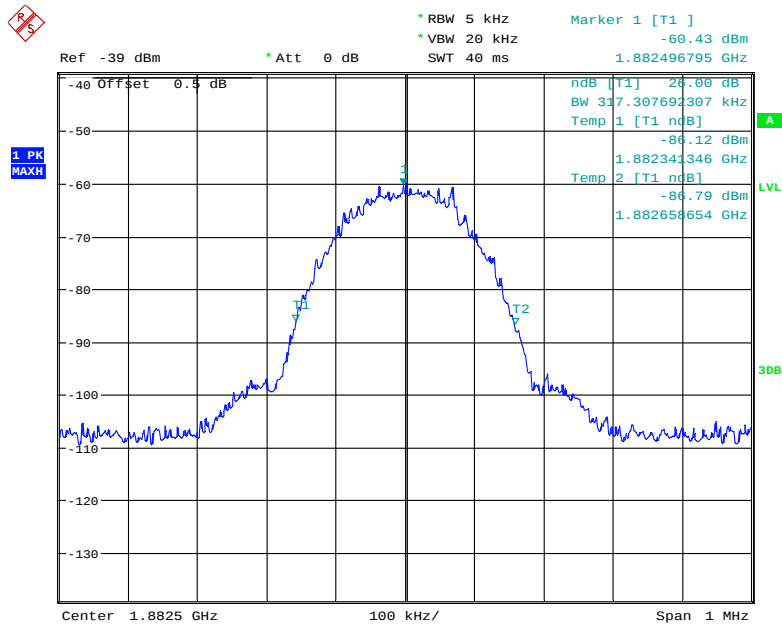
Date: 5.JAN.2019 16:18:54

26 dB Bandwidth-UL- AWGN-3dB above AGC-Input



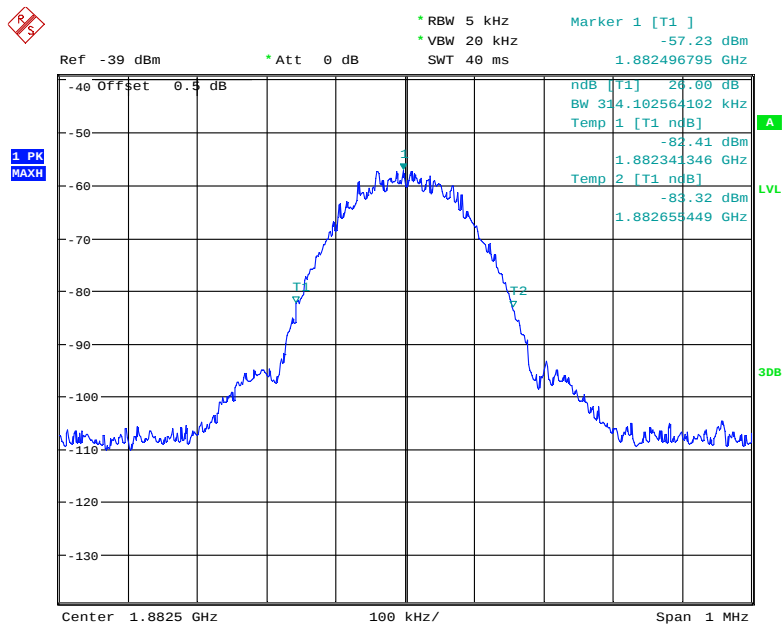
Date: 5.JAN.2019 16:20:35

26 dB Bandwidth-UL-GSM-Pre AGC-Input



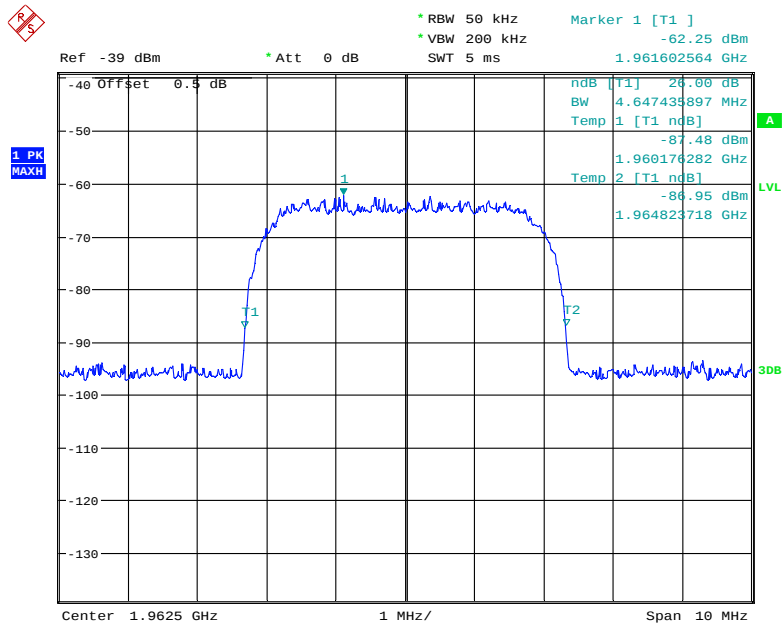
Date: 5.JAN.2019 15:45:18

26 dB Bandwidth-UL- GSM-3dB above AGC-Input



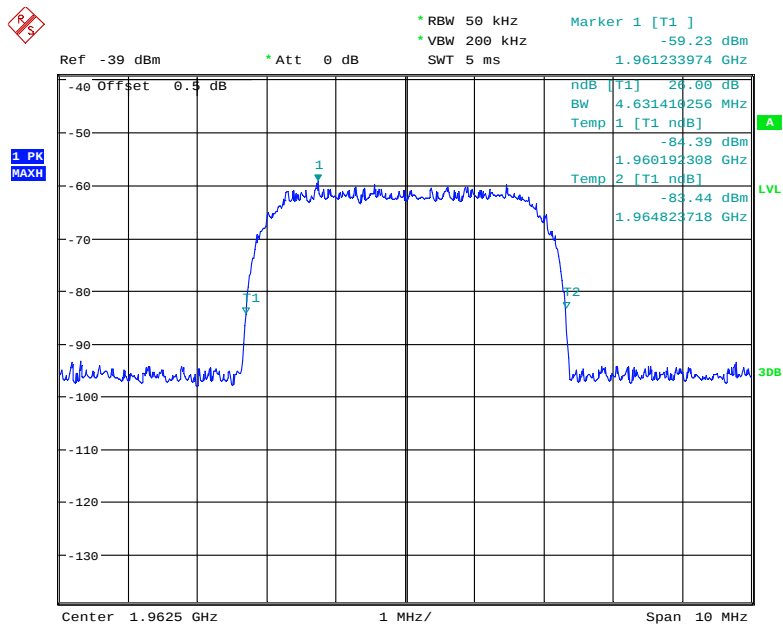
Date: 5.JAN.2019 15:52:06

26 dB Bandwidth-DL- AWGN- Pre AGC -Input



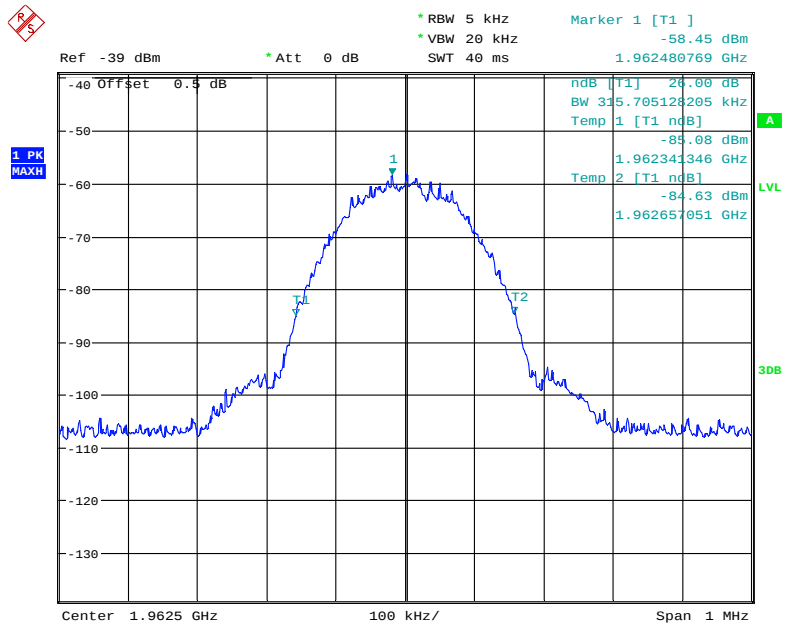
Date: 5.JAN.2019 16:08:35

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Input



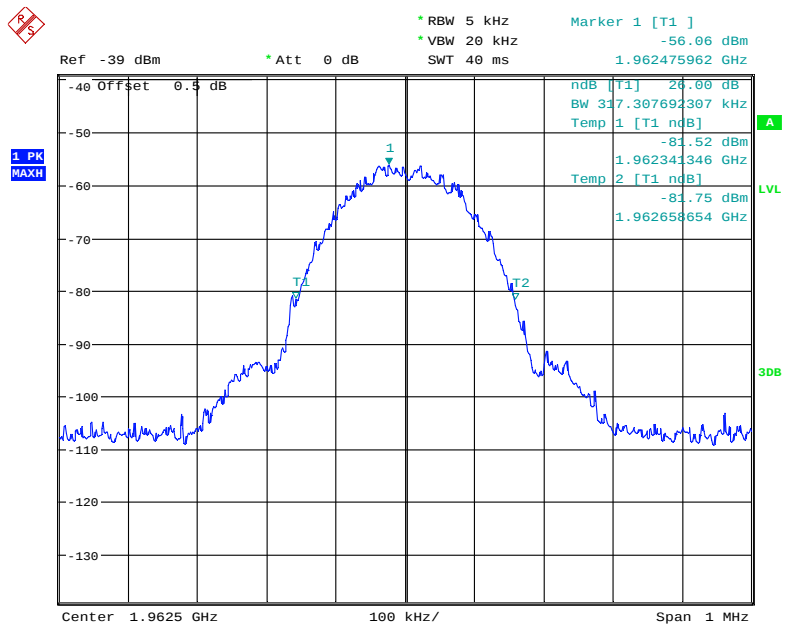
Date: 5.JAN.2019 16:13:21

26 dB Bandwidth-DL- GSM- Pre AGC -Input



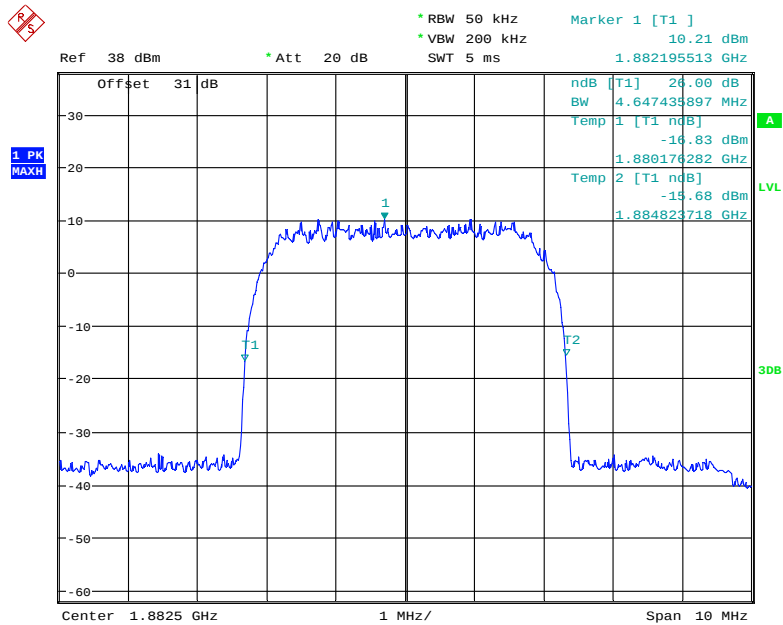
Date: 5.JAN.2019 15:58:42

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Input



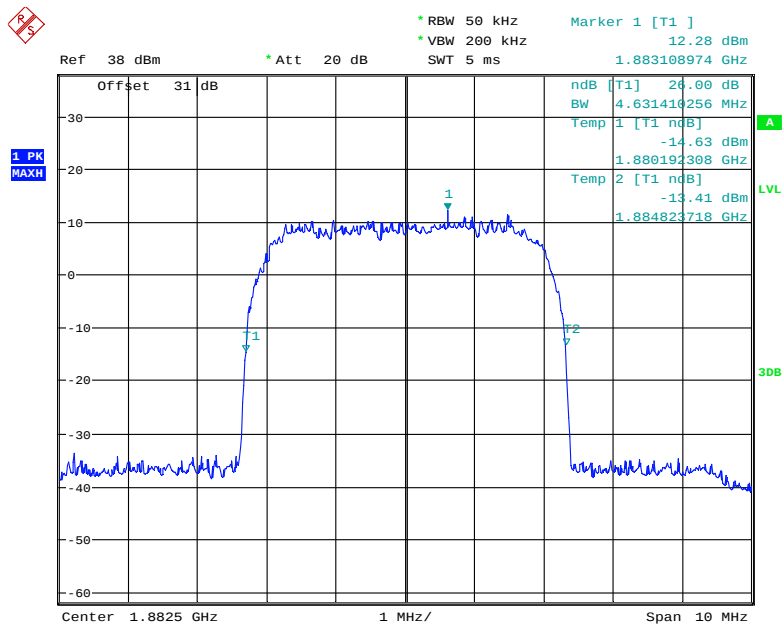
Date: 5.JAN.2019 15:57:06

26 dB Bandwidth-UL- AWGN- Pre AGC -Output



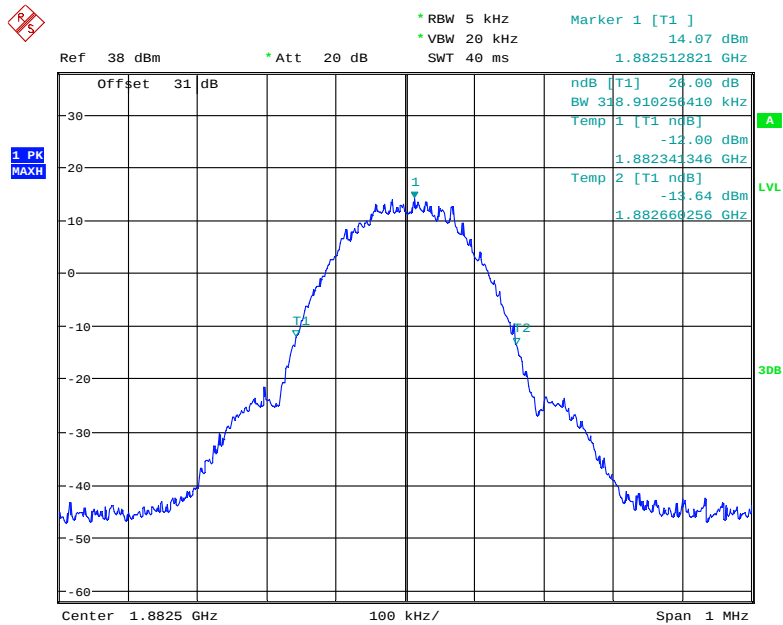
Date: 5.JAN.2019 17:35:32

26 dB Bandwidth-UL- AWGN-3dB above AGC-Output



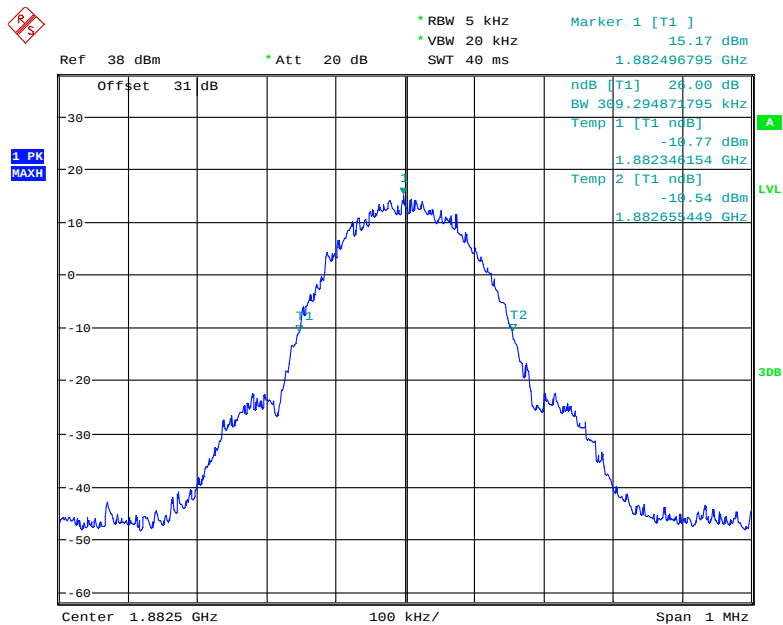
Date: 5.JAN.2019 17:34:19

26 dB Bandwidth-UL- GSM- Pre AGC -Output



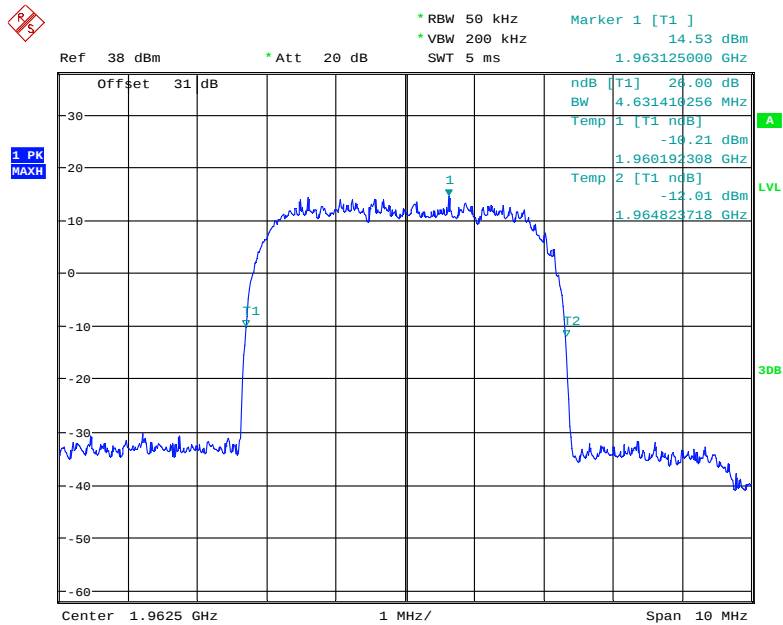
Date: 5.JAN.2019 17:26:58

26 dB Bandwidth-UL- GSM-3dB above AGC-Output



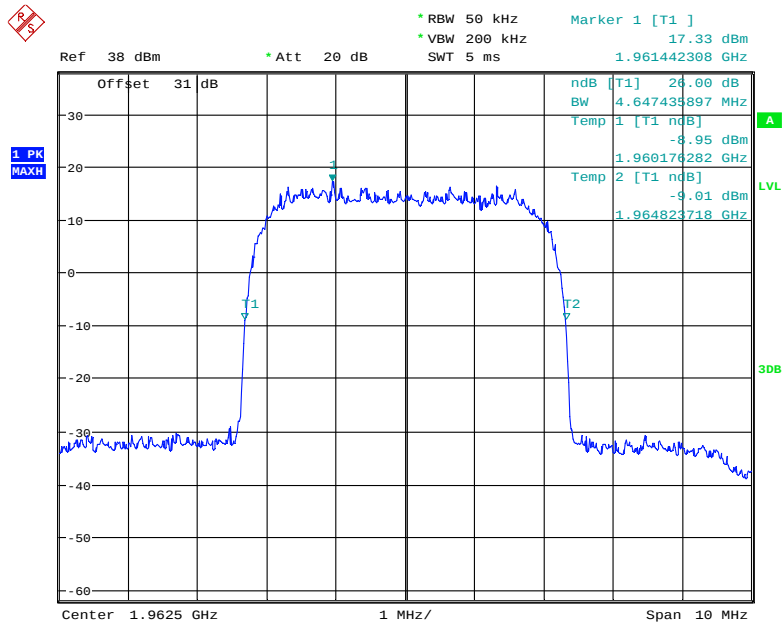
Date: 5.JAN.2019 17:28:45

26 dB Bandwidth-DL- AWGN- Pre AGC -Output



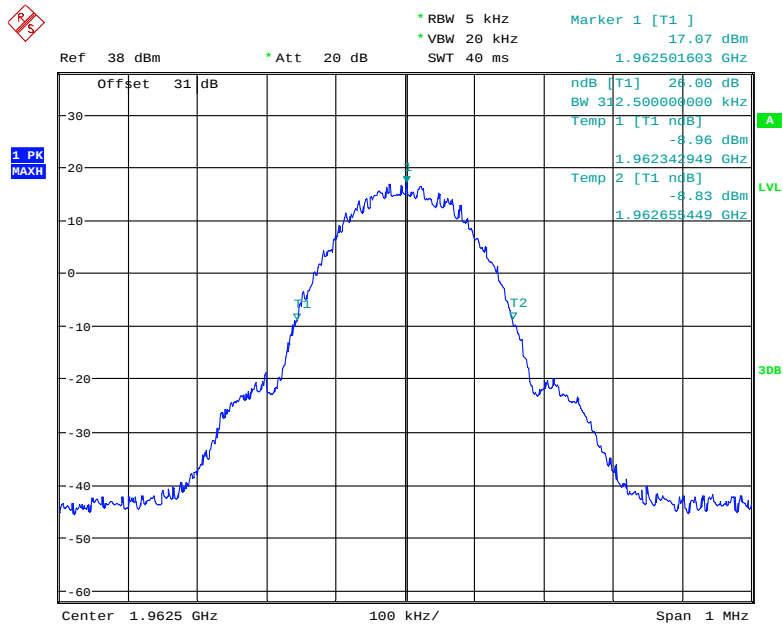
Date: 5.JAN.2019 17:59:53

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Output



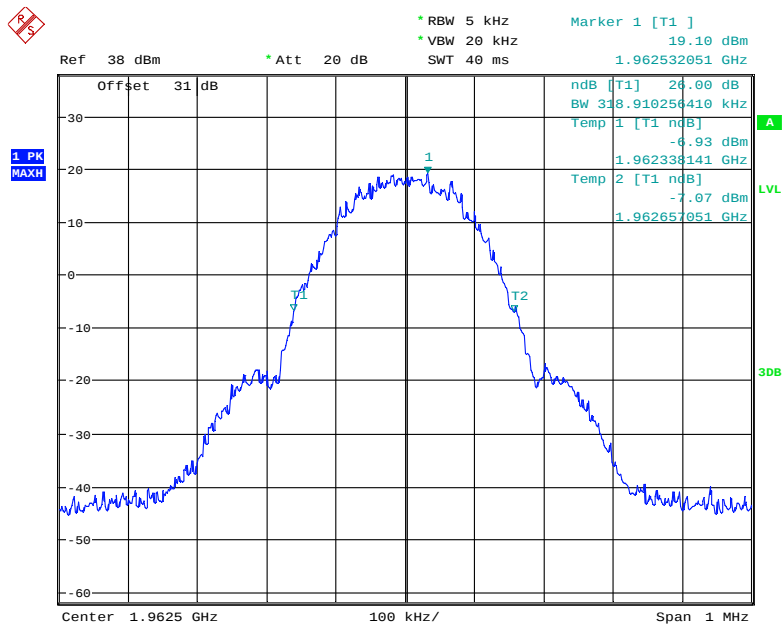
Date: 5.JAN.2019 17:58:55

26 dB Bandwidth-DL- GSM- Pre AGC -Output



Date: 5.JAN.2019 18:07:44

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Output

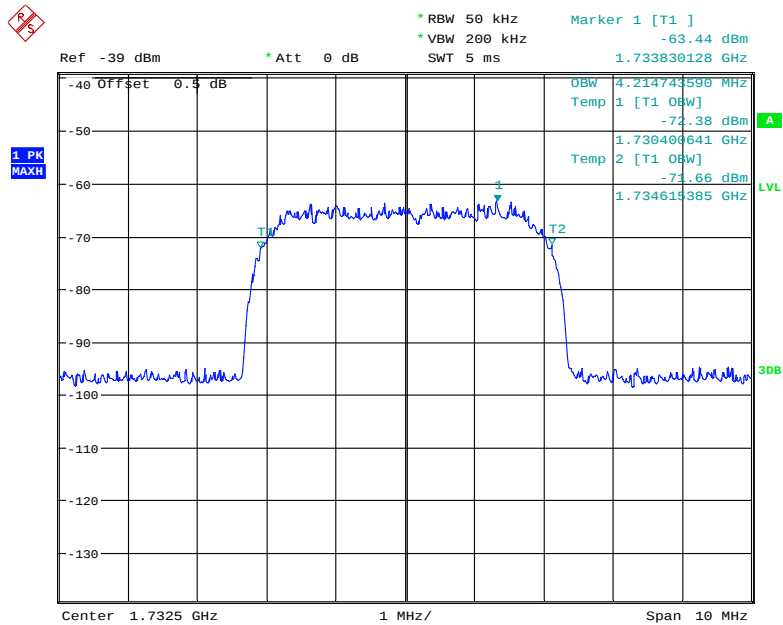


Date: 5.JAN.2019 18:08:44

AWS Band

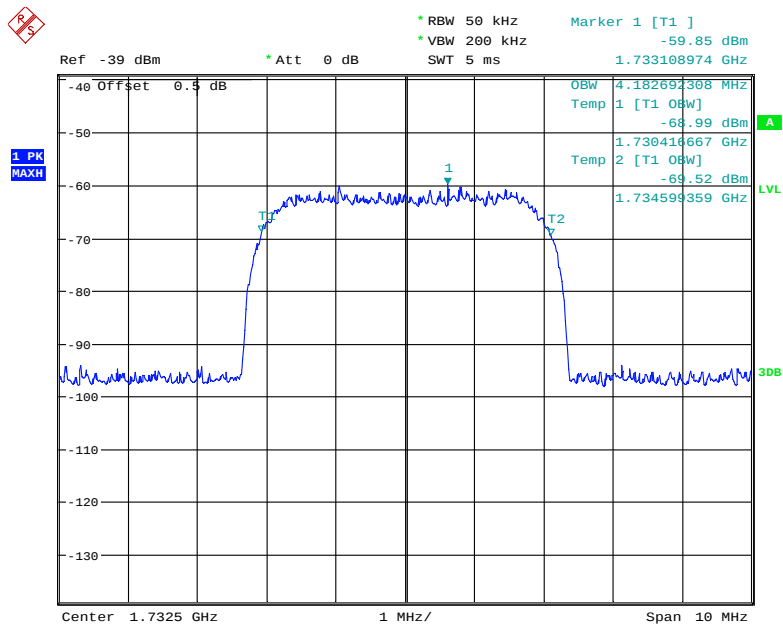
Mode	Signal Type	Signal Level	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)	
				Input	Output	Input	Output
Uplink	AWGN	Pre-AGC	1732.5	4.21	4.15	4.63	4.63
		3dB above AGC	1732.5	4.18	4.18	4.63	4.63
	GSM	Pre-AGC	1732.5	0.25	0.24	0.31	0.32
		3dB above AGC	1732.5	0.25	0.24	0.32	0.31
Downlink	AWGN	Pre-AGC	2132.5	4.21	4.15	4.65	4.65
		3dB above AGC	2132.5	4.17	4.13	4.65	4.65
	GSM	Pre-AGC	2132.5	0.25	0.25	0.32	0.31
		3dB above AGC	2132.5	0.25	0.25	0.32	0.31

99% Bandwidth-UL-AWGN-Pre AGC-Input



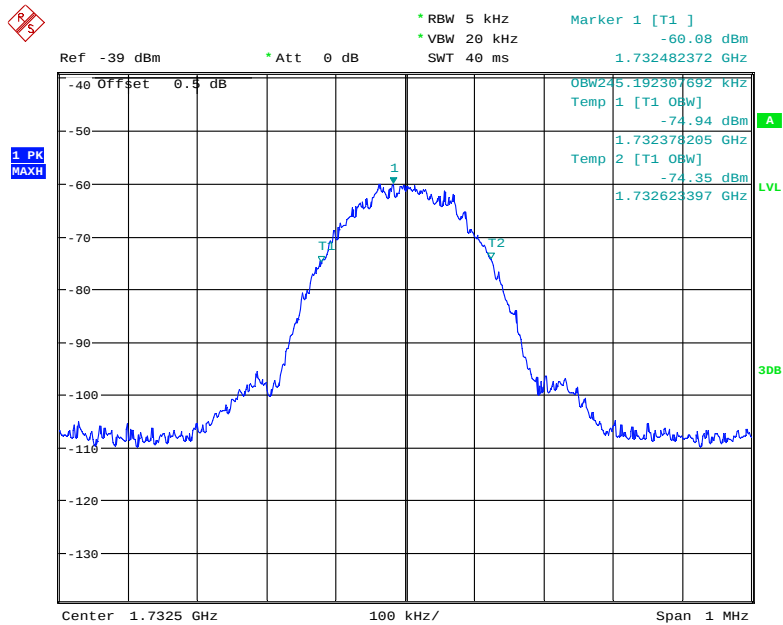
Date: 5.JAN.2019 16:32:00

99% Bandwidth-UL- AWGN-3dB above AGC-Input



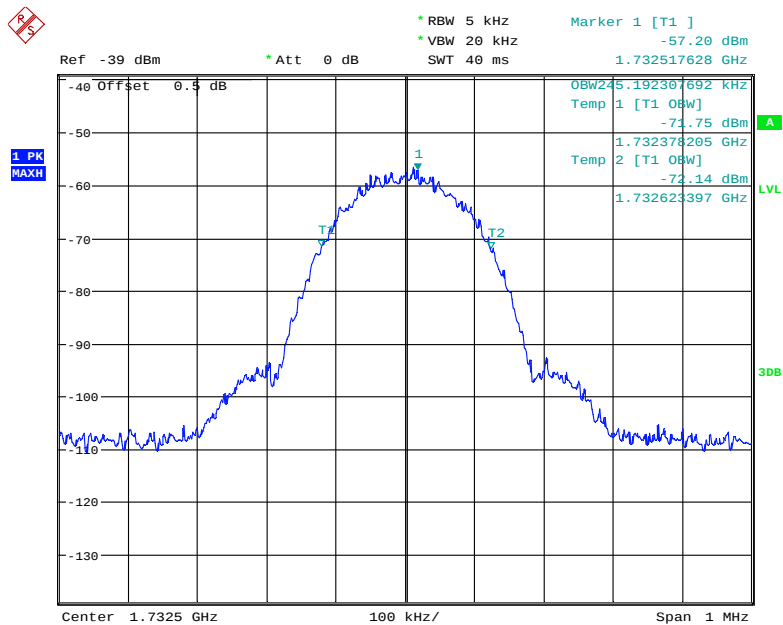
Date: 5.JAN.2019 16:31:34

99% Bandwidth-UL-GSM-Pre AGC-Input



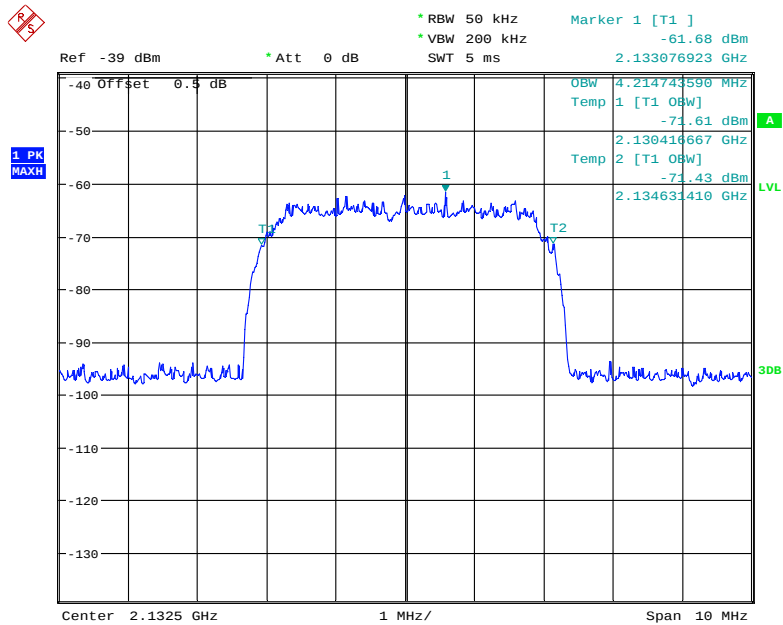
Date: 5.JAN.2019 16:51:21

99% Bandwidth-UL- GSM-3dB above AGC-Input



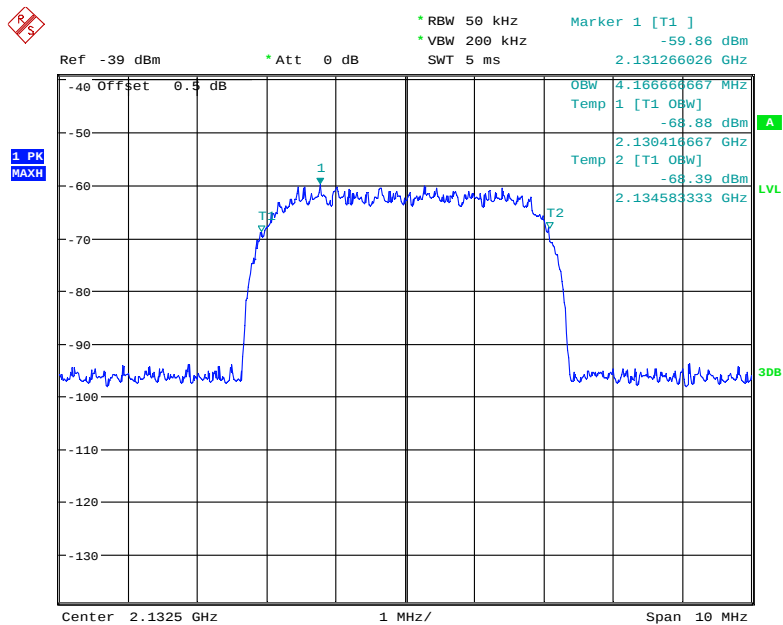
Date: 5.JAN.2019 16:51:49

99% Bandwidth-DL- AWGN- Pre AGC -Input

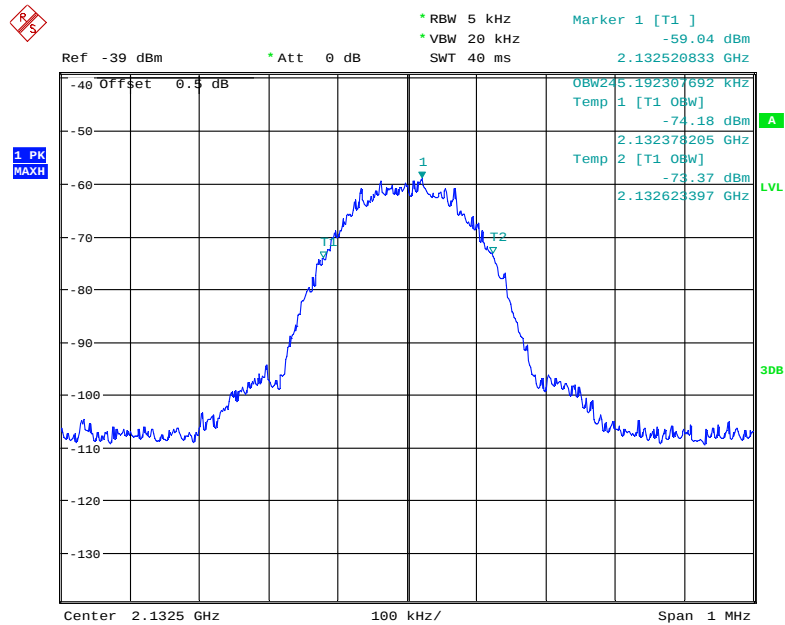


Date: 5.JAN.2019 16:36:22

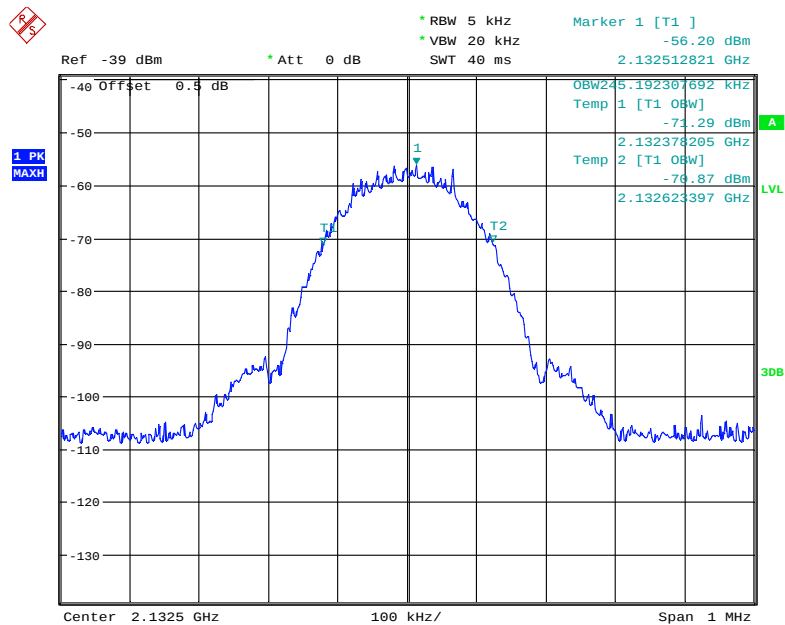
99% Bandwidth-DL- AWGN- 3dB Above AGC -Input



Date: 5.JAN.2019 16:36:54

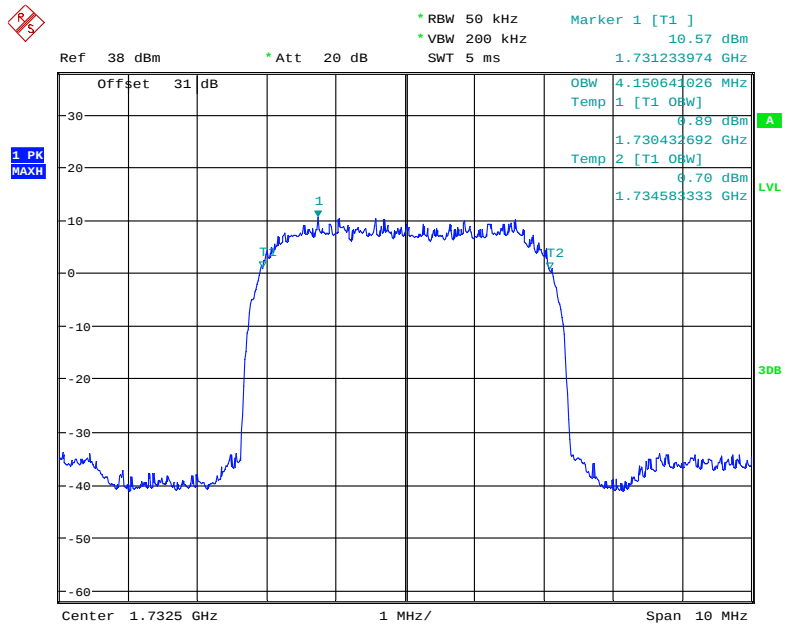
99% Bandwidth-DL- GSM- Pre AGC -Input

Date: 5.JAN.2019 16:47:43

99% Bandwidth-DL- GSM- 3dB Above AGC -Input

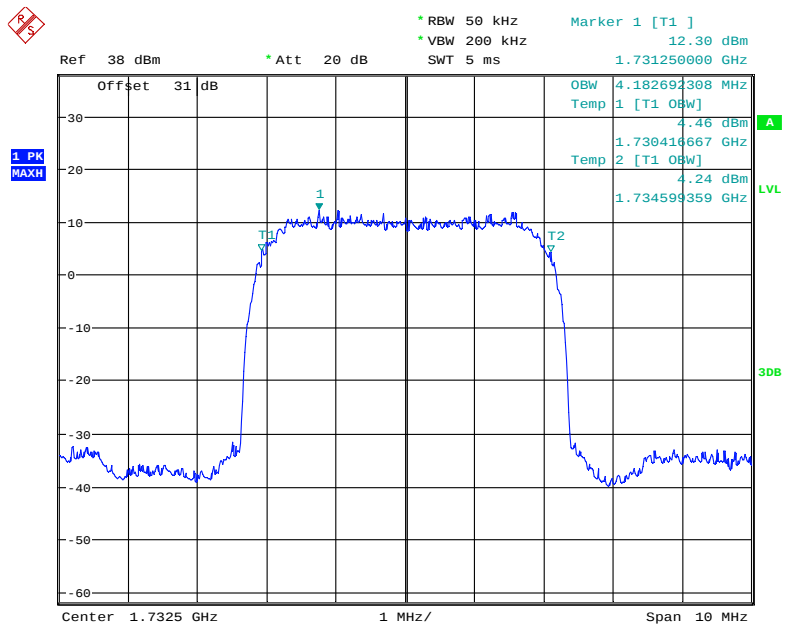
Date: 5.JAN.2019 16:47:22

99% Bandwidth-UL- AWGN- Pre AGC -Output



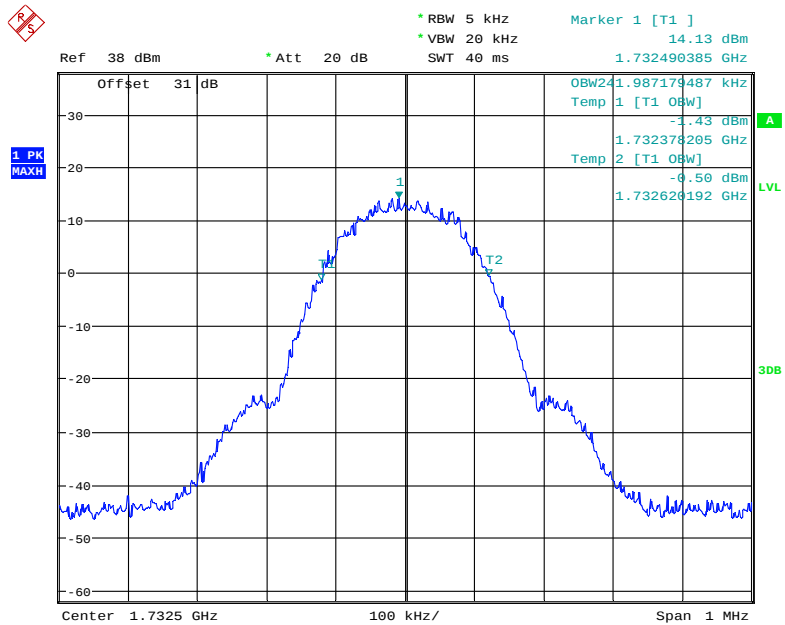
Date: 5.JAN.2019 17:44:06

99% Bandwidth-UL- AWGN-3dB above AGC-Output



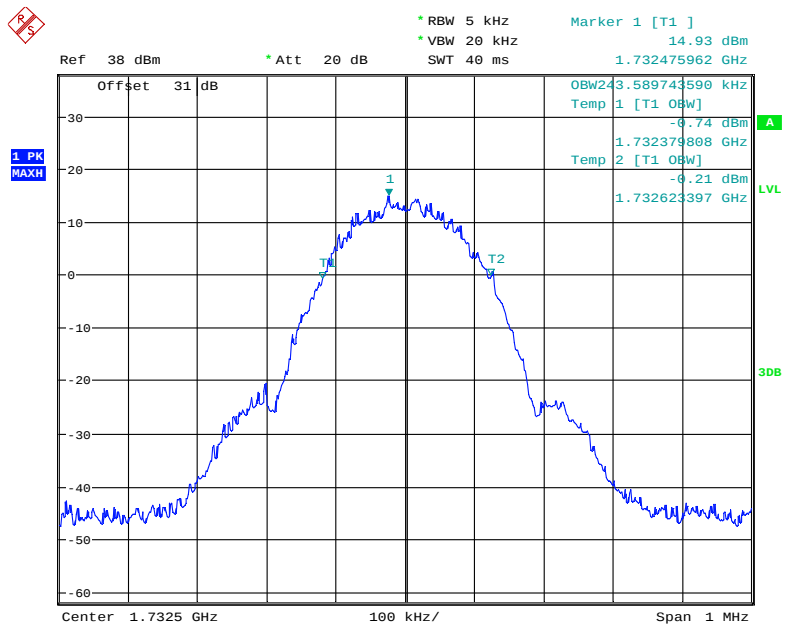
Date: 5.JAN.2019 17:44:27

99% Bandwidth-UL- GSM- Pre AGC -Output



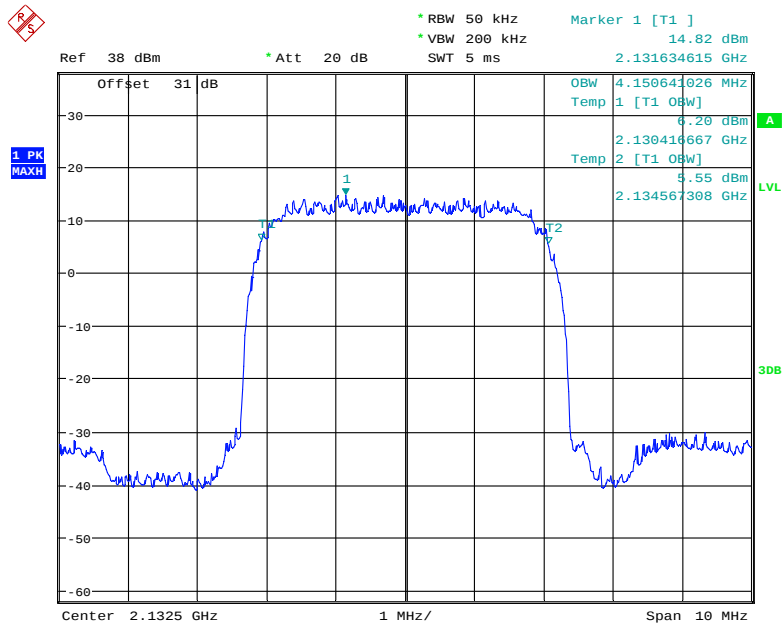
Date: 5.JAN.2019 17:15:35

99% Bandwidth-UL- GSM-3dB above AGC-Output



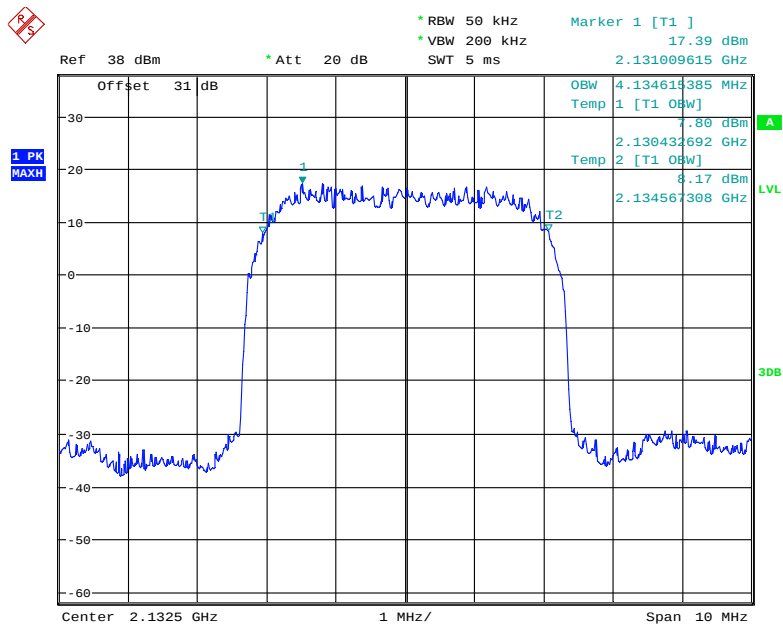
Date: 5.JAN.2019 17:14:54

99% Bandwidth-DL- AWGN- Pre AGC -Output



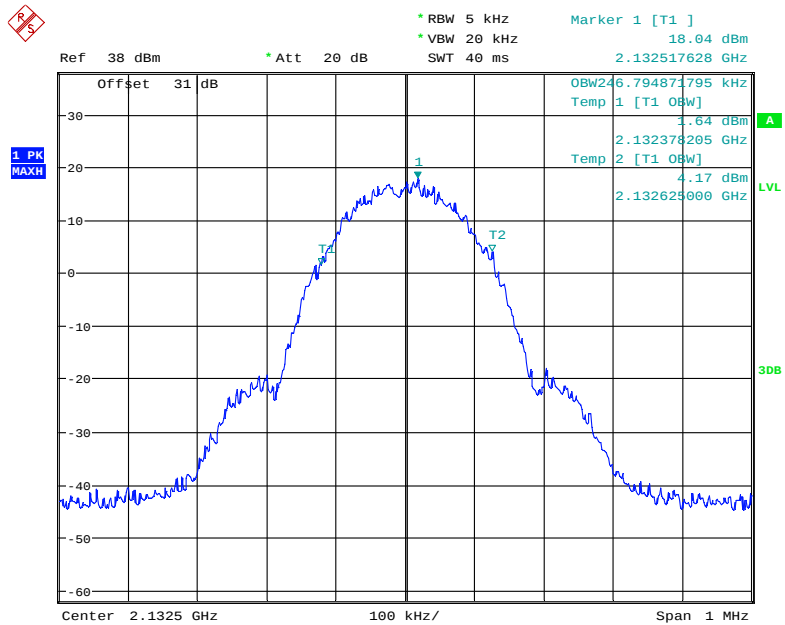
Date: 5.JAN.2019 17:54:18

99% Bandwidth-DL- AWGN- 3dB Above AGC -Output



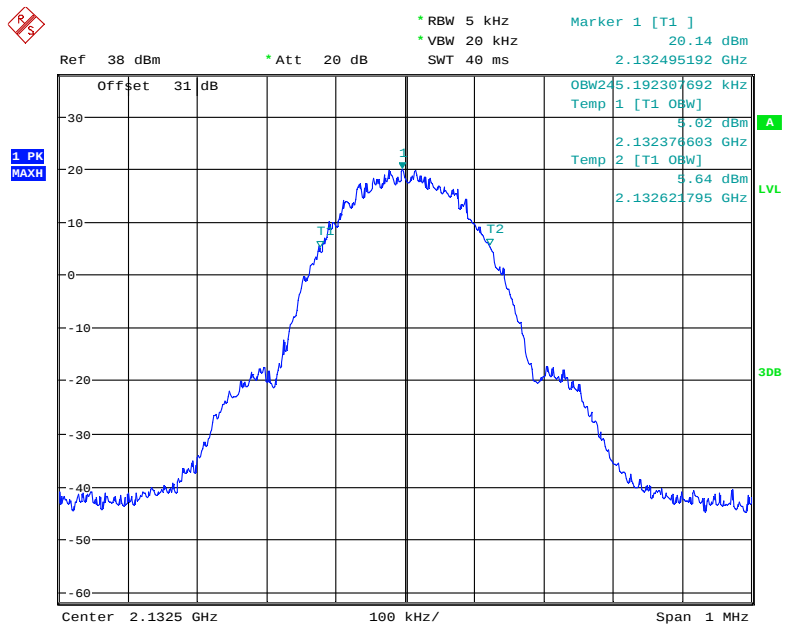
Date: 5.JAN.2019 17:54:55

99% Bandwidth-DL- GSM- Pre AGC -Output



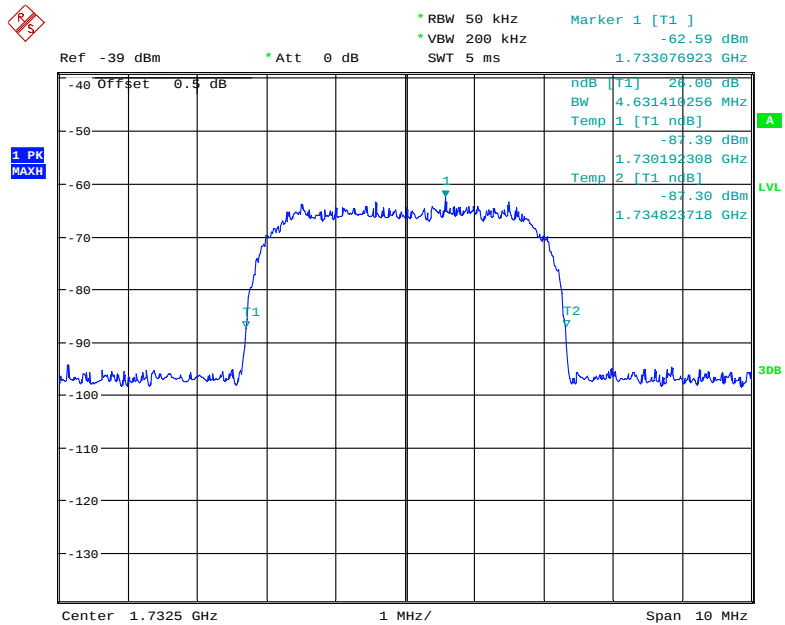
Date: 5.JAN.2019 18:16:01

99% Bandwidth-DL- GSM- 3dB Above AGC -Output



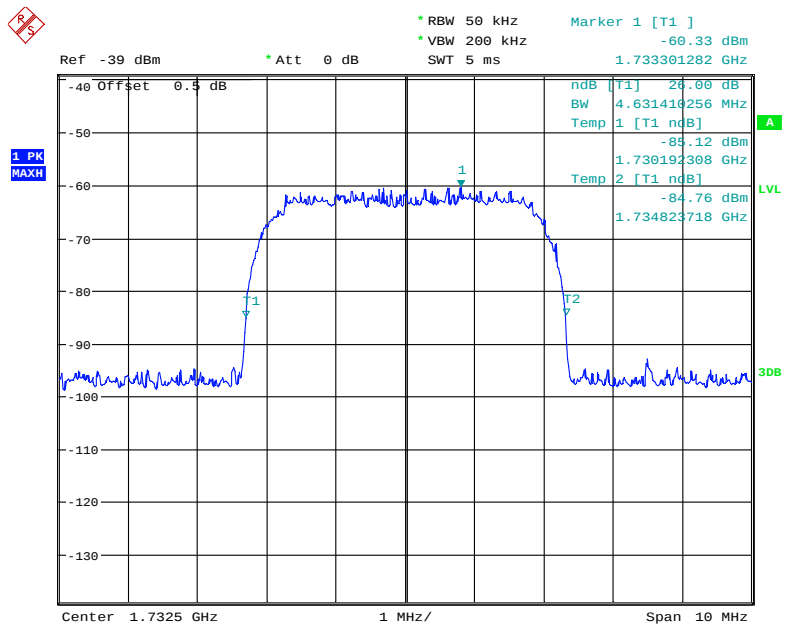
Date: 5.JAN.2019 18:15:34

26 dB Bandwidth-UL-AWGN-Pre AGC-Input



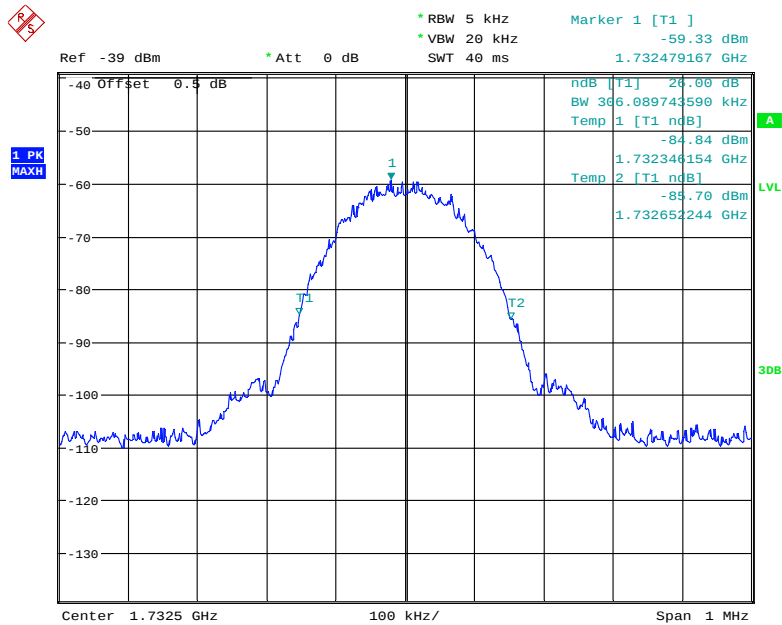
Date: 5.JAN.2019 16:19:11

26 dB Bandwidth-UL- AWGN-3dB above AGC-Input



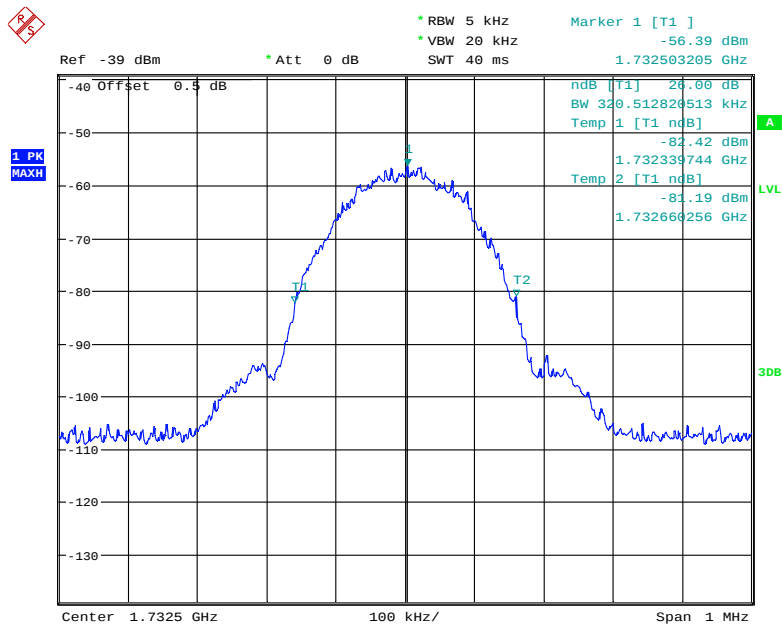
Date: 5.JAN.2019 16:20:10

26 dB Bandwidth-UL-GSM-Pre AGC-Input



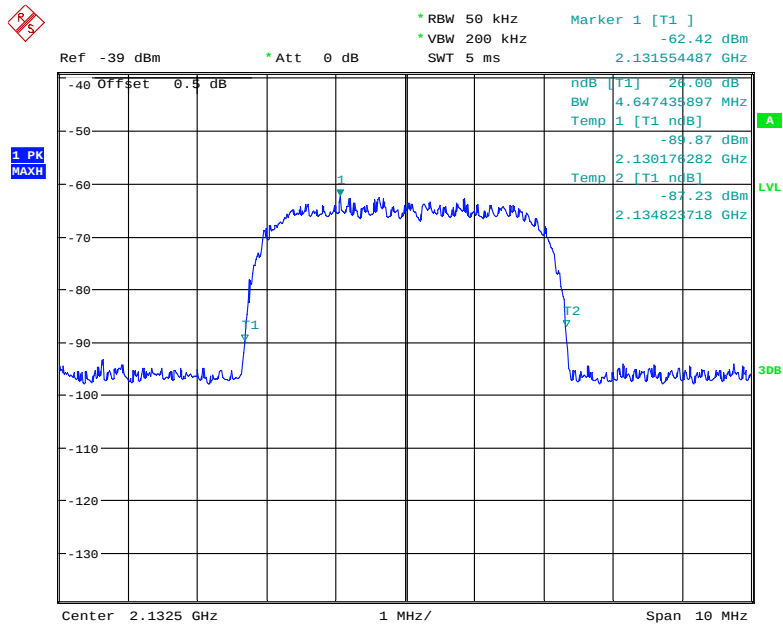
Date: 5.JAN.2019 15:45:40

26 dB Bandwidth-UL- GSM-3dB above AGC-Input



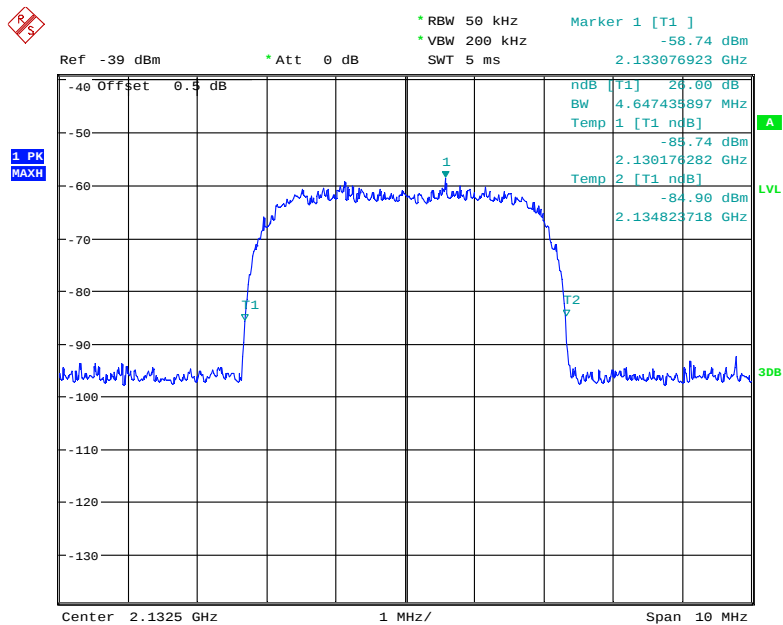
Date: 5.JAN.2019 15:51:22

26 dB Bandwidth-DL- AWGN- Pre AGC -Input



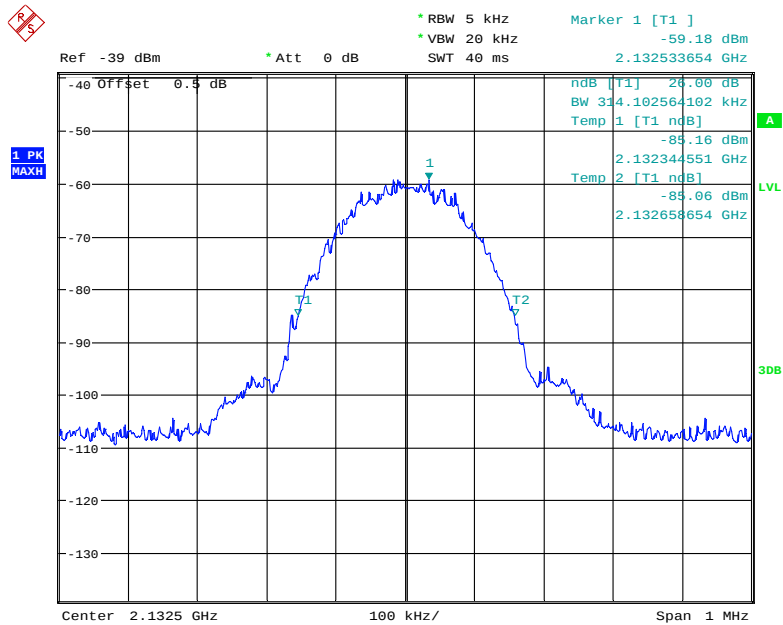
Date: 5.JAN.2019 16:09:03

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Input



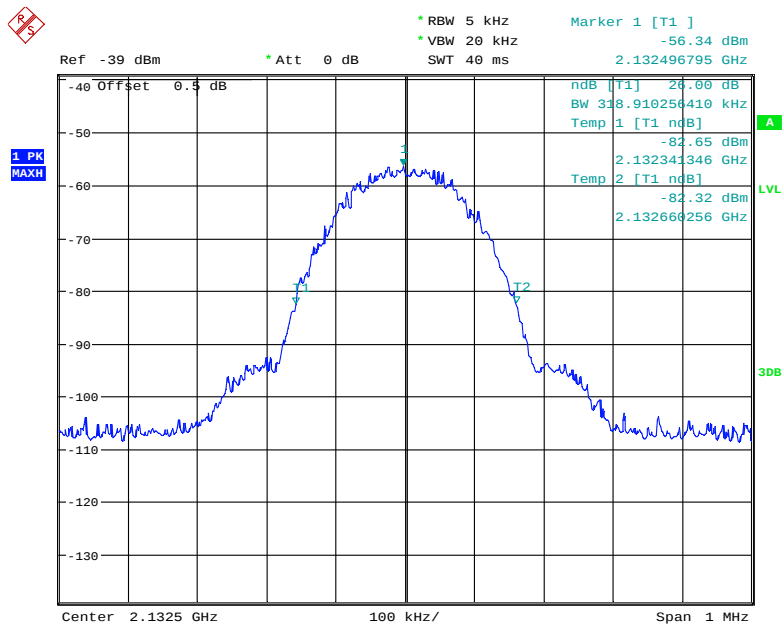
Date: 5.JAN.2019 16:09:36

26 dB Bandwidth-DL- GSM- Pre AGC -Input



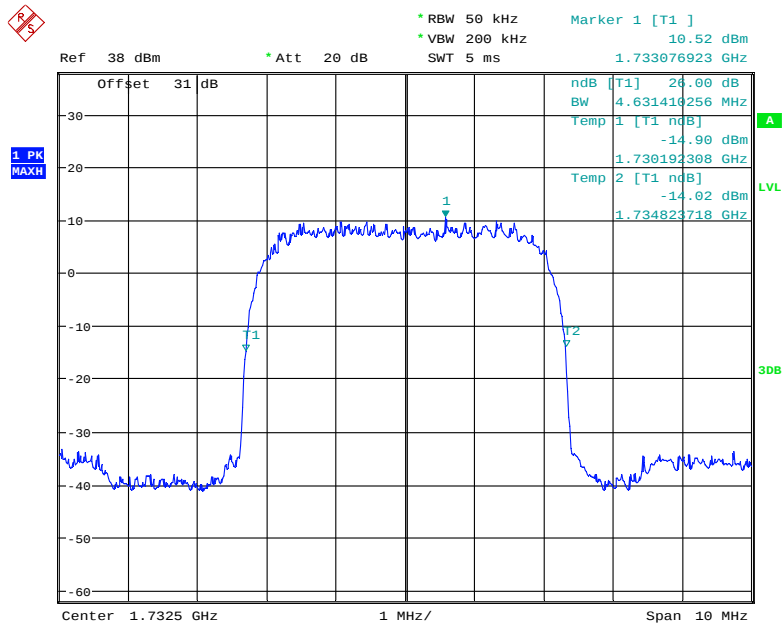
Date: 5.JAN.2019 15:57:53

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Input



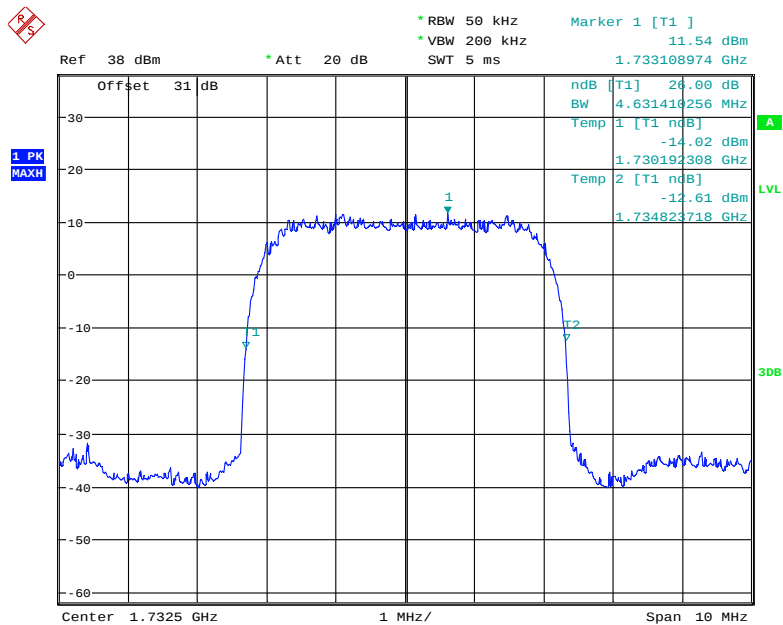
Date: 5.JAN.2019 15:57:32

26 dB Bandwidth-UL- AWGN- Pre AGC -Output



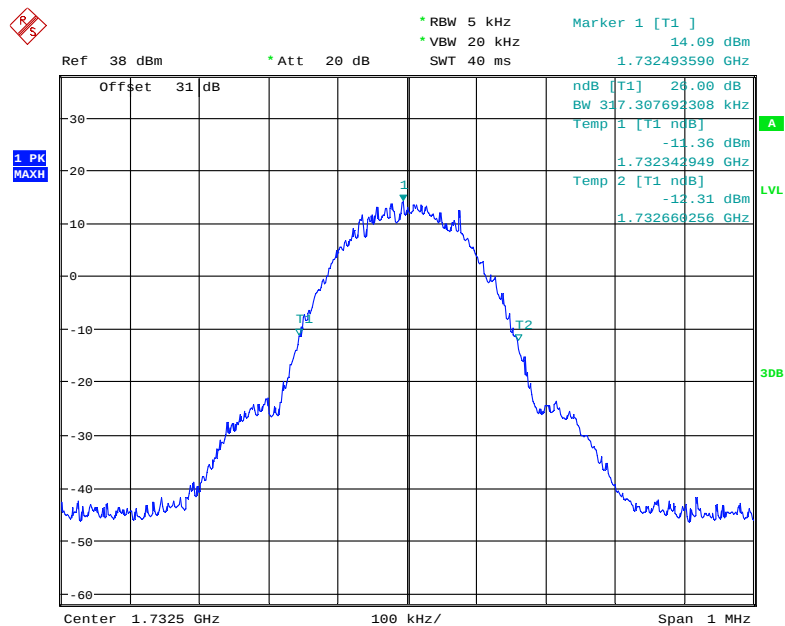
Date: 5.JAN.2019 17:35:02

26 dB Bandwidth-UL- AWGN-3dB above AGC-Output



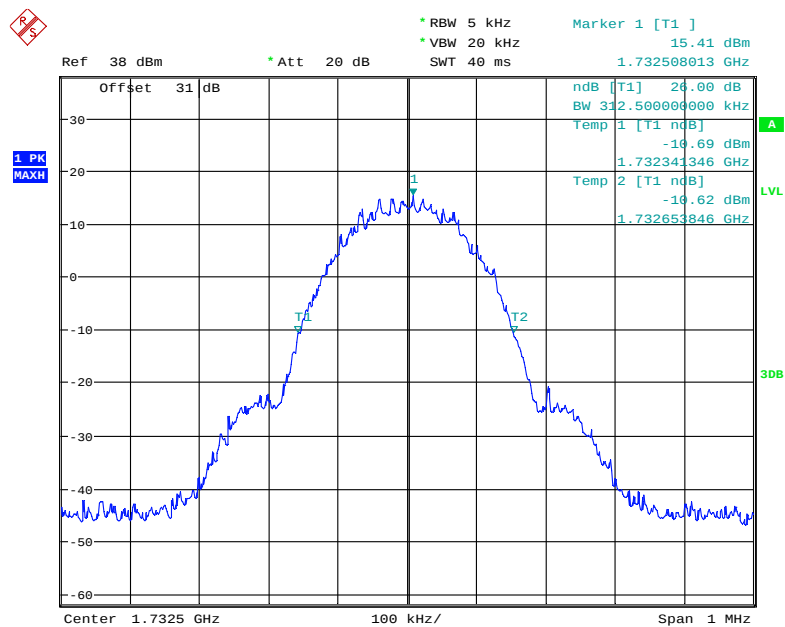
Date: 5.JAN.2019 17:34:42

26 dB Bandwidth-UL- GSM- Pre AGC -Output



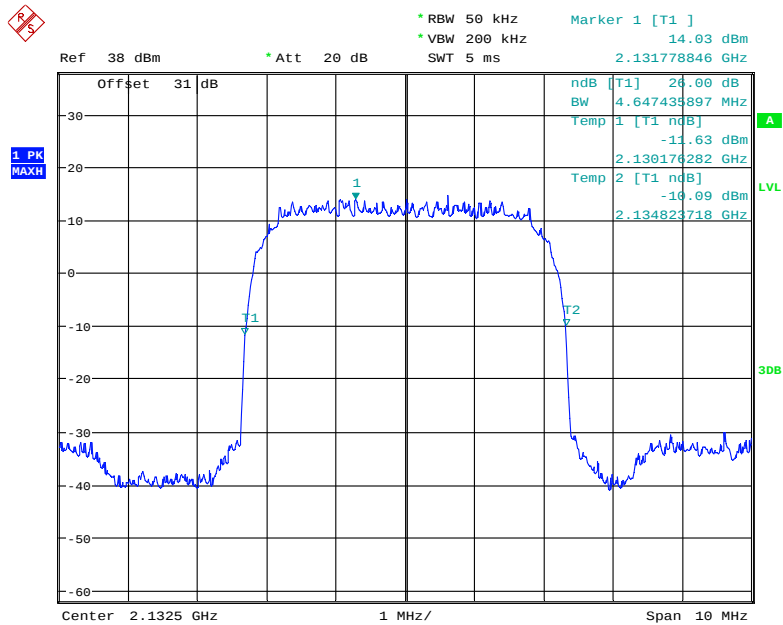
Date: 5.JAN.2019 17:27:16

26 dB Bandwidth-UL- GSM-3dB above AGC-Output



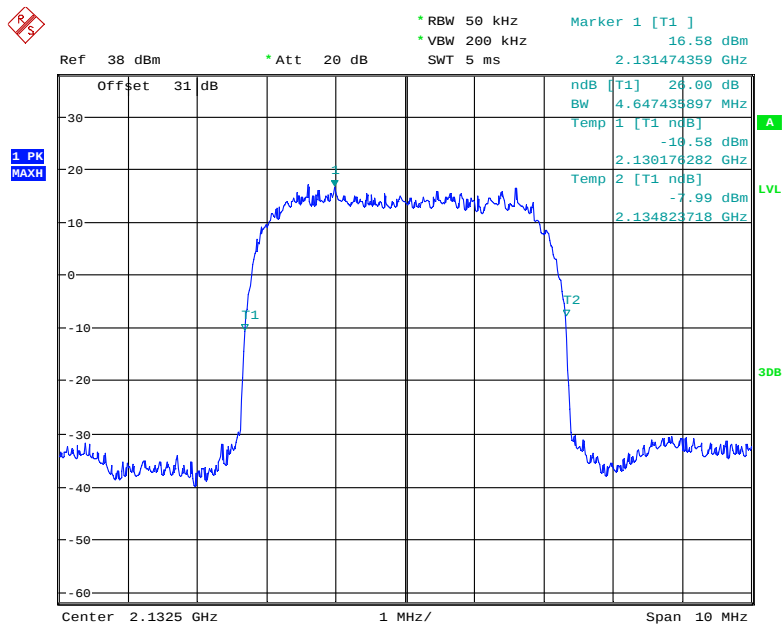
Date: 5.JAN.2019 17:28:15

26 dB Bandwidth-DL- AWGN- Pre AGC -Output



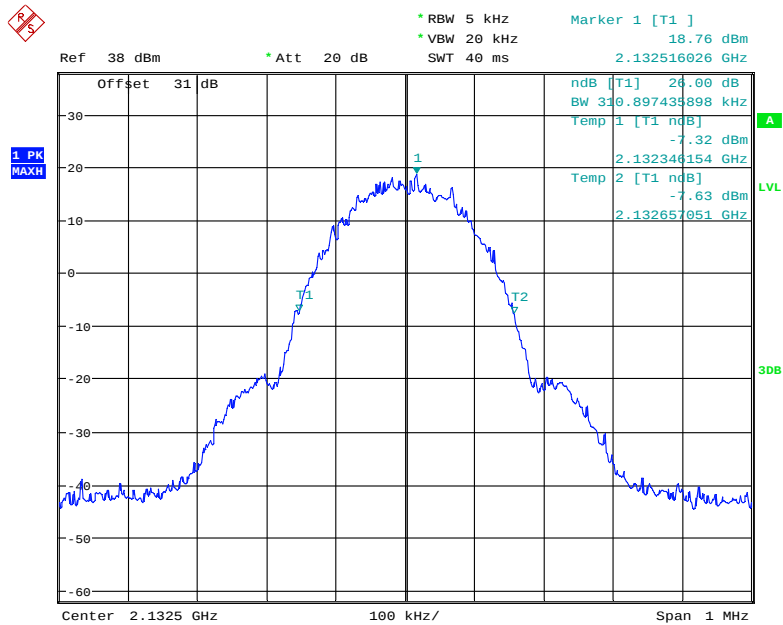
Date: 5.JAN.2019 17:59:36

26 dB Bandwidth-DL- AWGN- 3dB Above AGC -Output



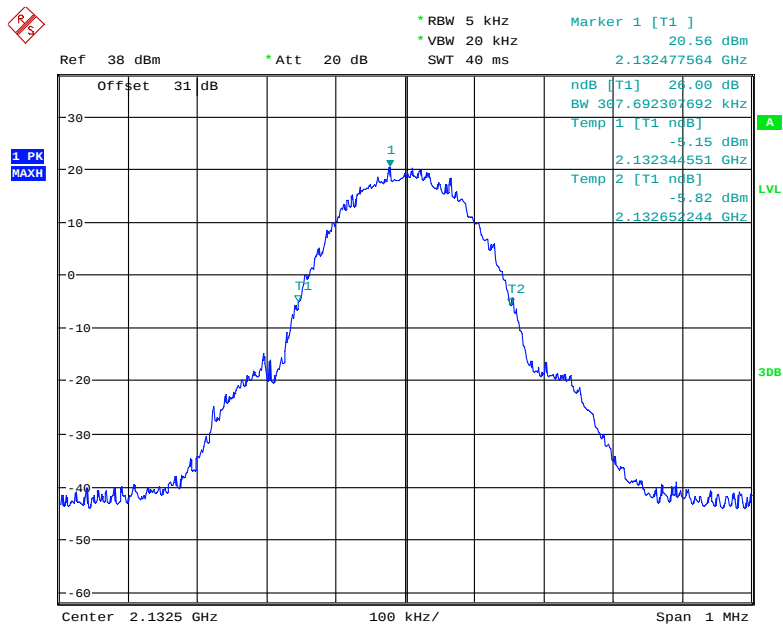
Date: 5.JAN.2019 17:59:11

26 dB Bandwidth-DL- GSM- Pre AGC -Output



Date: 5.JAN.2019 18:08:03

26 dB Bandwidth-DL- GSM- 3dB Above AGC -Output



Date: 5.JAN.2019 18:08:26

FCC §2.1051, §22.917 & §24.238 & §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard

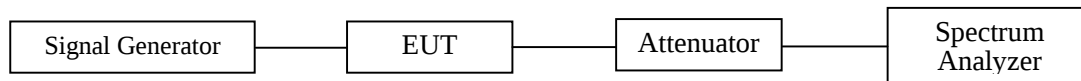
FCC §2.1051, §22.917, §24.238 and §27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Test Procedure

Please refer to KDB 935210 D05 Indus Booster Basic Meas v01r02 clause 3.6.3



Test Data

Environmental Conditions

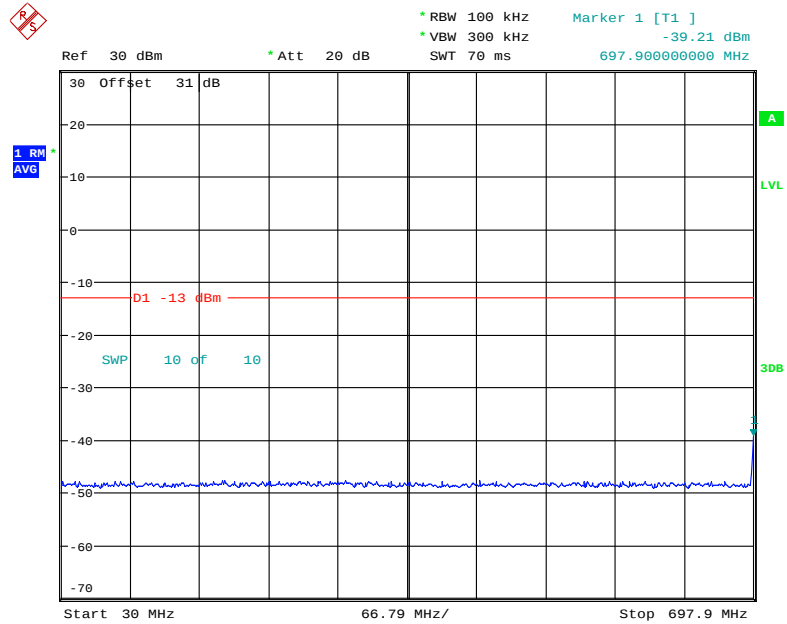
Temperature:	23~25 °C
Relative Humidity:	50~52 %
ATM Pressure:	100.0~101.0 kPa

The testing was performed by Tracy Hu from 2019-01-07 to 2019-01-18.

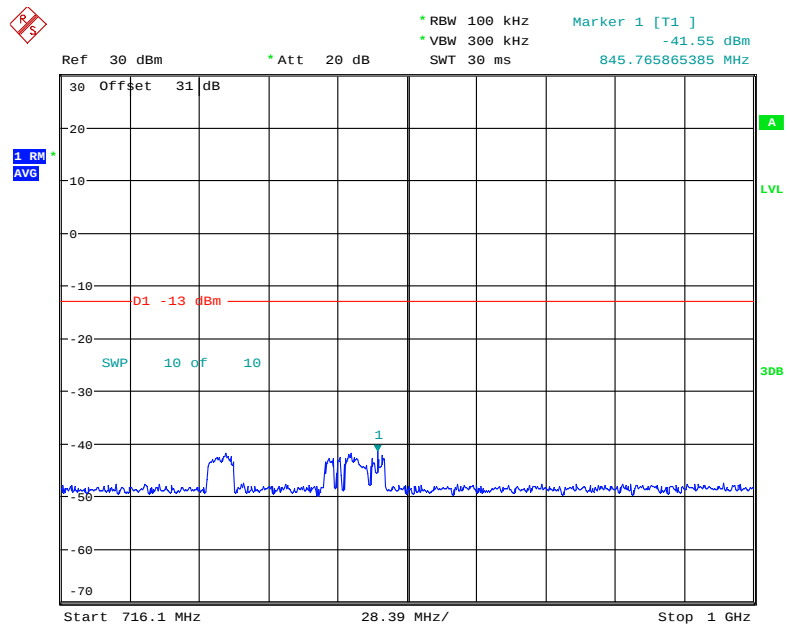
Test result: Compliance, please refer to the following plots.

Uplink:

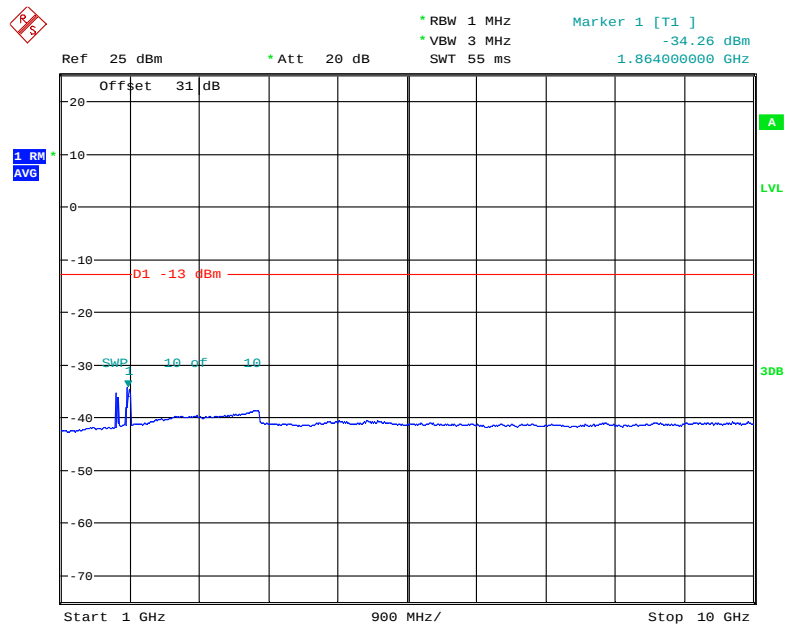
Lower 700MHz (A+B+C Block)-AWGN-Pre AGC-Low Channel



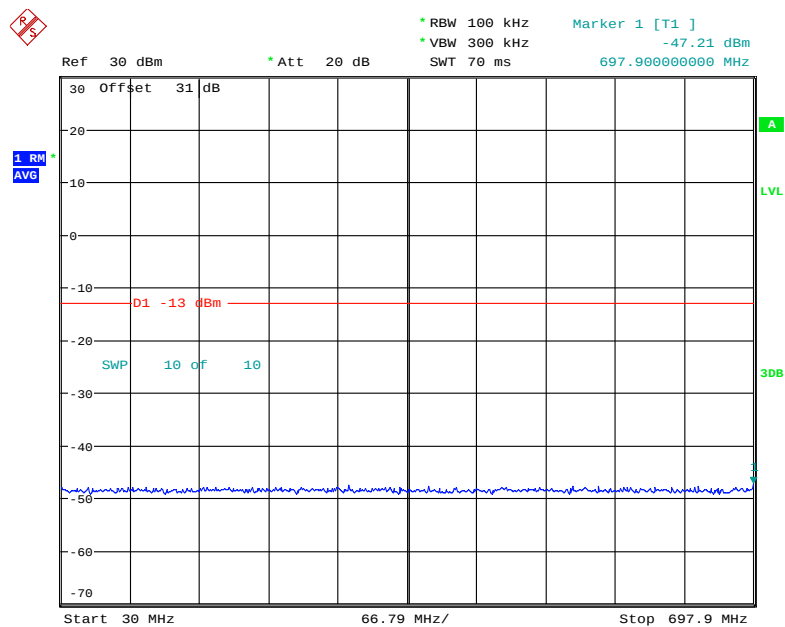
Date: 10.JAN.2019 16:04:51



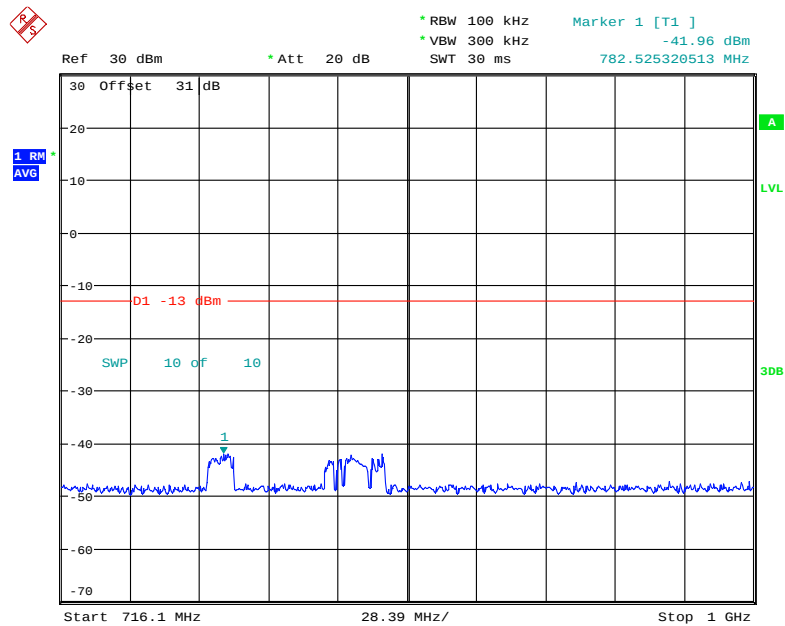
Date: 10.JAN.2019 16:10:18



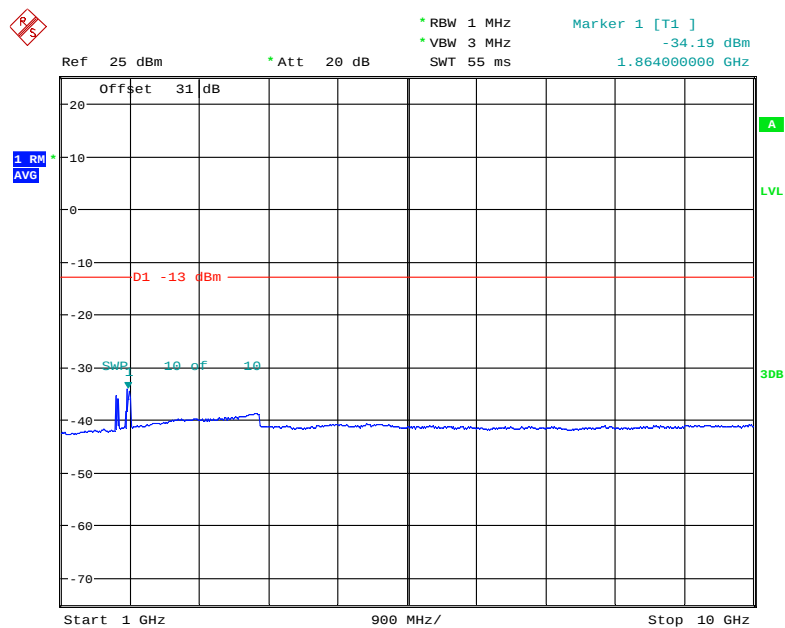
Date: 8.JAN.2019 14:40:53

Lower 700MHz (A+B+C Block) - AWGN-Pre AGC-Middle Channel

Date: 10.JAN.2019 16:08:29

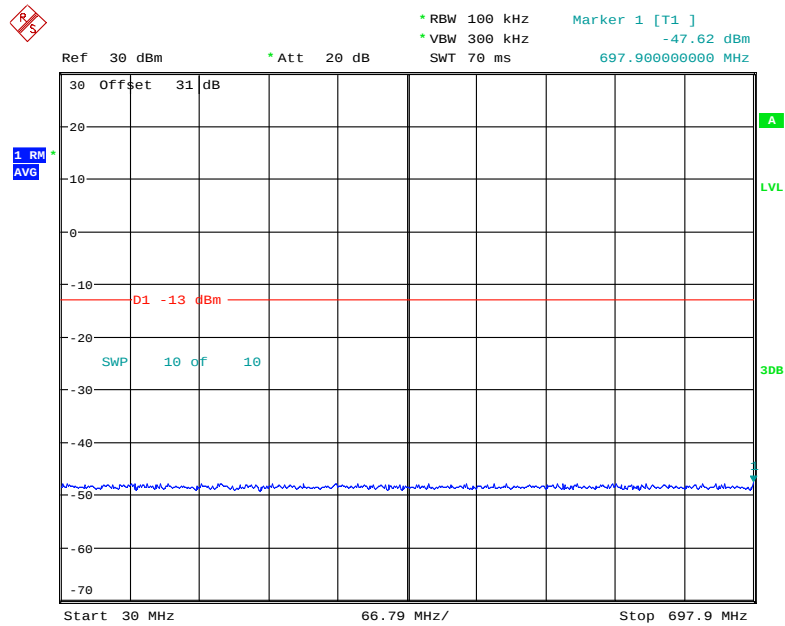


Date: 10.JAN.2019 16:09:58

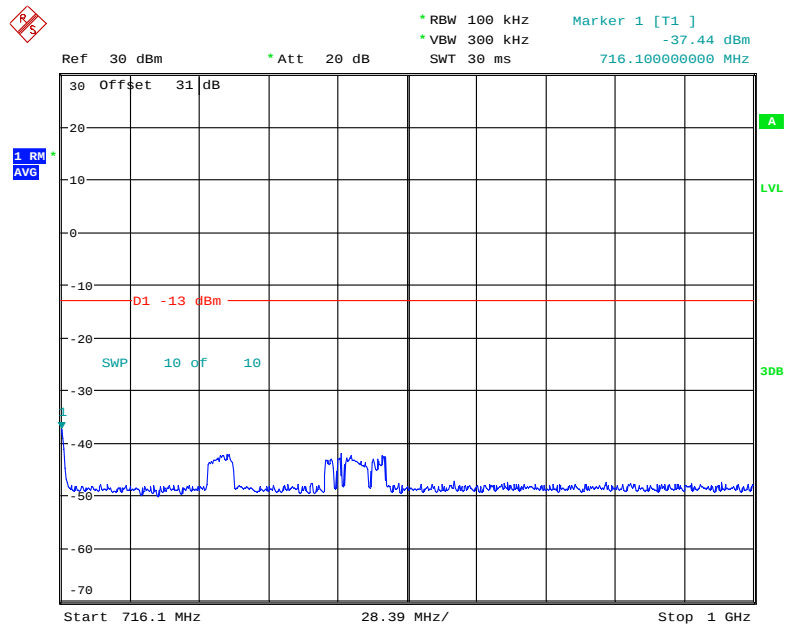


Date: 8.JAN.2019 14:41:59

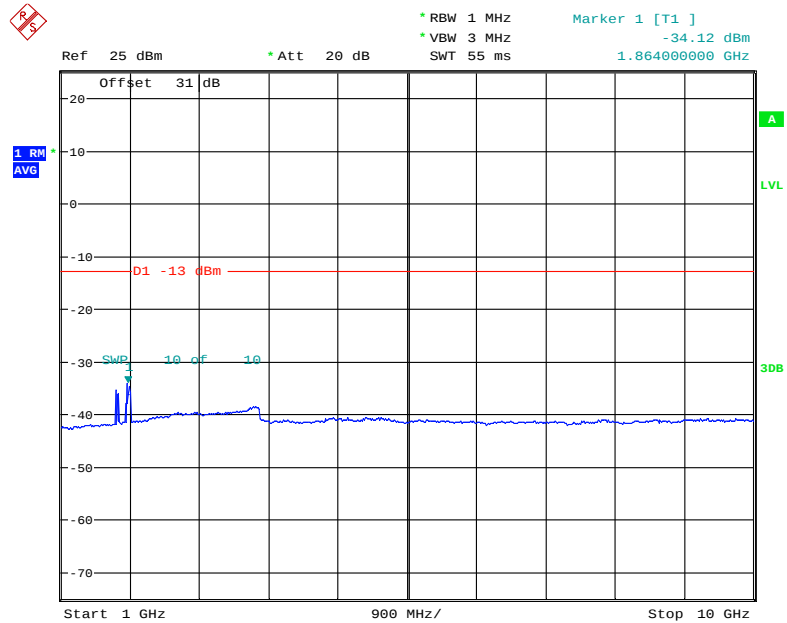
Lower 700MHz (A+B+C Block) - AWGN-Pre AGC-High Channel



Date: 10.JAN.2019 16:08:54

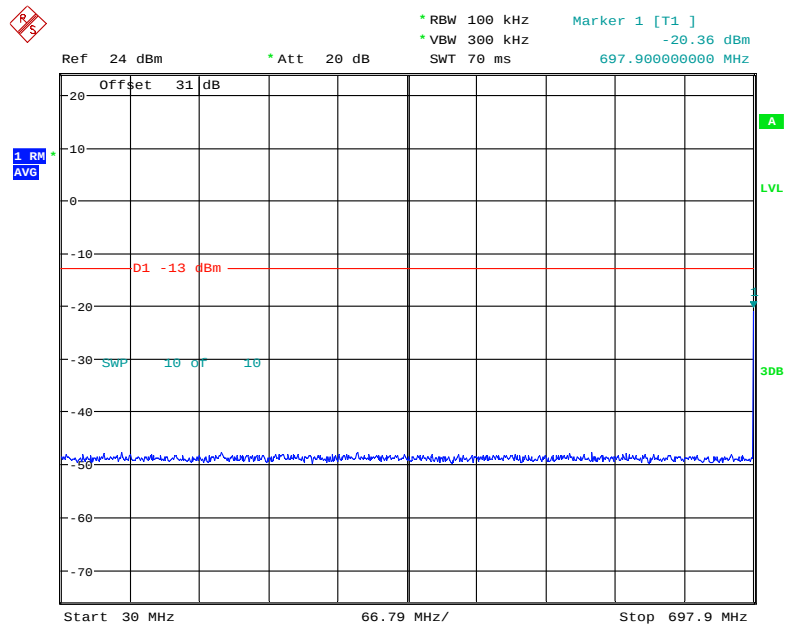


Date: 10.JAN.2019 16:09:28

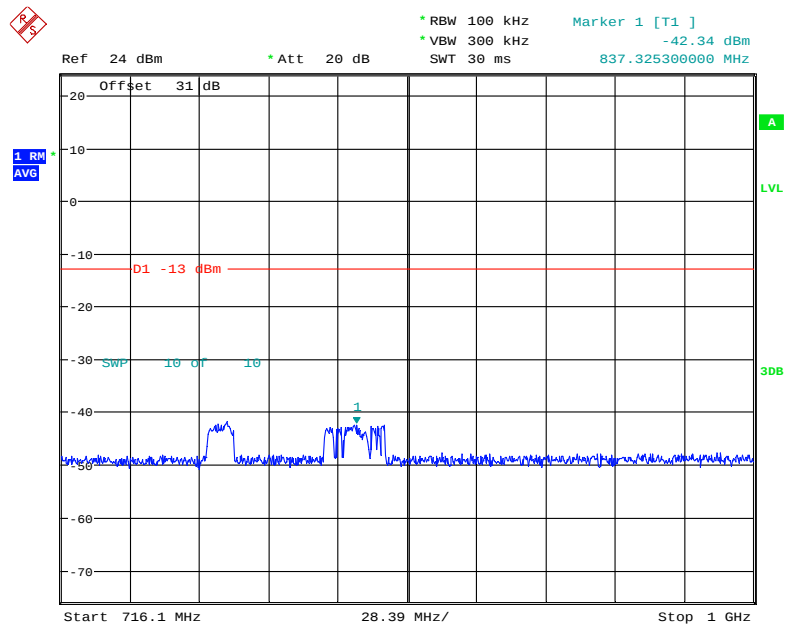


Date: 8.JAN.2019 14:42:19

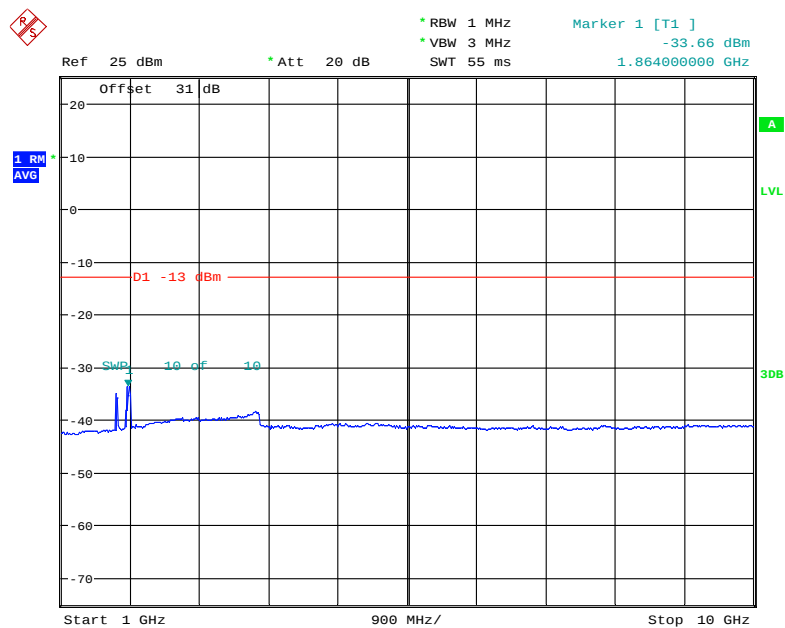
Lower 700MHz (A+B+C Block) - GSM-Pre AGC-Low Channel



Date: 9.JAN.2019 17:17:12

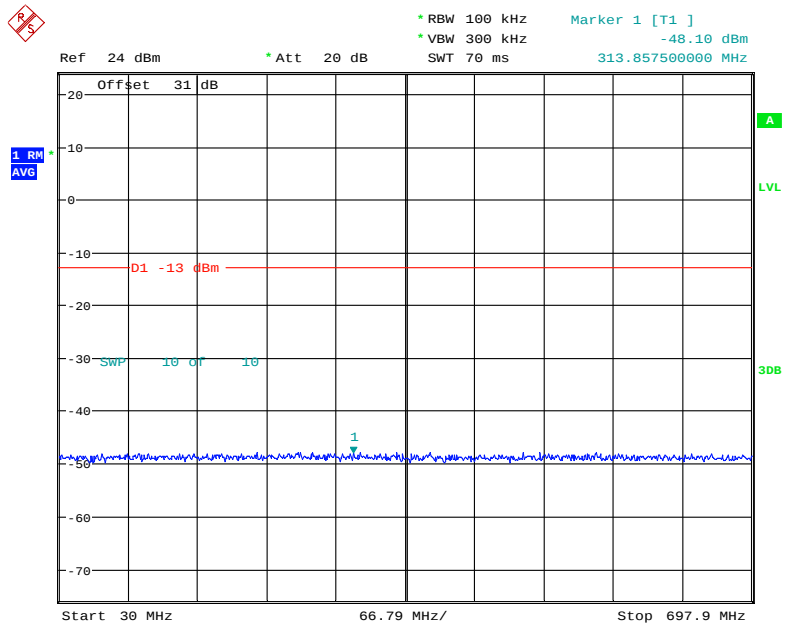


Date: 9.JAN.2019 17:20:45

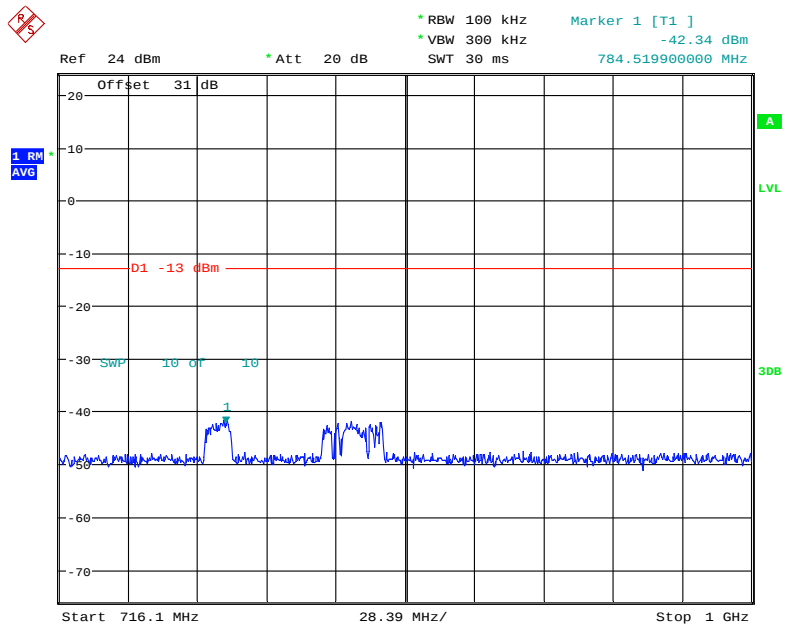


Date: 8.JAN.2019 14:05:40

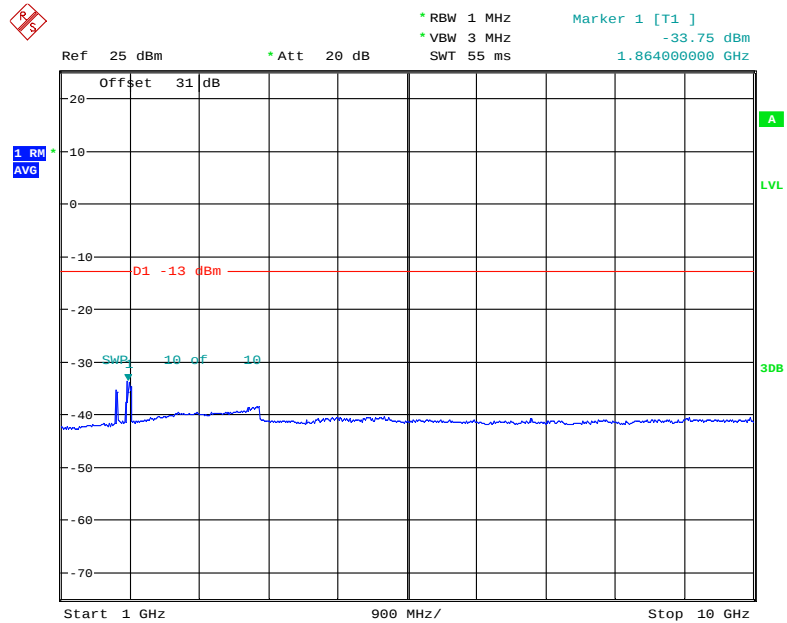
Lower 700MHz (A+B+C Block) - GSM-Pre AGC-Middle Channel



Date: 9.JAN.2019 17:18:51

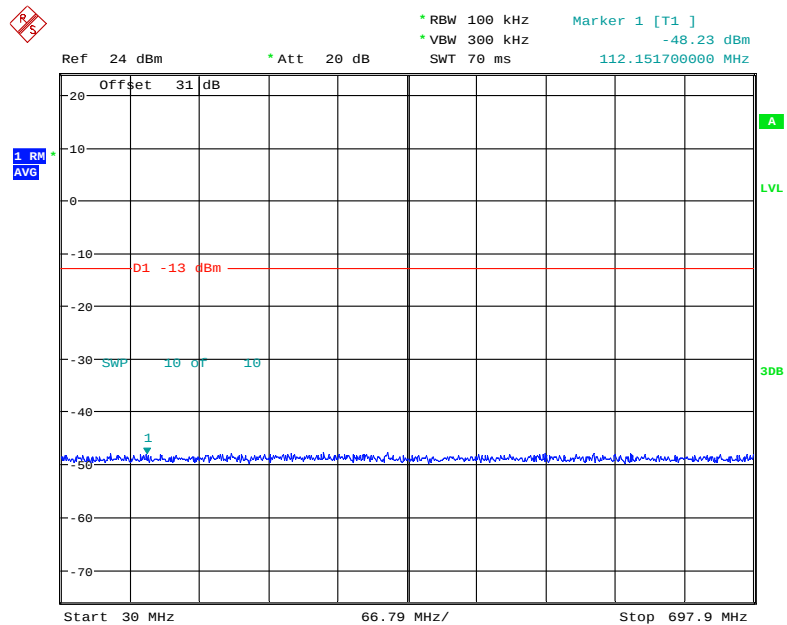


Date: 9.JAN.2019 17:20:28

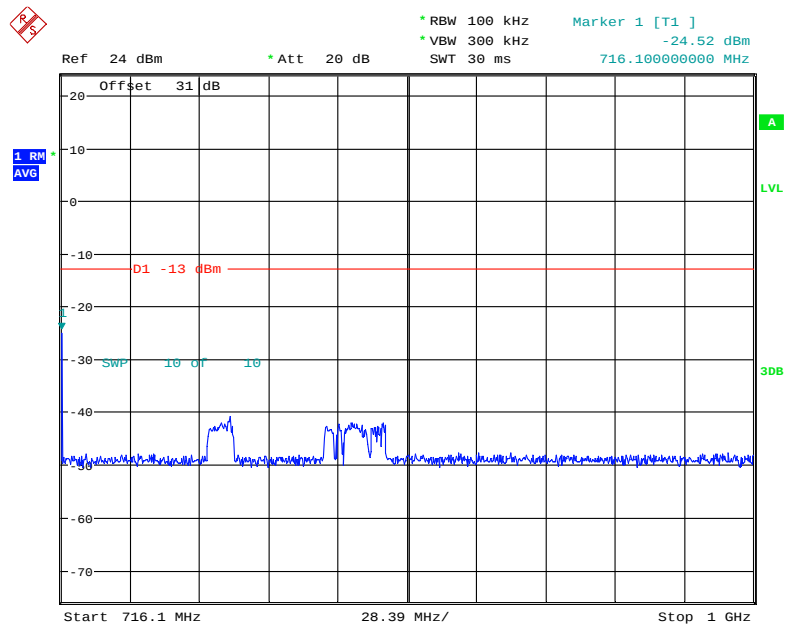


Date: 8.JAN.2019 14:06:25

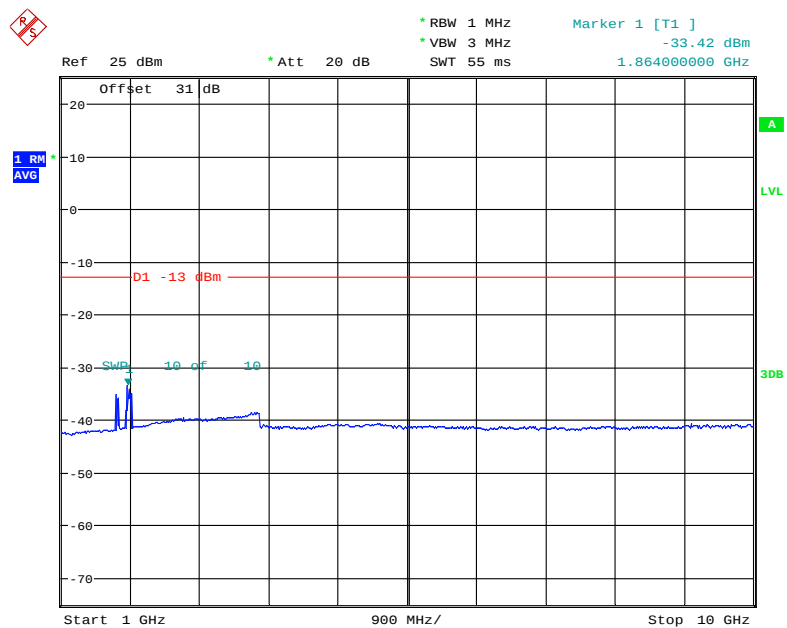
Lower 700MHz (A+B+C Block) - GSM-Pre AGC-High Channel



Date: 9.JAN.2019 17:19:21

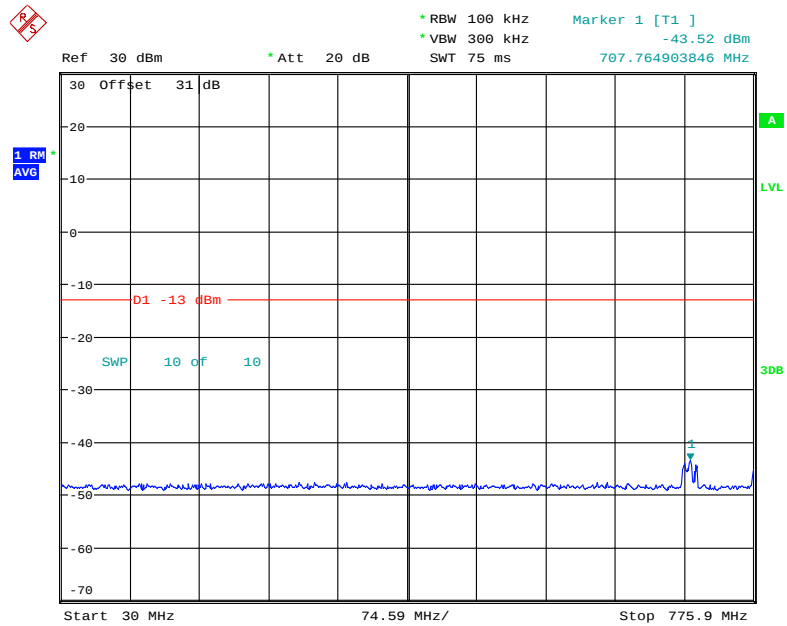


Date: 9.JAN.2019 17:19:57

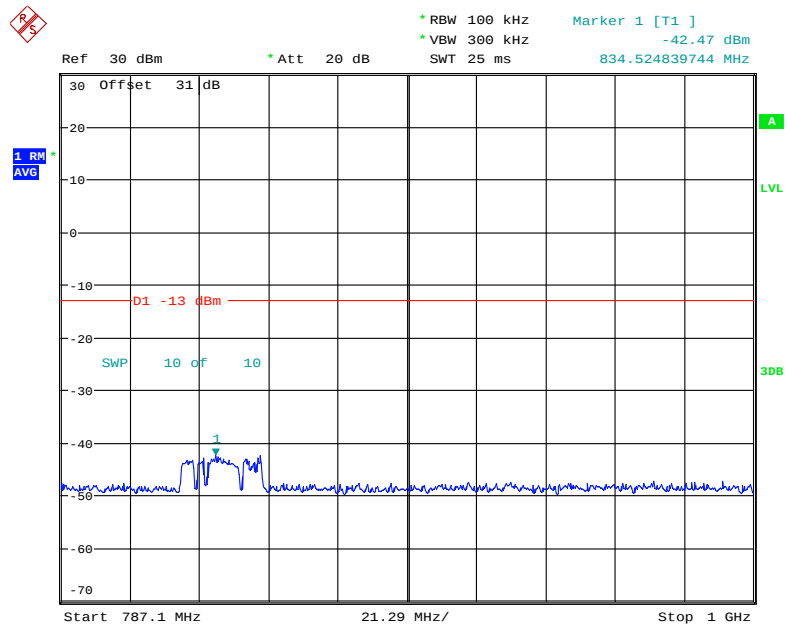


Date: 8.JAN.2019 14:06:45

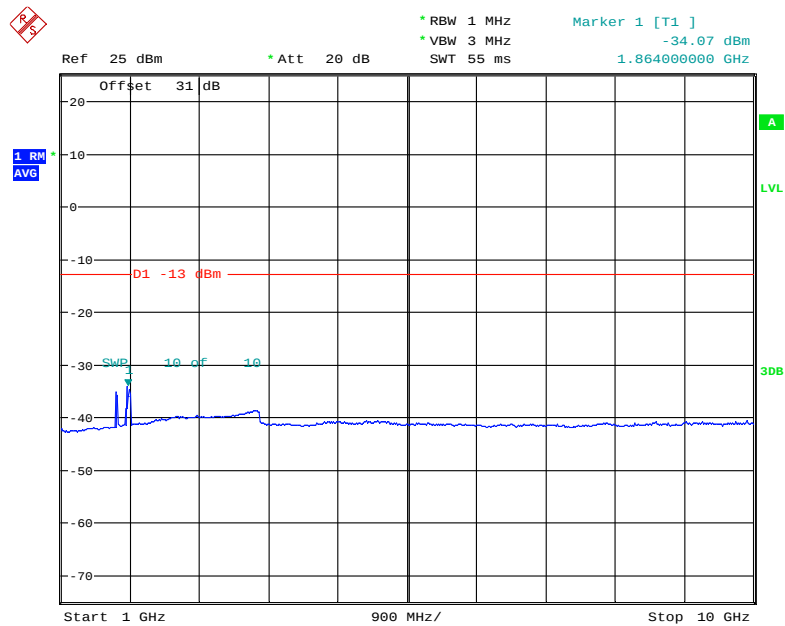
Upper 700MHz (C Block) - AWGN-Pre AGC-Low Channel



Date: 10.JAN.2019 16:11:48

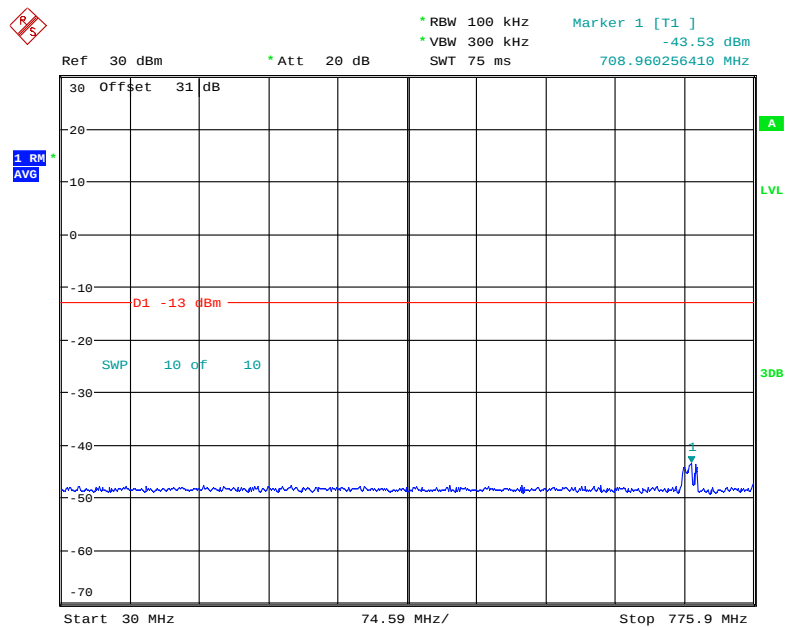


Date: 10.JAN.2019 16:14:17

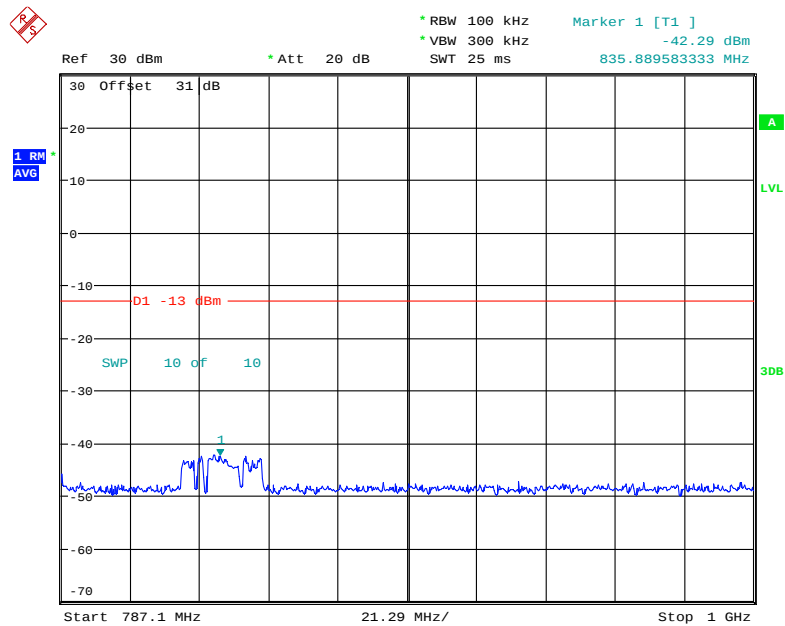


Date: 8.JAN.2019 14:43:19

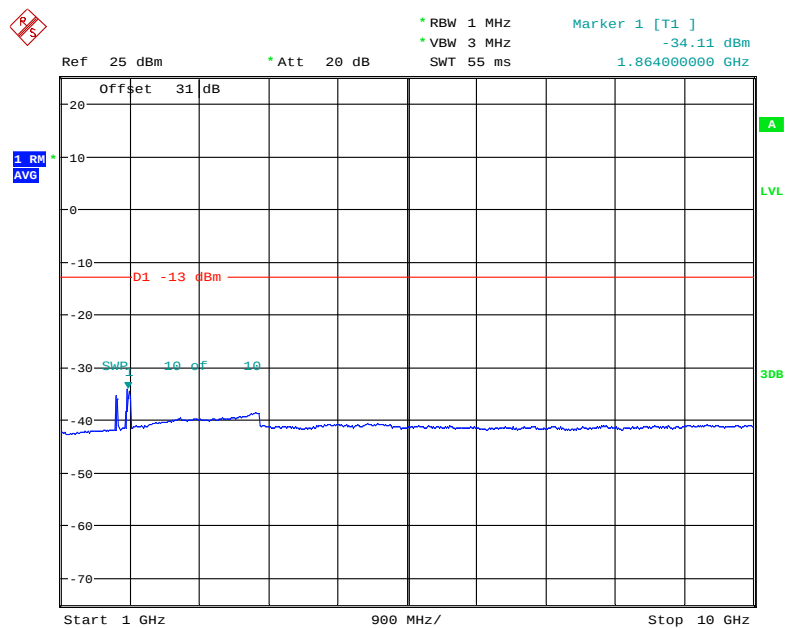
Upper 700MHz (C Block) - AWGN-Pre AGC-Middle Channel



Date: 10.JAN.2019 16:12:21

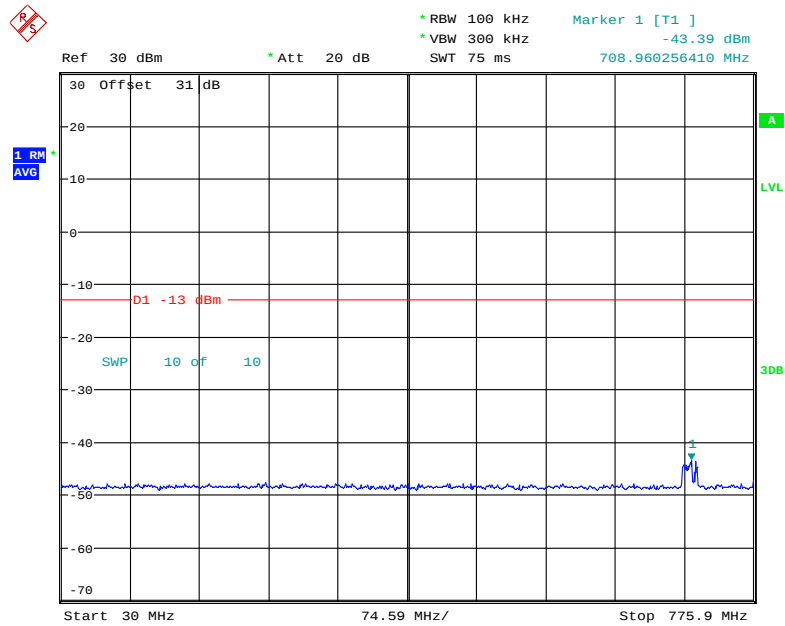


Date: 10.JAN.2019 16:13:52

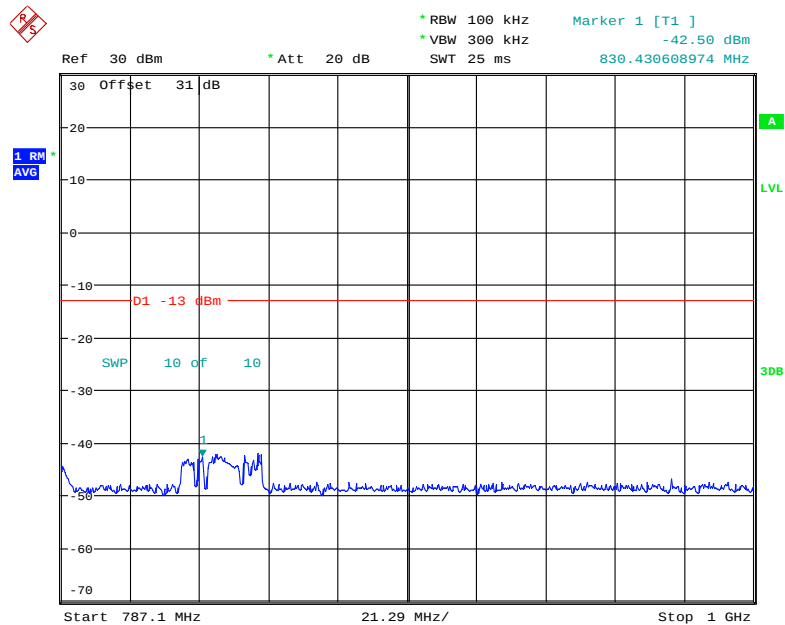


Date: 8.JAN.2019 14:43:03

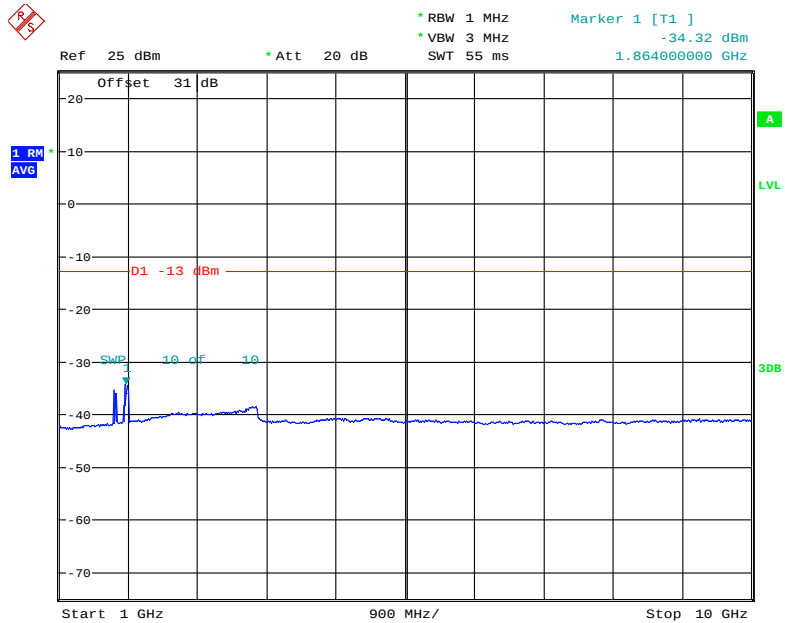
Upper 700MHz (C Block) - AWGN-Pre AGC-High Channel



Date: 10.JAN.2019 16:12:44

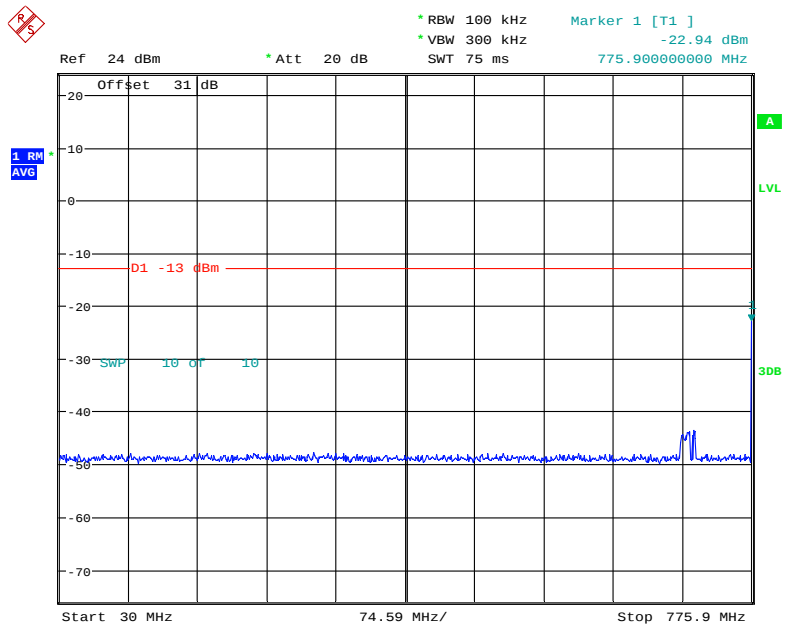


Date: 10.JAN.2019 16:13:21

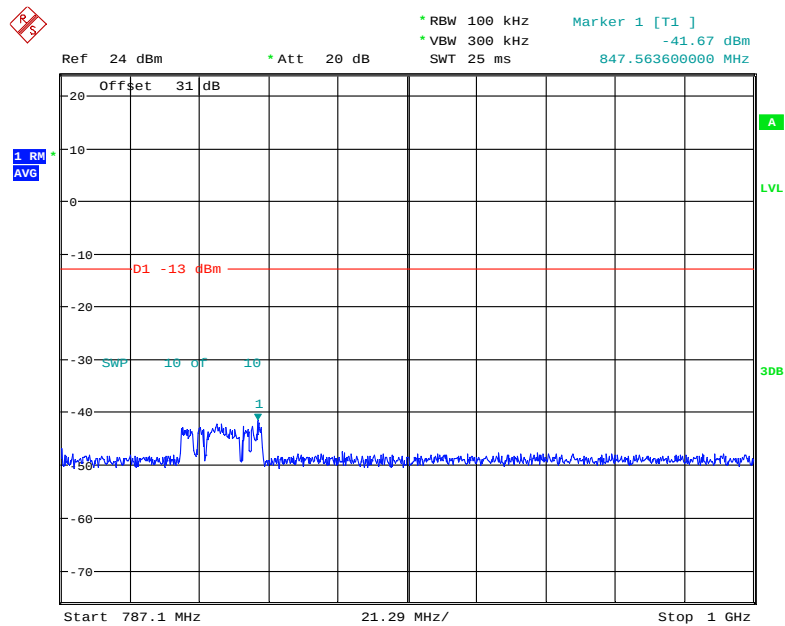


Date: 8.JAN.2019 14:42:39

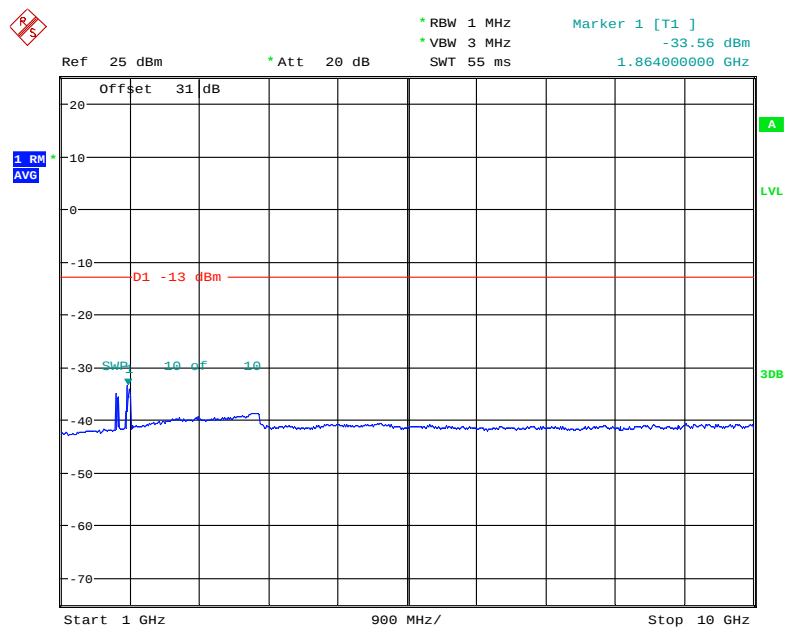
Upper 700MHz (C Block) - GSM-Pre AGC-Low Channel



Date: 9.JAN.2019 17:22:39

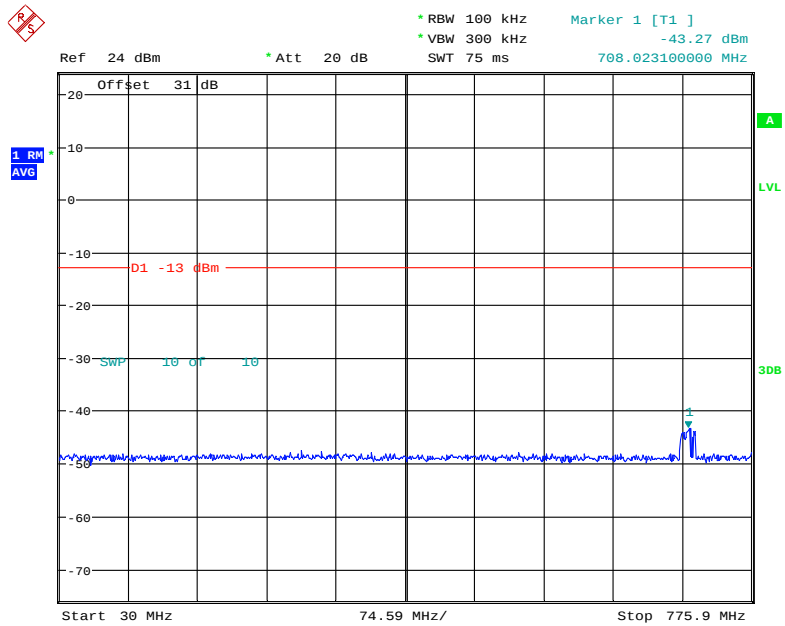


Date: 9.JAN.2019 17:25:15

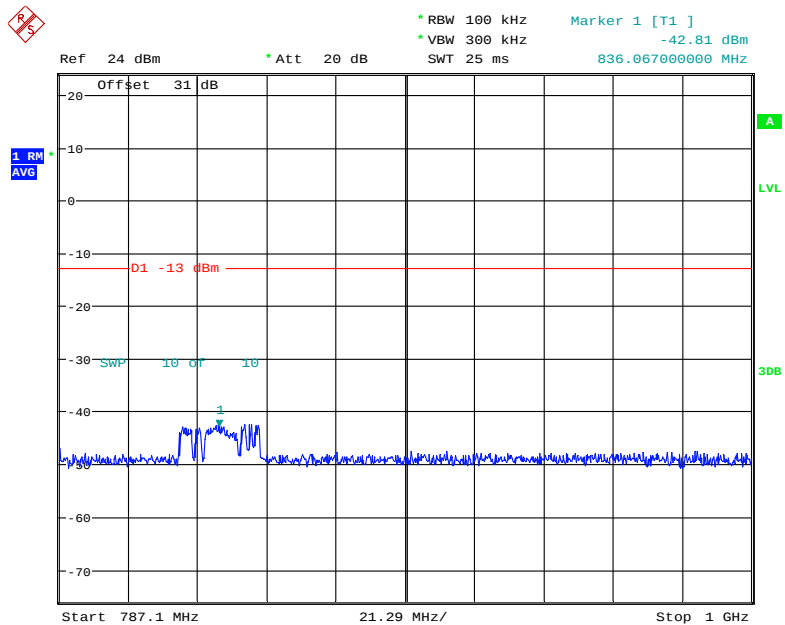


Date: 8.JAN.2019 14:07:59

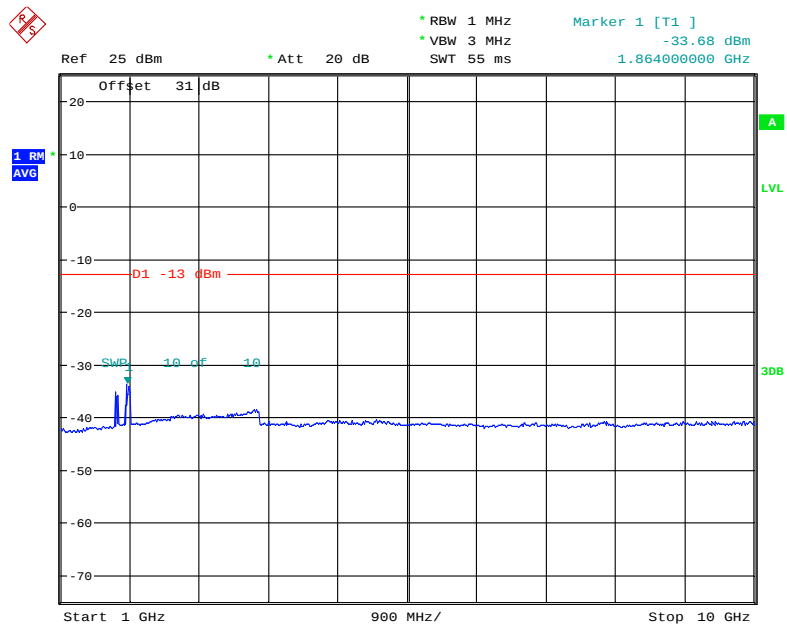
Upper 700MHz (C Block) - GSM-Pre AGC-Middle Channel



Date: 9.JAN.2019 17:23:18

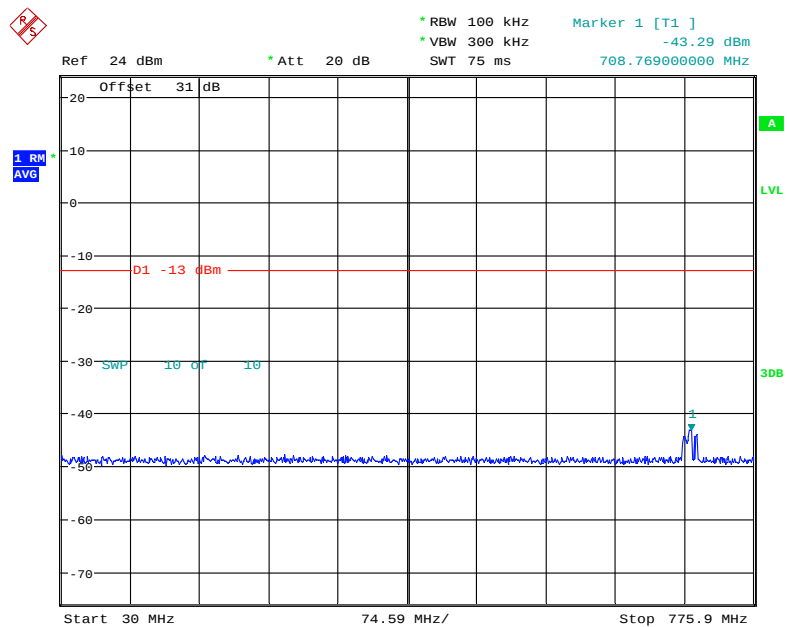


Date: 9.JAN.2019 17:24:53

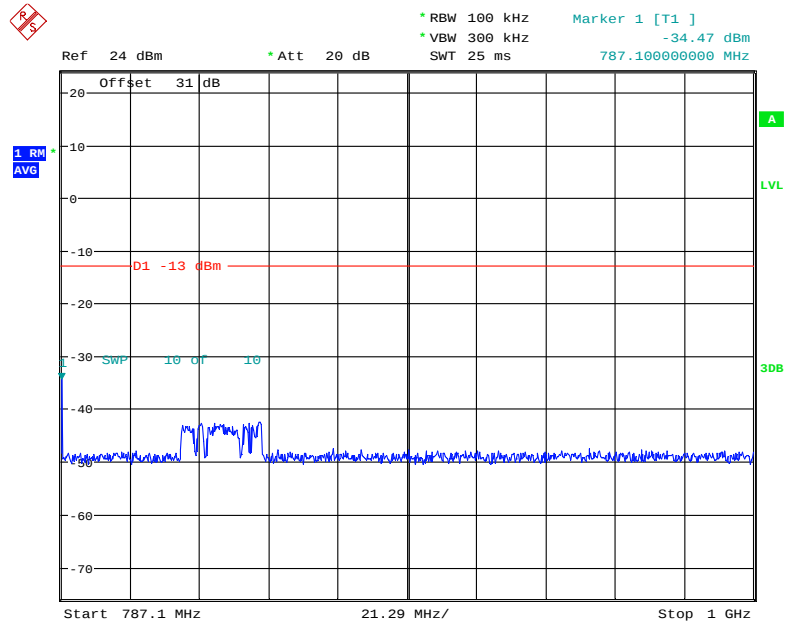


Date: 8.JAN.2019 14:07:38

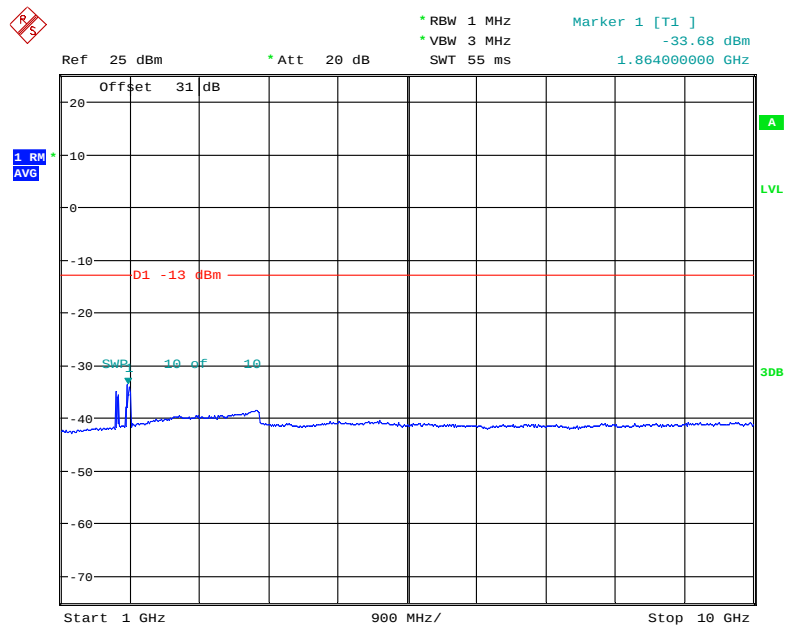
Upper 700MHz (C Block) - GSM-Pre AGC-High Channel



Date: 9.JAN.2019 17:23:39

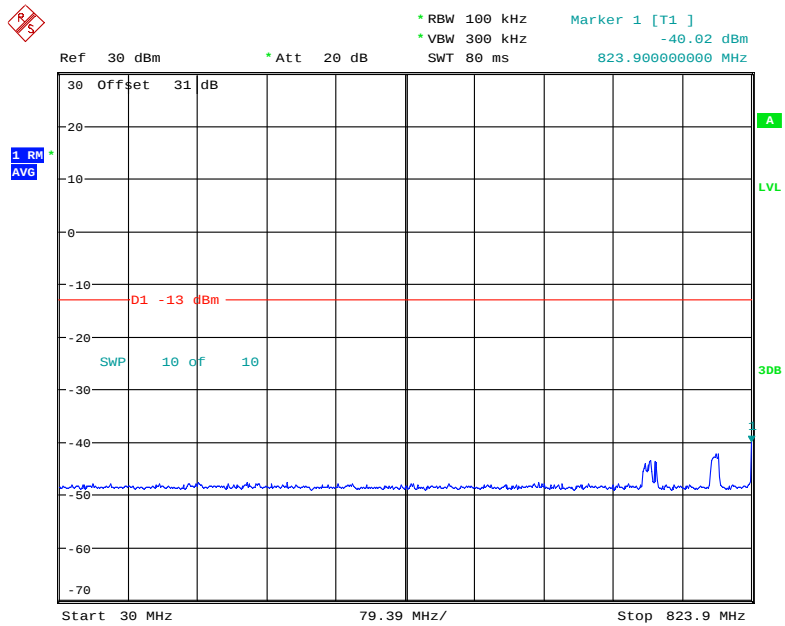


Date: 9.JAN.2019 17:24:18

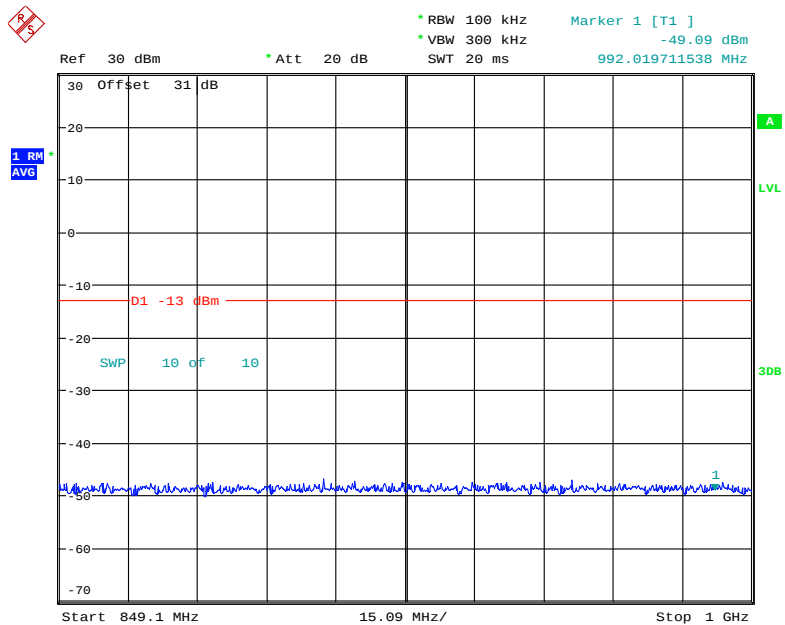


Date: 8.JAN.2019 14:07:12

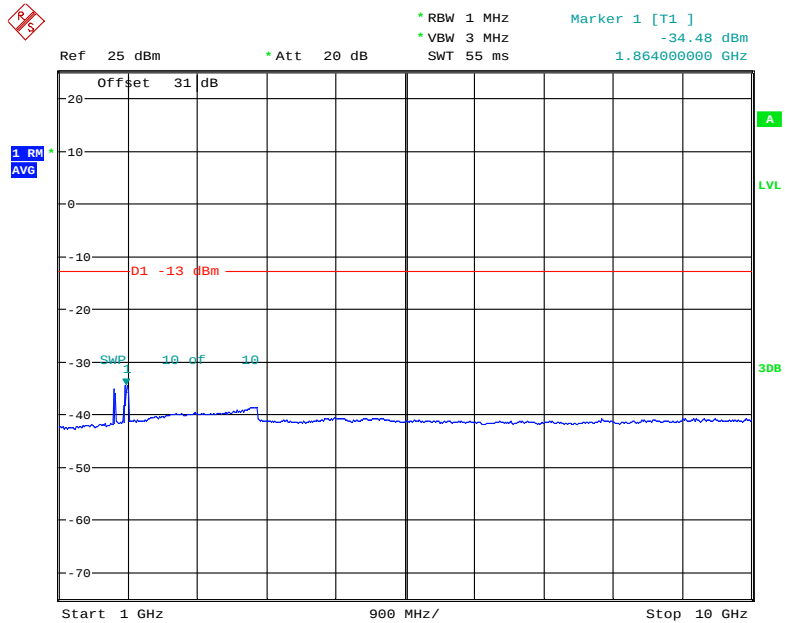
Cellular - AWGN-Pre AGC-Low Channel



Date: 10.JAN.2019 16:15:53

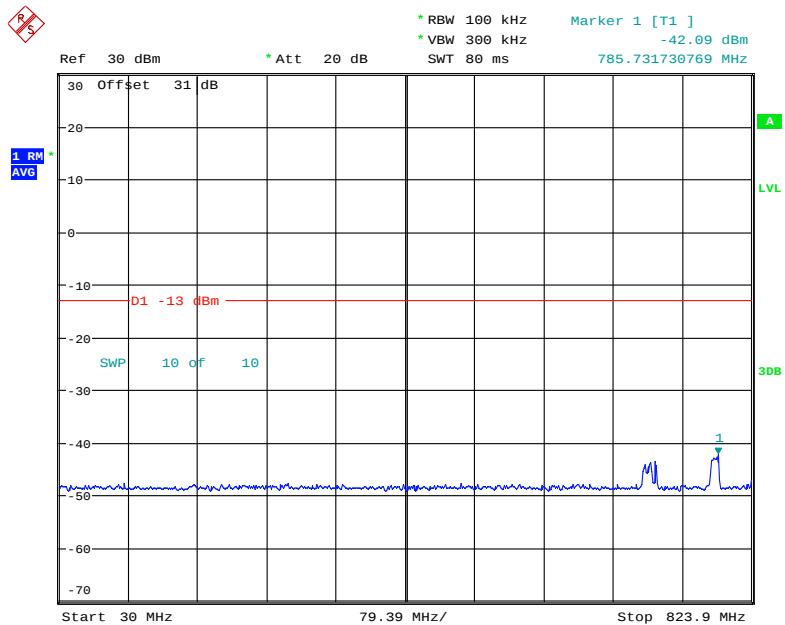


Date: 10.JAN.2019 16:18:32

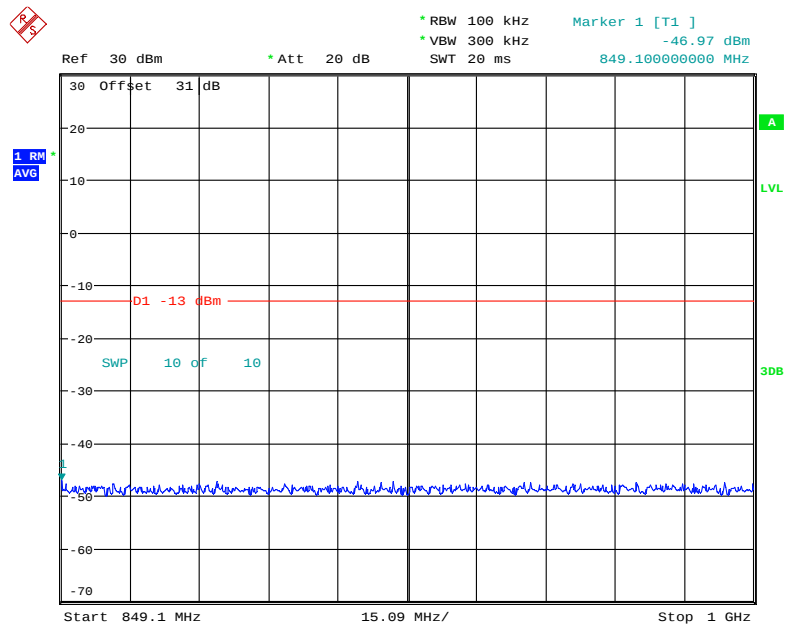


Date: 8.JAN.2019 14:43:44

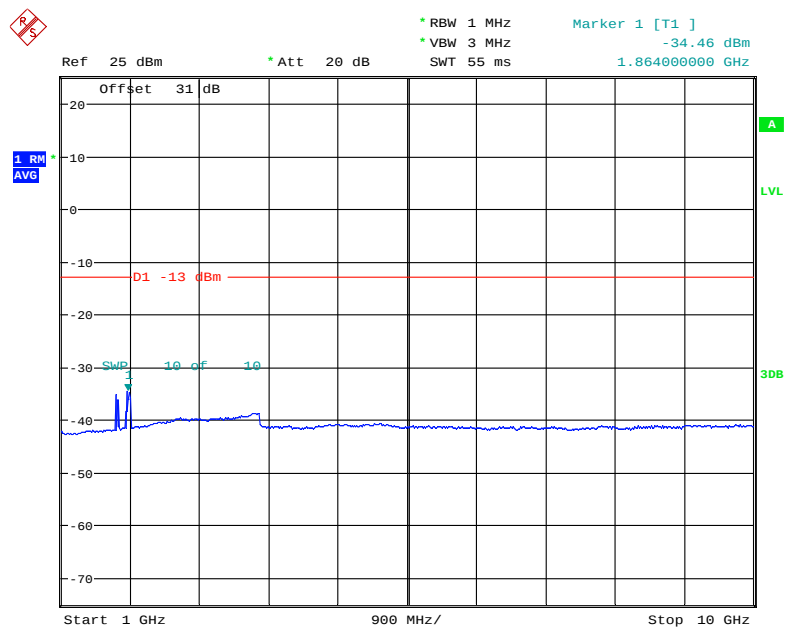
Cellular - AWGN-Pre AGC-Middle Channel



Date: 10.JAN.2019 16:16:28

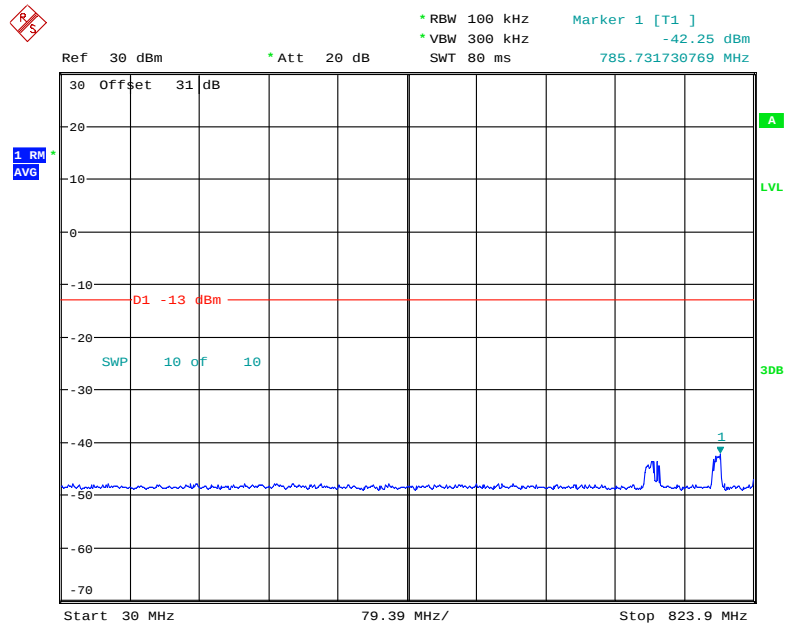


Date: 10.JAN.2019 16:18:12

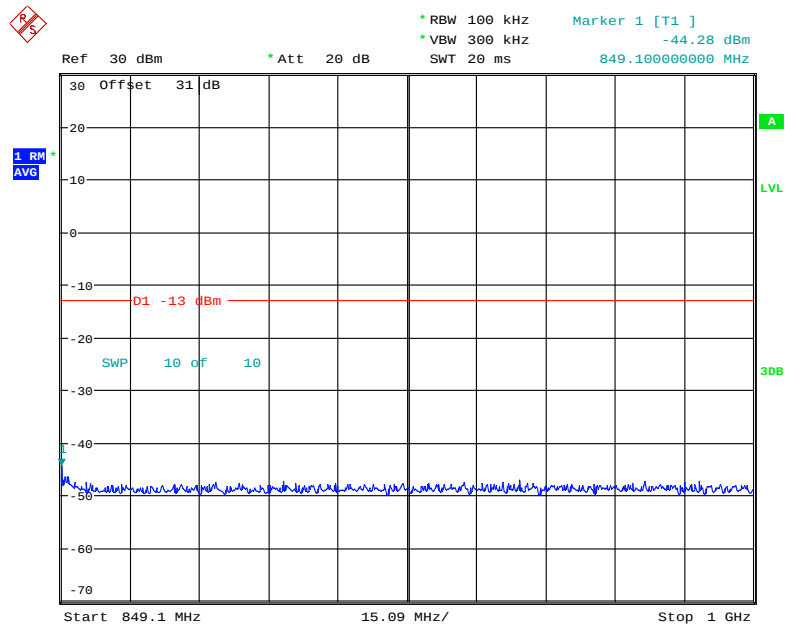


Date: 8.JAN.2019 14:44:05

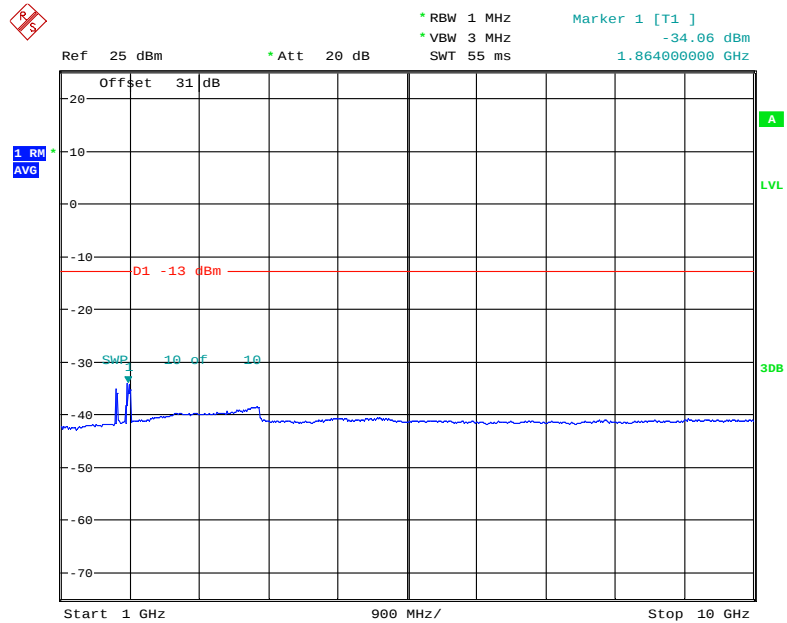
Cellular - AWGN-Pre AGC-High Channel



Date: 10.JAN.2019 16:16:59

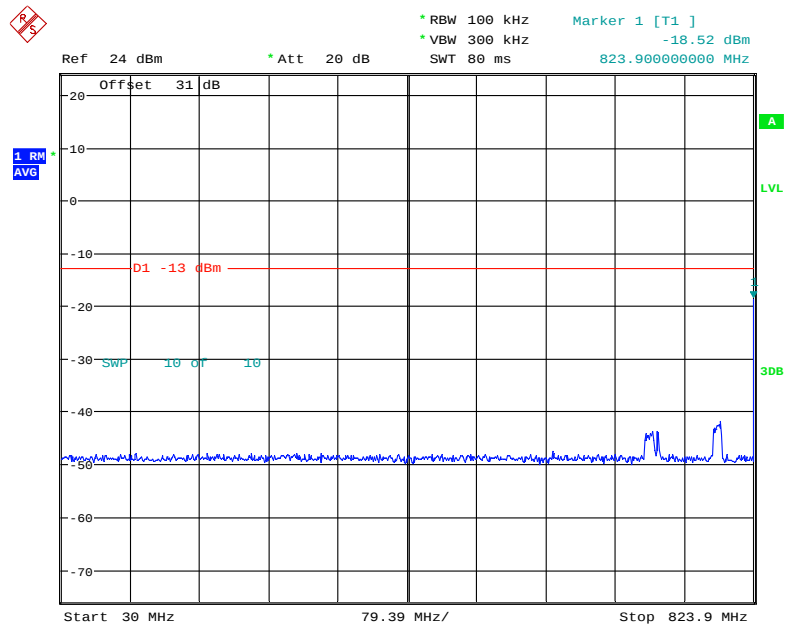


Date: 10.JAN.2019 16:17:42

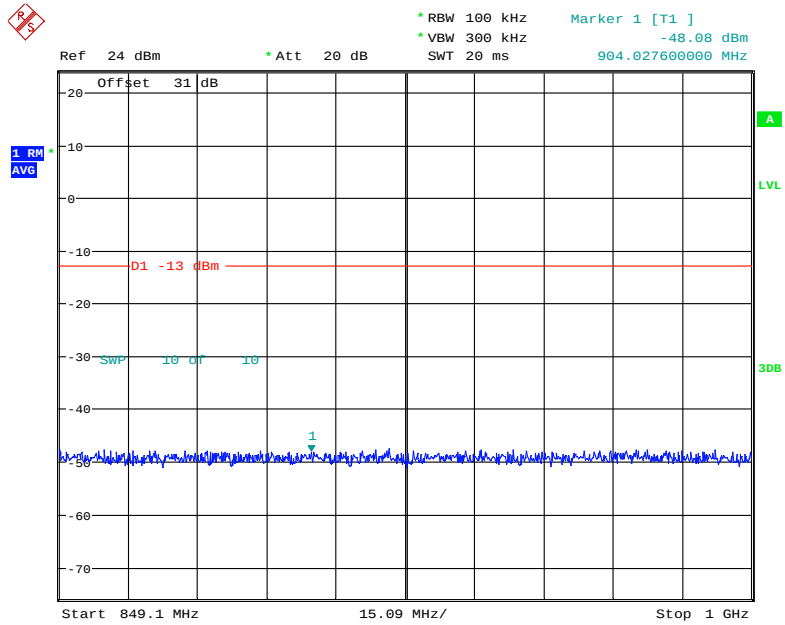


Date: 8.JAN.2019 14:44:22

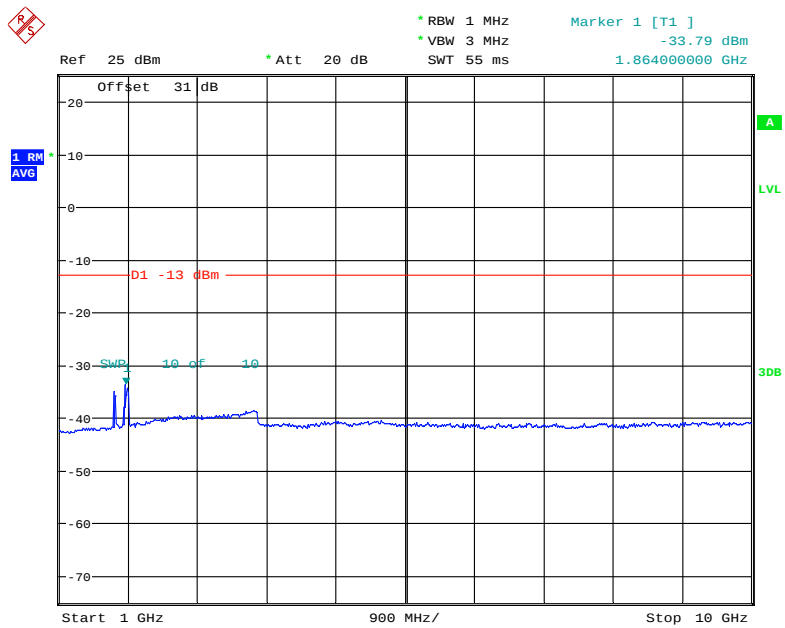
Cellular - GSM-Pre AGC-Low Channel



Date: 9.JAN.2019 17:26:47

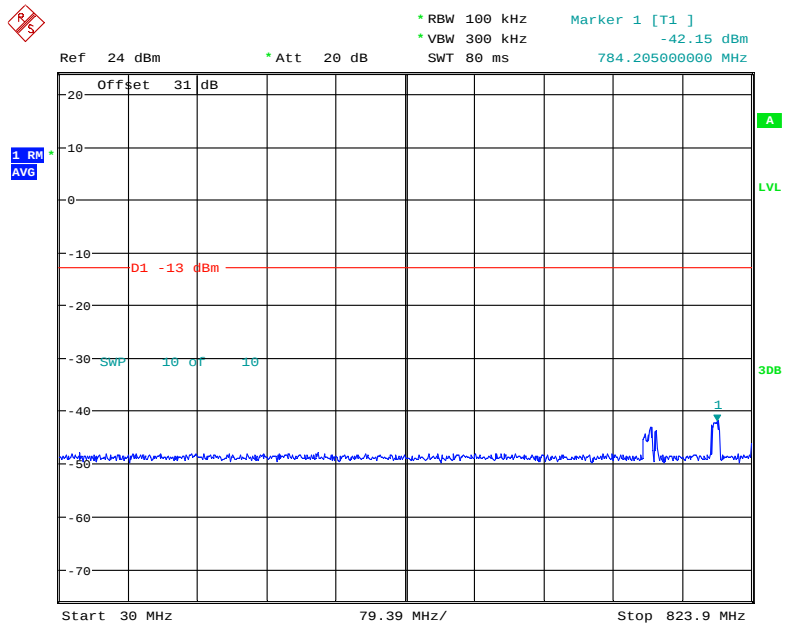


Date: 9.JAN.2019 17:29:24

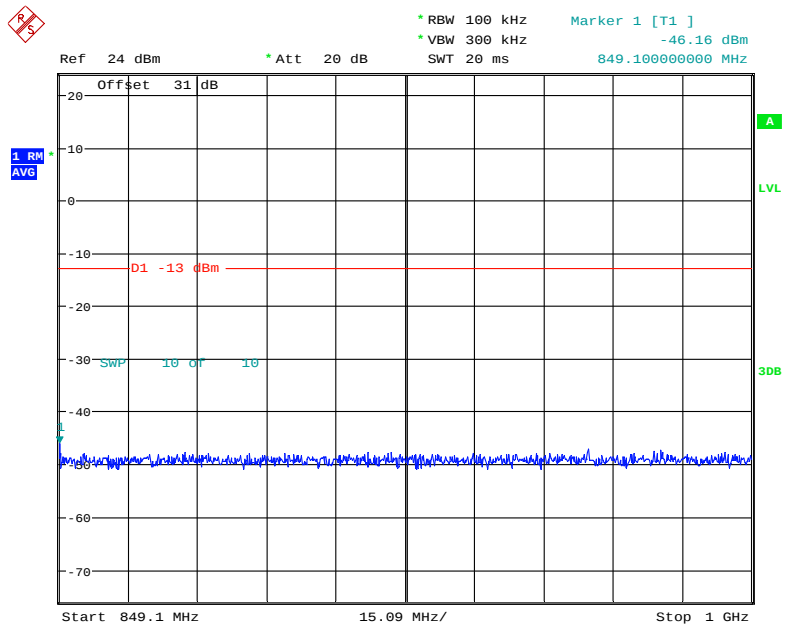


Date: 8.JAN.2019 14:08:19

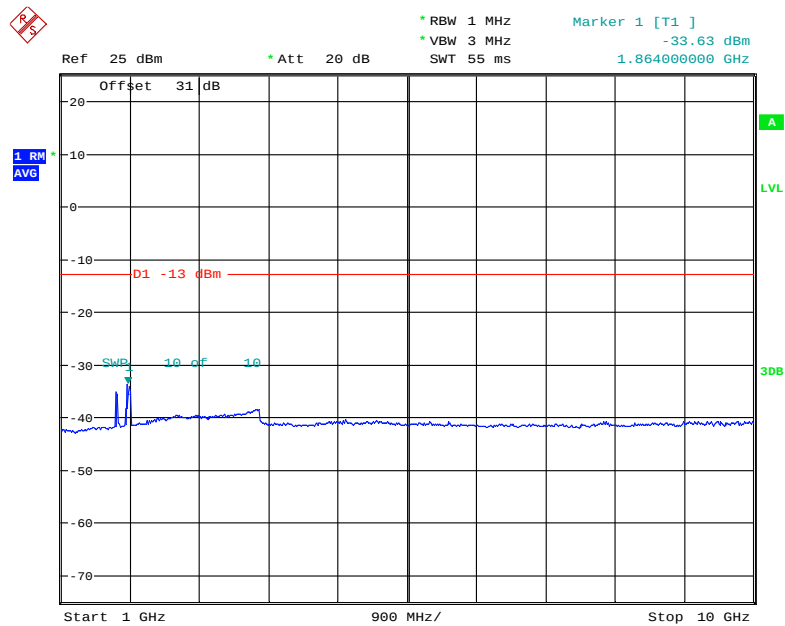
Cellular - GSM-Pre AGC-Middle Channel



Date: 9.JAN.2019 17:27:52

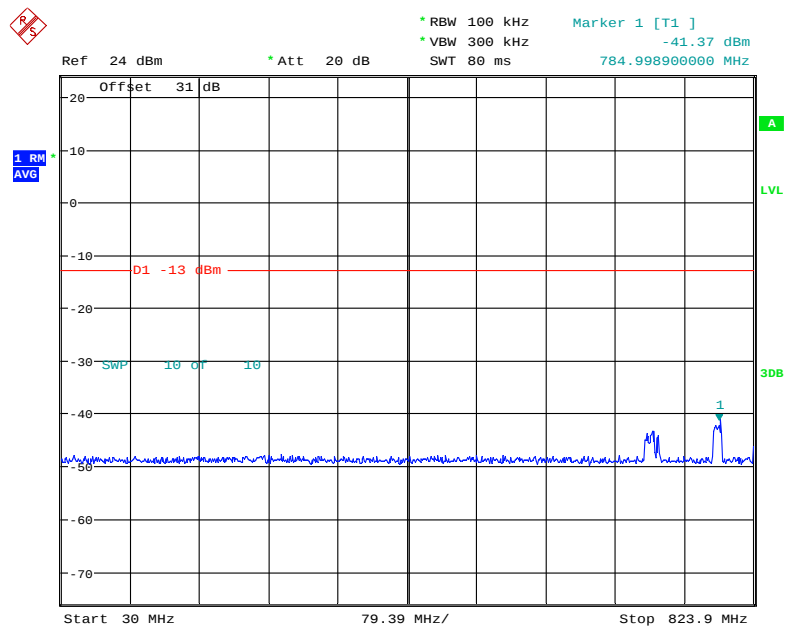


Date: 9.JAN.2019 17:29:05

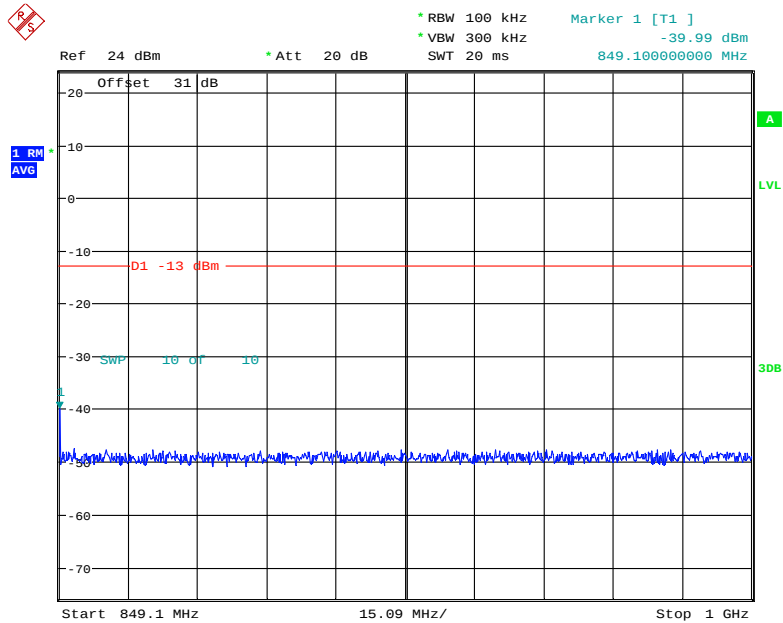


Date: 8.JAN.2019 14:08:44

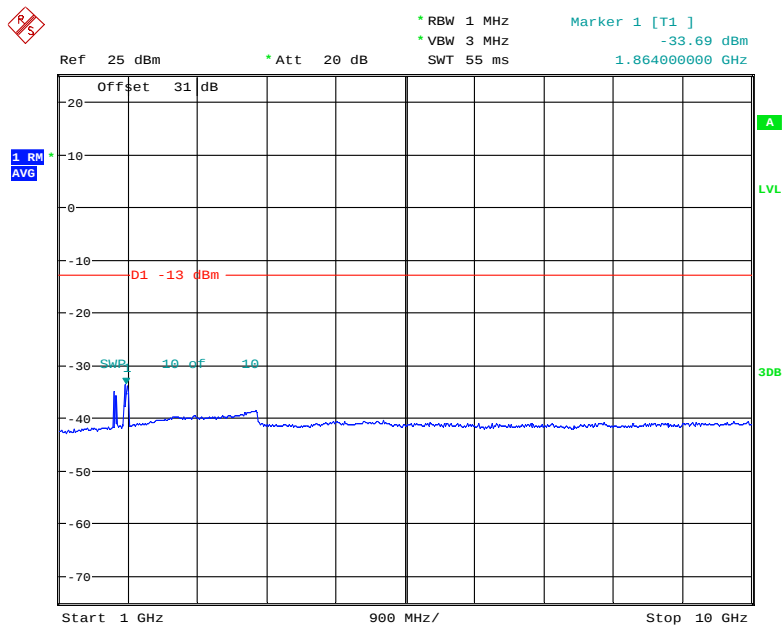
Cellular - GSM-Pre AGC-High Channel



Date: 9.JAN.2019 17:28:10

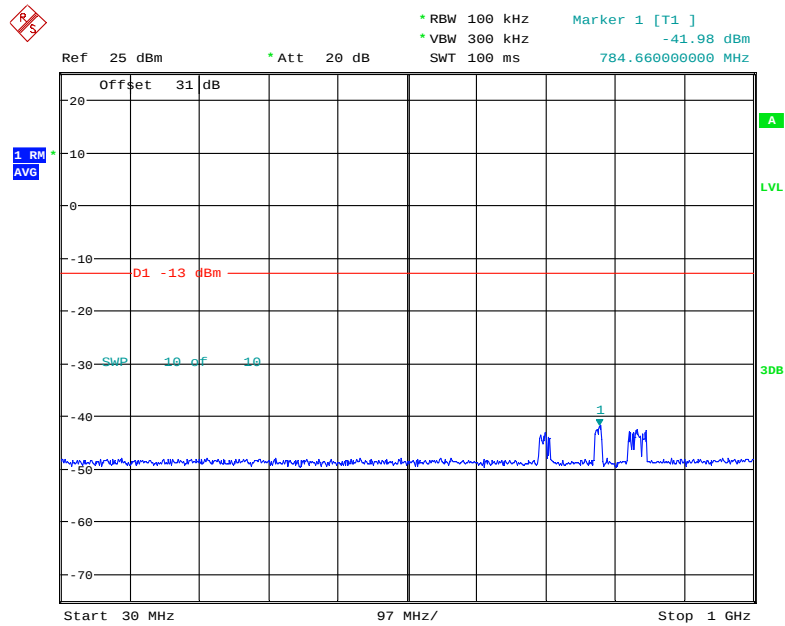


Date: 9.JAN.2019 17:30:39

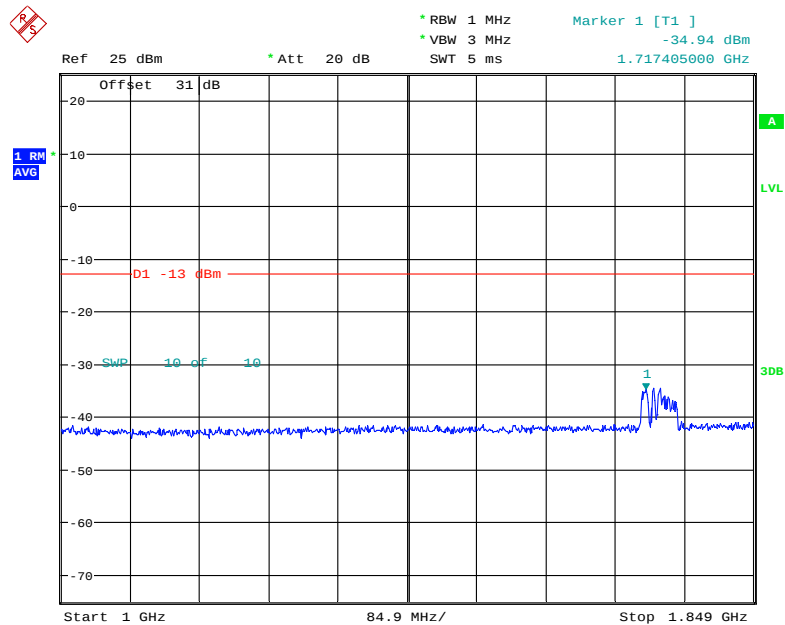


Date: 8.JAN.2019 14:09:04

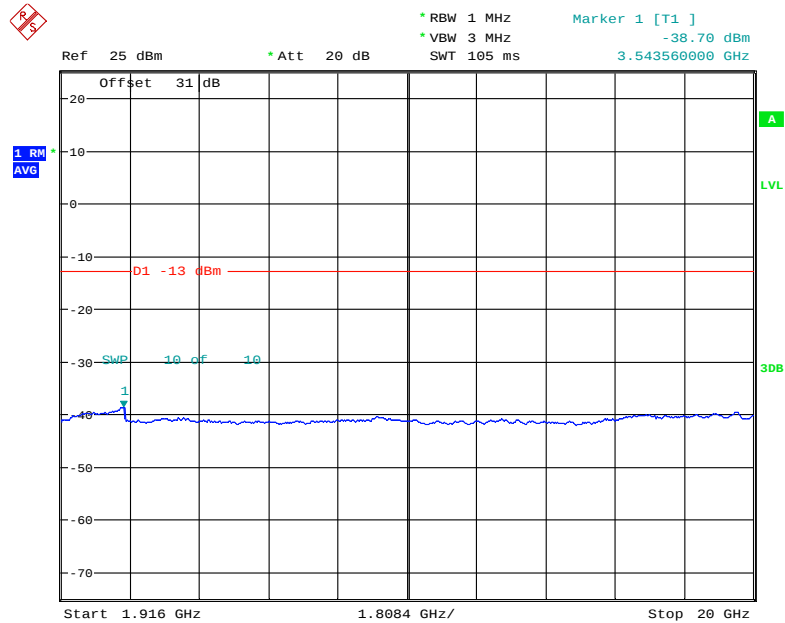
PCS- AWGN-Pre AGC-Low Channel



Date: 7.JAN.2019 17:36:51

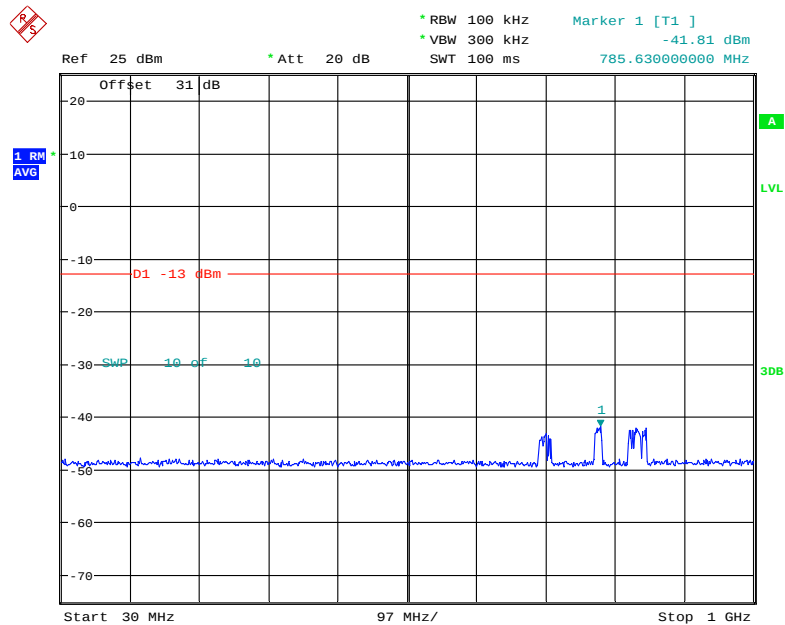


Date: 8.JAN.2019 14:47:01

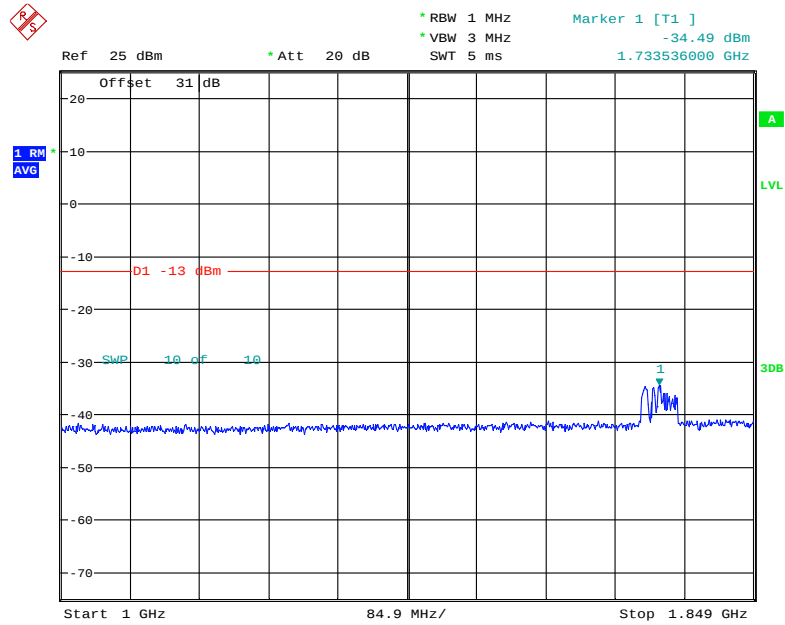


Date: 8. JAN. 2019 14:47:32

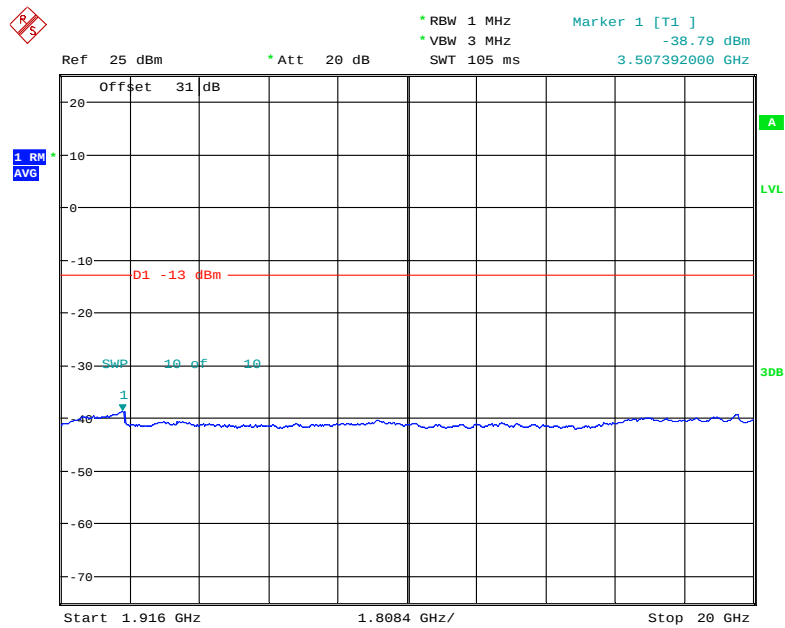
PCS- AWGN-Pre AGC-Middle Channel



Date: 8. JAN. 2019 13:44:21

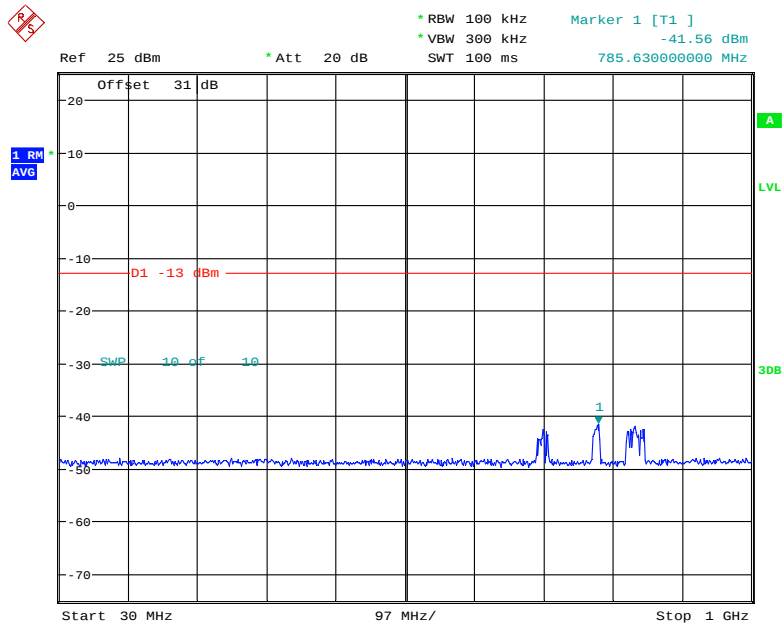


Date: 8.JAN.2019 14:46:40

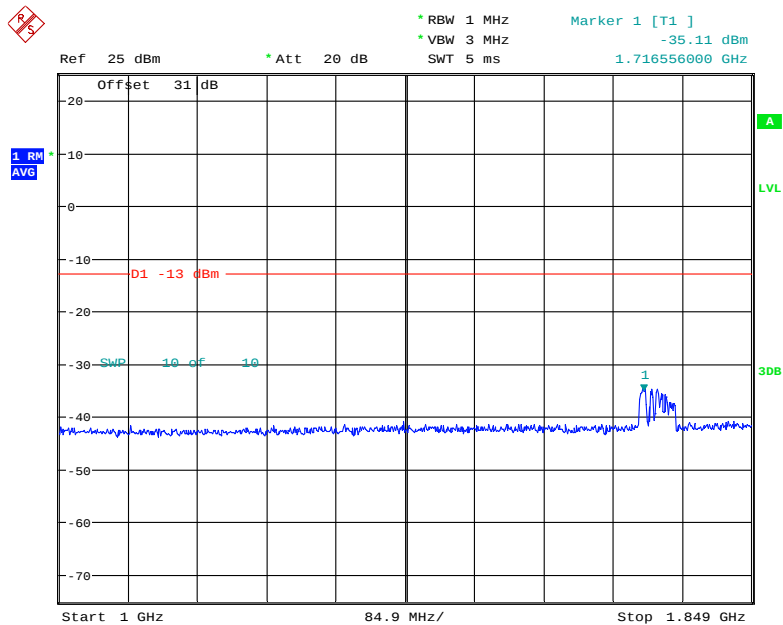


Date: 8.JAN.2019 14:48:02

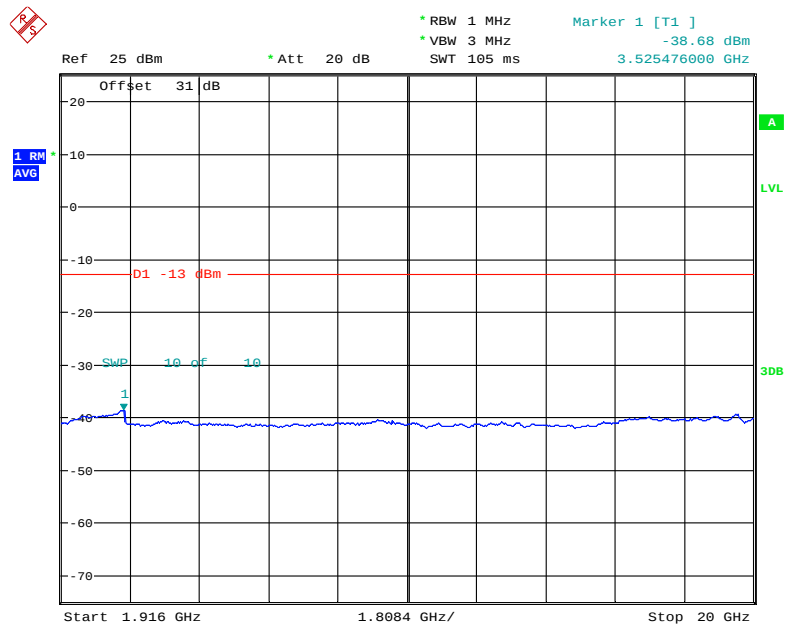
PCS- AWGN-Pre AGC-High Channel



Date: 8.JAN.2019 13:47:23

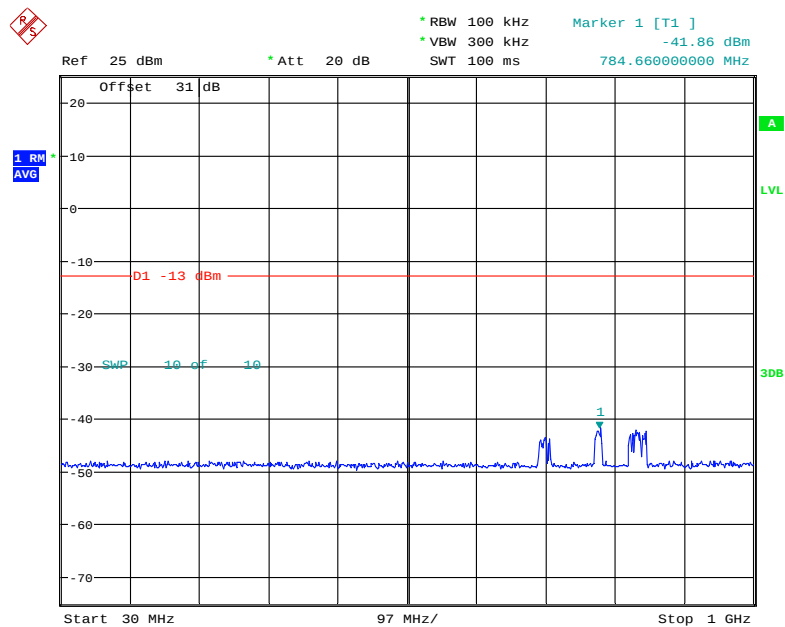


Date: 8.JAN.2019 14:45:31

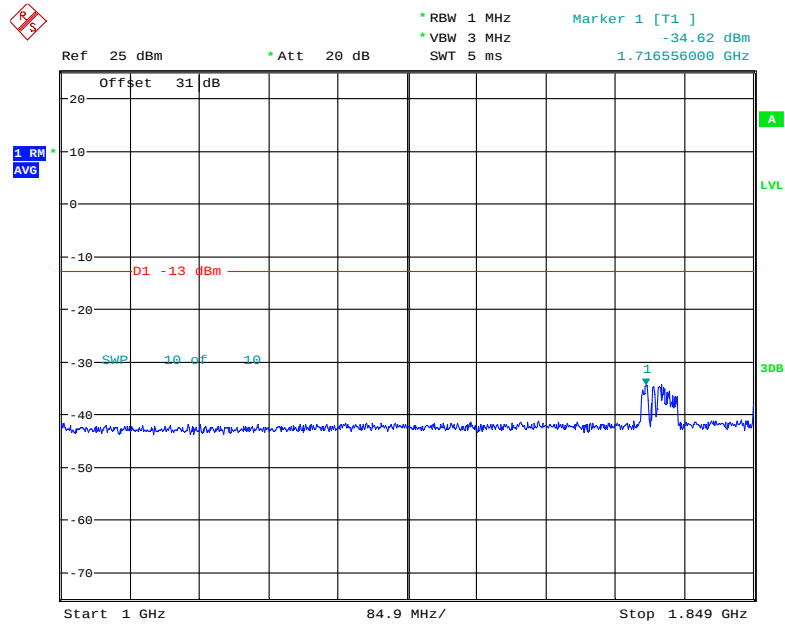


Date: 8.JAN.2019 14:48:24

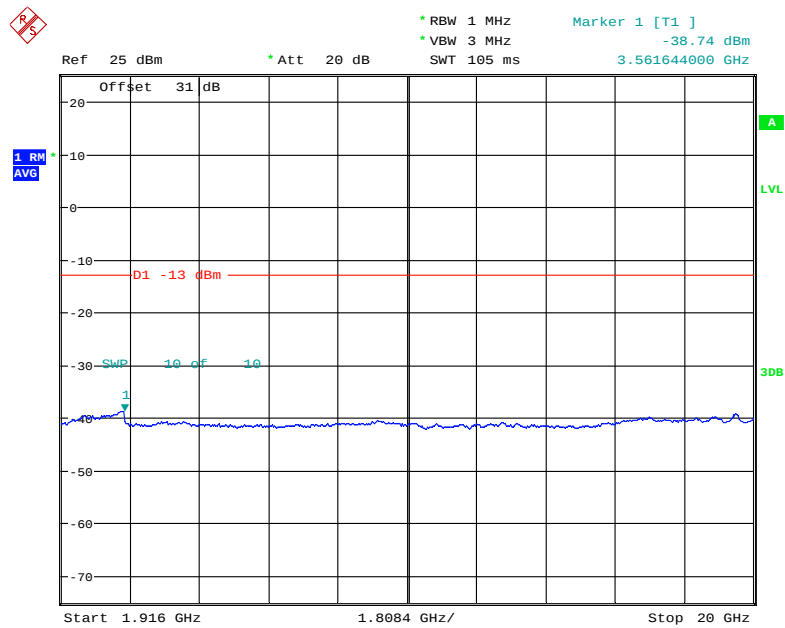
PCS- GSM-Pre AGC-Low Channel



Date: 8.JAN.2019 14:00:15

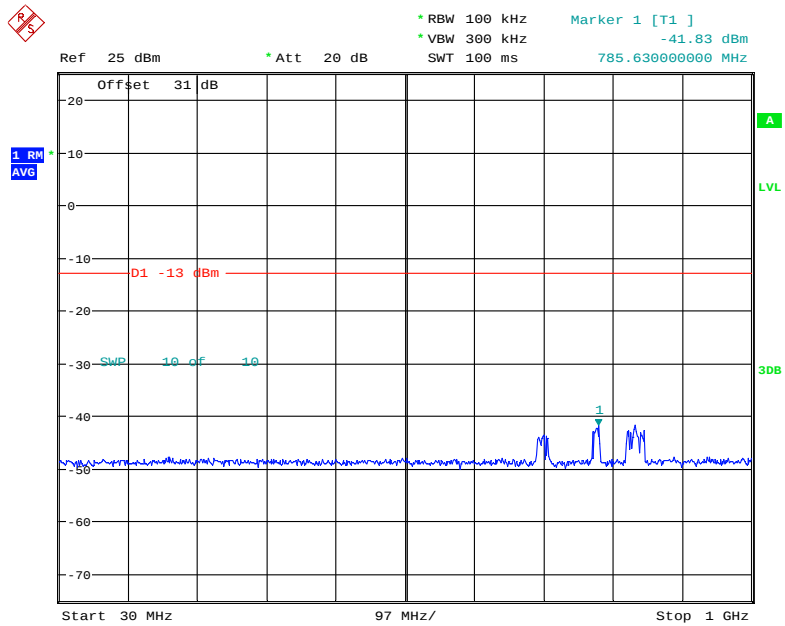


Date: 8.JAN.2019 14:11:04

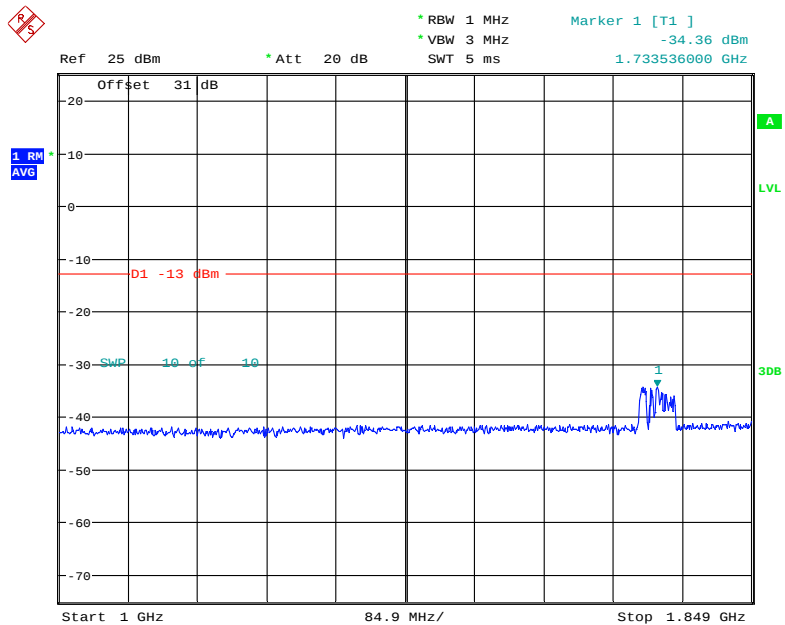


Date: 8.JAN.2019 14:12:00

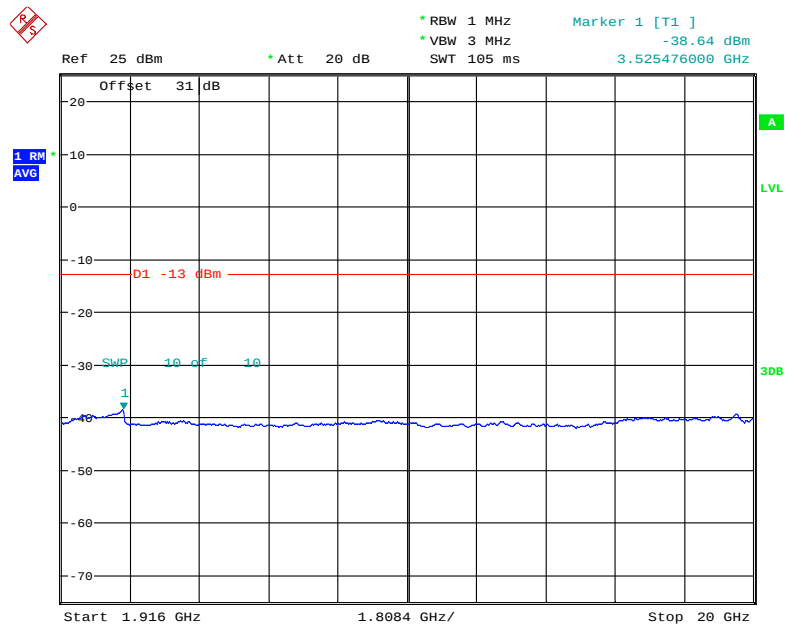
PCS- GSM-Pre AGC-Middle Channel



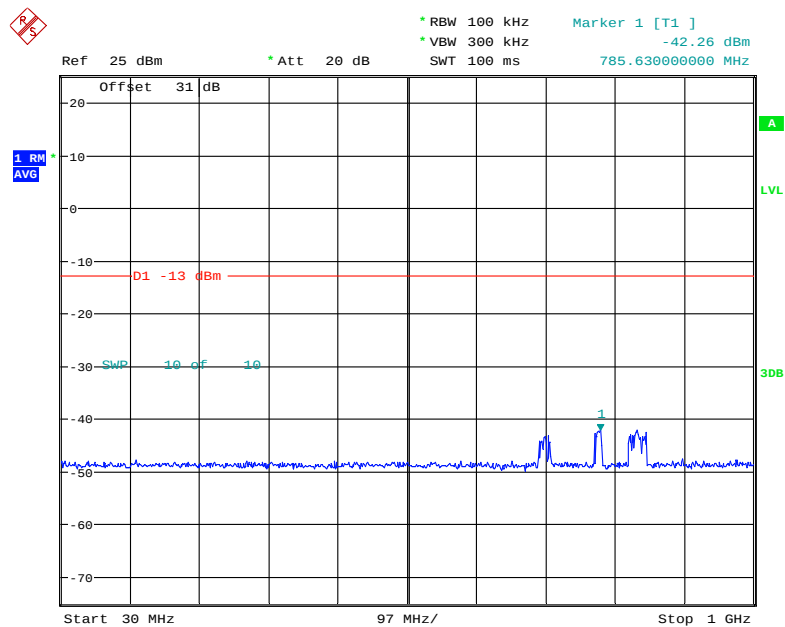
Date: 8.JAN.2019 13:59:55



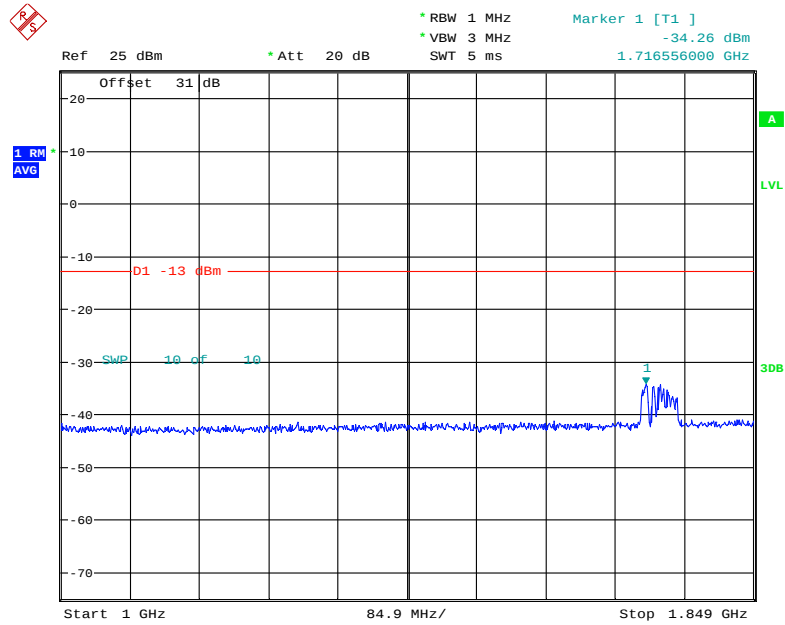
Date: 8.JAN.2019 14:10:44



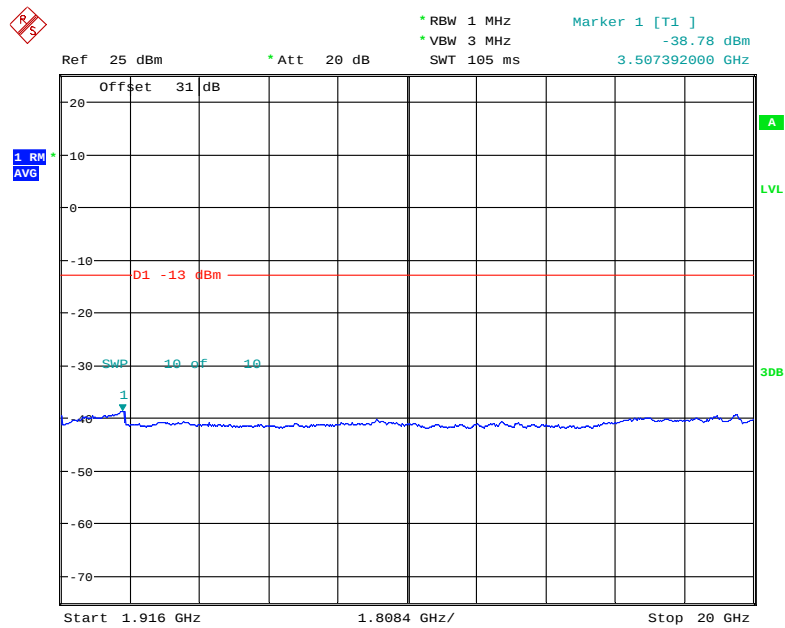
Date: 8.JAN.2019 14:13:00

PCS- GSM-Pre AGC-High Channel

Date: 8.JAN.2019 13:59:26

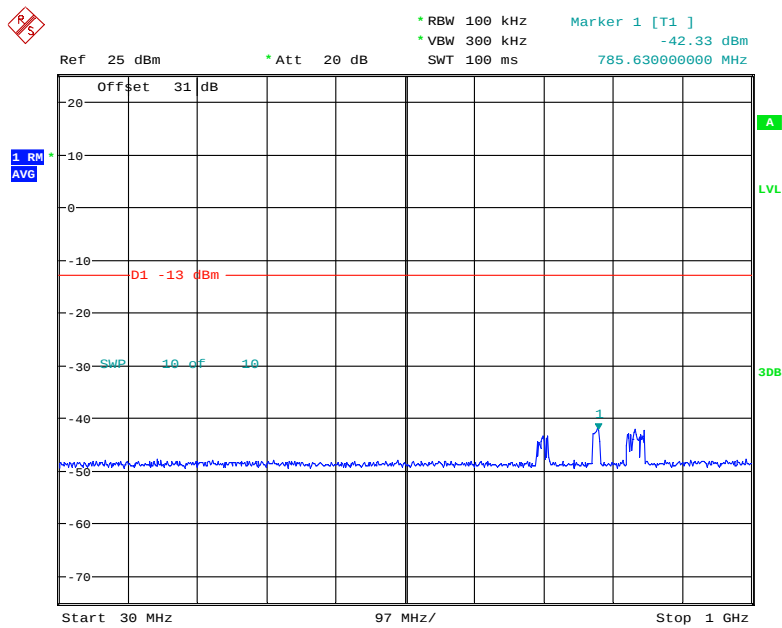


Date: 8.JAN.2019 14:10:14

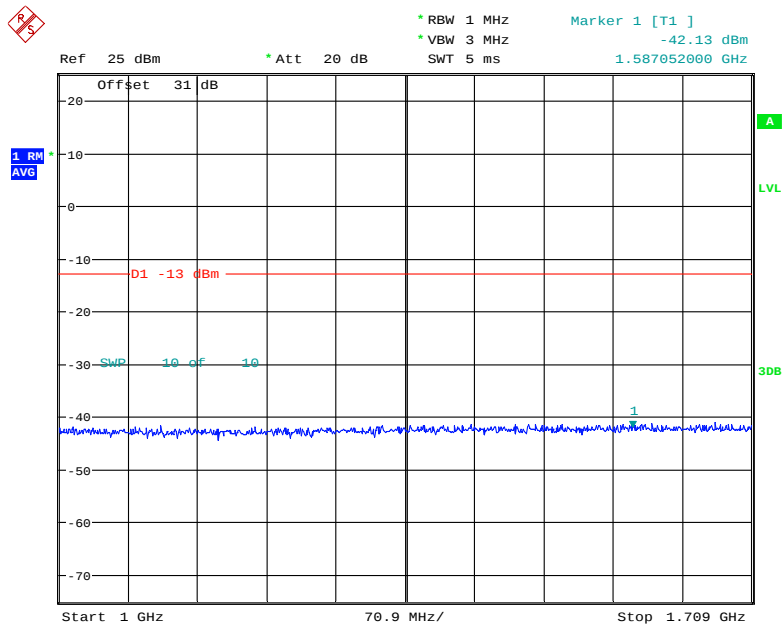


Date: 8.JAN.2019 14:13:20

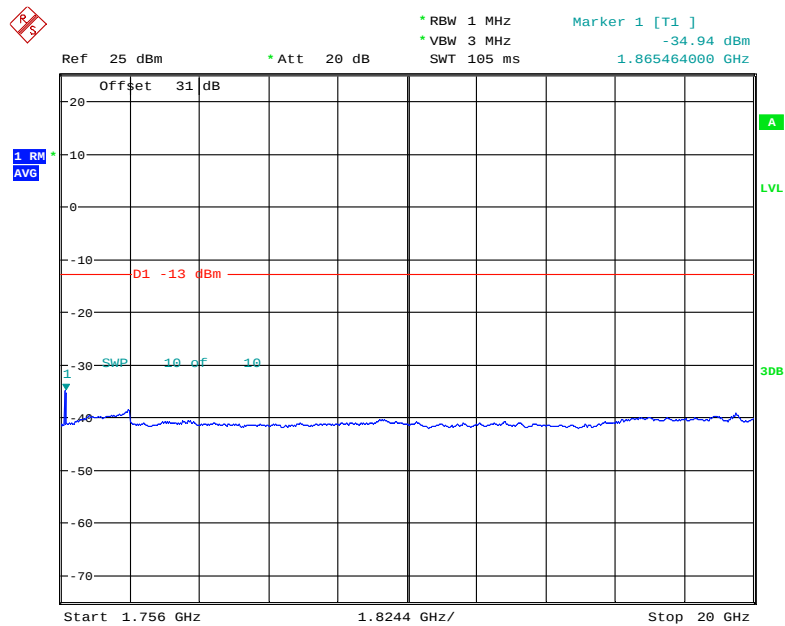
AWS- AWGN-Pre AGC-Low Channel



Date: 7.JAN.2019 17:37:52

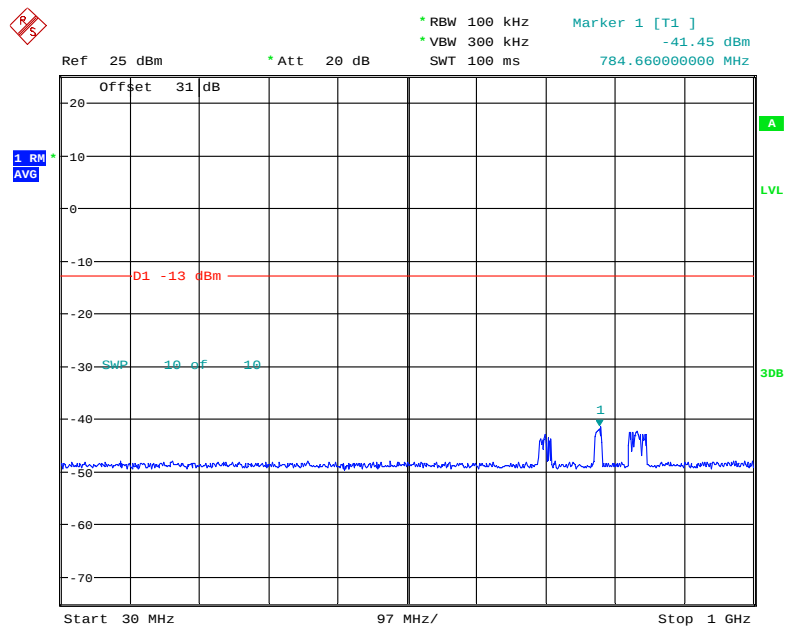


Date: 8.JAN.2019 14:50:32

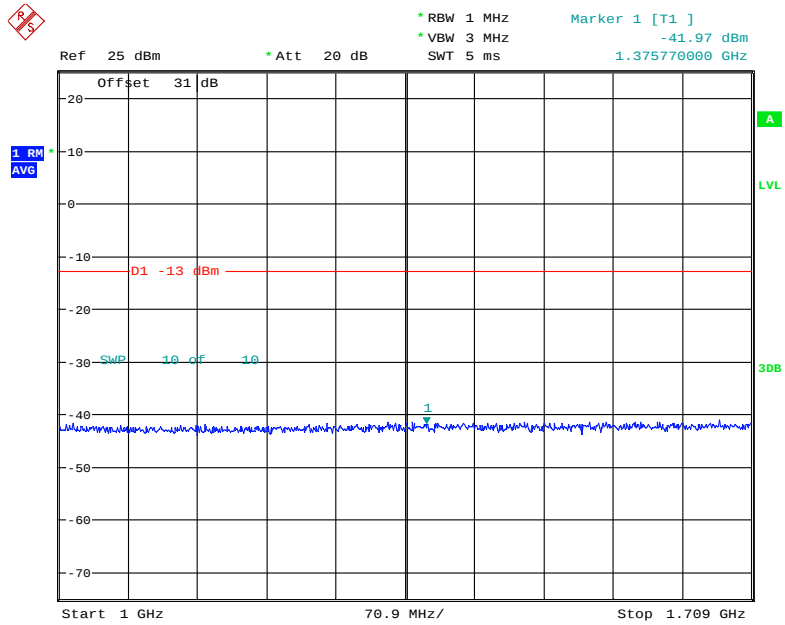


Date: 8.JAN.2019 14:50:55

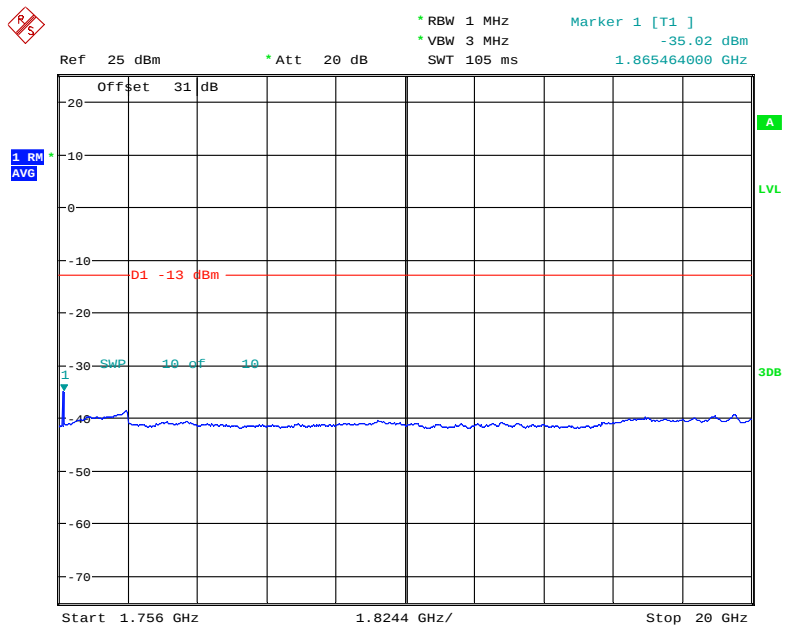
AWS- AWGN-Pre AGC-Middle Channel



Date: 8.JAN.2019 13:44:49

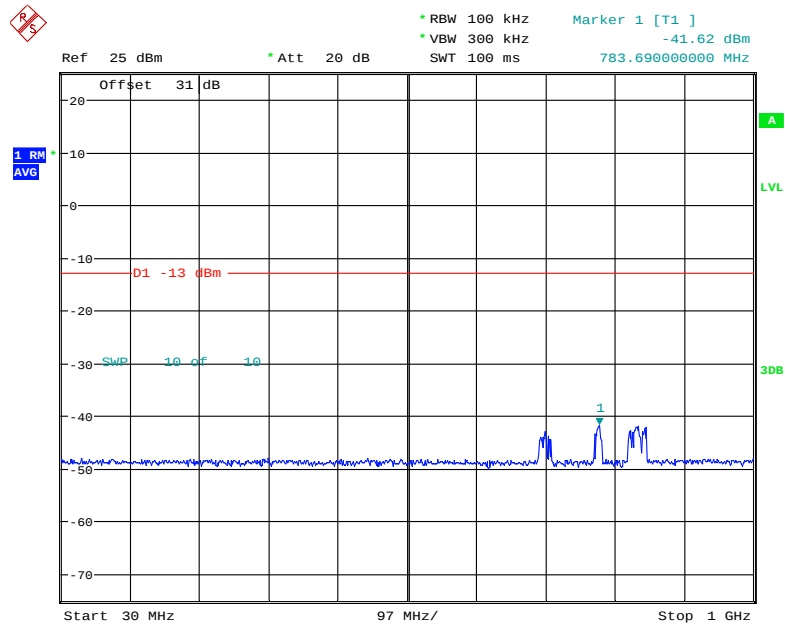


Date: 8.JAN.2019 14:50:16

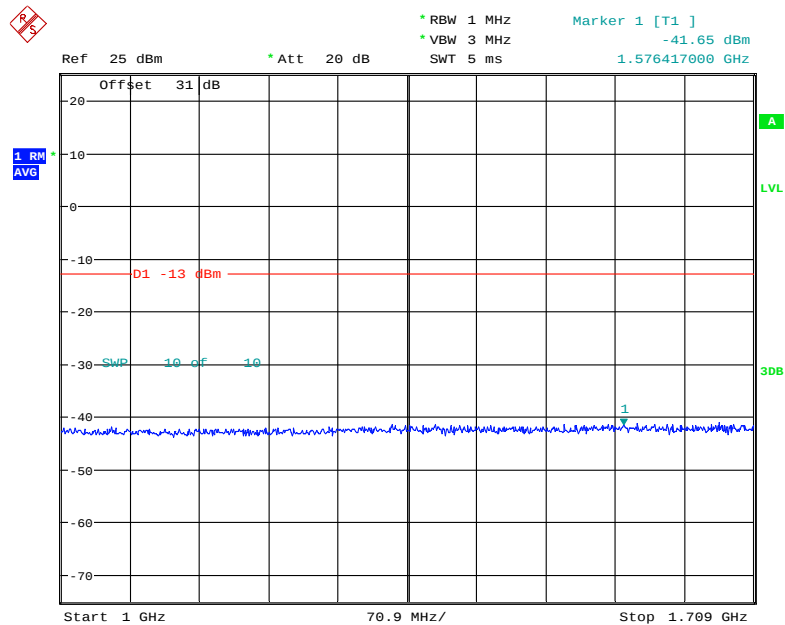


Date: 8.JAN.2019 14:51:25

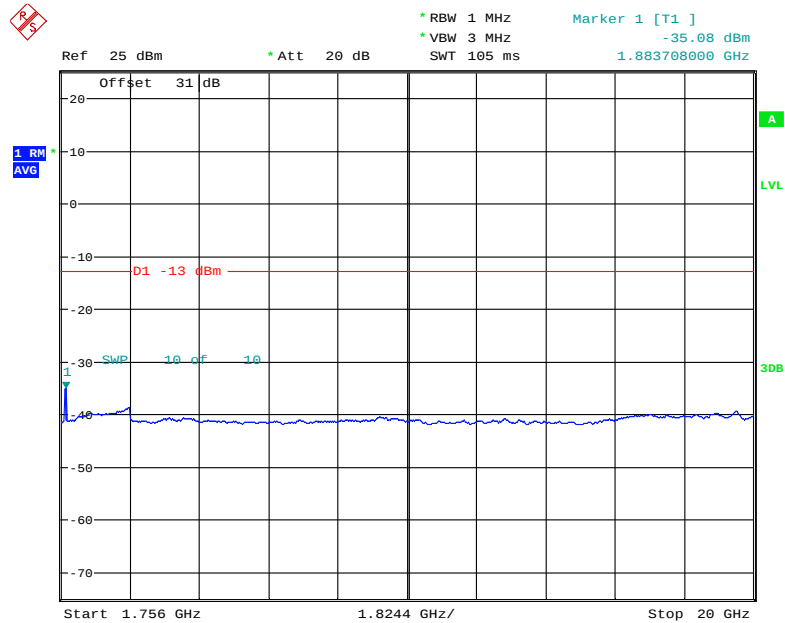
AWS- AWGN-Pre AGC-High Channel



Date: 8.JAN.2019 13:47:47

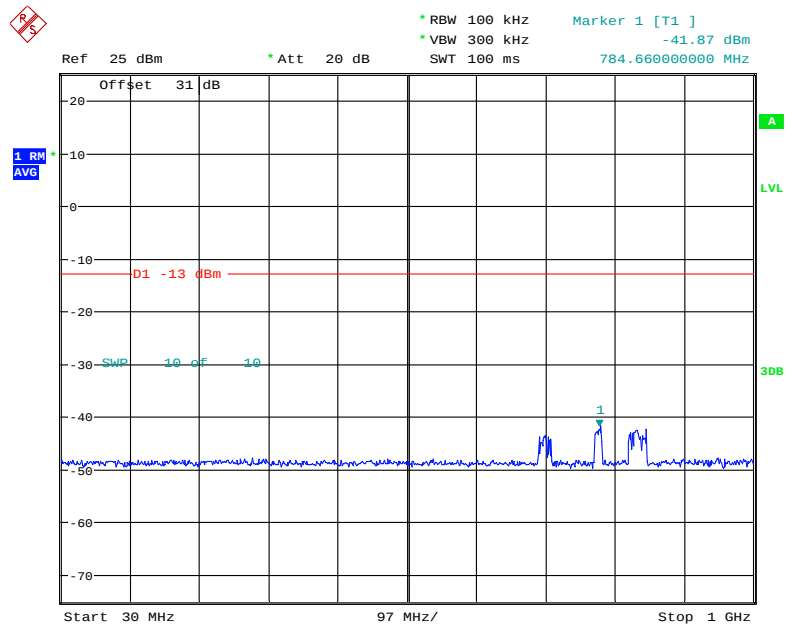


Date: 8.JAN.2019 14:49:35

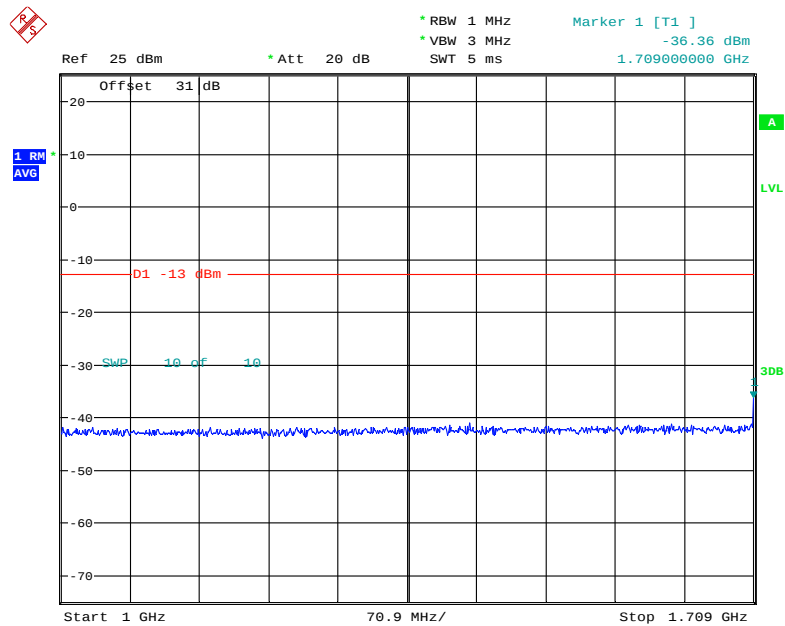


Date: 8.JAN.2019 14:51:43

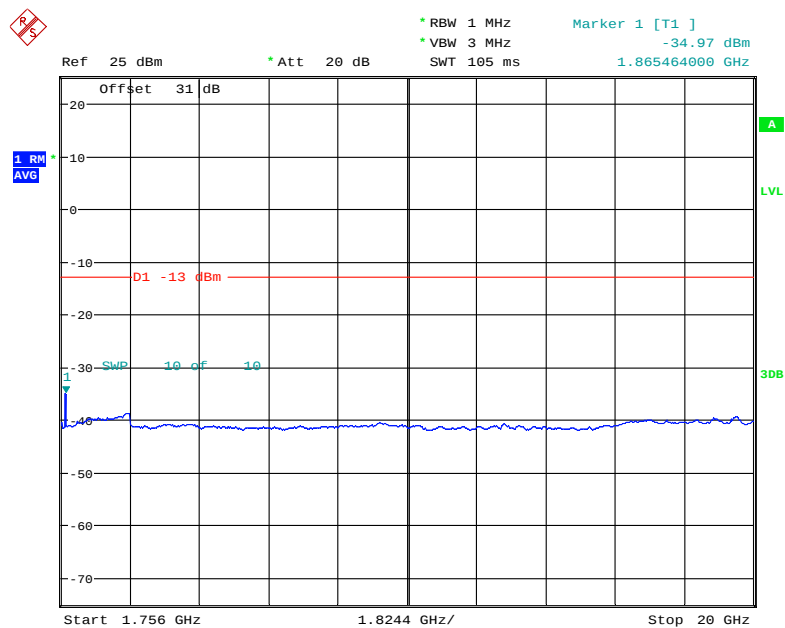
AWS- GSM-Pre AGC-Low Channel



Date: 8.JAN.2019 14:00:30

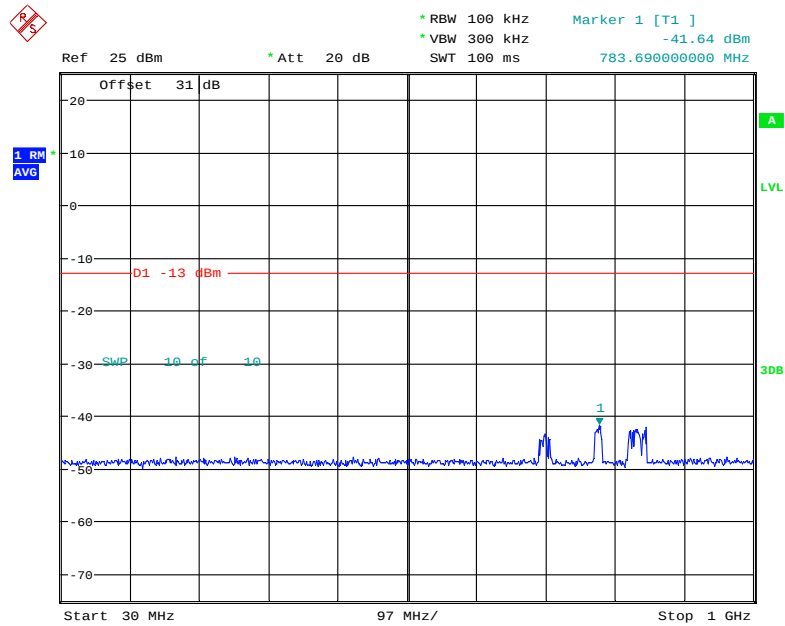


Date: 8.JAN.2019 14:17:52

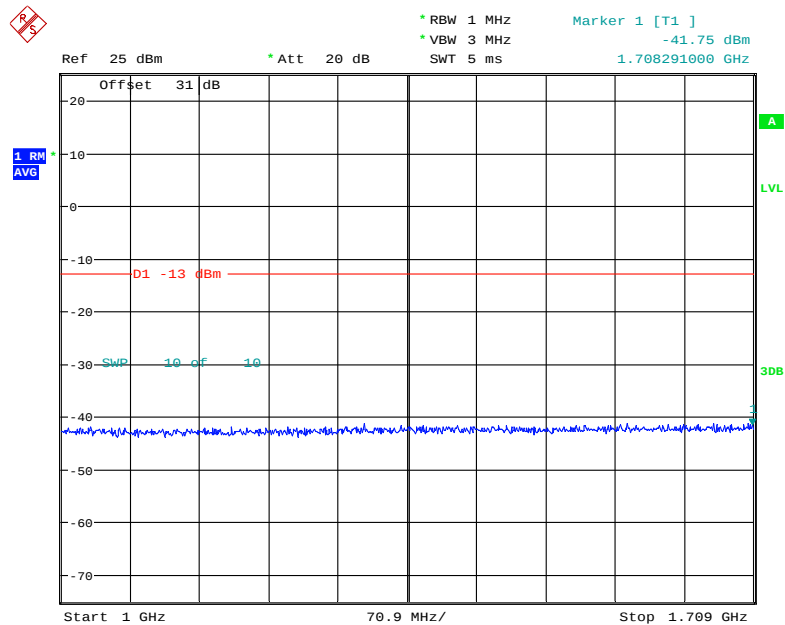


Date: 8.JAN.2019 14:21:58

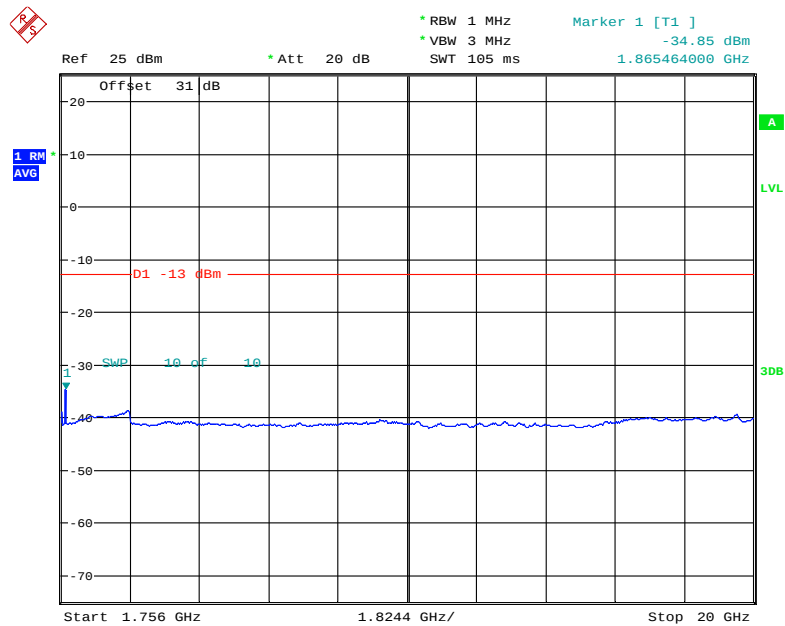
AWS- GSM-Pre AGC-Middle Channel



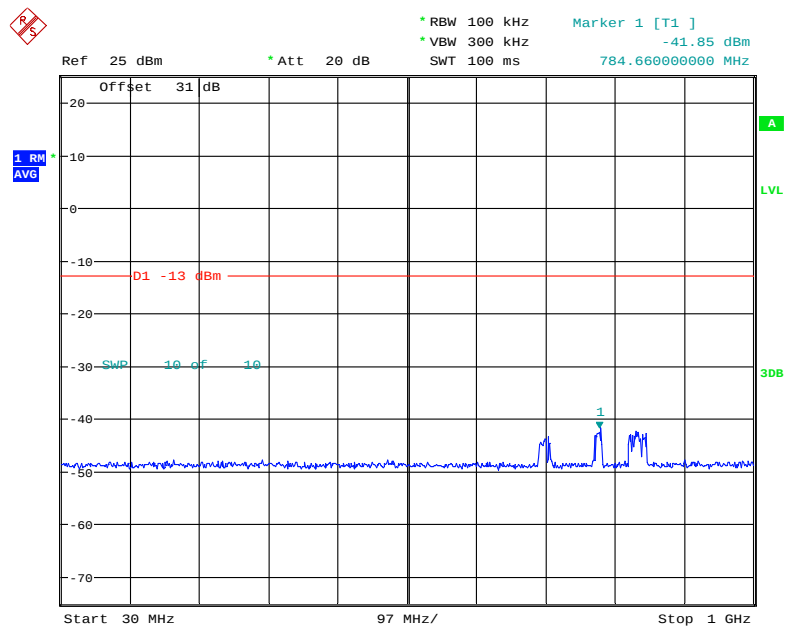
Date: 8.JAN.2019 14:00:51



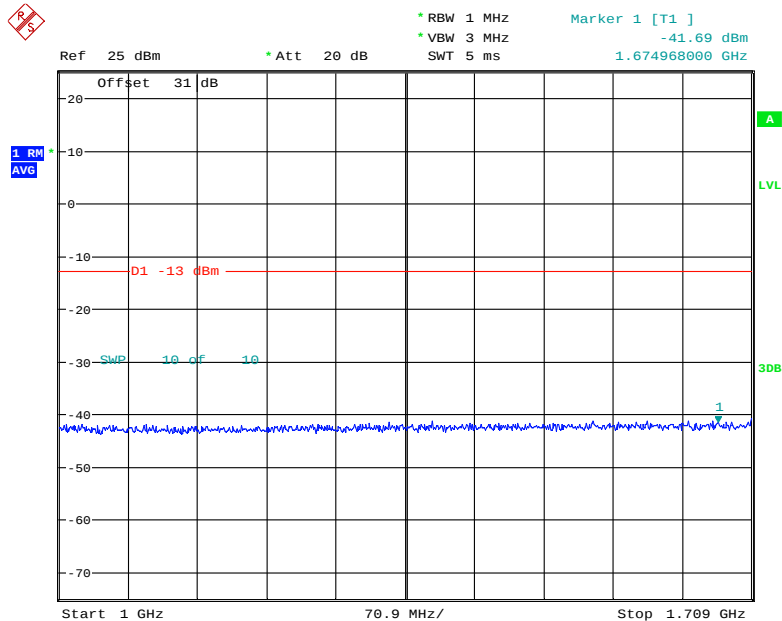
Date: 8.JAN.2019 14:17:35



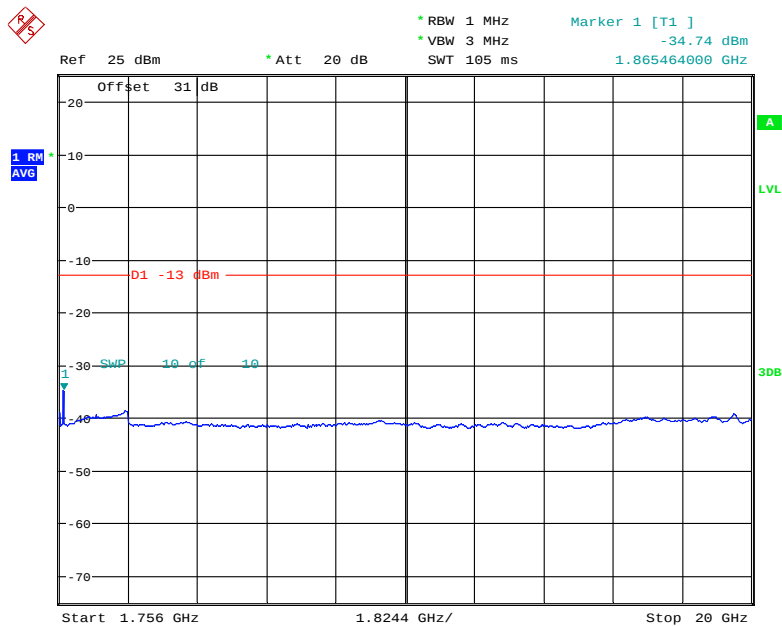
Date: 8.JAN.2019 14:20:02

AWS- GSM-Pre AGC-High Channel

Date: 8.JAN.2019 14:01:08



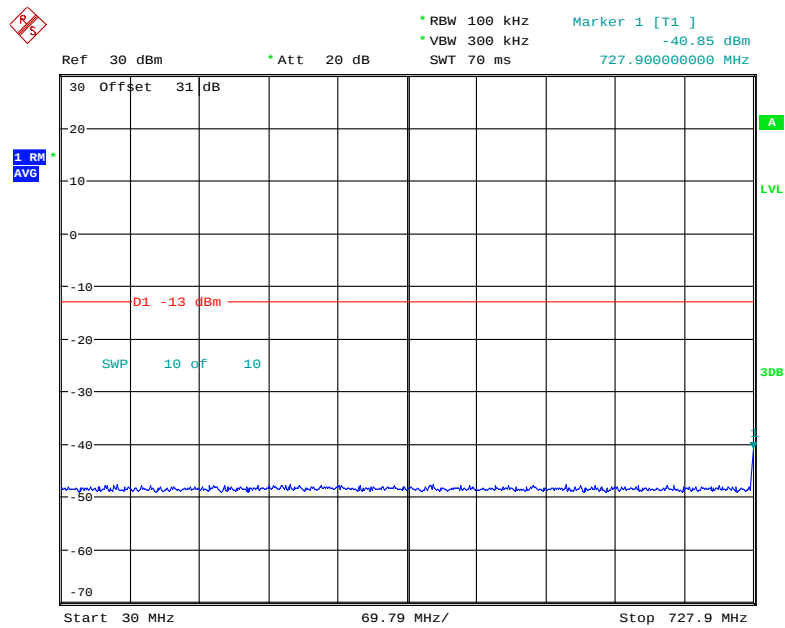
Date: 8.JAN.2019 14:16:41



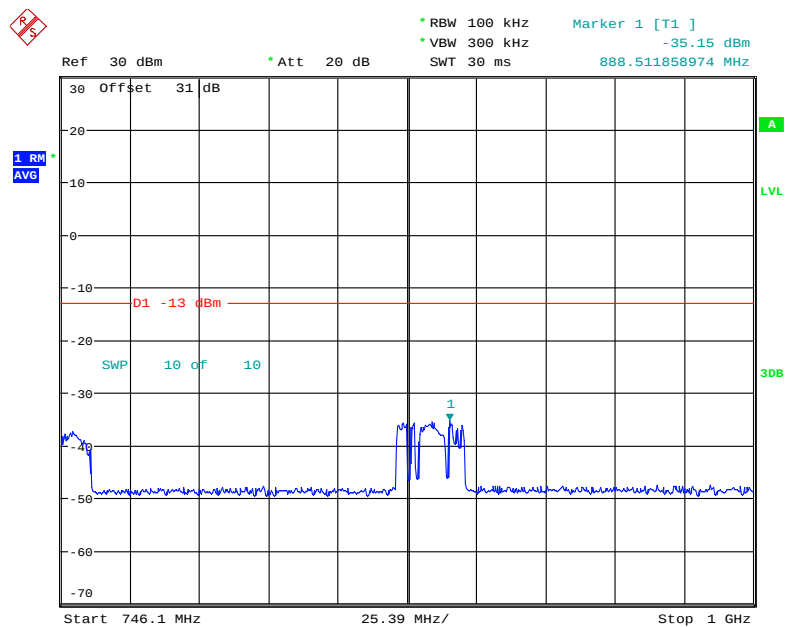
Date: 8.JAN.2019 14:19:22

Downlink:

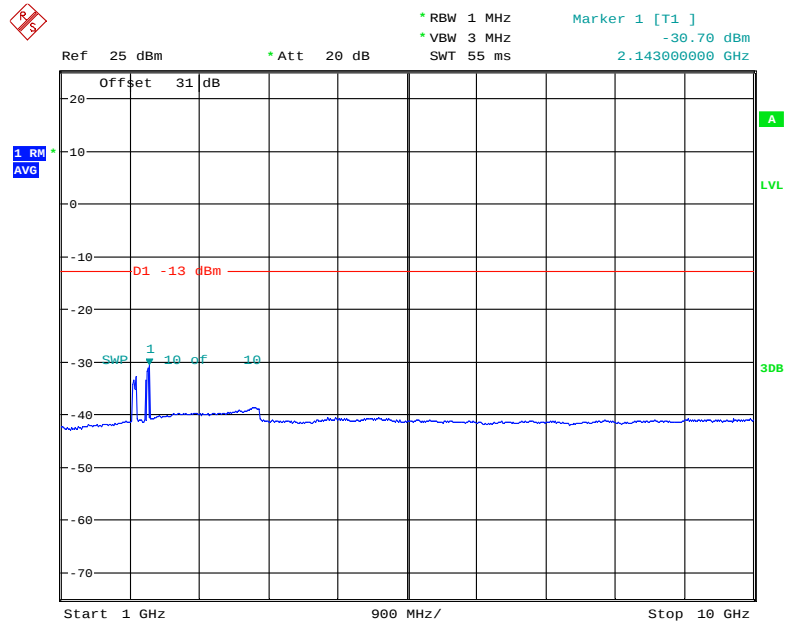
Lower 700MHz (A+B+C Block) - AWGN-Pre AGC-Low Channel



Date: 10.JAN.2019 16:30:10

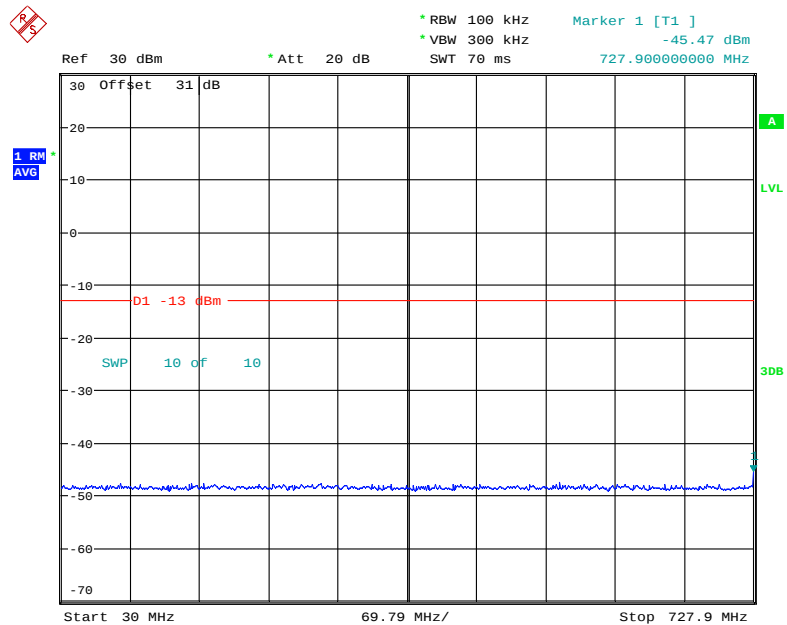


Date: 10.JAN.2019 16:34:35

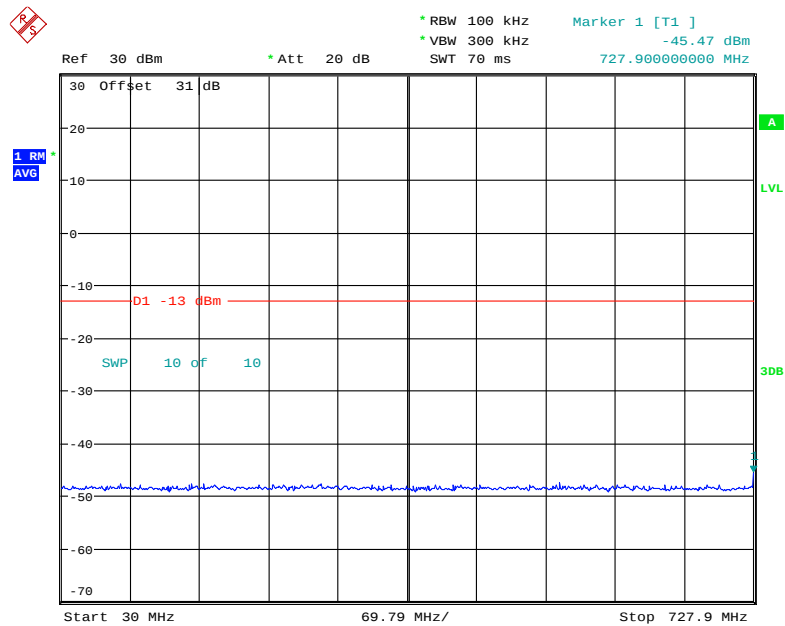


Date: 8.JAN.2019 15:32:00

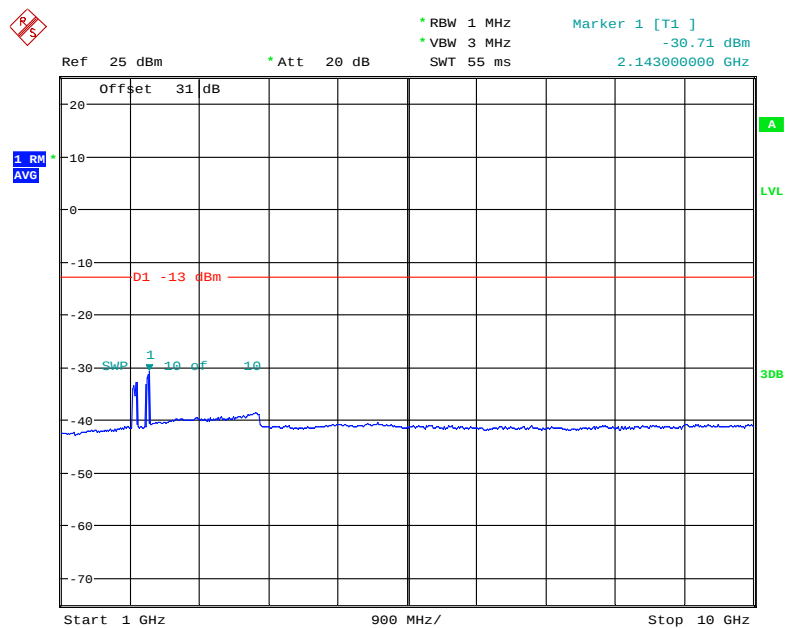
Lower 700MHz (A+B+C Block) - AWGN-Pre AGC-Middle Channel



Date: 10.JAN.2019 16:31:16

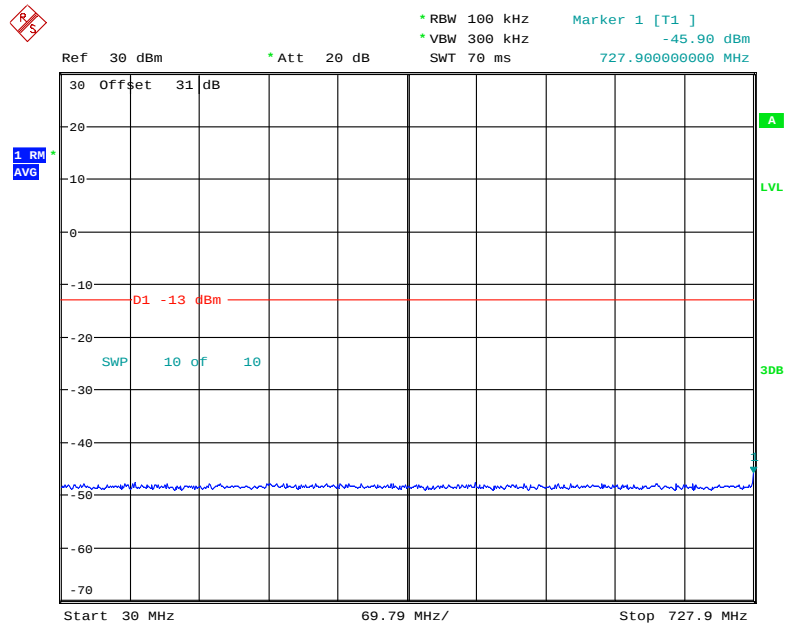


Date: 10.JAN.2019 16:31:16

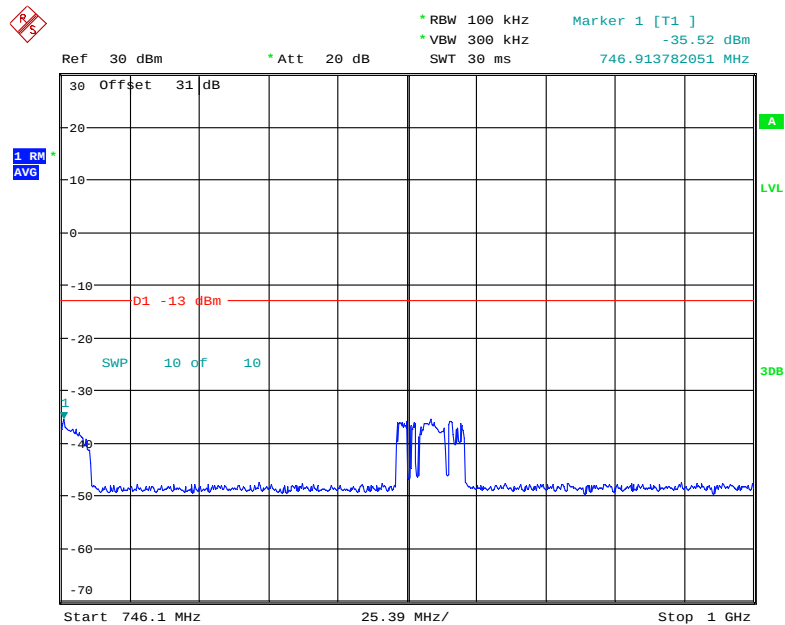


Date: 8.JAN.2019 15:32:41

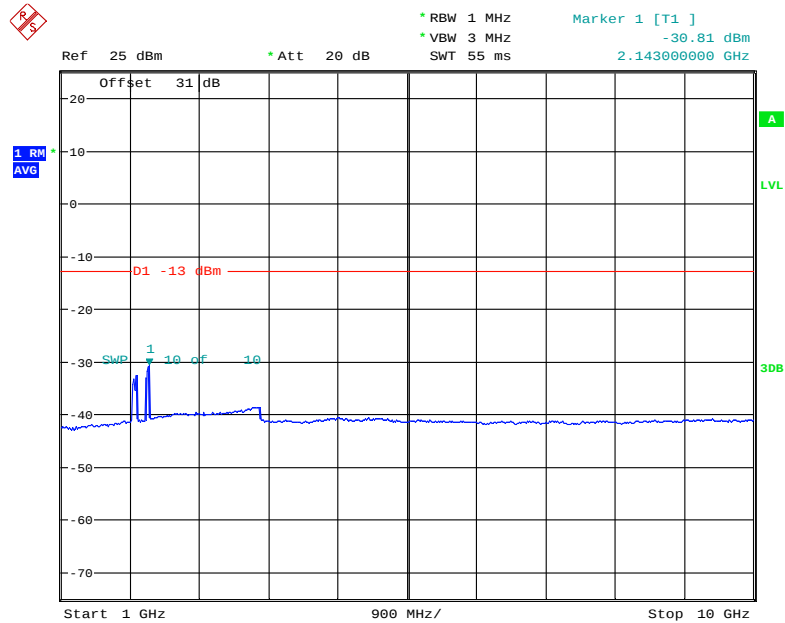
Lower 700MHz (A+B+C Block) - AWGN-Pre AGC-High Channel



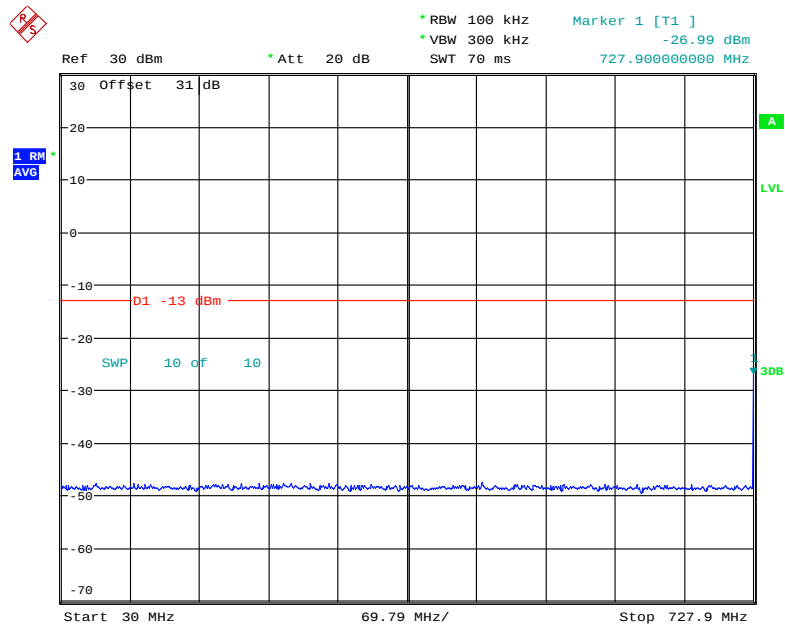
Date: 10.JAN.2019 16:31:42



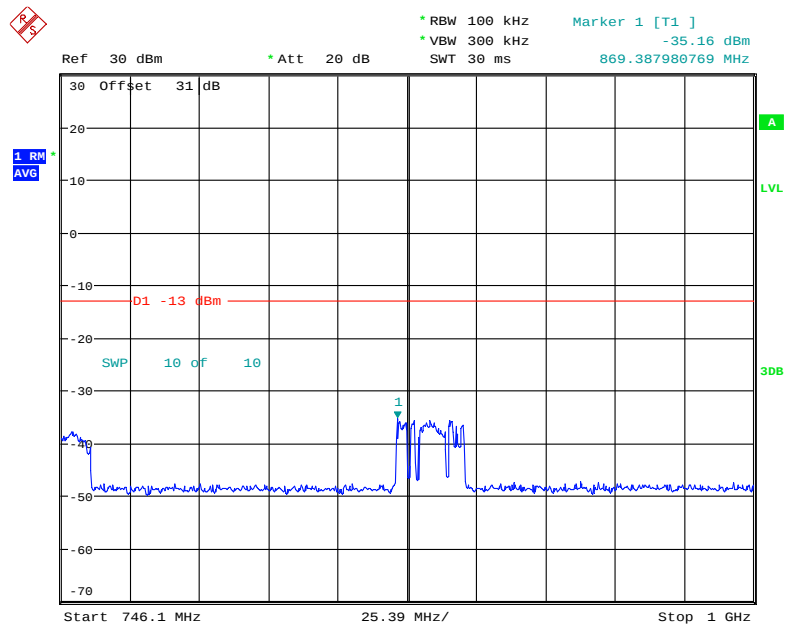
Date: 10.JAN.2019 16:32:15



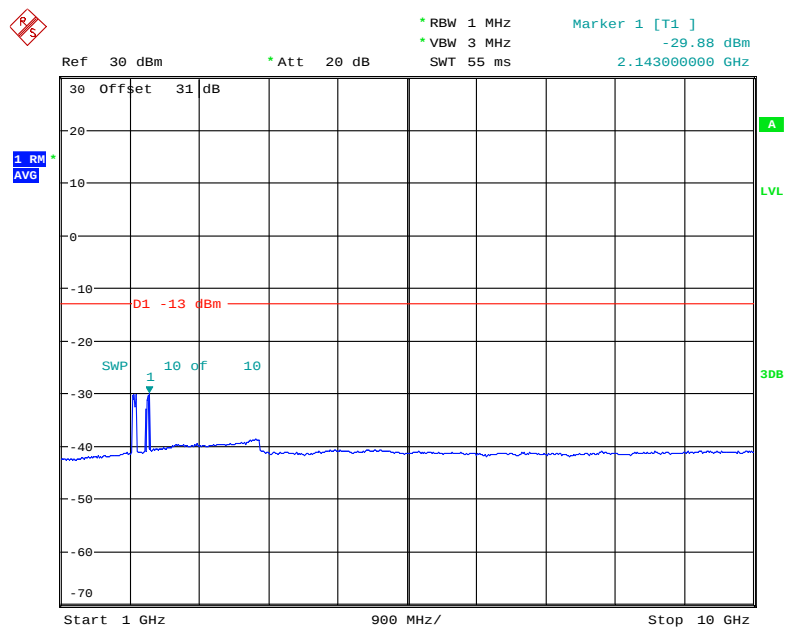
Date: 8.JAN.2019 15:32:57

Lower 700MHz (A+B+C Block) - GSM-Pre AGC-Low Channel

Date: 10.JAN.2019 17:04:50

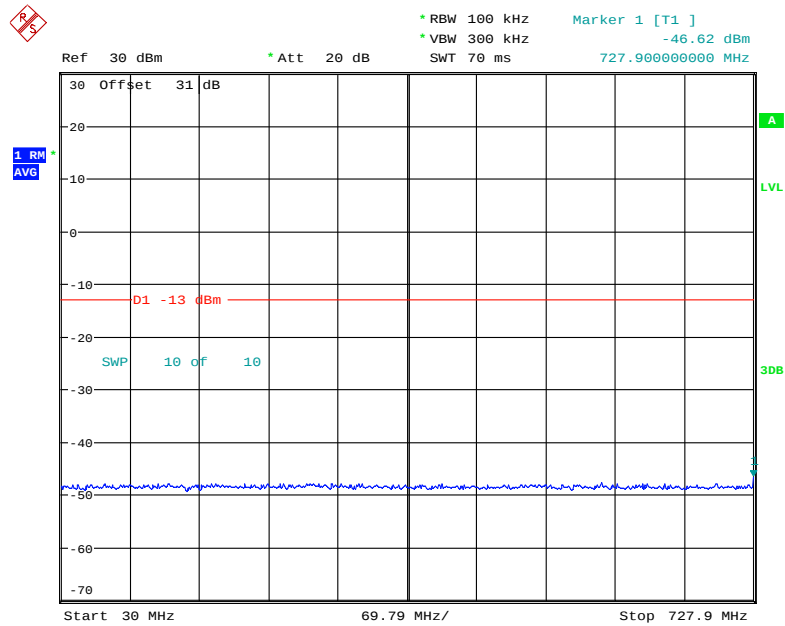


Date: 10.JAN.2019 17:08:04

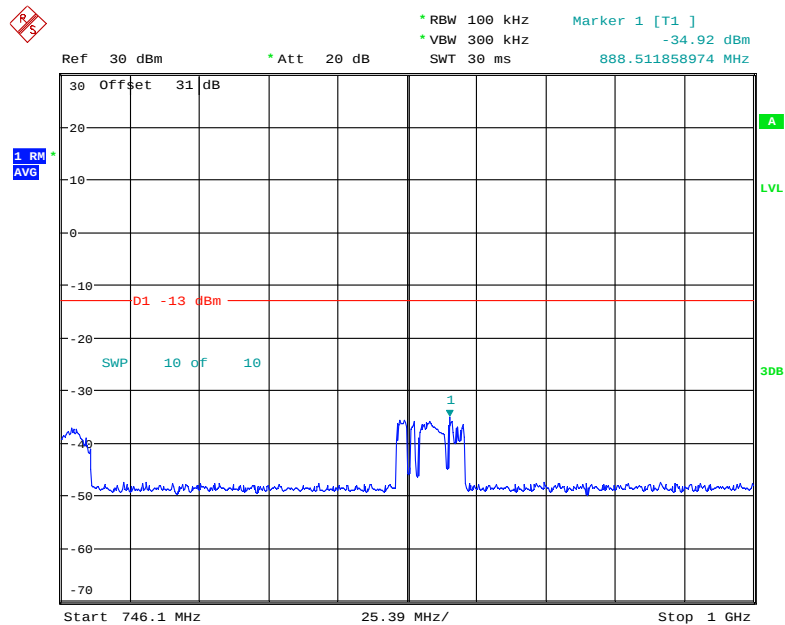


Date: 8.JAN.2019 16:36:27

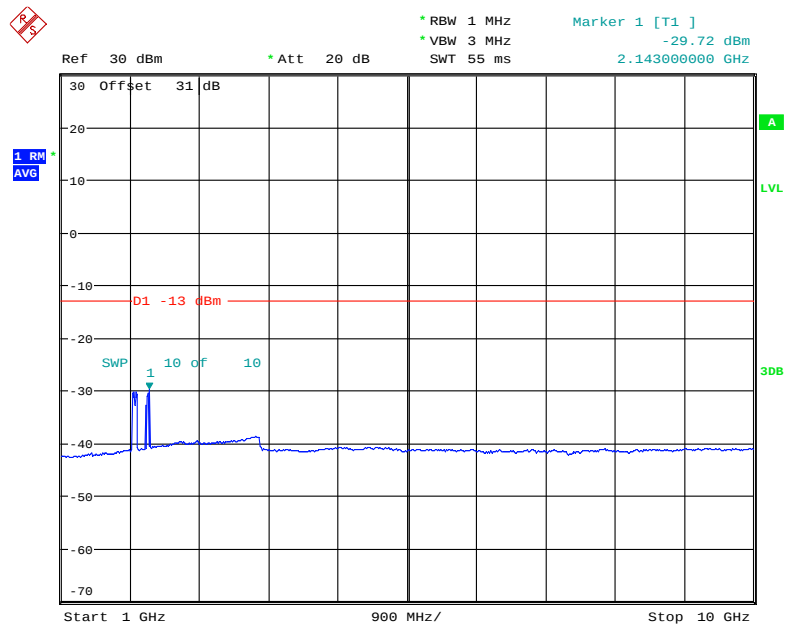
Lower 700MHz (A+B+C Block) - GSM-Pre AGC-Middle Channel



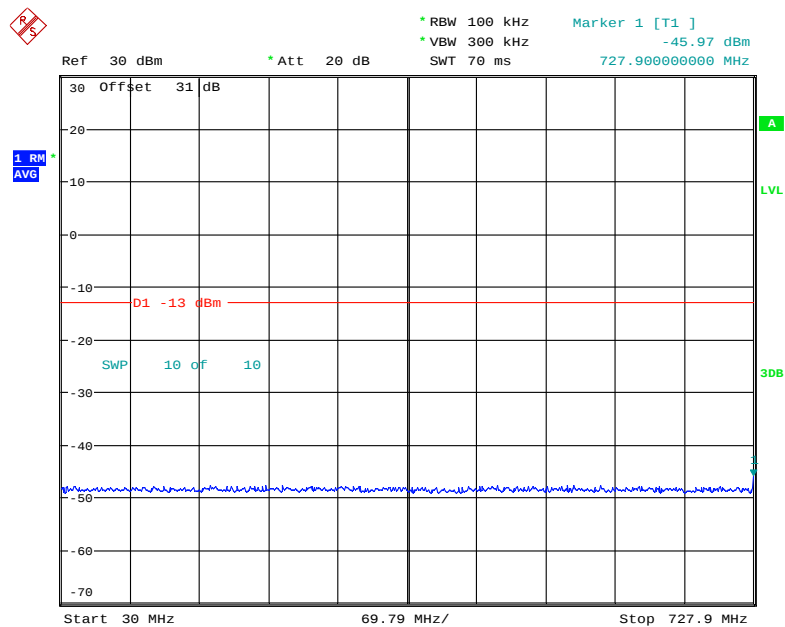
Date: 10.JAN.2019 17:06:03



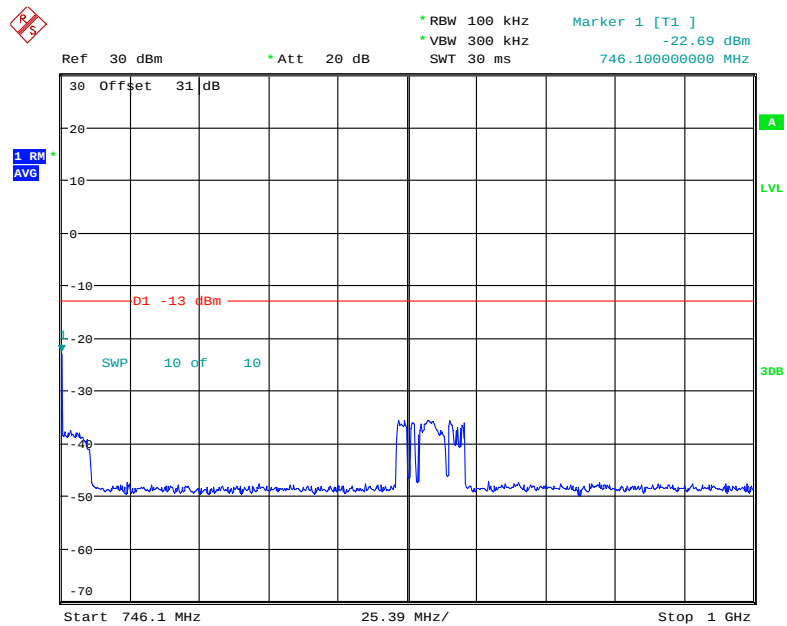
Date: 10.JAN.2019 17:07:38



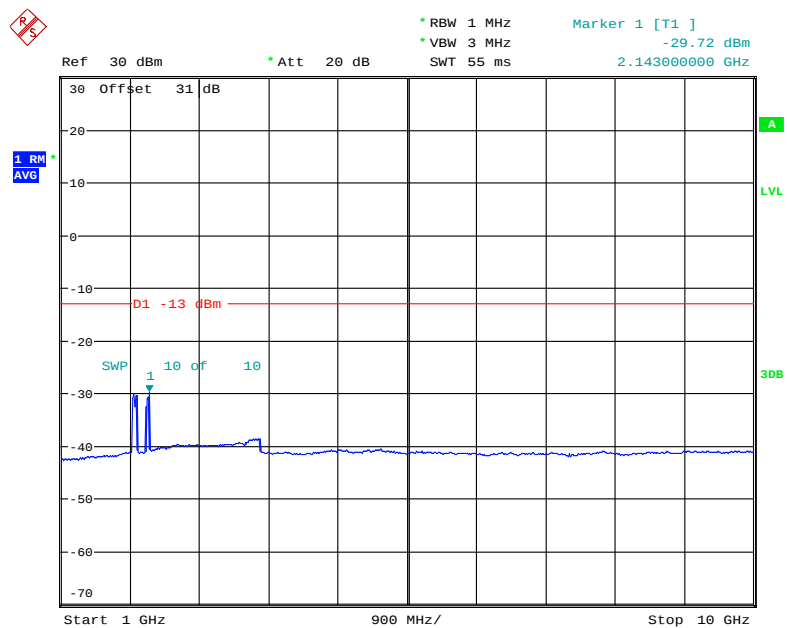
Date: 8.JAN.2019 16:37:00

Lower 700MHz (A+B+C Block) - GSM-Pre AGC-High Channel

Date: 10.JAN.2019 17:06:34

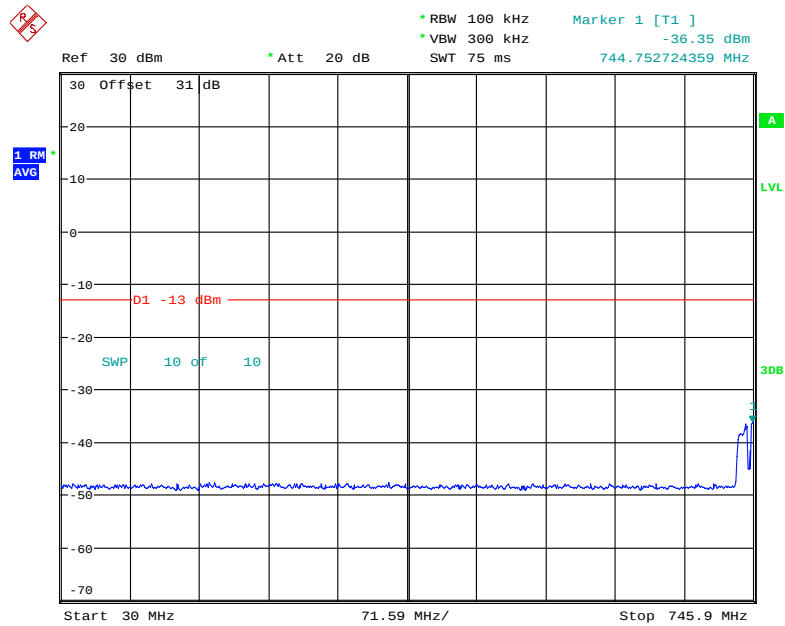


Date: 10.JAN.2019 17:07:06

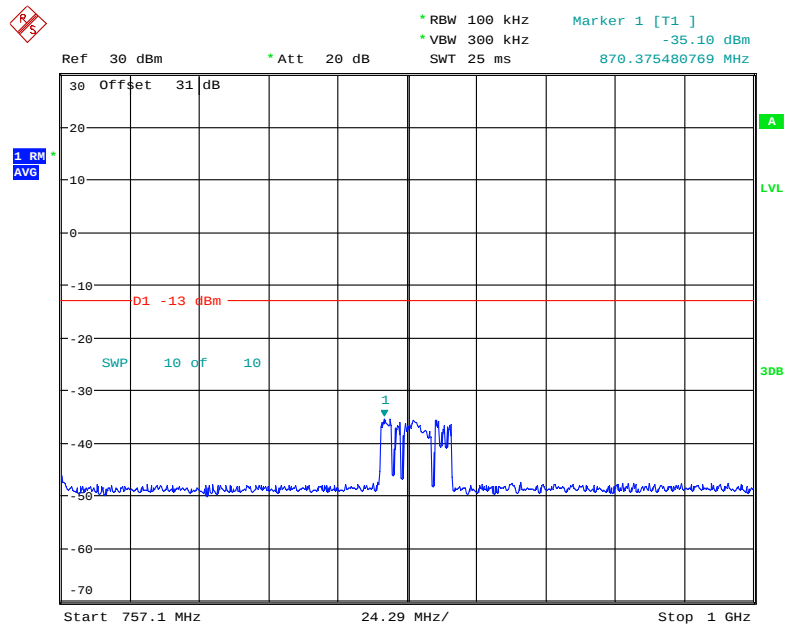


Date: 8.JAN.2019 16:37:20

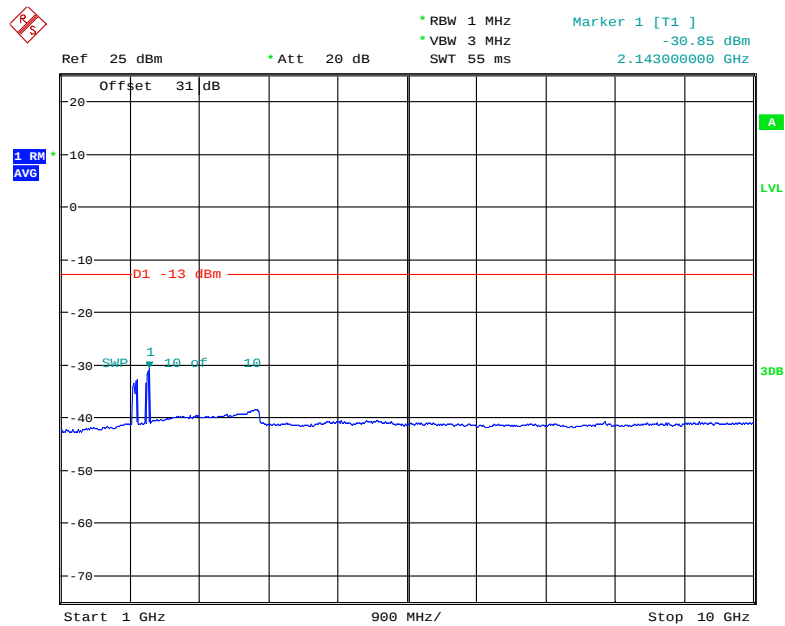
Upper 700MHz (C Block) - AWGN-Pre AGC-Low Channel



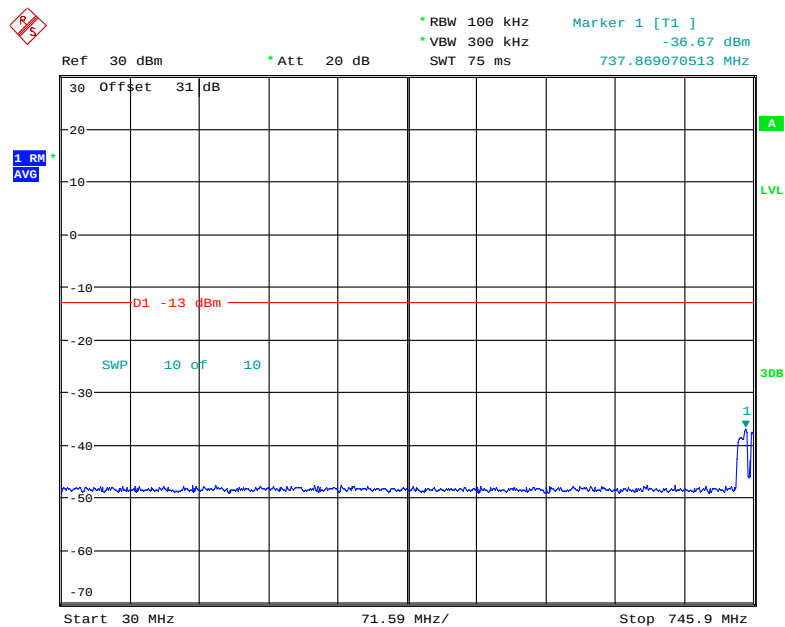
Date: 10.JAN.2019 16:39:49



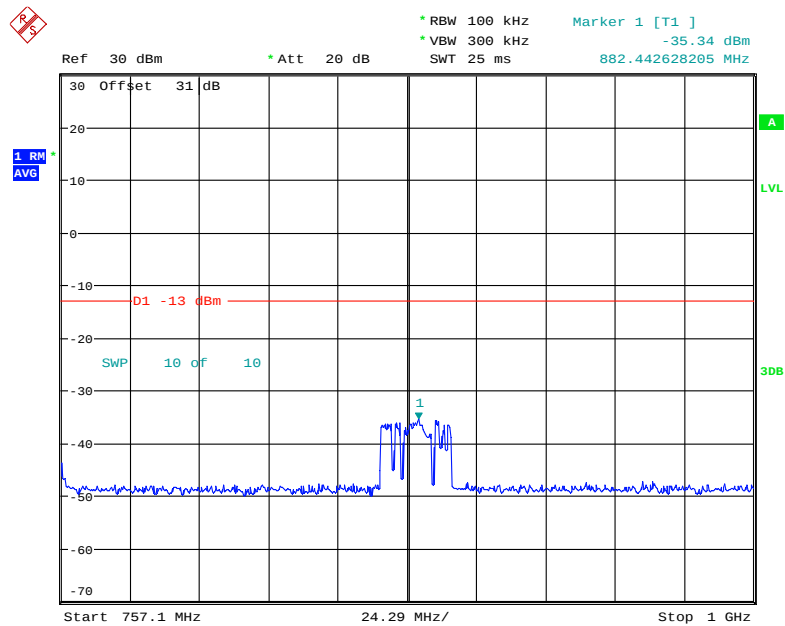
Date: 10.JAN.2019 16:46:19



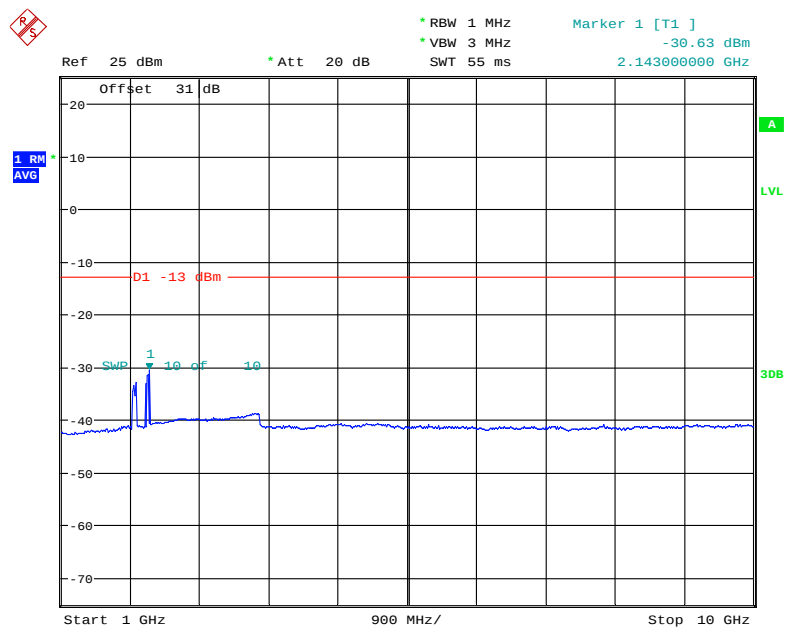
Date: 8.JAN.2019 15:34:48

Upper 700MHz (C Block) - AWGN-Pre AGC-Middle Channel

Date: 10.JAN.2019 16:43:04

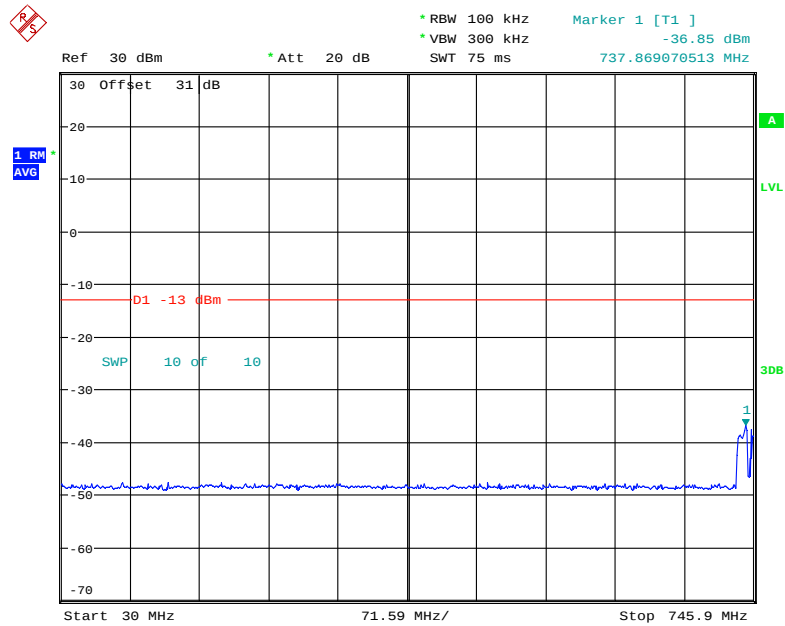


Date: 10.JAN.2019 16:45:51

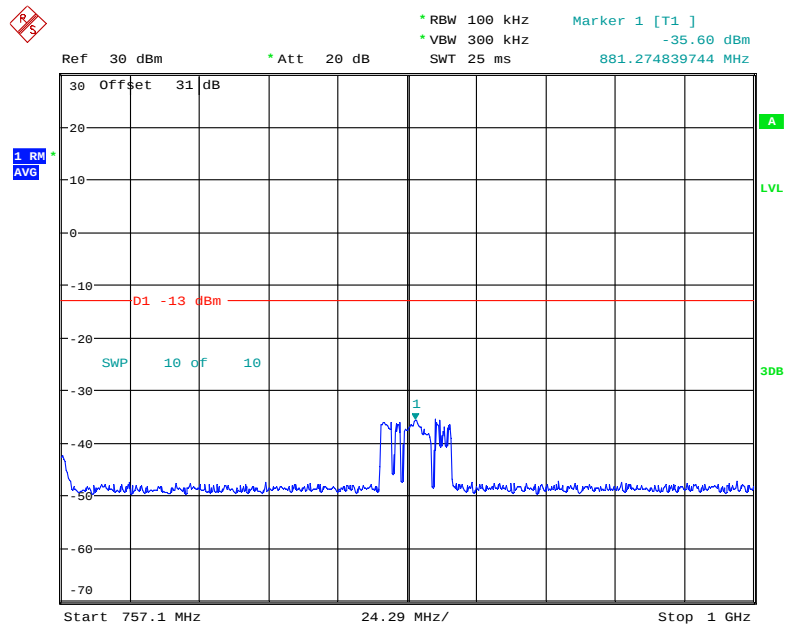


Date: 8.JAN.2019 15:34:29

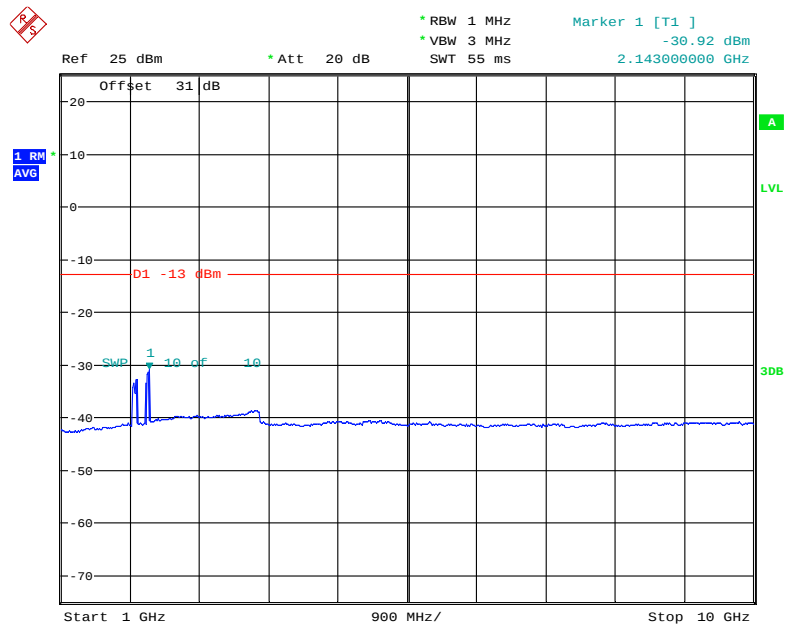
Upper 700MHz (C Block) - AWGN-Pre AGC-High Channel



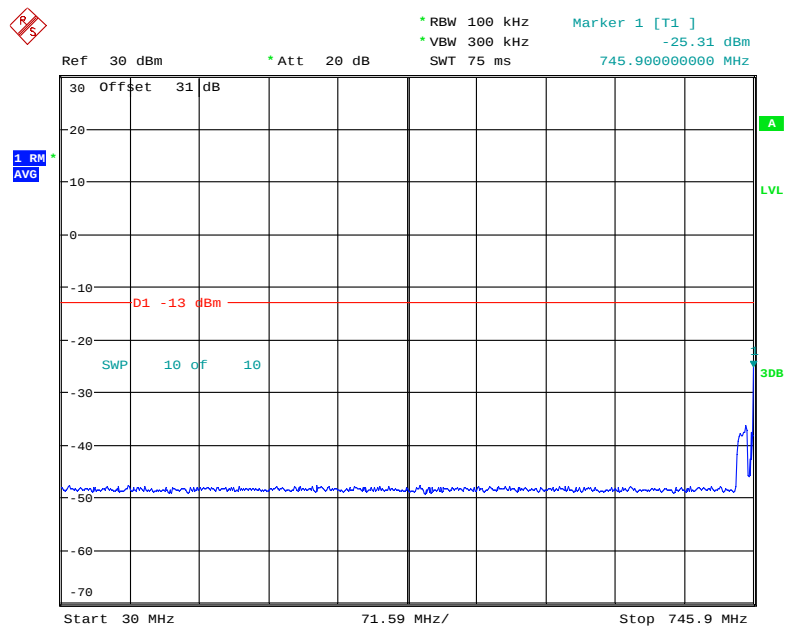
Date: 10.JAN.2019 16:43:30



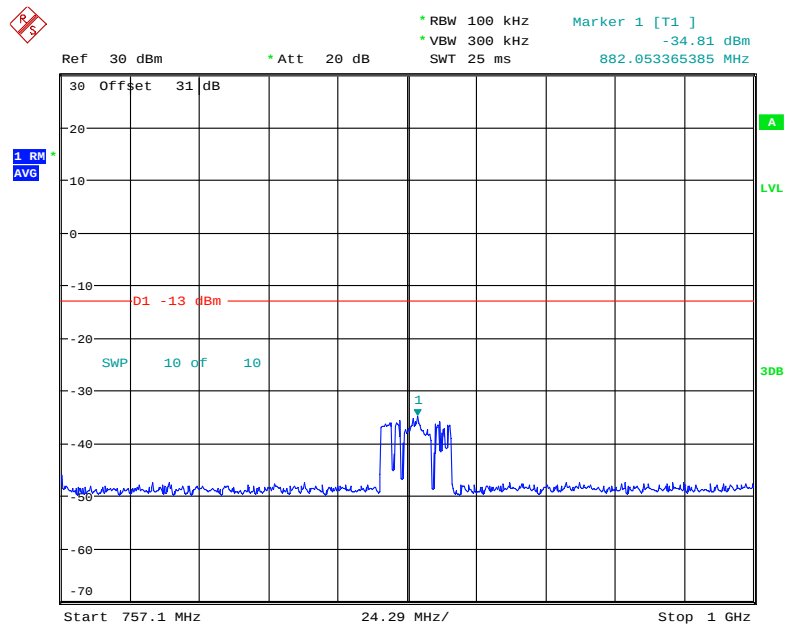
Date: 10.JAN.2019 16:45:00



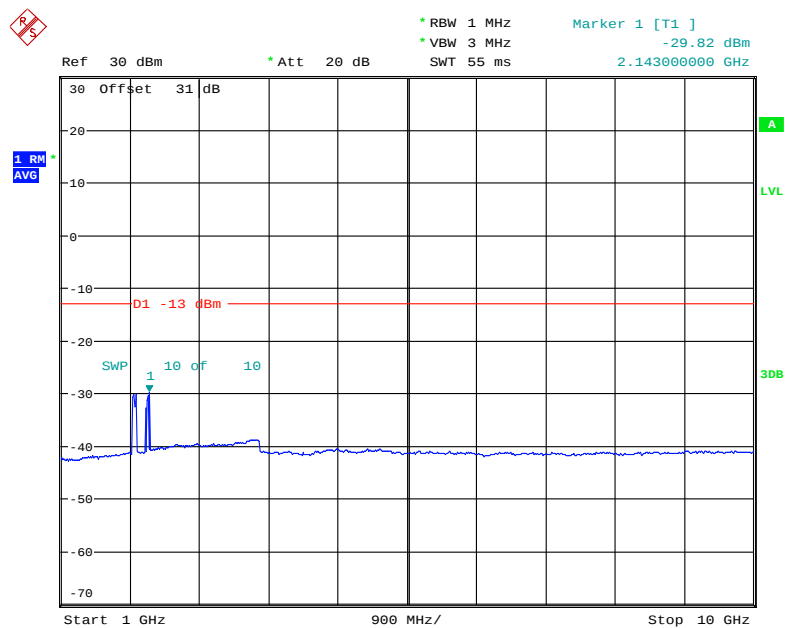
Date: 8.JAN.2019 15:33:29

Upper 700MHz (C Block) - GSM-Pre AGC-Low Channel

Date: 10.JAN.2019 17:10:45

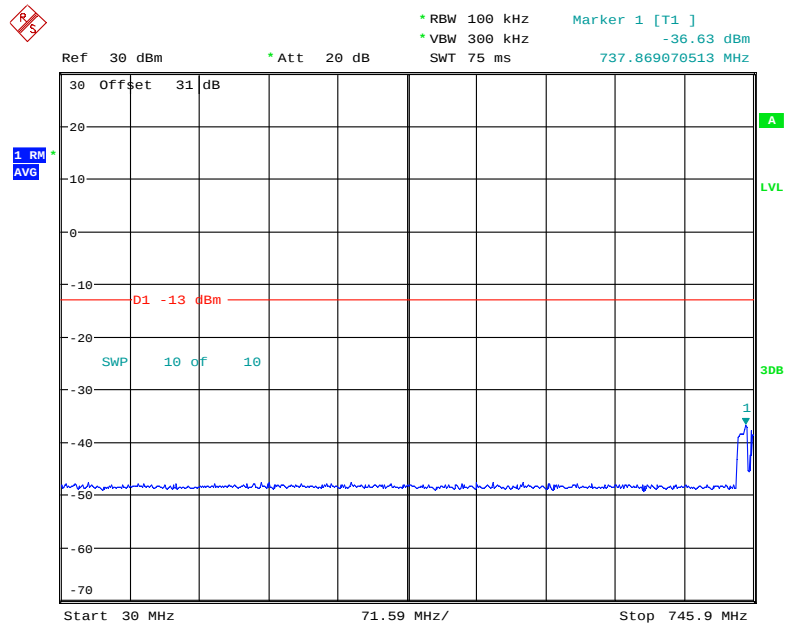


Date: 10.JAN.2019 17:15:23

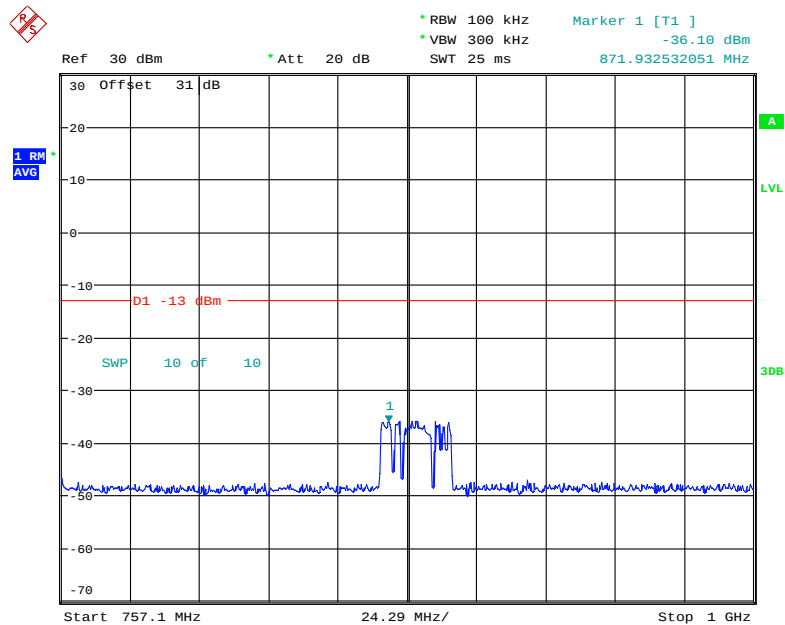


Date: 8.JAN.2019 16:38:17

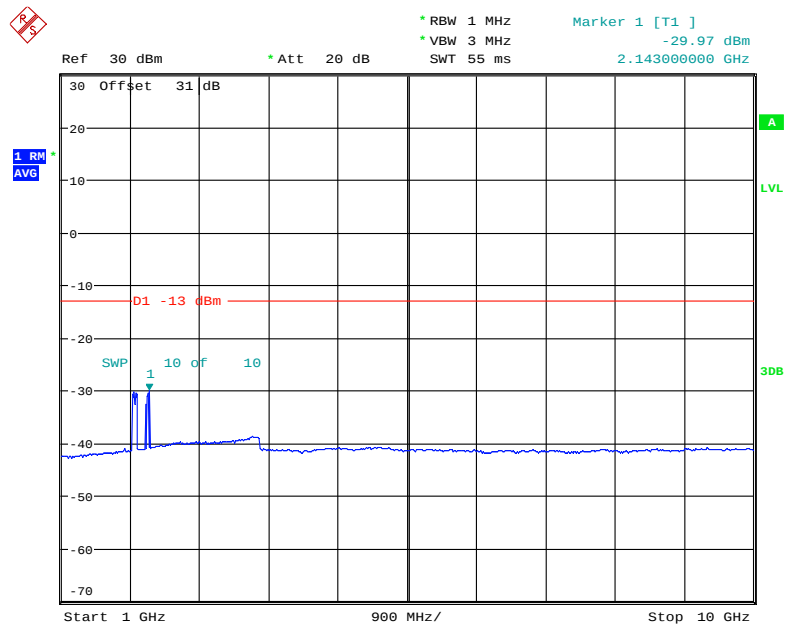
Upper 700MHz (C Block) - GSM-Pre AGC-Middle Channel



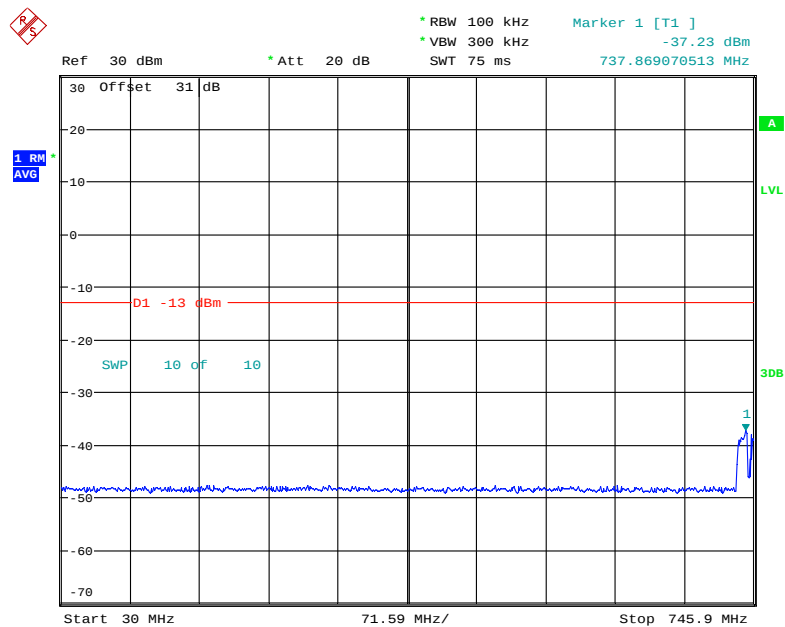
Date: 10.JAN.2019 17:12:34



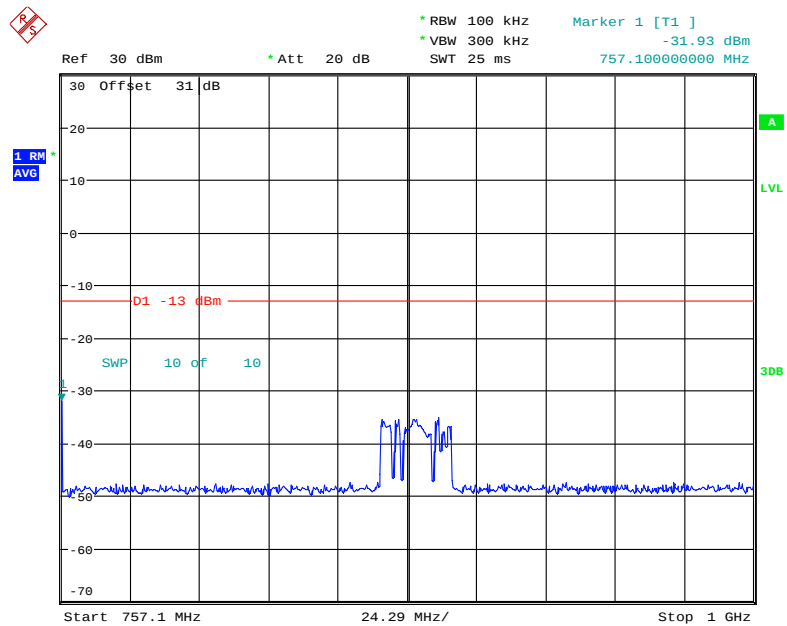
Date: 10.JAN.2019 17:14:58



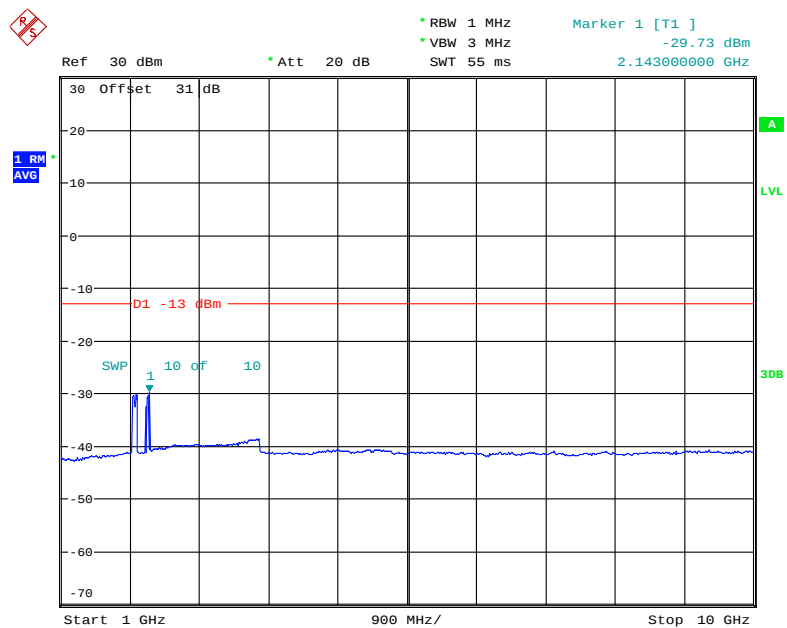
Date: 8.JAN.2019 16:38:03

Upper 700MHz (C Block) - GSM-Pre AGC-High Channel

Date: 10.JAN.2019 17:13:04

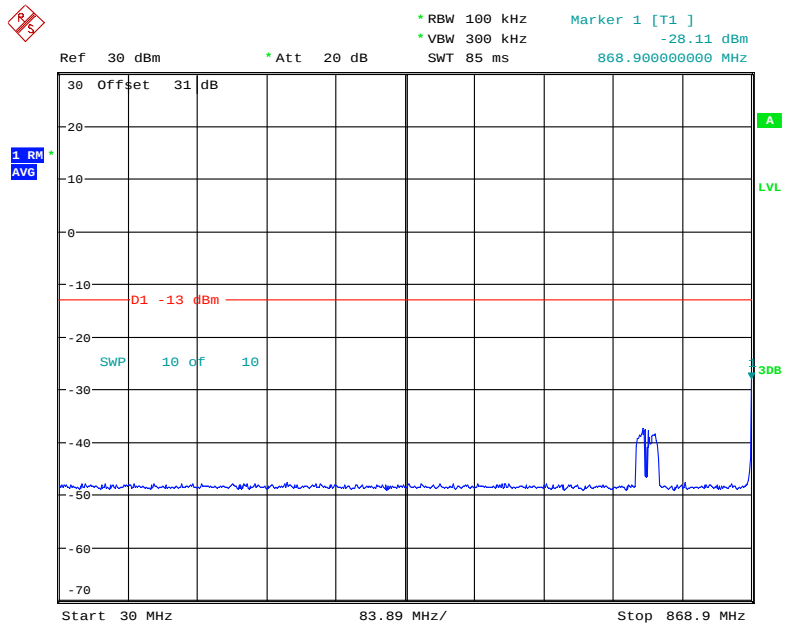


Date: 10.JAN.2019 17:14:04

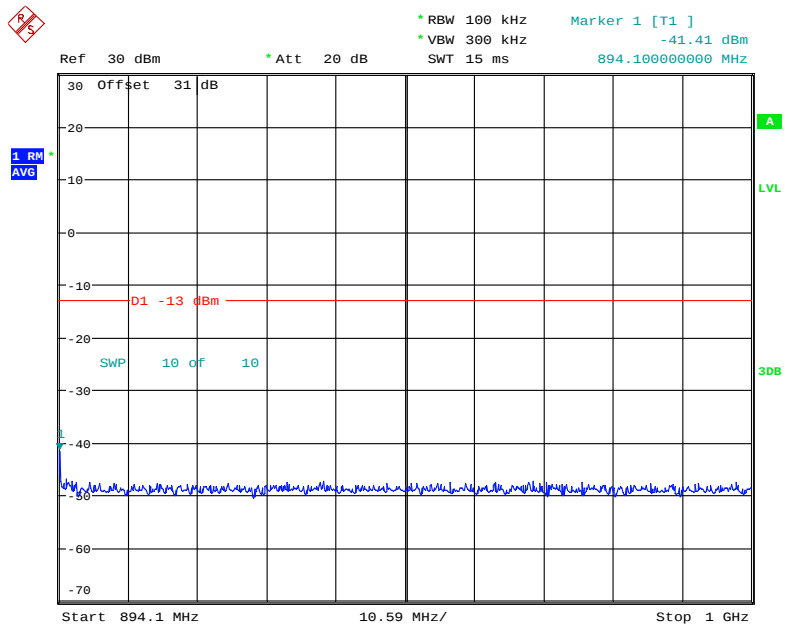


Date: 8.JAN.2019 16:37:43

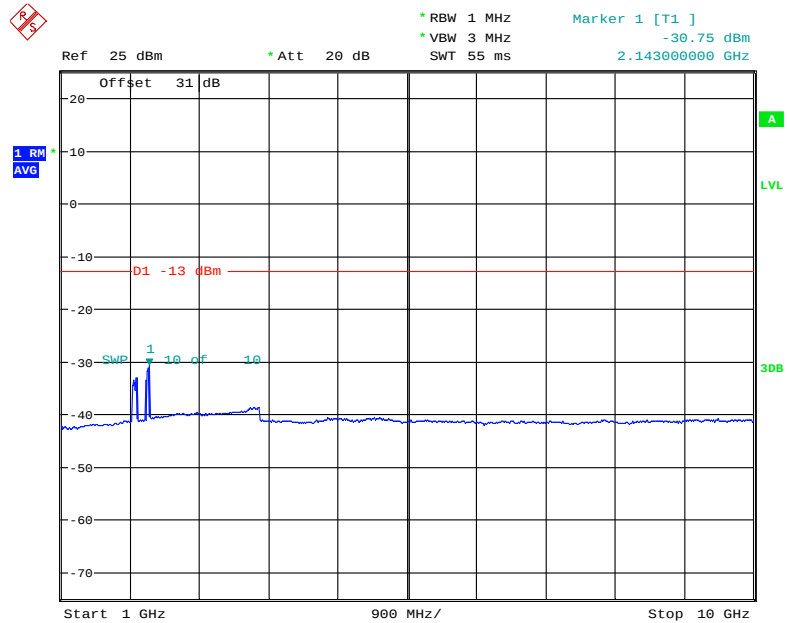
Cellular - AWGN-Pre AGC-Low Channel



Date: 10.JAN.2019 16:52:21

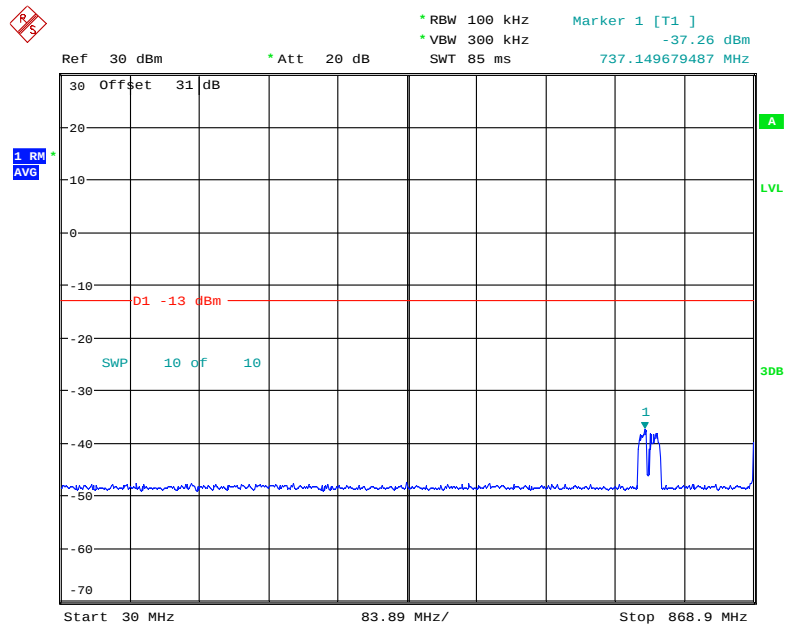


Date: 10.JAN.2019 16:55:39

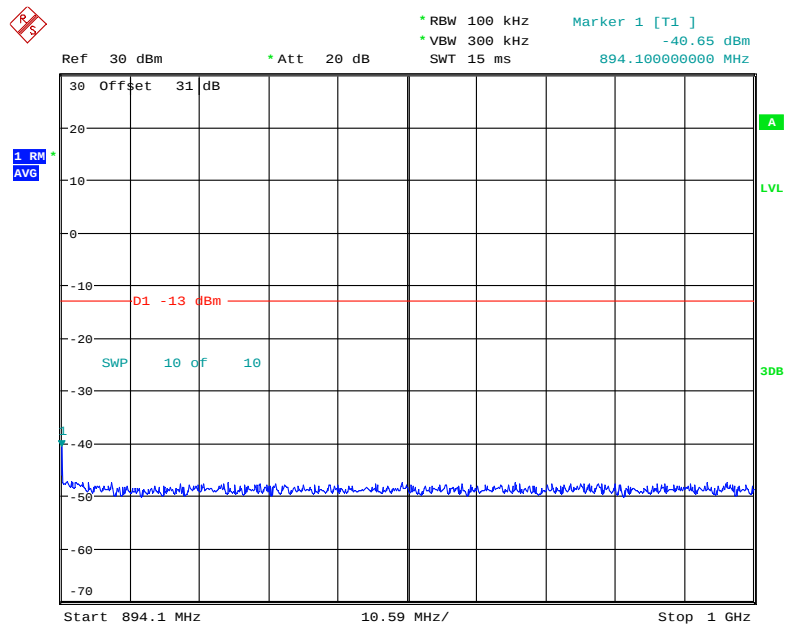


Date: 8.JAN.2019 15:35:22

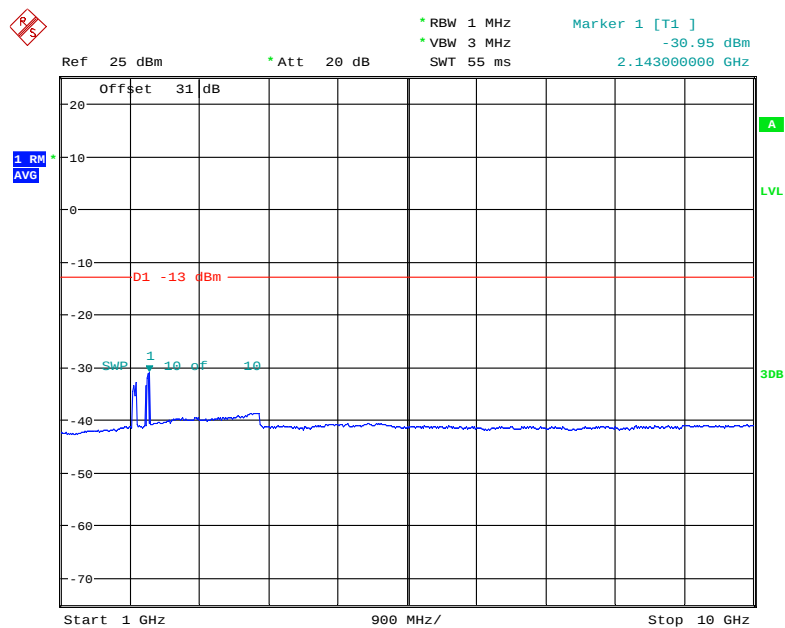
Cellular - AWGN-Pre AGC-Middle Channel



Date: 10.JAN.2019 16:53:52

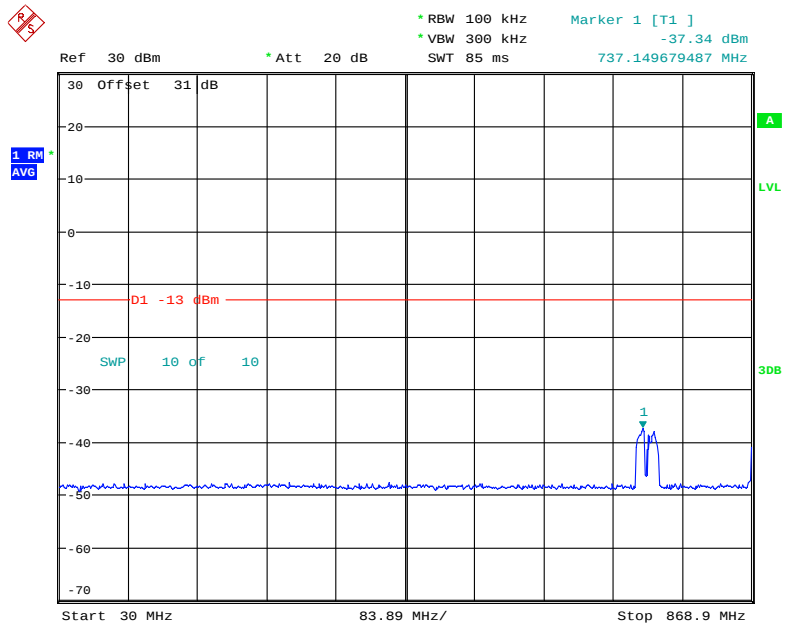


Date: 10.JAN.2019 16:55:11

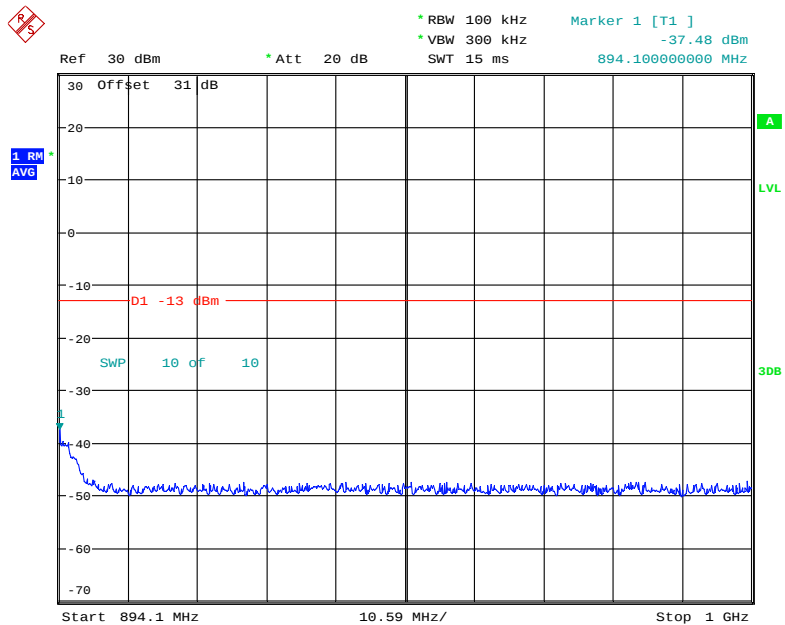


Date: 8.JAN.2019 15:35:50

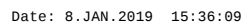
Cellular - AWGN-Pre AGC-High Channel



Date: 10.JAN.2019 16:54:16



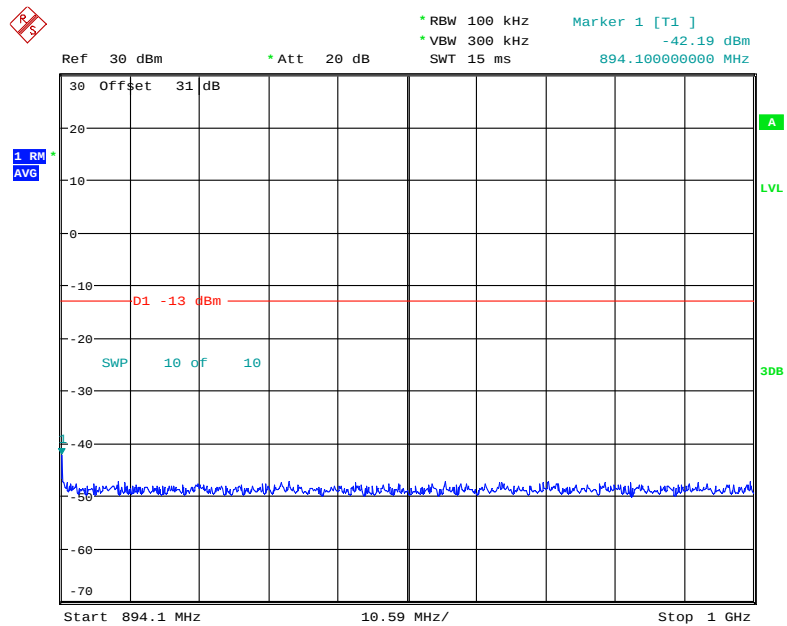
Date: 10.JAN.2019 16:54:37



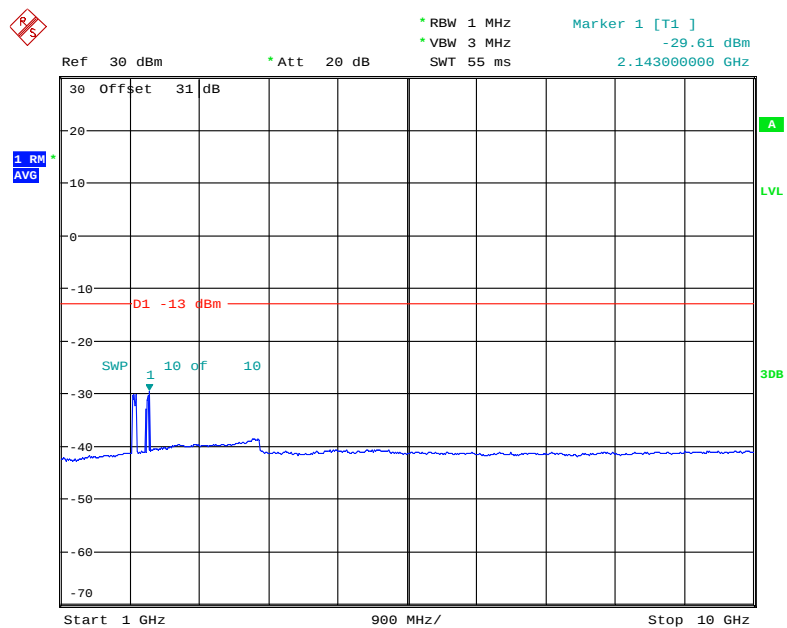
The screenshot shows a Spectrum Analyzer interface with the following details:

- Top Bar:**
 - Left: A red square icon with a white 'R' and a blue square icon with a white 'A'.
 - Center: "Ref 30 dBm" and "* Att 20 dB".
 - Right: "* RBW 100 kHz", "Marker 1 [T1]", "* VBW 300 kHz", "-23.33 dBm", "SWT 85 ms", and "868.900000000 MHz".
- Grid and Trace:**
 - The grid has a vertical axis from -70 to 30 dB and a horizontal axis from 30 MHz to 868.9 MHz.
 - A blue trace shows a noisy baseline with a sharp peak at 868.9 MHz reaching approximately -35 dB.
 - A red horizontal line is drawn at -13 dB, labeled "D1 -13 dBm".
 - A green vertical line is at the right edge, labeled "A" and "3dB".
 - Text "SWP 10 of 10" is visible in the lower left of the grid.
 - A blue box in the top left corner contains "1 RM" and "AVG".
- Bottom Bar:**
 - Left: "Start 30 MHz".
 - Center: "83.89 MHz/".
 - Right: "Stop 868.9 MHz".

Date: 10.JAN.2019 17:17:12

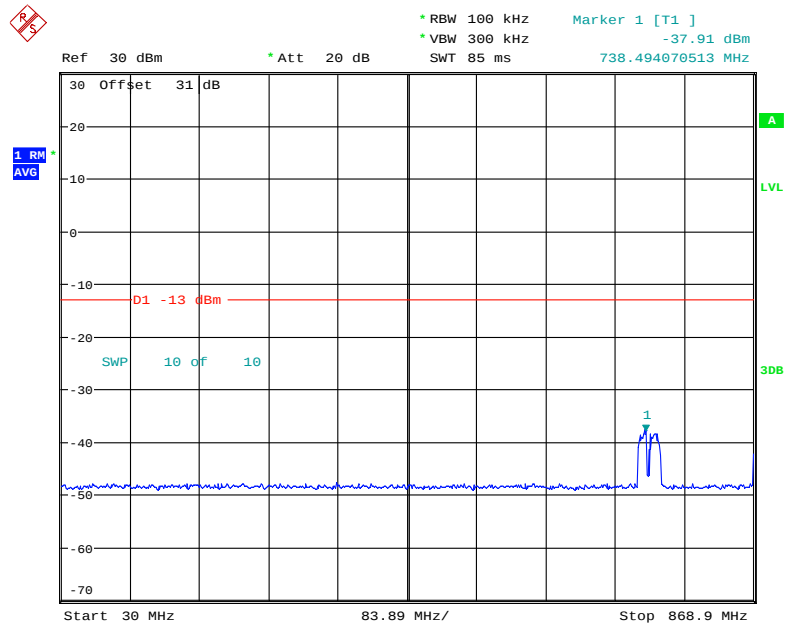


Date: 10.JAN.2019 17:21:26

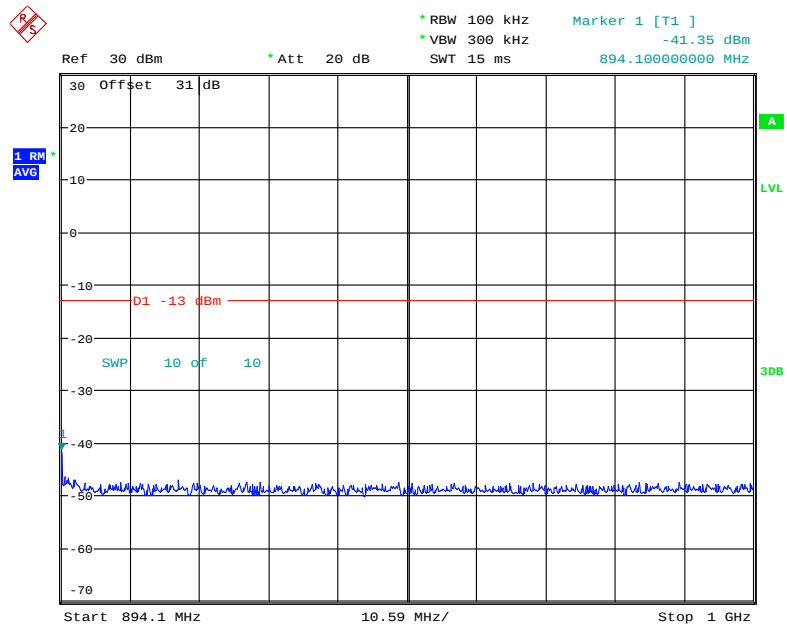


Date: 8.JAN.2019 16:38:42

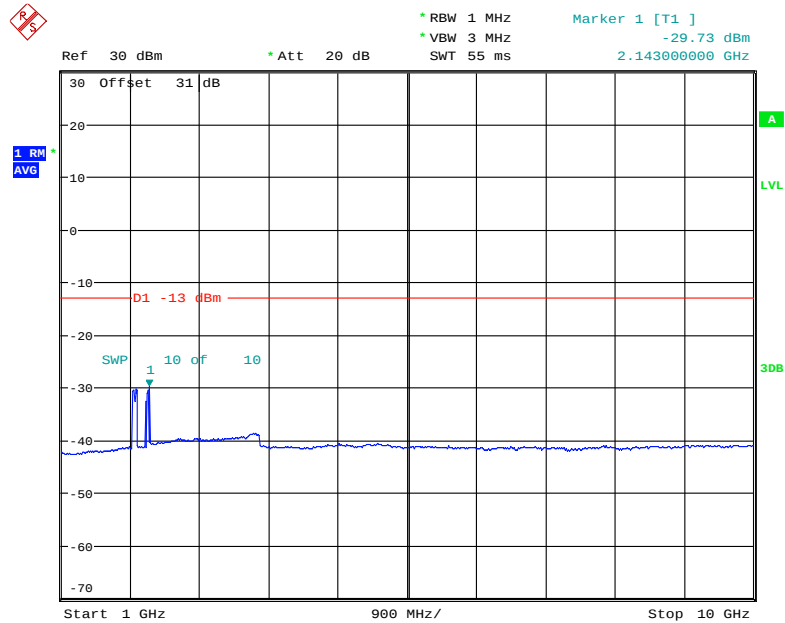
Cellular - GSM-Pre AGC-Middle Channel



Date: 10.JAN.2019 17:19:20

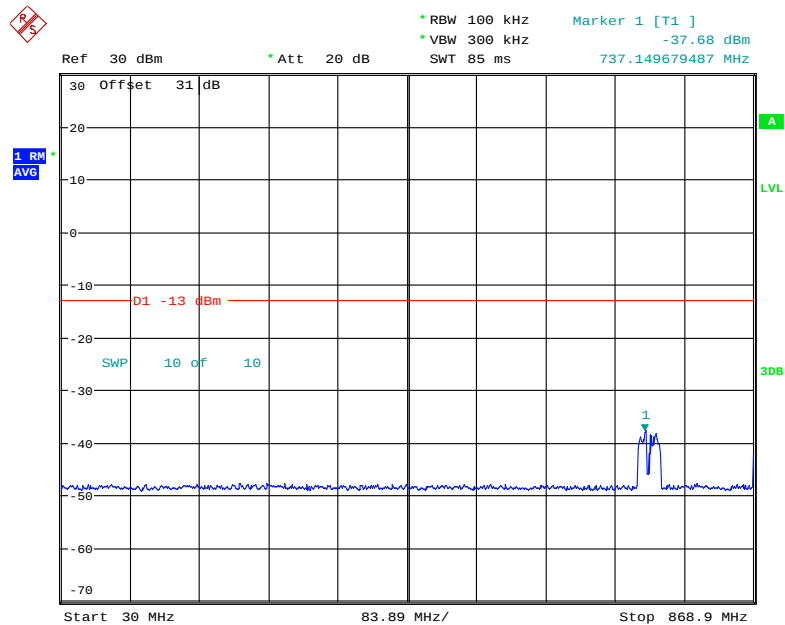


Date: 10.JAN.2019 17:21:07

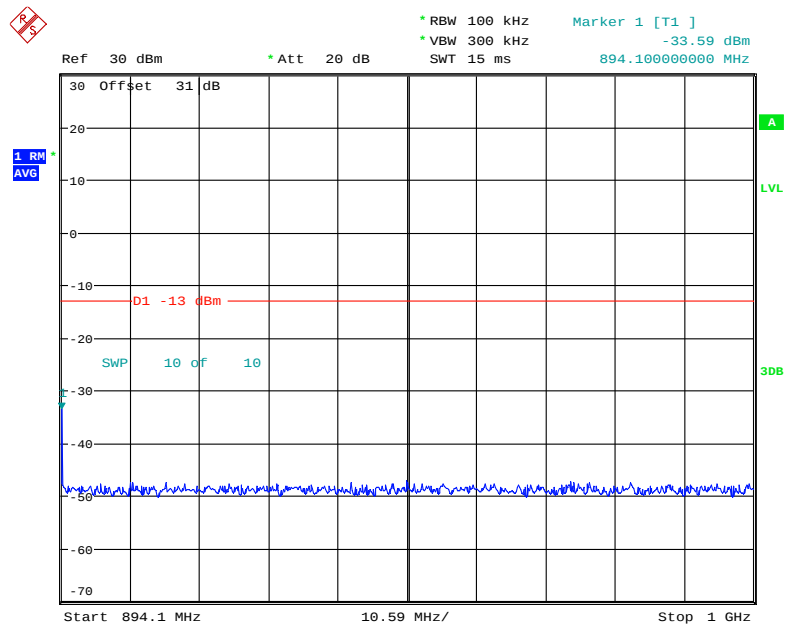


Date: 8.JAN.2019 16:39:11

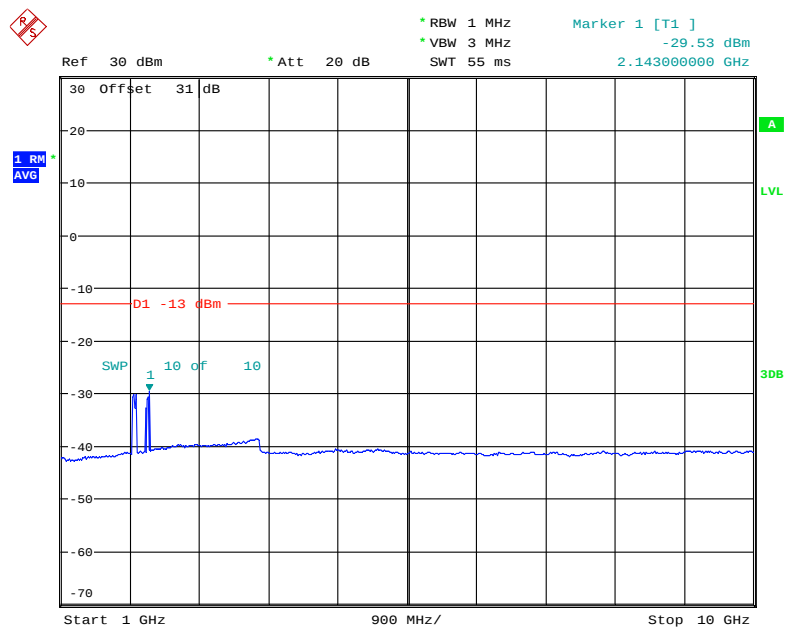
Cellular - GSM-Pre AGC-High Channel



Date: 10.JAN.2019 17:19:43

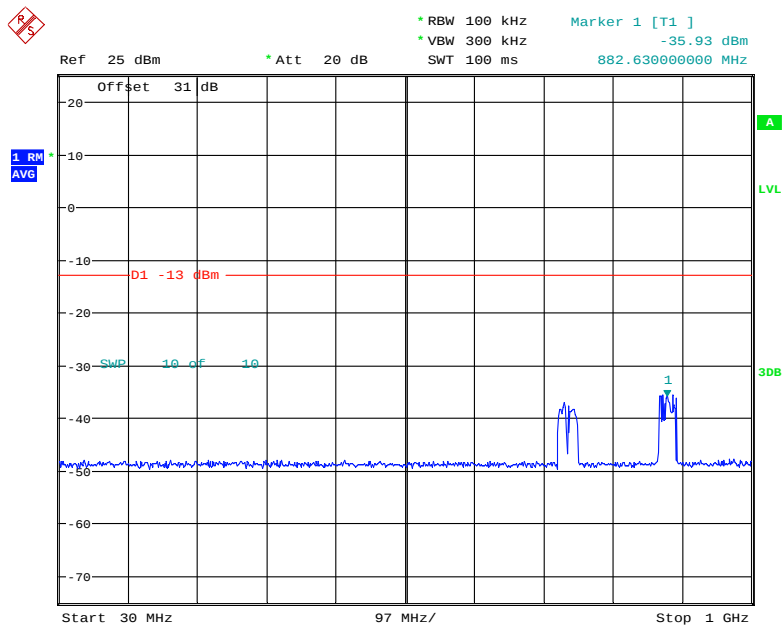


Date: 10.JAN.2019 17:20:28

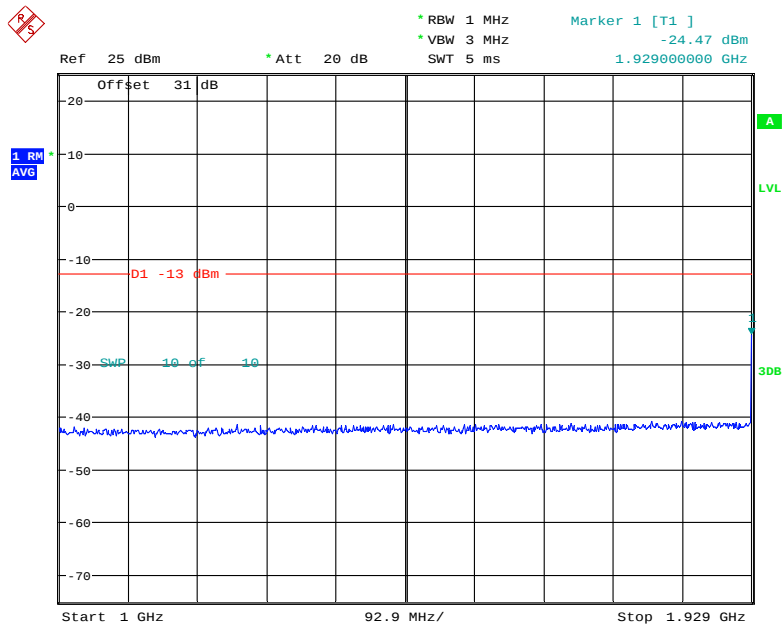


Date: 8.JAN.2019 16:39:33

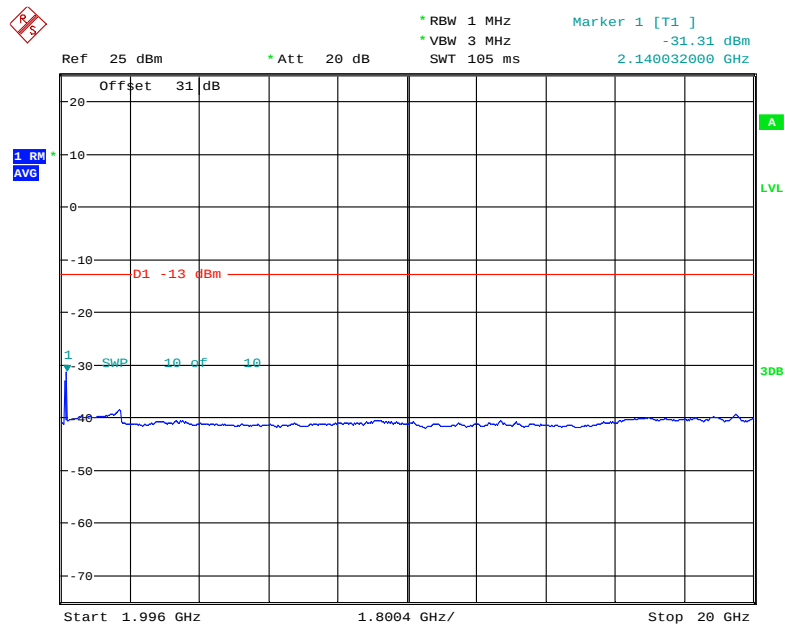
PCS- AWGN-Pre AGC-Low Channel



Date: 8.JAN.2019 15:19:48

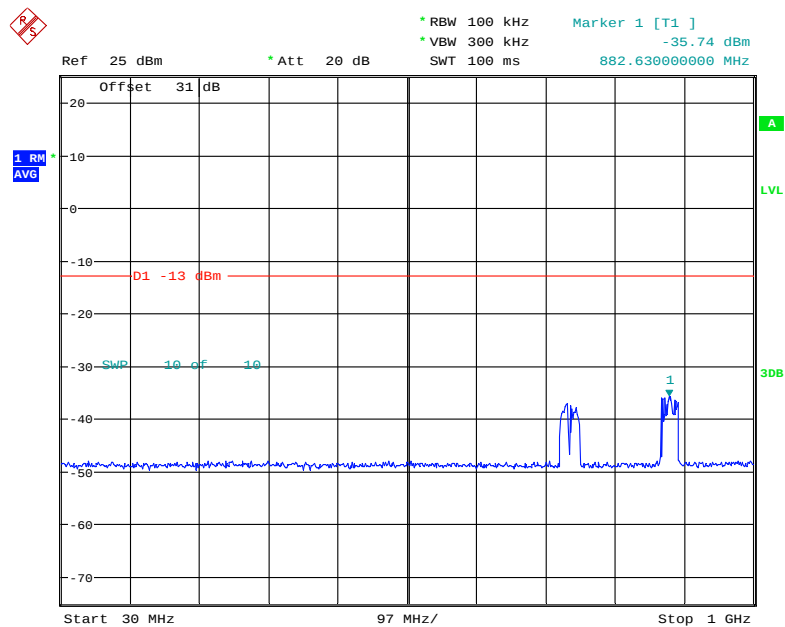


Date: 8.JAN.2019 15:37:50

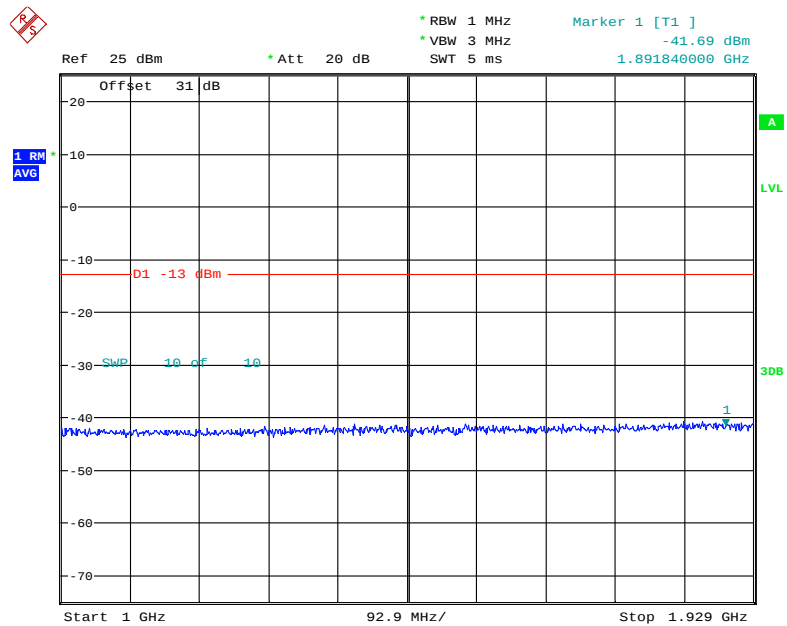


Date: 8.JAN.2019 15:45:22

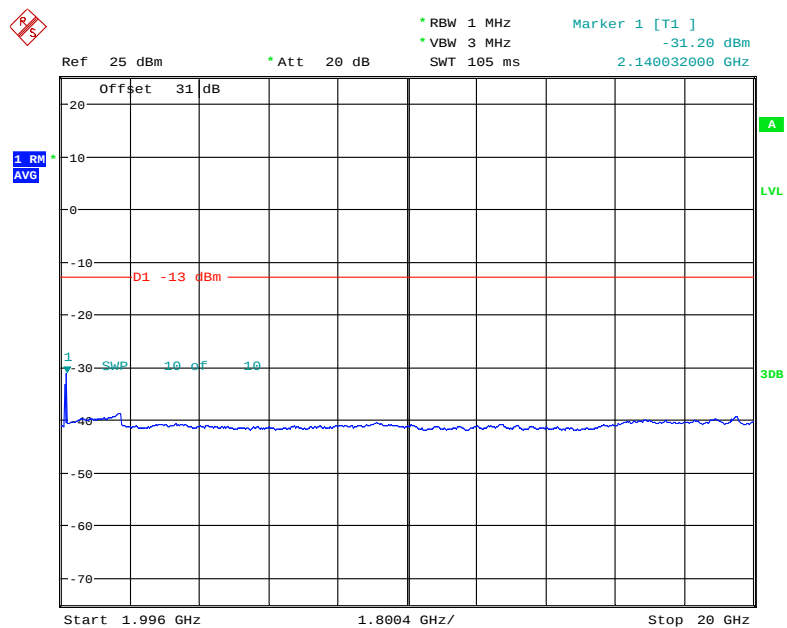
PCS- AWGN-Pre AGC-Middle Channel



Date: 8.JAN.2019 15:20:10

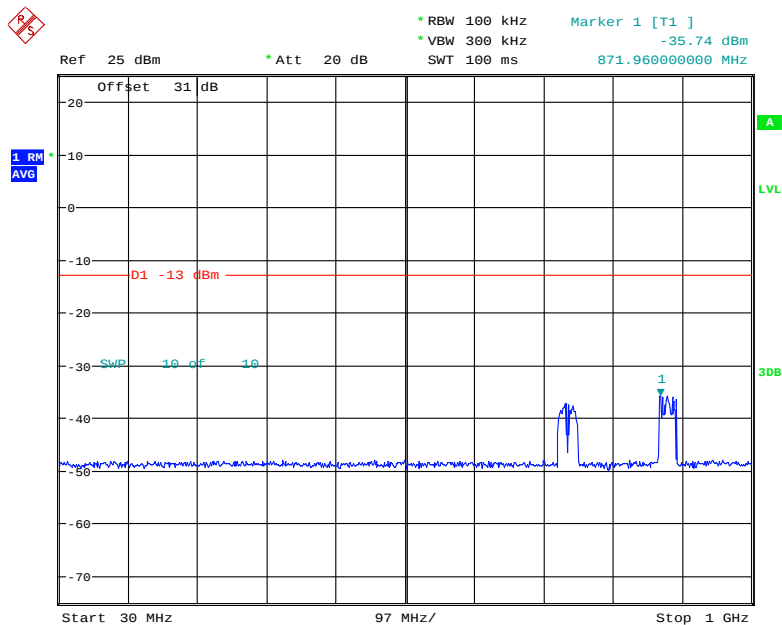


Date: 8.JAN.2019 15:37:37

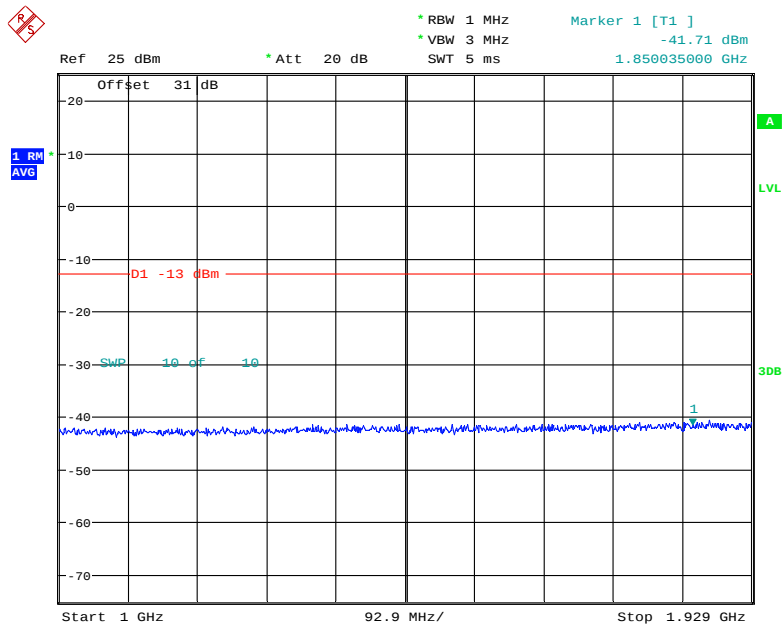


Date: 8.JAN.2019 15:46:41

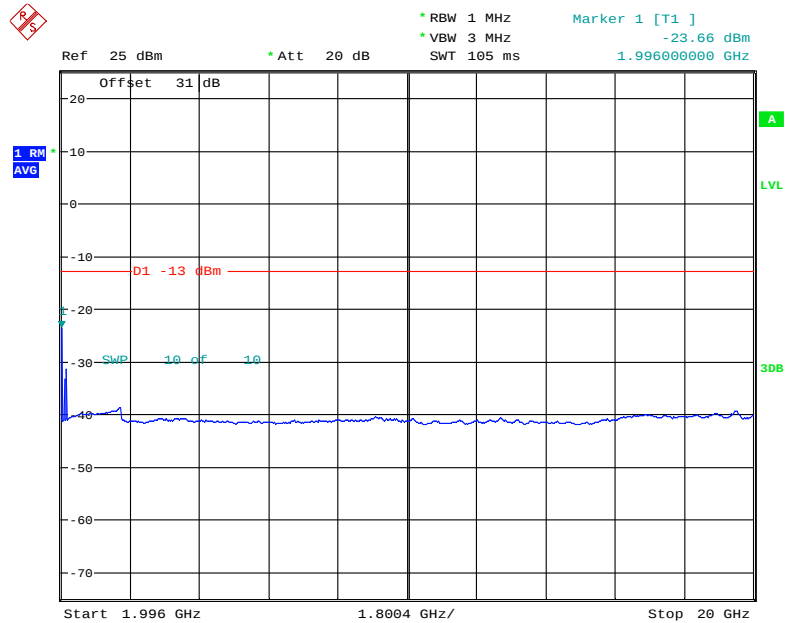
PCS- AWGN-Pre AGC-High Channel



Date: 8.JAN.2019 15:20:31

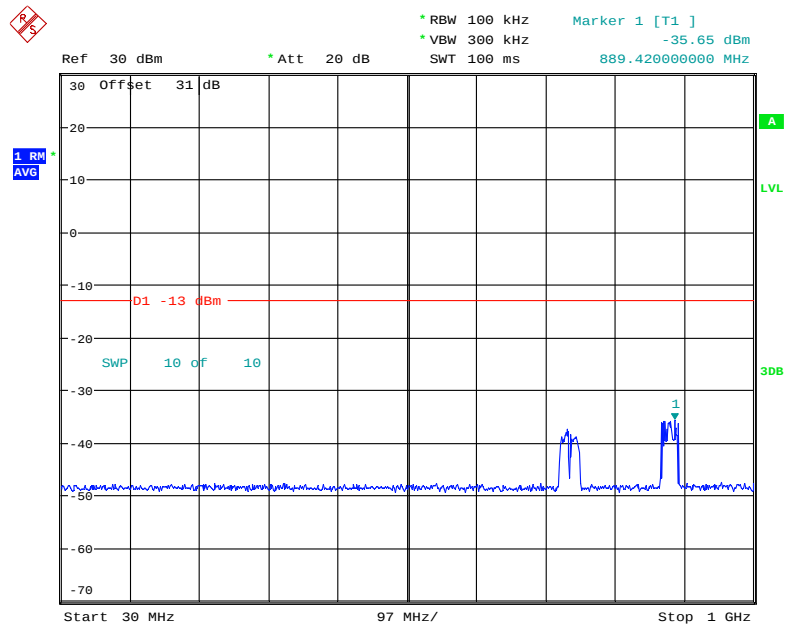


Date: 8.JAN.2019 15:37:02

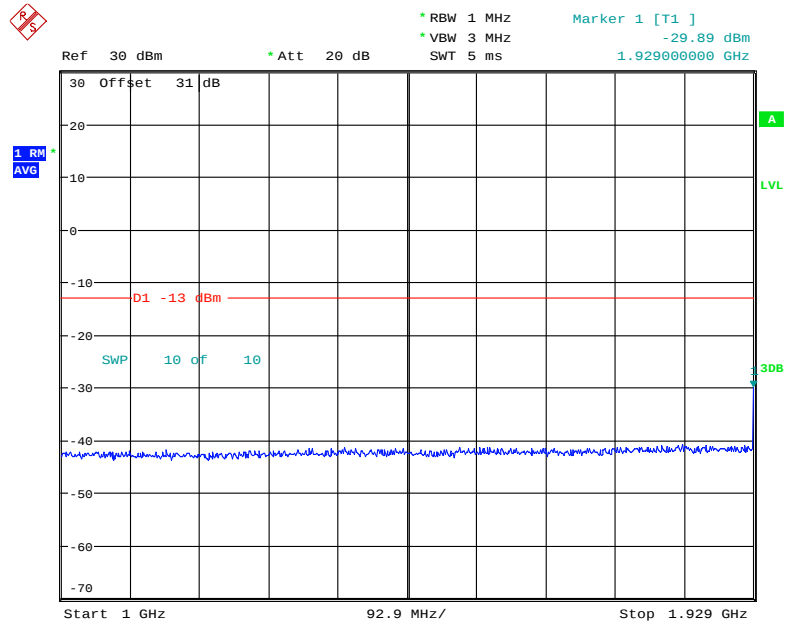


Date: 8.JAN.2019 15:47:09

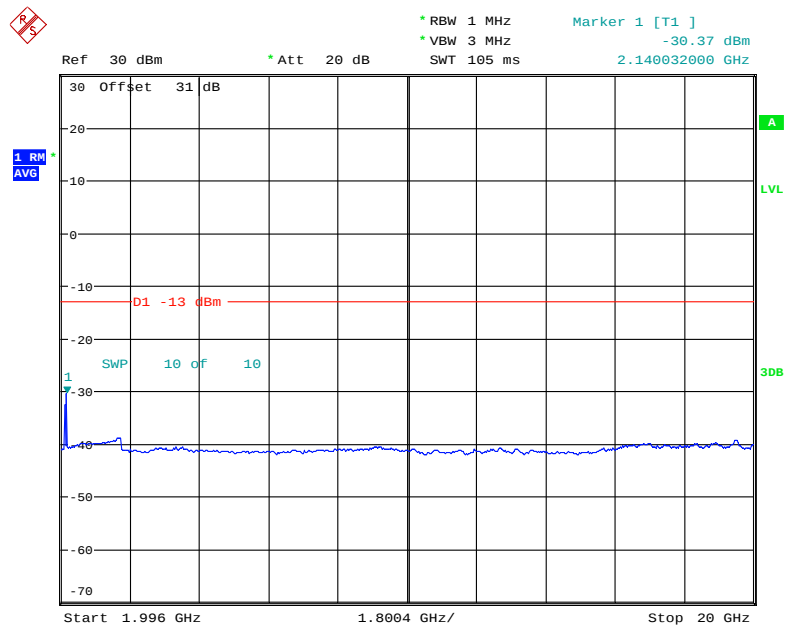
PCS- GSM-Pre AGC-Low Channel



Date: 8.JAN.2019 16:31:17

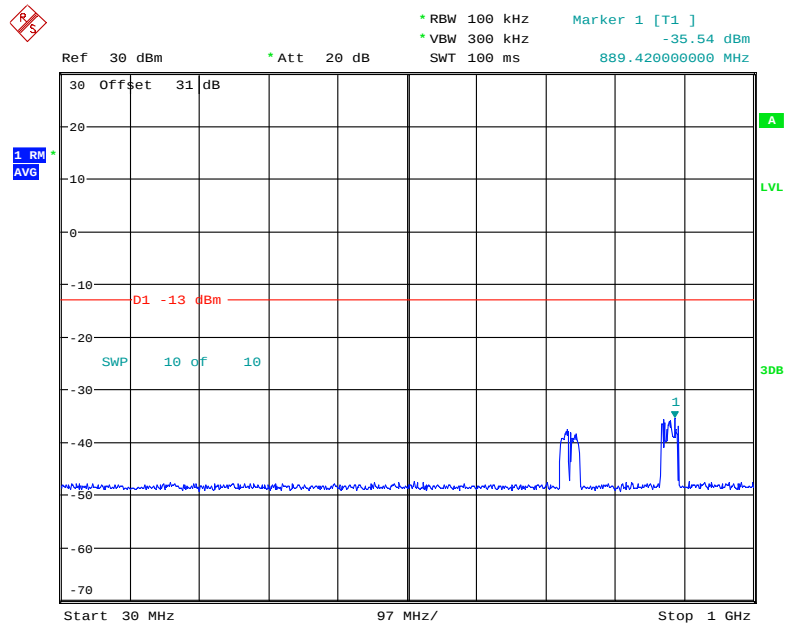


Date: 8.JAN.2019 17:16:33

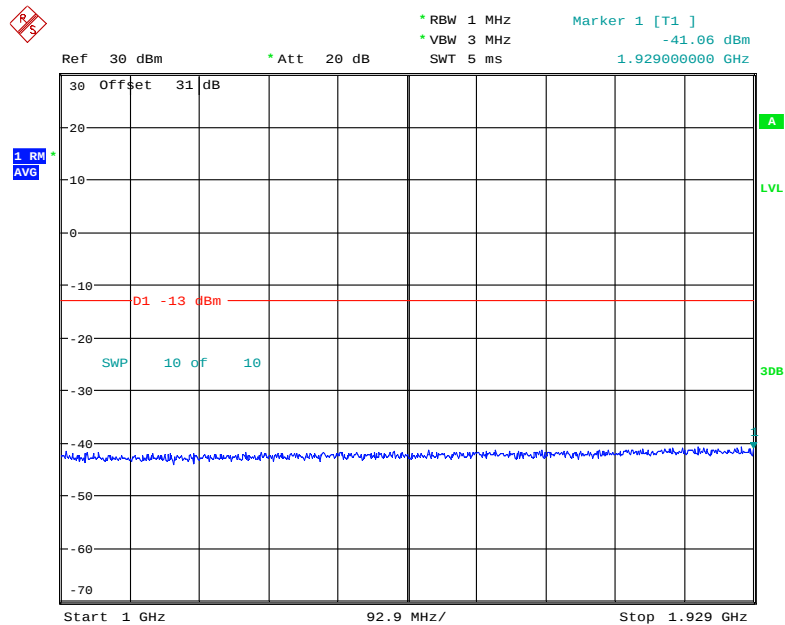


Date: 8.JAN.2019 17:18:19

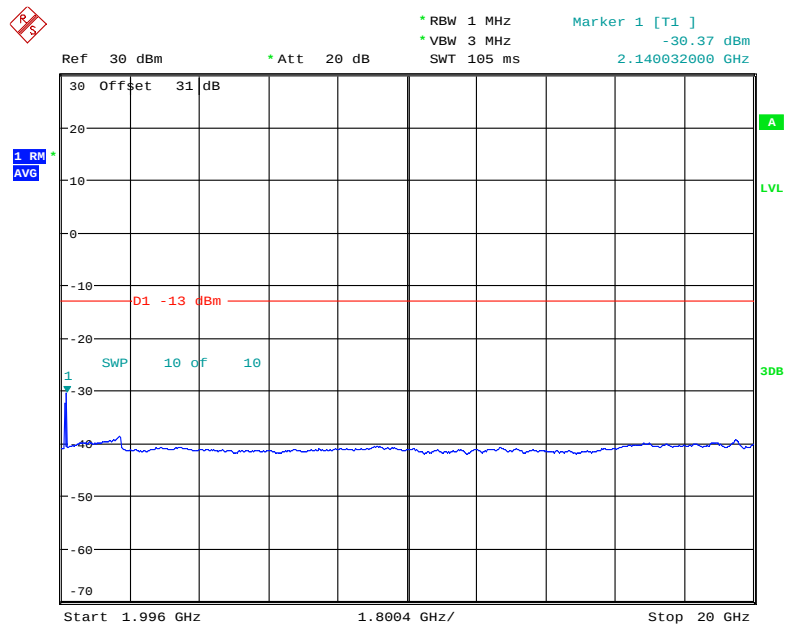
PCS- GSM-Pre AGC-Middle Channel



Date: 8.JAN.2019 16:31:00

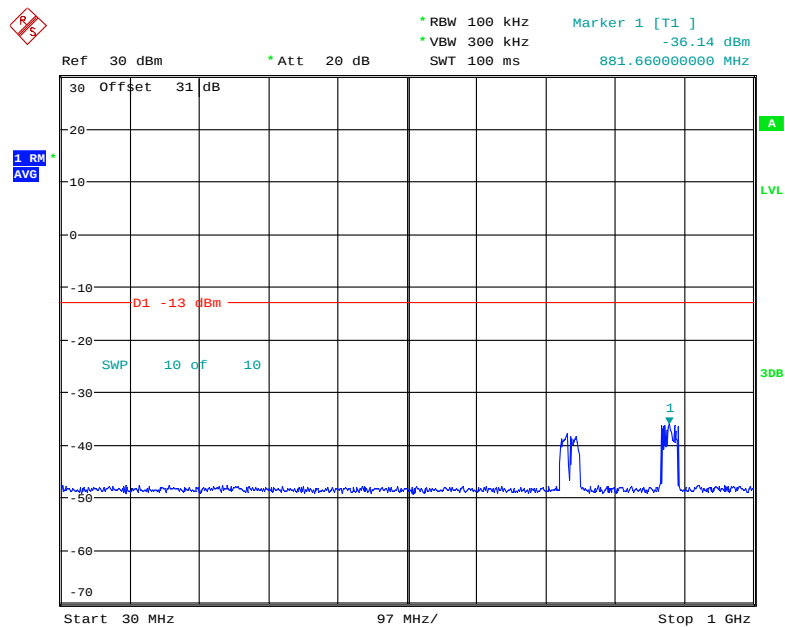


Date: 8.JAN.2019 16:41:05

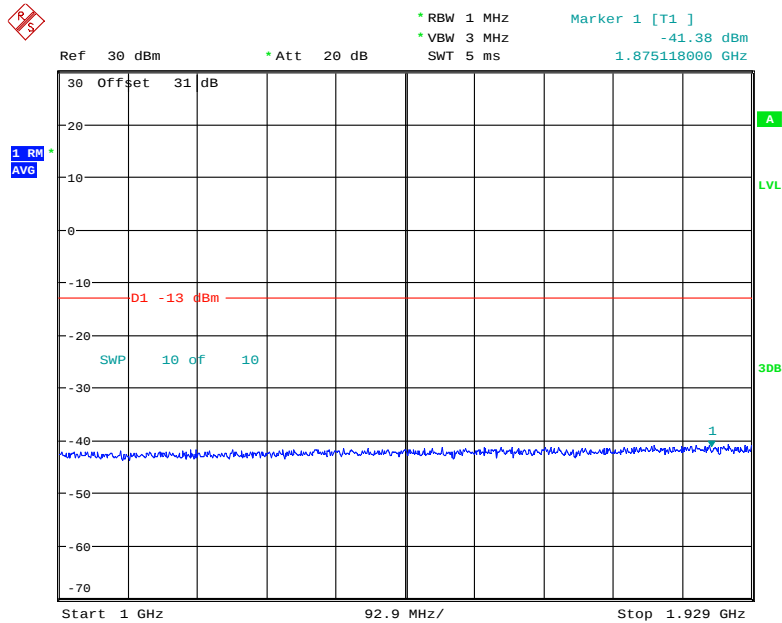


Date: 8.JAN.2019 17:18:48

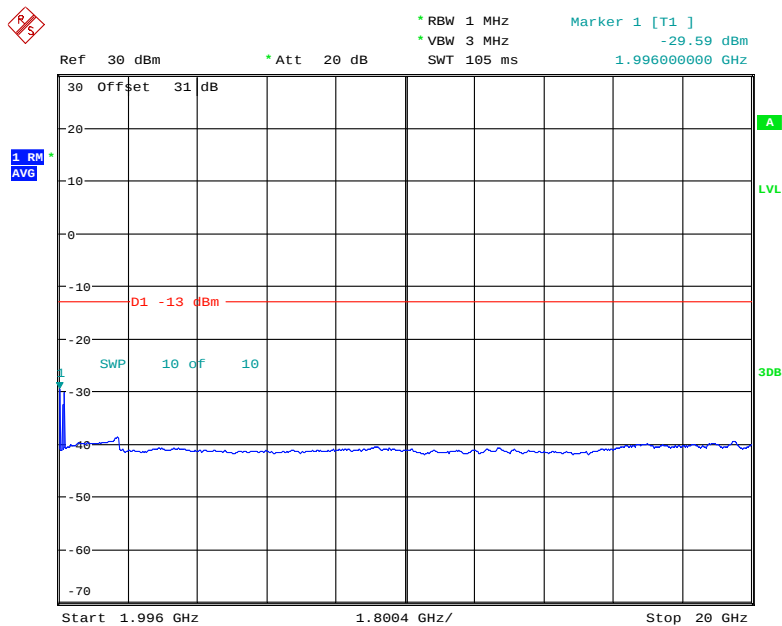
PCS- GSM-Pre AGC-High Channel



Date: 8.JAN.2019 16:30:29

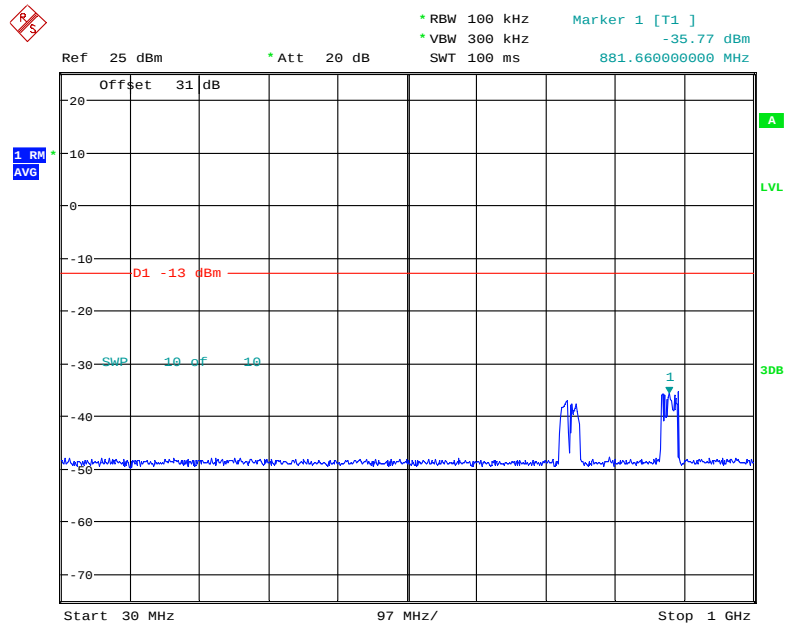


Date: 8.JAN.2019 16:40:38

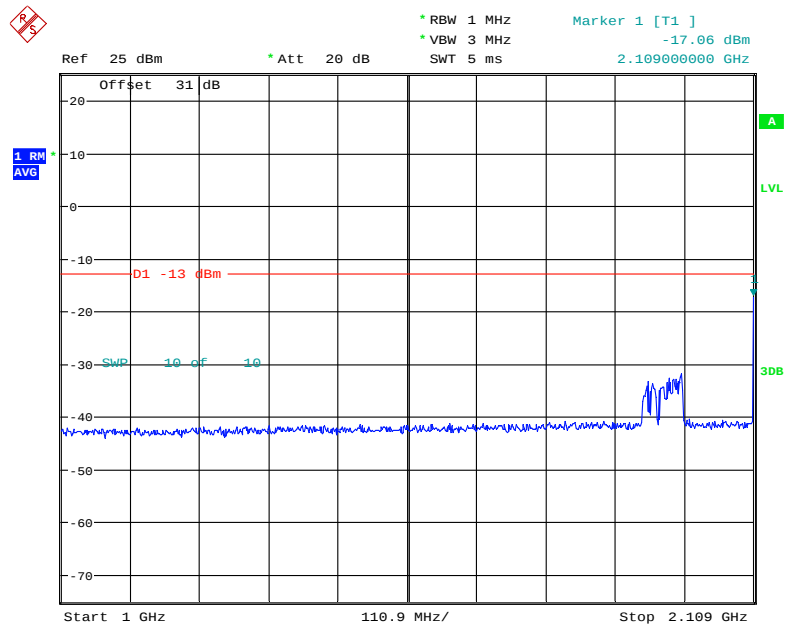


Date: 8.JAN.2019 17:21:03

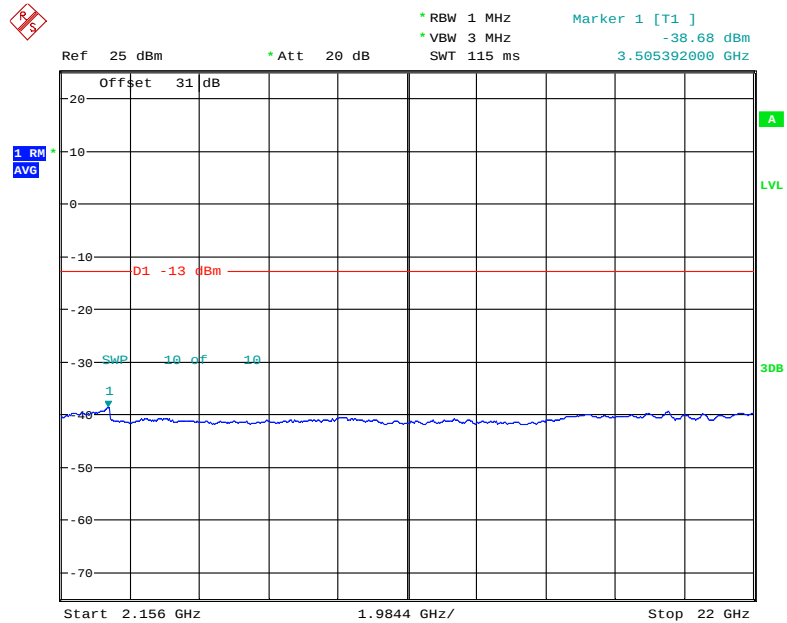
AWS- AWGN-Pre AGC-Low Channel



Date: 8.JAN.2019 15:21:30

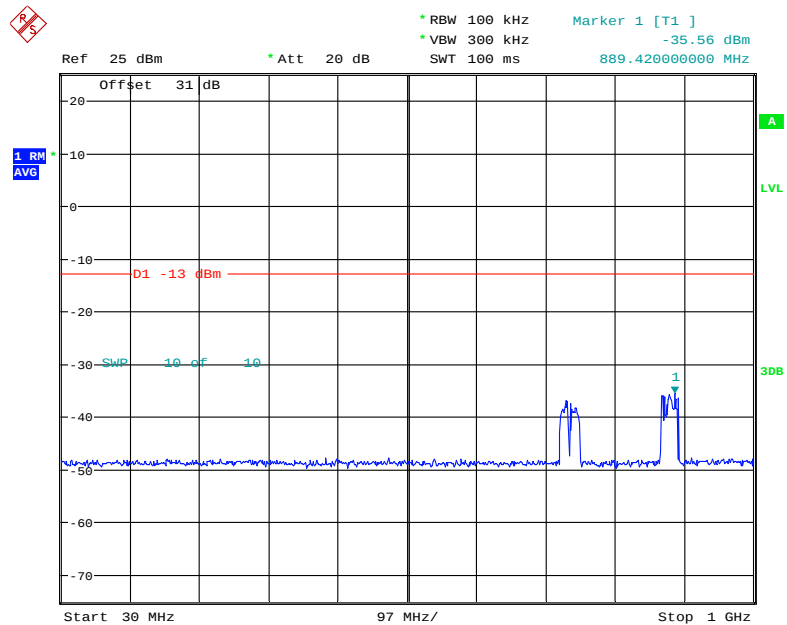


Date: 8.JAN.2019 15:50:00

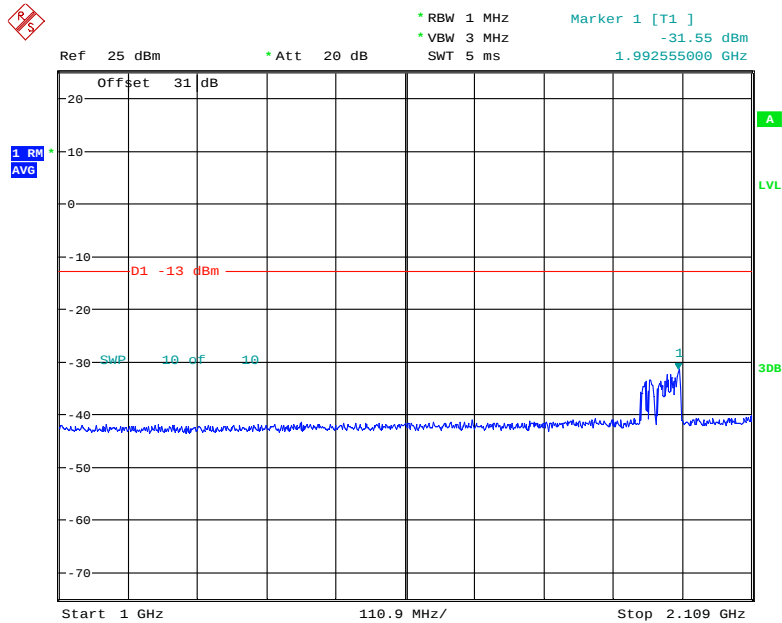


Date: 8.JAN.2019 15:51:21

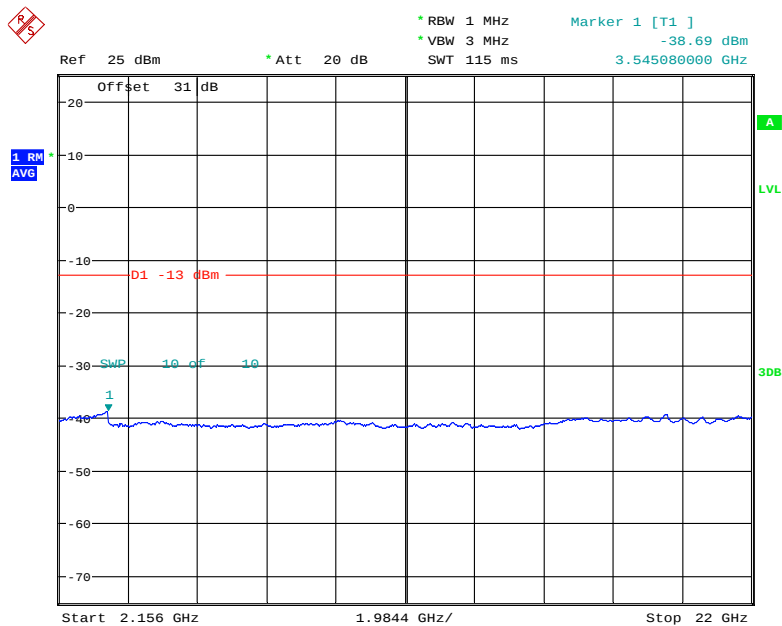
AWS- AWGN-Pre AGC-Middle Channel



Date: 8.JAN.2019 15:21:10

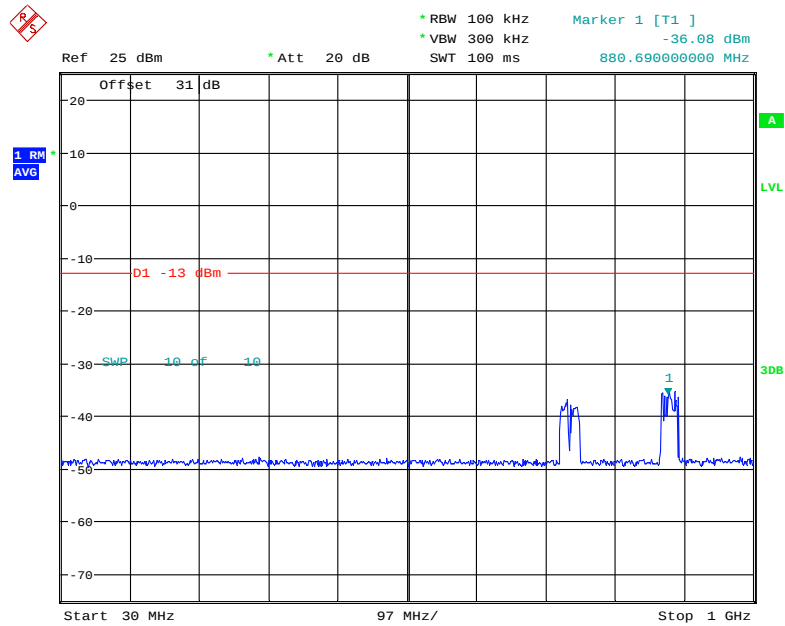


Date: 8.JAN.2019 15:49:34

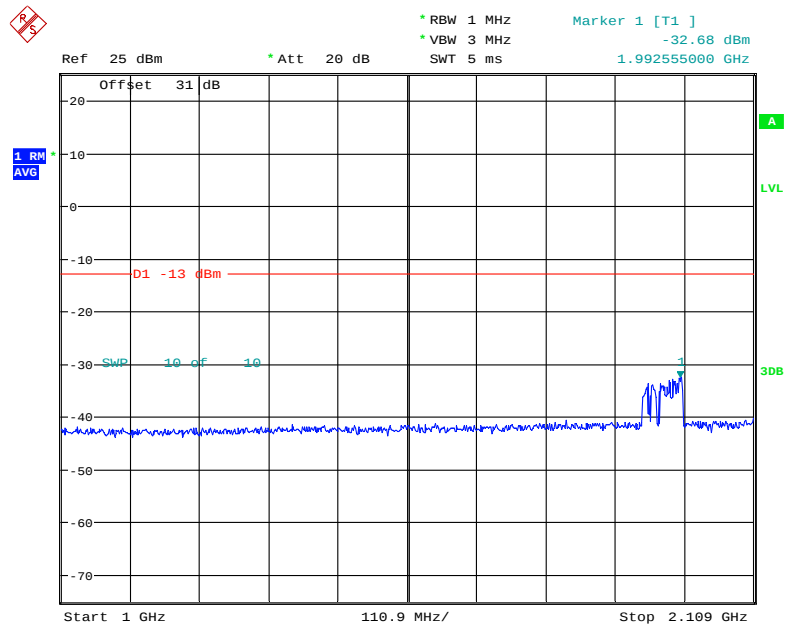


Date: 8.JAN.2019 15:51:48

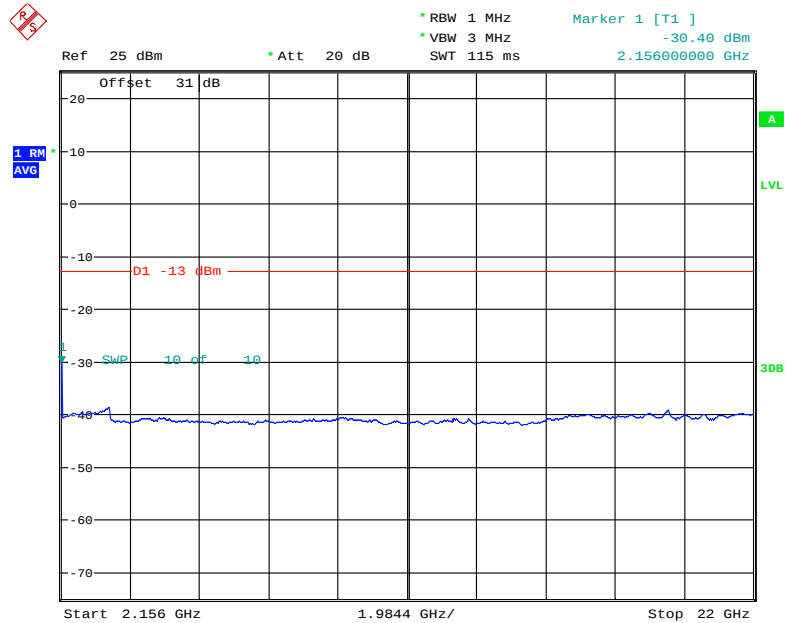
AWS- AWGN-Pre AGC-High Channel



Date: 8.JAN.2019 15:20:50

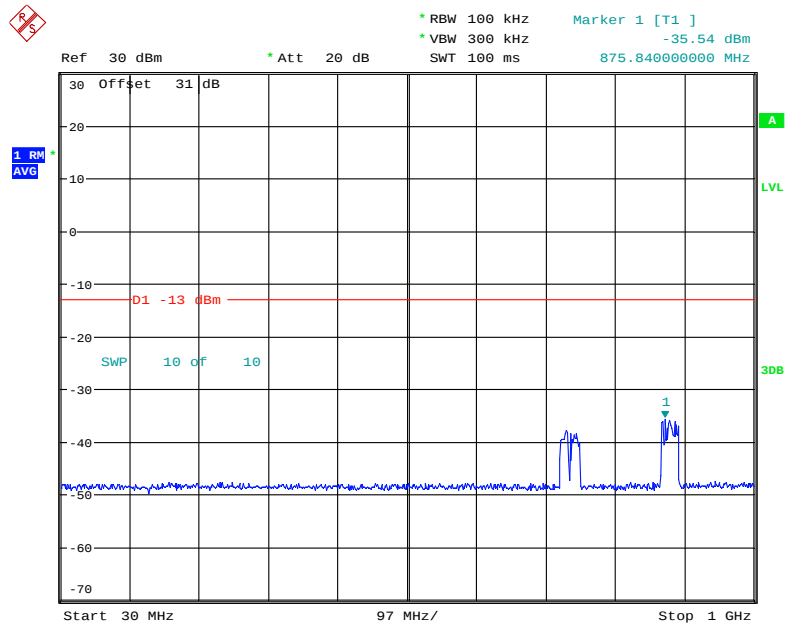


Date: 8.JAN.2019 15:48:09

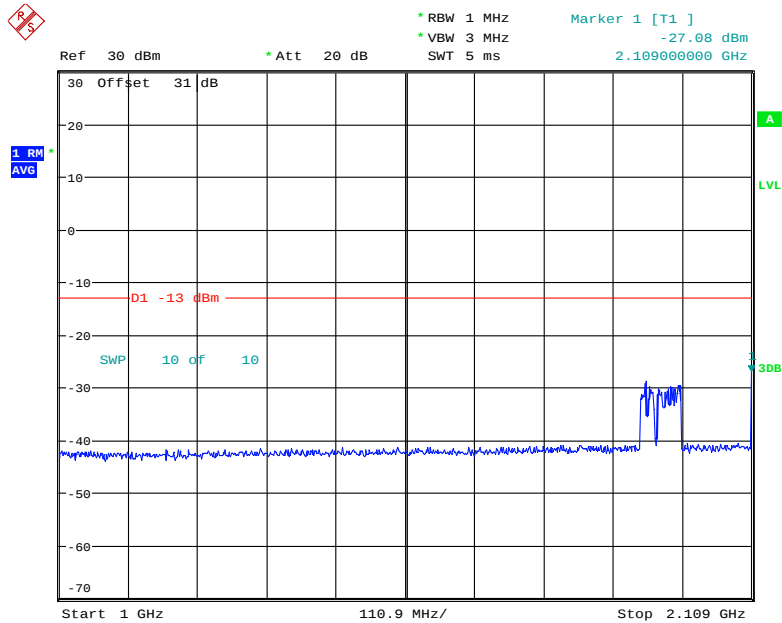


Date: 8.JAN.2019 15:52:06

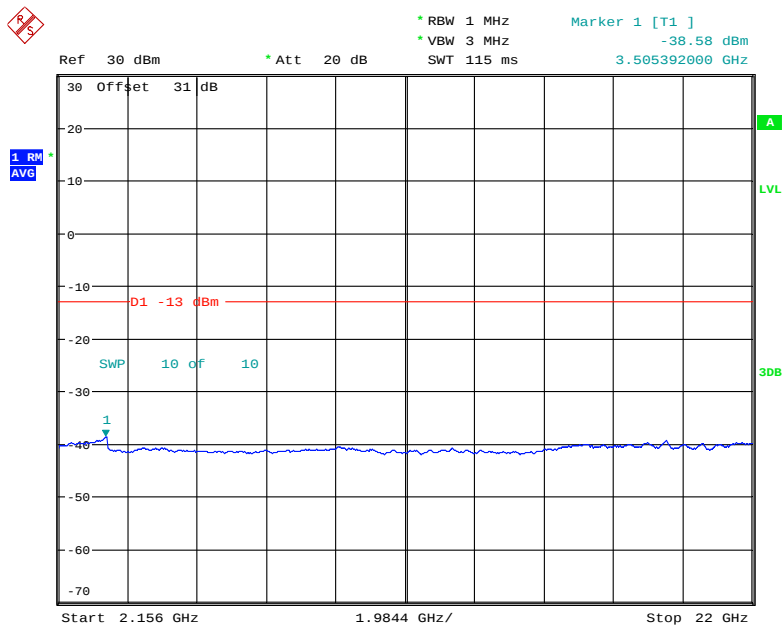
AWS- GSM-Pre AGC-Low Channel



Date: 8.JAN.2019 16:31:45

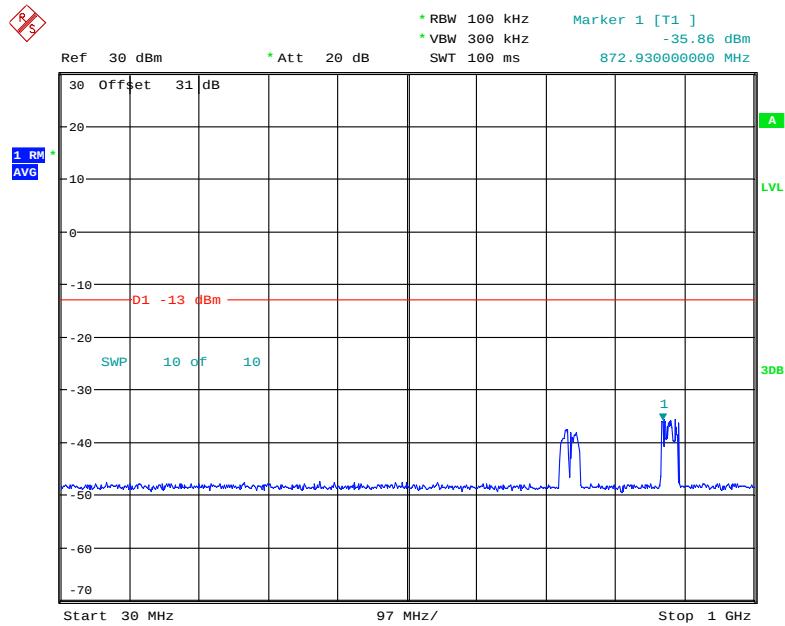


Date: 8.JAN.2019 17:25:15

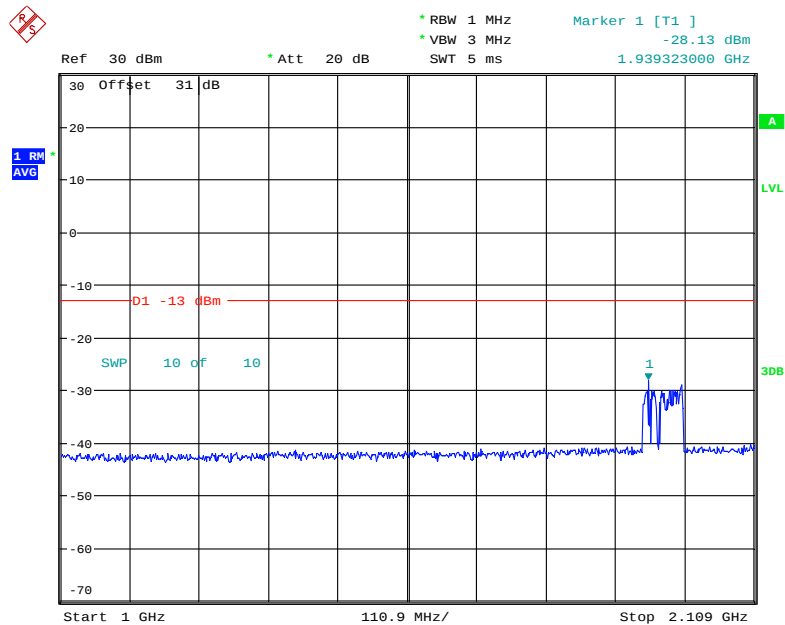


Date: 8.JAN.2019 17:25:58

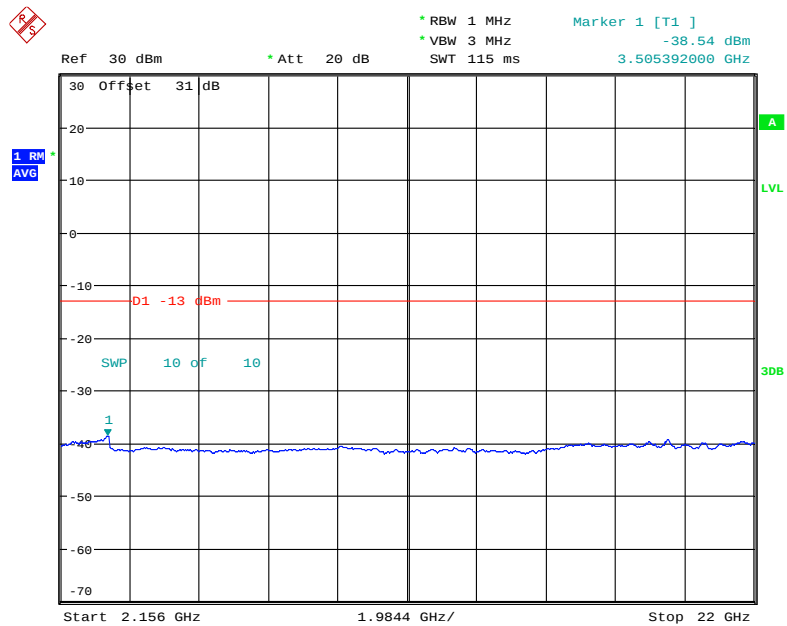
AWS- GSM-Pre AGC-Middle Channel



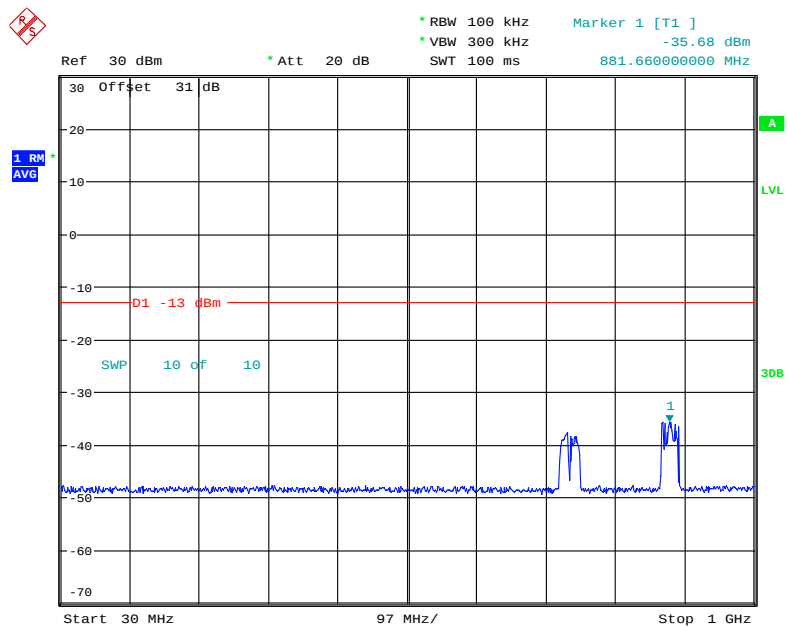
Date: 8.JAN.2019 16:32:08



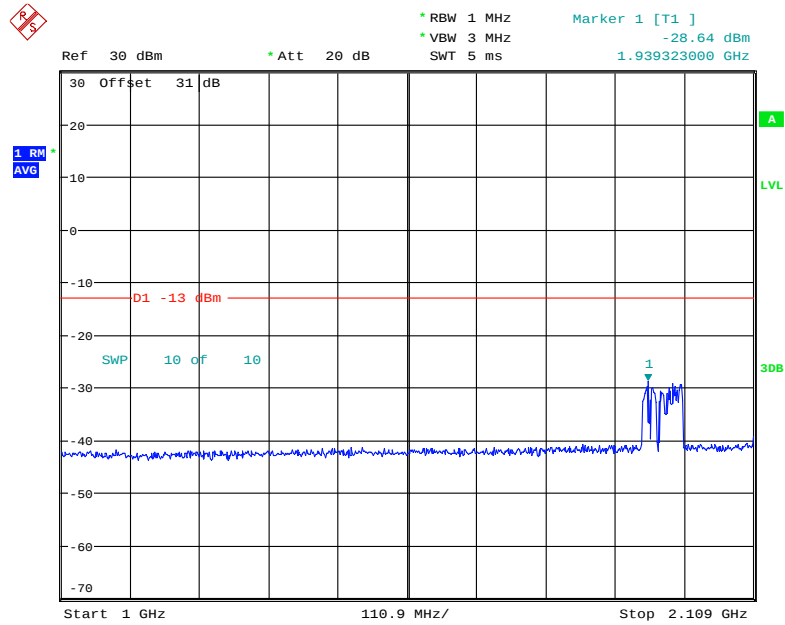
Date: 8.JAN.2019 17:24:06



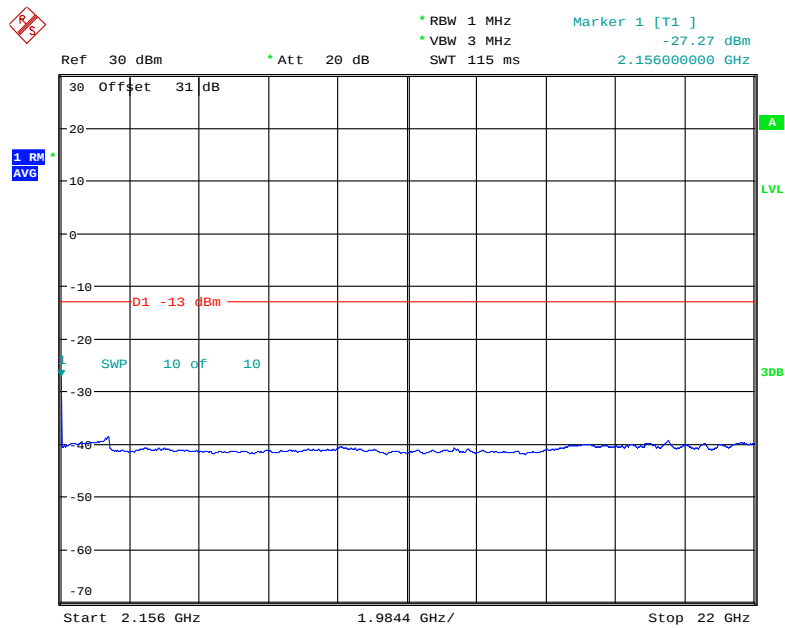
Date: 8.JAN.2019 17:26:44

AWS- GSM-Pre AGC-High Channel

Date: 8.JAN.2019 16:32:27



Date: 8.JAN.2019 17:23:26

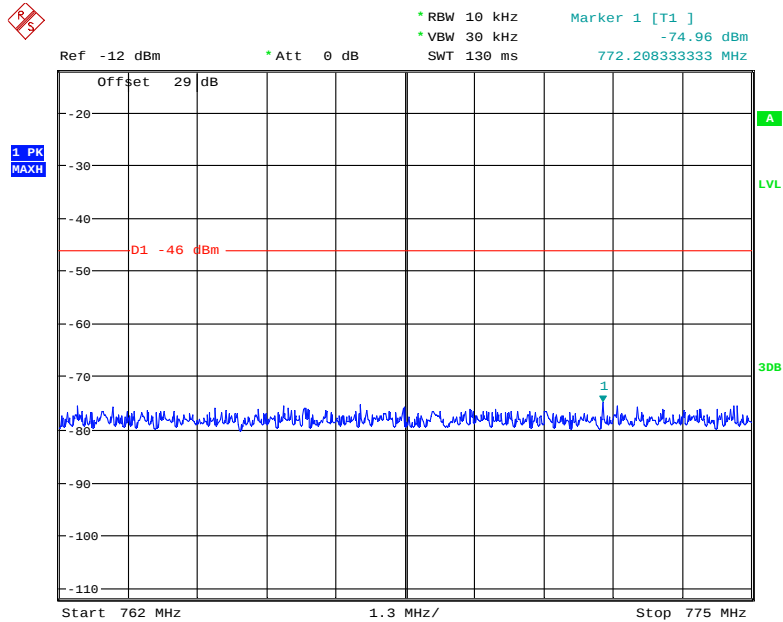


Date: 8.JAN.2019 17:27:46

Downlink:

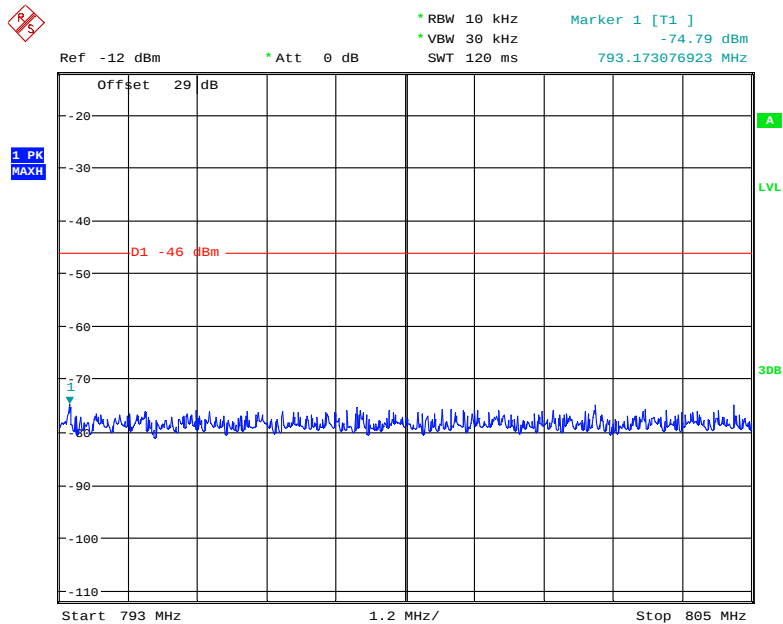
Additional requirement for upper 700MHz band

763 MHz~775 MHz



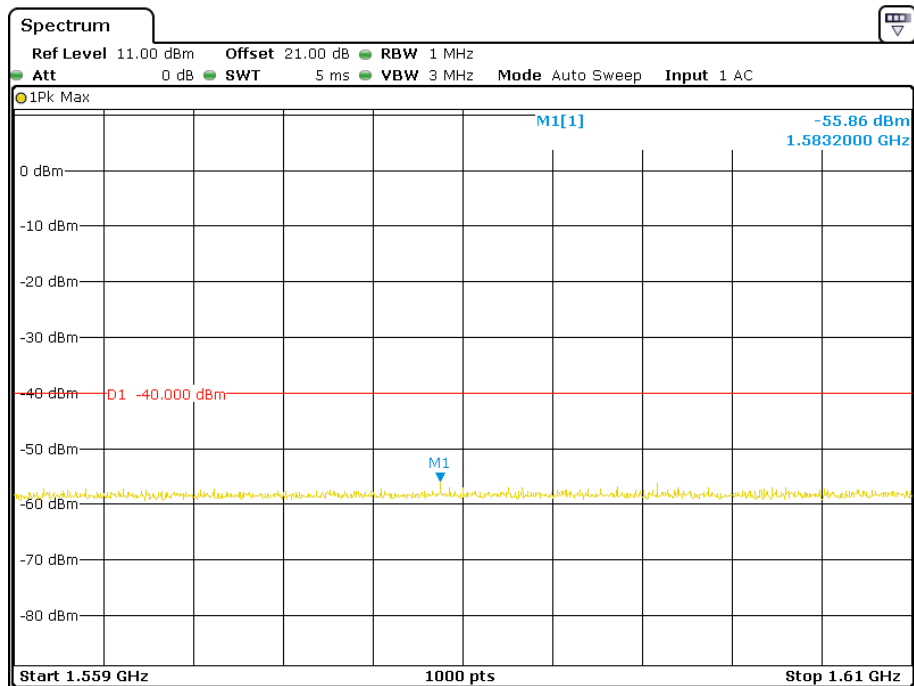
Date: 10.JAN.2019 20:25:35

793 MHz~805 MHz



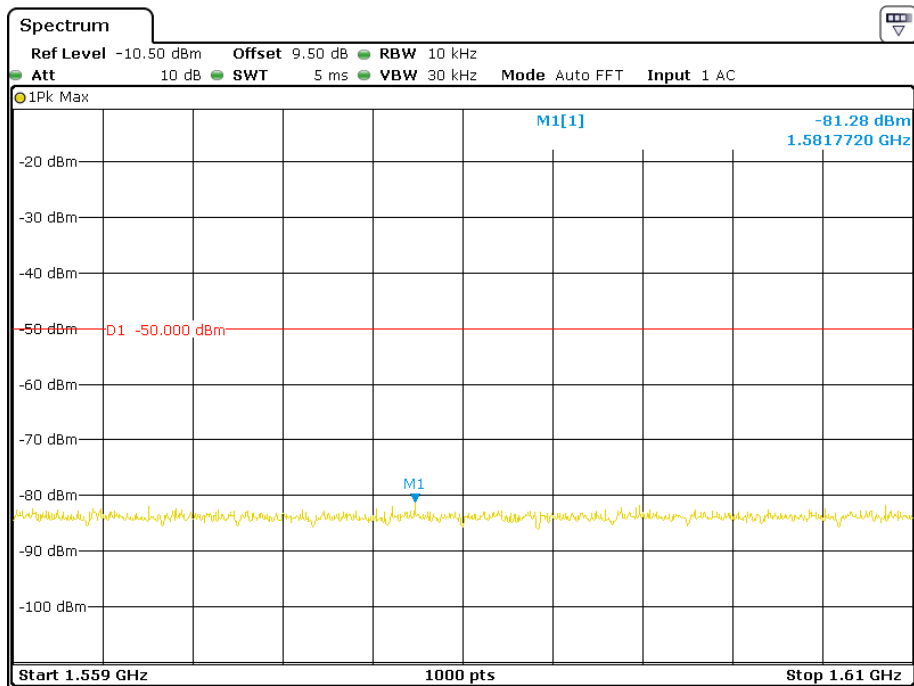
Date: 10.JAN.2019 20:27:06

1559 MHz~1610 MHz (wide band)



Date: 18.JAN.2019 13:20:04

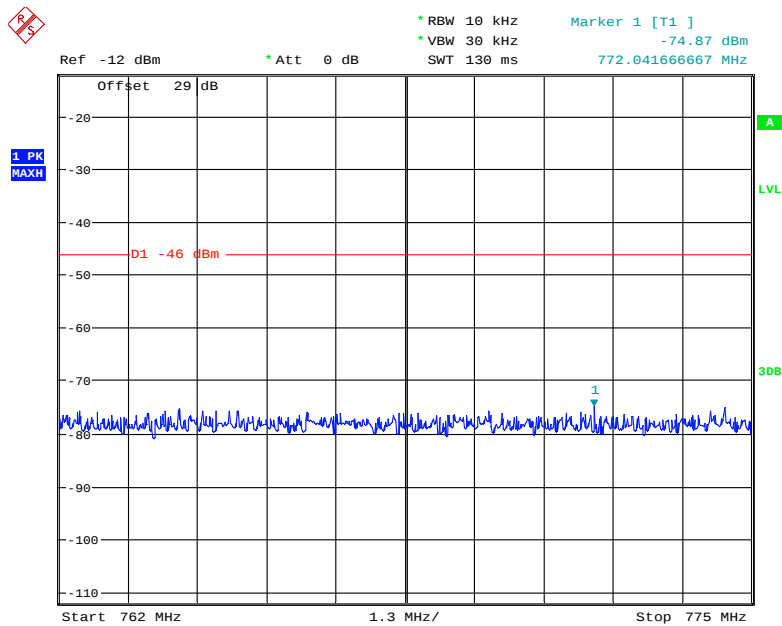
1559 MHz~1610 MHz (narrow band)



Date: 18.JAN.2019 13:26:14

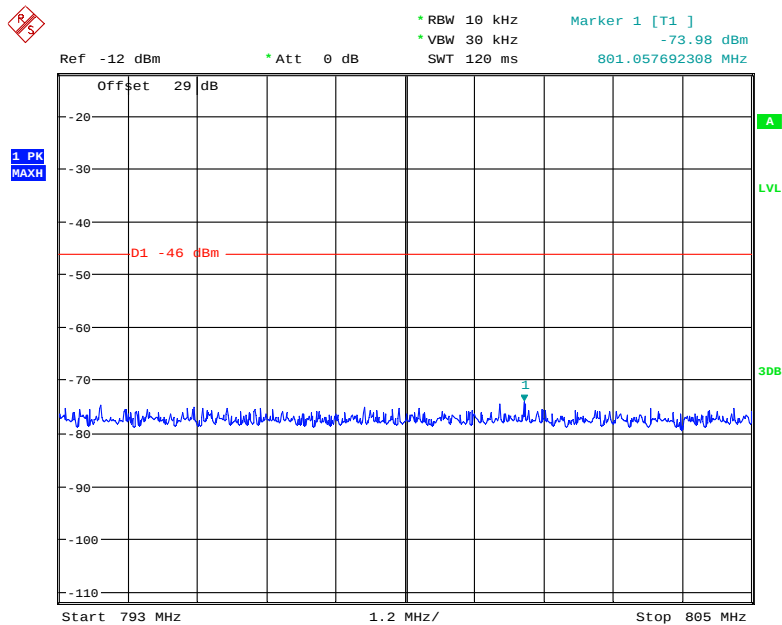
Uplink:

763 MHz~775 MHz



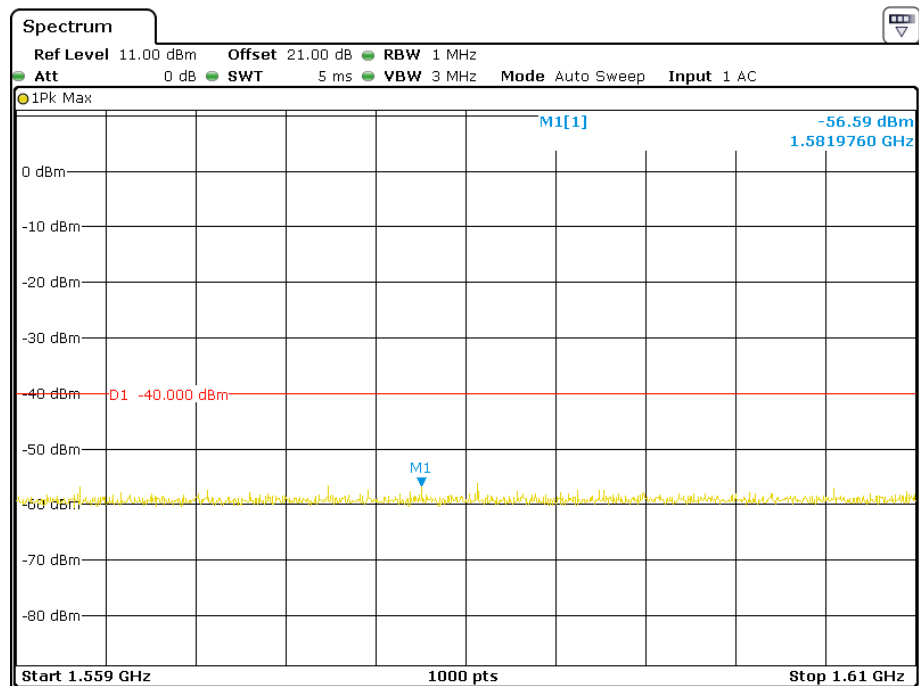
Date: 10.JAN.2019 20:26:14

793 MHz~805 MHz



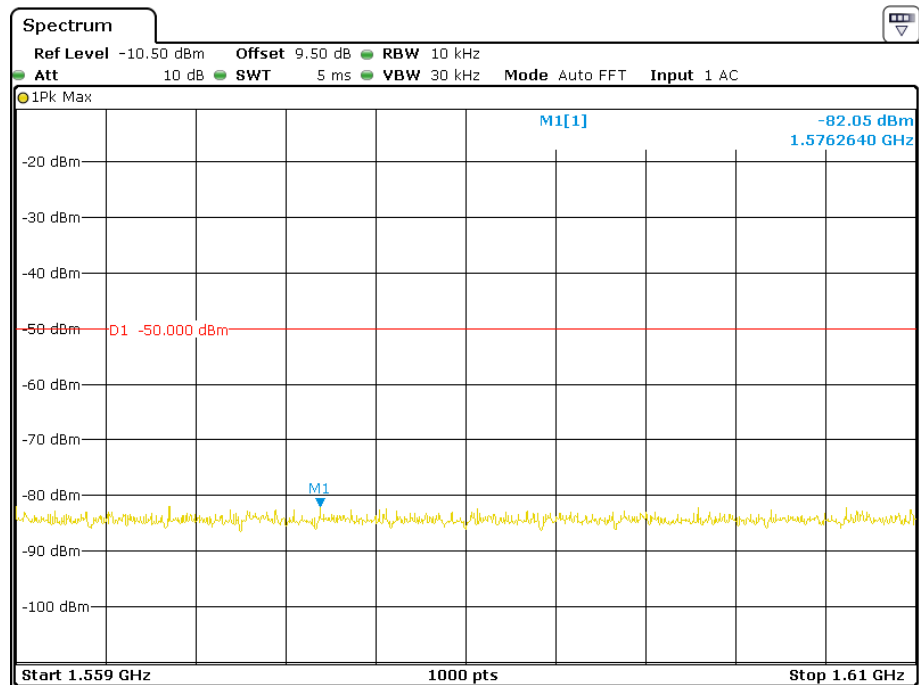
Date: 10.JAN.2019 20:26:51

1559 MHz~1610 MHz (wide band)



Date: 18.JAN.2019 13:20:28

1559 MHz~1610 MHz (narrow band)



Date: 18.JAN.2019 13:26:30

FCC §2.1053, §22.917 & §24.238 & §27.53 - SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917, § 24.238 and § 27.53.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg(\text{TXpwr in Watts}/0.001)$ – the absolute level

Spurious attenuation limit in dB = $43 + 10 \lg(\text{power out in Watts})$

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Tracy Hu on 2019-01-01.

EUT operation mode: Transmitting (worst case as below)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H/24E/27	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
Uplink										
Lower 700MHz (A+B+C Block) Band										
Test frequency range: 30MHz - 8 GHz										
176.32	31.15	167	1.6	H	-65.80	0.28	0	-66.08	-13	53.08
176.32	31.25	263	1.9	V	-65.70	0.28	0	-65.98	-13	52.98
1414.00	45.62	146	1.7	H	-62.2	1.60	7.90	-55.90	-13	42.90
1414.00	45.30	62	2.2	V	-62.8	1.60	7.90	-56.50	-13	43.50
Upper 700MHz (C Block) Band										
Test frequency range: 30MHz - 8 GHz										
176.32	31.33	249	2.2	H	-65.70	0.28	0	-65.98	-13	52.98
176.32	30.50	339	1.2	V	-66.50	0.28	0	-66.78	-13	53.78
1563.00	45.74	294	1.3	H	-62.3	1.40	8.70	-55.00	-13	42.00
1563.00	45.33	322	2.3	V	-62.5	1.40	8.70	-55.20	-13	42.20
Cellular Band										
Test frequency range: 30MHz - 10 GHz										
176.32	31.92	55	1.5	H	-65.10	0.28	0	-65.38	-13	52.38
176.32	31.96	98	1.1	V	-65.00	0.28	0	-65.28	-13	52.28
1673.00	46.30	36	1.6	H	-60.8	1.30	8.90	-53.20	-13	40.20
1673.00	46.11	344	1.7	V	-60.4	1.30	8.90	-52.80	-13	39.80
PCS Band										
Test frequency range: 30MHz - 20 GHz										
176.32	30.97	143	1.2	H	-66.00	0.28	0	-66.28	-13	53.28
176.32	30.49	169	2.2	V	-66.50	0.28	0	-66.78	-13	53.78
3765.00	45.30	353	1.6	H	-55.9	1.50	11.80	-45.60	-13	32.60
3765.00	45.10	320	2.0	V	-55.7	1.50	11.80	-45.40	-13	32.40
AWS Band										
Test frequency range: 30MHz – 18 GHz										
176.32	31.58	251	1.1	H	-65.40	0.28	0	-65.68	-13	52.68
176.32	31.23	273	2.1	V	-65.80	0.28	0	-66.08	-13	53.08
3465.00	45.71	110	1.7	H	-54.7	1.50	12.00	-44.20	-13	31.20
3465.00	45.30	94	1.2	V	-55.8	1.50	12.00	-45.30	-13	32.30

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H/24E/27	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
Downlink										
Lower 700MHz (A+B+C Block) Band										
Test frequency range: 30MHz - 8 GHz										
176.32	31.68	315	1.6	H	-65.30	0.28	0	-65.58	-13	52.58
176.32	30.46	221	1.5	V	-66.50	0.28	0	-66.78	-13	53.78
1474.00	46.70	141	2.1	H	-62.0	1.60	8.50	-55.10	-13	42.10
1474.00	46.33	321	1.2	V	-62.6	1.60	8.50	-55.70	-13	42.70
Upper 700MHz (C Block) Band										
Test frequency range: 30MHz - 8 GHz										
176.32	30.06	252	2.0	H	-66.90	0.28	0	-67.18	-13	54.18
176.32	31.61	86	2.3	V	-65.40	0.28	0	-65.68	-13	52.68
1503.00	46.32	154	2.0	H	-62.3	1.60	8.50	-55.40	-13	42.40
1503.00	45.82	224	2.1	V	-63.1	1.60	8.50	-56.20	-13	43.20
Cellular Band										
Test frequency range: 30MHz - 10 GHz										
176.32	31.79	239	1.3	H	-65.20	0.28	0	-65.48	-13	52.48
176.32	31.02	16	1.6	V	-66.00	0.28	0	-66.28	-13	53.28
1763.00	45.16	333	2.5	H	-60.9	1.30	9.30	-52.90	-13	39.90
1763.00	44.85	166	1.2	V	-60.8	1.30	9.30	-52.80	-13	39.80
PCS Band										
Test frequency range: 30MHz - 20 GHz										
176.32	31.48	133	2.1	H	-65.50	0.28	0	-65.78	-13	52.78
176.32	31.98	38	1.3	V	-65.00	0.28	0	-65.28	-13	52.28
3925.00	44.79	177	2.5	H	-55.4	1.60	11.90	-45.10	-13	32.10
3925.00	44.36	212	1.5	V	-55.7	1.60	11.90	-45.40	-13	32.40
AWS Band										
Test frequency range: 30MHz - 22 GHz										
176.32	31.07	186	1.3	H	-65.90	0.28	0	-66.18	-13	53.18
176.32	31.77	141	2.4	V	-65.20	0.28	0	-65.48	-13	52.48
4265.00	44.61	345	1.7	H	-56.6	1.50	11.70	-46.40	-13	33.40
4265.00	44.30	286	1.5	V	-56.2	1.50	11.70	-46.00	-13	33.00

Note:

1) Absolute Level = SG Level - Cable loss + Antenna Gain

2) Margin = Limit- Absolute Level

FCC §2.1053, §22.917 & §24.238 & §27.53 - BAND EDGES & INTERMODULATION

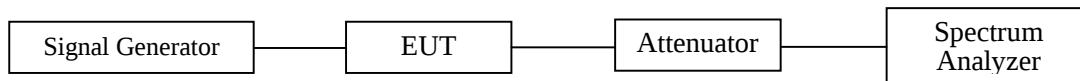
Applicable Standard

FCC §2.1053, §22.917, §24.238 and §27.53.

The power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Test Procedure

Please refer to KDB 935210 D05 Indus Booster Basic Meas v01r02 clause 3.6.2



Test Data

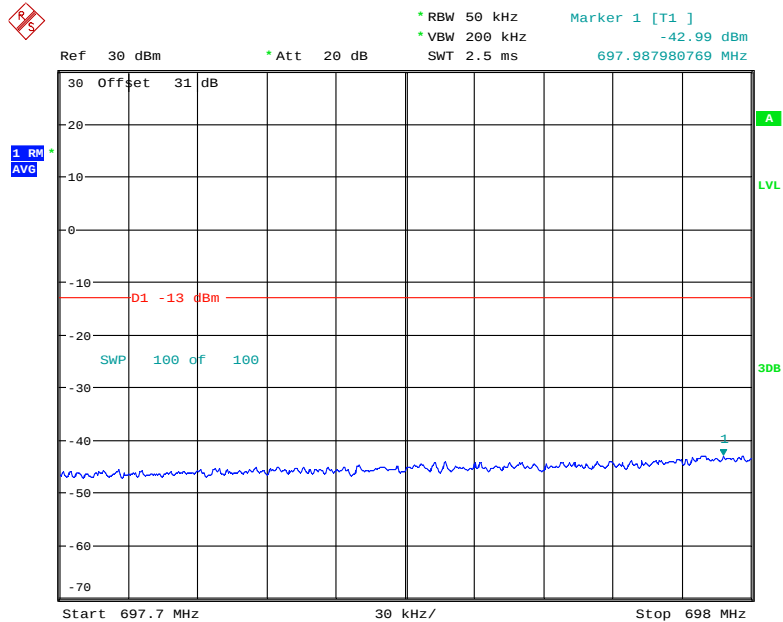
Environmental Conditions

Temperature:	23~25°C
Relative Humidity:	50~52 %
ATM Pressure:	100.0~101.0 kPa

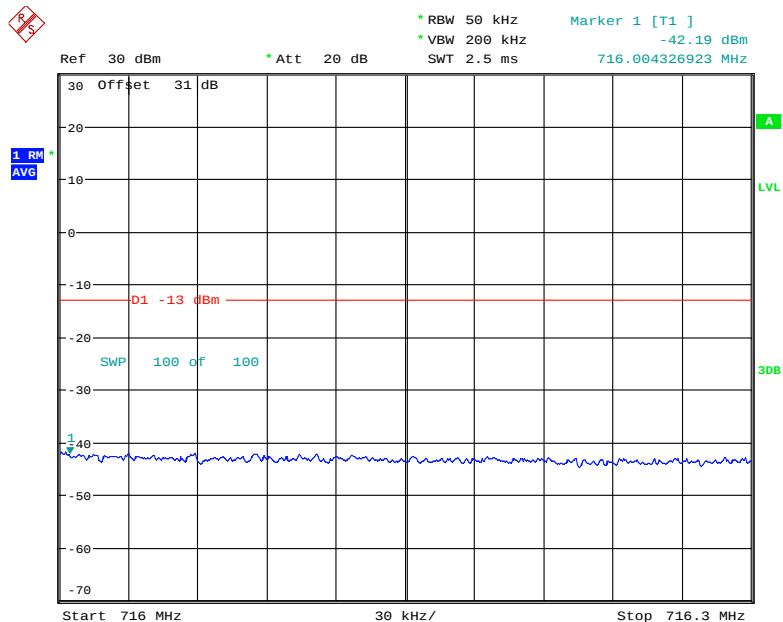
The testing was performed by Tracy Hu from 2019-01-10 to 2019-01-17.

EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following plots.

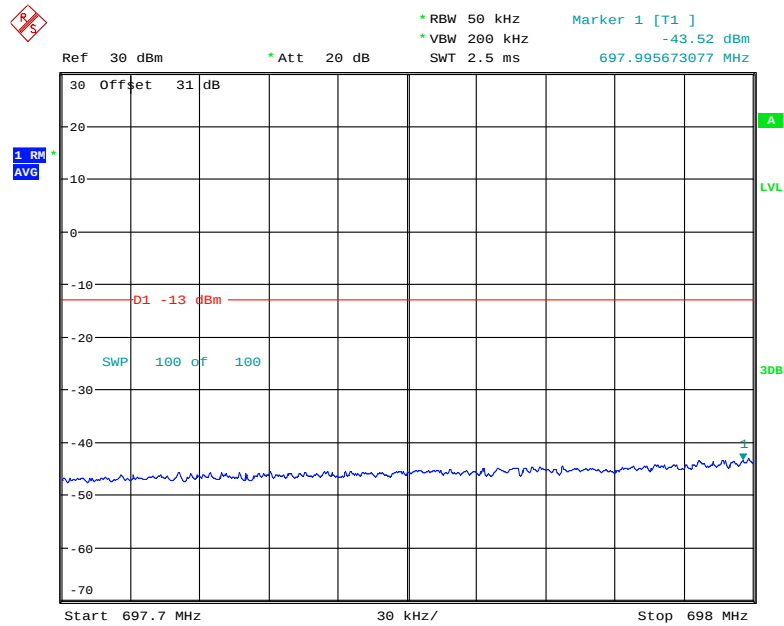
**For Band Edge:
Uplink:****Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-Pre AGC**

Date: 10.JAN.2019 19:27:58

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-Pre AGC

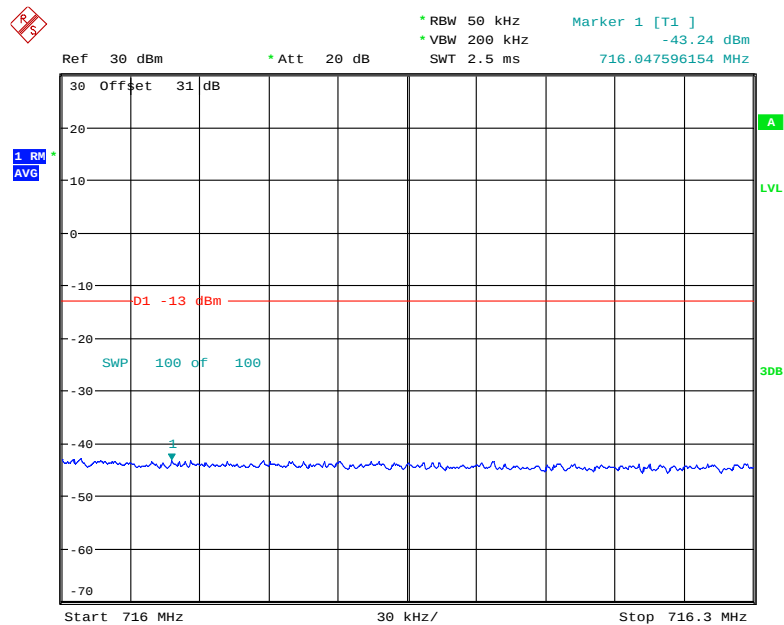
Date: 10.JAN.2019 19:29:25

Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-3dB Above AGC



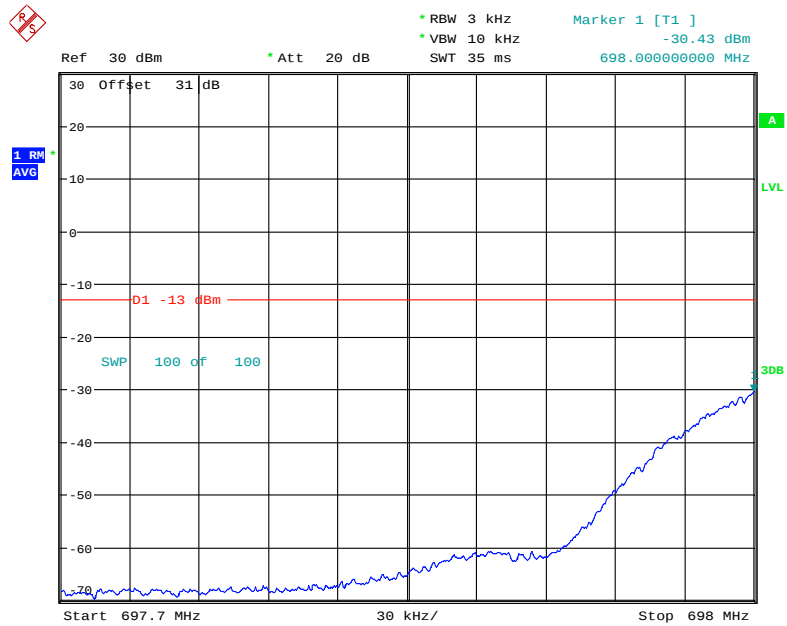
Date: 10.JAN.2019 19:28:38

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-3dB Above AGC



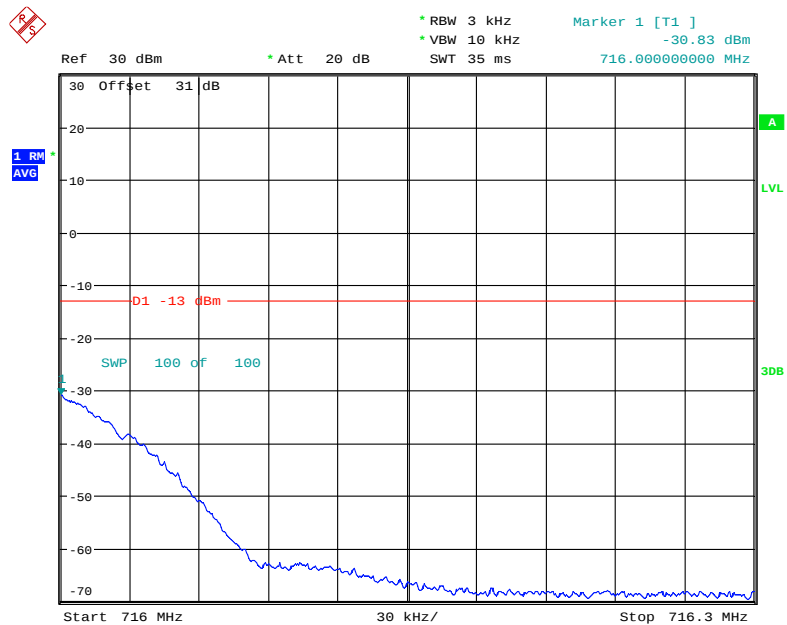
Date: 10.JAN.2019 19:29:10

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-Pre AGC



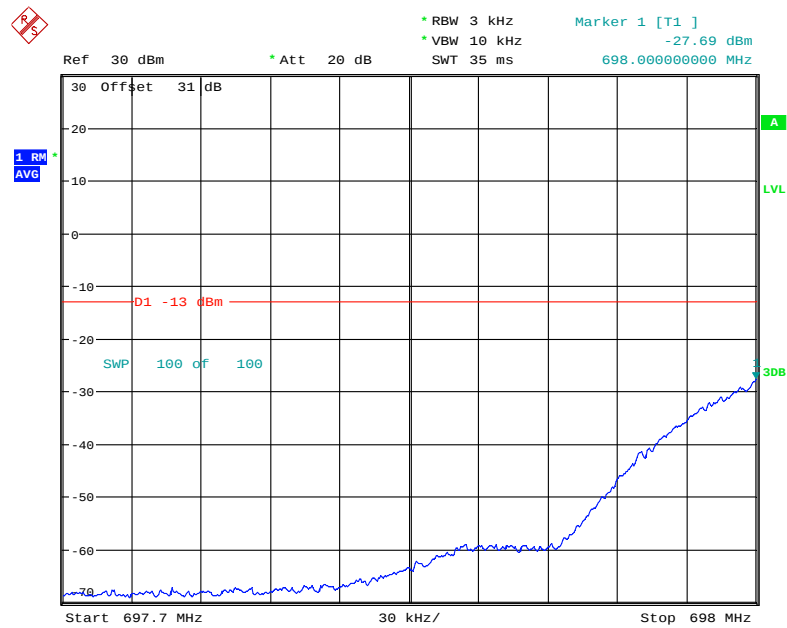
Date: 10.JAN.2019 19:39:49

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-Pre AGC



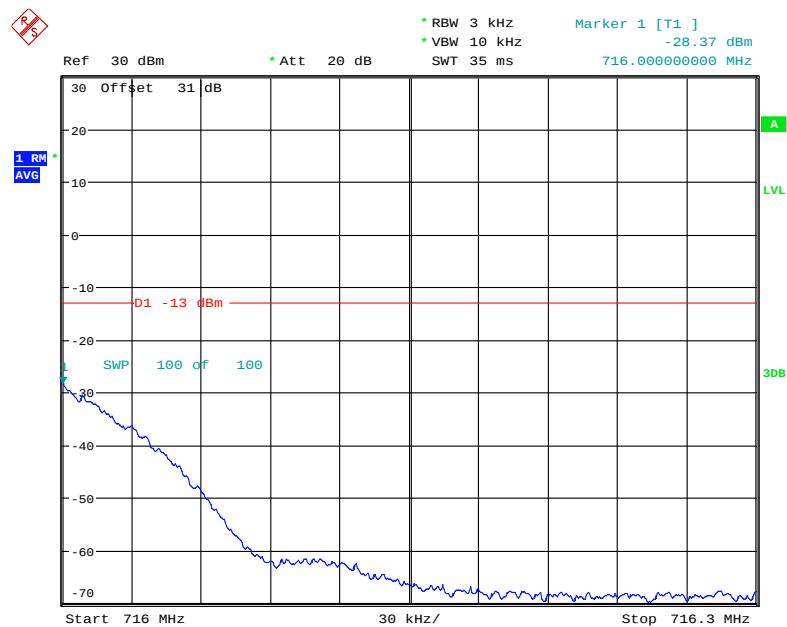
Date: 10.JAN.2019 19:42:12

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-3dB Above AGC



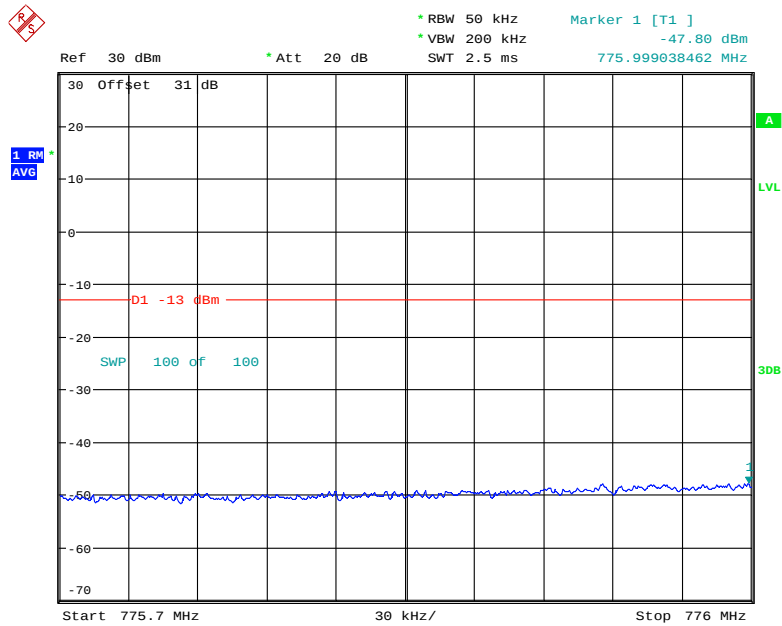
Date: 10.JAN.2019 19:41:13

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-3dB Above AGC



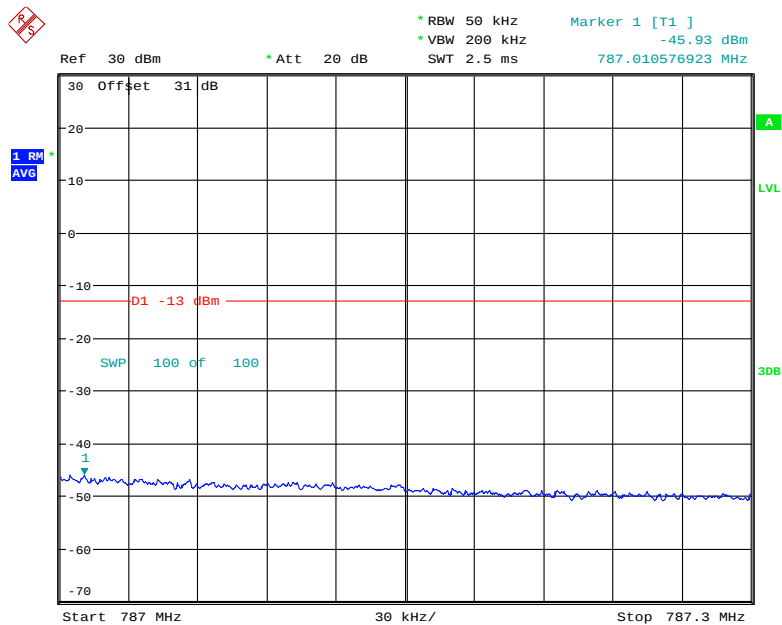
Date: 10.JAN.2019 19:41:59

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-Pre AGC



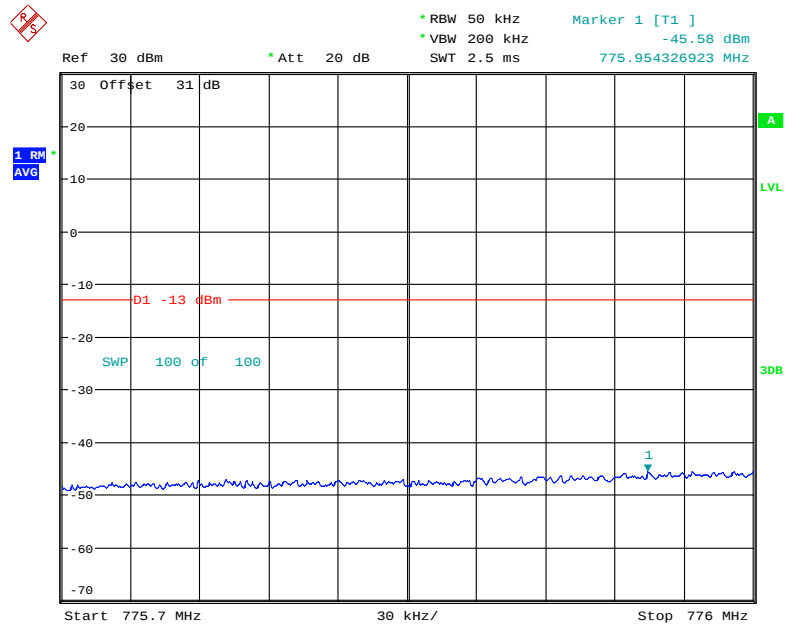
Date: 10.JAN.2019 19:30:59

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-Pre AGC



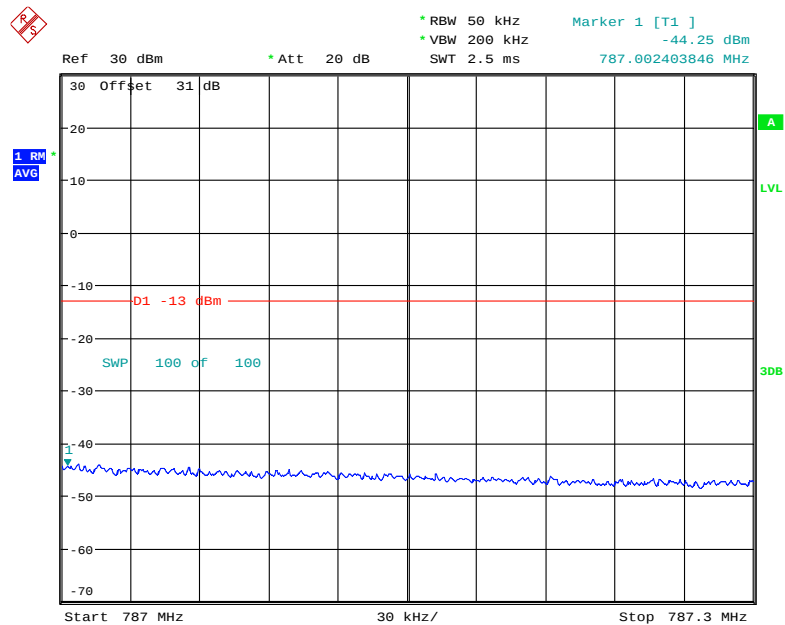
Date: 10.JAN.2019 19:29:56

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-3dB Above AGC



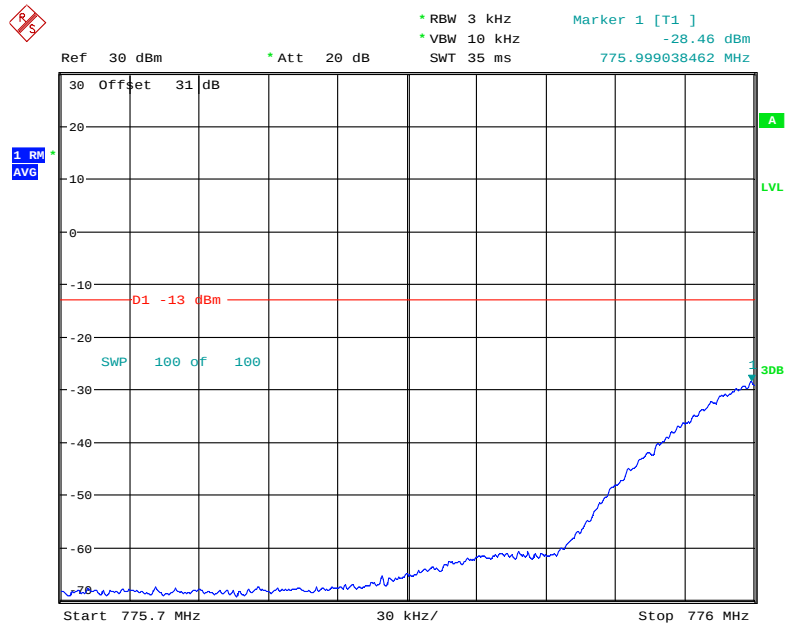
Date: 10.JAN.2019 19:30:41

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-3dB Above AGC



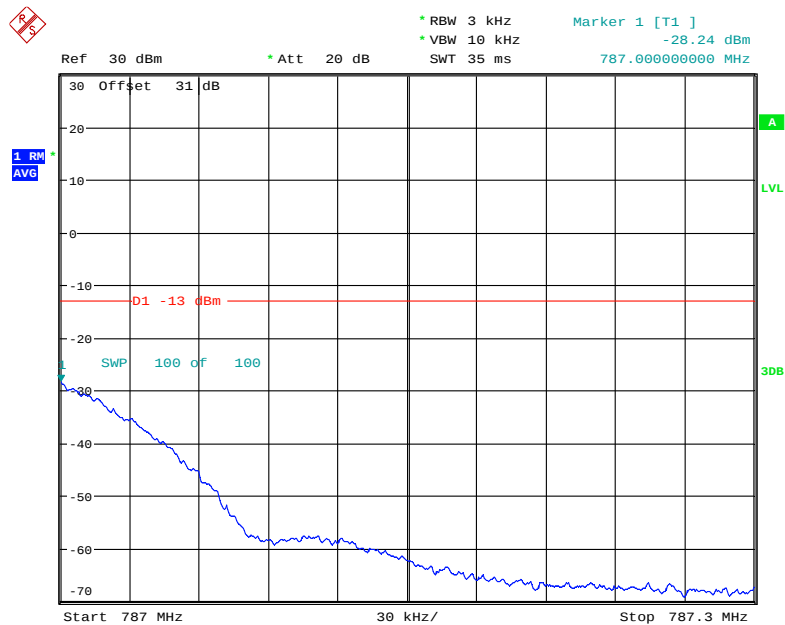
Date: 10.JAN.2019 19:30:15

Upper 700MHz (C Block) Band, Left Band Edge for GSM-Pre AGC



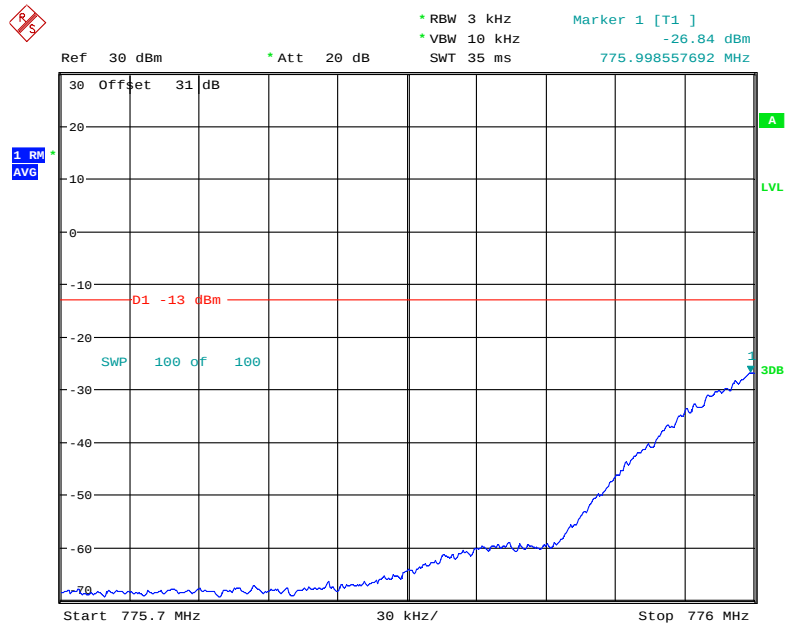
Date: 10.JAN.2019 19:44:13

Upper 700MHz (C Block) Band, Right Band Edge for GSM-Pre AGC



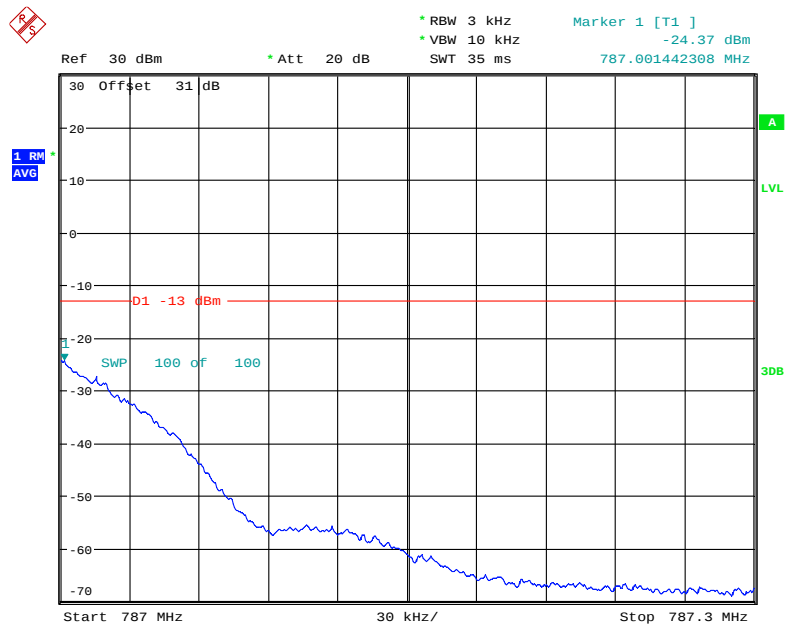
Date: 10.JAN.2019 19:43:02

Upper 700MHz (C Block) Band, Left Band Edge for GSM-3dB Above AGC



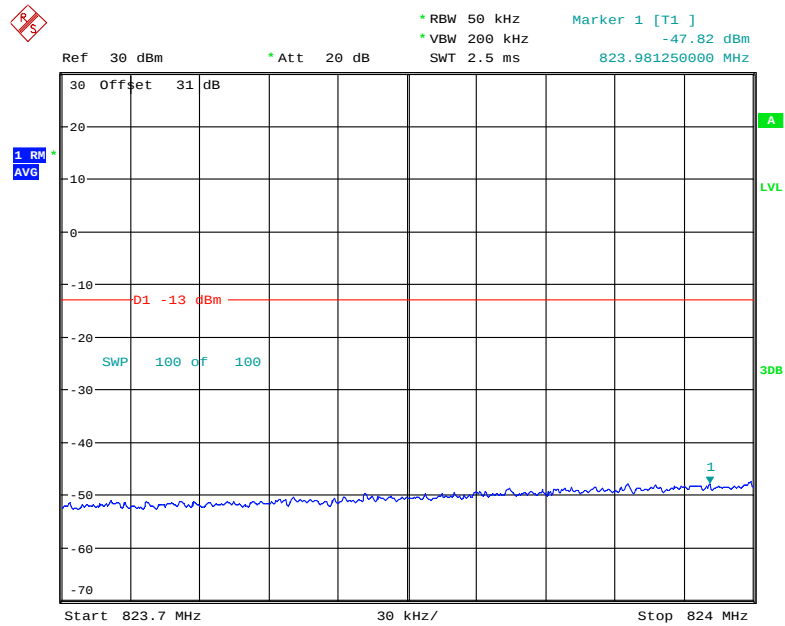
Date: 10.JAN.2019 19:43:53

Upper 700MHz (C Block) Band, Right Band Edge for GSM-3dB Above AGC



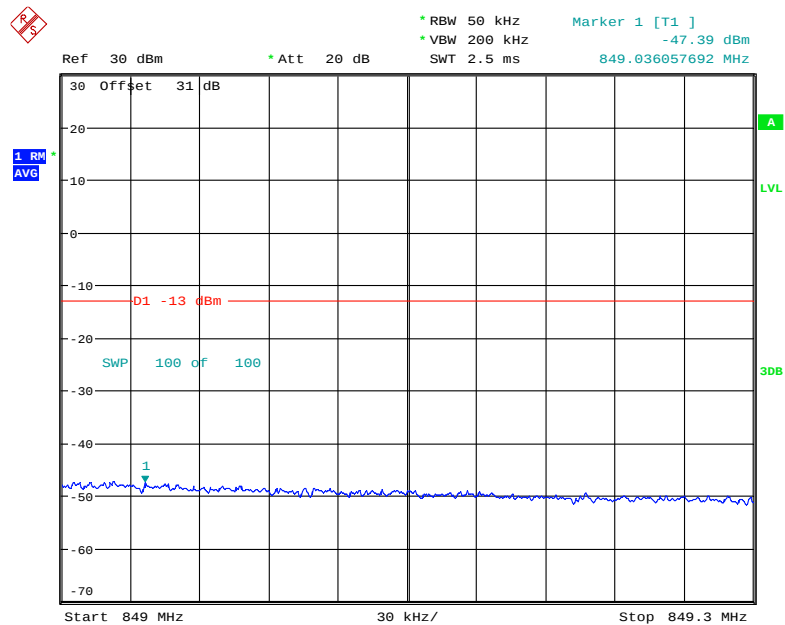
Date: 10.JAN.2019 19:43:20

Cellular Band, Left Band Edge for AWGN-Pre AGC



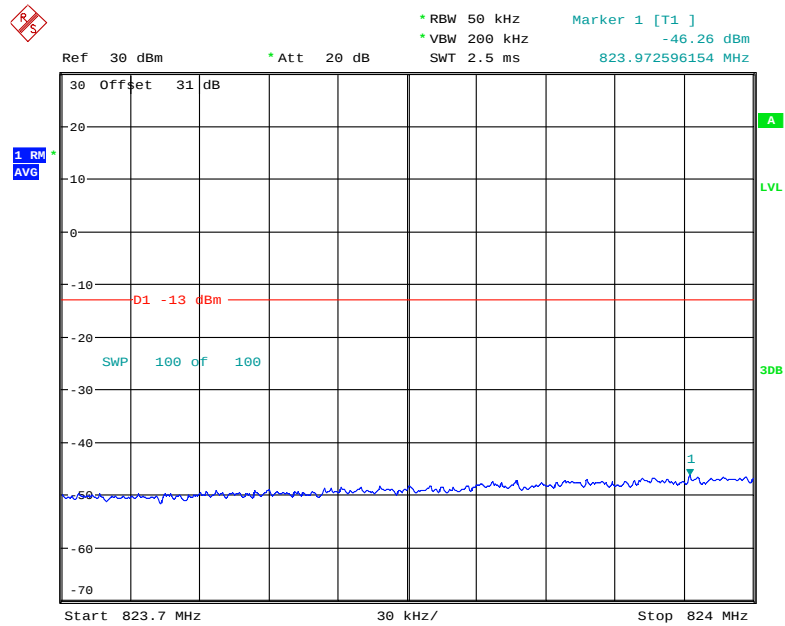
Date: 10.JAN.2019 19:31:45

Cellular Band, Right Band Edge for AWGN-Pre AGC



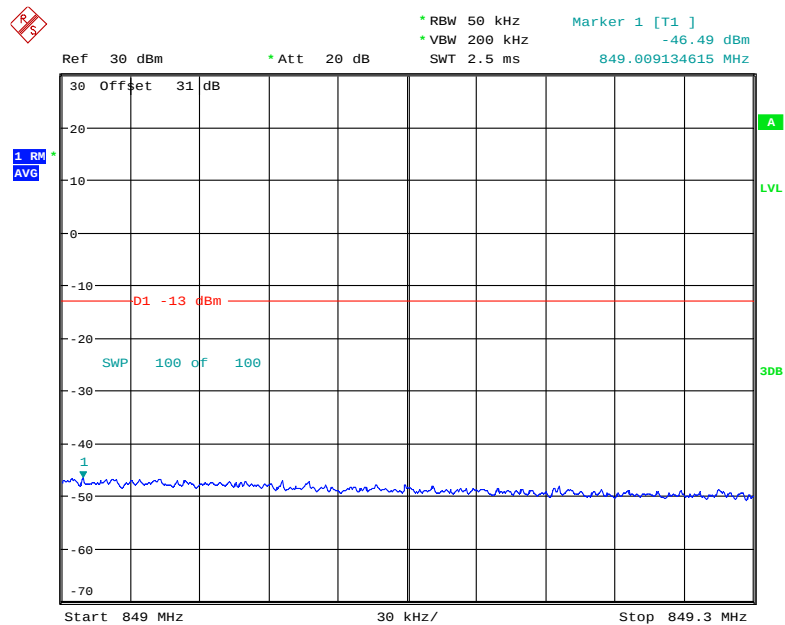
Date: 10.JAN.2019 19:32:48

Cellular Band, Left Band Edge for AWGN-3dB Above AGC



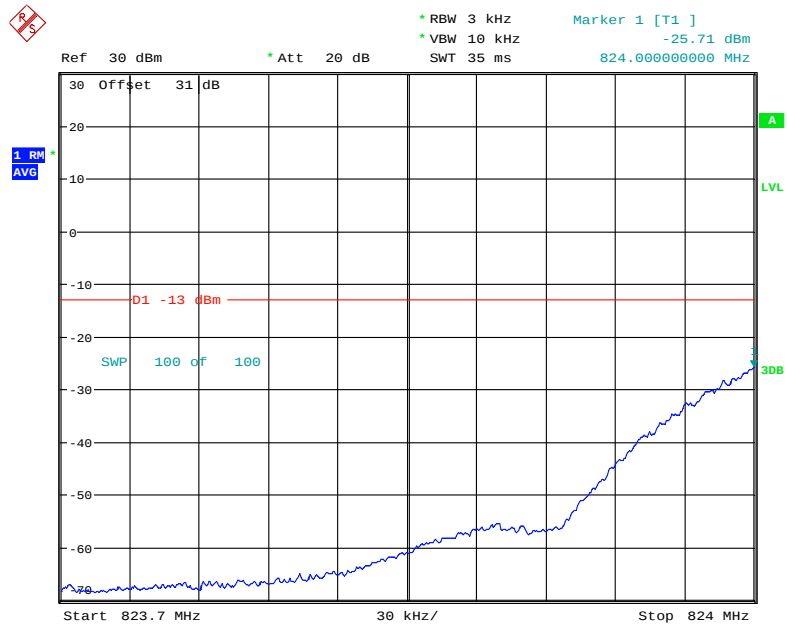
Date: 10.JAN.2019 19:32:03

Cellular Band, Right Band Edge for AWGN-3dB Above AGC



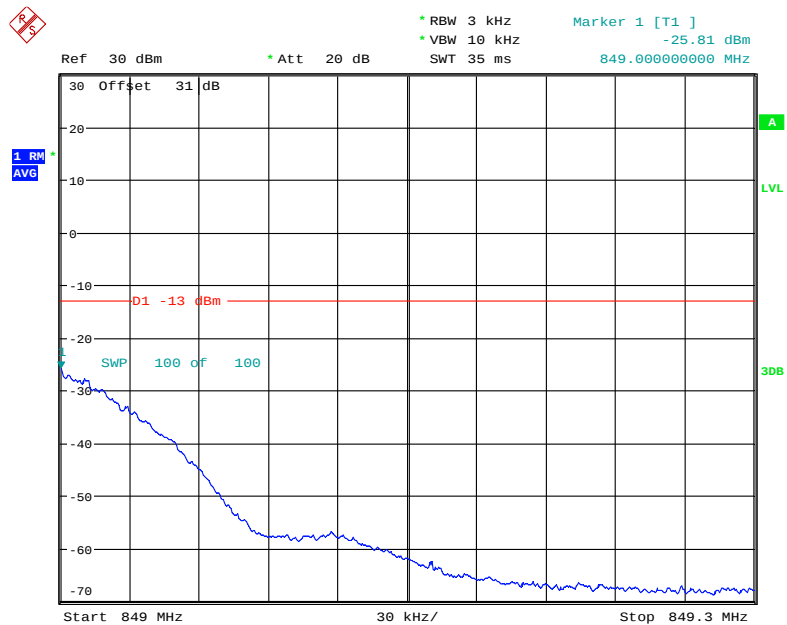
Date: 10.JAN.2019 19:32:32

Cellular Band, Left Band Edge for GSM-Pre AGC



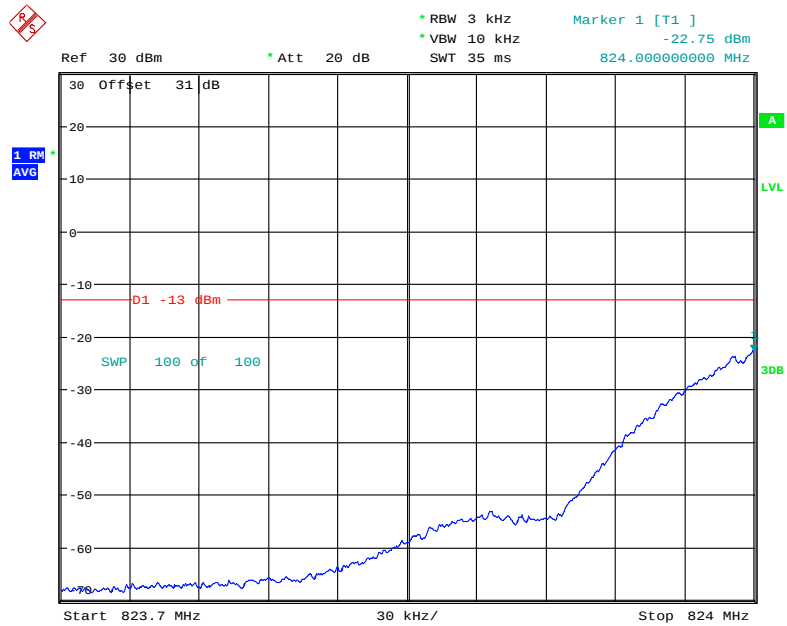
Date: 10.JAN.2019 19:44:44

Cellular Band, Right Band Edge for GSM-Pre AGC



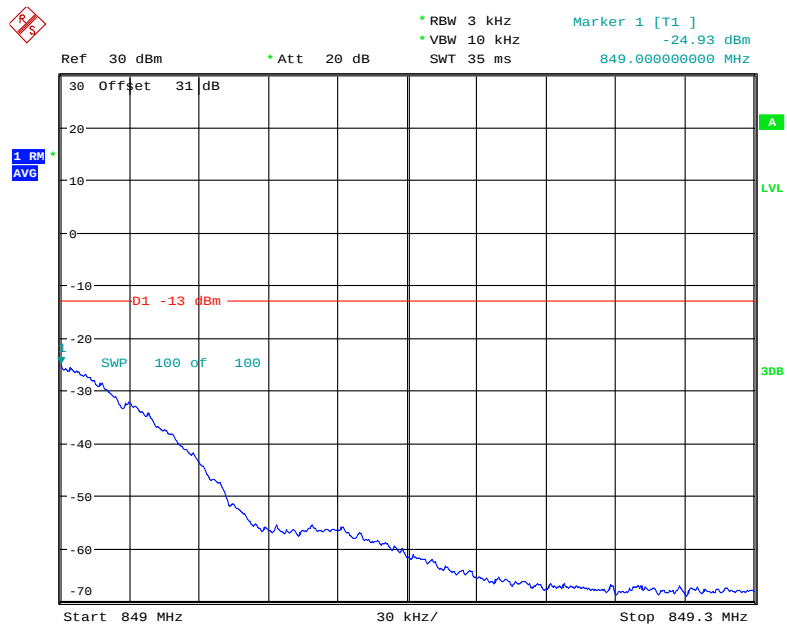
Date: 10.JAN.2019 19:45:58

Cellular Band, Left Band Edge for GSM-3dB Above AGC



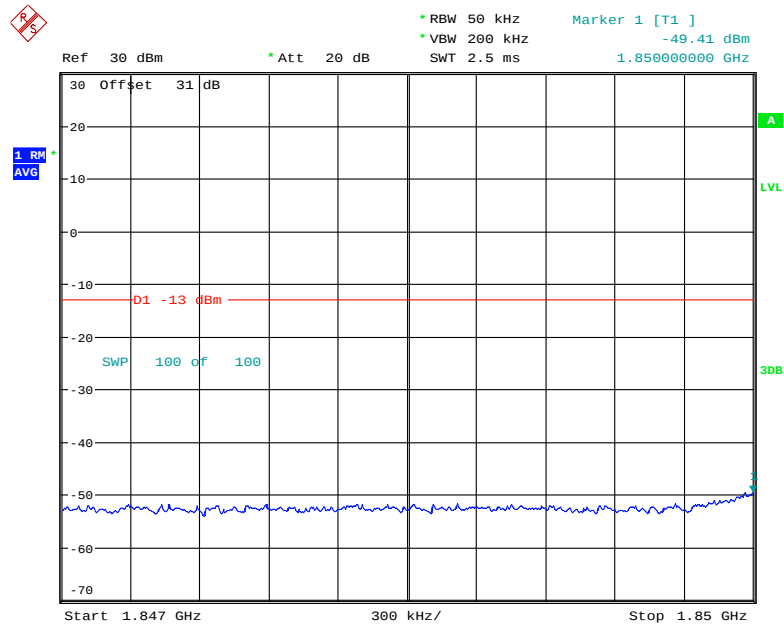
Date: 10.JAN.2019 19:45:05

Cellular Band, Right Band Edge for GSM-3dB Above AGC



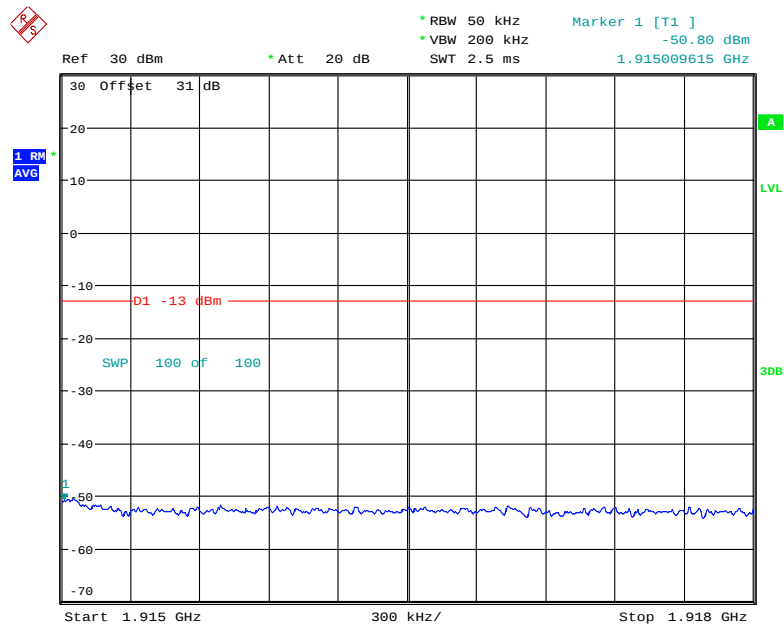
Date: 10.JAN.2019 19:45:40

PCS Band, Left Band Edge for AWGN-Pre AGC



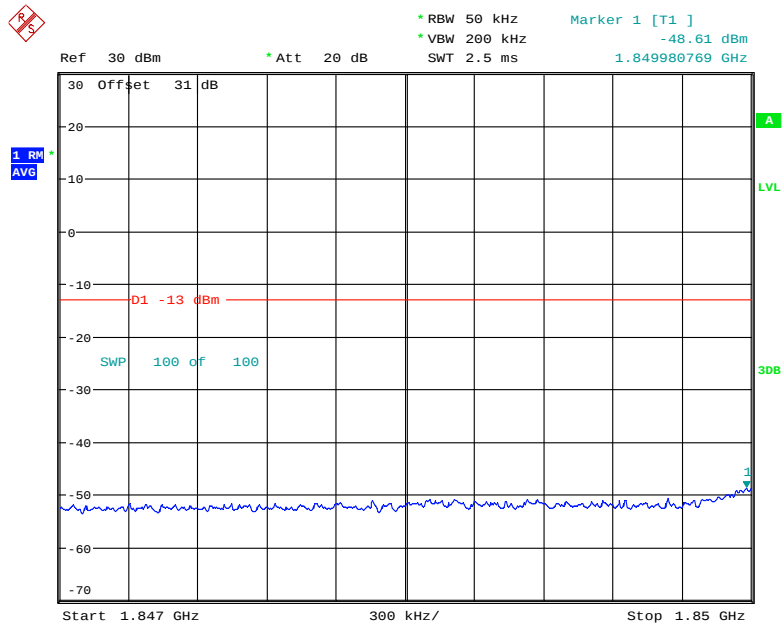
Date: 10.JAN.2019 19:34:11

PCS Band, Right Band Edge for AWGN-Pre AGC



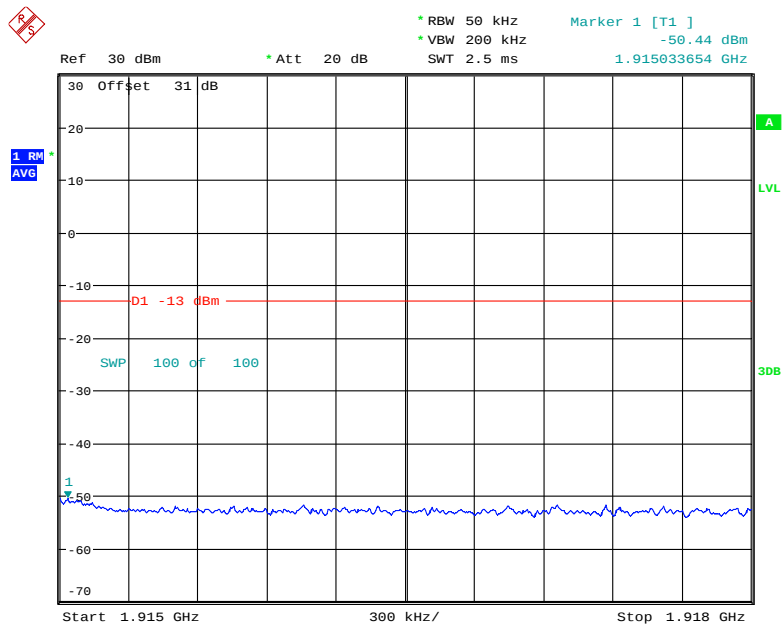
Date: 10.JAN.2019 19:33:18

PCS Band, Left Band Edge for AWGN-3dB Above AGC



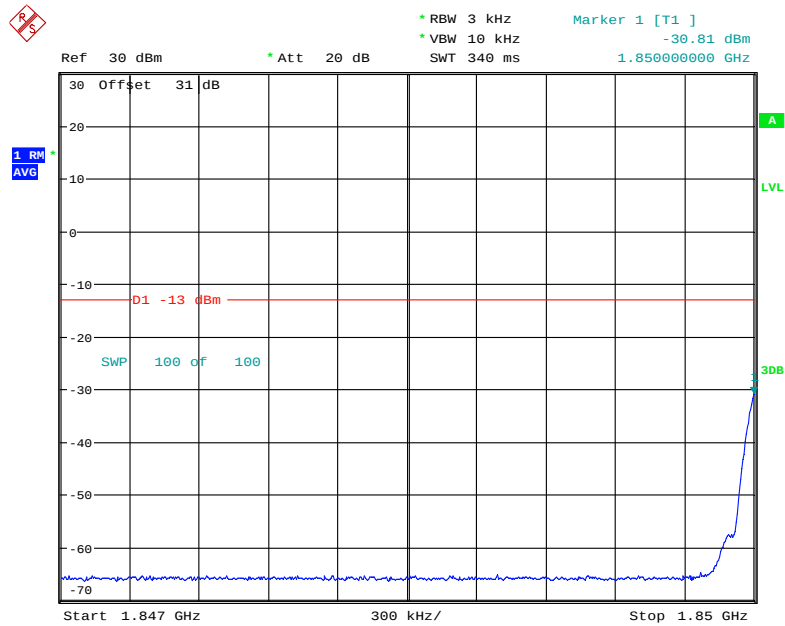
Date: 10.JAN.2019 19:33:54

PCS Band, Right Band Edge for AWGN-3dB Above AGC



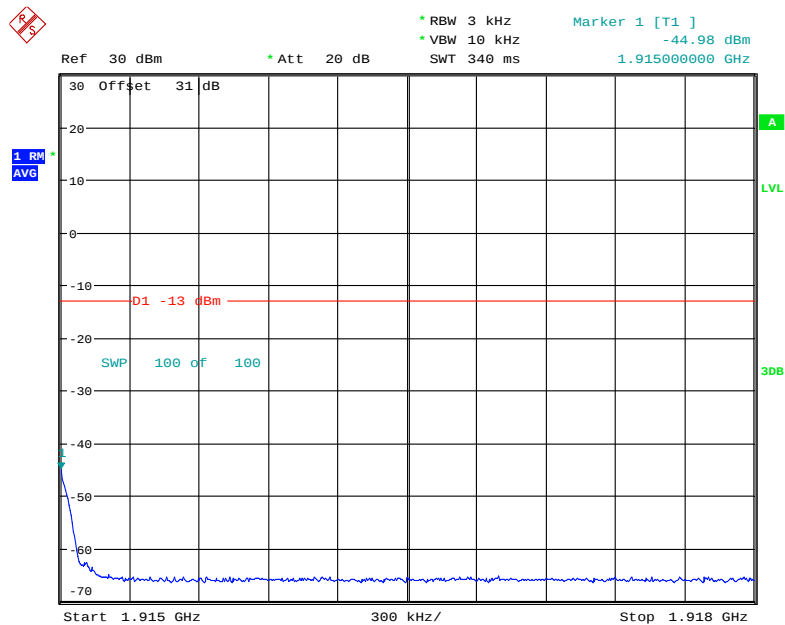
Date: 10.JAN.2019 19:33:30

PCS Band, Left Band Edge for GSM-Pre AGC



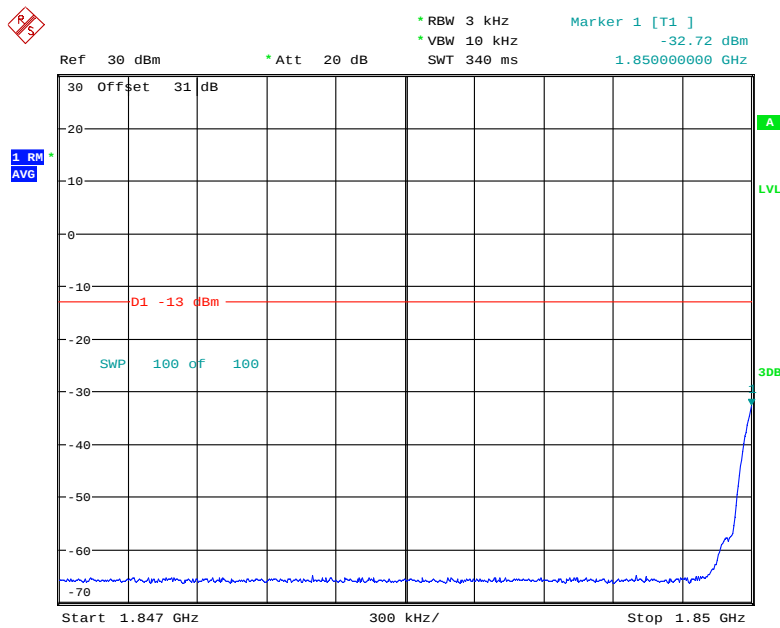
Date: 10.JAN.2019 19:48:01

PCS Band, Right Band Edge for GSM-Pre AGC



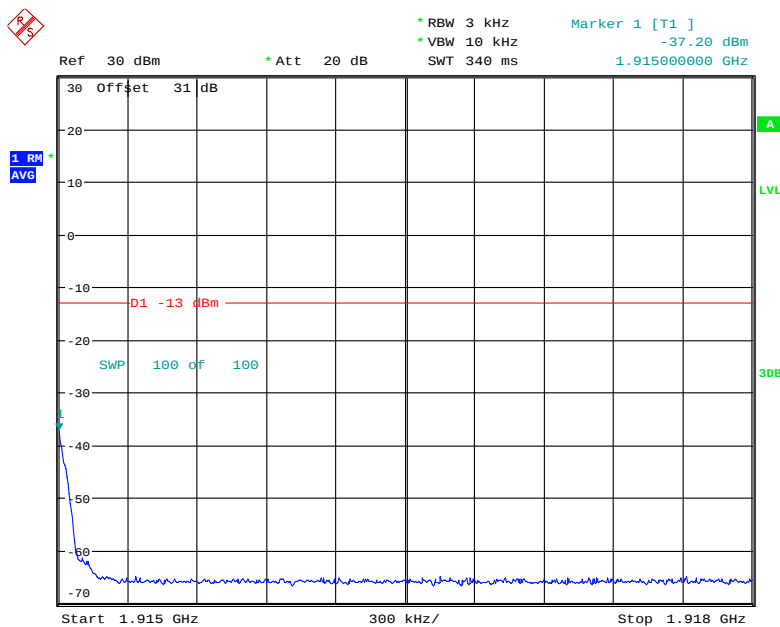
Date: 10.JAN.2019 19:56:04

PCS Band, Left Band Edge for GSM-3dB Above AGC



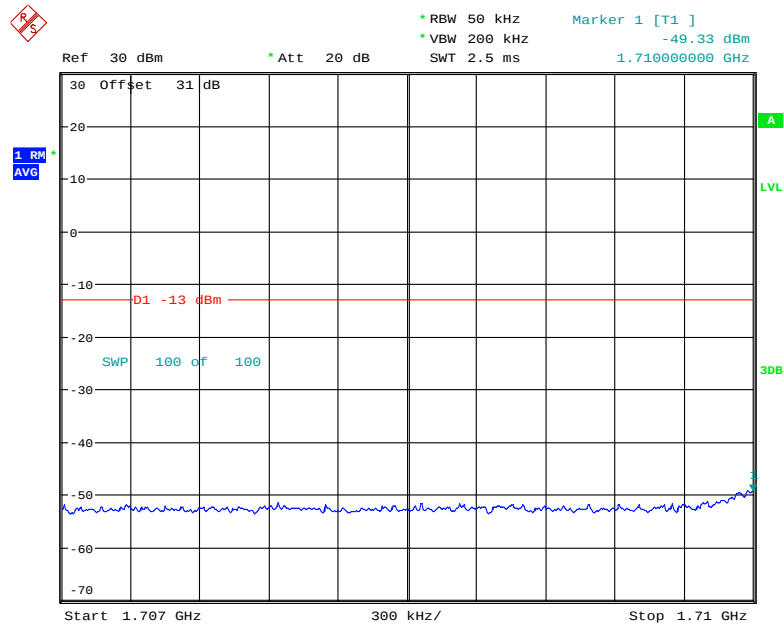
Date: 10.JAN.2019 19:47:47

PCS Band, Right Band Edge for GSM-3dB Above AGC



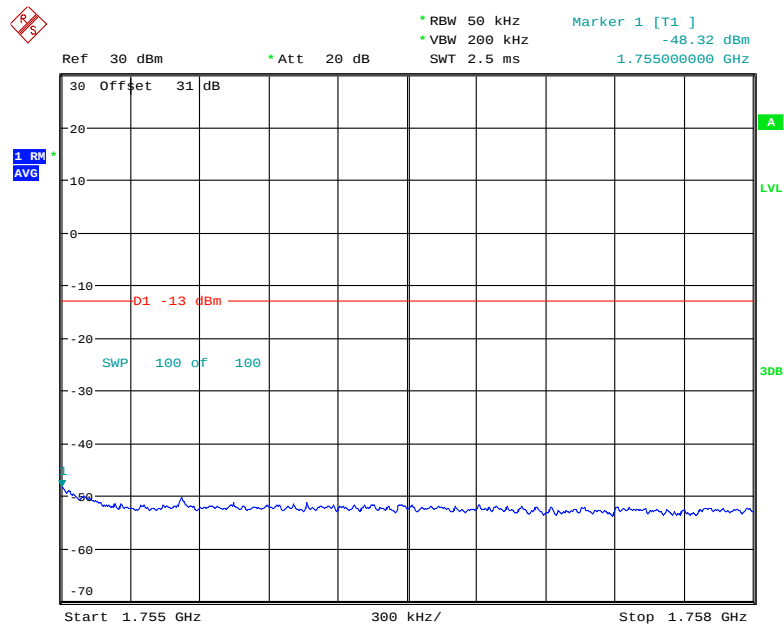
Date: 10.JAN.2019 19:46:45

AWS Band, Left Band Edge for AWGN-Pre AGC



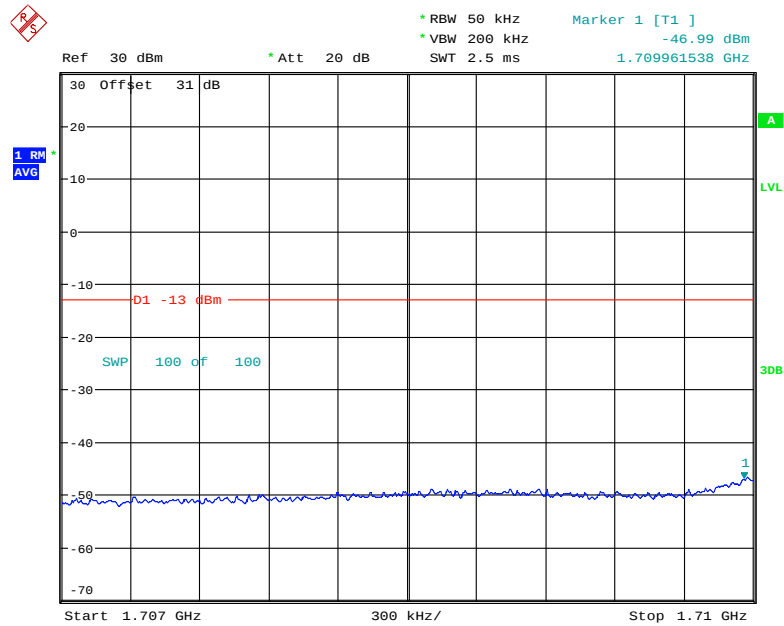
Date: 10.JAN.2019 19:34:35

AWS Band, Right Band Edge for AWGN-Pre AGC



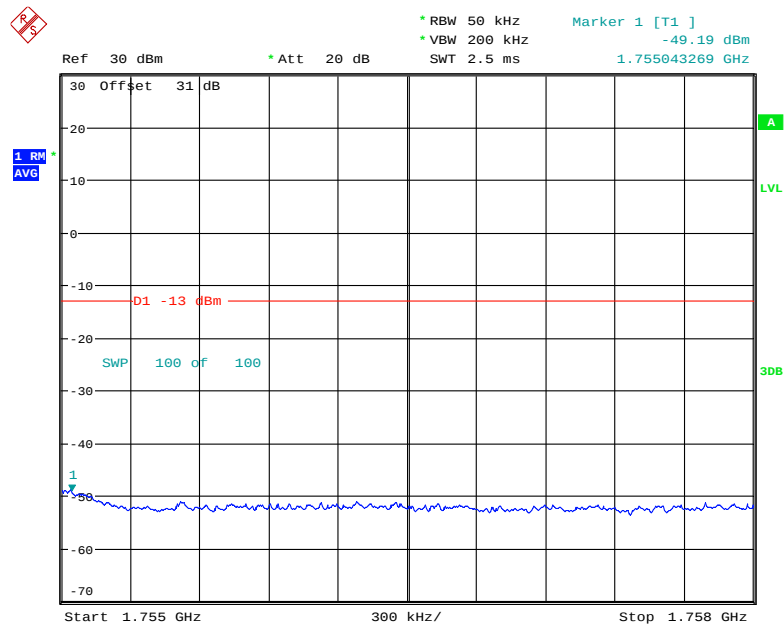
Date: 10.JAN.2019 19:35:26

AWS Band, Left Band Edge for AWGN-3dB Above AGC



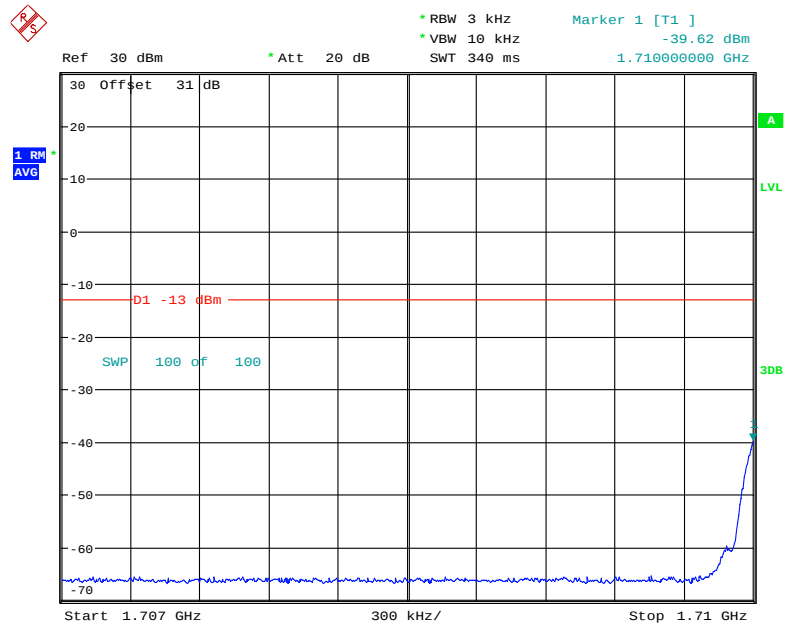
Date: 10.JAN.2019 19:34:55

AWS Band, Right Band Edge for AWGN-3dB Above AGC



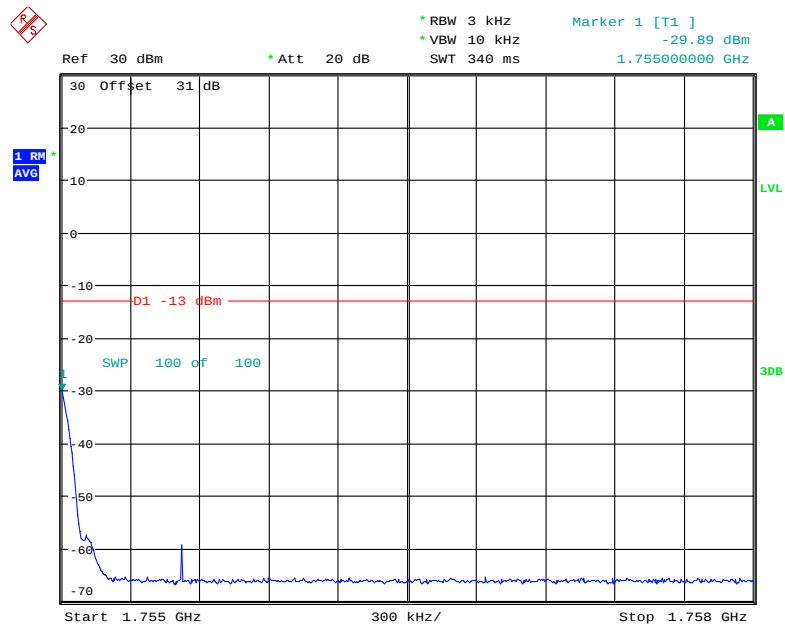
Date: 10.JAN.2019 19:35:13

AWS Band, Left Band Edge for GSM-Pre AGC



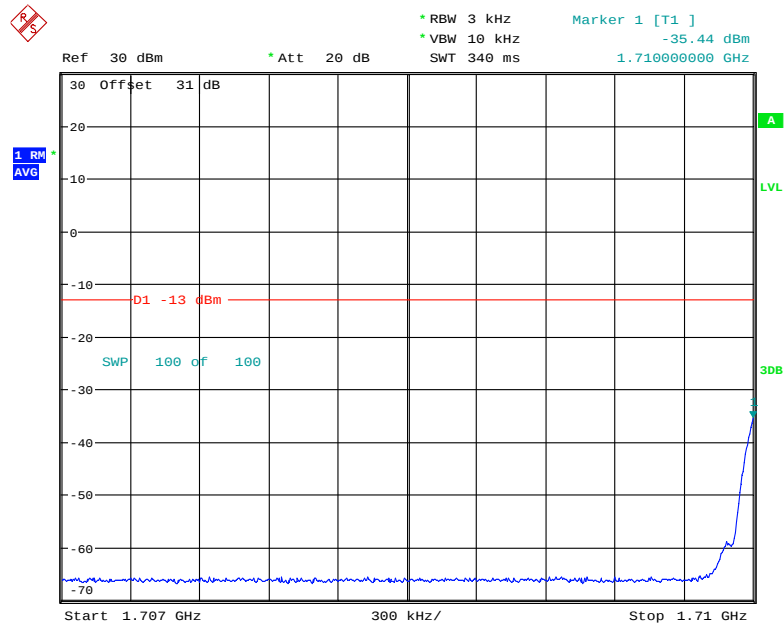
Date: 10.JAN.2019 19:51:30

AWS Band, Right Band Edge for GSM-Pre AGC



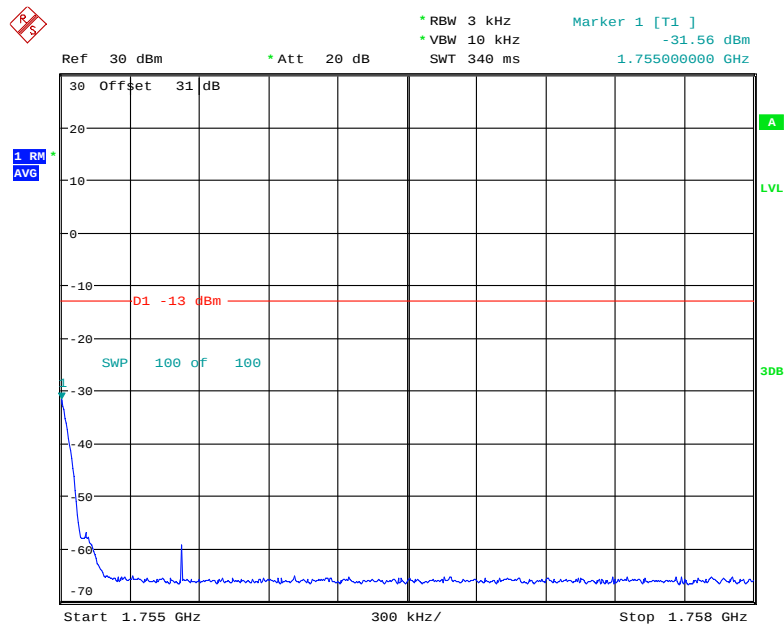
Date: 10.JAN.2019 19:52:54

AWS Band, Left Band Edge for GSM-3dB Above AGC



Date: 10.JAN.2019 19:51:44

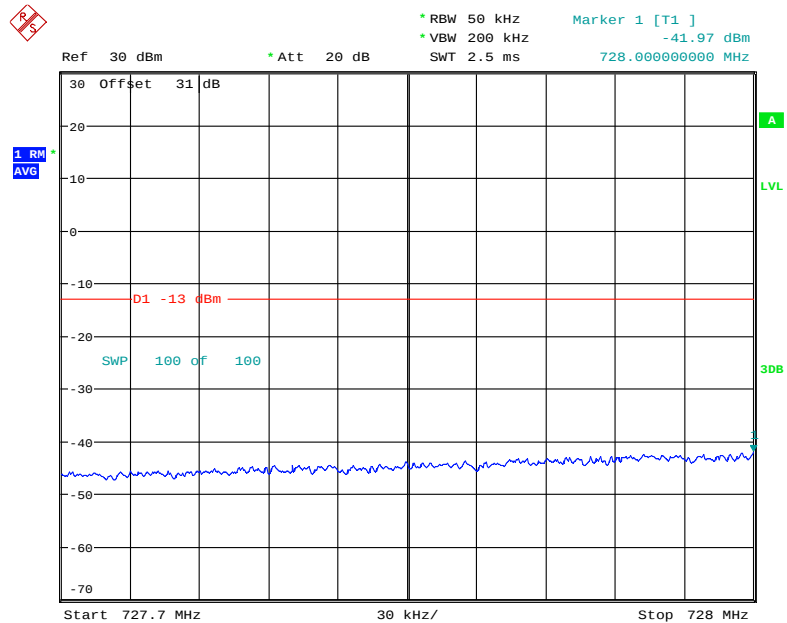
AWS Band, Right Band Edge for GSM-3dB Above AGC



Date: 10.JAN.2019 19:52:32

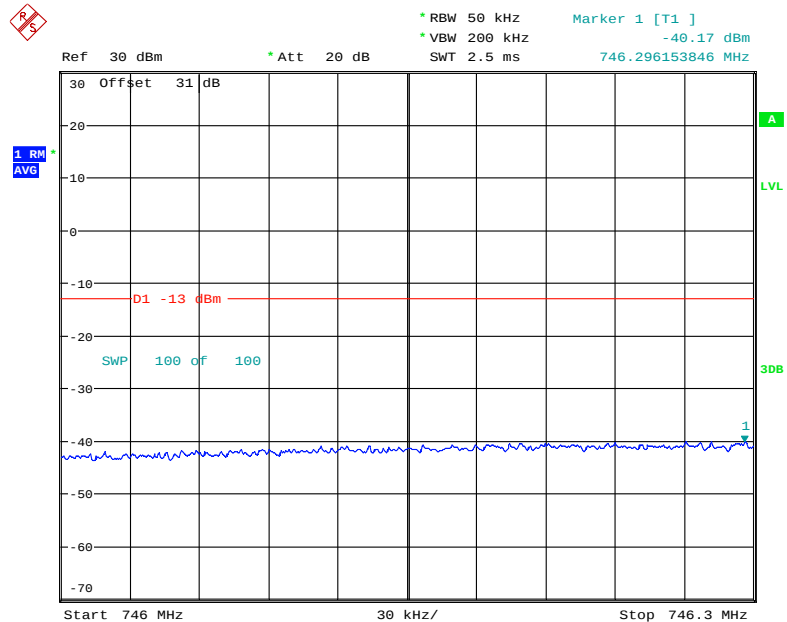
Downlink:

Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-Pre AGC



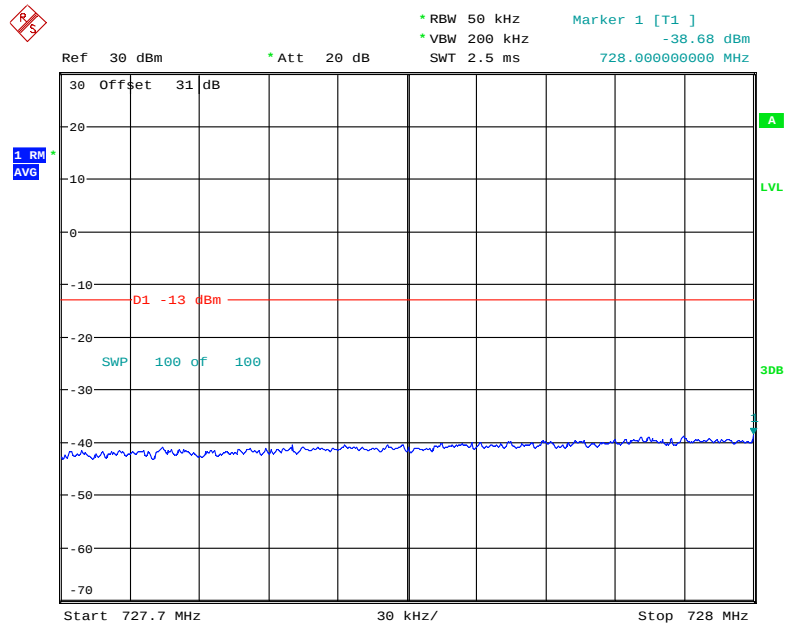
Date: 10.JAN.2019 19:10:34

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-Pre AGC



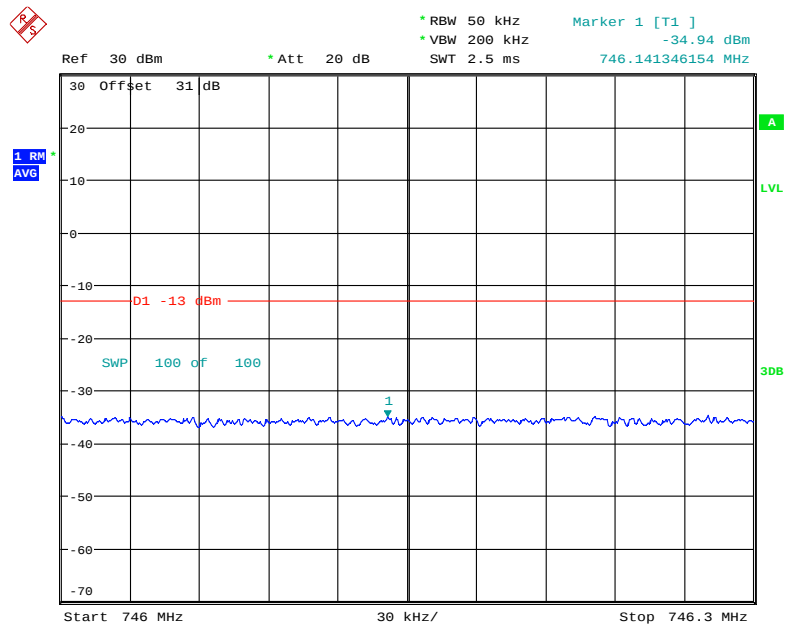
Date: 10.JAN.2019 19:11:36

Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-3dB Above AGC

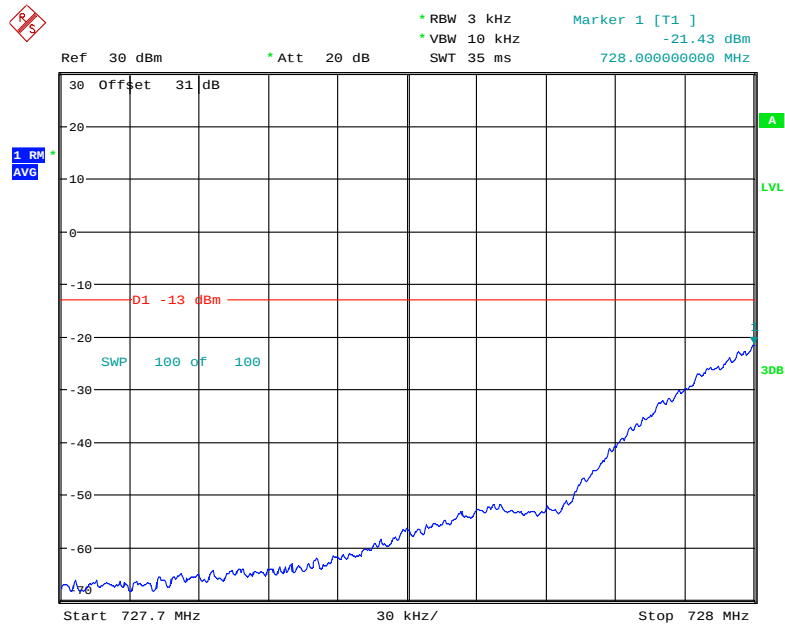


Date: 10.JAN.2019 19:10:52

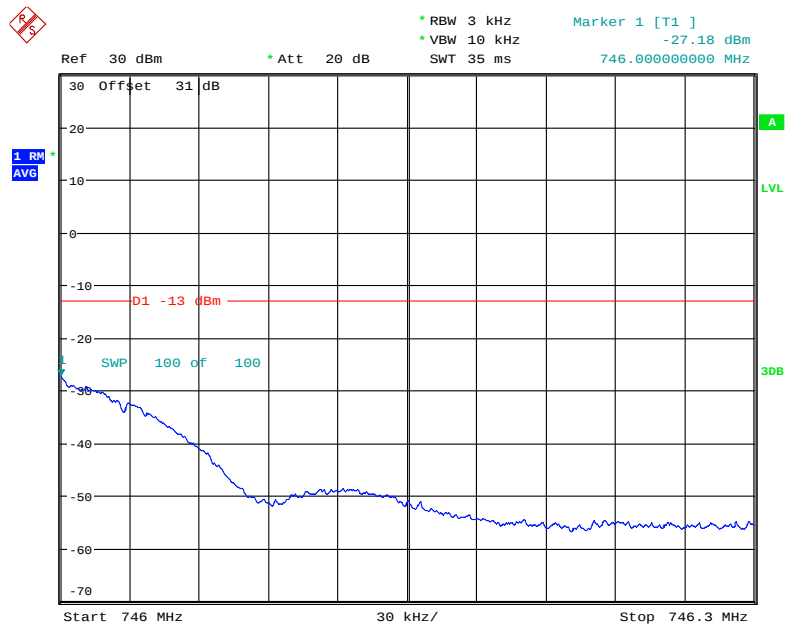
Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-3dB Above AGC



Date: 10.JAN.2019 19:11:19

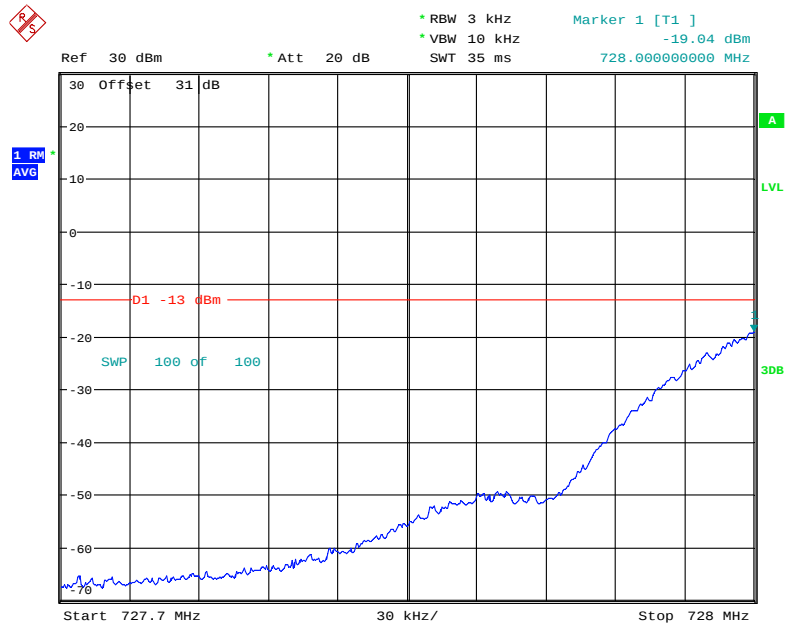
Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-Pre AGC

Date: 10.JAN.2019 18:40:28

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-Pre AGC

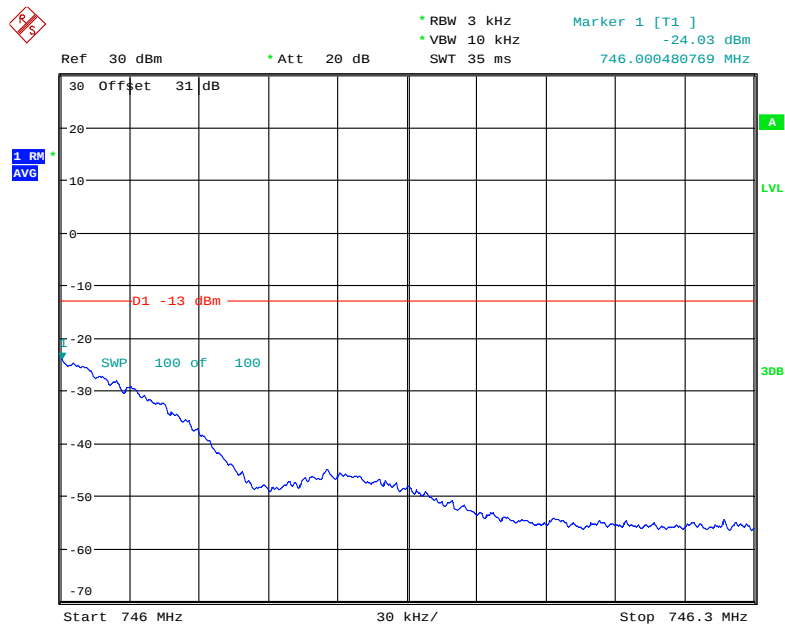
Date: 10.JAN.2019 18:44:40

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-3dB Above AGC



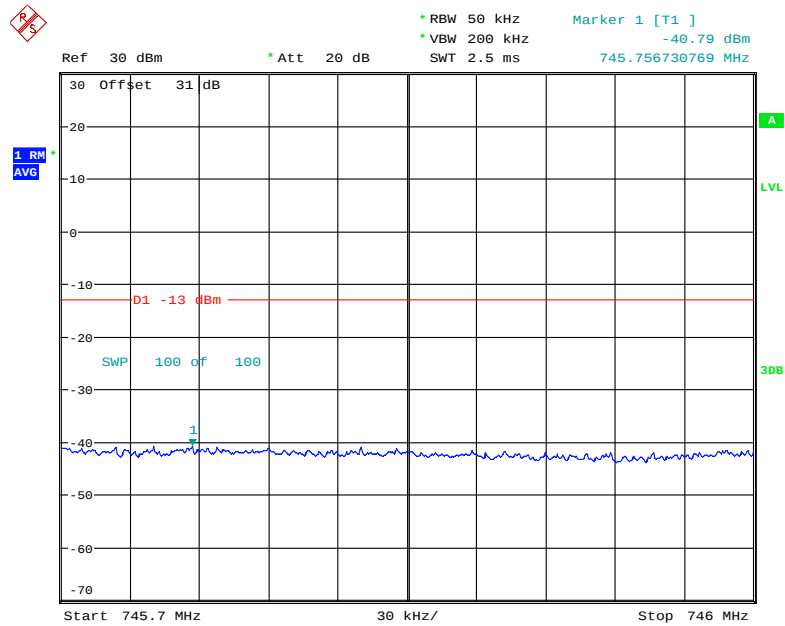
Date: 10.JAN.2019 18:43:13

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-3dB Above AGC



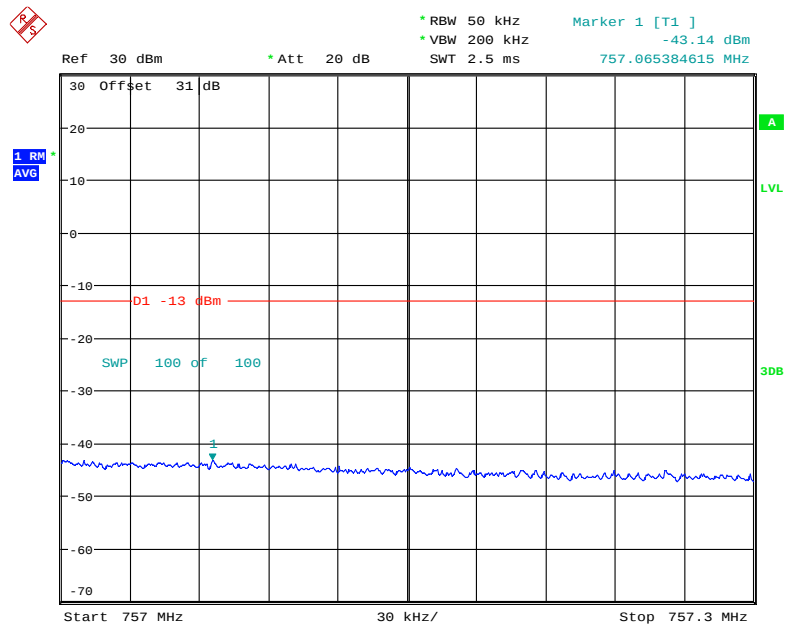
Date: 10.JAN.2019 18:44:14

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-Pre AGC



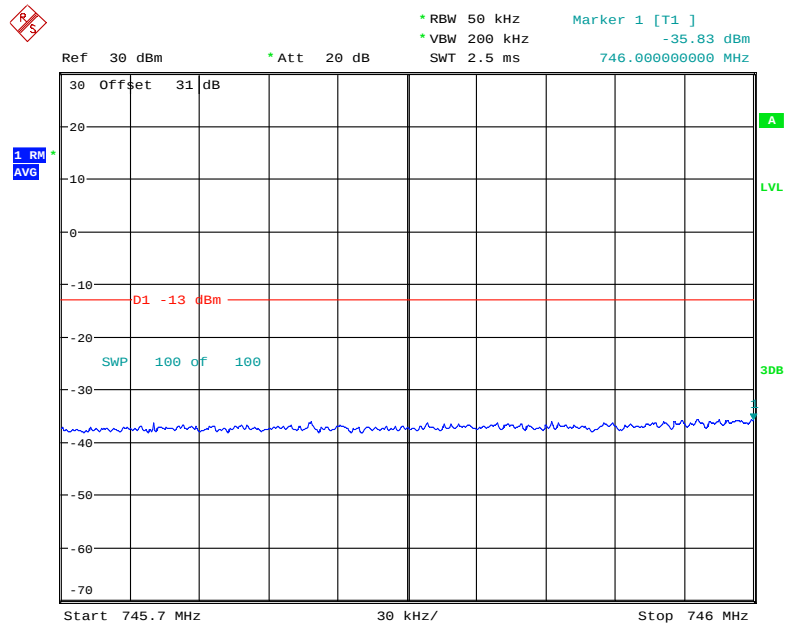
Date: 10.JAN.2019 19:12:35

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-Pre AGC



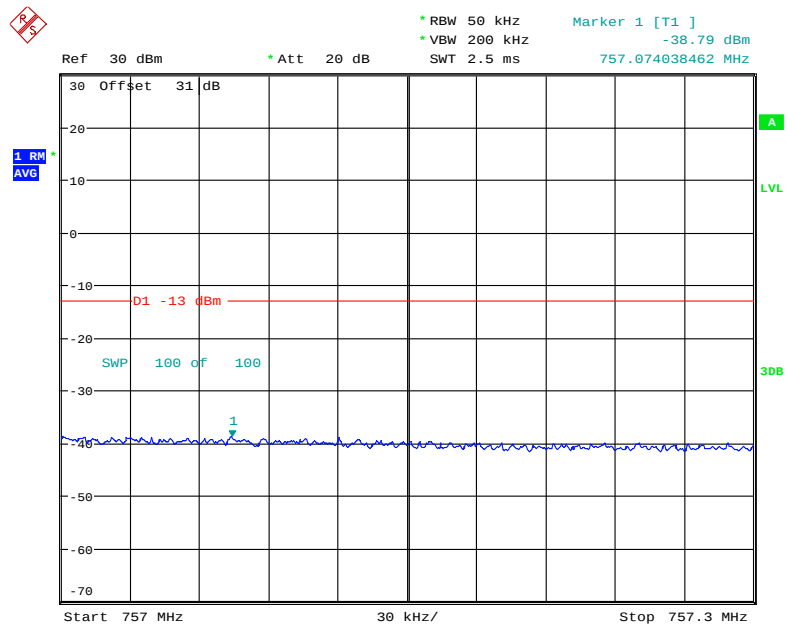
Date: 10.JAN.2019 19:14:01

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-3dB Above AGC



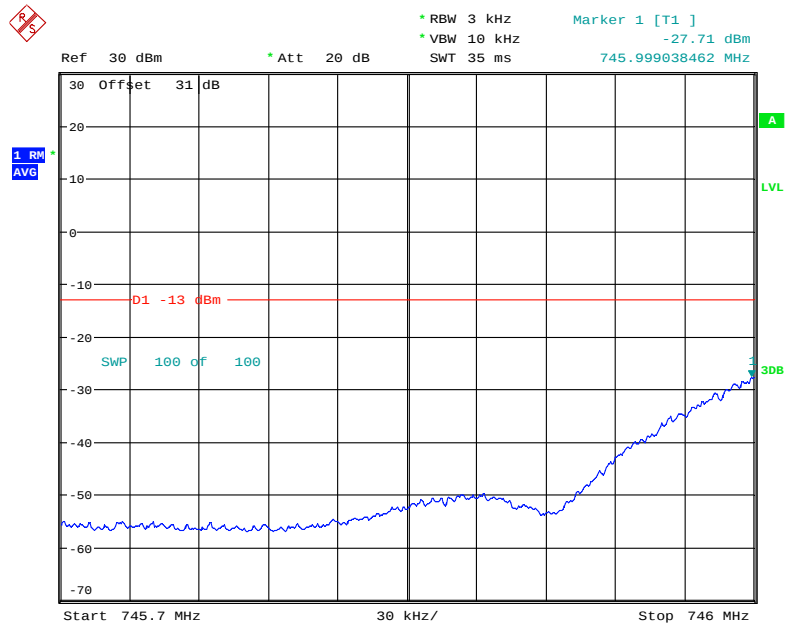
Date: 10.JAN.2019 19:12:52

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-3dB Above AGC



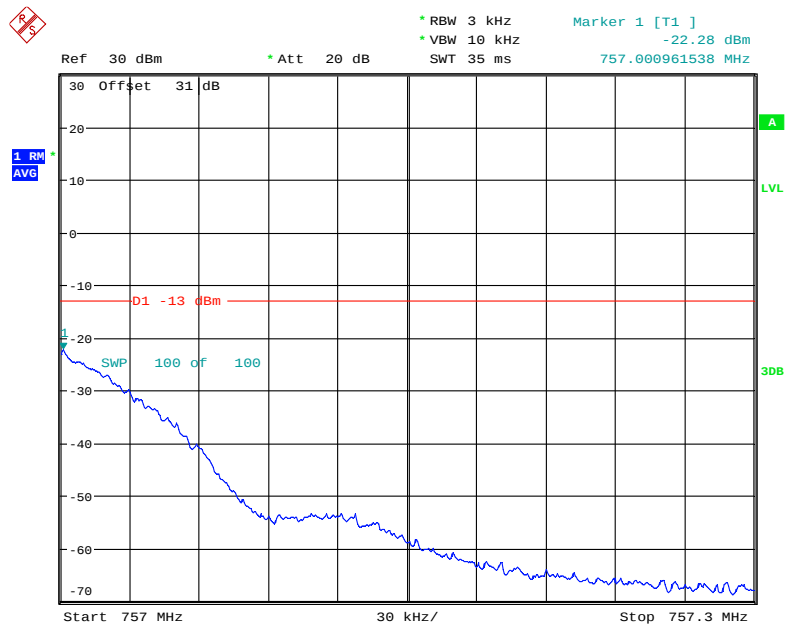
Date: 10.JAN.2019 19:13:42

Upper 700MHz (C Block) Band, Left Band Edge for GSM-Pre AGC



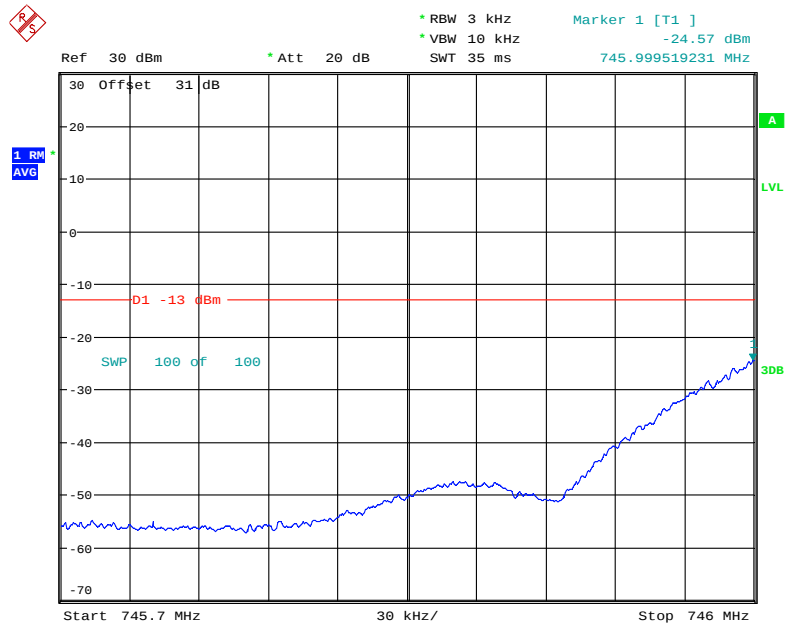
Date: 10.JAN.2019 18:47:28

Upper 700MHz (C Block) Band, Right Band Edge for GSM-Pre AGC



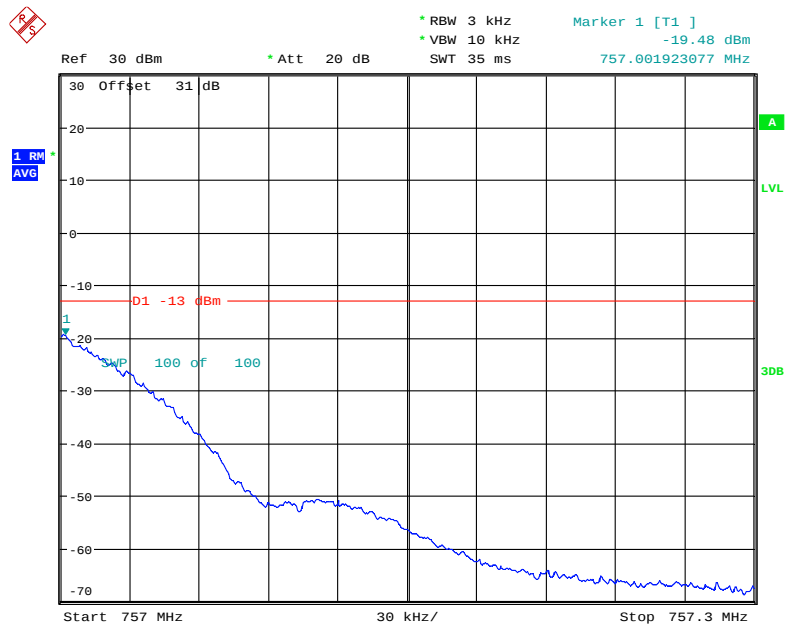
Date: 10.JAN.2019 18:46:06

Upper 700MHz (C Block) Band, Left Band Edge for GSM-3dB Above AGC



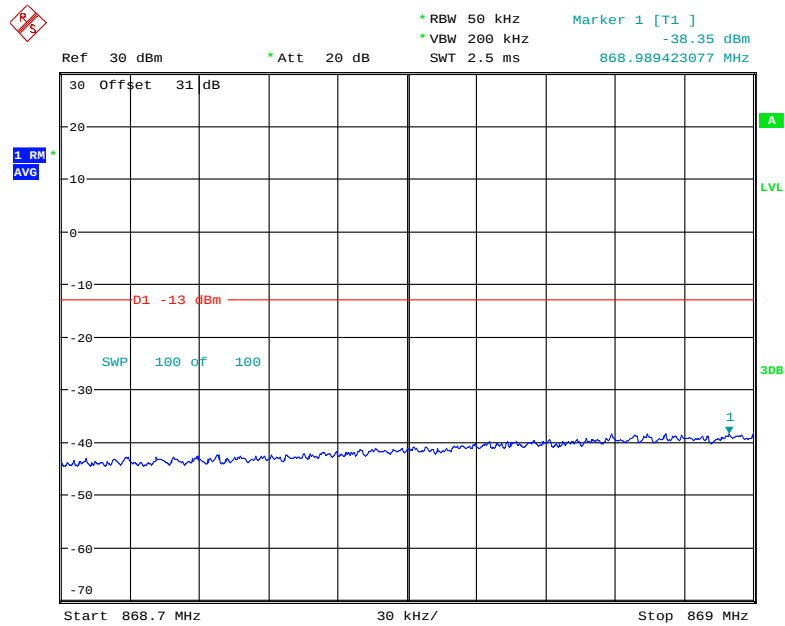
Date: 10.JAN.2019 18:49:14

Upper 700MHz (C Block) Band, Right Band Edge for GSM-3dB Above AGC



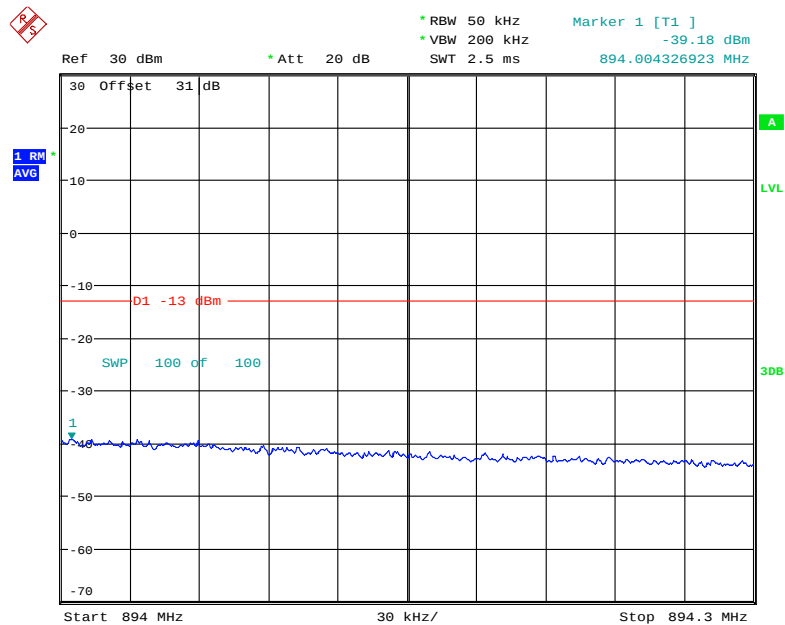
Date: 10.JAN.2019 18:50:20

Cellular Band, Left Band Edge for AWGN-Pre AGC



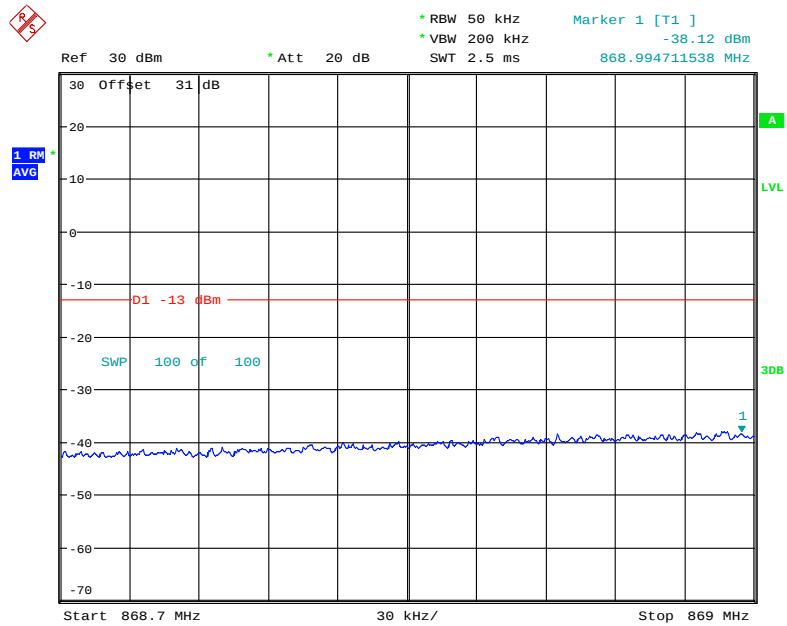
Date: 10.JAN.2019 19:14:31

Cellular Band, Right Band Edge for AWGN-Pre AGC



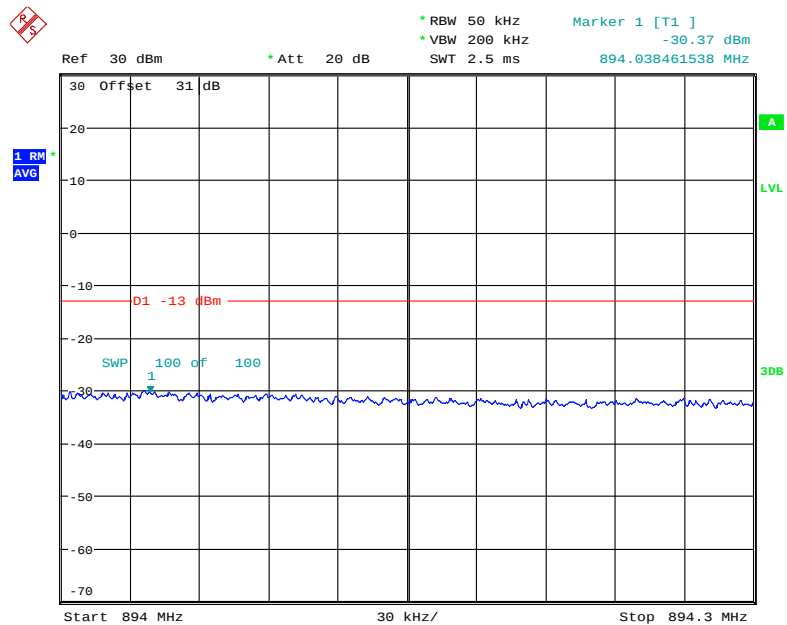
Date: 10.JAN.2019 19:15:45

Cellular Band, Left Band Edge for AWGN-3dB Above AGC



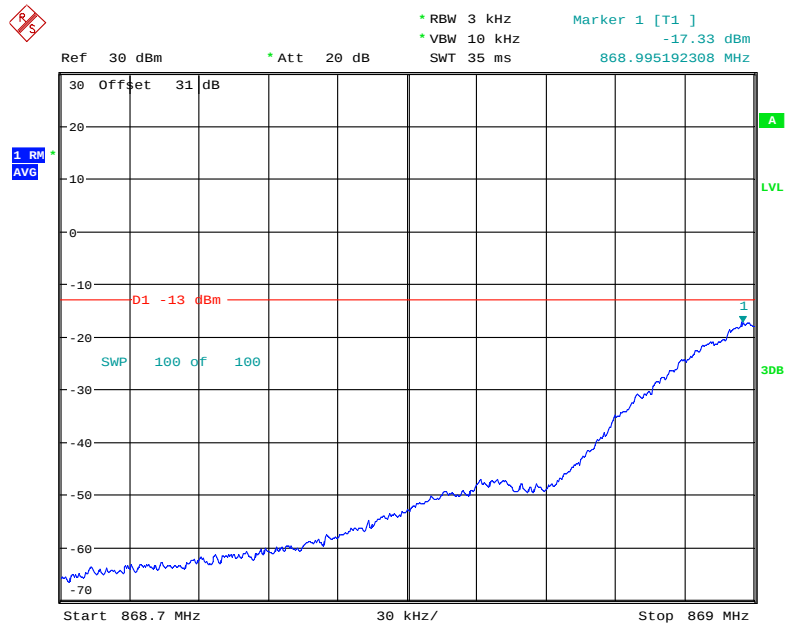
Date: 10.JAN.2019 19:14:51

Cellular Band, Right Band Edge for AWGN-3dB Above AGC



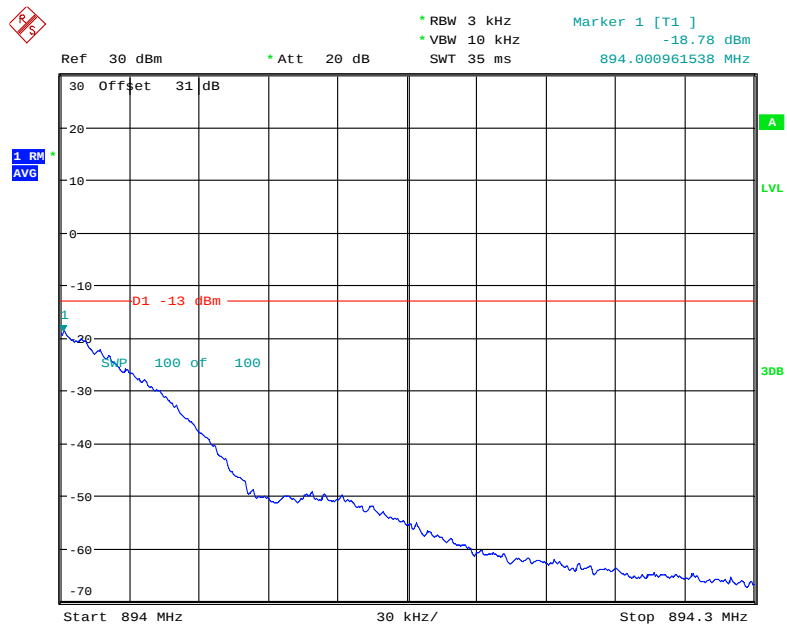
Date: 10.JAN.2019 19:15:28

Cellular Band, Left Band Edge for GSM-Pre AGC



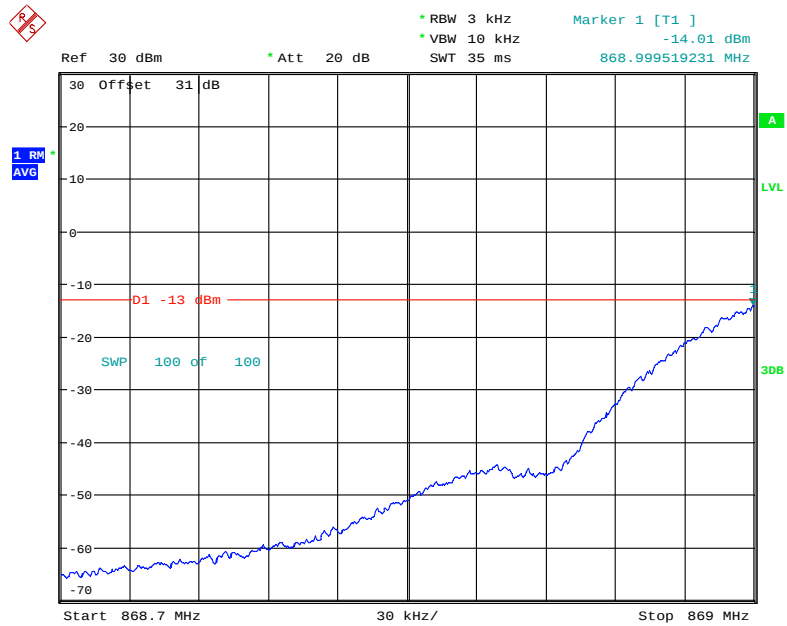
Date: 10.JAN.2019 18:52:16

Cellular Band, Right Band Edge for GSM-Pre AGC



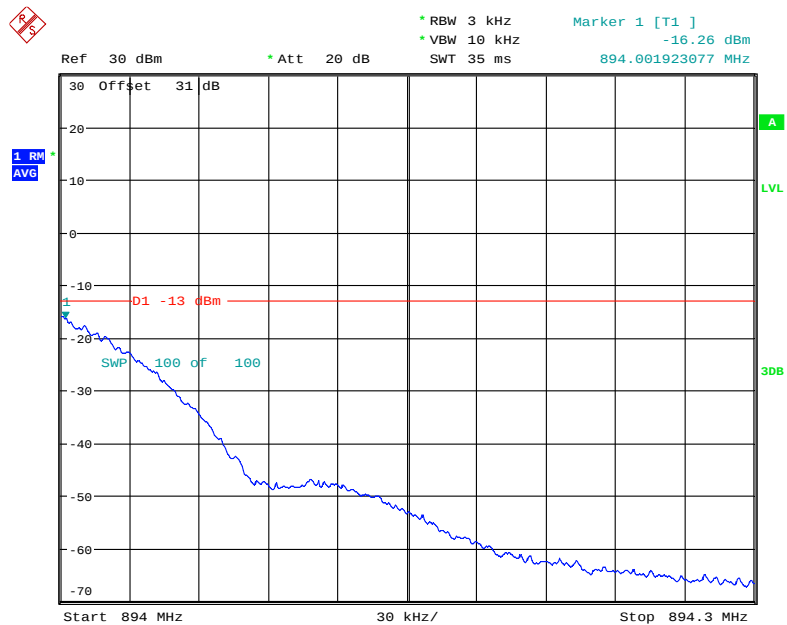
Date: 10.JAN.2019 18:53:00

Cellular Band, Left Band Edge for GSM-3dB Above AGC



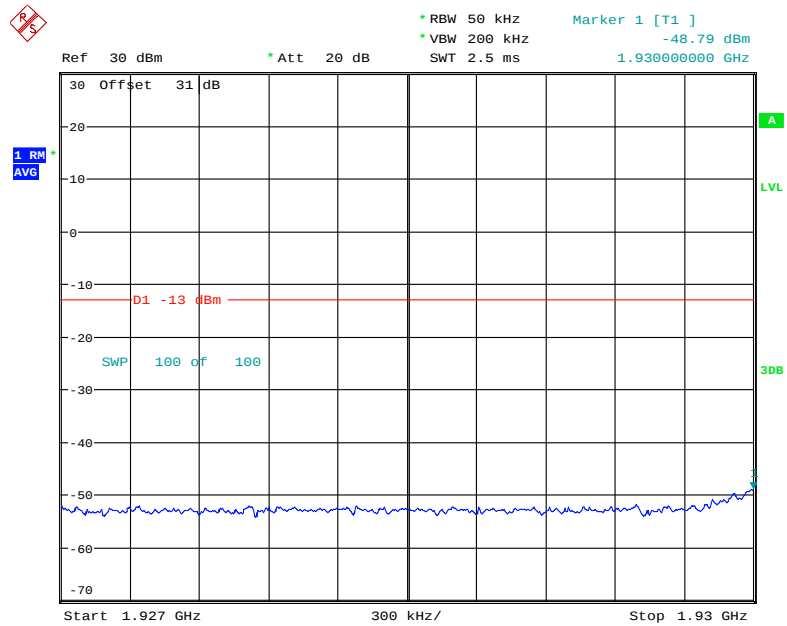
Date: 10.JAN.2019 18:51:56

Cellular Band, Right Band Edge for GSM-3dB Above AGC



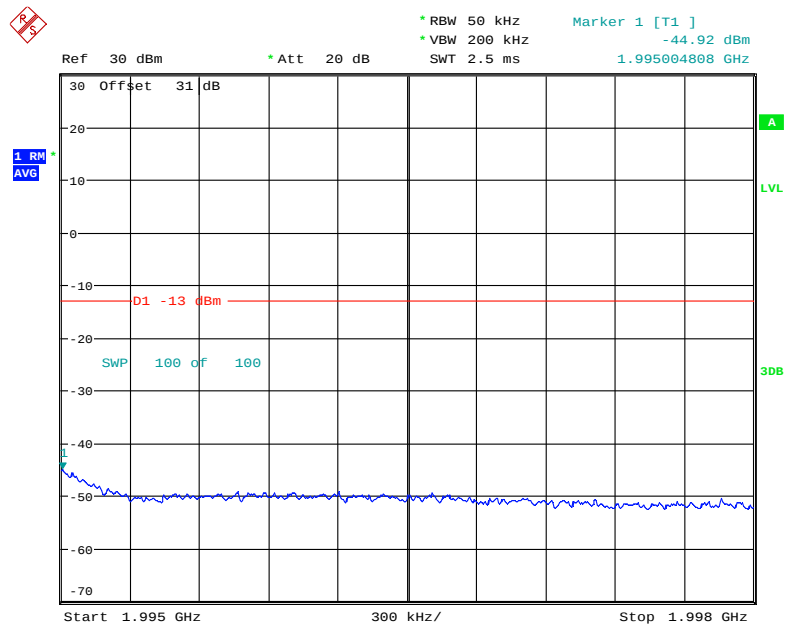
Date: 10.JAN.2019 18:54:13

PCS Band, Left Band Edge for AWGN-Pre AGC



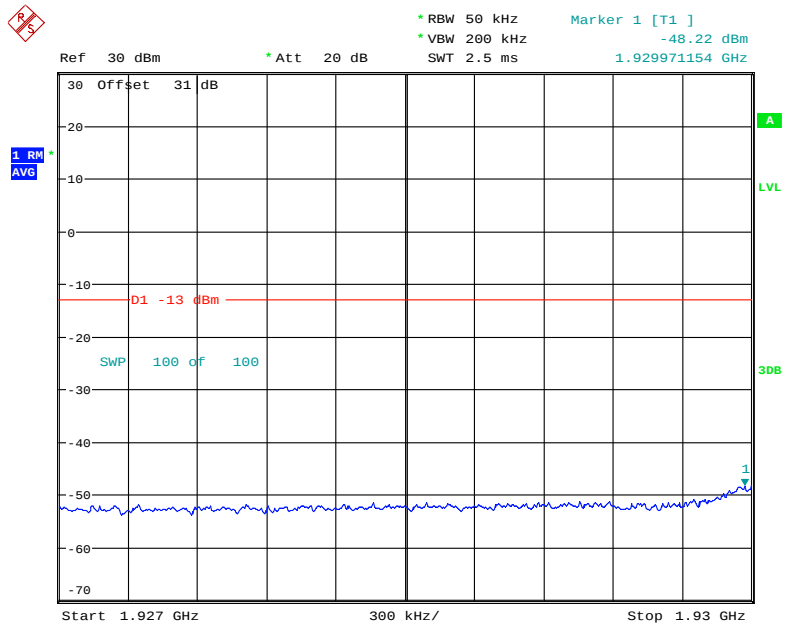
Date: 10.JAN.2019 19:16:37

PCS Band, Right Band Edge for AWGN-Pre AGC



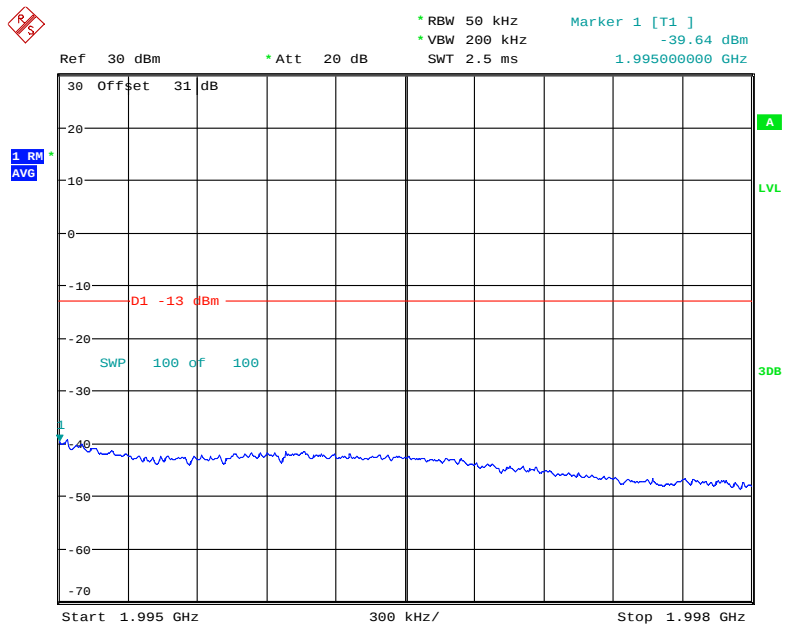
Date: 10.JAN.2019 19:17:52

PCS Band, Left Band Edge for AWGN-3dB Above AGC



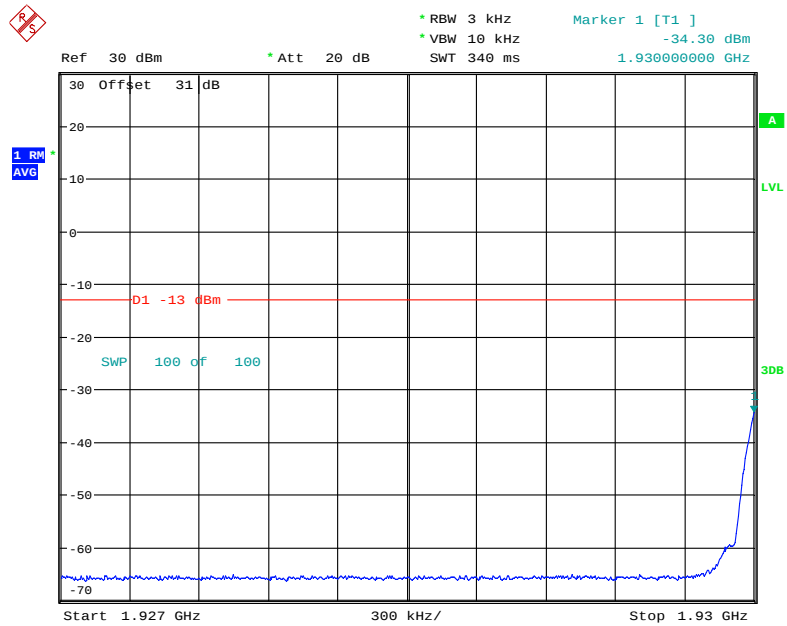
Date: 10.JAN.2019 19:16:57

PCS Band, Right Band Edge for AWGN-3dB Above AGC



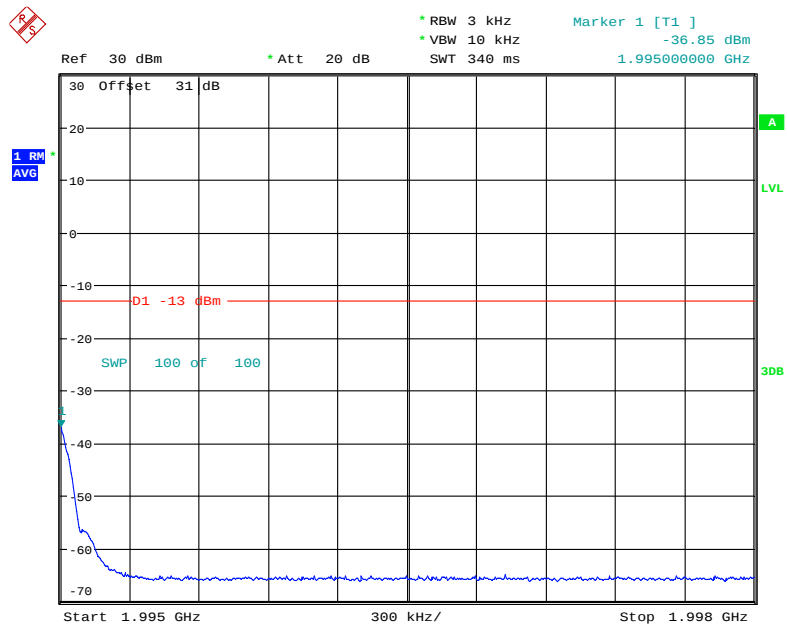
Date: 10.JAN.2019 19:17:34

PCS Band, Left Band Edge for GSM-Pre AGC



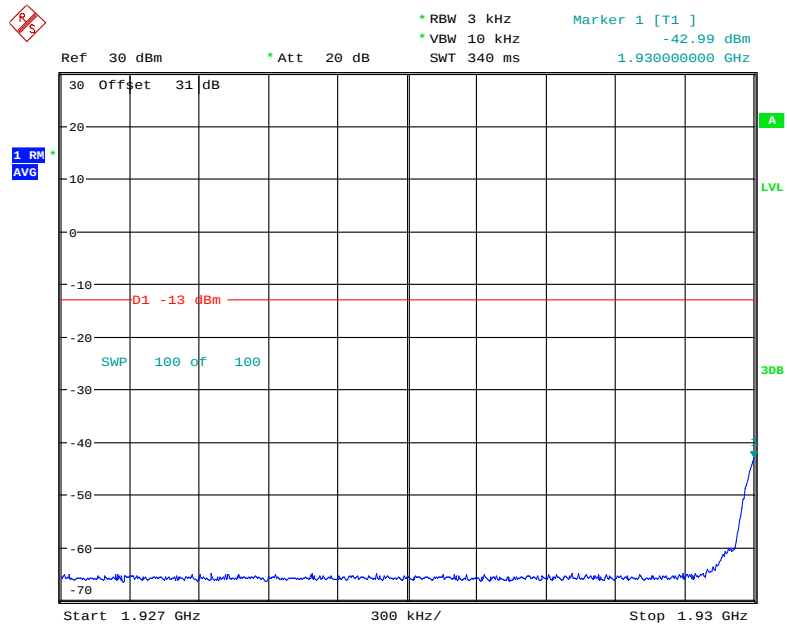
Date: 10.JAN.2019 18:56:08

PCS Band, Right Band Edge for GSM-Pre AGC



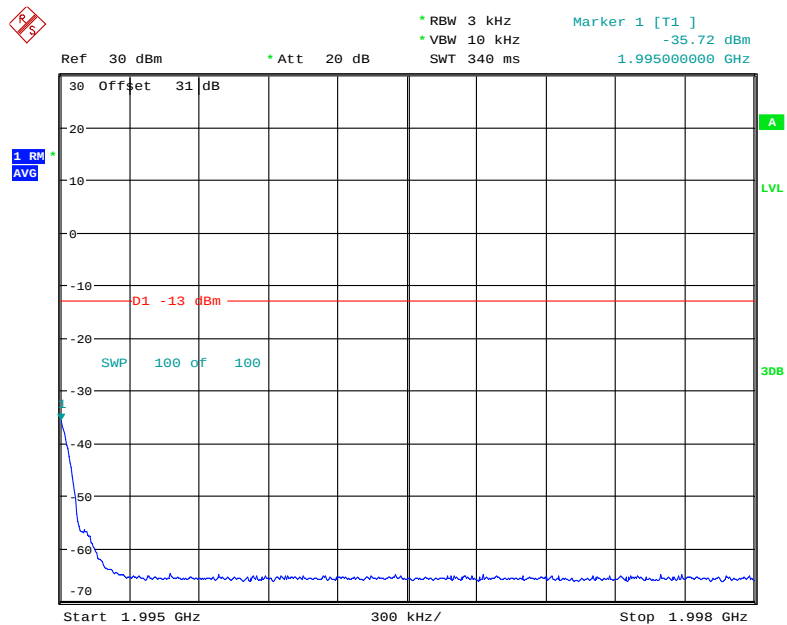
Date: 10.JAN.2019 20:00:15

PCS Band, Left Band Edge for GSM-3dB Above AGC



Date: 10.JAN.2019 18:55:34

PCS Band, Right Band Edge for GSM-3dB Above AGC



Date: 10.JAN.2019 18:57:15

Ref 30 dBm * Att 20 dB * RBW 50 kHz VBW 200 kHz SWT 2.5 ms Marker 1 [T1] -45.21 dBm 2.109980769 GHz

30 Offset 31 dB

1 RM AVG

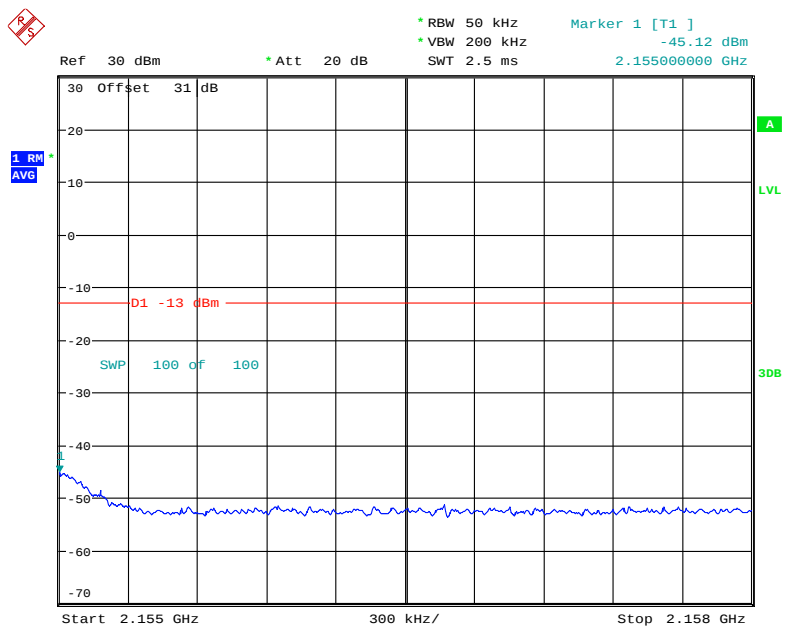
D1 -13 dBm

SWP 100 of 100

1

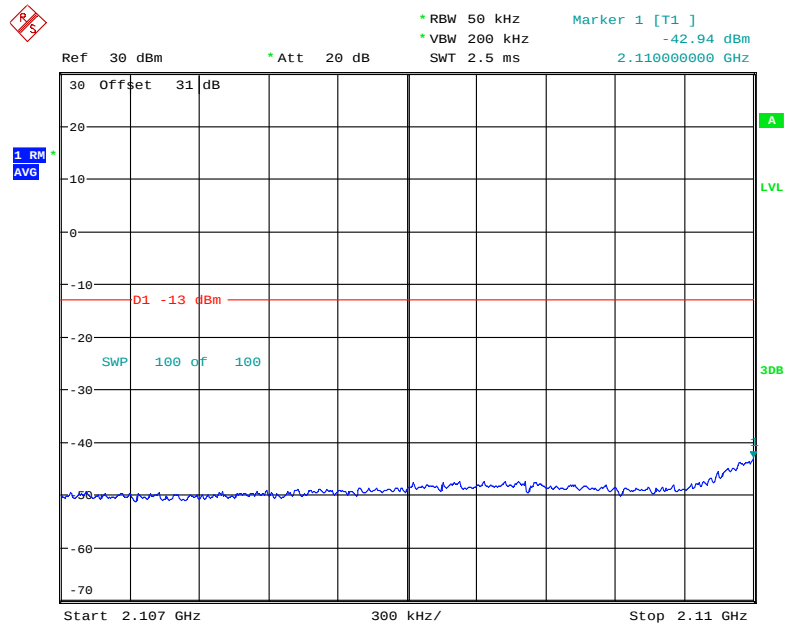
Start 2.107 GHz 300 kHz/ Stop 2.11 GHz

AWS Band, Right Band Edge for AWGN-Pre AGC



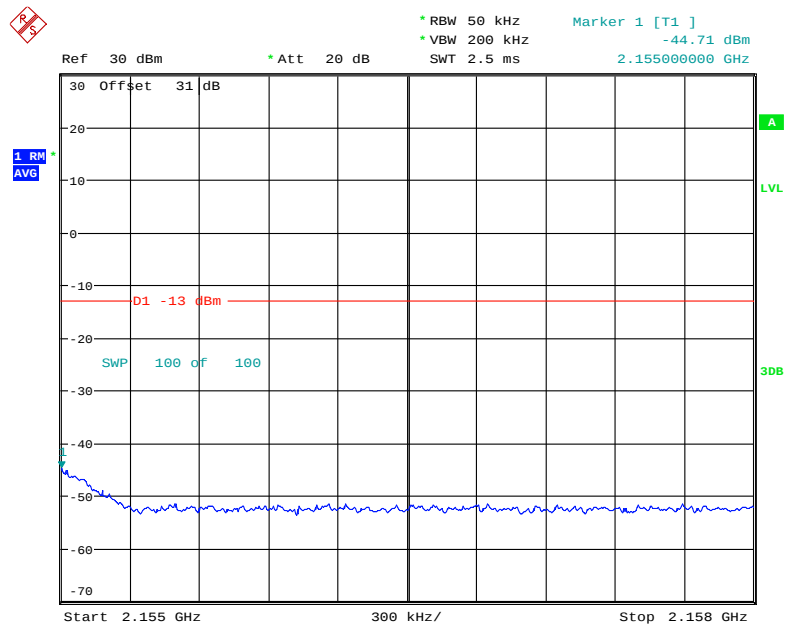
Page 240 of 289

AWS Band, Left Band Edge for AWGN-3dB Above AGC



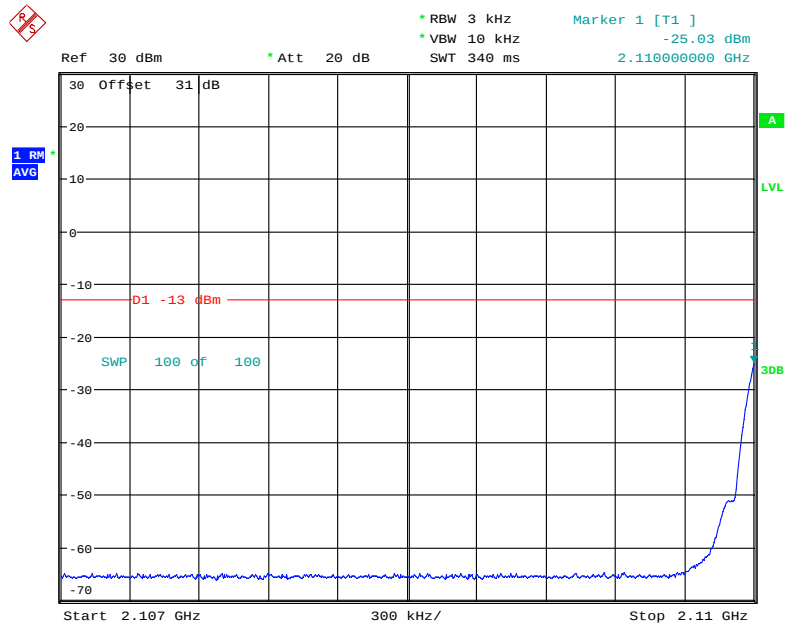
Date: 10.JAN.2019 19:18:41

AWS Band, Right Band Edge for AWGN-3dB Above AGC



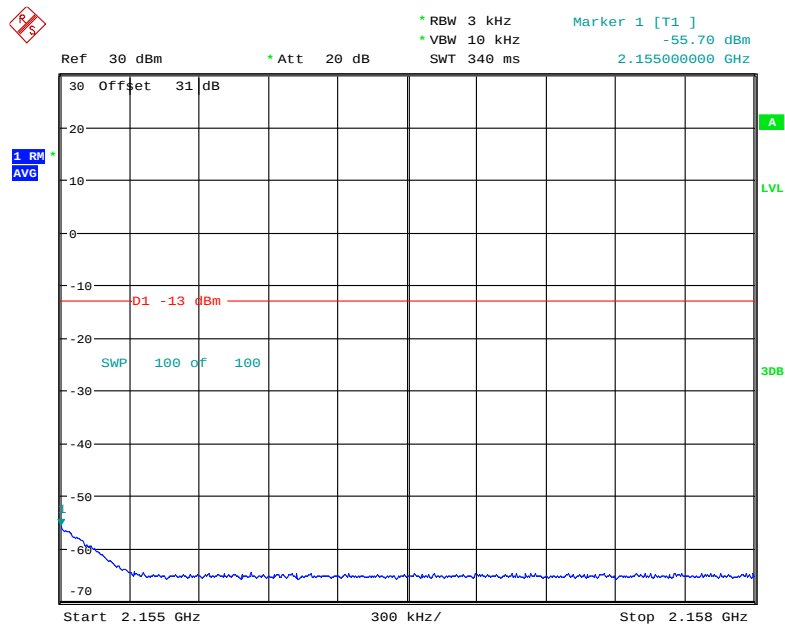
Date: 10.JAN.2019 19:19:03

AWS Band, Left Band Edge for GSM-Pre AGC



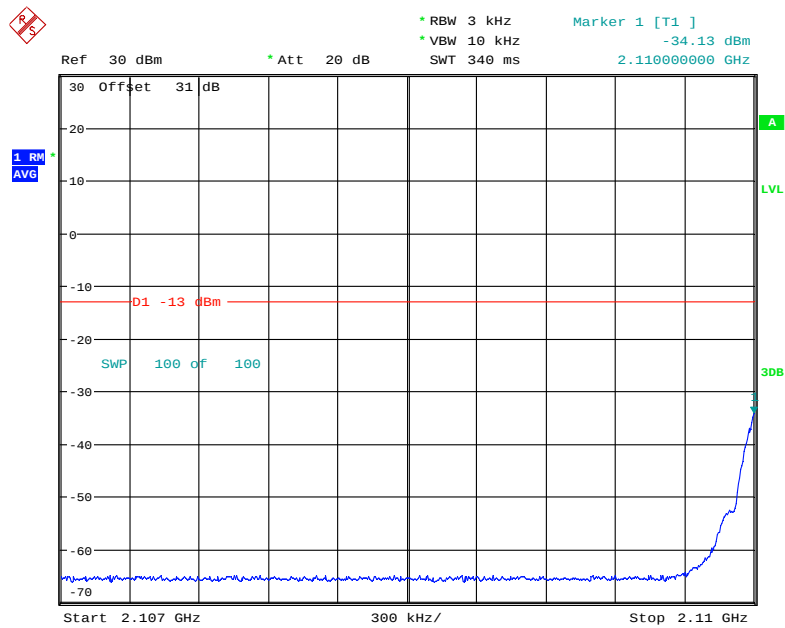
Date: 10.JAN.2019 18:59:21

AWS Band, Right Band Edge for GSM-Pre AGC



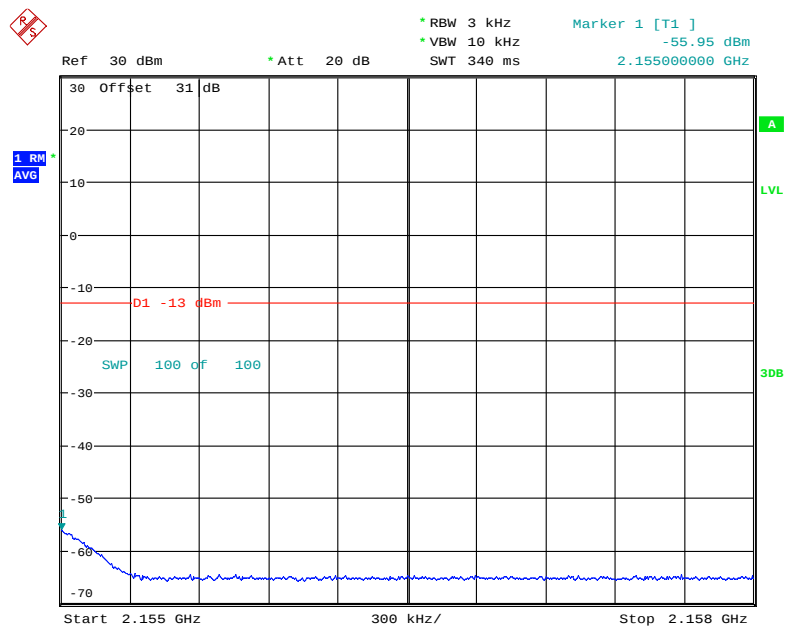
Date: 10.JAN.2019 19:01:14

AWS Band, Left Band Edge for GSM-3dB Above AGC

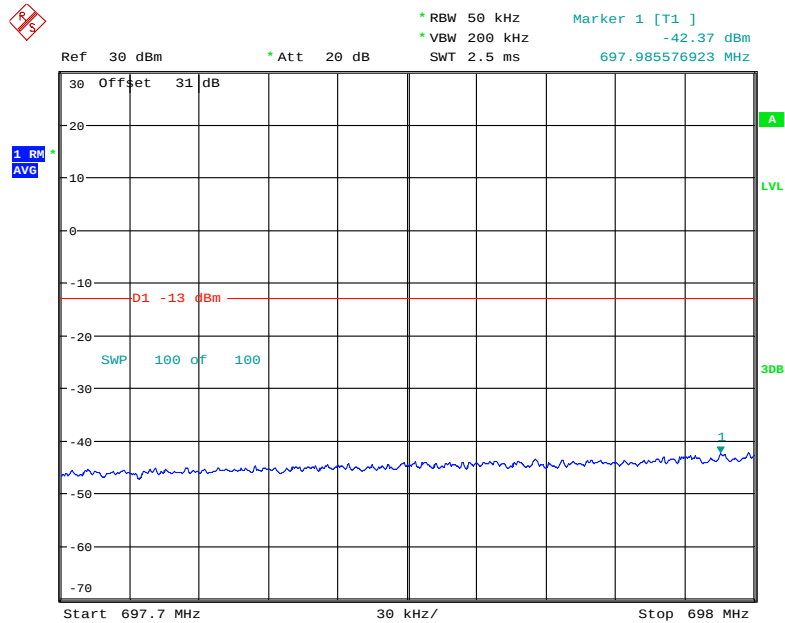


Date: 10.JAN.2019 18:58:48

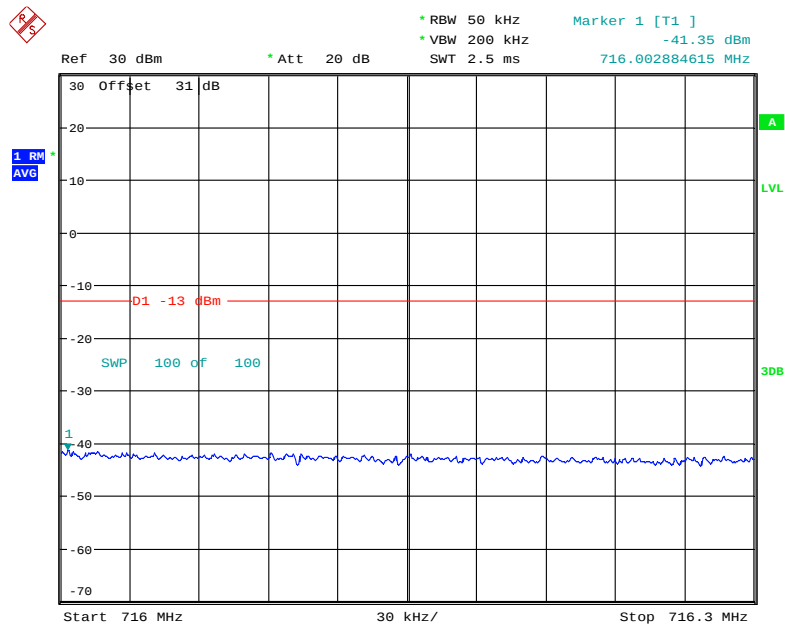
AWS Band, Right Band Edge for GSM-3dB Above AGC



Date: 10.JAN.2019 19:01:34

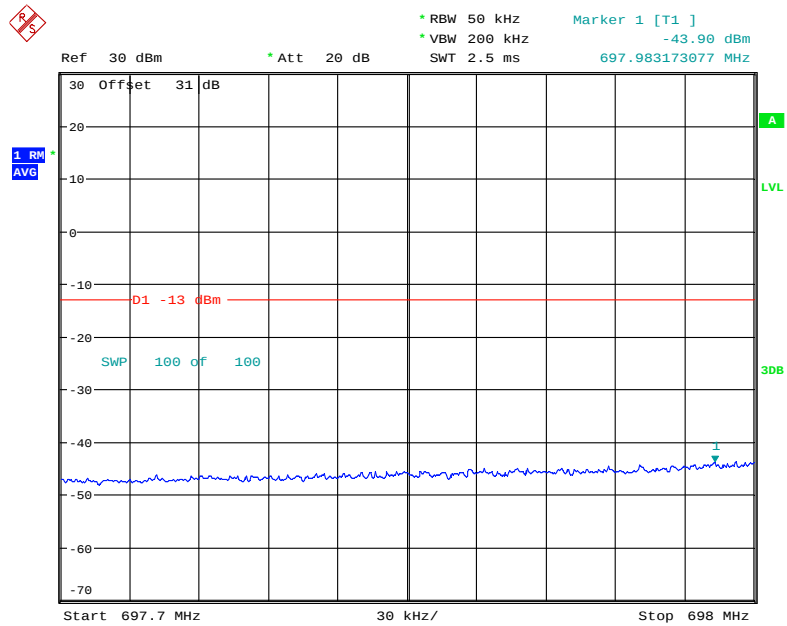
**Inter-Modulation
Uplink:****Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-Pre AGC**

Date: 17.JAN.2019 10:12:34

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-Pre AGC

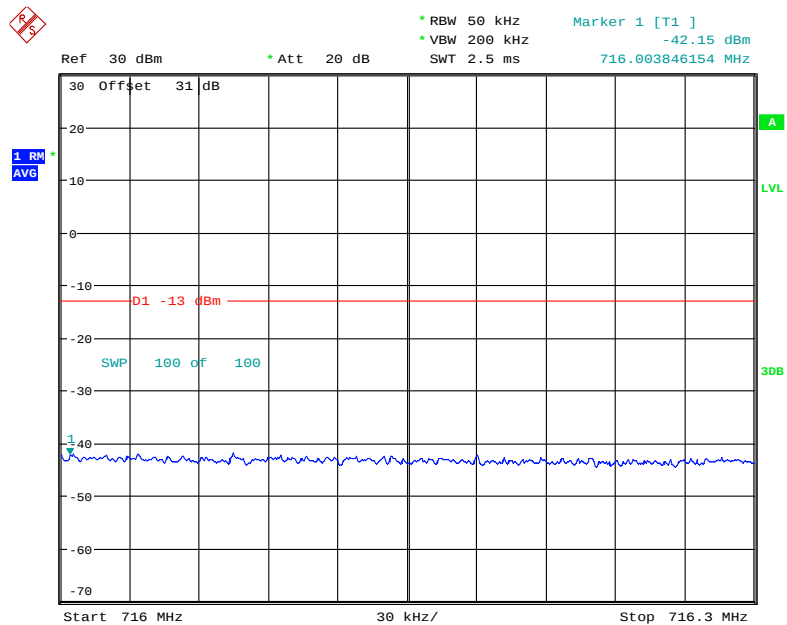
Date: 17.JAN.2019 10:17:52

Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-3dB Above AGC



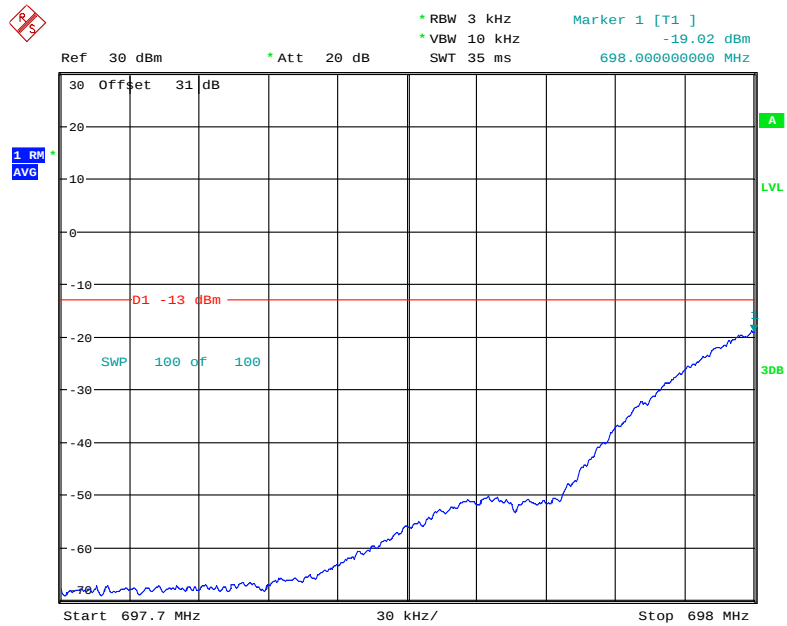
Date: 17.JAN.2019 10:14:28

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-3dB Above AGC



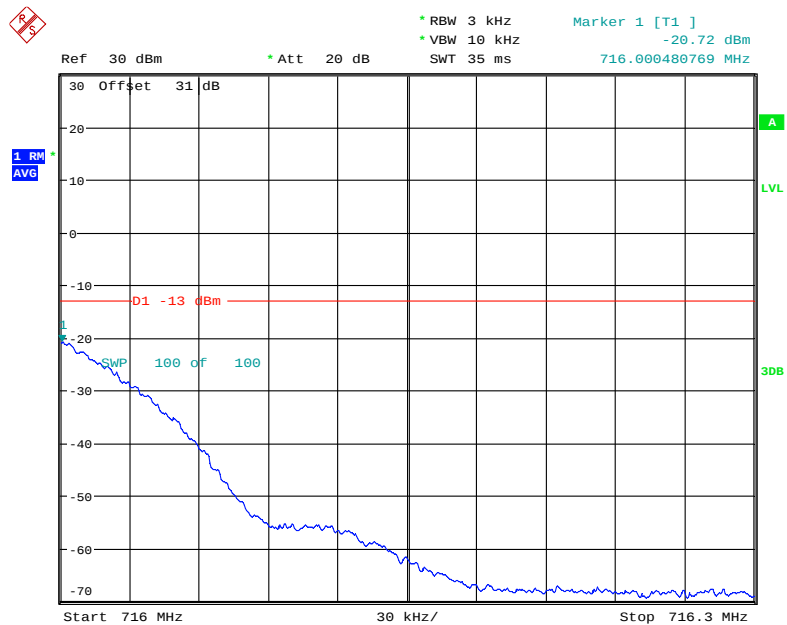
Date: 17.JAN.2019 10:17:28

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-Pre AGC



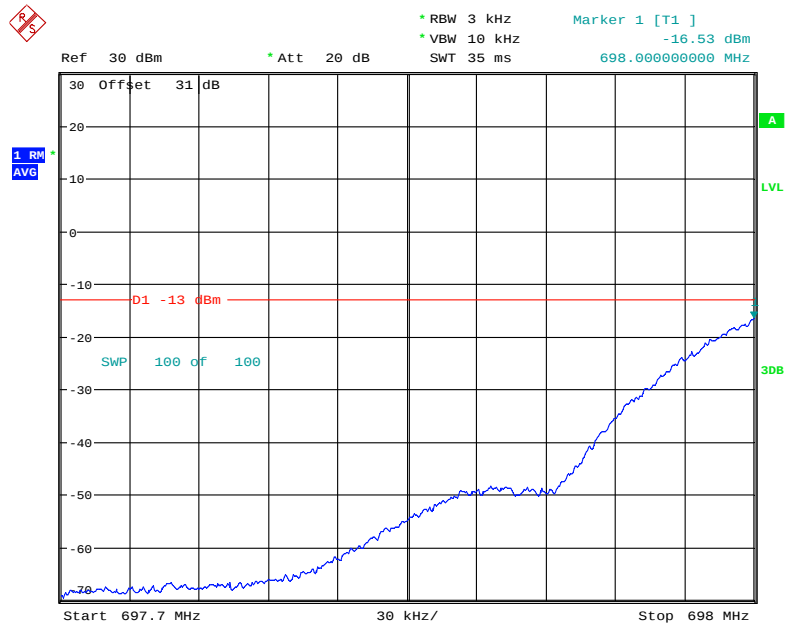
Date: 17.JAN.2019 10:45:02

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-Pre AGC



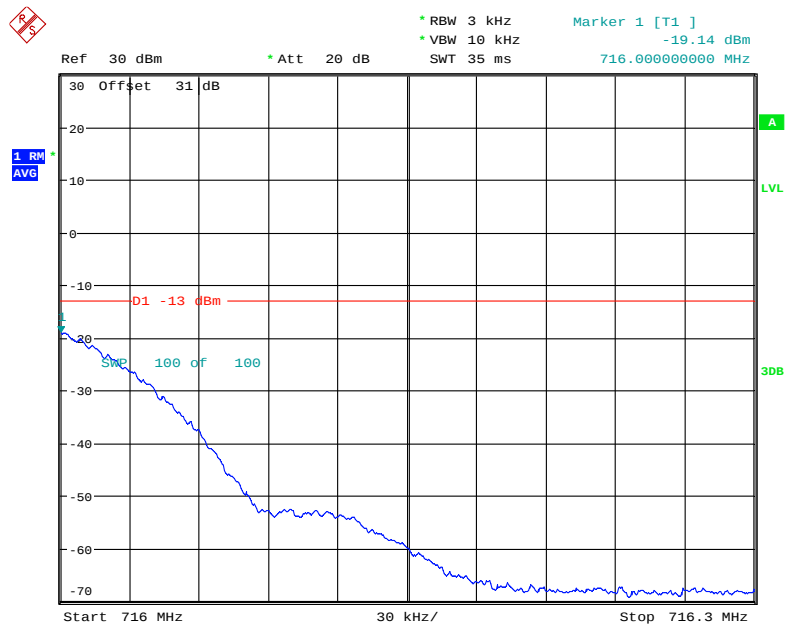
Date: 17.JAN.2019 10:46:49

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-3dB Above AGC



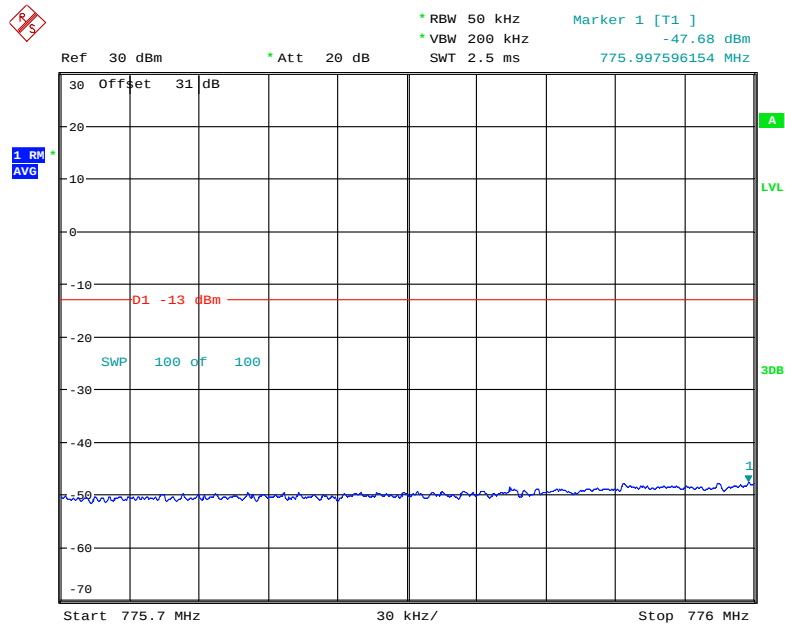
Date: 17.JAN.2019 10:45:46

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-3dB Above AGC



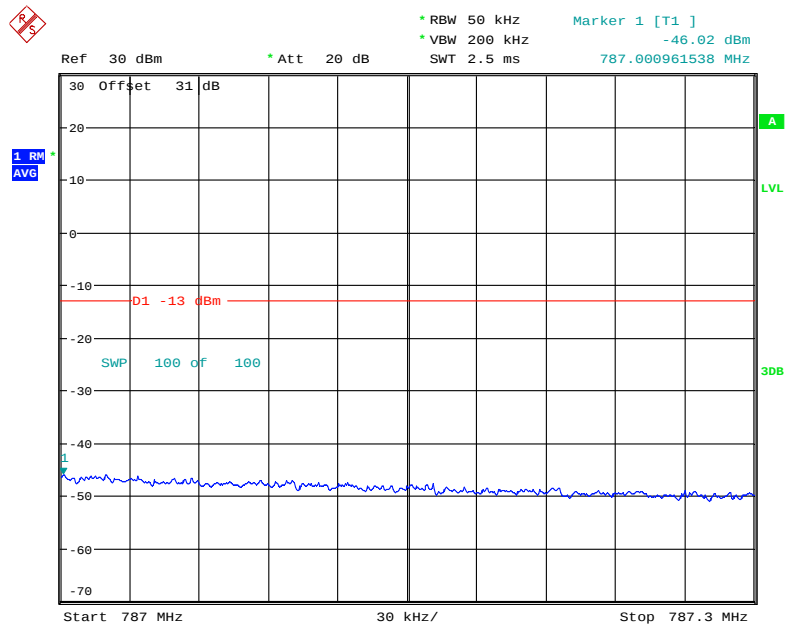
Date: 17.JAN.2019 10:46:26

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-Pre AGC



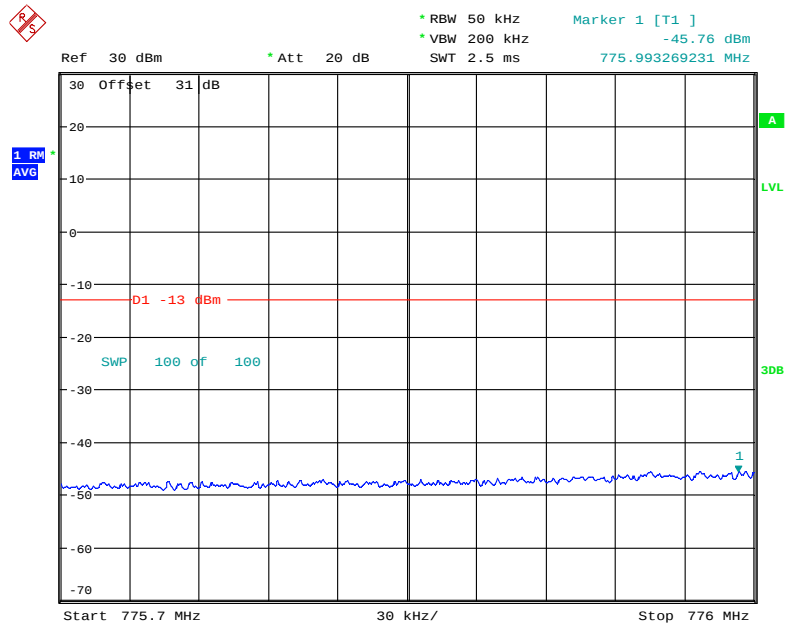
Date: 17.JAN.2019 10:22:06

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-Pre AGC



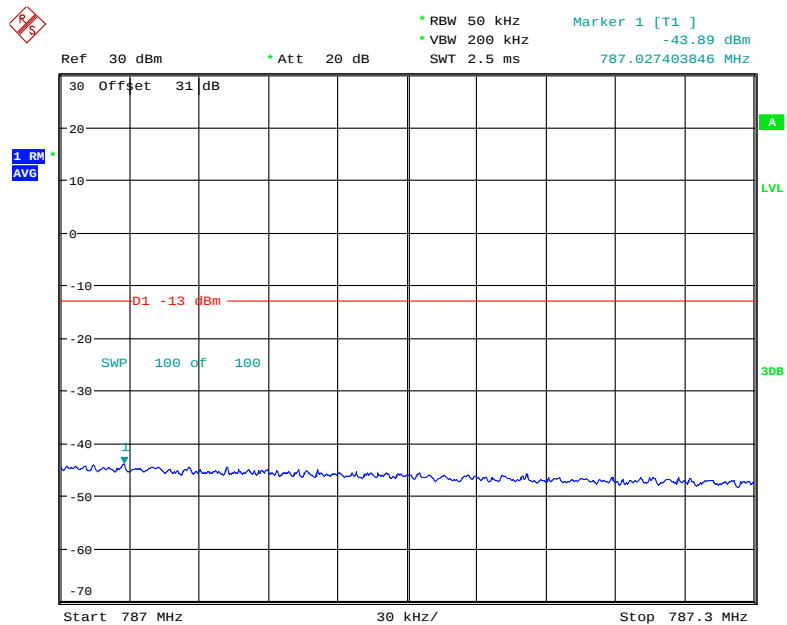
Date: 17.JAN.2019 10:19:58

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-3dB Above AGC



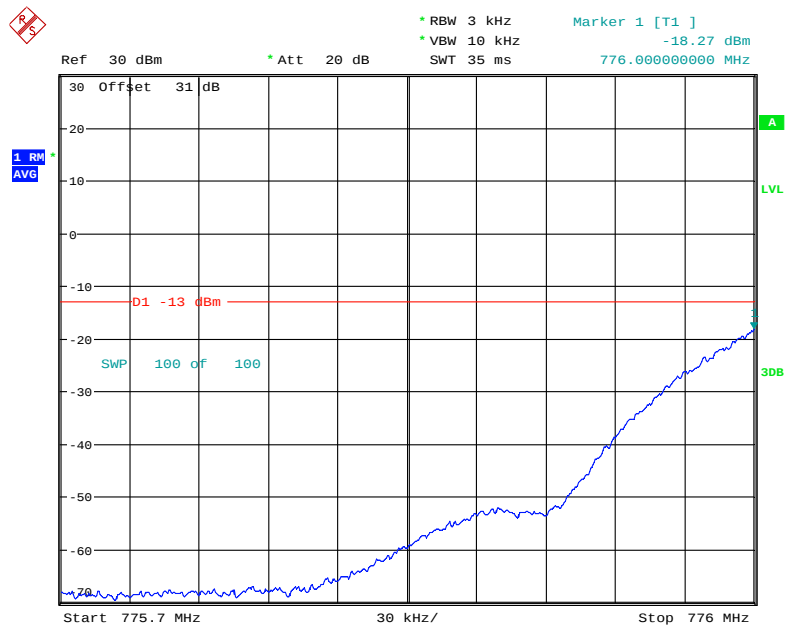
Date: 17.JAN.2019 10:21:42

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-3dB Above AGC



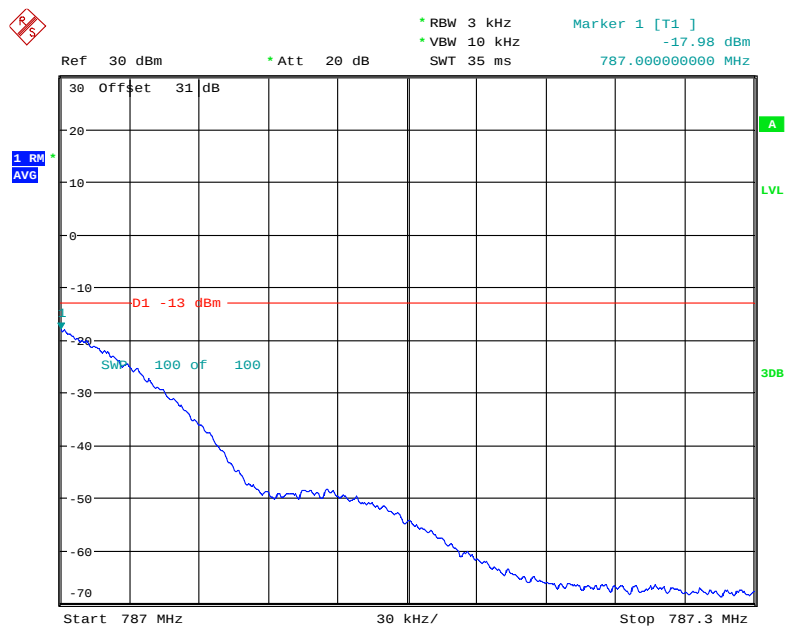
Date: 17.JAN.2019 10:21:01

Upper 700MHz (C Block) Band, Left Band Edge for GSM-Pre AGC

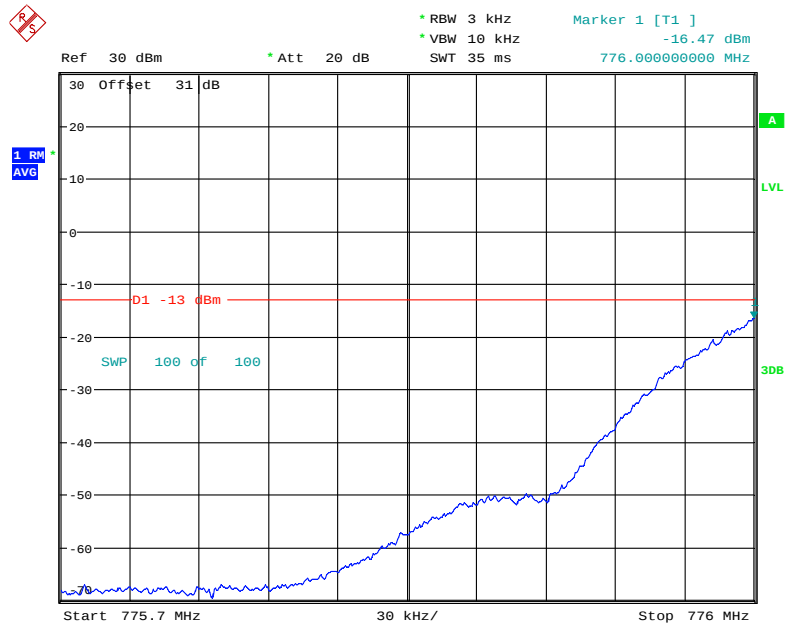


Date: 17.JAN.2019 10:49:35

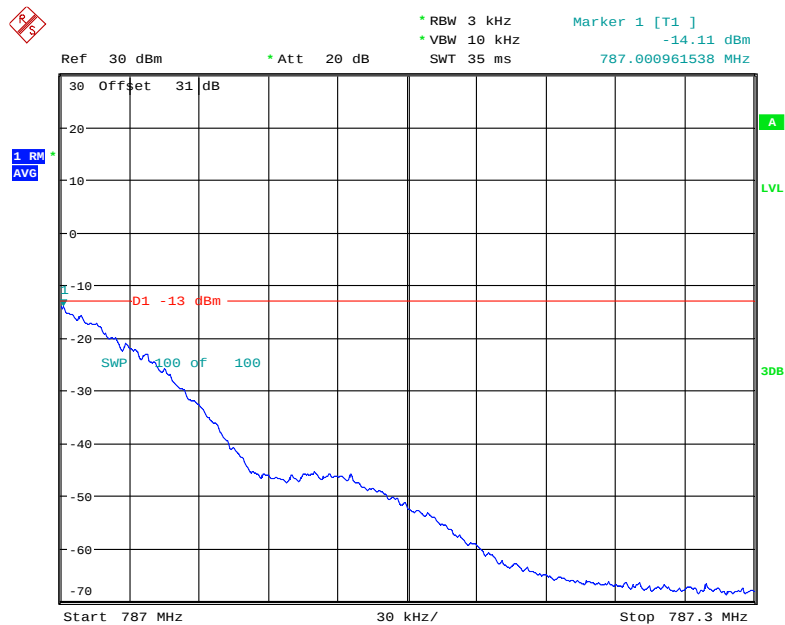
Upper 700MHz (C Block) Band, Right Band Edge for GSM-Pre AGC



Date: 17.JAN.2019 10:47:33

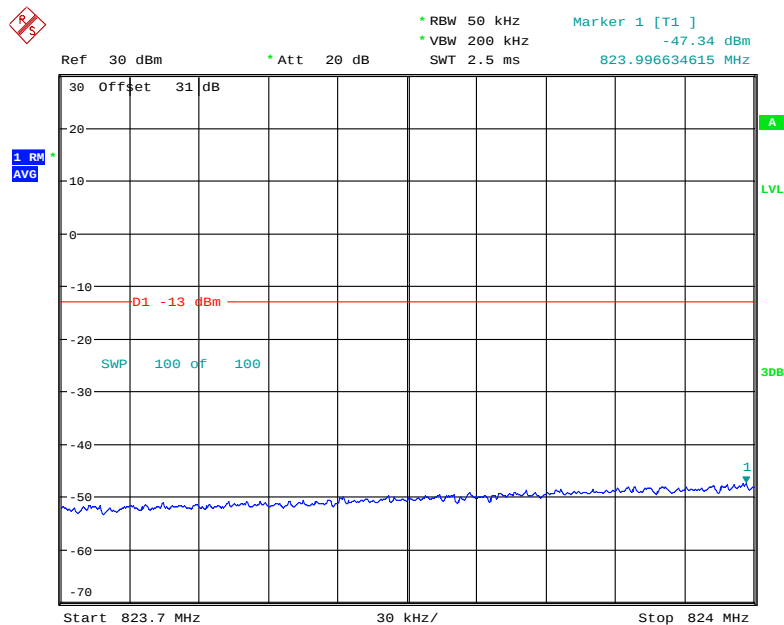
Upper 700MHz (C Block) Band, Left Band Edge for GSM-3dB Above AGC

Date: 17.JAN.2019 10:49:04

Upper 700MHz (C Block) Band, Right Band Edge for GSM-3dB Above AGC

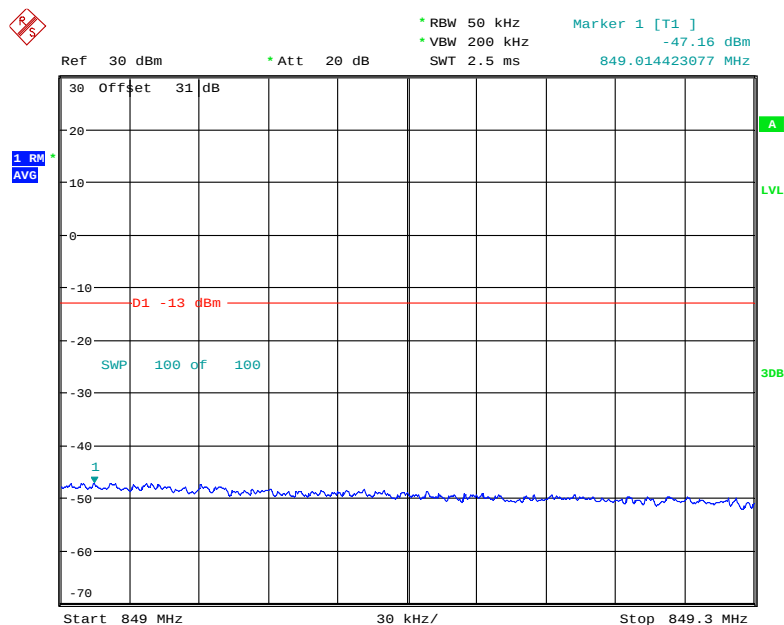
Date: 17.JAN.2019 10:48:09

Cellular Band, Left Band Edge for AWGN-Pre AGC



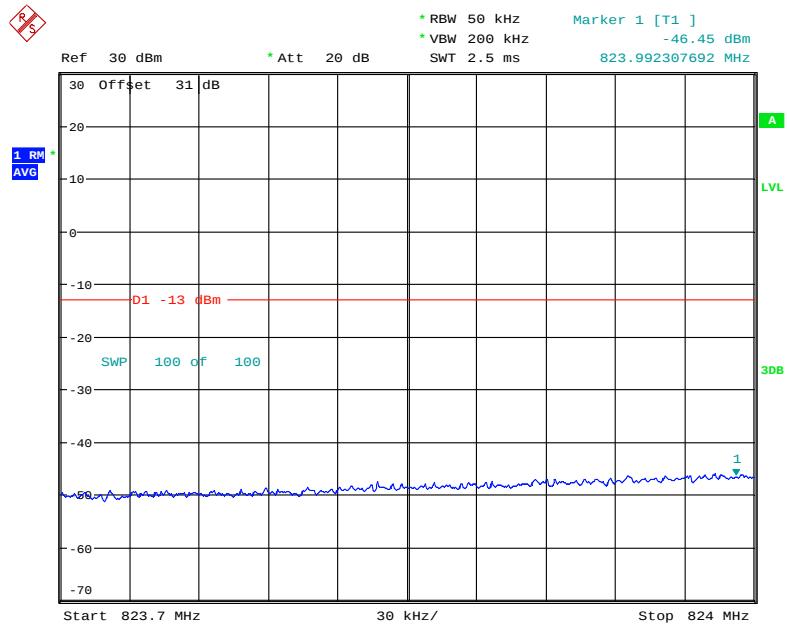
Date: 17.JAN.2019 10:22:44

Cellular Band, Right Band Edge for AWGN-Pre AGC



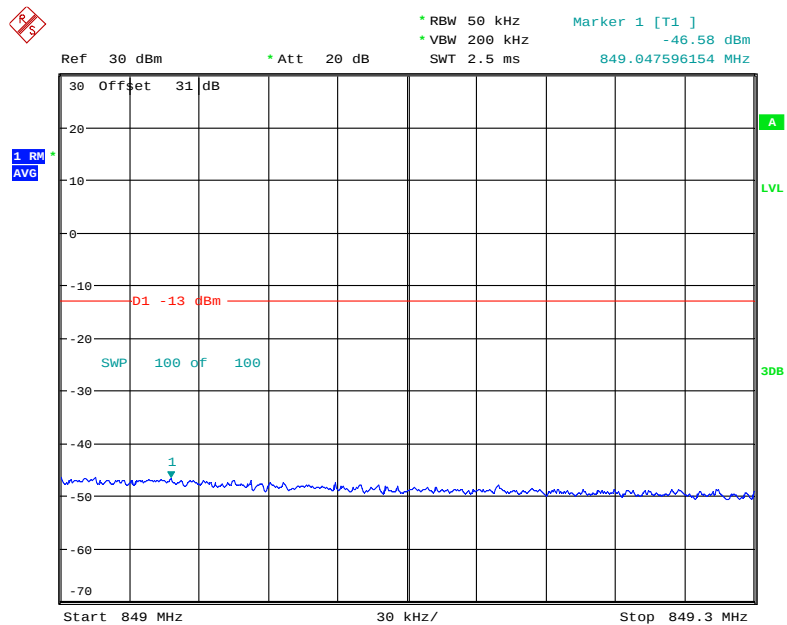
Date: 17.JAN.2019 10:24:05

Cellular Band, Left Band Edge for AWGN-3dB Above AGC



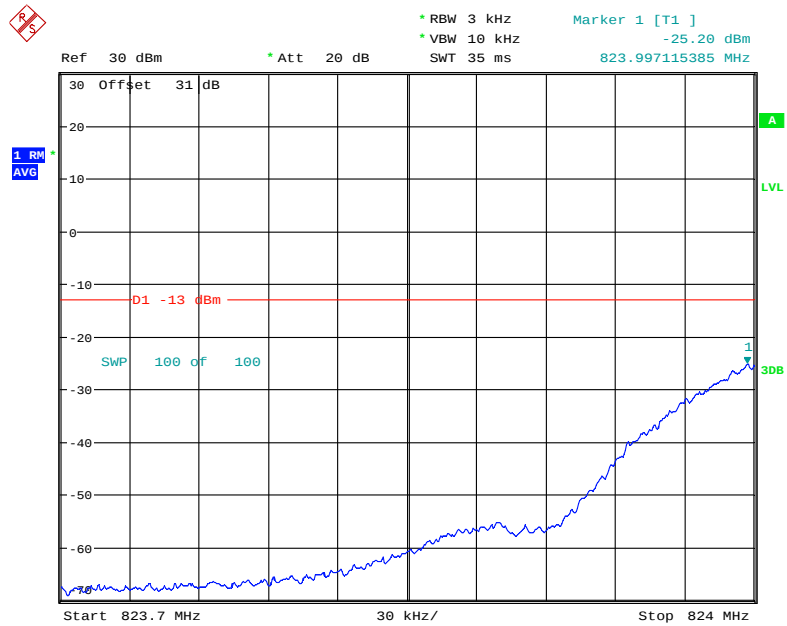
Date: 17.JAN.2019 10:23:01

Cellular Band, Right Band Edge for AWGN-3dB Above AGC



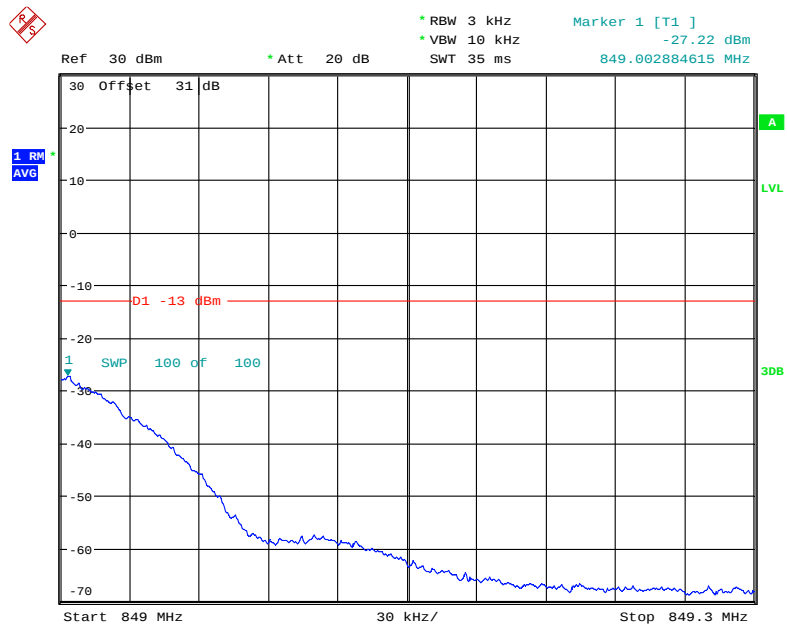
Date: 17.JAN.2019 10:23:45

Cellular Band, Left Band Edge for GSM-Pre AGC



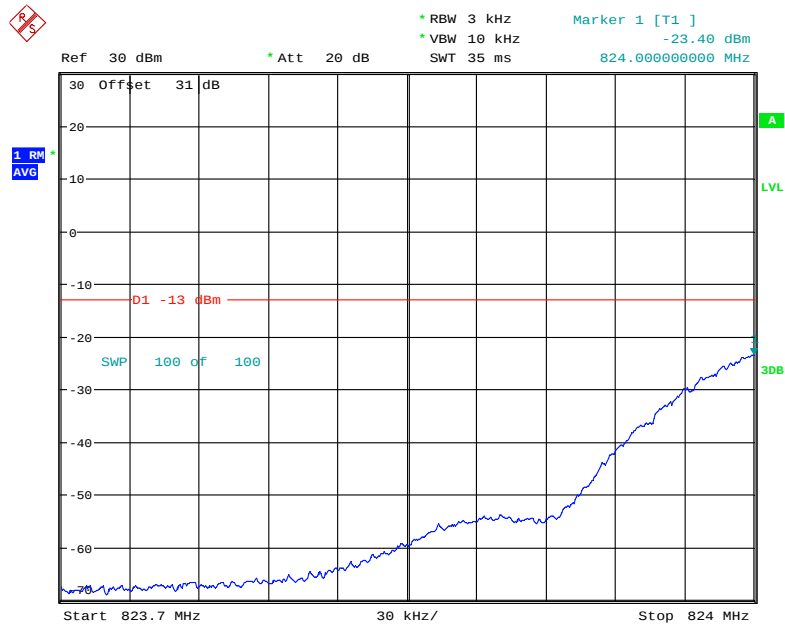
Date: 17.JAN.2019 10:54:41

Cellular Band, Right Band Edge for GSM-Pre AGC



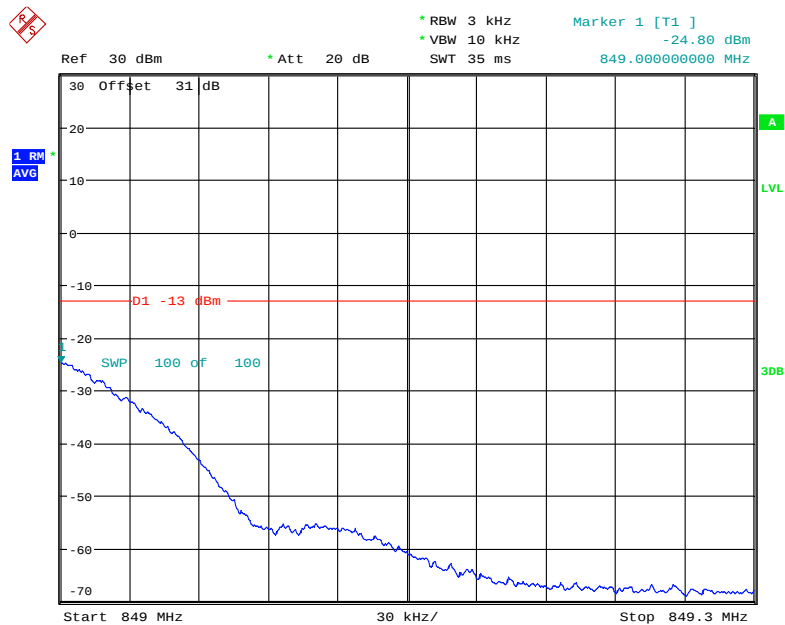
Date: 17.JAN.2019 10:59:16

Cellular Band, Left Band Edge for GSM-3dB Above AGC



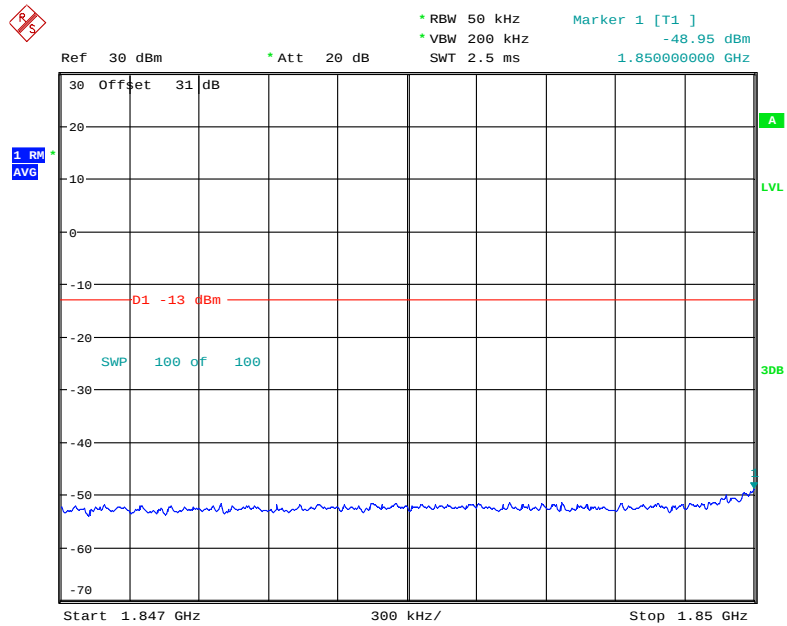
Date: 17.JAN.2019 10:55:09

Cellular Band, Right Band Edge for GSM-3dB Above AGC



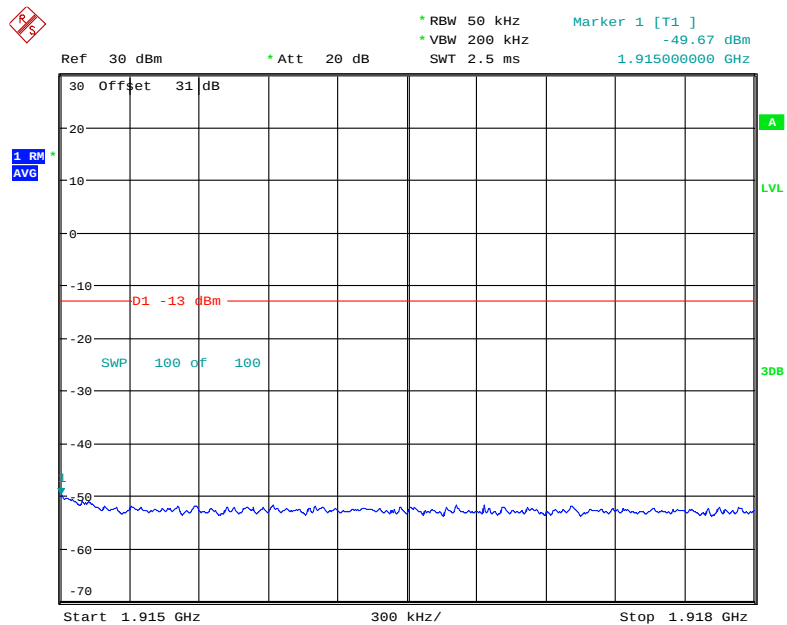
Date: 17.JAN.2019 10:58:40

PCS Band, Left Band Edge for AWGN-Pre AGC



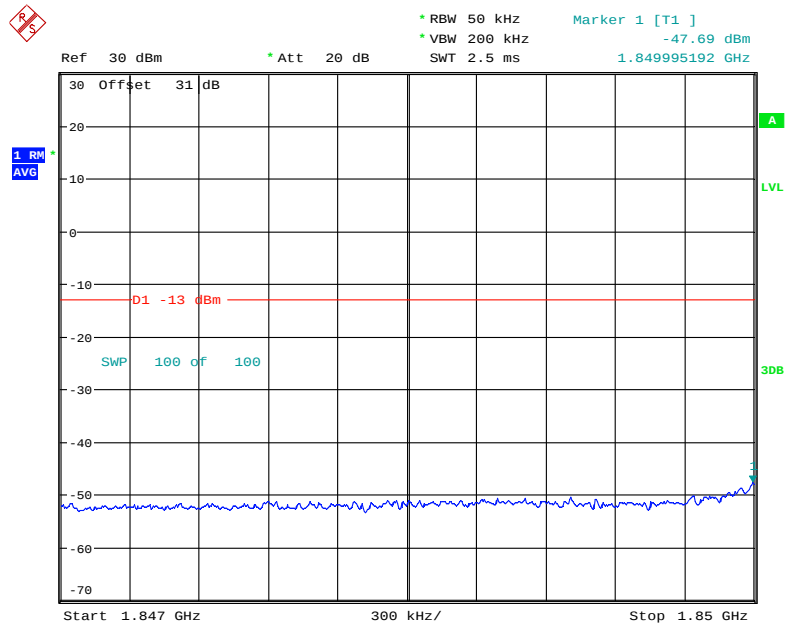
Date: 17.JAN.2019 10:34:26

PCS Band, Right Band Edge for AWGN-Pre AGC



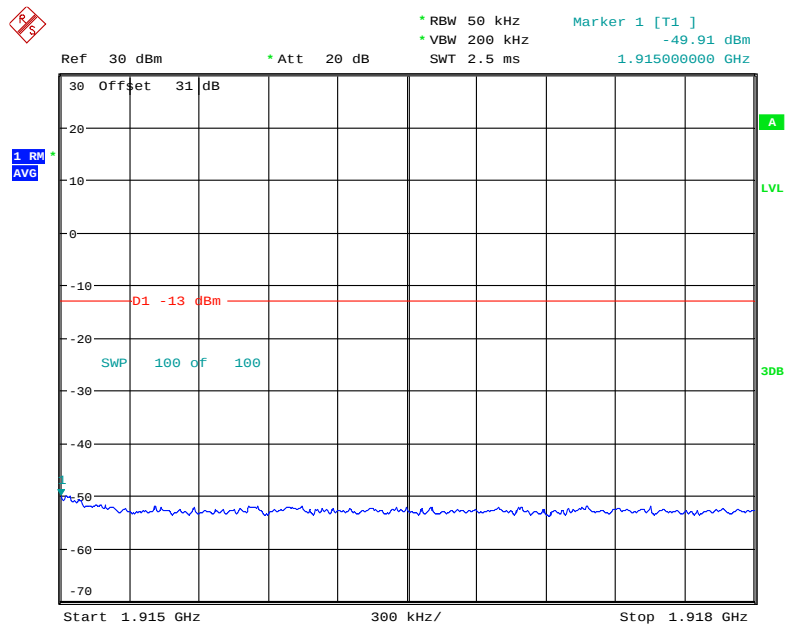
Date: 17.JAN.2019 10:28:31

PCS Band, Left Band Edge for AWGN-3dB Above AGC



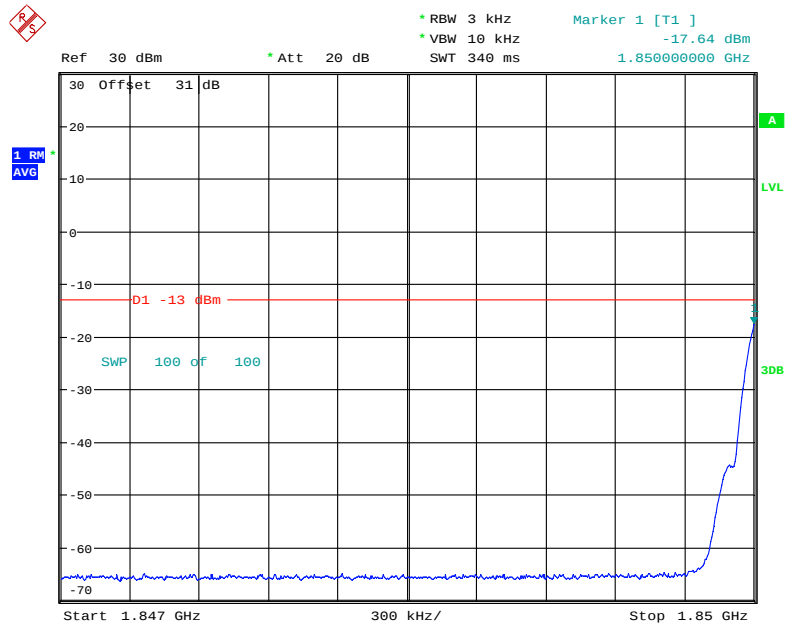
Date: 17.JAN.2019 10:34:00

PCS Band, Right Band Edge for AWGN-3dB Above AGC



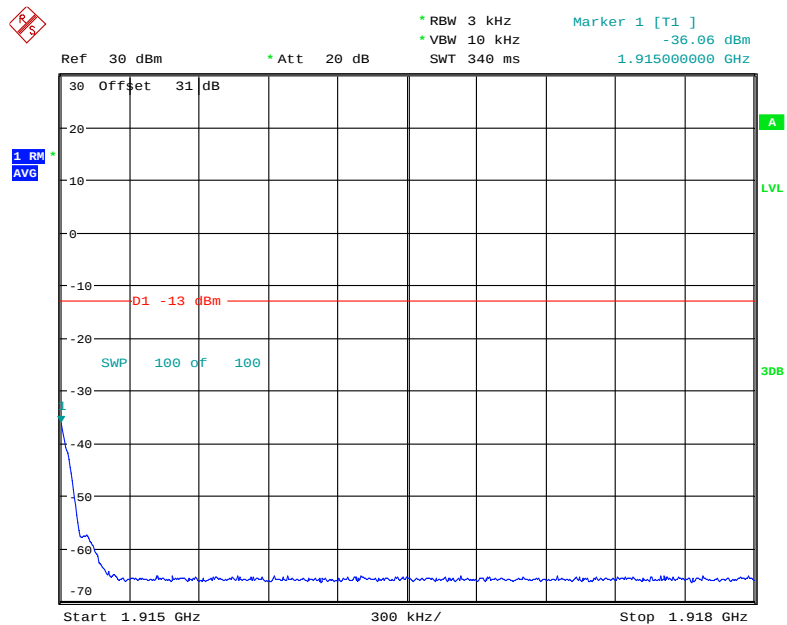
Date: 17.JAN.2019 10:28:57

PCS Band, Left Band Edge for GSM-Pre AGC



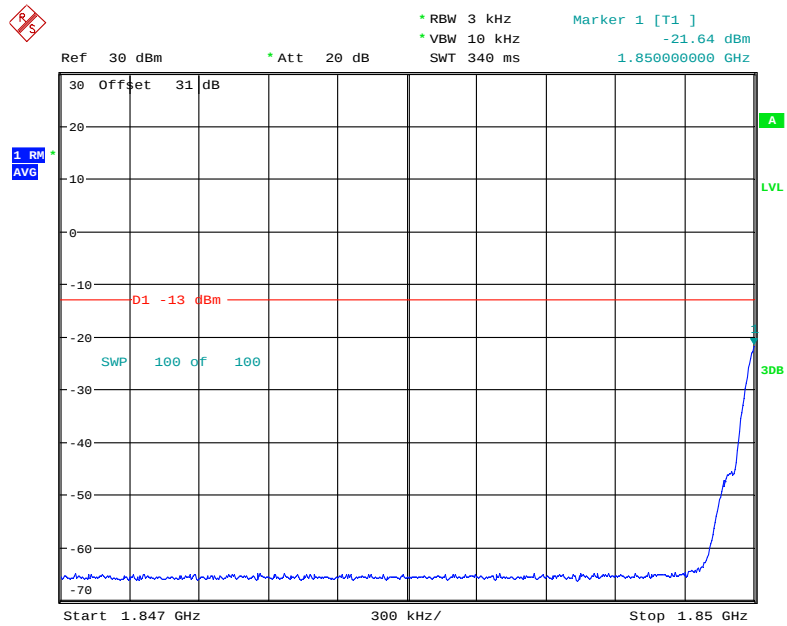
Date: 17.JAN.2019 11:02:14

PCS Band, Right Band Edge for GSM-Pre AGC



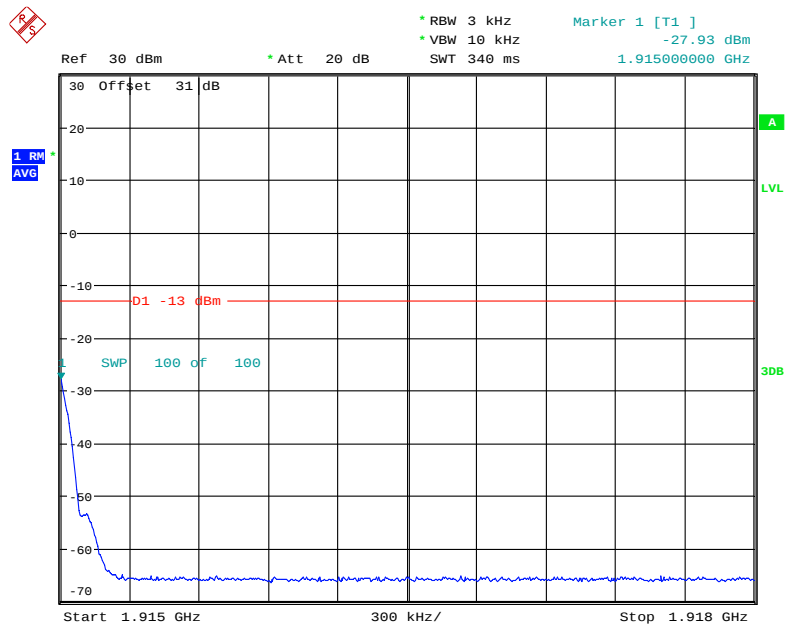
Date: 17.JAN.2019 11:00:35

PCS Band, Left Band Edge for GSM-3dB Above AGC



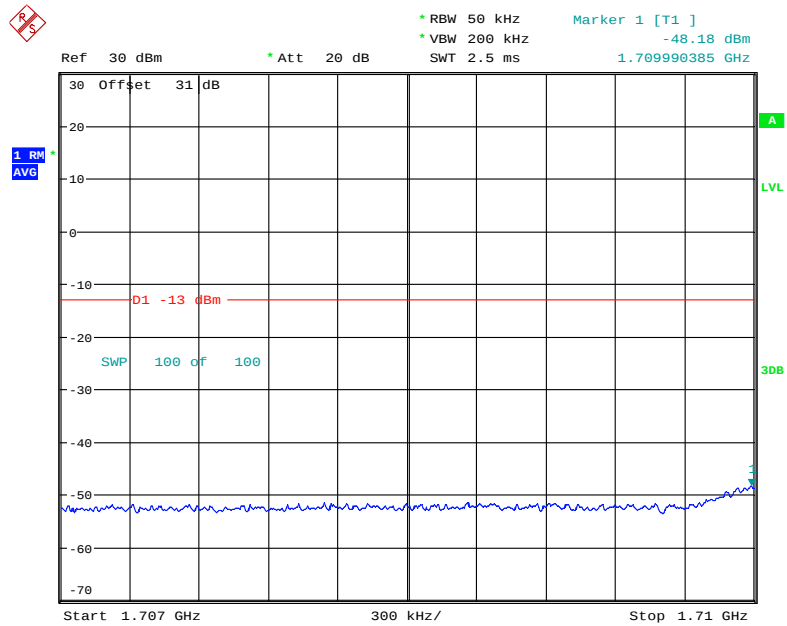
Date: 17.JAN.2019 11:01:58

PCS Band, Right Band Edge for GSM-3dB Above AGC



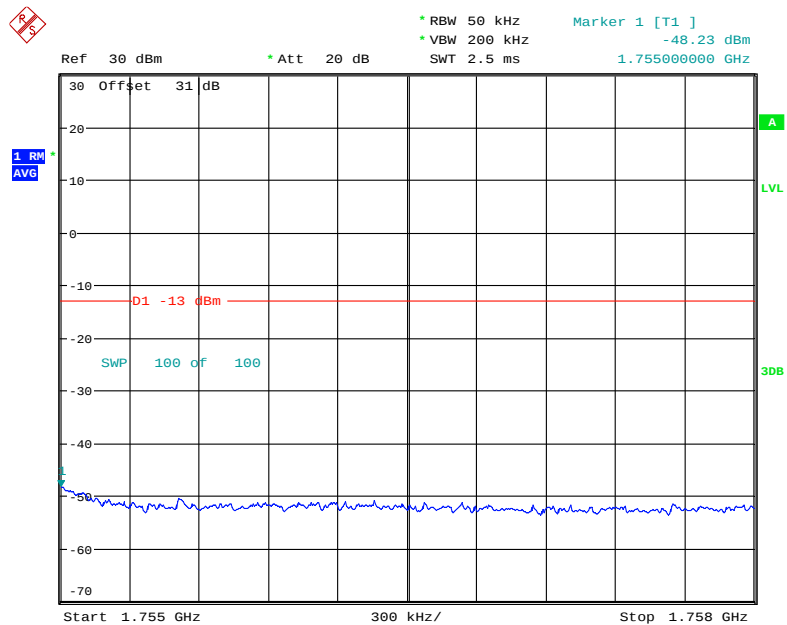
Date: 17.JAN.2019 11:00:54

AWS Band, Left Band Edge for AWGN-Pre AGC



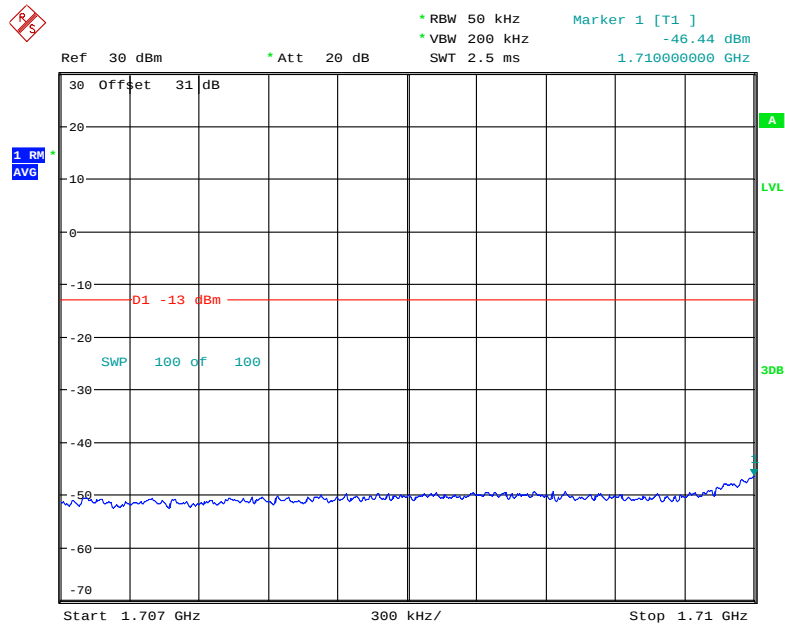
Date: 17.JAN.2019 10:35:01

AWS Band, Right Band Edge for AWGN-Pre AGC



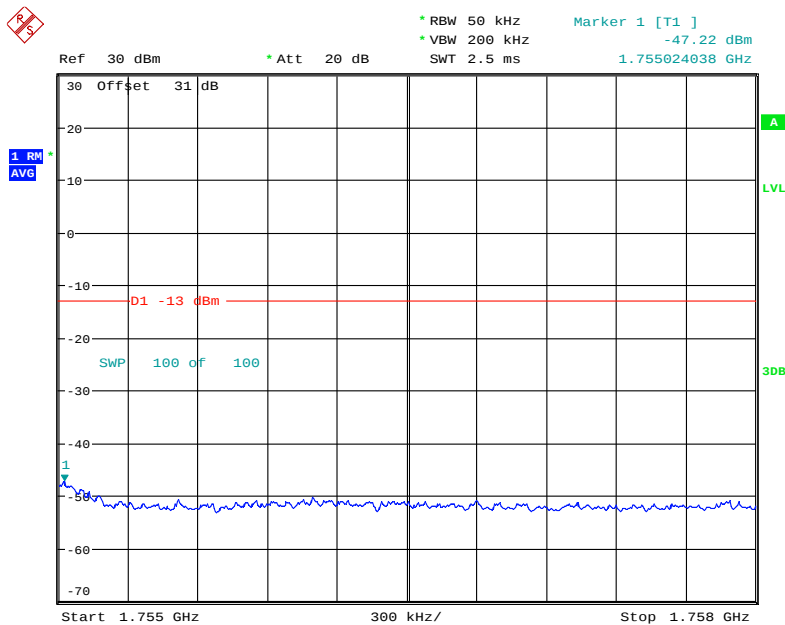
Date: 17.JAN.2019 10:36:13

AWS Band, Left Band Edge for AWGN-3dB Above AGC



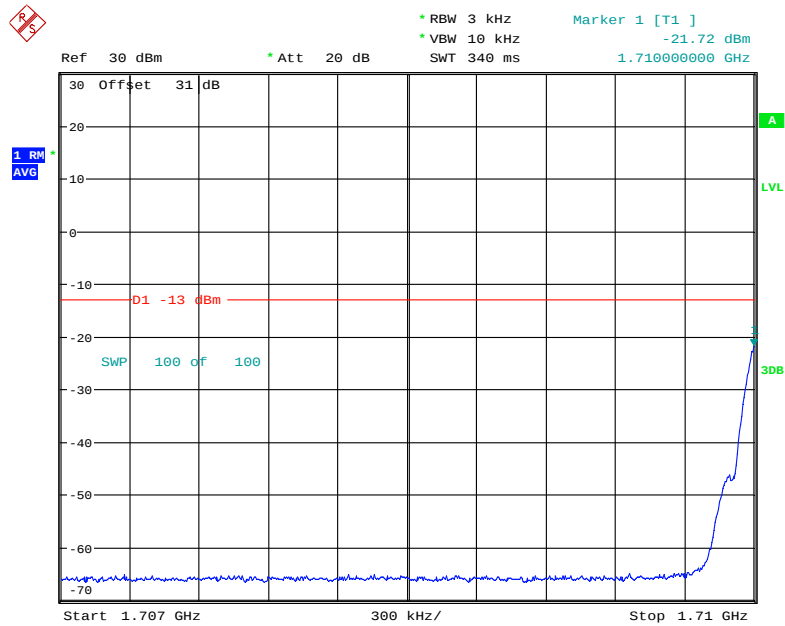
Date: 17.JAN.2019 10:35:22

AWS Band, Right Band Edge for AWGN-3dB Above AGC



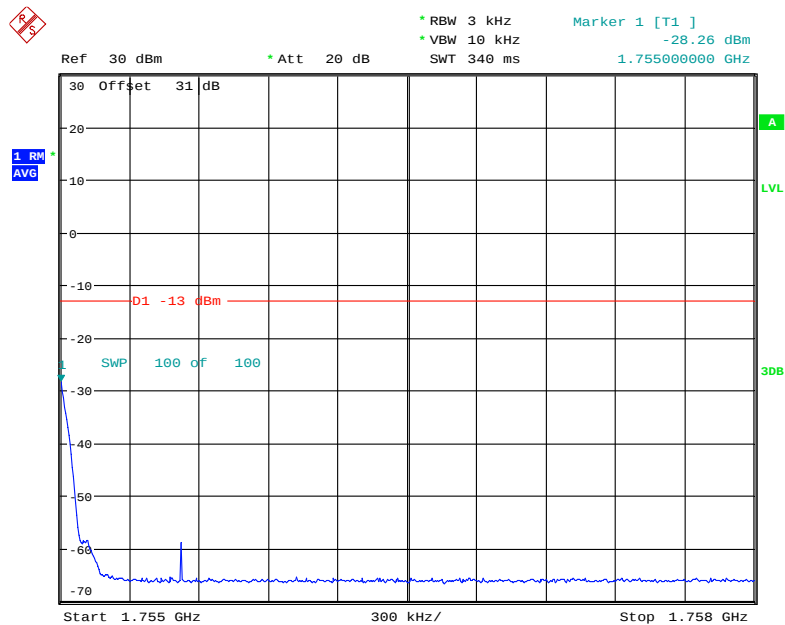
Date: 17.JAN.2019 10:36:02

AWS Band, Left Band Edge for GSM-Pre AGC



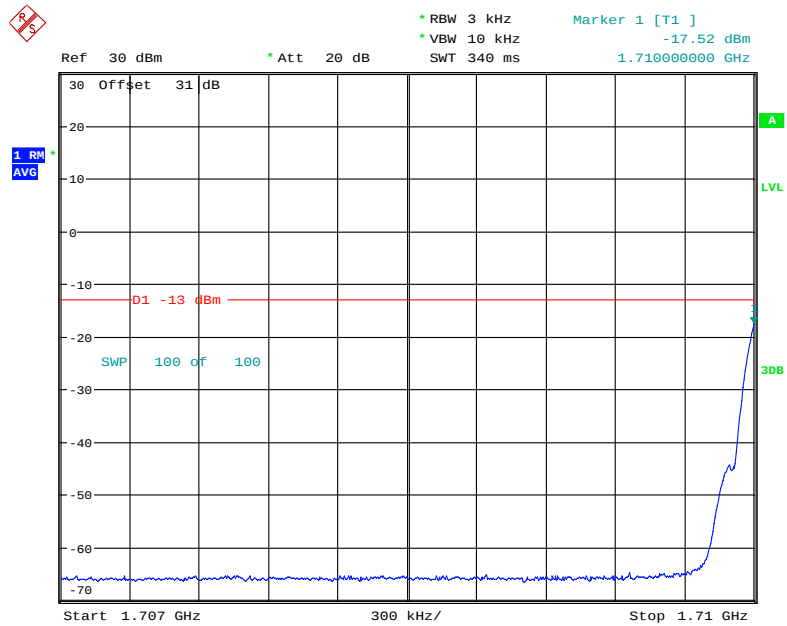
Date: 17.JAN.2019 11:03:04

AWS Band, Right Band Edge for GSM-Pre AGC



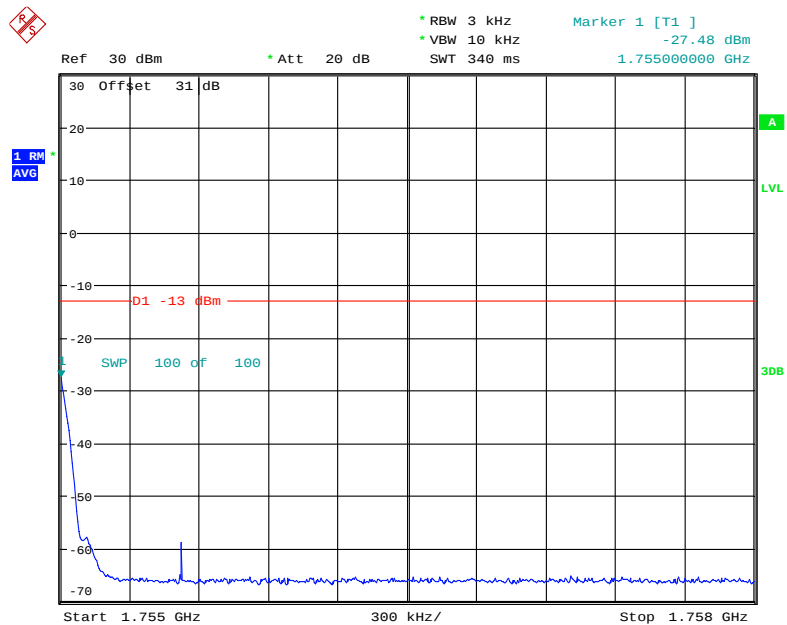
Date: 17.JAN.2019 11:07:08

AWS Band, Left Band Edge for GSM-3dB Above AGC



Date: 17.JAN.2019 11:03:20

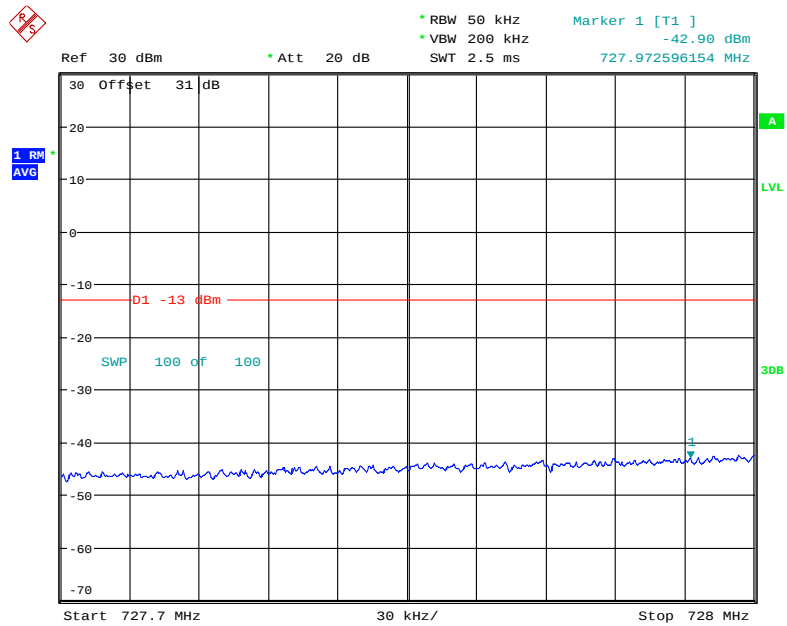
AWS Band, Right Band Edge for GSM-3dB Above AGC



Date: 17.JAN.2019 11:06:19

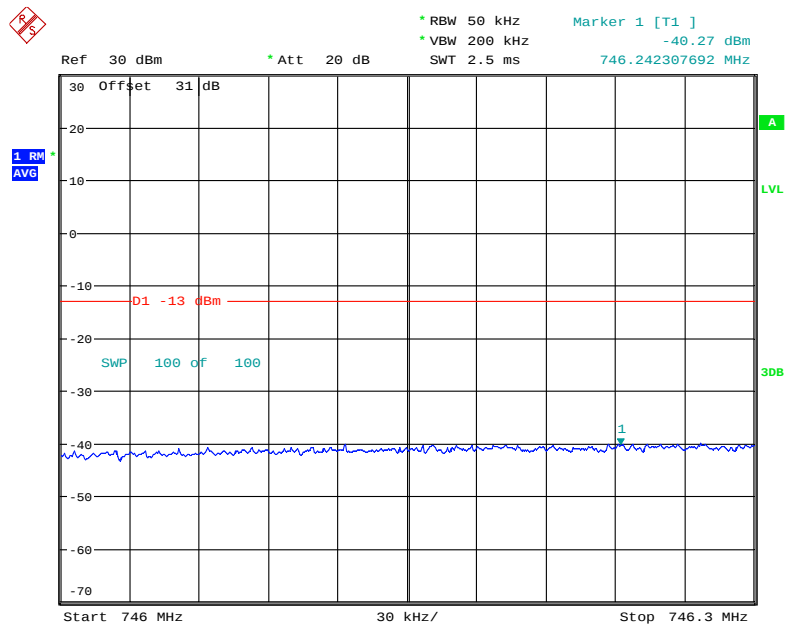
Downlink:

Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-Pre AGC



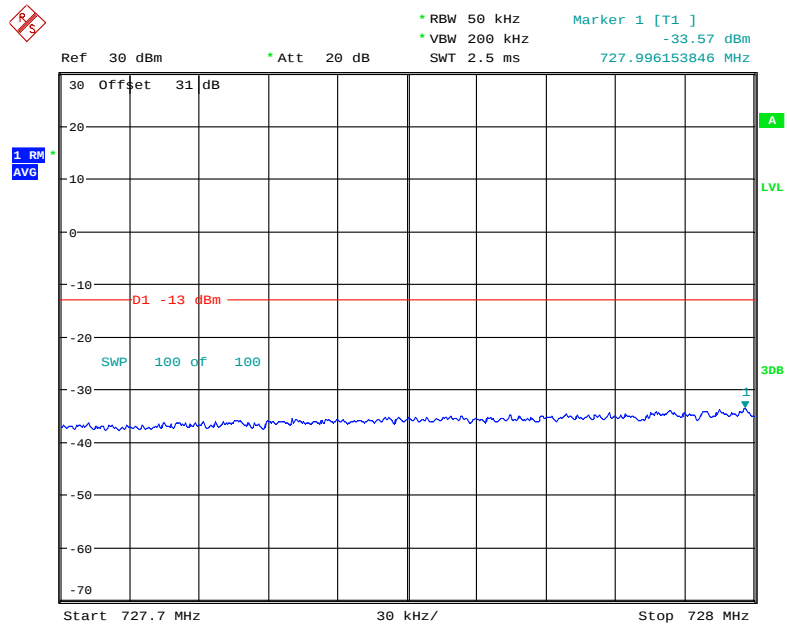
Date: 17.JAN.2019 11:44:58

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-Pre AGC



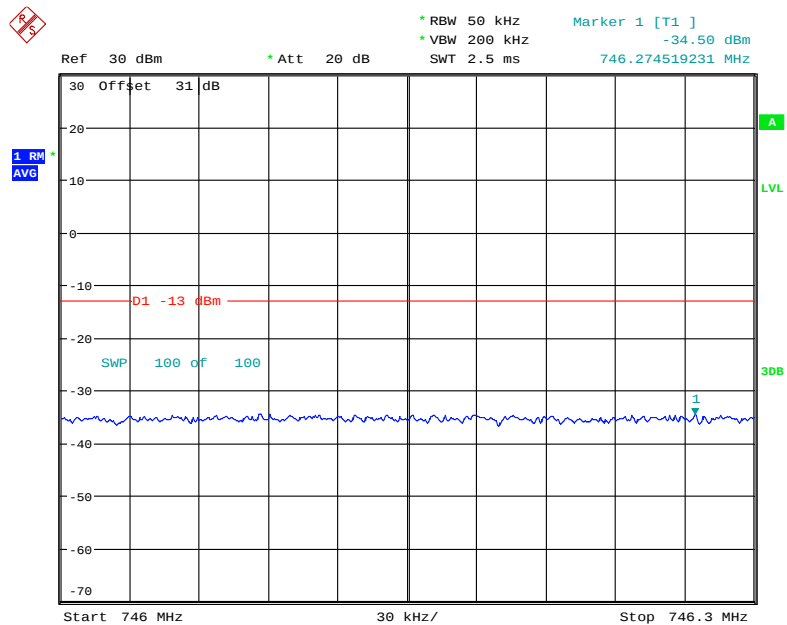
Date: 17.JAN.2019 11:46:07

Lower 700MHz (A+B+C Block) Band, Left Band Edge for AWGN-3dB Above AGC



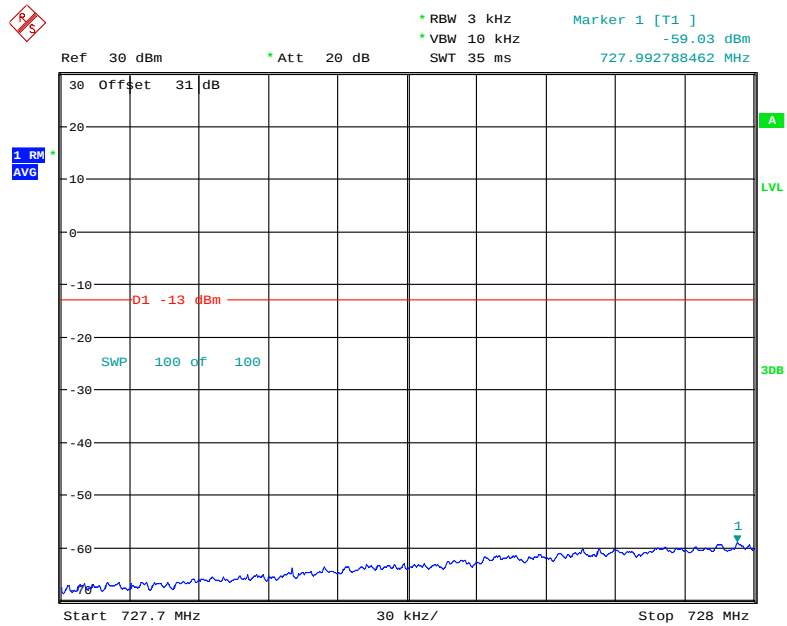
Date: 17.JAN.2019 11:45:29

Lower 700MHz (A+B+C Block) Band, Right Band Edge for AWGN-3dB Above AGC



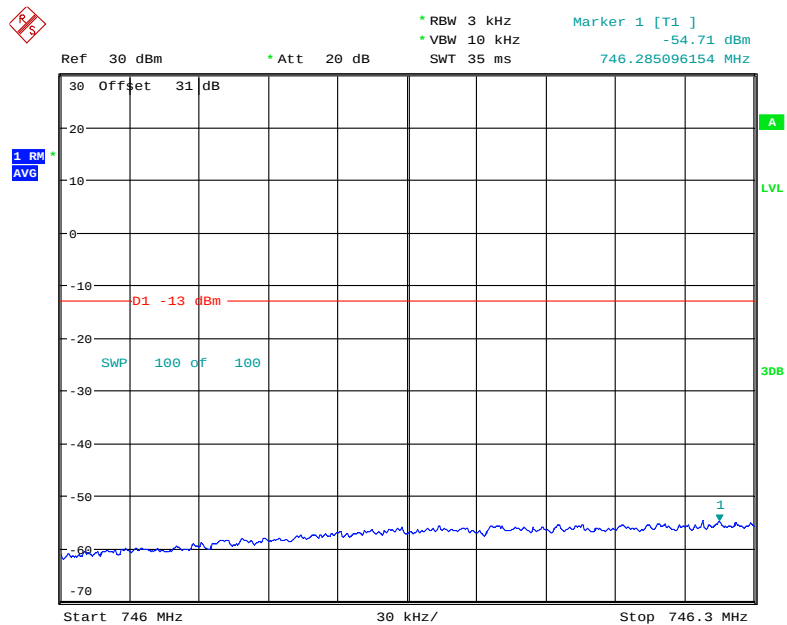
Date: 17.JAN.2019 11:45:51

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-Pre AGC



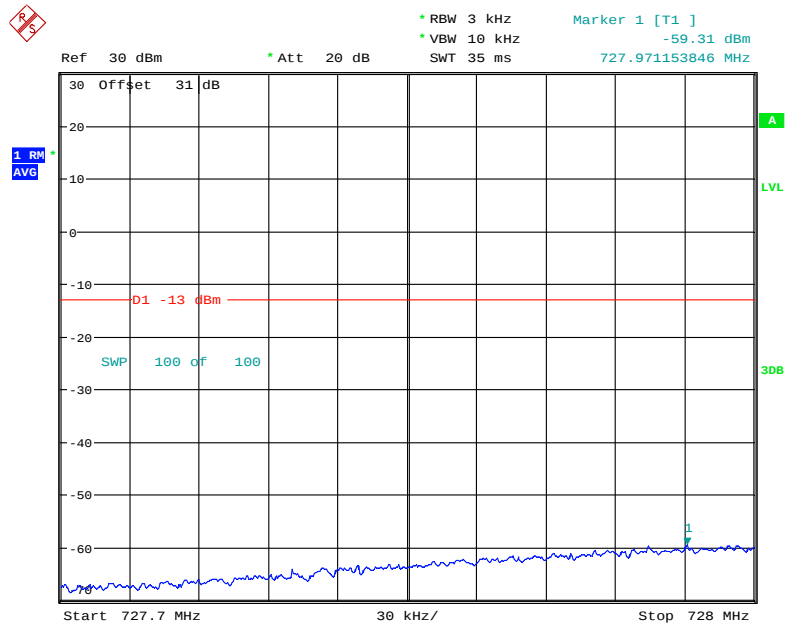
Date: 17.JAN.2019 11:28:56

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-Pre AGC



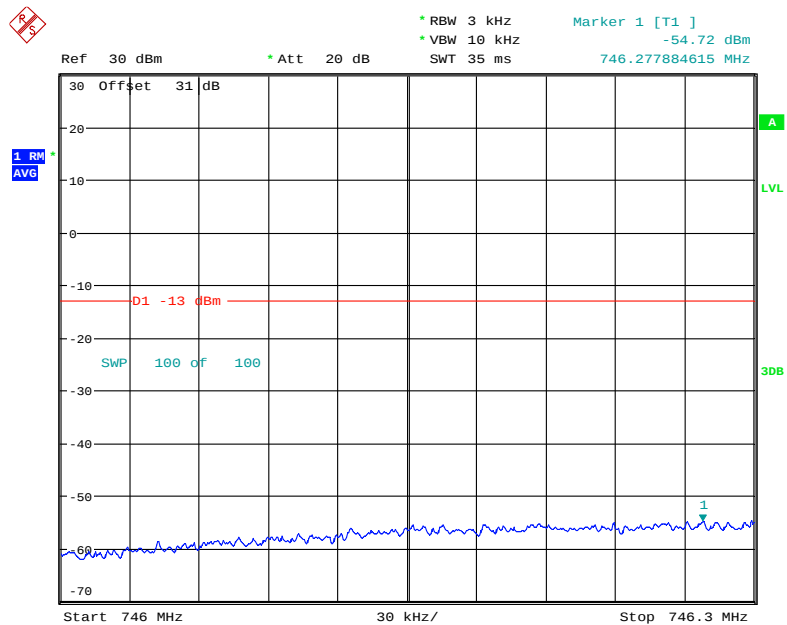
Date: 17.JAN.2019 11:30:07

Lower 700MHz (A+B+C Block) Band, Left Band Edge for GSM-3dB Above AGC



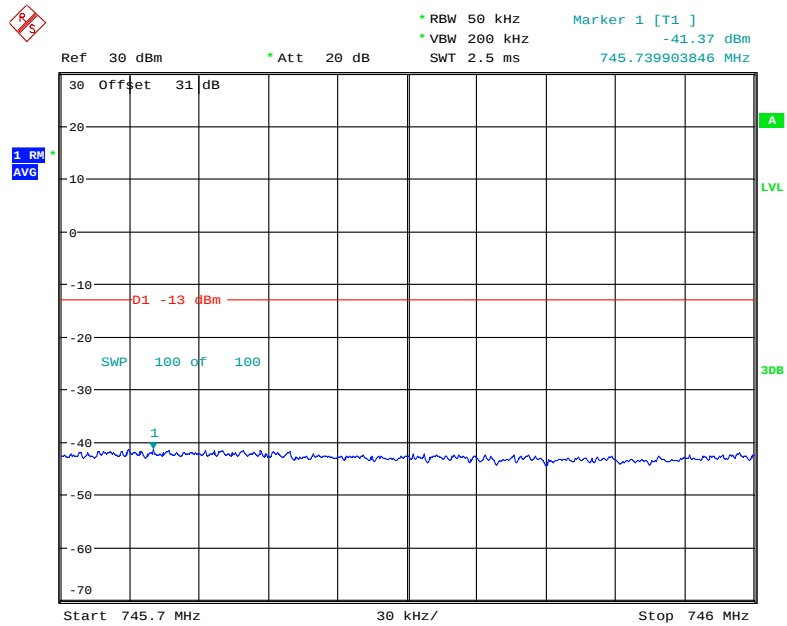
Date: 17.JAN.2019 11:29:24

Lower 700MHz (A+B+C Block) Band, Right Band Edge for GSM-3dB Above AGC



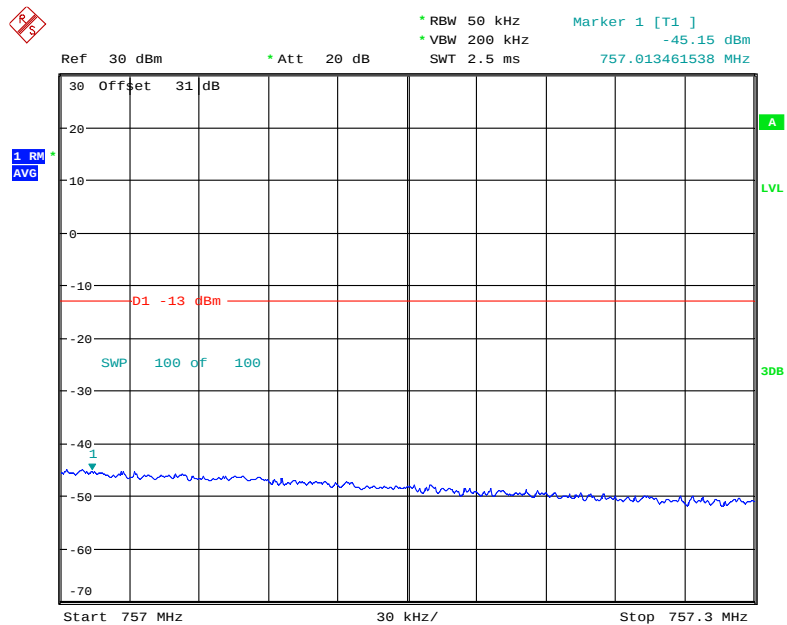
Date: 17.JAN.2019 11:29:48

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-Pre AGC



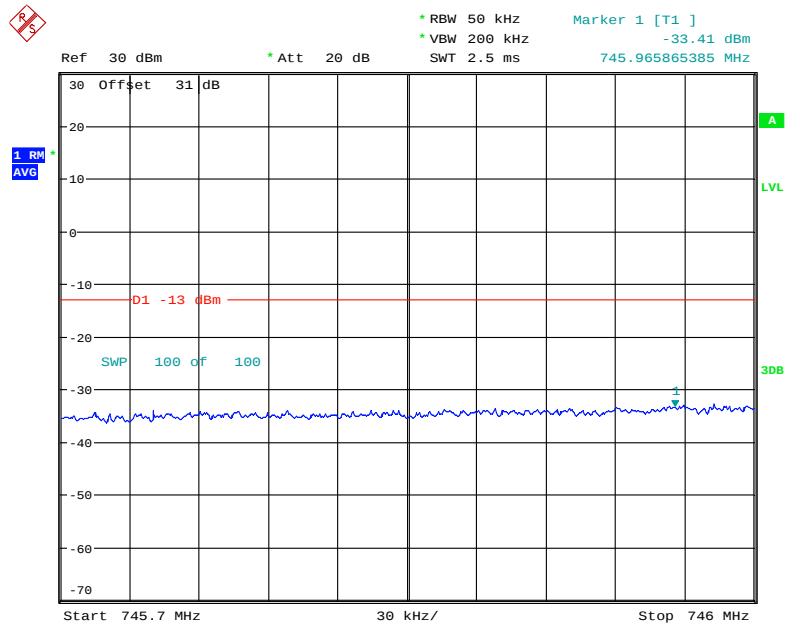
Date: 17.JAN.2019 11:47:43

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-Pre AGC



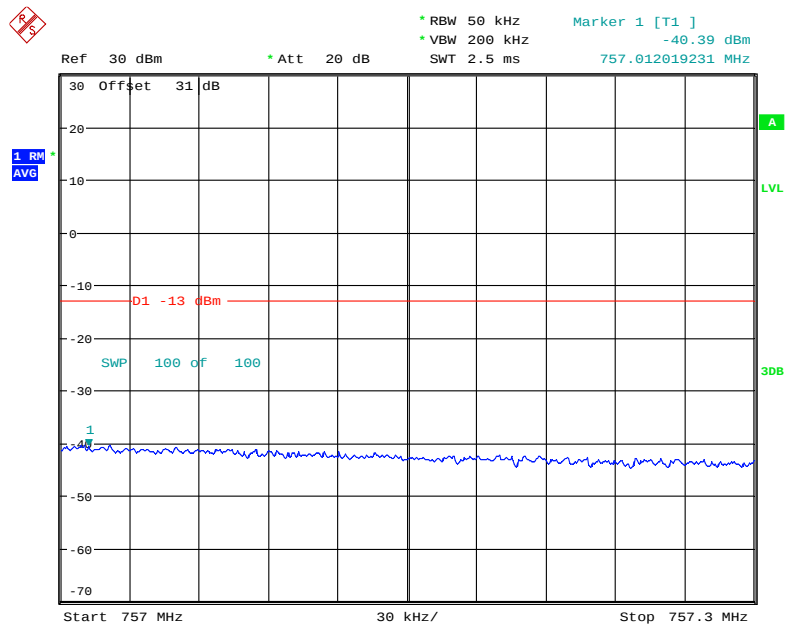
Date: 17.JAN.2019 11:46:41

Upper 700MHz (C Block) Band, Left Band Edge for AWGN-3dB Above AGC



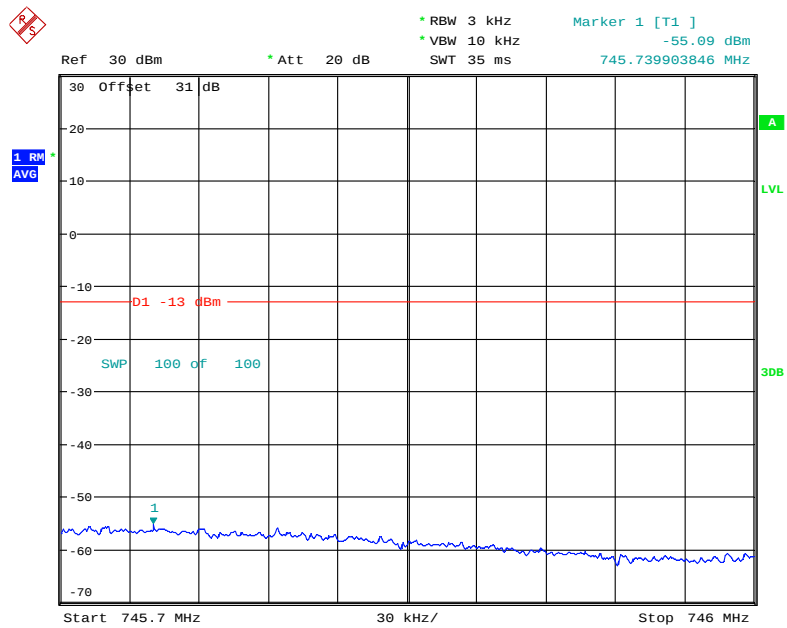
Date: 17.JAN.2019 11:47:22

Upper 700MHz (C Block) Band, Right Band Edge for AWGN-3dB Above AGC



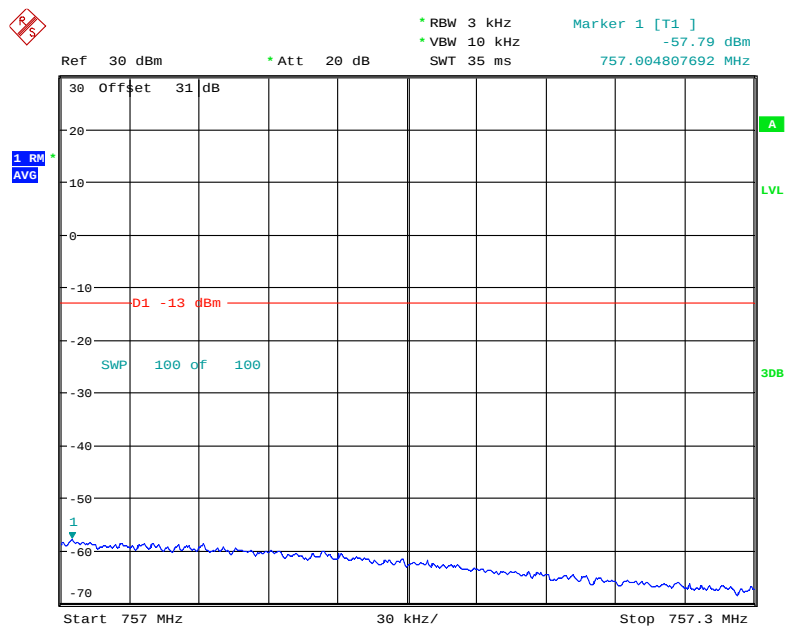
Date: 17.JAN.2019 11:46:58

Upper 700MHz (C Block) Band, Left Band Edge for GSM-Pre AGC



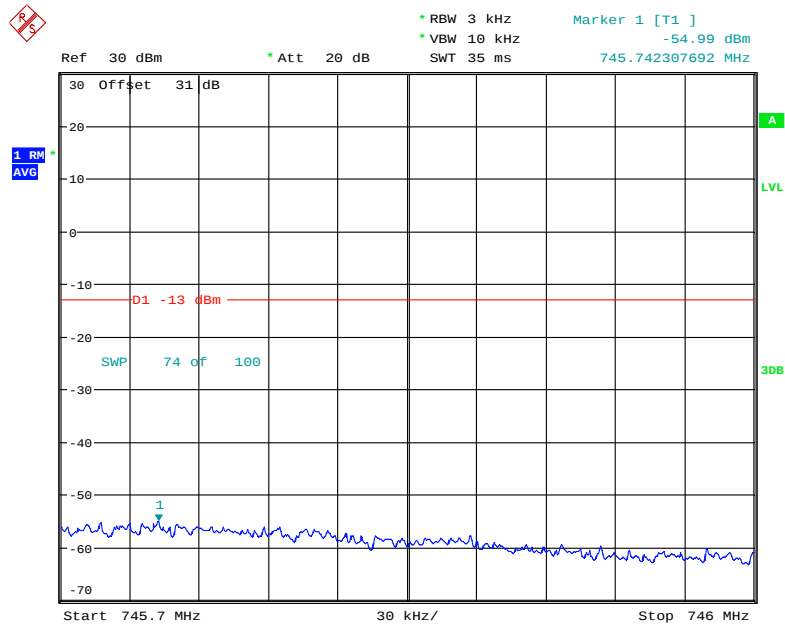
Date: 17.JAN.2019 11:31:52

Upper 700MHz (C Block) Band, Right Band Edge for GSM-Pre AGC



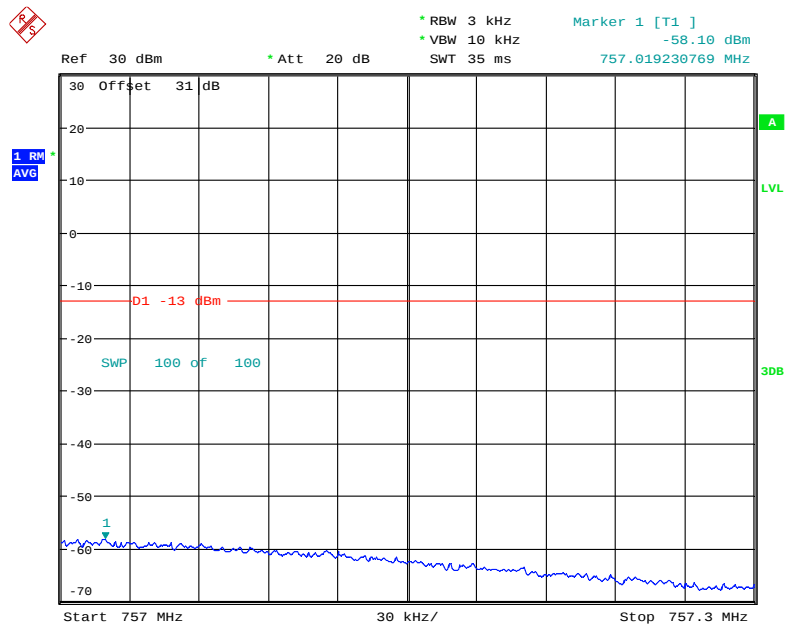
Date: 17.JAN.2019 11:30:40

Upper 700MHz (C Block) Band, Left Band Edge for GSM-3dB Above AGC



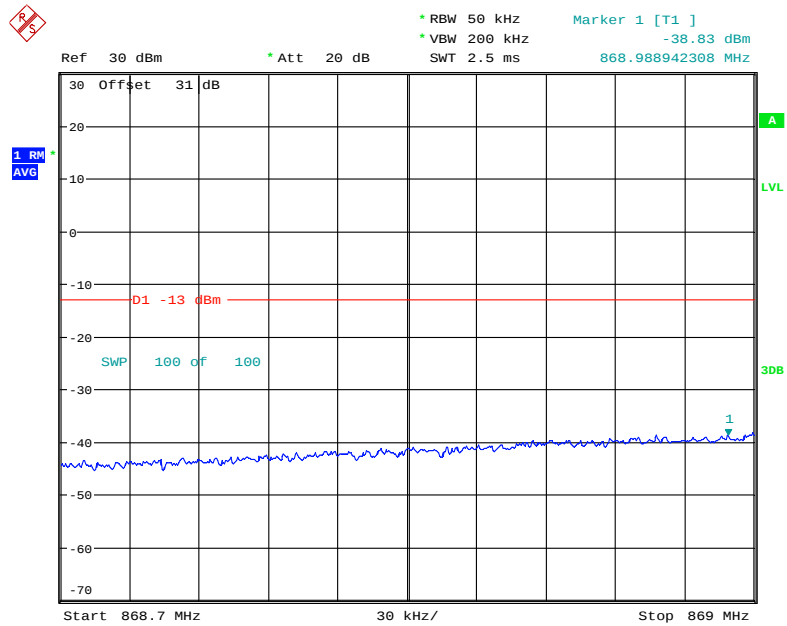
Date: 17.JAN.2019 11:31:31

Upper 700MHz (C Block) Band, Right Band Edge for GSM-3dB Above AGC



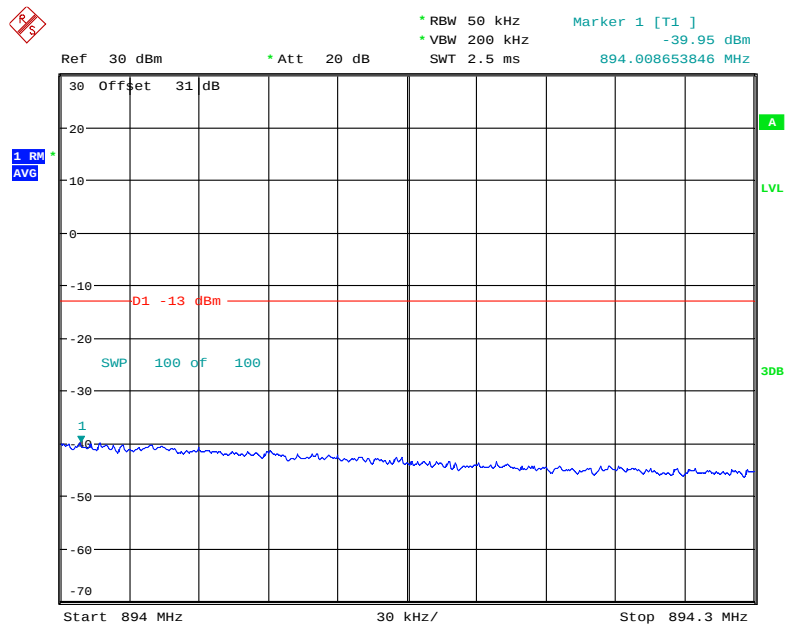
Date: 17.JAN.2019 11:31:07

Cellular Band, Left Band Edge for AWGN-Pre AGC



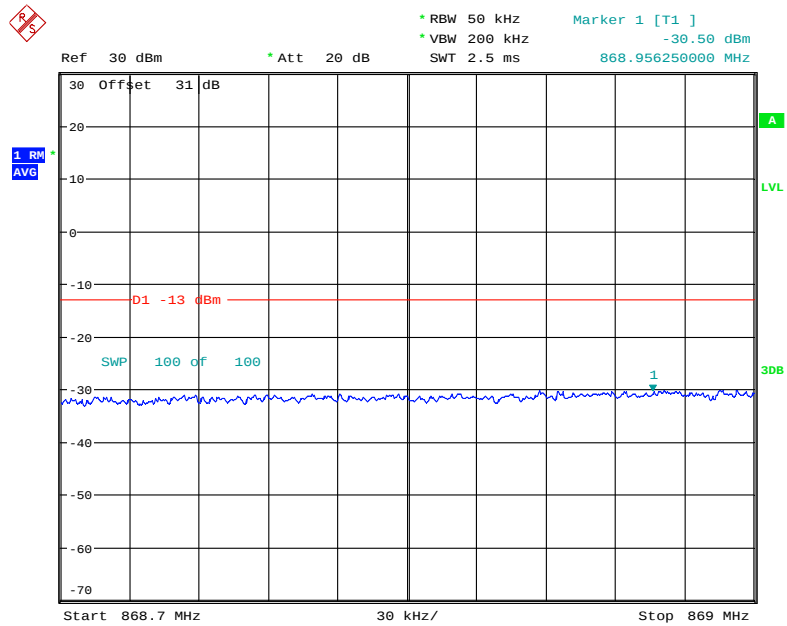
Date: 17.JAN.2019 11:48:24

Cellular Band, Right Band Edge for AWGN-Pre AGC



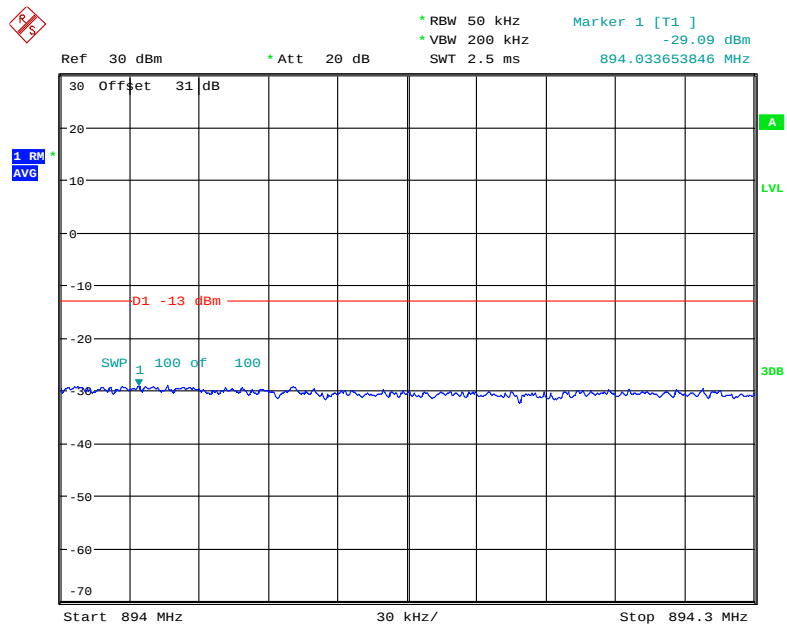
Date: 17.JAN.2019 11:49:24

Cellular Band, Left Band Edge for AWGN-3dB Above AGC



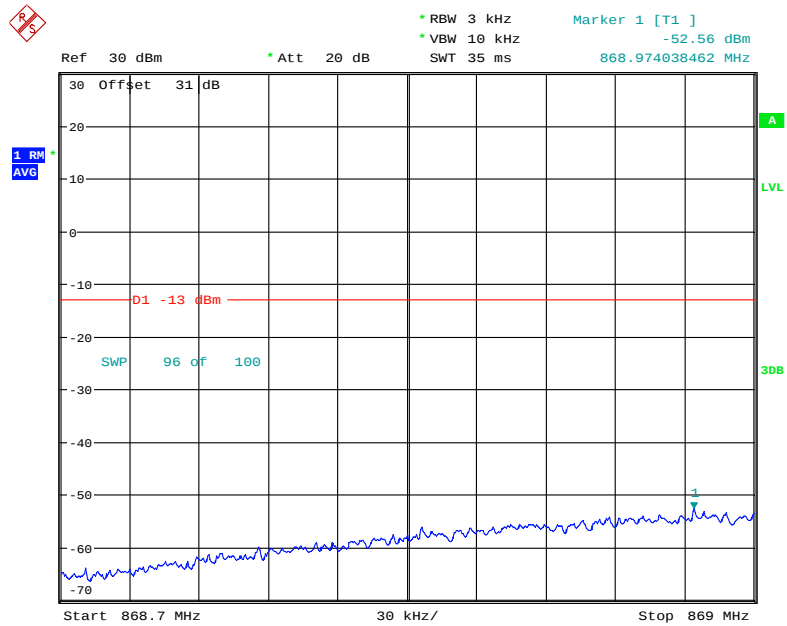
Date: 17.JAN.2019 11:48:38

Cellular Band, Right Band Edge for AWGN-3dB Above AGC



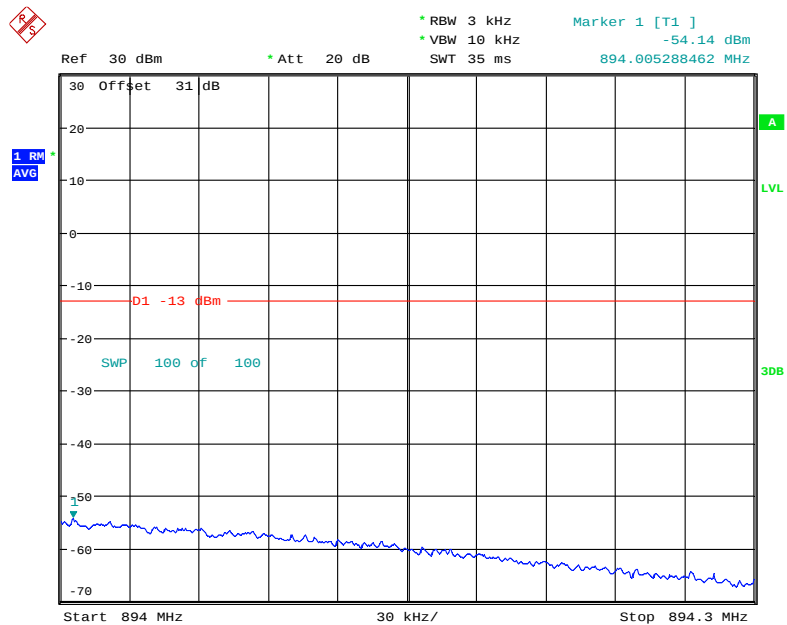
Date: 17.JAN.2019 11:49:06

Cellular Band, Left Band Edge for GSM-Pre AGC



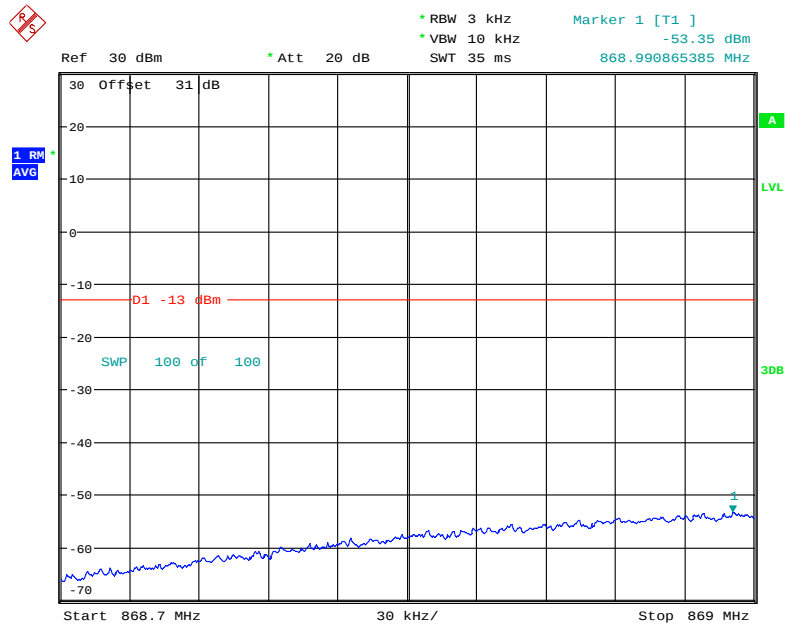
Date: 17.JAN.2019 11:32:24

Cellular Band, Right Band Edge for GSM-Pre AGC



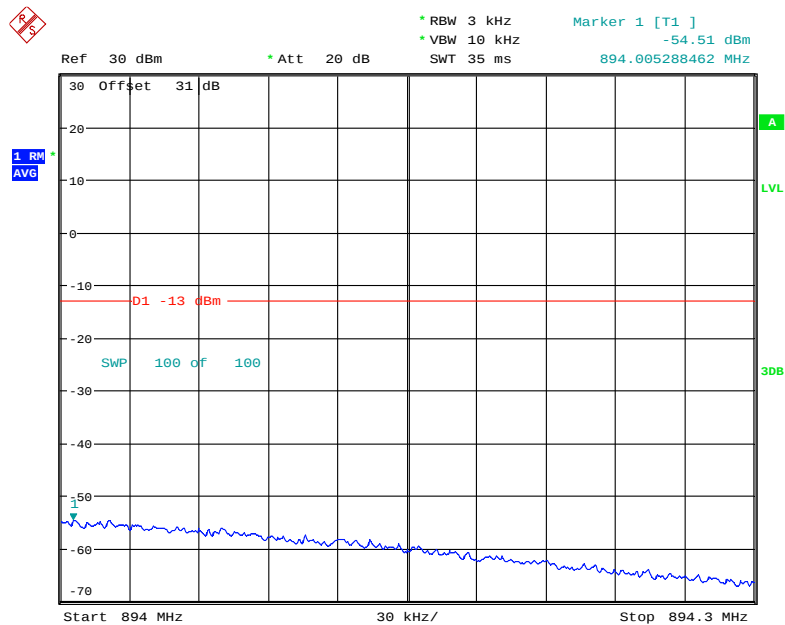
Date: 17.JAN.2019 11:34:05

Cellular Band, Left Band Edge for GSM-3dB Above AGC



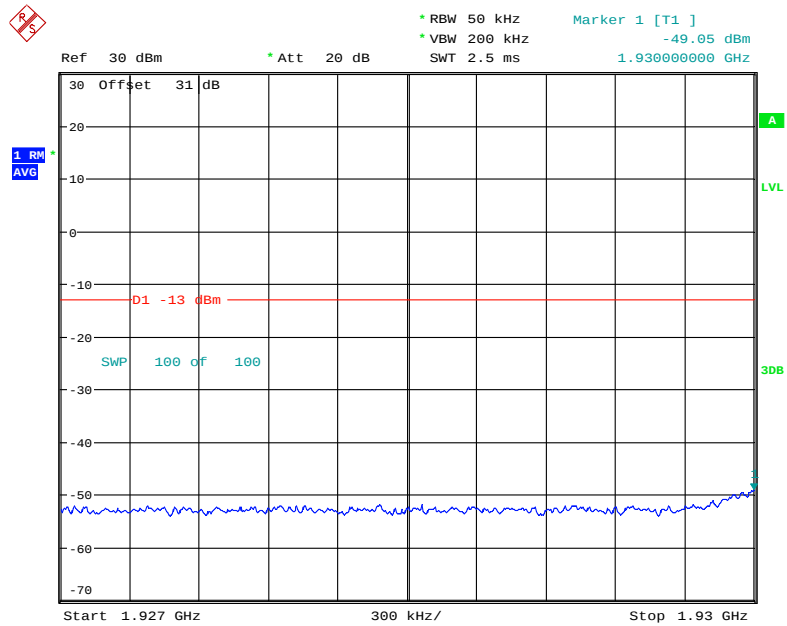
Date: 17.JAN.2019 11:32:39

Cellular Band, Right Band Edge for GSM-3dB Above AGC



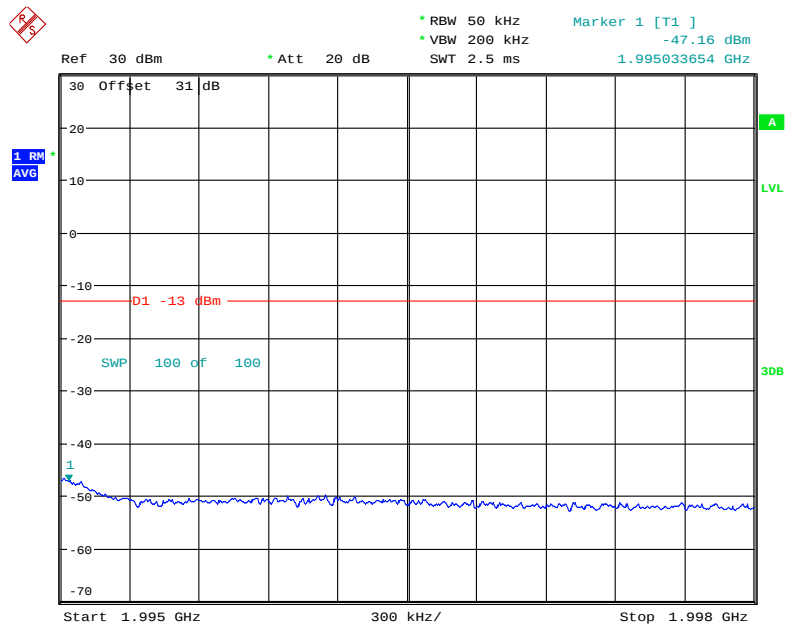
Date: 17.JAN.2019 11:33:45

PCS Band, Left Band Edge for AWGN-Pre AGC



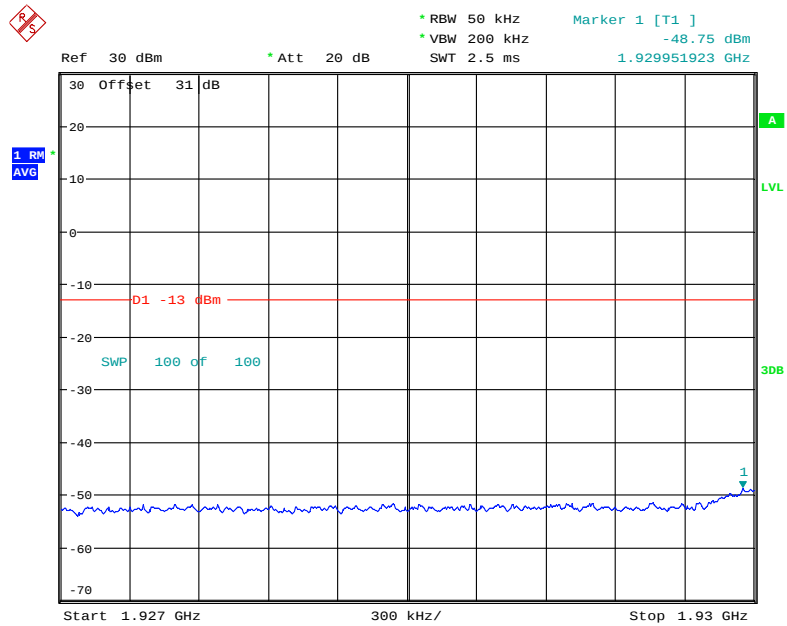
Date: 17.JAN.2019 11:51:17

PCS Band, Right Band Edge for AWGN-Pre AGC



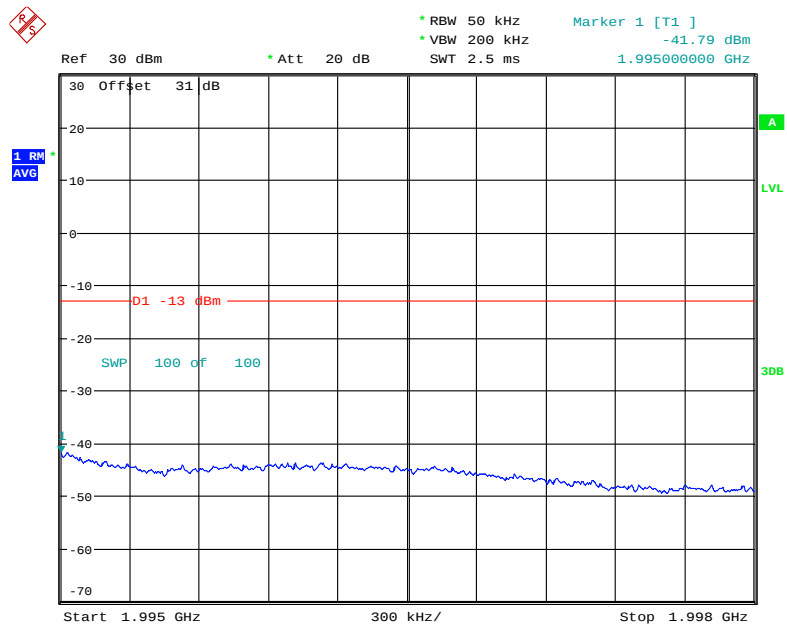
Date: 17.JAN.2019 11:50:06

PCS Band, Left Band Edge for AWGN-3dB Above AGC



Date: 17.JAN.2019 11:50:59

PCS Band, Right Band Edge for AWGN-3dB Above AGC



Date: 17.JAN.2019 11:50:31

Ref 30 dBm * Att 20 dB * RBW 3 kHz Marker 1 [T1] -58.72 dBm
 * VBW 10 kHz SWT 340 ms 1.995014423 GHz

30 Offset 31 dB

1 RM
 AVG

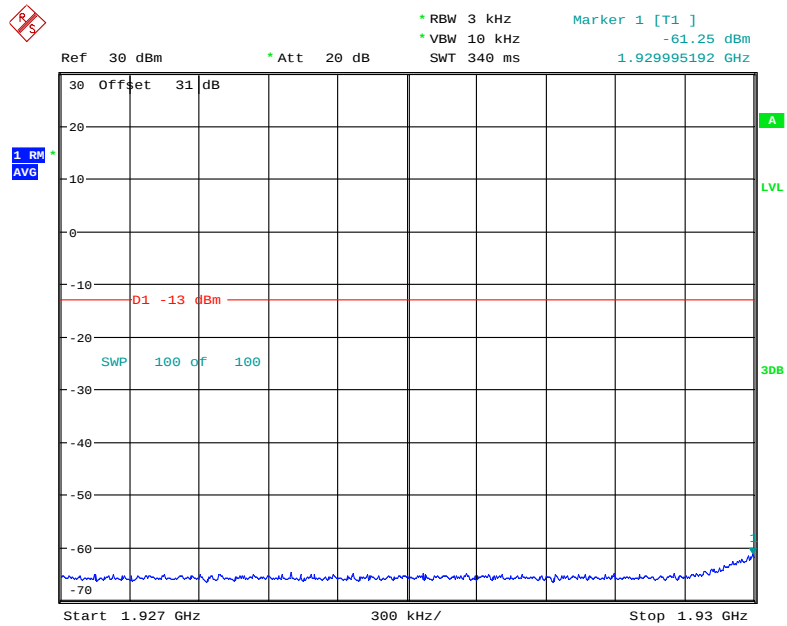
D1 -13 dBm

SWP 100 of 100

Start 1.995 GHz 300 kHz/ Stop 1.998 GHz

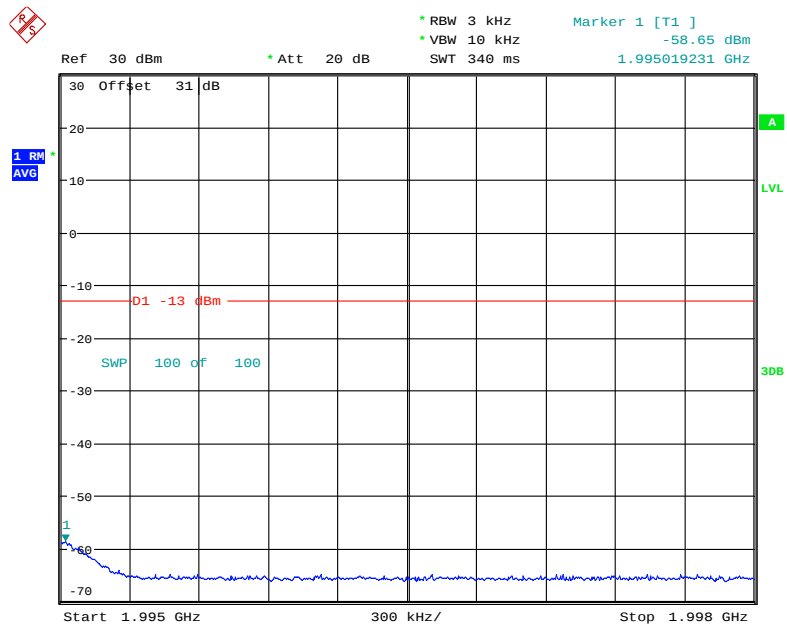
Page 278 of 289

PCS Band, Left Band Edge for GSM-3dB Above AGC



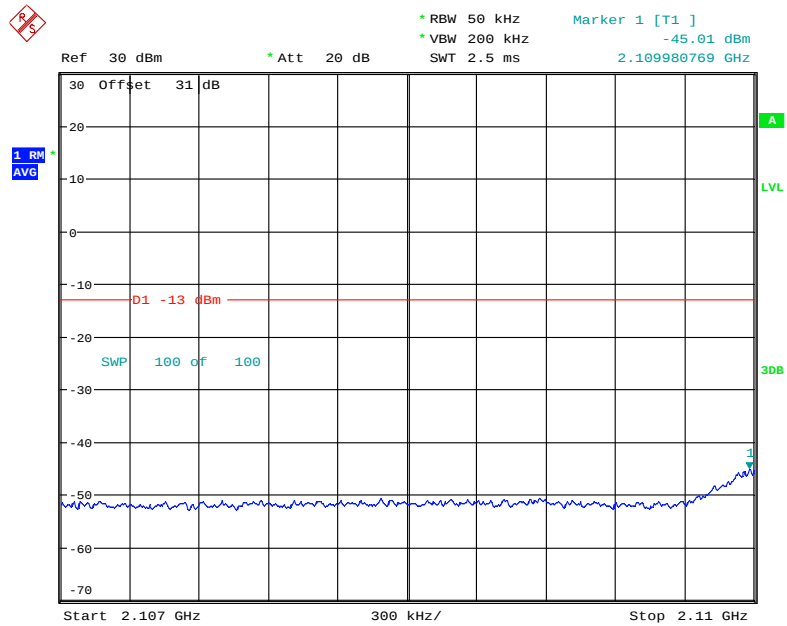
Date: 17.JAN.2019 11:36:17

PCS Band, Right Band Edge for GSM-3dB Above AGC



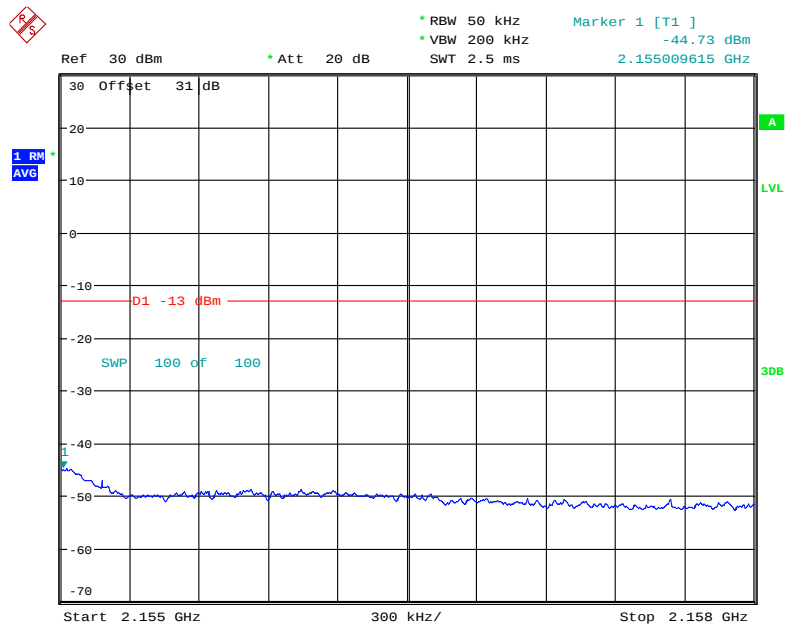
Date: 17.JAN.2019 11:35:20

AWS Band, Left Band Edge for AWGN-Pre AGC



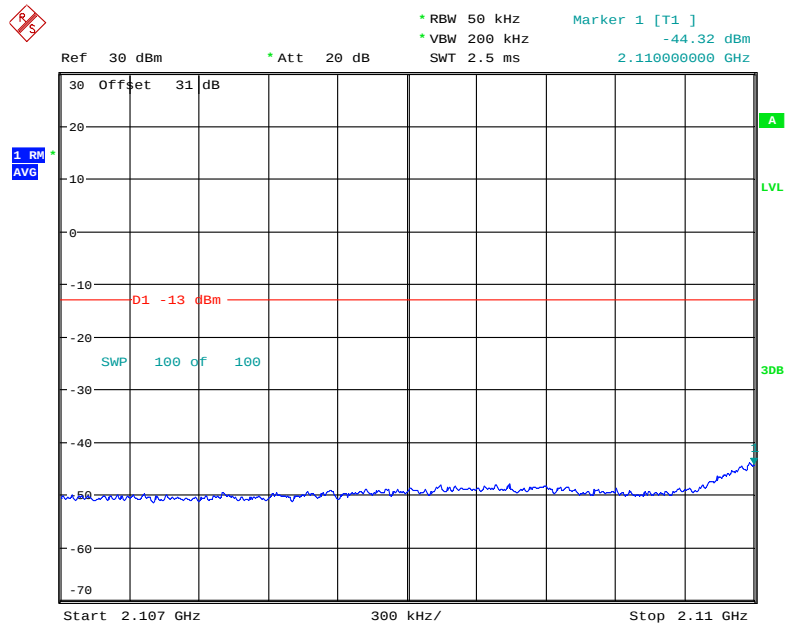
Date: 17.JAN.2019 11:51:52

AWS Band, Right Band Edge for AWGN-Pre AGC



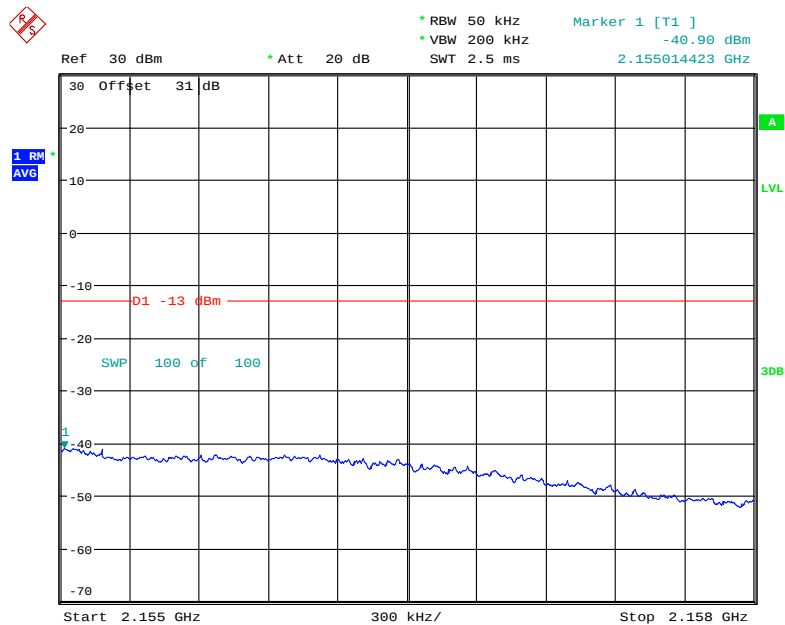
Date: 17.JAN.2019 11:53:14

AWS Band, Left Band Edge for AWGN-3dB Above AGC



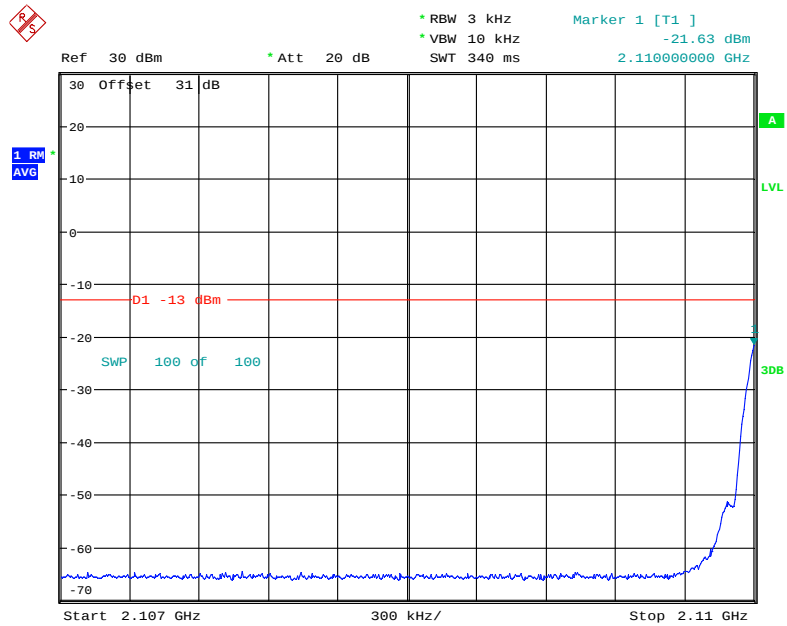
Date: 17.JAN.2019 11:52:11

AWS Band, Right Band Edge for AWGN-3dB Above AGC



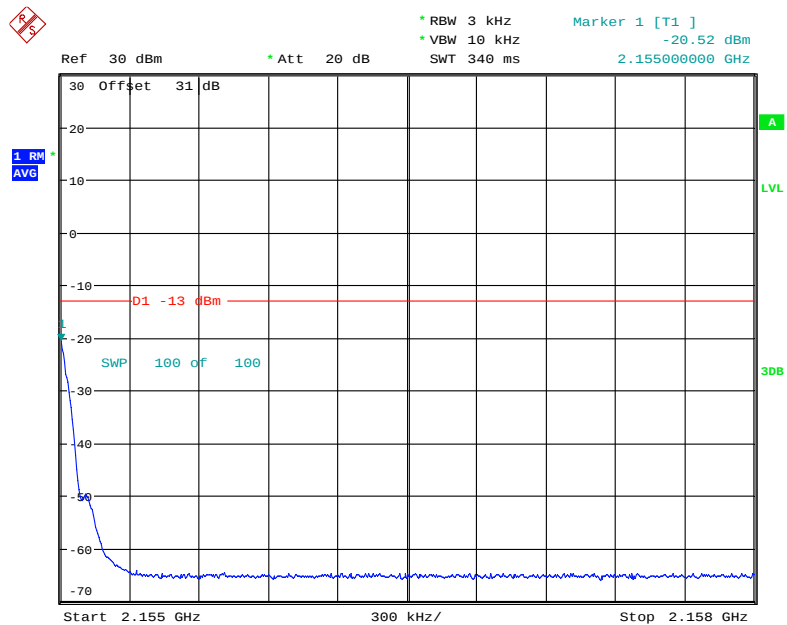
Date: 17.JAN.2019 11:52:46

AWS Band, Left Band Edge for GSM-Pre AGC



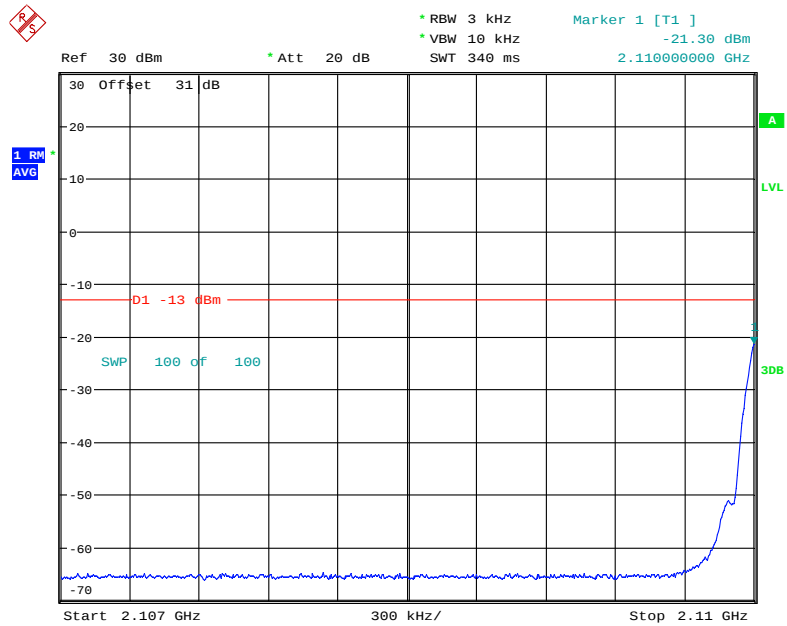
Date: 17.JAN.2019 11:38:16

AWS Band, Right Band Edge for GSM-Pre AGC



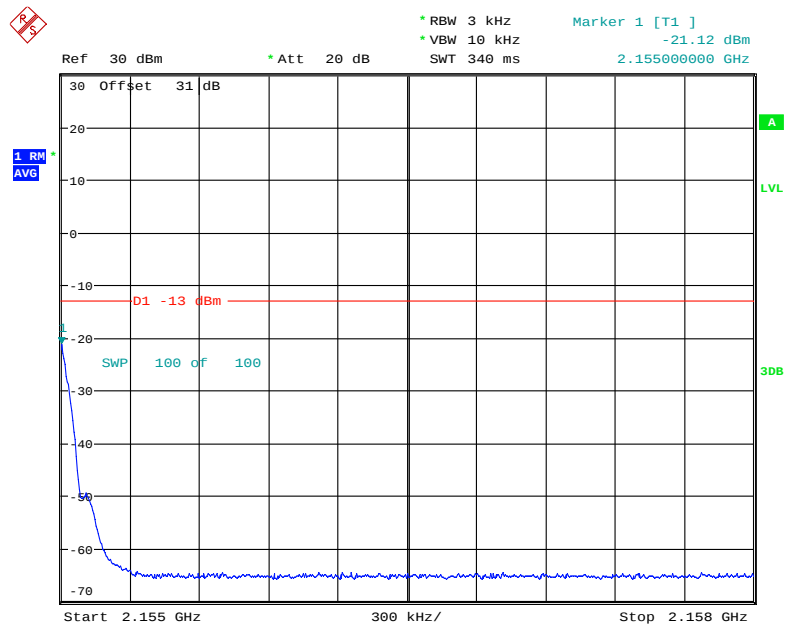
Date: 17.JAN.2019 11:39:57

AWS Band, Left Band Edge for GSM-3dB Above AGC



Date: 17.JAN.2019 11:38:38

AWS Band, Right Band Edge for GSM-3dB Above AGC



Date: 17.JAN.2019 11:39:38

FCC §20.21 - OUT OF BAND REJECTION

Applicable Standard

According to FCC Part § 20.21, a booster shall have -20dB at the band edge referenced to the gain in the center of the pass band of the booster, where band edge is the end of the licensee's allocated spectrum.

Test Procedure

FCC KDB 935210 D05 Indus Booster Basic Meas v01r02, Section 3.3.

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. The span of the spectrum analyzer was set to be wide enough in order to capture the spectrum of entire operating band.

Test Data

Environmental Conditions

Temperature:	23~25 °C
Relative Humidity:	50~52 %
ATM Pressure:	100.0~101.0 kPa

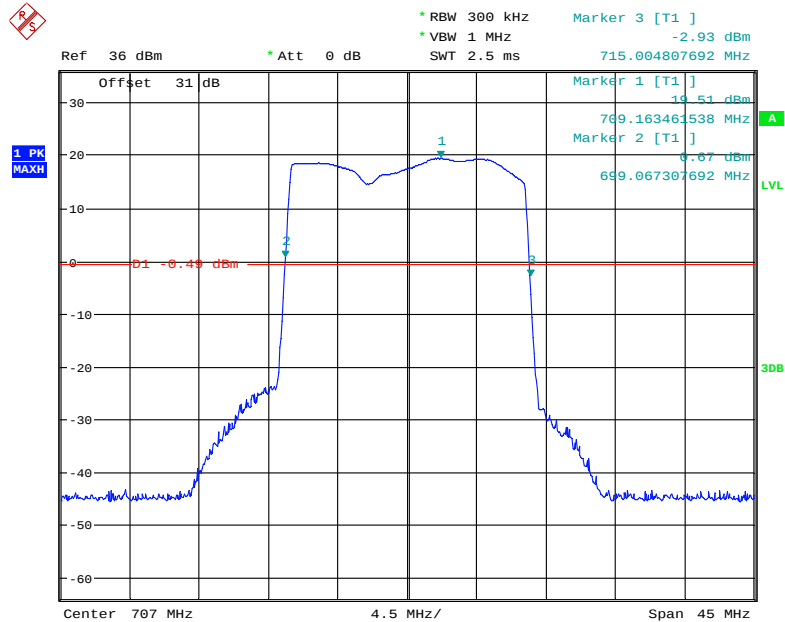
The testing was performed by Tracy Hu from 2019-01-29 to 2019-03-12.

EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following plots.

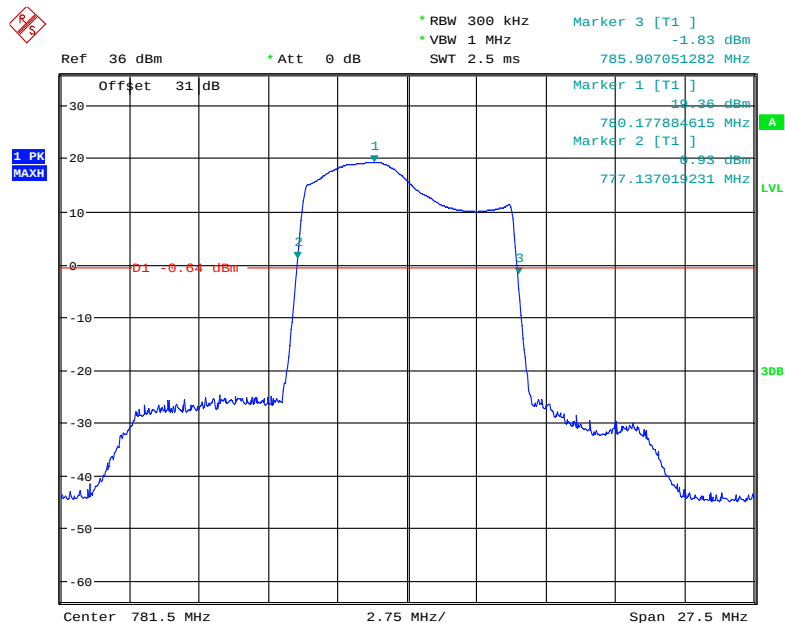
Uplink:

Lower 700MHz (A+B+C Block) Band



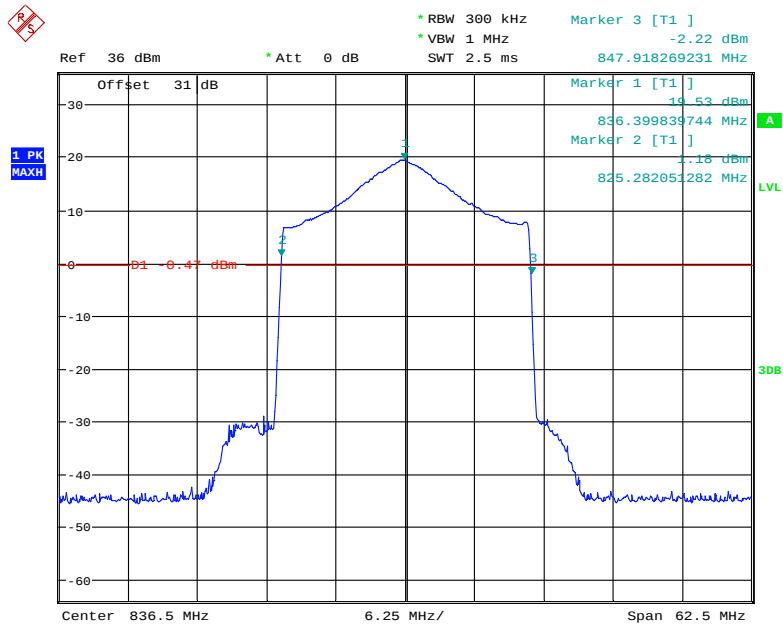
Date: 29.JAN.2019 17:32:30

Upper 700MHz (C Block) Band



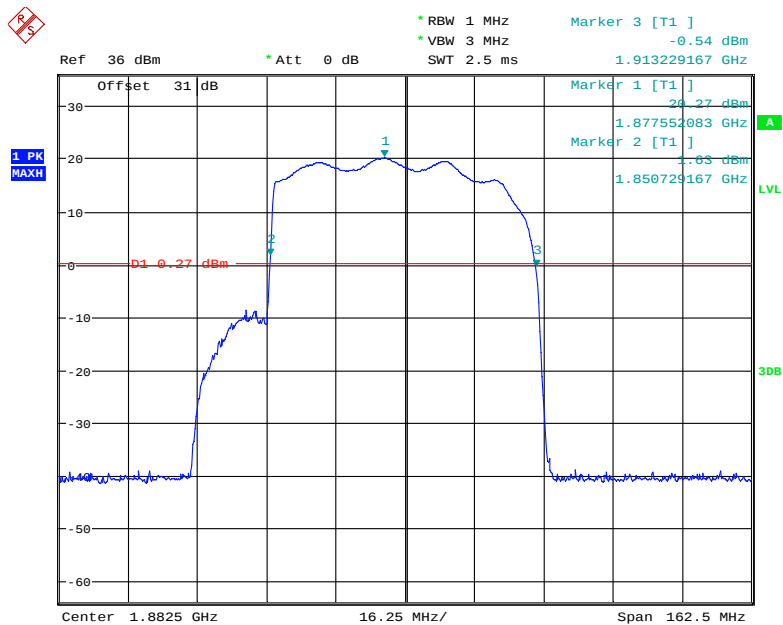
Date: 29.JAN.2019 17:30:33

Cellular Band



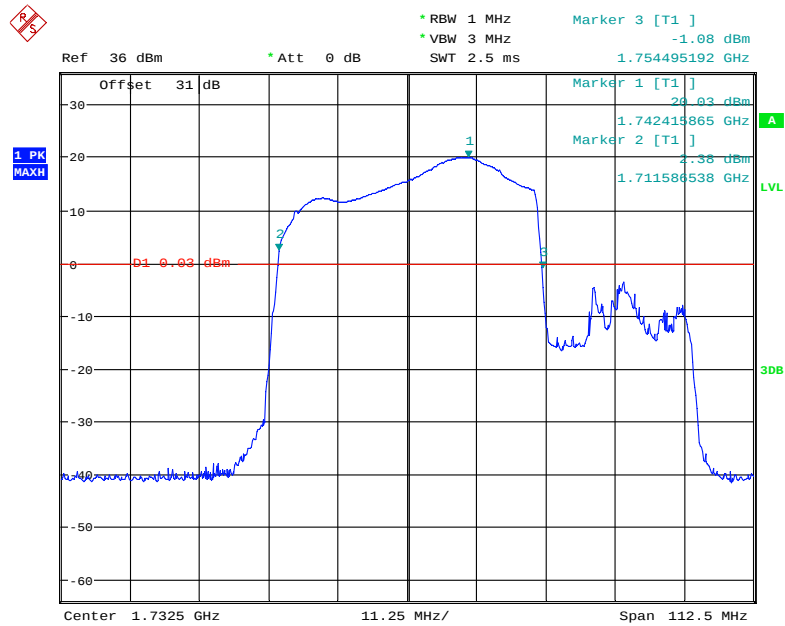
Date: 29.JAN.2019 17:28:59

PCS Band



Date: 12.MAR.2019 14:45:28

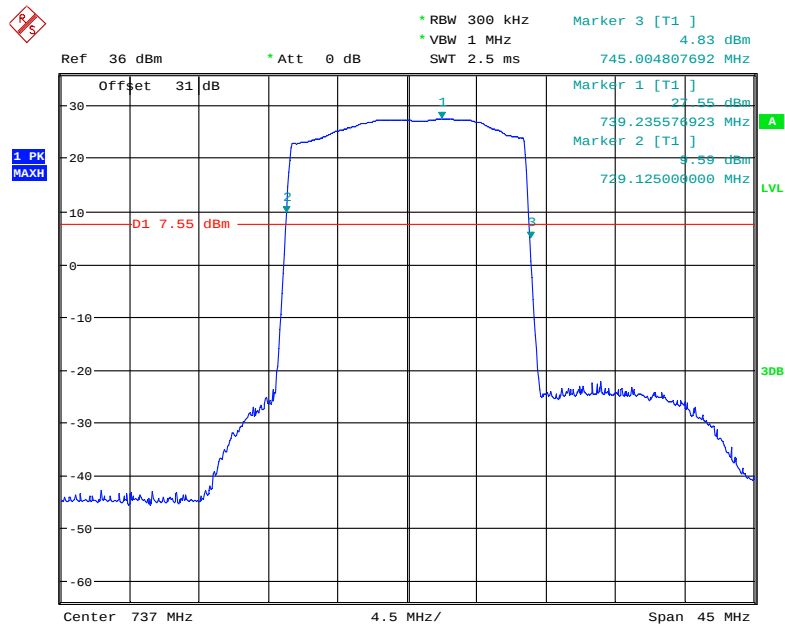
AWS Band



Date: 12.MAR.2019 14:55:26

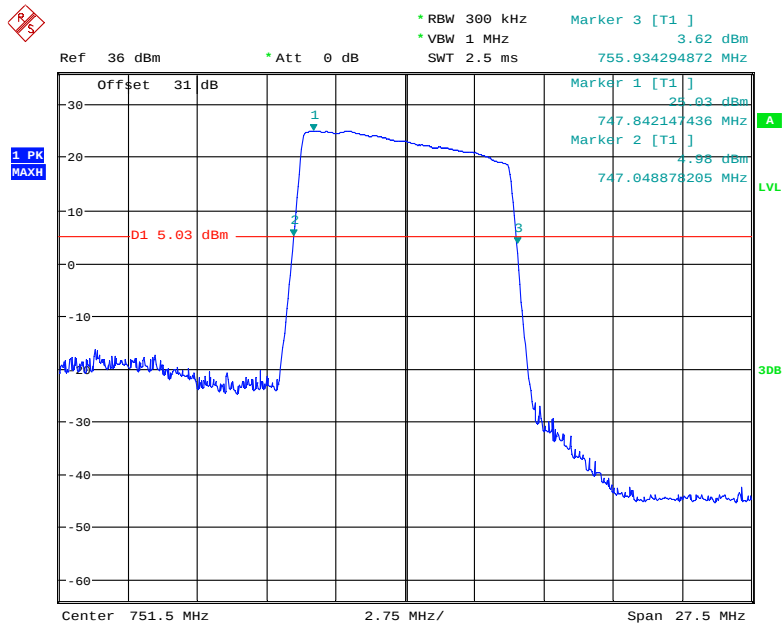
Downlink:

Lower 700MHz (A+B+C Block)



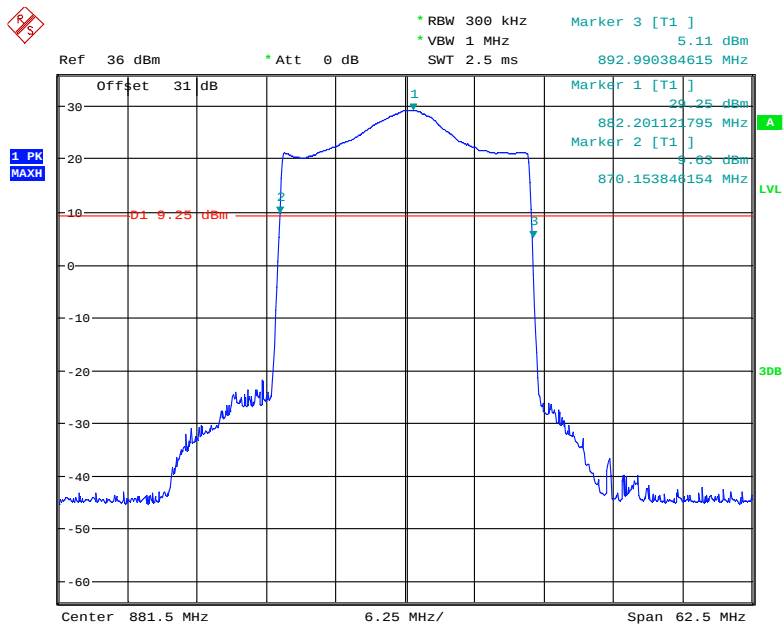
Date: 29.JAN.2019 16:57:47

Upper 700MHz (C Block) Band



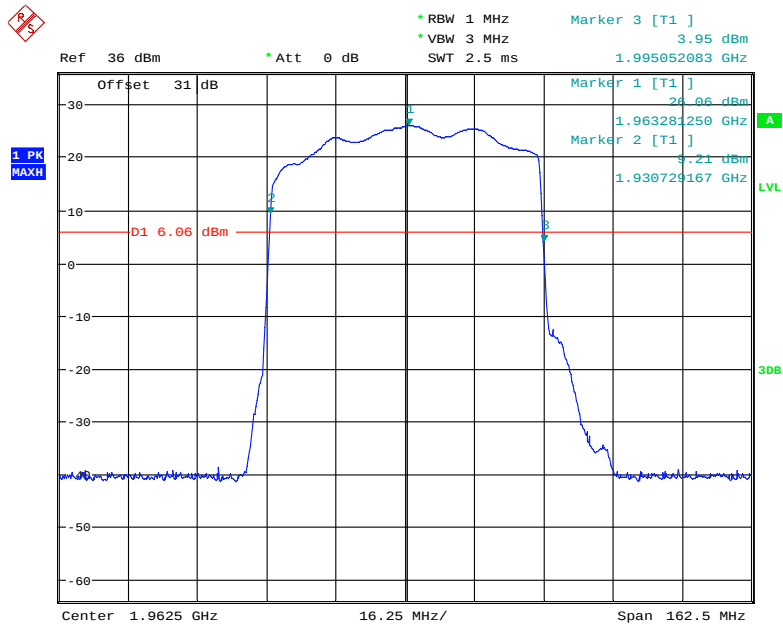
Date: 29.JAN.2019 17:04:23

Cellular Band



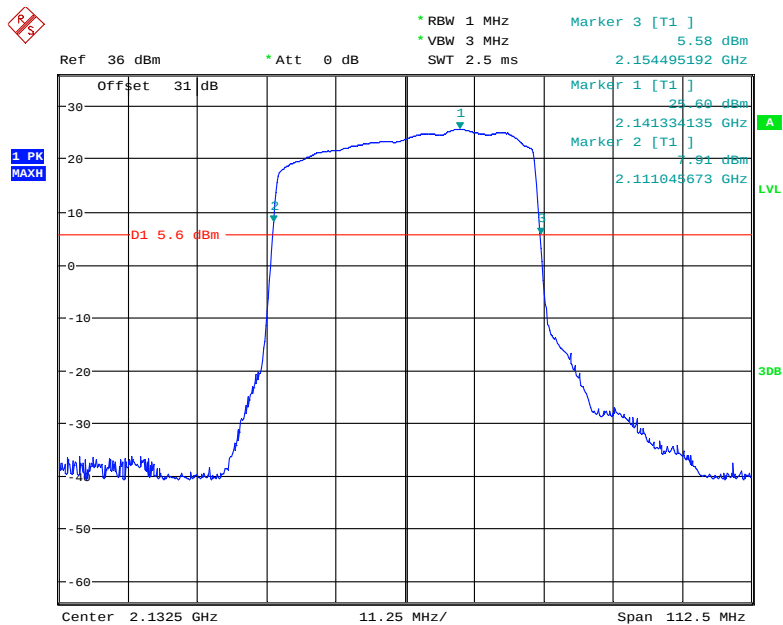
Date: 29.JAN.2019 17:11:34

PCS Band



Date: 12.MAR.2019 14:32:07

AWS Band



Date: 12.MAR.2019 14:37:55

***** END OF REPORT *****