

Annex 1: Measurement diagrams to
TEST REPORT
No.: 17-1-0231003T03a

According to:

Title 47 CFR, Chapter I
FCC Regulations, Subchapter B
Part 22, Part 24, Part 27

for

IPETRONIK GmbH & Co KG

μCROS SL
Data Logger

FCC-ID: 2ARF8UCROS-SL

Laboratory Accreditation and Listings



accredited according to DIN EN ISO/IEC 17025

CETECOM GmbH

Laboratory Radio Communications & Electromagnetic Compatibility
Im Teelbruch 116 • 45219 Essen • Germany
Registered in Essen, Germany, Reg. No.: HRB Essen 8984
Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964
E-mail: info@cetecom.com • Internet: www.cetecom.com

Table of contents

1. MEASUREMENT DIAGRAMS.....	3
1.1. Spurious emissions radiated (850 MHz + WLAN 5GHz transmitting mode)_30MHz-18GHz	3
1.2. Spurious emissions radiated (850 MHz + WLAN 5GHz transmitting mode)_18GHz-40GHz	5
1.3. Spurious emissions radiated (1900 MHz + WLAN 5GHz transmitting mode)_30MHz-18GHz	6
1.4. Spurious emissions radiated (1900 MHz + WLAN 5GHz transmitting mode)_18GHz-40GHz	8

1. Measurement diagrams

1.1. Spurious emissions radiated (850 MHz + WLAN 5GHz transmitting mode)_30MHz-18GHz

8.04a_RSE_GSM_850 + WLAN_5GHz

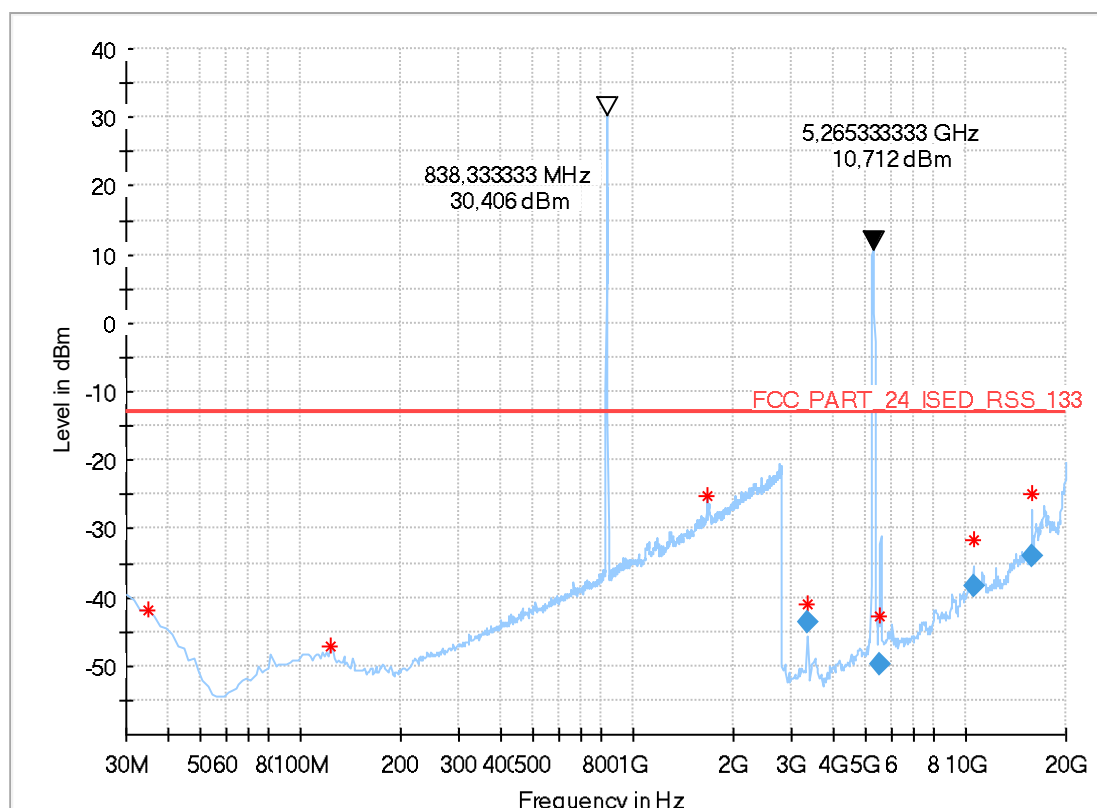
Common Information

Test Description:	Radiated emission
Test Site:	FAR1
Test Standard:	FCC Part 22.917(a)
Antenna polarisation:	vertical / horizontal
Operating Mode:	1
Operator:	TFa
Environmental Conditions:	Humidity : 45%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

Manufacturer:	IPETRONIK GmbH & Co KG
Product:	µCROS SL
Model:	Data Logger
HW version:	1.03
SW version:	1.30
Serial number:	00061
Power Supply:	24 V DC

Full Spectrum



Remarks:

- Emission at 838,333333MHz and 5,265333333GHz is Carrier Frequency from GSM 850 and WLAN 5GHz, which are not relevant for results.

Final Result

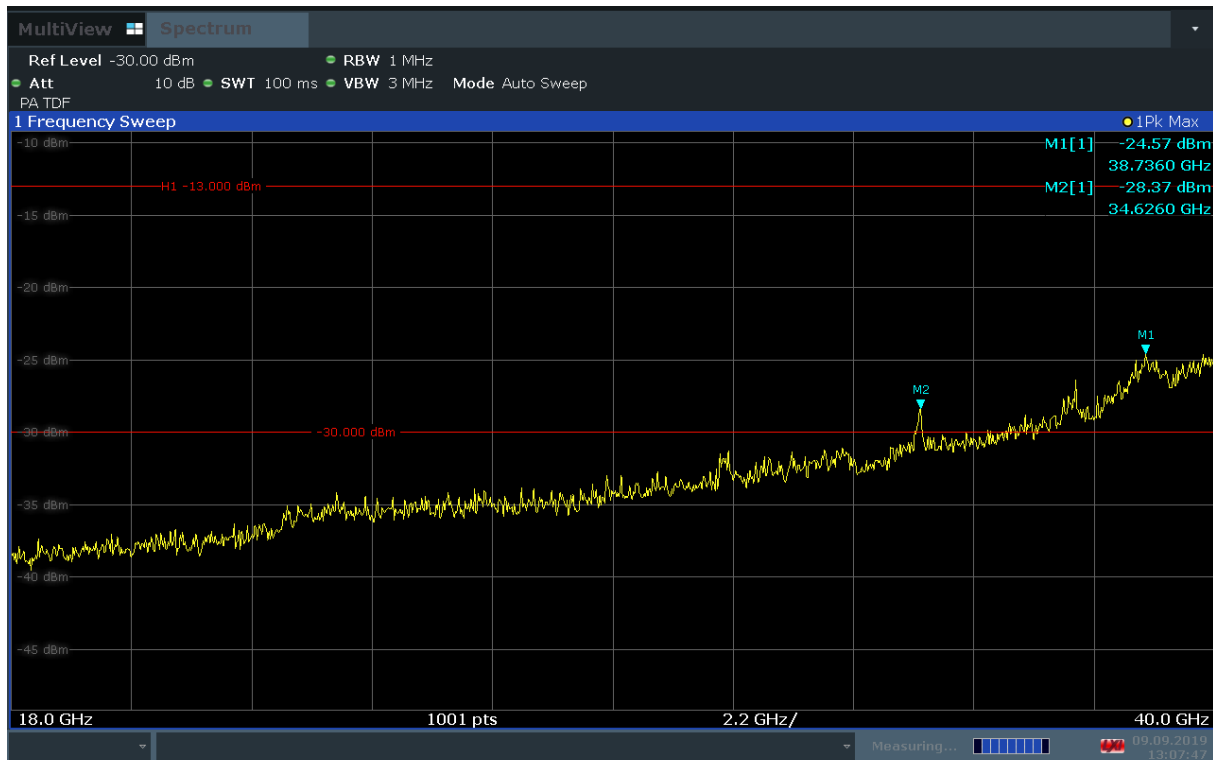
Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
3348.266667	-43.71	-13.00	30.71	100.0	1000.000	V	283.0	0.0	-94
5543.233333	-49.84	-13.00	36.84	100.0	1000.000	H	158.0	90.0	-88
10521.100000	-38.33	-13.00	25.33	100.0	1000.000	H	164.0	0.0	-77
15779.766667	-33.87	-13.00	20.87	100.0	1000.000	H	154.0	0.0	-70

Spurious Emission List

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
34.850000	-41.81	-13.00	28.81	155.0	V	270.0
123.766667	-47.12	-13.00	34.12	155.0	V	0.0
1675.000000	-25.33	-13.00	12.33	155.0	V	120.0
3348.266667	-41.14	-13.00	32.55	155.0	V	283.0
5543.233333	-42.85	-13.00	18.07	155.0	H	158.0
10521.100000	-31.71	-13.00	22.33	155.0	H	164.0
15779.766667	-25.04	-13.00	14.39	155.0	H	154.0

1.2. Spurious emissions radiated (850 MHz + WLAN 5GHz transmitting mode)_18GHz-40GHz

8.04b_RSE_GSM850 + WLAN_5 GHz



13:07:47 09.09.2019

➔ Red line at -30 dBm is not limit line, it is reference line indication on FSW67 spectrum-analyser

1.3. Spurious emissions radiated (1900 MHz + WLAN 5GHz transmitting mode)_30MHz-18GHz

8.02b_RSE_GSM_1900 + WLAN_5GHz

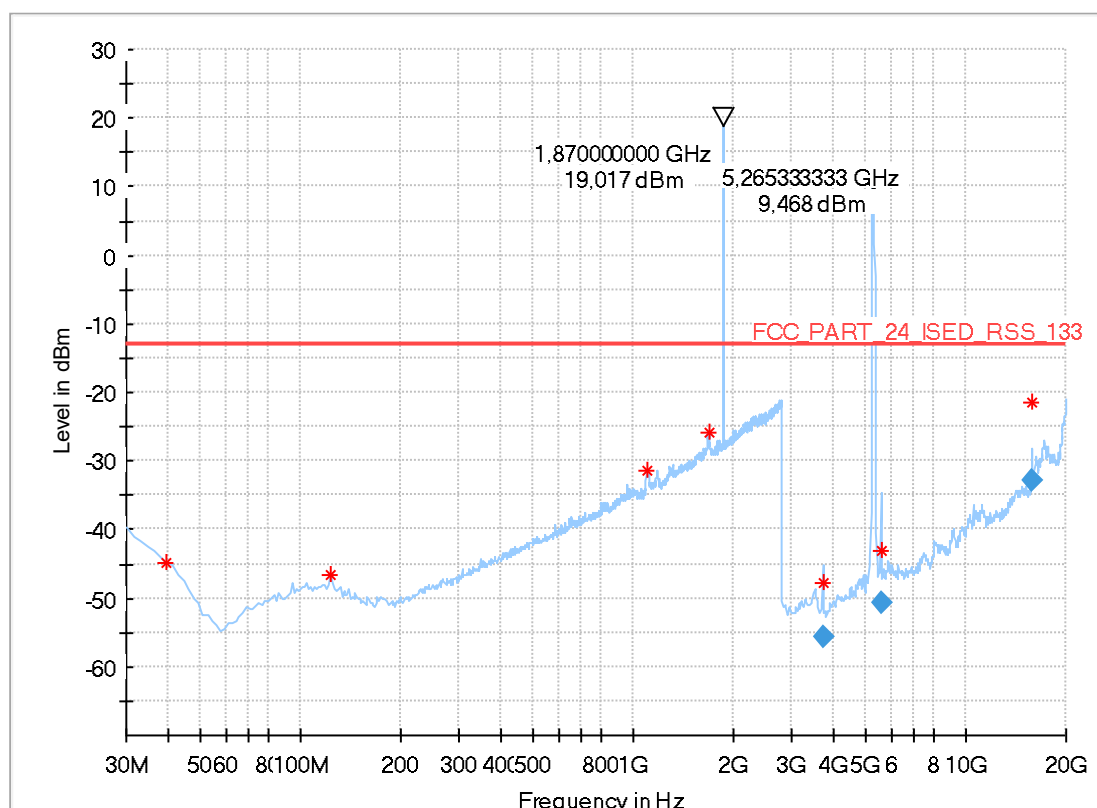
Common Information

Test Description:	Radiated emission
Test Site:	FAR1
Test Standard:	FCC Part 24.238 Broadband PCS
Antenna polarisation:	vertical / horizontal
Operating Mode:	2
Operator:	TFa
Environmental Conditions::	Humidity : 46%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

Manufacturer:	IPETRONIK GmbH & Co KG
Product:	µCROS SL
Model:	Data Logger
HW version:	1.03
SW version:	1.30
Serial number:	00061
Power Supply:	24 V DC

Full Spectrum



Remarks:

- Emission at 1,870,000,000GHz and 5,265,333,333GHz is Carrier Frequency from GSM 1900 and WLAN 5GHz, which are not relevant for results.

Final Result

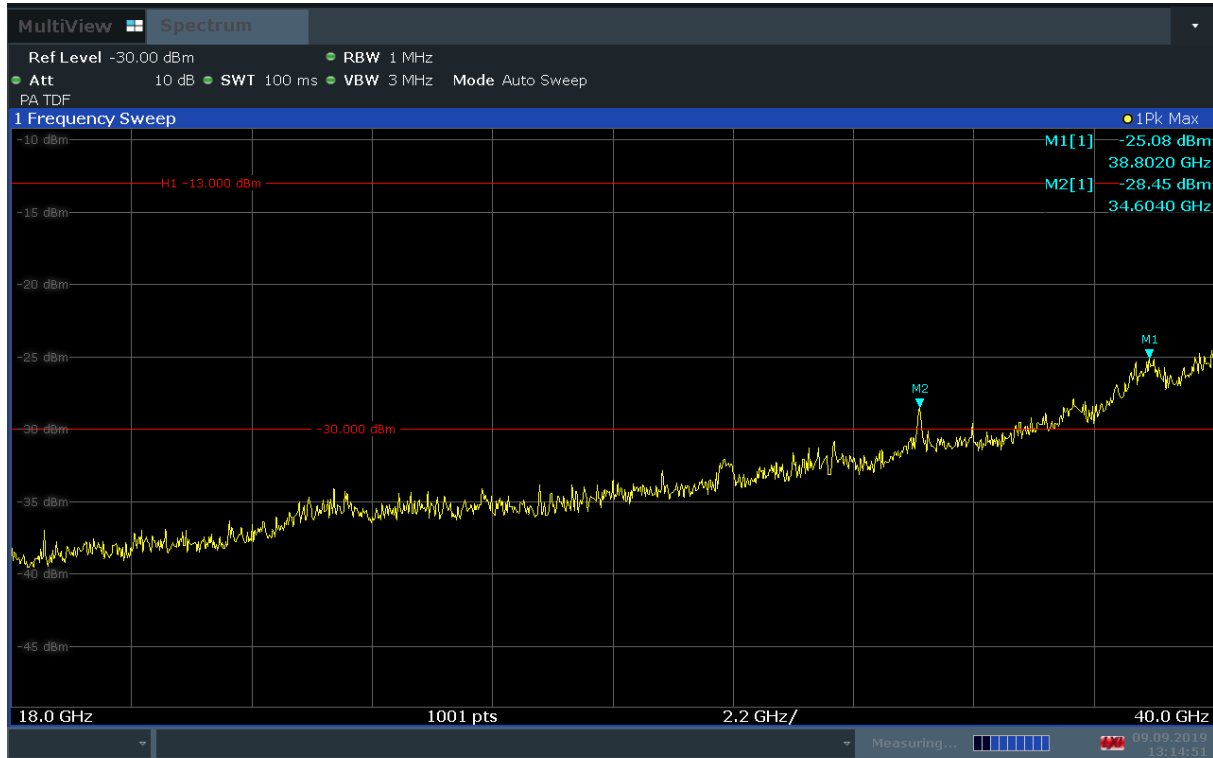
Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
3711.266666	-55.78	-13.00	42.78	100.0	1000.000	V	81.0	0.0	-94
5548.066667	-50.59	-13.00	37.59	100.0	1000.000	H	202.0	0.0	-88
15779.800000	-32.80	-13.00	19.80	100.0	1000.000	H	208.0	0.0	-70

Spurious Emission List

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
39.700000	-44.72	-13.00	31.72	155.0	H	90.0
123.766667	-46.47	-13.00	33.47	155.0	V	315.0
1102.000000	-31.44	-13.00	18.44	155.0	H	30.0
1690.000000	-25.98	-13.00	12.98	155.0	H	165.0
3711.266666	-47.87	-13.00	32.03	155.0	V	81.0
5548.066667	-43.02	-13.00	21.66	155.0	H	202.0
15779.800000	-21.49	-13.00	15.22	155.0	H	208.0

1.4. Spurious emissions radiated (1900 MHz + WLAN 5GHz transmitting mode)_18GHz-40GHz

8.02b_RSE_GSM_1900 + WLAN_5GHz



13:14:52 09.09.2019

➔ Red line at -30 dBm is not limit line, it is reference line indication on FSW67 spectrum-analyser