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Reference 8P01074-W Page 1 (62) SP Testing

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Radio measurements on Radio 4478 B5 equipment with FCC ID TA8A KRC161689 and IC:287AB-AS161689

Product name: Radio 4478 B5 Product number: KRC 161 689/1 and KRC 161 689/3

RISE Research Institutes of Sweden AB

Electronics - EMC

Performed by

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Summary

Standard Listed part of	Compliant	
FCC CFR 47 part 22/ IC RSS-132, RSS-Gen		
2.1046/ 5.4 RF power output, conducted	Yes	
2.1049/ 4.6.1 Occupied bandwidth	Yes	
2.1051/ 5.5 Band edge	Yes	
2.1051/ 5.5 Spurious emission at antenna terminals	Yes	
2.1053/ 5.5 Field strength of spurious radiation	Yes	
2.1055/ 5.3 Frequency stability	Yes	



Description of the test object

Equipment:	Radio equipment Radio 4478 B5 Product number KRC 161 689/1 and KRC 161 689/3 FCC ID: TA8AKRC161689 IC: 287AB-AS161689
HVIN:	AS161689
FVIN:	CXP 901 3268/15, R68LT
Hardware revision state:	R2A
Tested configuration:	WCDMA single RAT
Frequency range:	TX: 869 – 894 MHz RX: 824 – 849 MHz
IBW:	25 MHz
Output power:	Max 40 W/ antenna port
Antenna ports:	4 TX/RX ports
Antenna:	No dedicated antenna, handled during licensing
RF configuration:	Single and multi-carrier, 1-5 carriers/ port 2x(2x2) MIMO, , Contiguous Spectrum (CS), Non-Contiguous Spectrum (NCS)
Modulations:	QPSK, 16QAM and 64QAM
Channel bandwidths:	3.8 to 5 MHz
RF power Tolerance:	+0.6/ -2.0 dB
CPRI Speed	Up to 10.1 Gbit/s
Nominal supply voltage:	-48VDC

The information above is supplied by the manufacturer.

Note: KRC 161 689/1 and KRC 161 689/3 are electrically identical according to the manufacturer. Only KRC 161 689/3 was tested.



Purpose of test

The purpose of this test is to justify a Permissive Change to include WCDMA

Operation modes during measurements

Measurements were performed with the test object transmitting the Test model 1 which are defined in 3GPP TS 25.141. Test model 1 (TM1) represent QPSK modulation. Test model 5 (TM5) includes the 16QAM modulation and Test model 6 (TM6) includes the 64QAM modulation.

All measurements were performed with the test object configured for maximum transmit power. The measured configurations covers worst case settings.

Conducted measurements

The test object was supplied with -48 VDC by an external power supply. Additional connections are documented in the set-up drawings for conducted measurements.

Radiated measurements

The test object was powered with -48 VDC by an external power supply. Additional connections are documented in the set-up drawings for radiated measurements.

References

Measurements were done according to relevant parts of the following standards: ANSI C63.4-2014 CFR 47 part 2, February 2018 CFR 47 part 22, February 2018 ANSI C63.26-2015 KDB 662911 D01 Multiple Transmitter Output v02r02 KDB 971168 D01 Power Meas License Digital Systems v03 KDB 971168 D03 IM Emission Repeater Amp v01 3GPP TS 37.141, version 13.5.0 3GPP TS 25.141, version 13.4.0 RSS-Gen Issue 4 RSS-132 Issue 3



Measurement equipment

	Calibration Due	RISE number
Test site Tesla	2019-12	503 881
R&S ESU 40	2018-07	901 385
R&S FSQ 40	2018-07	504 143
R&S FSW 43	2018-08	902 073
Control computer with	-	BX62351
R&S software EMC32 version 10.20.01		
High pass filter 1-15 GHz	2018-06	504 199
High pass filter 1-20 GHz	2018-06	901 501
RF attenuator Weinschel WA73-20-11	2018-05	900 691
Coaxial cable Sucoflex 102EA	2018-05	BX50191
Coaxial cable Sucoflex 102EA	2018-05	BX50236
ETS Lindgren BiConiLog Antenna 3142E	2019-03	BX61914
EMCO Horn Antenna 3115	2019-12	502 175
μComp Nordic, Low Noise Amplifier	2019-01	901 545
Temperature and humidity meter, Testo 635	2018-06	504 203
Temperature and humidity meter, Testo 625	2018-06	504 188

Uncertainties

Measurement and test instrument uncertainties are described in the quality assurance documentation "SP-QD 10885". The uncertainties are calculated with a coverage factor k=2 (95% level of confidence).

Compliance evaluation is based on a shared risk principle with respect to the measurement uncertainty.

Reservation

The test results in this report apply only to the particular test object as declared in the report.

Delivery of test object

The test object was delivered: 2018-01-29.

Manufacturer's representative

Mikael Jansson, Ericsson AB.

Test engineers

Tomas Isbring for radiated tests, RISE. Andreas Johnson for conducted tests, RISE.

Test participant(-s)

None.

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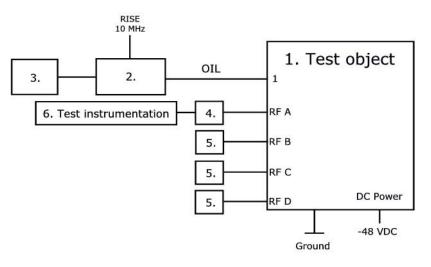
lest frequencies used for radiated and conducted measureme				nen
UARFCN Downlink B5	Frequency [MHz]	Symbolic name	Comment	
4357	871.4	В	Single carrier TX bottom frequency	
4408	881.6	М	Single carrier TX band mid frequency	
4395 4420	879.0 884.0	M2	2-carriers TX band mid constellation	
4357 4383 4408 4433 4458	871.4 876.6 881.6 886.6 891.6	M5	5-carriers TX band mid constellation	
4458	891.6	Т	Single carrier TX band top frequency	
4433 4458	886.6 891.6	T2		
4357 4383 4458	871.4 876.6 891.6	Bim	3-carriers TX constellation	
4357 4433 4458	871.4 886.6 891.6	Tim	3-carriers TX constellation	

Test frequencies used for radiated and conducted measurements

All RX frequencies were configured 45 MHz below the corresponding TX frequency according to the applicable duplex offset for the operating band.



Test setup: conducted measurements



Test object:

1.	Radio 4478 B5, KRC 161 689/3, rev. R2A, s/n: B440820317
	With Radio Software: CXP 901 3268/15, rev. R68LT
	FCC ID: TA8AKRC161689 and IC: 287AB-AS161689

Associated equipment:

2.	Testing Equipment:
	CT10, LPC 102 487/1, rev. R1C, s/n: T01F375046, BAMS – 1001466800
	with software CXA 104 446/1, rev. R8AB/2

Functional test equipment:

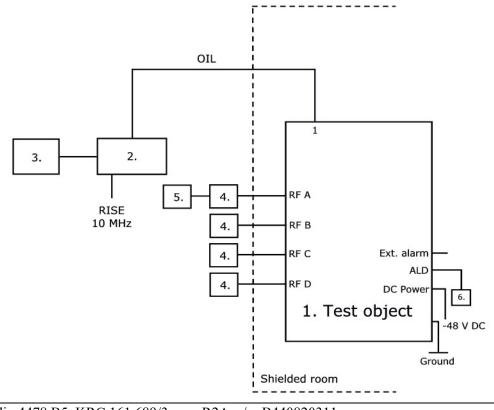
3.	Computer, HP EliteBook 8560w, BAMS - 1001236851			
4. RF Attenuator: RISE number: 900 691				
5.	Terminator, 50 ohm			
6.	RISE Test Instrumentation according to measurement equipment list for each test.			
	The signal analyzer was connected to the RISE 10 MHz reference standard during all			
	measurements.			

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Test setup: radiated measurements



1. Radio 4478 B5, KRC 161 689/3, rev. R2A, s/n: B440820311 With Radio Software: CXP 901 3268/15, rev. R68LT FCC ID: TA8AKRC161689 and IC: 287AB-AS161689

Associated equipment:

2.	Testing Equipment:
	CT10, LPC 102 467/1, rev. R1C, s/n: T01F375046, BAMS – 1001466801
	with software CXA 104 446/1, rev. R8AB/2

Functional test equipment:

3.	Computer, HP EliteBook 8560w, BAMS - 1001236854
4.	Attenuator
5.	R&S ESIB 26, RISE no: 503 292, for supervision purpose only
6.	ALD Control, Andrew, model: ATM200-A20, s/n: DESA101412073

RI. SE







interfaces.	
Power input configuration DC: -48 VDC	Power
RF A, 4.3-10 connector, combined TX/RX	Antenna
RF B, 4.3-10 connector, combined TX/RX	Antenna
RF C, 4.3-10 connector, combined TX/RX	Antenna
RF D, 4.3-10 connector, combined TX/RX	Antenna
1, Optical Interface Link, single mode opto fibre	Signal
2, Optical Interface Link, not used in this configuration	Signal
EXT Alarm, shielded multi-wire	Signal
ALD, shielded multi-wire	Signal
Ground wire	Ground



RF power output measurements according to CFR 47 §2.1046 / IC RSS-132 5.4, conducted

Date	Temperature	Humidity
2018-02-01	$21 \text{ °C} \pm 3 \text{ °C}$	16 % ± 5 %
2018-02-02	$21 \text{ °C} \pm 3 \text{ °C}$	10 % ± 5 %

Test set-up and procedure

The test object was connected to a signal analyser measuring peak and RMS output power in CDF mode. A resolution bandwidth of 80 MHz was used.

Measurement equipment	RISE number
R&S FSW 43	902 073
RF attenuator	900 691
Testo 635, temperature and humidity meter	504 203

Measurement uncertainty: 1.1 dB

Results

Single carrier TM 1

	Output power CCDF [RMS dBm/ PAR dB]				
Symbolic name	Port RF A	Port RF B	Port RF C	Port RF D	Total power ¹⁾
В	45.46/ 7.40	45.50/ 7.38	45.47/ 7.38	45.07/ 7.38	51.40
М	45.47/ 7.36	45.50/ 7.34	45.44/ 7.34	45.05/ 7.34	51.39
Т	45.42/ 7.44	45.54/ 7.42	45.41/ 7.42	45.07/ 7.44	51.38

Rated output power level at each RF port 1x 46 dBm/ port.

¹⁾: summed output power according to FCC KDB662911 D01 E)1) Multiple transmitter output Note: The PAR value is the 0.1 % Peak to Average Ratio.



Single carrier TM 5

Rated output power level at each RF port 1x 46 dBm/ port.

	Output power CCDF [RMS dBm/ PAR dB]				
symbolic name	Port RF A	Port RF B	Port RF C	Port RF D	Total power ¹⁾
Т	45.43/ 7.38	45.49/ 7.38	45.44/ 7.36	45.09/ 7.36	51.39

Single carrier TM 6

Rated output power level at each RF port 1x 46 dBm/ port.

	Output power CCDF [RMS dBm/ PAR dB]				
symbolic name	Port RF A	Port RF B	Port RF C	Port RF D	Total power ¹⁾
Т	45.44/ 7.36	45.50/ 7.38	45.43/ 7.38	45.07/ 7.38	51.38

Multi carrier TM 1

Rated output power level at each RF port 2x 43 dBm/ port.

		Output power	CCDF [RMS	dBm/ PAR dB	3]
Symbolic name	Port RF A	Port RF B	Port RF C	Port RF D	Total power ¹⁾
T2	45.52/ 7.40	45.58/ 7.36	45.51/ 7.40	45.19/ 7.38	51.47

Multi carrier TM 1

Rated output power level at each RF port 4x 40 dBm/ port.

	Output power CCDF [RMS dBm/ PAR dB]				
Symbolic name	Port RF A	Port RF B	Port RF C	Port RF D	Total power ¹⁾
M5	45.31/ 7.42	45.37/ 7.42	45.33/ 7.42	44.95/ 7.42	51.26

¹⁾: summed output power according to FCC KDB662911 D01 E)1) Multiple transmitter output Note: The PAR value is the 0.1 % Peak to Average Ratio.



Single carrier TM 1 Rated output power level at RF connector 1x 46 dBm/ port.

	Output power per 1 MHz [RMS dBm]				
Symbolic name	Port RF A	Port RF B	Port RF C	Port RF D	Total power ¹⁾
Т	40.10	40.17	40.11	39.71	46.17

¹⁾: summed output power according to FCC KDB662911 D01 E)2)c) Multiple transmitter output.

Remark

ERP/EIRP compliance is addressed at the time of licensing, as required by the responsible FCC/IC Bureau(s). Licensee's are required to take into account maximum antenna gain used in combination with above power settings to prevent the radiated output power to exceed the limits.

Limits

CFR47 § 22.913:	The effective radiated power ERP shall not exceed 1000 W or 800 W/ MHz (PSD) per sector. The PAR (0.1%) shall not exceed 13 dB.
RSS-132 5.4:	The average equivalent isotropically radiated power (e.i.r.p.) limits in SRSP-503 apply, resulting in a maximum EIRP of 1640 W. The PAR (0.1%) shall not exceed 13 dB.

Complies?	Yes



Occupied bandwidth measurements according to CFR47 2.1049 / RSS-Gen 4.6.1

Date	Temperature	Humidity
2018-02-02	$21 \text{ °C} \pm 3 \text{ °C}$	10 % ± 5 %

Test set-up and procedure

The measurements were made per definition in § 2.1049. The output was connected to a signal analyzer with the Peak detector activated in max hold.

Measurement equipment	RISE number
R&S FSW 43	902 073
RF attenuator	900 691
Testo 635, temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

Single carrier TM 1

Diagram	Symbolic name	Tested Port	Occupied BW (99%) [MHz]
1	М	RF B	4.165

Single carrier TM 5

Diagram	Symbolic name	Tested Port	Occupied BW (99%) [MHz]
2	М	RF B	4.179

Single carrier TM 6

Diagram	Symbolic name	Tested Port	Occupied BW (99%) [MHz]
3	В	RF A	4.149
4	В	RF B	4.189
5	М	RF B	4.186
6	Т	RF B	4.186
7	В	RF C	4.187
8	В	RF D	4.164

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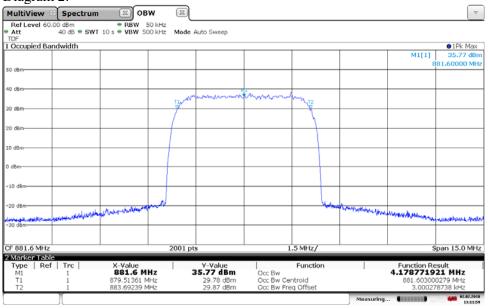


Diagram 1:

M1[1]	● 1Pk Max 36.07 dBn .60000 MH
Occupied Bandwidth M1[1] 881.4 10 dem 10 dem 10 dem 10 dem	36.07 dBn
0 d8m 1 1 801.4 0 d8m 1 1 1	36.07 dBn
0 d8m	
0 dBm	.60000 MH
D d8m	
0 d8m	
D d8m	
) dBm	
) dBm	
d8m	
D dBm	
D dBm	
dBm	
dBm	
10 dBm	
20 dem	
a server to be the serv	shealyderics
S0 dBm	
F 881.6 MHz 2001 pts 1.5 MHz/ Spar	n 15.0 MH:
Address 2007 pts 2007	11 10:0 1411
Marker Julie Type Ref Trc X-Value Y-Value Function Function Result	dt
M1 1 881.6 MHz 36.07 dBm Occ.Bw 4.165313753	
T1 1 879.50872 MHz 30.39 dBm Occ Bw Centroid 881.59137337	
T2 1 883.67403 MHz 29.19 dBm Occ Bw Freq Offset -8.626629722	22 kHz

12:22:42 02.02.2018

Diagram 2:



13:12:00 02.02.2018

Date 2018-02-21

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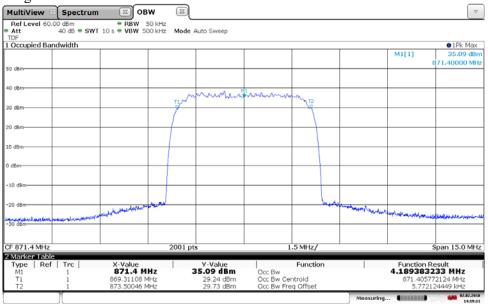


Diagram 3:

Diagram	5.			_							_
MultiView	Spectrum	🖾 ОВ	w	X							\bigtriangledown
Ref Level 60.0 Att TDF		● RBW 5 10 s ● VBW 50		Mode /	Auto Sweep						
1 Occupied Bar	dwidth										1Pk Max
										M1[1]	35.90 dBm
											871.40000 MHz
50 dBm											
40 dBm-					0-00-00-00-00	mmm					
				Tan			MAL T2				
30 dBm				1			1				
				f							
20 dBm			- 1								
10 dBm											
0 dBm											
-10 dBm-											
								1			
-20 dBm								Manager	dal 1		
and the second	ويعارضه والمراجع والمراجع	orienter of the second second second							and the state of the second second	and a first about the second	chanter to provide the state of the
-30 dBm											
CF 871.4 MHz			2	001 pt	1S	1	.5 MHz/		1		Span 15.0 MHz
2 Marker Table			_	_	-						-
	Trc	X-Value			Y-Value		Functio	n		Function	
M1 T1	1	871.4 MI 869.3204 M		3	28.70 dBm	Occ Bw Occ Bw Cer	sheald			4.149174	5 31 MHz 98496 MHz
T2	1	809.3204 M 873.46957 M			28.70 dBm 30.23 dBm	Occ Bw Cer Occ Bw Fre					98496 MHz 140449 kHz
	Y						4 2		Monsuring		02.02.2018
									measuring.		14:27:24

14:27:25 02.02.2018

Diagram 4:



14:19:11 02.02.2018

Date 2018-02-21

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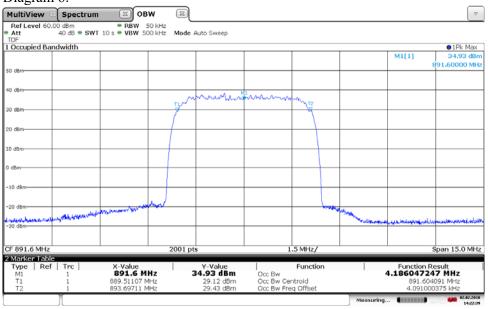


Diagram 5:

Diagram	1.5.			_							_
MultiView) Spectrum	🔟 OBI	w (X							\bigtriangledown
Ref Level 60. Att TDF		• RBW 5 10 s • VBW 50		lode Aut	to Sweep						
1 Occupied Bar	ndwidth								-		1Pk Max
										M1[1]	34.98 dBm
50 dBm-										8	81.60000 MHz
40 dBm											
			т	where the	monthund	-	T2				
30 dBm			- 1				- Y				
			/				\				
20 dBm											
10 dBm											
0 dBm											
o dom											
-10 dBm-											
-20 dBm			and -					1 and			
And a state of a	الملجوي ومرد والمفرون	hter ale had have been							trinstate to without ident	entry community which	of a loss of the souther
55 0511											
CF 881.6 MHz			20	01 pts		1	.5 MHz/		1	L	pan 15.0 MHz
2 Marker Table	4		2.0	0 - 19 (0			ieinej				
Type Ref	Trc	X-Value			Y-Value		Functio	on		Function R	
M1 T1	1	881.6 MH 879.51115 M			.98 dBm 29.23 dBm	Occ Bw Occ Bw Cer	atroid			4.186276 881.60428	
T2	1	883.69743 M			29.23 dBm 29.47 dBm	Occ Bw Cer					38847 kHz
	J								Measuring.		02.82.2018 10:14:07

13:14:38 02.02.2018

Diagram 6:



14:22:39 02.02.2018

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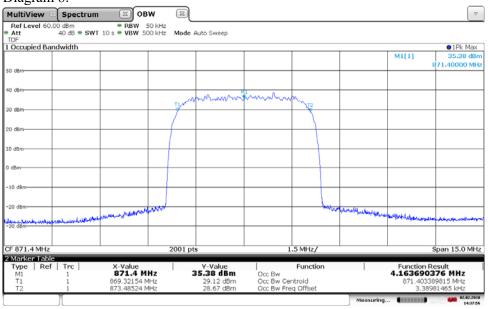


Diagram 7:

Diagram	/.			_							_
MultiView	Spectrum	🖾 OB	w	X							~
Ref Level 60.0 Att TDF		● RBW 5 10 s ● VBW 50		Mode 4	Auto Sweep						
1 Occupied Bar	ndwidth								-		1Pk Max
50 dBm										M1[1]	36.96 dBm 871.40000 MHz
SO GEM											
40 dBm						0.0.1.1					
30 dBm				فللمملية	the second of the second	hormon	T2				
JU dBm			1	7			Ň				
20 dBm							\vdash				
10 dBm			\rightarrow								
0 dBm								-			
-10 dBm			_								
-20 dBm	فيالتيا ومستهمان ومرود والإسلام	handeserver, flooder, f	hadre					- Wiends	anticket and a line water water	hadge and differences of the	ner green mersen here
-30 dBm											
CF 871.4 MHz			20	001 pt	\$	1	.5 MHz/				Span 15.0 MHz
2 Marker Table											
M1 T1	1 1	X-Value 871.4 MI 869.31515 M	Hz	3	Y-Value 6.96 dBm 29.25 dBm	Occ Bw Occ Bw Cer		n			459 MHz 450511 MHz
T2)[873.50175 M	Hz		29.85 dBm	Occ Bw Fre	q Offset		Measuring.		0510586 kHz

14:31:16 02.02.2018

Diagram 8:



14:37:56 02.02.2018



Band edge measurements according to CFR 47 §2.1051 / IC RSS-132 5.5

Date	Temperature	Humidity
2018-02-02	$21 \text{ °C} \pm 3 \text{ °C}$	10 % ± 5 %
2018-02-06		

Test set-up and procedure

The measurements were made per definition in CFR 47 §22.917. The test object was connected to a spectrum analyzer with the RMS detector activated. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements.

A RBW 1% of EBW was used up to 1 MHz away from the band edges. A smaller resolution bandwidth is permitted provided that the measured power is integrated over the full required measurement bandwidth. Where a smaller RBW was used the limit in the plot is adjusted by 10 log (RBW_{used}/RBW_{specified}) [dB] according to the following table:

Carrier BW:	RBW_{used}	RBW _{specified} (1% of EBW)	Limit correction	Adjusted limit
5 MHz	10 kHz	46.8 kHz	-6.7 dBm	-19.7 dBm

Before comparing the results to the limit, 6 dB [10 log (4)] to cover 2x(2x2) MIMO, should be added according to method E)2)c) "Measure and add 10 log(N_{ANT})" of FCC KDB662911 D01 Multiple Transmitter Output.

Measurement equipment	RISE number
R&S FSW 43	902 073
RF attenuator	900 691
Testo 635, temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

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Results

Single carrier TM 1

Diagram	Symbolic name	Tested Port
1 a-b	В	RF B
2 a-b	Т	RF B

Single carrier TM 5

8		
Diagram	Symbolic name	Tested Port
3 a-b	В	RF B
4 a-b	Т	RF B

Single carrier TM 6

Diagram	Symbolic name	Tested Port
5 a-b	В	RF A
6 a-b	Т	RF A
7 a-b	В	RF B
8 a-b	Т	RF B
9 a-b	В	RF C
10 a-b	Т	RF C
11 a-b	В	RF D
12 a-b	Т	RF D

Multi carrier TM 6

Diagram	Symbolic name	Tested Port
13 a-b	Bim	RF B
14 a-b	Tim	RF B

Limits

CFR 47 § 22.917: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 100 kHz RBW below 1 GHz and 1MHz RBW above 1 GHz.

IC RSS-132 5.5: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P) dB$ per any 100 kHz RBW.

Complies?	Yes
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Diagram 1 a:

Itiview 🕀 Sj	pectrum 🔟	oew 🖾	EBW X	12 🖾 B1	Ш н	XX Hz	X		~
tt F	30 dB • SWT	■ RB 100 ms ■ VB	NY 100 kHz NY 1 MHz Moo	le Auto Sweep				C	ount 100/100
requency	Sweep								1Rm Avg
								м1[1]	
dBm									
dBm									
dBm									
dBm									
Bm									
dBm	H1 -13.000 dBm								
dBm									
d8m									
dBm									-
3.0 MHz			1001 pt	s	1	.5 MHz/			868.0 MH
)(Measuring		06.82.201

Diagram 1 b:

tultiView 🗄 Spectrum 🖾 OBW	EBW 2 2 2	MI MZ HZ	X	▽
Ref Level 50.00 dBm Att 30 dB = SWT 100 IDF 30 dB = SWT 100	RBW 10 kHz ms VBW 100 kHz Mode Auto Sweep			Count 100/100
Frequency Sweep				1Rm Avg
			M1[1]	-28.27 dBn 869.00000 MH
0 dBm				
0 dBm				
10 d8m				
0 dBm		~~~~~		
dBm				
10 dBm-				
20 dBm-19.700 dRm				
30 dBm-				
40.d8m 				
868.0 MHz	1001 pts	200.0 kHz/		870.0 MH

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Die

	rctrum 🖾	oew 🖾	EBW X B	12 X B1	Ш	🖾 на	x		
f Level 50	0.00 dBm 30 dB = SW1	• RBW T 100 ms • VBW	V 10 kHz V 100 kHz Mod	e Auto Sween			_		ount 100/
quency \$		100 115 - 101	100 1012 1000	e Auto oncep					• 1Rm A
								M1[1]	-28.55 (94.00000
ñ									394.00000
n									
The state of the s	-								
		manara	m						
·			- Mar	<u> </u>					
sm									
	H1 -19,670 dBm -								
					1				
3m									
sm					homenung	mon			
pin-							and the second second	monten	- marine
0 MHz			1001 pts		20	00.0 kHz/			895.01
	Y								
4 06.02.20 agran	¹⁰ n 2 b:						Measuring.		
agran	n 2 b:	osw 🗵	EBW X	12 🕅 81	(X) H1	(X) 182	Measuring.		
agran	n 2 b:	osw ⊠ ■ RBV	V 100 kHz		E HI	E II2			
agran 	n 2 b:		V 100 kHz		E HI	EZ II2			Count 100/
agran 	n 2 b:	• RBV	V 100 kHz		E III	E IB			Count 100/
agran	n 2 b:	• RBV	V 100 kHz		E RI	E III			Count 100/ • 1Rm / -34.31
agran 	n 2 b:	• RBV	V 100 kHz		Ж	R R			Count 100/ • 1Rm / -34.31
agran 	n 2 b:	• RBV	V 100 kHz		XX HI	E III			Count 100/ • 1Rm / -34.31
agran Level 50 quency s	n 2 b:	• RBV	V 100 kHz		XX NI	E III			Count 100/ • 1Rm / -34.31
agran Level 50 quency s	n 2 b:	• RBV	V 100 kHz		X NI	E III			Count 100/
ugran 	n 2 b:	• RBV	V 100 kHz		X HI	E III			Count 100/ • 1Rm / -34.31
ugran 	n 2 b:	• RBV	V 100 kHz			H2			Count 100/
agran	n 2 b:	• RBV	V 100 kHz			E 200			Count 100/
quency S	n 2 b:	• RBV	V 100 kHz			E 2			Count 100/ • 1Rm / -34.31
agran	n 2 b:	• RBV	V 100 kHz			E 2			Count 100/: • 1Rm A -34,31
n	n 2 b:	• RBV	V 100 kHz		<u>ж</u>				Count 100/: • 1Rm A -34,31
n	n 2 b:	• RBV	V 100 kHz						Count 100/: • 1Rm A -34,31
agran Flevel SC aguency S aguency S ague	n 2 b:	• RBV	V 100 kHz						Count 100/ 2
agram ************************************	n 2 b:	• RBV	V 100 kHz						Count 100/: • 1Rm A -34,31
agram # \$perture Isevel \$C quency \$ n \$	n 2 b:	• RBV	V 100 kHz	le Auto Sweep		Ш не не не не не не не не не не не не не н			Count 100/: • 1Rm A -34,31

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Diagram 3 a:

Niew 🕀 Spi	rctrum 🔟	oew 🕅	EBW X	D2 🕅 🕅 🛙	Ш	XX Hz	X		
ef Level 50 tt	0.00 dBm	• RB	W 100 kHz W 1 MHz Mo	de Auto Susse				0	ount 100/10
-		100 IIIS - VB	N 1002 00	de Auto Sweep				C	
equency 1	Sweep								IRm Avg
								M1[1]	
									867 . 9775 M
3m									
3m									
3m									
3m									
m									
iBmmBt									
	H1 -13.000 dBm			-					
10									
dBm									
iBm									
dBm									
AG III									
				+					
3.0 MHz			1001 p	ts	1	.5 MHz/			868.0 Mł
	Y		1001 0				Manageraling	. (66.82.20

Diagram 3 b:

	pectrum 🔟		EBW X	z 🛛 🕅 D1	Ш	XX Hz	X		
Ref Level 3 Att IDF	30 dB = SW1	• RBV 100 ms • VBW	/ 10 kHz / 100 kHz Mod	e Auto Sweep				c	ount 100/100
Frequency	Sweep								1Rm Avg
								M1[1]	-27.97 dB 69.00000 MF
0 dBm									
0 dBm									
0 dBm								and the second	
0 dBm						- Andrew	mon		
o dom					per				
dBm									
10 dBm									
20 dBm	41 -19 700 dBm				/				
30 dBm					ŧ.				
40.dB0	الولي والي الم	-	m	manual					
and the second secon									
368.0 MHz			1001 pt		20	0.0 kHz/			870.0 MH
)[1001 00	-			Measuring.		05.82.201

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Diagram 4 a:

editivier Spectrum Ref Level 50.00 dBm		вяж 🗵 в W 10 kHz	2 🛛 🕅 🛛 🕅	E m	E HZ	X		
Att 30 dE	• SWT 100 ms • VB	W 100 kHz Mod	e Auto Sweep				c	Count 100/10
Frequency Sweep								1Rm Avg
							M1[1]	-29.34 dB 94.00000 MF
i0 dBm								
0 d8m								
odem								
0 dBm-		mon						
) dBm								
10 dBm								
20 d8m H1 - 19.6	70 d8m							
30 d8m				1				
au ubm								
40 dBm-				harmon	an an an An Malachae ang an	- and the second	mun	m
893.0 MHz		1001 pt		20	0.0 kHz/			895.0 MH
893.0 MHz		1001 pt	8	20	0.0 kHz/	Measuring.		

Diagram 4 b:

aultiView 🗄 Spectrum 🖾 OSW	X EBW X BZ X B1	H1 X H2	X	~
RefLevel 50.00 dBm Att 30 dB ● SWT 100 n	RBW 100 kHz Second Auto Sweep MHz Mode Auto Sweep		c	ount 82/100
IDF Frequency Sweep				1Rm Avg
			M1[1]	-34.56 dBn 395.0075 MH
10 dBm				
30 dBm				
20 dBm				
0 dBm				
) dBm				
-10 dBm-				
20 dBm				
30 dBm				
-40 dBm				
895.0 MHz	1001 pts	1.5 MHz/		910.0 MHz
095.0 Mill2	1001 pts	1.5 MI127	Measuring	910.0 10112

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Diagram 5 a:

itmen 🕀	Spectrum	ORW 🖾 E	BAA 🕅 🛛 DS	X 81	Ш н1	Ш	X		~
Ref Level Att)F	50.00 dBm 30 dB • SW1	■ RBW 100 ms ■ VBW	100 kHz 1 MHz Mode	Auto Sweep				Co	unt 100/100
requenc	v Śweep								IRm Avg
								M1[1]	-35.36 dBr 367.9775 MH
dBm									
dBm									
dBm									
d8m									
10									
lBm									
0 dBm	H1 -13.000 dBm								
0 dBm									
0 dBm									
0 dBm									
53.0 MHz			1001 pts		1	.5 MHz/			868.0 MH
13:13 06.02.)[Measuring		66.82.201 12:13:1

Diagram 5 b:

MultiView 🕀 Spectrum		ew 🔟	EBW X	12 🕅 01	Ш н	E HZ	X		~
Ref Level 50.00 Att 3 IDF	dBm 30 dB = SWT	• RBV 100 ms • VBV	V 10 kHz V 100 kHz Mod	le Auto Sweep				c	Count 100/100
Frequency Swe	eep								1Rm Avg
								M1[1]	-29,43 dB 869,00000 MF
0 dBm									
0 dBm									
0 dBm								· ·······	
0 dBm						man			
) dBm									
10 dBm									
20 dBm	-19.700 dBm —				/				
					4				
30 dBm									
40 dBm	manun	- may warmen and		mont					
868.0 MHz			1001 pt	s	20	0.0 kHz/			870.0 MH
							Measuring.		05.82.2010 12:12:2

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Diagram 6 a:

iew 🕀 Spect		OBW			E BZ	Ш В1	Ш	Ш нz	X		
f Level 50.0 t	00 dBm 30 dB = SV	VT 100 ms	 RBW VBW 	10 kHz 100 kHz	Mode 4	uto Sweep					Count 100/10
equency Sy	weep										• 1Rm Av
										M1[1]	-29.19 dE
											894 . 00000 M
im-											
m											
	house	www.									
			manhy	m							
m		-		- m	May has						
					`	< l>					
n						<u> </u>					
Bm						\rightarrow					
						\					
Bm	11 -19.670 dBm	I									
							1				
8m							¥				
							N I				
Bm-		_									
							man	monor	moundation	and and a second	
										and the second sec	moun
.0 MHz				100	1 pts		2	00.0 kHz/	Measuring		895.0 M
agram	6 b:	Y					a				
agram	. 6 b: 	Osw			E BZ	81	m)	E III	-		_
29 06.02.2010 agram mer == (spect ff Level 50.1 t	. 6 b: 		• RBW	100 kHz	-(EX BI	(HI	II2			
agram	6 b: 		• RBW	100 kHz	-(Ш	E IS			Count 100/10
agram	6 b: 		• RBW	100 kHz	-(E I I I I I I I I I I I I I I I I I I I	E IS		M1[1]	Count 100/10 • 1Rm Av 1 -38.39 dl
agram	6 b: 		• RBW	100 kHz	-(E ki	SH (III)			Count 100/10 • 1Rm Av 1 -38.39 dl
agram	6 b: 		• RBW	100 kHz	-(E Ni	E Inc			Count 100/10 • 1Rm Av 1 -38.39 d
agram	6 b: 		• RBW	100 kHz	-((E Ri	E2			Count 100/10 • 1Rm Av 1 -38.39 d
agram	6 b: 		• RBW	100 kHz	-((E R	E			Count 100/10 • 1Rm Av 1 -38.39 d
agram	6 b: 		• RBW	100 kHz	-((Ш	E III			Count 100/10 • 1Rm Av 1 -38.39 d
agram spect f Level 50.0 structurers S	6 b: 		• RBW	100 kHz	-((Ж	E Inc			Count 100/10 • 1Rm Av • -38.39 di
agram 	6 b: 		• RBW	100 kHz	-((E Ri	EX R2			Count 100/10 • 1Rm Av 1 -38.39 dl
agram 	6 b: 		• RBW	100 kHz	-((N X	<u>ж</u> ке			Count 100/10 • 1Rm Av 1 -38.39 dl
m m m m	6 b:		• RBW	100 kHz	-((N 3	E			Count 100/10 • 1Rm Av 1 -38.39 dl
m m m m	6 b:		• RBW	100 kHz	-((E 2			Count 100/10 • 1Rm Av • -38.39 di
agram see Solo f Level Solo t culuency S m m m	6 b:		• RBW	100 kHz	-((E E E E E E E E E E E E E E E E E E E			Count 100/10 • 1Rm Av 1 -38.39 dl
agram sector Solution agrammentation agramm	6 b:		• RBW	100 kHz	-((Ш И				Count 100/10 • 1Rm Av 1 -38.39 dl
agram w El spect f Level 50.1 t Equency S m m m m m m m m	6 b:		• RBW	100 kHz	-(ж ж				Count 100/10 • 1Rm Av 1 -38.39 dl
agram w El spect f Level 50.1 t Equency S m m m m m m m m	6 b:		• RBW	100 kHz	-(Count 100/10 • 1Rm Av 1 -38.39 dl
agram second second se	6 b:		• RBW	100 kHz	-(Count 100/10 • 1Rm Av 1 -38.39 dl
agram see E spect f Level 50.1 cquency S m m lm lm lm lm lm lm	6 b:		• RBW	100 kHz	-(Count 100/10 • 1Rm Av 1 -38.39 dl
agram second second se	6 b:		• RBW	100 kHz	-(Ш.				Count 100/10 • 1Rm Av 1 -38.39 dl
agram second second se	6 b:		• RBW	100 kHz	-(Count 100/10 • 1Rm Av 1 -38.39 dl
agram see a see s	6 b:		• RBW	100 kHz	-(Count 100/10 • 1Rm Av • -38.39 di
agram	6 b:		• RBW	100 kHz 1 MHz	-(EX 182			Count 100/10

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Diagram 7 a:

tilier 🕀	Spectrum	oew 🛛	EBW X	2 🖾 🛙 🛛	X				
lef Level Itt F	50.00 dBm 30 dB • SWT	• RBV 100 ms • VBW	100 kHz 1 MHz Mod	e Auto Sweep				c	ount 100/100
requend	cy Sweep								1Rm Avg
								M1[1]	
dBm									
d8m									
dBm									
dBm									
Bm									
dBm	41 -13 000 dBm								
dBm									
dBm									
dBm									
3.0 MHz	2		1001 pts			1.5 MHz/			868.0 MH
	J						Measuring.		02.82.201 15:48:2

Diagram 7 b:

10F 1 Frequency Sweep 1 Frequency Sweep 1 [1] -29.	MultiView EE Spectrum		EBW X	2 2 01	×.				
Frequency Sweep 18 0 d8m 869.000 0 d8m 0	Att 30 di	n • RB B • SWT 100 ms • VB	W 10 kHz W 500 kHz Mod	e Auto Sweep				0	Count 100/10
0 dem									1Rm Avg
10 den 1 1 1 1 1 20 den 1 1 1 1 1									-29.31 dB 869.00000 Mi
0 d8m- d8m- 10 d8m- 20 d8m-	0 dBm								
	0 dBm								
	0.48m								
d8m	o della					····			
	0 dBm				/				
	dBm								
	10 dBm				/				
					/				
30 d8m-	20 dBm				(
	30 d8m)	<u>,</u>				
	48-d8m		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mand					
									070.014
	368.0 MHZ		1001 pts		20	0.0 KHZ/	_	_	870.0 MH

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Diagram 8 a:

	-1	EBW X	2 🕅 🕅 🕅	III 🕅	XX Hz	X		~
fLevel 50.00 dBm t 30 dB •	 RBV SWT 100 ms VBV 	W 10 kHz W 100 kHz Mod	e Auto Sweep				(Count 100/10
equency Sweep					_	_	_	• 1Rm Avc
							M1[1]	-28.56 dB
m							1	94 . 00000 M
m								
m								
mar and	manne							
		my.						
m		1	<u></u>					
			mark and a second					
			$\overline{}$					
Bm								
			\					
8m-19.670	dBm	+ +						
			1	1				
8m								
				1.				
Bm-				mound	man			
							many	m
.0 MHz		1001 pts			0.0 kHz/			895.0 M
						Measuring		15:50
igram 8 b:								
agram 8 b:				<u> </u>				
err 🕀 Spectrum		68W 🕅 8	8 🕅 81	Ш	EX H2	-		
eer ⊟ spectrum f Level 50.00 dBm t 30 dB €		W 100 kHz	e Auto Sweep	(X)	E II2	(III)		
err 🕀 Spectrum f Level 50.00 dBm	🖾 (osw 🖾) • RBV	W 100 kHz		Ш	R (ount 100/10
eer ⊟ spectrum f Level 50.00 dBm t 30 dB €	🖾 (osw 🖾) • RBV	W 100 kHz		MI NI	E IS		M1[1]	ount 100/10 • 1Rm Av -35.73 df
m ⊞ spectrum f Level 50.00 dBm t 30 dB € squency Sweep	🖾 (osw 🖾) • RBV	W 100 kHz		Ш	SI (ount 100/10 • 1Rm Av -35.73 df
m ⊞ spectrum f Level 50.00 dBm t 30 dB € squency Sweep	🖾 (osw 🖾) • RBV	W 100 kHz		Ш	IR III	Z		ount 100/10
m Dispectrum t Level 50.00 dBm : 30 dB « : 30 dB « : 30 dB « : 30 dB »	🖾 (osw 🖾) • RBV	W 100 kHz		(III) III	EZ H2	×		ount 100/10
m D spectrum [Level 50.00 dBm 30 dB « squency Sweep m	🖾 (osw 🖾) • RBV	W 100 kHz		E) HI	E H2			ount 100/10 • 1Rm Av -35.73 df
re 🔁 spectrum. I Level 50:00 dBm 30 dB « aquency Sweep m	🖾 (osw 🖾) • RBV	W 100 kHz		н	E Inc			ount 100/10 • 1Rm Av -35.73 df
re 🔁 spectrum. I Level 50:00 dBm 30 dB « aquency Sweep m	🖾 (osw 🖾) • RBV	W 100 kHz		<u>ж</u> н	R2			ount 100/10 • 1Rm Av -35.73 df
Source Sour	🖾 (osw 🖾) • RBV	W 100 kHz		E A	R2			ount 100/10 • 1Rm Av -35.73 df
m G spectrum. f Level 50.00 dBm : 30 dB * squency Sweep m m m	🖾 (osw 🖾) • RBV	W 100 kHz		IN E	E			ount 100/10 • 1Rm Av
Spectrum Social Socia	🖾 (osw 🖾) • RBV	W 100 kHz		н	E			ount 100/10 • 1Rm Av -35.73 df
mer i spectrum. f Level 50.00 dBm i 30 dB 4 i 30 dB 4 i aquency Sweep m- m- m-	🖾 (osw 🖾) • RBV	W 100 kHz		н	E Inc			ount 100/10 • 1Rm Av -35.73 df
spectrum. f Level 50.00 dBm t 30 dB * squency Sweep m m	🖾 (osw 🖾) • RBV	W 100 kHz		н	E Inc			ount 100/10 • 1Rm Av
mer El Spectrum. f Level S0.00 dBm t 30 dB 4 squency Sweep m m m	🖾 (osw 🖾) • RBV	W 100 kHz		EX X	E			ount 100/10 • 1Rm Av
	🖾 (osw 🖾) • RBV	W 100 kHz		HI X	E			ount 100/10
spectrum. f Level 50.00 dBm t 30 dB * squarcover 30 dB * squarcover 30 dB * m	🖾 (osw 🖾) • RBV	W 100 kHz		н				ount 100/10
	🖾 (osw 🖾) • RBV	W 100 kHz		н	E			ount 100/10 • 1Rm Av
	🖾 (osw 🖾) • RBV	W 100 kHz		ля 🗵				ount 100/10 • 1Rm Av
spectrum. f Level S0.00 dBm t 30 dB * equency Sweep m m m m m m m m m m m m m m <td>🖾 (osw 🖾) • RBV</td> <td>W 100 kHz</td> <td></td> <td>EX 1</td> <td></td> <td></td> <td></td> <td>ount 100/10 • 1Rm Av</td>	🖾 (osw 🖾) • RBV	W 100 kHz		EX 1				ount 100/10 • 1Rm Av
spectrum. f Level S0.00 dBm t 30 dB * equency Sweep m m m m m m m m m m m m m m <td>🖾 (osw 🖾) • RBV</td> <td>W 100 kHz</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>ount 100/10 • 1Rm Av</td>	🖾 (osw 🖾) • RBV	W 100 kHz						ount 100/10 • 1Rm Av
spectrum. f Level 50.00 dBm t 30 dB * squency Sweep m	🖾 (osw 🖾) • RBV	W 100 kHz		н				ount 100/10 • 1Rm Av
spectrum. f Level 50.00 dBm t 30 dB * squency Sweep m	🖾 (osw 🖾) • RBV	W 100 kHz	e Auto Sweep		5 MHz/			Count 100/10 1 Rm Av 35.73 d 95.0225 M 91.00 M 910.0 M

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Diagram 9 a: Nultwere ⊡ Spectrum ⊠ Conw ⊠ Lanv ⊠ B2 ∅ №

			V 100 kHz						Count 100/10
Ref Level 50. Att DF	00 dBm 30 dB • SWT	100 ms = VBV	/ 1 MHz Mo	ode Auto Sweep					
F Frequency S									1 Prop. Avr
requency 5	weep							M1[1	• 1Rm Av
									867.9775 M
lBm									
m									
			1						
Im									
sm									
n									
IBm-	H1 -13.000 dBm -								
jBm									
l8m									
IBm									
18m-									
3.0 MHz			1001 p	ots	1	.5 MHz/			868.0 N
	Y						Measuring		05.82. 12:1
agram	19b:	www	EBW X	8z 🕅 81	Ш ні	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	I		
0:43 06.02.2010 iagram mere ⊕ spect tefLevel 50.	19b: ^{trum} ⊠(• RBV	10 kHz		Ш ні	E RZ	X		
iagram	19b: ^{trum} ⊠(10 kHz		Ш	(III) HZ	X		
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		Ши	E RE	Ĩ		Count 100/1
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz) III	E RZ			Count 100/1 1Rm Av -26.72 d
agram new == spect of Level 50. t cquency S	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		EN S	(III) III	x x x x x x x x x x x x x x x x x x x		Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		X III	(III) III III III III III III III III II	×		Count 100/1 1Rm Av -26.72 d
agram new == spect of Level 50. t cquency S	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		X HI	XZ NZ			Count 100/1 1Rm Av -26.72 d
agram see E spec f Level 50. t cquency S	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		E H	E A A A A A A A A A A A A A A A A A A A			Count 100/1 1Rm Av -26.72 d
agram see E spec if Level 50. t equency S	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		E H	E E E E E E E E E E E E E E E E E E E			Count 100/1 1Rm Av -26.72 d
agram see Spect of Level 50. t Rquency S	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		X HI				Count 100/1 1Rm Av -26.72 d
agram f Level 50. t equency S	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		X HI	20 M			Count 100/1 1Rm Av -26.72 d
agram sec sec f Level 50. t Hutency S m m m	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		IN I				Count 100/1 1Rm Av -26.72 d
agram we E (sector) if Level 50. t equency S am-	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		E H	E Ise			Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		E II	E III			Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		E H				Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		E H				Count 100/1 1Rm Av -26.72 d
agram rew Control Special of Level So. c c c c c c c c c c c c c	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/1 1Rm Av -26.72 d
agram rew Control Special of Level So. c c c c c c c c c c c c c	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/1 1Rm Av -26.72 d
agram rev P Spect of Level 50. t c c c c c c c c c c c c c	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz		× 1				Count 100/1 1Rm Av -26.72 d
agram sec 1 Level 50. tt cquency S bm bm bm dbm dbm dbm	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/1 1Rm Av -26.72 d
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/10
Agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz						Count 100/10 1Rm Av -26.72 dl
agram	1 9 b: twm ⊠ ^{00 dBm} 30 dB ● swt	• RBV	10 kHz	Auto Sweep		Ke Ke			Count 100/10 • 18m Av -26.72 dl 869.00000 M

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Diagram 10 a:

nere 🖽 Spectrum 🕅		EBW X	2 🕅 B1	III HI	Ш на	X		~
fLevel 50.00 dBm t 30 dB ● SV	● RBV WT 100 ms ● VBV	V 10 kHz V 100 kHz Mod	le Auto Sweep				(Count 100/10
equency Sweep								1Rm Avg
							M1[1]	-32.03 dB
n								394100000 Mil
m								
and the second sec	~~~~							
		m						
im			~					
			$\langle \rangle$					
Bm			\rightarrow					
			$\langle \rangle$					
8m H1 - 19,700 dBm								
8m-								
Bm								
BU				man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	man	manne	
								- marine
.0 MHz		1001 pt	5	20	0.0 kHz/			895.0 Mł
agram 10 b:								_
agram 10 b:	√ <u> </u>	EBW X	z 🖾 81	ШИ	E III			_
agram 10 b:		V 100 kHz	z 🖾 🛙 🛙	E HI) 112			
agram 10 b: spectrum 2 fLevel 50.00 dBm t 30 dB = st	• RBV	V 100 kHz	(XI HI	E II2		(Count 100/10
agram 10 b: sev :: specture 22 fLevel 50.00 dBm t 30 dB = st	• RBV	V 100 kHz	(E HI) 112			Count 100/10 • 1Rm Avg -37.73 dB
agram 10 b: see :: spectrees :: ::::::::::::::::::::::::::::::::	• RBV	V 100 kHz	(X NI	ES (XX)		(Count 100/10 • 1Rm Avg -37.73 dB
agram 10 b: Spectrus f Level 50.00 dBm 30 dB • SN Equency Sweep	• RBV	V 100 kHz	(X NI	E III		(Count 100/10 • 1Rm Avg -37.73 dB
agram 10 b: Spectrus f Level 50.00 dBm 30 dB • SN Equency Sweep	• RBV	V 100 kHz	(XX N1	E III		(Count 100/10 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(XX N1	E III		(Count 100/10 • 18m Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(E H	E Inc		(Count 100/100 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(E H	E Inc		(Count 100/100 • 18m Avg -37.73 dB 895.0075 Mb
agram 10 b:	• RBV	V 100 kHz	(E H	EX R2		(Count 100/10 • 18m Avg -37.73 dB
agram 10 b: Spectrus f Level 50.00 dBm 30 dB • SN Equency Sweep	• RBV	V 100 kHz	(E H	EX) R2		(Count 100/10 • 18m Avg -37.73 dB
agram 10 b: Spectose 20 f Level 50.00 dBm 30 dB * SN squency Sweep	• RBV	V 100 kHz	(HI I			(Count 100/10 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(HI I			(Count 100/10 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(<u>ж</u> ні			(Count 100/100 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(<u></u> ит			(Count 100/100 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	(E 1			(Count 100/100 • 1Rm Avg -37.73 dB
f Level 50.00 dBm	• RBV	V 100 kHz	((Count 100/100 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	((Count 100/100 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	((Count 100/100 • 1Rm Avg -37.73 dB
agram 10 b:	• RBV	V 100 kHz	le Auto Sweep		5 MHz/		(Count 100/100 • 1Rm Avg -37.73 dB

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Diagram 11 a:

ultiView 🕀 Spe	ictrum 🕅) oew (EBW X	D2 💹 B1	Ш ні	Ж на	X		
tef Level 50	0.00 dBm 30 dB = SV	VT 100 ms	RBW 100 kHz VBW 1 MHz M	lode Auto Sweep					Count 100/10
F requency f	Sweep								• 1Rm Ave
								M1[1] -32.36 dB
-									867 . 9925 M
dBm									
dBm									
dBm									
i8m									
Bm									
dBm	H1 -13.000 dBm								
dBm									
d&m									
) dBm									
3.0 MHz			1001	pts	1	.5 MHz/			868.0 Mi
	n 11 b:								_
iagran	n 11 b:		EBW X	BZ 🖾 01	Ш	X RZ	I		
ennerr ⊞ spr RefLevel 50	n 11 b: 				Ш	(XX) HZ	I		
iagran mer = spr ref Level 50 rtt F	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		Ши	(III) III	X		Count 100/10
iagran	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		X HI	XX) HZ		M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagran	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		E HI	XX Hz	<u></u>	M1[1	Count 100/10 • 1Rm Av] -29.11 de
iagran	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz) HI	MZ MZ	<u> </u>	M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagran men E sp ef Level 50 tt F requency S	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		m	XX XX		M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagran men E sp ef Level 50 tt F requency S	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		m 🗵	XX XX		M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagran www ⊕ spr tef Level 50 ttt Frequency 5 dBm	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		E H	XX XX		M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagran www ⊕ spr tef Level 50 ttt Frequency 5 dBm	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		<u>ж</u> и	E He		M1[1	Count 100/10 • 1Rm Av] -29.11 de
lagran	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		<u>کی</u> ایر ا	SH SH		M1[1	Count 100/10 • 1Rm Av] -29.11 de
lagran	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		<u>الم</u>	SH SS		M1[1	Count 100/10 • 1Rm Av] -29.11 de
iagram meet Level 50 F requency 5 dêm dêm dêm dêm	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz		E	E III		M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagran	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			E Ic		M1[1	Count 100/10 • 1Rm Av] -29.11 de
agram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			EX Hz		M1[1	Count 100/10 • 1Rm Av] -29.11 de
agram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			EX He		M1[1	Count 100/10 • 1Rm Av] -29.11 de
iagram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			E He		M1[1	Count 100/10 IRm Av Fragment Rm Av Fragment Fragment Fragment Fragment Fragment Fragment Fragment
iagram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			EX IS		M1[1	Count 100/10 • 1Rm Av] -29.11 de
iagram men :: set tet Level So Frequency : d&m	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			SA SEC		M1[1	Count 100/10 • 1Rm Av] -29.11 de
iagram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz					M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagram www ii per tef Level 50 ff requency s dam dam dam dam dam dam	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			EX Hz		M1[1	Count 100/10 • 1Rm Av] -29.11 dE
iagram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			EX He		M1[1	Count 100/10 • 1Rm Av] -29.11 de
iagram	n 11 b: xtum X 0.00 dBm 30 dB • sv		RBW 10 kHz			EX He		M1[1	Count 100/10 • 1Rm Av] -29.11 de

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Diagram 12 a:

rr 🕀 Spectrum		<u> </u>	X B1	E III	Ш. нz			
	• SWT 100 ms • V	BW 10 kHz BW 100 kHz Mode	Auto Sweep				c	ount 100/10
quency Sweep								1Rm Avç
							M1[1]	-29.10 dB 94.00000 MI
								94.00000 M
		m						
		- man						
			、					
m								
m H1 -19.70	0 dBm						-	
			V.					
m			¥					
			- N					
_			1	hund				
m					and a second		mannes.	
								mon and a second
D MHz		1001 pts		20	0.0 kHz/			895.0 M
gram 12		·				Measuring		_
gram 12	X osw X		X B1	E RI	E II2	X		_
gram 12	X osw X	BW 100 kHz	(Ш	E IS		c	
gram 12	Corw X	BW 100 kHz	(Ш	E II2			ount 100/10
ugram 12 spectrum Level 50.00 dBm 30 dB	Corw X	BW 100 kHz	(E III	E II2		C M1[1]	ount 100/10 • 1Rm Ave -35,97 de
gram 12 • E spectrum Level 50.00 dBm 30 dB	Corw X	BW 100 kHz	((III)	II2			ount 100/10 • 1Rm Ave -35,97 de
ugram 12 spectrum Level 50.00 dBm 30 dB	Corw X	BW 100 kHz	(X NI	E III			ount 100/10 • 1Rm Av -35,97 dt
ugram 12 vectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	(E III	E Inc			ount 100/10 • 1Rm Av -35,97 dt
gram 12 • E spectrum Level 50.00 dBm 30 dB	Corw X	BW 100 kHz	(Ш	E H2			ount 100/10 • 1Rm Ave -35,97 de
ugram 12 vectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	(E III	E IR			ount 100/10 • 1Rm Ave -35,97 de
ugram 12 vectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	(E I	E R			ount 100/10 • 1Rm Ave -35,97 de
agram 12 F Spectrum Level 50.00 dBm 30 dB guency Sweep	Corw X	BW 100 kHz	(E III	EZ HZ			ount 100/10 • 1Rm Ave -35,97 de
agram 12 F Spectrum Level 50.00 dBm 30 dB guency Sweep	Corw X	BW 100 kHz	(E H	EZ H2			ount 100/10 • 1Rm Ave -35,97 de
egram 12 sectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	(X N	E Inc			ount 100/10 • 1Rm Ave -35,97 de
egram 12 sectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	(E III	E Re			ount 100/10 • 1Rm Ave -35,97 de
egram 12 sectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	((III) M	EX R2			ount 100/10 1Rm Avg -35,97 dB
gram 12	Corw X	BW 100 kHz	(E III	2 12 12			ount 100/10 1Rm Avg -35,97 dB
egram 12 sectors Level 50.00 dBm 30 dB quency Sweep	Corw X	BW 100 kHz	(E III	E Inc			ount 100/10 1Rm Avg -35,97 dB
gram 12	Corw X	BW 100 kHz	(E III	E Re			ount 100/10 1Rm Avg -35,97 dB
gram 12	Corw X	BW 100 kHz	((I) M	E Inc			ount 100/10 1Rm Avg -35,97 dB
gram 12 Free Solution of the second	Corw X	BW 100 kHz	(E 1	EX 102			ount 100/10 1Rm Avg -35,97 dB
gram 12 Free Solution of the second	Corw X	BW 100 kHz	(X HI				ount 100/10 1Rm Avg -35,97 dB
m	Corw X	BW 100 kHz	((X) H	E Re			ount 100/10 1Rm Avg -35,97 dB
agram 12 a genetises Level 50.00 dBm 30.08 guency Sweep a a a a a b b b c a a b c <td< td=""><td>Corw X</td><td>BW 100 kHz</td><td>(</td><td>(X) M</td><td>E I</td><td></td><td></td><td>ount 100/10 • 1Rm Ave -35,97 de</td></td<>	Corw X	BW 100 kHz	((X) M	E I			ount 100/10 • 1Rm Ave -35,97 de
m	Corw X	BW 100 kHz	(ount 100/10 • 1Rm Ave -35,97 de
agram 12 a genetises Level 50.00 dBm 30.08 guency Sweep a a a a a b b b c a a b c <td< td=""><td>Corw X</td><td>BW 100 kHz</td><td>(</td><td></td><td></td><td></td><td></td><td>• EMI</td></td<>	Corw X	BW 100 kHz	(• EMI
agram 12 a genetises Level 50.00 dBm 30.08 guency Sweep a a a a a b b b c a a b c <td< td=""><td>Corw X</td><td>BW 100 kHz</td><td>(</td><td></td><td>5 MHz/</td><td></td><td></td><td>ount 100/10 1Rm Avg -35,97 dB</td></td<>	Corw X	BW 100 kHz	(5 MHz/			ount 100/10 1Rm Avg -35,97 dB

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Diagram 13

tiView 🕀 Spe		oew 2		D2 💹 B1	Ш	Ж	X		
ef Level 50 tt F	0.00 dBm 30 dB = SW	• F T 100 ms • V	RBW 100 kHz VBW 1 MHz Mod	le Auto Sweep					Count 100/1
requency S	Sweep		_						1Rm Av
								M1[1] -31.94 d 867.9326 M
JBm									
dBm									
d8m									
i8m									
Bm		+							
dBm	41 -13.000 dBm								
dBm									
dBm									
dBm		+							
3.0 MHz			1001 pt	s		1.5 MHz/			868.0 N
iagran	n 13 b:						Measuring.	. (• • • • • • •
iagran	n 13 b:		-1	82 🖾 D1	(III) HI	E RZ	E E E E E E E E E E E E E E E E E E E		002
iagran mer ⊞spr tefLevel 50	n 13 b:	• •	RBW 10 kHz	82 🗵 🛛 OI de Auto Sweep	Ши	(III) HZ			
iagran	n 13 b:	• •	RBW 10 kHz		(X) HI	Ж			even Count 100/1
iagran	n 13 b:	• •	RBW 10 kHz		(III) HI	(III) III		M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagran	n 13 b:	• •	RBW 10 kHz		X HI	E III		M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagran	n 13 b:	• •	RBW 10 kHz		E III	E Contraction of the second se		M1[1]	Count 100/1
dBm	n 13 b:	• •	RBW 10 kHz		XX HI	E Contraction of the second se		M1[1]	Count 100/10 • 1Rm Av -32.50 d
dBm-	n 13 b:	• •	RBW 10 kHz		E E	E Contraction of the second se		M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagran	n 13 b:	• •	RBW 10 kHz		E E	E Contraction of the second se		M1[1]	Count 100/10 • 1Rm Av -32.50 d
Iagran	n 13 b:	• •	RBW 10 kHz		X HI	E Contraction of the second se		M1[1]	Count 100/10 • 18m Av -32.50 d
iagran	n 13 b:	• •	RBW 10 kHz		X III			M1[1]	count 100/10
iagram mee i see tet Level SC ⊱ requency S d8m d8m d8m	n 13 b:	• •	RBW 10 kHz					M1[1]	Count 100/10 • 1Rm Av -32.50 d
DYNAM :: September 20 September	n 13 b:	• •	RBW 10 kHz					M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagram www.ii ver tef Level 50 tit ferequency 5 dam dam dam dam abm abm	n 13 b:	• •	RBW 10 kHz					M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagram verse ::) yer ket Level Sc Vit Frequency S dBm dBm dBm dBm bm bm	n 13 b:	• •	RBW 10 kHz					M1[1]	Count 100/10 • 18m Av -32.50 d
iagram	n 13 b:	• •	RBW 10 kHz		IN X			M1[1]	Count 100/10 • 1Rm Av -32.50 d
Iagran www it is the formation of the fo	n 13 b:	• •	RBW 10 kHz		H X			M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagram	n 13 b:	• •	RBW 10 kHz		H X			M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagram www i i per tel Level 50 frequency S dam	n 13 b:	• •	RBW 10 kHz		H X			M1[1]	Count 100/10 • 1Rm Av -32.50 d
iagram	n 13 b:	• •	RBW 10 kHz		H X			M1[1]	Count 100/10 • 18m Av -32.50 d
iagram wrew ::: ver kef Level Sc ktt dem dem dem dem dem dem dem dem	n 13 b:	• •	RBW 10 kHz	de Auto Sweep				M1[1]	Count 100/10 • 18m Av -32.50 d

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Diagram 14 a:

riew 🛞 Spectrus				12 X B1	III III	Ш на	X		~
ef Level 50.00 tt) dBm 30 dB = SWT	• RBV 100 ms • VBV	W 10 kHz W 100 kHz Mod	le Auto Sweep				с	ount 100/10
equency Swe	eep	_							1Rm Avc
								M1[1]	-34.03 dB
m								8	94.00000 M
m									
-									
m	-								
m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	~ ~						
			mon						
n				h					
.									
Bm									
8m-11	-19.670 dBm								
Bm									
				1	1				
Bm									
- Contraction -					mann	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	man	and server	
.0 MHz			1001 pt	s	20	0.0 kHz/			895.0 M
	14 b:								_
agram		ORW XX	EBW X	12 X 81	EX HI	E H2	M		ſ
agram	• 🔟		V 100 kHz	(Ш	E2		c	
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(Ш	E IS	×		ount 100/10
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(E III	<u> </u>		C M1[1]	ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(EN N	R5	×		ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(Ш	E H2	×		ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(E HI	III) III2	Z		ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(E HI	E Inc			ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(IN E	H2			ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(E I	II2	×		ount 100/10 • 1Rm Av -36,48 dB
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(EN X	E III			ount 100/10 • 1Rm Av -36,48 dB
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(<u>ж</u> ні	EX III			ount 100/10 • 1Rm Av -36,48 dB
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(E III			ount 100/10 • 1Rm Av -36.48 dt
agram	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(<u>ж</u> ні	H2			ount 100/10 • 1Rm Av -36,48 dB
	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(IN E	EX III			ount 100/10 • 1Rm Av -36,48 dB
agram I Level 50.00 pequinersy Swi m m m b b b	• 🕱 () dBm 30 dB • SWT	• RBV	V 100 kHz	(IN X	E			ount 100/10 • 1Rm Av -36,48 dB
agram	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(EN X				ount 100/10 • 1Rm Av -36,48 dB
agram	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(ти <u> </u>				ount 100/10 • 1Rm Av -36,48 dB
agram www.ibscow fllevels0.00 t c c c c c c c c c c c c c	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(<u>ж</u> и н	EXX Hz			ount 100/10 • 1Rm Av -36,48 dB
agram www.ibscow fllevels0.00 t c c c c c c c c c c c c c	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(ount 100/10 • 1Rm Av -36,48 dB
agram ser 13 Sectors f Level 50.00 and and and and and and and and	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(ount 100/10 • 1Rm Av -36,48 dB
agram	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(ount 100/10 • 1Rm Av -36,48 dB
agram ser 13 Sectors f Level 50.00 and and and and and and and and	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	(ount 100/10 1Rm Ave -36.49 de 895.0075 M
equency Swa Im Im Im Im Im	• 🔊 () 0 dBm 30 dB • SWT 200 200 200 200 200 200 200 20	• RBV	V 100 kHz	le Auto Sweep		E MHz/			ount 100/10 • 1Rm Av -36,48 dB

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Conducted spurious emission measurements according to CFR 47 §2.1051 / IC RSS-132 5.5

Date	Temperature	Humidity
2018-02-06	$20 \ ^{\circ}C \pm 3 \ ^{\circ}C$	9 % ± 5 %
2018-02-07	$20 \ ^{\circ}C \pm 3 \ ^{\circ}C$	8 % ± 5 %
2018-02-08	$21 \ ^{\circ}C \pm 3 \ ^{\circ}C$	9 % ± 5 %

Test set-up and procedure

The measurements were made per definition in §22.917. The output was connected to a spectrum analyzer with a RBW setting of 1 MHz and RMS detector activated.

Before comparing the results to the limit, 6 dB $[10 \log (4)]$ to cover2x(2x2) MIMO, should be added according to method E)2)c):"Measure and add 10 log(N_{ANT})" of FCC KDB662911 D01 Multiple Transmitter Output.

Measurement equipment	RISE number
R&S FSW 43	902 073
RF attenuator	900 691
HP filter	504 199
Testo 635, temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

Single carrier TM 1

Diagram	Symbolic name	Tested Port
1 a-b	М	RF B

Single carrier TM 5

Diagram	Symbolic name	Tested Port
2 a-b	Т	RF A
3 a-b	В	RF B
4 a-b	М	RF B
5 a-b	Т	RF B
6 a-b	Т	RF C
7 a-b	Т	RF D

Single carrier TM 6

Diagram	Symbolic name	Tested Port
8 a-b	М	RF B



Multi	carrier	TM	5
Iviuiu	carrier	T TAT '	9

Diagram	Symbolic name	Tested Port
9 a-c	T2	RF B
10 a-c	M5	RF B
11 a-c	Bim	RF B
12 а-с	Tim	RF B

Note: Measurements were mainly limited to port RF B due to the measurement result in single carrier mode that shows that the ports are electrical identical as declared by the client.

Remark

The emission at 9 kHz on the plots was not generated by the test object. A complementary measurement with a smaller RBW showed that it was related to the LO feed-through.

The highest fundamental frequency is 894 MHz. The measurements were made up to 9 GHz (10x894 MHz = 8940 MHz).

Limits

CFR 47 § 22.917: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 100 kHz RBW below 1 GHz and 1MHz RBW above 1 GHz.

IC RSS-132 5.5: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P) dB$ per any 100 kHz RBW.

Complies?	Ves
Complies?	168

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Diagram	1a.								_
MultiView 🖯			9k-1G	x)					~
Ref Level 60.1 Att TDF DC	00 dBm 30 dB • SW	● F T 100 ms ● V	BW 1 MHz BW 10 MHz	Mode Auto Swee	Þ			c	ount 100/100
Frequency S	weep								1Rm Avg
								M3[1]	-31.85 dBm 894.000 MHz
0 dBm								M1[1]	-32.03 dBm 869.000 MHz
0 dBm								MZ	809.000 Minz
0 dBm									
0 dBm									
) dBm									
dBm									
0 dBm									
	H1 -13.000 dBm -								
0 dBm									
30 dBm								M/ M	
F 500.0045 M	Hz		60	01 pts		100.0 MHz/		Spar	1 999.991 MHz
Marker Table	•	X-Value		Y-Value	1	Function			
Type Ref	1 1	869.0 M 881.6 M	Hz	-32.03 dB 40.13 dB	m	Function		Function R	esuit
M2 M3	1	894.0 M	H7	-31.85 dB	m				
	1			-51.05 05			Measurin	g A IIIIIII	06.82.2018 13:13:40
13:00 06.02.2010 Diagram 1ultiView 8	1b:	n 🖾	9k-1G	1-9GHz			Measurin	g WARKEND	06.82.2018 13:13:40
Diagram	1b:	n 🖾	9k-1G				Measurin		13:13:40
iagram	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		33:13:49 ⊽ Count 100/100 ● 1Rm Avg
Diagram IultiView B Ref Level 20.4 Att DF Frequency St	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		33:13:49 ⊽ Count 100/100 ● 1Rm Avg
iagram ultiView B Ref Level 20. Att Frequency St	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
iagram ultiView ⊖ Ref Level 20. tt ⊮ requency St d8m	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Introduction of the second sec	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Introduction of the second sec	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
agram ultiView P Ref Level 20.4 Att PF Trequency St dBm- IBm	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
iagram ultiView © Ref Level 20.4 ∑F Frequency St d8m 0 d8m	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Introduction of the second sec	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Idagram	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Iagram	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
iagram ultiView C ter Level 20.1 % rrequency S dam dam	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
International and the second s	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
International and the second s	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Diagram	1b: Spectrum	n 🖾	9k-1G	図 1-9GHz			Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm
Diagram AultiView P Ref Level 20.4 Att DF Frequency S 0 dBm 0 dBm	1b: Spectrum	n 🖾	9k-1G 188W 1 MHz 10	図 1-9GHz		800.0 MHz/	Measurin		23:13:# count 100/100 ■ 1Rm Avg -45.90 dBm

13:30:35 06.02.2018

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ultiView	8 Spectru	m 🖾	9k-1G	🖾 1-9GHz	22				~
Ref Level 6	0.00 dBm		RBW 1 MHz						
Att DF DC		71 100 ms 🛡	VBW 10 MHz	Mode Auto Sweep					ount 100/100
requency	sweep							M1[1]	 1Rm Avg -32.72 dBi
JBm									869.000 Mi 39.87 dB
								M2[1]	891.600 MF
3m								1 I	
Bm									
m									
m		_							
m	H1 -13.000 d9m		_						
m									
								м	
m								1	
Hz			60	001 pts	10	0.0 MHz/			1.0 GH
ker Tab	le								
e Re	f Trc 1	X-Valu 869.0 M	ie 1Hz	Y-Value -32.72 dBm 39.87 dBm		Function		Function Re	sult
	1	869.0 M 891.6 M 896.0 M	4Hz 4Hz	39.87 dBm -29.61 dBm					
							Measuring		
agran ItiView	n 2b:			🖾 1-9GHz	X		Measuring	••••••••••	15:25:
ef Level 2	n 2b:		9k-1G RBW 1 MHz VBW 10 MHz				Measuring		15:25+
agran ItiView I Level 2	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring		ount 100/100
agran tiView	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring		00unt 100/100 • 1Rm Avg -44.57 dBi
igran tiView Level 21 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
gran iView Level 24	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
gran iView Level 21 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
gran iView Level 24 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
igran tiView Level 21 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
ngran tiView Level 21 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	1525H ▼ ount 100/100 • 1Rm Avg -44.57 dBr
ngran tiView Level 21 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	00unt 100/100 • 1Rm Avg -44.57 dBi
gran iView Level 21 quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	00unt 100/100 • 1Rm Avg -44.57 dBi
n	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
agran tiView (Level 2) quency	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	ount 100/100
ngran tiView Level 24 quency m	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	00unt 100/100 • 1Rm Avg -44.57 dBi
ngran tiView Level 24 quency m	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	1525H ▼ ount 100/100 • 1Rm Avg -44.57 dBr
Agran tiView Level 2t equency m m am am am am am	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	0462281 1523H 00UNT 100/100 • 1Rm Avg -44.57 dBr 1.782949 GH
Bm Bm Bm Bm Bm Bm Bm	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	1525H ▼ ount 100/100 • 1Rm Avg -44.57 dBr
agran ItiView f Level 21 t Equency Bm Bm Bm Bm Bm Bm Bm Bm	n 2b: Spectrum 0 dB • sw		RRW 1 MHz				Measuring	c	1525H ▼ ount 100/100 • 1Rm Avg -44.57 dBr
agran	n 2b: Spectrum 0 dB • sw		RBW 1 MHz VBW 10 MHz			0.0 MHz/	Measuring	c	1525H ▼ ount 100/100 • 1Rm Avg -44.57 dBr

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1 hoorom	40
Diagram	.)a.

Diagrai	n Ja.									
MultiView	8 Spectrum	9 🖾	k-1G	X	1-9GHz	X				▼
Ref Level 6 Att TDF DC	0.00 dBm 30 dB • SWT		SW 1 MHz SW 10 MHz	Mode	e Auto Sweep	•			Co	ount 100/100
1 Frequency	Sweep									•1Rm Avg
									M1[1]	-31.64 dBm
50 dBm									M2[1]	866.000 MHz 40.14 dBm
									M2[1]	871.400 MHz
40 dBm									- X	
30 dBm										
20 dBm										
10 dBm										
0 dBm										
-10 dBm										
	H1 -13.000 d8m									
-20 dBm									<u> </u>	
									MIL	
-30 dBm									्रिप	
CF 500.0045 2 Marker Ta Type R	MHz		60	01 pt	\$	10	0.0 MHz/		Span	999.991 MHz
Type R	ef Trc	X-Value			Y-Value		Function		Function Re	sult
M1 M2	1	866.0 MH 871.4 MH	Z	-3	31.64 dBm 40.14 dBm					
	1									
M3	1	894.0 MH	Iz	-3	32.19 dBm					
M3	1	894.0 MH	z	-3	32.19 dBm			Measuring.		05.82.2018 13:51:12
	1	894.0 MH	ĪZ	-3	32.19 dBm			Measuring.		
13:51:13 06.02.20		894.0 MH	ĪZ	-3	32.19 dBm			Measuring.		
13:51:13 06.02.20		894.0 MH	Iz	-3	32.19 dBm			Measuring.		
13:51:13 06.02.20 Diagrar	n 3b:	894.0 MH	IZ	3	32.19 dBm	X		Measuring.		1951:12
13:51:13 06.02.20 Diagrar MultiView	n 3b: ©(Spectrum	894.0 MH	lz 9k-1G	-3	1-9GHz	X		Measuring.		
13:51:13 06.02.20 Diagrar MultiView Bef Level 2	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm	X		Measuring.		1951:12
13:51:13 06.02.20 Diagrar MultiView Bef Level 2	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.		951:12
13:51:13 06.02.20 Diagrar MultiView	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm	Z		Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
13:51:13 06.02.20 Diagrat MultiView Ref Level 2 Att TDF 1 Frequency	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	D5112 ▼ Dunt 100/100 ● 1Rm Avg
13:51:13 06.02.20 Diagrar MultiView Bef Level 2	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm	a		Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
IBISI:13 06.02.20 Diagrat MultiView Ref Level 2 Att TDF I Frequency	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm	×		Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
13:51:13 06.02.20 Diagrat MultiView Ref Level 2 Att TDF 1 Frequency	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm	×		Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
Diagran	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
Diagrat MultiView Ref Level 2 ■ Att TDF 1 Frequency	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
IB:51:13 06.02.20 Diagrat MultiView Ref Level 2 • Att TDF 1 Frequency 10 dBm	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
Diagran	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm	∞		Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
IB:51:13 06.02.20 Diagrat MultiView Ref Level 2 • Att TDF 1 Frequency 10 dBm	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
IB:51:13 06.02.20 Diagrat MultiView Ref Level 2 • Att TDF 1 Frequency 10 dBm	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
IB:51:13 06.02.20 Diagrat MultiView Ref Level 2 TDF 1 Frequency 10 dBm -10 dBm -20 dBm	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
	n 3b: Spectrum 0 dB * swr Sweep	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
	n 3b: Spectrum	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
	n 3b: Spectrum 0 dB * swr Sweep	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v
13:51:13 06.02.20 Diagrat MultiView Ref Level 2 Att TDF 1 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	n 3b: Spectrum 0 dB * swr Sweep	894.0 MH	0k-1G 3W 1 MHz	-3	32.19 dBm			Measuring.	Cc M1[1]	v v v v v v v v v v v v v v v v v v v

800.0 MHz/

Measuring..

9.0 GHz

13:47:26 06.02.2018

1.0 GHz

35001 pts

Date 2018-02-21

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Diagram 4a:

Jiagran									
MultiView	8 Spectrum	ı 🖾 91	k-1G 🛛	1-9GHz	X				▼
Ref Level 60	0.00 dBm	• RB	N/ 1 MHz	de Auto Curren					unt 100 /100
Att IDF DC		100 ms 🖶 VB1	W 10 MHZ MC	de Auto Sweep				G	unt 100/100
Frequency S	Sweep								1Rm Avg
								M3[1]	-31.76 dBr 894.000 MH
0 dBm								M1[1]	-32.07 dBr
								M2	869.000 MH
0 dBm								T I	
0 dBm									
/ dbm									
0 dBm									
0 dBm									
dBm									
10 dBm									
tu dem-	H1 -13.000 d8m								
20 dBm									
30 dBm								My Me	
~								4	
F 500.0045	MHz		6001	ote	10	0.0 MHz/		Span	999.991 MH
	*11 12.		0001	<i>bea</i>		1010101127		opon	
Marker Tab	le	V Usha	0001						
	le	X-Value 869.0 MH	z	Y-Value -32.07 dBm		Function		Function Re	
Marker Tab Type Re M1 M2	f Trc	869.0 MH 881.6 MH	Z	Y-Value -32.07 dBm 40.12 dBm			1		
Marker Tab Type Re M1	f Trc 1	869.0 MH	Z	Y-Value -32.07 dBm			1	Function Re	sult
Marker Tab Type Re M1 M2	f Trc 1	869.0 MH 881.6 MH	Z	Y-Value -32.07 dBm 40.12 dBm			Measuring.	Function Re	sult 06.82.201
Marker Tab Type Re M1 M2 M3	le f Trc 1 1 1	869.0 MH 881.6 MH	Z	Y-Value -32.07 dBm 40.12 dBm			Measuring.	Function Re	sult 06.82.201
Marker Tab Type Re M1 M2 M3 34:06 06.02.20	le f Trc 1 1 1 1 1 1 1 1 1 1 1 1 1	869.0 MH 881.6 MH	Z	Y-Value -32.07 dBm 40.12 dBm			Measuring.	Function Re	sult
Mariker Tab Type Re M1 M2 M3	le f Trc 1 1 1 1 1 1 1 1 1 1 1 1 1	869.0 MH 881.6 MH	Z	Y-Value -32.07 dBm 40.12 dBm			Measuring.	Function Re	sult 06.02.2011
Marker Tab Type Re M1 M2 M3 34:06 06.02.20 Diagran	le f Trc 1 1 1 1 1 1 1 1 1 1 1 1 1	869.0 MH 881.6 MH 894.0 MH	Z	Y-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult 06.82201 13044
Marker Tab Type Re M1 M3 34:06 06.02.20 Diagram fultiView Ref Level 20	12 1 1 1 10 10 10 10 10 10 10 1	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult 66.82.201 13:3449
Marker rab Type Re M1 M2 M3 34:06 06.02.20 Diagram fultiView Ref Level 20 Att	12 1 1 1 10 10 10 10 10 10 10 1	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	Y-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult 66.82.201 13:3449
Marker rab Type Re M1 M2 M3 B4:06 06.02.20 Diagram MultiView Ref Level 20 Att DF	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult
Marker tab Type Re M1 M2 M3 H:06 06.02.20 Diagram fultiView Ref Level 20 Att DF	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult
Marker lab Type Re M1 M2 M3 H:06 06.02.20 Diagram AultiView Ref Level 20 Att Frequency S	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult
Marker lab Type Re M1 M2 M3 H:06 06.02.20 Diagram AultiView Ref Level 20 Att Frequency S	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult
Merker isb Type Re M1 M2 M3 H106 06.02.20 Diagram AultiView RefLevel 20 MF Frequency F	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult
Metrice la Reserve la	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring	Function Re	sult
Marker tab Type Re M1 M2 M3 J4:06 06.02.20 Diagram AultiView Ref Level 20 Att DF Frequency S dbm-	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring	Function Re	sult 66.92201 13944 v 13944 v 13944 v 13944 v 13944 v 13944 v v 13944 v v v v v v v v v v v v v
Marker tab Type Re M1 M2 M3 34:06 06.02.20 Diagram Autiview Ref Level 20 Att DF Frequency S dbm-	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Meosuring.	Function Re	sult
Marker tab Type Re M1 M2 M3 34:06 06.02.20 Diagram Autiview Ref Level 20 Att DF Frequency S dbm-	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Measuring.	Function Re	sult
Marker eb Type Re M1 M2 M3 Atto 6 06.02.20 Diagram Aultiview Ref Level 20 Att DF Frequency dBm dBm	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Meosuring	Function Re	sult
Marker rab Type Re M1 M2 M3 :34:06 06.02.20 Diagram MultiView	10 f Trc 1 1 10 m 4b: Spectrum 0 dB • swith	869.0 MH 881.6 MH 894.0 MH	z z z x-1G ⊠ ₩ 1 MHz	V-Value -32.07 dBm 40.12 dBm -31.76 dBm			Meosuring	Function Re	

1ultiView 🗉 Spectrun	-	1-9GHz		
RefLevel 20.00 dBm Att 0 dB ● SW DF	● RBW 1 MHz T 100 ms ● VBW 10 MHz	Mode Auto Sweep		Count 100/100
requency Sweep				1Rm Avg
				M1[1] -45.85 dB
				1.763292 G
dBm				
Bm				
) dBm				
41 - 13.000 dBm				
) dBm				
0 dBm				
0 dBm				
M				
) dBm				
0 dBm-			- Contraction of the local division of the l	
) dBm				
0 GHz	350	001 pts	800.0 MHz/	 9.0 Gł

13:32:28 06.02.2018

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9.0 GHz

Measuring...

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Diagram	5a:
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1.0 GHz

14:52:59 06.02.2018

Diagram										
MultiView	Spectrum	X	9k-1G	X	1-9GHz	X				~
Ref Level 60. Att TDF DC	00 dBm 30 dB • SWT	100 ms • V	BW 1 MHz BW 10 MHz	Mod	e Auto Sweep				C	ount 100/100
1 Frequency S	weep									●1Rm Avg
									M1[1]	
50 dBm			_						M2[1]	869.000 MHz 39.97 dBm
									M2	891.600 MHz
40 dBm									Ĭ	
30 dBm										
20 dBm										
10 dBm										
0 dBm									1 1	
-10 dBm	H1 -13.000 dBm		_				_			
-20 dBm										
-30 dBm									<u> </u>	
									I	
9.0 kHz			6	001 pt	s		100.0 MHz/			1.0 GHz
2 Marker Table Type Ref		X-Value	, I		Y-Value		Function		Function Re	sult
M1	1	869.0 M 891.6 M	Hz		32.57 dBm 39.97 dBm					
M2 M3	1	896.0 M	Hz	-3	28.96 dBm					
	Y							Measuring		65.82.2018
								Pleasaning		1404857
Diagram	5b:		94-16	W	1-96Hz	Ī		measuring		_
Diagram MultiView	5b:	• 6	9k-1G BW 1 MHz	X	1-9GHz	I				▽
DF Att	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz		1-9GHz e Auto Sweep	X				v
MultiView	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	v ount 100/100 • 1Rm Avg
Diagram	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz			X				v
Diagram MultiView Ref Level 20. Att TDF	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz			×			C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView Ref Level 20. Att TDF	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz			×			C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
MultiView C Ref Level 20. Att TDF I Frequency S	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz			×			C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
MultiView C Ref Level 20. Att TDF I Frequency S	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz			×			C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView B Ref Level 20. Att TDF I Frequency S 10 dbm-	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz			x			C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 0 dBm - 10 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF Frequency S 10 dBm-	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 10 dBm -10 dBm -20 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 0 dBm - 10 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 0 dBm -10 dBm -20 dBm -30 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 0 dBm -10 dBm -20 dBm -30 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 10 dBm -10 dBm -20 dBm -30 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 10 dBm -10 dBm -20 dBm -30 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF I Frequency S 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -40 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. Att TDF Frequency S 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -50 dBm -60 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	BW 1 MHz						C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm
Diagram MultiView P Ref Level 20. * Att TDF I Frequency S 0 dBm -10 dBm -20 dBm	5b: Spectrum ^{OO} dBm O dB • swT	• 6	IBW 1 MHz ID MHz		e Auto Sweep		500.0 MHz/		C	⊽ ount 100/100 • 1Rm Avg -44,69 dBm

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IVIew 🗅	Spectrum	1 🖾 S	k-1G	I-9GHz	22				
Level 60.	00 dBm		3W 1 MHz						
ic		「 100 ms 🗢 VE	W 10 MHZ	Mode Auto Sweep					ount 100/100
uency S	weep							M1[1]	 1Rm Avg -32.59 dB
									869.000 MI
								M2[1]	39.89 dB 891.600 Mi
								1	0911000 Mi
								1 0	
m	H1 -13.000 dBm -								
	H1 -13.000 08m -								
m									
m			_					M1/7	
									·····
-lz		1	60	01 pts	1	00.0 MHz/			1.0 GH
ker Table e Ref	Tro	X-Value	1	Y-Value	1	Function	1	Function Re	weit
	1	869.0 MH 891.6 MH	IZ	-32.59 dBm 39.89 dBm		rancaon		T diredon i k	sourc
	1	891.6 MF	iz	-29.13 dBm					
06.02.2010 σram							Measuring	(15:20
gram	6b:	ı 🖾 s	0k-1G	🖾 1-9GHz	(III)				_
gram	1 6b: Spectrum	• RI	0k-1G 3W 1 MHz 3W 10 MHz		X				_
gram iView E Level 20.	00 dBm 0 dB • sw1		3W 1 MHz	1-9GHz Mode Auto Sweep	I				ount 100/10
gram iView 🗄	00 dBm 0 dB • sw1	• RI	3W 1 MHz		<u></u>				ount 100/100 • 1Rm Avg -45,17 dB
gram iView E Level 20. Juency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz		X			c	vount 100/100 • 1Rm Avg -45,17 dBr 1,784092 GH
gram iView E Level 20.	00 dBm 0 dB • sw1	• RI	3W 1 MHz		×			c	ount 100/100 • 1Rm Avg -45,17 dB
gram iView E Level 20.	00 dBm 0 dB • sw1	• RI	3W 1 MHz		×			c	ount 100/100 • 1Rm Avg -45,17 dB
gram iView E Level 20. Juency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	ount 100/100 • 1Rm Avg -45,17 dB
gram iView E Level 20. juency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	ount 100/100 • 1Rm Avg -45,17 dB
gram iView E Level 20. Juency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView E Level 20. Iuency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView E Level 20. juency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView = Level 20. iuency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView = Level 20. iuency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView E Level 20. iuency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	ount 100/100 • 1Rm Avg -45,17 dB
gram iView 2 Level 20. uency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView 2 Level 20. uency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram Niew 2 Level 20. Utency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram Niew 2 Level 20. Utency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView 9 Level 20. iUency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView 2 Level 20. iUency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB
gram iView 9 Level 20. iUency S	00 dBm 0 dB • sw1	• RI	3W 1 MHz					c	⊽ ount 100/100 • 1Rm Avg -45.17 dB

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iagram	Spectrum		9k-1G 🛛	🖾 1-9GHz					7
ef Level 60.	00 dBm		BW 1 MHz						
FDC	30 dB 🖷 SW1	f 100 ms 🖷 V	BW 10 MHz M	Mode Auto Sweep				c	ount 100/10
requency S	weep							M1[1]	 1Rm Avg -32.70 dB
8m-									869.000 M
DIII								M2[1]	39.40 dB 891.600 M
m									
m									
3m-									
n									
n									
Bm-									
	H1 -13.000 d8m -								
Bm									
Bm-				_		_		- N1 /	
kHz wikow Table			6001	1 pts		100.0 MHz/			1.0 Gł
arker Table /pe Ref	Trc	X-Value		Y-Value		Function		Function Re	esult
11	1	869.0 M 891.6 M 896.0 M	HZ HZ	Y-Value -32.70 dBm 39.40 dBm -29.62 dBm					
13									
29 06.02.2018 agram	n 7b:				(X)		Measurin	g 4.88.88.88	15:4
29 06.02.2016 agram IltiView	1 7b: (Spectrum		9k-1G (⊠ 1-9GHz			Measurin		1504
29 06.02.2010 agram IltiView E of Level 20.	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (Measurin		ount 100/10
29 06.02.2010 agram ItiView B If Level 20.7 t	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (⊠ 1-9GHz			Measurin		ount 100/10
29 06.02.2016 agram ItiView 8 If Level 20. t Equency St	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (⊠ 1-9GHz			Measurin	c	ount 100/10
29 06.02.2010 agram ItiView B of Level 20. t zquency S	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (⊠ 1-9GHz			Measurin	c	ount 100/10
29 06.02.2010 agram ItiView 9 If Level 20. t equency S	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView 9 If Level 20. t cqurency S	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2016 agram ItiView C Itevel 20. t equency S	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView 9 of Level 20. t equency St sm n	1 7b: Spectrum 0 dBm 0 dB • sw1		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView 9 of Level 20. t equency St sm n	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView 9 If Level 20. t Bequency S Im Im Im	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView of Level 20. t c aquency S am	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView P tLevel 20. t c c agruency S agruency	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView P tLevel 20. t c c agruency S agruency	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView Fisher itic cequency S am	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ltiView 9 of Level 20. t t t t t t t t t t t t t t t t t t t	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
agram Itiview f Itiview f	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
229 06.02.2010 agram IltiView = e e e e e e e e e e e e e e e e e e e	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10
29 06.02.2010 agram ItiView It ct ct ct agram ag	Spectrum Spectrum ode ode swi weep		9k-1G (⊠ 1-9GHz			Meosurin	c	ount 100/10 1Rm Avg -45,46 dB
agram agram ItiView P ItiView P Itiview P Courses C	Spectrum Spectrum ode ode swi weep		9k-1G (Mode Auto Sweep		800.0 MHz/	Meosurin	c	ount 100/10 1,783406 Gi

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Diagram 8a:

Diagram 8a:						
lultiView 🗄 Spectru		I-9GHz	X			~
RefLevel 60.00 dBm Att 30 dB = SV DFDC	RBW 1 M WT 100 ms	Hz Hz Mode Auto Sweep			Co	unt 100/10
Frequency Sweep						•1Rm Avg
					M3[1]	-31.99 dB
dBm					M1[1]	-32.15 dB
					MILI] M2	869.000 MI
dBm					T	
dBm						
d8m-						
dBm						
IBm						
bm						
dBm-						
H1 -13.000 dBm						
dBm-						
dBm					MY MS	
0Bm						
500.0045 MHz		6001 pts	100.0 MHz/			999.991 Mł
larker Table		0001 pts	100.0 Mili27		əpan	999.991 Nil
Type Ref Trc	X-Value	Y-Value	Function		Function Res	ult
M1 1 M2 1	869.0 MHz 881.6 MHz	Y-Value -32.15 dBm 40.14 dBm	Function		Function Res	ult
M1 1	869.0 MHz	Y-Value -32.15 dBm 40.14 dBm -31.99 dBm	Function			
M1 1 M2 1	869.0 MHz 881.6 MHz	Y-Value -32.15 dBm 40.14 dBm -31.99 dBm	Function	Measuring		05.82.20
M1 1 M2 1 M3 1	869.0 MHz 881.6 MHz	V-Value -32.15 dBm 40.14 dBm -31.99 dBm	Function	Measuring		05.82.20
M1 1 M2 1 M3 1 5:32 06.02.2018	869.0 MHz 881.6 MHz	Y-Value -32.15 dBm 40.14 dBm -31.99 dBm	Function	Measuring		05.82.20
M1 1 M2 1 5:32 06.02.2010 iagram 8b:	869.0 MHz 881.6 MHz 894.0 MHz	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		66.8220 13135
M1 1 M2 1 5:32 06.02.2010 iagram 8b: ultiView ≅ Spectru	869.0 MHz 881.6 MHz 894.0 MHz m 📧 9k-1G	-32.15 dBm 40.14 dBm -31.99 dBm	Function	Measuring.		66.8220 13135
M1 1 M2 1 5:32 06.02.2010 iagram 8b: ultiView E Spectru ver Level 20:00 dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring		66.8220 13:35:1
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView E Spectru tef Level 20.00 dBm Att 0 dB * SV	869.0 MHz 881.6 MHz 894.0 MHz m 📧 9k-1G	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring		66.82.28 33:35: 100/10
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView E Spectru tef Level 20.00 dBm ttt 0 dB * sty	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Meosuring.		€6.62.28 13:35 unt 100/10 ●1Rm Avg
M1 1 M2 1 M3 1 1 1 1 1 1 1 1 1 1 1 1 1 1	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Meosuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView E Spectru tel Level 20.00 dBm ttt 0 dB * SV requency Sweep	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView E Spectru tel Level 20.00 dBm ttt 0 dB * SV requency Sweep	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Meosuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView € Spectru set Level 20.00 dBm ttt 0 dB ≠ SV requency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView € Spectru set Level 20.00 dBm ttt 0 dB ≠ SV requency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView E Spectru Ref Level 20.00 dBm Att 0 dB * SV requency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 s:32 06.02.2010 iagram 8b: ultiView Spectru Xef Level 20.00 dBm Vitt 0 dB • SV Frequency Sweep dBm-	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Meosuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView € Spectru Xef Level 20.00 dBm Att 0 dB • SV requency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Meosuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView € Spectru Xef Level 20.00 dBm Att 0 dB • SV requency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Meosuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView © Spectru Spectru Att 0 dB * SV Frequency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		66.82.20 33:35: unt 100/10 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 5:32 06.02.2010 iagram 8b: ultiView © Spectru Spectru Att 0 dB * SV Frequency Sweep dBm	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		66.82.20 33:35 unt 100/100 • 1Rm Avg -46.12 dB
M1 1 M2 1 M3 1 15:32 06.02.2010 Viagram 8b: ultiView EC Spectru Ref Level 20.00 dBm Att 0 dB • SV Frequency Sweep dBm-	869.0 MHz 881.6 MHz 894.0 MHz m <u>()</u> 9k-1G * RBW 1 M	-32.15 dBm 40.14 dBm -31.99 dBm		Measuring.		ult viiii 100/10 viiii 100/10 viiiii 100/10 viiiii 100/10

800.0 MHz/

Measuring..

......

9.0 GHz

13:36:55 06.02.2018

60 d8 70 d8

1.0 GHz

35001 pt

Date 2018-02-21

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iagram 9a	-							
(·		9k-1G 🖾	1-9GHz	X				
Ref Level 60.00 dBr Att 30 d	m	BW 1 MHz BW 10 MHz Mod	e Auto Sweep				c	ount 100/1
F DC requency Sweep								• 1Rm A
							M4[1]	-30,19 d 896,000 M
lBm							M1[1]	-31.00 d
Bm							M23	869.000 N
Bm								
IBm-								
Bm								
im								
dBm								
dBm								
							MU M	•
dBm								
kHz		6001 pt	s	10	0.0 MHz/			1.0 0
arker Table				1				
ype Ref Tn M1 1	869.0 MI	iz -	Y-Value 31.00 dBm 37.30 dBm		Function		Function Re	esult
M2 1 M3 1	886.6 MI 891.6 MI	z	36.74 dBm					
14 1	896.0 MI	-1z -	30.19 dBm			Measuring.		4449 05.82
~ •								
agram 9b):							
ultiView 🗄 Sp	ectrum 🖾 🛛	Zoom 🖾						(
altiView E Sp ef Level 50.00 dBr tt 30 d	ectrum 🖾 🛛	100 kHz	Auto Sweep					(
altiView 🕄 Sp ef Level 50.00 dBr tt 30 d F	m RBW	100 kHz	Auto Sweep				MIGU	
ultiView 🗄 Sp ef Level 50.00 dBr tt 30 d F requency Sweep	m RBW	100 kHz	Auto Sweep				M1[1]	-31.93 (869.0000
IltiView (Sp ef Level 50.00 dBr tt 30 d requency Sweep	m RBW	100 kHz	Auto Sweep	penter	a junit mu		M1[1] M2[1]	-31.93 (869.0000) 35.66 (
IltiView (Sp ef Level 50.00 dBr tt 30 d requency Sweep	m RBW	100 kHz	Auto Sweep	per Viz	m manual			-31.93 (869.0000) 35.66 (
IttiView 🕄 Sp ef Level 50.00 dBr tt 30 d F requency Sweep Bran	m RBW	100 kHz	Auto Sweep	and the	m marine			-31.93 (869.0000) 35.66 (
IltiView (Sp of Level 50.00 dBr = 30 d coguency Sweep Bm Bm Bm Bm	m RBW	100 kHz	Auto Sweep	per Vila	m minimu			-31.93 (869.0000) 35.66 (
IltiView (Sp of Level 50.00 dBr = 30 d coguency Sweep Bm Bm Bm Bm	m RBW	100 kHz	Auto Sweep	per V				-31.93 (869.0000) 35.66 (
IltiView (*) Sp ef Level 50.00 dBr tt 30 d ecquercey Sweep Bm Bm Bm Bm	m RBW	100 kHz	Auto Sweep	per V				-31.93 (869.0000) 35.66 (
JILIView :: Sp ef Level S0.00 dBr tt 30 d F requency Sweep lBm lBm lBm lBm	m RBW	100 kHz	Auto Sweep					-31.93 (869.0000) 35.66 (
IltiView 🕄 Sp ef Level 50.00 dBr tt 30 d course of the second se	m RBW	100 kHz	Auto Sweep					-31.93 (869.0000) 35.66 (
JILIView :: Sp ef Level 50.00 dBr tt 30 d requency Sweep IBm IBm IBm dBm	m RBW	100 kHz 1 MHz Mode /						-31.93 (869.0000) 35.66 (
AltiView Spectral Spe	pectrum m = RBW B = SWT 10 5 = VBW B = SWT 10 5 = VBW	100 kHz 1 MHz Mode /				N	M2[1]	-31.93 (869.0000) 35.66 (
JILIView :: Sp ef Level 50.00 dBr tt 30 d requency sweep IBm IBm IBm IBm IBm dBm dBm	pectrum m = RBW B = SWT 10 5 = VBW B = SWT 10 5 = VBW	100 kHz 1 MHz Mode /	Auto Sweep			N		-31.93 (869.0000 / 35.66 (886.6000 /
JILIView :: Sp ef Level 50.00 dBr tt 30 d requency sweep IBm IBm IBm IBm IBm dBm dBm	pectrum m = RBW B = SWT 10 5 = VBW B = SWT 10 5 = VBW B = SWT B = SW	100 kHz 1 MHz Mode /				N	M2[1]	-31.93 c 869.0000 N 35.66 c 886.6000 N
altiView Sport Spo	pectrum m = RBW B = SWT 10 5 = VBW B = SWT 10 5 = VBW	100 kHz 1 MHz Mode /	ho at her A respective PA			N	M2[1]	-31.93 c 869.000 h 35.66 c 886.6000 h
AltiView Spectral Spe	ectrum (2) (m = RBW B = SWT 10 5 = VBW (0000777 (0000777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (000077777) (000077777) (000077777) (0000777777777777777777777777777777777	100 kHz 1 MHz Mode / 1 MHz Mode / 1001 pt	Maylun Marine M		.0 MHz/	turmene	M2[1]	869.0000 N 35.66 d 886.6000 N
JF Image: Sweep processing of the second secon	Contraction Contraction Contraction Contraction Contraction Contraction Contraction	100 kHz 1 MHz Mode / 1 MHz Mode / 1001 pt	s Y-Value 31 93 dBm			N	M2[1]	-31.93 d 869.000 M 35.66 3 886.6000 M
UltiView B Sp Ref Level 50.00 dBr Trequency Sweep dBm dBm dBm dBm dBm dBm dBm dBm	ectrum (2) (m = RBW B = SWT 10 5 = VBW (0000777 (0000777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (00007777) (000077777) (000077777) (000077777) (0000777777777777777777777777777777777	100 kHz 1 MHz Mode / 1 MHz Mode / 1 MHz Mode / 1 1 MHz Mode / 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S Y-Value		.0 MHz/	turmene	M2[1]	-31.93 d 869.0000 f 35.66 d 886.6000 f

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Diagram 9c:

MultiView 😁	Spectrum	-		1-9GHz	X				~
Ref Level 20.0 Att		• RB 100 ms • VB	WIMHZ NIOMHZ M	ode Auto Sweep				C	ount 100/100
Frequency Sw	eep								1Rm Avg
								M1[1]	-47.38 dBm
									1.778606 GHa
dBm									
Bm									
0 dBm									
	1 -13.000 dBm								
dBm									
) dBm									
dBm									
M									1
dBm									
				-					
) dBm									
dBm-									
									1
0 GHz			35001	pts	8	00.0 MHz/			9.0 GH2
	Υ		22001		0.		Measuring		6.02.2010

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	10a:								
	Spectrum		-1G 🖾	1-9GHz	X				~
Ref Level 60. Att TDF DC	00 dBm 30 dB = SWT	 RBW 100 ms VBW 	1 MHz 10 MHz Mod	de Auto Sweep				c	ount 100/100
Frequency S	weep							100113	1Rm Avg
0 dBm								M2[1]	32.87 dBr 871.400 MH
) dBm								M1[1]	-24.65 dBr 867.000 MH
								M2945c	5
dBm								- Mil	
dBm									
dBm									
Bm									
0 dBm	(1 -13.000 dBm								
dBm	41 -13.000 dBm								
dBm								Ť	7
dBm-									
0 kHz		1	6001 p	ts	10	0.0 MHz/	1	1	1.0 GH
Marker Table Type Ref		X-Value		Y-Value		Function		Function R	esult
M1 M2	1	867.0 MHz 871.4 MHz		-24.65 dBm 32.87 dBm 33.13 dBm 33.15 dBm					
M3 M4	1	876.6 MHz 881.6 MHz		33.13 dBm 33.15 dBm					
M5 M6 M7	1	886.6 MHz 891.6 MHz 896.0 MHz		32.92 dBm 32.57 dBm -31.24 dBm					
iagram	10b:								
	~	Zo	om 📼						
fultiView	Spectrum	• RBW 10	00 kHz	Auto Sweep					V
IultiView RefLevel 50. Att DF	OO dBm 30 dB • SWT	• RBW 10	00 kHz	Auto Sweep					• 1Pk Cirw
ultiView E Ref Level 50. Att SF Trequency S	OO dBm 30 dB • SWT	• RBW 10	00 kHz	Auto Sweep				M1[1]	• 1Pk Cirw -22,06 dBr
ultiView E Ref Level 50. Att F Fequency S	OO dBm 30 dB • SWT	• RBW 10	00 kHz 1 MHz Mode	M3	N4 M5	. M6		M1[1] M2[1]	● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
ultiView E tefLevel 50. tt F requency S d8m	OO dBm 30 dB • SWT	• RBW 10	00 kHz		N4 MS	Mi Misana			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
ultiView tef Level 50. tt F requency S dBm	OO dBm 30 dB • SWT	• RBW 10	00 kHz 1 MHz Mode	M3		MG MG			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
UltiView E ref Level 50. tt F requency S JBm JBm	OO dBm 30 dB • SWT	• RBW 10	00 kHz 1 MHz Mode	M3		M			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
UltiView 6 tef Level 50. tt Frequency S d8m- d8m- d8m- d8m-	OO dBm 30 dB • SWT	• RBW 10	00 kHz 1 MHz Mode	M3		MG MG			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
ultiView E tef Level SO. ttt requency S dBm- dBm- dBm- dBm- dBm- BBM-	OO dBm 30 dB • SWT	• RBW 10	00 kHz 1 MHz Mode	M3		MG MG			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
ultiView S Ref Level 50. Att F requency S dBm dBm dBm dBm bdm bdm bdm	OO dBm 30 dB • SWT	• RBW 10	00 kHz 1 MHz Mode	M3		MG MG			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
ultiView Carlors Control Contr	OO dBm 30 dB • SWT	RBW 10 S • VBW	00 kHz 1 MHz Mode	M3		MG MG			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
UltiView Concerns of the second secon	OO dBm 30 dB • SWT	RBW 10 S • VBW	00 kHz 1 MHz Mode	M3		MG MG			● 1Pk Cirw -22.06 dBr 868.0000 MH 30.94 dBr
UltiView Carlors Control of the cont	Spectrum ⁰⁰ dBm ³⁰ dB • SWT weep	RBW 10 S • VBW	00 kHz 1 MHz Mode	M3		MG MG		M2[1]	• 1Pk Cirw -22.06 dBr 868.0000 MH 30,94 dBr 871.4000 MH
UltiView 5 Ref Level 50. Att DF Freduency S dBm dBm dBm dBm dBm dBm dBm dBm dBm dBm	Spectrum ⁰⁰ dBm ³⁰ dB • SWT weep	RBW 10 S • VBW	00 kHz 1 MHz Mode			.0 MHz/		M2[1]	• 19k Glaw -22.06 dBn 868.0000 MH 30.94 dBn 871.4000 MH
IultiView E Ref Level 50. Att DF Frenuency S dBm dBm dBm dBm dBm dBm dBm dBm dBm dBm	Spectrum O dBm 30 dB • SWT weep	• RBW 10 10 5 • VBW 10	00 kH2 1 MHz Mode			.0 MHz/		M2[1]	• 1Pk Cirw 22.06 dBn 868.0000 MH 30.94 dBn 871.4000 MH
Iultiview E Ref Level 50. Att DE Ban id8m id8m	Spectrum O dBm 30 dB • SWT weep	* RBW 10 10 5 * VBW	00 kH2 1 MHz Mode	13 13 13 14 15 15 15 15 15 15 15 15 15 15				M2[1]	• 1Pk Cirw 22.06 dBn 868.0000 MH 30.94 dBn 871.4000 MH
IultiView E Ref Level SO. Att Frequency S Frequency S dam dam dam dam dam dam dam dam dam dam	Spectrum O dBm 30 dB • SWT weep	* RBW 10 10 5 * VBW	00 kHz 1 MHz Mode	13 14 15 15 15 15 15 15 15 15 15 15		.0 MHz/		M2[1]	• 1Pk Cirw -22.06 dBn 868.0000 MH 30.94 dBn 871.4000 MH
Iultiview E Ref Level 50. Att Ref Level 50. Att If Ref Level 50. Att If Ref Level 50. If Ref Level 50. If	Spectrum O dBm 30 dB • SWT weep	×-Value 868.0 MHz 871.4 MHz 881.6 MHz 889.6 MHz 889.6 MHz	00 kH2 1 MHz Mode	13 143 143 143 144 143 144 145 144 145 145 145 145 145		.0 MHz/		M2[1]	-22.06 dBn 868.000 MH 30.94 dBn 871.4000 MH
Ref Level S0. Att DF Frequency S 0 d8m 0 d8m <t< td=""><td>Spectrum O dBm 30 dB • SWT weep</td><td>* RBW 10 10 5 * VBW</td><td>00 kH2 1 MHz Mode</td><td>V-Value 22.06 dBm 30.94 dBm 32.14 dBm 33.04 dBm</td><td></td><td>.0 MHz/</td><td></td><td>M2[1]</td><td>• 1Pk Cirw -22.06 dBn 868.0000 MH 30.94 dBn 871.4000 MH</td></t<>	Spectrum O dBm 30 dB • SWT weep	* RBW 10 10 5 * VBW	00 kH2 1 MHz Mode	V-Value 22.06 dBm 30.94 dBm 32.14 dBm 33.04 dBm		.0 MHz/		M2[1]	• 1Pk Cirw -22.06 dBn 868.0000 MH 30.94 dBn 871.4000 MH

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Diagram 10c:

Ref Level 20.00 Att F Trequency Swe	0 dB 🖷 SWT		1 MHz 10 MHz Mod	e Auto Sweep			C	ount 100/100
requency Swe	ер							,
dBm								1Rm Avg
dBm							M1[1]	
dBm								1.767864 GH
Bm								
dBm-	-13.000 dBm							
dBm							 	
dBm								
0Bm								
dBm-								
) dBm M								
T								
1				-				
dBm		Section in the section of the sectio						
dBm							 	
0 GHz			35001 p	ts	80	0.0 MHz/		9.0 GH;

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iagram 11a: ultiView 🖘 Spectru	um 🖾 9k	-1G 🕱	1-9GHz	22				~
Ref Level 60.00 dBm		1 MHz						
FDC	WT 100 ms = VBW	10 MHz Moo	de Auto Sweep				0	ount 100/100
equency Sweep							ME(1)	1Rm Avg 20.25 dBm
							M5[1]	-30.35 dBm 896.000 MHz
Bm							M1[1]	
n							NM3 M	867.000 MHz
							1 11 11	
m								
m								
,								
sm								
H1 -13.000 dBr	n							
m							Mi	
3m								•
kHz		6001 p	ts	10	0.0 MHz/			1.0 GHz
rker Table								
pe Ref Trc 11 1	X-Value 867.0 MHz 871.4 MHz		Y-Value 25.41 dBm 35.17 dBm		Function		Function R	esult
12 1	871.4 MHz 876.6 MHz		35.17 dBm					
3 1 4 1	891.6 MHz 896.0 MHz		35.37 dBm 34.72 dBm -30.35 dBm					
45 1								
02 07.02.2018	896.0 MHZ		-30.35 dBm			Measuring		07.42.2018 69:10:42
):02 07.02.2010 iagram 11b:			-30.35 dBm			Measuring.		60:10:42
agram 11b:	ım 🖾 Zo	om 🖾	-30.35 dBm			Measuring		97.42.2016 99.16#2
agram 11b: ItiView (Spectru of Level 50.00 dBm tt 30 dB • s	ım ⊠ Zo ● RBW 1	om 🖾	-30.35 dBm			Measuring		60:10:42
agram 11b: altiView © Spectru ef Level 50.00 dBm tt 5	ım ⊠ Zo ● RBW 1	om 🖾				Measuring		60:10:42
agram 11b: ItiView B Spectru ItiView 30 dB m 30 dB • s	ım ⊠ Zo ● RBW 1	om 🖾				Measuring	(11111))) MI[1]	• 1Pk Cirw -21.13 dBm
agram 11b: tiview (Spectru fLevel So.co dBm add dBm equency Sweep	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		544	Measuring	M1[1]	■ 1Pk Cirw -21.13 dBm 868.0000 MHz
agram 11b: tiView (Spectru f Level 50.00 dBm t 30 dB • s sources sweep	ım ⊠ Zo ● RBW 1	om 🖾	Auto Sweep		Ma	Measuring		■ 1Pk Cirw -21.13 dBm 868.0000 MHz
agram 11b: tiView (Spectru f Level 50.00 dBm t 30 dB • s sources sweep	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		- And and a second s	Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
agram 11b: triview (Spectru f Level 50.00 dBm t 30 dB * s squency Sweep	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		104 1000	Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
agram 11b: tiView (Spectru f Level 50.00 dBm t 30 dB * s equency Sweep	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep			Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
agram 11b: agram 11b: Spectru Spectru So dB * s requency Sweep Bm Bm Bm	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep			Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
agram 11b: ItiView Spectru ItiView Spectru ItiView So.00 dBm Iti Spectru Spectr	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		M4 durit durit	Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
agram 11b: agram 11b: source of Level 50.00 dBm requency Sweep Bm Bm Bm Bm Bm	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep			Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
agram 11b: agram 11b: Spectru altiView (Spectru altiView (Spectru altiview altimation and altimation altiview (Spectru altiview altimation altiview (Spectru altiview altimation altiview (Spectru altiview altimation altiview (Spectru altiview altimation altiview (Spectru altiview (Sp	JIM (2) Zo • RBW 1 WT 10 5 • VBW	om 🖾 00 kHz 1 MHz Mode	Auto Sweep			Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
102 07.02.2010 agram 11b: JItiView Spectru ef Level S0.00 dBm tt 30 dB * S F 30 dB * S F 30 dB * S Item Item Item Item Item Item	ım ⊠ Zo ● RBW 1	om 🖾 00 kHz 1 MHz Mode	Auto Sweep				M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
102 07.02.2010 Iditiview © Spectru Spectru Iditiview © Spectru Iditin Iditiview © Spectru<	JIM (2) Zo • RBW 1 WT 10 5 • VBW	om 🖾 00 kHz 1 MHz Mode	Auto Sweep			Measuring	M1[1]	■ 1Pk Clrv = 1Pk Clrv = 21.13 dBm 868.0000 MHz 34.18 dBm
102 07.02.2010 agram 11b: altiView Spectru ef Level S0.00 dBm tt 30 dB * S requency Sweep i8m	IM 20 • RBW 1 WT 10 5 • VBW	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		104 104 104 104 104 104 104 104 104 104		MI[1] M2[1]	▼ •••••••• ▼ ••••••••••• ▼ ••••••••••••••••••••••••••••••••••••
In the second se	IM 20 • RBW 1 WT 10 5 • VBW	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		10.4 		M1[1]	▼ 1Pk Clrw -21.13 dBm 868.0000 MHz 34.19 dBm 871.4000 MHz
In the second se	IM 20 • RBW 1 WT 10 5 • VBW	om I Marking Mode	Auto Sweep				MI[1] M2[1]	▼ •••••••• ▼ ••••••••••• ▼ ••••••••••••••••••••••••••••••••••••
Interest of the second	IM 20 • RBW 1 WT 10 5 • VBW	om 🖾 00 kHz 1 MHz Mode	Auto Sweep		.0 MHz/		M1[1] M2[1]	▼ •••••••• ▼ ••••••••••• ▼ ••••••••••••••••••••••••••••••••••••
agram 11b: agram 11b: agram 11b: bit is pectru if Level 50.00 dBm ttt 30 dB * s Frequency Sweep dBm	IM (2) • RBW 1 • RBW 1 • WT 10 5 • VBW	om 🖾 00 kHz 1 MHz Mode	Auto Sweep				M1[1] M2[1]	
acoz or.oz.zone iagram 11b: ultiView ⓒ Spectru tel Level S0.00 dBm tt 30 dB ♥ S Frequency Sweep dBm dBm dBm dBm dBm dBm dBm dBm	IIII IIII ZO P RBW 1 WT 10 5 • VBW WT 10 5 • VBW	om I MHz Mode	Auto Sweep		.0 MHz/		M1[1] M2[1]	
International and the second s	IIII IIII ZO RBW 1 WT 10 5 • VBW WT 10 5 • VBW	om I MHz Mode	Auto Sweep		.0 MHz/		M1[1] M2[1]	
a:02 07.02.2010 iagram 11b: ultiView (Spectru tef Level 50.00 dBm	IM 20 • RBW 1 • RBW 1 • WT 10 5 • VBW • WT 10 5 • VBW • MT • MT	om 🖾 00 kHz Mode	Auto Sweep		.0 MHz/		M1[1] M2[1]	
0:02 07.02.2010 iagram 11b: ultiView E: Spectru tel Level S0.00 dBm tt 30 dB * S Frequency Sweep dBm	IM 20 • RBW 1 • RBW 1 • WT 10 5 • VBW • VBW • • • • • • • • • • • • • • • • • • •	om 🖾 00 kHz Mode	Auto Sweep		.0 MHz/		M1[1] M2[1]	

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Diagram 11c:

lultiView 🕀	Spectrum	-	-1G 🛛	1-9GHz	X				~
Ref Level 20.0 Att DF	0 dBm 0 dB • SWT	• RBW 100 ms • VBW	1 MHz 10 MHz Mo	de Auto Sweep				c	ount 100/100
requency Sw	/eep								1Rm Avg
								M1[1]	
									1.768321 GH
dBm				-	-				
Bm									
) dBm-	1 - 13.000 dBm —								
dBm									
dBm									
dBm				+		++			
I dBm									
1									
dBm	-								
dBm									
0 GHz			35001 p	ots	80	0.0 MHz/			9.0 GH:
	Y						Measuring		07.02.2010

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iagram		2 9k	(-1G	I-9GHz	X				_ ,
ef Level 60.0			V 1MHz						
tt FDC	30 dB • SWT	100 ms 🖷 VBV	N 10 MHz N	Mode Auto Sweep				C	ount 100/10
requency Sw	еер								• 1Rm Avg
								M3[1]	35.33 dB 886.600 M
IBm								M1[1]	-24.36 dB
JBm								827844	867.000 M
								X X	
dBm-									
d8mm8b									
Bm									
bin									
3m-									
dBm									
1	1 -13.000 dBm —								
dBm								\$V	
dBm								M	5
r			-						
) kHz			600	1 pts	10	0.0 MHz/			1.0 Gł
larker Table ype Ref	Trc	X-Value		Y-Value -24.36 dBm		Function		Function Re	sult
M1 M2	1	867.0 MHz 871.4 MHz		-24.36 dBm 35.16 dBm					
M3 M4	1	886.6 MHz 891.6 MHz	Z	35.33 dBm 34.79 dBm					
M4 M5	1 1	896.0 MHz	ž	-30.82 dBm					
	л 12b:						Measuring.	•••••••••••••••••••••••••••••••••••••••	
iagram		⊠ Zo	oom i	<u></u>			Measuring.	•••••••••••••••••••••••••••••••••••••••	60:20
iagram ultiView == tef Level 50.0	Spectrum	• RBW 1	00 kHz	a)			Measuring.		60:20
iagram ultiView	Spectrum	• RBW 1	00 kHz	de Auto Sweep			Measuring.		60:20
iagram ultiView Ref Level 50.0	Spectrum 0 dBm 30 dB • SWT	• RBW 1	00 kHz				Measuring		• 1Pk Cirv
iagram ultiView Ref Level 50.0 Att F	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo				Measuring	••••••••••••••••••••••••••••••••••	• 1Pk Cirv 33.86 dB
iagram ultiView Ref Level 50.0 Mt F	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo		DM Print,	M4 M4	Measuring		• 1Pk Cirv 33.86 dB 886.6000 M -22.11 dB
agram ultiView B tef Level 50.0 tt F requency Sw	Spectrum 0 dBm 30 dB • SWT	• RBW 1	00 kHz			nty and	Measuring	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 M -22.11 dB
agram ultiView ⊕ tef Level 50.0 tt F requency Sw dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo			Min Min	Measuring	M3[1]	• 1Pk Clrv 33.86 dE 886.6000 M -22.11 dE
agram ultiView ⊕ tef Level 50.0 tt F requency Sw dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo			nty 104	Measuring	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 M -22.11 dB
agram ultiView ↔ Ref Level 50.0 ttt F requency Sw dBm dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo			mly million	Measuring	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 M -22.11 dB
Iagram ultiView 000000000000000000000000000000000000	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo			mly M4	Measuring	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB
agram ultiView ⊕ tet Level 50.0 tt F requency Sw dBm dBm dBm dBm dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo			mly M4	Measuring	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB
iagram ultiView ⊕ Ref Level 50.0 Att Frequency Sw dBm dBm dBm dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1 10 s • VBW	1 MHz Mo			mby M4	Measuring	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB
Iagram ultiView 3 Ref Level 50.0 Mt Bm dBm dBm dBm dBm dBm dBm dBm dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1	1 MHz Mo	de Auto Sweep		Ma Ma		M3[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB
agram ultiView ↔ tef Level 50.0 titt frequency Sw dBm dBm dBm dBm dBm dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1 10 s • VBW	1 MHz Mo			Ma Ma	Measuring.	M3[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB
Iagram ultiView ↔ tef Level 50.0 titt dBm dBm dBm dBm dBm dBm dBm dBm	Spectrum 0 dBm 30 dB • SWT	• RBW 1 10 s • VBW	1 MHz Mo	de Auto Sweep		Ma Ma		M3[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB 868.0000 Mi
agram ultiView B tef Level 50.0 tt g dBm dBm dBm dBm dBm dBm dBm	Spectrum 0 dBm 30 dB = SWT CCP	• RBW 1 10 s • VBW	1 MHz Mo	de Auto Sweep				M3[1] M1[1]	• 1Pk Cirv 33.86 dB 886.6000 Mi -22.11 dB 868.0000 Mi
iagram	Spectrum 0 dBm 30 dB = SWT CCP	• RBW 1 10 s • VBW	00 kHz 1 MHz Mo	de Auto Sweep				M3[1] M1(1)	• 1Pk Ciry 33.86 dB 886.6000 Mi -22.11 dB 868.0000 Mi
iagram ultiView B Ref Level 50.0 Att Frequency SW dBm dBm dBm dBm dBm dBm dBm dBm	Spectrum 0 dBm 30 dB = SWT CCP	• RBW 1 10 s • VBW	00 kHz 1 MHz Mo	de Auto Sweep		M4 M		M3[1] M1(1)	• 1Pk Ciry 33.86 dB 886.6000 Mi -22.11 dB 868.0000 Mi
iagram ultiView 9 Ref Level 50.0 Att Frequency SW dBm dBm dBm dBm dBm dBm dBm dBm	Spectrum O dBm 30 dB • SWT CCD CCD CCD CCD CCD	• RBW 1 10 s • VBW	00 kHz 1 MHz Mo	de Auto Sweep				M3[1] M1(1)	• 1Pk Cirv 33.86 d8 886.6000 Mi -22.11 d8 866.0000 Mi
Iagram	Spectrum O dBm 30 dB • SWT CCD CCD CCD CCD CCD	* RBW 1 10 s * VBW 	00 kHz 1 MHz Mo	de Auto Sweep		5.0 MHz/		M3[1] M1[1]	• 1Pk Cirv 33.86 d8 886.6000 Mi -22.11 d8 866.0000 Mi
881.5 MHz Marker Table Type Ref	Spectrum O dBm 30 dB • SWT CCD CCD CCD CCD CCD CCD CCD CC	• RBW 1 10 s • VBW	000 kHz 1 MHz Mo	de Auto Sweep		5.0 MHz/		M3[1] M1[1]	pan 60.0 MF

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 $^{\text{Reference}}$ 8P01074-W

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Diagram 12c:

ultiView 🕀	Spectrum		•1G 🔳	1-9GHz	X			
RefLevel 20.0 Att)F	0 dBm 0 dB = SWT	• RBW 100 ms • VBW	1 MHz 10 MHz Mod	e Auto Sweep			c	ount 100/100
requency Sw	veep							1Rm Avg
							M1[1]	
								1.757807 GH
dBm								
Bm								
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iii	1 -13.000 dBm							
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dBm-								
0 GHz			35001 p	ts	80	0.0 MHz/		9.0 GH2

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Field strength of spurious radiation measurements according to CFR 47 §2.1053 / IC RSS-132 5.5

Date	Temperature	Humidity
2018-01-29	$22 \text{ °C} \pm 3 \text{ °C}$	32 % ± 5 %
2018-01-30	$22 \ ^{\circ}C \pm 3 \ ^{\circ}C$	30 % ± 5 %

The test site conform to the site validation criterion specified in ANSI C63.4 2014. The test site complies with RSS-Gen, Industry Canada file no. 3482A-1.

The measurements were performed with both horizontal and vertical polarization of the antenna. The antenna distance was 3 m in the frequency range 30 MHz - 9 GHz.

RF absorbers were covering a floor area in the frequency range 1 GHz - 9 GHz to comply with site validation requirements according to ANSI C63.4-2014.

The EUT was placed 0.8 m above reference ground plane in frequency range 30 MHz - 1 GHz and 1.5 m above reference ground plane in frequency range 1 GHz - 9 GHz.

The measurement was performed with a RBW of 1 MHz.

A propagation loss in free space was calculated. The used formula was

 $\gamma = 20 \log \left(\frac{4\pi D}{\lambda} \right)$, γ is the propagation loss and D is the antenna distance.

The measurement procedure was as the following:

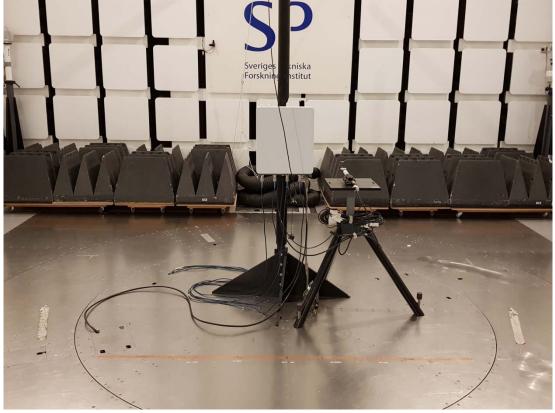
- A pre-measurement is performed with peak detector. For measurement < 1 GHz the test object was measured in eight directions with the antenna at three heights, 1.0 m, 1.5 m and 2.0 m. For measurements > 1 GHz the test object was measured in seventeen directions with the antenna height 1.0 m, 1.5 m and 2m.
- 2. Spurious radiation on frequencies closer than 20 dB to the limit in the pre-measurement is scanned 0-360 degrees and the antenna is scanned 1-4 m for maximum response. The emission is then measured with the RMS detector and the RMS value is reported. Frequencies closer than 10 dB to the limit when measured with the RMS detector were measured with the substitution method according to ANSI 63.26.

Date 2018-02-21

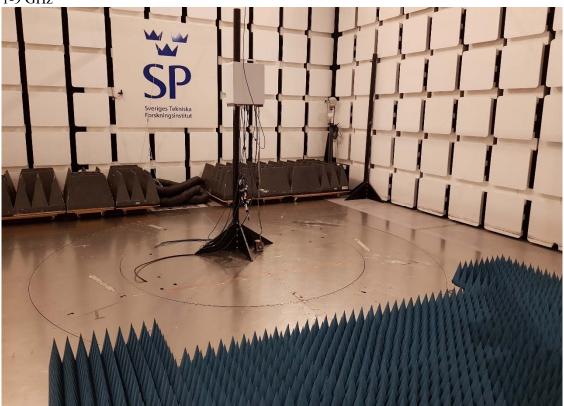
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The test set-up during the spurious radiation measurements is shown in the picture below: 30-1000 MHz



1-9 GHz





Measurement equipment

Measurement equipment	RISE number
Semi anechoic chamber Tesla	503 881
R&S ESU 40	901 385
EMC 32 ver. 10.20.01	BX62351
ETS Lindgren BiConiLog 3142E	BX61914
ETS Lindgren Horn Antenna 3115	502 175
μComp Nordic, Low Noise Amplifier	901 545
HP Filter 1-20 GHz	901 501
Temperature and humidity meter, Testo 625	504 188

Results

Tested configurations: B, M, T, M5, Bim and Tim representing worst case: Symbolic name M, TM 1, Diagram 1 a-b

	Spurious emission level (dBm)		
Frequency (MHz)	Vertical	Horizontal	
30-9000	All emission > 20 dB below limit	All emission > 20 dB below limit	

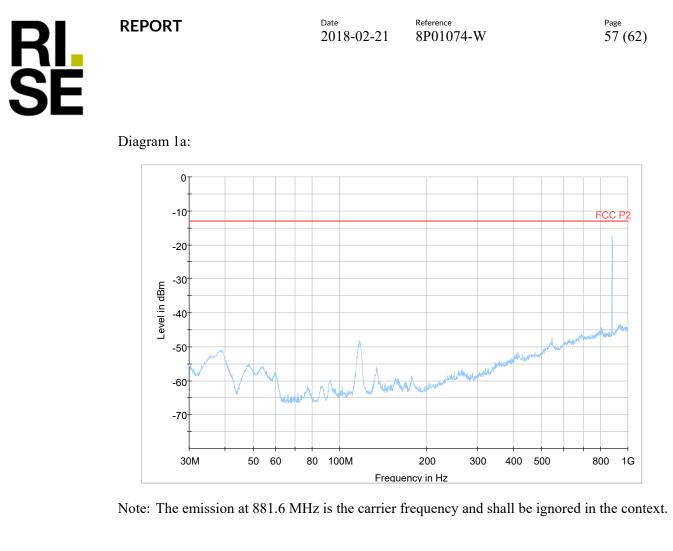
Measurement uncertainty: 3.1 dB

Limits

CFR 47 § 22.917: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 100 kHz RBW below 1 GHz and 1MHz RBW above 1 GHz.

IC RSS-132 5.5: Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P) dB$ per any 100 kHz RBW.

Complies?	Yes
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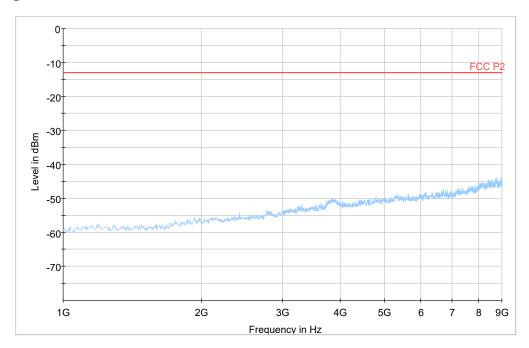


Diagram 1b:



Frequency stability measurements according to CFR 47 §22.35865, §2.1055 / IC RSS-132 5.3

Date	Temperature (test equipment)	Humidity (test equipment)
2018-02-09	$21 \text{ °C} \pm 3 \text{ °C}$	12% ± 5 %
2018-02-13	$21 \text{ °C} \pm 3 \text{ °C}$	16% ± 5 %
2018-02-14	$21 \ ^{\circ}C \pm 3 \ ^{\circ}C$	$15\% \pm 5\%$

Date

Test set-up and procedure

The measurement was made per 3GPP TS 25.141. The output was connected to a spectrum analyser.

Measurement equipment	RISE number
R&S FSQ 40	504 143
RF attenuator	900 691
Temperature Chamber	503 360
Testo 635, temperature and humidity meter	504 203
Multimeter Fluke 87	502 190



Results

Nominal transmitter frequency was 881.6 MHz (M) with a TM 1. Rated output power level at connector RF A (maximum): 46 dBm.

Test condit			
Supply voltage DC (V)	Temp. (°C)	Frequency error (Hz)	
40.8	+20	8	
55.2	+20	6	
48	+20	6	
48	+30	15	
48	+40	-10	
48	+50	15	
48	+10	-8	
48	0	3	
48	-10	8	
48	-20	10	
48	-30	35	
Maximum freq.	35		
Measurement un	$<\pm 1 \text{ x } 10^{-7}$		

The frequency error results clearly shows that the frequency stability is good enough to ensure that the transmitted carrier stay within the operating band.

Remark

It was deemed sufficient to test one combination of TX frequency, channel bandwidth configuration and test model (modulation), as all combinations share a common internal reference to derive the TX frequency from.

Limits

3GPP TS 25.141: The frequency error shall be within \pm 0.05 PPM \pm 12 Hz (\pm 44.08Hz).

§22.355

The frequency stability shall be within \pm 1.5 ppm (\pm 1322.4 Hz). RSS-132 5.3 Frequency:

The carrier frequency shall not depart from the reference frequency in excess of \pm 1.5 ppm (\pm 1322.4 Hz) for base stations when tested to the temperature and supply voltage variations specified in RSS-Gen.

RI. SE

Date 2018-02-21

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Photos of test object

Front side



Rear side



Left side







KI. SE

Date

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Top side





Labels:

SE

Radiated measurements:

Test object:



SFP module:



Conducted measurements:

Test object label:



SFP module:

