



Report No.: YCA2010-0733



TEST REPORT

Product Name	USB Stick
FCC ID	Q78-K3570-Z
Model	K3570-Z
Applicant	ZTE CORPORATION

TA Technology (Shanghai) Co., Ltd.



GENERAL SUMMARY

Product Name	USB Stick	Model	K3570-Z
Report No.	YCA2010-0733	FCC ID	Q78-K3570-Z
Client	ZTE CORPORATION		
Manufacturer	ZTE CORPORATION		
Reference Standard(s)	<p>FCC Part 2 Frequency allocations and radio treaty matters; general rules and regulation. (December 17, 2009)</p> <p>FCC Part 22 Public Mobile Services. (December 17, 2009)</p> <p>FCC Part 24 Personal Communications Services. (December 17, 2009)</p> <p>ANSI/TIA-603-C Land mobile FM or PM Communications Equipment Measurements and Performance Standards.(2004)</p>		
Conclusion	<p>The detail test results see Chapter 2.2 in this report.</p> <p style="text-align: right;">(Stamp) Date of issue: May 12th, 2010</p> 		
Comment	The test result only responds to the measured sample.		

Approved by 杨伟中
Yang Weizhong

Revised by 宋明
Song Ming

Performed by 刘伟
Liu Wei

TABLE OF CONTENT

1. General Information	4
1.1. Notes of the test report.....	4
1.2. Testing laboratory	4
1.3. Applicant Information	5
1.4. Manufacturer Information	5
1.5. Information of EUT	6
1.6. Test Date	6
2. Test Information.....	7
2.1. Summary of test results	7
2.2. Radiates Spurious Emission	8
3. Main Test Instruments	34
ANNEX A: EUT Appearance and Test Setup.....	35
A.1 EUT Appearance	35
A.2 Test Setup.....	36

1. General Information

1.1. Notes of the test report

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report standalone dose not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

1.2. Testing laboratory

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Yang Weizhong
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <http://www.ta-shanghai.com>
E-mail: yangweizhong@ta-shanghai.com

TA Technology (Shanghai) Co., Ltd.
Test Report

Registration Num:428261

Report No.: YCA2010-0733

Page 5 of 36

1.3. Applicant Information

Company: ZTE CORPORATION
Address: ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China
City: Shenzhen
Postal Code: 518057
Country: P.R.China
Contact: Zhang Min
Telephone: 021-68897541
Fax: 021-50801070

1.4. Manufacturer Information

Company: ZTE CORPORATION
Address: ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China
City: Shenzhen
Postal Code: 518057
Country: P.R.China
Telephone: 021-68897541
Fax: 021-50801070

1.5. Information of EUT

General information

Device type:	Portable device		
Name of EUT:	USB Stick		
Device operating configurations:			
Operating mode(s):	GSM 850: (tested) GSM 1900: (tested)		
Test modulation:	GMSK		
GPRS multislots class :	10		
EGPRS multislots class:	12		
Antenna type:	internal antenna		
Operating frequency range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM850	824.2 ~ 848.8	869.2 ~ 893.8
	GSM1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8
Hardware version:	P680A8-1.0.1		
Software version:	BD_P680A8V1.0.0B03		

Equipment Under Test (EUT) is a USB Stick with internal antenna. The EUT supports GSM 850 and GSM1900 in this report.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. Test Date

The test date is performed on May 12, 2010.

TA Technology (Shanghai) Co., Ltd.
Test Report

Registration Num:428261

Report No.: YCA2010-0733

Page 7 of 36

2. Test Information

2.1. Summary of test results

Number	Test Case	Clause in FCC rules	Verdict
1	Radiates Spurious Emission	2.1053 / 22.917 (a) / 24.238(a)	PASS

2.2. Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
24°C	50%	101.5kPa

Method of Measurement

The measurements procedures in TIA -603C are used.

The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The measurement will be conducted at channels No.128, No.190 and No.251 of GSM 850 and channels No.512, No.661 and No.810 of GSM 1900.

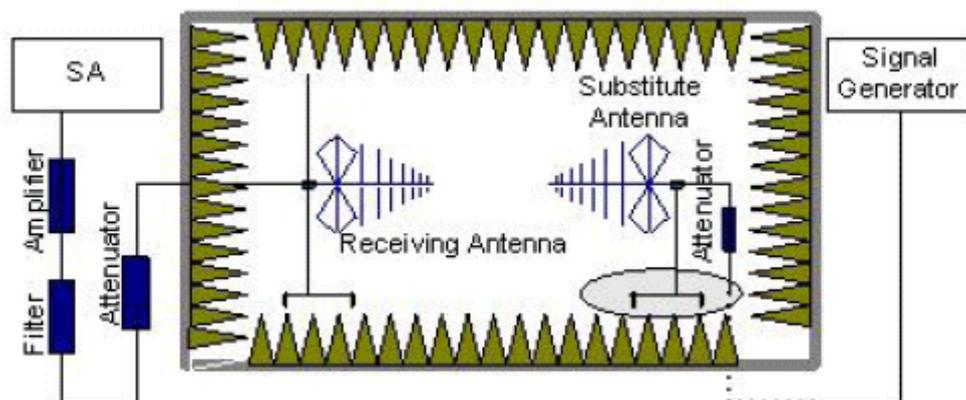
The data of cable loss and antenna Gain has been calibrated in full testing frequency range before the testing.

The procedure of Radiates Spurious Emission is as follows:

1. Pre-calibration

In an fully anechoic chamber, A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted at a 3 meter test distance from the receive antenna. An RF signal source is connected to the dipole with a Tx cable that has been constructed to not interfere with radiation pattern of the antenna. A known (measured) power (P_{in}) is applied to input of dipole, and the power received (P_r) is recorded from the spectrum analyzer.

“Reference Path loss” is established as $P_{in} - P_r - Tx \text{ cable loss} + \text{Substitution antenna gain}$.



2. EUT Test

EUT was placed on a 1.5 meter high non – conductive table at a 3 meter test distance from the receive antenna. The height of receiving antenna is 1.5 m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the table and adjusting the receiving antenna polarization. The measurement is carried out using a spectrum analyzer .The radiated emission measurements of all non-harmonic and harmonic of the transmit frequency from 30MHz to the 10th harmonic were measured with peak detector and 1MHz bandwidth. A notch filter is

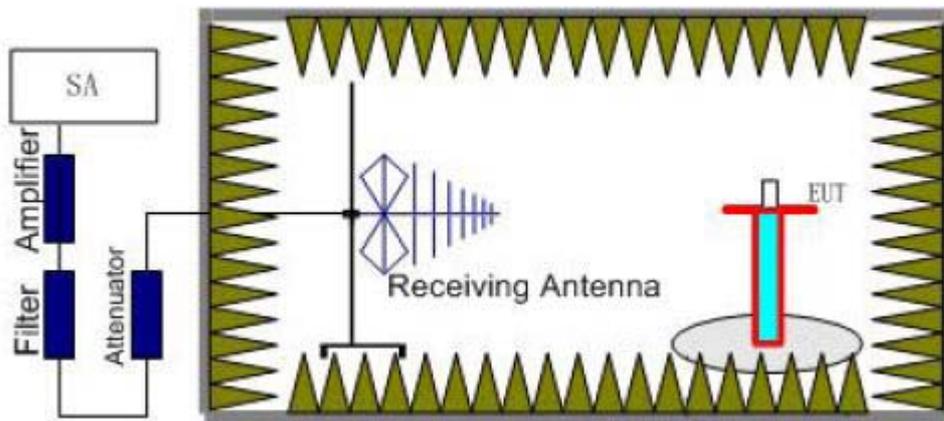
necessary in the band near to the carrier frequency. A high pass filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency. If the harmonic could not be detected above the noise floor, the ambient level was recorded.

The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.

Calculation procedure:

$$RSE = Rx \text{ (dBm)} + \text{Reference Path loss}$$

Rx: reading of the receiver



Limits

Rule Part 22.917(a) specifies that “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.”

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log₁₀ (P) dB.”

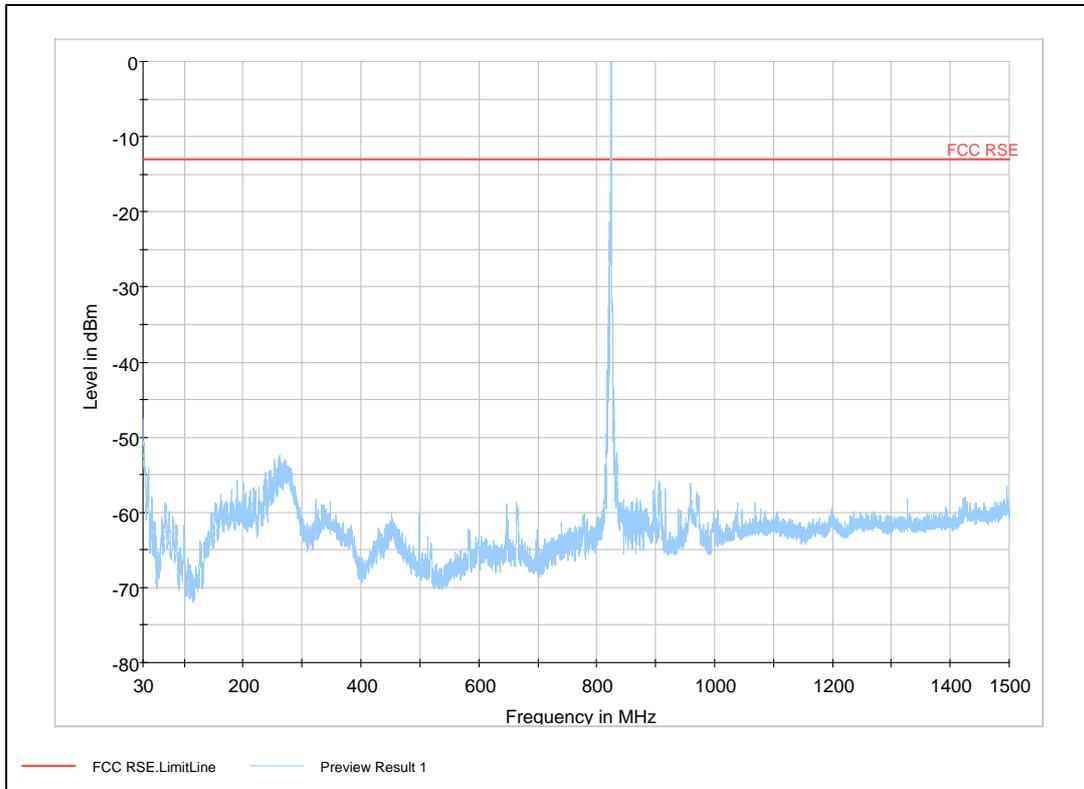
Limit	-13 dBm
-------	---------

Measurement Uncertainty

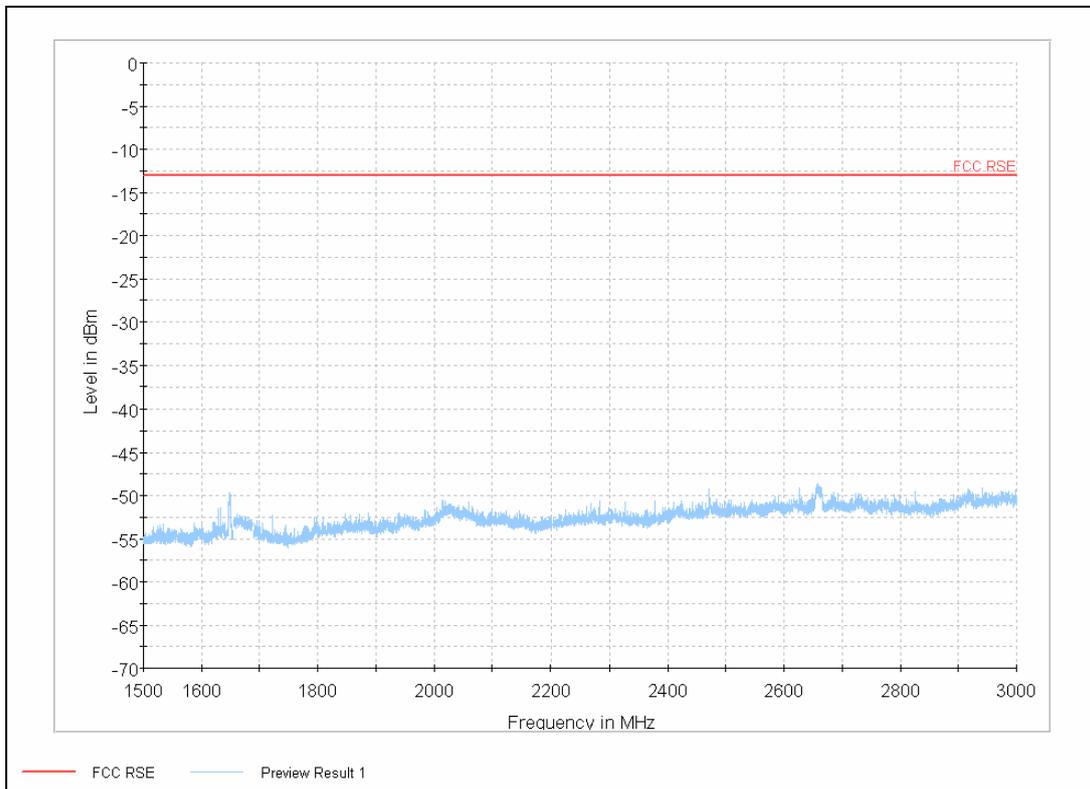
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$. $U=3.16$ dB.

Test Result

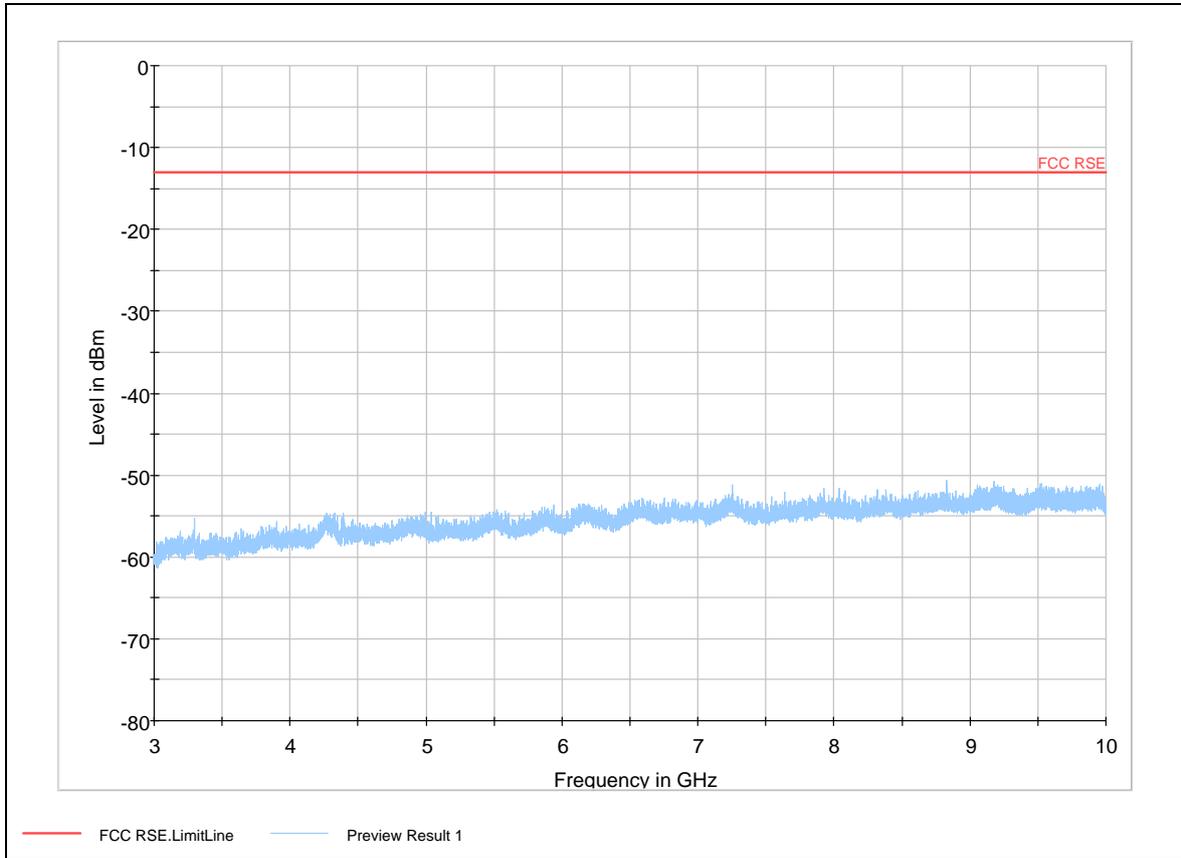
GSM 850-GPRS



Note: The signal beyond the limit is carrier.
Channel 128 GPRS 30MHz~1.5GHz

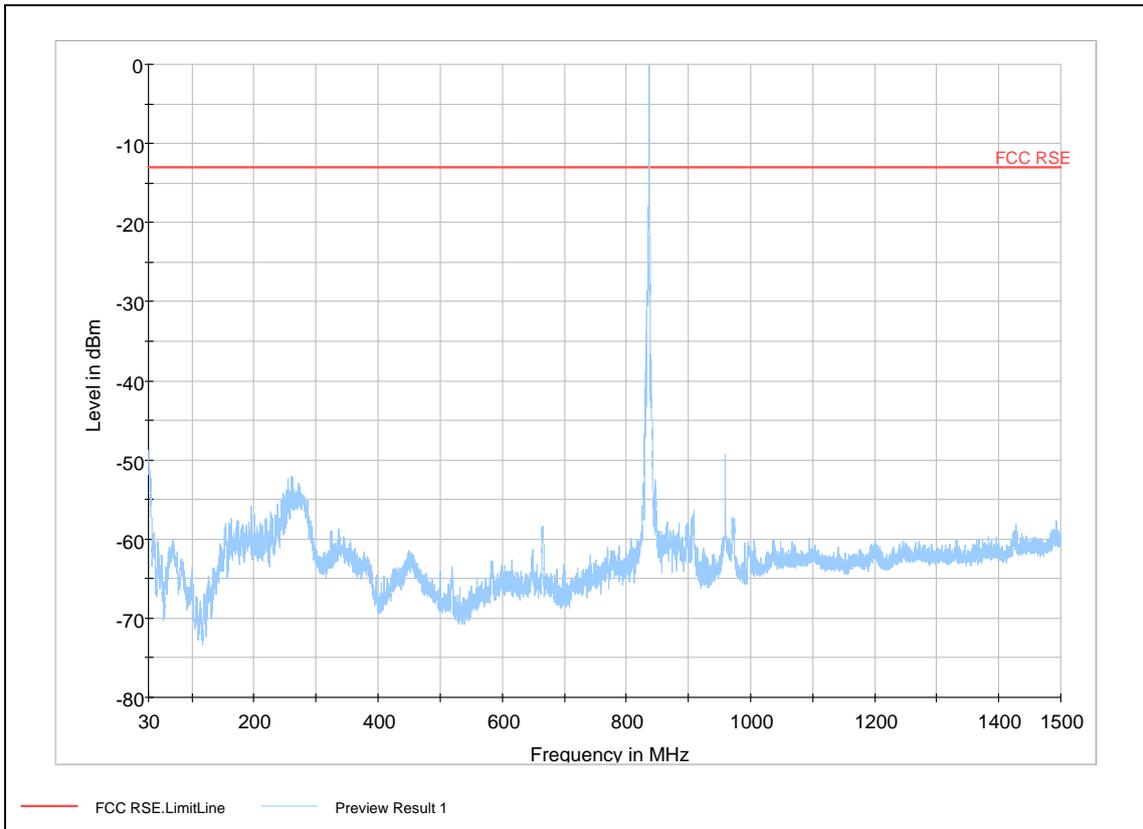


Channel 128 GPRS 1.5GHz ~3GHz



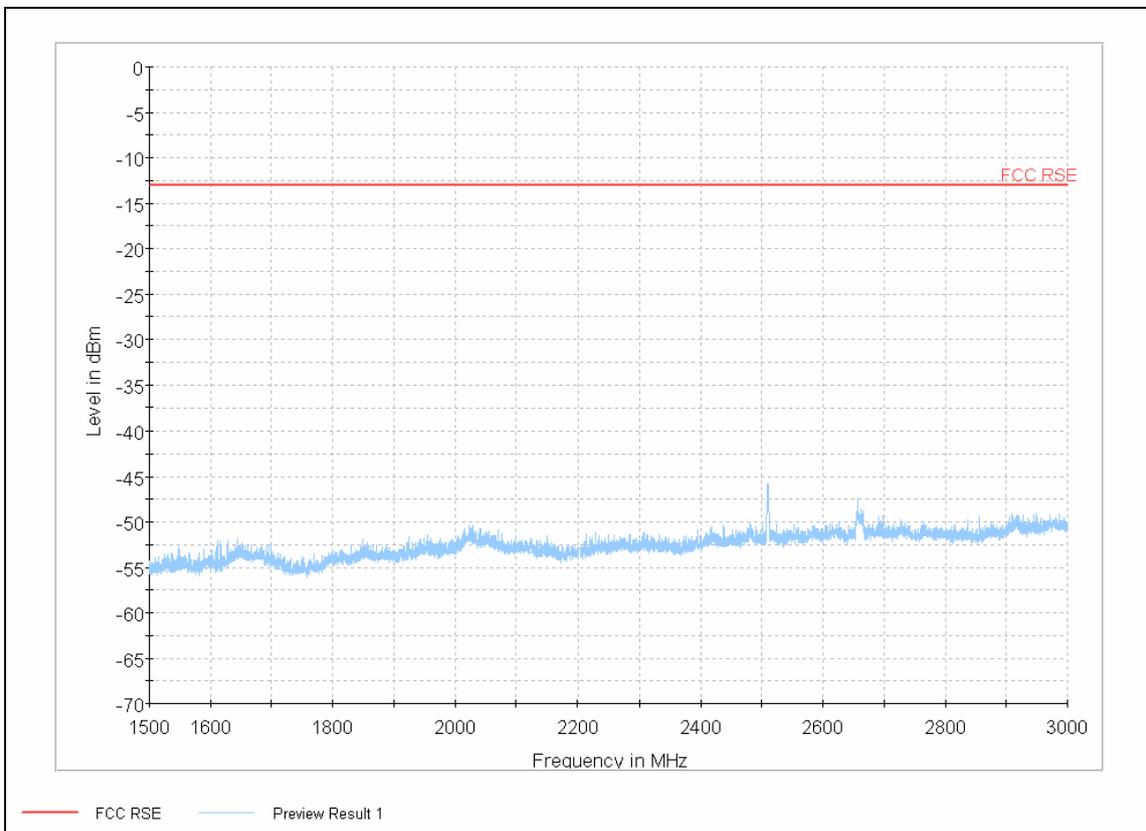
Channel 128 GPRS 3GHz ~10GHz

Harmonic	TX ch.128 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1648.3	-49.66	-13
3	2472.6	Nf	-13
4	3296.8	Nf	-13
5	4121	Nf	-13
6	4945.9	Nf	-13
7	5769.4	Nf	-13
8	6593.6	Nf	-13
9	7417.8	Nf	-13
10	8242	Nf	-13
Nf: noise floor			

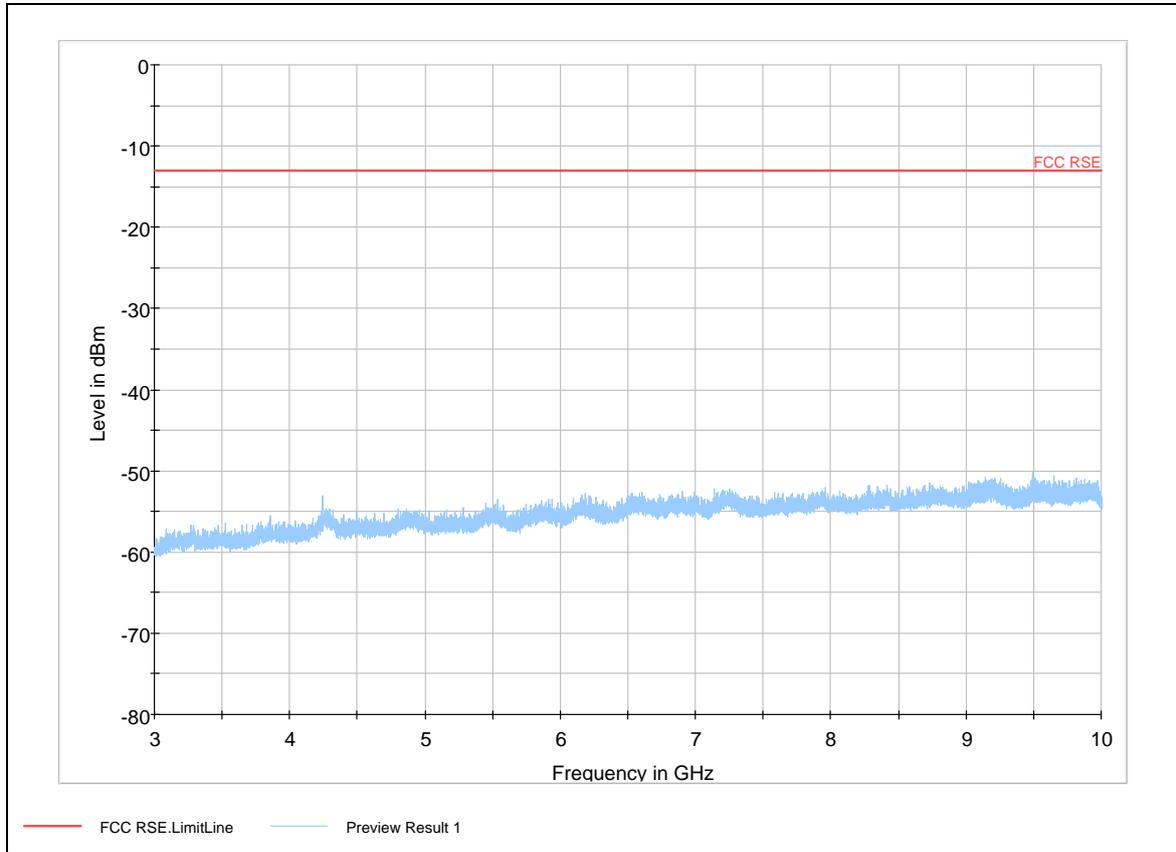


Note: The signal beyond the limit is carrier.

Channel 190 GPRS 30MHz~1.5GHz

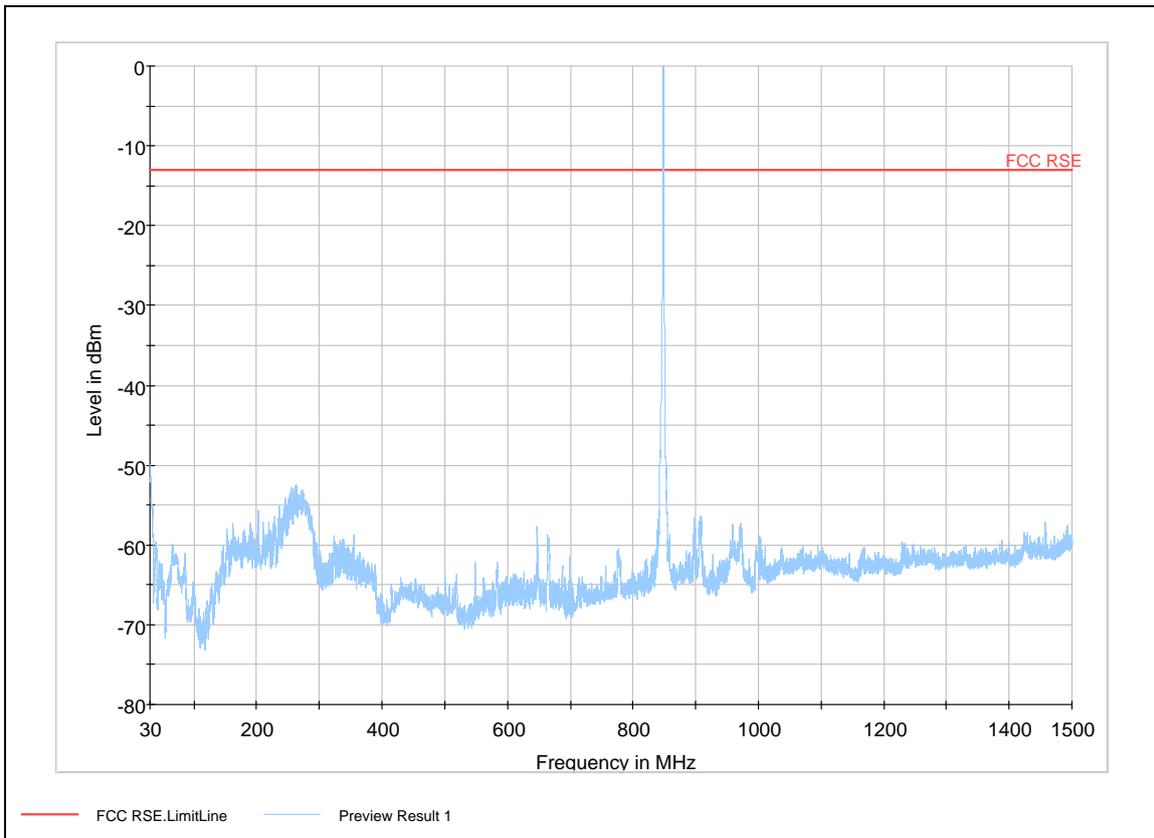


Channel 190 GPRS 1.5GHz ~3GHz

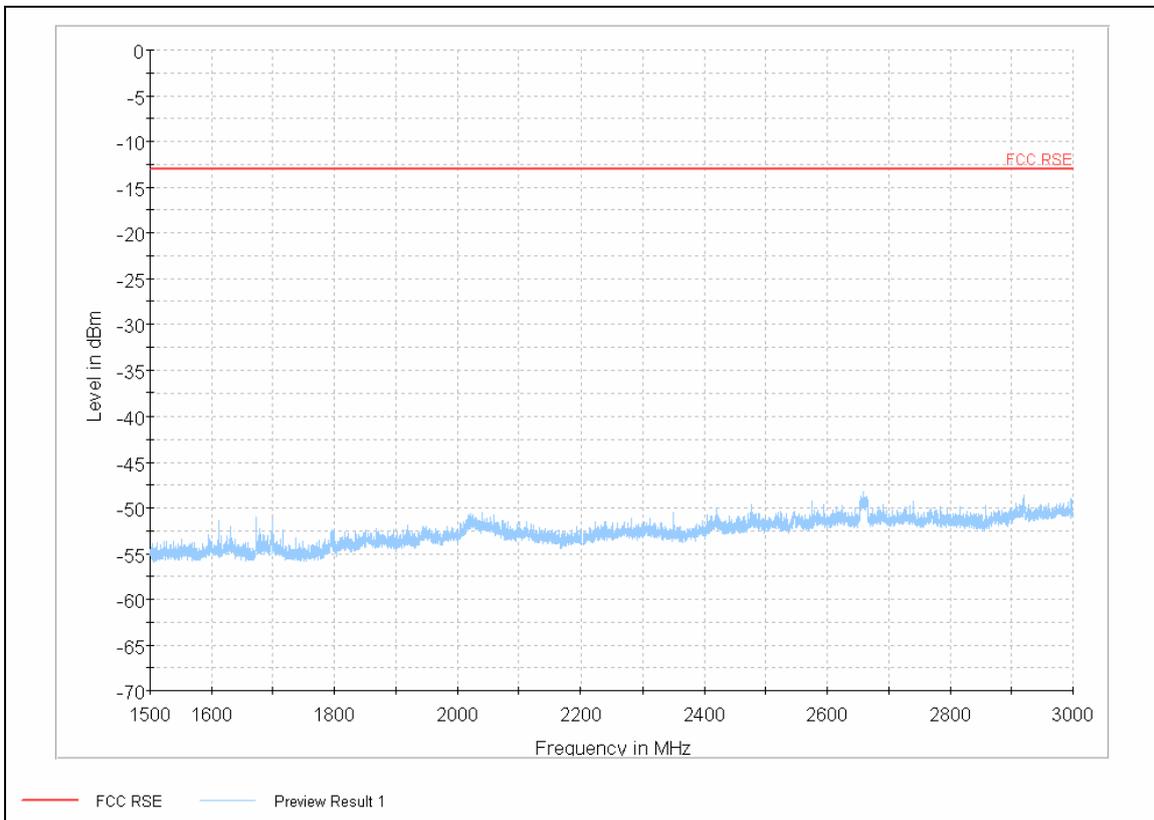


Channel 190 GPRS 3GHz ~10GHz

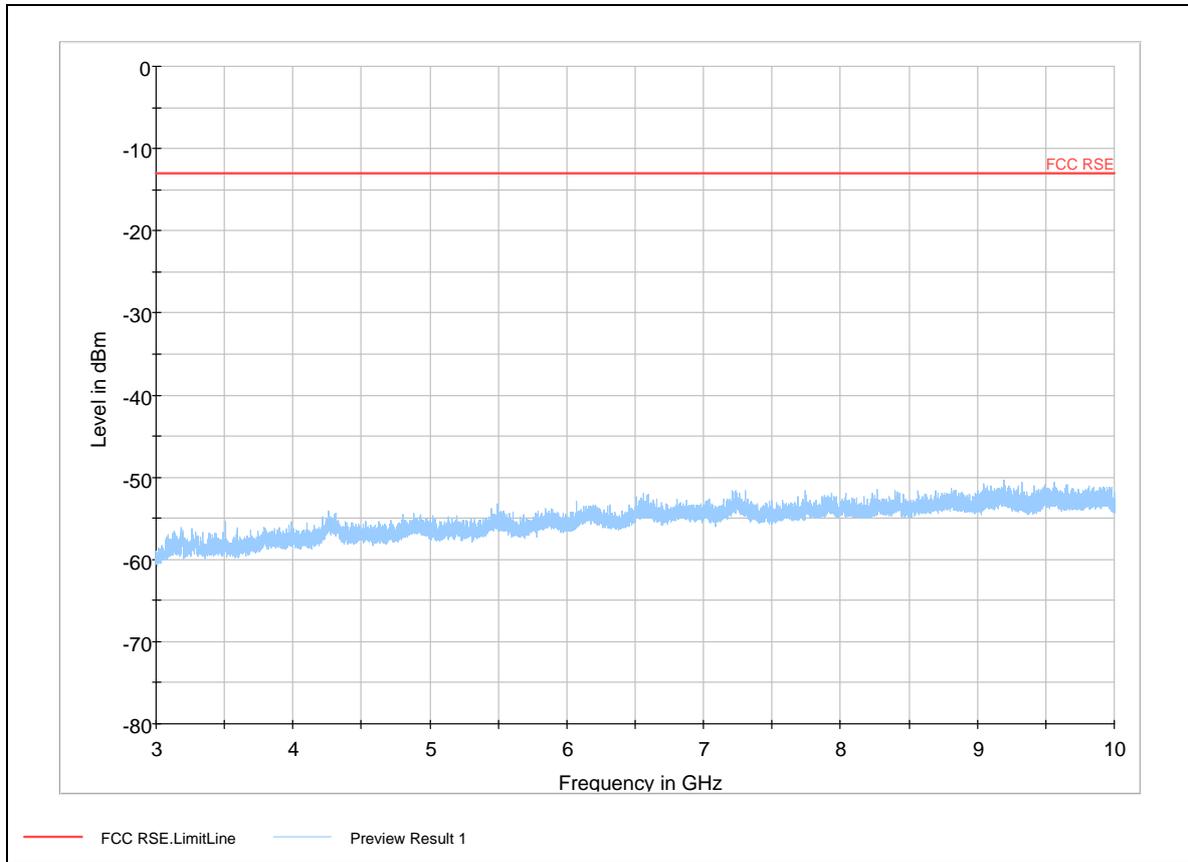
Harmonic	TX ch.190 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1673.2	Nf	-13
3	2510.1	-45.85	-13
4	3346.4	Nf	-13
5	4183	Nf	-13
6	5019.6	Nf	-13
7	5856.2	Nf	-13
8	6692.8	Nf	-13
9	7529.4	Nf	-13
10	8366	Nf	-13
Nf: noise floor			



Note: The signal beyond the limit is carrier.
Channel 251 GPRS 30MHz~1.5GHz



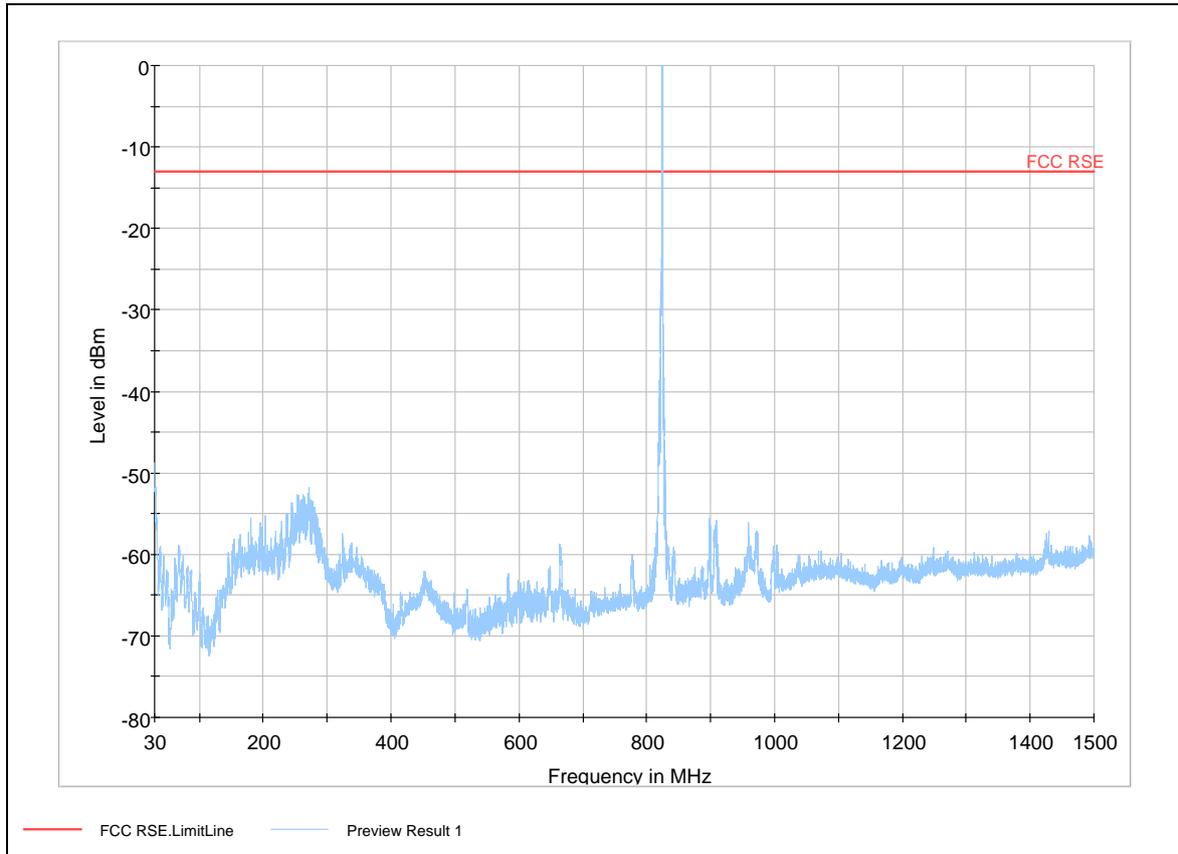
Channel 251 GPRS 1.5GHz ~3GHz



Channel 251 GPRS 3GHz ~10GHz

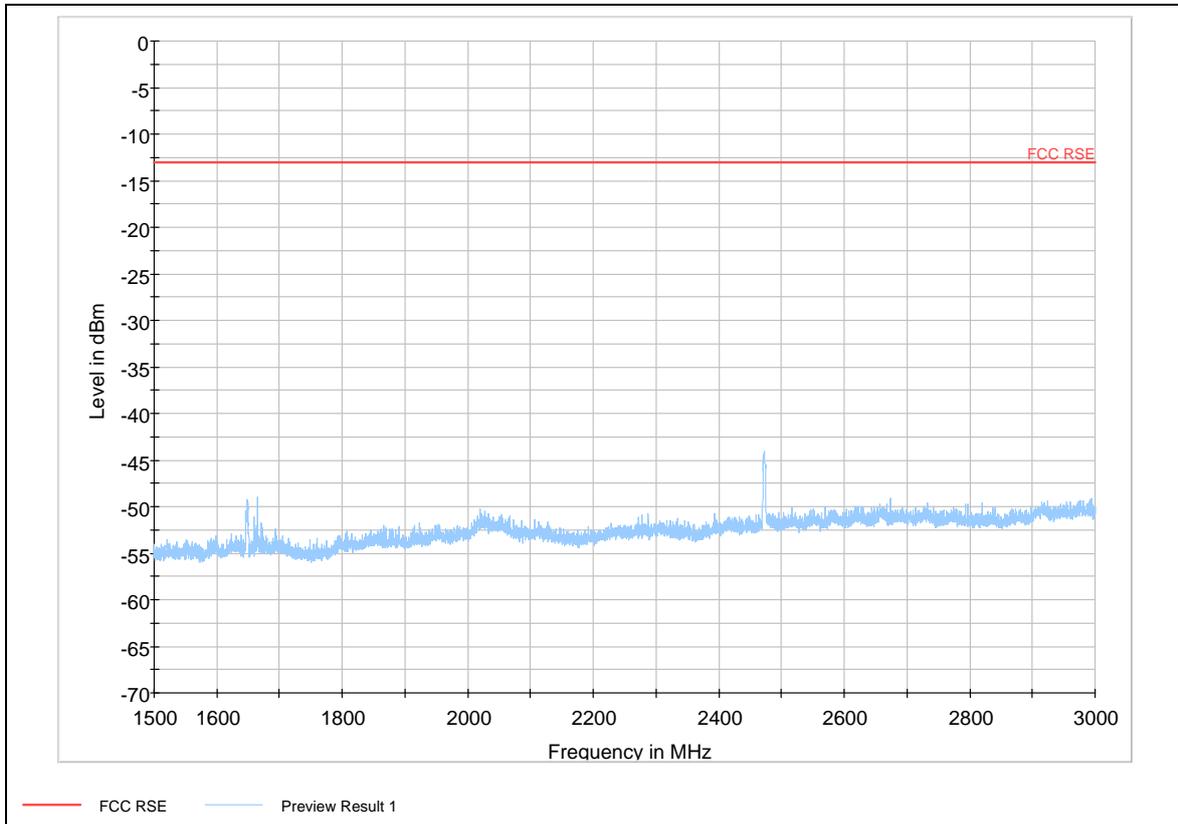
Harmonic	TX ch.251 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1698.8	-51.19	-13
3	2546.4	Nf	-13
4	3395.2	Nf	-13
5	4244	Nf	-13
6	5092.8	Nf	-13
7	5941.6	Nf	-13
8	6790.4	Nf	-13
9	7639.2	Nf	-13
10	8488	Nf	-13
Nf: noise floor			

GSM 850-EGPRS

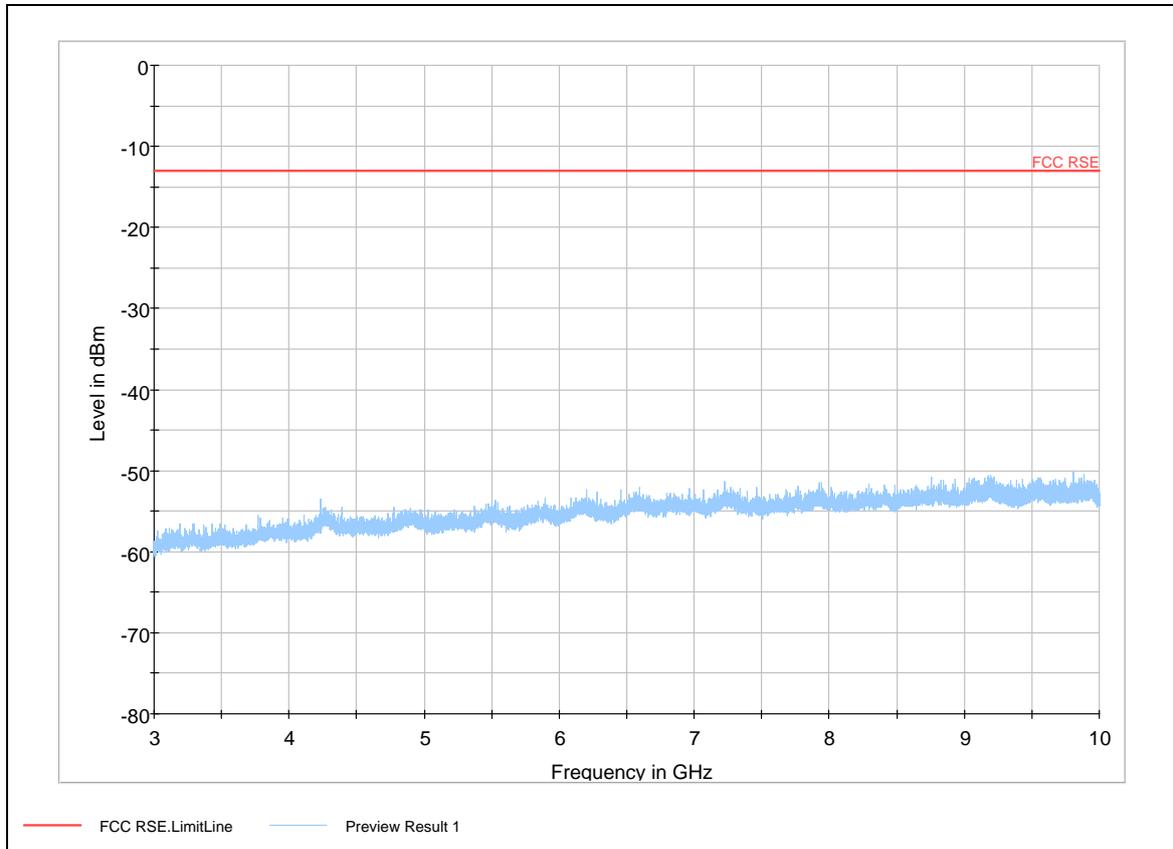


Note: The signal beyond the limit is carrier.

Channel 128 EGPRS 30MHz~1.5GHz

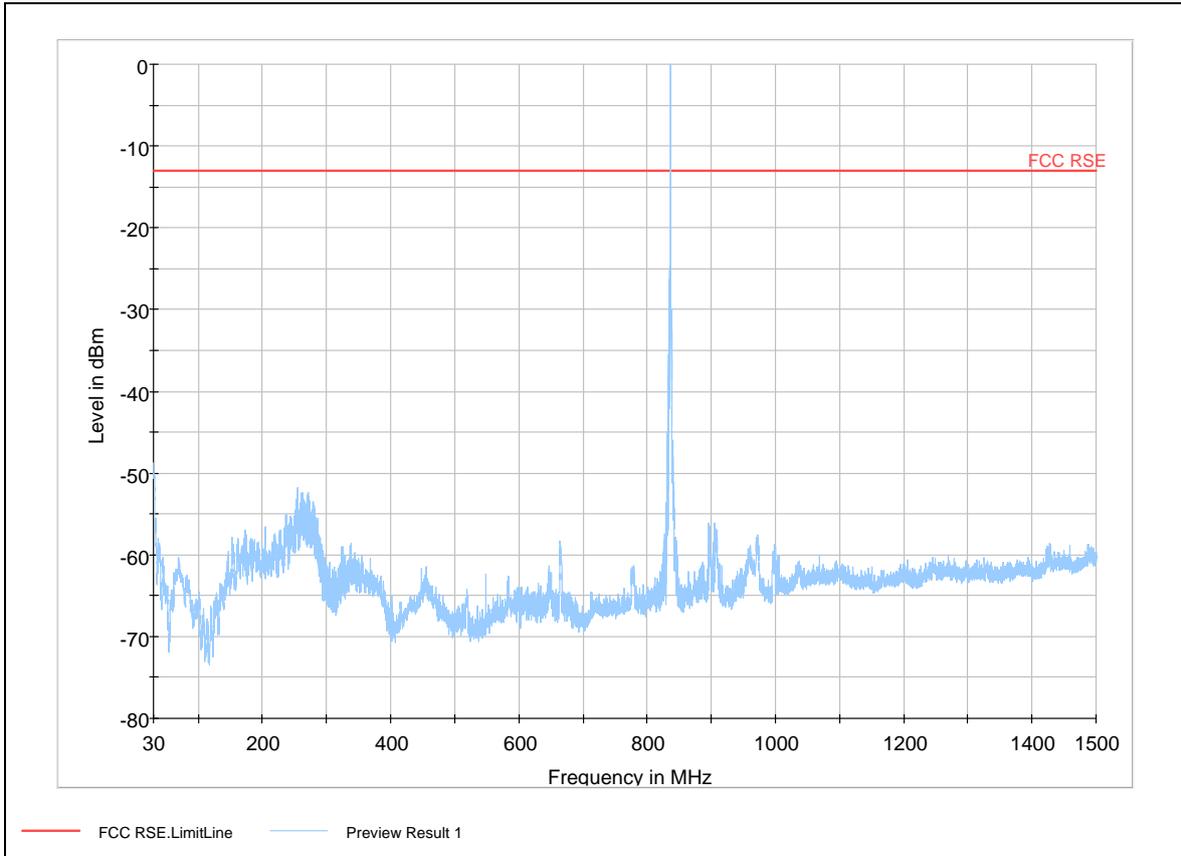


Channel 128 EGPRS 1.5GHz ~3GHz

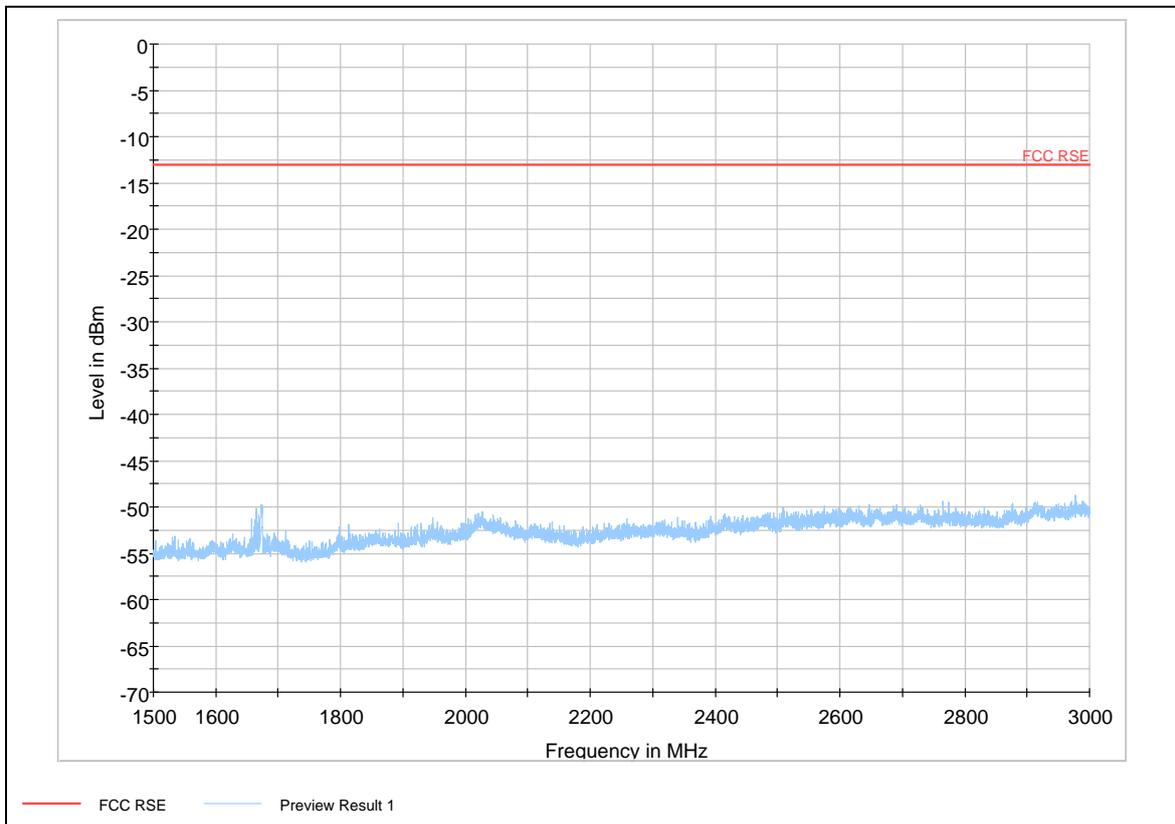


Channel 128 EGPRS 3GHz ~10GHz

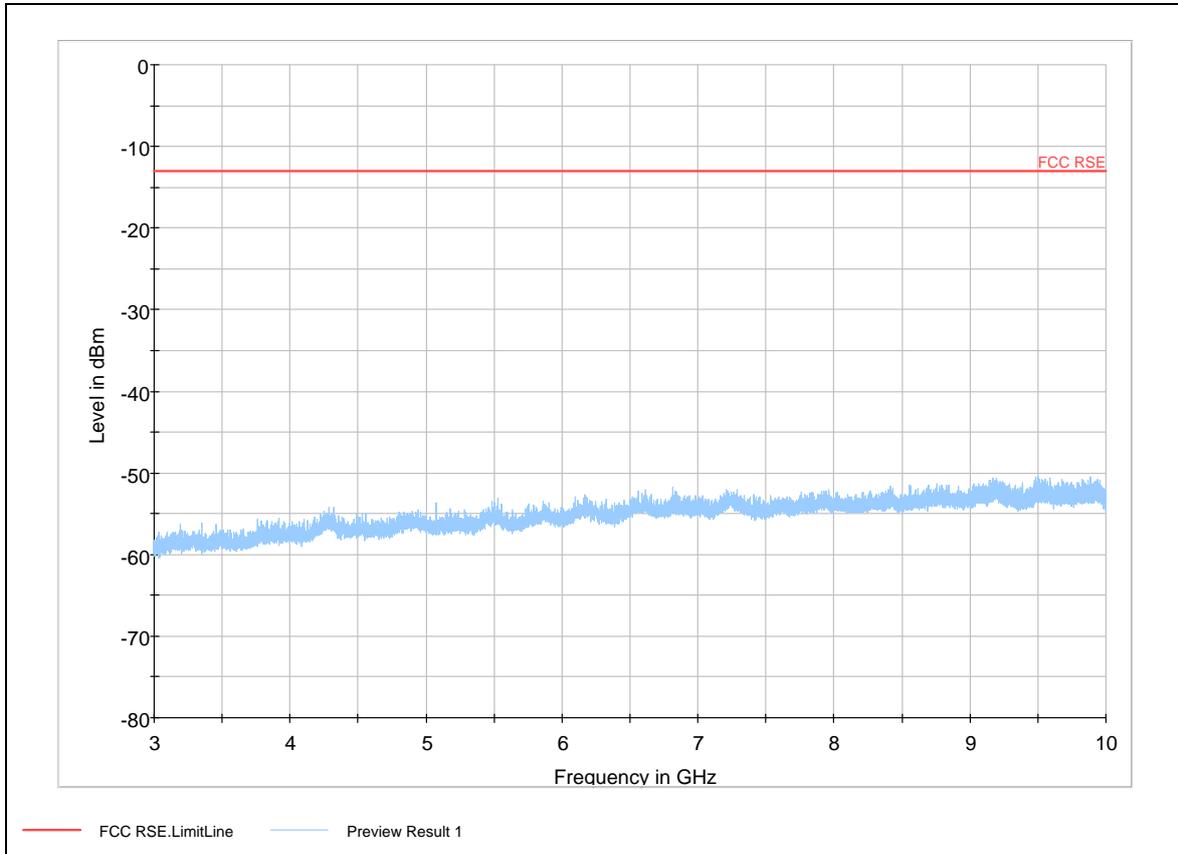
Harmonic	TX ch.128 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1648.4	Nf	-13
3	2472.6	-44.04	-13
4	3296.8	Nf	-13
5	4121	Nf	-13
6	4945.9	Nf	-13
7	5769.4	Nf	-13
8	6593.6	Nf	-13
9	7417.8	Nf	-13
10	8242	Nf	-13
Nf: noise floor			



Note: The signal beyond the limit is carrier.
Channel 190 EGPRS 30MHz~1.5GHz

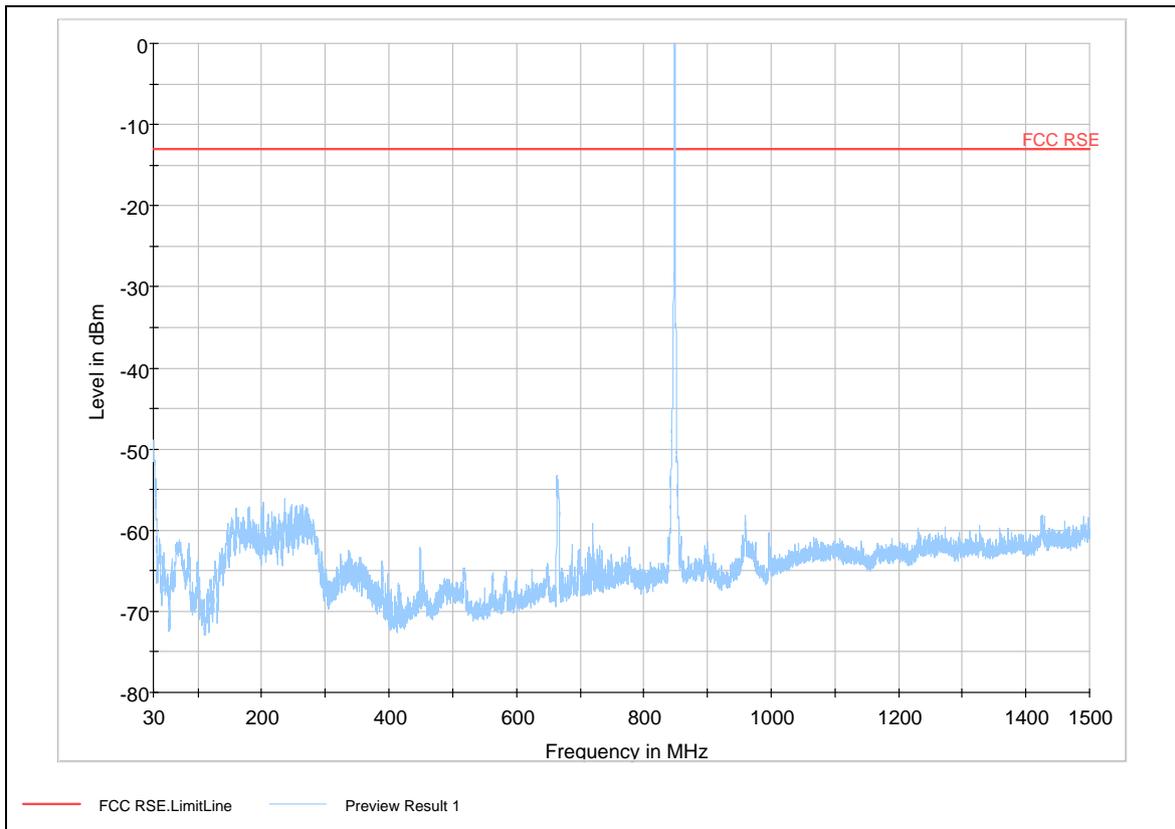


Channel 190 EGPRS 1.5GHz ~3GHz



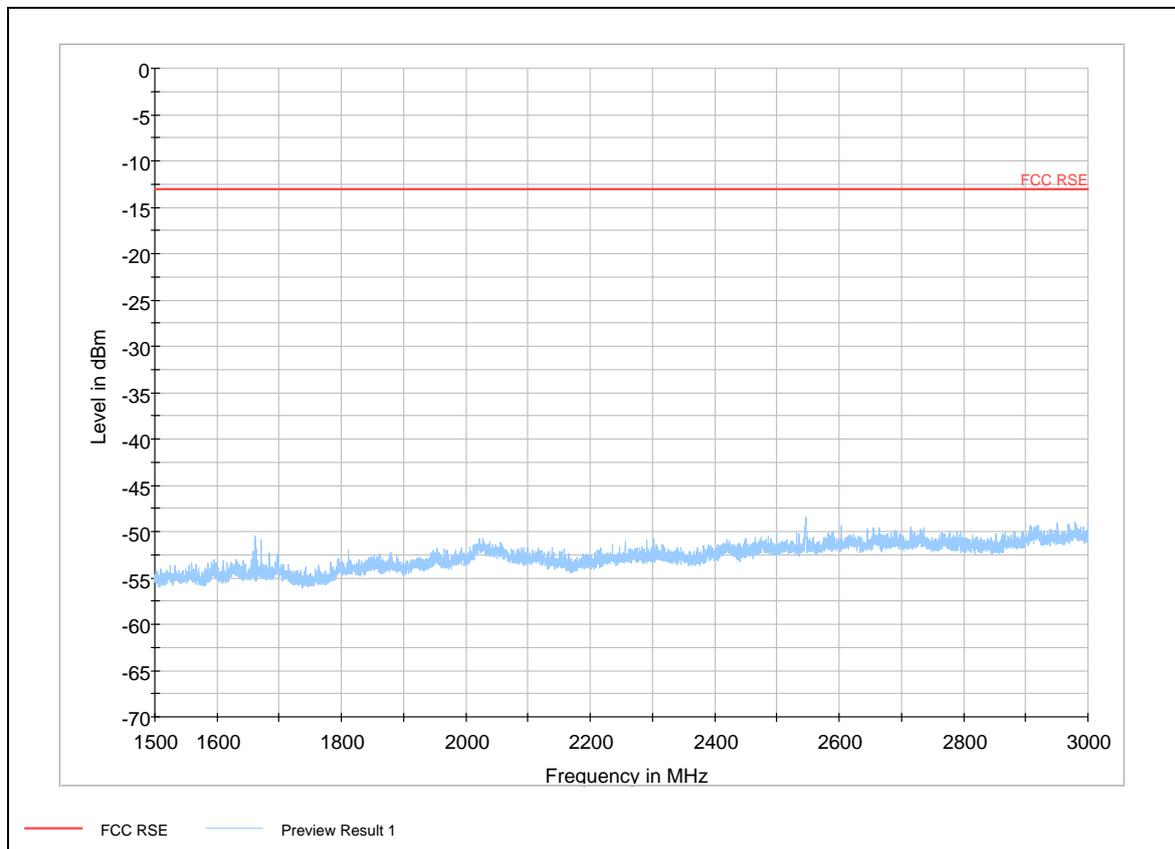
Channel 190 EGPRS 3GHz ~10GHz

Harmonic	TX ch.190 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1673.6	-49.71	-13
3	2509.8	Nf	-13
4	3346.4	Nf	-13
5	4183	Nf	-13
6	5019.6	Nf	-13
7	5856.2	Nf	-13
8	6692.8	Nf	-13
9	7529.4	Nf	-13
10	8366	Nf	-13
Nf: noise floor			

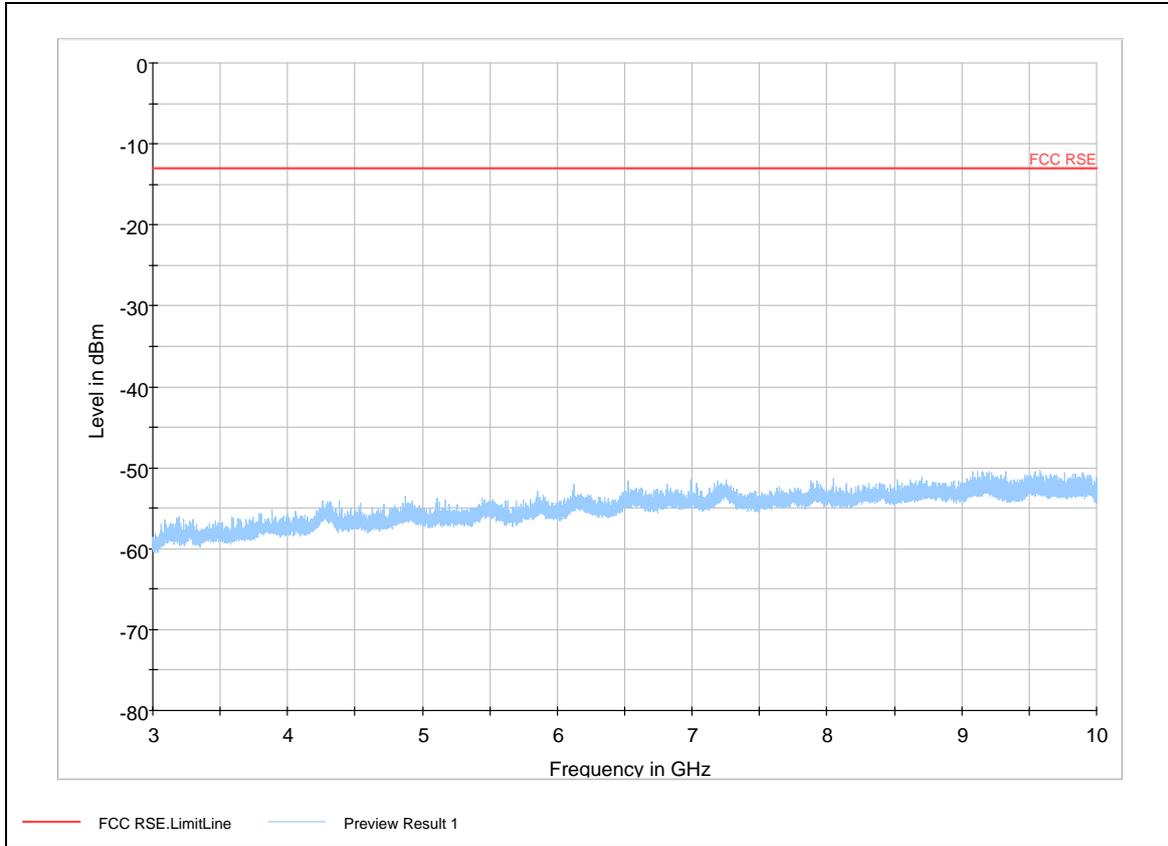


Note: The signal beyond the limit is carrier.

Channel 251 EGPRS 30MHz~1.5GHz



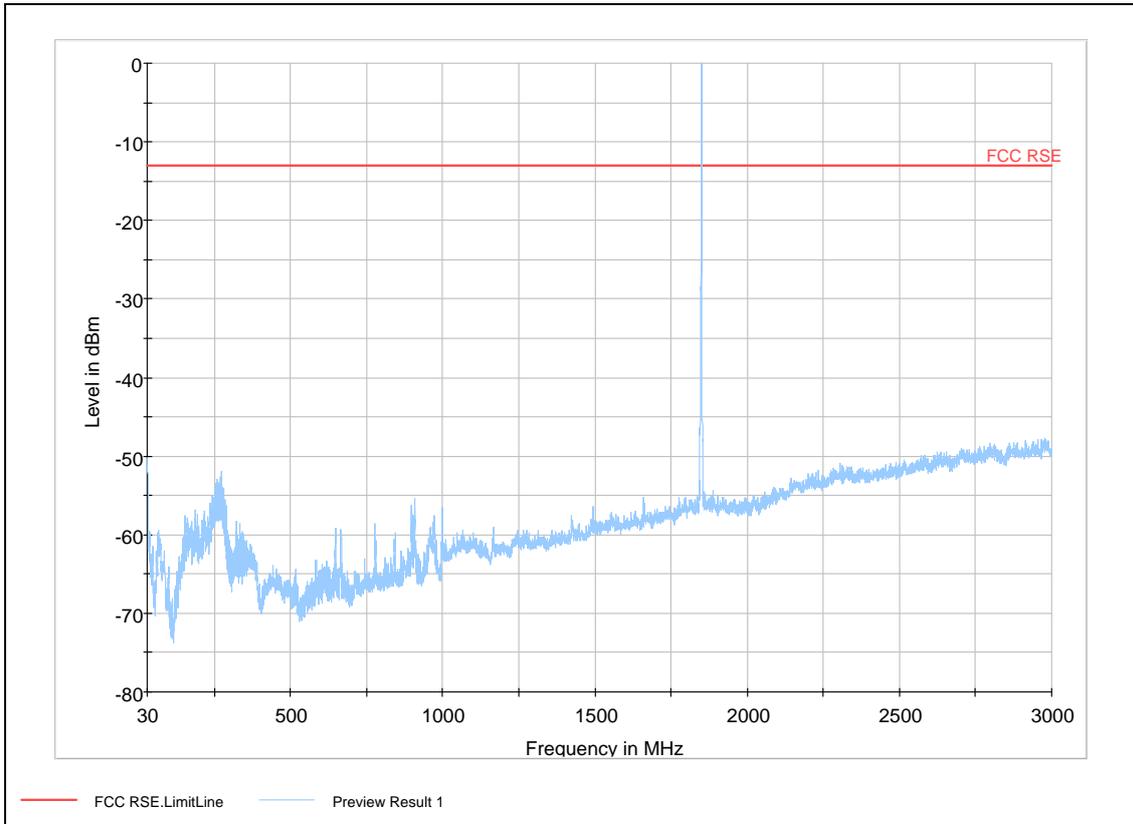
Channel 251 EGPRS 1.5GHz ~3GHz



Channel 251 EGPRS 3GHz ~10GHz

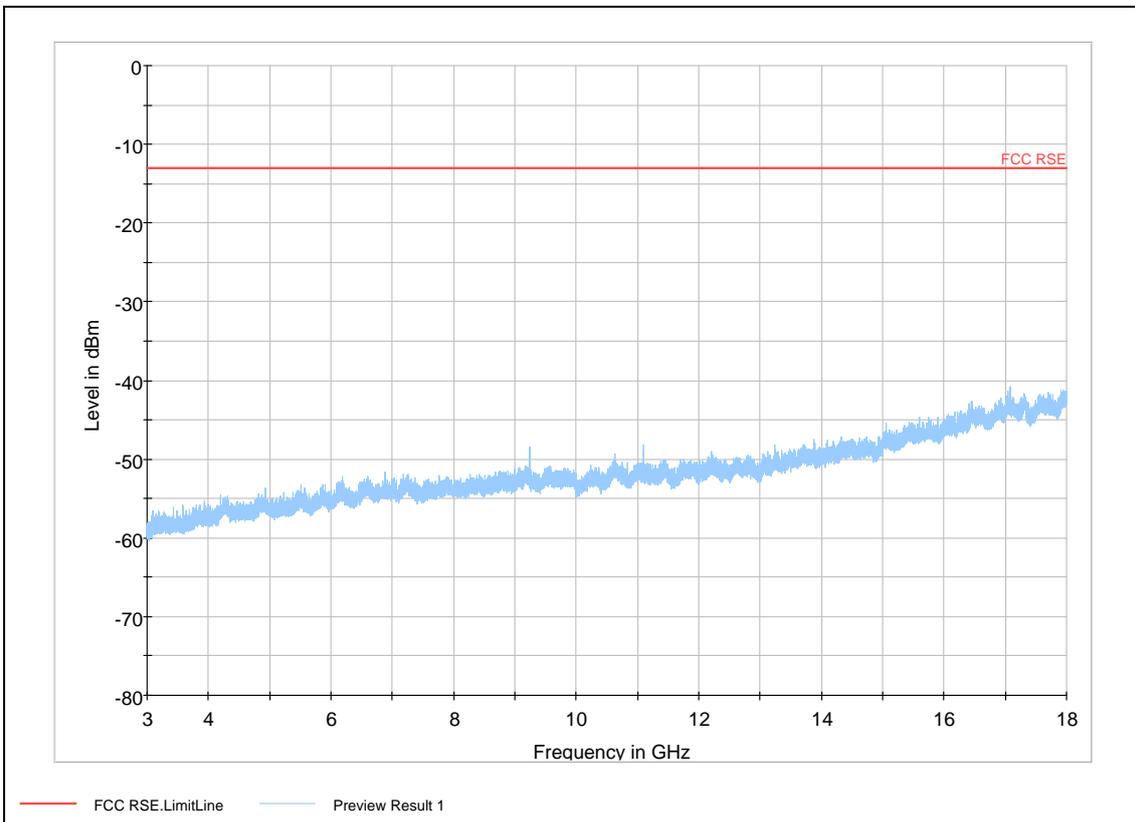
Harmonic	TX ch.251 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1697.6	Nf	-13
3	2546.1	-48.52	-13
4	3395.2	Nf	-13
5	4244	Nf	-13
6	5092.8	Nf	-13
7	5941.6	Nf	-13
8	6790.4	Nf	-13
9	7639.2	Nf	-13
10	8488	Nf	-13
Nf: noise floor			

GSM 1900-GPRS

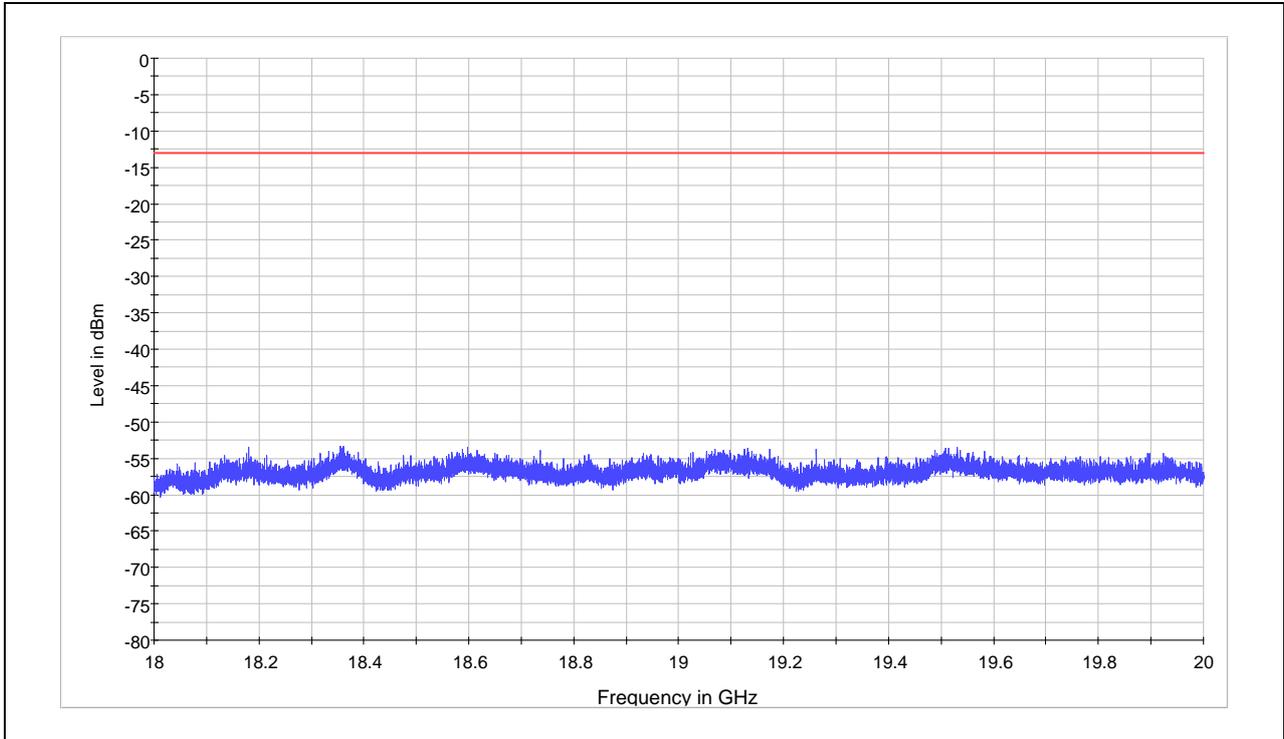


Note: The signal beyond the limit is carrier.

Channel 512 GPRS 30MHz ~3GHz

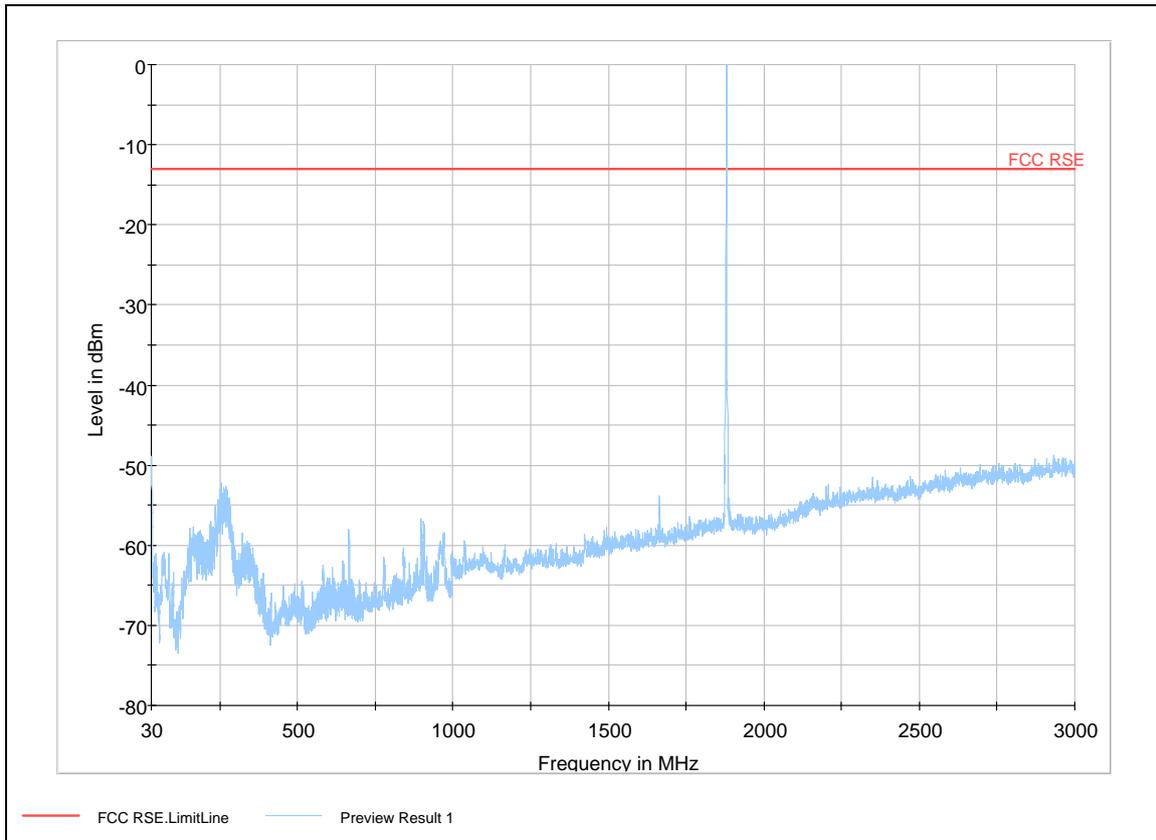


Channel 512 GPRS 3GHz ~18GHz

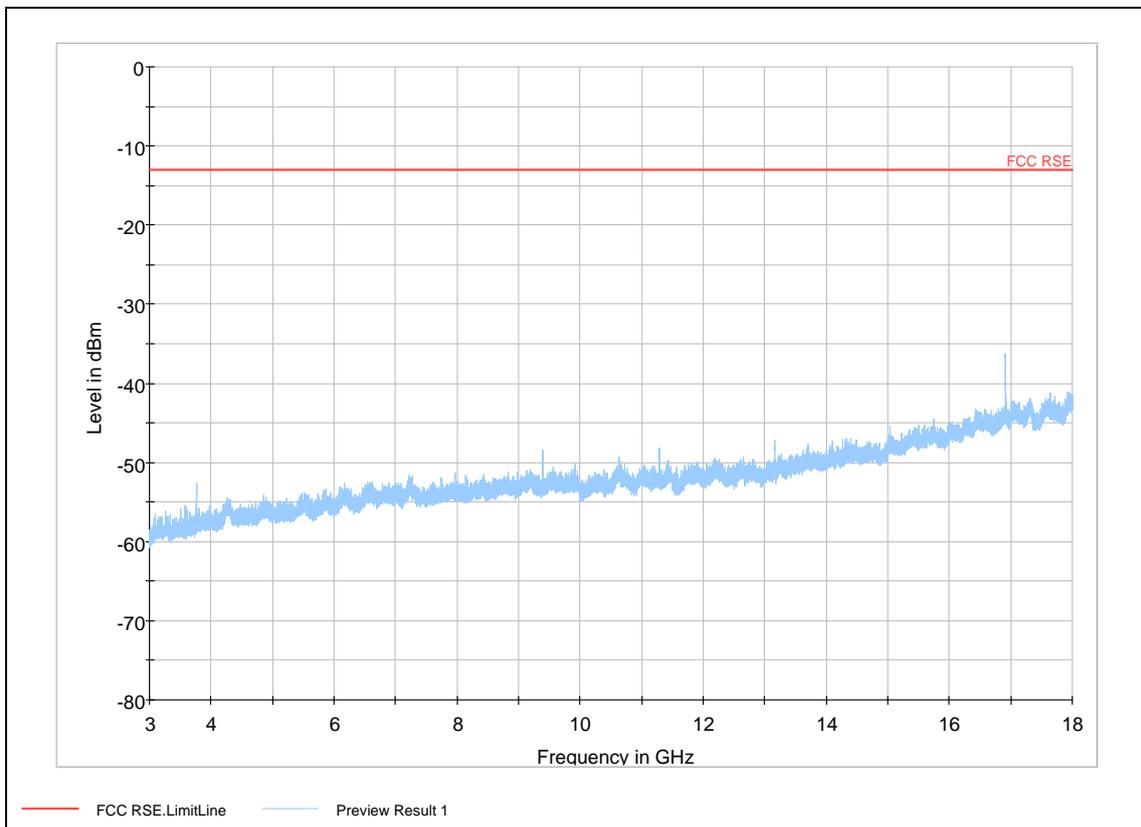


Channel 512 GPRS 18GHz ~20GHz

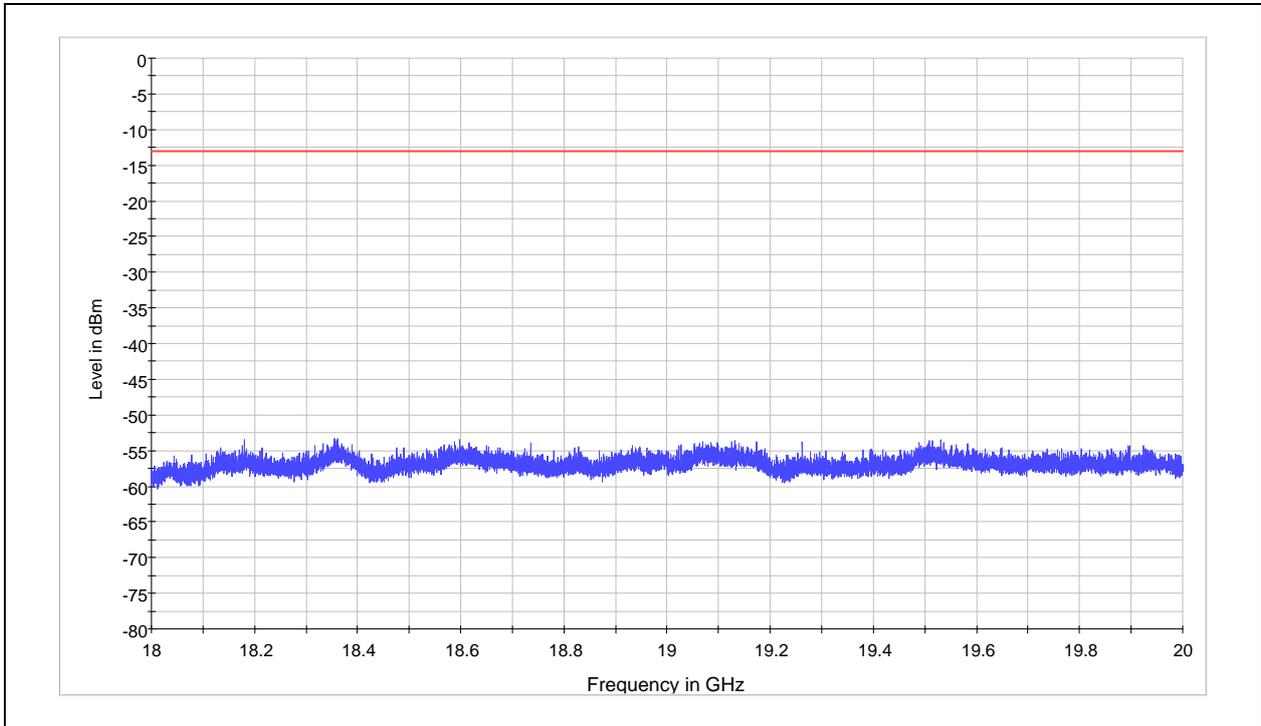
Harmonic	TX ch.512 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	3700.4	Nf	-13
3	5550.6	Nf	-13
4	7400.8	Nf	-13
5	9251.3	-48.49	-13
6	11101.2	Nf	-13
7	12951.4	Nf	-13
8	14801.6	Nf	-13
9	16651.8	Nf	-13
10	18502	Nf	-13
Nf: noise floor			



Note: The signal beyond the limit is carrier.
Channel 661 GPRS 30MHz ~3GHz

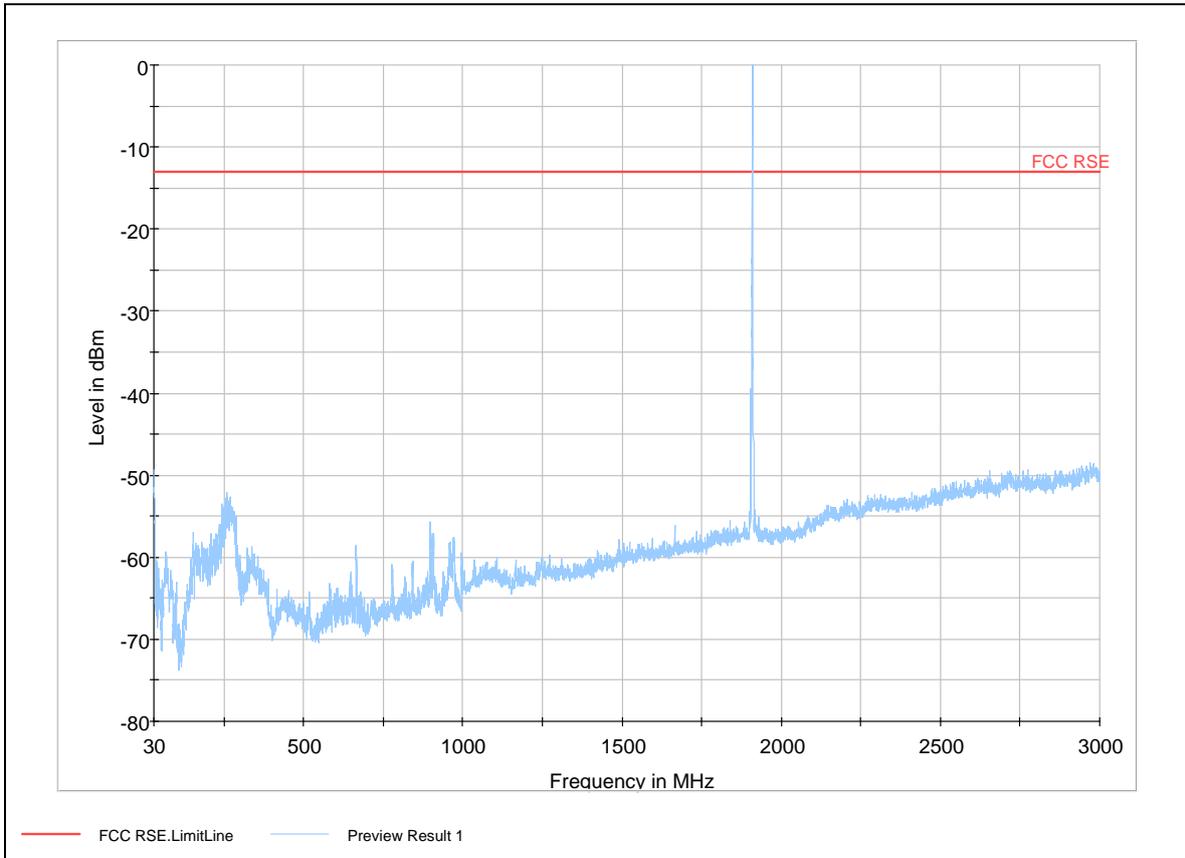


Channel 661 GPRS 3GHz ~18GHz



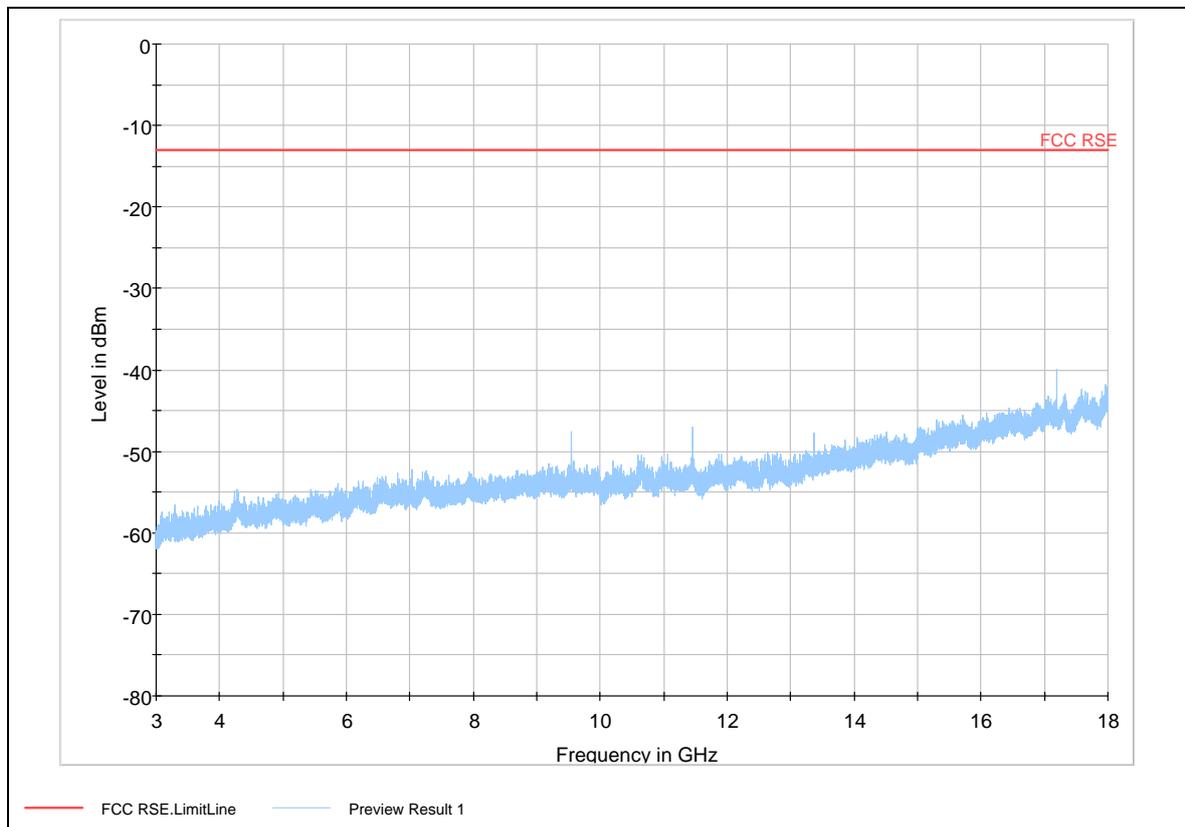
Channel 661 GPRS 18GHz ~20GHz

Harmonic	TX ch.661 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	3760	Nf	-13
3	5640.	Nf	-13
4	7520.	Nf	-13
5	9400.	Nf	-13
6	11280	Nf	-13
7	13160	Nf	-13
8	15040	Nf	-13
9	16919.3	-36.32	-13
10	18800	Nf	-13
Nf: noise floor			

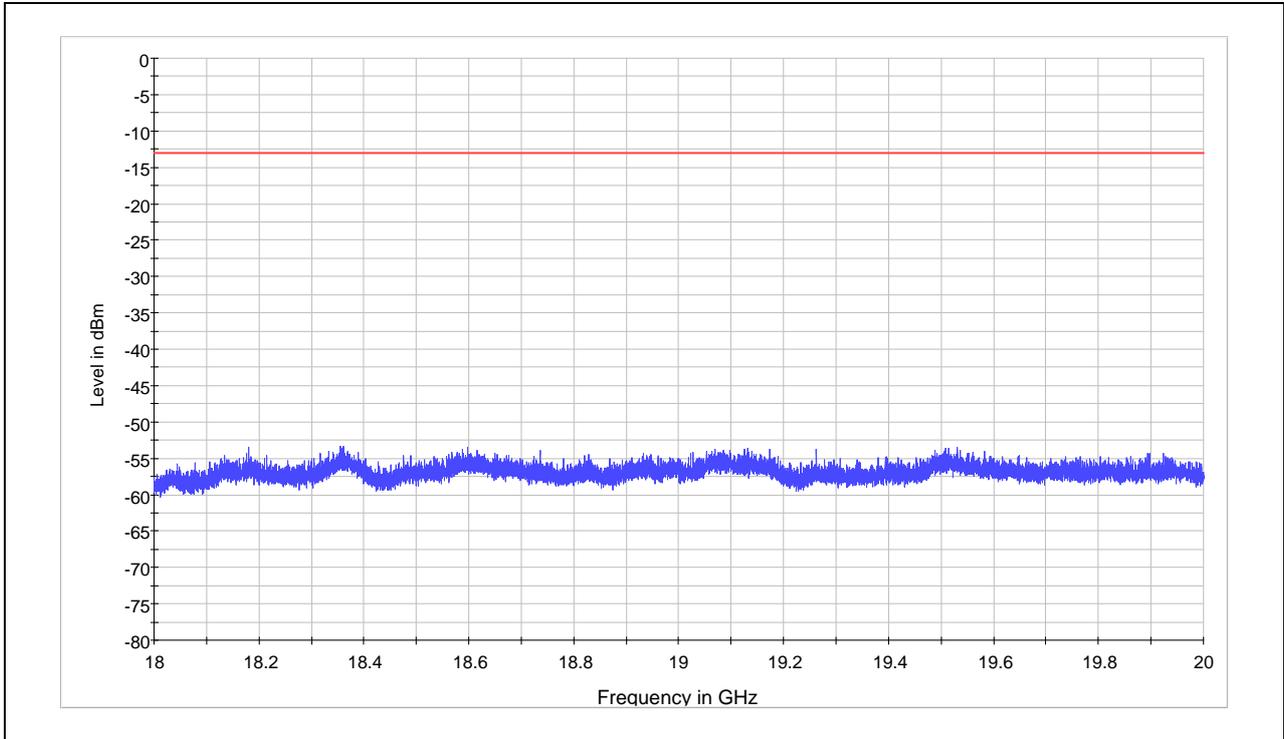


Note: The signal beyond the limit is carrier.

Channel 810 GPRS 30MHz ~3GHz



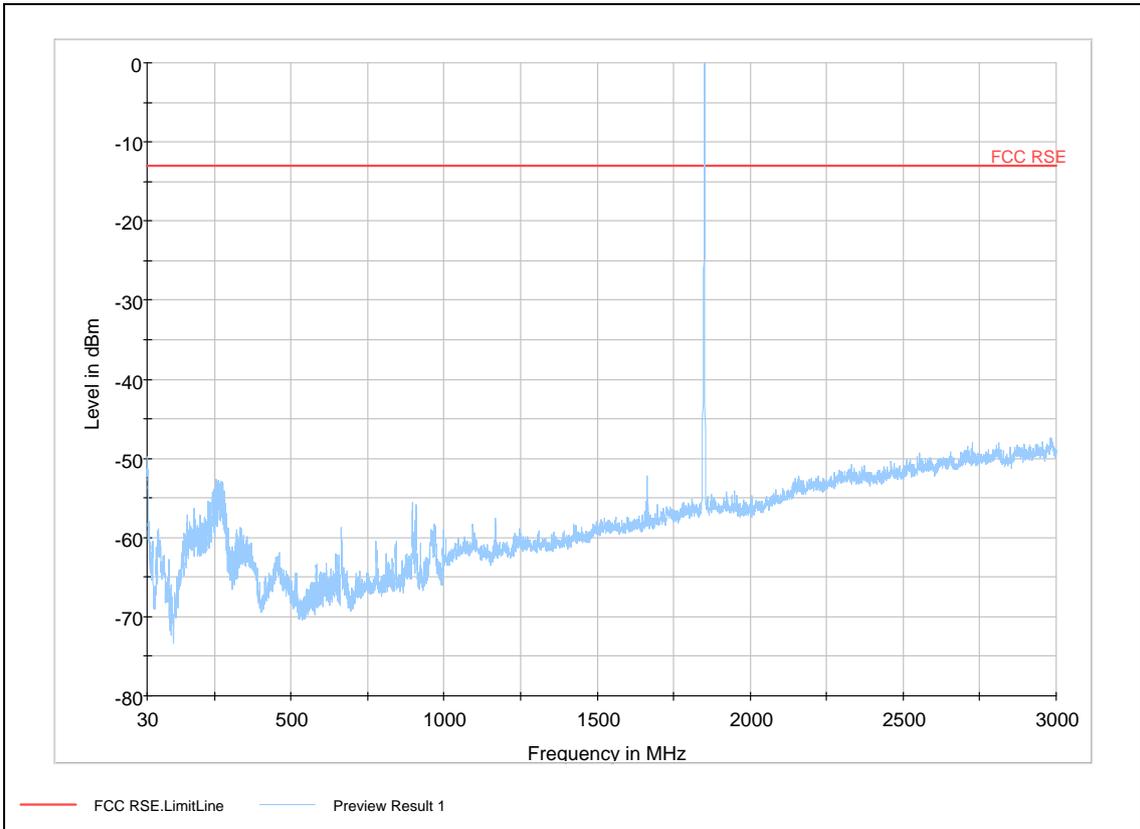
Channel 810 GPRS 3GHz ~18GHz



Channel 810 GPRS 18GHz ~20GHz

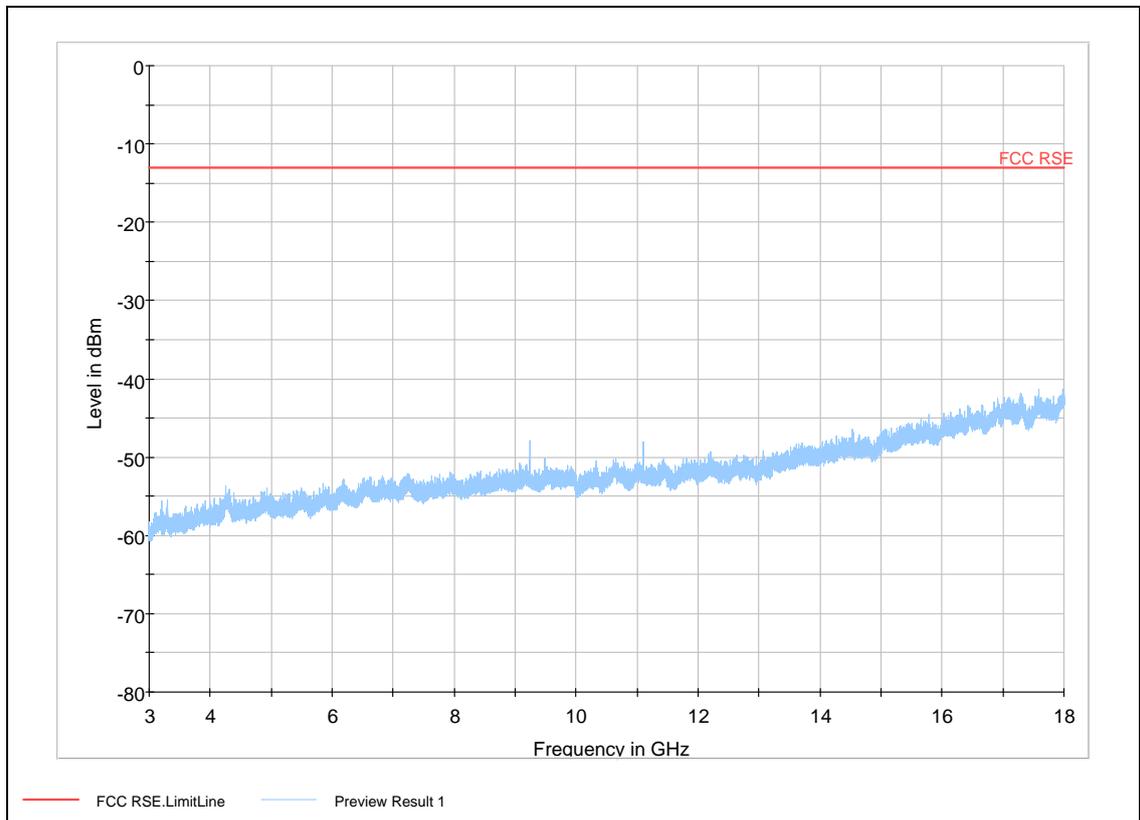
Harmonic	TX ch.810 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	3819.6	Nf	-13
3	5729.4	Nf	-13
4	7638.2	Nf	-13
5	9548.0	Nf	-13
6	11458.8	Nf	-13
7	13368.6	Nf	-13
8	15278.4	Nf	-13
9	17188.9	-39.88	-13
10	19098	Nf	-13
Nf: noise floor			

GSM 1900-EGPRS

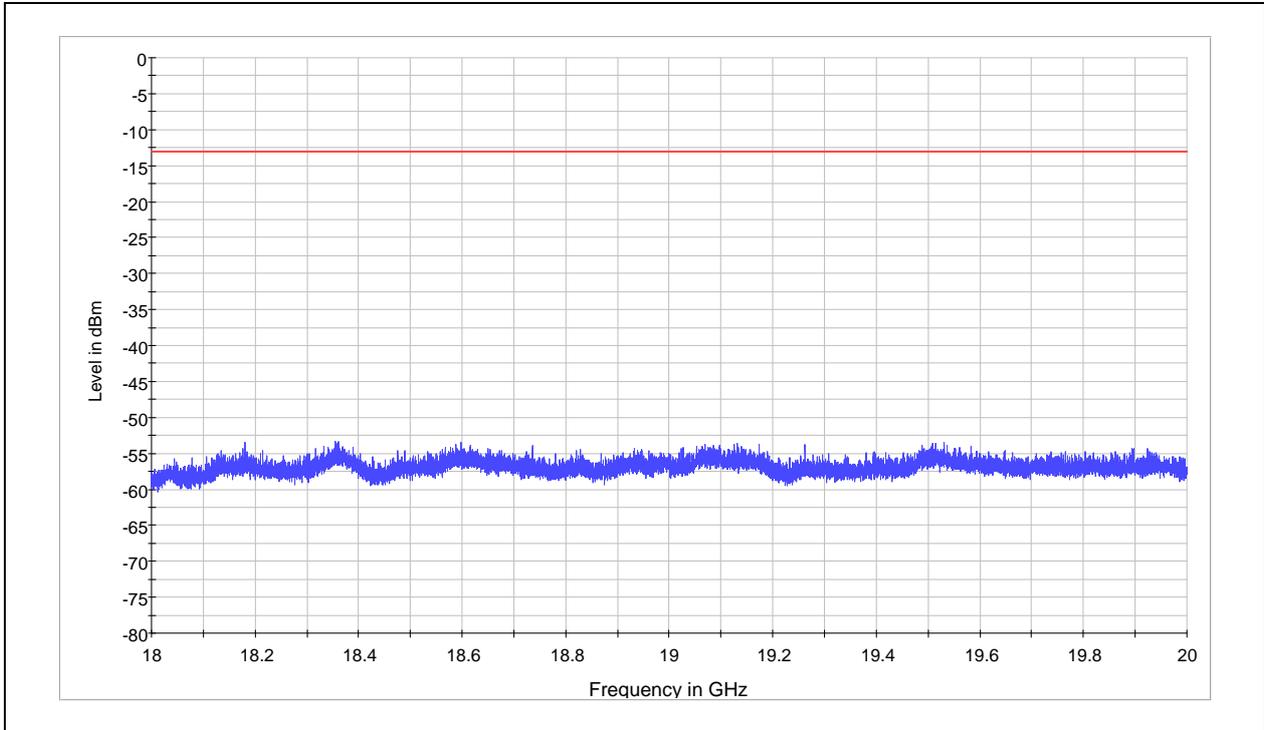


Note: The signal beyond the limit is carrier.

Channel 512 EGPRS 30MHz ~3GHz

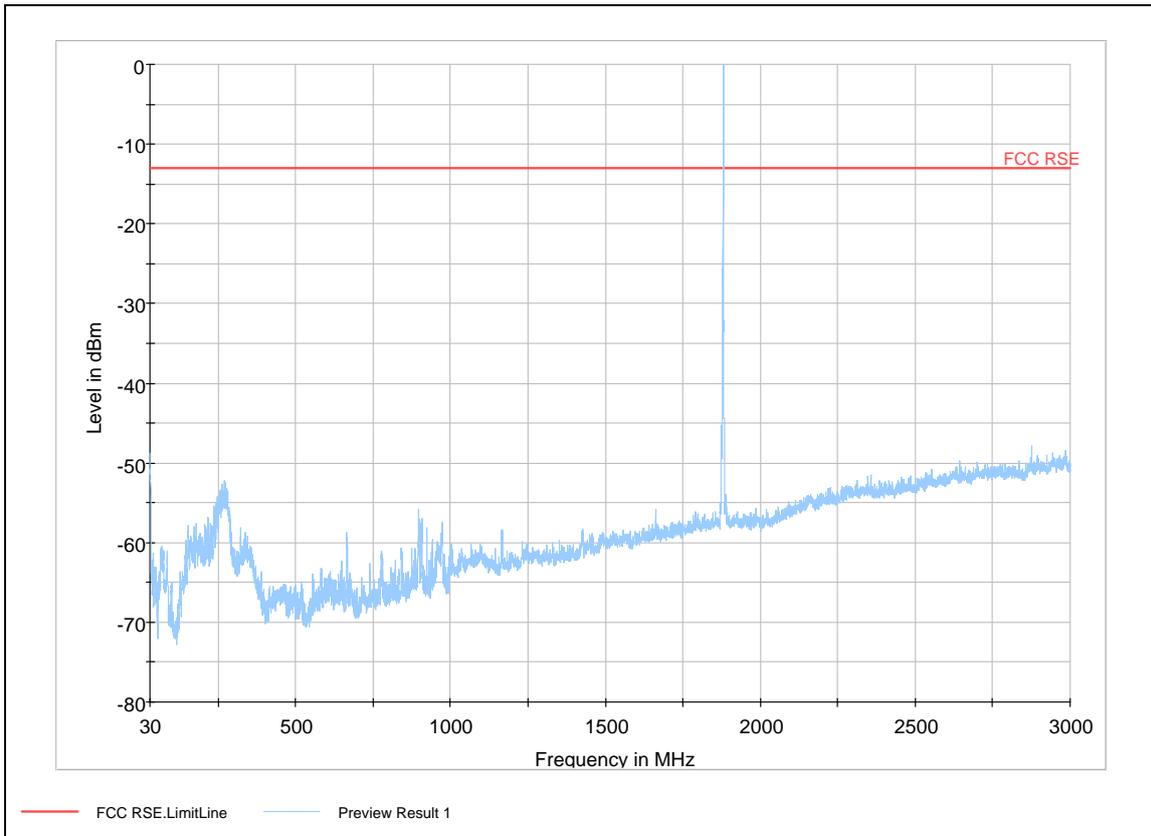


Channel 512 EGPRS 3GHz ~18GHz

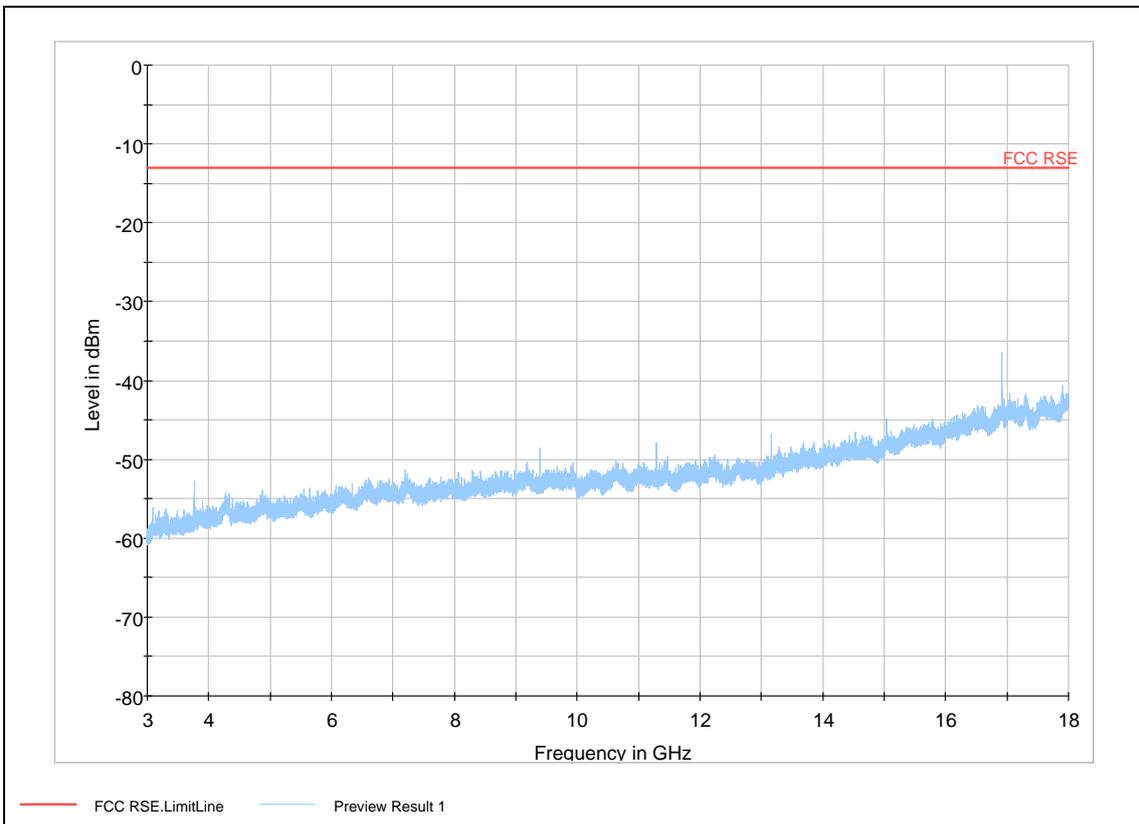


Channel 512 EGPRS 18GHz ~20GHz

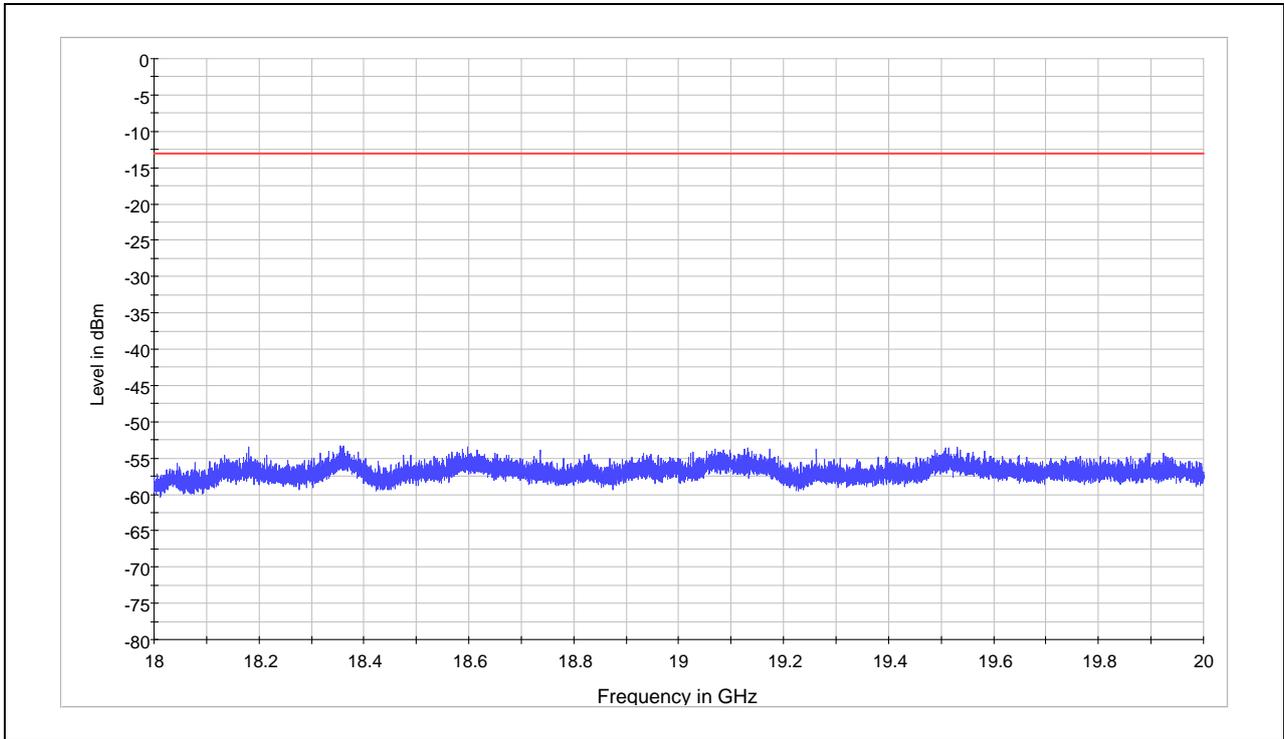
Harmonic	TX ch.512 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	3700.4	Nf	-13
3	5550.6	Nf	-13
4	7401.8	Nf	-13
5	9250.9	-47.81	-13
6	11101.2	Nf	-13
7	12951.4	Nf	-13
8	14801.6	Nf	-13
9	16651.8	Nf	-13
10	18502	Nf	-13
Nf: noise floor			



Note: The signal beyond the limit is carrier.
Channel 661 EGPRS 30MHz ~3GHz

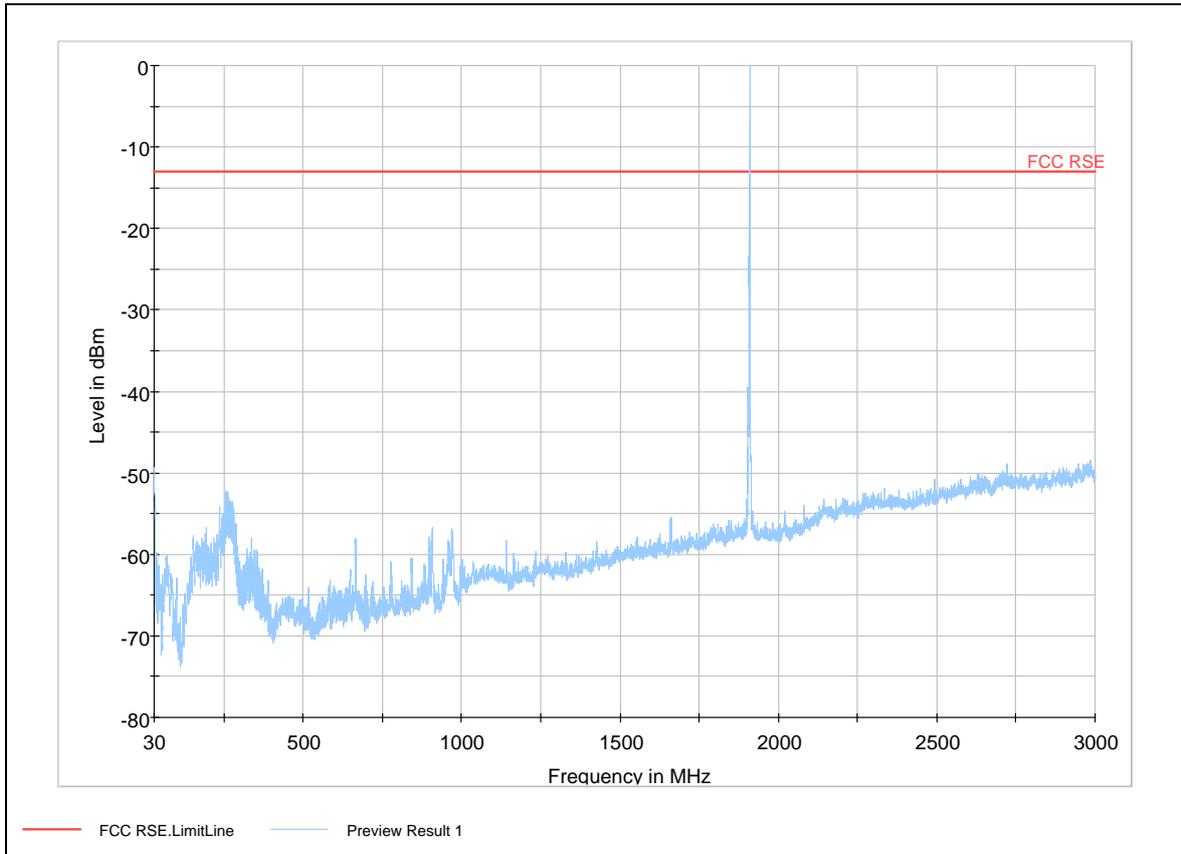


Channel 661 EGPRS 3GHz ~18GHz

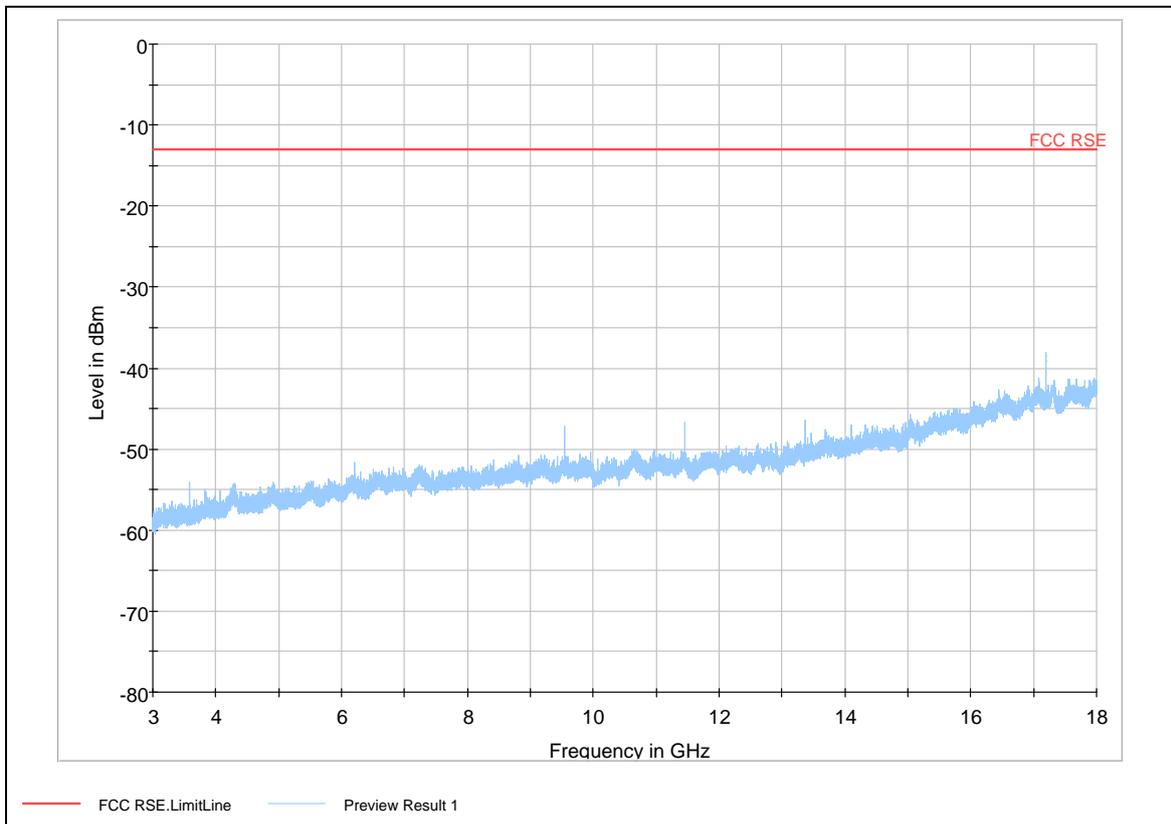


Channel 661 EGPRS 18GHz ~20GHz

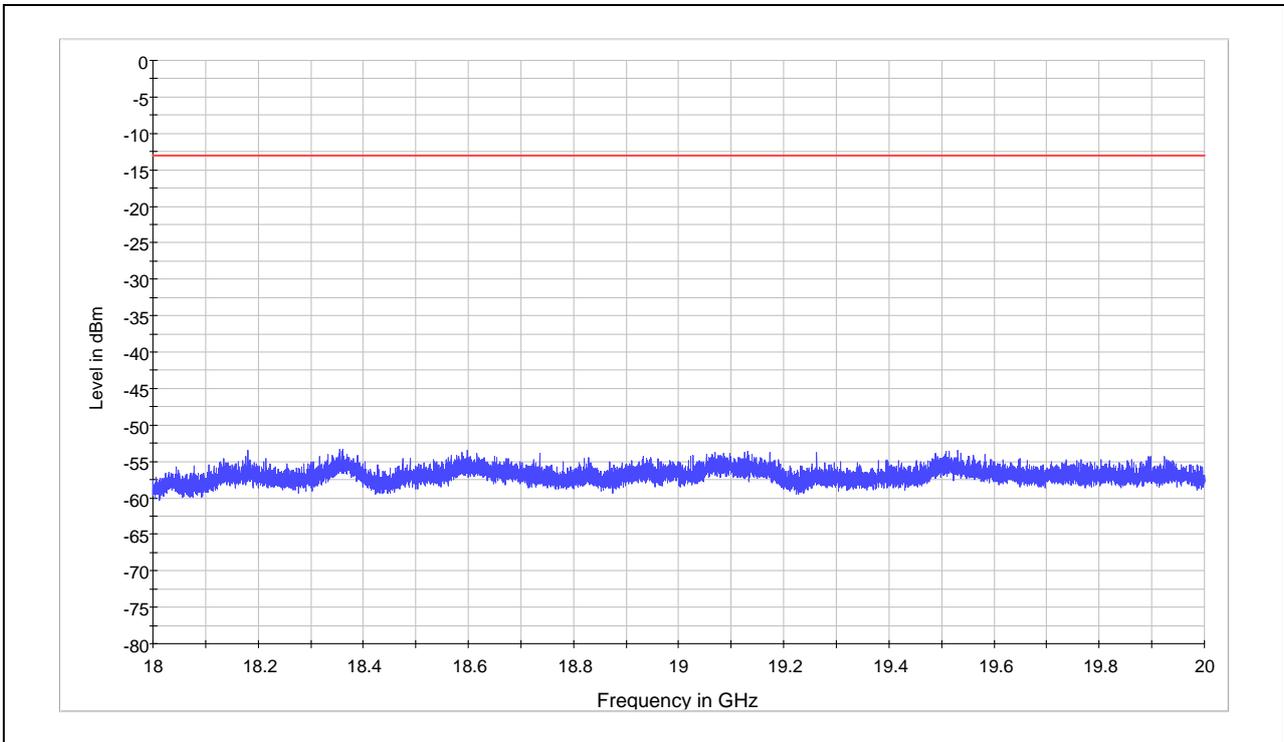
Harmonic	TX ch.661 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	3760	Nf	-13
3	5640	Nf	-13
4	7520	Nf	-13
5	9400	Nf	-13
6	11280	Nf	-13
7	13160	Nf	-13
8	15040	Nf	-13
9	16920.8	-36.52	-13
10	18800	Nf	-13
Nf: noise floor			



Note: The signal beyond the limit is carrier.
Channel 810 GPRS 30MHz ~3GHz



Channel 810 GPRS 3GHz ~18GHz



Channel 810 GPRS 18GHz ~20GHz

Harmonic	TX ch.810 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	3819.6	Nf	-13
3	5729.4	Nf	-13
4	7638.2	Nf	-13
5	9548.0	Nf	-13
6	11458.8	Nf	-13
7	13368.6	Nf	-13
8	15278.4	Nf	-13
9	17188.1	-38.02	-13
10	19098	Nf	-13
Nf: noise floor			

3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	Base Station Simulator	CMU200	R&S	118133	2009-06-02	One year
02	Signal Analyzer	FSV	R&S	100815	2009-06-29	One year
03	Trilog Antenna	VULB 9163	SCHWARZB ECK	9163-391	2009-05-14	Two years
04	Horn Antenna	HF907	R&S	100126	2009-07-02	Two years
05	Semi-Anechoic Chamber	9.6*6.7*6.6m	ETS-Lindgren	NA	NA	NA

*****END OF REPORT BODY*****