Independent Testing Laboratory
CMC Centro Misure Compatibilità S.r.l.
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Accredited by Ministry of Communications – Notified Body EMC Directive 2004/108/EC n° NB 2044

TEST REPORT nr. R10144101

Federal Communication Commission (FCC)

Test item

Description.....: Quark - Low Power OEM UHF Compact RFID Reader

Trademark.....: CAEN RFID

Model/Type.....: R1230CB

Test Specification

Standard .....: FCC Rules & Regulations, Title 47 (2009) - Part 15 paragraph(s) : 247(a), 247(b), 247(c), 209 and 207

Client's name.....: CAEN RFID

Address .....: Via Vetraia, 11 - 55049 Viareggio (LU) – ITALY

Manufacturer's name.: Same ad client

Address .....:

Report

Tested by.....: A. Bertezzolo - *Technician*

Approved by.....: R. Beghetto - *Laboratory Manager*

Date of issue.....: 17.01.11

Contents .....: 56 pages

Index

1. Summary

Standard: FCC Rules & Regulations, Title 47

Test specifications	Environmental Phenomena	Tests sequence	Result
Part 15.247(a)	Bandwidth	1	Complies
Part 15.247(a)	Channel Separation	2	Complies
Part 15.247(a)	Time of Occupancy	3	Complies
Part 15.247(a)	Number of Hopping Frequency	4	Complies
Part 15.247(b)	Peak Output Power conducted	5	Complies
Part 15.247(c)	Band Edge	6	Complies
Part 15.247(c) Part 15.209	Radiated Spurious	7	Complies
Part 15.247(c) Part 15.209	Conducted Spurious	8	Complies

The Test Report was given to the Client representatives for necessary documentation of ratification of the tested equipment and it is valid for the FCC and IC certification.

2. Description of Equipment under test (EUT)

Power supply	:	5 Vdc from battery
Type of equipment	:	☒ Transmitter Unit ☒ Receiver Unit
		☒ Fixed station ☐ Portable station ☐ Mobile station
Receiver class	:	--
Alignment range	:	902,75 – 927,25 MHz
Switching frequency	:	902,75 – 927,25 MHz
Number of channels	:	--
Channel separation	:	--
Modulation	:	DSB-ASK 40kHz
Extreme conditions	:	--
Maximum transmitter output power	:	--
Information on antenna	:	☐ Integrated
		☐ Extern
		☑ Other: See user's manual
Duty cycle	:	--

2.1 Test Site

Company	:	CMC Centro Misure Compatibilità S.r.l.
Address	:	Via dell'Elettronica, 12/C – 36016 Thiene (VI) – ITALY

3. Testing and sampling

Date of receipt of test item	:	18.10.10
Testing start date	:	24.11.10
Testing end date	:	23.12.10
Samples tested nr.	:	1
Sampling procedure.	:	Equipment used for testing was picked up by the manufacturer, at the end of the production process with random criterion
Internal identification	:	adhesive label with the product number P100911

4. Operative conditions

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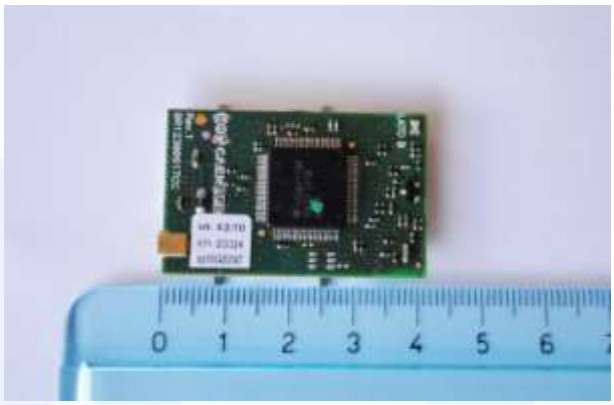
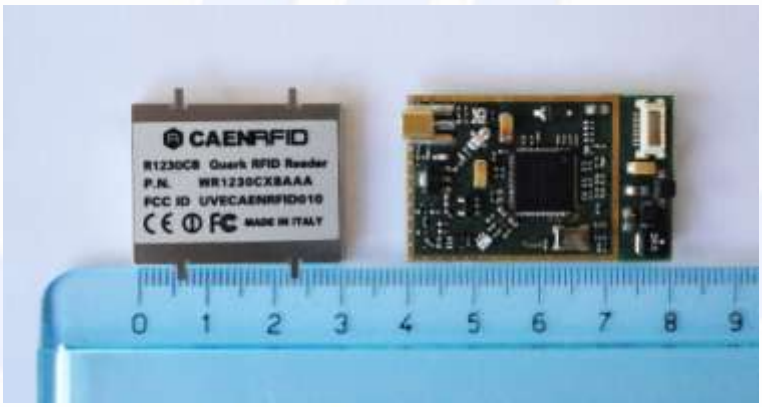
5. Photograph(s) of EUT





6. Equipment list

Id. number	*Manufacturer*	*Model*	*Description*	*Serial number*	*Last calibration*	*Due date calibration*
CMC S001	Rohde & Schwarz	ESHS30	EMC interference receiver	862024/003	January '10	January '11
CMC S108	Emco	3115	Horn antenna	9811-5622	April '10	April '13
CMC S124	Spin	AMTP42-20	Horn Antenna 18-26GHz	103	May '10	May '13
CMC S127	SCHAFFNER	HLA6120	Loop Antenna	1191	January '10	January '13
CMC S129	Rohde & Schwarz	ESPI7	Receiver	836.914/004	January '10	January '11
CMC S136	Schwarzbeck	VULB 9163	Broadband Antenna	9136-205	May '10	May '13
CMC S164	Rohde & Schwarz	ESU26	EMC interference receiver	100052	January '10	January '11

7. Measurement uncertainty

Test	Expanded Uncertainty	note
Conducted Emission		
(50Ω/50μH AMN) - (9 kHz – 150 kHz)	±3.8 dB	1
(50Ω/50μH AMN) - (150 kHz – 30 MHz)	±3.4 dB	1
(Voltage probe) - (150 kHz – 30 MHz)	±3.0 dB	1
(50Ω/5μH AMN) - (150 kHz – 108 MHz)	±3.2 dB	1
DiscontinuousConducted Emission		
Conducted Emission (50Ω/50μH AMN) - (9 kHz – 150 kHz)	±3.8 dB	1
Conducted Emission (50Ω/50μH AMN) - (150 kHz – 30 MHz)	±3.4 dB	1
Disturbance Power (30 MHz – 300 MHz)	±3.2 dB	1
Radiated Emission		
(0,150 MHz – 30 MHz)	±4.5 dB	1
(30 MHz – 1000 MHz)	±4.8 dB	1
(1 GHz – 6 GHz)	±4.4 dB	1
Electromagnetic field EMF	±18.8 dB	1
Harmonic current emissions test	±2.4 %	1
Voltage fluctuation and flicker test	±6.0 %	1
Insertion loss test	±2.6 %	1
Radiated electromagnetic disturbance test (loop antenna)	±2.5 %	1
Radiated electromagnetic field immunity test	0.9 V/m at 3V/m	1
Pulse modulated radiated electromagnetic field immunity test	0.9 V/m at 3V/m	1
Injected currents immunity test	0.6 V at 3V	1
Bulk current	9 mA at 60 mA	1
Power frequency magnetic field immunity test	0.3 A/m at 3 A/m	1
Electrostatic discharge immunity test		2
Electrical fast transients / burst immunity test		2
Surge immunity test		2
Short interruption immunity test		2
Voltage transient emission test	±5 %	1
Transient immunity test		2

Notes

Note 1:
The expanded uncertainty reported according to EN55016-4-2(2004-10) is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of p = 95%

Note 2:

It has been demostrated that the used test equipment meets the specified requirements in the standard with at least a 95% confidence, covering factor k = 2.

8. Reference documents

Reference no.	*Description*
FCC Rules and Regulation Title 47 part 15 (2009)	--
ANSI C63.4	American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz – 40GHz
Internal Procedure PM001 rev. 2.0 (Quality Manual)	Measure Procedure
Internal procedure INC_M rev. 8.0 (Quality Manual)	Measurement uncertainty calculation

9. Deviation from test specification

In agreement with the client, emission tests were performed with peak detector .
At the frequencies where the measures exceed the limit or within 6dB from it, the test was repeated with quasi-peak detector and/or average detector.

10. Test case verdicts

Test case does not apply to the test object..... : N / N.A.

Test item does meet the requirement..... : P / Pass / Complies

Test item does not meet the requirement..... : F / Fail / Does not comply

Test not performed ..... : NE / Not Executed

11. Results

In this clause tests results are reported.

All measurements are done in accordance with the Filling and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems DA-705

Measurement uncertainty is in accordance with document CMC INC_M rev. 8.0.

11.1 Antenna Requirements

Test configuration and test method

Test site	Laboratory
Auxiliary equipment	See clause 4 of this test report

Environmental conditions

Temperature	22	ºC	Atmospheric pressure	100	kPa	Relative humidity	49	%

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.203 and 15.204
- Internal Procedure PM001
- See clause 4 of this test report

Test Requirements

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
The use of a permanently attached antenna or of an antenna that uses unique coupling to the intentional radiator shall be considered sufficient comply with the provisions of this section.
The manufacturer may design the unit so that a broken antenna can replaced by the user, but the use of standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Test specification

Port: Antenna.

EUT exercising

See clause 4 of this test report

Result

Antenna Type	*Gain*	*Remarks*	*Results*
Embedded	1,3 dBi	--	Complies

Remarks

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Reference documents

See clause 8 of this test report

Result

The requirements are met

11.2 Bandwidth

Test configuration and test method

Test site: Laboratory
Auxiliary equipment: See clause 4 of this test report

Environmental conditions

Temperature 20 ºC Atmospheric pressure 99 kPa Relative humidity 48 %

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Result

Frequency (MHz)	Graph(s)	Bandwidth	Remark
902,75	G10144180	87,0 kHz	--
914,75	G10144104	88,2 kHz	--
927,25	G10144181	87,6 kHz	--
Measurement uncertainty: ±1 kHz			

Remarks

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Reference documents

See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S129

Result

The requirements are met

11.3 Channel Separation

Test configuration and test method

Test site: Laboratory
Auxiliary equipment: See clause 4 of this test report

Environmental conditions

Temperature 20 ºC Atmospheric pressure 99 kPa Relative humidity 48 %

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Acceptance limits

Limit: Minimum 25kHz or the 20dB Bandwidth of the hopping system

Result

Frequency (MHz)	Graph(s)	Channel Separation	Remark
902,75	G10144182	500 kHz	--
914,75	G10144102	500 kHz	--
927,25	G10144183	500 kHz	--
Measurement uncertainty: ±1kHz			

Remarks //////////////

Reference documents See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S129

Result The requirements are met

11.4 Average Time of Occupancy

Test configuration and test method

Test site: Laboratory
Auxiliary equipment: See clause 4 of this test report

Environmental conditions

Temperature 21 ºC Atmospheric pressure 99 kPa Relative humidity 49 %

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Acceptance limits

0.4 s within 20 s period

Result

Frequency (MHz)	*Graph(s)*	*Dwell time*	*Remark*
902,75	G10144186	--	Nr. 6 transmissions in 20s
902,75	G10144187	29,0	--
914,75	G10144188	--	Nr. 6 transmissions in 20s
914,75	G10144189	29,0	--
927,25	G10144184	--	Nr. 6 transmissions in 20s
927,25	G10144185	29,2	--

Frequency (MHz)	Time of Occupancy	Remarks
902,75	6 x 29,0 = 174,0 ms	--
914,75	6 x 29,0 = 174,0 ms	--
927,25	6 x 29,2 = 175,2 ms	--

Remarks //////////////

Reference documents See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S129

Result The requirements are met

11.5 Number of Hopping Channels

Test configuration and test method

Test site: Laboratory
Auxiliary equipment: See clause 4 of this test report

Environmental conditions

Temperature 22 ºC Atmospheric pressure 99 kPa Relative humidity 46 %

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Result

Port	Graph(s)	Number of Hopping Frequency	Remark
Enclosure	G10144101	50	--

Remarks

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Reference documents

See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S129

Result

The requirements are met

11.6 Peak Output Power

Test configuration and test method

Test site: Laboratory
Auxiliary equipment: None

Environmental conditions

Temperature	22	ºC	Atmospheric pressure	99	kPa	Relative humidity	46	%

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Acceptance limits

Frequency range	RF power output
902 – 928 MHz	1,0 W / 30dBm

Result

Frequency (MHz)	*Graphs*	*Results (dBm)*	*Remark*
902,75	G10144116	22,86	--
914,75	G10144117	22,62	--
927,25	G10144118	22,40	--

Remarks

Used +20dBm of attenuation during the test.

Reference documents

See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S164

Result

The requirements are met

11.7 Band Edge

Test configuration and test method

Test site	Laboratory
Auxiliary equipment	See clause 4 of this test report

Environmental conditions

Temperature	20	ºC	Atmospheric pressure	99	kPa	Relative humidity	46	%

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Acceptance limits

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in section 15.209(a) is not required. In addition, radiated emission which fall in the restricted bands, as defined in section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (see section 15.205(c)).

Result

Frequency (MHz)	Graph(s)	Attenuation Band Edge	Remark
902,75	G10144106	> 20dBc	Hopping disable
927,25	G10144107	> 20dBc	Hopping disable
927,25	G10144108	> 20dBc	Hopping enable
902,75	G10144109	> 20dBc	Hopping enable
Measurement uncertainty: ±1dB			

Remarks ////////////////

Reference documents

See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S129

Result The requirements are met

11.8 Conducted Spurious

Test configuration and test method

Test site: Semi-anechoic chamber
Auxiliary equipment: None

Environmental conditions

Temperature 19 ºC Atmospheric pressure 100 kPa Relative humidity 42 %

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247 and Part 15.209
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Acceptance limits

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or radiated measurement. Attenuation below the general limits specified in cl. 15.209(a) is not required. In addition, radiated which fall in the restricted bands, as defined in cl. 15.205(a), must also comply with the radiated emission limits specified in cl. 15.209(a).

Result

Frequency (MHz)	Graph(s)	Remarks	Result
902,75	G10144113	--	Complies
914,75	G10144114	--	Complies
927,25	G10144115	--	Complies

Remarks

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Reference documents

See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

CMC S164
Measurement uncertainty: See clause 7 of this test report

Result

The requirements are met

11.9 Radiated Spurious

Test configuration and test method

Test site: Semi-anechoic chamber
Auxiliary equipment: None

Environmental conditions

Temperature 19 ºC Atmospheric pressure 100 kPa Relative humidity 42 %

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247 and Part 15.209
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;
For measurements below 1GHz the resolution bandwidth is set to 100kHz.
For measurements above 1GHz the resolution bandwidth is set to 1MHz.

EUT exercising

See clause 4 of this test report

Acceptance limits

In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in cl. 15.205(a), must also comply with the radiated emission limits specified in cl. 15.209(a) (see cl.15.205(c)).

Result

Channel	*Polarization*	Frequency Range (MHz)	Graph(s) (peak measurements)	Remarks	Result
902,75	Vertical	30 – 1000	G10144120	--	Complies
902,75	Horizontal	30 – 1000	G10144121	--	Complies
914,75	Horizontal	30 – 1000	G10144122	--	Complies
914,75	Vertical	30 – 1000	G10144123	--	Complies
927,25	Vertical	30 – 1000	G10144124	--	Complies
927,25	Horizontal	30 – 1000	G10144125	--	Complies
927,25	Horizontal	1000 – 10000	G10144126	--	Complies
927,25	Vertical	1000 – 10000	G10144127	--	Complies
914,75	Vertical	1000 – 10000	G10144128	--	Complies
914,75	Horizontal	1000 – 10000	G10144129	--	Complies
902,75	Horizontal	1000 – 10000	G10144130	--	Complies
902,75	Vertical	1000 – 10000	G10144131	--	Complies

Nr. *Harmonics*	*AV level (dBµV/m)*						*AV Limits (dBµV/m)*	*Remark*
	902,75 MHz		*914,75MHz*		*927,25 MHz*			
	Frequency	*(dBµV/m)*	*Frequency*	*(dBµV/m)*	*Frequency*	*(dBµV/m)*		
II Harmonic	1830,29	42,0	1830,46	42,0	1854,50	43,3	54,00	--
III Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
IV Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
V Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
VI Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
VII Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
VIII Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
IX Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
X Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	54,00	--
Measurement Uncertainty: ±4dB								

Nr. *Harmonics*	*PK level (dBµV/m)*						*PK Limits (dBµV/m)*	*Remark*
	902,75 MHz		*914,75MHz*		*927,25 MHz*			
	Frequency	*(dBµV/m)*	*Frequency*	*(dBµV/m)*	*Frequency*	*(dBµV/m)*		
II Harmonic	1830,29	43,5	1830,46	44,0	1854,50	45,0	74,00	--
III Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
IV Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
V Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
VI Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
VII Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
VIII Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
IX Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
X Harmonic	--	More than 15dB below limit	--	More than 15dB below limit	--	More than 15dB below limit	74,00	--
Measurement Uncertainty: ±4dB								

Remarks
During the test, the EUT was connected with antenna mod. WANTENNAX012.
EUT was tested in 3 orthogonal planes. In results table are reported the worst case.

Reference documents
See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)
CMC S108, CMC S136, CMC S164
Measurement uncertainty: See clause 7 of this test report

Result
The requirements are met

11.10 Maximum permissible Exposure

Test configuration and test method

Test site: Laboratory
Auxiliary equipment: See clause 4 of this test report

Environmental conditions

Temperature	21	ºC	Atmospheric pressure	100	kPa	Relative humidity	45	%

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 1.1310
- DA 00-705, march 30, 2000
- Internal Procedure PM001
- See clause 4 of this test report

Test specification

Port: Antenna;

EUT exercising

See clause 4 of this test report

Acceptance limits

902/1500 mW/cm^2 = 0,60 mW/cm^2 max at 20cm of distance

Result

Power Density Limit (mW/cm^2)	*Output Power (mW)*	Antenna Gain (G)	Power Density at 20cm *(mW/cm^2)*	Remarks
0,60	190	1,3	0,049	Measured
0,60	200	1,3	0,052	Declared

Remarks

Power Density = (P x G) / ($4\pi R^2$)

Reference documents

See clause 8 of this test report

Test equipment used (Id number – see clause 6 of this test report)

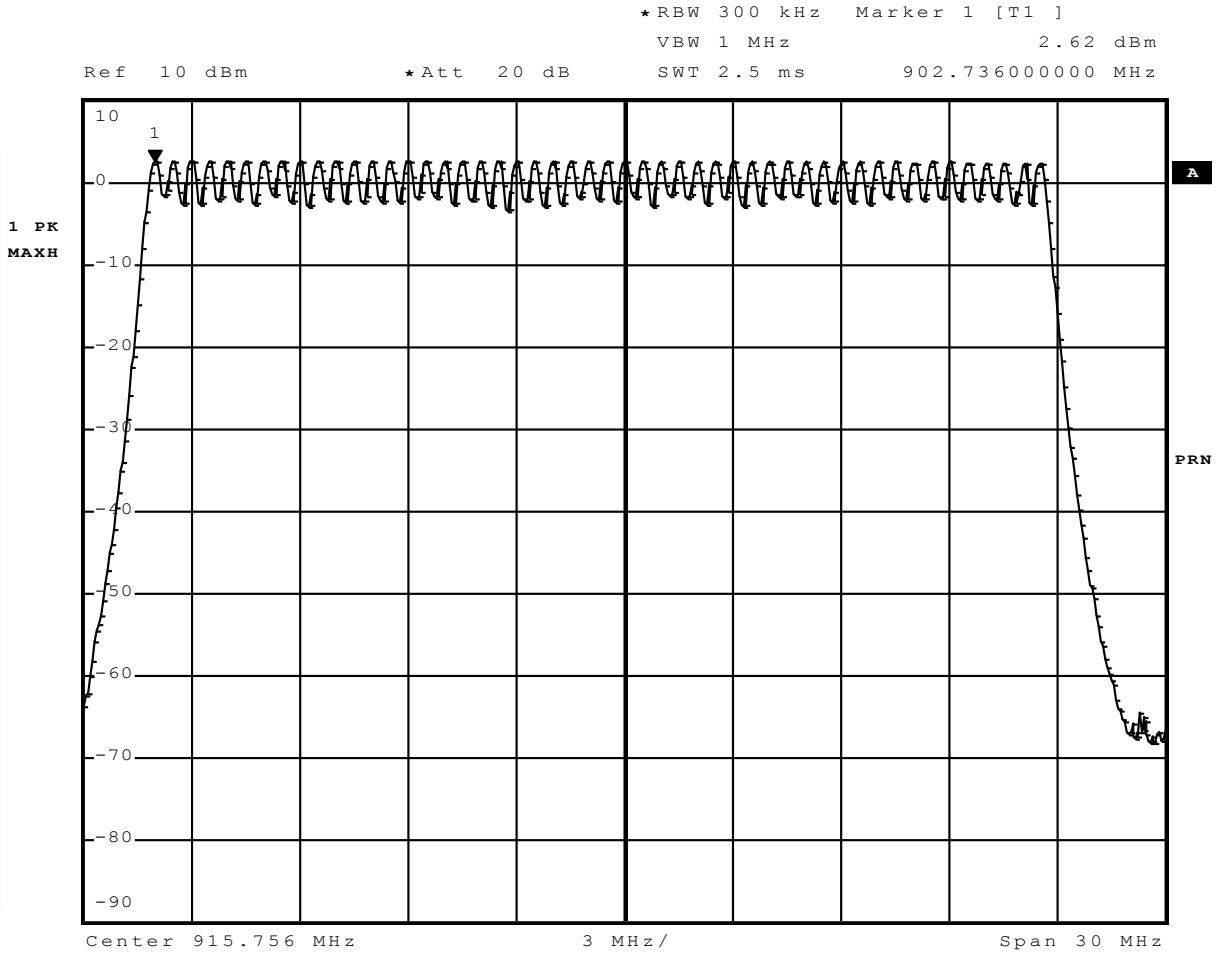
CMC S129
Measurement uncertainty: See clause 7 of this test report

Result

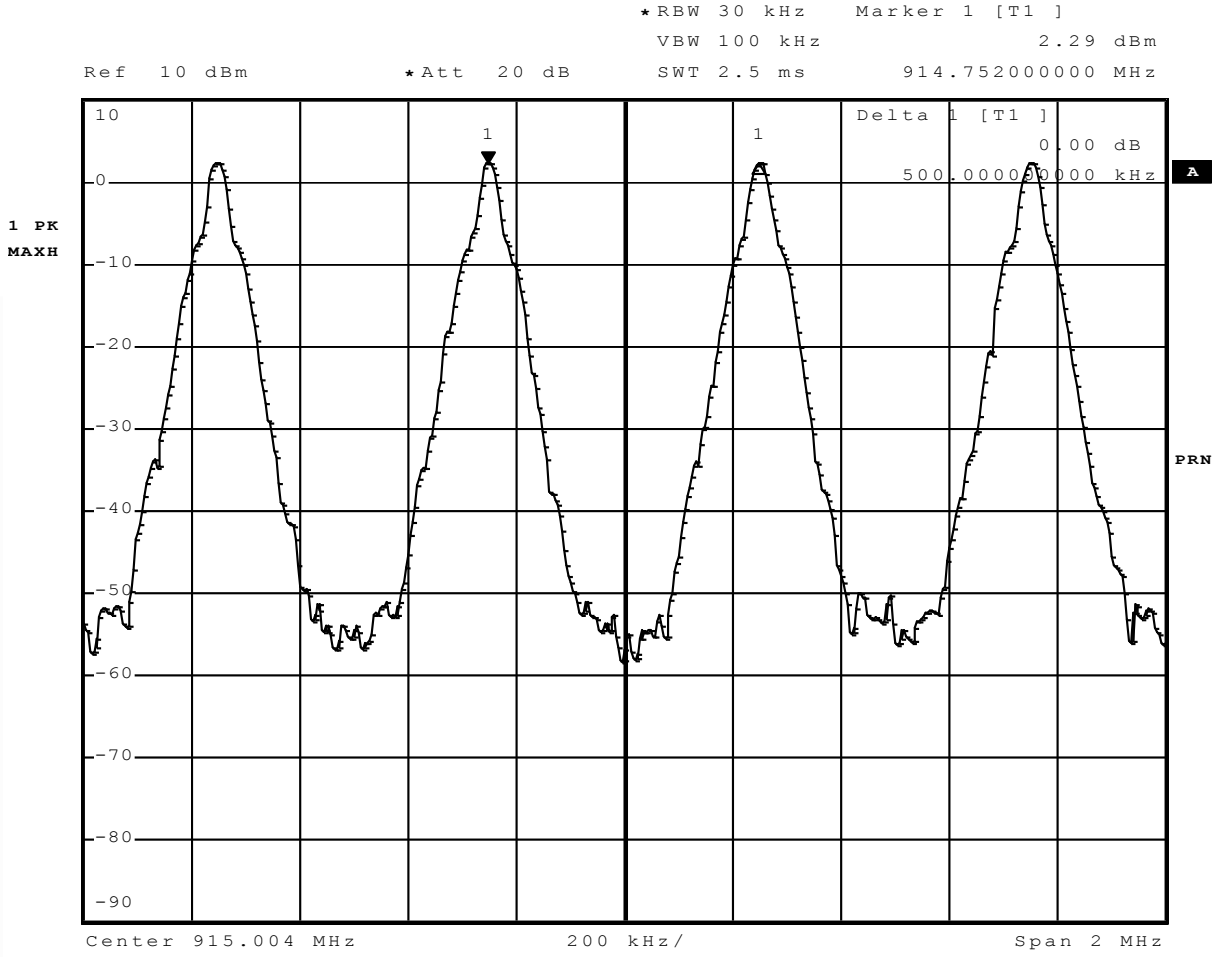
The requirements are met

12. Graphs and Tables

G10144101



G10144102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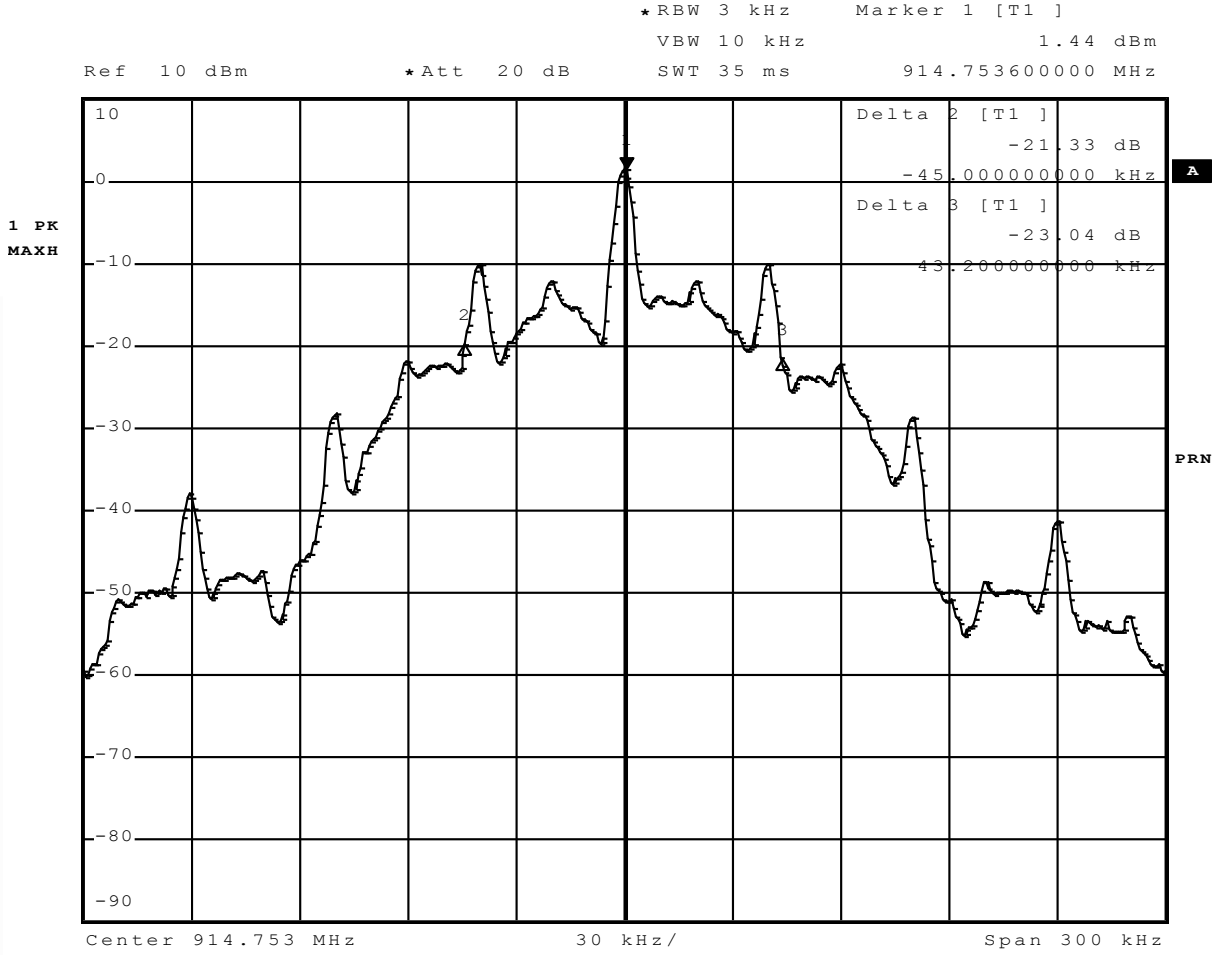
VBW 100 kHz
SWT 2.5 ms
Marker 1 [T1]
2.29 dBm
914.752000000 MHz
Ref 10 dBm
*Att 20 dB
Delta 1 [T1]
0.00 dB
500.000000000 kHz
A
1 PK
MAXH
PRN
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 915.004 MHz
200 kHz/
Span 2 MHz

G10144104



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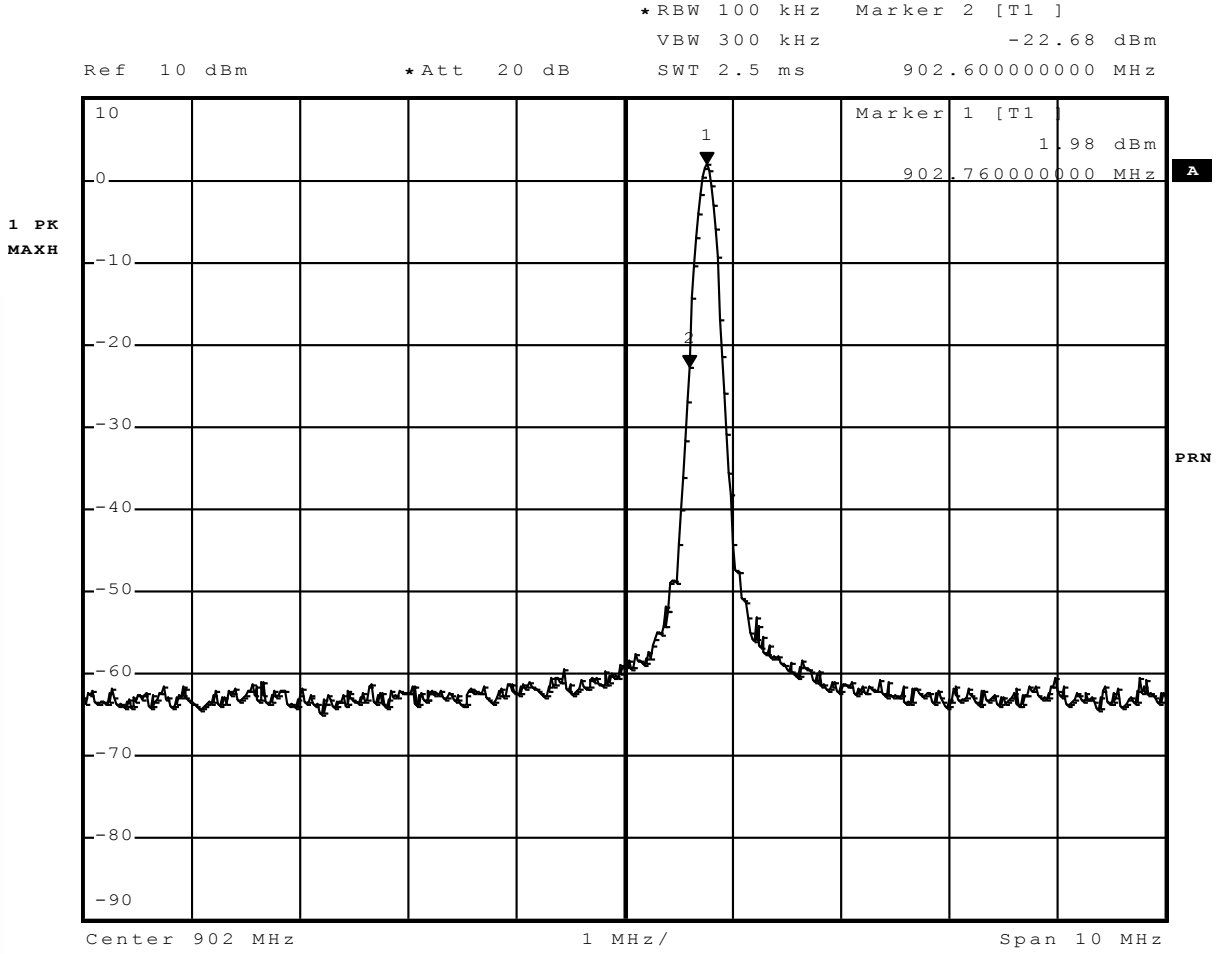

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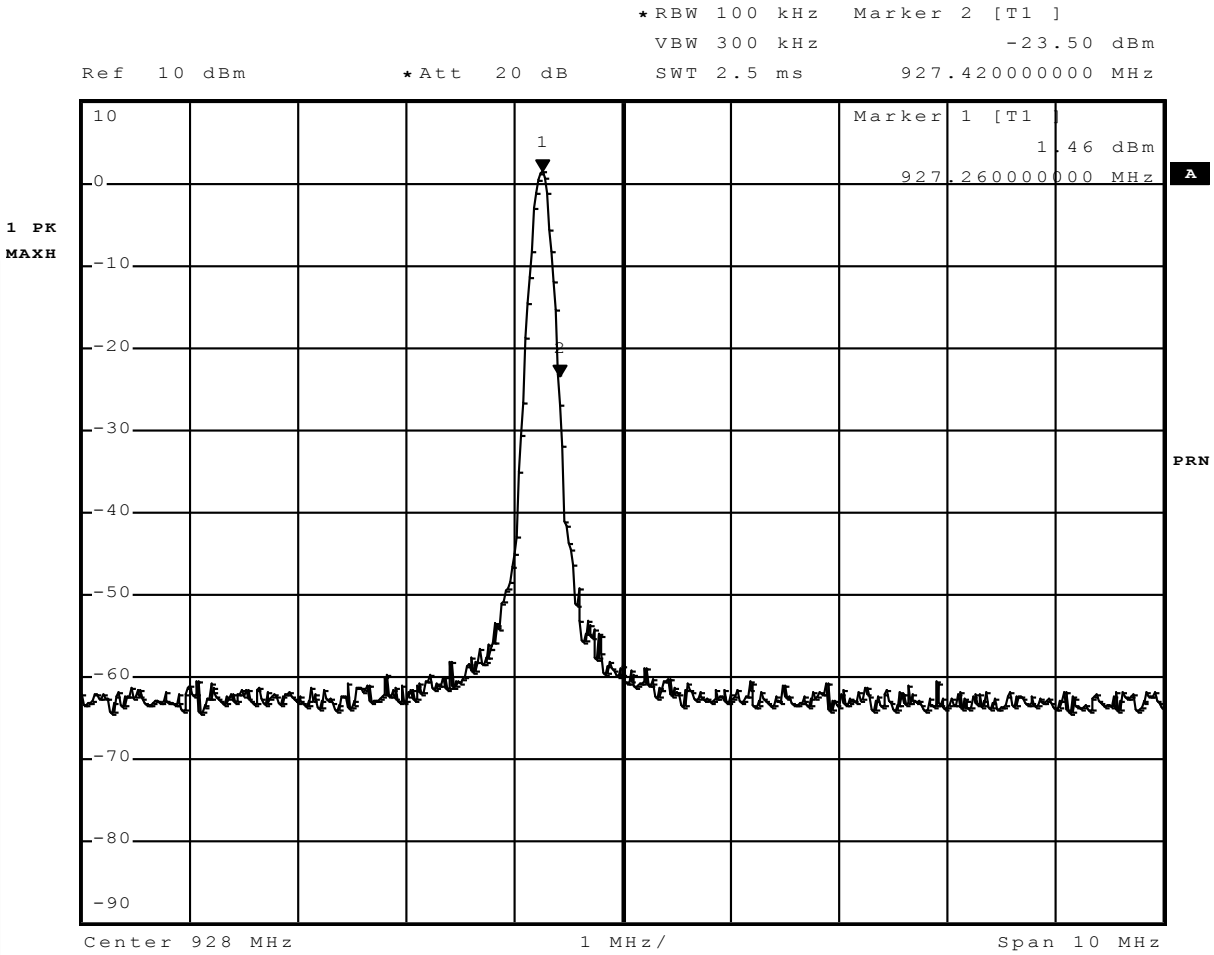
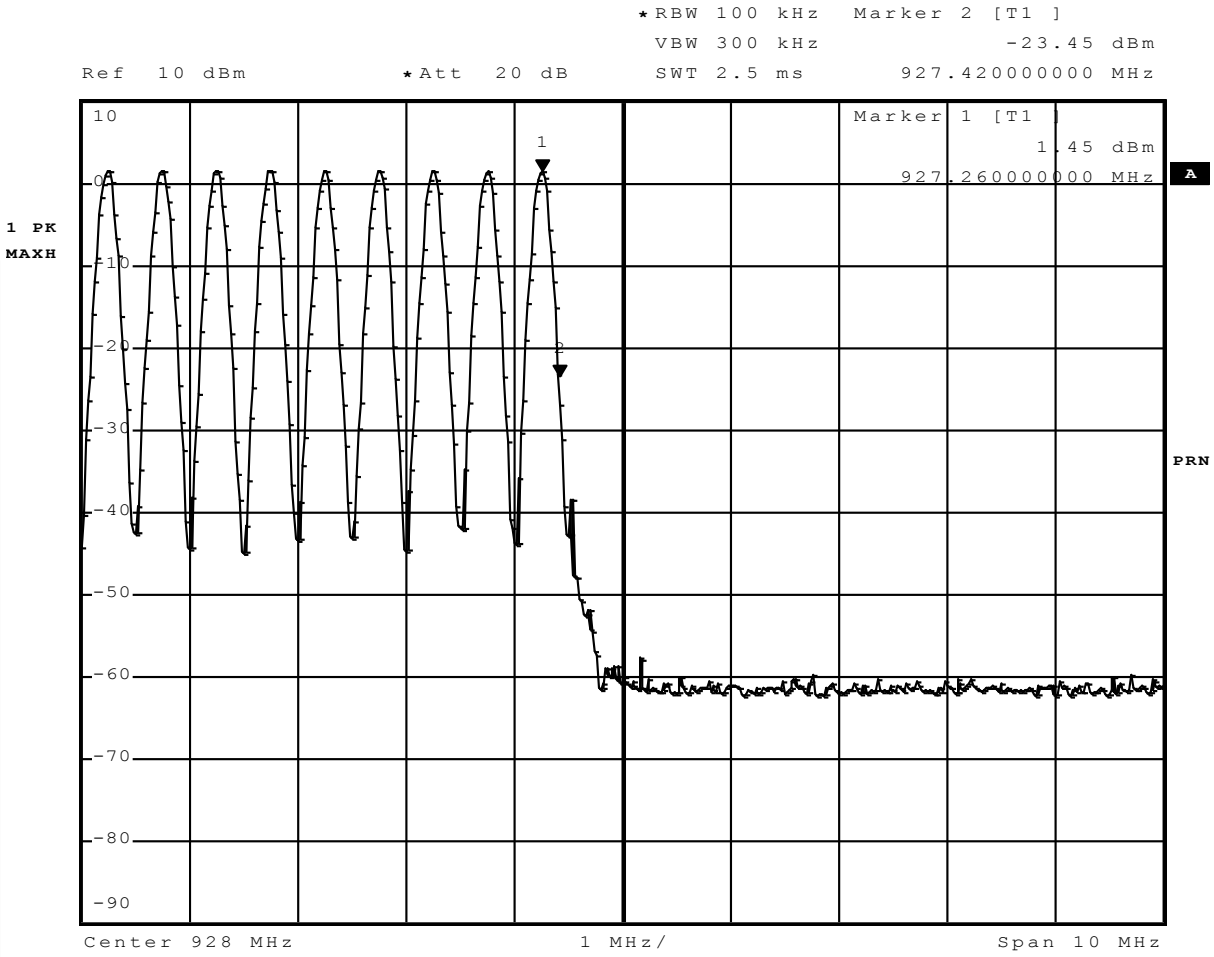
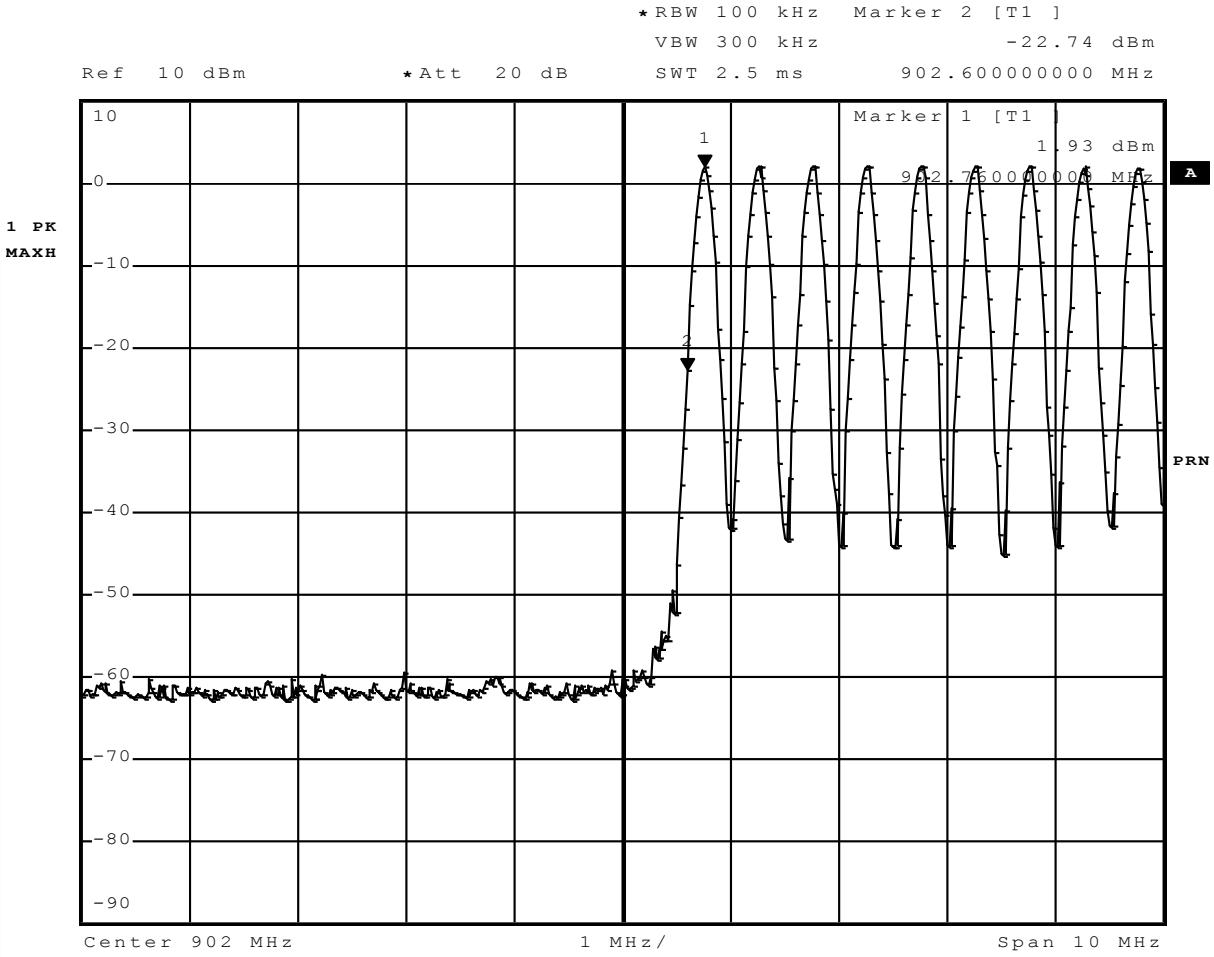


G10144108

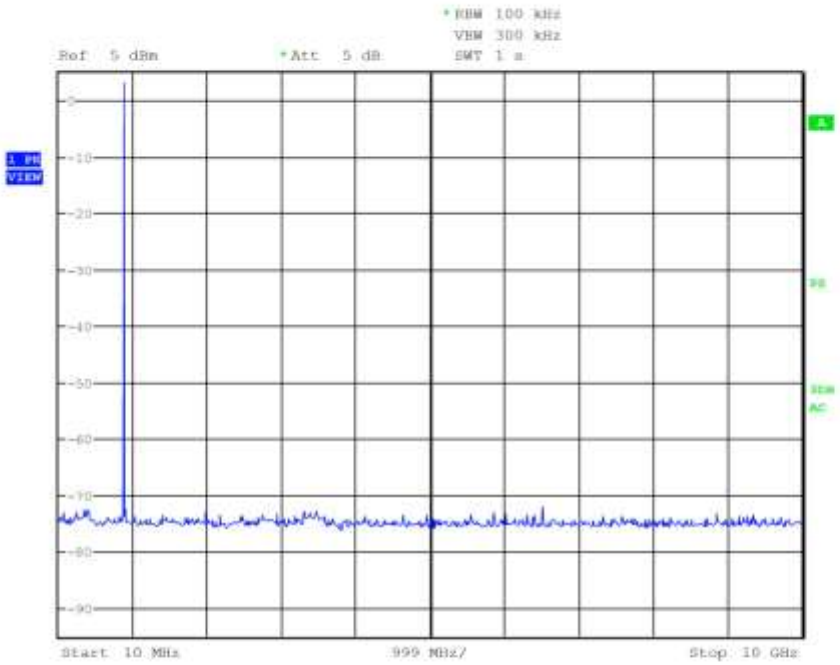


G10144109



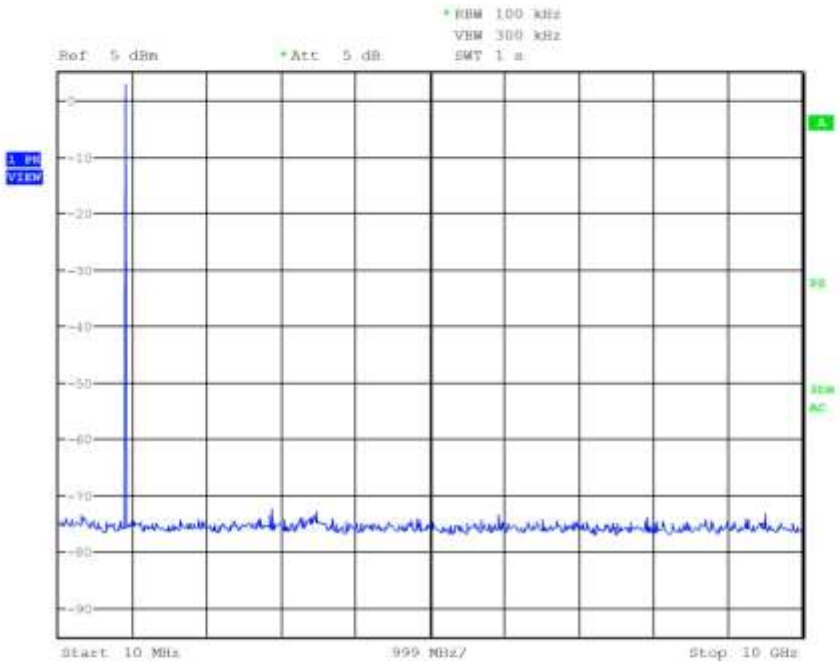
G10144113

Meas Type	Emission 10-10000MHz
Equipment under Test	
Manufacturer	
OP Condition	Fmin
Operator	Bertezzolo 10144113
Test Spec	



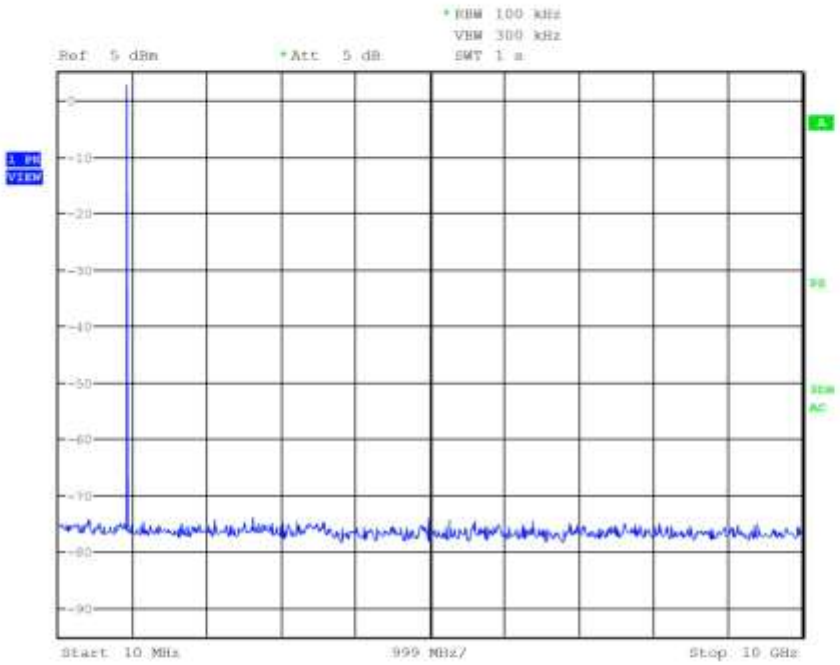
G10144114

Meas Type	Emission 10-10000MHz
Equipment under Test	
Manufacturer	
OP Condition	Fmed
Operator	Bertezzolo 10144114
Test Spec	



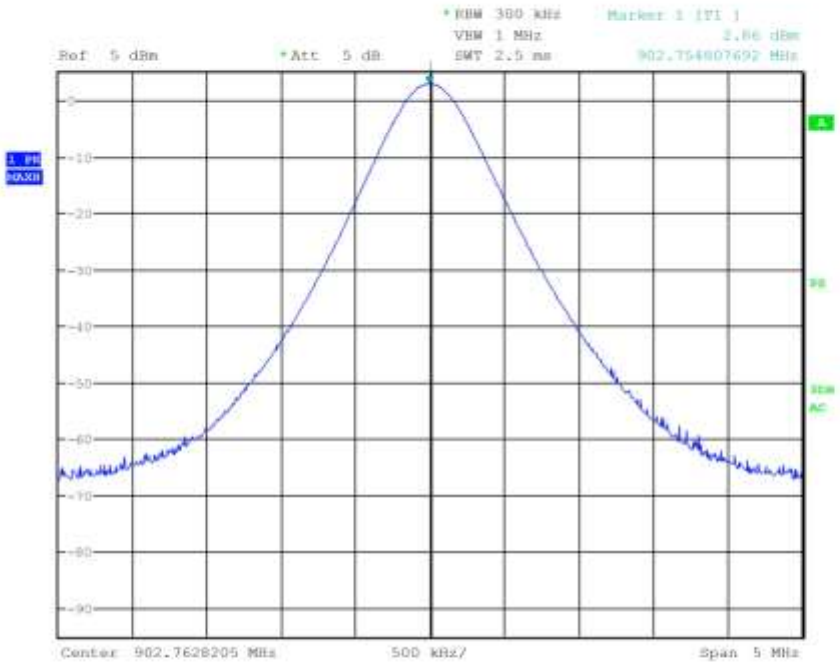
G10144115

Meas Type	Emission 10-10000MHz
Equipment under Test	
Manufacturer	
OP Condition	Fmax
Operator	Bertezzolo 10144115
Test Spec	



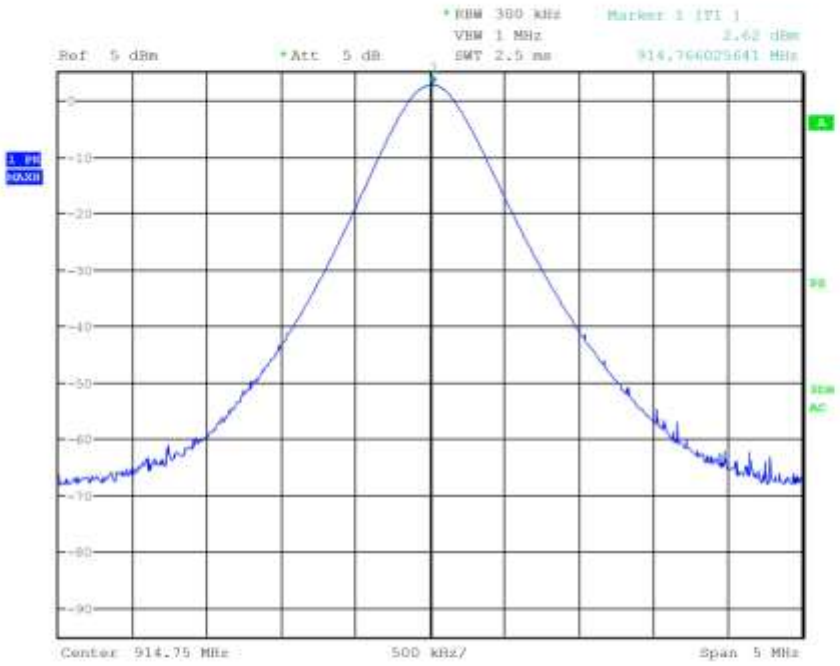
G10144116

Meas Type
Equipment under Test
Manufacturer
OP Condition Fmin
Operator Bertezzolo 10144116
Test Spec



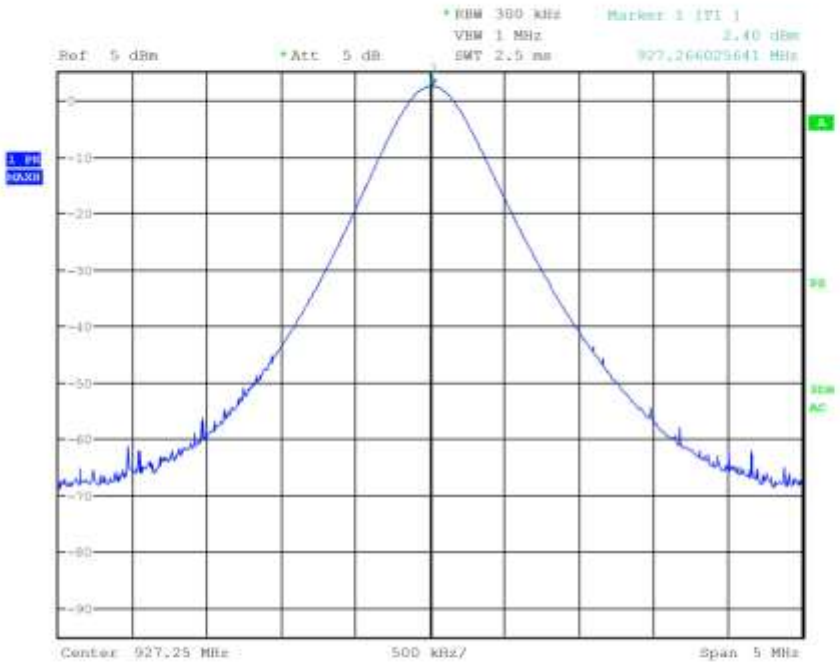
G10144117

Meas Type
Equipment under Test
Manufacturer
OP Condition Fmed
Operator Bertezzolo 10144117
Test Spec



G10144118

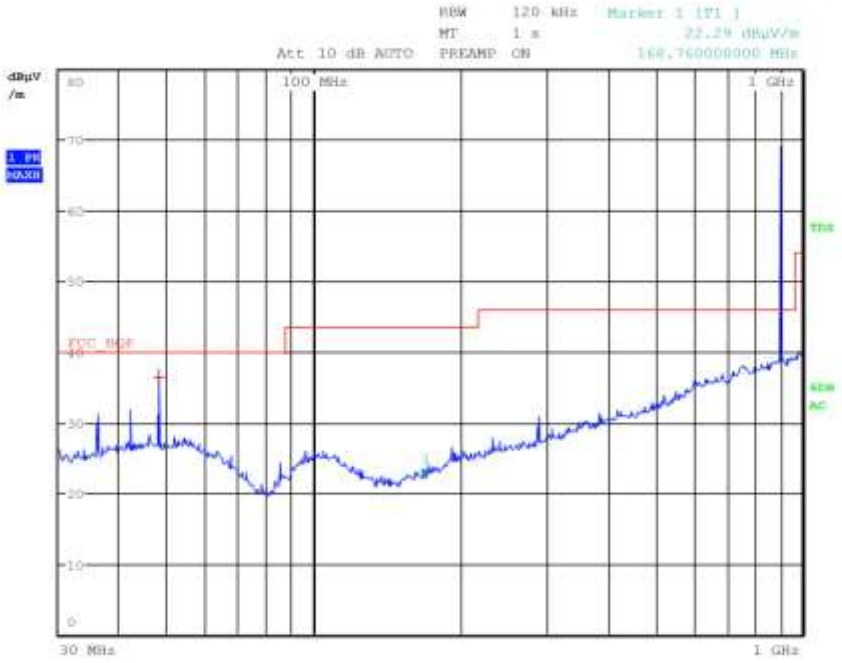
Meas Type
Equipment under Test
Manufacturer
OP Condition Fmax
Operator Bertezzolo 10144118
Test Spec



G10144120

Meas Type	Emission 30-1000MHz
Equipment under Test	
Manufacturer	
OP Condition	In TX-Ch 0
Operator	Gandini 10144120
Test Spec	

Vert



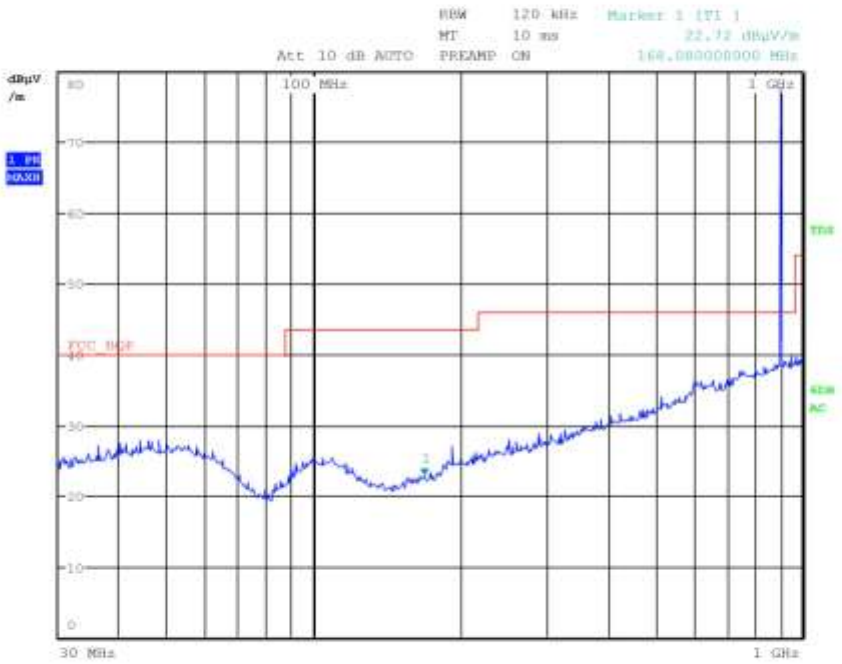
Final Measurement

Meas Time:	1 s
Margin:	6 dB
Subranges:	1

G10144121

Meas Type	Emission 30-1000MHz
Equipment under Test	
Manufacturer	
OP Condition	In TX-Ch 0
Operator	Gandini 10144121
Test Spec	

Horiz

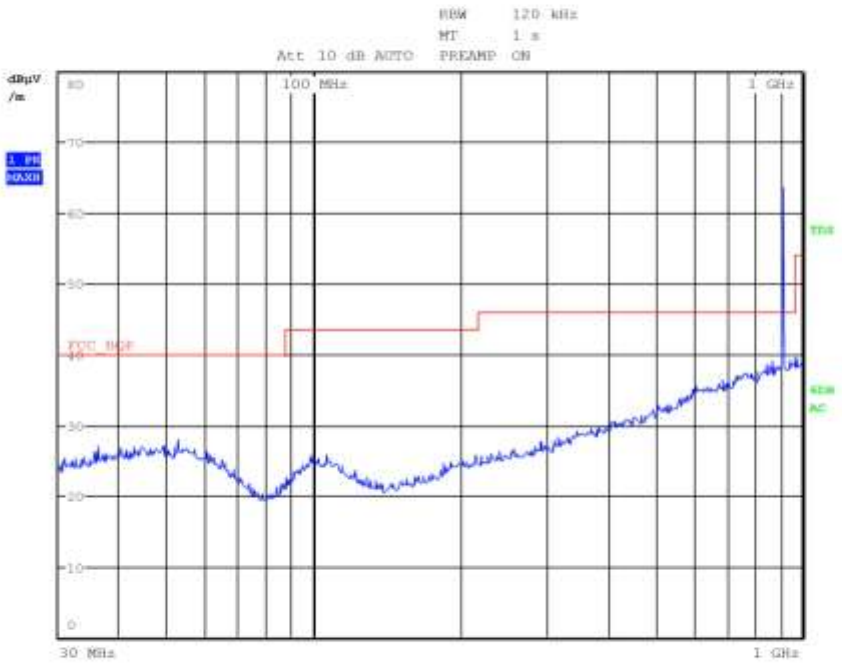


Final Measurement

Meas Time:	1 s
Margin:	6 dB
Subranges:	1

G10144122

Meas Type Emission 30-1000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 25
Operator Gandini 10144122
Test Spec
Horiz



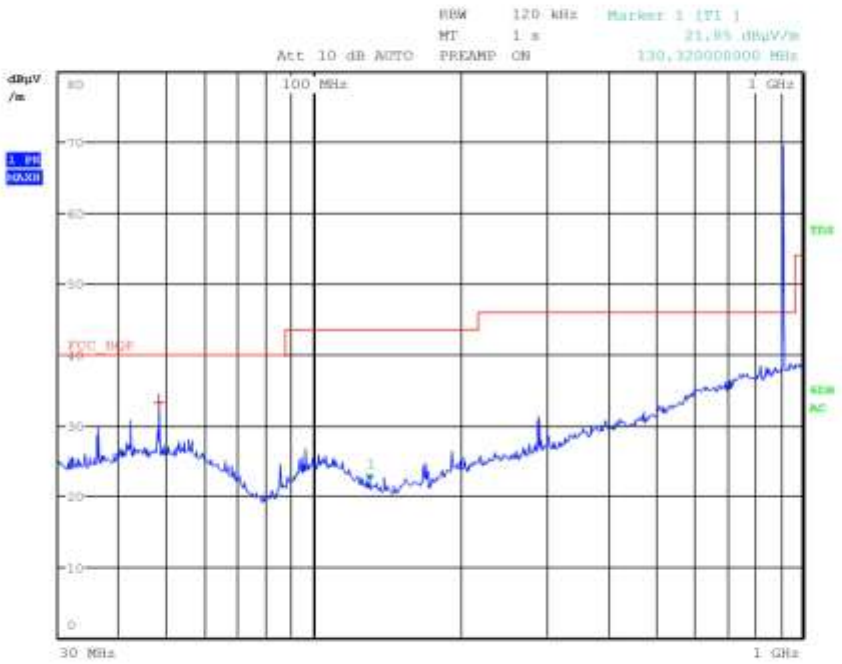
Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 1

G10144123

Meas Type	Emission 30-1000MHz
Equipment under Test	
Manufacturer	
OP Condition	In TX-Ch 25
Operator	Gandini 10144123
Test Spec	

Vert



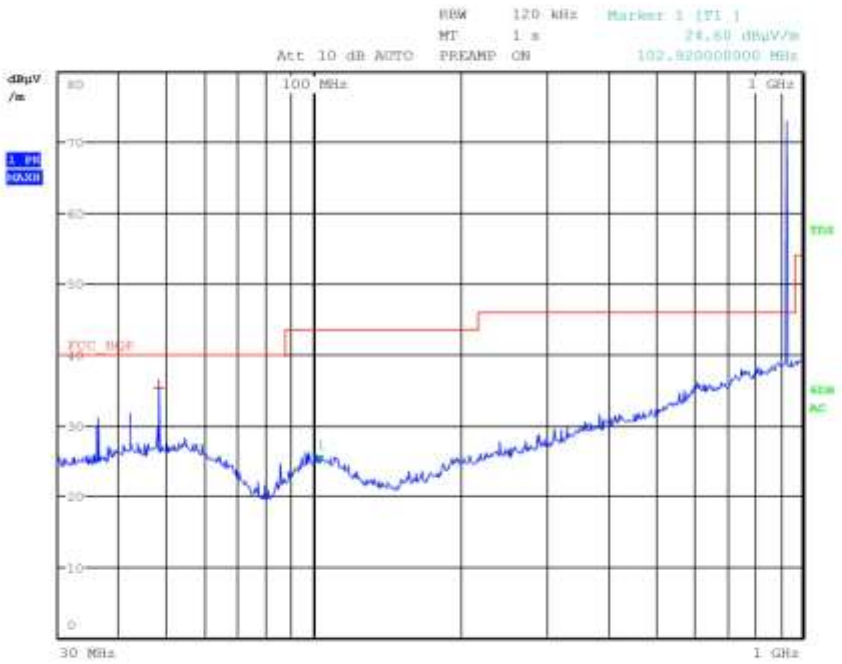
Final Measurement

Meas Time:	1 s
Margin:	6 dB
Subranges:	1

G10144124

Meas Type	Emission 30-1000MHz
Equipment under Test	
Manufacturer	
OP Condition	In TX-Ch 49
Operator	Gandini 10144124
Test Spec	

Vert



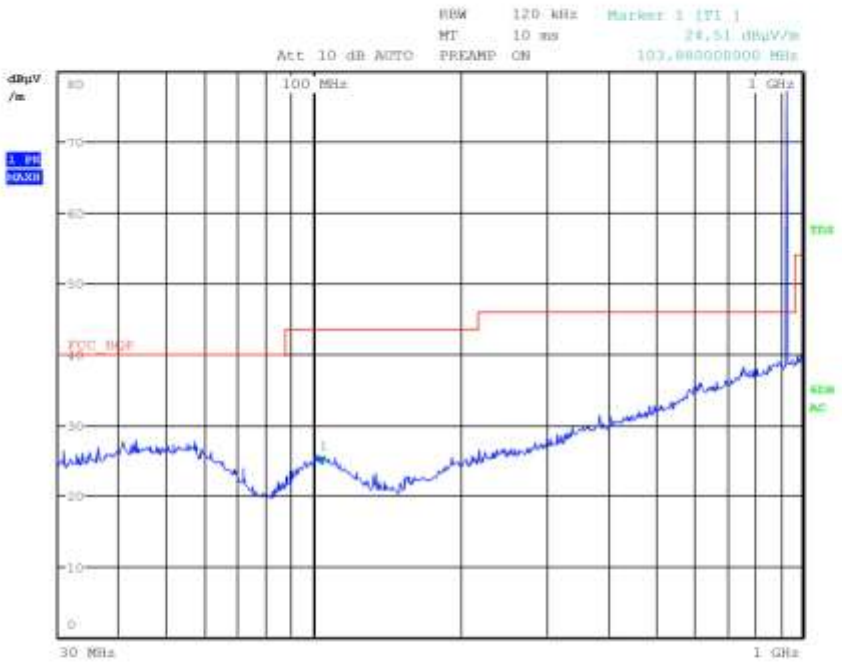
Final Measurement

Meas Time:	1 s
Margin:	6 dB
Subranges:	1

G10144125

Meas Type	Emission 30-1000MHz
Equipment under Test	
Manufacturer	
OP Condition	In TX-Ch 49
Operator	Gandini 10144125
Test Spec	

Horiz

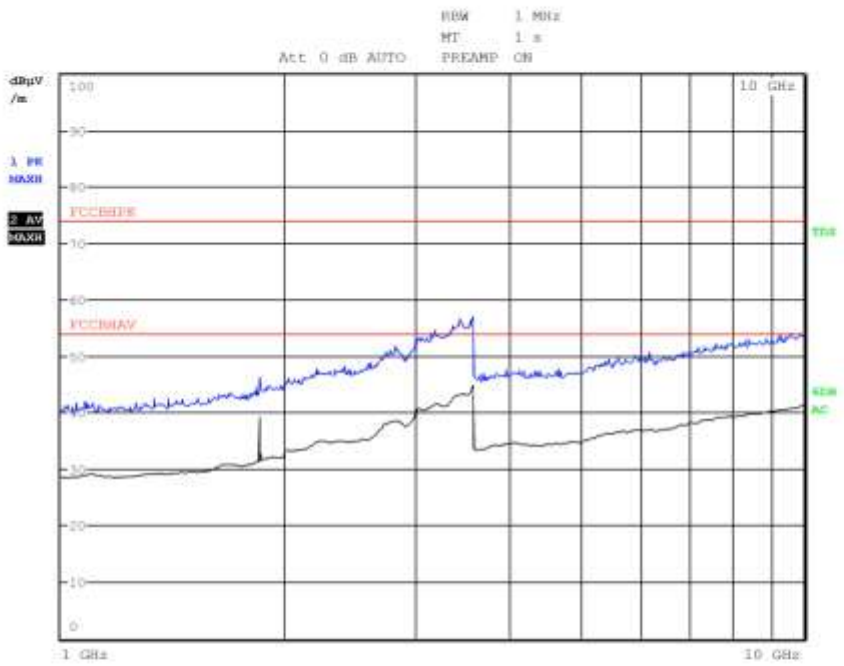


Final Measurement

Meas Time:	1 s
Margin:	6 dB
Subranges:	0

G10144126

Meas Type Emission 1000-10000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 49
Operator Gandini 10144126
Test Spec
Horiz

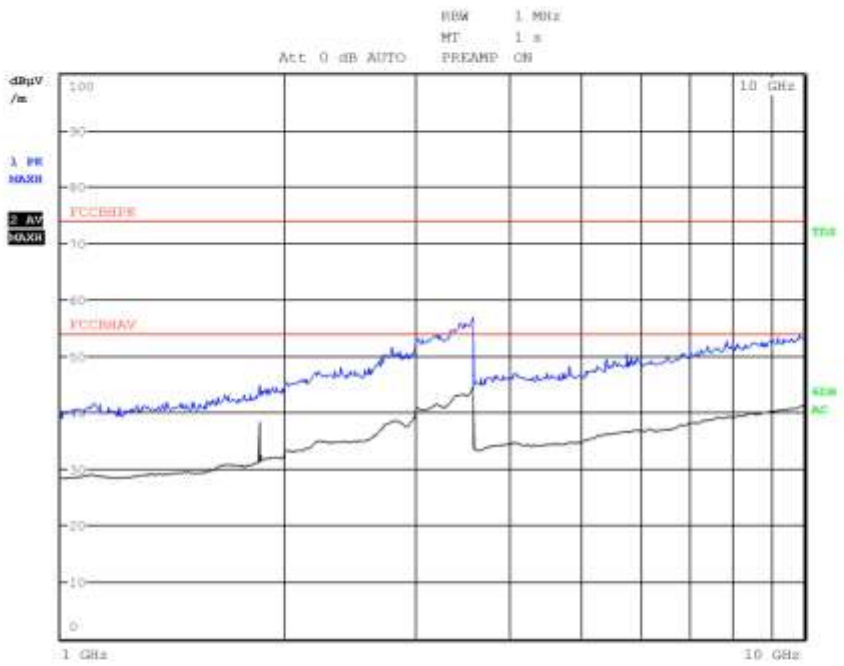


Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 0

G10144127

Meas Type Emission 1000-10000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 49
Operator Gandini 10144127
Test Spec
Vert

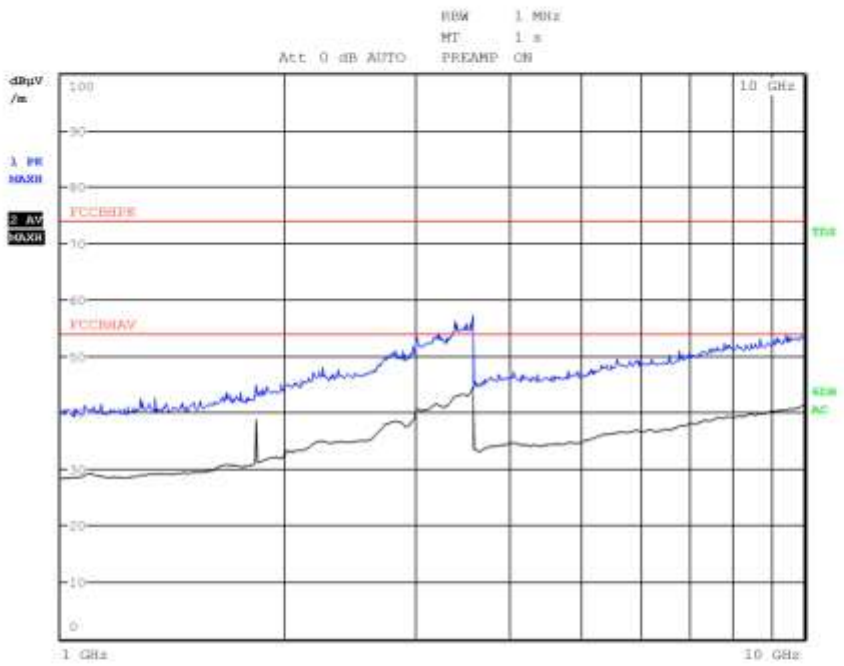


Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 0

G10144128

Meas Type Emission 1000-10000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 25
Operator Gandini 10144128
Test Spec
Vert

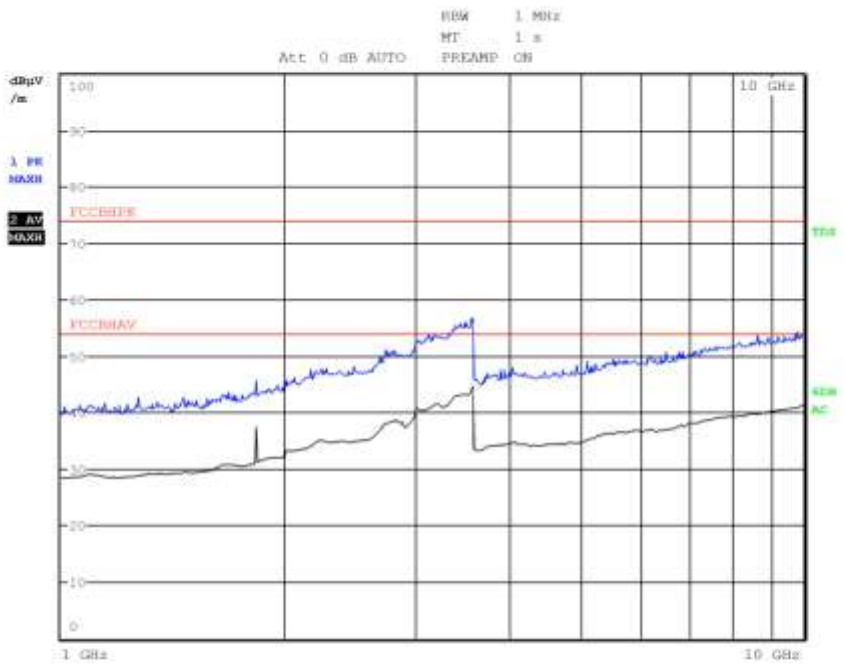


Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 0

G10144129

Meas Type Emission 1000-10000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 25
Operator Gandini 10144129
Test Spec
Horiz

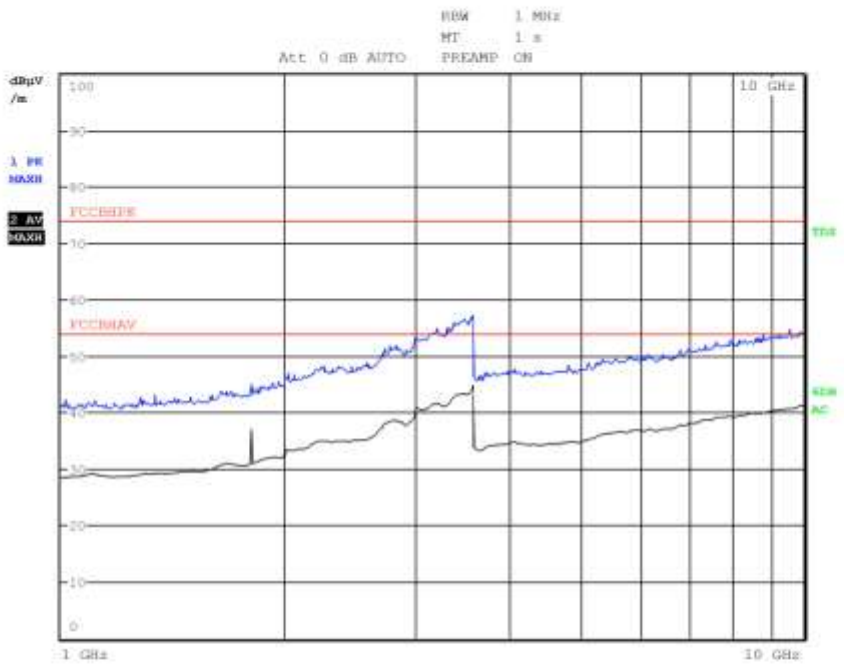


Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 0

G10144130

Meas Type Emission 1000-10000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 0
Operator Gandini 10144130
Test Spec
Horiz

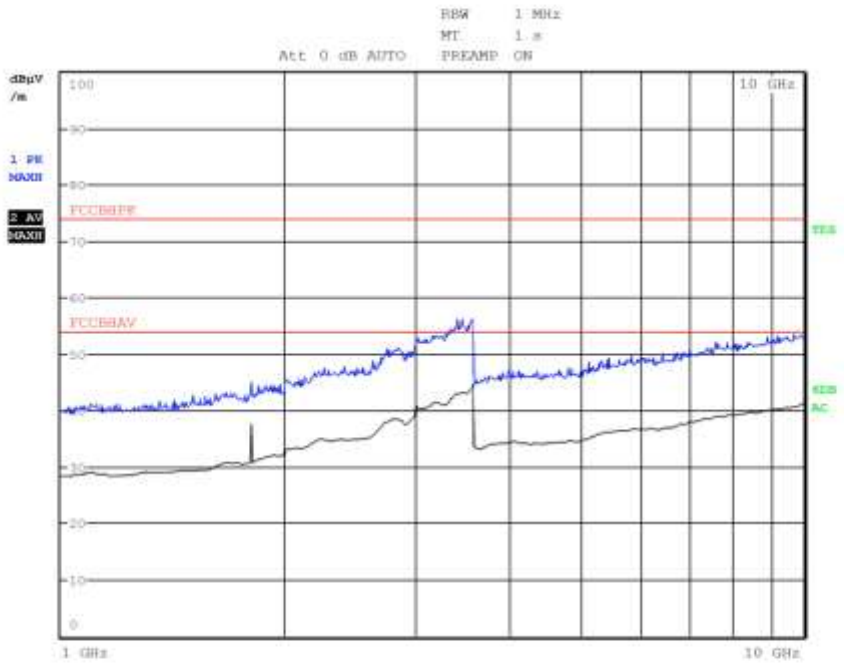


Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 0

G10144131

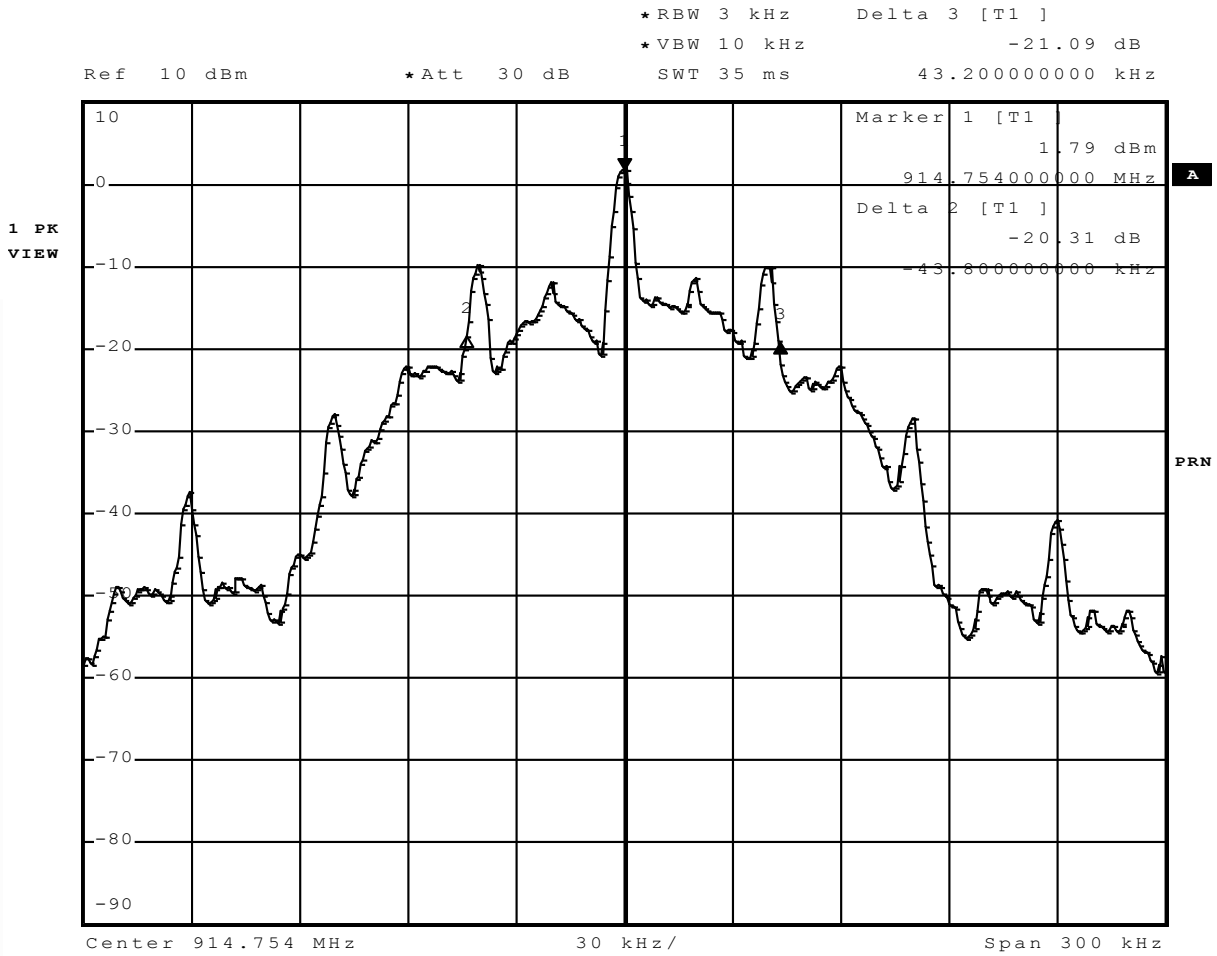
Meas Type Emission 1000-10000MHz
Equipment under Test
Manufacturer
OP Condition In TX-Ch 0
Operator Gandini 10144131
Test Spec
Vert



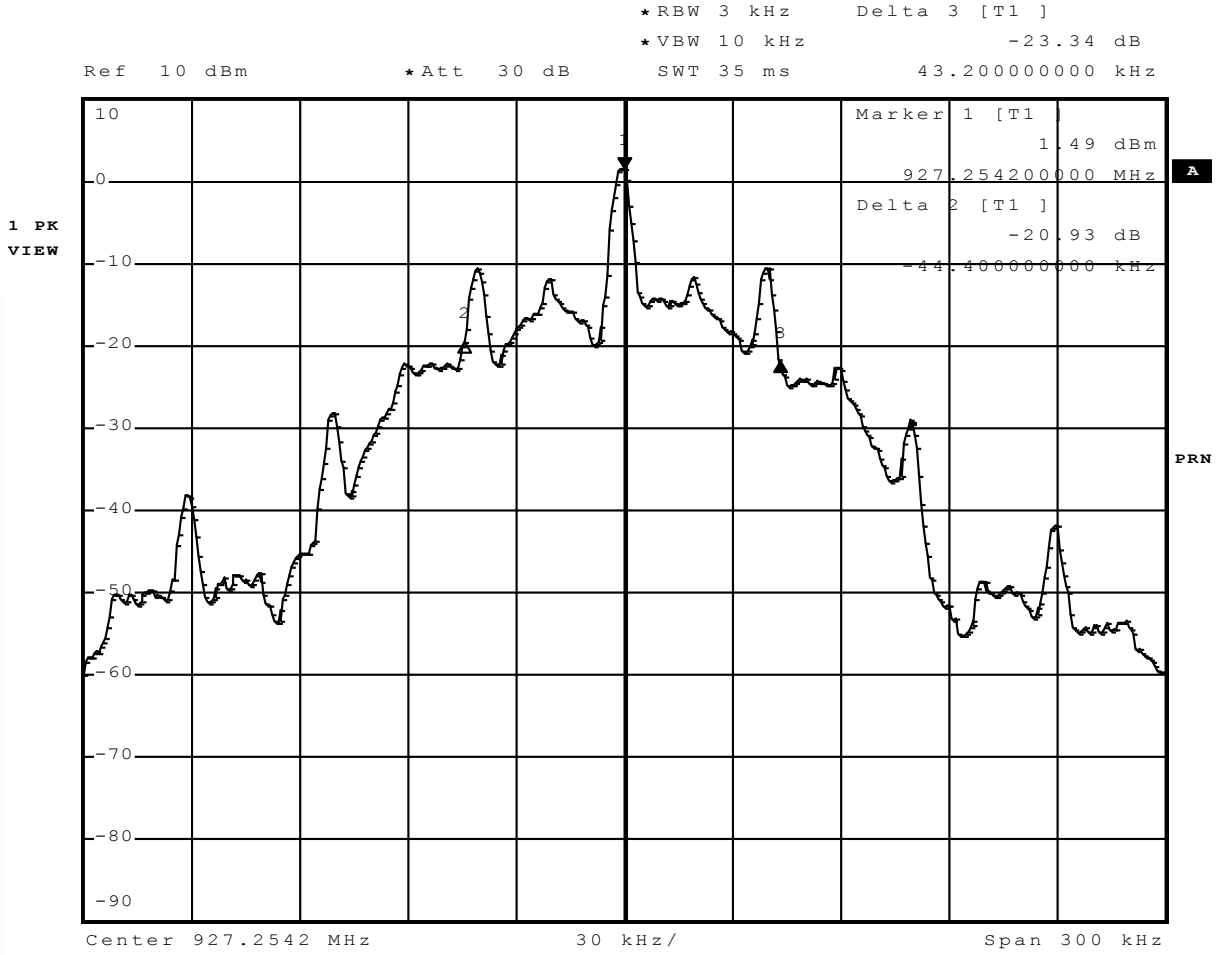
Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 0

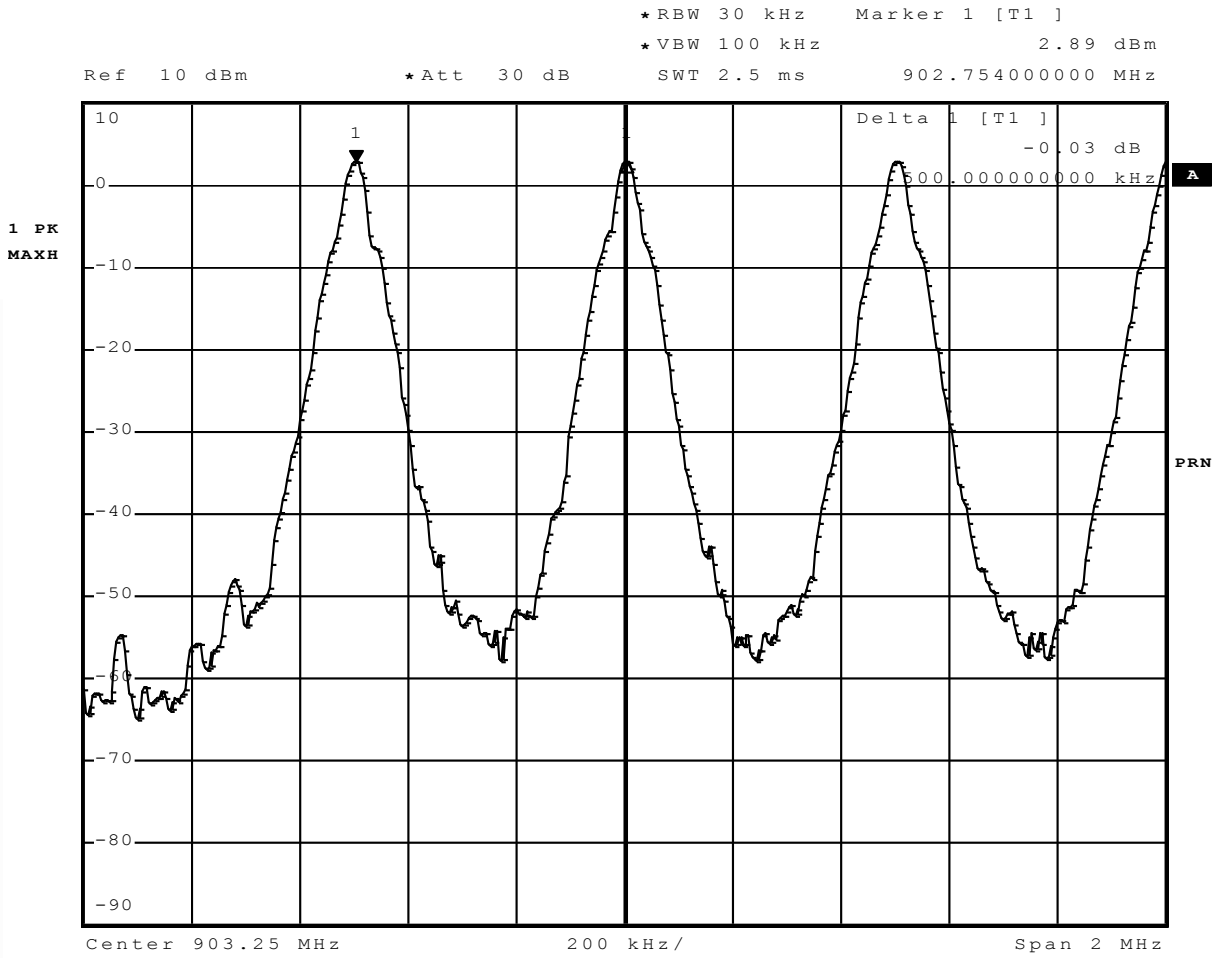
G10144180



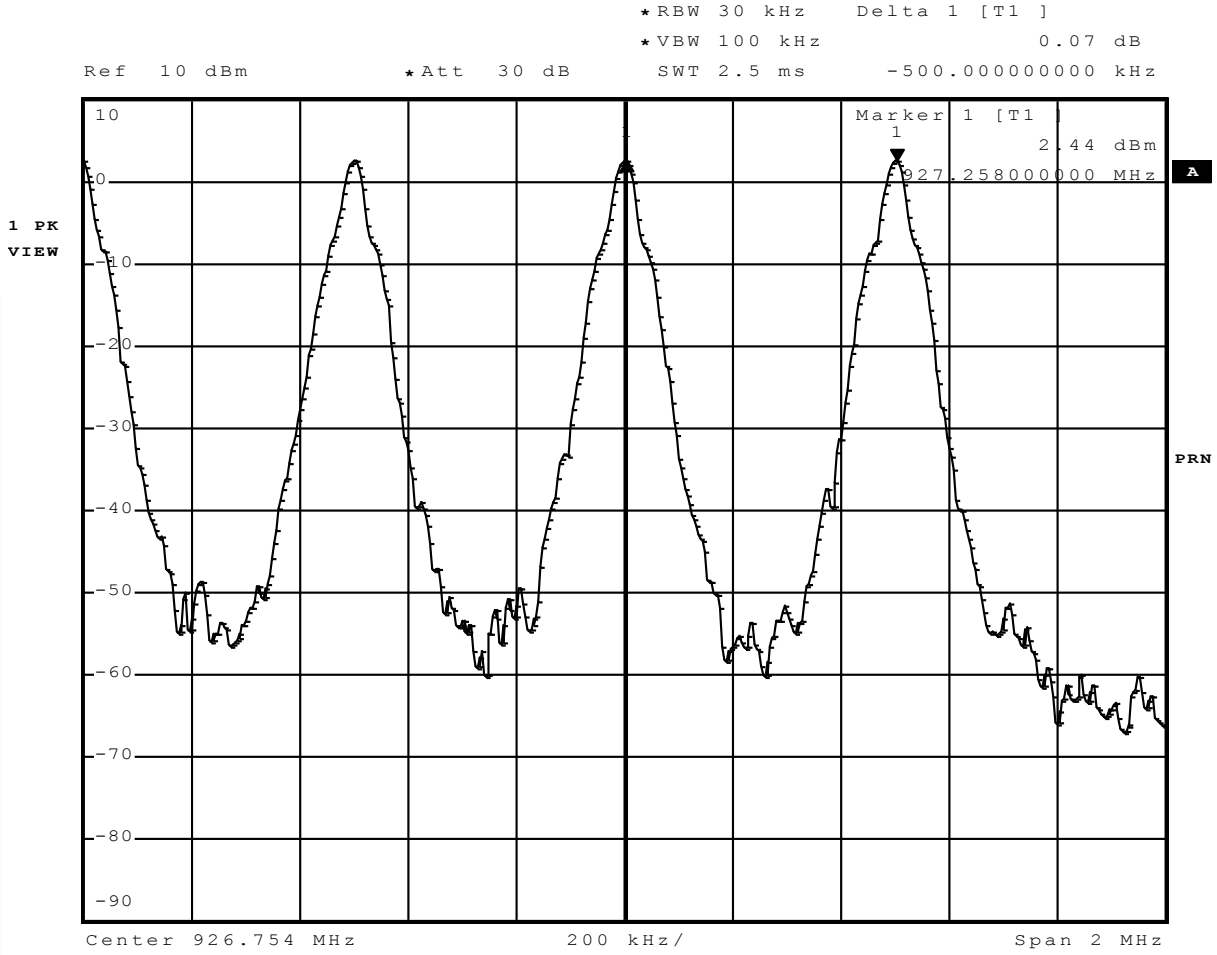
G10144181


*RBW 3 kHz
*VBW 10 kHz
SWT 35 ms
Delta 3 [T1]
-23.34 dB
43.200000000 kHz
Ref 10 dBm
*Att 30 dB
Marker 1 [T1]
1.49 dBm
927.254200000 MHz
Delta 2 [T1]
-20.93 dB
-44.400000000 kHz
1 PK
VIEW
A
PRN
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 927.2542 MHz
30 kHz/
Span 300 kHz

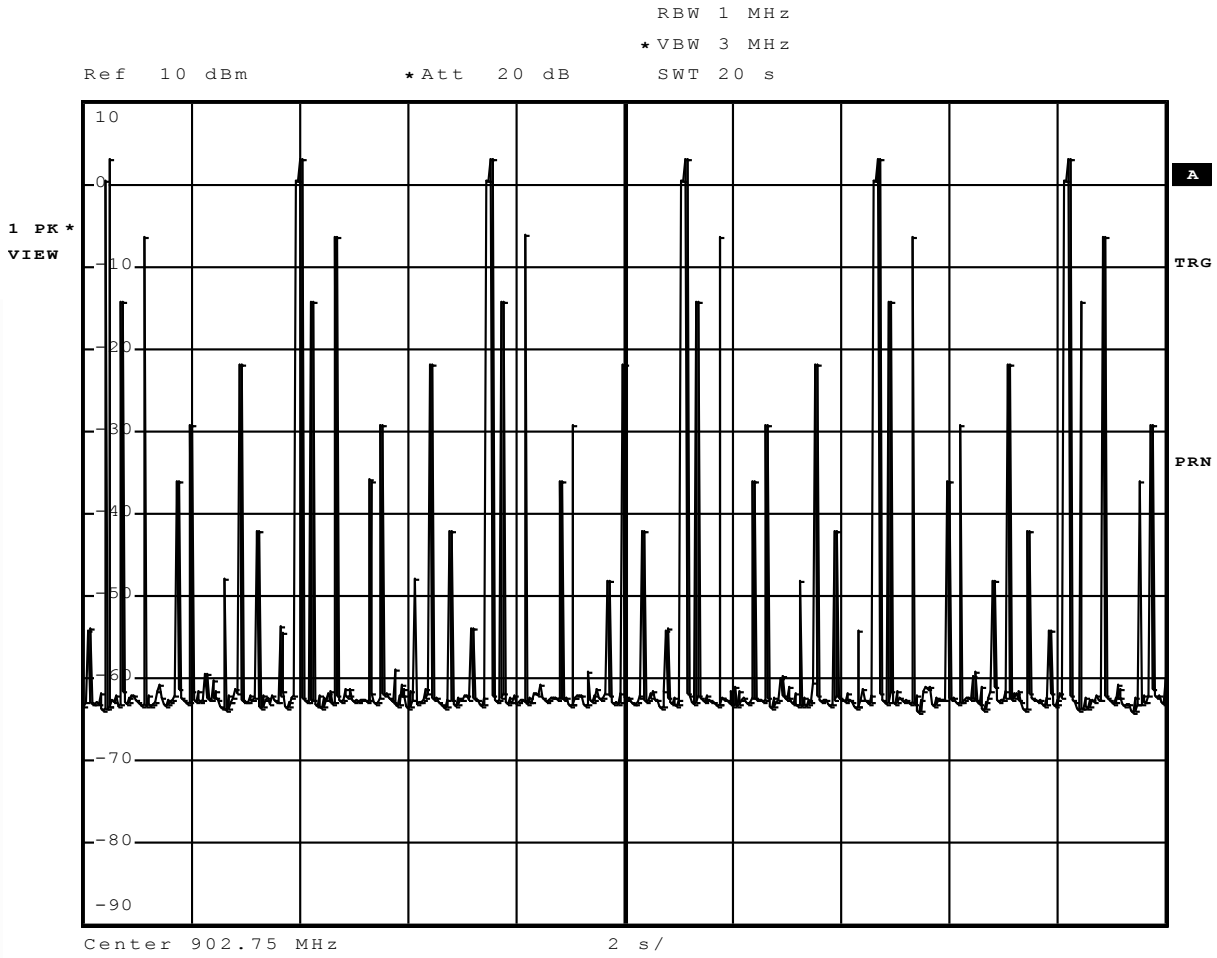
G10144182


RBW 30 kHz
VBW 100 kHz
SWT 2.5 ms
Marker 1 [T1]
2.89 dBm
902.754000000 MHz
Ref 10 dBm
Att 30 dB
Delta 1 [T1]
-0.03 dB
500.000000000 kHz
1 PK
MAXH
A
PRN
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 903.25 MHz
200 kHz/
Span 2 MHz

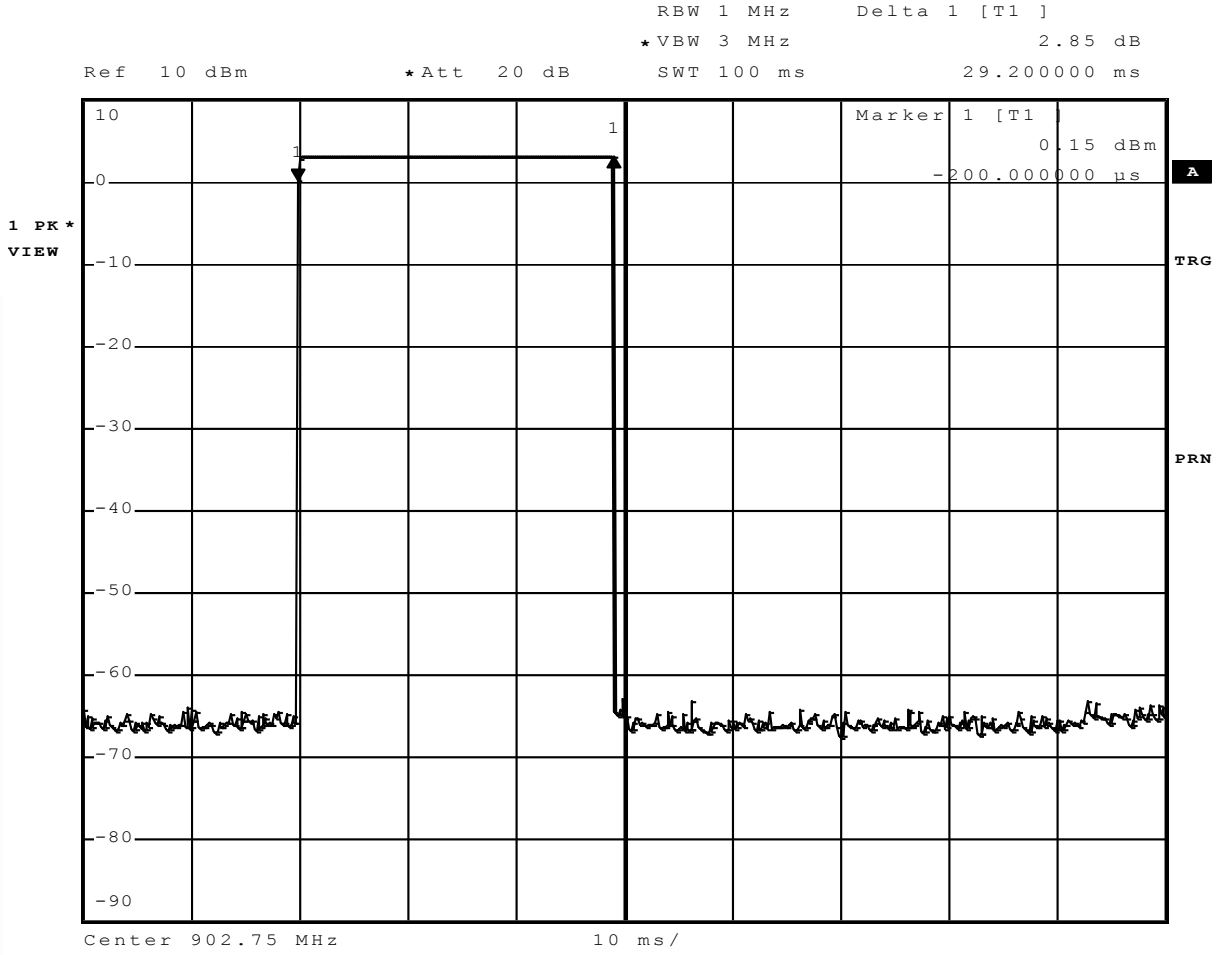
G10144183


*RBW 30 kHz
*VBW 100 kHz
SWT 2.5 ms
Delta 1 [T1]
0.07 dB
-500.000000000 kHz
Ref 10 dBm
*Att 30 dB
Marker 1 [T1]
2.44 dBm
927.258000000 MHz
1 PK
VIEW
A
PRN
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 926.754 MHz
200 kHz/
Span 2 MHz

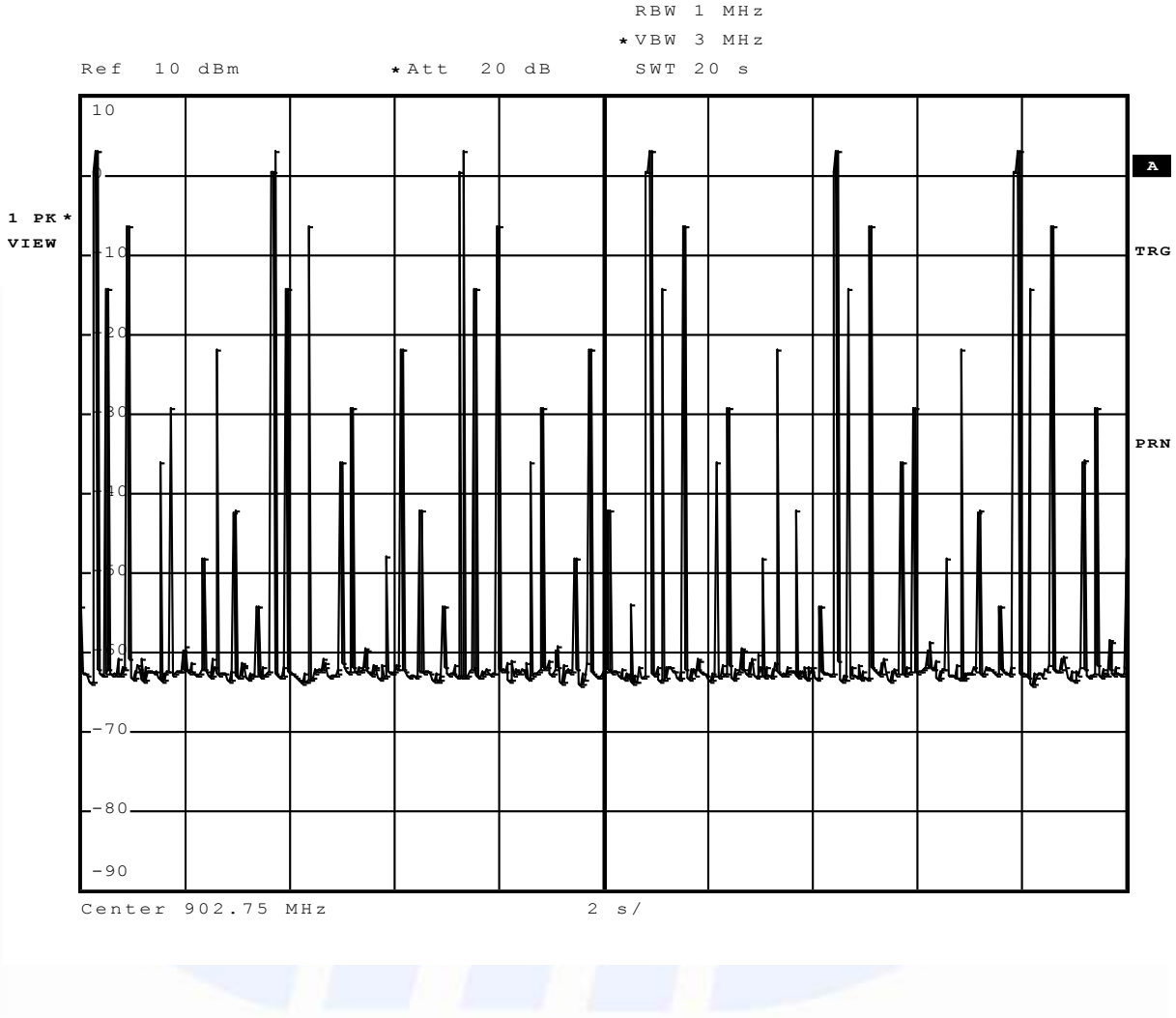
G10144184


RBW 1 MHz
*VBW 3 MHz
Ref 10 dBm
*Att 20 dB
SWT 20 s
1 PK*
VIEW
A
TRG
PRN
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 902.75 MHz
2 s/

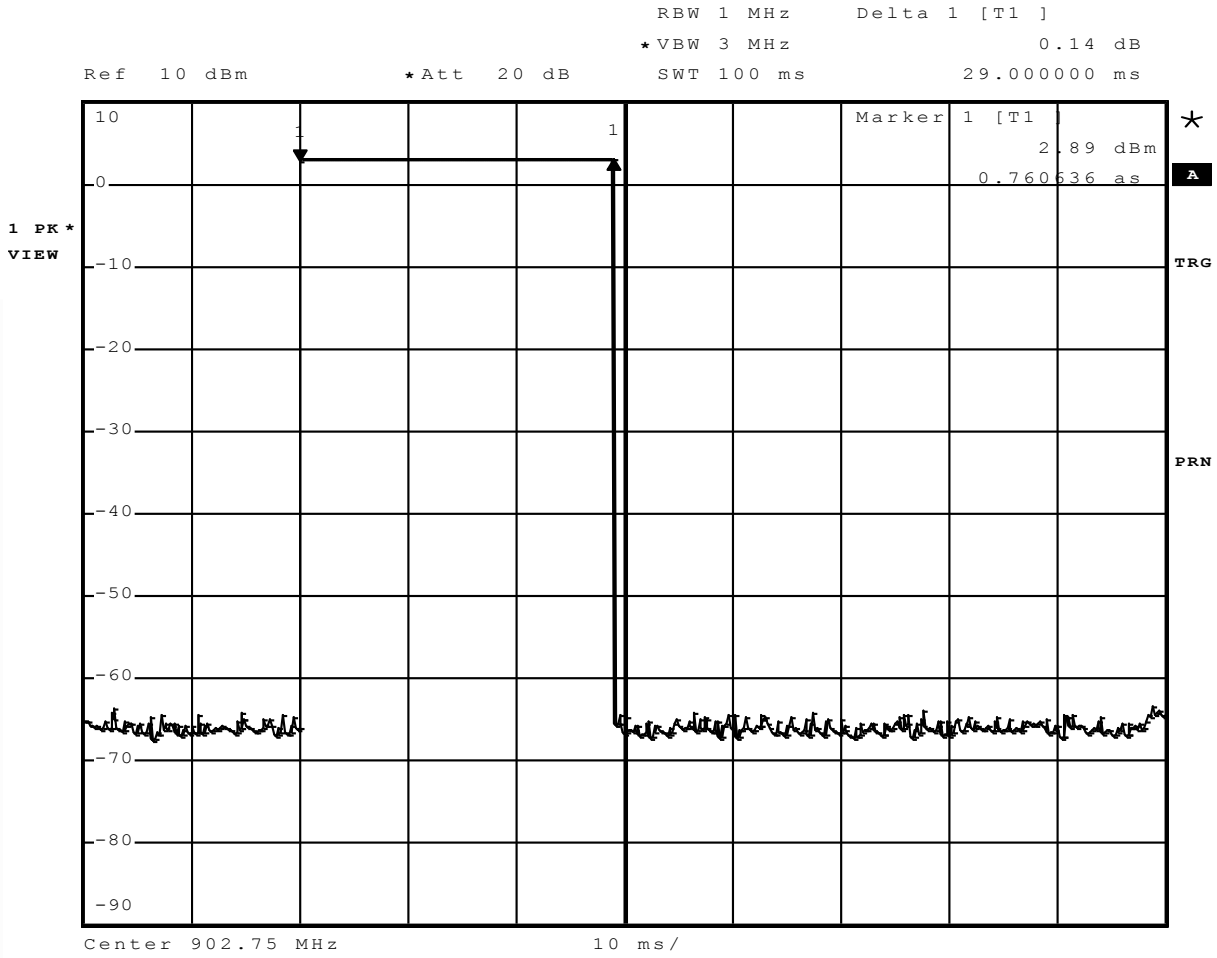
G10144185



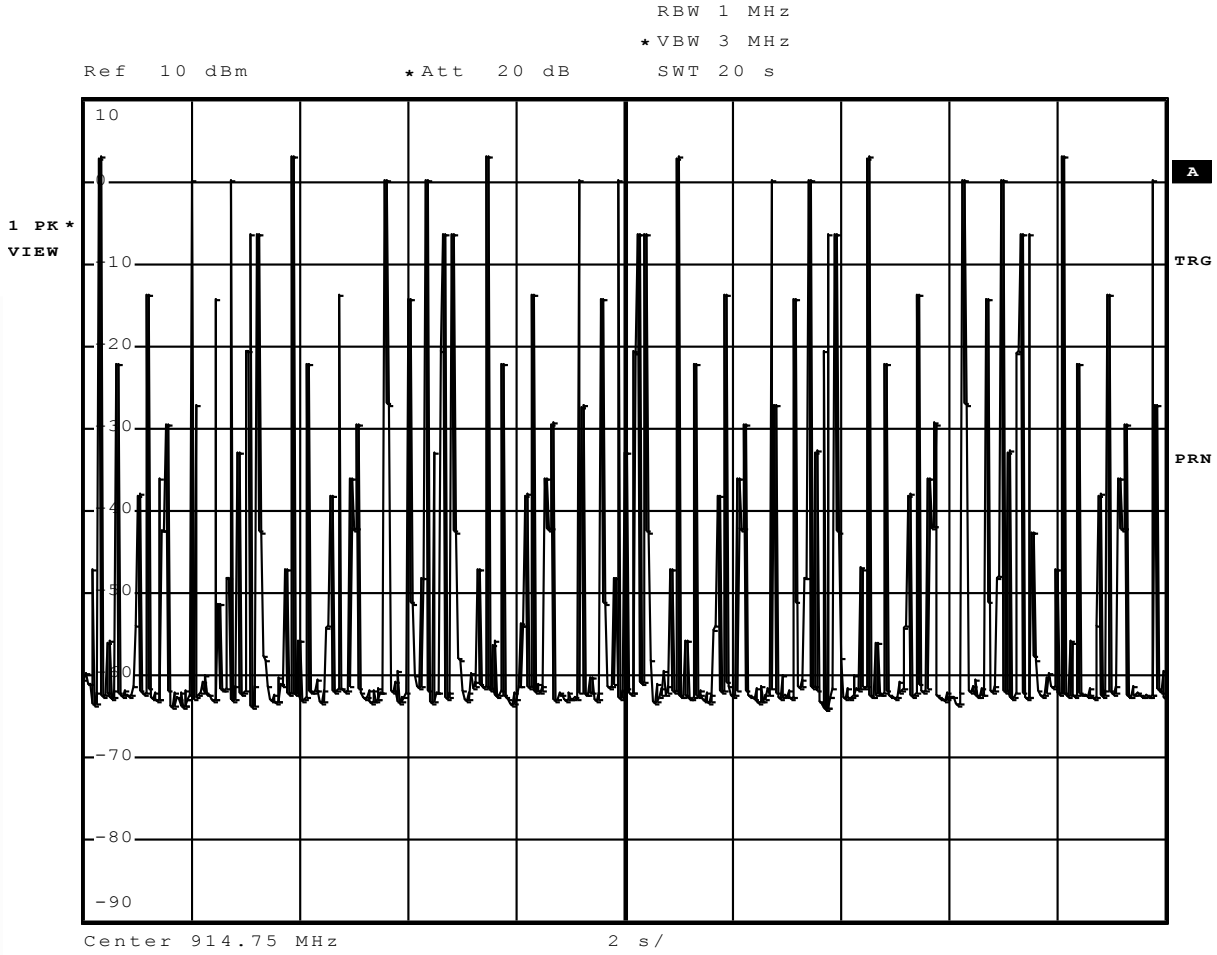
G10144186



G10144187


RBW 1 MHz
Delta 1 [T1]
*VBW 3 MHz
0.14 dB
Ref 10 dBm
*Att 20 dB
SWT 100 ms
29.000000 ms
Marker 1 [T1]
2.89 dBm
0.760636 as
1 PK*
VIEW
TRG
PRN
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 902.75 MHz
10 ms/

G10144188



G10144189