



# Appendix B

## GSM850&1900



## CONTENT

	Page
1. EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA .....	5
1.1. Test Result .....	5
2. PEAK-TO-AVERAGE RATIO .....	6
2.1. Test Result .....	6
2.2. For GSM .....	6
2.2.1. Test Band = GSM 850 .....	6
2.2.1.1. Test Mode = GSM/TM1 .....	6
2.2.1.1.1. Test Channel = LCH .....	6
2.2.1.1.2. Test Channel = MCH .....	7
2.2.1.1.3. Test Channel = HCH .....	7
2.2.1.2. Test Mode = GSM/TM2 .....	8
2.2.1.2.1. Test Channel = LCH .....	8
2.2.1.2.2. Test Channel = MCH .....	8
2.2.1.2.3. Test Channel = HCH .....	9
2.2.2. Test Band = GSM 1900 .....	9
2.2.2.1. Test Mode = GSM/TM1 .....	9
2.2.2.1.1. Test Channel = LCH .....	9
2.2.2.1.2. Test Channel = MCH .....	10
2.2.2.1.3. Test Channel = HCH .....	10
2.2.2.2. Test Mode = GSM/TM2 .....	11
2.2.2.2.1. Test Channel = LCH .....	11
2.2.2.2.2. Test Channel = MCH .....	11
2.2.2.2.3. Test Channel = HCH .....	12
3. MODULATION CHARACTERISTICS .....	13
3.1. For GSM .....	13
3.1.1. Test BAND = GSM 850 .....	13
3.1.1.1. Test Mode = GSM/TM1 .....	13
3.1.1.1.1. Test Channel = MCH .....	13
3.1.1.1.2. Test Mode = GSM/TM2 .....	14
3.1.1.1.3. Test Channel = MCH .....	14
3.1.2. Test BAND = GSM 1900 .....	14
3.1.2.1. Test Mode = GSM/TM1 .....	14
3.1.2.1.1. Test Channel = MCH .....	14
3.1.2.1.2. Test Mode = GSM/TM2 .....	15



3.1.2.2.1. Test Channel = MCH.....	15
4. 26dB BANDWIDTH AND OCCUPIED BANDWIDTH.....	16
4.1. Test Result.....	16
4.2. Test Plots.....	16
5. BAND EDGE COMPLIANCE.....	23
5.1. Test Plots.....	23
6. SPURIOUS EMISSION AT ANTENNA TERMINAL.....	27
6.1. Test Plots.....	27
7. FIELD STRENGTH OF SPURIOUS RADIATION.....	58
7.1. Test Band = GSM 850-Main Antenna.....	58
7.1.1. Test Channel = LCH_H.....	58
7.1.2. Test Channel = LCH_V.....	59
7.1.3. Test Channel = MCH_H.....	59
7.1.4. Test Channel = MCH_V.....	60
7.1.5. Test Channel = HCH_H.....	60
7.1.6. Test Channel = HCH_V.....	61
7.2. Test Band = GSM 1900-Main Antenna.....	62
7.2.1. Test Channel = LCH_H.....	62
7.2.2. Test Channel = LCH_V.....	63
7.2.3. Test Channel = MCH_H.....	63
7.2.4. Test Channel = MCH_V.....	64
7.2.5. Test Channel = HCH_H.....	64
7.2.6. Test Channel = HCH_V.....	65
7.3. Test Band = GSM 850-Second Antenna.....	66
7.3.1. Test Channel = LCH_H.....	66
7.3.2. Test Channel = LCH_V.....	67
7.3.3. Test Channel = MCH_H.....	67
7.3.4. Test Channel = MCH_V.....	68
7.3.5. Test Channel = HCH_H.....	68
7.3.6. Test Channel = HCH_V.....	69
7.4. Test Band = GSM 1900- Second Antenna.....	70
7.4.1. Test Channel = LCH_H.....	70
7.4.2. Test Channel = LCH_V.....	71
7.4.3. Test Channel = MCH_H.....	71
7.4.4. Test Channel = MCH_V.....	72
7.4.5. Test Channel = HCH_H.....	72



7.4.6. *Test Channel = HCH\_V*.....73

8. FREQUENCY STABILITY .....74

8.1. *Frequency Error Vs Voltage* .....74

8.2. *Frequency Error Vs Temperature*.....75



## 1. Effective (Isotropic) Radiated Power Output Data

### 1.1. Test Result

BAND	Channel	Power(dBm)	ERP(dBm)	Limit(dBm)	Verdict
GSM850	128	32.34	27.43	38.45	PASS
GSM850	190	32.43	27.52	38.45	PASS
GSM850	251	32.31	27.4	38.45	PASS
EGPRS850	128	24.88	19.97	38.45	PASS
EGPRS850	190	24.97	20.06	38.45	PASS
EGPRS850	251	25.54	20.63	38.45	PASS

BAND	Channel	Power(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
GSM1900	512	27.91	26.48	33.00	PASS
GSM1900	661	27.89	26.46	33.00	PASS
GSM1900	810	27.86	26.43	33.00	PASS
EGPRS1900	512	23.08	21.65	33.00	PASS
EGPRS1900	661	23.10	21.67	33.00	PASS
EGPRS1900	810	23.12	21.69	33.00	PASS

Note:

a: For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b: SGP=Signal Generator Level



## 2. Peak-to-Average Ratio

### 2.1. Test Result

BAND	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
GSM850	128	7.71	13	PASS
GSM850	190	7.71	13	PASS
GSM850	251	7.71	13	PASS
EGPRS850	128	10.20	13	PASS
EGPRS850	190	10.23	13	PASS
EGPRS850	251	10.38	13	PASS
GSM1900	512	7.68	13	PASS
GSM1900	661	7.71	13	PASS
GSM1900	810	7.71	13	PASS
EGPRS1900	512	10.84	13	PASS
EGPRS1900	661	10.99	13	PASS
EGPRS1900	810	10.70	13	PASS

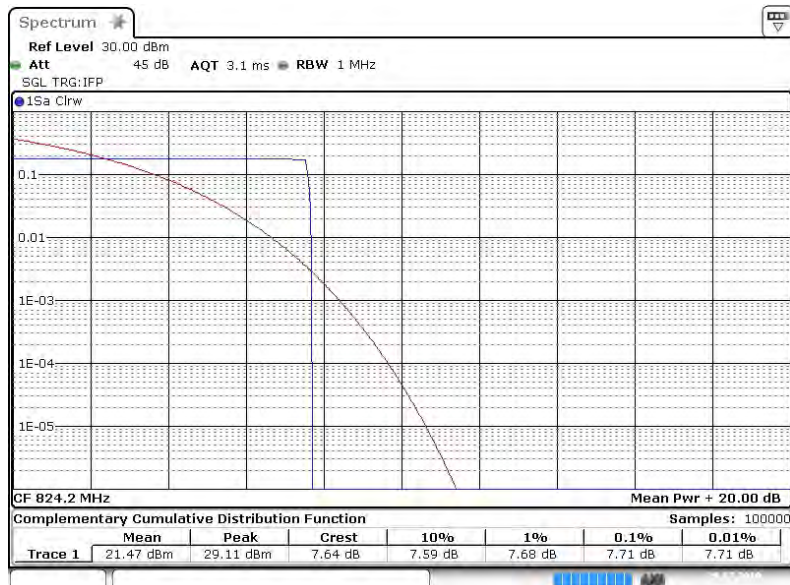
Part II - Test Plots

### 2.2. For GSM

#### 2.2.1. Test Band = GSM 850

##### 2.2.1.1. Test Mode = GSM/TM1

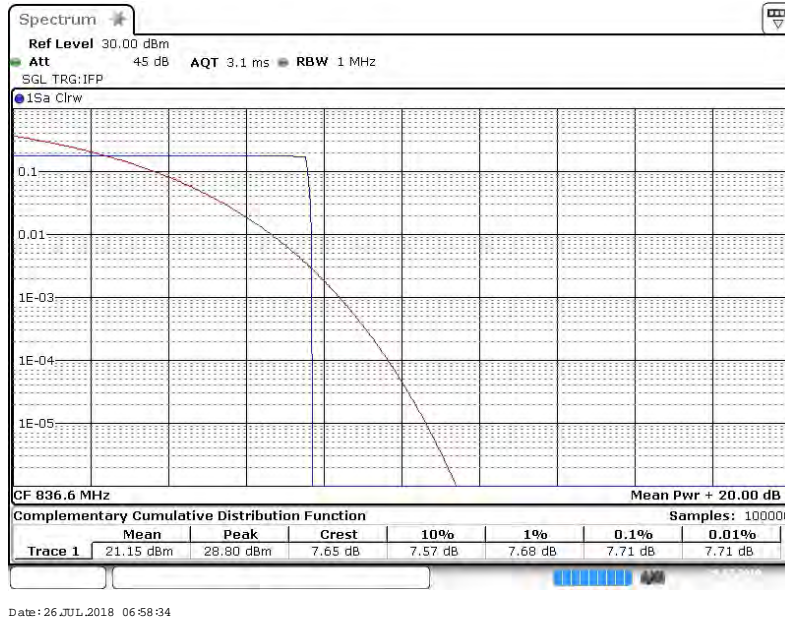
##### 2.2.1.1.1. Test Channel = LCH



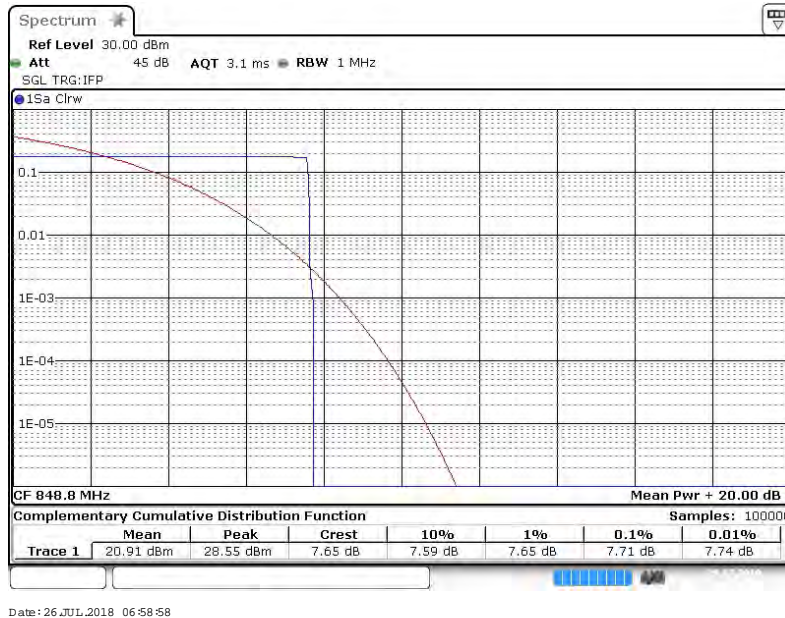
Date: 26 JUL 2018 06:58:09



### 2.2.1.1.2. Test Channel = MCH



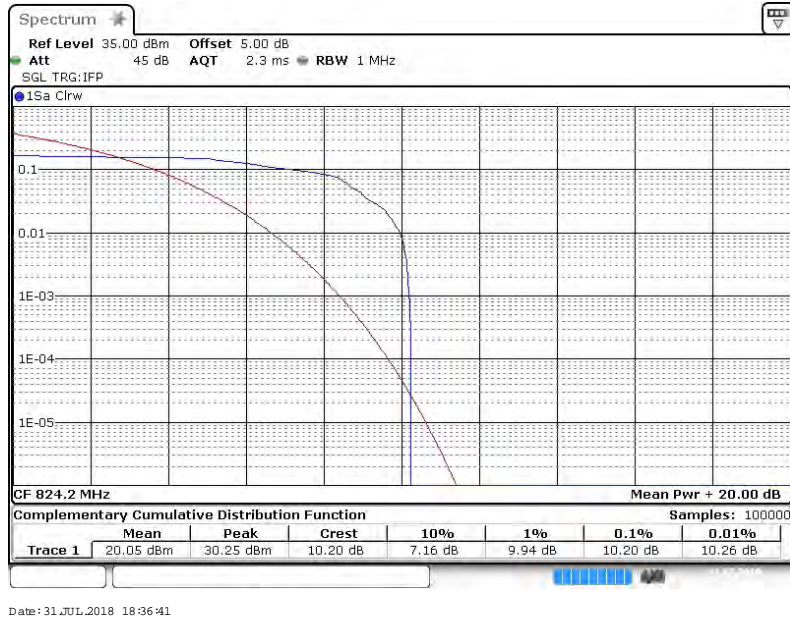
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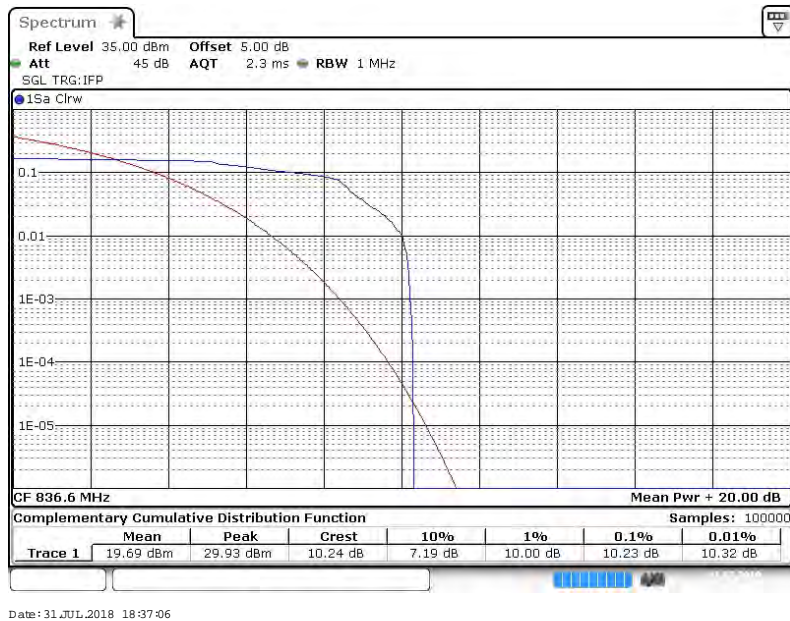


2.2.1.2. Test Mode = GSM/TM2

2.2.1.2.1. Test Channel = LCH



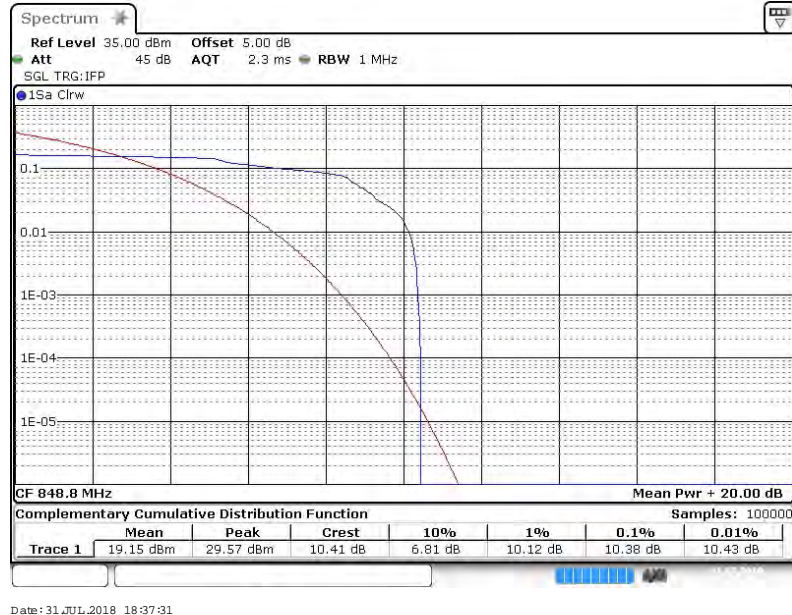
2.2.1.2.2. Test Channel = MCH







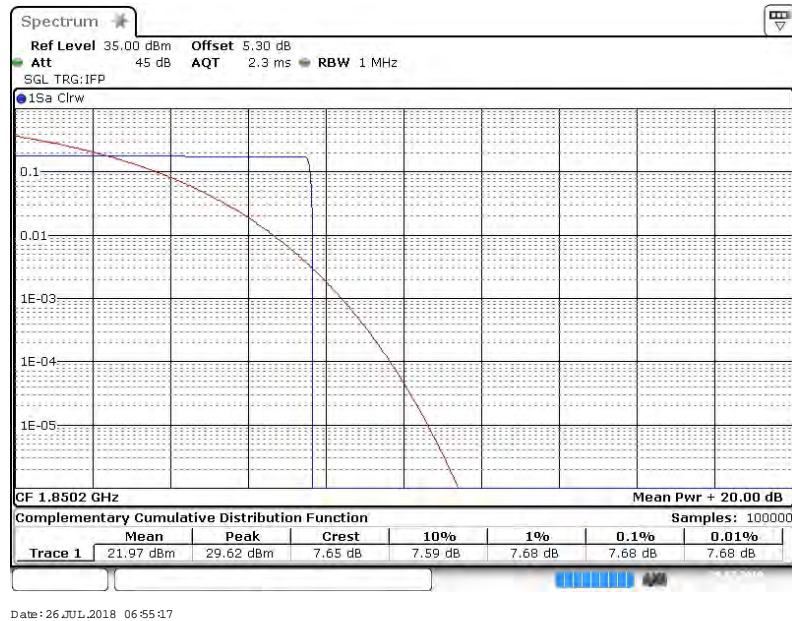
### 2.2.1.2.3. Test Channel = HCH



### 2.2.2. Test Band = GSM 1900

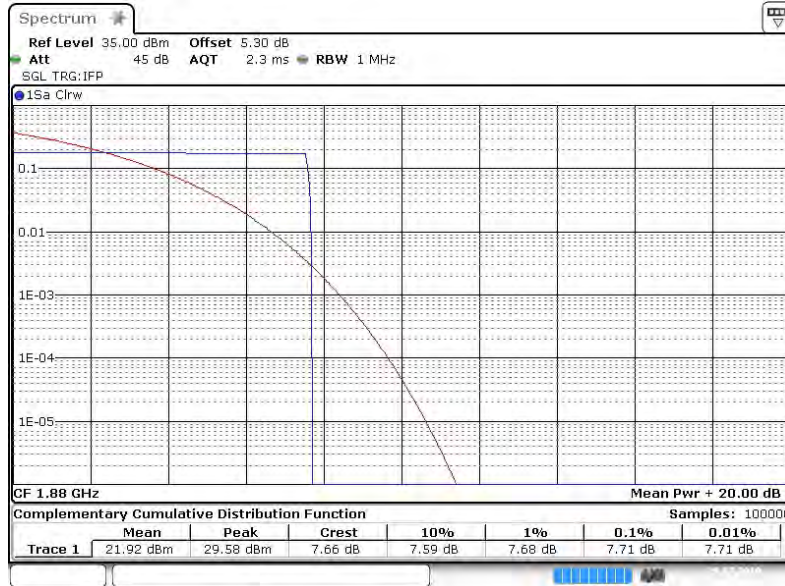
#### 2.2.2.1. Test Mode = GSM/TM1

##### 2.2.2.1.1. Test Channel = LCH



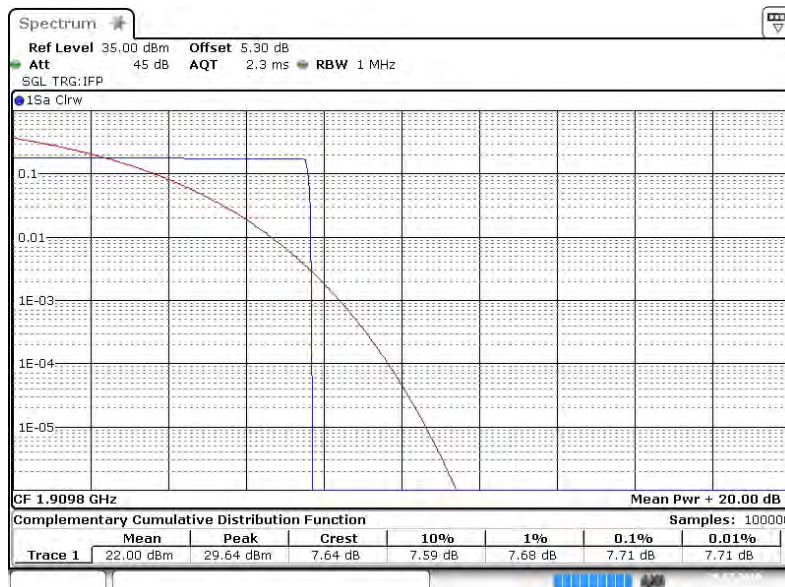


**2.2.2.1.2. Test Channel = MCH**



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**2.2.2.1.3. Test Channel = HCH**

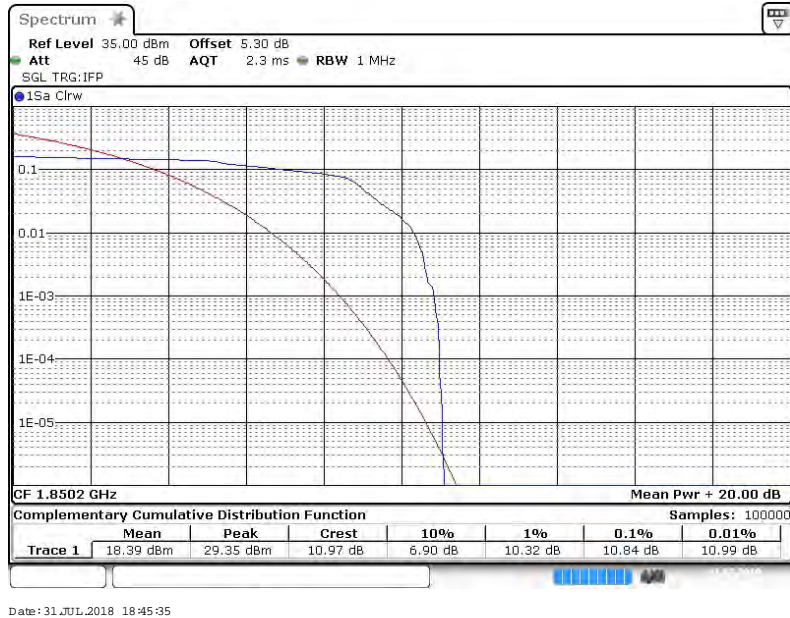


Date: 26 JUL 2018 06:56:06

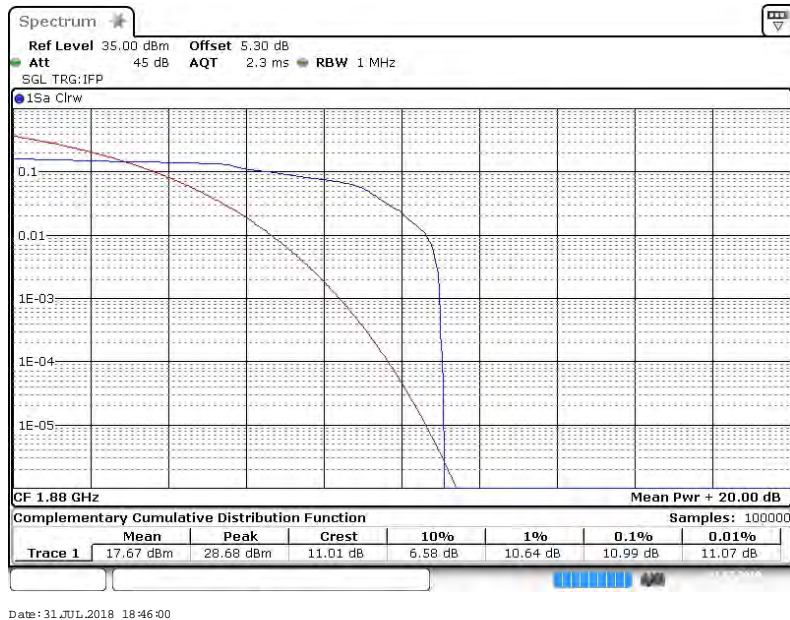


### 2.2.2.2. Test Mode = GSM/TM2

#### 2.2.2.2.1. Test Channel = LCH

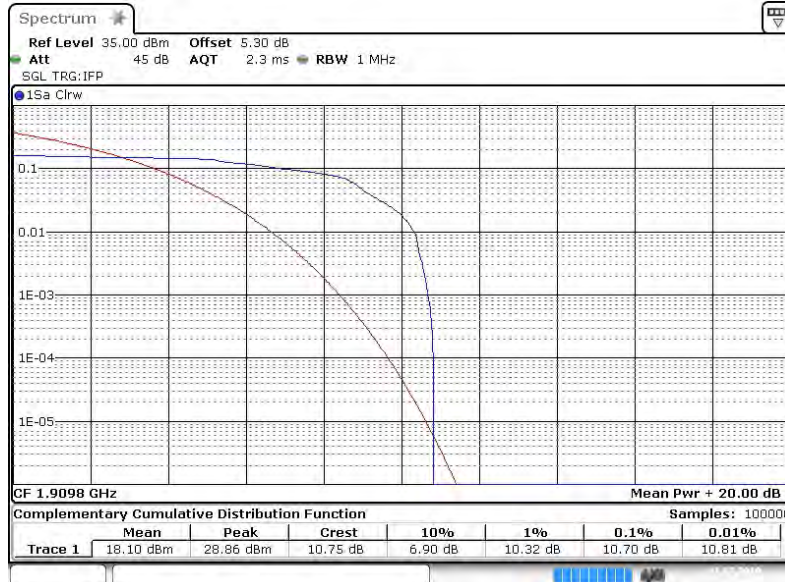


#### 2.2.2.2.2. Test Channel = MCH





2.2.2.2.3. Test Channel = HCH



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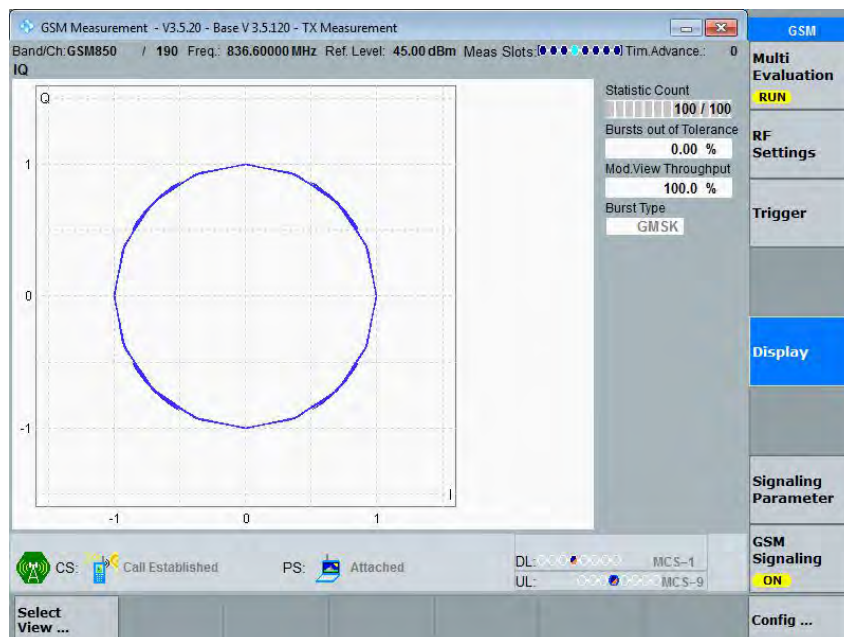
### 3. Modulation Characteristics

#### 3.1. For GSM

##### 3.1.1. Test BAND = GSM 850

##### 3.1.1.1. Test Mode = GSM/TM1

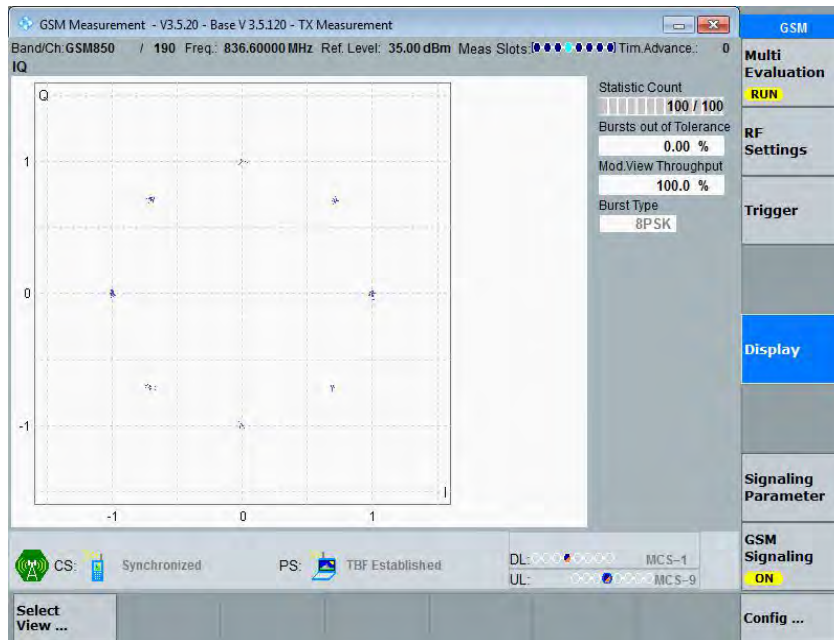
##### 3.1.1.1.1. Test Channel = MCH





### 3.1.1.2. Test Mode = GSM/TM2

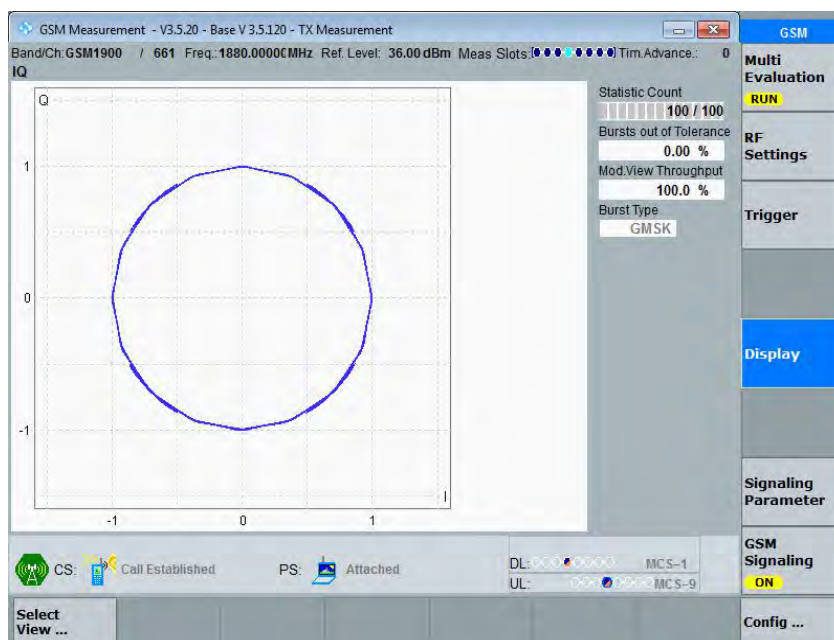
#### 3.1.1.2.1. Test Channel = MCH



### 3.1.2. Test BAND = GSM 1900

#### 3.1.2.1. Test Mode = GSM/TM1

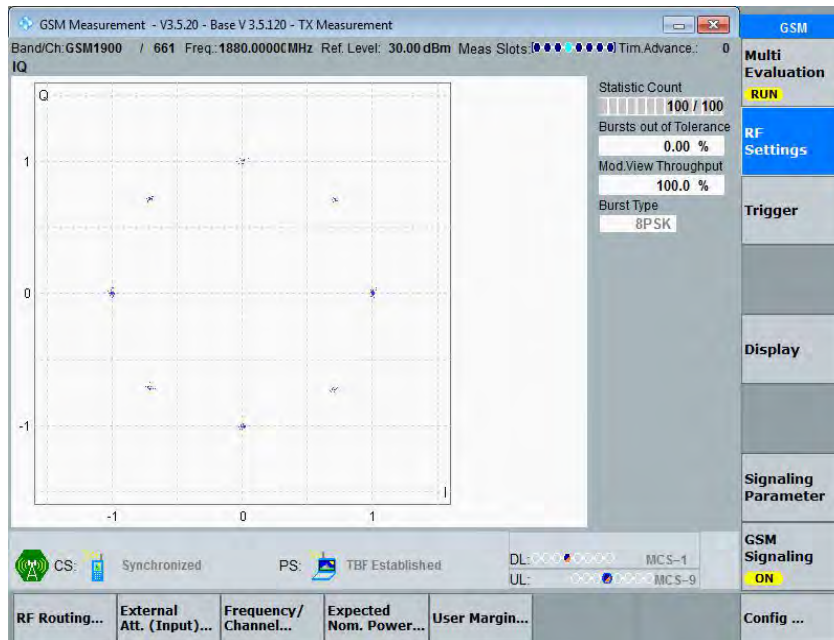
#### 3.1.2.1.1. Test Channel = MCH





### 3.1.2.2. Test Mode = GSM/TM2

#### 3.1.2.2.1. Test Channel = MCH



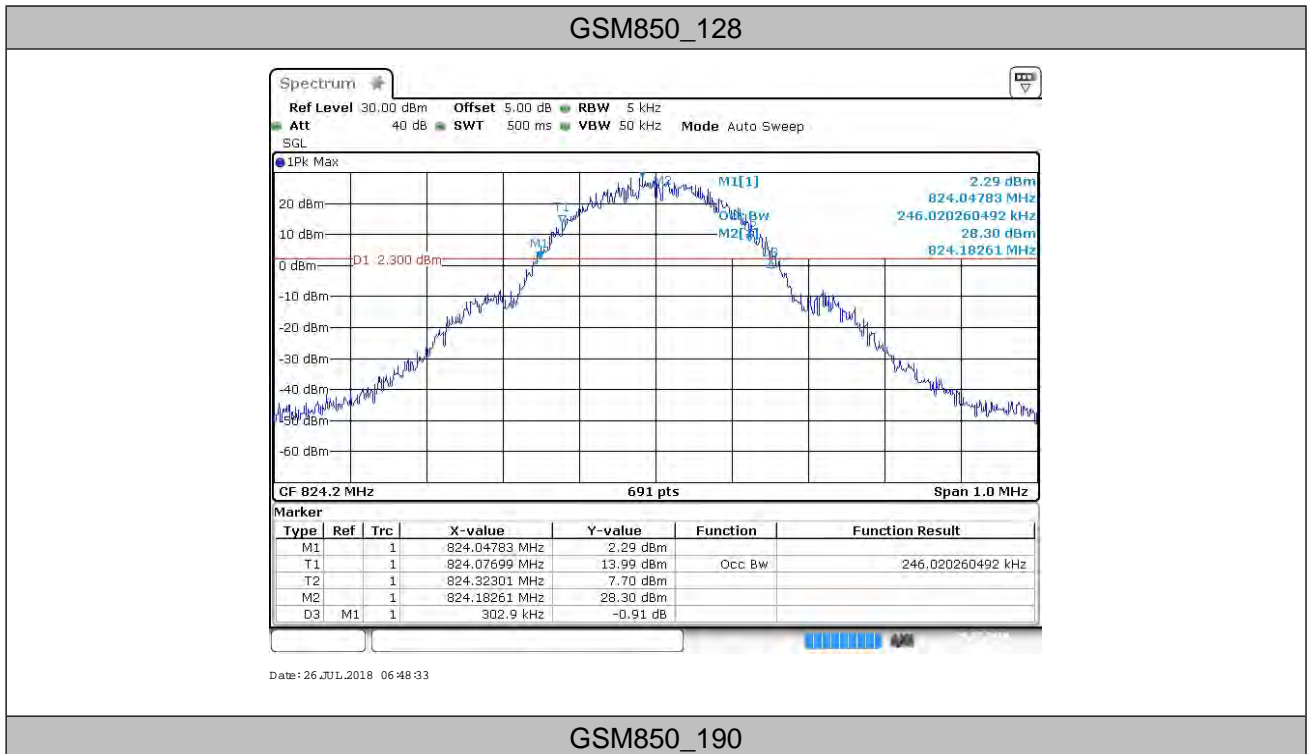


## 4. 26dB Bandwidth and Occupied Bandwidth

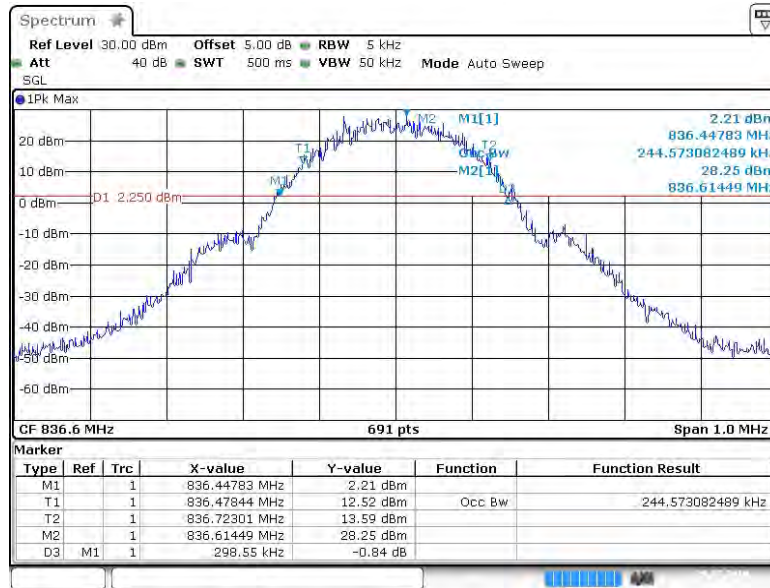
### 4.1. Test Result

BAND	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
GSM850	128	246.02	302.90	---	PASS
GSM850	190	244.57	298.55	---	PASS
GSM850	251	246.02	304.35	---	PASS
EGPRS850	128	250.36	307.25	---	PASS
EGPRS850	190	253.26	310.14	---	PASS
EGPRS850	251	256.15	308.70	---	PASS
GSM1900	512	243.13	295.65	---	PASS
GSM1900	661	240.23	304.35	---	PASS
GSM1900	810	243.13	307.25	---	PASS
EGPRS1900	512	253.26	307.25	---	PASS
EGPRS1900	661	246.02	302.90	---	PASS
EGPRS1900	810	250.36	295.65	---	PASS

### 4.2. Test Plots

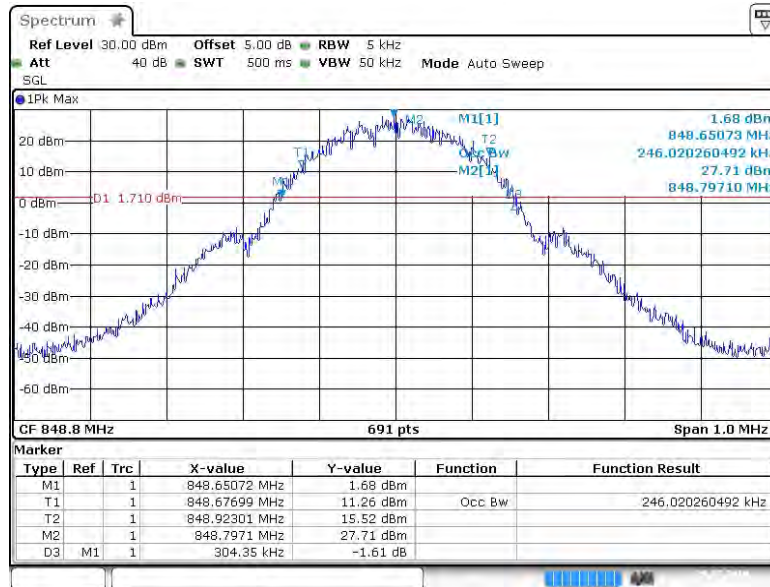






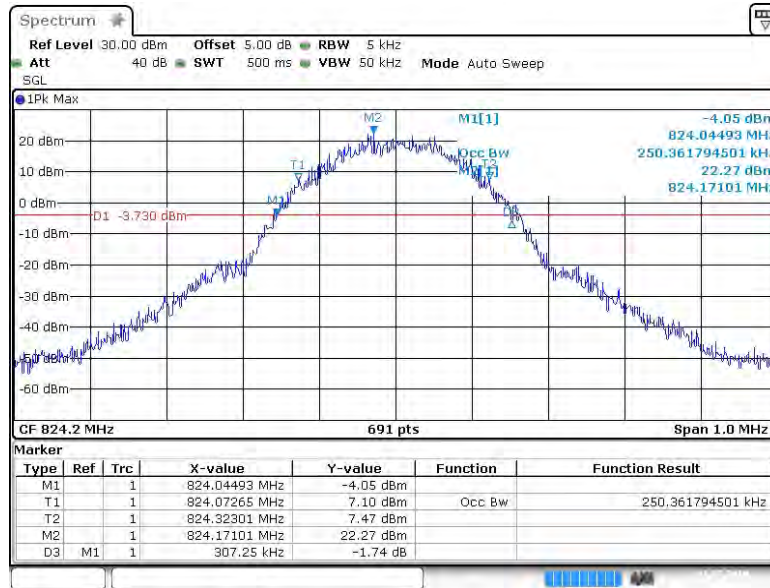
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**GSM850\_251**



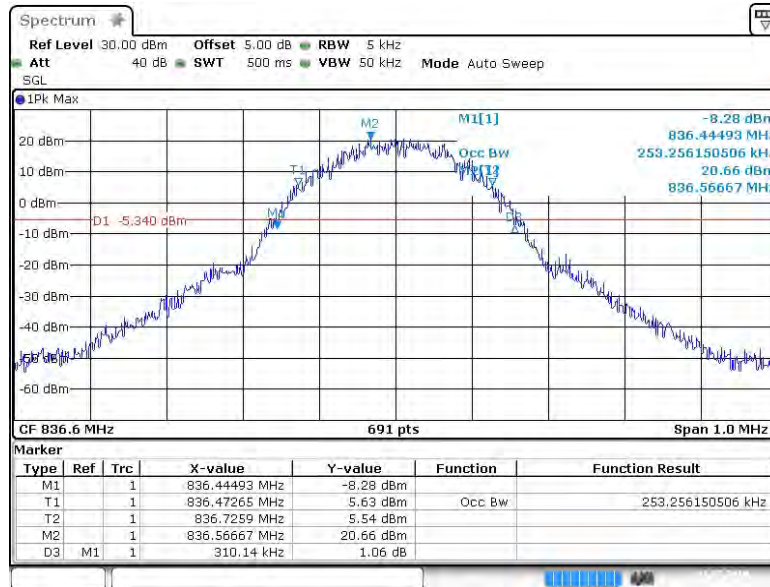
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**EGPRS850\_128**



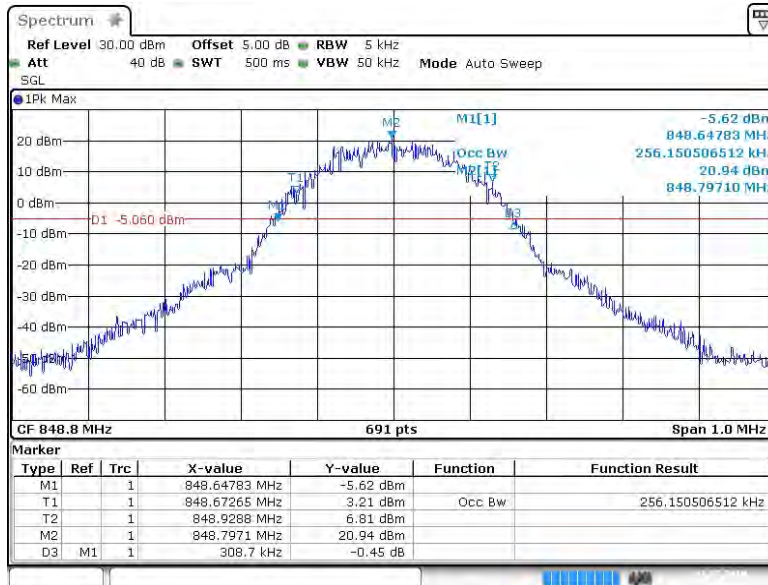
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**EGPRS850\_190**



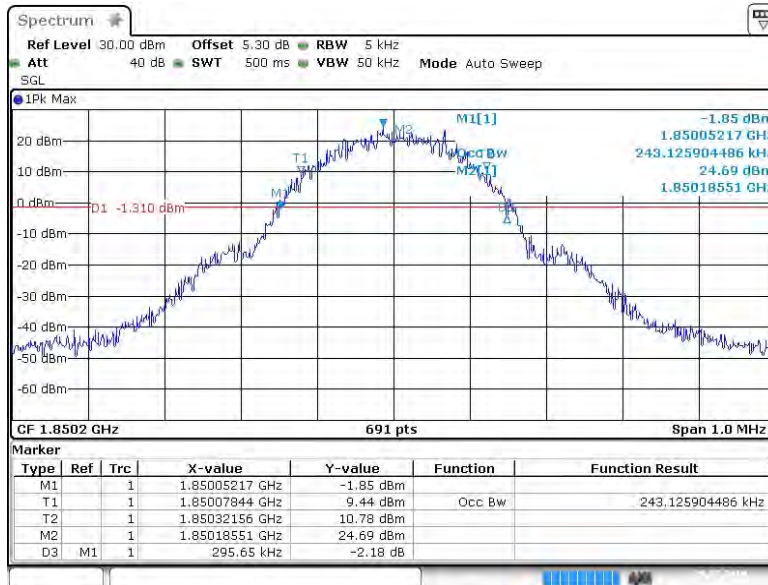
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**EGPRS850\_251**



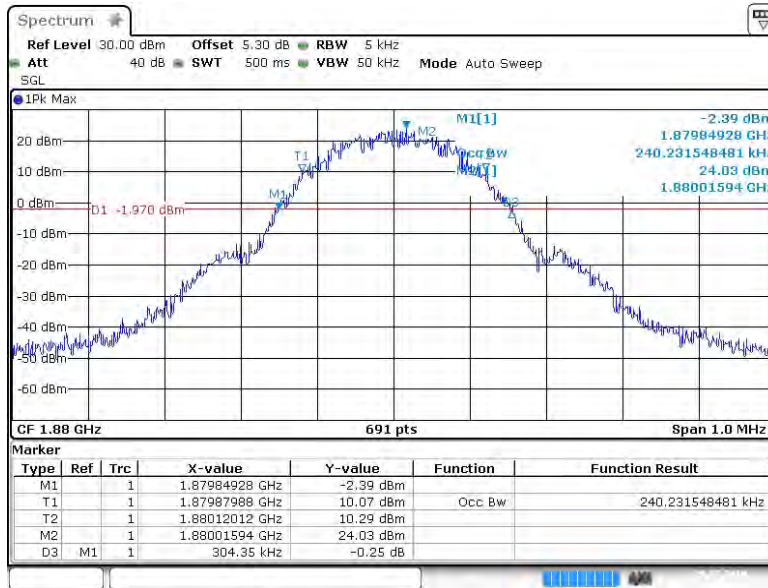
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**GSM1900\_512**



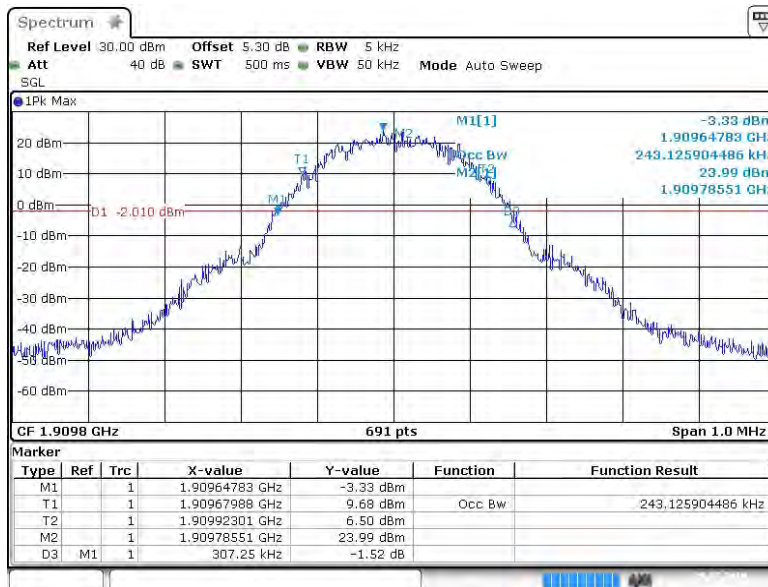
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**GSM1900\_661**



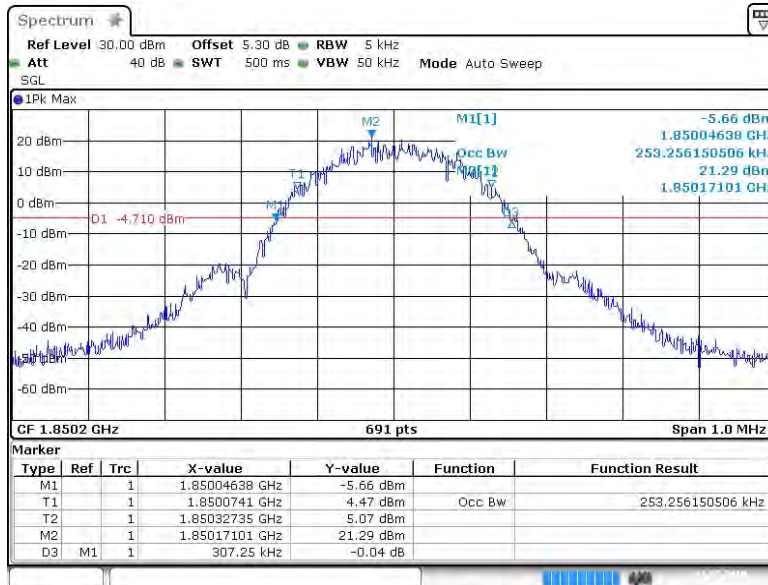
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**GSM1900\_810**



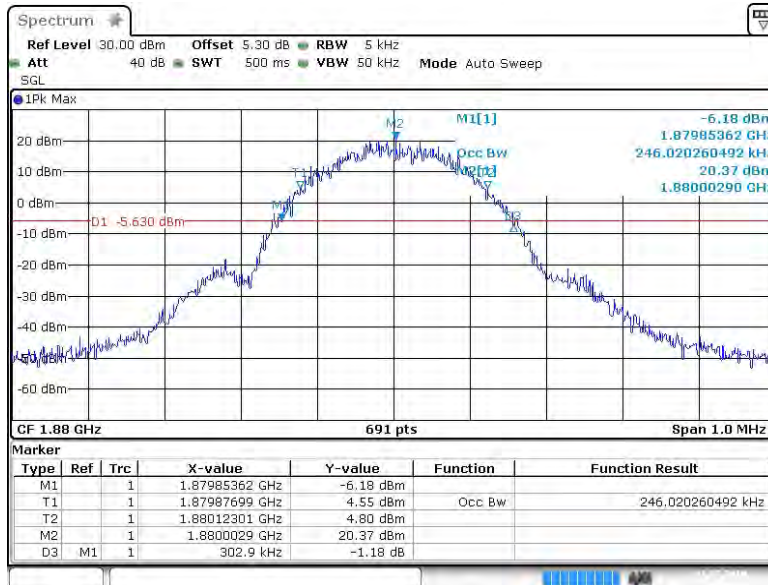
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**EGPRS1900\_512**



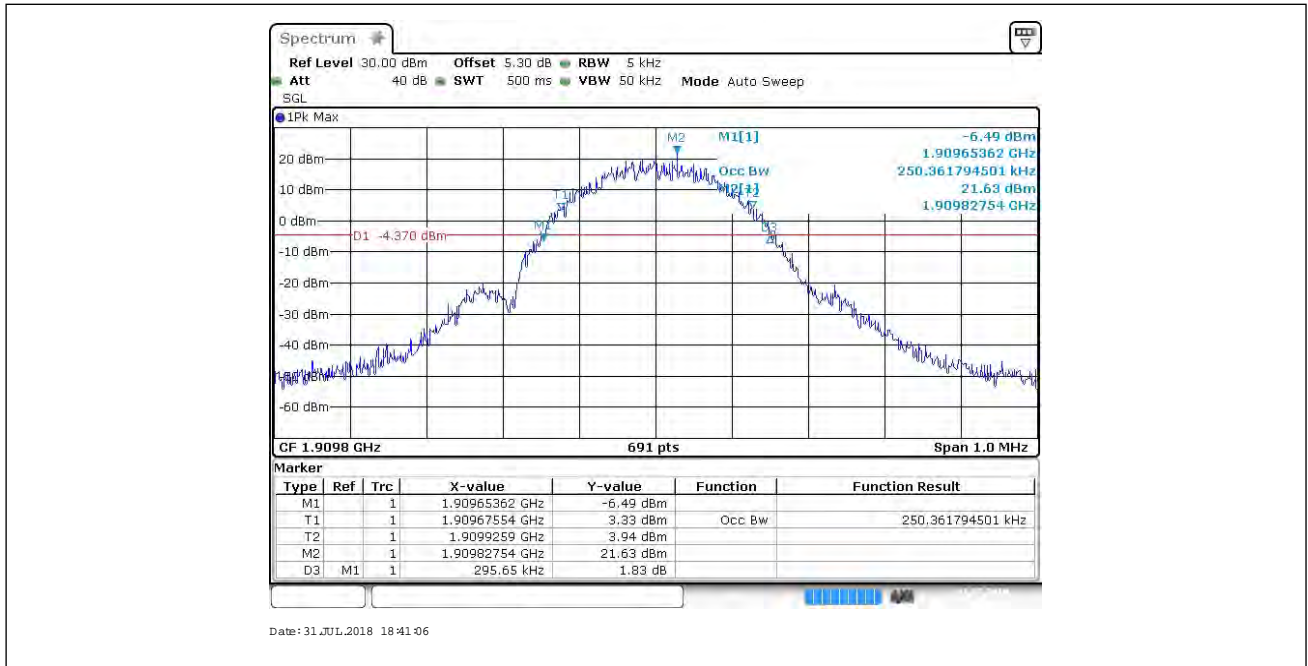
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**EGPRS1900\_661**



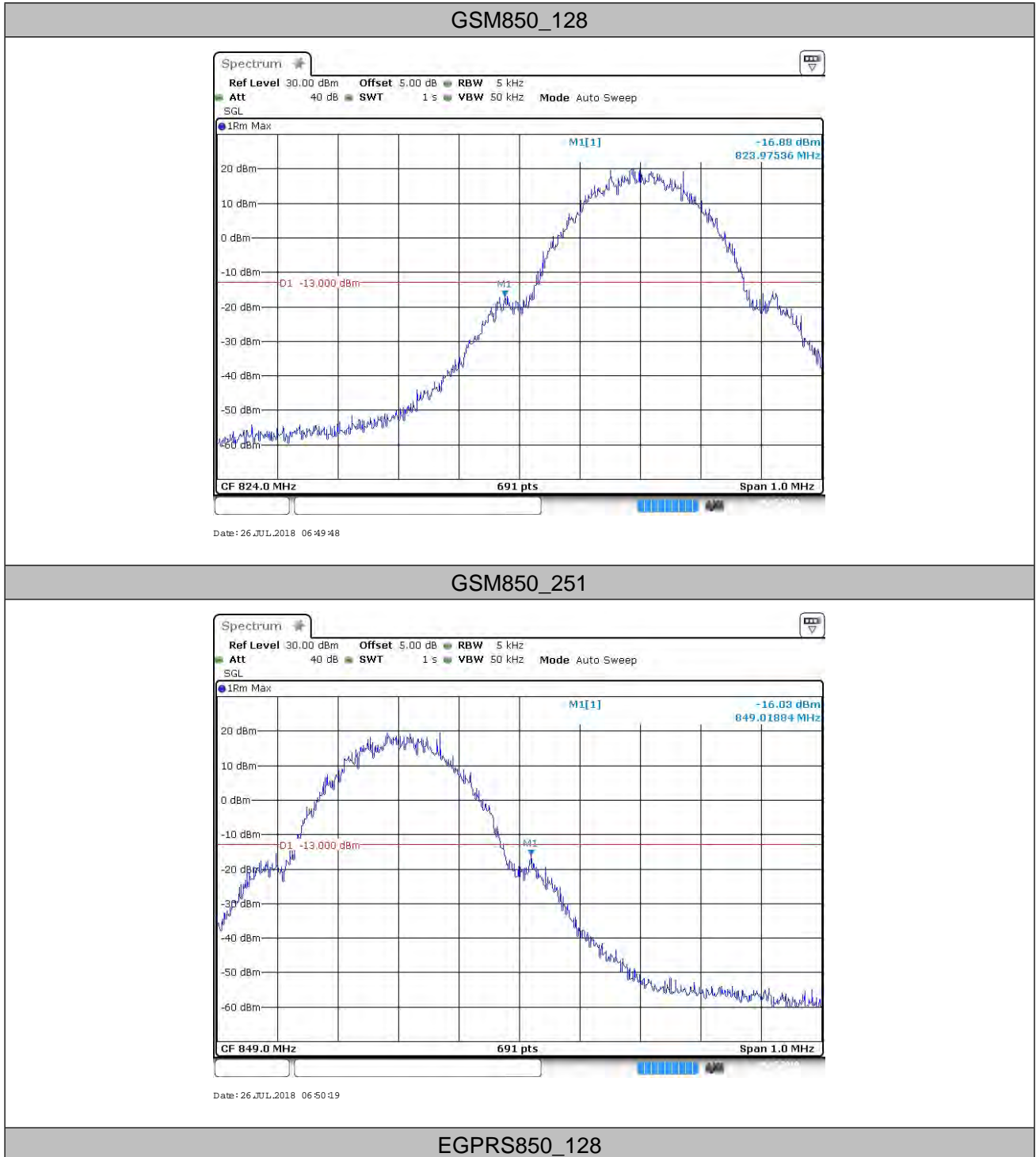
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**EGPRS1900\_810**



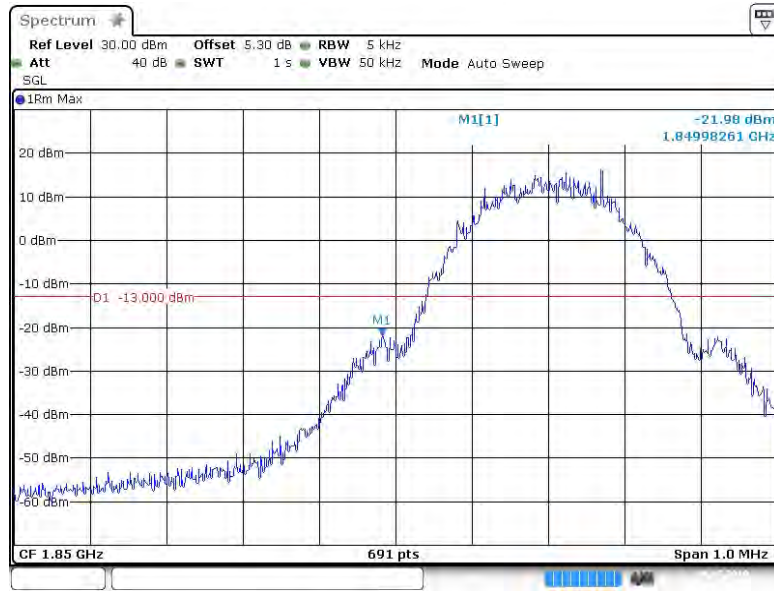
## 5. Band Edge Compliance

### 5.1. Test Plots



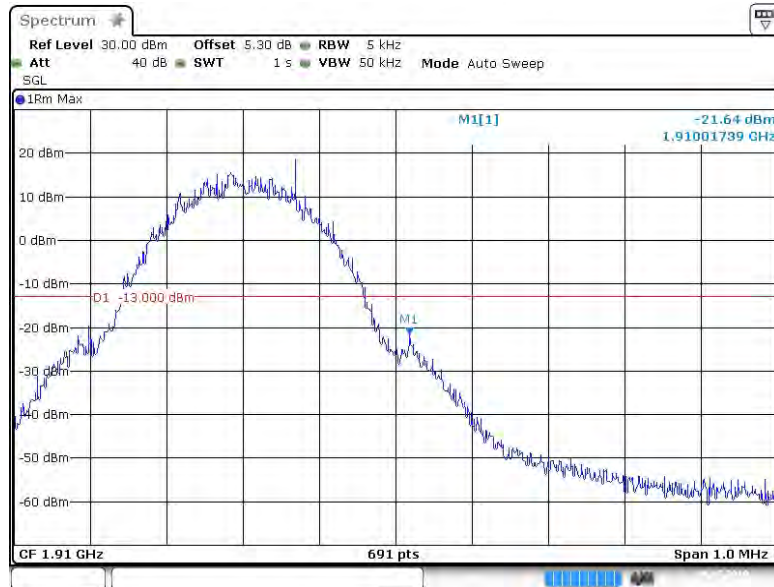






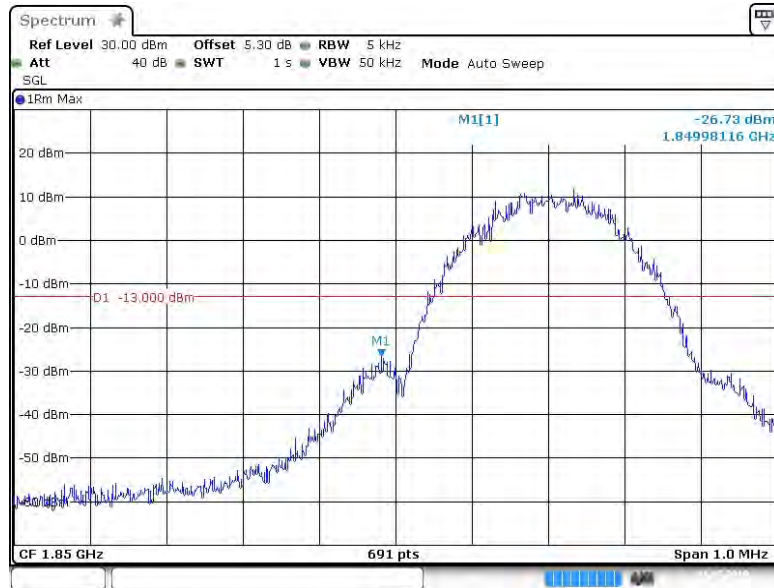
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GSM1900\_810



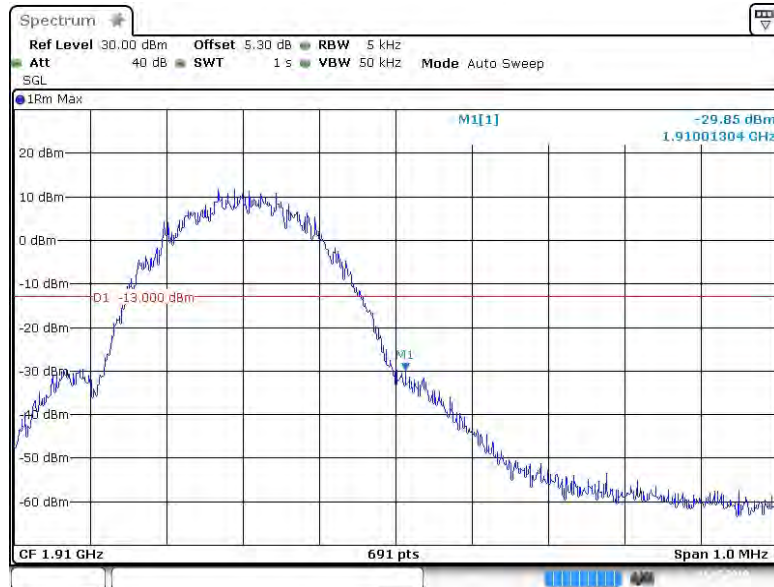
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EGPRS1900\_512



Date: 31 JUL 2018 18:41:36

EGPRS1900\_810



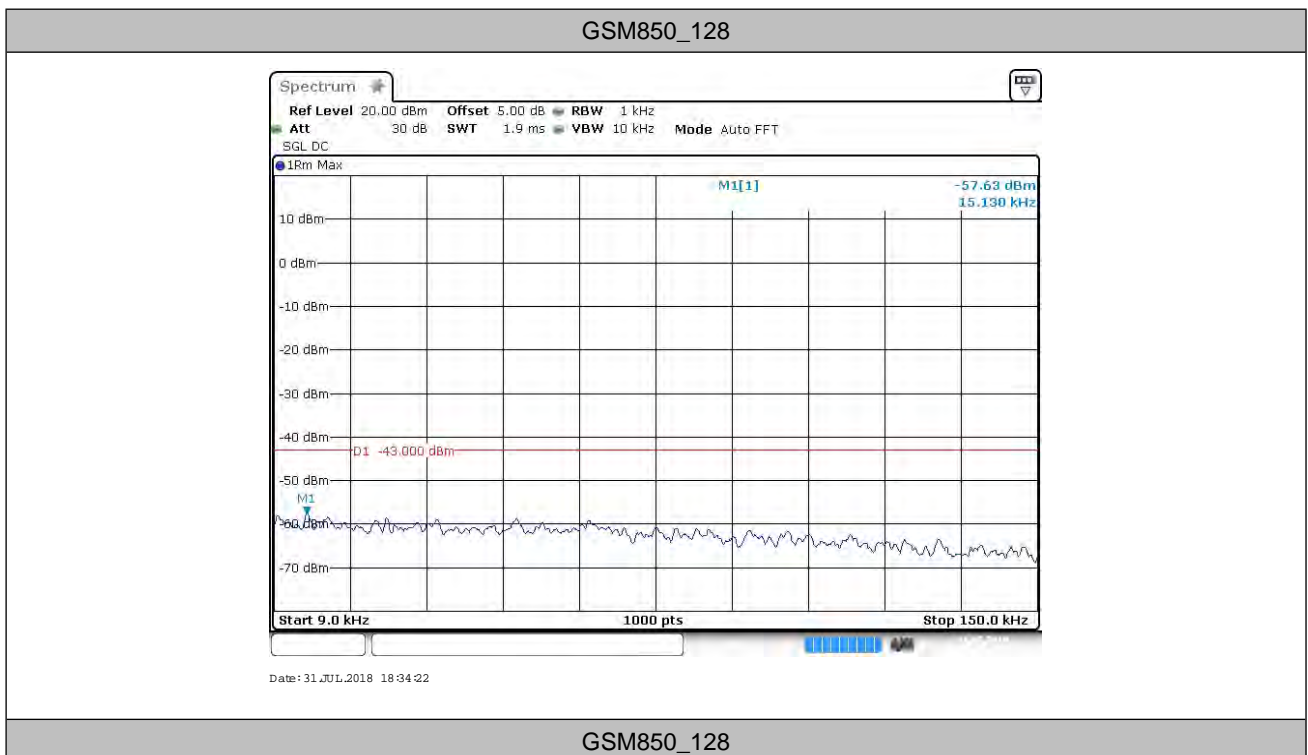
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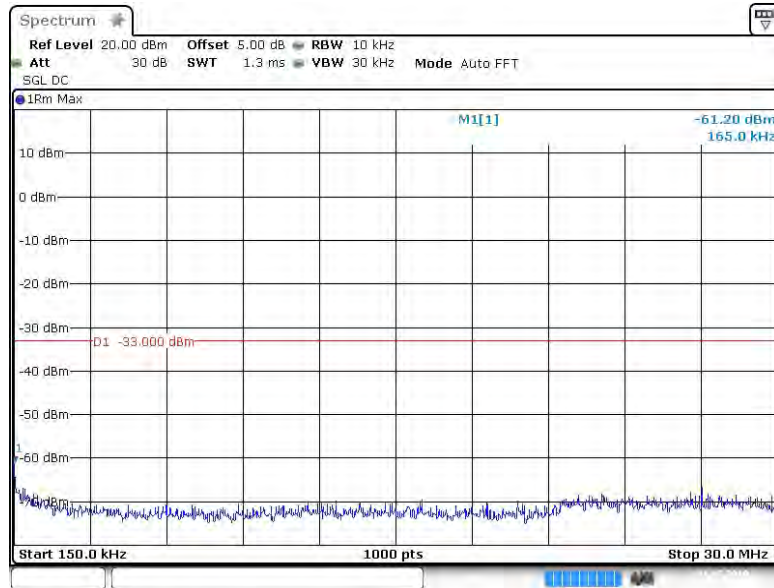
## 6. Spurious Emission at Antenna Terminal

NOTE1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

NOTE2: only the worst case data displayed in this report.

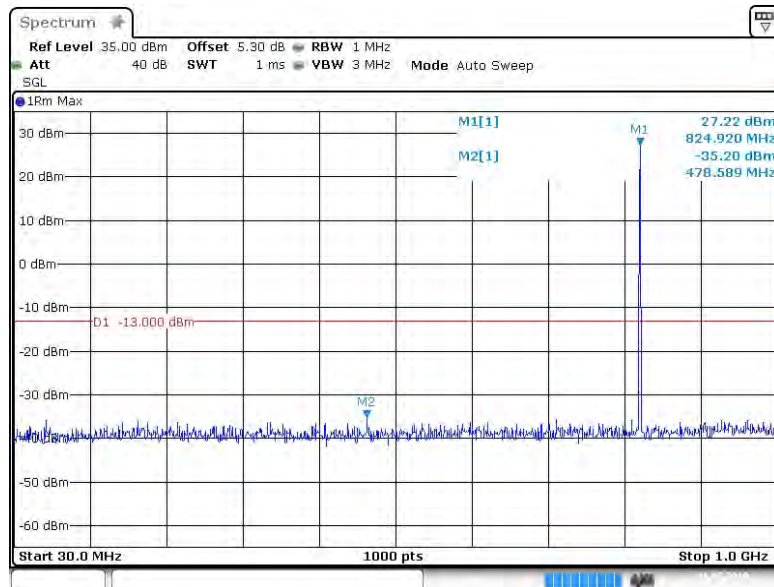
### 6.1. Test Plots





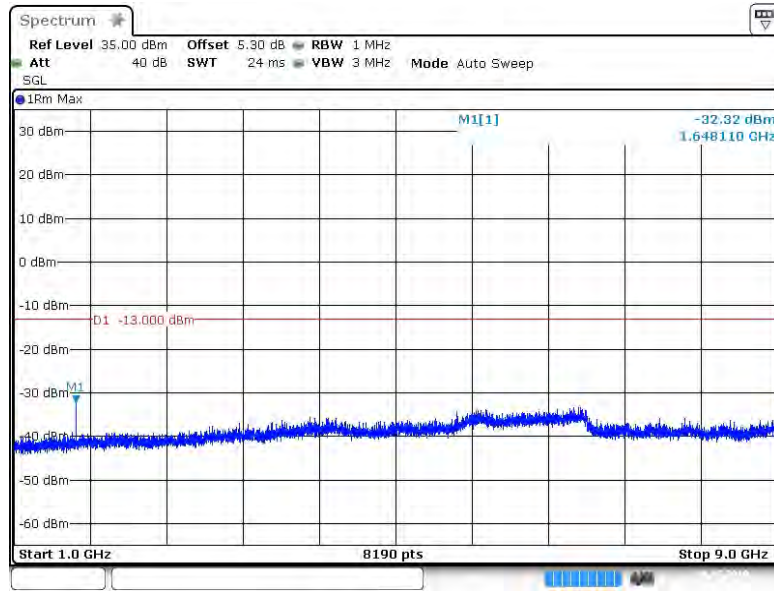
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GSM850\_128



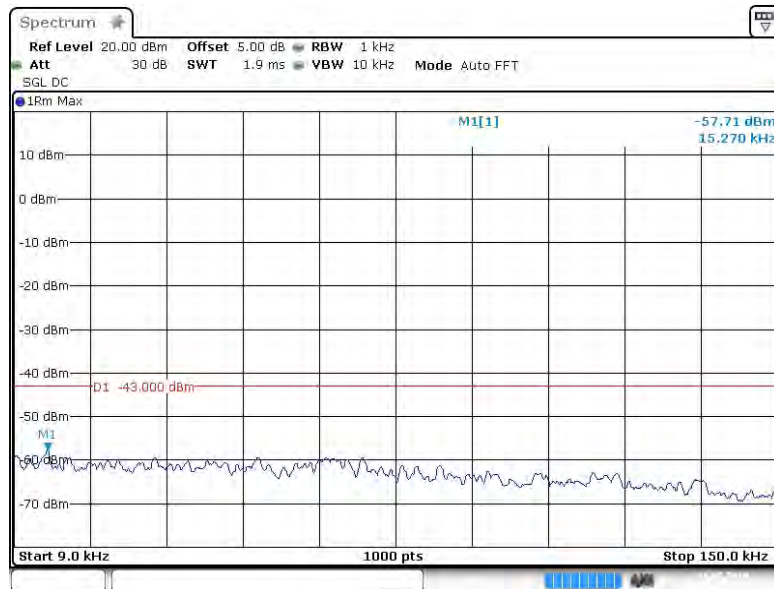
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GSM850\_128



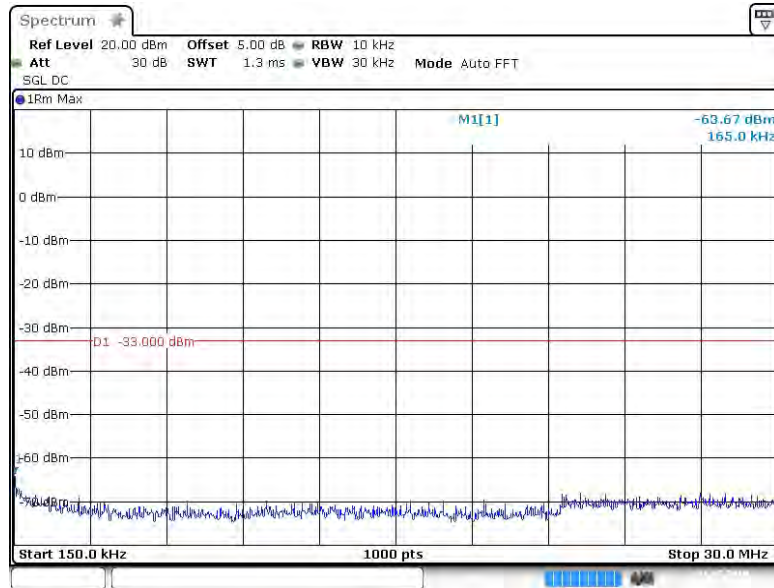
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GSM850\_190



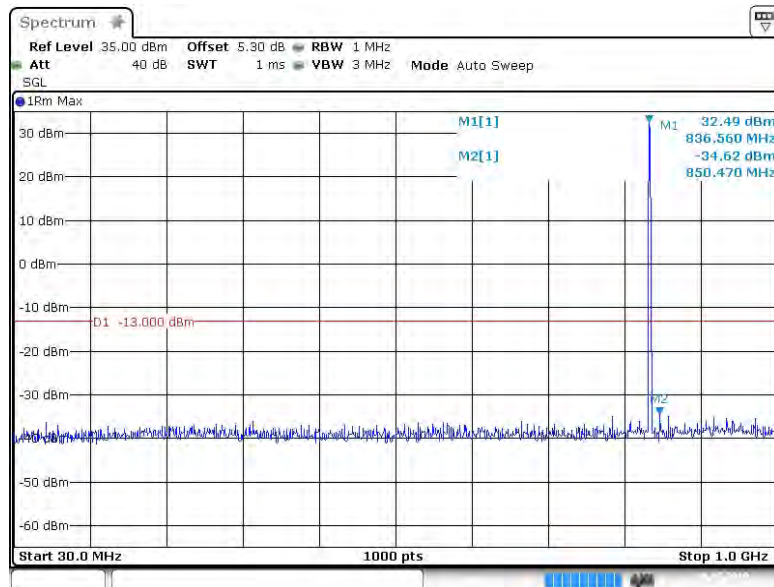
Date: 31 JUL 2018 18:35:05

GSM850\_190



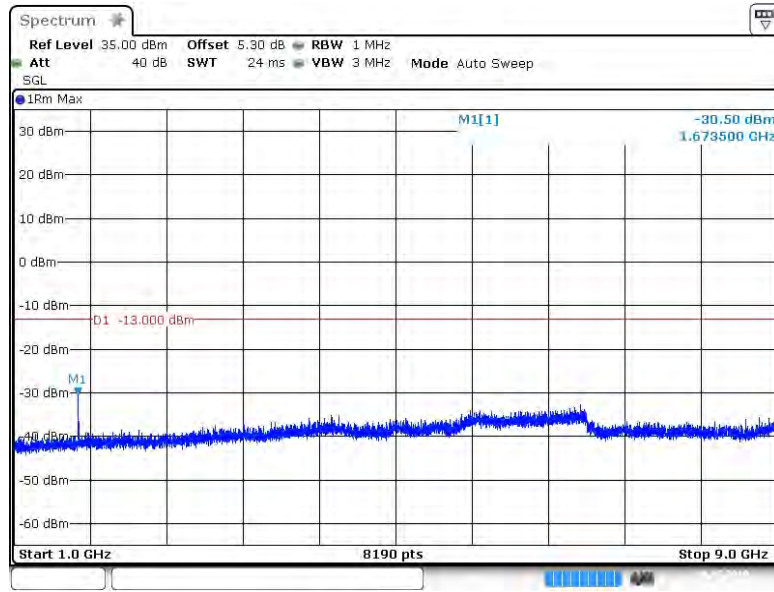
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GSM850\_190



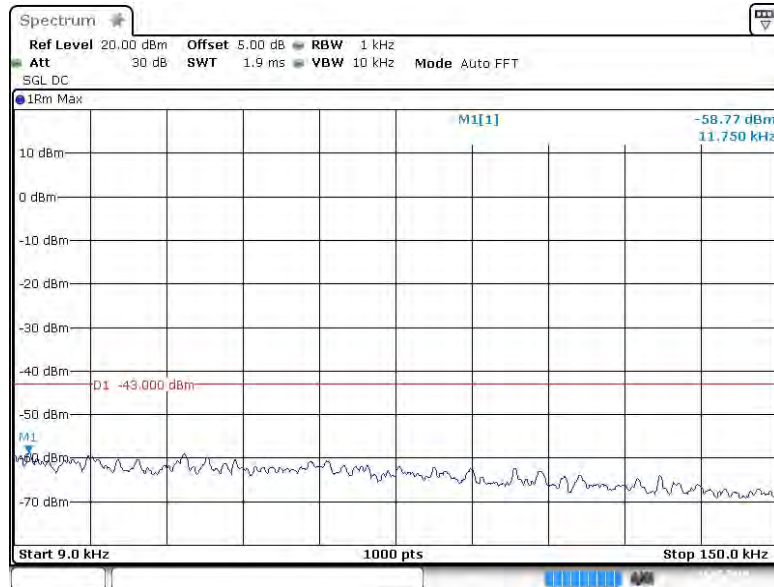
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GSM850\_190



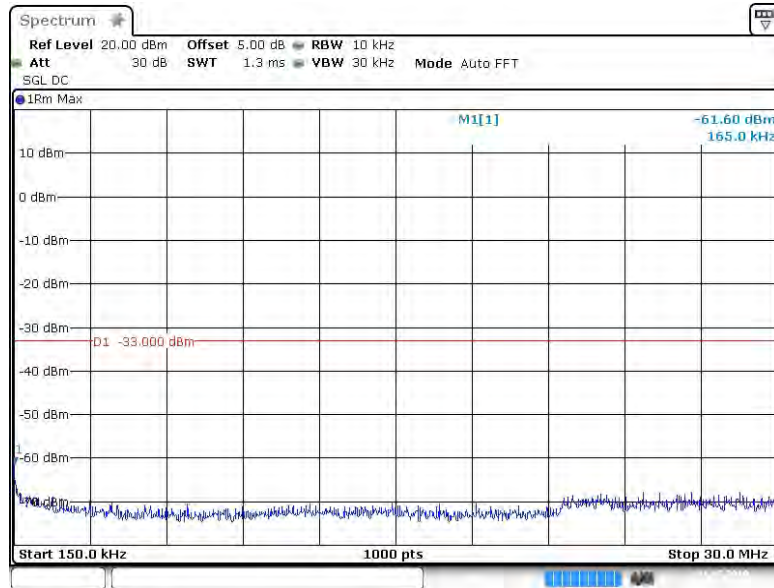
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GSM850\_251



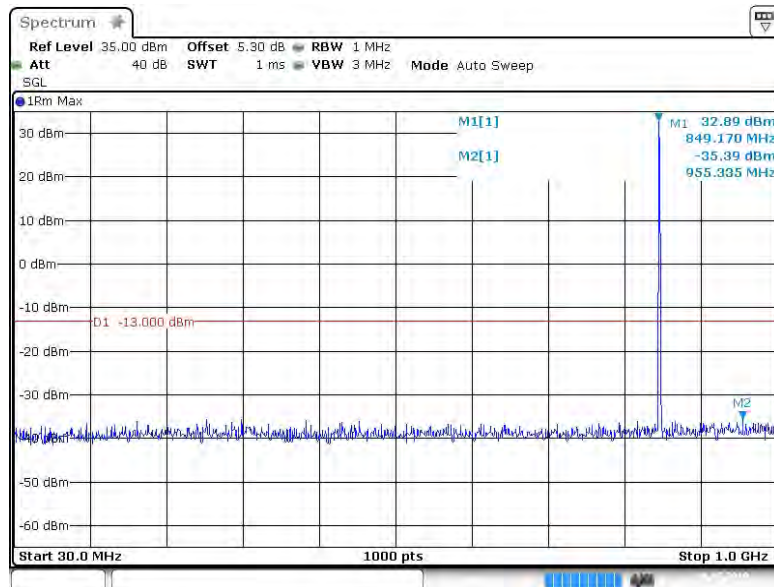
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GSM850\_251



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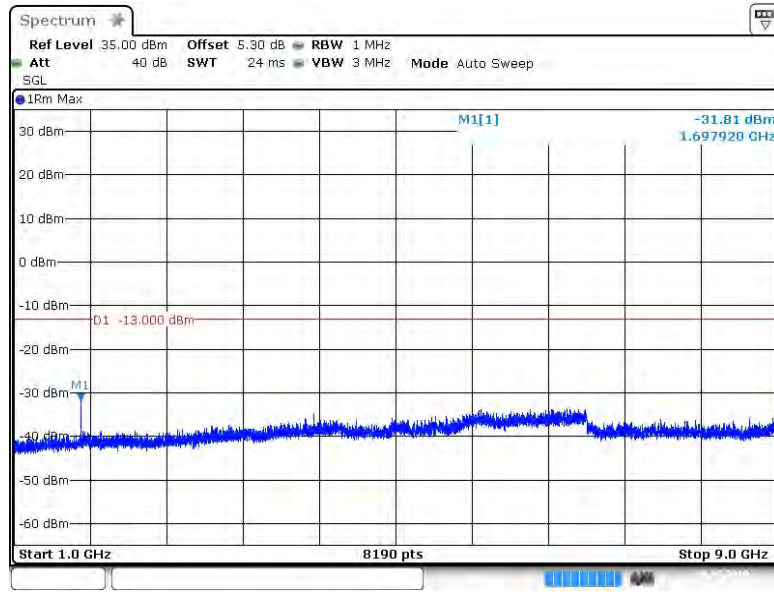
GSM850\_251



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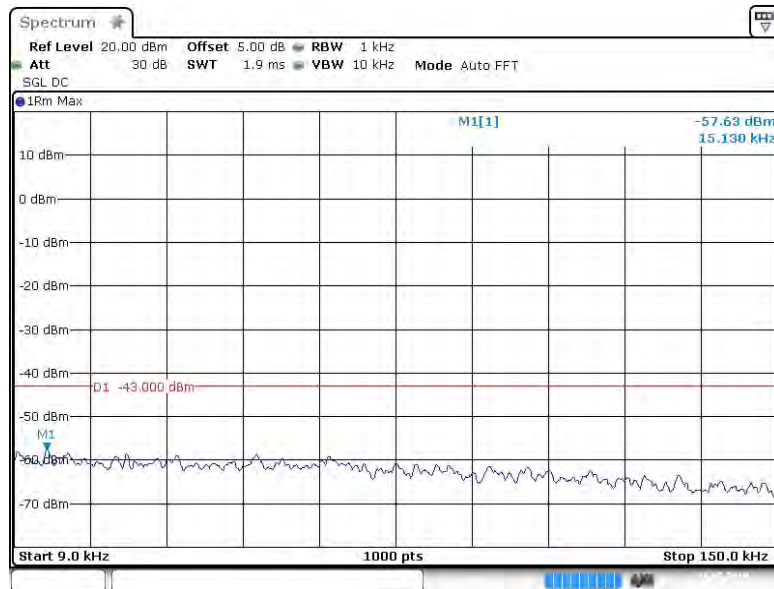
GSM850\_251





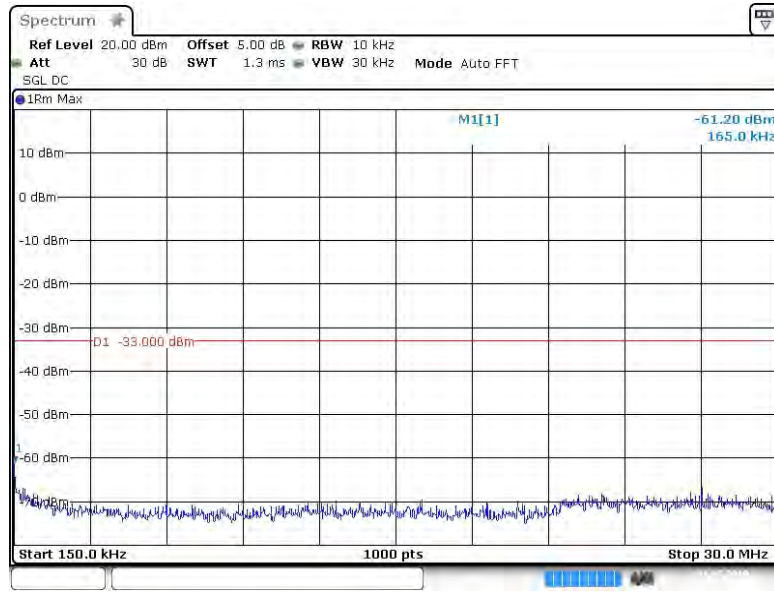
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EGPRS850\_128



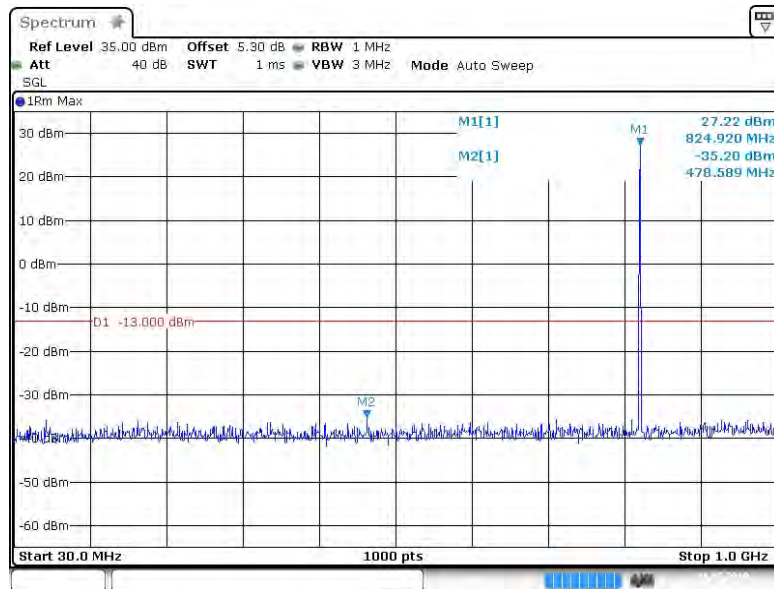
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EGPRS850\_128



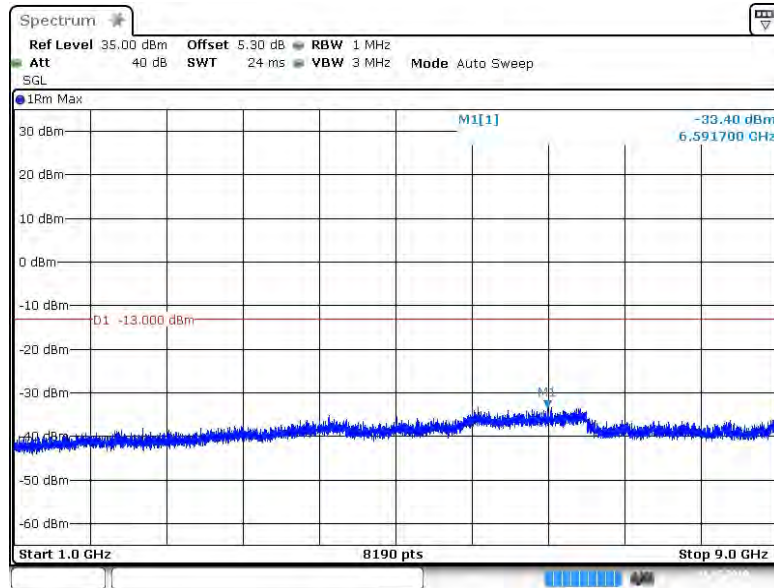
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EGPRS850\_128



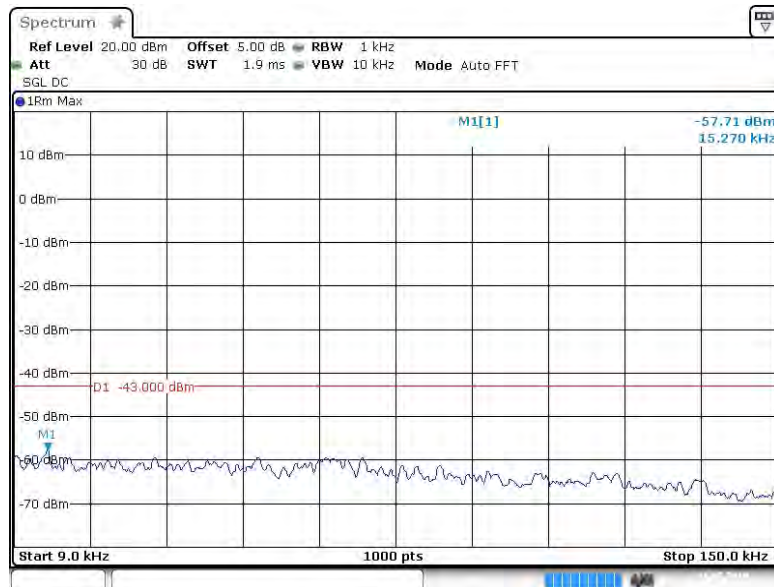
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EGPRS850\_128



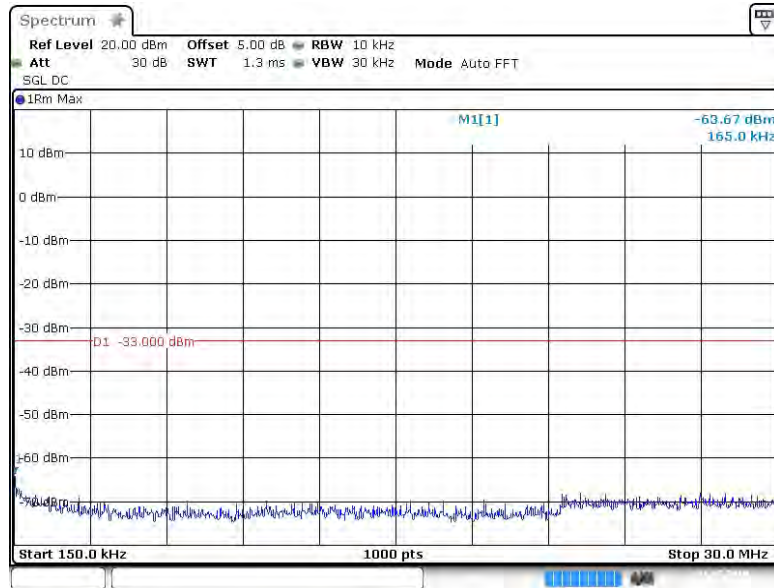
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EGPRS850\_190



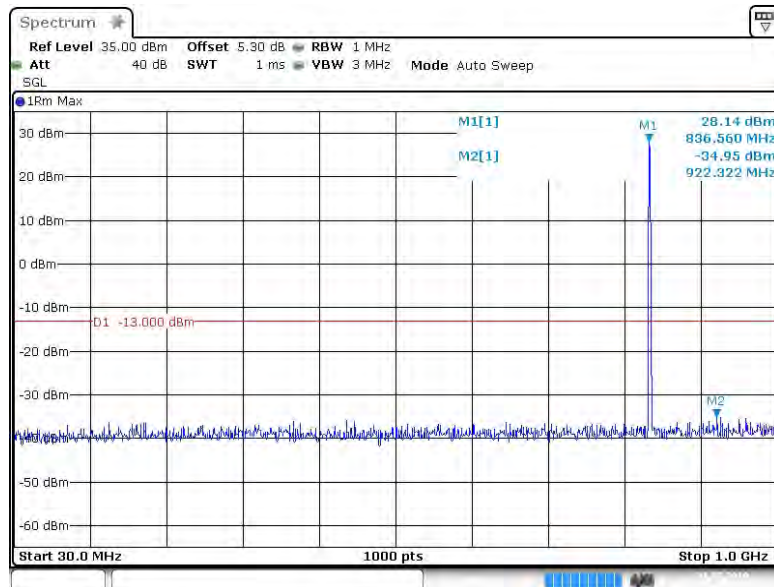
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EGPRS850\_190



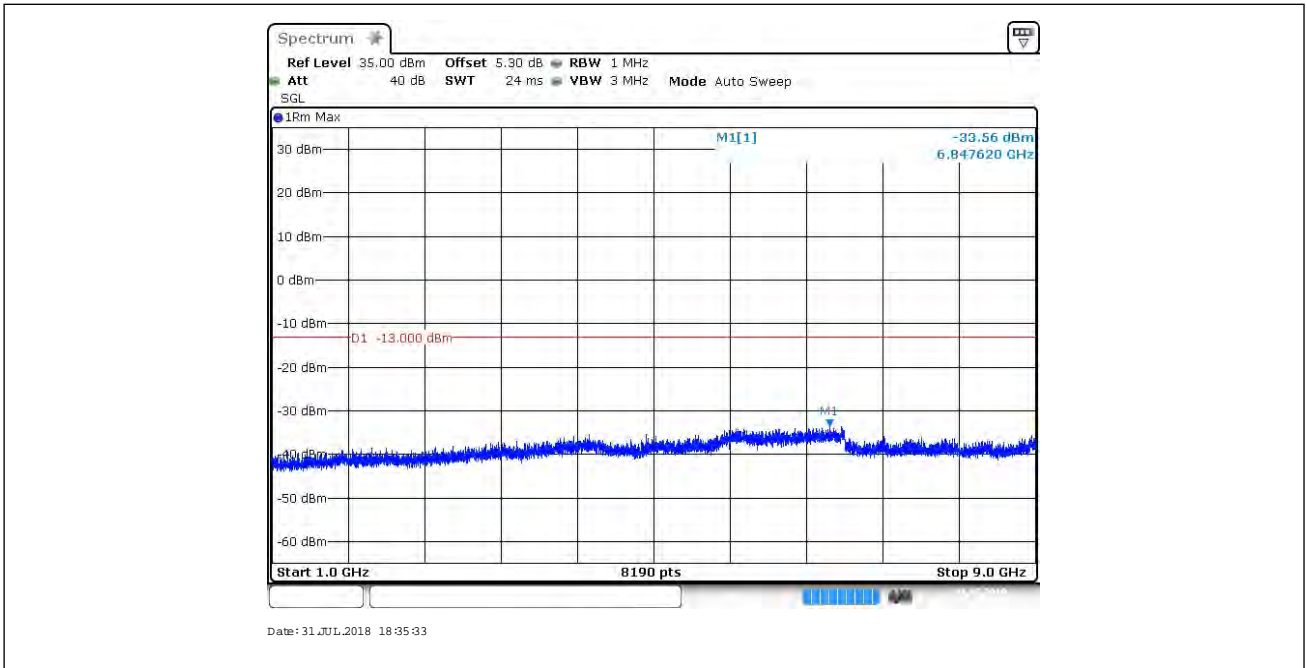
Date: 31 JUL 2018 18:35:14

EGPRS850\_190

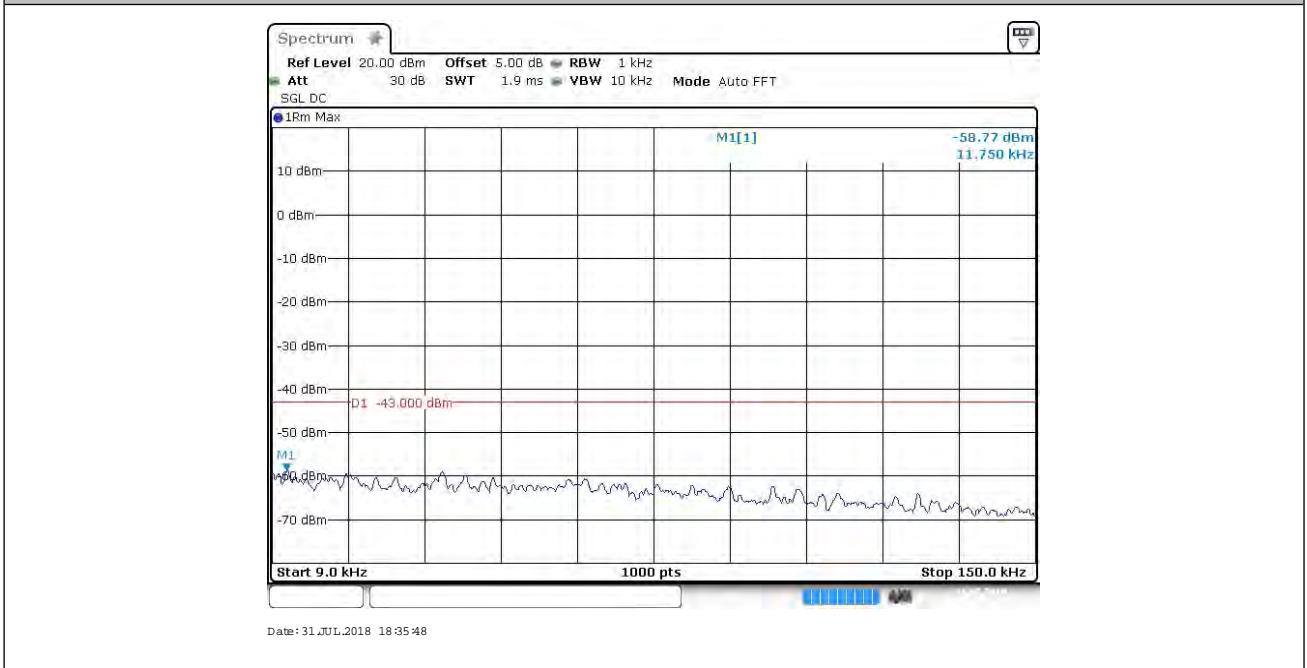


Date: 31 JUL 2018 18:35:24

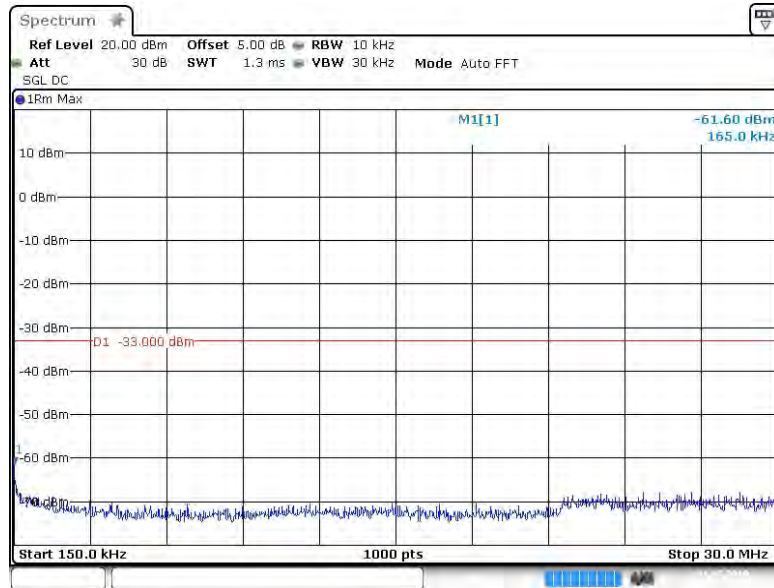
EGPRS850\_190



EGPRS850\_251

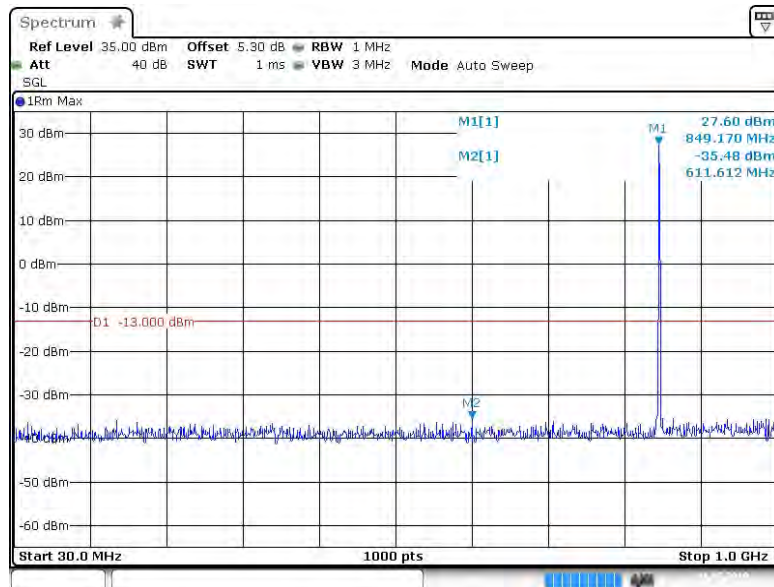


EGPRS850\_251



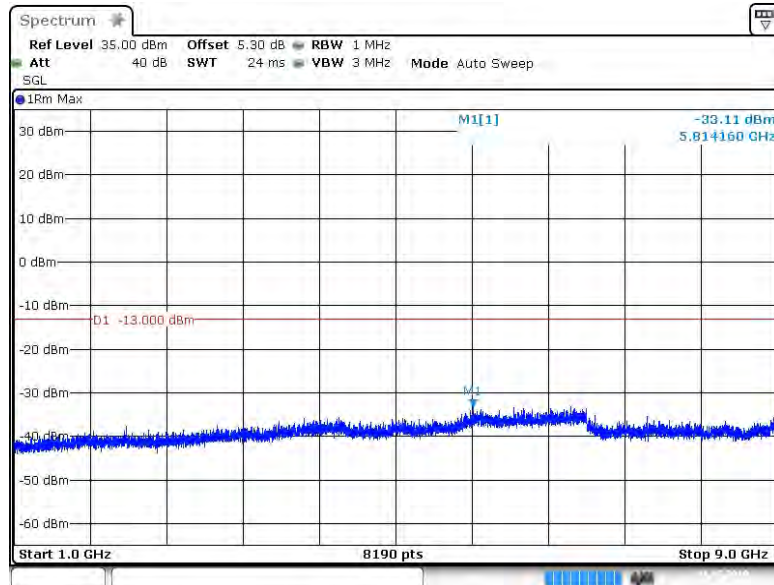
Date: 31 JUL 2018 18:35:57

EGPRS850\_251



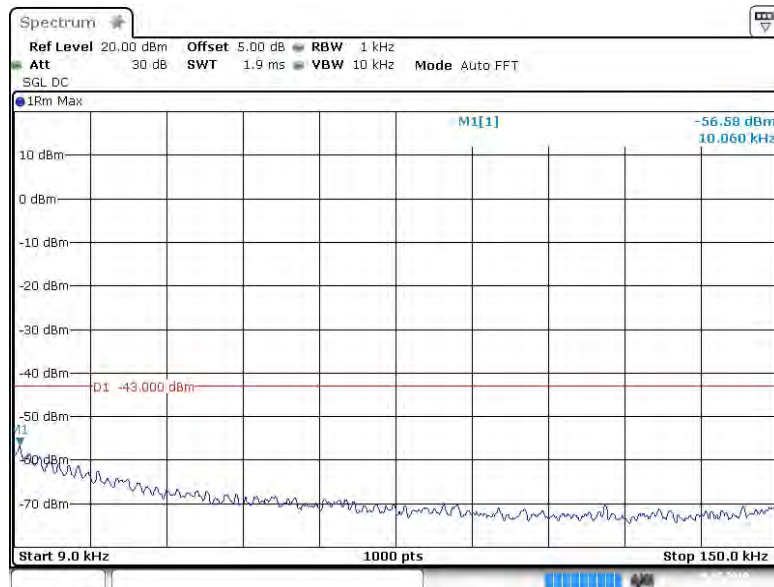
Date: 31 JUL 2018 18:36:07

EGPRS850\_251



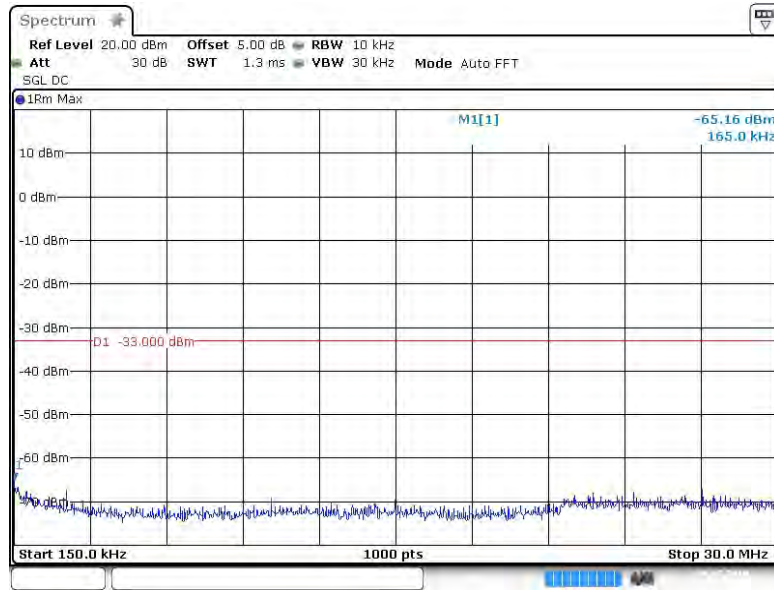
Date: 31 JUL 2018 18:36:16

GSM1900\_512



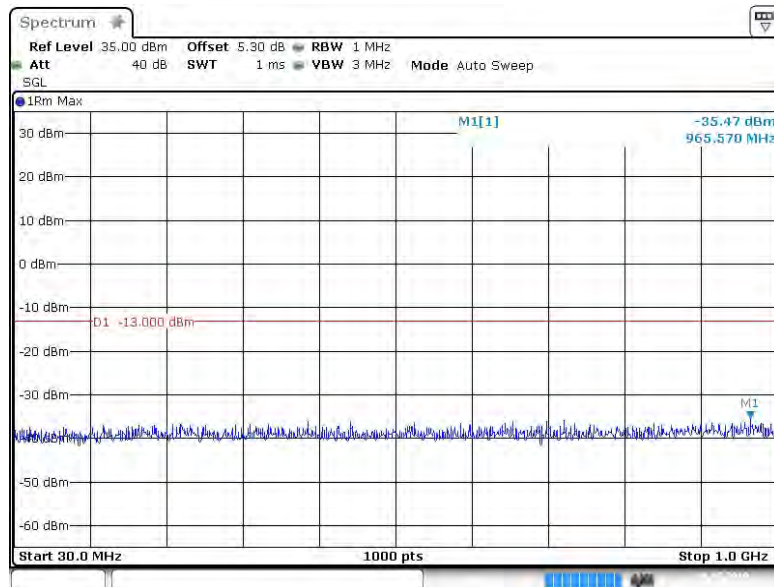
Date: 26 JUL 2018 06:44:40

GSM1900\_512



Date: 26 JUL 2018 06:44:50

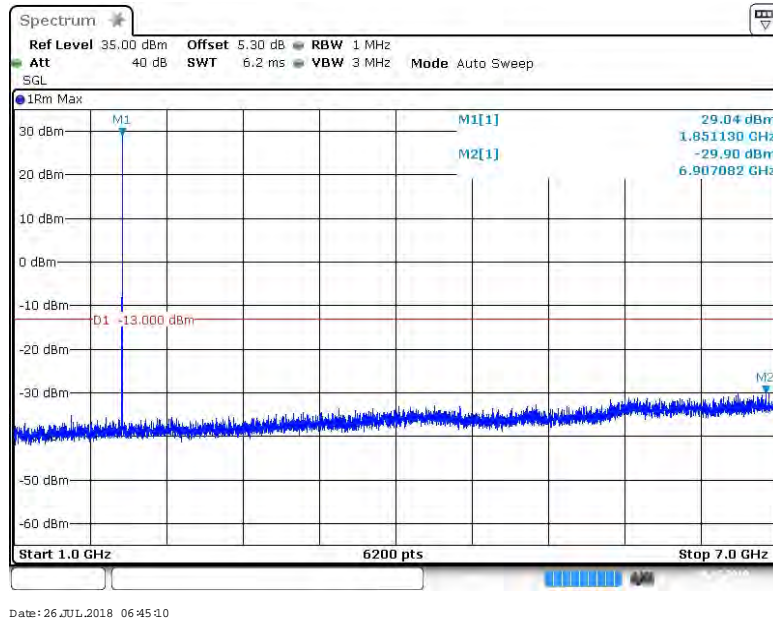
GSM1900\_512



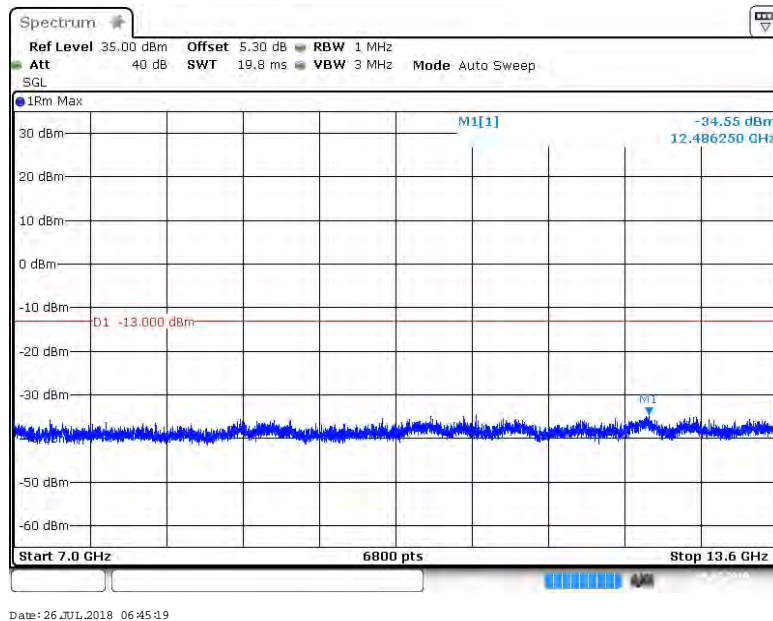
Date: 26 JUL 2018 06:44:59

GSM1900\_512

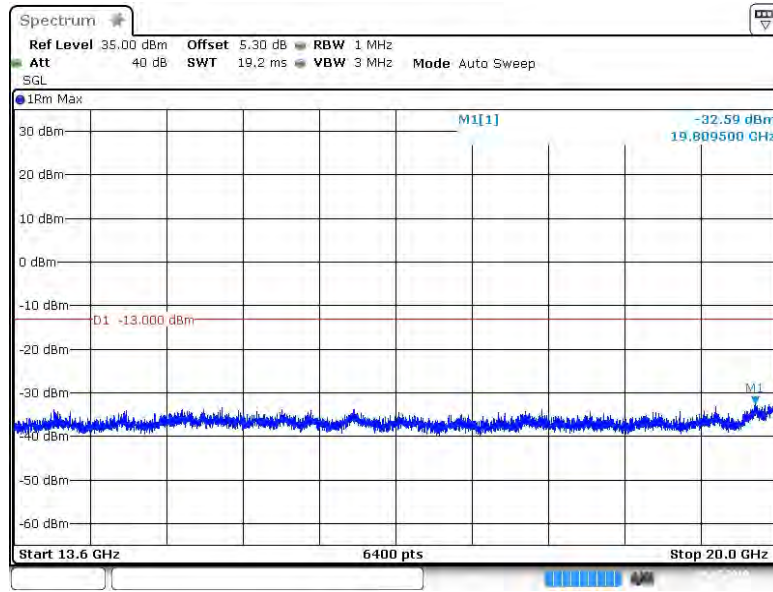




GSM1900\_512

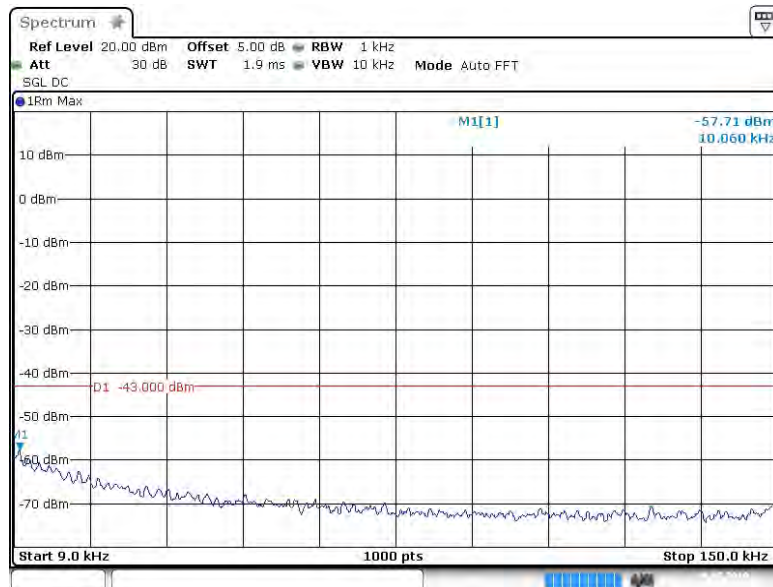


GSM1900\_512



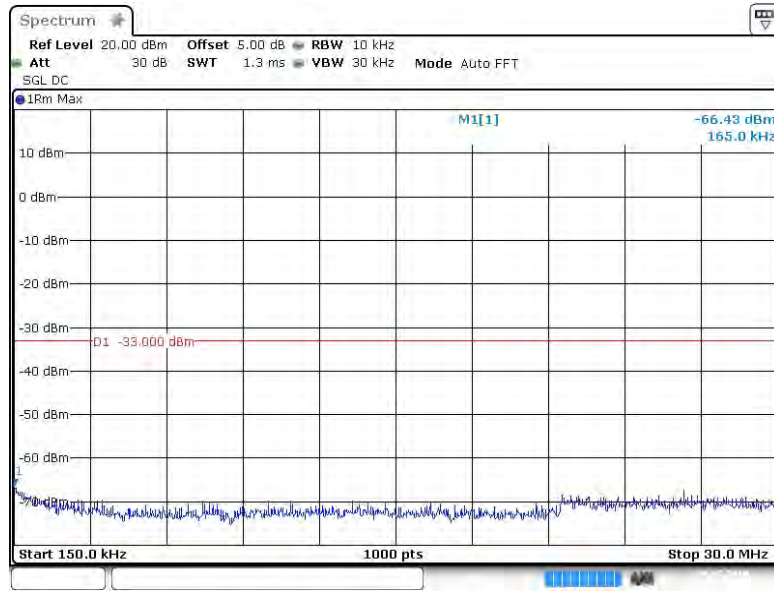
Date: 26 JUL 2018 06:45:29

GSM1900\_661



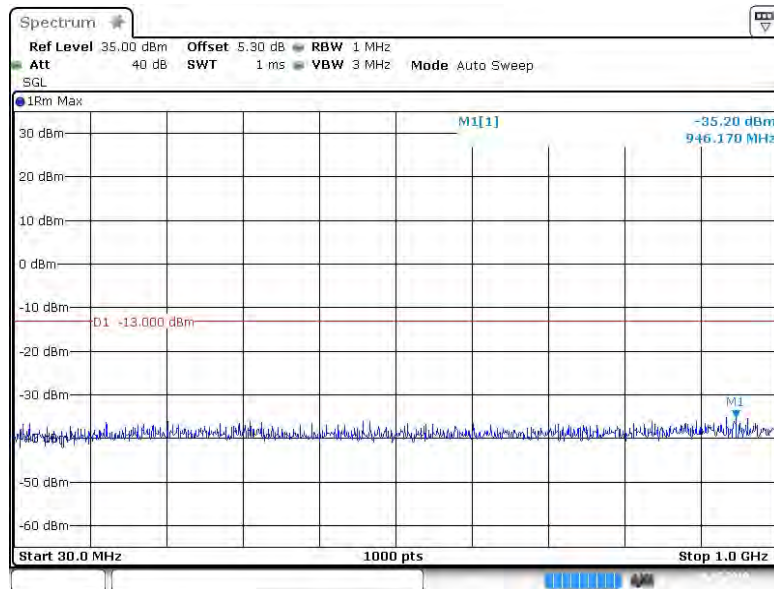
Date: 26 JUL 2018 06:45:46

GSM1900\_661



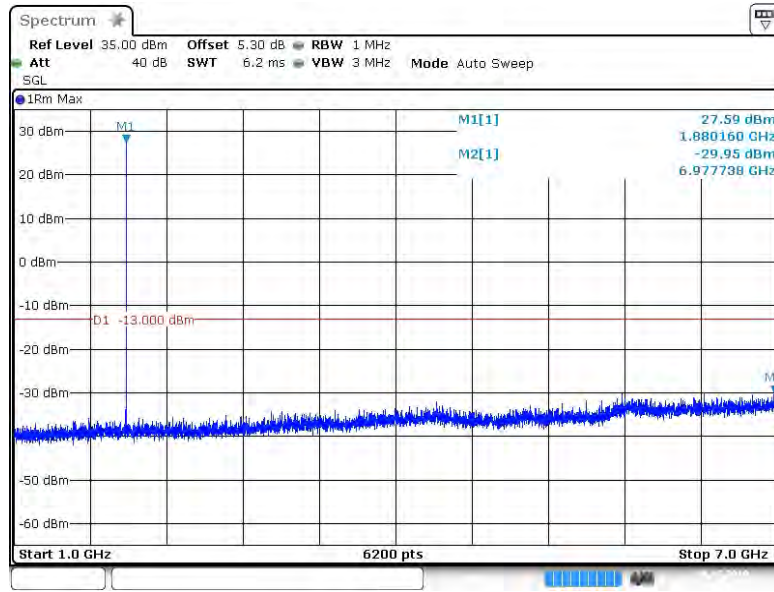
Date: 26 JUL 2018 06:45:55

GSM1900\_661



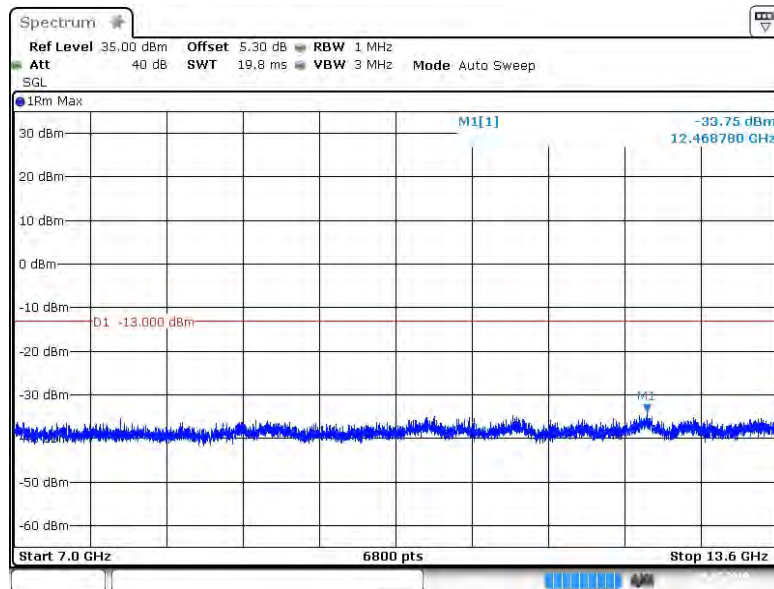
Date: 26 JUL 2018 06:46:05

GSM1900\_661



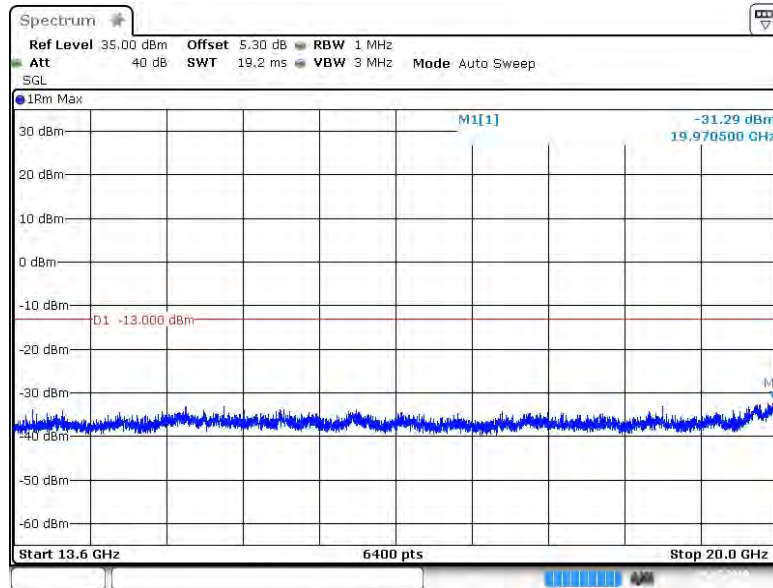
Date: 26 JUL 2018 06:46:16

GSM1900\_661



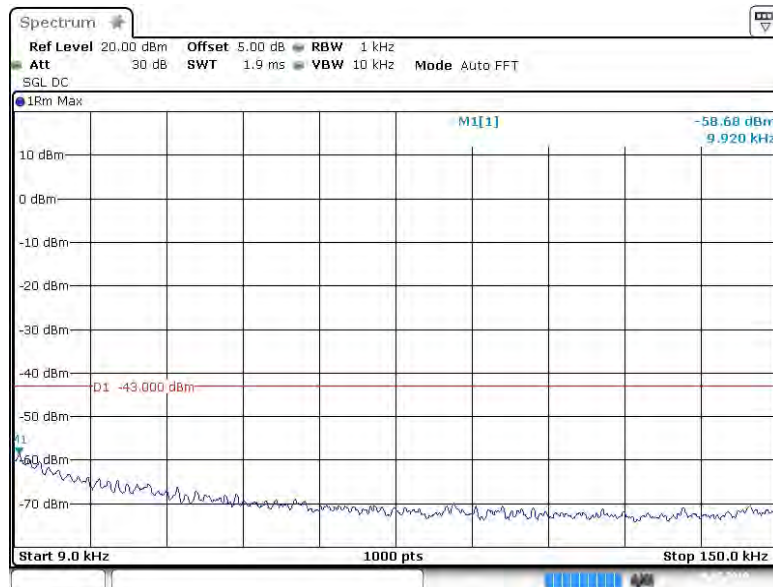
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GSM1900\_661



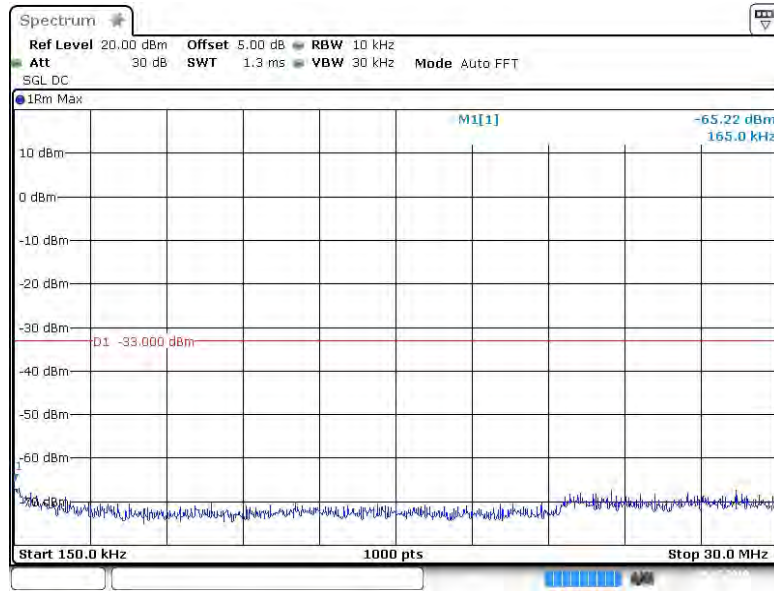
Date: 26 JUL 2018 06:46:35

GSM1900\_810



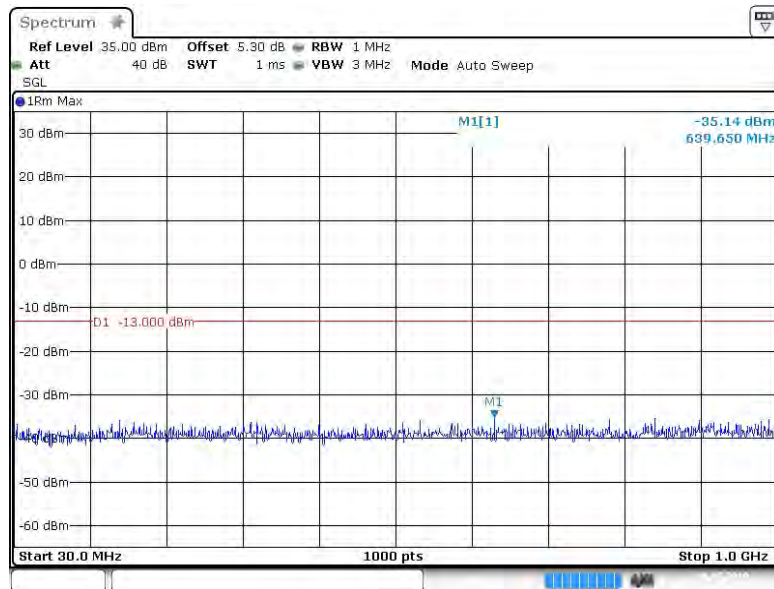
Date: 26 JUL 2018 06:46:51

GSM1900\_810



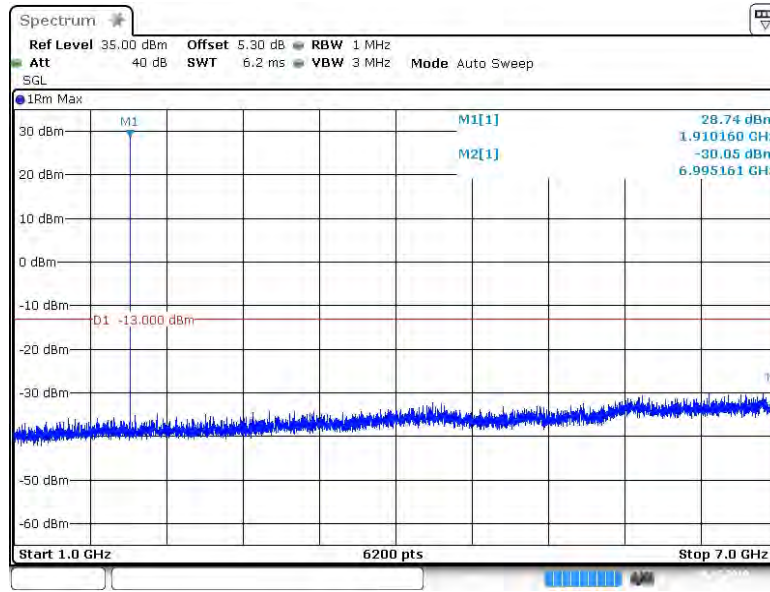
Date: 26 JUL 2018 06:47:01

GSM1900\_810



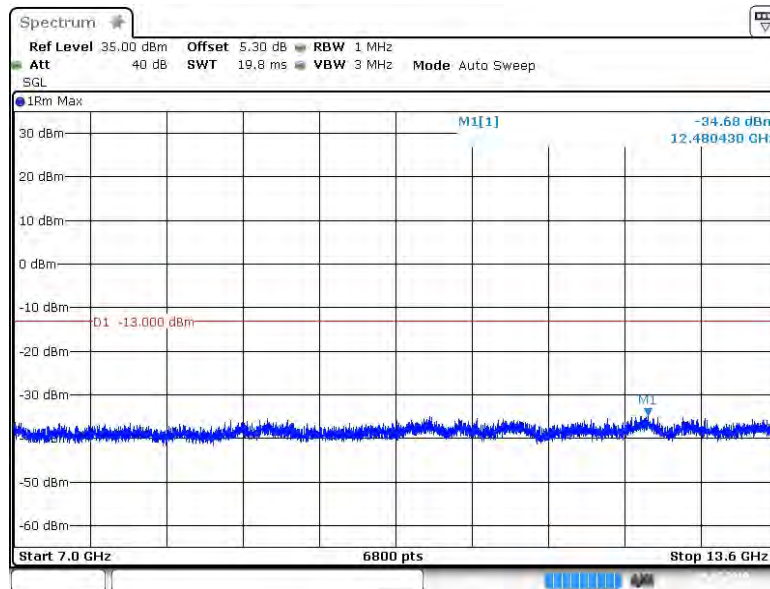
Date: 26 JUL 2018 06:47:10

GSM1900\_810



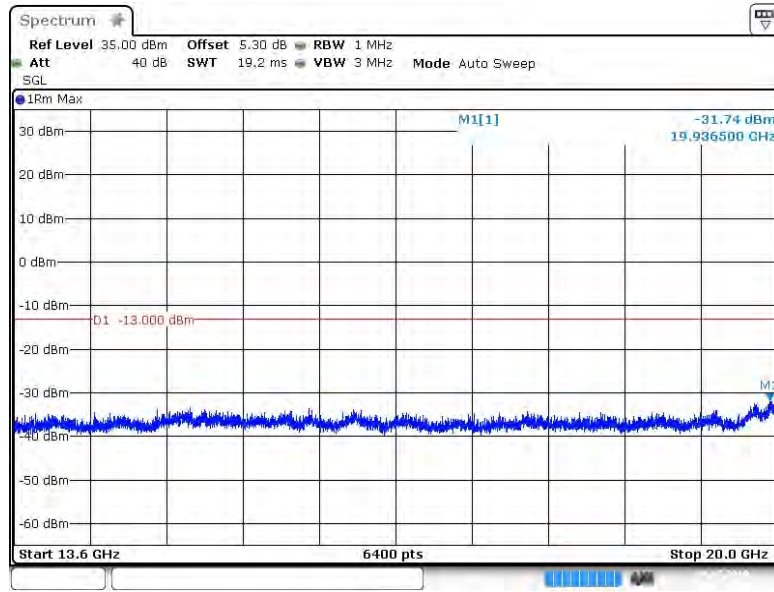
Date: 26 JUL 2018 06:47:21

GSM1900\_810



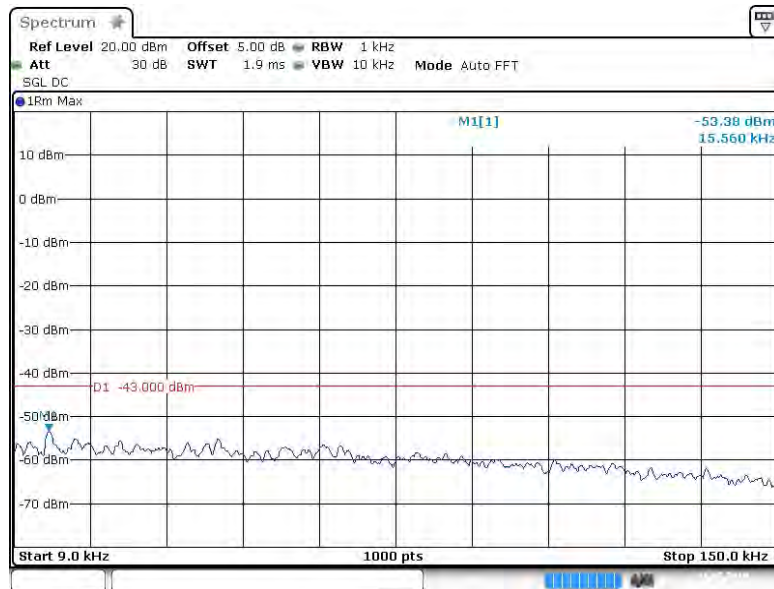
Date: 26 JUL 2018 06:47:31

GSM1900\_810



Date: 26 JUL 2018 06:47:40

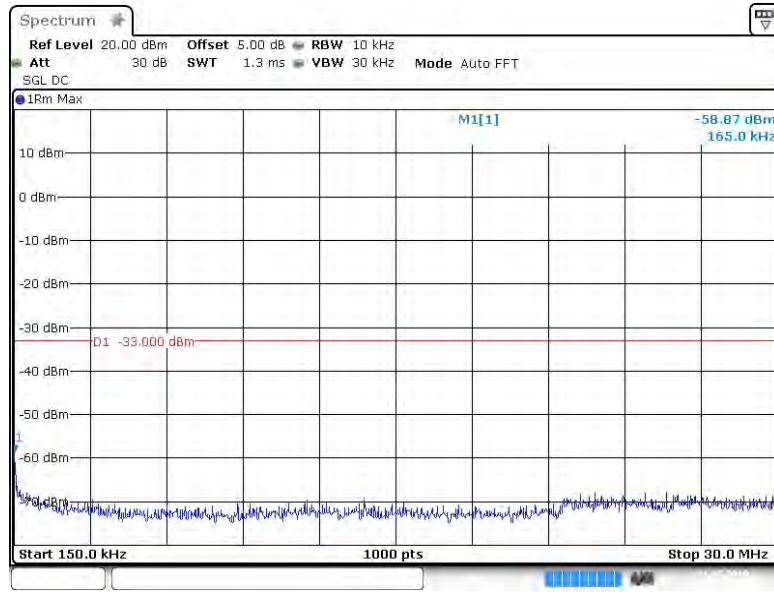
EGPRS1900\_512



Date: 31 JUL 2018 18:42:23

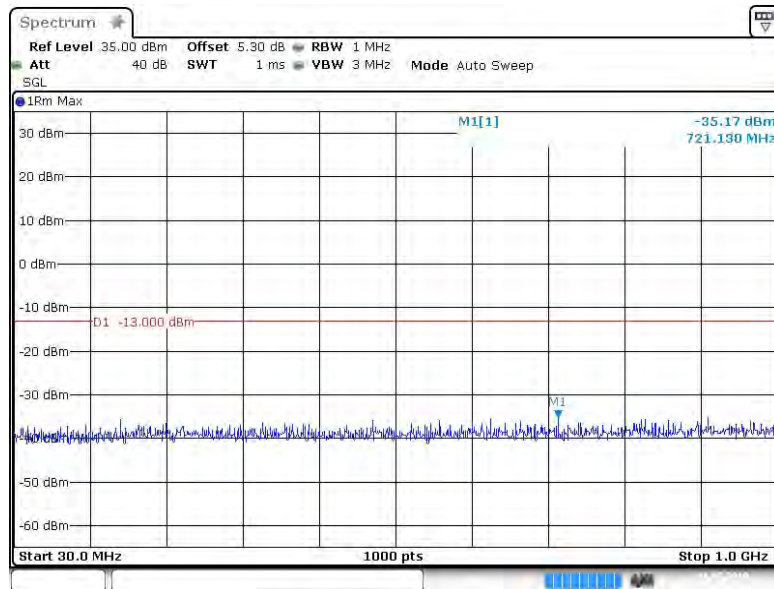
EGPRS1900\_512





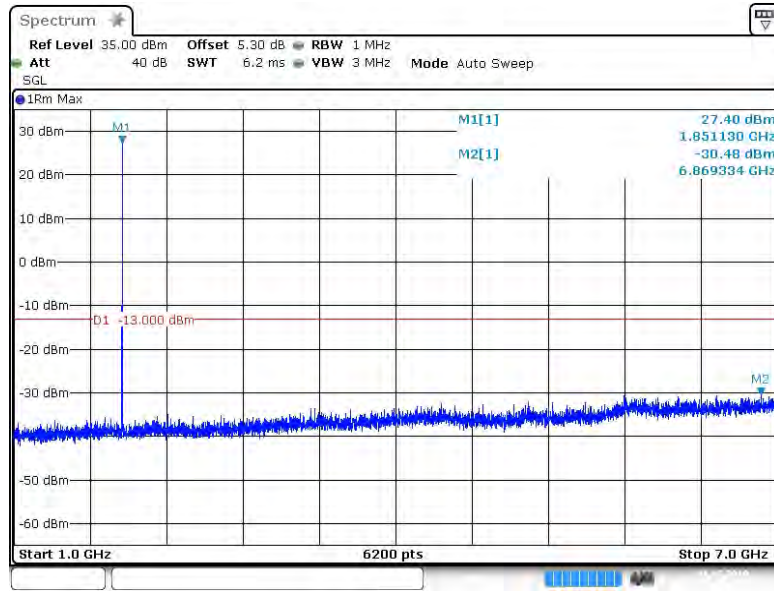
Date: 31 JUL 2018 18:42:32

EGPRS1900\_512



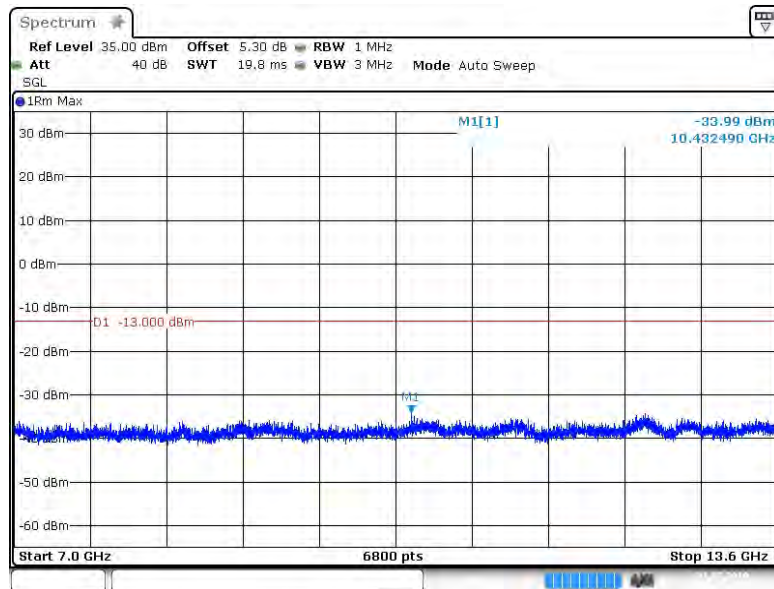
Date: 31 JUL 2018 18:42:41

EGPRS1900\_512



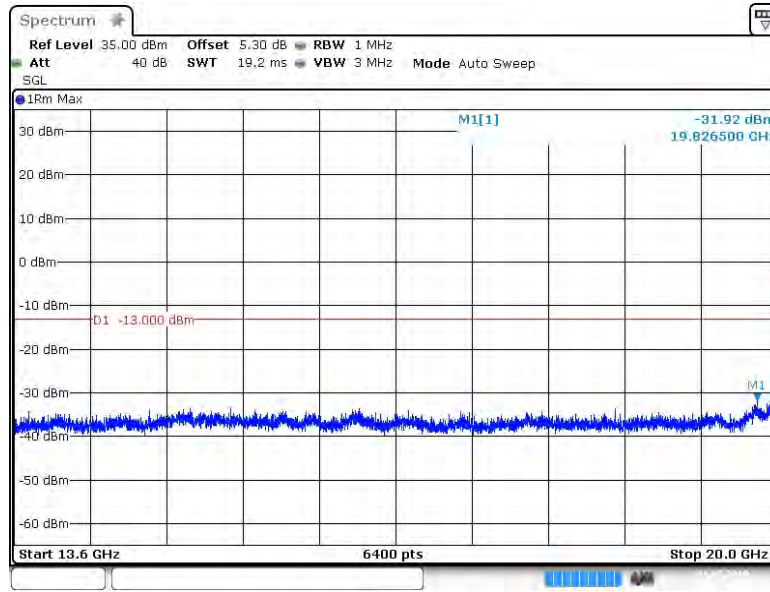
Date: 31 JUL 2018 18:42:51

EGPRS1900\_512



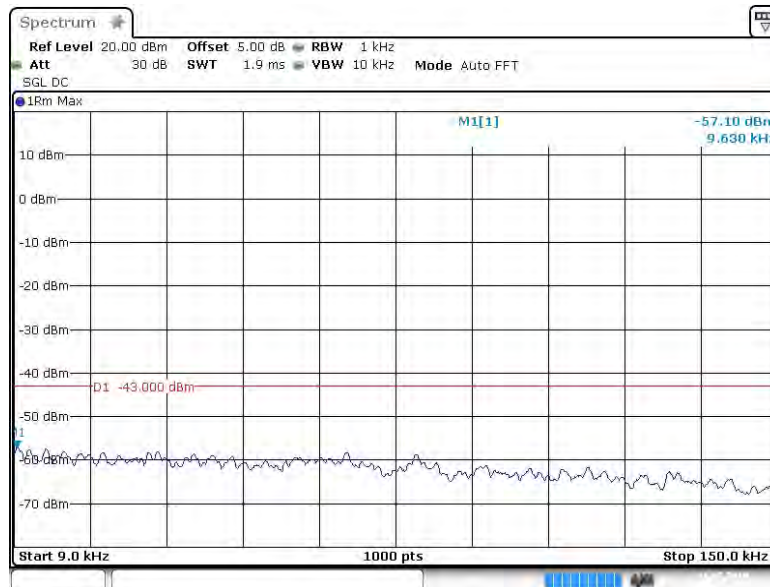
Date: 31 JUL 2018 18:43:00

EGPRS1900\_512



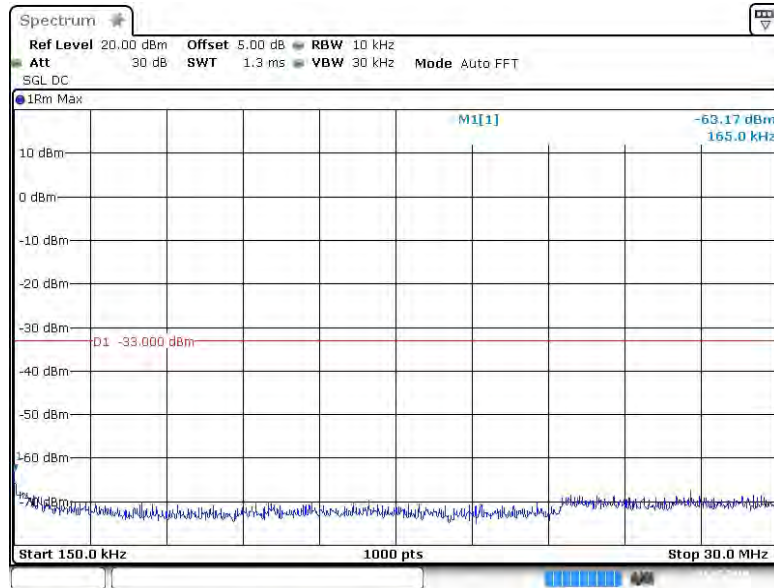
Date: 31 JUL 2018 18:43:09

EGPRS1900\_661



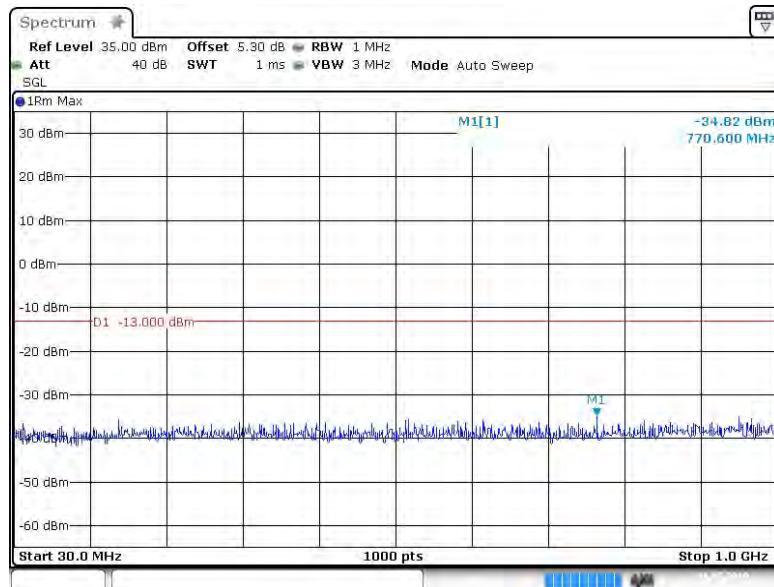
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EGPRS1900\_661



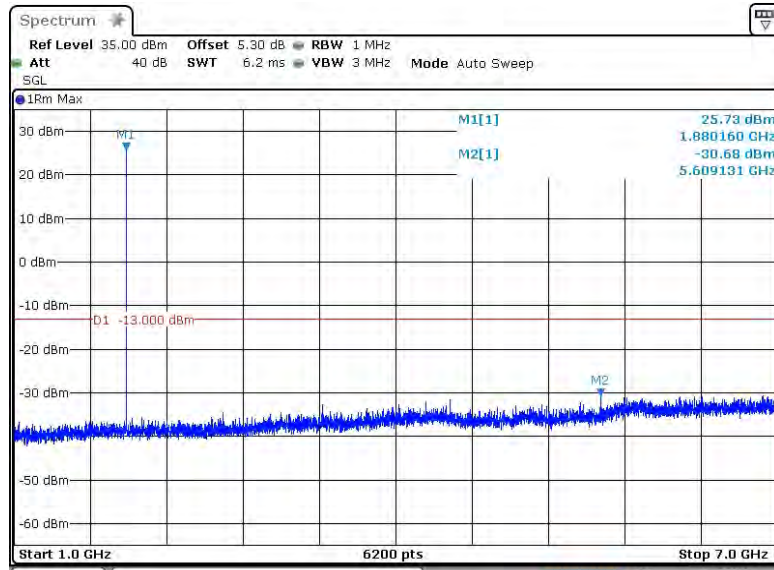
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EGPRS1900\_661



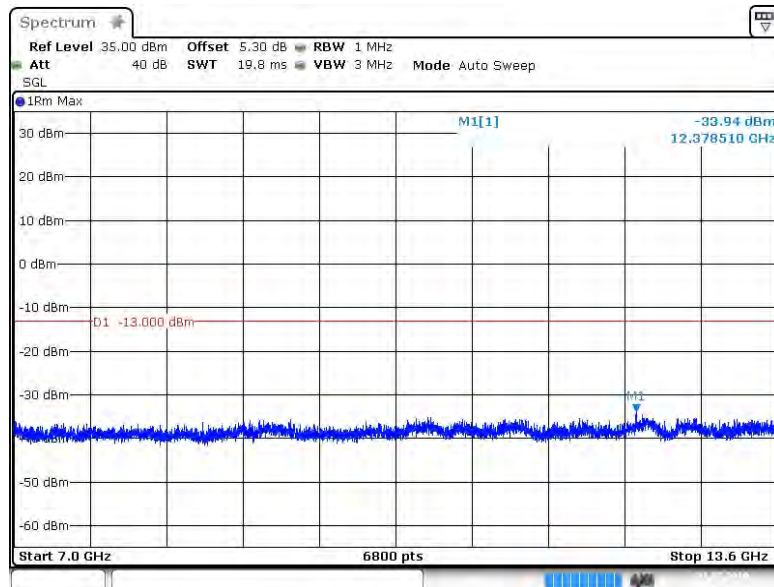
Date: 31 JUL 2018 18:43:42

EGPRS1900\_661



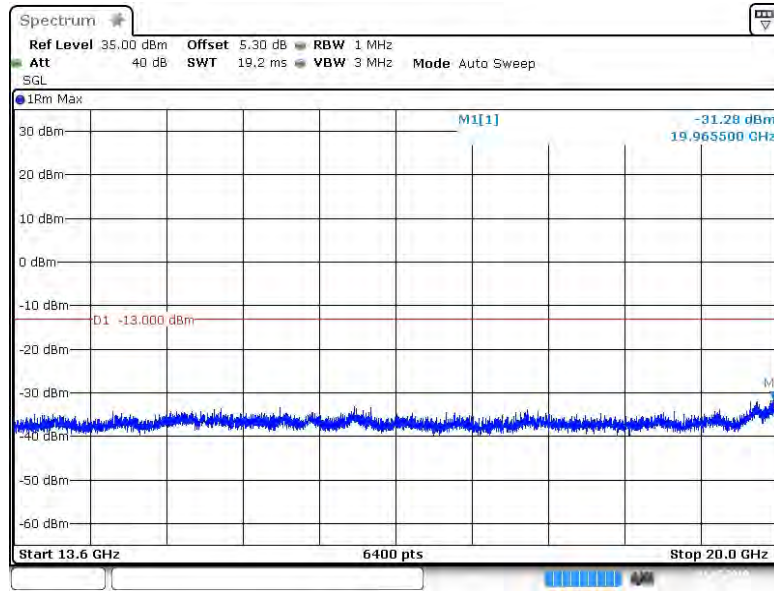
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EGPRS1900\_661



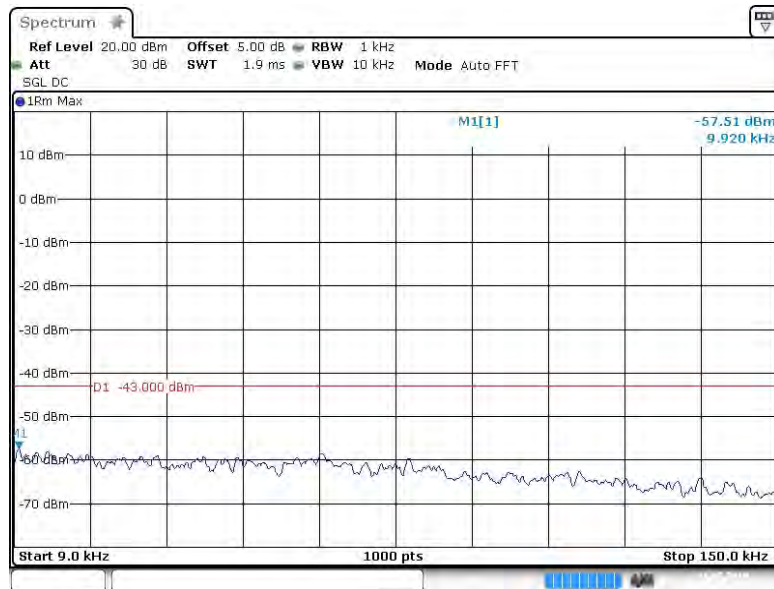
Date: 31.JUL.2018 18:44:01

EGPRS1900\_661



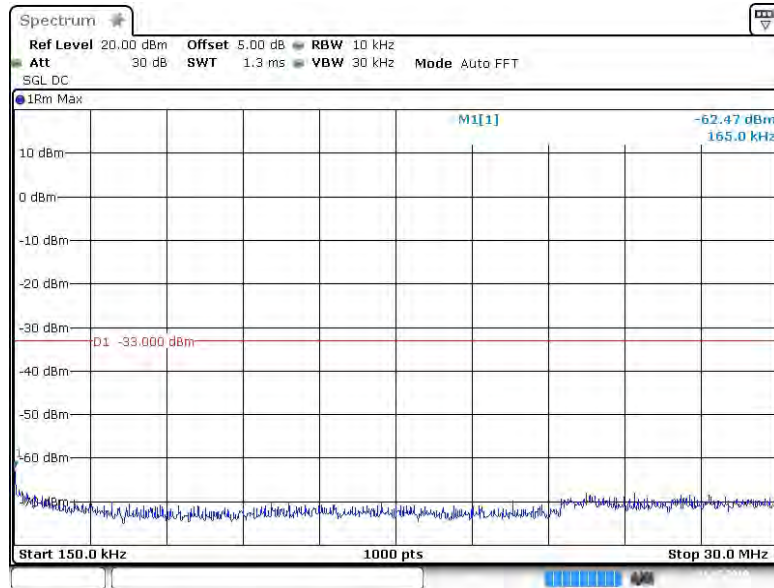
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EGPRS1900\_810



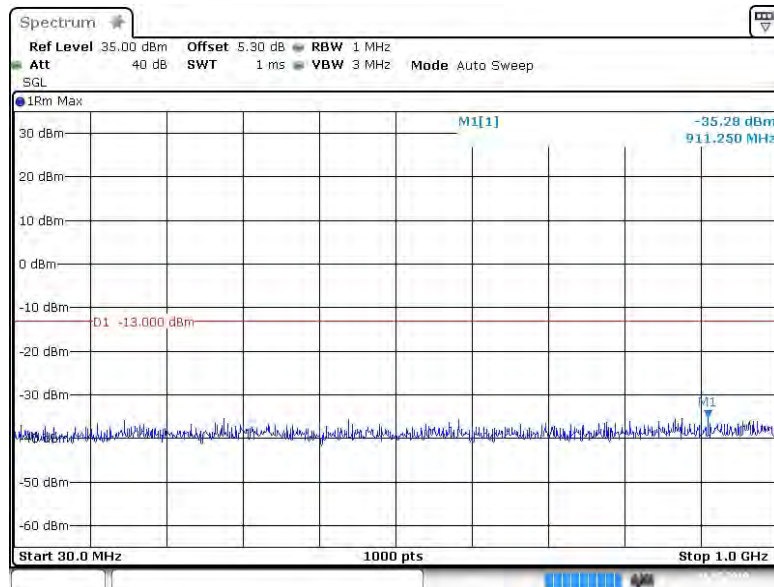
Date: 31 JUL 2018 18:44:25

EGPRS1900\_810



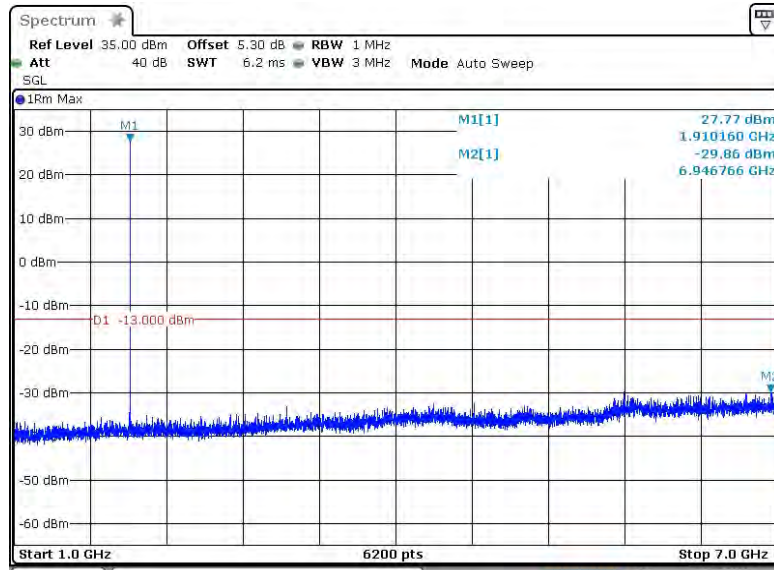
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EGPRS1900\_810



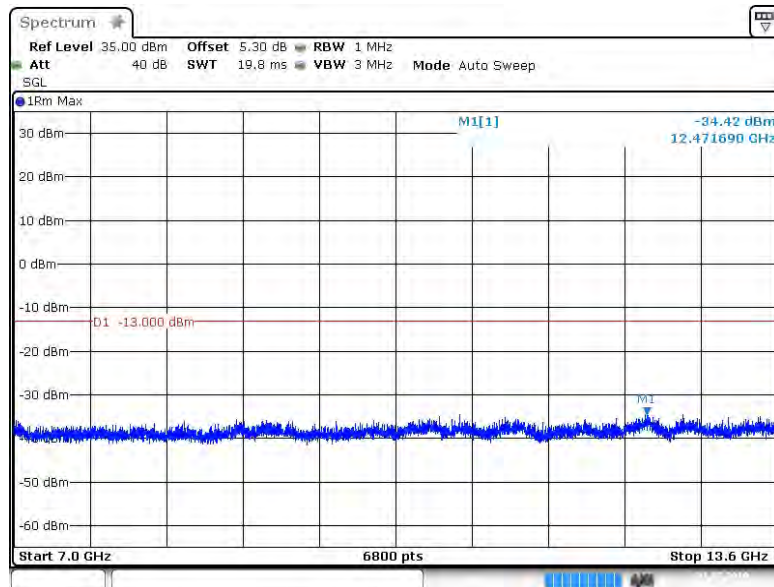
Date: 31 JUL 2018 18:44:43

EGPRS1900\_810



Date: 31 JUL 2018 18:44:53

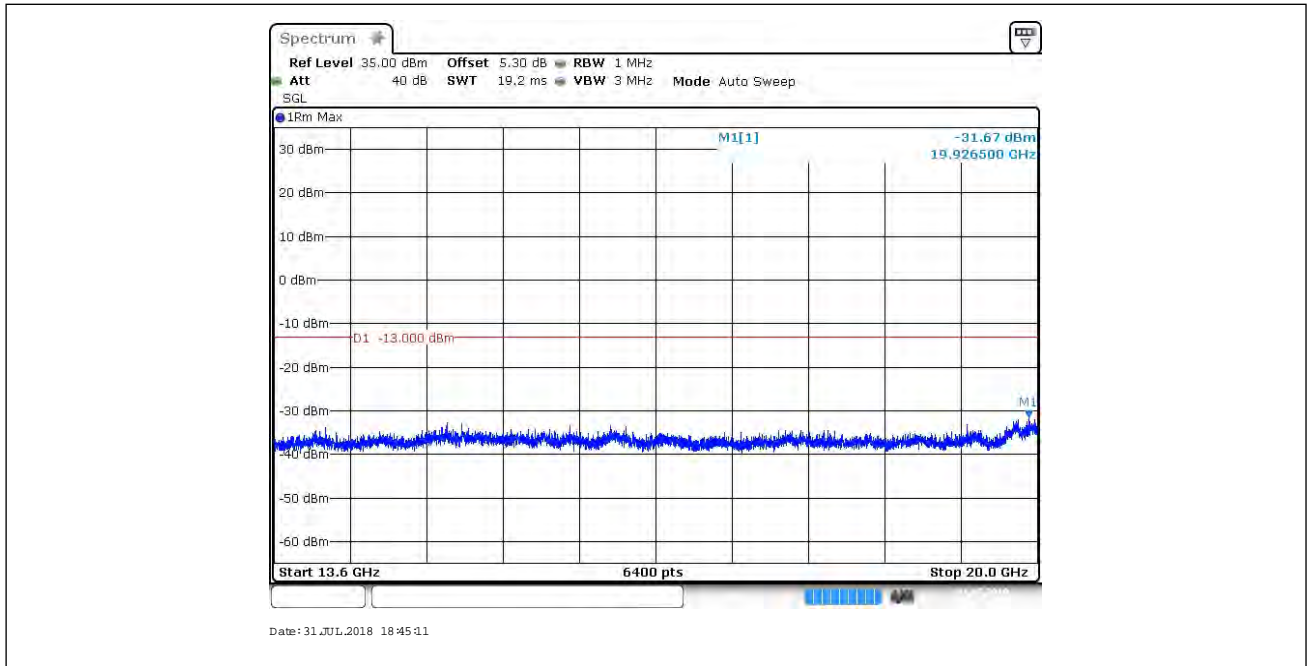
EGPRS1900\_810



Date: 31 JUL 2018 18:45:02

EGPRS1900\_810



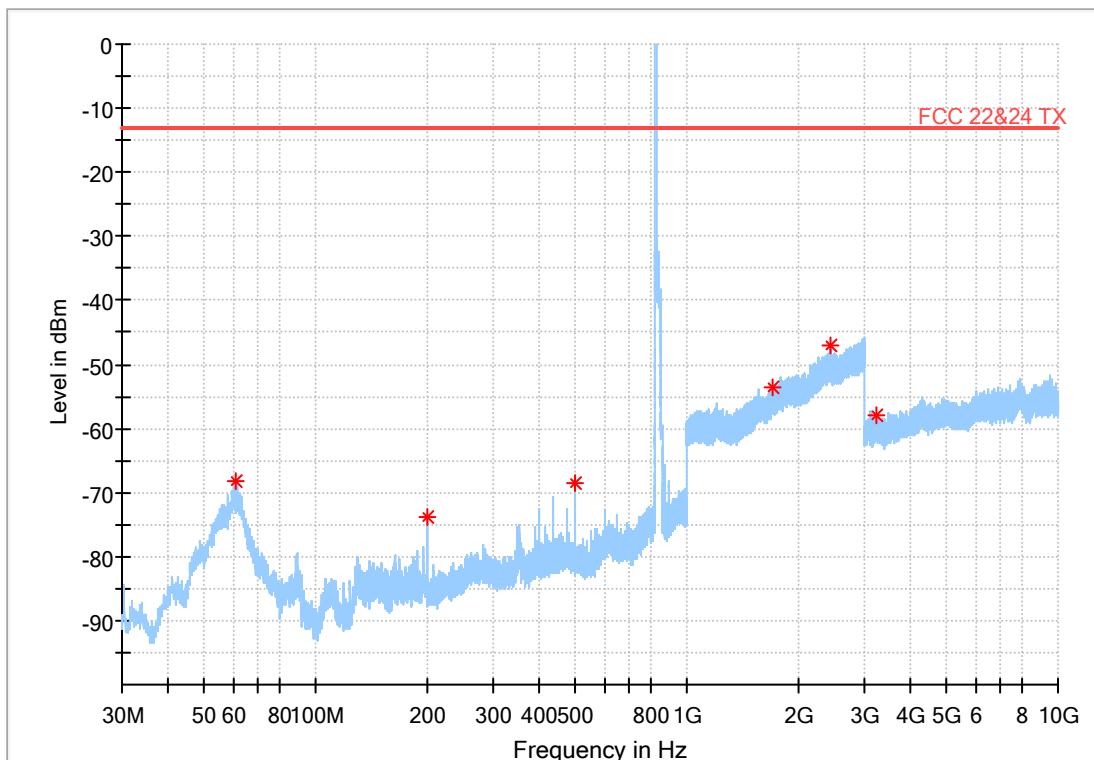


## 7. Field Strength of Spurious Radiation

### 7.1. Test Band = GSM 850-Main Antenna

#### 7.1.1. Test Channel = LCH\_H

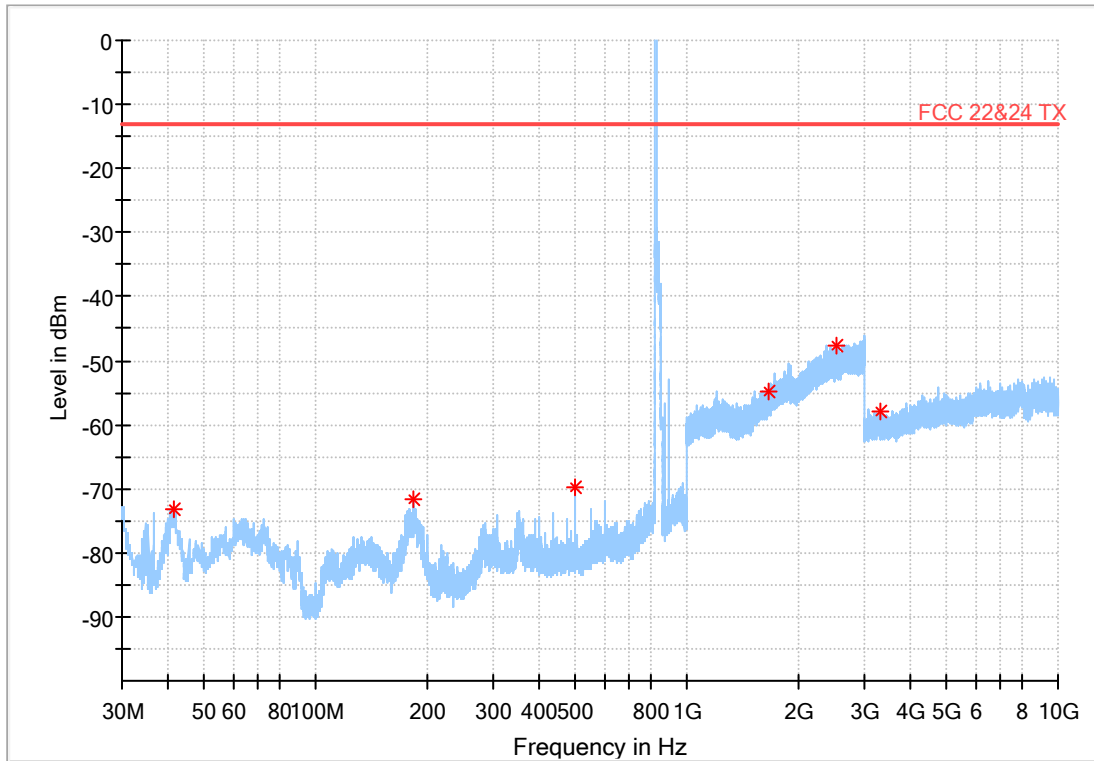
Full Spectrum





### 7.1.2. Test Channel = LCH\_V

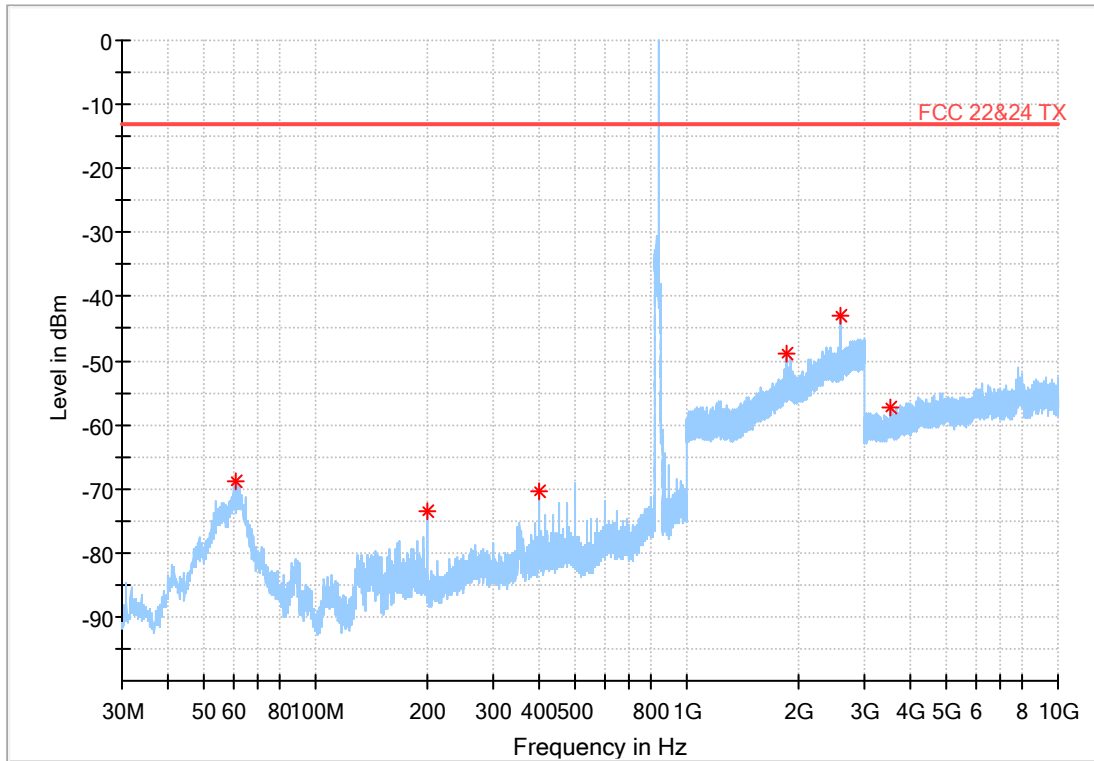
Full Spectrum





### 7.1.3. Test Channel = MCH\_H

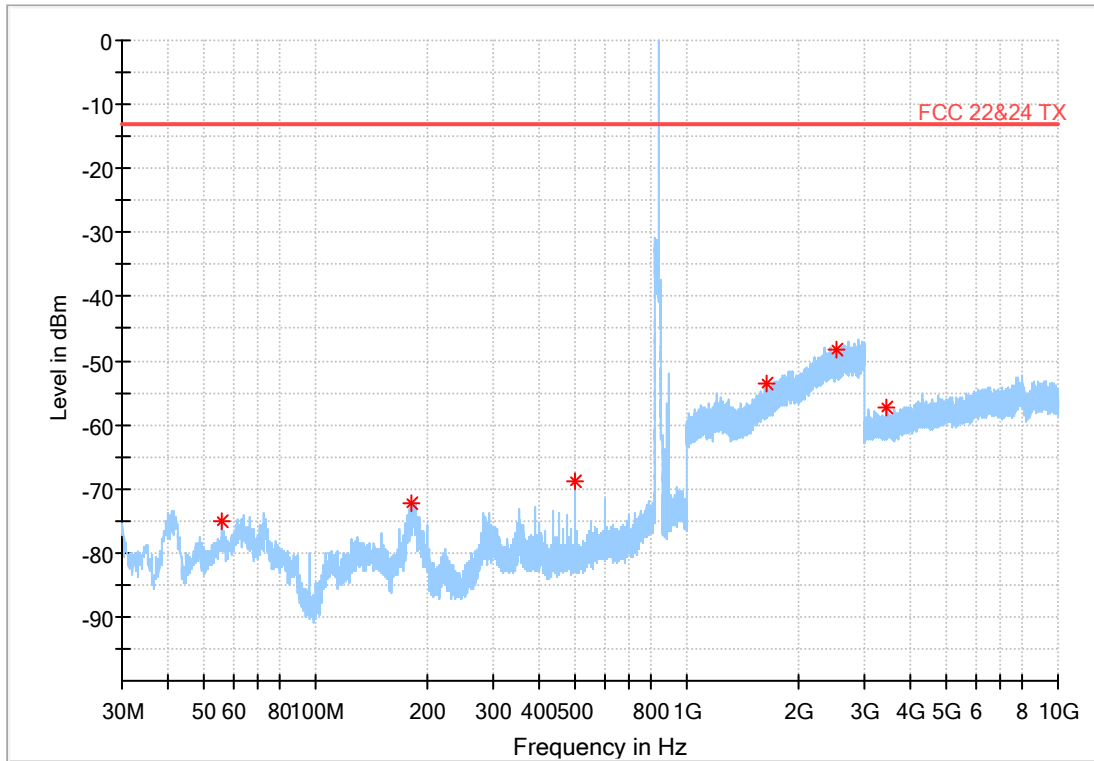
Full Spectrum





### 7.1.4. Test Channel = MCH\_V

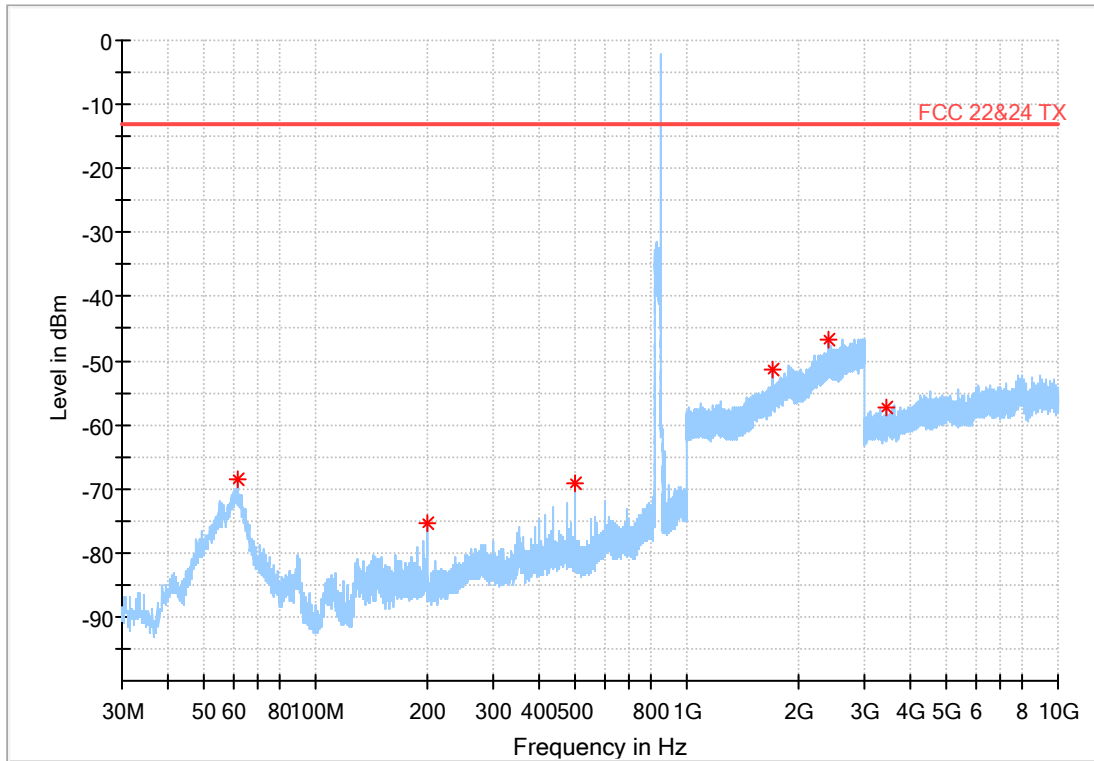
Full Spectrum





### 7.1.5. Test Channel = HCH\_H

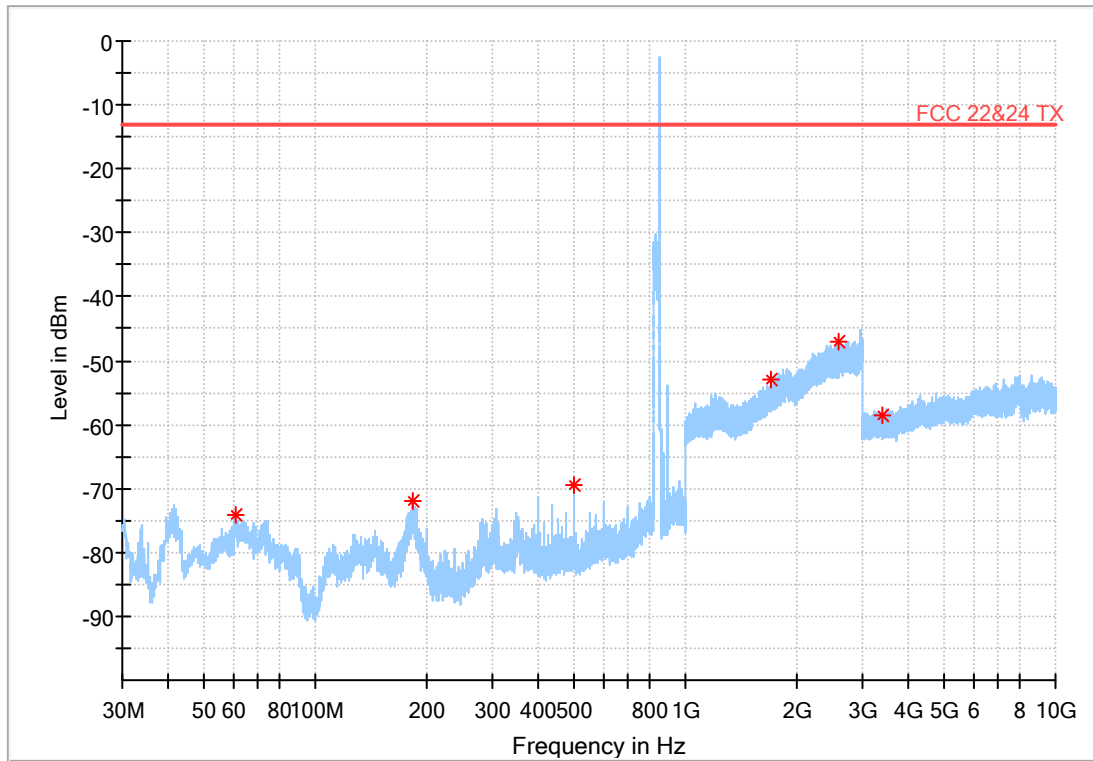
Full Spectrum





### 7.1.6. Test Channel = HCH\_V

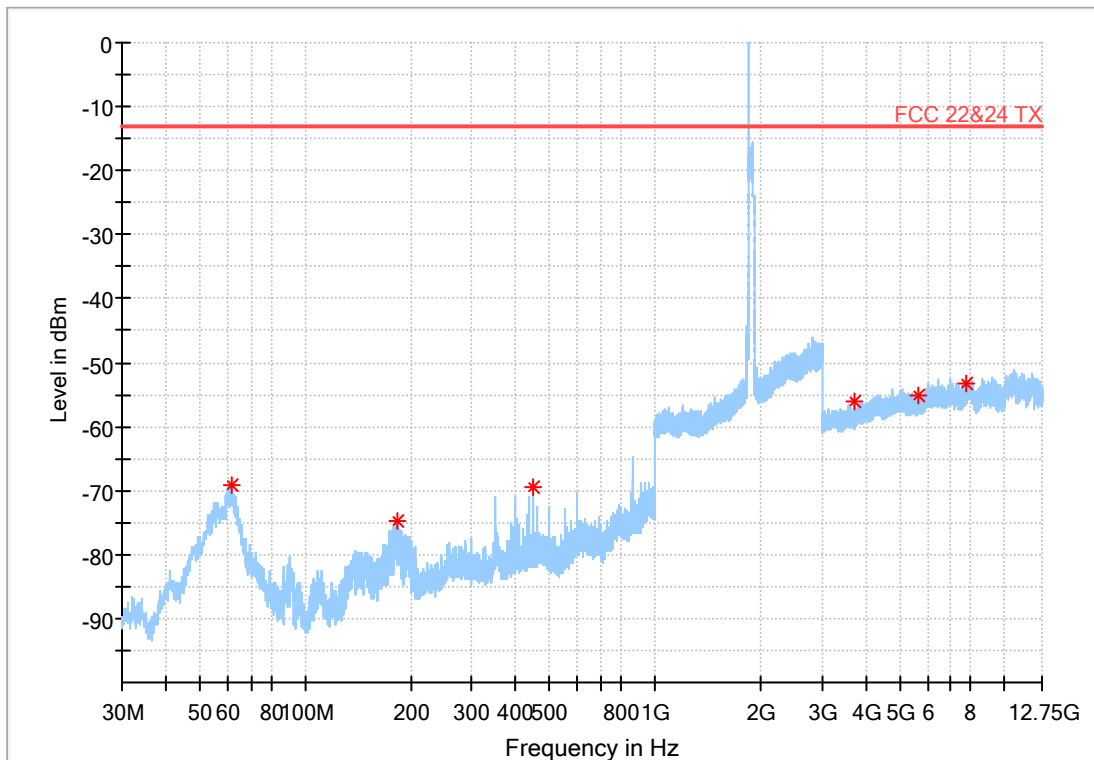
Full Spectrum



## 7.2. Test Band = GSM 1900-Main Antenna

### 7.2.1. Test Channel = LCH\_H

Full Spectrum

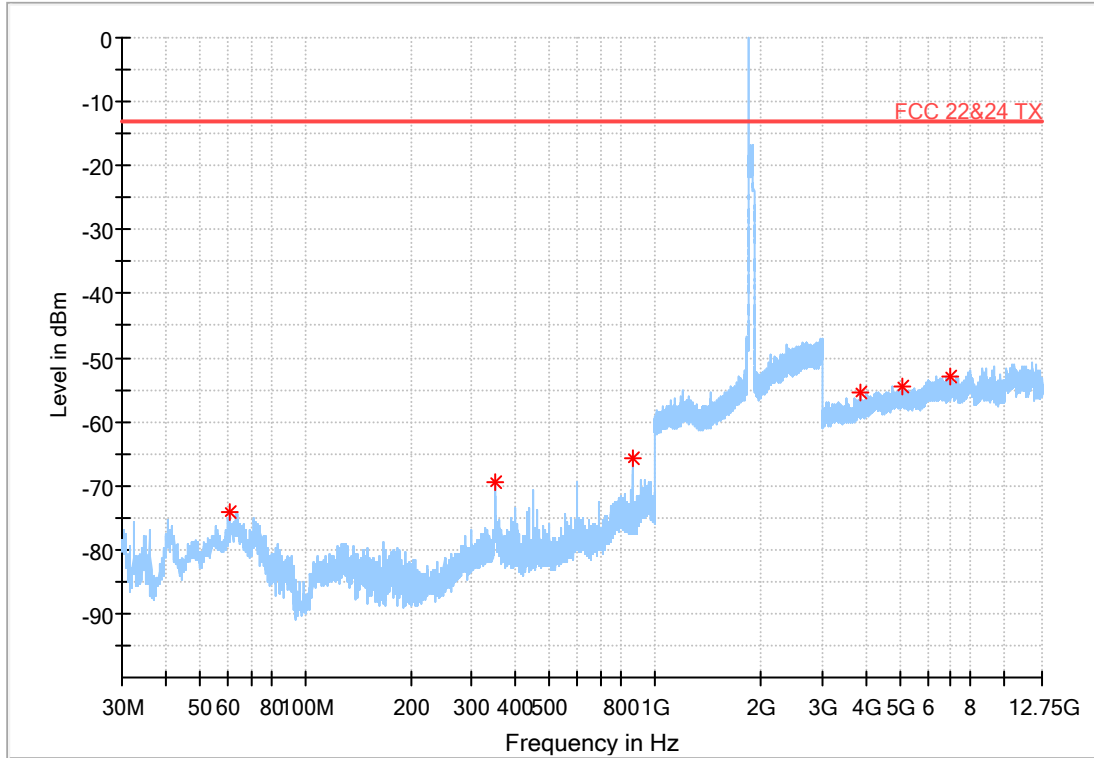






### 7.2.2. Test Channel = LCH\_V

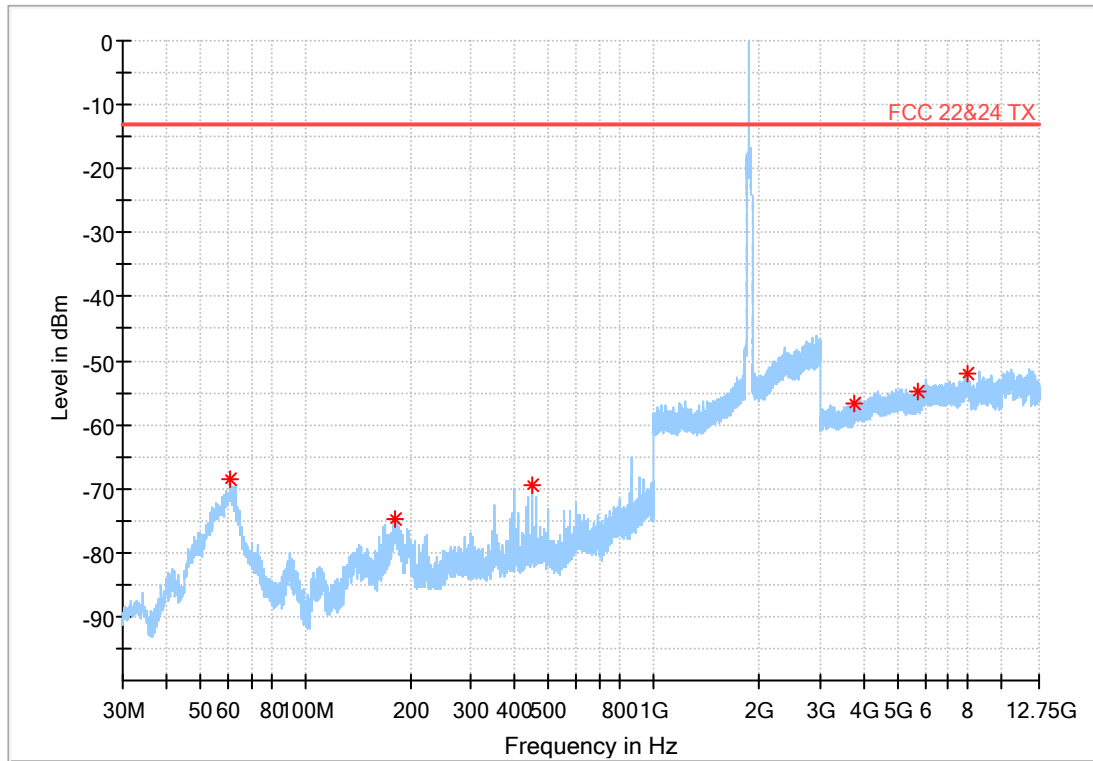
Full Spectrum





### 7.2.3. Test Channel = MCH\_H

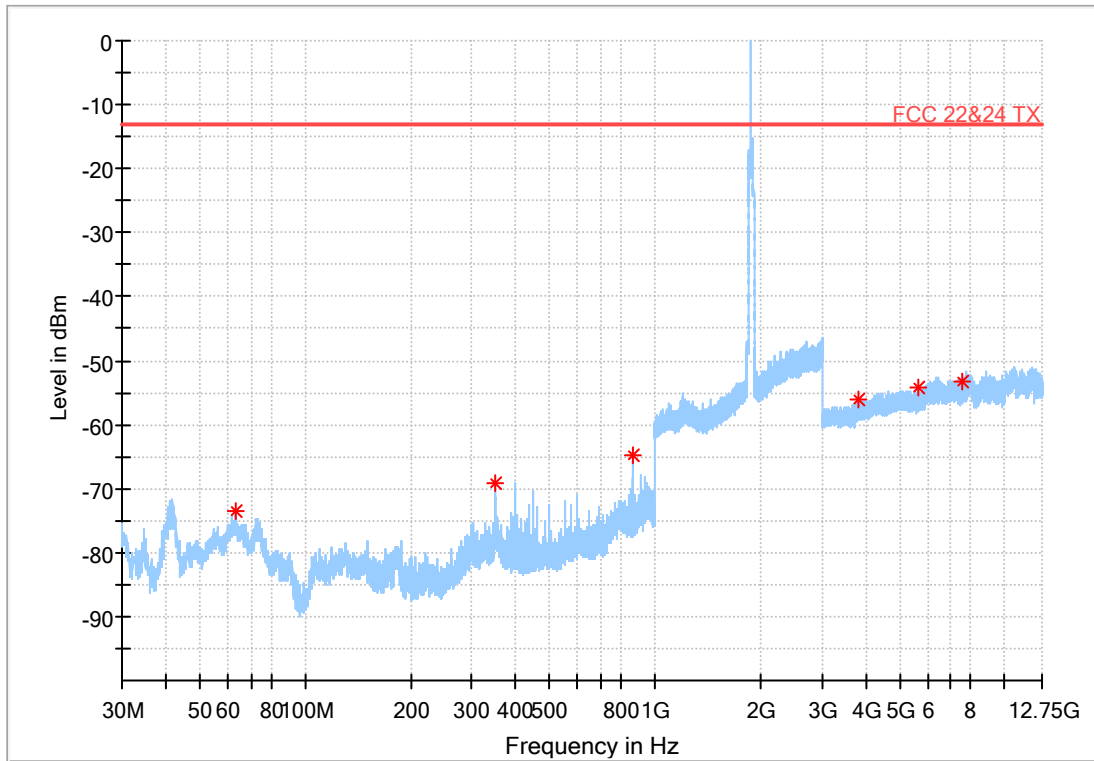
Full Spectrum





### 7.2.4. Test Channel = MCH\_V

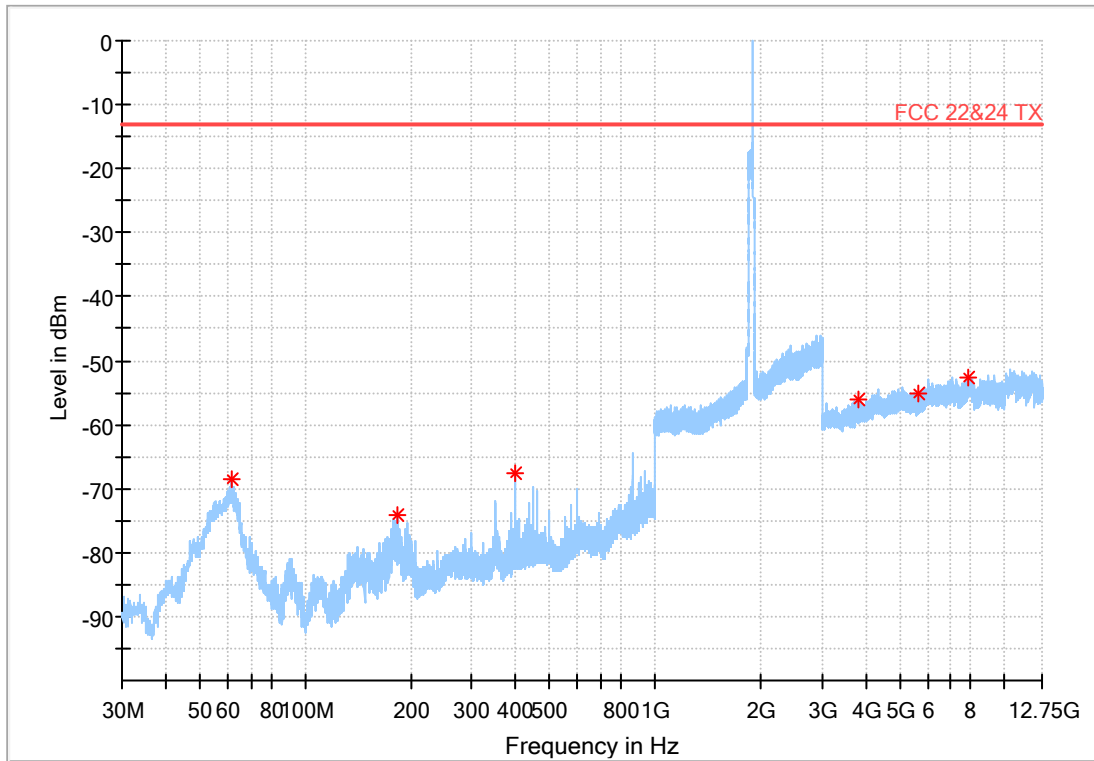
Full Spectrum





### 7.2.5. Test Channel = HCH\_H

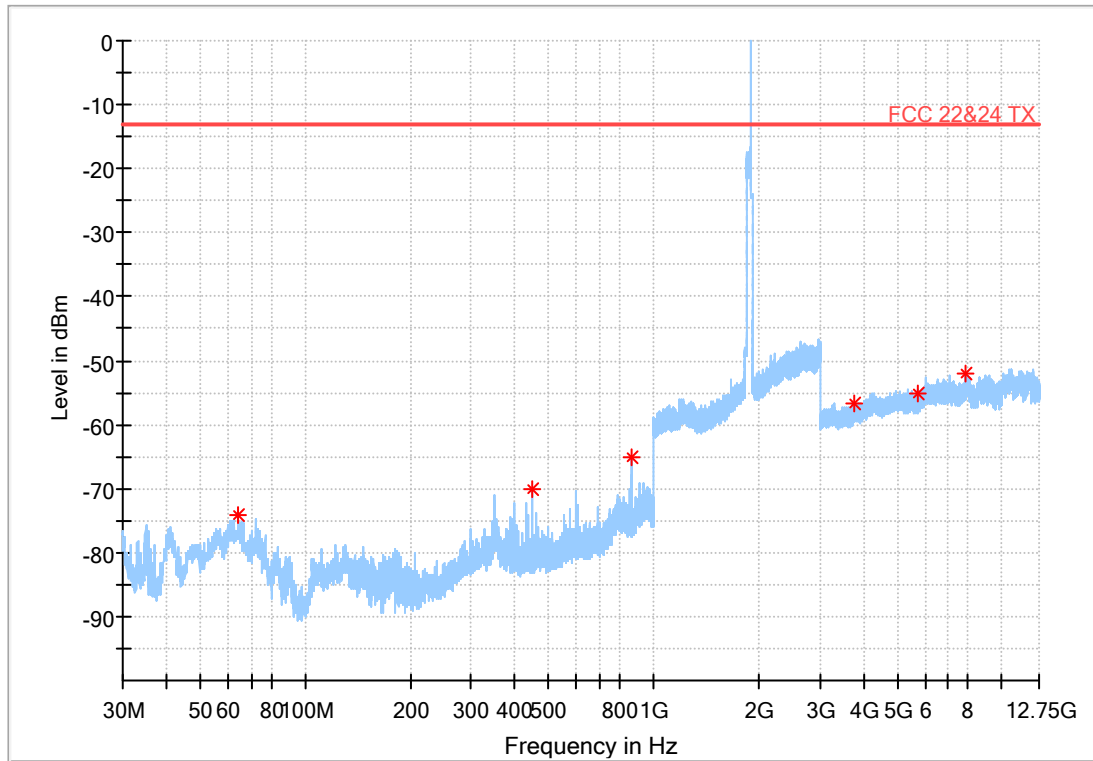
Full Spectrum





### 7.2.6. Test Channel = HCH\_V

Full Spectrum





### 7.3. Test Band = GSM 850-Second Antenna

#### 7.3.1. Test Channel = LCH\_H

Full Spectrum

